DuPage Water Commission

30 YEARS OF SERVICE
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AGENDA – Engineering and Construction Committee

Thursday, August 21, 2025 6:00 PM

Committee Members
J. Fennell, Chair
N. Cuzzone
T. Noonan
F. Saverino
J. Zay

I. Roll Call

II. Approval of the June 19, 2025, Engineering & Construction Committee Minutes

RECOMMENDED MOTION: To approve the Minutes of the June 19, 2025, Engineering & Construction Committee Meeting of the DuPage Water Commission.

III. Report of Status of Operations and Construction

IV. **Resolution R-60-25:** A Resolution Authorizing the General Manager to Purchase Steel Pipe and Butt Straps from American Spiral Weld Pipe Company **(Not-To-exceed $30,000)**

V. **Resolution R-61-25:** A Resolution Approving and Ratifying Certain Change Orders to a Contract for the SCADA Replacement Project (Contract PSD-9/21) **(Increase of Contract Price by $144,484.45)**

VI. **Resolution R-62-25:** A Resolution to Approve & Ratify Certain Work Authorization Orders Under Quick Response Contract QR-13/25 **(WAO No. 001 – John Neri Construction Co., Inc. - $8,261.37)**

VII. **Resolution R-63-25:** A Resolution Approving and Ratifying Certain Work Authorization Orders Under Quick Response Contract QR-13/25 **(John Neri Construction Co, Inc. – Estimated Expense of $288,100)**

VIII. **Resolution R-64-25:** A Resolution Approving Phase III (Construction) Engineering Contract Assignment for the WaterLink Pipeline Project **(Stanley Consultants, Inc., at a not to exceed cost of $1,219,991,36).**

IX. **Resolution R-65-25:** A Resolution Approving an Amendment to the Previously Approved Intergovernmental Agreement (R-51-21) with Lombard for the Design and Construction of MS 14-E **(No Cost This Action)**

X. **Resolution R-66-25:** A Resolution Awarding a Contract for the Construction of the West Transmission Main along Book Road from 75th Street to the ComEd R.O.W. (Contract TW-6/25 Section 1 (Book Road)) (**D. Construction, Inc. & Benchmark Construction Co., Inc. Joint Venture - $67,148,000)**

XI. **Resolution R-67-25:** A Resolution Approving and Ratifying Certain Change Orders for the Construction of the West Transmission Main Along Book Road From 75th Street to the ComEd R.O.W. (Contract TW-6/25 Section 1 (Book Road)) **(D. Construction, Inc. & Benchmark Construction Co., Inc. Joint Venture – A Decrease in Contract Price from $67,148,000 to $47,301,059.73 plus an Owner's Allowance of $1,000,000).**

XII. **Resolution R-68-26:** A Resolution Authorizing High-Lift Pump Control Valve Repair Services from a Sole Source Provider **(American Cone Valve Inc. – A/C Service and Repair, Inc. – Cost Not-To-Exceed $150,000)**

XIII. **Resolution R-69-25:** A Resolution Approving and Ratifying Certain Work Authorization Orders Under Quick Response Electrical Contract QRE-10/24 **(WAO No. 004 – Volt Electric, Inc. – Estimated Expense of $15,304)**

XIV. **Resolution R-70-25:** A Resolution Approving and Ratifying a 1st Amendment to Task Order No. 02 Under a Master Contract with CDM Smith, Inc. **(Increase of Amount Not-To-Exceed cost from $50,000 to $124,580)**

RECOMMENDED MOTION: To recommend approval of Items 2 through 12 of the Engineering and Construction Committee Report section of the Commission meeting agenda

XV. Old Business

XVI. New Business

XVII. Executive Session

RECOMMENDED MOTION: To go into Executive Session to discuss security procedures pursuant to 5 ILCS 120/2(c)(8), to discuss matters related to personnel pursuant to 5 ILCS 120/2(c)(1) and (2), to discuss acquisition of real estate pursuant to 5 ILCS 120/2(c)(5), to discuss the setting of a price for sale or lease of property owned by the DuPage Water Commission 5 ILCS 120/2(c)(6), to discuss pending, probable, or imminent litigation pursuant to 5 ILCS 120/2(c)(11), and/or to discuss minutes of closed meetings pursuant to 5 ILCS 120/2(c)(21) (Roll Call).

RECOMMENDED MOTION: To come out of Executive Session (Voice Vote).

XVIII. Adjournment

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Minutes of a Meeting
of the

ENGINEERING & CONSTRUCTION COMMITTEE

DuPage Water Commission
600 E. Butterfield Road, Elmhurst, Illinois

June 19, 2025

Commissioner Saverino called the meeting to order at 6:05 P.M.

Committee members in attendance: N. Cuzzone, T. Noonan, F. Saverino and J. Zay

Committee members absent: J. Fennell

Also in attendance: C. Bostick, D. Cuvalo, J. Loster, A. Spain, and M. Weed

Commissioner Saverino moved to approve the Minutes of the May 15, 2025, Engineering & Construction Committee Meeting of the DuPage Water Commission. Motion was seconded by Commissioner Cuzzone and unanimously approved by a Voice Vote.

Manager of Water Operations Bostick provided a report on the ongoing Operations and Maintenance activities listed in the Report of Status of Operations and Board Action Items and Engineering Manager Loster provided a report on the Status of Capital Construction, Capital Engineering and other Improvement Projects.

Regarding R-52-25, Manager of Water Operations Bostick advised the Committee that this action appears on the agenda seeking authorization for the General Manager to purchase material and labor services from a sole source provider, Altorfer Power Systems, to maintain the Emergency Generation System at a cost not-to-exceed $100,000 for the fiscal year.

Regarding R-53-25, Manager of Water Operations Bostick advised the Committee that this action appears on the agenda seeking authorization for the General Manager to purchase material and labor services from a sole source provider, WEG-EM, to maintain the High Lift Pump motors at a cost not-to-exceed $100,000 fiscal year.

Manager of Water Operations Bostick provided a brief synopsis of power loss events at the DuPage Pumping Station and the requests to approve R-48-25 and R-49-25 to CDM Smith and Strand Associates respectively, to research the power loss events and to develop a report and recommendations.

Regarding R-54-25, Manager of Water Operations Bostick advised the Committee that this action appears on the agenda seeking ratification of a Task Order with Arcadis US to provide research into the operation of the Emergency Generator System emissions requirements and provide a response to the EPA regarding whether the Generation System exceeds maximum limits of ozone output; and reclassification would be required which would result in operational and reporting changes. Manager of Water Operations Bostick advised the Committee that Arcadis, after reviewing the operational history, determined that reclassification was not warranted and assisted Staff with the response to the EPA.

Regarding R-43-25, Manager of Water Operations Bostick advised the Committee that this action appears on the agenda to approve and ratify Work Authorization Order No. 033 to Quick Response Contractor Benchmark Construction Co. Inc. where the WAO No. 033 was approved in advance to perform repairs on a leaking air release valve.

Regarding R-45-25, Manager of Water Operations Bostick advised the Committee that this action appears on the agenda to ratify Work Authorization Order No. 034 to Quick Response Contractor Benchmark Construction Co. Inc. which was approved in advance to perform repairs on a leaking 24-inch diameter water main which services the Village of Lombard. Manager of Water Operations Bostick advised the Committee that this is the 2nd such leak on this main, within a few hundred lineal feet of each other, as a result of directional boring equipment skimming the protective coating of the steel watermain many years ago, unbeknownst to the Commission, and accelerating corrosion. Manager of Operations Bostick advised that Staff will be filing a claim with AT&T.

Regarding R-44-25, Manager of Water Operations Bostick advised the Committee that this action appears on the agenda to approve Work Authorization Order No. 003 to Quick Response Electrical Contractor (Contract QRE-10) McWilliams Electric Co. Inc. to replace and upgrade electrical panels and junction boxes at two Remotely Operated Valve locations.

Regarding R-50-25, Manager of Water Operations Bostick advised the Committee that this action appears on the agenda seeking approval to enter into three (3) new Quick Response Contracts (Contract QR-13/25) with Benchmark Construction Co., John Neri Construction Co., Inc., and Rossi Contractors, Inc., as having been determined to be qualified bidders based upon the review by staff. Manager of Water Operations Bostick advised the Committee that the QR contractors perform work that can't be undertaken in-house by Commission staff.

Engineering Manager Loster stated that the design of a joint metering and pressure adjusting station for the Village of Lombard's fifth connection point continues to progress. He stated that current efforts are ongoing to modify the previously approved Joint Facility Agreement in a manner that will allow the Village of Lombard to manage the construction phase, with final approval tentatively scheduled for August.

Engineering Manager Loster also noted that there are multiple ongoing efforts related to cathodic protection of Commission pipelines, with the annual test point survey and quarterly inspections of the reverse current switch on one of the intake pipes having already begun. He also stated that plans are in development for cathodic protection improvements on the south and outer belt transmission mains.

Regarding the WaterLink Project, Engineering Manager Loster stated that the phase II effort continues and is approximately 83% complete at this time. He advised the Committee that permit submittals are ongoing, as is coordination with ComEd which has recently yielded some draft language of their license agreement terms.

Engineering Manager Loster also shared that the corrosion control study, managed by the three WaterLink communities, continues to progress and continues to yield positive results.

With regard to easement acquisition on the WaterLink Project, Engineering Manager Loster noted that there is an additional ordinance on the agenda, O-7-25, the details of which will be discussed during closed session.

Engineering Manager Loster also stated that Resolutions R-54-25, R-55-25, R-56-25 and R-57-25 appear on the agenda to secure construction engineering services for the WaterLink construction packages associated with pipeline construction. He noted that Resolution R-57-25 includes construction engineering services to be performed by Burns & McDonnell in addition to the first year of Program Management efforts, to carry through April 30th of next year.

Engineering Manager stated that the Book Road construction package is out to bid, with the bid date having recently been pushed back to July 1st. He also noted that the award of the construction contract is currently scheduled to be brought to the Board in August for approval.

Commissioner Saverino inquired with the Committee if there were any further questions regarding the action items. Hearing none, Commissioner Cuzzone moved to recommend approval of items 2 through 14 of the Engineering and Construction Committee portions of the Commission Agenda (Items IV through XVI on the Engineering and Construction Committee Agenda). Seconded by Commissioner Noonan and unanimously approved by a Voice Vote.

Commissioner Saverino asked the Committee if any other business or other items to be discussed. Hearing none, and with no other items coming before the Committee, Commissioner Noonan moved to adjourn the meeting at 6:20 P.M. Seconded by Commissioner Cuzzone and unanimously approved by a Voice Vote.

BOARD/MINUTES/ENGINEERING/2025/ENG250619.doc

DuPage Water Commission
30 YEARS OF SERVICE
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MEMORANDUM

To: Paul May – General Manager

From: Chris Bostick – Manager of Water Operations
Jeff Loster – Manager of Engineering

Mike Weed – Operations & Instrumentation Supervisor
Dariusz Panaszek – Pipeline & Remote Facilities Supervisor
Denis Cuvalo – Systems Engineer and Information Technology Supervisor

Date: 7/10/2025

Subject: Status of Operations, Engineering and Construction

Operations Overview

The Commission's sales for June 2025 were a total of 2.59 billion gallons. This represents an average daily demand of 86.4 million gallons per day (MGD), which is higher than the June 2024 average day demand of 82.4 MGD. The maximum day demand was 98.1 MGD, recorded on June 23, 2025, which is lower than the June 2024 maximum day demand of 102.5 MGD. The minimum day flow was 73.3 MGD.

The recorded total precipitation for June 2025 was 3.63 inches compared to 3.10 inches for June 2024. The level of Lake Michigan for June 2025 is 578.81 (Feet International Great Lakes Datum (IGLD) 1985) compared to 579.59 (Feet IGLD 1985) for June 2024.

DuPage Operations & Instrumentation Maintenance and Construction Overview

High Lift Pump Motor (HLP) No. 3 was repaired at the motor repair shop and reinstalled. Staff are experiencing start-up issues when the motor is turned on. Staff are coordinating on-site manufacturer service to assist with motor setpoint adjustments, start-up, and testing.

HLP No. 9 Pump Control Cone Valve was removed and shipped out for rebuilding. Upon successful factory testing and once the rebuilt cone valve is returned, it will be inserted into the discharge of a HLP to be determined, and the removed valve will be rebuilt. This process will continue until each of the High Lift Pumps has a new or refurbished valve in place.

Staff continues to work with CDM Smith and Strand Associates to further evaluate the electrical issues with the switchgear, controls and potential updating of high-lift pump motor monitoring and protective relays which are nearing the end of their useful life.

City of Chicago Water Treatment Modifications

No Change: The City of Chicago has reported as of March 31st, the transition has been completed from blended phosphate to phosphoric acid, to optimize the control of lead and copper release through household plumbing. DWC staff will continue monitoring certain water quality parameters to follow progress.

Lexington Operations and Maintenance Overview

Proposals for potential installation of vibration analysis instrumentation have been received from vendors and Quick-Response Electrical contractors and are currently under review by the Chicago Department of Water Management and may be brought forth for Board consideration at a future Commission meeting.

No Change: Chicago DWM reports that they will continue to troubleshoot their SCADA system deficiencies to identify the root cause of the ongoing issues.

Alternate Water Source

The Technical Advisory Team; Consor, Woolpert and Raftelis, have commenced their investigations including engagement with potential entities regarding easement acquisition and bathymetry studies of Lake Michigan, which is scheduled to take place this summer. The first of many workshops was held on June 26th with attendance of various stakeholders. A status report for the month of June is attached.

Pipeline & Remote Facilities Maintenance Overview

Pipeline and Remote Facilities staff continue to inspect Remote Facilities and perform the annual air release inspection program.

Pipeline staff continue closely monitoring I-294 (SB) Tollway construction work in the vicinity of the Commission's 72-inch and 90-inch water mains and construction work along Butterfield Road between I-355 and Park Blvd in the vicinity of the Commission's 54-inch water main.

Pipeline and Remote Facilities staff perform maintenance and repairs on rectifiers installed on DWC distribution system.

SCADA & Information Technology Overview

The SCADA Replacement Project (Contract PSD-9/21) is ongoing. The DWC campus control panel replacement has been completed, with the site acceptance testing also having been completed. Commission and Concentric staff are continuing to work on communication configuration and stress testing with bench and field testing, anticipating the first remote site RTU replacement to start in August. Electrical improvements to remote sites are underway, completing improvements at remote sites included in the first batch to have their RTUs replaced. The inspection and maintenance of remote site antenna systems have been completed. The fiber duct bank installation as part of the fiber network upgrade for the DWC campus has been completed. Staff will now transition to the replacement of the fiber runs throughout the campus and commissioning the new fiber optic panels. The access control punch list items have also been completed.

The annual Customer Meter Testing Program is ongoing and is approximately 30% complete.

Engineering & Capital Improvement Program Overview

Design of a Joint Facility (Metering Station and Pressure Adjusting Station) at Lombard's fifth connection point continues, with design engineering to be completed in the coming weeks.

Cathodic Protection Improvement efforts also continue, with design work for rectifier and ribbon anode improvements on the south and outer belt transmission pipelines remaining under development.

WaterLink Communities (Montgomery/Oswego/Yorkville)

The Phase II engineering effort remains ongoing and is approximately 88% complete. Permit submittals continue to be coordinated, with all review comments assessed and incorporated as necessary into the design drawings by the design team. Coordination with ComEd continues to move forward and has recently yielded draft language of their license agreement language as well as review comments of the proposed pipe alignment. The license agreement language has been reviewed by staff and the Commission attorney and negotiations are underway. The design team is also working to address all review comments by ComEd and incorporate the necessary changes into the design plans.

The corrosion control treatment study, performed by the Cornwell Engineering Group, continues to move forward with positive results. This study is required by the IEPA and is expected to be completed by November 2025, though preliminary results indicate that it could be completed much earlier.

Efforts related to easement acquisition also continue, with multiple related ordinances to appear on the August Board meeting agenda. These items will likely include both Phase I and Phase II approvals, seeking authority to negotiate with the associated property owners and make final compensatory offers, respectively.

Construction Engineering contracts for all pipeline construction packages were recently approved at the June Board meeting. In August, staff is tentatively planning to propose a contract for approval for the Construction Engineering effort associated with the construction of the seven metering stations. Similar to the other Construction Engineering contracts recently approved, this firm was also selected through the qualifications-based selection (QBS) process.

The Book Road bid package was recently advertised, with bids opened on Tuesday, July 1st. A total of three bids were received, with the apparent low bidder being a joint venture between D. Construction, Inc. and Benchmark Construction Co., Inc. Staff is currently working with the design team to verify that all bid requirements have been met as well as to work through a Value Engineering effort to optimize the project scope and minimize project costs wherever feasible, based on the bid received. Award of a construction contract for this work is anticipated at the August Board meeting.

Attachments

1. DuPage Laboratory Bench Sheets for June 2025
2. Water Sales Analysis 01-May-2020 to 30-June-2025
3. WaterLink Status Report

DU PAGE WATER COMMISSION
WATER SALES ANALYSIS 01-May-92 TO 30-Jun-25

PER DAY AVERAGE 77,787,757

MONTH	SALES TO CUSTOMERS (GALLONS)	PURCHASES FROM CHICAGO (GALLONS)	GALLONS BILLED %	BILLINGS TO CUSTOMERS	BILLINGS FROM CHICAGO	DOCUMENTED COMMISSION WATER USE (2)	DOCUMENTED COMMISSION WATER USE %	TOTAL ACCOUNTED FOR %	DWC OPER. & MAINT. RATE (3)	CHGO RATE
May-22	2,276,513,000	2,344,221,635	97.11%	$11,792,337.34	$9,648,816.25	5,698,667	0.24%	97.35%	$5.18	$4.116
Jun-22	2,682,480,000	2,772,533,130	96.75%	$13,895,246.40	$11,982,888.19	690,925	0.02%	96.78%	$5.18	$4.322
Jul-22	2,804,661,000	2,892,532,635	96.96%	$14,528,143.98	$12,501,526.05	883,858	0.03%	96.99%	$5.18	$4.322
Aug-22	2,688,224,000	2,772,533,130	96.96%	$13,925,000.32	$11,982,888.19	906,806	0.03%	96.99%	$5.18	$4.322
Sep-22	2,415,535,000	2,474,643,822	97.61%	$12,512,471.30	$10,695,410.60	1,021,063	0.04%	97.65%	$5.18	$4.322
Oct-22	2,153,410,000	2,220,050,683	97.00%	$11,154,663.80	$9,595,059.05	2,891,786	0.13%	97.13%	$5.18	$4.322
Nov-22	1,919,552,000	1,979,550,491	96.97%	$9,943,279.36	$8,555,617.22	1,008,092	0.05%	97.02%	$5.18	$4.322
Dec-22	2,071,113,000	2,123,449,660	97.54%	$10,728,365.34	$9,177,549.43	552,389	0.03%	97.56%	$5.18	$4.322
Jan-23	2,014,750,000	2,060,255,805	97.79%	$10,436,405.00	$8,904,425.59	337,423	0.02%	97.81%	$5.18	$4.322
Feb-23	1,835,597,000	1,883,158,917	97.47%	$9,508,392.46	$8,139,012.84	529,206	0.03%	97.50%	$5.18	$4.322
Mar-23	1,971,974,000	2,026,257,691	97.32%	$10,214,825.32	$8,757,453.41	306,690	0.02%	97.34%	$5.18	$4.322
Apr-23	1,962,197,000	2,010,451,747	97.60%	$10,164,180.46	$8,689,172.45	349,596	0.02%	97.62%	$5.18	$4.322
May-23	2,474,377,000	2,540,440,833	97.40%	$13,336,892.03	$10,979,785.28	684,441	0.03%	97.43%	$5.39	$4.322
Jun-23	2,971,436,000	3,043,540,086	97.63%	$16,016,040.04	$13,814,628.45	678,930	0.02%	97.65%	$5.39	$4.539
Jul-23	2,567,425,000	2,639,887,376	97.26%	$13,838,420.75	$11,982,448.80	1,047,600	0.04%	97.29%	$5.39	$4.539
Aug-23	2,708,945,000	2,773,069,509	97.69%	$14,601,213.55	$12,586,962.50	832,992	0.03%	97.72%	$5.39	$4.539
Sep-23	2,406,858,000	2,471,708,096	97.38%	$12,972,964.62	$11,219,083.05	753,904	0.03%	97.41%	$5.39	$4.539
Oct-23	2,071,291,000	2,116,545,770	97.86%	$11,164,258.49	$9,607,001.25	1,034,131	0.05%	97.91%	$5.39	$4.539
Nov-23	1,902,725,000	1,957,768,374	97.19%	$10,255,687.75	$8,886,310.65	809,342	0.04%	97.23%	$5.39	$4.539
Dec-23	1,972,754,000	2,031,158,416	97.12%	$10,633,144.06	$9,219,428.05	2,329,064	0.11%	97.24%	$5.39	$4.539
Jan-24	2,058,390,000	2,131,445,175	96.57%	$11,094,722.10	$9,674,663.60	730,427	0.03%	96.61%	$5.39	$4.539
Feb-24	1,868,175,000	1,916,869,806	97.46%	$10,069,463.25	$8,700,672.05	268,834	0.01%	97.47%	$5.39	$4.539
Mar-24	1,927,795,000	1,971,770,225	97.77%	$10,390,815.05	$8,949,831.10	340,529	0.02%	97.79%	$5.39	$4.539
Apr-24	1,951,120,000	1,992,959,991	97.90%	$10,516,536.80	$9,046,045.40	426,636	0.02%	97.92%	$5.39	$4.539
May-24	2,285,252,000	2,331,031,384	98.04%	$12,751,706.16	$10,580,551.45	964,148	0.04%	98.08%	$5.58	$4.539
Jun-24	2,558,136,000	2,613,555,125	97.88%	$14,274,398.88	$12,265,414.20	669,121	0.03%	97.91%	$5.58	$4.693
Jul-24	2,577,734,000	2,637,750,416	97.72%	$14,383,755.72	$12,378,962.70	5,976,667	0.23%	97.95%	$5.58	$4.693
Aug-24	2,723,982,000	2,791,119,391	97.59%	$15,199,819.56	$13,098,723.30	5,570,100	0.20%	97.79%	$5.58	$4.693
Sep-24	2,607,811,000	2,668,243,213	97.74%	$14,551,585.38	$12,522,065.40	887,220	0.03%	97.77%	$5.58	$4.693
Oct-24	2,256,800,000	2,311,304,709	97.64%	$12,592,944.00	$10,846,953.00	715,430	0.03%	97.67%	$5.58	$4.693
Nov-24	1,872,414,000	1,918,174,238	97.61%	$10,448,070.12	$9,001,956.60	517,416	0.03%	97.64%	$5.58	$4.693
Dec-24	2,003,025,000	2,053,944,598	97.52%	$11,176,879.50	$9,639,162.00	465,013	0.02%	97.54%	$5.58	$4.693
Jan-25	2,084,797,000	2,142,229,363	97.32%	$11,633,167.26	$10,053,482.40	295,500	0.01%	97.33%	$5.58	$4.693
Feb-25	1,882,269,000	1,935,765,374	97.24%	$10,503,061.00	$9,084,546.90	225,910	0.01%	97.25%	$5.58	$4.693
Mar-25	1,991,703,000	2,037,452,909	97.75%	$11,113,702.74	$9,561,766.50	307,123	0.02%	97.77%	$5.58	$4.693
Apr-25	2,007,784,000	2,062,448,476	97.35%	$11,203,434.72	$9,679,070.70	4,167,787	0.20%	97.55%	$5.58	$4.693
May-25	2,375,691,000	2,438,182,271	97.44%	$13,779,007.80	$11,442,389.40	864,737	0.04%	97.47%	$5.80	$4.693
Jun-25	2,581,750,000	2,650,830,953	97.39%	$14,974,150.00	$12,938,705.88	1,033,008	0.04%	97.43%	$5.80	$4.881
TOTALS (1)	942,320,886,798	969,341,072,067	97.21%	$2,465,866,681.60	$2,173,192,347.83	894,168,150	0.09%	97.30%	$2.62	$2.242

(1) - SINCE MAY 1, 1992
(2) - REPRESENTS DU PAGE PUMP STATION, METER TESTING AND CONSTRUCTION PROJECT USAGE
(3) - DOES NOT INCLUDE FIXED COST PAYMENTS

YTD										
Jun-24	4,843,388,000	4,944,586,509	97.95%	27,026,105	22,845,966				$5.58	$4.620
Jun-25	4,957,441,000	5,089,013,224	97.41%	28,753,158	24,381,095				$5.80	$4.791
	114,053,000	144,426,715		$1,727,053	$1,535,130					
	2.4%	2.9%		6.4%	6.7%					
Month										
Jun-24	2,558,136,000	2,613,555,125	97.88%	14,274,399	12,265,414				$5.58	$4.693
Jun-25	2,581,750,000	2,650,830,953	97.39%	14,974,150	12,938,706				$5.80	$4.881
	23,614,000	37,275,828		$699,751	$673,292					
	0.9%	1.4%		4.9%	5.5%					
June>May	206,059,000	212,648,682		1,195,142	1,496,316					

DUPAGE WATER COMMISSION
PWS FACILITY ID# - IL435400
MONTHLY OPERATIONS REPORT
DUPAGE WATER COMMISSION LABORATORY BENCH SHEET RESULTS
JUNE 2025

DATE	LEXINGTON P.S. SUPPLY			DUPAGE P.S. DISCHARGE							ANALYST INT.
	FREE Cl2 (mg/L)	TURBIDITY (ntu)	O-PO4 (mg/L)	FREE Cl2 (mg/L)	TURBIDITY (ntu)	TEMP (°F)	pH	Fluoride (mg/L)	O-PO4 (mg/L)	P.A.C. (LBS/MG)	
1	1.38	0.06	2.26	1.32	0.08	59	7.1	0.6	2.27	0	KD
2	1.33	0.05	2.25	1.33	0.06	60	7.0	0.6	2.24	0	JS
3	1.36	0.05	2.30	1.29	0.06	60	7.1	0.6	2.28	0	JS
4	1.38	0.05	2.29	1.26	0.08	59	7.1	0.7	2.31	0	KD
5	1.31	0.05	2.24	1.22	0.06	60	7.1	0.6	2.24	0	KD
6	1.33	0.05	2.24	1.19	0.07	60	7.1	0.6	2.51	0	KD
7	1.34	0.06	2.27	1.20	0.07	59	7.1	0.6	2.28	0	JS
8	1.38	0.05	2.26	1.26	0.06	59	7.1	0.6	2.26	0	RC
9	1.31	0.05	2.24	1.26	0.06	58	7.1	0.7	2.23	0	RC
10	1.31	0.05	2.24	1.29	0.06	60	7.1	0.7	2.28	0	KD
11	1.37	0.04	2.30	1.34	0.05	60	7.1	0.6	2.20	0	RC
12	1.41	0.05	2.35	1.33	0.05	61	7.1	0.6	2.34	0	RC
13	1.37	0.05	2.35	1.29	0.06	61	7.1	0.6	2.33	0	RC
14	1.39	0.06	2.36	1.27	0.07	62	7.1	0.6	2.50	0	KD
15	1.34	0.05	2.28	1.32	0.06	62	7.1	0.6	2.26	0	KD
16	1.15	0.05	2.24	1.17	0.06	63	7.1	0.6	2.31	0	KD
17	1.21	0.05	2.20	1.28	0.06	63	7.1	0.7	2.27	0	AM
18	1.30	0.06	2.17	1.24	0.07	63	7.0	0.6	2.37	0	KD
19	1.31	0.05	2.19	1.13	0.08	63	7.1	0.6	2.31	0	KD
20	1.24	0.06	2.27	1.13	0.07	63	7.1	0.6	2.49	0	KD
21	1.36	0.09	2.29	1.26	0.07	64	7.2	0.6	2.27	0	RC
22	1.28	0.08	2.21	1.17	0.09	64	7.2	0.7	2.25	0	RC
23	1.33	0.09	2.24	1.24	0.08	65	7.1	0.6	2.24	0	KD
24	1.16	0.05	2.25	1.31	0.06	65	7.0	0.6	2.26	0	KD
25	1.35	0.06	2.21	1.33	0.05	65	7.0	0.6	2.22	0	RC
26	1.47	0.06	2.21	1.38	0.06	64	7.1	0.6	2.17	0	RC
27	1.22	0.06	2.11	1.26	0.08	64	7.2	0.6	2.22	0	RC
28	1.29	0.06	2.29	1.28	0.09	65	7.1	0.7	2.30	0	AM
29	1.26	0.05	2.21	1.31	0.08	65	7.1	0.6	2.23	0	AM
30	1.36	0.06	2.27	1.27	0.06	65	7.1	0.7	2.36	0	RC
31											
AVG.	1.32	0.06	2.25	1.26	0.07	62	7.1	0.6	2.29	0	
MAX.	1.47	0.09	2.36	1.38	0.09	65	7.2	0.7	2.51	0	
MIN.	1.15	0.04	2.11	1.13	0.05	58	7.0	0.6	2.17	0	

Mike Weed 7/7/25

Mike Weed, Operations Supervisor — Date
Illinois ROINC # 186860234

DuPage Water Commission
30 YEARS OF SERVICE
Pure. Essential. Stewardship.

MEMORANDUM

To: Paul May – General Manager

From: Chris Bostick – Manager of Water Operations
Jeff Loster – Manager of Engineering

Mike Weed – Operations & Instrumentation Supervisor
Dariusz Panaszek – Pipeline & Remote Facilities Supervisor
Denis Cuvalo – Systems Engineer and Information Technology Supervisor

Date: 8/14/2025

Subject: Status of Operations, Engineering and Construction

Operations Overview

The Commission's sales for July 2025 were a total of 2.67 billion gallons. This represents an average daily demand of 86.1 million gallons per day (MGD), which is higher than the July 2024 average day demand of 80.8 MGD. The maximum day demand was 103.8 MGD, which is higher than the July 2024 maximum day demand of 89.0 MGD. The minimum day flow was 74.1 MGD. *Peak demand for July 2025 was 120.6 MGD recorded on July 3, 2025. Peak discharge flow rate* for July 2025 *was 127.4 MGD, recorded on July 3, 2025, at 08:18 AM*.

The recorded total precipitation for July 2025 was 4.29 inches compared to 5.71 inches for July 2024. The level of Lake Michigan for July 2025 is 579.00 (Feet International Great Lakes Datum (IGLD) 1985) compared to 579.40 (Feet IGLD 1985) for July 2024.

DuPage Operations & Instrumentation Maintenance and Construction Overview

High Lift Pump Motor (HLP) No. 3 was repaired at the motor repair shop and reinstalled. Staff continue to experience issues at motor start-ups. Repair service reports and manufacturer recommendations are under review by a qualified third party.

HLP No. 9 Pump Control Cone Valve was successfully factory witness tested on August 7th and is scheduled for delivery on August 18th. Upon delivery, the refurbished valve will be inserted into the discharge of a HLP to be determined, and the removal of another valve will be scheduled upon approval of R-68-25 which appears on the agenda seeking authorization to continue the program with the next cone valve removal and refurbishment.

R-69-25 appears on the agenda to approve QRE10 Work Authorization Order No. 004 to Volt Electric for annual Infrared Electrical Scanning at DuPage Pump Station and at the Tank Site 1 pump station.

Staff continue to work with CDM Smith and Strand Associates to further evaluate the electrical issues with the medium voltage switchgear, controls and potential updating of high-lift pump motor monitoring and protective relays which are nearing the end of their useful life. R-70-25 appears on the agenda seeking approval of the 1st Amendment to Task Order No. 02 to add design services, construction assistance and testing services for the switchgear control improvements.

City of Chicago Water Treatment Modifications

No Change: The City of Chicago has reported as of March 31st, the transition has been completed from blended phosphate to phosphoric acid, to optimize the control of lead and copper release through household plumbing. DWC staff will continue monitoring certain water quality parameters to follow progress.

Lexington Operations and Maintenance Overview

No Change: Proposals for potential installation of vibration analysis instrumentation have been received from vendors and Quick-Response Electrical contractors and are currently under review by the Chicago Department of Water Management and may be brought forth for Board consideration at a future Commission meeting.

No Change: Chicago DWM reports that they will continue to troubleshoot their SCADA system deficiencies to identify the root cause of the ongoing issues.

Alternate Water Source

The Technical Advisory Team; Consor, Woolpert and Raftelis, continue their tasks including engagement with potential entities regarding easement acquisition and bathymetry studies of Lake Michigan, which are underway. The second of many workshops was held on July 22nd with attendance of various stakeholders to discuss alternative and collaborative project delivery methods. A WIFIA Financing meeting was held with representatives from the Federal EPA on August 14. SeaWorks Group, LLC has activated two vessels for the bathymetry survey, the “Lea” and the “Sleeping Bear”. The bathymetry survey work is currently underway and is expected to be completed by mid-September. This is an important step to identify a preferred location for the raw water intake. The Technical Advisory Team is advancing completion of the Business Case Analysis, which will be presented to the Board of Commissioners in September. A status report for the month of July is attached and a presentation for the full Board will be provided by the Technical Advisory Team.

Pipeline & Remote Facilities Maintenance Overview

A leak on a 30” steel water main located in Wheaton is being repaired at the time of writing this report. It appears that when a storm sewer was installed, subsequent to the DWC installation, the sewer contractor’s excavator’s bucket scratched and peeled off the protective coating on the DWC pipe which has resulted in accelerated corrosion. Additional details will be provided during the Commission meeting on August 21st.

Pipeline and Remote Facilities staff continue to inspect Remote Facilities and perform the annual air release inspection program.

Pipeline staff continue closely monitoring I-294 (SB) Tollway construction work in the vicinity of the Commission's 72-inch and 90-inch water mains and construction work along Butterfield Road between I-355 and Park Blvd in the vicinity of the Commission's 54-inch water main.

Pipeline and Remote Facilities staff perform maintenance and repairs on rectifiers installed on DWC distribution system.

Resolution R-60-25 appears on the agenda to authorize the General Manager to purchase steel pipe and butt straps from American Spiral Weld Pipe at a cost not to exceed $30,000. The purpose of the purchase is to replenish an inventory of pipes and butt straps.

Resolution R-62-25 appears on the agenda to approve and ratify Work Authorization Order No. 13.001 to Quick Response Contractor, John Neri Construction Co., Inc. The work was necessary to repair the concrete structure damaged during the traffic accident.

Resolution R-63-25 appears on the agenda to approve Work Authorization Order No. 13.002 to Quick Response Contractor, Rossi Contractors, Inc. The work is necessary due to the deteriorating conditions of various types of vault structures and surrounding pavement found during routine inspections by staff.

SCADA & Information Technology Overview

The SCADA Replacement Project (Contract PSD-9/21) is ongoing. Resolution R-61-25 appears on the agenda as Change Order No. 06 for necessary modifications to the Work at a net cost increase of $144,484.45, revising the total Contract Price to $15,722,205.28, resulting in a net increase in the Contract Value by 0.9%. The DWC campus control panel replacement has been completed, including the site acceptance testing, with only punch list items remaining that need to be coordinated with remote site upgrades. Commission and Concentric staff are continuing to work on communication configuration and stress testing with bench and field setups, anticipating the first remote site RTU replacement to start in September. The SCADA backhaul upgrade and communication testing has taken more effort and time than originally anticipated due to several factors, including but not limited to the scale of the backhaul system, the sequencing to transition and maintain the existing infrastructure and HSQ SCADA system, and the testing and configuration required to verify the new system's redundancies and configuration. The additional effort and time taken will likely push the schedule of the project further back than the originally anticipated completion date of May 31, 2026. Electrical improvements to remote sites are underway, completing installations at remote sites included in the first and second batches to have their RTUs replaced. The inspection and maintenance of remote site antenna systems have been completed. The fiber duct bank installation as part of the fiber network upgrade for the DWC campus has been completed. The DWC campus fiber optic system upgrade, which includes the replacement of the fiber runs throughout the campus and the commissioning of the new fiber optic panels, will take place in October.

The annual Customer Meter Testing Program is ongoing and is approximately 40% complete.

Engineering & Capital Improvement Program Overview

Design of a Joint Facility (Metering Station and Pressure Adjusting Station) at Lombard's fifth connection point continues, with coordination meetings recently having taken place in an effort to proceed with a final design that meets the requirements of all parties involved. Resolution R-65-25

appears on the agenda, which includes modifications to an existing IGA with the Village of Lombard to allow the Village to assume control of the construction phase of the meter station and pressure adjusting station.

Cathodic Protection Improvement efforts also continue, with design work for rectifier and ribbon anode improvements on the south and outer belt transmission pipelines remaining under development.

WaterLink Communities (Montgomery/Oswego/Yorkville)

The Phase II engineering effort remains ongoing and is approximately 88% complete. Permit submittals continue to be coordinated, with all review comments assessed and incorporated as necessary into the design drawings by the design team. Coordination with ComEd continues to move forward with negotiations of the license agreement ongoing and technical review of the proposed pipe alignment nearing completion.

The corrosion control treatment study, performed by the Cornwell Engineering Group, continues to move forward with positive results. This study is required by the IEPA and is expected to be completed by November 2025, though preliminary results indicate that it could be completed much earlier.

Efforts related to easement acquisition also continue, with Ordinances O-8-25 and O-9-25 appearing on the agenda. These items include Phase I (authority to negotiate) and Phase III (authority to make compensatory offer) approvals.

Resolution R-64-25 also appears on the agenda, which would provide approval of a contract for the Construction Engineering services associated with the construction of the seven metering stations. Similar to the other Construction Engineering contracts recently approved for the pipeline segments, this firm was also selected through the qualifications-based selection (QBS) process. This resolution represents the final construction engineering contract needed to complete the project.

The Book Road bid package was recently advertised, with bids opened on Tuesday, July 1st. A total of three bids were received, with the apparent low bidder being a Joint Venture between D. Construction, Inc. and Benchmark Construction Co., Inc. Resolution R-66-25 appears on the agenda, which would approve a construction contract with the Joint Venture to complete the Book Road portion of the WaterLink Pipeline Project. However, with the bids being significantly over budget, Commission staff has worked with the design team to negotiate with the Joint Venture in an effort to reduce the overall construction cost. As a result, Resolution R-67-25 also appears on the agenda, in the form of Change Order No. 01 to the Book Road project, which represents a significant reduction in the construction cost.

Board Action Items

Resolution R-60-25: A Resolution Authorizing the General Manager to Purchase Steel Pipe and Butt Straps from American Spiral Weld Pipe Company (Not-To-exceed $30,000)

Resolution R-61-25: A Resolution Approving and Ratifying Certain Change Orders to a Contract for the SCADA Replacement Project (Contract PSD-9/21) (Increase of Contract Price by $144,484.45)

Resolution R-62-25: A Resolution to Approve & Ratify Certain Work Authorization Orders Under Quick Response Contract QR-13/25 (WAO No. 001 – John Neri Construction Co., Inc. - $8,261.37)

Resolution R-63-25: A Resolution Approving and Ratifying Certain Work Authorization Orders Under Quick Response Contract QR-13/25 (WAO No. 002 John Neri Construction Co., Inc. – Estimated Expense of $288,100)

Resolution R-64-25: A Resolution Approving Phase III (Construction) Engineering Contract Assignment for the WaterLink Pipeline Project (Stanley Consultants – No Cost This Action)

Resolution R-65-25: A Resolution Approving an Amendment to the Previously Approved Intergovernmental Agreement (R-51-21) with Lombard for the Design and Construction of MS 14-E (No Cost This Action)

Resolution R-66-25: A Resolution Awarding a Contract for the Construction of the West Transmission Main along Book Road from 75th Street to the ComEd R.O.W. (Contract TW-6/25 Section 1 (Book Road)) (D. Construction, Inc. & Benchmark Construction Co., Inc. Joint Venture - $67,148,000 plus an Owner's Allowance of $1,000,000)

Resolution R-67-25: A Resolution Approving and Ratifying Certain Change Orders for the Construction of the West Transmission Main Along Book Road From 75th Street to the ComEd R.O.W. (Contract TW-6/25 Section 1 (Book Road)) (D. Construction, Inc. & Benchmark Construction Co., Inc. Joint Venture – A Decrease in Contract Price from $67,148,000 to $48,301,059.73)

Resolution R-68-26: A Resolution Authorizing High-Lift Pump Control Valve Repair Services from a Sole Source Provider (American Cone Valve Inc. – A/C Service and Repair, Inc. – Cost Not-To-Exceed $150,000)

Resolution R-69-25: A Resolution Approving and Ratifying Certain Work Authorization Orders Under Quick Response Electrical Contract QRE-10/24 (WAO No. 004 – Volt Electric, Inc. – Estimated Expense of $15,304)

Resolution R-70-25: A Resolution Approving and Ratifying a 1st Amendment to Task Order No. 02 Under a Master Contract with CDM Smith, Inc. (Increase of Amount Not-To-Exceed cost from $50,000 to $124,580)

Attachments

1. DuPage Laboratory Bench Sheets for July 2025
2. Water Sales Analysis 01-May-2020 to 31-July-2025
3. WaterLink Status Report

DU PAGE WATER COMMISSION
WATER SALES ANALYSIS 01-May-92 TO 31-Jul-25

PER DAY AVERAGE 77,808,026

MONTH	SALES TO CUSTOMERS (GALLONS)	PURCHASES FROM CHICAGO (GALLONS)	GALLONS BILLED %	BILLINGS TO CUSTOMERS	BILLINGS FROM CHICAGO	DOCUMENTED COMMISSION WATER USE (2)	DOCUMENTED COMMISSION WATER USE %	TOTAL ACCOUNTED FOR %	DWC OPER. & MAINT. RATE (3)	CHGO RATE
May-22	2,276,513,000	2,344,221,635	97.11%	$11,792,337.34	$9,648,816.25	5,698,667	0.24%	97.35%	$5.18	$4.116
Jun-22	2,682,480,000	2,772,533,130	96.75%	$13,895,246.40	$11,982,888.19	690,925	0.02%	96.78%	$5.18	$4.322
Jul-22	2,804,661,000	2,892,532,635	96.96%	$14,528,143.98	$12,501,526.05	883,858	0.03%	96.99%	$5.18	$4.322
Aug-22	2,688,224,000	2,772,533,130	96.96%	$13,925,000.32	$11,982,888.19	906,806	0.03%	96.99%	$5.18	$4.322
Sep-22	2,415,535,000	2,474,643,822	97.61%	$12,512,471.30	$10,695,410.60	1,021,063	0.04%	97.65%	$5.18	$4.322
Oct-22	2,153,410,000	2,220,050,683	97.00%	$11,154,663.80	$9,595,059.05	2,891,786	0.13%	97.13%	$5.18	$4.322
Nov-22	1,919,552,000	1,979,550,491	96.97%	$9,943,279.36	$8,555,617.22	1,008,092	0.05%	97.02%	$5.18	$4.322
Dec-22	2,071,113,000	2,123,449,660	97.54%	$10,728,365.34	$9,177,549.43	552,389	0.03%	97.56%	$5.18	$4.322
Jan-23	2,014,750,000	2,060,255,805	97.79%	$10,436,405.00	$8,904,425.59	337,423	0.02%	97.81%	$5.18	$4.322
Feb-23	1,835,597,000	1,883,158,917	97.47%	$9,508,392.46	$8,139,012.84	529,206	0.03%	97.50%	$5.18	$4.322
Mar-23	1,971,974,000	2,026,257,691	97.32%	$10,214,825.32	$8,757,453.41	306,690	0.02%	97.34%	$5.18	$4.322
Apr-23	1,962,197,000	2,010,451,747	97.60%	$10,164,180.46	$8,689,172.45	349,596	0.02%	97.62%	$5.18	$4.322
May-23	2,474,377,000	2,540,440,833	97.40%	$13,336,892.03	$10,979,785.28	684,441	0.03%	97.43%	$5.39	$4.322
Jun-23	2,971,436,000	3,043,540,086	97.63%	$16,016,040.04	$13,814,628.45	678,930	0.02%	97.65%	$5.39	$4.539
Jul-23	2,567,425,000	2,639,887,376	97.26%	$13,838,420.75	$11,982,448.80	1,047,600	0.04%	97.29%	$5.39	$4.539
Aug-23	2,708,945,000	2,773,069,509	97.69%	$14,601,213.55	$12,586,962.50	832,992	0.03%	97.72%	$5.39	$4.539
Sep-23	2,406,858,000	2,471,708,096	97.38%	$12,972,964.62	$11,219,083.05	753,904	0.03%	97.41%	$5.39	$4.539
Oct-23	2,071,291,000	2,116,545,770	97.86%	$11,164,258.49	$9,607,001.25	1,034,131	0.05%	97.91%	$5.39	$4.539
Nov-23	1,902,725,000	1,957,768,374	97.19%	$10,255,687.75	$8,886,310.65	809,342	0.04%	97.23%	$5.39	$4.539
Dec-23	1,972,754,000	2,031,158,416	97.12%	$10,633,144.06	$9,219,428.05	2,329,064	0.11%	97.24%	$5.39	$4.539
Jan-24	2,058,390,000	2,131,445,175	96.57%	$11,094,722.10	$9,674,663.60	730,427	0.03%	96.61%	$5.39	$4.539
Feb-24	1,868,175,000	1,916,869,806	97.46%	$10,069,463.25	$8,700,672.05	268,834	0.01%	97.47%	$5.39	$4.539
Mar-24	1,927,795,000	1,971,770,225	97.77%	$10,390,815.05	$8,949,831.10	340,529	0.02%	97.79%	$5.39	$4.539
Apr-24	1,951,120,000	1,992,959,991	97.90%	$10,516,536.80	$9,046,045.40	426,636	0.02%	97.92%	$5.39	$4.539
May-24	2,285,252,000	2,331,031,384	98.04%	$12,751,706.16	$10,580,551.45	964,148	0.04%	98.08%	$5.58	$4.539
Jun-24	2,558,136,000	2,613,555,125	97.88%	$14,274,398.88	$12,265,414.20	669,121	0.03%	97.91%	$5.58	$4.693
Jul-24	2,577,734,000	2,637,750,416	97.72%	$14,383,755.72	$12,378,962.70	5,976,667	0.23%	97.95%	$5.58	$4.693
Aug-24	2,723,982,000	2,791,119,391	97.59%	$15,199,819.56	$13,098,723.30	5,570,100	0.20%	97.79%	$5.58	$4.693
Sep-24	2,607,811,000	2,668,243,213	97.74%	$14,551,585.38	$12,522,065.40	887,220	0.03%	97.77%	$5.58	$4.693
Oct-24	2,256,800,000	2,311,304,709	97.64%	$12,592,944.00	$10,846,953.00	715,430	0.03%	97.67%	$5.58	$4.693
Nov-24	1,872,414,000	1,918,174,238	97.61%	$10,448,070.12	$9,001,956.60	517,416	0.03%	97.64%	$5.58	$4.693
Dec-24	2,003,025,000	2,053,944,598	97.52%	$11,176,879.50	$9,639,162.00	465,013	0.02%	97.54%	$5.58	$4.693
Jan-25	2,084,797,000	2,142,229,363	97.32%	$11,633,167.26	$10,053,482.40	295,500	0.01%	97.33%	$5.58	$4.693
Feb-25	1,882,269,000	1,935,765,374	97.24%	$10,503,061.00	$9,084,546.90	225,910	0.01%	97.25%	$5.58	$4.693
Mar-25	1,991,703,000	2,037,452,909	97.75%	$11,113,702.74	$9,561,766.50	307,123	0.02%	97.77%	$5.58	$4.693
Apr-25	2,007,784,000	2,062,448,476	97.35%	$11,203,434.72	$9,679,070.70	4,167,787	0.20%	97.55%	$5.58	$4.693
May-25	2,375,691,000	2,438,182,271	97.44%	$13,779,007.80	$11,442,389.40	864,737	0.04%	97.47%	$5.80	$4.693
Jun-25	2,581,750,000	2,650,830,953	97.39%	$14,974,150.00	$12,938,705.88	1,033,008	0.04%	97.43%	$5.80	$4.881
Jul-25	2,657,585,000	2,731,622,698	97.29%	$15,413,993.00	$13,333,050.39	779,447	0.03%	97.32%	$5.80	$4.881
TOTALS (1)	944,978,471,798	972,072,694,765	97.21%	$2,481,280,674.60	$2,186,525,398.22	894,947,597	0.09%	97.30%	$2.63	$2.249

(1) - SINCE MAY 1, 1992
(2) - REPRESENTS DU PAGE PUMP STATION, METER TESTING AND CONSTRUCTION PROJECT USAGE
(3) - DOES NOT INCLUDE FIXED COST PAYMENTS

YTD										
Jul-24	7,421,122,000	7,582,336,925	97.87%	41,409,861	35,224,928				$5.58	$4.646
Jul-25	7,615,026,000	7,820,635,922	97.37%	44,167,151	37,714,146				$5.80	$4.822
	193,904,000	238,298,997		$2,757,290	$2,489,217					
	2.6%	3.1%		6.7%	7.1%					
Month										
Jul-24	2,577,734,000	2,637,750,416	97.72%	14,383,756	12,378,963				$5.58	$4.693
Jul-25	2,657,585,000	2,731,622,698	97.29%	15,413,993	13,333,050				$5.80	$4.881
	79,851,000	93,872,282		$1,030,237	$954,088					
	3.1%	3.6%		7.2%	7.7%					
July>June	75,835,000	80,791,745		439,843	394,345					

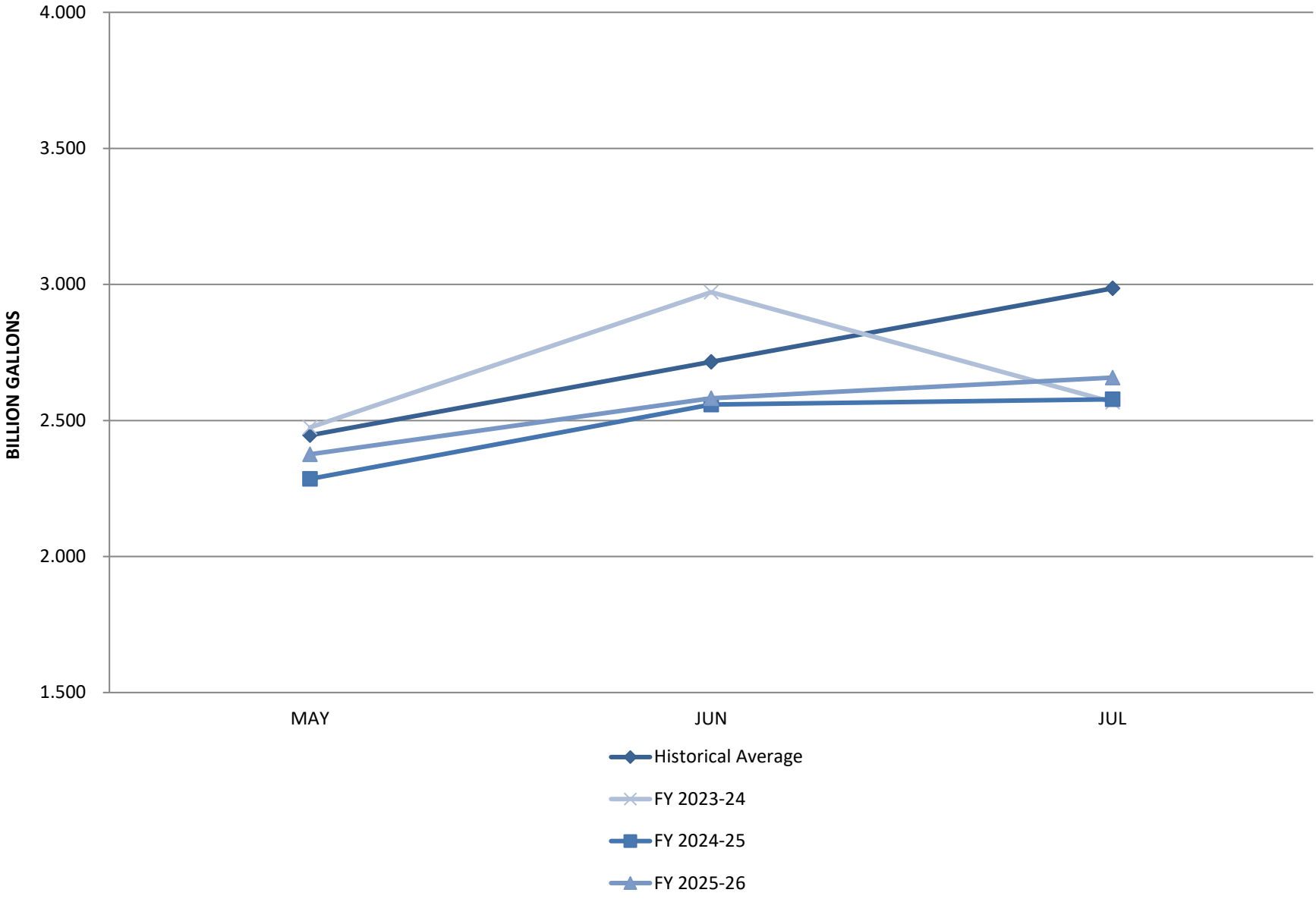
DUPAGE WATER COMMISSION
PWS FACILITY ID# - IL435400
MONTHLY OPERATIONS REPORT
DUPAGE WATER COMMISSION LABORATORY BENCH SHEET RESULTS
JULY 2025

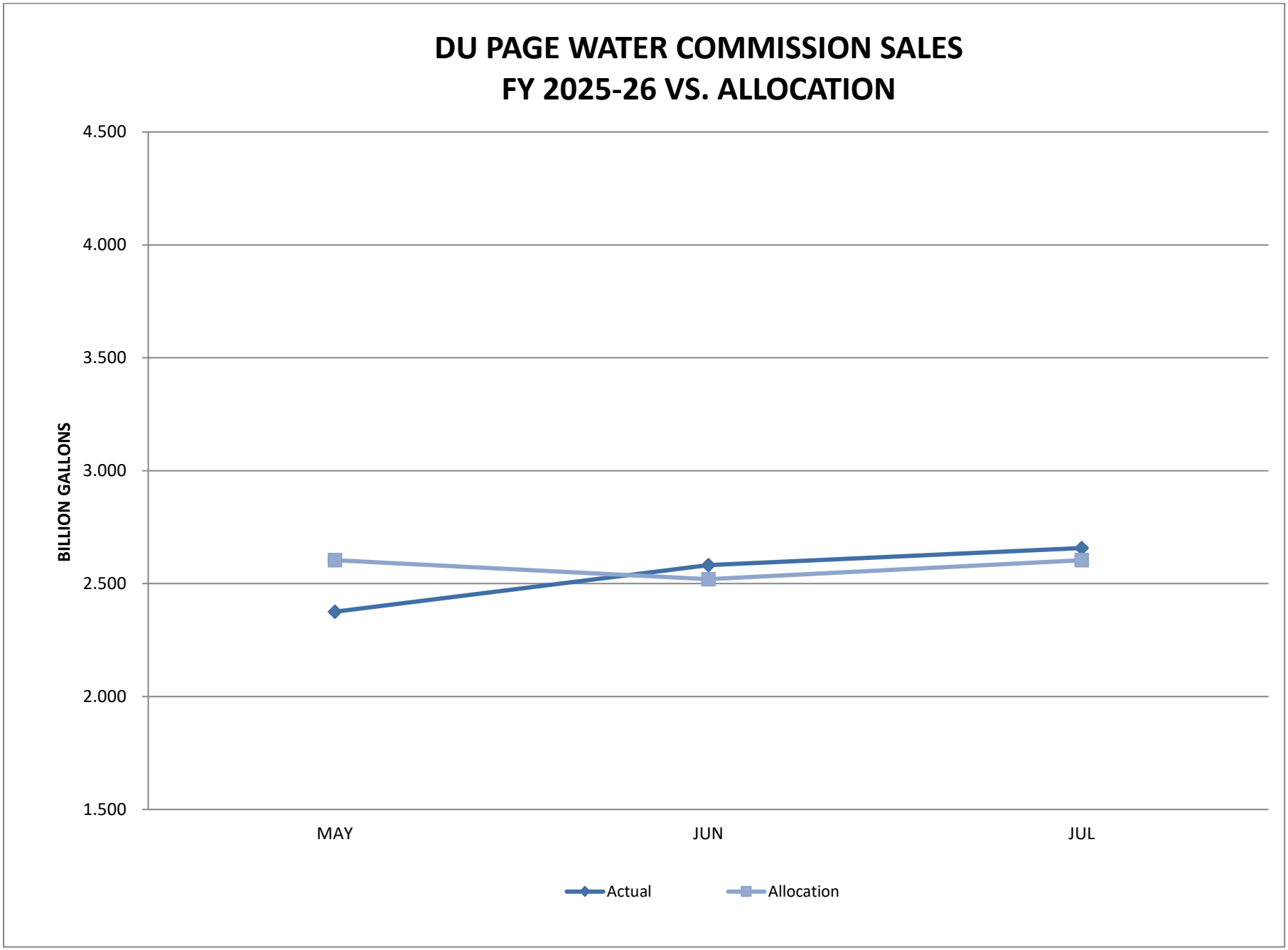
DATE	LEXINGTON P.S. SUPPLY			DUPAGE P.S. DISCHARGE							ANALYST INT.
	FREE Cl2 (mg/L)	TURBIDITY (ntu)	O-PO4 (mg/L)	FREE Cl2 (mg/L)	TURBIDITY (ntu)	TEMP (°F)	pH	Fluoride (mg/L)	O-PO4 (mg/L)	P.A.C. (LBS/MG)	
1	1.24	0.07	2.25	1.33	0.06	64	7.1	0.6	2.24	0	RC
2	1.28	0.05	2.20	1.30	0.05	64	7.1	0.6	2.31	0	AM
3	1.31	0.06	2.31	1.31	0.06	63	7.2	0.7	2.29	0	AM
4	1.29	0.06	2.33	1.32	0.06	63	7.2	0.7	2.35	0	AM
5	1.34	0.07	2.27	1.29	0.08	63	7.1	0.7	2.22	0	JS
6	1.32	0.06	2.17	1.23	0.07	63	7.1	0.7	2.20	0	JS
7	1.27	0.06	2.13	1.20	0.07	63	7.1	0.7	2.28	0	AM
8	1.34	0.07	2.20	1.28	0.07	63	7.1	0.6	2.33	0	AM
9	1.32	0.06	2.24	1.20	0.08	64	7.0	0.7	2.22	0	JS
10	1.29	0.07	2.25	1.18	0.07	65	7.1	0.7	2.29	0	JS
11	1.44	0.07	2.29	1.31	0.07	66	7.3	0.7	2.33	0	JS
12	1.31	0.06	2.34	1.29	0.06	66	7.2	0.6	2.29	0	AM
13	1.28	0.06	2.29	1.26	0.06	66	7.1	0.6	2.33	0	AM
14	1.25	0.06	2.33	1.28	0.07	67	7.1	0.7	2.22	0	AM
15	1.29	0.06	2.22	1.25	0.07	67	7.0	0.6	2.22	0	KD
16	1.38	0.06	2.30	1.27	0.07	67	7.1	0.8	2.28	0	AM
17	1.28	0.06	2.28	1.20	0.07	67	7.1	0.7	2.30	0	AM
18	1.36	0.06	2.30	1.28	0.06	66	7.1	0.7	2.27	0	AM
19	1.31	0.07	2.27	1.25	0.05	66	7.1	0.7	2.21	0	AM
20	1.24	0.06	2.36	1.10	0.07	68	7.1	0.7	2.28	0	KD
21	1.32	0.07	2.27	1.27	0.06	69	7.1	0.6	2.30	0	AM
22	1.34	0.05	2.24	1.29	0.06	69	7.1	0.7	2.27	0	AM
23	1.40	0.06	2.16	1.28	0.07	70	7.1	0.7	2.22	0	JS
24	1.21	0.06	2.21	1.25	0.06	71	7.1	0.7	2.24	0	JS
25	1.33	0.05	2.20	1.19	0.07	70	7.1	0.6	2.18	0	JS
26	1.27	0.07	2.13	1.13	0.08	70	7.2	0.6	2.09	0	KD
27	1.34	0.05	2.15	1.24	0.06	69	7.2	0.6	2.13	0	RC
28	1.37	0.07	2.20	1.23	0.06	70	7.1	0.6	2.17	0	JS
29	1.33	0.08	2.23	1.13	0.08	71	7.1	0.7	2.26	0	JS
30	1.22	0.05	1.67	1.12	0.06	70	7.1	0.6	2.05	0	KD
31	1.21	0.05	2.20	1.10	0.06	69	7.1	0.6	2.29	0	KD
AVG.	1.31	0.06	2.23	1.24	0.07	67	7.1	0.7	2.25	0	
MAX.	1.44	0.08	2.36	1.33	0.08	71	7.3	0.8	2.35	0	
MIN.	1.21	0.05	1.67	1.10	0.05	63	7.0	0.6	2.05	0	

Mike Weed 8/6/25

Mike Weed, Operations Supervisor — Date
Illinois ROINC # 186860234

DU PAGE WATER COMMISSION SALES
FY 2025-26, 2024-25 & 2023-24 VS. HISTORICAL AVERAGE




DU PAGE WATER COMMISSION SALES
FY 2025-26 VS. ALLOCATION
BILLION GALLONS
4.500
4.000
3.500
3.000
2.500
2.000
1.500
MAY
JUN
JUL
Actual
Allocation

MONTHLY STATUS REPORT

LAN PROJECT #: 128-10031-001

PROJECT: DuPage Water Commission WaterLink Extension Phase II

REPORT DATE: July 8, 2025

MEETING DATE: July 17, 2025

I. Progress through July 8, 2025

A. Field data collection and surveying.

1. Supplemental topography completed along Hill Rd to accommodate revised Montgomery #1 Delivery site configuration. Additional topographic survey completed at proposed chlorination building / future pump station site is complete.
2. Boundary and topographic survey completed at proposed chlorination building site.
3. Additional topographic survey was completed along IL Route 34 and Kendall Point Drive to collect Oswego utility field-locates for requested realignment.
4. Final cadastral surveying work complete.
    a) All 13 additional sections authorized in Phase 1 complete. Site surveying for 3 of the 7 delivery sites has been completed, with remainder coming from WaterLink municipal engineers.
    b) Site topo at Oswego East HS began Aug 6 and is complete. High school engineer provided existing utility map at site.
    c) Existing structure rim/invert data collection 100% complete. Total of approximately 1,097 structures located with rim/inverts surveyed.
5. Processing of collected Aerial LIDAR data is complete.
    a) 100% of original scope complete. Overall width of data processing increased to facilitate design drawing set-up and minimize future re-work. Increased width processing complete.
        1) Additional processing along Wolf's Crossing Rd and Douglas Rd complete.
        2) Additional topo processing west of Ogden Falls Blvd. due to ComEd alignment changes complete.
6. Subsurface Utility Locates
    a) SUE field activities completed.

7. Utility Potholing Locates
    a) Additional potholes completed on Naperville electrical duct bank along 75th Street for TW-6 S1.
    b) Over 440 potholes completed along ComEd corridors 100% complete.
8. Geotechnical
    a) Total of 193 borings (95%) completed to date in Phase 2 through July 3, with 8 more being completed along IL-71. Draft geotechnical reports expected by end of July.
    b) IDOT permit received May 1 for borings along IL-71. Scheduled work for mid-June has been completed.
    c) Additional borings at Kendall Point realignment pending.
9. Cathodic Protection
    a) Soil resistivity testing along project routes complete for cathodic protection design.
    b) Final field data report provided for TW-6 S1, remaining report(s) in progress.

B. Data Collection (as-builts, GIS, design drawings).
1. WaterLink Delivery Point proposed site layouts.
2. Design team has set initial priority parcels to move to the plat preparation stage.

C. Ongoing Coordination with ComEd.
1. Drawings submitted to ComEd 1/23/25 to initiate legal and real estate appraisal process.
    a) Comments received from ComEd. Regular weekly meetings to discuss and re-confirm the alignment are underway.
2. Draft license agreement sent to DWC for review.

D. Land Acquisition
1. 222 of 232 Titles Received
2. 160 total parcels for easement preparation
3. Easement legal descriptions & exhibits
    a) 130 total prepared to date (81%)
    b) 45 Appraisal Packages and 23 property negotiations underway.
    c) School District 308 easement approvals 90% complete pending final action July 28.

E. Contract TW-6 Section 1 (Book Rd) in progress.

1. Project advertised for bid on 5/23/35.
2. Pre-bid meeting held on 6/3/25.
3. Bids received on 7/1/25.
4. IEPA construction permit received 2/28/2025.
    a) Subsequent sampling plan approved to amend the requirement for sampling every 1,200 feet.
5. Permit applications with USACE, IDNR, DuPage County Stormwater, City of Naperville, Naperville Township, and Wheatland Township submitted.
    a) Comments received from City of Naperville. Comment responses and revised drawings were prepared, including ROV electrical. Revisions resubmitted to the City.
    b) Plans resubmitted to DuPage County DOT on 5/23/25.
    c) Permits received from USACE, Will County Stormwater, and two Soil & Water Conservation Districts.
6. Value engineering redesign to remove/shorten tunnels and remove 48-inch valves on existing pipe is underway.

F. Contract TW-6 Section 2 & 3 in progress.

1. Water transmission main plan and profile design ongoing.
    a) Revisions in progress to address new ComEd comments.
    b) Revisions in progress near US 30 crossing.
2. DWC review comments received and revisions are in progress.
3. Trenchless crossings are being re-evaluated and value engineered similar to the design revisions in progress for TW-6 Section 1.
4. Drawings submitted to ComEd 1/23/25 to initiate legal and real estate appraisal process.
    a) Wetlands reports subsequently submitted to ComEd environmental reviewer.
        1) Reviews completed by Capacity Planning, Vegetation, and Economic Development w/ no comments.
        2) Review comments from Transmission group are being addressed.
5. TW-6 Section 3 alignment revisions in progress at Route 34 and Kendall Point Drive.
    a) Oswego notified design team and DWC of high profile proposed development along pipeline and requested alignment change.

b) Oswego field-located existing village utilities in area of alignment change for design team to survey and evaluate route options.

6. Permit applications / design submittals are being prepared for various agencies, including IDOT and railroads.

a) IDOT District 1 plan review applications have been submitted and IDOT has responded without comment.

1) Contractor will need to submit bonds in accordance with IDOT response letter.

b) TW-6 Section 2 City of Naperville plan review submitted and comments received from the City. Work is ongoing to address the City of Naperville comments.

c) Plan review submittals made to four gas pipeline companies (west of 95th & Wolf's Crossing).

1) Received confirmation of receipt, comments, and/or questions from all four.

d) Permit submittal to CN Railroad has been submitted and received.

1) CN Railroad returned comments and resubmittal has been made.

e) Permit application to BNSF Railroad has been submitted.

1) BNSF Railroad returned comments and resubmittal has been made on 6/2/25.

f) Permit application to OmniTrax/Illinois Railway has been submitted.

1) OmniTrax returned comments on 6/23/25 requesting additional documents. Ongoing coordination to provide Certificate of Insurance from DWC. Awaiting draft license agreement.

g) Construction permit received from IEPA.

G. Contract FW-1 Section 1 & 2 in progress.

1. 90% Submittal Drawings submitted to DWC 12/13/24.

2. Water transmission main plan and profile design 98% complete and going to internal QAQC on June 13. Two potential design changes remain:

a) Easement through Polo Crossings development. Sent routing to developer in May – waiting for reply.

b) Collins Rd alignment west of Oswego #2. Resubmitted to Kendall County on May 19th and alignment approval received on 6/18/25 from Fran Klass.

H. Contract FW-1 Section 3 in progress.

1. Water transmission main plan and profile design ongoing.
2. 90% Submittal Drawings Submitted to DWC 12/22/24.
3. Ongoing coordination with IDOT District 3 on IL Route 71 project overlap.
4. IDOT District 3 comments received in June.
    a) The most pressing comment is the direction that work cannot proceed until the Route 71 widening project is complete in Spring 2027. Further discussion with IDOT needed.

I. Contract FW-1 Section 4 in progress.

1. Water transmission main plan and profile design ongoing.
2. 90% Submittal Drawings submitted to DWC 12/13/24.
3. IEPA and Kendall County permit submittals in progress.
4. Permit submittal made to BNSF Railroad on 4/9/25.
    a) Resubmittal to address comments made on 6/2/25.
    b) DWC reviewing draft license agreement.

J. Contract MS-22 Meter Stations in progress.

1. Design ongoing.
2. 90% Submittal drawings submitted to DWC 4/18/25.
3. Site plan updates ongoing to account for revised WaterLink site layouts.
4. Montgomery requested the building permit applications for meter stations be prioritized.
5. Oswego requested coordination on any updates to incorporate into their design documents.

II. Scope Changes – Phase II (to date)

A. Design of Additional Architectural Treatments for WaterLink Meter Stations.

1. Fee: Pending (to be submitted to DWC for review/approval).

B. Permit Fees

1. Fee: Pending (fees being tracked and submitted w/ invoices).

III. Financials

A. Total Phase II Contract: $19,956,942

1. Fee Expended through June 30, 2025:

a) Total: $17,013,729 (85.3%)

1) Basic Services: $11,348,852 (56.9%)

2) Additional Services: $5,664,877 (28.4%)

IV. Completed Workshops, Meetings and Visits (June – July)

A. Monthly Progress Meeting w/ DWC – June 19, 2025

B. ComEd Comment Review and Discussion Meetings - Various

C. Contract TW-6/25 Section 1 Bid Opening – July 1, 2025

D. Montgomery Coordination Meeting – July 7, 2025

E. Schedule Update Meeting with Burns & McDonnell – July 7, 2025

F. Oswego Coordination Meeting – July 8, 2025

G. Book Road Bid Discussion Meeting – July 8, 2025

V. Upcoming Tasks & Meetings

A. TW-6/25 Section 1 Value Engineering Discussion w/ Contractor – TBD

B. Finalize ComEd alignment modifications.

C. ComEd Coordination Meetings – As Needed

D. Phase II geotechnical field work – As Needed

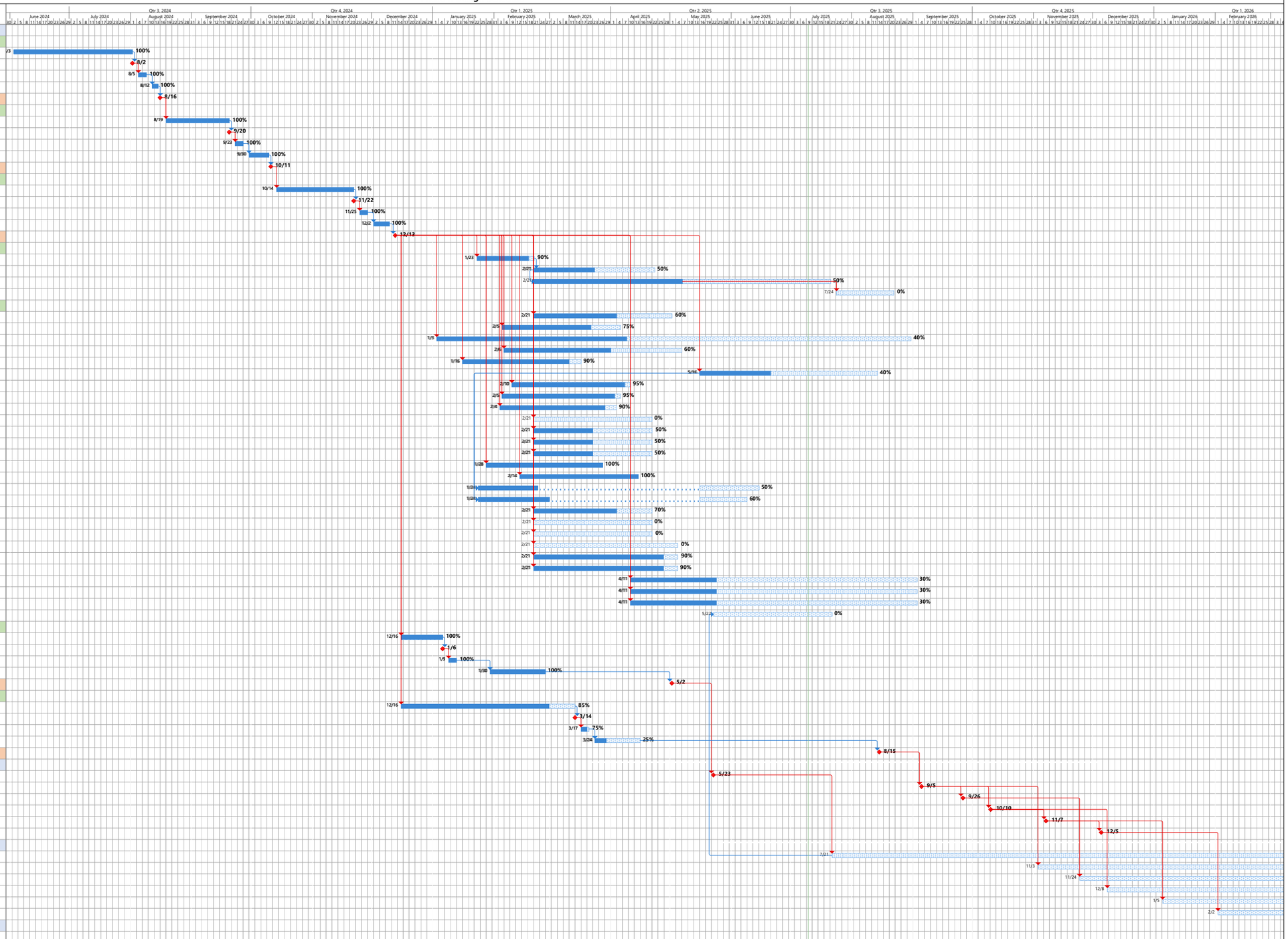
E. Permit submittals to various review agencies.

Cash Flow/Invoicing Forecast - Phase II Services
DuPage Water Commission
WaterLink Extension
July 2025

Description	Activity through April 26, 2024 May 2024	Activity through May 31, 2024 June 2024	Activity through June 30, 2024 July 2024	Activity through July 31, 2024 August 2024	Activity through August 31, 2024 September 2024	Activity through September 30, 2024 October 2024	Activity through October 31, 2024 November 2024	Activity through November 30, 2024 December 2024	Activity through December 31, 2024 January 2025	Activity through January 31, 2025 February 2025	Activity through February 28, 2025 March 2025	Activity through March 31, 2025 April 2025	Activity through April 30, 2025 May 2025	Activity through May 31, 2025 June 2025	Activity through June 30, 2025 July 2025	Planned August 2025	Planned September 2025	Planned October 2025	Planned November 2025	Planned December 2025
Basic Services	$ 625,960	$ 876,344	$ 980,607	$ 1,011,525	$ 994,029	$ 993,016	$ 999,176	$ 1,117,315	$ 1,116,854	$ 745,163	$ 499,762	$ 498,028	$ 378,063	$ 258,692	$ 254,091	$ 259,153	$ 259,153	$ 259,153	$ 259,153	$ 133,961
Additional Services	$ 545,788	$ 1,126,706	$ 586,700	$ 561,317	$ 594,996	$ 64,786	$ 149,871	$ 438,311	$ 350,417	$ 283,233	$ 83,116	$ 205,871	$ 183,722	$ 253,965	$ 236,075	$ 390,041	$ 345,708	$ 345,708	$ 345,708	$ 345,708
MONTHLY SUBTOTAL	**$ 1,171,748**	**$ 2,003,050**	**$ 1,567,307**	**$ 1,572,842**	**$ 1,589,025**	**$ 1,057,802**	**$ 1,149,047**	**$ 1,555,626**	**$ 1,467,271**	**$ 1,028,396**	**$ 582,878**	**$ 703,899**	**$ 561,785**	**$ 512,657**	**$ 490,166**	**$ 649,194**	**$ 604,860**	**$ 604,860**	**$ 604,860**	**$ 479,668**
SUBTOTAL	**$6,314,947**				**$5,351,501**				**$8,290,495**											
IGA ESCROW DEPOSITS	**$7,764,000**				**$5,532,000**				**$6,660,942**											
TOTAL PHASE II CONTRACT																**$**				**19,956,942**

DuPage Water Commission
WaterLink Extension
Phase II Design Schedule

ID	Task Name	Duration	Start	Finish
1	**DWC WATERLINK PHASE II DESIGN**	**436 days**	**Mon 6/3/24**	**Wed 8/13/25**
2	***30% Design Submittal***	***74 days***	***Mon 6/3/24***	***Fri 8/16/24***
3	30% Design Preparation	60 days	Mon 6/3/24	Fri 8/2/24
4	Submit for QC	0 days	Fri 8/2/24	Fri 8/2/24
5	QC Review	4 days	Mon 8/5/24	Fri 8/9/24
6	Address QC Comments	3 days	Mon 8/12/24	Thu 8/15/24
7	**30% Submittal to DWC**	**0 days**	**Fri 8/16/24**	**Fri 8/16/24**
8	***75% Design Submittal***	***53 days***	***Mon 8/19/24***	***Fri 10/11/24***
9	75% Design Preparation	32 days	Mon 8/19/24	Fri 9/20/24
10	Submit for QC	0 days	Fri 9/20/24	Fri 9/20/24
11	QC and Constructability Review	4 days	Mon 9/23/24	Fri 9/27/24
12	Address QC Comments	10 days	Mon 9/30/24	Thu 10/10/24
13	**75% Submittal to DWC**	**0 days**	**Fri 10/11/24**	**Fri 10/11/24**
14	***90% Design Submittal***	***312 days***	***Mon 10/14/24***	***Fri 8/22/25***
15	90% Design Preparation	39 days	Mon 10/14/24	Fri 11/22/24
16	Submit for QC	0 days	Fri 11/22/24	Fri 11/22/24
17	QC and Constructability Review	4 days	Mon 11/25/24	Fri 11/29/24
18	Address QC Comments	8 days	Mon 12/2/24	Tue 12/10/24
19	**90% Submittal to DWC**	**0 days**	**Fri 12/13/24**	**Fri 12/13/24**
20	***ComEd Review Schedule***	***211 days***	***Thu 1/23/25***	***Fri 8/22/25***
21	Design Review	29 days	Thu 1/23/25	Fri 2/21/25
22	Appraisals	61 days	Fri 2/21/25	Wed 4/23/25
23	Legal Review	150 days	Fri 2/21/25	Mon 7/21/25
24	Design Resubmittal Preparation	29 days	Thu 7/24/25	Fri 8/22/25
25	***Permitting Schedule***	***243 days***	***Fri 1/3/25***	***Wed 9/3/25***
26	IDOT District 1 & 3	70 days	Fri 2/21/25	Fri 5/2/25
27	USACE	60 days	Wed 2/5/25	Sun 4/6/25
28	IEPA (Multiple Design Package Submittals)	240 days	Fri 1/3/25	Sun 8/31/25
29	IDNR Office of Water Resources	90 days	Thu 2/6/25	Wed 5/7/25
30	DuPage County DOT	60 days	Thu 1/16/25	Mon 3/17/25
31	Kendall County Highway	90 days	Fri 5/16/25	Thu 8/14/25
32	Will County	60 days	Mon 2/10/25	Fri 4/11/25
33	DuPage County Stormwater	60 days	Wed 2/5/25	Sun 4/6/25
34	City of Naperville	59 days	Tue 2/4/25	Fri 4/4/25
35	City of Aurora	60 days	Fri 2/21/25	Tue 4/22/25
36	Village of Oswego	60 days	Fri 2/21/25	Tue 4/22/25
37	Village of Montgomery	60 days	Fri 2/21/25	Tue 4/22/25
38	City of Yorkville	60 days	Fri 2/21/25	Tue 4/22/25
39	Naperville Township	59 days	Tue 1/28/25	Fri 3/28/25
40	Wheatland Township (Courtesy Review)	60 days	Fri 2/14/25	Tue 4/15/25
41	Oswego Township	60 days	Fri 1/24/25	Sun 6/15/25
42	Bristol Township (no permit, Coordinate through Kendall	60 days	Fri 1/24/25	Mon 6/9/25
43	Naperville Park District	60 days	Fri 2/21/25	Tue 4/22/25
44	Oswegoland Park District	60 days	Fri 2/21/25	Tue 4/22/25
45	Morgan Creek Drainage District *	60 days	Fri 2/21/25	Tue 4/22/25
46	Nicor Gas	73 days	Fri 2/21/25	Mon 5/5/25
47	Kinder Morgan	73 days	Fri 2/21/25	Mon 5/5/25
48	Enbridge	73 days	Fri 2/21/25	Mon 5/5/25
49	BNSF Railroad (TW-6 S3, FW-1 S4)	145 days	Fri 4/11/25	Wed 9/3/25
50	Illinois Railway / OmniTRAX (TW-6 S3)	145 days	Fri 4/11/25	Wed 9/3/25
51	Canadian National Railway (TW-6 S2)	145 days	Fri 4/11/25	Wed 9/3/25
52	NPDES Permit	60 days	Thu 5/22/25	Mon 7/21/25
53	***Final Design Submittal TW6-S1 (Book Rd)***	***137 days***	***Mon 12/16/24***	***Fri 5/2/25***
54	Final Design Preparation	21 days	Mon 12/16/24	Mon 1/6/25
55	Submit for QC	0 days	Mon 1/6/25	Mon 1/6/25
56	QC and Constructability Review	4 days	Thu 1/9/25	Mon 1/13/25
57	Address QC Comments	28 days	Thu 1/30/25	Thu 2/27/25
58	**Final Submittal to DWC TW6-S1 (Book Rd)**	**0 days**	**Fri 5/2/25**	**Fri 5/2/25**
59	***Final Design Submittal (All other Contracts)***	***242 days***	***Mon 12/16/24***	***Fri 8/15/25***
60	Final Design Preparation	88 days	Mon 12/16/24	Fri 3/14/25
61	Submit for QC	0 days	Fri 3/14/25	Fri 3/14/25
62	QC and Constructability Review	4 days	Mon 3/17/25	Fri 3/21/25
63	Address QC Comments	23 days	Mon 3/24/25	Wed 4/16/25
64	**Final Submittal to DWC**	**0 days**	**Fri 8/15/25**	**Fri 8/15/25**
65	**BIDDING PHASE**	**259 days**	**Fri 3/21/25**	**Fri 12/5/25**
66	TW6-S1 (Book Rd) Advertise	0 days	Fri 5/23/25	Fri 5/23/25
67	TW6-S2&S3 Advertise	0 days	Fri 9/5/25	Fri 9/5/25
68	MS22 Advertise	0 days	Fri 9/26/25	Fri 9/26/25
69	FW1-S1&S2 Advertise	0 days	Fri 10/10/25	Fri 10/10/25
70	FW1-S3 Advertise	0 days	Fri 11/7/25	Fri 11/7/25
71	FW1-S4 Advertise	0 days	Fri 12/5/25	Fri 12/5/25
72	**CONSTRUCTION PHASE**	**982 days**	**Mon 5/26/25**	**Wed 2/2/28**
73	TW6-S1 (Book Rd) Construction	528 days	Mon 7/21/25	Thu 12/31/26
74	TW6-S2&S3 Construction	730 days	Mon 11/3/25	Wed 11/3/27
75	MS22 Construction	730 days	Mon 11/24/25	Wed 11/24/27
76	FW1-S1&S2 Construction	730 days	Mon 12/8/25	Wed 12/8/27
77	FW1-S3 Construction	730 days	Mon 1/5/26	Wed 1/5/28
78	FW1-S4 Construction	730 days	Mon 2/2/26	Wed 2/2/28
79	**COMMISSIONING**	**90 days**	**Mon 4/3/28**	**Sun 7/2/28**
80	Commissioning WaterLink System	90 days	Mon 4/3/28	Sun 7/2/28



July 2025

Critical
Critical Progress
Task
Split
Task Progress
Milestone

MONTHLY STATUS REPORT

LAN PROJECT #: 128-10031-001

PROJECT: DuPage Water Commission WaterLink Extension Phase II

REPORT DATE: August 8, 2025

MEETING DATE: August 21, 2025

I. Progress through August 8, 2025

A. Field data collection and surveying.

1. Supplemental topography completed along Hill Rd to accommodate revised Montgomery #1 Delivery site configuration. Additional topographic survey completed at proposed chlorination building / future pump station site is complete.
2. Boundary and topographic survey completed at proposed chlorination building site.
3. Additional topographic survey was completed along IL Route 34 and Kendall Point Drive to collect Oswego utility field-locates for requested realignment.
4. Final cadastral surveying work complete.
    a) Existing structure rim/invert data collection 100% complete. Total of approximately 1,097 structures located with rim/inverts surveyed. Rim/invert data collection for approximately 40 additional structures for Fox River re-route to be completed in August.
5. Processing of collected Aerial LIDAR data is complete. Additional LIDAR processing for Fox River area re-route is underway, expected delivery by August 15.
    a) 100% of original scope complete. Overall width of data processing increased to facilitate design drawing set-up and minimize future re-work. Increased width processing complete.
        1) Additional processing along Wolf's Crossing Rd and Douglas Rd complete.
        2) Additional topo processing west of Ogden Falls Blvd. due to ComEd alignment changes complete.
        3) Supplemental topo to be conducted along west edge of Polio Crossings development in Oswego for 36-inch re-route south of Wolf's Crossing.
6. Subsurface Utility Locates
    a) SUE field activities completed.
    b) Scope of additional SUE for Fox Rover re-route TBD upon receiving processed LIDAR data and utility info from IAWC.

7. Utility Potholing Locates
    a) Additional potholes completed on Naperville electrical duct bank along 75th Street for TW-6 S1.
    b) Over 440 potholes completed along ComEd corridors 100% complete.
    c) Scope of additional SUE for Fox Rover re-route TBD upon receiving processed LIDAR data and utility info from IAWC.
8. Geotechnical
    a) Total of 193 borings (95%) completed to date in Phase 2 through July 3, Draft geotechnical report was received end of July.
    b) Additional 15 borings at Kendall Point realignment, Montgomery #1, US30/34, Fox River re-route are pending.
9. Cathodic Protection
    a) Soil resistivity testing along project routes complete for cathodic protection design.
    b) Final field data report provided for TW-6 S1.
    c) Draft reports for TW-6 S2 & S3 complete.
    d) Remaining report(s) in progress.

B. Data Collection (as-builts, GIS, design drawings).
    1. WaterLink Delivery Point proposed site layouts.
    2. Design team has set initial priority parcels to move to the plat preparation stage.

C. Ongoing Coordination with ComEd.
    1. Drawings submitted to ComEd 1/23/25 to initiate legal and real estate appraisal process.
        a) Comments received from ComEd. Regular weekly meetings to discuss and re-confirm the alignment are underway.
    2. Draft license agreement sent to DWC for review.
    3. KMZ of alignment and license areas sent to ComEd on 8/7 for real estate process.

D. Land Acquisition
    1. 222 of 232 Titles Received
    2. 160 total parcels for easement preparation
    3. Easement legal descriptions & exhibits
        a) 130 total prepared to date (81%)

b) 55 Appraisal Packages and 29 property negotiations underway.

c) School District 308 easement approvals complete after final action July 28.

E. Contract TW-6 Section 1 (Book Rd) in progress.

1. Project advertised for bid on 5/23/35.
2. Pre-bid meeting held on 6/3/25.
3. Bids received on 7/1/25.
4. IEPA construction permit received 2/28/2025.
   a) Subsequent sampling plan approved to amend the requirement for sampling every 1,200 feet.
5. Permit applications with USACE, IDNR, DuPage County Stormwater, City of Naperville, and Naperville Township submitted.
   a) Comments received from City of Naperville. Comment responses and revised drawings were prepared, including ROV electrical. Revisions resubmitted to the City.
   b) Plans resubmitted to DuPage County DOT on 5/23/25.
   c) Permits received from USACE, Will County Stormwater, and two Soil & Water Conservation Districts.
   d) Authorization on bid set design received from DuPage Stormwater. Discussion regarding design changes is scheduled for 8/27.
6. Value engineering redesign to remove/shorten tunnels and remove 48-inch valves on existing pipe is underway.

F. Contract TW-6 Section 2 & 3 in progress.

1. Water transmission main plan and profile design ongoing.
   a) Revisions in progress to address new ComEd comments.
   b) Revisions in progress near US 30 crossing.
2. DWC review comments received and revisions are in progress.
3. Trenchless crossings are being re-evaluated and value engineered similar to the design revisions in progress for TW-6 Section 1.
4. Drawings submitted to ComEd 1/23/25 to initiate legal and real estate appraisal process.
   a) Wetlands reports subsequently submitted to ComEd environmental reviewer.
      1) Reviews completed by Capacity Planning, Vegetation, and Economic Development w/ no comments.

2) Review comments from Transmission group are being addressed. Drawings addressing additional comments provided on 8/7.

5. TW-6 Section 3 alignment revisions in progress at Route 34 and Kendall Point Drive.
   a) Oswego notified design team and DWC of high profile proposed development along pipeline and requested alignment change.
   b) Oswego field-located existing village utilities in area of alignment change for design team to survey and evaluate route options.
   c) Design underway. Final design pending geotechnical investigation.
6. Permit applications / design submittals are being prepared for various agencies, including IDOT and railroads.
   a) IDOT District 1 plan review applications have been submitted and IDOT has responded without comment.
      1) Contractor will need to submit bonds in accordance with IDOT response letter.
   b) TW-6 Section 2 City of Naperville plan review submitted and comments received from the City. Work is ongoing to address the City of Naperville comments.
   c) Plan review submittals made to four gas pipeline companies (west of 95th & Wolf's Crossing).
      1) Received confirmation of receipt, comments, and/or questions from all four.
   d) Permit submittal to CN Railroad has been submitted and received.
      1) CN Railroad returned comments and resubmittal has been made.
   e) Permit application to BNSF Railroad has been submitted.
      1) BNSF Railroad returned comments and resubmittal has been made on 6/2/25.
   f) Permit application to OmniTrax/Illinois Railway has been submitted.
      1) OmniTrax returned comments on 6/23/25 requesting additional documents. Ongoing coordination to provide Certificate of Insurance from DWC. Draft license agreement received for review.
   g) Construction permit received from IEPA.
   h) US Fish and Wildlife have given us a tree clearing restriction from April 1 – September 30. Requirements will be added to the plans/specs. Exceptions can be requested on a case by case basis. USFWS will likely require a survey of trees to be removed by exception to ensure no bats are living in the tree. Likelihood of exception being granted increases further from Fox River.
7. Design revisions pending for new Fox River crossing route. Field work and data collection underway.

a) Additional wetlands delineation and environmental surveys are required, including updates to various environmental reports.

G. Contract FW-1 Section 1 & 2 in progress.

1. 90% Submittal Drawings submitted to DWC 12/13/24.
2. Water transmission main plan and profile design 98% complete and have gone through internal QAQC.
   a) Easement through Polo Crossings development.
      1) Met with developer & Oswego Aug 6 – appears that easement donation along west property line will work for 36-inch water main there.
   b) Collins Rd alignment west of Oswego #2.
      1) Resubmitted to Kendall County on May 19th and alignment approval received on 6/18/25 from Fran Klass.

H. Contract FW-1 Section 3 in progress.

1. Water transmission main plan and profile design ongoing.
2. 90% Submittal Drawings Submitted to DWC 12/22/24.
3. Ongoing coordination with IDOT District 3 on IL Route 71 project overlap.
4. IDOT District 3 comments received in June.
   a) The most pressing comment is the direction that work cannot proceed until the Route 71 widening project is complete in Spring 2027. Further discussion with IDOT needed.
   b) Meeting set for Monday 8/11 with IDOT District 3 to discuss comments.

I. Contract FW-1 Section 4 in progress.

1. Water transmission main plan and profile design ongoing.
2. 90% Submittal Drawings submitted to DWC 12/13/24.
3. IEPA and Kendall County permit submittals in progress.
4. Permit submittal made to BNSF Railroad on 4/9/25.
   a) Resubmittal to address comments made on 6/2/25.
   b) DWC reviewing draft license agreement.

J. Contract MS-22 Meter Stations in progress.

1. Design ongoing.
2. 90% Submittal drawings submitted to DWC 4/18/25.
3. Site plan updates ongoing to account for revised WaterLink site layouts.
4. Montgomery requested the building permit applications for meter stations be prioritized.
5. Oswego requested coordination on any updates to incorporate into their design documents.
6. Addressing 90% comments from DWC and Burns & McDonnell.
7. Various options for short-term replacement of chemical feed building under discussion.

II. Scope Changes – Phase II (to date)

A. Design of Additional Architectural Treatments for WaterLink Meter Stations.

1. Fee: Pending (to be submitted to DWC for review/approval).

B. Permit Fees

1. Fee: Pending (fees being tracked and submitted w/ invoices).

C. ComEd revisions based on unexpected new comments.

D. Fox River Crossing alternate route.

III. Financials

A. Total Phase II Contract: $19,956,942

1. Fee Expended through July 31, 2025:
   a) Total: $17,485,554 (87.6%)
      1) Basic Services: $11,597,191 (57.8%)
      2) Additional Services: $5,888,363 (29.5%)

IV. Completed Workshops, Meetings and Visits (July – August)

A. Oswego Coordination Meeting – July 8, 2025

B. TW-6/25 Section 1 Scope Modification Discussion w/ Contractor – July 15, 2025

C. Yorkville Coordination Meeting – July 16, 2025

D. US Route 30 Crossing Discussion w/ IDOT – July 16, 2025

E. Book Road Intersection Discussion w/ City of Naperville – July 16, 2025

F. Monthly Progress Meeting w/ DWC – July 17, 2025

G. WaterLink Program Scheduling Meeting – July 22, 2025

H. ComEd Comment Review and Technical Discussion Meetings – Various

V. Upcoming Tasks & Meetings

A. Finalize ComEd alignment modifications, including alternate river crossing route.

B. ComEd Coordination Meetings – As Needed

C. Phase II geotechnical field work – As Needed

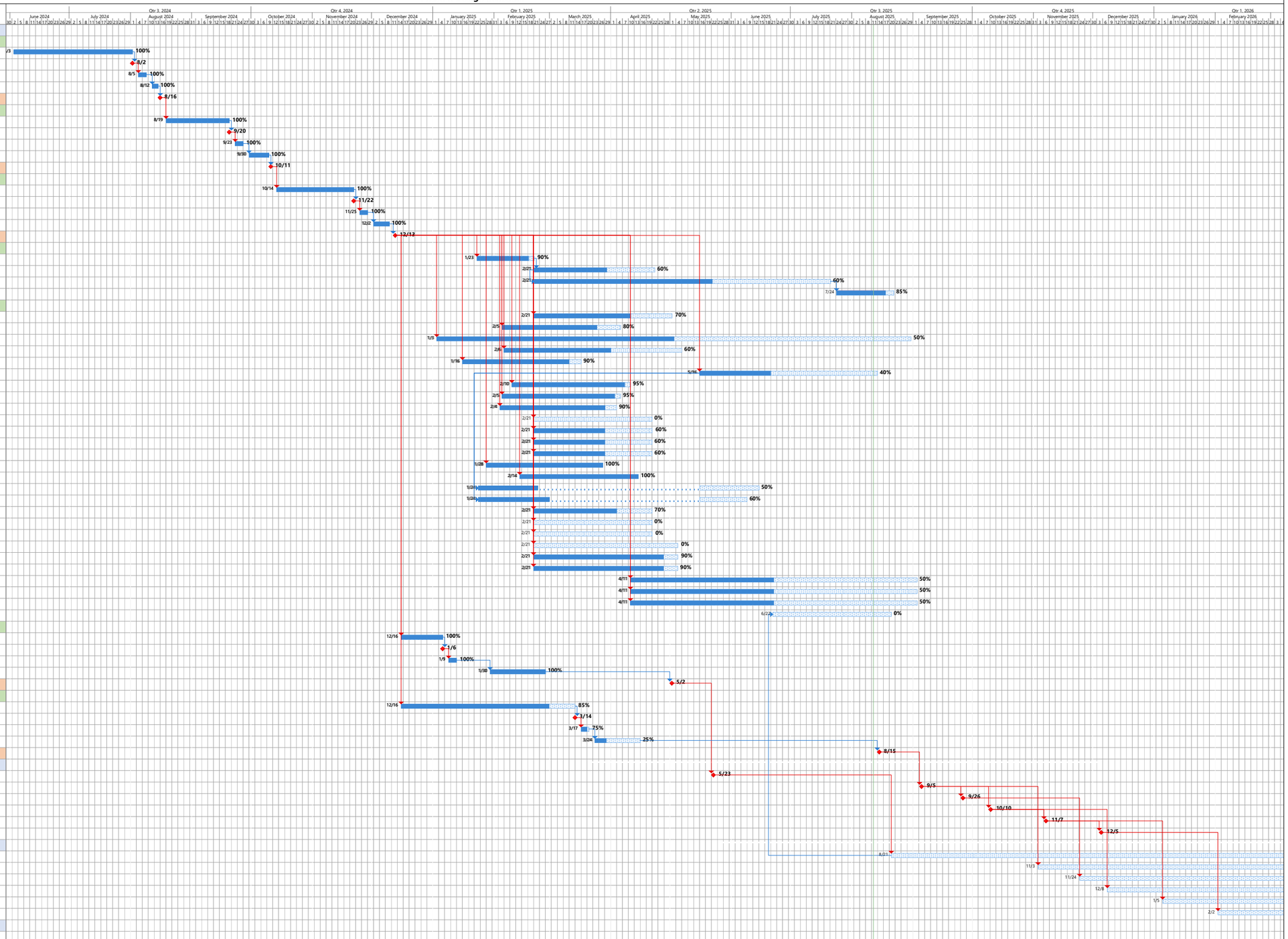
D. Permit submittals to various review agencies.

E. IDOT District 3 meeting – August 11, 2025

F. TW-6/25 Section 1 Negotiation Meeting Benchmark – August 11, 2025

DuPage Water Commission
WaterLink Extension
Phase II Design Schedule

ID	Task Name	Duration	Start	Finish
1	**DWC WATERLINK PHASE II DESIGN**	**436 days**	**Mon 6/3/24**	**Wed 8/13/25**
2	***30% Design Submittal***	***74 days***	***Mon 6/3/24***	***Fri 8/16/24***
3	30% Design Preparation	60 days	Mon 6/3/24	Fri 8/2/24
4	Submit for QC	0 days	Fri 8/2/24	Fri 8/2/24
5	QC Review	4 days	Mon 8/5/24	Fri 8/9/24
6	Address QC Comments	3 days	Mon 8/12/24	Thu 8/15/24
7	**30% Submittal to DWC**	**0 days**	**Fri 8/16/24**	**Fri 8/16/24**
8	***75% Design Submittal***	***53 days***	***Mon 8/19/24***	***Fri 10/11/24***
9	75% Design Preparation	32 days	Mon 8/19/24	Fri 9/20/24
10	Submit for QC	0 days	Fri 9/20/24	Fri 9/20/24
11	QC and Constructability Review	4 days	Mon 9/23/24	Fri 9/27/24
12	Address QC Comments	10 days	Mon 9/30/24	Thu 10/10/24
13	**75% Submittal to DWC**	**0 days**	**Fri 10/11/24**	**Fri 10/11/24**
14	***90% Design Submittal***	***312 days***	***Mon 10/14/24***	***Fri 8/22/25***
15	90% Design Preparation	39 days	Mon 10/14/24	Fri 11/22/24
16	Submit for QC	0 days	Fri 11/22/24	Fri 11/22/24
17	QC and Constructability Review	4 days	Mon 11/25/24	Fri 11/29/24
18	Address QC Comments	8 days	Mon 12/2/24	Tue 12/10/24
19	**90% Submittal to DWC**	**0 days**	**Fri 12/13/24**	**Fri 12/13/24**
20	***ComEd Review Schedule***	***211 days***	***Thu 1/23/25***	***Fri 8/22/25***
21	Design Review	29 days	Thu 1/23/25	Fri 2/21/25
22	Appraisals	61 days	Fri 2/21/25	Wed 4/23/25
23	Legal Review	150 days	Fri 2/21/25	Mon 7/21/25
24	Design Resubmittal Preparation	29 days	Thu 7/24/25	Fri 8/22/25
25	***Permitting Schedule***	***243 days***	***Fri 1/3/25***	***Wed 9/3/25***
26	IDOT District 1 & 3	70 days	Fri 2/21/25	Fri 5/2/25
27	USACE	60 days	Wed 2/5/25	Sun 4/6/25
28	IEPA (Multiple Design Package Submittals)	240 days	Fri 1/3/25	Sun 8/31/25
29	IDNR Office of Water Resources	90 days	Thu 2/6/25	Wed 5/7/25
30	DuPage County DOT	60 days	Thu 1/16/25	Mon 3/17/25
31	Kendall County Highway	90 days	Fri 5/16/25	Thu 8/14/25
32	Will County	60 days	Mon 2/10/25	Fri 4/11/25
33	DuPage County Stormwater	60 days	Wed 2/5/25	Sun 4/6/25
34	City of Naperville	59 days	Tue 2/4/25	Fri 4/4/25
35	City of Aurora	60 days	Fri 2/21/25	Tue 4/22/25
36	Village of Oswego	60 days	Fri 2/21/25	Tue 4/22/25
37	Village of Montgomery	60 days	Fri 2/21/25	Tue 4/22/25
38	City of Yorkville	60 days	Fri 2/21/25	Tue 4/22/25
39	Naperville Township	59 days	Tue 1/28/25	Fri 3/28/25
40	Wheatland Township (Courtesy Review)	60 days	Fri 2/14/25	Tue 4/15/25
41	Oswego Township	60 days	Fri 1/24/25	Sun 6/15/25
42	Bristol Township (no permit, Coordinate through Kendall	60 days	Fri 1/24/25	Mon 6/9/25
43	Naperville Park District	60 days	Fri 2/21/25	Tue 4/22/25
44	Oswegoland Park District	60 days	Fri 2/21/25	Tue 4/22/25
45	Morgan Creek Drainage District *	60 days	Fri 2/21/25	Tue 4/22/25
46	Nicor Gas	73 days	Fri 2/21/25	Mon 5/5/25
47	Kinder Morgan	73 days	Fri 2/21/25	Mon 5/5/25
48	Enbridge	73 days	Fri 2/21/25	Mon 5/5/25
49	BNSF Railroad (TW-6 S3, FW-1 S4)	145 days	Fri 4/11/25	Wed 9/3/25
50	Illinois Railway / OmniTRAX (TW-6 S3)	145 days	Fri 4/11/25	Wed 9/3/25
51	Canadian National Railway (TW-6 S2)	145 days	Fri 4/11/25	Wed 9/3/25
52	NPDES Permit	60 days	Sun 6/22/25	Thu 8/21/25
53	***Final Design Submittal TW6-S1 (Book Rd)***	***137 days***	***Mon 12/16/24***	***Fri 5/2/25***
54	Final Design Preparation	21 days	Mon 12/16/24	Mon 1/6/25
55	Submit for QC	0 days	Mon 1/6/25	Mon 1/6/25
56	QC and Constructability Review	4 days	Thu 1/9/25	Mon 1/13/25
57	Address QC Comments	28 days	Thu 1/30/25	Thu 2/27/25
58	**Final Submittal to DWC TW6-S1 (Book Rd)**	**0 days**	**Fri 5/2/25**	**Fri 5/2/25**
59	***Final Design Submittal (All other Contracts)***	***242 days***	***Mon 12/16/24***	***Fri 8/15/25***
60	Final Design Preparation	88 days	Mon 12/16/24	Fri 3/14/25
61	Submit for QC	0 days	Fri 3/14/25	Fri 3/14/25
62	QC and Constructability Review	4 days	Mon 3/17/25	Fri 3/21/25
63	Address QC Comments	23 days	Mon 3/24/25	Wed 4/16/25
64	**Final Submittal to DWC**	**0 days**	**Fri 8/15/25**	**Fri 8/15/25**
65	**BIDDING PHASE**	**259 days**	**Fri 3/21/25**	**Fri 12/5/25**
66	TW6-S1 (Book Rd) Advertise	0 days	Fri 5/23/25	Fri 5/23/25
67	TW6-S2&S3 Advertise	0 days	Fri 9/5/25	Fri 9/5/25
68	MS22 Advertise	0 days	Fri 9/26/25	Fri 9/26/25
69	FW1-S1&S2 Advertise	0 days	Fri 10/10/25	Fri 10/10/25
70	FW1-S3 Advertise	0 days	Fri 11/7/25	Fri 11/7/25
71	FW1-S4 Advertise	0 days	Fri 12/5/25	Fri 12/5/25
72	**CONSTRUCTION PHASE**	**982 days**	**Mon 5/26/25**	**Wed 2/2/28**
73	TW6-S1 (Book Rd) Construction	497 days	Thu 8/21/25	Thu 12/31/26
74	TW6-S2&S3 Construction	730 days	Mon 11/3/25	Wed 11/3/27
75	MS22 Construction	730 days	Mon 11/24/25	Wed 11/24/27
76	FW1-S1&S2 Construction	730 days	Mon 12/8/25	Wed 12/8/27
77	FW1-S3 Construction	730 days	Mon 1/5/26	Wed 1/5/28
78	FW1-S4 Construction	730 days	Mon 2/2/26	Wed 2/2/28
79	**COMMISSIONING**	**90 days**	**Mon 4/3/28**	**Sun 7/2/28**
80	Commissioning WaterLink System	90 days	Mon 4/3/28	Sun 7/2/28



August 2025

Critical
Critical Progress
Task
Split
Task Progress
Milestone

Cash Flow/Invoicing Forecast - Phase II Services
DuPage Water Commission
WaterLink Extension
August 2025

Description	Activity through April 26, 2024	Activity through May 31, 2024	Activity through June 30, 2024	Activity through July 31, 2024	Activity through August 31, 2024	Activity through September 30, 2024	Activity through October 31, 2024	Activity through November 30, 2024	Activity through December 31, 2024	Activity through January 31, 2025	Activity through February 28, 2025	Activity through March 31, 2025	Activity through April 30, 2025	Activity through May 31, 2025	Activity through June 30, 2025	Activity through July 31, 2025	Planned	Planned	Planned	Planned
	May 2024	**June 2024**	**July 2024**	**August 2024**	**September 2024**	**October 2024**	**November 2024**	**December 2024**	**January 2025**	**February 2025**	**March 2025**	**April 2025**	**May 2025**	**June 2025**	**July 2025**	**August 2025**	**September 2025**	**October 2025**	**November 2025**	**December 2025**
Basic Services	$ 625,960	$ 876,344	$ 980,607	$ 1,011,525	$ 994,029	$ 993,016	$ 999,176	$ 1,117,315	$ 1,116,854	$ 745,163	$ 499,762	$ 498,028	$ 378,063	$ 258,692	$ 254,130	$ 248,300	$ 261,856	$ 261,856	$ 261,856	$ 136,664
Additional Services	$ 545,788	$ 1,126,706	$ 586,700	$ 561,317	$ 594,996	$ 64,786	$ 149,871	$ 438,311	$ 350,417	$ 283,233	$ 83,116	$ 205,871	$ 183,722	$ 253,965	$ 236,036	$ 198,526	$ 393,596	$ 393,596	$ 393,596	$ 393,596
MONTHLY SUBTOTAL	**$ 1,171,748**	**$ 2,003,050**	**$ 1,567,307**	**$ 1,572,842**	**$ 1,589,025**	**$ 1,057,802**	**$ 1,149,047**	**$ 1,555,626**	**$ 1,467,271**	**$ 1,028,396**	**$ 582,878**	**$ 703,899**	**$ 561,785**	**$ 512,657**	**$ 490,166**	**$ 446,826**	**$ 655,452**	**$ 655,452**	**$ 655,452**	**$ 530,260**
SUBTOTAL	**$6,314,947**				**$5,351,501**				**$8,290,495**											
IGA ESCROW DEPOSITS	**$7,764,000**				**$5,532,000**				**$6,660,942**											
TOTAL PHASE II CONTRACT																**$**				**19,956,942**

Progress Report

Date:	August 5, 2025
Project:	Lake Michigan Water Supply Initiative
To:	Paul May, Executive Director, DuPage Water Commission
	Ramesh Kanapareddy, Executive Director, NSMJAWA
From:	Pete Mulvaney, Consor
Reviewed By:	Guy Carpenter, Woolpert
Re:	July progress

Scope of Work

DuPage Water Commission and the Northwest Suburban Municipal Joint Action Water Authority have directed their technical advisors to complete a comprehensive plan for execution of the Lake Michigan Water Supply Initiative, inclusive of:

1. Business Case Analysis
2. Communications Plan
3. Risks Assessment tools
4. Governance examples
5. Project Delivery approach
6. Program Management approach

In addition, the advisor team will further refine the project boundaries.

Progress

Progress in July consists of:

- Weekly status meetings with DWC General Manager and NSMJAWA Executive Director
- Progressed Business Case Analysis and outline of deliverable
- Conducted in-person Workshop #2 – Project Delivery Approach
    - See enclosed Workshop #2 Technical Memorandum
- Selection of Seaworks for the bathymetric and marine survey of intake location
- Stakeholder interviews – establishing level of project understanding across key stakeholders
- Final draft of a series of communications-collateral
    - Five things to know
    - Fact sheet

- Frequently Asked Questions
- Initiative Tag Line

Forecast

In August, tasks associated with the Comprehensive Plan will include:

- Advance the Business Case Analysis (BCA):
  - Define scenarios to be modeled
  - Conduct Independent Cost Estimate (ICE)
  - Update BCA with current information
  - Workshop to review BCA assumptions
- Communications Framework
  - Outline developed for Comprehensive Plan
  - Fact sheet content approved, and being formatted
  - 5 Things to Know – content approved and being formatted
  - FAQ - questions approved, answers being developed
  - Opinion research underway
- Risk and Delivery Approach
  - Finalize Approach Technical Memo
  - Conduct Decision Briefing
- Governance
  - Research and summarize case study examples for process and structure

In August, tasks associated with the project definition include:

- Seaworks under contract to begin marine survey by August 14

Resolution #: R-60-25

Account: 01-60-663100

Approvals: *Author / Manager / Finance / Admin*

D.P. RCB CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/14/2025

Description: **A Resolution Authorizing the General Manager to Purchase Steel Pipe and Butt Straps from American Spiral Weld Pipe Company**

Agenda Section: Engineering & Construction

Originating Department: Pipeline & Remote Facilities

The Commission maintains an inventory of spare steel pressure pipe intended for use as replacement when a pipe section requires repair. The inventory contains two sections of pipe for each pipe diameter present within the Commission's distribution system for pipes ranging in size from 20-inch to 90-inch in diameter.

The Commission also maintains an inventory of steel butt straps of various sizes. The steel butt straps are furnished in two halves that are assembled at the connecting point of two pipe ends at the repair area.

Recent repairs have resulted in the Commission removing from its inventory, and incorporating into the work, one section of 24-inch diameter steel pipe and numerous sections of steel butt straps. Therefore, staff recommend replenishing the pipe and butt strap inventory.

In accordance with purchasing procedures, staff solicited cost estimates for one section of 24-inch steel pipe and 14 steel butt straps of various sizes from two (2) steel pipe fabricators. The results are listed on the table below:

Company	Cost Proposal
American Spiral Weld Pipe Company	$27,078.00
Northwest Pipe Company	$41,843.00

Recommended Motion:

To approve Resolution No. R-60-25 and authorize the General Manager to procure steel pipe and butt straps from American Spiral Weld Pipe Company for a cost not to exceed $30,000.

DuPAGE WATER COMMISSION

RESOLUTION NO. R-60-25

A RESOLUTION AUTHORIZING THE GENERAL MANAGER TO PURCHASE STEEL PIPE AND BUTT STRAPS FROM AMERICAN SPIRALWELD PIPE COMPANY

WHEREAS, pursuant to Article VIII, Section 4 of the Commission's By-Laws, and as required by State Statute, the Commission solicited proposals to Furnish and Deliver one (1) section of 24-inch diameter steel pipe and 14 steel butt straps; and

WHEREAS, two proposals were received; and

WHEREAS, based upon representations made by staff, the Board of Commissioners of the DuPage Water Commission has determined that the proposal of American SpiralWeld Pipe Company is most favorable to the interests of the Commission;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The foregoing recitals are hereby incorporated herein and made a part hereof as findings of the Board of Commissioners of the DuPage Water Commission.

SECTION TWO The DuPage Water Commission hereby authorizes the purchase of Steel Pipe and Butt Straps from American SpiralWeld Pipe Company not to exceed $30,000.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honing, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS _____ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk
Board/Resolutions/2025/R-60-25.docx

EXHIBIT 1

American SpiralWeld Pipe Co. Proposal dated August 5, 2025

AMERICAN SpiralWeld Pipe Company, LLC

A Subsidiary of American Cast Iron Pipe Company

Northeast Region - Caelan March 1617 N Oakley Ave Chicago, IL 60647

Phone: 205-919-6026 Fax: 205-325-8194

AMERICAN DUCTILE IRON PIPE
AMERICAN STEEL PIPE
AMERICAN FLOW CONTROL
SPECIFICATION RUBBER PRODUCTS
WATEROUS COMPANY

AMERICAN CENTRIFUGAL

August 5, 2025

Project #: NIL00117
Project Name: Dupage County Pipe and Buttstraps
Location: Elmhurst, IL
Bid Date: 08/08/2025

Revision Number: 2

Bidders:

We are pleased to submit our proposal covering steel piping materials based on our interpretation of the Engineer's plans and specifications through addendum number 0. Our proposal is expressly limited to your acceptance of our Terms and Conditions. This proposal is offered on the basis of our furnishing all materials shown and in the quantities listed, and it is not guaranteed for take-off accuracy or for interpretation of plans and specifications.

1. All prices are F.O.B. our plant and include freight for shipment to Elmhurst, IL, in truckload lots on passable roads, for you to unload. Any increases in freight charges resulting from change in rate or additions to rate, fuel surcharge, shipment by other means, shipment in smaller lots, notification charges, unloading delays, or for some other reason will be for your account. At least 48 hours' notice is required for scheduling shipments. Exact delivery times cannot be guaranteed, and AMERICAN will not be held responsible for any delivery delays caused by carriers.

2. Material prices quoted represent the current market price of steel and any applicable surcharge in effect as of the date of this quotation. If we are not provided release to purchase steel by August 31, 2025, the final invoice price of material quoted will be increased by taking the difference between the American Metal Market (AMM) Hot Rolled Sheet Price (Midwest) in effect at time of bid and the AMM Hot Rolled Sheet Price at time of steel shipment to our plant.

3. Our terms of payment are Net 30 days. A service charge invoice will be issued weekly against any material invoices that are more than 30 days past due. Material invoices that remain open from prior weeks will receive a service charge each Friday the invoice remains unpaid. In order to avoid service charges, checks should be postmarked no later than Monday of each week. The rate charged on the invoice will be .346% per week which is the equivalent of 1.5% per month and 18% per annum or the maximum allowed by law.

4. Payment must be mailed to and received at the designated “Remit To” location by Friday to avoid the weekly service charge. Our Credit department will issue wire transfer or other acceptable electronic transfer instructions if you so desire.

5. All material ordered will require a confirmed shipment date.
Available material must either ship within 30 days of the originally established shipment date or it will be invoiced (pre-billed) in full as stored material.
Additionally, storage charges of 5% of the sales price will be invoiced for any available material that isn’t shipped within 30 days after the established shipment date. These charges will be invoiced each month until shipment occurs.
Any additional handling, re-processing, and/or freight costs incurred as a result of shipment delays will also be charged.

6. Prices do not include any local, state, or federal taxes. Applicable state and local taxes will be added to invoices unless a Tax Exemption Certificate is furnished in a form satisfactory to taxing authorities.

7. This proposal is subject to acceptance by purchase order or letter of intent within 30 days from the project bid date listed above. If an order is not placed within the 30-day period, the proposal is accordingly automatically withdrawn.

8. The final total price would be determined by the total of items shipped at unit prices shown and as may be modified per other paragraphs in this proposal. Any items ordered that are not described in this proposal are subject to a different price basis. In case of error in any extension on the quotation, unit prices would prevail.

9. Lead times to begin shipments are approximately _____ weeks after your full release of "Approved" materials AND our receipt of required purchased items (i.e., steel coil, plate, flanges, etc), whichever is longer. Lead times may increase or decrease based on current workloads. Rates of shipment can be made at up to approximately _____ feet per week. The shipping schedules are subject to change and the promised shipment and rate of any materials would be based on the applicable schedules in effect at the time approved materials are released to our shop for manufacture. Accordingly, any delay in material being placed on order could cause appreciable increases in shipping schedules.

10. Bunks and metal stulls used during shipment are the property of AMERICAN and are to be grouped, re-loaded, and returned to AMERICAN at the Buyer's expense, excluding return freight costs. **Bunks are not to be used for storing pipe.** Bunks not returned to AMERICAN will be invoiced to the Buyer at the applicable replacement costs. Stulls placed in the pipe are intended to stabilize the pipe during shipment. The contractor is responsible to verify and ensure roundness of pipe at the time of installation.

11. To assist you in determining the required bill of material, we will prepare engineered-to-order layout drawings for your approval. Our current lead-time for layout drawings is approximately 4 weeks. Prior to AMERICAN preparing layout drawings, a detailed review will be necessary of the following schedule requirements: starting location, laying direction, number of installation crews, field geometry verification, information regarding connection to existing lines, valve and/or meter dimensional information, requirements for short lengths, drawing details, and our overall drawing service. Additional engineering time beyond the original scope of the contract due to change orders or customer requests will be billed at $600.00 per hour.

12. If necessary, AMERICAN will provide the services of a Field Service Representative for one visit to discuss with the Buyer's crew (s) the assembly requirements of the various joints. Any additional field service visits may be billable and will be addressed on a case-by-case basis. This service does not include any labor. AMERICAN will not be held responsible for any problems related to installation.

13. AMERICAN will not be held responsible for any backcharges resulting from anything beyond our control. AMERICAN must be notified immediately of any problems related to our product so that we may coordinate, participate in, or otherwise approve any corrective action. Any claim must be received by AMERICAN within 10 calendar days from the date of the occurrence.

14. AMERICAN will not be held responsible for any liquidated damages.

15. AMERICAN's terms and conditions of sale are a part of this proposal.

16. To simplify the bidding process, this proposal is offered in a form consistent with the bid form. We will welcome a signed contract consistent with the structure of this proposal. A confirming sales order acknowledgement will be forthcoming for billing and order modification purposes.

ESTIMATOR
Jack Webb

SALESMAN
Caelan March

Purchaser: _____

Address: _____

Phone No.: _____

Accepted By: _____

Signature: _____

Name: _____

Title: _____

AMERICAN SpiralWeld Pipe Company, LLC
P.O. Box 2727
Birmingham, AL 35202

Phone No: _____

Offered By: _____

Name: _____

Title: _____

AMERICAN CAST IRON PIPE COMPANY
TERMS AND CONDITIONS OF SALE

1. All orders are subject to approval and acceptance by an authorized representative of Seller at its general office in Birmingham, Alabama. Terms of payment as shown on the face hereof are subject to approval of Seller's Credit Manager.

2. Should the financial responsibility of Buyer at any time become unsatisfactory to Seller, Seller shall have the right to suspend performance of any order or require payment for any shipment hereunder in advance or require satisfactory security or other adequate assurance satisfactory to Seller. If Buyer fails to make payment in accordance with the terms of this agreement or fails to comply with any provision hereof, the Seller may at its option in addition to any other remedies, cancel any unshipped portion of this order, Buyer to remain liable for all unpaid accounts. In the event Buyer fails to make payment in accordance with the terms of this agreement, the account shall be deemed to be delinquent and a service charge of one and one-half percent (1 1/2%) per month or 18% per annum, charged weekly will be made on the unpaid balance. Where the annual rate of 18% exceeds the maximum allowed by law, the charge shall be the maximum allowed. Buyer agrees to pay all collection costs and expenses, including reasonable attorneys' fees, incurred by Seller in collecting or attempting to collect such account. Seller shall have the right to credit toward the payment of any monies that may become due Seller hereunder any sums which may now or hereafter be owed to Buyer by Seller.

3. If there is a delay in completion of manufacture or shipment of this order due to any change requested by the Buyer or as a result of any delay on Buyer's part in furnishing information required for completion of the order, the price and delivery terms agreed upon at the time of acceptance of the order is subject to change. Prices are F.O.B. factory except as otherwise noted on the face of the sales order contract. Unless otherwise provided in writing, freight charges on all shipments, and spotting, switching, demurrage, or drayage at destination are to be paid by Buyer. Any increase in the amount of freight from that shown on the face hereof as being included is for Buyer's account. Seller reserves the right to designate origin and intermediate carriers. If a specific delivering carrier is required, Buyer must designate such carrier in writing to Seller prior to shipment. Seller reserves the right to make partial shipments.

4. Prices do not include any present or future federal, state or local taxes based upon or measured by the sale, use, manufacture or shipment of the products covered hereby. All such taxes shall be for Buyer's account, and, if paid by Seller, the Buyer agrees to reimburse Seller on demand for the full amount thereof.

5. Title to products sold shall pass upon delivery to carrier at the point of shipment, irrespective of any freight allowance or prepayment of freight and thereafter risk of loss or damage shall be upon Buyer.

6. Specifications and instructions on the face hereof are in accordance with directions of Buyer and full responsibility for their correctness is assumed by Buyer.

7. SELLER WARRANTS THAT THE PRODUCTS COVERED HEREBY CONFORM TO THE DESCRIPTION AND SPECIFICATIONS, IF ANY, ON THE FACE HEREOF, AND ARE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP, FOR A PERIOD OF ONE (1) YEAR FROM THE DATE THE PRODUCTS ARE FIRST SHIPPED. ALL OTHER WARRANTIES ARE EXCLUDED, WHETHER EXPRESSED OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
SELLER SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES DIRECTLY OR INDIRECTLY ARISING OR RESULTING FROM THE BREACH OF ANY OF THE TERMS HEREOF OR FROM THE SALE, HANDLING OR USE OF THE PRODUCTS SOLD. SELLER'S SOLE LIABILITY (AND BUYER'S EXCLUSIVE REMEDY) HEREUNDER, EITHER FOR BREACH OF WARRANTY OR FOR NEGLIGENCE, IS EXPRESSLY LIMITED AT THE OPTION OF SELLER: (A) TO THE REPLACEMENT AT THE AGREED POINT OF DELIVERY OF ANY PRODUCTS FOUND TO BE DEFECTIVE OR NOT TO CONFORM TO THE DESCRIPTION AND SPECIFICATIONS SET FORTH HEREIN, (B) TO THE REPAIR OF SUCH PRODUCTS, (C) TO THE REFUND OR CREDITING TO BUYER OF THE PRICE OF SUCH PRODUCTS, OR (D) AS TO MOTORS, CONTROLS OR ACCESSORY EQUIPMENT PURCHASED BY SELLER FROM OTHERS, AND USED OR INCORPORATED IN SELLER'S PRODUCTS, TO THE SAME EXTENT THAT THE LIABILITY OF SUCH SUPPLIER(S), IS LIMITED AS TO SELLER. ANYTHING CONTAINED HEREIN TO THE CONTRARY NOTWITHSTANDING, SELLER'S WARRANTIES SHALL NOT APPLY TO ANY PRODUCT SOLD HEREUNDER IF BUYER ALTERS SUCH PRODUCT OR REPLACES ANY PART OR PARTS OF SUCH PRODUCT WITH ANY PART OR PARTS NOT MANUFACTURED, SOLD OR OFFERED FOR SALE BY SELLER. No representation or warranty, express or implied, made by any sales representative or other agent or representative of the Seller which is not specifically set forth herein shall be binding upon the Seller. In the event the material to be furnished hereunder is claimed to be defective, the Seller shall be given ample opportunity for inspection or, upon request, be furnished with a sample.

8. No products may be returned for credit and no order may be cancelled or changed in whole or in part without the prior written consent of Seller. Shipment of products cannot be extended beyond the original shipping date specified without Seller's written consent

9. No contract is subject to cancellation or to change unless agreed to in writing by an authorized representative of Seller. In the event of any cancellation, and without limitation to other available remedies to Seller, the Buyer shall pay Seller within thirty (30) days of such cancellation the contract price, including applicable taxes, for all articles, materials and services which have been completed prior to cancellation. Additionally, Buyer shall pay Seller within thirty (30) days of such cancellation all cost and other expenses incurred by Seller for uncompleted items (including without limitation all commitments to Seller's suppliers, subcontractors, and others) and a cancellation charge in an amount equal to twenty percent (20%) upon the total of the foregoing. In the event of any change, Seller shall be entitled to revise its prices and delivery schedules to reflect such change.

10. Seller shall not be liable for any failure or delay in manufacture, shipment or delivery of products resulting from any cause beyond Seller's control including, but not limited to, provisions of law or governmental regulations, accident, explosion, fire, windstorm, flood or other casualty, or acts of God, strike, lockout, or other labor difficulty, riot, war, terrorism, insurrection, shortage or inability to secure labor, raw materials, production or transportation facilities. Shipping dates are approximate and are based on factory conditions at the time of quotation.

11. Buyer may not assign this agreement without Seller's prior written consent.

12. Buyer agrees to accept delivery of any part or all of the products on the mutually agreed upon delivery date, and failure of the Buyer to furnish Seller with shipping instructions shall in no way alter the terms of payment of Seller's invoice for any of the products offered for delivery. Any deferred delivery request by Buyer shall be subject to Seller's written approval. On any approved deferred delivery Seller shall have the right to render invoice for the completed portion to reflect its increased costs, delays and expenses.

13. Waiver of any term or provision of this agreement or of any breach of this agreement shall not be construed as a waiver of any other term or provision or of any other breach, nor shall any such waiver be deemed or construed as a continuing waiver. Any provision of this agreement prohibited by applicable law shall be ineffective to the extent of such prohibition without invalidating the remaining provisions hereof.

14. This agreement shall be governed under and according to the laws of the State of Alabama.

15. In the event of a conflict between any of the printed provisions hereof and any written or typed provisions hereof, the written or typed provisions shall govern.

16. There are no terms, conditions, understandings or agreements between Buyer and Seller other than those stated herein and all prior proposals and negotiations are merged herein. NO TERMS AND CONDITIONS IN ANY WAY ALTERING OR MODIFYING THE PROVISIONS HEREOF SHALL BE BINDING UPON SELLER UNLESS IN WRITING AND SIGNED BY AN AUTHORIZED REPRESENTATIVE OF SELLER. NO MODIFICATION OR ALTERATION OF ANY PROVISION HEREOF SHALL RESULT FROM SELLER'S ACKNOWLEDGEMENT OF BUYER'S PURCHASE ORDER, SHIPMENT OF MATERIAL OR OTHER AFFIRMATION ACTION BY SELLER TOWARD PERFORMANCE HEREUNDER FOLLOWING RECEIPT OF BUYER'S PURCHASE ORDER, SHIPPING ORDER, OR OTHER FORMS CONTAINING PROVISIONS, TERMS OR CONDITIONS IN ADDITION TO OR IN CONFLICT OR INCONSISTENT WITH THE PROVISIONS HEREOF.

Project Name: Dupage County Pipe and Buttstraps
Location: Elmhurst, IL
Project No. : NIL00117
Spec. Reference : email dated 8/5/25

Specifications:

Pipe: (Main Line Size) 24" steel pipe shall be manufactured and tested in accordance with AWWA C200 from materials conforming to ASTM A139 Grade C.

Pipe Joints: Standard pipe in restrained areas shall be furnished with plain end joints.

Pipe Lengths: Standard Lengths are 50 ft.
The approximate weight of 24" x 0.385" wall pipe is 311 lbs./LF

Linings: All pipe will be supplied with cement mortar lining in accordance with AWWA C205.

Coatings: All pipe will be supplied with polyurethane in accordance with AWWA C222.

Joint Protection: AWWA C216 shrink sleeves will be furnished for lap weld and o-ring pipe joints.

Items not normally furnished by American SpiralWeld Pipe Company:
- Outside independent laboratory inspection.
- Joint material for flanged joints (standard, tapped, or insulation) except as noted.
- Material for coating and lining repairs.
- Link seals or wall sleeves for link seals.
- Threaded rodding, friction clamps, or joint harnesses.
- Cathodic protection material, i.e. cadweld material, cables, test stations or insulating kits.
- Stainless, bronze or other specialty bolting material.
- Plastic plugs or other types of protection in tapped holes or protection devices for flange faces.
- Bulkheads, blind flanges, caps or other items required for field hydrotesting.
- Supports.
- Installation.
- Field Supervision.
- Cement Mortar for Patching of the Joints
- Commercial casing spacers
- Any item not listed above.

AMERICAN SpiralWeld Pipe Company, LLC

Northeast Region - Caelan March
1617 N Oakley Ave
Chicago, IL 60647

Phone: **205-919-6026**
Fax: **205-325-8194**

Project #: **NIL00117**
Project Name: **Dupage County Pipe and Buttstraps**
Location: **Elmhurst, IL**
Bid Date: **08/08/2025**
Revision: **2**

QUOTATION

Quote Total: **$27,078.00**

Quantity	UOM	Description	Unit Price	Total Price $
Existing 25.375" OD pipe in Columbia, CML x Poly, PE x PE, 50' long and Buttstraps				
1	LS	Existing 25.375" OD pipe in Columbia, CML x Poly, PE x PE, 50' long and Buttstraps		
		Pricing Includes:		
1	EA	Item ID 10030327 25.375" x 0.385" x 50' long	$23,603.00	$23,603.00
4	EA	25.5" I.D. X 0.375" X 12" Buttstrap	475.00	$1,900.00
3	EA	27.125" I.D. X 0.375" X 12" Buttstrap	525.00	$1,575.00

Material prices quoted represent the current market price of steel and any applicable surcharge in effect as of the date of this quotation. If we are not provided release to purchase steel by August 31, 2025, the final invoice price of material quoted will be increased by taking the difference between the American Metal Market (AMM) Hot Rolled Sheet Price (Midwest) in effect at time of bid and the AMM Hot Rolled Sheet Price at time of steel shipment to our plant.

Resolution #: R-61-25

Account: 01-60-771700

Approvals: *Author / Manager / Finance / Admin*

DC RCB CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/4/2025

Description: **A Resolution Approving and Ratifying Certain Change Orders to a Contract for the SCADA Replacement Project (Contract PSD-9/21)**

Agenda Section: Engineering & Construction

Originating Department: Systems & Information Technology

Resolution No. R-61-25 would approve the following Change Orders (Contract Price Increase of $144,484.45):

Change Order No. 06 to Contract for the SCADA Replacement Project (Contract PSD-9/21)

1. An aggregation of twelve (12) discreet changes to labor and hardware through Concentric. as delineated in the attached Change Order (Addition of $95,249.45).

2. The replacement of ROV 11A environmental enclosure and bollard installation as delineated in the attached Change Order (Addition of $49,235.00).

Approval of this Change Order would increase the net Contract Price by $144,484.45, revising the Contract Price from $15,577,720.83 to $15,722,205.28 for a 0.9% net total increase from the Revised Contract Price. Not including this potential Change Order, it is noteworthy that all Change Orders to date have resulted in a net decrease in the original Contract Price from $16,443,000 to $15,577,720.83.

Approval of this Change Order does not authorize or necessitate a decrease in the Contract Price that is 50% or more of the original Contract Price nor, based upon the Contractor's sworn certification, authorize or necessitate an increase in the price of any subcontract under the Contract that is 50% or more of the original subcontract price.

Recommended Motion:

To Adopt Resolution R-61-25

DuPAGE WATER COMMISSION

RESOLUTION NO. R-61-25

A RESOLUTION APPROVING AND RATIFYING
CERTAIN CHANGE ORDERS TO A CONTRACT FOR THE
SCADA REPLACEMENT PROJECT (CONTRACT PSD-9/21)

BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The Change Orders set forth on Exhibit 1, attached hereto and by this reference incorporated herein and made a part hereof, shall be and hereby are approved and, if already issued, ratified because the Board of Commissioners of the DuPage Water Commission has determined, based upon the representations of staff and the contractors, that the circumstances said to necessitate the changes were not reasonably foreseeable at the time the contracts were signed, the Change Orders are germane to the original contracts as signed and/or the Change Orders are in the best interest of the DuPage Water Commission and authorized by law.

SECTION TWO: This Resolution shall constitute the written determination required by Section 33E-9 of Article 33E of the Criminal Code of 1961 and shall be in full force and effect from and after its adoption.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honig, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS ___ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk

EXHIBIT 1

Contract PSD-9/21 Potential Change Order No. 06

BAXTER & WOODMAN BOLLER DESIGN BUILD

CHANGE REQUEST

To:	Number: #31
DuPage Water Commission 600 East Butterfield Road Elmhurst, Illinois 60126-4642	6/26/2025
	Job: 22008 DuPage SCADA Replacement Project

EADOC Proposal Request #_____

CHANGE REQUEST DESCRIPTION

Concentric Misc. Changes Batch 2
Throughout the integration of the new SCADA system, miscellaneous changes have been made throughout the project implementation. The following is an itemized list of the miscellaneous changes.

COSTS

#	DESCRIPTION		AMOUNT
	Red Lion programming for new Generator PLC integration	Concentric Integration	$ 3,623.00
	Add Out of Service Notes indicating icon	Concentric Integration	$ 7,000.00
	480V Ml and M2 breaker status investigation and rework	Concentric Integration	$ 2,100.00
	Add VCP alarm signals, sump power fail alarms, and additional flood alarms at various unique MS RTU's. Revise drawings, PLC code, Prosoft configuration, KEPServer tags and FTView graphics. 13 sites total impacted.	Concentric Integration	$ 2,160.00
	Additional wiring and programming for BAS Integration with RTU-2041	Concentric Integration	$ 540.00
	Furnish and install tank 3 radio panel and add power alarms to tank 3 RTU. Cost includes panel design, additional programming 1, existing drawing modifications, panel QC check, panel installation, commissioning.	Concentric Integration	$ 16,730.00
	Eliminate the DMZ SCADA server. Includes credit for software licensing and labor for graphics development	Concentric Integration	$ (45,400.00)
	Eliminate Dataview software licensing (credit for 3 years of the subscription)	Concentric Integration	$ (7,560.00)
	Add remote access using Verizon Private. Cost is for setting up VPN connection, configuring Thin Manager, testing and training staff how to use	Concentric Integration	$ 3,700.00

	Eliminate Differential Pressure transmitters used with Venturi flow meters. Credit based on 50% restocking fee for Qty (8) open box units, and 30% restocking fee for Tank 1 transmitters which were not opened, and partial labor due to time spent installing/testing units on site ($3,600 spent, credit of $6,400 credit)	Concentric Integration	$	(25,435.00)
	Krueger additional antenna work (through work completed 4/17/2025)	Concentric Integration	$	123,667.00
	MOY radio path survey	Concentric Integration	$	5,200.00
		SUB TOTAL	$	86,325.00
	OVERHEAD AND PROFIT (Boller)	5%	$	4,316.25
	OVERHEAD AND PROFIT (B&B LLC)	5%	$	4,532.06
	BOND	0.08%	$	76.14
		TOTAL CHANGE AMOUNT	**$**	**95,249.45**

CONTRACTOR DURATION:

Substantial Completion PRIOR to this Change (including previously approved Change Orders):

Substantial Completion AFTER this Change

TOTAL **days + or -**

Submitted By: _____ Approved By: _____

Date Submitted_____ Date Approved: _____

8878 Ridgefield Rd, Crystal Lake, IL 60012 ● Phone: 815-459-1260 ● baxterwoodman.com

CHANGE ORDER PROPOSAL

Concentric Integration, LLC
8678 Ridgefield Road, Crystal Lake, Illinois 60012
815.788.3600 Phone/815.455.0450 Fax
www.goconcentric.com Web Site

To:	Dan Rosenwinkel Boller Construction 3045 Washington St. Waukegan, IL 60085	**Date:**	**June 23, 2025**
Project:	212268.50 – SCADA System Upgrade	**COP#**	27
Subject:	Miscellaneous Changes		

Item	Description	Fee
	Per Change Proposal issues by DWC on 6/18/2025, the following items are miscellaneous changes that have been made throughout project implementation which have been tracked and being formalized with this change order proposal.	
1	Red Lion programming for new Generator PLC integration	$ 3,623
2	Add Out of Service Notes indicating icon	$ 7,000
3	480V M1 and M2 breaker status investigation and rework	$ 2,100
4	Add VCP alarm signals, sump power fail alarms, and additional flood alarms at various unique MS RTUs. Revise drawings, PLC code, Prosoft configuration, KEPServer tags and FTView graphics. 13 sites total impacted.	$ 2,160
5	Additional wiring and programming for BAS integration with RTU-2041.	$ 540
6	Furnish and install Tank 3 radio panel and add power alarms to Tank 3 RTU. Cost includes panel design, additional programming1, existing drawing modifications, panel QC check, panel installation, commissioning.	$16,730
7	Eliminate the DMZ SCADA server. Includes credit for software licensing and labor for graphics development	($45,400)
8	Eliminate Dataview software licensing (credit for 3 years of the subscription)	($7,560)
9	Add remote access using Verizon private. Cost is for setting up VPN connection, configuring ThinManager, testing and training staff how to use.	$3,700
10	Eliminate Differential Pressure transmitters used with Venturi flow meters. Credit based on 50% restocking fee for Qty (8) open box units, and 30% restocking fee for Tank 1 transmitters which were not opened, and partial labor due to time spent installing/testing units on site ($3,600 spent, credit of $6,400 credit)	($25,435)
11	Krueger additional antenna work (through work completed 4/17/2025)	$123,667
12	MOY radio path survey	$5,200
	Increase / (Decrease) for this change order request:	**$86,325**

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MEMORANDUM

To: Dan Rosenwinkel

From: Denis Cuvalo, Systems Engineer & IT Supervisor

Date: June 18, 2025

Subject: **DuPage Water Commission SCADA Replacement Project PSD-9/21 Change Order Request**

The DuPage Water Commission would like to request Baxter & Woodman/Boller Construction LLC. to gather pricing and information on the following change order items listed below:

- Throughout the integration of the new SCADA system, miscellaneous changes have been made throughout the project implementation. The Commission is requesting Baxter & Woodman/Boller Construction LLC. to gather pricing for the items Concentric has tracked and provide a formalized change order proposal. The following is an itemized list of the miscellaneous changes:
    - Red Lion programming for new Generator PLC integration.
    - Addition of the Out of Service Notes.
    - 480V switchgear breaker status investigation and rework.
    - Addition of misc. alarm signals, sump power fail alarms, flood alarms, revise drawings, PLC code, Prosoft configuration, KEPServer tags, and FT graphics.
    - Additional wiring and programming for BAS integration with RTU-2041.
    - Furnish and install Tank Site 3 radio panel and add power alarms to RTU. Cost includes design of panel, additional programming, drawing modifications, panel QC check, panel installation, and commissioning.
    - Eliminate DMZ SCADA server, include credit for software licensing and labor for graphics development.
    - Eliminate Dataview software licensing.
    - Add remote access using Verizon private network.
    - Eliminate Differential Pressure Transmitters used for venturi flow meters.
    - Krueger Tower Additional antenna work.
    - MOY radio path survey.

BAXTER & WOODMAN
BOLLER DESIGN BUILD

CHANGE REQUEST

To:	Number: #
DuPage Water Commission 600 East Butterfield Road Elmhurst, Illinois 60126-4642	8/4/2025
	Job: 22008 DuPage SCADA Replacement Project

AutoDesk Proposal Request #____

CHANGE REQUEST DESCRIPTION

ROV11A Environmental Enclosure Replacement - The Commission is requesting Baxter & Woodman/Boller Construction LLC. gather pricing for the purchase and installation of a new environmental enclosure for ROV 11A and cabinet protection.

COSTS

#	DESCRIPTION		AMOUNT
	Furnish and install (1) 304 stainless steel double door cabinet to match existing size • Remove and replace existing interior components and install onto new panel • Remove and replace existing exterior components and install onto new • Furnish and install (1) new 4" Concrete Bollard W/ Yellow Sleeve	Homestead Electric	$44,623.00
			$
			$
		SUB TOTAL	$44,623.00
	OVERHEAD AND PROFIT (Boller)	5%	$ 2,231.00
	OVERHEAD AND PROFIT (B&B LLC)	5%	$ 2,342.00
	BOND	0.08%	$ 40.00
		TOTAL CHANGE AMOUNT	**$ 49,235.00**

CONTRACTOR DURATION:

Substantial Completion PRIOR to this Change (including previously approved Change Orders):

Substantial Completion AFTER this Change

TOTAL **days + or -**

Submitted By:_____ Approved By: _____

Date Submitted_____ Date Approved: _____

DUPAGE WATER COMMISSION
CHANGE ORDER

SHEET 1 OF 3

PROJECT NAME:	SCADA Replacement Project	CHANGE ORDER NO. 6
LOCATION:	Cook and DuPage Counties, Illinois	CONTRACT NO. PSD-9/21
CONTRACTOR:	Baxter & Woodman/Boller Construction	DATE: August 5, 2025

I. A. DESCRIPTION OF CHANGES INVOLVED:

1. An accumulation of miscellaneous changes to labor and hardware through Concentric

2. The replacement of the ROV 11A environmental enclosure

B. REASON FOR CHANGE:

1. Throughout the integration of the new SCADA system, Commission staff and Concentric staff have made minor modifications to both labor and materials that have been tracked and are being formalized in the list below:

    a. Generator controls Redlion programming for PLC integration.
    b. Add HMI out of service functionality.
    c. 480V M1 and M2 breaker status investigation and rework.
    d. Addition of new alarms, wiring and HMI work, revision of drawings, PLC code, and configuration changes.
    e. Wiring and programming for the addition of BAS alarming.
    f. Furnish and install a radio panel with power alarming at Tank Site 3, replacing the existing radio interface enclosure backplane and contents.
    g. Elimination of DMZ SCADA server, including software license and graphic development.
    h. Elimination of Dataview software licensing.
    i. Addition of remote access using Verizon Private network, including the set up of VPN connection, configuration, testing, and training.
    j. Elimination of differential pressure transmitters used for with venturi flow meters.
    k. Additional labor and materials associated with remote site antenna maintenance, repairs, and equipment replacement.
    l. ROV radio path survey field testing and software analysis.

    These modifications in labor and hardware come at an additional cost of $95,249.45.

2. In May 2025, the environmental enclosure of ROV 11A was struck by a vehicle, denting it, damaging the door hinges, and breaking the integrity of the enclosure. To replace the enclosure, all the equipment, including the RTU cabinet, the electrical panels, actuator controls, heater, and more, will have to be disconnected and removed so the enclosure can be taken off and replaced. In addition to the new enclosure, a concrete bollard will be installed on the corner of the enclosure to protect it going forward. This effort will be coordinated with Homestead Electric and Concentric Integration for an additional cost of $49,235.00.

C. REVISION IN CONTRACT PRICE:

1.	An accumulation of miscellaneous changes to labor and hardware through Concentric	$95,249.45
2.	The replacement of ROV 11A environmental enclosure	$49,235.00
3.	Total Change in Contract Price This Change Order	$144,484.45

II. CHANGE ORDER CONDITIONS:

1. The Completion Date established in the Contract, as signed or as modified by previous Change Orders, maintains the final Completion Date of May 31, 2026.

2. Any Increased Work to be performed under this Change Order shall be provided, performed, and completed in full compliance with, and as required by or pursuant to, the Contract, including any Specifications and Contract Drawings for the Increased Work and for Work of the same type as the Increased Work, and as specified in the preceding “Description of Changes Involved.”

3. Unless otherwise provided herein, all Work included in this Change Order shall be guaranteed and warranted as set forth in, and Contractor shall not be relieved from strict compliance with, the guaranty and warranty provisions of the Contract.

4. All Work included in this Change Order shall be covered under the Bonds and the Required Coverages specified in the Contract. If the Contract Price, including this Change Order, exceeds the Contract Price set forth in the Contract, as signed, by twenty percent (20%), Contractor shall submit to Owner satisfactory evidence of such increased coverage under the Bonds if requested by Owner.

III. ADJUSTMENTS IN CONTRACT PRICE:

1.	Original Contract Price	$ 16,443,000.00
2.	Net reduction due to all previous Change Orders Nos. 1 to 5	$ -865,279.17
3.	Contract Price, not including this Change Order	$ 15,577,720.83
4.	***Increase*** to Contract Price due to this Change Order	$ 144,484.45
5.	Contract Price including this Change Order	$ 15,722,205.28

RECOMMENDED FOR ACCEPTANCE:

CONSULTING ENGINEERS: Carollo Engineers

By: _____ ( )
Signature of Authorized Representative — Date

ACCEPTED: By my authorized signature below, being first duly sworn on oath, I certify on behalf of Contractor that this Change Order does not authorize or necessitate an increase in the price of any Subcontract under the Contract that is 50% or more of the original Subcontract price.

CONTRACTOR: Baxter & Woodman/Boller Construction, LLC

By: _____ ( )
Signature of Authorized Representative — Date

DUPAGE WATER COMMISSION:

By: _____ ( )
Signature of Authorized Representative — Date

Resolution #: R-62-25

Account: 01-60-663100

Approvals: *Author / Manager / Finance / Admin*

D.P. RCB CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/14/2025

Description: **A Resolution to Approve & Ratify Certain Work Authorization Orders Under Quick Response Contract QR-13/25.**

Agenda Section: Engineering & Construction

Originating Department: Pipeline & Remote Facilities

The Commission entered into certain agreements dated June 30, 2025, with John Neri Construction Co. Inc., Rossi Contractors Inc., and Benchmark Construction Co. Inc. for Quick Response construction work, as needed, through the issuance of Work Authorization Orders (Contract QR-13/25) and ending on June 30, 2027. Resolution No. R-62-25 would approve the following Work Authorization Orders under the Quick Response Contracts.

Work Authorization Order No. 13.001 to John Neri Construction Co, Inc.

The Work Authorization Order was issued, and work began prior to Board approval, as was necessary to reset and repair a concrete Cathodic Protection (CP) test station located in the City of West Chicago. The CP test station was dislocated and damaged during a traffic accident and needed to be reset.

The scope of this work included providing and maintaining traffic and pedestrian controls; resetting and repairing the concrete structure and restoring all disturbed areas to the satisfaction of the permitting highway authority, and all other work as necessary or as directed by the Commission.

Since John Neri Construction Co. Inc. was able to mobilize immediately upon request for repair work, Work Authorization Order No. 13.001 was issued to John Neri Construction Co. Inc.

Resolution R-62-25 ratifies approval of Work Authorization Order No. 13.001 to John Neri Construction Co. Inc. for the work as described in Exhibit 1 to this resolution, at the cost of $8,261.37

Recommended Motion:

To adopt Resolution No. R-62-25.

RESOLUTION NO. R-62-25

A RESOLUTION APPROVING CERTAIN WORK AUTHORIZATION ORDERS UNDER QUICK RESPONSE CONTRACT QR-13/25

WHEREAS, the DuPage Water Commission (the" Commission") entered into certain agreements dated June 30, 2025, with John Neri Construction Co., Inc., Rossi Contractors, Inc., and Benchmark Construction Co., Inc. for quick response construction work related to the Commission's Waterworks System (said being hereinafter collectively referred to as "Contract QR-13/25");

WHEREAS, Contract QR-13/25 is intended to allow the Commission to direct one or more or all the quick response contractors to perform quick response construction work, including without limitation construction, alteration, and repair related to the Commission's Waterworks System, as needed through the issuance of Work Authorization Orders; and

WHEREAS, the scope for quick response construction work could not have been reasonably foreseen at the time the contracts were signed;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The foregoing recitals are by this reference incorporated herein and made a part hereof as findings of the Board of Commissioners of the DuPage Water Commission.

SECTION TWO: The work Authorization Orders attached hereto and by this reference incorporated herein and made a part hereof as Exhibit 1 shall be and hereby are approved and, if already issued, ratified because the Board of Commissioners of the DuPage Water Commission has determined, based upon the representations of staff, that the circumstances said to necessitate the work

Authorization Orders were not reasonably foreseeable at the time the contracts were signed, the Work Authorization Orders are in the best interest of the DuPage Water Commission and authorized by law.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honing, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS _____ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk
Board/Resolutions/2025/R-62-25.docx

EXHIBIT 1

QR-13/25 Work Authorization Order No 13.001

John Neri Construction Co., Inc. Invoice No. 2511

WORK AUTHORIZATION ORDER

SHEET 1 OF 2

CONTRACT QR-13/25: QUICK RESPONSE CONTRACT

WORK AUTHORIZATION ORDER NO.: QR-13.001

LOCATION:

Prince Crossing Rd and Meadowview Xing in the City of West Chicago.

CONTRACTOR:

John Neri Construction Co. Inc.

DESCRIPTION OF WORK:

Provide and maintain traffic and pedestrian controls; reset and repair the CP handhole on the east side of Price Crossing Rd approx. 100 feet south of Meadowview Xing and restore all disturbed areas to the satisfaction of the permitting highway authority, and all other work as necessary or as directed by the Commission.

REASON FOR WORK:

The concrete structure was disturbed and partially removed from the ground during the traffic accident and needed to be reset to maintain safe access to our pipeline facilities.

MINIMUM RESPONSE TIME:

N/A

COMMISSION-SUPPLIED MATERIALS, EQUIPMENT AND SUPPLIES TO BE INCORPORATED INTO THE WORK:

N/A

THE WORK ORDERED PURSUANT TO THIS WORK AUTHORIZATION ORDER

[ ] IS [X] IS NOT **PRIORITY WORK**

SUPPLEMENTARY NOTIFICATION OF POTENTIALLY HAZARDOUS CONDITIONS:

N/A

SUBMITTALS REQUESTED:

NO

SUPPLEMENTARY CONTRACT SPECIFICATIONS AND DRAWINGS:

NO

DuPAGE WATER COMMISSION

By: [redacted]
Signature of Authorized Representative

DATE: 7/30/25

CONTRACTOR RECEIPT ACKNOWLEDGED AND DESIGNATION OF SAFETY REPRESENTATIVE:

By: [redacted] Safety Rep: [redacted]
Signature of Authorized Representative — Name and 24-Hr Phone No.

DATE: 07/29/2025

JNC

JOHN NERI CONSTRUCTION CO., INC.
Sewer & Water Contractors
770 Factory Road *Addison, IL 60101
Tel: 630 629-8384* Fax: 630 629-7001
www.johnnericonstruction.com

July 29, 2025

Mr. Dariusz Panaszek
DuPage Water Commission
600 E. Butterfield
Elmhurst, IL 60126

Re: DuPage Water Commission
Quick Response Contract-13/25

Dear Mr. Panaszek;

We, the JOHN NERI CONSTRUCTION CO., are requesting payment currently for the above-mentioned project for the total amount of **$8,261.37.**

Sincerely,

[redacted]

Nicholas Neri, President

JOHN NERI CONSTRUCTION CO., INC.

John Neri Construction Employee Rates As of 06-01-2025

Occupation	Rate	Overtime	Double time	Benefits per Hour
Operator/Foreman	$ 142.65	$ 186.74	$ 230.82	$ 70.67
Operators - I.U.O.E. Local 150	$ 133.67	$ 173.35	$ 213.02	$ 70.67
Laborers - Local No.'s 1, 2, 5, 25, 68, 76, 96				
Laborer / Foreman	$ 113.22	$ 150.43	$ 187.64	$ 53.29
Laborer / Top man	$ 104.70	$ 137.73	$ 170.76	$ 53.29
Laborer / Bottom man	$ 108.43	$ 143.30	$ 178.17	$ 53.29
Truck Drivers - Teamsters 673	$ 86.46	$ 115.21	$ 143.97	$ 40.80

JNC

JOHN NERI CONSTRUCTION CO., INC.
Sewer & Water Contractors
770 Factory Road *Addison, IL 60101
Tel: 630 629-8384* Fax: 630 629-7001
www.johnnericonstruction.com

July 28, 2025

Mr. Dariusz Panaszek
DuPage Water Commission
600 E. Butterfield Rd.
Elmhurst, Illinois 60126

Route: 950' South of Prince Crossing Rd. & Meadowview Crossing Rd. in West Chicago, IL 60185 (East Side of Prince Crossing in Grass Area)
Report #:
Force account bill for: Contract QR-13/25

County: DuPage **Authorization:** QR-13/25
JNC JOB # 2511

July 2025

Labor	07/26/25	07/27/25	07/28/25	ST RATE	O.T.	D.T.	ST Rate	OT Rate	DT Rate	Payroll Amount
(Operator)	8	0	0	8	0	0	$ 142.65	$ 186.74	$ 230.82	$ 1,141.20
(Laborer/Top Man) (Foreman)	8	0	0	8	0	0	$ 113.22	$ 150.43	$ 187.64	$ 905.76
(Laborer/Top Man)	8	0	0	8	0	0	$ 104.70	$ 137.73	$ 170.76	$ 837.60
(Laborer/Top Man)	8	0	0	8	0	0	$ 104.70	$ 137.73	$ 170.76	$ 837.60
(Labor/bottom man)	8	0	0	8	0	0	$ 108.43	$ 143.30	$ 178.17	$ 867.44
Subtotals, Labor										$ 4,589.60
plus 40% Markup										$ 1,835.84
Total Labor										**$ 6,425.44**

Equipment Expense	07/26/25	07/27/25	07/28/25	Total Hours	Rate	Amount
John Deere 85G Excavator (56.9 Hp.)	8	0	0	8	$ 59.54	$ 476.32
Ford F-350 Service Truck (GVW 16000)	8	0	0	8	$ 31.49	$ 251.92
Mack 6-Wheeler (GVW 53000)W/20 Ton Tag	8	0	0	8	$ 84.14	$ 673.12
Miscellaneous traffic control devices **N/C**	0	0	0	0	$ -	$ -
Sub-Total Equipment						$ 1,401.36
15% Markup						$ 210.20
Sub-Total Equipment						**$ 1,611.56**

Material Used	Source	Quantity	Unit	Price	Amount
Pulverized Topsoil	Stock	2	C.Y.	$ 35.00	$ 70.00
CA-7 Trench Backfill (From JNC yard)	Stock	1.8	Ton	$ 24.50	$ 44.10
Seed & Blanket	Stock	27	Sq. Yd.	$ 3.00	$ 81.00
Subtotal Material					$ 195.10
15% Markup					$ 29.27
Sub Total Material Used					**$ 224.37**

AFFIDAVIT

This is to certify that the material entered on this force account bill which was taken from stock is shown at our cost.

John Neri Construction Co., Inc.

By: [redacted]

TOTAL LABOR:	$ 6,425.44
TOTAL EQUIPMENT EXPENSE:	$ 1,611.56
TOTAL MATERIALS:	$ 224.37
TOTAL	**$ 8,261.37**

EquipmentWatch™

www.equipmentwatch.com

All prices shown in US dollars ($)

Rental Rate Blue Book®

Deere 85G
Crawler Mounted Hydraulic Excavators



Size Class:
8.1 - 10.0 MTons
Weight:
N/A

Configuration for 85G

Operating Weight	**19244.0 lbs**	Power Mode	**Diesel**

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs	FHWA Rate**
	Monthly	**Weekly**	**Daily**	**Hourly**	**Hourly**	**Hourly**
Published Rates	USD $6,045.00	USD $1,695.00	USD $425.00	USD $64.00	USD $24.95	USD $59.30
Adjustments						
Region (Illinois: 100.9%)	USD $54.40	USD $15.26	USD $3.83	USD $0.58		
Model Year (2016: 99.8%)	(USD $12.20)	(USD $3.42)	(USD $0.86)	(USD $0 13)		
Adjusted Hourly Ownership Cost (100%)	-	-	-			
Hourly Operating Cost (100%)					-	
Total:	**USD $6,087.21**	**USD $1,706.83**	**USD $427.97**	**USD $64.45**	**USD $24.95**	**USD $59.54**

Non-Active Use Rates	**Hourly**
Standby Rate	USD $17.29
Idling Rate	USD $39.77

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	42%	USD $2,538.90/mo
Overhaul (ownership)	48%	USD $2,901.60/mo
CFC (ownership)	3%	USD $181.35/mo
Indirect (ownership)	7%	USD $423.15/mo
Fuel (operating) @ USD 2.53	21%	USD $5.18/hr

These are the most accurate rates for the selected Revision Date(s). However, due to more frequent online updates, these rates may not match Rental Rate Blue Book Print. Visit the Cost Recovery P oduct Guide on our Help page for more information.

www.equipmentwatch.com

EQUIPMENT WATCH

www.equipmentwatch.com

Rental Rate Blue Book®

On-Highway Light Duty Trucks

Miscellaneous Models

Size Class:
300 HP & Over 300 HP & Over Ford F-350 Service

Configuration for On-Highway Light Duty Trucks

Power Mode	**Gasoline**	Cab Type	**Crew**
Axle Configuration	**4X2**	Ton Rating	**1**
Horsepower	**300.0**		

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs	FHWA Rate**
	Monthly	**Weekly**	**Daily**	**Hourly**	**Hourly**	**Hourly**
Published Rates	$875.00	$245.00	$61.00	$9.00	$26.85	$31.82
Adjustments						
Region (Illinois: 101.6%)	$14.00	$3.92	$0.98	$0.14		
Model Year (2000: 91.8%)	($72.90)	($20.41)	($5.08)	($0.75)		
Ownership (100%)	-	-	-	-		
Operating (100%)					-	
Total:	**$816.10**	**$228.51**	**$56.90**	**$8.39**	**$26.85**	**$31.49**

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	59%	$516.25 / mo
Overhaul (ownership)	27%	$236.25 / mo
CFC (ownership)	4%	$35.00 / mo
Indirect (ownership)	10%	$87.50 / mo
Fuel (operating) @ $3.92	83%	$22.34 / hr

Mack

On-Highway Rear Dumps
Miscellaneous Models

Size Class:
Gross Vehicle Weight: 45,001 - 60,000 GVW

Add To My Fleets +

Configuration for On-Highway Rear Dumps

Power Mode:	**Diesel**	Axle Configuration:	**6X4**
Maximum Gross Vehicle Weight:	**50,000 lbs**	Struck Capacity:	**10 - 12 cy**
Horsepower:	**400.0**		

Equipment Notes: Highway-type rear dump equipment presents a broad variance in list price for similar load-rated capacities. Engine, axle and transmission significantly vary the rate. Costs listed here reflect an average purchase price and are presented only for comparative purposes.

Blue Book Rates

Rate Effective Dates: Always Use Current Rate

printable report

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs	FHWA Rate **
	Monthly	Weekly	Daily	Hourly	Hourly	Hourly
Published Rates	$3,495.00	$980.00	$245.00	$37.00	$62.05	$81.91
Adjustments						
Region (Illinois: 101.6%)	+$55.92	+$15.68	+$3.92	+$0.59		
Model Year (1997: 83.8%)	-$575.25	-$161.30	-$40.33	-$6.09		
Ownership (100%)	-	-	-	-		
Operating (100%)						
Total:	**$2,975.67**	**$834.38**	**$208.59**	**$31.50**	**$62.05**	**$78.96**

For details, see Rate Element Allocation

Adjustments

Default Settings

Model Year: 1997

Region: Illinois

Canadian Regions Alaskan Regions

User Defined

Ownership: 100 %

Operating: 100 %

Adjust Rates

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	52%	$1,817.40 / mo
Overhaul (ownership)	30%	$1,048.50 / mo
CFC (ownership)	6%	$209.70 / mo
Indirect (ownership)	12%	$419.40 / mo
Fuel (operating) @ $4.11	74%	$46.03 / hr

EquipmentWatch.

www.equipmentwatch.com

All prices shown in US dollars ($)

Rental Rate Blue Book® TAGALONG International 16TON trailer

Miscellaneous TOW 2 2 16
Non-Tilt Deck Utility Trailers

Size Class:
All
Weight:
13800 lbs



Configuration for TOW 2 2 16

Capacity	**16.0** t	Hitch Type	**Tow**
Number Of Axles	**2.0**	Number Of Tires	**8.0**

Blue Book Rates

** FHWA Rate is equal to the monthly ownership cost divided by 176 plus the hourly estimated operating cost.

	Ownership Costs				Estimated Operating Costs	FHWA Rate**
	Monthly	Weekly	Daily	Hourly	Hourly	Hourly
Published Rates	USD $490.00	USD $140.00	USD $35.00	USD $5.00	USD $2.64	USD $5.42
Adjustments						
Region (Illinois: 102.2%)	USD $10.78	USD $3.08	USD $0.77	USD $0.11		
Model Year (2007: 89.14%)	(USD $54.39)	(USD $15.54)	(USD $3.89)	(USD $0.56)		
Adjusted Hourly Ownership Cost (100%)	-	-	-	-		
Hourly Operating Cost (100%)						
Total:	**USD $446.39**	**USD $127.54**	**USD $31.88**	**USD $4.55**	**USD $2.64**	**USD $5.18**

Non-Active Use Rates

	Hourly
Standby Rate	USD $1.57
Idling Rate	USD $2.54

Rate Element Allocation

Element	Percentage	Value
Depreciation (ownership)	44%	USD $215.60/mo
Overhaul (ownership)	38%	USD $186.20/mo
CFC (ownership)	5%	USD $24.50/mo
Indirect (ownership)	13%	USD $63.70/mo

Fuel cost data is not available for these rates.

These are the most accurate rates for the selected Revision Date(s). However, due to more frequent online updates, these rates may not match Rental Rate Blue Book Print. Visit the Cost Recovery Product Guide on our Help page for more information.

JNC Recycling Company

INVOICE

760 Factory Road
Addison, IL 60101
Phone (630) 629-8384 Fax (630) 629-7001

INVOICE #072825B
DATE: JULY 28, 2025

TO:
John Neri Construction Co., Inc.
770 West Factory Road
Addison, Illinois 60101
Phone (630) 629-8384

SHIP TO:
Job No. 2511

SALESPERSON	P.O. NUMBER	REQUISITIONER	SHIPPED VIA	F.O.B. POINT	TERMS
	2511				Due on receipt

QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
2 C.Y.	7/26/25 Black Dirt	$35.00	$70.00

SUBTOTAL	$24.00
SALES TAX	
SHIPPING & HANDLING	
TOTAL DUE	$24.00

THANK YOU FOR YOUR BUSINESS!

JNC Recycling Company

INVOICE

760 Factory Road
Addison, IL 60101
Phone (630) 629-8384 Fax (630) 629-7001

INVOICE #072825
DATE: JULY 28, 2025

TO:
John Neri Construction Co., Inc.
770 West Factory Road
Addison, Illinois 60101
Phone (630) 629-8384

SHIP TO:
Job No. 2511

SALESPERSON	P.O. NUMBER	REQUISITIONER	SHIPPED VIA	F.O.B. POINT	TERMS
	2511				Due on receipt

QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
1.8 Ton	7/26/25 CA-7 Trench Backfill	$24.50	$44.10

SUBTOTAL	$44.10
SALES TAX	
SHIPPING & HANDLING	
TOTAL DUE	$44.10

THANK YOU FOR YOUR BUSINESS!

JNC Recycling Company

INVOICE

760 Factory Road
Addison, IL 60101
Phone (630) 629-8384 Fax (630) 629-7001

INVOICE #072825C
DATE: JULY 28, 2025

TO:
John Neri Construction Co., Inc.
770 West Factory Road
Addison, Illinois 60101
Phone (630) 629-8384

SHIP TO:
Job No. 2511

SALESPERSON	P.O. NUMBER	REQUISITIONER	SHIPPED VIA	F.O.B. POINT	TERMS
	2511				Due on receipt

QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
27 Sq. Yds	7/26/25 Class 1 seed & erosion blanket	$3.00	$81.00

SUBTOTAL	$81.00
SALES TAX	
SHIPPING & HANDLING	
TOTAL DUE	$81.00

THANK YOU FOR YOUR BUSINESS!

Resolution #: R-63-25

Account: 01-60-663100

Approvals: *Author / Manager / Finance / Admin*

D.P. RCB CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/14/2025

Description: **A Resolution Approving and Ratifying Certain Work Authorization Orders Under Quick Response Contract QR-13/25 to John Neri Construction Co., Inc.**

Agenda Section: Engineering & Construction

Originating Department: Pipeline & Remote Facilities

The Commission entered into certain agreements dated June 30, 2025, with John Neri Construction Co. Inc., Rossi Contractors Inc., and Benchmark Construction Co. Inc., for Quick Response construction work, as needed, through the issuance of Work Authorization Orders (Contract QR-13/25) and ending on June 30, 2027. Resolution No. R-63-25 approves the following Work Authorization Orders under the Quick Response contracts.

Work Authorization Order No. 13.002 to John Neri Construction Co., Inc.
Pipeline and Remote Facilities staff have identified twenty-one (21) manhole frames & lids and cathodic protection handhole structures that require repairs. The repairs include breaking asphalt and/or concrete street surfaces/bases, excavating existing frames and adjustment rings, and resetting, replacing, or installing new adjustment rings, frames, or lids. Staff requested the QR contractors to provide an estimate for twenty-one (21) structures for repairs with an option to include an additional two (2) structures, to be identified by Staff, for the potential of twenty-three (23) structures to be repaired. The proposals are listed below:

John Neri Construction Co., Inc.	$288,100.00
Rossi Contractors, Inc.	$344.581.00
Benchmark Construction Co., Inc.	$922,000.00

Staff believe the proposal of John Neri Construction Co. Inc. is to be in the best interest of the Commission with a contingency of ten percent (10%) for unforeseen circumstances.

Recommended Motion:

To adopt Resolution No. R-63-25, WAO No. QR 13/25 002 for an estimated expense of $288,100.

RESOLUTION NO. R-63-25

A RESOLUTION APPROVING CERTAIN WORK AUTHORIZATION ORDERS UNDER QUICK RESPONSE CONTRACT QR-13/25

WHEREAS, the DuPage Water Commission (the" Commission") entered into certain agreements dated June 30, 2025, with John Neri Construction Co., Inc., Rossi Contractors, Inc., and Benchmark Construction Co., Inc. for quick response construction work related to the Commission's Waterworks System (said being hereinafter collectively referred to as "Contract QR-13/25");

WHEREAS, Contract QR-13/25 is intended to allow the Commission to direct one or more or all the quick response contractors to perform quick response construction work, including without limitation construction, alteration, and repair related to the Commission's Waterworks System, as needed through the issuance of Work Authorization Orders; and

WHEREAS, the scope for quick response construction work could not have been reasonably foreseen at the time the contracts were signed;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The foregoing recitals are by this reference incorporated herein and made a part hereof as findings of the Board of Commissioners of the DuPage Water Commission.

SECTION TWO: The Work Authorization Orders attached hereto and by this reference incorporated herein and made a part hereof as Exhibit 1 shall be and hereby are approved and, if already issued, ratified because the Board of Commissioners of the DuPage Water Commission has determined, based upon the representations of staff, that the circumstances said to necessitate the work

Authorization Orders were not reasonably foreseeable at the time the contracts were signed, the Work Authorization Orders are in the best interest of the DuPage Water Commission and authorized by law.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honing, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS _____ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk
Board/Resolutions/2025/R-63-25.docx

EXHIBIT 1

Work Authorization Order No 13/25.002

John Neri Construction Co., Inc. Proposal dated August 14, 2025

JNC

JOHN NERI CONSTRUCTION CO., INC.
Sewer & Water Contractors
770 Factory Road *Addison, IL 60101
Tel: 630 629-8384* Fax: 630 629-7001
www.johnnericonstruction.com

August 14, 2025

Mr. Dariusz Panaszek
DuPage Water Commission
600 E. Butterfield Rd.
Elmhurst, Illinois 60126

2025 (2026 FY) Frame and Lid Repair List. Only frames and lids provided

#	Asset	Pipeline	Station	Location	Village	Comments on Repairs	Type	Structure	Estimated cost
1	10056	72"	78+00	41.86991583 - 87.89232338	Hillside	Frame and lid replacement. Replace and restore to IDOT specifications ***Structure in concrete and curb in concrete finished pavement.***	AR	32"	$ 11,800.00
2	10103	FN-2/89	119+50	41.94820719 - 88.02678052	Addison	Frame and lid replacement. Replace and restore to IDOT specifications. ***Structure in concrete finished pavement.***	AR	29"	$ 14,700.00
3	11249	FSW-1/89 4	0+15	41.78599509 - 88.02732918	Downers Grove	Frame and lid replacement. Replace to IDOT specifications Trench to curb and run CP wires to test pad. ***Structure in asphalt.***	BV	29"	$ 12,500.00
4	10055	72"	59+27	41.87005321 - 87.89910779	Hillside	Frame and lid replacement. Replace road and curb to IDOT specifications. ***Structure in concrete curb and gutter.***	AR	29"	$ 11,300.00
5	10473	TS-5/97	86+04	41.77329251 - 87.99664708	Downers Grove	Frame and lid replacement. Replace and restore to IDOT specifications. ***Structure in asphalt.***	AR	29"	$ 11,700.00
6	10274	90"	83+77	41.87613269 - 87.78933226	Oak Park	Frame and lid replacement. Replace to IDOT specifications (needs frame). ***Structure in asphalt.***	AR	29"	$ 11,800.00
7		FN-2/89, MS-1E	4+00	41.948577, - 88.028607	Addison	Install precast handhole in lieu of above ground test station. Precasted frame, lid, and handhole provided	CP	hand hole	$ 9,600.00
8	10705	90"	144+11	41.874404 - 87.808991	Forest Park	Frame and lid replacement. Replace and restore to IDOT specifications ***Structure in concrete finished pavement.***	BV		$ 13,200.00
9	10362	TNW-1/88	3+84	41.87448197 - 87.92050004	Elmhurst	Frame and lid replacement. Replace and restore to IDOT specifications.***Structure in asphalt.***	AR	29"	$ 9,400.00
10	10534	TS-3/88	518+50	41.7591794 - 87.94921081	Darien	Frame and lid replacement. Replace and restore to IDOT specifications. ***Structure in asphalt.***	AR	29"	$ 12,300.00
11	10862	FS-2/89, MS-20B	62+45	41.769232 - 87.974324	Westmont	Frame and lid replacement. Replace and restore to IDOT specifications. ***Structure in asphalt.***	BOV		$ 11,800.00
12	10193	FS-2/89, MS-15A	19+17	41.74376897 - 88.09619265	Naperville	Frame and lid replacement. Replace and restore to IDOT specifications. ***Structure in asphalt.***	AR	29"	$ 8,700.00
13	10990	TOB E-87 SOUTH	26+98	41.756125 - 88.114511	Naperville	Replace valve box and lid adjustment rings to IDOT specifications. ***Structure in asphalt.***	BOV		$ 12,500.00
14	10144	FOB-2/89, MS-21B	24+90	41.86524848 - 88.10096721	Wheaton	Frame and lid replacement. Replace and restore to IDOT specifications. **Structure in asphalt.**	AR	29"	$ 13,500.00
15	11189	FOB-2/89, MS-3B	761+25	41.94593333 - 88.08052078	Bloomingdale	Frame and lid replacement. Replace and restore to IDOT specifications. ***Structure in asphalt.***	BV	29"	$ 13,800.00

16	11216	TOB E-87 NORTH	790+90	41.95403422 - 88.08094226	Bloomingdale	Frame and lid replace. Replace and restore to IDOT specifications (needs frame). ***Structure in asphalt-striping to be maintained as found.***	BV	29"	$ 14,900.00
17	10455	TOB E-87 NORTH	800+76	41.95672235 88.08102527	Bloomingdale	Frame and lid replacement. Replace and restore to IDOT specifications (needs frame). **Structure in concrete finished pavement in same road square.**	AR	29"	$ 14,900.00
18	11347	TOB E-87 NORTH	800+82	41.95675293 - 88.08102697	Bloomingdale	Frame and lid replacement. Replace and restore to IDOT specifications (needs frame). ***Structure in concrete finished pavement in same road square.***	BV	29"	$ 15,300.00
19	10456	TOB E-87 NORTH	54+45	41.95856035 - 88.08112538	Bloomingdale	Frame and lid replacement. Replace and restore to IDOT specifications (needs frame). ***Structure in concrete finished pavement.***	AR	29"	$ 15,800.00
20	10736	FN-2/89, MS-1e	47+07	41.941557 - 88.042073	Addison	Frame and lid replacement. Replace and restore to IDOT specifications ***Structure in asphalt.***	BOV		$ 8,800.00
21	10351	TNW-1/88	528+07	41.91998823 - 87.95763597	Elmhurst	Frame and lid replacement. Replace and restore to IDOT specifications (needs frame). ***Structure in concrete finished pavement.***	AR	29"	$ 14,800.00
22	TBD					Repair/install frame and lid in an asphalt or concrete paved area. Work requires breaking asphalt and/or concrete street base, excavation of existing frame and adjustment rings, resetting, replacing or installing new adjustment rings, frame and lid, restoration in compliance with the local authority having jurisdiction, of existing roadway pavement, curb/gutter, sidewalk and parkway disturb or damaged due to repair work.			$ 12,500.00
23	TBD					Repair/install frame and lid in an asphalt or concrete paved area. Work requires breaking asphalt and/or concrete street base, excavation of existing frame and adjustment rings, resetting, replacing or installing new adjustment rings, frame and lid, restoration in compliance with the local authority having jurisdiction, of existing roadway pavement, curb/gutter, sidewalk and parkway disturb or damaged due to repair work.			$ 12,500.00

Total estimated cost for above work. **$ 288,100.00**

Sincerely,

John Neri Construction Co., Inc.

WORK AUTHORIZATION ORDER

SHEET 1 OF 2

CONTRACT QR-13/25: QUICK RESPONSE CONTRACT

WORK AUTHORIZATION ORDER NO.: QR-13.002

LOCATION:

Various locations throughout Commission transmission and distribution system, see attached map book.

CONTRACTOR:

John Neri Construction Co. Inc.

DESCRIPTION OF WORK:

In accordance with John Neri Construction Co., Inc, proposal dated August 14, 2025, repairs include breaking asphalt and/or concrete street bases, excavating existing frames and adjustment rings, and resetting, replacing, or installing new adjustment rings, frames, or lids at 21 discrete locations plus an additional 2 locations if deemed necessary and so directed by the Commission and restoration of all disturbed areas to the satisfaction of the permitting highway authority, and all other work as necessary or as directed by the Commission.

REASON FOR WORK:

Manhole lid and repairs are needed to maintain infrastructure an improve safe access to our pipeline facilities.

MINIMUM RESPONSE TIME:

N/A

COMMISSION-SUPPLIED MATERIALS, EQUIPMENT AND SUPPLIES TO BE INCORPORATED INTO THE WORK:

DWC will supply all frames and lids needed for the repairs, the contractor is to provide everything else.

THE WORK ORDERED PURSUANT TO THIS WORK AUTHORIZATION ORDER

[ ] **IS** [X] **IS NOT** **PRIORITY WORK**

SUPPLEMENTARY NOTIFICATION OF POTENTIALLY HAZARDOUS CONDITIONS:

N/A

SUBMITTALS REQUESTED:

NO

SUPPLEMENTARY CONTRACT SPECIFICATIONS AND DRAWINGS:

NO

DUPAGE WATER COMMISSION

By: _____
Signature of Authorized Representative

DATE: _____

CONTRACTOR RECEIPT ACKNOWLEDGED AND DESIGNATION OF SAFETY REPRESENTATIVE:

By: _____ Safety Rep: _____
Signature of Authorized Representative — Name and 24-Hr Phone No.

DATE:_____

Resolution #: R-64-25

Account: 01-80-852010

Approvals: *Author / Manager / Finance / Admin*

JL JML CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/14/2025

Description: **Phase III (Construction) Engineering Contract Assignment for the WaterLink Pipeline Project – Stanley Consultants, Inc.**

Agenda Section: Engineering & Construction

Originating Department: Engineering

As the WaterLink Phase II (Design) Engineering effort nears completion, the project will soon move into the construction phase. The project has been divided into five pipeline construction packages, with a sixth to include construction of the metering stations and chemical feed building. In order to ensure that the project is constructed in conformance with the design plans and specifications, oversight by a qualified construction engineering firm on each construction package is necessary.

To that end, the Commission issued a Request for Qualifications (RFQ) and subsequent Request for Proposals (RFP) in accordance with Qualifications-Based Selection (QBS) procedures. After review by Commission Staff and discussion with the Program Management Firm Burns & McDonnell (BMcD) construction engineering assignments were established and previously awarded for all construction packages associated with the installation of WaterLink *pipelines*. Resolution R-64-25 only includes assignment of Construction Engineering Services associated with the metering station construction package, with Stanley Consultants, Inc. (Stanley) having provided the only proposal.

It should be noted that this contract total is structured such that payment is only due for those services rendered through the duration of the contract, as opposed to a lump sum or percentage-based contract. The cost is "not-to-exceed" and can be considered conservative as the duration contemplated is likely in excess of the actual duration of the work the contractor will be performing in the field. The total contract award to Stanley Consultants under Resolution R-64-25 (Task Order No. 03) is $1,219,991.36. Stanley will also be providing construction engineering services for two of the pipeline packages, including the package that includes pipeline connections with each Meter Station.

Recommended Motion:

To adopt Resolution R-64-25.

DuPAGE WATER COMMISSION

RESOLUTION NO. R-64-25

A RESOLUTION TO AUTHORIZE SCOPE OF SERVICES FOR TASK ORDER NO. 3 UNDER A MASTER SERVICES AGREEMENT WITH STANLEY CONSULTANTS, INC.

WHEREAS, the Commission was formed and exists pursuant to the Water Commission Act of 1985, 70 ILCS 3720/0.01 et seq., and Division 135 of Article 11 of the Illinois Municipal Code, 65 ILCS 5/11-135-1 et seq., for the purpose of securing an adequate source and supply of water for its customers; and

WHEREAS, the Commission entered into a contract with Stanley Consultants, Inc. (the "Consultant"), dated May 16, 2013, to provide, from time to time, professional engineering services in connection with the design and construction of extensions and improvements to the Waterworks System and other projects of the Commission (the "Master Contract"); and

WHEREAS, the Master Contract sets forth the terms and conditions pursuant to which the Commission will obtain from time to time, and the Consultant will provide from time to time, professional engineering services for such discrete projects as are delineated and described in Task Orders to be approved by the Commission and the Consultant; and

WHEREAS, the Consultant has developed the Scope of Services attached hereto and by this reference incorporated herein and made a part hereof as Exhibit A, which is approved and will be formalized into Task Order 3 under the existing MSA.

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The foregoing recitals are hereby incorporated herein and made a part hereof as findings of the Board of Commissioners of the DuPage Water Commission.

SECTION TWO: The Scope of Services attached hereto as Exhibit A shall be and hereby is approved and will be formalized as Task Order 3 under the existing MSA, and if already issued, ratified because the

Board of Commissioners of the DuPage Water Commission has determined, based upon the representations of staff and consultant, that the circumstances said to necessitate the Task Orders were not reasonably foreseeable at the time the Master Contract was signed, the Task Orders are germane to the Master Contract as signed, and/or the Task Orders are in the best interest of the DuPage Water Commission and authorized by law.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honig, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS _____ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk
Board/Resolutions/2025/R-64-25.docx

EXHIBIT A

ATTACHMENT A

Stanley Consultants

Connect. Create. Contribute.

DuPage Water Commission

Response to:

Commission Water Transmission Main Extension to Montgomery, Oswego and Yorkville
MS-22/25

July 2, 2025



Stanley Consultants INC.

8501 W. Higgins Road
Suite 730
Chicago, IL 60631

773.693.9624
stanleyconsultants.com

July 2, 2025

Jeff Loster, PE, Engineering Manager
DuPage Water Commission
600 East Butterfield Road
Elmhurst, IL 60126-4642

RE: Commission Water Transmission Main Extension to Montgomery, Oswego and Yorkville MS-22/25

DuPage Water Commission (DWC) is seeking construction engineering services for the multiple contract WaterLink Extension Project. Stanley Consultants' team members are specifically qualified to provide the extensive experience and knowledge in construction engineering required for the successful and timely construction of this project.

As a leading provider of construction management services for water, wastewater and energy facilities, we are well qualified to be a trusted partner with DWC. This Stanley Consultants team has recent, relevant experience providing construction program management services in northern Illinois for large Water Commission projects. In addition, our team is:

Experienced

Our partnership with DWC on the phase II Design WaterLink Extension coupled with experience on over 1,800 construction management projects, means Stanley Consultants brings comprehensive support experience and a deep understanding of the specific construction needs during phase III services.

Key team members, Jared Hamilton and Jesse Singer have invaluable experience from their tenure on similar water line transmission projects, where they led the construction and startup of intricate systems and processes. This team brings a combination of skillset appropriate for this project that includes expertise in large pipeline construction programs, inspection training, construction scheduling and the original DWC pipeline installation and those associated lessons learned.

With the Stanley Consultants' Team comprised of individuals you will know and trust, we will provide you the scalable, flexible depth of expertise which gives you reliable experts who understand the critical importance of management during construction of your long-term infrastructure assets.

Responsive

Stanley Consultants prioritizes impeccable execution of water projects and understands the importance and timeliness of this project due to the immediate impacts it has for two of the three WaterLink communities. Our CM team will keep your program manager and your leadership and operations abreast of daily construction activities and raise issues or concerns with solutions quickly. Additionally, this project has a multitude of stakeholders which will need individual communication and coordination plans.

Currently engaged in the phase II services of this project, our team demonstrates a commitment to exceptional results, quality assurance and compliance. With a proven track record of responsiveness, we will continue to consistently meet or exceed your needs.

Integrated

We will provide flexible staff augmentation solutions to address selected contractors' construction approach and how DWC will contract phase III services. We have brought several additional teaming partners to this project and can bring partners as needed to meet your needs. Stanley Consultants' excels at running multi-consultants construction management and inspection teams, with a proven track record on the Morton Grove Niles Water Commission Supply project and many other construction projects in the Chicagoland area.

If you have any questions or need further clarification, please do not hesitate to reach out to Jared Hamilton; his contact information is in the firm information section. We look forward to your favorable review of our qualifications and encourage your staff to contact our references for firsthand testimony of our past performance.

Jared Hamilton, PE
Construction Services Group Manager

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Fees (Separate Envelope)

Firm Information: Stanley Consultants, Inc.

850
Current Stanley Consultants Employees

Founded In
1913

Worked in
50 States | **120+** Countries

Over
20
Offices Worldwide

Services Include:

- Construction Observation
- Program Management
- Project Management
- Owner's Engineer
- Permitting Support

Stanley Consultants is one of the leading engineering and architectural firms offering construction services. Using proven methods and procedures, our experienced construction management professionals have consistently and successfully represented project owners during construction overseeing small to large construction projects. We will be your eyes and ears in the field.

Our work includes the public and private sector for water supply systems; water and wastewater treatment plants; electric generating stations; substation and transmission and distribution lines, and highways, streets and bridges. Stanley Consultants' construction service management experts are available to assist your in-house staff or assume total project management. We will structure our services to meet your specific needs.

DWC, like all our clients, wants to work with a team that meets cost and schedule control objectives while achieving a quality construction project. We accomplish these results by planning, organizing and coordinating the design and construction processes through effective administration, control and communication. In addition to providing senior construction service managers and on-site resident engineers, field engineers and inspectors, we offer expertise in construction cost estimating support services such as risk and scheduling analysis, expediting and negotiating requests for information and change orders, contract documentation, claim evaluation and value engineering.

Local Address and Contacts

Construction inspection services are primarily going to be supported locally.
Chicago, IL: 8501 West Higgins Road, Suite 730 Chicago, IL 60631 – Phone: 773.693.9624

JARED HAMILTON
773-444-5974
HamiltonJared@stanleygroup.com

KATE DESPINOY
773-714-2028
DespinoyKate@stanleygroup.com

ADDITIONAL SUPPORT

Stanley Consultants has the following sub consultants available to support our project as needed. Our understanding is that the Program Manager may be utilizing a program-wide materials testing company, but if needed, we have a proposed firm.

Robinson ENGINEERING

Our construction engineering team works to lead a rigorous, collaborative process to support sustainable, functional, and inspiring projects that serve the public interest, while providing value to our client communities.

Our team performs construction staking and layout, inspection, and documentation for over $100 million in construction work on behalf of various municipalities each year. Our construction experience, superior field communications, and respected working relationship with area contractors ensures that projects are constructed on time, on budget, and to the quality demanded by our clients.

We have an experienced team that is dedicated to assisting our public clients in achieving their goals, and is fully capable of providing the entire array of construction engineering and management services.

SERVICES

- Construction Layout and Staking
- Construction Observation
- Pressure Testing and Chlorination
- Proof Roll Review
- Contractor Payout Review
- Record Drawing Preparations

PREQUALIFICATIONS

- Cook County Department of Transportation and Highways
- Illinois Capital Division of Transportation
- Illinois Department of Transportation
- Illinois Environmental Protection Agency
- Illinois State Toll Highway Authority
- Indiana Department of Transportation
- Lake County Highway Department
- Will County Division of Transportation

S.T.A.T.E. TESTING DUNDEE CHICAGO (847)836-6002

S.T.A.T.E. Testing, LLC (STATE) has the necessary engineering staff and technically specialized union technicians to cover all fabrication, inspection, and acceptance aspects of prestressed concrete cylinder, steel, or ductile iron pipes. We also have vast inspection experience with all other manners of manufactured materials such as structural steel, reinforcement bars, fasteners, and bolts.

STATE's Structural Inspection division is the most experienced firm in the Chicagoland area for shop inspection of precast/prestress concrete and steel products. STATE is the trusted expert for nearly all the major Chicagoland agencies including Illinois Tollway, City of Chicago, O'Hare Airport, IDOT, and numerous other counties. STATE is the only firm providing materials inspection that is agency-focused; we concentrate on providing Quality Assurance (QA) services, not Quality Control, to eliminate any conflicts of interest for our clients. For prestressed concrete, every one of STATE's precast/prestress inspectors are Prestressed Concrete Institute (PCI) certified and have decades of experience providing QA inspection for a wide array of concrete products. For steel, every one of STATE's steel inspectors are American Welding Society Certified Welding Inspectors (AWS CWI) and have extensive experience inspecting products ranging from massive structural elements to the smallest of fasteners. In addition to our certified and experienced inspectors, STATE's Structural Inspection division is managed by a licensed Professional Engineer, registered both in Illinois and Wisconsin. This P.E. oversight provides efficient communication through all parties, allows inspectors to have an internal engineering resource for clarifications/issues, and a self-sustaining inspection program. Not only can STATE provide the most technically qualified and experienced inspection program, but we can also do it with potential cost savings for our clients. Since our inspectors are already representing multiple clients in most of the local fabrication shops, much of the logistics and shop time can be spread over multiple agencies. This is a unique and cost-effective service that no other engineering firm can offer. Our Structural Inspection division is also located in Beloit, Wisconsin which places us geographically near to many of the largest producers of these products.

Firm Qualifications

Stanley Consultants offers a comprehensive range of services for project delivery, construction management and inspection. Our expertise in these areas leads to the efficient execution of projects, adherence to schedules and the delivery of the highest level of quality.



This project can be supported by more than construction services, as we can offer reach back services that encompass the entire project lifecycle, from planning, permitting and design through construction and commissioning. We will work closely with you and the designer of record throughout the construction to streamline construction activities and address issues that arise. Our experienced team of professionals use industry-leading tools and methodologies to effectively manage project scope, schedule and budget.

Our construction management experience shows a proven track record of overseeing complex construction projects for municipal clients like DWC, as well as other entities. We work closely with contractors, subcontractors and suppliers to verify that construction activities are carried out in accordance with project specifications and industry standards. We provide on-site supervision, quality control and safety management to mitigate risks and provide the highest level of construction quality. Our construction management services also include progress monitoring, cost control and change management to keep projects on track and within budget.

Additionally, our inspection services play a crucial role in verifying that construction activities comply with design specifications, codes and regulations. Our qualified inspectors conduct thorough inspections at various stages of construction to identify any potential issues or deviations from the approved plans. We provide detailed reports and recommendations to address any non-compliance or quality concerns, allowing for timely corrective actions and minimizing project delays.

Project Success

Stanley Consultants successfully managed a fast-moving program for the construction of the Morton Grove Niles Water Commission (MGNWC) transmission line that encompassed 13 individual construction contracts and 11 prime contractors. Our team was able to staff up and down as needed to provide full construction management coverage over the course of four years as individual contracts had staggered start and completion dates. During peak construction there were over 100 contractor personnel onsite daily, and our team provided 20 full-time staff overseeing construction and actively managing the program on behalf of MGNWC. Our construction burn rate at its peak was $8.8 Million per month. The MGNWC transmission system was successfully commissioned ahead of schedule and has been operating reliably ever since.

PROJECT DELIVERY

Our dynamic project team, alongside our available supplemental services personnel include experts in project management, contract management, cost estimating, corrosion protection, materials testing and construction inspection. The members of our team have worked with DWC and understand your objectives and goals. We are familiar with your system, operations team and workflow and will add consistency and efficiency to the project delivery. Our team excels in overseeing all aspects of project execution, seamless coordination and efficient resource allocation. When managing projects, we bring a standard project management framework that fosters successful implementation. Components of this framework include:

- Right Person, Right Job: Resourcing the correct people with the right skills to achieve the project's goals; and
- Accountability: Prioritize accountability and reporting to achieve successful project delivery.

To minimize disruption to DWC and surrounding stakeholder communities, we understand the importance of contract management and schedule management. We are skilled in developing and maintaining project schedules, closely monitoring progress to achieve timely completion. We can effectively manage contracts, verifying compliance, mitigating risks and fostering strong relationships with stakeholders.

Other critical components of project delivery that will be beneficial to the organization include:

- Risk Management: Our proactive approach to risk management allows us to identify, assess and mitigate potential risks throughout the project lifecycle.
- Cost Estimating: Leveraging our experience and industry knowledge, we provide accurate and reliable cost estimates to support budgeting, financial planning and confirming the validity of contractor change order costs.
- Materials Testing: Our experienced in-house materials testing team can develop tailored quality assurance testing regimens across all major construction materials including soil, concrete and asphalt, to conveniently monitor specification compliance.

CONSTRUCTION MANAGEMENT AND INSPECTION

Similar to strategies for managing project risk and schedule variances, we will continue to embed a culture of quality for DWC. The result will be finished assets that not only meet budgetary goals but also provide expected value in terms of length of reliable service, within a sustainable and safe working environment. By involving the right reviewers at the right times, following through with timely and appropriate quality checks, and establishing an effective construction quality program, we will exceed our performance expectations.



By offering these comprehensive project delivery, construction management and inspection services, we are well-equipped to meet DWC needs and the requirements of other key stakeholders such as IDOT.

Other critical components of construction management that will be beneficial to the organization include:

- Field Supervision: Our experienced team provides on-site supervision, closely monitoring construction activities to maintain adherence to project specifications and regulatory requirements.
- Coordination and Communication: We excel in facilitating effective communication and coordination among project stakeholders, fostering collaboration and minimizing conflicts. We understand that our inspectors will be the field representatives for DWC while on-site and that the upstreaming and down-streaming of information is key to DWC making informed decisions. Morreale Communications will support our team if formal public relations services are requested.
- Health and Safety: We prioritize the well-being of all project participants—including residents, workers and visitors near the construction sites. We will monitor the contractor's safety plans and protocols to help maintain a secure working environment.
- Commissioning: Our team's expertise enables us to closely oversee the commissioning process, diligently monitoring systems and components to confirm thorough testing and full operational readiness. Through our unwavering commitment, we will meet your needs and minimize the likelihood of any potential operational issues in the future.

COMPLIANCE AND DOCUMENTATION

As a construction project manager, Stanley Consultants is familiar with reviewing the compliance requirements for both state and federal funding and developing a compliance plan. On past projects, the processes developed to adhere to those requirements were documented in the construction plan, established workflows using the existing project management information system and standard language added to all contracts to guarantee all parties were held to the same requirements. A robust reporting and compliance (audit) process was implemented to ensure all parties were maintaining the required compliance set forth by the funding agencies. Throughout the process, there was regular contact and communication with funding representatives to elaborate their reporting needs and provide a collaborative process.

Jeff Luif and Michael Colby serve as cornerstones of our team's federal compliance expertise. Jeff has successfully managed construction documentation and financial oversight on multiple federally funded projects, ensuring full compliance with federal regulations while maintaining meticulous record-keeping practices essential for federal audits. Michael also has extensive federal documentation experience involving SRF and WIFIA funding sources for various water clients.

Our team's experience with federally funded infrastructure projects makes us uniquely qualified to address the specific requirements of the Waterlink Extension Project. We understand that this project will utilize WIFIA funds, and our experience managing federal documentation systems across numerous large-scale infrastructure projects has prepared us to implement the rigorous documentation protocols required for WIFIA compliance.

KEY FUNDING COMPLIANCE EXPERIENCE

IDOT Internal Project Closeout Auditor Experience, Documentation Auditor

Jeff Luif recently served as an internal project closeout auditor for IDOT on their in-house federally funded projects, a role that provided him with specialized insight into the most critical aspects of federal compliance from the agency perspective. In this capacity, Jeff reviewed project documentation for completeness, accuracy, and compliance with federal requirements before final submission to federal funding agencies. This experience allowed him to develop a comprehensive understanding of what federal auditors specifically look for during project reviews, including common documentation deficiencies that can delay reimbursement or result in funding clawbacks. Typical items of concern include proper certification of materials for payment, proper daily, weekly and monthly documentation, correct measurement procedures and calculations of quantities.

This specialized auditing experience will provide exceptional value to the DuPage Water Commission on the Waterlink Extension Project. Jeff's knowledge of federal closeout procedures allows him to implement preventative measures from the project's outset, establishing documentation systems specifically designed to pass federal scrutiny. Rather than addressing compliance issues reactively, Jeff's approach ensures that all documentation will be properly structured, organized, and maintained throughout the project lifecycle, significantly reducing the risk of funding complications during closeout. This proactive strategy minimizes administrative burdens for the Commission and helps ensure the prompt release of final federal payments.

US 20 Corridor Improvement Project | IDOT District 1, Assistant Resident Engineer & Documentation Engineer

Jeff Luif served as Assistant Resident Engineer and Documentation Engineer for the $30 million US 20 corridor improvement project from Nesler Road to Shales Parkway in Elgin. Throughout this IDOT project, Jeff implemented comprehensive documentation systems aligning with federal funding protocols. He processed all payment documentation according to federal financial guidelines, maintained detailed records of contractor activities to support potential federal audits, and managed quality assurance documentation to verify compliance with federal standards. His meticulous approach to processing change orders and extra work orders ensured proper federal justification procedures were followed, while his expertise in preparing pay estimates guaranteed compliance with federal payment mechanisms.

I-90 (Kennedy Expressway) Resurfacing | IDOT District 1, Materials Coordinator and Documentation Engineer

As Materials Coordinator and Documentation Engineer on the I-90 Kennedy Expressway Resurfacing project, Mr. Luif managed all Quality Assurance requirements for this federally funded interstate project. Jeff coordinated materials testing to ensure strict adherence to FHWA quality assurance standards, maintaining comprehensive material certification records required for federal reimbursement. His duties also included documenting compliance with federal Buy America provisions, a critical component for federal funding eligibility. Jeff thoroughly validated all contractor material submittals against federal specifications, creating a seamless audit trail that facilitated smooth federal reimbursement processes.



I-90 Night Construction

I-80 Roadway and Bridge Widening | IDOT District 1, Documentation Engineer

On this federally funded interstate project, Jeff conducted on-site inspection and documentation of construction activities on a 7-mile section of I-80 from US 30 to US 45. During this assignment, Jeff maintained daily inspection records of all inspection staff that met federal and state documentation standards. His field work involved tracking quantities and verifying measurements according to federal protocols, ensuring construction activities maintained compliance with federal environmental requirements, and verifying construction layout in accordance with federally approved plans. This experience provided Jeff with firsthand knowledge of how federal compliance requirements translate to field operations, a perspective that proves invaluable when managing complex federally funded projects.



I-80 Roadway Construction

Morton Grove Niles Water Commission SRF Construction Compliance, Field Engineer

On Morton Grove Niles Water Commission Supply Project, Michael provided funding support throughout the project into construction. Compliance and coordination was an effort between the designer of record/ engineer reviewing the shop drawings, diligently confirming required certifications that products were made in America and met the AIS requirements (now BABA), and the field inspector who inspected the actual product delivered to the worksite to confirm that it matched the product submitted in the shop drawing. It was an explicit priority of the construction management team that the project had to be 100% compliant with the AIS requirements with no exceptions. In addition, Michael had monthly check-in calls or emails with the IEPA funding project manager.



MGNWC Construction

WATER INFRASTRUCTURE FINANCE AND INNOVATION ACT (WIFIA) SPECIFIC REQUIREMENTS

The WaterLink Pipeline Project's utilization of WIFIA funding introduces specific compliance requirements that differ from traditional federal highway funding. WIFIA projects operate under EPA oversight and include several unique compliance elements that our team is prepared to address:

WIFIA projects require detailed Environmental Compliance documentation beyond typical NEPA requirements, with particular emphasis on water quality assurance measures. The program mandates comprehensive American Iron and Steel (AIS) documentation, which requires certification that all iron and steel products used in the project are produced in the United States. Unlike some federal funding programs, WIFIA requires detailed documentation of all project components to ensure that funded elements directly support water infrastructure improvements.

The program also has Davis-Bacon prevailing wage compliance provisions, requiring weekly certified payroll submissions with enhanced verification processes. WIFIA projects include distinctive financial reporting requirements, including regular drawdown documentation with supporting evidence of completed work, quarterly progress reporting with financial performance metrics, and annual credit surveillance documentation.

Risk management documentation is another critical requirement, necessitating regular updates on project risks and mitigation measures throughout the construction process. The program requires a formal asset management system documentation to ensure long-term sustainability of the funded infrastructure. WIFIA-funded projects also typically require enhanced contractor compliance documentation, including verification of registration with the federal System for Award Management (SAM).

Our team is well-versed in these specialized requirements and has established systems to ensure full compliance while minimizing administrative burden.

The critical nature of federal funding reporting cannot be overstated. Our team has established robust processes to ensure accurate and timely submission of all required federal documentation. We have systems for proper segregation of federally eligible versus non-eligible costs, allowing for clear tracking of expenditures. Our verification processes for contractor compliance with federal requirements help prevent costly compliance issues, while our comprehensive audit trails for all project expenditures ensure transparency throughout the funding process.

Project Understanding

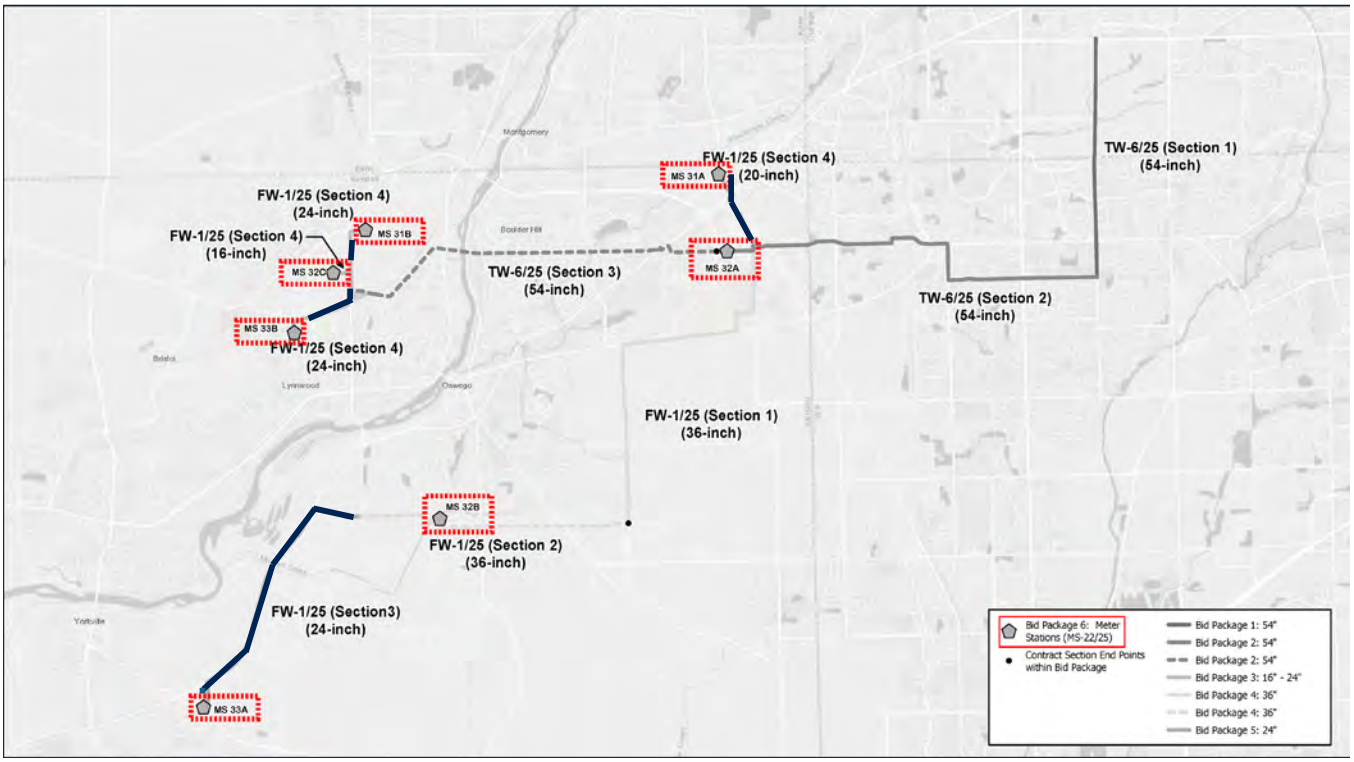
We believe the best way to approach a construction management project is with an experienced, organized and proactive project team. Stanley Consultants has many years of experience performing at a high level on projects with extensive public exposure. This valuable experience will be a great asset when dealing one on one with stakeholders and with time of the essence, to complete the work on schedule.



The construction of the Waterlink Extension project will be under a program led by Burns & McDonnell. The selected construction management consultants must work as a cohesive unit aligned on roles, responsibilities and common methodology on project oversight, coordination, contract administration and compliance, quality and safety and reporting. Our knowledge of each station, as they currently stand, is based on project plan reviews and site visits. Our project approach within this proposal shows our best practices on our typical standalone construction projects; however, our team is accustomed to working as a larger team and utilizing common field techniques and tools, and working under a program manager.

This construction project will bring Lake Michigan water to the three WaterLink Communities, which are facing ground water supply and quality issues. Stanley Consultants is submitting on construction management services on MS-22/25. Our knowledge of the seven meter stations, as they currently stand, is below. In the critical elements section, we will discuss our team's approach to mitigate for potential risks and key fundamental aspects of the project.

Construction management and inspection services will be essential elements in safeguarding the successful delivery of the Waterlink Extension Project. These services aid in the project being completed on time, within budget, and in compliance with safety, environmental, and regulatory standards.



Seven Meter Stations

This scope of work involves overseeing the construction of seven new water meter stations to support the delivery of a new water supply to Oswego, Yorkville and Montgomery and verify compliance with design specifications, operational performance standards, funding and regulatory requirements. Each station will serve as a critical control and monitoring point, ensuring accurate measurement, operational efficiency, and regulatory compliance for the incoming water supply. The primary objective is to assess the integrity and functionality of mechanical, electrical, and instrumentation components—ensuring accurate flow measurement, proper integration with SCADA systems, and safe, reliable operation. Inspection activities will include review of installation workmanship, verification of meter calibration, assessment of structural and site conditions, and confirmation of utility connections and security measures. Timely identification of deficiencies and clear documentation will be critical to supporting corrective actions and ensuring the long-term reliability of the station.

The project will require careful coordination to address varying local infrastructure constraints, phasing with local improvements on the same sites, and community and site-specific needs. Key considerations include flow metering accuracy, system integration with SCADA, site accessibility, security, and long-term operability and maintenance. The successful execution of this project will ensure equitable and reliable water distribution to all three communities while supporting broader system performance and sustainability goals.



We understand that a successful project requires close monitoring of the Contractor's activities as well as cooperation and communication. Jesse Singer has built his careers on searching for solutions to problems before they arise, communicating issues to all parties, and then providing solutions that value both project schedule and budget. On the $84 million Morton Grove - Niles Water Commission Transmission Project, Jesse served as a full-time resident engineer managing multiple pipeline contracts. He led those projects to be completed on budget and on time.



We understand construction change orders impact cost control and budget constraints. Our team has Jared Hamilton to support DWC, and he will be a key leader in providing construction staffing and management services. On the $84 million Morton Grove - Niles Water Commission Transmission Project, Jared managed 21 full-time resident engineers, contract administrators and field engineers. He was responsible for planning and directing all construction management tasks, including preconstruction and progress meetings, coordination with testing laboratories, field inspection and submittal reviews.



We understand the importance of compliance, particularly related to funding. Jeff Luif is experienced in documentation related to federally funded projects, a role that provided him with specialized insight into the most critical aspects of federal compliance from the agency perspective.

He is has expertise leading other documentation including but not limited to change orders, extra work orders and pay estimates. Jeff also specializes in the inspection of MOT, traffic and overall QC.



We understand funding and permitting compliance. Michael Colby served a key role is securing and executing the $84 million SRF loan for the Morton Grove Niles Water Commission Transmission project. Michael worked with EPA to close out all 10 SRF-funded contracts at the completion of the project. He also served in the field as a field representative, led permit efforts and negotiated with permit stakeholders throughout the construction.



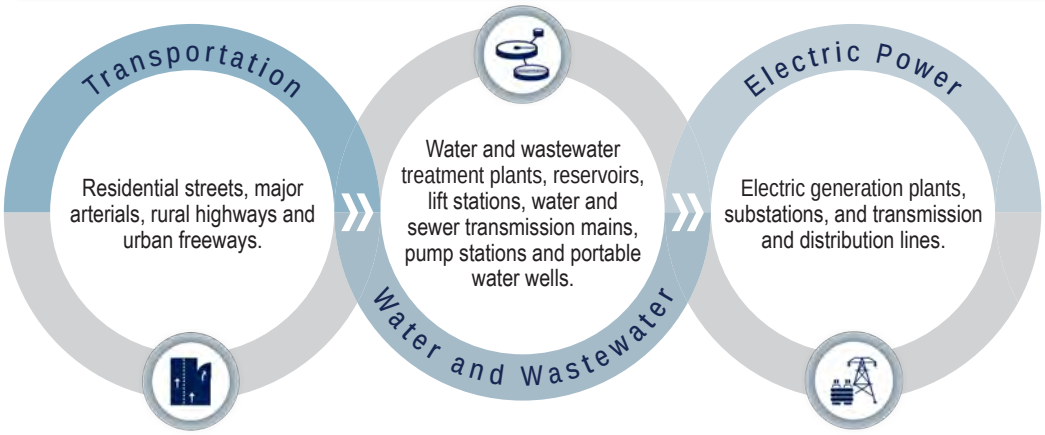
We understand the existing DWC water system and lessons learned from the construction of the original DWC water system which we will apply to this extension of service. Dave Barnas provided design and construction management for several segments of the original system. Dave was also the RE for the pump stations and water mainlining contracts on the MGNWC project.

Relevant Firm Experience

Stanley Consultants offers comprehensive professional services to the utility industry, including a wide range of construction inspection services for water, water treatment, transmission, substation and distribution projects of varying complexity. These services can be provided as a supplement to our engineering services or as standalone offerings for your projects. Field services and construction management are integral components of our service portfolio, and we have a skilled team of construction professionals dedicated to upholding contractual obligations, adhering to industry construction standards and specifications and advocating for your best interests.

DWC and Burns and McDonnell can count on our construction management professionals to look out for their best interests since they come from a variety of backgrounds, including experience working for contractors, utilities and public agencies. We can support these construction contract(s) with a construction management staff of more than 100 professionals, including a diverse Chicago-based construction management staff. They are fully supported by our local office with design expertise in wastewater, water, civil, transportation, structural, electrical, mechanical and landscape architecture.

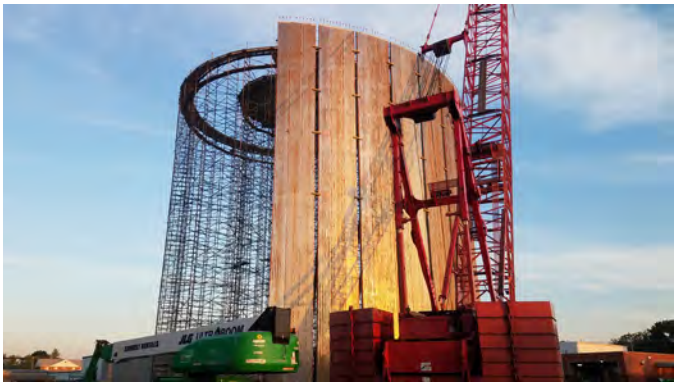
In the past 14 years, we have completed construction services engagements on well over $2 billion in capital projects.



Stanley Consultants' field and inspection services responsibilities have included:

- Establishing and maintaining open lines of communication among stakeholders.
- Conducting or participating in preconstruction conferences.
- Holding meetings with relevant stakeholders to review work progress, discuss field observations, address conflicts, manage delivery and construction schedules, maintain quality standards and document and distribute meeting minutes.
- Issuing and maintaining logs of requests for information, instructions to contractors and change orders in coordination with the designer of record, depending on the item of concern.
- Reviewing and processing pay applications.
- Preparing and distributing daily and weekly status reports.
- Monitoring and evaluating construction for quality assurance.
- Documenting construction progress through daily logs that record site conditions, work hours, performed tasks, contractors' personnel and equipment on-site, delivered materials, material quantities and on-site test results.
- Providing regular progress reports and participating in project meetings as required.
- Consistently documenting and photographing progress.
- Reviewing change order requests before submission and suggesting alternatives to change orders whenever possible.
- Collaborating with the contractor throughout the project to maintain up to date as-built drawings that document changes from the original design, providing a final set of as-built drawings upon project completion.
- Reviewing safety practices for all field personnel and promptly notifying the construction manager of any observed unsafe work practices.

At Stanley Consultants, we prioritize the highest standards of construction inspection services to uphold the successful execution of your utility projects while maintaining safety, quality and adherence to specifications.



Services Provided

- Construction and Program Management
- Construction Inspection
- Public Outreach
- Project Coordination
- Survey and Record Drawings
- Funding Compliance
- Commissioning and Closeout

Project 1 – Water Supply Transmission Mains & Facilities Design

MORTON GROVE NILES WATER COMMISSION » MORTON GROVE & NILES, IL

After conducting studies and providing proof of concept, Stanley Consultants undertook the design engineering services for a comprehensive water transmission project. This included hydraulic analyses and final designs for a 12-mile stretch of 30-inch and 20-inch ductile iron water transmission main, two water pumping stations and a 7-million-gallon standpipe.

The design process also involved evaluating transmission main alignments and construction techniques to minimize risk, mitigate impacts on environmentally sensitive areas and optimize value. Notably, trenchless river crossings were selected as part of the construction techniques.

The project encompassed the design of two water pumping stations responsible for conveying water from the City of Evanston to the Villages. The Intermediate Booster Pumping station, situated in Evanston, had an average day pumping capacity of 5,000 gpm and a maximum day capacity of 8,800 gpm.

On the other hand, the Nagle Avenue Pumping Station, in Morton Grove, consisted of three sets of pumps supplying water to both communities. The first set of pumps, serving Morton Grove, had an average day pumping capacity of 2,200 gpm and a maximum day capacity of 4,000 gpm. The second set, serving Niles, had an average day pumping capacity of 2,800 gpm and a maximum day capacity of 4,800 gpm. The third set of pumps directly supplied water to the Niles distribution system, with a pumping capacity of 2,000 gpm.

Client Testimonial

Ralph Czerwinski, the Village Manager overseeing construction of the Morton Grove – Niles Water Commission Construction Project, stated "Jared Hamilton managed the construction of the project with great success. He served as an active leader and found solutions to issues and conflicts in the field before they became a problem. He proved to be a proactive leader who managed a large project requiring tremendous coordination under a compressed construction schedule."

REFERENCE »
Morton Grove - Niles Water Commission
1000 Civic Center Drive
Niles, IL 60714
William Balling
Retired Managing Director
847.588.8010
bill@wrbllc.com

COMPLETION DATE »
2022

KEY PERSONNEL »
Jared Hamilton
Jesse Singer
Michael Colby
Dave Barnas
Dwayne Jackson

AWARDS »
ASCE – Illinois Outstanding Civil Engineering Achievement Award
APWA – Illinois Public Works Project of the Tea Environmental Category - > $75 Million
ACEC – Illinois Engineering Achievement Award

FUNDING »
IL State Revolving Fund

Client Testimonial

"Throughout the project, Stanley Consultants and its team of engineering firms repeatedly and consistently provided sound engineering and construction management solutions. Their professionalism is greatly appreciated, and we are pleased with their services."

"I am proud to state that as a result of the efforts of Jared Hamilton, serving as the Water Commission's construction manager, objectives have been met, water is flowing and savings are being realized daily. His moral compass and character are stellar and his contributions to the Water Commission and its members have produced a highly successful project."

– William Balling, Retired Managing Director



With our comprehensive design and construction management services, Stanley Consultants played a pivotal role in the successful implementation of the water transmission project, effectively meeting the specific needs of the communities involved. Adjacent to the Nagle Avenue Pumping Station, a prestressed concrete standpipe stands tall at 100 feet, serving a vital function in the water transmission system. With a usable capacity of 7 million gallons, it maintains system pressure during periods when the pump stations are inactive.

The project also encompasses the structural lining of 2.3 miles of existing water transmission main, improvements to the ground-level reservoirs in the communities, and the implementation of a comprehensive SCADA control system. This control system facilitates the seamless operation of all facilities in conjunction with the existing storage and distribution systems in the Villages.

The project was executed on an accelerated schedule due to the impending expiration of water supply contracts with the City of Chicago. Implementing the change of supply would result in significant daily cost savings. Recognizing the importance of meeting this schedule, Stanley Consultants provided a united and collaborative approach among all stakeholders right from the project's inception. To achieve this, an early meeting addressed concerns, established the project's schedule and defined the scope of work. Through cooperative efforts, planning and design progressed efficiently, with a mere 11 months between the initiation of planning and the successful receipt of bids.



During construction, Stanley Consultants provided a program manager, resident engineers and inspectors to guide the completion of the facilities. Rather than bid the work as a single contract, the project was strategically divided into 13 contracts to allow for increased competition on bids and simultaneous construction throughout the length of the project, making it possible to complete the work before the existing water contract expired in December 2018. Stanley Consultants developed a field management plan that included required documentation procedures and clear chains of command for the efficient administration and observation of construction work. This plan included procedures that complied with the requirements of IDOT, Morton Grove, Niles and Skokie including those for security and document control. The implementation of this plan helped guard the MGNWC against defects and deficiencies in construction and help achieve the intended transmission system with the proper consideration of the impacts on the communities and the residents.

HOW PROJECT RELATES TO RFP

Stanley Consultants provided a dedicated program manager, resident engineers and inspectors for this water project. Our expertise and guidance played a crucial role in overseeing the construction of the facilities. By closely collaborating with all parties involved, we facilitated effective communication and coordination, enabling the project to meet its accelerated schedule requirements.

Project 2 – Sewerage & Water Board of New Orleans Water Hammer Hazard Mitigation

SEWERAGE & WATER BOARD OF NEW ORLEANS » NEW ORLEANS, LA

Stanley Consultants provided planning, design, and complete construction engineering services at the Carrolton Water Treatment Plant in New Orleans. The project consisted of the rehabilitation of three pump stations with a total capacity of 170 mgd and the addition of two elevated storage tanks each with a capacity of 2 MG. Design elements included the rebuilding of eight pumps, 40-45 mgd each; a pump surge analysis; 1,500 to 2,250-hp variable-speed drives and motors on the Claiborne Station; and specially designed ball valves to reduce surge on pump start and pump trip scenarios. The scope of work included:

- Hydraulic surge transient modeling: Pumping alternatives were evaluated to determine the recommended surge mitigation plan. Hydraulic modeling and analysis were performed to simulate various pumping combinations.
- Two 2.0 MG elevated storage tanks were designed and constructed at the Carrolton WTP to allow 40 minutes to bring pumps back in service after a pump trip.
- Each pump received a specially designed, hydro-electrically controlled ball valve on the discharge to reduce surge on pump start and mitigate water hammer effects on an unforeseen pump trip. Valves were designed to close on a controlled curve in the event of a total loss of station power.
- Programmable logic controllers (PLCs) and human machine interfaces (HMIs) were installed at each pump station to control the pumps through all sequences of operation to minimize the sudden pressure changes. Instrumentation was added to track pressure and total flow of water out of each pump station.

REFERENCE »
Sewerage Water & Board of New Orleans
625 Saint Joseph Street, Room 311
New Orleans, LA 70165
Christopher Bergeron, PE
504.865.0630
cbergeron@swbno.org

COMPLETION DATE »
Ongoing

KEY PERSONNEL »
Michael Colby



CLAIBORNE PUMP STATION

Provided design for 4 new 1800 horsepower motors and rehabilitated the four 40 to 44 mgd pumps at the Claiborne Pump Station, including four variable frequency drives (VFDs) with 60-cycle motors, and uninterruptable power supply (UPS) powered, slow opening/closing discharge valves for each pump. The new motors were inverter-duty motors with anti-rotation devices. An automatic vacuum priming system was installed with capacity to maintain pump priming on startup for all pumps. A new frequency changer was designed to convert the 25-cycle power to 60-cycle power in the event of a 60Hz power loss. The design also included the installation of a dual pump seal water system for the Claiborne Pump Station to boost the seal water pressure for the main pumps and the vacuum priming system pumps.

PANOLA PUMP STATION

Rehabilitated one 45 mgd pump and added an anti-rotation clutch. The second 45 mgd pumps will be modified to install an anti-rotation clutch at Panola Pump Station. Discharge piping was completely demolished and redesigned for the new 36-inch pump control discharge valves and additional new yard piping. New 50-inch and 42-inch steel pipe were routed to north connecting to the Leonidas Street distribution main. The finished project piping allowed for maximum flexibility by allowing isolation of pump stations or specific sections of pipe for maintenance in the future.

HIGH LIFT STATION

Rehabilitated the existing 45 mgd pumps to include anti-rotation clutches at the high lift station along with the installation of hydro-electrically controlled pump control discharge valves.

KEY RESPONSIBILITIES

- Field Reporting
- Communication and Problem Solving
- Project Submittals
- Request for Information
- Work Change Directives
- Change Orders
- Monthly Payment Applications
- As-Built Changes
- Construction Meetings

Project 3 – Construction Oversight for FWLAP Projects

COLORADO SPRINGS UTILITIES » COLORADO SPRINGS, CO

Stanley Consultants was contracted by UTILITIES to provide an extension of staff for their Finished Water Linear Assessment Program (FWLAP) projects. We provided construction phase inspection and oversight services for various potable water and wastewater lines ranging from 4-inch to 60-inch diameter, including connections to existing wastewater and water service lines, fire hydrants, air vacuum and relief valves and vaults for pressure regulation stations.

UTILITIES owns, operates, and maintains approximately 2,200 miles of finished water transmission and distribution mains within the City of Colorado Springs and surrounding areas. Due to poor pipeline condition caused by internal and/or external corrosion and other factors, several of which now require replacement.

Stanly Consultants has actively worked to monitor, inspect and as-built new and existing conditions for UTILITIES on their South Academy Boulevard Improvement project, and Gillen Road and Jenkins Place waterline replacement.

HOW PROJECT RELATES TO RFP

On both projects Stanley Consultants has served as UTILITIES' representative and scheduled closures, overseen shutdowns, coordinated construction activities with the contractor, as-built new conditions and provided close communication with UTIITIES project managers.

Services Provided

- Construction Oversight
- Construction Inspection
- Staff Augmentation
- Water and Wastewater Line Replacement
- Contractor Coordination

REFERENCE »
Colorado Springs Utilities
120 South Tejon Street
Suite 200
Colorado Springs, CO 80903
Rockie Wiley
Project Manager III
719.668.4675
rwiley@csu.org
COMPLETION DATE »
2024
KEY PERSONNEL »
Matt Lytle
Anthony Cappadoro





Project 4 – Val Vista Transmission Main Rehabilitation (GMP1 and GMP2)

CITY OF PHOENIX » PHOENIX, AZ

GMP 1 was a $6.3 million transmission main rehabilitation project which included the rehabilitation of 3,109 LF of 90-inch PCCP using solid can steel liners. GMP 2 was an $11.4 million transmission main rehabilitation project consisting of the rehabilitation of 4,901 LF of 96-inch PCCP using both solid and split can steel liner. Both projects were in the City of Mesa, and were spread across three access portal (pit) locations. Construction schedule was extremely critical with the project, as the pipeline was needed for Val Vista WTP startup on January 1, 2019.

RELEVANT PROJECT FEATURES

- Shutdown and dewatering of the existing transmission main
- Excavation and backfill of access portals
- Demolition and removal of the existing PCCP transmission main at access portals
- Installation of new welded steel liner inside the existing PCCP transmission main
- Grout annular space between the inside of the existing transmission main and the outside of the newly installed welded steel liner
- Cement mortar lining the interior of the newly installed welded steel liner
- Installation of new 90-inch butterfly valve assembly
- Installation of new air blowoff assembly
- Installation of closure piping at the access portal locations
- Fill, flush, test, disinfect and return to service the previously dewatered section of transmission main

RELEVANT SERVICES PROVIDED

- Review of construction plans and specifications
- Administration, inspections, and special pipeline inspections
- Resident engineering services during construction
- Act as City's representative during construction
- Develop project schedule with the CMAR
- Hold on-site and off-site meetings w/ CMAR, City, impacted third parties, utilities, and regulatory agencies as required
- Monitoring of job progress and keep City informed of project status
- Review shop drawings and test results
- Maintain project documents including correspondence, schedules, submittals, test data, payments, meeting minutes, specifications, drawings, photographs, shop drawings and as-builds.
- Review and certification of progress payments and change orders
- Review of contractor red-lines
- Preparation Record Drawings
- Public information and public relation services
- Coordination among City departments, governmental agencies, and operations staff
- Review of pipeline shutdown and startup plans

REFERENCE »
City of Phoenix
200 W Washington Street
Phoenix, AZ 85003
Mario Brown, PE
602.262.6553
James Taschner, PE
602.495.6841

COMPLETION DATE »
2020

FINAL CONSTRUCTION COST »
$11.4 Million

KEY PERSONNEL »
Jay Horak

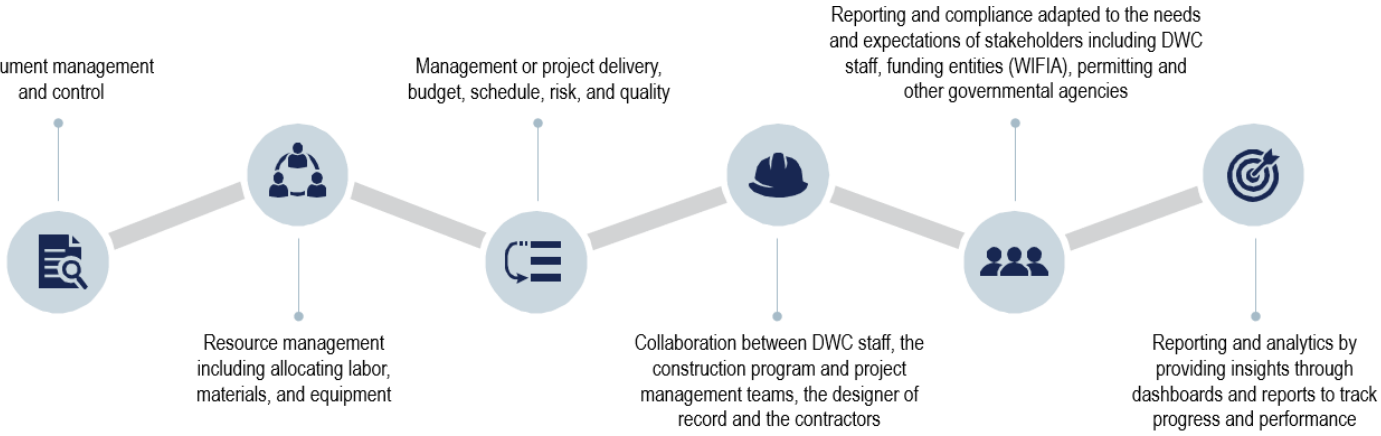
AWARDS »
Water Works Association Arizona Chapter
PROJECT OF THE YEAR
$5M but less than $25M category



Firm Experience with Construction Management Software Platforms

Stanley Consultants has deployed and used construction management software within our construction management and program management groups. We are experienced with a variety of software including but not limited to: Procore, eBuilder, ProjectSight and Newforma. This software provides contracts and project management support with documentation, costing, payments, collaboration and reporting.

Project controls is a critical element for project delivery and the selected platform needs to aid functions such as:



EXPERIENCE WITH PROCORE

Stanley Consultants manages information throughout a project's lifecycle using electronic document management systems, specifically Procore. Stanley has successfully used Procore on a wide range of projects to enhance project management, maintain schedules, serve as a clearinghouse for file storage, improve collaboration (shop drawings, RFIs, photographs, etc.), communicate and maintain compliance.

Stanley also used Procore on:

- The TransWest Express project (2023) in Colorado to track deliverable reviews and monitor review timelines. During the project, Stanley utilized Procore and provided a comprehensive review of all equipment and material procurement specifications, prioritizing the long lead items initially. We worked with TransWest to provide constant oversight of Contractor's procurement efforts, including reviewing specification compliance.
- On the MGNWC Nagle Ave Pump Station with Boller Construction, Procore was utilized to approve show drawings, respond to RFIs and review pay estimates. Additionally daily reports and inspection log information were uploaded daily.
- We are currently using Procore on a Colorado State University Program Management project in Colorado Springs.

Our experience with Procore has consistently delivered better project outcomes and higher client satisfaction. We can utilize it for all of its key uses: project management, document control, quality & safety, field production, project financials, scheduling, preconstruction and reporting & analytics.



*Project Controls Lead, **Brett Muck**, has more than two decades of experience working with clients, including Joliet on their "Rethink Water Program" and Colorado Springs Utilities, on complex programs, such as their Southern Delivery System. He will work with DWC leadership.*

Identification of Individual Project Critical Elements

Construction management and inspection services will be essential elements in safeguarding the successful delivery of the Waterlink Extension Project. These services aid in the project being completed on time, within budget, and in compliance with safety, environmental, and regulatory standards. Below and on the subsequent pages are project specific critical elements we foresee for each of the meter stations followed by bigger picture critical success factors.

Providing construction management services on this project will present several challenges and careful consideration of key elements for the individual contracts.

CRITICAL ELEMENT 1: COORDINATE CONSTRUCTION

Each community will have specific improvements at each metering station site at the time of construction which will need to connect to the metering station. Additionally, coordination with four DWC pipeline contracts (TW-6/25 Section 2, FW-1/25 Section 2, FW-1/25 Section 3, and FW-1/25 Section 4) will be critical to ensure successful connection between the new DWC transmission main and the seven meter stations.



Approach/Mitigation

- Coordinate with each community and DWC program manager to determine their onsite construction activities to inform contractor.
- Coordinate with contractors to review their proposed sequence of construction and align schedule with each communities' onsite improvement schedule.
- Align contractors on a weekly basis to coordinate on construction activities- earthwork, connections and final site improvements and landscaping.

CRITICAL ELEMENT 2: CIVIL / STRUCTURAL ELEMENTS

Common issues can often include standing water in vaults; cracked concrete and inadequate spacing for O&M.

Approach/Mitigation



- Site grading and drainage: Confirm proper slope away from equipment and structures; no ponding.
- Chamber and vault conditions: Check for structural integrity, watertightness, corrosion, ventilation, and safe access (e.g., ladders, hatches).
- Concrete pads and foundations: Verify horizontal and vertical alignment, levelness, and any cracking or spalling.

CRITICAL ELEMENT 3: MECHANICAL ELEMENTS

Common issues include misaligned or backwards-installed meters; leaking valves and joints; and missing or improperly installed flow conditioning.

Approach/Mitigation



- Meter installation: Confirm correct orientation, distances, flanges, bolt tightening patter, gasket seals, and pipe alignment.
- Isolation valves and bypass piping: Check operability, labeling, accessibility, and leak tightness.
- Strainers or flow conditioning devices: Verify presence (as required) and accessibility for maintenance.

CRITICAL ELEMENT 4: ELECTRICAL / INSTRUMENTATION

Common issues include loose or unprotected wiring; incorrect or unverified meter calibration.

Approach/Mitigation



- Meter wiring and grounding: Ensure proper terminations, labeling, and bonding to ground.
- Flow meter calibration: Confirm factory settings, field verification, or third-party testing.
- SCADA/telemetry integration: Inspect panel wiring, signal integrity, and communication with control center.
- Power supply systems: Check conduit seals, breakers, UPS/battery backup.

CRITICAL ELEMENT 5: FUNCTIONAL TESTING

Common issues include incorrect flow readings; non-responsive instrumentation; and alarm issues.

Approach/Mitigation

- Start-up and commissioning: Observe under testing and eventually live flow conditions.
- Accuracy checks: Compare readings against test equipment or known flow.
- Signal transmission: Confirm reliable data transmission to SCADA or data loggers.
- Alarm functionality: Verify triggers, thresholds, and remote notifications.

CRITICAL ELEMENT 6: DOCUMENTATION AND COMPLIANCE

Common issues include missing documentation; contractor changes different from design drawings; meeting of funding requirements.

Approach/Mitigation

- As-built drawings: Confirm installation matches design intent.
- Inspection checklists and reports: Log findings, deficiencies, and corrective actions.
- Manufacturer O&M manuals: Confirm training has been completed and spare parts supplied.
- Permit and code compliance: Verify adherence to documents and IEPA permit.

COMMON CRITICAL PROJECT ELEMENTS FOR ALL STATIONS

Common critical elements for this project include:



Safety and Risk Management: Utility projects involve working with heavy equipment and materials and as well as working in challenging environments. Construction management teams must prioritize safety and implement robust risk management practices to mitigate potential hazards for the well-being of workers and the public. Stanley Consultants has a comprehensive EHS program which is designed to be proactive and emphasizes the importance to eliminate hazards first and then control them if they cannot be eliminated to minimize the potential risks for losses. We will monitor the contractor's safety plan and work with the contractor and Burns & McDonnell to develop a risk matrix tailored for this construction project.

Stanley Consultants' inspectors are familiar with OSHA requirements and focus on trench safety. Additionally, utility work frequently impacts the public. Adequate signage, traffic control and barricades on the worksite need to be inspected and maintained.

Unforeseen Conditions: Despite due diligence and constructability reviews, unforeseen conditions exist on most projects. Contract language will be critical to protect DWC, but more importantly, management techniques used to determine approach, solutions and cost allocation will be crucial throughout the project. Most importantly, it is important to prevent unforeseen conditions from slowing progress and straining relationships.

Stakeholder Coordination: This project involves multiple stakeholders, including municipalities, utility companies, government agencies, benefiting and non-benefiting communities and contractors. Coordinating and managing the expectations and requirements of these diverse stakeholders can be challenging, requiring effective and continuous communication and collaboration.



This was especially true on the MNGWC construction project, where significant work occurred within Skokie, who did not directly benefit from the project. Stanley Consultants understands that we will need to coordinate with various governmental and utility agencies, private utilities and BNSF Railroad to meet the project needs.



Budget and Cost Control: Our team understands federal funding will be contributing to this project and loan payment will be through WaterLink's constituent rates, therefore keeping the project on budget is essential to make the project viable for the WaterLink communities. Construction management teams must carefully monitor and control costs throughout the project lifecycle to keep the project within budget. This involves accurate cost estimation, effective procurement strategies, cooperation and outside the box thinking with the contractor, and diligent financial management.



Schedule Management | Time Sensitive Impacts: This project has critical timelines and deadlines to support the WaterLink communities. Our construction management team must carefully plan and schedule construction activities for timely completion while minimizing disruptions to utility services. Work affecting multiple residents and or businesses can require working extended hours and or weekends. Our team understands that this will be a factor for this project.

DWC can rely on Stanley Consultants' team of over 50 environmental professionals to advise and assist with environmental concerns during any construction project.

Environmental Considerations: This project will have limited environmental impacts, such as land and wetlands disturbance, water pollution or habitat disruption. Our Construction Management Team will adhere to



Coordination with the Program Manager and Designer of Record: To protect the reputation and assets of DWC, our construction management team will uphold highest standards by continuously coordinating and communicating back to Burns & McDonnell and as lines of communications permit, the Designer of Record (DOR). Any potential impacts or needed changes in the field will be discussed with Burns & McDonnell, DWC and the DOR to make mutually agreed upon decisions. Our team understands that some of the pipe materials may be engineered pipe, therefore changes in field conditions may require further evaluation by the DOR. Our team will be solution oriented and aid Burns & McDonnell and DWC with quick resolution of any conflicts.



Coordination with Residents and Traveling Public: This project will affect local businesses and residents. Stanley Consultants understands the need for advanced warning for these events, which often requires in person "door knocking" communication. Stanley Consultants also coordinates traffic control for pedestrians within the work zone. They must have a well-marked obstruction free path to residences and businesses including sidewalk closure signs, detour signs, information signs and temporary walkways. Barriers must be located and properly maintained to protect pedestrians from the hazards of the work zone. Barriers must also provide a well-marked and clear path directing pedestrians around the work zone and to their destination. Our team will conduct daily inspection of traffic control devices and general site cleanliness and will immediately notify the contractor of deficiencies and pursue aggressively until corrected. Stanley Consultants understands that our inspectors will be the public face of DWC while onsite. We will frequently need to interact with residents and business owners and provide information in a timely and courteous manner.

Stanley Consultants Design and CM team worked very closely with each of the roadway agencies and the many other stakeholders to develop a comprehensive traffic control plan for several miles of the roadway through Skokie, Morton Grove and Niles. This corridor was adjacent to schools, with its plethora of newer drivers. The improvements included installing a new 36-inch waterline, lead service line replacement, and improvements to the roadway and sidewalk. We developed a pragmatic traffic control plan following County, IDOT and MUTCD guidelines. With the diverse mix of drivers, the goal was to keep things simple, maintain safety, limit construction phasing and allow for driver expectations.

Quality Installation: Quality control and inspection are critical to the quality installation aspects of construction management. Verifying all work meets the required standards and specifications can be challenging, especially in large scale projects. We develop a comprehensive quality control plan and conduct regular inspections to identify and rectify any deficiencies promptly. Additionally, we intend to have training at the beginning and throughout construction on PCCP and ductile iron pipe installation and proper bedding.

Public Interaction: Stanley Consultants believes that the public is the ultimate client for any infrastructure project, and we must provide the highest quality work with the least amount of disruption to the patrons. The best method for obtaining the public buy-in that we want on a project is with early and accurate communication on what they can expect throughout the life of the project. If we can make the community aware of what changes are coming and how the changes will affect them in a positive manner, then we build can start to build a positive public perception which will help lead toward a smooth and successful project. Depending on how DWC and Burns & McDonnell wants to proceed, we can work with a common public relations firm or bring one onto our team. We have worked with Morreale Communications in the past supporting pipeline projects.



Supporting public meetings and building website about a large project is routine for Stanley Consultants. For example, on the Morton Grove Niles Water Commission Water Supply project, the team developed weekly construction newsletters that posted on the project website and emailed directly to those who signed up for project updates. Additionally, the team led three public meetings to talk to constituents about the project, construction schedule and traffic and water supply impacts in their neighborhood. Beyond public notification on the project website, door hangers and flyers were distributed to homes with important updates on lead service line replacement and flushing. We also set up a 1-800 answering service to allow the public to leave questions that our Program Manager, Jared Hamilton, would respond to in a timely manner.

Experienced, Responsive and Integrated Solutions

Successfully addressing these challenges and key considerations necessitates a blend of technical expertise, adept project management skills and a profound comprehension of the distinctive demands of utility projects. Through proactive measures, our construction management team is well-equipped to facilitate the seamless delivery of this historical project for DWC.

Client Testimonial

"The Village is very happy that the east half of paving is wrapping up this year. This was and is a very difficult and complex project with many setbacks, so I recognize this as an accomplishment. This certainly couldn't have been done without Stanley's leadership."

– Tom Powers, Village Engineer, Village of Niles

Travel Time and Overtime

Our proposed construction management (CM) and inspection schedule spans from April 2026 through October 2027. The fee estimate outlines the applicable 2026 and 2027 billing rates and the anticipated level of effort for each proposed staff member. Hours are only representative of hours worked on the project site or in the field office.

Our fee proposal outlines the estimated monthly level of effort for the metering stations.

Expenses consist of vehicle days.

ASSUMPTIONS:

1. Materials Testing for all sections is covered under the program manager.
2. GPS spot shots on the installed pipeline and meter station corners are covered under the program manager.

Project Management Approach

We deliver exceptional service by understanding the detailed plans and specifications and by planning, organizing and coordinating the construction processes through effective leadership, administration, cost and schedule control, and communication.

Construction costs have spiraled upwards the last few years. The current market conditions are significantly impacting the hard cost (labor and material) of construction. Supply chain issues have also been a major concern for owners and contractors over the past several years, and there is no indication that these issues are going away anytime soon. Construction change orders, therefore, can sufficiently impact DWC and cause other projects to be postponed. We will control costs, reduce change orders and eliminate scope creep by following the plans and specifications closely, monitoring risks, schedule and potential issues and communicating with the contractor and DWC often.

Specifically, our team will perform the following duties to complete the work on budget and schedule.

Monitor contract fees
by providing written notice to Program Manager if there is a risk of exceeding the agreed-upon amount.

Avoid change orders
by working with contractor. If required analyze costs to validate the contractor's request.

Review payment applications
submitted and determine amount requested reflects work progress.



Established and effective construction management activities
MGNWC Supply Project

Our construction management services encompass a comprehensive approach to support the successful execution of construction projects, including electric generation, substations, transmission lines, water and water treatment facilities, pumping stations, sewer conveyance, water transmission and distribution and other utility distribution.

LEADERSHIP, COMMUNICATION, COST CONTROL, SCHEDULE CONTROL AND QUALITY STANDARDS

On this project, Jared and Jesse will demonstrate strong leadership by clearly defining roles, motivating personnel, and making informed decisions that prioritize safety and project goals. Effective communication will remain consistent, with daily briefings, clear reporting lines, and regular coordination with stakeholders to ensure alignment and transparency. Our team will maintain accurate documentation, track issues, and resolve conflicts promptly. Strong team leadership and communication help create a culture of accountability and responsiveness, which is critical for successful project execution.

Equally important are cost control, schedule control, and adherence to quality standards. Our team will monitor labor, materials, and equipment usage to prevent waste and keep spending within budget. This includes reviewing change orders, tracking actual costs versus budget, and implementing cost-effective methods. Our schedule control will include detailed planning, look-ahead scheduling, and progress tracking to avoid delays and ensure timely completion. Our team will enforce compliance with project specifications, conduct thorough inspections and tests, manage non-conformances, and compile comprehensive documentation for project closeout. Together, these practices aid in the successful completion the project, delivered on time, within budget, and to the required quality standards. DWC and Burns & McDonnell can expect efficiency, quality and adherence to project requirements as a result our construction services steps and support every aspect of the construction phase.

CONSTRUCTION PHASE APPROACH

DOCUMENTATION OF EXISTING CONDITIONS

Our project team will conduct a walk-through of the project site with the contractor and program manager and other appropriate stakeholders to thoroughly document the conditions of the construction site, including any structures, utilities, environmental or safety factors that may impact the project. This documentation will consist of photographs and videotapes with a date stamp to benchmark conditions prior to construction. This will serve as a baseline for future reference and will help in planning and decision making.

Project Success

Training

On the MGNWC Supply project, Stanley Consultants conducted a day long training program for all members of the team which enforced good installation practices, health and safety requirements and introduction of key stakeholders in project construction. Police and fire staff from each impacted municipality were also invited to be aware of project. Key contact list was developed out of the meeting. Our intention on this project would be to hold similar training focused on PCCP, Steel Pipe and Ductile Iron installation.

CONSTRUCTION KICKOFF MEETING AND TRAINING

Jared Hamilton, our program/project manager (PM), will work with Burns & McDonnell and the contractor to establish an agenda for the kickoff meeting. We believe aligning all stakeholders on understanding how the system should operate, the installation, safety and emergency response will be important and lead to successful outcomes including better communication, fewer change orders, less contractor delays and longevity of the installed system. Depending upon the type and size of project, construction training may be beneficial for the purposes of enforcing quality, reducing risks and limiting impacts to the community. Training topics could include:

- Project goals and requirements.
- How the system will operate when completed.
- Onsite responsibilities and expectations.
- Communications with and assistance for residents, property owners and business owners.
- Communication and assistance for the contractors.
- Utility as-built location and depth information collection.
- Project documentation requirements and initial equipment/ software training.
- Trench and street safety.
- Proper responses to various types of emergencies.
- Construction observation training.
- Proper pipeline installation requirements inclusive of joints; pipeline filling, testing and cleaning and flushing.
- Proper roadway reconstruction requirements.
- Emergency response contacts and procedures.

This training is critical for even the most experienced staff to make sure everyone understands the importance and nature of this project. It is necessary that the project be constructed in a manner that demonstrates concern for the residents, and results in a reliable and long-lived system.



Ongoing communication amongst Burns & McDonnell, our CM Team and the Contractor(s) will lead to early identification and resolution of issues, saving both money and time on the contract.

DEFINE COMMUNICATION PROCEDURES

The PM will incorporate program manager developed communication procedures among all project stakeholders, promoting seamless collaboration and efficient information exchange. Acting as the central point of contact, the PM will facilitate project communication, including handling requests for information, deficiency reporting, payment applications and change order requests. Additionally, the PM will proactively address any unresolved matters, taking the initiative for prompt resolution and maintain effective communication channels throughout the project. Our CM Team understands that we are working in collaboration with Burns & McDonnell and need to upstream any unforeseen conditions, and downstream information to the contractor. Reporting of unforeseen conditions or needed changes from the plans will be extremely important as the proposed pipe is engineered and designed based on known conditions. In addition, the DOR needs to be involved in any decisions that deviate from the plans.

ESTABLISH MEETING SCHEDULE

The PM will organize and conduct meetings to assess the progress of the work. Bi-weekly meetings can be held both in-person, on the phone and onsite based on construction activities. Additionally, the PM will prepare and distribute meeting minutes that include a list of action items, specifying tasks that require follow-up, responsible parties and expected completion dates. We will work with Burns & McDonnell to align with any of their proposed meeting protocols and scheduling.



Jared Hamilton oversaw the auguring of dual 24-inch DIP water main 20 feet below the Eden's Expressway for MGNWC.

ESTABLISH PROJECT DOCUMENTATION PROCEDURES

The PM will setup the project in Procore prior to the commencement of construction and align with Burns & McDonnell on documentation best practices and expectations. Our inspectors have Bluebeam capability to easily transfer project as-built information onto existing plan sheets. Regarding schedule, we have people in place who can review and work with both Primavera Management System and Microsoft Project.

ADAPT THE CONSTRUCTION OVERSIGHT PROGRAM APPROACH

Our PM will adapt any set policies for construction oversight developed for the overall program. Based on our past experience, the primary objective of a program is to identify any defects or deficiencies in the contractor's work while seamlessly integrating into the overall program. While Stanley Consultants is not responsible for the construction contractor's means, methods, techniques, sequences and procedures, we will inform the contractor and program manager if these factors are likely to cause delays or result in defects. We have the authority to reject work and issue a notice of nonconforming work to the contractor when the work fails to meet the project requirements.

The program manager will be notified of any contractor issues. However, it is important to note that we are not authorized to modify, revoke, alter, expand, relax or release any requirements stated in the contract documents. Decisions regarding changes to the form of function of the work in place will be communicated to DWC through the program manager as soon as they are encountered. Regardless of any actions taken by the Stanley Consultants' Team, the contractor remains obligated to perform their work in strict accordance with the project scope and all applicable laws, rules and regulations. Stanley Consultants' Team will make sure that field directives are confirmed in writing, either by email, serial letter or contract change order. Minor deviations will still be recorded in daily diaries.

ADAPT OR ESTABLISH FIELD REPORT PROCEDURES

The PM will establish an effective daily reporting system for the project. Daily reports play a crucial role in documenting the progress of ongoing construction projects. These reports will be prepared at the conclusion of each workday and will include, at a minimum, the following information:

- Sequential report number.
- Date and day of the report.
- Project name and number.
- Weather conditions noting any direct effect on project progress.
- Contractor's workforce.
- Description of work in progress.
- Challenges, problems, risks or difficulties encountered.
- Compliance with the safety management program.
- Photographs depicting the work.
- Traffic control inspections.

In addition to written daily reports, Stanley Consultants understands that frequent communication is necessary. This is especially true when working with subsurface investigation. Stanley Consultants will make sure information is upstreamed to the program manager and DWC using phone calls, texts, photos and emails as the situation warrants.



The structural integrity of underground utilities is especially important since the cost and public disruption to fix them is great. Our inspection services help mitigate these problems down the road for DWC.

MATERIAL RECEIVING, STORAGE AND INVENTORY MANAGEMENT CONTROL

The PM monitors the contractors' storage and control activities for materials and equipment items to verify their adherence to approved procedures and best practices in storage.



Safety during construction is everyone's number one priority. Our inspectors help identify any safety concerns early to keep all workers and the public safe.

MONITOR SAFETY PLAN

The contractor and its subcontractors bear the ultimate responsibility for safety. However, due to the current legal landscape, the PM and DWC must also be actively involved. Jared Hamilton, our PM and Patrick Lance, our Safety and Health Lead, understand how to monitor the implementation of the contractor's safety program to mitigate the occurrence of accidents and minimize DWC's potential liability in such events. Our project staff will either have OSHA 10 or OSHA 30 training and will be trained to recognize the most common safety issues on this work. We expect to encounter trenching and excavation hazards, pinch points, stored energy, slips trips and falls and confined space entry.

MONITOR CONSTRUCTION COST

The PM will utilize the established cost control system. This system comprises a cost database and a method for analyzing costs, which will track change requests, estimated claims, actual contractor bid prices and progress payments. The system will provide accurate monitoring of the overall budget, including changes in cost-to-complete, force account work and cash flow projections. The PM will carefully assess all costs, considering their necessity, reasonableness, comprehensiveness, impact on the project schedule, and responsibility. The PM will gather or prepare the required information for justification and subsequently present the program manager with an evaluation and a recommended course of action.

MONITOR CONSTRUCTION SCHEDULE

The PM will undertake scheduling responsibilities to efficiently oversee the project's progress and coordinate the project team. These responsibilities encompass maintaining an accurate baseline schedule, reviewing the contractor's schedule, the consultants' schedule, and the time sensitive services provided by the designer. Additionally, the PM will analyze requests for time extensions, track force account work and provide monthly progress reports. We understand that DWC has limited resources so scheduling for start of new systems or shutdowns needs to be closely monitored. Our onsite inspectors will be in continuous communication with the contractor's onsite crews to make sure schedule changes are communicated quickly. Our team includes past contractors and project controllers experienced in creating and updating schedules.

REVIEW PROGRESS PAYMENTS

The PM will assume the responsibility of reviewing and approving all payment requests from contractors. Each completed payment request will be forwarded to the program manager, accompanied by the contractor's net reimbursement for the period and the PM's payment recommendation. To establish a direct correlation between as-built drawings and the contractor's payment application, a set of contract drawings will be kept with an onsite inspector solely for recording as-built information. On a monthly basis, the PM will assess the contractor's as-built drawings to verify the accurate and timely recording of relevant information. When the situation warrants, an onsite inspector will also keep a set of record drawings that conform to DWC standards. Monthly reconciliation of the as-builts will be part of the pay application process.

PROVIDE CONSTRUCTION STATUS REPORTS

The PM is tasked with creating a reporting system to keep DWC informed about project events and progress. The specific type, format and frequency of these reports, typically on a monthly basis, will be determined in collaboration with DWC. The reports will include updates on the following:

- Schedule.
- Cost.
- Cash flow projection.
- Changes and potential change orders.

FEDERAL FUNDS COMPLIANCE

For the WaterLink Pipeline Project, we propose implementing our proven federal funds management approach tailored specifically to WIFIA requirements. Before construction begins, we will establish clear documentation protocols aligned with the Program Manager's process and WIFIA guidelines, ensuring all team members understand the specific requirements from day one. We will conduct thorough training sessions with all field personnel on federal documentation requirements specific to WIFIA-funded projects, emphasizing the unique aspects of water infrastructure funding compliance.

Throughout the project, we will conduct regular internal reviews of all project documentation to ensure ongoing compliance with federal requirements, catching potential issues before they become problems. We have significant experience with Procore, allowing us to maintain all federally required records in an easily accessible format while meeting the Commission's requirements.

We will assign Michael Colby with the responsibility for overseeing all WIFIA compliance aspects of the project, with Jeff Luif overseeing the daily, weekly and monthly documentation of the construction project providing comprehensive coverage for compliance questions and serving as a liaison with federal agencies when needed. This structured approach ensures that compliance doesn't become an afterthought but remains integrated into daily project activities.

Stanley Consultants' experience with federal funding mechanisms, particularly through the leadership of Jeff Luif and Michael Colby, ensures that the DuPage Water Commission will have a partner thoroughly versed in the nuances of federal fund administration, documentation requirements, and compliance protocols necessary for the successful execution of the WaterLink Pipeline Project.

EVALUATE CLAIMS

Most issues with your construction projects can be avoided or mitigated when Stanley Consultants' Team proactively implements all the procedures discussed earlier. However, it is important to acknowledge that claims can still occur, even on well-managed projects. As a result, the PM will receive and assess any notices of claims submitted by the contractor, providing timely recommendations to the program manager.

MATERIALS TESTING

In conjunction with comprehensive field inspection and oversight, our team can provide a key construction quality assurance role by performing materials testing at the project site. We can utilize the selected program-wide firm or alternatively, we have worked with STATE Testing, that provides a local certified materials laboratory and experienced technicians that are equipped to conduct a wide range of tests on soil, asphalt, concrete and other construction materials to monitor compliance with specifications. Common material evaluations would include compaction densities on backfill, subbase and asphalt as well as concrete air, slump and strength testing. Soils classification and proctor tests on native materials can also be performed as well as aggregate sieve analysis. Our team can implement a tailored testing regimen that aligns with specification thresholds established for the project.

Project Success

Fostering Positive Relationships

Stanley Consultants excels in fostering positive relationships with project teams, contractors and vendors. For the MGNWC supply project, we coordinated with over twenty entities, including the IDOT, EPA, Cook County, USACE, IDNR and multiple utility companies, municipalities and local stakeholders.

Our communication is recorded in a logbook, facilitating efficient resolution of action items. With our commitment to open communication and collaboration, we establish trust and strong working relationships. We also have public relation partners to aid in formal communications as presentations as needed.

POST-CONSTRUCTION PHASE

The post-construction phase serves as the connection between the construction and operation of the facility. A seamless transition during this phase is crucial to the overall process. The successful implementation of the management plan in previous phases will minimize issues in the post-construction phase and facilitate the project's timely completion. In this phase, the PM will coordinate the following tasks.

TESTING

The filling, disinfection and testing requirements for the multiple contract WaterLink Extension project should be established in the project specifications, explained to the Contractor(s) at the pre-bid meeting and reinforced at the kick-off meetings. A similar filling and

disinfection process was completed as part of Stanley's Project/Construction Management for the 12-mile stretch of 30-inch and 20-inch ductile iron water transmission main for the Morton Grove Niles Water Commission project, giving this team a clear definition of the most efficient and effective process for filling, flushing, chlorinating and testing.

COORDINATES PUNCH LISTS

The PM will typically arrange for inspections of the project work, documenting both its status and quality. Any items that require corrective action will be listed on the punch list, and it is the contractor's responsibility to address these issues before the project can be finalized and approved by DWC.

STARTUP AND TESTING

Upon request, we are able to offer specialized services during the testing and operations phase. Our team of experienced engineers can help the owner's operating personnel in starting and testing the completed project or specific sections of it. These services typically include:

- Collaborating with the owner's operating organization to develop a startup schedule and create preoperational testing and checkout procedures. We also assist in the verification of instrument and control system installations.
- Working closely with the owner's operating organization to establish operating and maintenance procedures, log sheets, schedules and other necessary practices for smooth equipment operation.
- Assisting the owner's operating organization in conducting equipment performance tests and comparing the results against specifications and guarantees.
- Offering guidance and consultation to the owner's engineers and vendors regarding any necessary modifications related to the equipment.
- Providing additional office support or assistance to the plant operations and startup staff as needed.



Our goal is that your projects are built according to the design, using the correct materials and construction techniques so that your infrastructure provides service well into the future.

COORDINATES RECORD DRAWINGS

The PM sets up protocols for compiling and managing record drawings and conducts a thorough review of these drawings prior to granting final payment approval.

COORDINATES TRAINING AND OPERATION AND MAINTENANCE (O&M) MANUALS

The PM monitors the progress of the O&M manuals (valves) created by the contractor during the submittal phase of the contract, so the documentation is handed over to the DWC. Additionally, the PM will coordinate the training of DWC staff on the operation of equipment installed by the contractor, utilizing the O&M manuals.

COORDINATES SPARE PARTS AND WARRANTIES

The PM will oversee the submission of the designated spare parts and warranties by the contractor to DWC. To streamline this process, the PM will create a detailed checklist encompassing all constructed items that require a warranty or spare parts. Additionally, the PM will establish a system in collaboration with DWC staff to transfer, organize and store spare parts.

COORDINATES FINAL PERMITS

The PM is responsible for coordinating and confirming the contractor has all necessary agency inspections and securing the acquisition of operating permits.

COORDINATES CLOSEOUT AND FINAL PAYMENT

The PM, in collaboration with DWC and the designer of record, conducts a comprehensive final assessment of the project once all work has been completed. As part of the project close-out process, a formal review of key submittals such as the certificate of substantial completion, certificate of punch list completion, final lien waivers, guarantees/warranties, and final applications will be conducted.

Once all parties are satisfied that the contractor has fulfilled all contractual obligations, the PM will process the contractor's final payment application.

If applicable, the firm(s) will prepare a final change order, which will be reviewed and approved by the PM, with a recommendation for approval by DWC.

Our recommendation for final payment considers the contract sum, adjusted by any change orders, amounts already paid and any sums retained for incomplete work, liquidated damages or other contractual reasons.

The PM coordinates the submission of the final inspections report, confirming that the work has undergone a final inspection. The designer will also submit the required documents, detailing any deviations in the completed work and estimating the cost of correcting such deviations. This statement, along with the firm(s)' request for final payment, is transmitted to DWC.

COORDINATES CLOSEOUT REPORT

Our PM will compile a comprehensive final report for the project, summarizing all relevant project data, including schedule and cost information. The report will include a concise project history in written form. Additionally, all Construction Status Reports issued throughout the project will be appended to the report. The final report will also document the dates of substantial and final completion, as well as the commencement date for all warranties.

Project Team

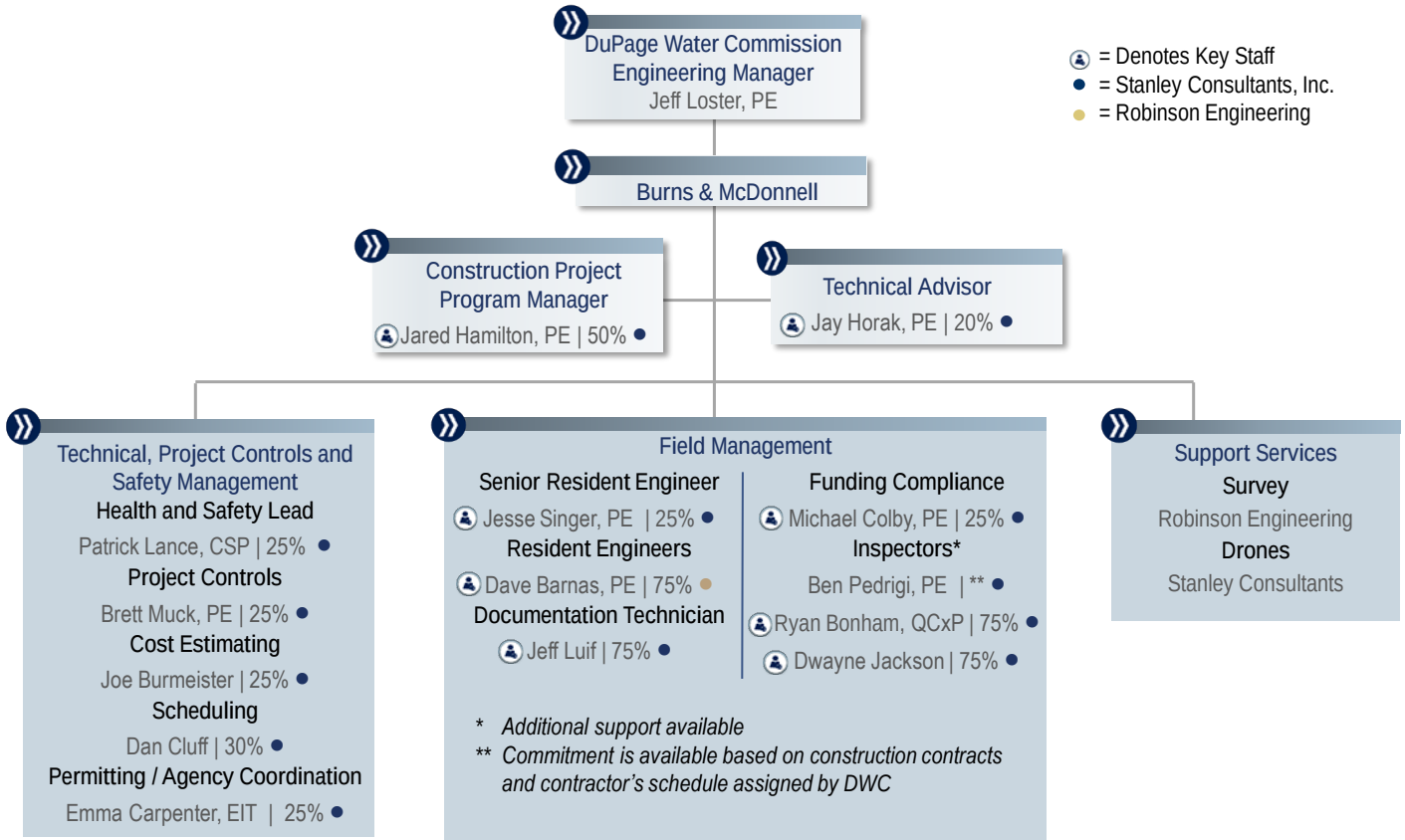
DWC will benefit from the skilled and experienced team to provide construction services for three of the Waterlink Segments – FW-1-25 Sections 2, 3 and 4. This team understands DWC culture, goals and leadership team, and understands your existing facilities and the challenges faced in the original construction. We will establish a clear path forward with you through construction that increases accountability and transparency. Our team merges fresh perspective with firsthand knowledge of the project. This will help anticipate issues, roadblocks and risks. The personnel listed in the organization chart will be available, assigned and present on the project for the duration of the work. The number of staff from the organization chart will be dependent upon the contracts assigned to the Stanley Consultants' team, as indicated in the legend below.

Our proposed key personnel are committed to this project; Stanley Consultants and our partner firms have the ability to scale-up or scale-down depending upon a contractor's schedule. We understand this is critical to the success of the project.

YOUR PROJECT, OUR PRIORITY.

Available and committed every step of the way.

Stanley Consultants





JARED HAMILTON, PE

Program Manager
Stanley Consultants, Inc.
25 Years of Experience

Jared specializes in construction oversight, quality construction and materials quality assurance. As a Construction Materials Supervisor with eight years at the Illinois Department of Transportation, Jared has direct and relevant experience specifically related to complex highway, roadway, and bridge construction as well as record keeping requirements necessary to document and secure federal aid funds. He is versatile in the design, testing, and quality assurance of materials on multiple large highway reconstructions.

Jared's construction management experience includes supervising a team of construction engineers and inspectors, reviewing daily reports, finalizing quantities and resolving field issues between inspectors and contractors. He worked in conjunction with the City of Chicago (CDOT), Illinois State Toll Highway Authority (ISTHA), Indiana Department of Transportation (INDOT), Cook County Highway Department, Will County Highway Department as well as for various other municipalities. Jared was awarded ASCE's Illinois Construction Engineer of the Year in 2020 for his rale as the Program Manager for the Morton Grove Niles Water Commission (MGNWC) Transmission Project.

PROJECT EXPERIENCE

MGNWC Construction Engineering; Morton Grove-Niles Water Commission; Niles, IL
Program Manager and Sr. Resident Engineer that oversaw the construction of 12 miles of 30" diameter water transmission main, a 7-million-gallon water tank and two pump stations with a capacity of 13 million gallons per day. The project reached substantial completion in 18 months. Responsibilities include working hand in hand with the client to confirm their needs are being met by means of staffing, facilitating coordination with contractors, engineers, entities, public or utilities, public outreach or providing specific knowledge to any situation. Responsibilities also included verifying the team is correctly handling and documenting all work areas, assisting in contract negotiations, reviewing the monthly pay applications, managing the approved funds, handling any construction conflicts and supporting any public address. The project had a construction value of $84,000,000.

I-90 (Kennedy Expressway) Resurfacing; IDOT, District 1; IL
Project Manager responsible for this project that included the resurfacing of I-90 between Harlem Avenue and The Edens Junction with SMA Binder and Surface. Work also included class D pavement patching, induction loop installation, N70 Binder and Surface on-ramps and outside shoulders, drainage improvements, guardrail replacement and inlaid pavement markings.

159th Street Reconstruction from I-355 to Will Cook Road; IDOT, District 1; IL
Project Manager for roadway reconstruction and widening of IL Route 7 for a length of 5 miles from 2 to 4 lanes included protected left-turn bays. Additionally, there were roadway reconstruction and widening of the related crossroads. The improvement included installing the proposed closed drainage system stretching over five miles, pipe culverts, precast box culverts, three retaining walls, two pile-supported land bridge embankments, traffic signals, pavement markings and landscaping. The construction value for this project was $68,000,000.00.

I-94 Reconstruction from IL 173 to Wisconsin State Line; IDOT/ISTHA, District 1; IL
Resident Engineer and Project Manager for the reconstruction and widening of I-94 from IL 173 to the Wisconsin State Line. The project included pavement and bridge widening and reconstruction

Education
Bachelor of Science, Civil Engineering, University of Missouri-Columbia

Professional Registration
Professional Engineering:
IL, #062-057963
IA, #20442
IN, #PE11600374
WI, #44611

Civil Engineering:
TX, #139984

NCEES Record Holder, #64611

Professional Societies
- American Society of Civil Engineers
- Association of Highway Engineers, Illinois
- Road and Transportation Builders Association, Illinois

Specialized Training and Certifications
- Illinois DOT Training, HMA Level I, II and III, PCC Level I, II and III, Documentation of Contract Quantities, #24-22403, Exp. 6/21/2028
- Materials Management for Resident Engineers Geotechnical Field Testing and Inspection (S 33)
- Pile Foundation Construction Inspection (S 19)
- Project Management in Primavera P6

of IL 173 over I-94. Responsibilities included ensuring Client needs are being met by means of staffing, facilitating coordination with contractors, engineers, entities, general public or utilities, public outreach or providing specific knowledge to any situation. Responsibilities also included ensuring that the team correctly handles and documents all areas of work, conducting and documenting weekly progress meetings, reviewing the monthly pay applications, managing the approved funds, handling construction conflicts and supporting public addresses. The project had a construction value of $32,500,000.

Russell Road at I-94; Illinois Department of Transportation, District 1; IL
Project Manager and Materials Coordinator for the reconstruction and widening of Russell Road over I-94. The project included embankment, PCC pavement with HMA stabilized subbase, two bridge structures, five MSE walls and the reconstruction of three ramps. Responsible for managing all required QA activities and tests. Services included managing the Quality Assurance (QA) requirements for HMA and Portland Cement Concrete (PCC). Services also included coordination of QA activities with the Contractor and IDOT Personnel, QA field and lab tests, inspection of the Contractor's QC activities, reporting of results and investigations of tests when required by the contract. The project had a construction value of $9,000,000.

I-80 Widening from US30 to US45; Illinois Department of Transportation, District 1; IL
Project Manager and Materials Coordinator on the widening of I-80 that included a new enclosed drainage system with over 7 miles of storm sewer and the placement of over 400 structures, PCC pavement, HMA stabilized subbase, the widening of two bridges over the Norfolk Southern Railroad and double-faced barrier wall. Responsible for managing all required QA activities and tests. Services included managing the QA requirements for HMA and PCC. Services also included coordination of QA activities with the Contractor and IDOT Personnel, QA field and lab tests, inspection of the Contractor's QC activities, reporting of results and investigations of tests when required by the contract.

I-294 / I-57 Interchange Construction Services; Illinois State Toll Highway Authority; IL
Project Manager for constructing two new ramps connecting SB I-294 to SB I-57. Work included new toll facilities, PCC and Hot Mix Asphalt (HMA) pavement, MSE walls and noise walls. Responsible for working hand in hand with the client to confirm their needs are being met by means of staffing, facilitating coordination with contractors, engineers, entities, general public or utilities, public outreach or providing specific knowledge to any situation. Responsibilities also included verifying the team is correctly handling and documenting all areas of work assisting in contract negotiations, reviewing the monthly pay applications, managing the approved funds, handling any construction conflicts and supporting any public address.

Lake Shore Drive Bridge Rehabilitation; City of Chicago Department of Transportation; IL
Resident Engineer for reconstruction and improvement of the bridge carrying Lake Shore Drive over LaSalle Drive. Work included concrete beam repairs, full and partial depth patching, bridge deck overlay, abutment repairs and restoration of the architectural parapet walls. The project had a construction value of $1,400,000.

Milwaukee Avenue Improvements from Addison to Belmont; City of Chicago, Department of Transportation; IL
Project Manager for Phase III construction engineering services for the Milwaukee Avenue Reconstruction Project between Addison Street and Belmont Avenue. The scope of work consisted of pavement reconstruction, curb and gutter replacement, sidewalk replacement with ADA compliant ramps, drainage system upgrades, lighting, new pavement markings and various streetscaping improvements.

Touhy Avenue Pedestrian Bridge; Illinois Department of Transportation; Village of Lincolnwood, IL
Resident Engineer for this project that included constructing a truss structure to connect the north and south legs of the Lincolnwood Valley Trail over Touhy Avenue. Other construction elements included placing a 6" PCC wearing deck over the bridge, two MSE wall abutments, spread footing foundations, new path pavement, decorative lighting, enclosed drainage and landscaping. The project had a construction value of $3,900,000.

Walker Road Bridge Replacement; Kane County Division of Transportation; IL
Project Manager and Resident Engineer for replacing an existing two-span cast-in-place PCC slab structure with a new structure constructed of steel beams, PCC deck with shell piles and integral abutments. Other project features include new culverts, underdrains, guardrail, HMA pavement, striping, restoration and other miscellaneous items to complete the project. Responsibilities included coordination between the Contractor, Kane County and IDOT, Resident outreach and collaboration, QA of project documentation and project closeout.



JAY HORAK, PE

Technical Advisor
Stanley Consultants, Inc.
35 Years of Experience

As Stanley Consultants' Water/Wastewater Design and Construction Services Department Manager, Jay has over 30 years of experience in construction administration, third-party construction administration, and construction management services of gravity sewers, force-mains, lift stations, reservoirs, booster pump stations, wastewater treatment facilities, and water treatment facilities throughout Arizona. Jay's experience has enabled him to develop the following attributes necessary to successfully manage construction projects.

- Ability to monitor/guide Contractor's schedule: Jay provides a proactive approach to contractor scheduling and coordination of issues to help ensure delays do not occur. This approach is critical to the timely completion and commissioning of new facilities. Jay has a proven track record of completing projects on time.
- Respect for the design engineer of record original design intent: Jay has provided "third-party" Project/Construction Management Services on more than 25 CMAR delivered projects during his career developing working relationships with a variety of Design Consultants. Throughout the course of his career, he has demonstrated the ability to build the design, while recognizing deficiencies and working with the designer to resolve the problems which are inevitable during construction.
- Ability to resolve issues in a timely manner: Jay has been Owner's Representative on "third-party" Project/Construction Management Services projects for the Town of Gilbert; Cities of Phoenix, Scottsdale, Surprise, and Sedona; Pulte Home Corporation; and EPCOR Water Company during his career. He has also worked with PCL, Haydon, McCarthy, AGC, CSW, Pulice, T&T, Pierson, and Sundt on CMAR delivered projects. He is known by both owners and contractors to provide logical, objective, and fair solutions to conflicts that arise during construction.

PROJECT EXPERIENCE

66-inch Drought Pipeline Project – Segment 2; City of Phoenix; Phoenix, AZ
Project / Construction Manager overseeing the full-time construction administration and inspection services of this $59.9 million CMAR delivered infrastructure improvement project. Work consisted of installing 22,723 LF of 66" Welded Steel Transmission Main; 6,795 LF of Ductile Iron Pipe (6", 8", 12", 24", 36" & 42"); 100 LF of 6" VCP; 11 Epoxy Coated Manholes; 7ea 66" Butterfly Valves; 3ea 42" Butterfly Valves; 3ea 36" Butterfly Valves; 11ea CARV & Blowoff Manholes; 6ea 86" steel casing Jack-and-bore Hand Tunnels; 30ea Cathodic Protection Test Stations; 4ea Deep Well and Cathodic Rectifiers; 24-, 36-, and 43-inch transmission main tie-ins. All work was completed within the ROW from 32nd St. and Shea Blvd. to 32nd St. and Bell Rd.

Lake Pleasant 78-inch Water Transmission Main; City of Phoenix, Phoenix, AZ
Project / Construction Manager overseeing the full-time construction administration and inspection services of this $49 million CMAR delivered steel water transmission main project. The work consisted of excavation, installation, backfilling and testing of approximately 44,900 linear feet of 78" steel water transmission main from the future Lake Pleasant Water Treatment Plant to the connection with the existing distribution system at 27th Avenue and Carefree Highway. Also included in this project are approximately 40,640 linear feet of 8" force main,

Education

Master of Engineering, Civil Engineering, Texas A&M University
Bachelor of Science, Civil Engineering, Washington University
Bachelor of Science, Engineering and Public Policy, Washington University
Bachelor of Science, Chemistry, Nebraska Wesleyan University

Professional Registration

Civil Engineering:
AZ, #42745
NCEES Record Holder

Professional Societies

- Construction Management Association of America
- Arizona Water Association

Specialized Training and Certifications

- NASSCO (#U-916-07005388)
- Pipeline Assessment and Certification Program (PACP)
- 10-Hour OSHA Training Course

5570 linear feet of 16" waterline, 44,230 linear feet of dual 4" fiber optic ducts, interconnection for future 72", 54" and 42" water mains, valves, blow-offs, concrete encasements, manholes, pavements, landscaping, corrosion protection system, a 1,700 foot tunnel section under Skunk Creek, two (2) jack and bore sections under Carefree Highway (105 LF of 120" steel casing) and under I-17 (700 LF of 120" steel casing), and over 7,000 feet of concrete encasement sections in dry creek beds.

Southwest Zone 1 36-inch Transmission Main; City of Phoenix, Phoenix, AZ
Construction Services Manager overseeing the full-time third-party construction administration and observation services for this $13.6 million-dollar CM@R delivered improvement project. The work consisted of installation of 21,000 LF of 36-inch water main in Buckeye Road from 35th to 67th Avenues. This project provided system redundancy, water quality improvement and adequate fire flow protection to the heavily industrial areas.

Desert Ridge Superblock 1 Water Transmission Main; Pulte Homes, Phoenix, AZ
Construction Services Manager overseeing the full time third-party construction administration and observation services for this $2.1 million-dollar improvement project. The work consisted of installation of 7,206 LF of restrained and non-restrained 42" DIP transmission mains; installation of 7,817 LF of restrained and non-restrained 36" DIP transmission mains; installation of 350 LF of 60-inch steel casing under the Loop 101 by means of a TBM (Tunnel Boring Machine); placement of 3,900 SY of asphalt. The project was complicated by multiple design changes due to conflicts with an existing 36-inch reclaimed water and a 48-inch sanitary sewer line. The project also required extensive coordination with the COP Reach 11 Sports Complex regarding traffic control in and out of the facility.

Desert Ridge Superblock 11 Water Transmission Mains; Pulte Homes, Phoenix, AZ
Construction Services Manager overseeing the full time third-party construction administration and observation services for this $2.44 million-dollar improvement project. The work consisted of installing 3,592 LF of restrained and non-restrained 42" DIP transmission mains; installing 1,835 LF of restrained and non-restrained 36" DIP transmission mains; and installing 1,481 LF of restrained and non-restrained 24" DIP transmission mains. The project was complicated by multiple design changes due to conflicts with unknown utilities.

Val Vista Transmission Main Rehabilitation; City of Phoenix; Phoenix, AZ
Project / Construction Manager overseeing the full-time construction administration and inspection services of this two phased $17.7 million CMAR delivered transmission main rehabilitation project. GMP1 is generally described as the rehabilitation of 3,109 LF of 90-inch PCCP using solid can steel liners. This project, located in the City of Mesa, was spread across three access portal (pit) locations. GMP2 is generally described as the rehabilitation of 4,901 LF of 96-inch PCCP using both solid and split can steel liner. This project, located in the City of Mesa, was spread across three access portal (pit) locations. Construction schedule was extremely critical with the project, as the pipeline was needed for Val Vista WTP startup on January 1, 2019.

I-17 Corridor Project; Communities Southwest, Phoenix, AZ
Resident Project Representative providing third party construction administration and inspection services for this project. The work included 9 miles of 54-inch water and 21-inch sewer lines, two booster stations (initial capacity of 24 mgd expandable to 60 mgd), and a 5 mg at grade steel reservoir. Responsibilities included construction observation of the two booster stations and steel reservoir, and supervision of up to six inspectors working on various sections of both the water and sewer lines.

I-17 & Sweetwater 24-inch Transmission Main Replacement; City of Phoenix, Phoenix, AZ
Construction Services Manager overseeing the review/update/finalization of plans and specifications and the full-time third-party construction administration and inspection services for this Design-Bid-Build project. This $2.1 million project constructed over one-mile of 24" DIP transmission main for City's Water Services Department. Stanley assisted the City through value engineering and design modifications to complete this project under budget at a final construction cost of $1.9 million. Project included extensive traffic control coordination, public outreach, jack and bore under I-17, three water main shutdowns for tie-ins and multi-stage pressure and disinfection testing.

Southwest Zone 1 16-inch Distribution Main; City of Phoenix, Phoenix, AZ
Construction Services Manager overseeing the full-time third-party construction administration and observation services for this $3.6 million-dollar CM@R delivered improvement project. The work consisted of installation of 5,100 LF of 16-inch water main in in Indian School Road from 91st Ave. to Loop 101 and in 91st Ave. from Camelback Rd. to Campbell Rd. This project will remedy critical restrictions in the water transmission backbone of the Zone by providing system redundancy, water quality improvement and adequate fire flow protection to the heavily commercial and industrial areas.



JESSE SINGER, PE

Field Manager
Stanley Consultants, Inc.
17 Years of Experience

Jesse is experienced in construction observation and contract documentation projects ranging from interstate expressway reconstruction to residential street rehabilitation. He has managed major roadway, utility, and bridge infrastructure projects as the Resident Engineer as well as water main, lift station, traffic signal, and arterial street lighting projects. Clients include the Illinois Department of Transportation, Illinois Tollway, Counties, and numerous municipalities. Jesse is certified in IDOT's Documentation of Contract Quantities, Construction Materials Management System (CMMS), Erosion and Sediment Control Fundamentals and Inspection Modules and S-33 Soils Field Testing and Inspection. Jesse's construction management style is proactive with an emphasis on effective communication and team building between clients, stakeholders, and contractors.

PROJECT EXPERIENCE

Morton Grove-Niles Water Commission Water Transmission Main, Village of Niles
Senior Resident Engineer for the installation of over 9 miles of water transmission main and the associated pavement rehabilitation and reconstruction. Other work included the installation of fiber optic lines to monitor the water main and water main lining. As part of a multi-firm venture, Jesse oversaw five of the project's nine contracts. The total contract cost was $78M with Jesse directly overseeing $46M in work, including over $10M in pavement reconstruction and rehabilitation on arterial, collector, industrial, and residential streets. Coordination was required with IDOT, Morton Grove, Niles and Skokie. Completed in 2020.

Fabyan Parkway & Kirk Road Intersection, Kane County Division of Transportation
Resident Engineer for the widening and reconstruction of the Fabyan Parkway and Kirk Road Intersection. Construction included roadway reconstruction, storm sewer installation, water main relocation, a new multi-use path, utility relocations and new traffic signal and roadway lighting installation. During construction, staff observed the contractor's operations for conformance with the plans and specifications and measured and documented pay item quantities. Monthly pay estimates were prepared and submitted to the County and IDOT for review and approval. Final documentation was completed, and the project closed out per IDOT requirements. The construction cost was $10M and completed in 2021.

Brookfield Avenue over Salt Creek, Village of Brookfield
Resident Engineer for the replacement of a two-span Precast Prestressed Concrete deck beam structure with one lane in each direction and sidewalk. Construction included a single-span PPC I-Beam bridge on tall abutments founded on driven piles and aesthetic features; reconstruction of 300 feet of approach roadway, lighting and relocation of utilities, including a water main and storm sewer. The bridge is in an urban setting in downtown Brookfield and was constructed with full closure and detour. STP-BR funds were used for construction, so all work was completed in accordance with IDOT-BLR&S and FHWA requirements. Construction cost was $4.6M and completed in 2022.

Delany Road Reconstruction, Lake County Division of Transportation
Construction Engineer for the reconstruction of Delany Road from Sunset Avenue to Wadsworth Road. The existing two-lane rural roadway was reconstructed to a five-lane urban street with a closed drainage system. Improvements included total pavement removal and replacement, traffic signal modernization, modular block retaining walls, new storm sewers and the

Education
Bachelor of Science, Civil Engineering, Calvin College

Professional Registration
Professional Engineering:

IL, #062-063810
IN, #1170571

Professional Societies
- Local Chapter Member - American Public Works Association
- National Council Member - APWA Certified Public Infrastructure Inspector
- Committee Member - ACEC IL Construction Institute

Specialized Training and Certifications
- LEED Accredited Professional (LEED AP)
- APWA Certified Public Infrastructure Inspector (CPII)
- Designated Erosion Control Inspector (DECI)
- IDOT Documentation of Contract Quantities, #20-16138
- IDOT Geotechnical Field Testing and Inspection (S 33)
- IDOT Pile Foundation Construction Inspection (S 19)
- IDOT Drilled Shaft Foundation Inspection (S-32)
- IDOT CMMS Training
- IDOT Inspection of Erosion & Sediment Control Best Management Practices

replacement of 4,700 feet of 16-inch watermain as well as 600 feet of various other diameters. A 22-acre detention pond was also constructed for stormwater management. County funds were used for construction although all project documentation was completed in accordance with IDOT requirements. Construction cost was $16M and completed in 2014.

Main Street Improvements, Village of Morton Grove

Resident Engineer for the Main Street Improvements Project, which included street reconstruction, combined sewer replacement with storm sewer and sanitary sewer and water main replacement under Main Street and extending into Forest Preserve District of Cook County property. All water and sewer utilities were replaced within the project limits. Both 8” and 10” parallel water mains were replaced under Main Street. The existing combined sewer was abandoned and replaced with new sanitary and storm sewer. Construction cost was $2M and completed in 2021.

Caldwell Ave Water Main River Crossing, Village of Morton Grove

Resident Engineer for the replacement of 1,200 feet of parallel 12-inch and 20-inch (2,400 feet total) water mains crossing through the Cook County Forest Preserve District. Both water mains required boring under the North Branch of the Chicago River. Since the project was in a forest preserve, a strict plan was developed for contractor access and to limit tree impacts. Construction was funded through the Village; however, construction documentation was completed in accordance with IDOT requirements.

Touhy Avenue Water Main Replacement, Village of Niles

Resident Engineer for the water main improvement that replaced 2700 feet of 12-inch water main along Touhy Avenue, a state highway. The new water main is a PVC pipe and replaces a badly deteriorated ductile iron pipe. To eliminate traffic disruptions at some locations, the water main was bored under the existing pavement. Existing water services were replaced the length of the improvement. Since Touhy Avenue is a state highway, all traffic control implementation and construction conformed to IDOT standards and requirements. Completed in 2018.

The Coves Single Family Re-Subdivision Improvements, Village of Algonquin

Resident Engineer for the Coves Single Family Re-Subdivision improvements. The re-subdivision required water, storm, sanitary, and roadway improvements resulting from the new site plan. The water and sanitary sewer services to each lot were removed and replaced. Roadway improvements included an extension to Par Drive, select curb and gutter removal and replacement, pavement patching and HMA surface removal and replacement. All documentation and inspection were completed in accordance with The Village of Algonquin requirements. Completed in 2014.

Hunt Club Road and Washington Street Reconstruction, Lake County Division of Transportation

Selected as the Resident Engineer for traffic signal improvements and widening of the Hunt Club Road and Washington Street intersection in Gurnee. Project improvements also include relocations of Gurnee, JAWA, and Lake County PW water main along with extensive utility relocations and coordination in advance of the contract work by North Shore Gas, Comed, AT&T and Comcast. Construction cost of $16M.



JEFF LUIF

Documentation Technician
Stanley Consultants, Inc.
21 Years of Experience

Jeff's responsibilities have included the on-site inspection of infrastructure construction projects, record-keeping of daily construction activities, verification of construction layout, measurement and documentation of daily quantities, and quality assurance of work performed by the contractor. He completed and processed documentation including but not limited to change orders, extra work orders, and pay estimates.

As Materials Coordinator, Jeff is responsible for managing all required QA activities and tests. Services include managing the Quality Assurance (QA) requirements for Hot Mix Asphalt (HMA) and Portland Cement Concrete (PCC), coordination of QA activities with the Contractor and ISTHA / IDOT Personnel, QA field and lab tests, inspection of the Contractor's QC activities, reporting of results and investigations of tests when required by the contract.

Managed Safety and Health Programs for construction and general industry contractors in the Chicagoland Area. Provided Loss Control Services including program development, field safety inspections, employee training, job hazard analysis, OSHA and MSHA assistance, OSHA 300 Analysis and accident investigation. Completed account analysis and loss control surveys for insurance companies.

PROJECT EXPERIENCE

Waycinden and Mareland Water Main Improvements, American Water Company, IL
Resident Engineer for the project that consisted of the replacement of approximately 1,100 LF of existing 6-inch water main with new 12-inch water main located on the west side of Elmhurst Road, just north of Algonquin Road, in Des Plaines, Illinois. This system serves approximately 730 customers of whom are primarily residential, with some multi-family residences and commercial customers in Norwood Park Township, Chicago Illinois. Responsibilities included project documentation, processing of pay estimates, authorizing change orders and public outreach.

I-90 (Kennedy Expressway) Resurfacing, Illinois Dept. of Transportation, District 1, IL
Materials Coordinator and Documentation Engineer responsible for managing all required QA activities and tests. Services included managing the Quality Assurance (QA) requirements for Hot Mix Asphalt (HMA) and Portland Cement Concrete (PCC). This project included the resurfacing of I-90 between Harlem Avenue and The Edens Junction with SMA Binder and Surface. Work also included pavement patching, drainage improvements, guardrail replacement and inlaid pavement markings.

I-294 / I-57 Interchange Construction Services, Illinois State Toll Highway Authority, IL
Construction Inspector and Materials Coordinator for project that includes the construction of two ramps (X & M) connecting I-294 to I-57 and the associated toll facilities. Work included pavement widening, shoulder removal and replacement, median barrier removal and replacement, new pavement construction, lighting removal and replacement, sign removal and replacement, pavement markings, toll collection infrastructure and buildings, tree removal, earth

Education

Bachelor of Science, Industrial Technology, Northern Illinois University

Specialized Training and **Certifications**

- IDOT Documentation of Contract Quantities, #22-19489 (Expires: 1/5/2026)
- IDOT Construction Material Inspection Documentation
- IDOT ICORS 2011 Training
- IDOT Materials Management for Resident Engineers
- IDOT Aggregate Technician IDOT PCC - Level 1 & 2 IDOT HMA - Level 1 & 2
- IDOT S-33 Soils Field Testing and Inspection
- IDOT Fundamentals of Storm Water Pollution and Erosion & Sediment Control
- IDOT Nuclear Density Tester
- IDOT Understanding Specifications
- IDOT MUTCD Training
- ACI Concrete Tester - Level 1
- ATTI / ADOT Field Technician
- OSHA 510: Standards for Construction Industry (30-Hour)

excavation, grading, drainage culvert removal and replacement, retaining wall construction, landscaping and all incidental and collateral work necessary to complete the project as shown on the plans.

159th Street Widening and Reconstruction, Illinois Department of Transportation, District 1, IL
Lead Inspector and Documentation Engineer for roadway reconstruction and widening of IL Route 7 for a length of 5 miles from 2 to 4 lanes including protected left turn bays. Additionally, there was roadway reconstruction and widening of the related crossroads. The improvement included the installation of over 8 miles of storm sewer, pipe culverts, 6 cross-road precast box culverts, three retaining walls, two pile-supported land bridge embankments, traffic signals, pavement markings and landscaping. The construction value for this project was $65,000,000.00.

I-80 Widening from US30 to US45, Illinois Department of Transportation, District 1, IL
Inspector and Documentation Engineer on the widening of I-80 that included a new enclosed drainage system with over 7 miles of storm sewer and the placement of over 400 structures, PCC pavement, HMA stabilized subbase, the widening of two bridges over the Norfolk Southern Railroad and double-faced barrier wall. Responsible of project record keeping, completed and processed documentation including but not limited to limited to: change orders, extra work orders, and pay estimates.

IL 83 Reconstruction from Kedzie Avenue to Western Avenue, Illinois Department of Transportation, District 1, IL
Document Control Specialist and Documentation Engineer responsible of project record keeping, completed and processed documentation including but not limited to: change orders, extra work orders, and pay estimates. The project included the widening and reconstruction of IL 83 with PCC jointed pavement, new enclosed drainage system, new traffic signals and a signal interconnect of six intersections, new lighting, curb and gutter and sidewalks.

I-94 from IL 173 to Wisconsin State Line, Illinois Department of Transportation, District 1, IL
Construction Inspector for the reconstruction and widening of I-94 from IL 173 to the Wisconsin State Line. Project also included pavement and bridge widening and reconstruction of IL 173 over I-94. Responsibilities included the on-site inspection and record keeping of daily construction activities, verification of construction layout, measurement and documentation of daily quantities, and quality assurance of work performed by the contractor. The project had a construction value of $32,500,000.

I-55 Resurfacing and Bridge Widening, Illinois Department of Transportation, District 1, IL
Construction Inspector responsibilities included the on-site inspection and record keeping of daily construction activities, verification of construction layout, measurement and documentation of daily quantities, and quality assurance of work performed by the contractor. This project included the resurfacing of a 16-mile section of I-55 from I-80 to the Grundy County Line with SMA Binder and Surface and the rehabilitation of 7 bridges.

Archer and 135th Street, Will County Department of Highways, IL
Assistant Resident Engineer responsibilities included the on-site inspection and record keeping of daily construction activities, verification of construction layout, measurement and documentation of daily quantities, and quality assurance of work performed by the contractor. Project included the construction of a new bridge to carry traffic over the newly relocated Long Run Creek, new traffic signals, intersection realignment and new detention basins.

I-294 Widening and Reconstruction from Balmoral Avenue to Touhy Avenue, Illinois State Toll Highway Authority, Chicago, IL
Construction Inspector overseeing five construction contracts that included roadway widening, bridge widening, interchange improvements, and ramp modifications on the Tri-State Tollway from Mile Post 40.2 to Mile Post 42.8 in Cook County, Illinois. Work included the reconstruction of the existing three lanes and the addition of one mainline lane in each direction; the Open Road Toll Plaza conversion of one mainline toll plaza at Plaza 29 (Touhy Avenue); the widening and rehabilitation or reconstruction of the bridge structures over Higgins Road (IL 72), Devon Avenue, Des Plaines River Road, and Touhy Avenue; and the rehabilitation or reconstruction of up to 13 ramp bridges and bridges over the mainline roadway.

I-294 Bridge Rehabilitation, Construction Management Services, Illinois State Toll Highway Authority, Chicago, IL
Construction Inspector overseeing the rehabilitation of four bridges along the Tri-State Tollway (I-294) in Cook County, Illinois. The project included deck removal and replacement, latex overlay, HMA pavement resurfacing, concrete median and parapet extension, guardrail, concrete gutters, lighting, and cameras. Responsibilities included the on-site inspection and recordkeeping of daily construction activities, verification of construction layout, measurement and documentation of daily quantities, and quality assurance of work performed by the contractor.



MICHAEL COLBY, PE

Resident Engineer
Stanley Consultants, Inc.
8 Years of Experience

Michael has professional experience on water and wastewater utilities projects which included hydraulic modeling, as well as designing water treatment systems, pump stations, and distribution systems, system rehabilitation and engineering studies.

PROJECT EXPERIENCE

Village of Morton Grove Niles Water Supply Infrastructure Corridor Study and Design, Morton Grove Niles Water Commission; Morton Grove & Niles, IL
Environmental Engineer responsible for coordinating project funding applications with IEPA and WIFIA, assisting with analyzing various transmission main corridors and finalizing the selected route, hydraulic modeling, pump station design, specification development, permitting, compiling various reports and bidding assistance. Continues to aid the commission through maintenance of the hydraulic modeling and assistance on various task orders including the risk and resiliency assessment and rate study.

Water Supply Construction Engineering and Oversight, Morton Grove Niles Water Commission; Morton Grove & Niles, IL
Environmental Engineer responsible for construction observation and engineering design during construction, including contractor submittal review, RFI review and response, and modifying the design to account for field conditions discovered during construction of two 12.7 MGD pump stations and one 7.0 MG standpipe. Michael also has maintained a positive relationship with IEPA and managed the monthly disbursement of the client's $83M SRF loan.

FY2024 Staff Augmentation; Lake County Public Works Department IL; Mundelein, IL
Project Manager responsible for managing several capital improvement projects as an extension of Lake County Public Works staff. Work included engaging design consultants, County engineering, operations and administrative staff to ensure projects successfully remained on schedule and on budget. Work also includes developing a deep understanding of internal processes at Lake County Public Works to act as an independent project manager as if I were a direct employee of the County.

WaterLink Extension Phase I; DuPage Water Commission; Elmhurst, IL
Environmental Engineer responsible for building a hydraulic model of the existing DuPage Water Commission system and the proposed extension of the system and evaluating several possible future alternatives to assist with preliminary engineering design. Also responsible for assisting with the pipeline routing analysis, stakeholder engagement, preliminary engineering design alternatives analyses, and completion of the project development report.

Well Asset Maintainence and Forecast Plan; City of Long Beach Water Department.; Long Beach, CA
Environmental Engineer responsible for well condition assessments, data quality analysis, well maintenance prioritization, and assistance with the development of key performance indicators for a new digital tool designed to improve the management and production of 25+ groundwater wells.

Education
Bachelor of Science, Iowa State University, Civil Engineering

Professional Registration
Registered Professional Engineer:
IL, #062-072749
FL, #92171

Professional Societies
- Young Adult Professional in Illinois Section of American Waterworks Association (AWWA)

Specialized Training and Certifications
- Innovyze InfoWater and InfoSurge Water Distribution Modeling, May 2018

David P. Barnas, PE

Resident Engineer

Mr. Barnas, an industry professional with 35 years of experience in municipal project planning, design, permitting, construction administration, and resident engineering for water, wastewater and roadway projects in Illinois, Wisconsin, Indiana and Michigan. He has a strong background working with clients, regulators, sub-consultants and contractors to develop and implement infrastructure projects. In-depth knowledge in the region, Mr. Barnas has worked with the DuPage Water Commission, the Milwaukee Metropolitan Sewer District, and assisted in taxiway relocation, trunk sewer and basin excavation projects at O'Hare Airport, and provided engineering services on projects for the Illinois Tollway ITS and Toll Plaza.

Water & Wastewater Design and Construction

Having managed numerous projects in water and wastewater; through start-up, operations, and maintenance with operations staff, Mr. Barnas has a vast experience as design engineer and project manager for municipal water & wastewater projects, including water mains, yard piping improvements, pump stations and improvements, water storage, chemical handling, scrubbers, chlorine injection and neutralization, plate settlers, intakes, fall protection system, large diameter sewer rehabilitation, trenchless technologies, lining of sewers and water mains.

Mr. Barnas has recently overseen water main replacement projects in Roselle and Tower Lakes; water main lining projects for Mount Prospect, Crest Hill, and the Morton Grove – Niles Water Commission; water pump station rehabilitation for Itasca and Highland Park; and two water pump stations and standpipe construction for the Morton Grove – Niles Water Commission He is currently overseeing roadway and infrastructure improvement as well as sanitary sewer and manhole rehabilitation projects for Itasca.

AECOM Technologies

Project Engineer/Project Manager for 8 miles of 48-inch to 72-inch sanitary sewer including wetland delineations, easement acquisitions, operations requirements and flow evaluation; chlorination contract to flush and disinfect 64 miles of transmission main. Permitting, coordination, seven water supply delivery points and environmental regulations compliance.

Design of 6,500 feet of 12-inch and 16-inch water main and pump station; roof top fall protection system; hazard identifications at remote water facilities and recommendations. Storm water pollution protection plan; water source route study; cost estimates; bid reports; cost analysis; drafting of specifications and special provisions; construction administration for water, sewer and water treatment facilities.

ABH Donohue

Design engineer for 70,000 feet of water main ranging from 8-inch to 60-inch diameter, including permitting, wetland restoration and use of horizontal directional drilling; rehabilitation and replacement of 24-inch to 72-inch sewers including a siphon; plate settlers; and chlorine and fluoride feed systems at the Jardine Water Treatment Plant rehabilitation.

Field Engineer for 132,000 feet of 8-inch through 60-inch water main, including pavement restoration; 63-meter stations, two pressure adjusting stations; 340 MGD pump station construction; pump station improvements; water treatment plant and intake improvements; protective coating inspection for 12 steel potable water structures.

Education

Bachelor of Science, Civil & Environmental Engineering
University of Wisconsin, Madison

Professional Registration

Registered Professional Engineer, Illinois

Professional Certifications

IDOT S-33 Soils Field Testing and Inspection

IL Tollway Materials Management

Employment History

Robinson Engineering, Ltd.
2017-Present

Graef
2014-2016

Practical Environmental Consultants
2012

AECOM Technologies
2005-2012

ABH Donohue
1987-2005



DWAYNE JACKSON, C.D.

Construction Inspector
Stanley Consultants, Inc.
34 Years of Experience

Construction Observer responsible for the on-site inspection and recordkeeping of daily construction activities, verification of construction layout, measurement and documentation of daily quantities, and quality assurance of work performed by the contractor.

PROJECT EXPERIENCE

MGNWC Construction Engineering, Morton Grove-Niles Water Commission, Morton Grove, IL
Construction Inspector. The selected alignment and combination of construction techniques, including trenchless river crossings, was selected to minimize impacts to environmentally sensitive areas and provide the best value. Our team identified risks and options for mitigating the risk, simplify construction and provide the best value.

Addison Water Main and Sanitary Sewer Design and Inspection, Village of Addison, Addison, IL
Construction Inspector for 1.8 miles of sanitary sewer and 1.3 miles of water main. Design provided capacity and elevations to accommodate future expansion of the Woodcrest Subdivision. To eliminate need for a lift station, the sewers were constructed to depths over 25 feet. Construction inspection included coordination with residents, as well as extensive surface restoration in the project area.

Arbury Water Main Construction Services, American Water Company, Illinois, Mokena, IL
Construction Inspector services for water distribution improvements in an older residential subdivision in Will County, Illinois. The project included the installation of new mains and services in the northern portion of the subdivision including approximately 1,430 feet of 12-inch, 5,300 feet of 8-inch, and 175 feet of 6-inch water main and 128 1-inch service connections. The mains were relocated to street rights-of-way from previously locations in rear yards. Each new service connection was reconnected from the main to existing services behind each home. The new mains (plastic wrapped ductile iron) were installed using directional drilling. The new service lines to each home were also directionally drilled into place. American Water Company's standards and specifications were utilized. Construction phase services included shop drawing review and full-time construction observation. Field record data was provided to Client in ArcGIS format.

159th Street Widening and Reconstruction, Illinois Department of Transportation, District 1, IL
Construction Inspector for this roadway reconstruction and widening project on IL Route 7 and related cross roads. The improvement includes the installation of proposed storm sewer, pipe culverts, precast box culverts, three (3) retaining walls, two (2) pile-supported embankments, traffic signals, and collateral work necessary to complete the project as shown in the plans. The engineer's estimate for this project is $66 Million.

I-94 from IL 173 to Wisconsin State Line, Illinois Department of Transportation, District 1, IL
Construction Inspector responsible for the on-site inspection and record keeping of daily construction activities, verification of construction layout, measurement and documentation of

Specialized Training and **Certifications**
Certified Drafter, #48050452
OSHA 10-Hour Training Course

Professional Societies
American Design Drafting Association

daily quantities, and quality assurance of work performed by the contractor. This reconstruction and widening included the removal of existing pavement, shoulders, substructures and superstructures; the construction of a new structure carrying IL 173 over I-94 and associated ramp reconstruction, earthwork, MSE wall construction, HMA shoulders and the adding of a fourth PCC pavement lane in each direction on I-94. Work also included the installation of new roadway and underpass lighting and traffic signals at IL 173.

Russell Road at I-94, Illinois Department of Transportation, District 1, IL
Construction Inspector responsible for the on-site inspection and recordkeeping of daily construction activities, verification of construction layout, measurement and documentation of daily quantities, and quality assurance of work performed by the contractor. This reconstruction includes the removal of existing pavement, shoulders, substructures and superstructures; erecting of new substructure and superstructure elements over I-94 for the two structures spanning I-94 including erection of IDOT supplied fabricated beams; placing PCC pavement and HMA shoulders on Russell Road and ramps; storm sewer removal/installation to facilitate drainage requirements; retaining wall construction; construction and subsequent removal of temporary pavement to maintain traffic during staged construction; earthwork, installation of roadway lighting along Russell Road and all incidental and collateral work necessary to complete the project.

I-80 Widening, Illinois Department of Transportation, District 1, IL
Construction Inspector responsible for daily records of construction activities relating to all aspects of roadway and bridge construction measurement and documentation of daily quantities, verification of construction layout. Inspected electrical installations which consisted of over 6 miles of 96 fiber distribution and trunk lines and 3 OMS boards which also included mainline and lateral fiber optic splices and testing of the entire system. Assisted with final quantities and punch list items.

Construction Engineering Services for I-55, Illinois Department of Transportation, District 1, IL
Construction Inspector responsible for the on-site inspection and recordkeeping of daily construction activities, verification of construction layout, measurement and documentation of daily quantities, and quality assurance of work performed by the contractor. This project included three major construction projects along I-55 south of I-80. One of the contracts was the rehabilitation of the two structures carrying I-55 over the Kankakee River and the construction of two permanent crossovers. The bridge work included bridge deck repair, a latex concrete overlay on the northbound structure and a thin polymer overlay on the southbound structure along with joint replacement, beam repair and substructure repairs. The other two contracts consisted of pavement patching, milling of existing HMA surface, then placement of asphalt binder and surface courses.

I-294 Widening & Reconstruction, Illinois State Toll Highway Authority, IL
Construction Inspector for three construction contracts that included roadway widening, bridge widening, interchange improvements, and ramp modifications on the Tri-State Tollway from Mile Post 40.2 to Mile Post 42.8 in Cook County, Illinois. Work included the reconstruction of the existing three lanes and the addition of one mainline lane in each direction; the Open Road Toll Plaza conversion of one mainline toll plaza at Plaza 29 (Touhy Avenue); the widening and rehabilitation or reconstruction of the bridge structures over Higgins Road (IL 72), Devon Avenue, Des Plaines River Road, and Touhy Avenue; and the rehabilitation or reconstruction of up to 13 ramp bridges and bridges over the mainline roadway.

APEX Various CS, APEX Consulting Engineers, LLC, IL
Construction Inspector supplementing the Illinois Department of Transportation construction staff by providing construction inspection services as needed on various projects located throughout District One. Responsibilities included the on-site inspection and record keeping of daily construction activities, verification of construction layout, measurement and documentation of daily quantities, and quality assurance of work performed by the contractor.

Chicago DOT Hyde Park 53rd & 55th Viaducts, Confidential Client, Chicago, IL
Construction Inspector responsible for assisting in survey area using surveyor's equipment. This project was a continuation from the partial design for streetscaping and viaduct renovations of Lake Park Boulevard for 53rd and 55th streets viaducts and Metra Embankment in between. Design elements for the viaducts included internal metal architectural structure with lighting, wall and column improvements, viaduct façade aesthetic improvements, viaduct architectural flanking wall, and street resurfacing and sidewalk repairs. For the Metra embankment, design elements included embankment landscaping and retaining wall improvements or additions.

Chicago DOT Ontario Street Project, Confidential Client, Chicago, IL
Construction Inspector for street widening from three to four lanes in the heart of Chicago's Business District, along the Magnificent Mile. Performed all topographical survey work for the project length and an additional 1,000 feet through North Fairbanks Court.



RYAN BONHAM, QCxP

Resident Project Representative
Stanley Consultants, Inc.
22 Years of Experience

Ryan is a certified test and balance (TAB) technician and has experience as an Associated Air Balance Council Certified Technician includes test and balance of HVAC systems and equipment, including chilled water, heating hot water and air handling systems. His experience covers clean rooms, operating rooms, offices and laboratory environments. He has been a Qualified Commissioning Process Provider (QCXP) since 2012 as a senior commissioning mechanical technician. For design phase commissioning, his experience in commissioning includes contract document review, creating the Owner's project requirements, developing and updating the commissioning plan, construction checklist development, functional performance test creation and developing the commissioning specifications. For construction phase commissioning, Ryan's experience includes construction observation and site inspections, troubleshooting and problem resolution, TAB review, witnessing of functional performance testing and verification construction checklist completion.

Ryan's expertise in construction observation, site inspections and troubleshooting enables him to identify and resolve any issues that may arise. His ability to review TAB results and witness functional performance testing guarantees that the pump station's systems are properly calibrated and functioning as intended. This attention to detail and verification of construction checklist completion will contribute to the overall success and quality of the project.

PROJECT EXPERIENCE

Water Supply Construction Engineering and Oversight; Morton Goves-Niles Water Commission; Morton Groves and Niles, IL
Resident Inspector responsible for construction inspection of two 12.7 mgd pump stations and one 7.0 million gallon standpipe.

Itasca Wastewater Treatment Plant; Village of Itasca; Itasca, IL
Technician responsible for verifying existing conditions and documenting operational issues on makeup air units, exhaust fans, rooftop unit, wall-mounted air conditioners and odor control unit.

HVAC System Commissioning at Central Permit Facility Phase II; Lake County Facility Operations; Waukegan, IL
Technician responsible for troubleshooting condensing boilers. Responsibilities included reviewing TAB hydronic report, measuring air/water flows, and verifying commissioning of DDC control system.

Chiller and Cooling Tower Replacements; Texas A&M University; College Station, TX
Task Lead responsible for developing the commissioning specifications and writing the commissioning plan, which included construction checklists and functional performance tests.

Commissioning Services for Multiple Schools; Confidential Client; Confidential Location
Commissioning Agent responsible for updating the owner's project requirements and commissioning plan, reviewing submittals, performing on-site functional test procedures, delivering systems manual and verifying owner's operation and maintenance personnel training.

Education

Associate of Arts, Scottsdale Community College

Professional Registration

- Qualified Commissioning Process Provider

Professional Societies

- Three Rivers Manufacturers' Association

Specialized Training and Certifications

- Certified Test and Balance Technician - Associated Air Balance Council
- Certification as Accredited Qualified Commissioning Process Provider - University of Wisconsin-Madison
- Certification as Commissioning Process Technical Service Provider - University of Wisconsin-Madison
- Certification as Green Commissioning Process Provider - University of Wisconsin-Madison



Stanley Consultants

www.stanleyconsultants.com

Metering Stations Only

Stanley Team	2026 4 weeks March	2026 4 weeks April	2026 5 weeks May	2026 4 weeks June	2026 4 weeks July	2026 5 weeks August	2026 4 weeks September	2026 4 weeks October	2026 5 weeks November	2026 4 weeks December	2027 4 weeks January	2027 5 weeks February	2027 4 weeks March	2027 4 weeks April	2027 5 weeks May	2027 4 weeks June	2027 4 weeks July	2027 5 weeks August	2027 4 weeks September	2027 4 weeks October	2027 5 weeks November	2027 4 weeks December			
Meter Station RE 2026		160	250	200	200	250	200	200	225	148	152	192	160										2337	$195.17	$456,114.57
Meter Station RE 2027														160	250	200	200	250	200	160	184		1604	$204.94	$328,730.08
Meter Station Inspector 2026					180	225	180	180	225														990	$141.26	$139,848.51
Meter Station Inspector 2026														160	225	180	180	225	180				1150	$148.32	$170,572.80
Michael Colby 2026		3	3	3	3	3	3	3	3	3	3	3	3										36	$238.00	$8,568.00
Michael Colby 2027														3	3	3	3	3	4	4			23	$251.00	$5,773.00
Project Controls/Scheduling 2026		8	4	2	2	2	2	4	2	2	2	2	2										34	$244.20	$8,302.80
Project Controls/Scheduling 2027														4	2	2	2	2	2	2			16	$257.63	$4,122.10
QA/QC & Training 2026		4	4		2				2				2										14	$225.00	$3,150.00
QA/QC & Training 2027															2					2			4	$237.38	$949.50
Vehicle Days		22	27	22	44	54	44	44	54	18	20	24	20	44	54	44	44	54	44	22	23		722	$65.00	$46,930.00

$1,173,061.36	SCI DL
$46,930.00	SCI DC
Stanley Fee	$1,219,991.36

EXHIBIT A
TASK ORDER NO. 03 DESCRIPTION

In accordance with Section 1.1 of the Master Contract for Professional Engineering Services Owner and Consultant agree as follows:

1. **Project:** WaterLink Pipeline Construction Project – Phase III Construction Engineering Services for the MS-22/25 Construction Package.

   This task order authorizes Consultant (Stanley Consultants, Inc.) to provide staff resources associated with the requested construction engineering services for MS-22/25 Construction Package.

2. **Services of Consultant:** As Described in Attachment(s).
3. **Approvals and Authorizations:** Not applicable.
4. **Commencement Date:** Effective Date of This Task Order
5. **Completion Dates:** As Described in Attachment(s).
6. **Submittal Schedule:** Not applicable.
7. **Key Project Personnel:**

   Jared Hamilton – Project Manager

   Jay Horak – Technical Advisor

   Jesse Singer – Resident Engineer

8. **Contract Price:**

For providing, performing, and completing all Services, an amount equal to Consultant's Billing Rate Sheet Costs per hour or unit for all Services rendered by principals and employees engaged directly on the Project, plus an amount equal to rate sheet costs plus applicable markup of all Reimbursable Expenses.

Notwithstanding the foregoing, the total Not-To-Exceed Contract Price shall be $1,219,991.36, except as adjusted by a Change Order issued pursuant to Section 2.1 of the Master Contract.

Payments:

Direct Labor Costs shall mean the billing rate of all Consultants personnel including all professionals, whether owners or employees, engaged directly on the Project.

Reimbursable Expenses shall mean the actual expenses incurred by Consultant directly or indirectly in connection with the Project, including expenses for transportation, telephone, postage, computer time and other highly specialized equipment, reproduction and similar Project related items. This list is not intended to be exhaustive. Other Project-related costs incurred by Consultant, are nonetheless considered to be reimbursable expenses. Costs incurred by Consultant shall also be read to mean costs incurred by Consultant’s subsidiaries, employees, contractors, and consultants.

9. **Modifications to Contract:** Not applicable.
10. **Attachments:** Attachment A: Scope of Services & Fee Schedule

Approval and Acceptance: Acceptance and approval of this Task Order, including any attachments listed above, shall incorporate this Task Order as part of the Master Contract.

The Effective Date of this Task Order is August 21, 2025.

DuPAGE WATER COMMISSION

By: _____

Paul D. May, P.E.

General Manager

DESIGNATED REPRESENTATIVE FOR TASK ORDER:
Name: Jeff Loster
Title: Engineering Manager
Address: 600 East Butterfield Road, Elmhurst, Illinois 60126-4642
E-mail Address: loster@dpwc.org
Phone: 630-834-0100

STANLEY CONSULTANTS, INC.

By: _____

Jared Hamilton

Construction Services Group Manager

DESIGNATED REPRESENTATIVE FOR TASK ORDER:
Name: Jared Hamilton, P.E.
Title: Project Manager
Address: 8501 W. Higgins Road, Suite 730, Chicago, IL 60631
E-mail Address: HamiltonJared@stanleygroup.com
Phone: 773-693-9624

Task Order No. 03

This Task Order No. 03 is being entered into between DuPage Water Commission (referred to herein as the "Owner" or the "Commission") and Stanley Consultants, Inc. (the "Consultant") as of August 21, 2025 (the "Effective Date") and hereby agree as follows:

WHEREAS, Owner and the Village of Montgomery ("Montgomery"), the Village of Oswego ("Oswego") and the United City of Yorkville ("Yorkville") (Oswego, Montgomery and Yorkville - collectively referred to herein as the "Waterlink Communities") have entered into an Escrow Intergovernmental Agreement dated October 17, 2024 (the "Escrow Agreement") to fund, *inter alia,* Phase III costs including the construction engineering of a water transmission main connecting the Commission's waterworks system (the "Commission System") to the Waterlink Communities' waterworks systems (the "Project"); and

WHEREAS, Owner and Consultant have previously entered into a Master Contract for Professional Engineering Services dated May 16, 2013 (the "Master Contract"); and

WHEREAS, Section 1.1 of the Master Contract contemplates Owner and Consultant entering into Task Orders to perform specific tasks; and

WHEREAS, Owner and Consultant wish to enter into this Task Order No. 03 for Consultant to provide services for the Project as more fully set forth below (the "Project Services").

NOW, THEREFORE, in consideration of the foregoing recitals and of the mutual covenants and agreements herein contained, Owner and Consultant hereby agree as follows:

1. The above recitals are hereby incorporated as if fully set forth herein.

2. Capitalized terms used, but not otherwise defined herein, shall have their respective meanings as set forth in the Master Contract.

3. To the extent any of the provisions of this Task Order conflict with the Master Contract or the attached Exhibit A, Task Order No. 03 Description, this Task Order will apply.

4. Owner's right to terminate or suspend the Project Services under Section 1.9 of the Master Contract is reconfirmed herein and shall be effective within forty-eight (48) hours unless the Owner's notice of termination sets forth a longer time period. Consultant acknowledges that Owner may suspend or terminate the Project Services at its sole discretion for any reason, including but not limited to the escrow required under the Escrow Agreement not being fully funded by the Waterlink Communities or any of the Waterlink Communities not receiving its required allocation from the Illinois Department of Natural Resources.

5. Notwithstanding anything else set forth in this Task Order, Consultant shall only take direction regarding or relating to Project Services from Owner. The Waterlink Communities, their

officers or employees will have no authority to approve change orders or provide any other direction to Consultant.

6. Consultant shall submit monthly pay requests on or before the fifteenth (15th) day of the month for Project Services completed in the prior calendar month. Each pay request shall contain releases and waivers of lien for all subcontractors for the prior calendar month.

7. All Project Services, including those supplied by Consultant's subcontractors, must comply with the Water Infrastructure and Finance Innovation Act ("WIFIA"). Owner shall notify Consultant in writing if additional federal or state funding is to be used on the Project. Consultant shall be entitled to equitable adjustment in compensation, subject to the approval of Owner, if additional federal or state funding requirements place additional obligations on Consultant.

8. Except as expressly amended by this Task Order, the remaining terms, covenants, conditions, and provisions of the Master Contract shall remain unchanged and in full force and effect, and the Task Order, as amended herein, shall constitute the full, true, and complete agreement between the parties.

9. This Task Order shall be binding upon and inure to the benefit of the parties, and their successors and assigns.

10. If any provision of this Task Order is held to be illegal, invalid or unenforceable under present or future laws effective during the term hereof, such provision shall be fully severable. This Task Order shall be construed and enforceable as if the illegal, invalid or unenforceable provision had never comprised a part of it, and the remaining provisions of this Task Order shall remain in full force and effect and shall not be affected by the illegal, invalid or unenforceable provision or by its severance here from. Furthermore, in lieu of such illegal, invalid or unenforceable provision, there shall be added automatically as a part of this Task Order, a provision as similar in terms to such illegal, invalid or unenforceable provision as may be possible and legal, valid and enforceable.

11. This Task Order may be executed in counterparts, each of which shall be deemed an original instrument, but all such counterparts together shall constitute but one agreement. Delivery of an executed counterpart signature page by facsimile or electronic transmittal (PDF) is as effective as executing and delivering this Task Order in the presence of the other parties to this Task Order.

IN WITNESS WHEREOF, Owner and Consultant have caused this Task Order No. 03 to be executed in two (2) original counterparts as of the day and year first written above.

Attest/Witness:	**DUPAGE WATER COMMISSION**
By:_____ Clerk	By:_____ James F. Zay, Chairman
Attest/Witness:	**STANLEY CONSULTANTS, INC.**
By:_____	By:_____
Name:_____	Name:_____
Title:_____	Title:_____

Resolution #: R-65-25

Account: 01-261211 and 01-261212

Approvals: *Author / Manager / Finance / Admin*

AS JML CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/14/2025

Description: **Amendment to the Previously Approved Intergovernmental Agreement (R-51-21) with Lombard for the Design and Construction of MS 14-E**

Agenda Section: Engineering & Construction

Originating Department: Engineering

The Commission entered into an Intergovernmental Agreement with the Village of Lombard for the design and construction of a Joint Facility (Pressure Adjusting/Metering Station - MS 14-E) on October 21, 2021. The original agreement designated the Commission as the project administrator for all phases of the work.

To achieve economies of scale and streamline coordination with the Village's proposed water tower at the same site, the Village of Lombard has requested to assume administration of the construction contract for the Joint Facility.

The Commission will maintain a presence on-site throughout the construction phase to ensure that all Commission assets are built in accordance with Commission specifications.

Resolution R-65-25 would approve the execution of a revised Intergovernmental Agreement with the Village of Lombard for the construction and installation of Metering Station 14-E, the associated Pressure Adjusting Station and appurtenances thereto. The Village of Lombard will be responsible for all associated costs and administration of this project.

Recommended Motion:

To adopt Resolution R-65-25.

DuPAGE WATER COMMISSION

RESOLUTION NO. R-65-25

A RESOLUTION TO AUTHORIZE PROPOSED MODIFICATIONS TO AN INTERGOVERNMENTAL AGREEMENT WITH THE VILLAGE OF LOMBARD REGARDING THE CONSTRUCTION AND INSTALLATION OF METERING STATION 14-E, ASSOCIATED PRESSURE ADJUSTING STATION AND APPURTENANCES THERETO.

WHEREAS, the Commission was formed and exists pursuant to the Water Commission Act of 1985, 70 ILCS 3720/0.01 et seq., and Division 135 of Article 11 of the Illinois Municipal Code, 65 ILCS 5/11-135-1 et seq., for the purpose of securing an adequate source and supply of water for its customers; and

WHEREAS, the Commission has been organized under the Acts to supply water within its territorial limits; and

WHEREAS, the Commission has previously approved an Intergovernmental Agreement with the Village of Lombard for the design and construction of a Joint Facility (Metering Station 14-E); and

WHEREAS, the Village of Lombard desires to manage the construction phase of the Project to take advantage of other work taking place on the same site;

WHEREAS, both parties have reviewed the existing Intergovernmental Agreement and have amended it to allow the work to proceed as desired by the Village of Lombard;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The foregoing recitals are hereby incorporated herein and made a part hereof as findings of the Board of Commissioners of the DuPage Water Commission.

SECTION TWO: The amended Intergovernmental Agreement with the Village of Lombard, in substantially the form attached hereto and by this reference incorporated herein and made a part hereof as Exhibit 1, with such modifications as may be required or approved by the General Manager of the Commission, shall be and it hereby is approved. The General Manager shall be and hereby is authorized

and directed to execute the agreement in substantially the form attached hereto as Exhibit 1 with such modifications as may be required or approved by the General Manager.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honig, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS _____ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk
Board/Resolutions/2025/R-65-25.docx

EXHIBIT 1

EXHIBIT 1

FIRST AMENDED AND RESTATED INTERGOVERNMENTAL AGREEMENT BETWEEN THE DU PAGE WATER COMMISSION AND THE VILLAGE OF LOMBARD, ILLINOIS TO PROVIDE FOR THE CONSTRUCTION OF A JOINT FACILITY

THIS FIRST AMENDED AND RESTATED INTERGOVERNMENTAL AGREEMENT (this "Agreement") is made and entered into this _____ day of _____, 2025, by and between the DU PAGE WATER COMMISSION, a county water commission created and existing under the laws of the State of Illinois (the "Commission"), and the VILLAGE OF LOMBARD, a municipal corporation created and existing under the laws of the State of Illinois (the "Village").

W I T N E S S E T H:

WHEREAS, the Commission was formed and exists pursuant to Division 135 of Article 11 of the Illinois Municipal Code (65 ILCS 5/11-135-1 et seq.), and the Water Commission Act of 1985 (70 ILCS 3720/1 et seq.), for the purposes of securing an adequate source and supply of water for its customers; and

WHEREAS, the Commission operates a water system supplying a number of municipalities and other customers in DuPage County with water drawn from Lake Michigan (the "Commission Waterworks System"); and

WHEREAS, the Village operates a water system supplying residents and other customers (the "Village Water System"), which system is connected at various points to the Commission Waterworks System; and

WHEREAS, the Commission and the Village (together the "Parties") have determined that it is necessary and desirable to provide an additional connection point

between the Commission Waterworks System and the Village Water System in the vicinity of 600. E. Butterfield Rd., Lombard, DuPage County, IL; and

WHEREAS, it is in the best interest of the Parties to design and construct this connection as a joint facility (the "Joint Facility") which would include all equipment necessary to accomplish the additional connection described above; and

WHEREAS, pursuant to the intergovernmental cooperation provisions of Article VII, Section 10 of the Illinois Constitution of 1970 and the Illinois Intergovernmental Cooperation Act, 5 ILCS 220/1 et seq., and other applicable authority, the Commission and the Village are authorized to enter into this Agreement; and

WHEREAS, on February 17, 2021, the Parties entered into an Intergovernmental Agreement (the February 17, 2021 IGA"); and

WHEREAS, this Agreement hereby supersedes the terms of any prior Intergovernmental Agreements between the Parties, and the February 17, 2021 IGA is hereby declared null and void; and

WHEREAS, the Commission and the Village each have determined that is it in their mutual best interests to enter into this Agreement;

NOW, THEREFORE, it is agreed by and between the Parties as follows:

1. The foregoing recitals are by this reference incorporated herein and made a part hereof as if fully set forth herein.

2. For purposes of this Agreement, the "Joint Facility" shall mean a facility to convey, measure, and regulate the flow of water from the Commission Waterworks System to the Village Water System and shall include the following:

a. A Metering Station, to be known as Metering Station 14e ("MS-14e"), for properly conveying and measuring the quantity of Lake Michigan water delivered by the Commission to the Village, including certain equipment, devices, and structures, and portions of its water distribution main, including underground feeder pipe lines and related equipment to initially connect MS-14e to the existing Commission Waterworks System, and all antennas, masts, all electrical systems, including panels, conduits, raceways, duct banks, and utility services, needed solely for the operation of Commission facilities, and all drainage systems, including drain pipes and structures, needed solely for the drainage of Commission facilities and property, and appurtenant facilities for the Commission's Supervisory Control and Data Acquisition Instrumentation System attributable to MS-14e, as such facilities may be relocated, replaced, extended, or improved from time to time (the "Metering Station").

b. A Type D pressure increasing station for the Village Water System in accordance with the design criteria set forth in the document entitled "Water Delivery Data DuPage Water Commission" dated April 26, 2021, and identifying Lombard as "customer", a copy of which is attached hereto and by this reference incorporated herein and made a part hereof as Exhibit A (the "Village PAS").

c. Such other equipment and appurtenances as may be necessary for the operation and construction of the foregoing in conformance with the approved design plans therefor, as determined by the Parties.

3. The Joint Facility is expected to be located on the property selected and to be acquired and owned by the Village depicted and legally described in Exhibits B-1 and

B-2, respectively, attached hereto and made a part hereof, which shall be known as Lot 7 in the Hoffmann-Lombard Subdivision, Lombard, DuPage County, IL upon recordation of a plat of subdivision therefor, adjacent to the proposed Golfsocial Lombard property at 600 E. Butterfield Road in the Village of Lombard (the "Joint Facility Site"), the location of which has been reviewed and approved by the Commission subject to the terms, conditions and limitations set forth of this Agreement. In the event all necessary and insured easements for the Joint Facility Site are not granted to the Commission in accordance with the provisions of this Agreement or the property is otherwise determined by the Commission and the Village to be unsuitable for locating the Joint Facility, the Village shall endeavor in good faith to obtain an alternative location for the Joint Facility Site acceptable to both the Commission and the Village. Notwithstanding any term in this Agreement to the contrary, if an alternative location cannot be agreed upon, or if the Village cannot acquire fee simple title to the Joint Facility Site, or the Parties are unable to obtain, provide or secure the necessary easements for the Joint Facility, by the date set forth in Section 7 of this Agreement, the Village or the Commission may terminate this Agreement, and thereafter neither Party shall be liable to the other in any manner hereunder, except for the Village's obligation to reimburse the Commission for all fees, costs, and expenses incurred or accrued by the Commission prior to the termination of this agreement, which shall survive the termination of this Agreement.

4. The Village shall be solely responsible for the costs in designing the Joint Facility. It is understood that the Commission has contracted with the design engineer and has been and will continue to administer the design contract for the benefit of both

Parties. The Commission has been and will continue to consult with the Village to keep the Village advised as to the progress of the design work and to address issues of mutual concern regarding the details of such design work. The final design of the Joint Facility shall be subject to the review of both Parties and subject to the approval of the Commission to the extent of the Metering Station, the Village to the extent of the Village PAS, and both Parties to the extent of the common areas of the Joint Facility. For the purposes of this Agreement, the common areas of the Joint Facility shall include those portions of the Joint Facility, such as the structure and area grounds, which serve the needs of both Parties, but shall exclude all portions of the Joint Facility Site on which there are an elevated tank, storm sewers and sanitary sewers.

5. The Village shall be solely responsible for the costs of constructing the Joint Facility. The Village shall be responsible for securing a contract for the construction of the Joint Facility, including all equipment and appurtenances necessary for the Metering Station and the Village PAS. The cost of the Metering Station, the Village PAS, and the common areas of the Joint Facility shall be separately identified in the bidding and construction contract documents. The Village agrees to solicit, award, and administer all construction contracts for the project in the best interest of both Parties, to do so in compliance with all applicable federal, State and local laws, ordinances, regulations and requirements (together the "Laws"), and to consult with, and keep the Commission's General Manager advised, regarding the progress of the work and any problems encountered or changes recommended. The Village shall have sole authority and responsibility to resolve every claim or dispute arising under the construction contract(s),

provided that each resolution is consistent with the final Commission-approved plans and specifications. If a dispute involves the Metering Station, the Village will consult in good faith with the Commission before issuing its final determination. Both Parties must agree to the award of any contract for such construction work. Upon approval of both Parties, the Village shall enter into a construction contract(s) with the selected contractor(s), and shall administer such construction contract(s) in conformance with this Agreement and the Laws. In addition, the Village shall retain the services of, and pay all costs incurred by, an independent AMPP Certified Corrosion Specialist to determine field conditions and report and recommend, for Commission-approval, the means to mitigate any existing or potential corrosion issues discovered. The Village shall also retain the services of, and pay all costs incurred by, an independent geotechnical materials testing firm to provide technical on and off site soils and materials testing and inspectional services, including without limitation (i) density testing using Troxler Nuclear equipment for trench backfill materials, sub-base course materials, bituminous binder and surface course materials, bituminous aggregate mixture (B.A.M.), and other areas where there will be engineered fill beneath building slabs, roadways, and parking lots; (ii) unconfined compressive strength tests and pocket penetrometer tests on soil samples from the bottom of excavations for footings and trenches; (iii) concrete and Controlled Low Strength Material ("CLSM") testing, as applicable, for temperature, slump, per cent air and yield (unit weight) and mold cylinders for compressive strength testing; (iv) batch plant inspections at both concrete, CLSM, and bituminous plants; (v) laboratory compaction curves to establish optimum moisture content and dry unit weight of fill materials; (vi) laboratory

compressive strength testing for concrete or CLSM cylinders; and (vii) laboratory testing to determine gradation of granular materials. Commission representatives shall have full and complete access to the work sites at all times for purposes of supervising and inspecting the construction of the Metering Station. No construction work on the Metering Station shall be undertaken without the presence of such representatives unless authorized in advance by the Commission. All shop drawings, reports, permit applications, and other submittals submitted by the contractor(s) for the construction of the Metering Station, and all work (including materials, equipment, and supplies) related to the Metering Station, shall be subject to the prior examination, inspection, and approval by Commission representatives, including without limitation geotechnical inspections and approvals (e.g. compaction, soil bearing, concrete strength, etc.); structural inspections and approvals (e.g. inspection of rebar, especially where pipe wall sleeves are set, before concrete pour, etc.); rough-in electrical inspections and approvals (e.g. ground field installation before backfill); instrumentation inspections and approvals (e.g. SCADA antenna, ground field, radio signal strength at time of installation); piping and valve inspections and approvals (e.g. factory and field testing); meter inspections and approvals (e.g. testing in Commission test bench); and regulatory inspections and approvals (e.g. IEPA operating permit application, disinfection, flushing, sampling, and laboratory testing required to place the Metering Station in service). Commission representatives shall have the sole, full authority and right to direct the construction of the Metering Station, and the Village and the contractor(s) for the construction of the Metering Station shall diligently prosecute the construction of the Metering Station pursuant to said direction. Whenever

the contractor(s) for the construction of the Metering Station disputes or objects to any requirement, direction, instruction, interpretation, determination, or decision affecting the construction of the Metering Station, the Commission shall have the sole, full authority and right to resolve such dispute. It is understood that, although the Commission will not be a party to the construction contract(s), the Commission will be designated as a beneficiary of any insurance, guaranty, or warranty required by the construction contract(s) and its Elected Officials, officers, agents, and employees shall be specifically named as an additional insured on the general liability, owner's/contractor's protective liability, builder's risk, and excess or umbrella policies of insurance required by the construction contract(s). Said insurance will be primary and noncontributory. The Commission General Manager shall be provided with a certificate of insurance naming the Commission as an additional insured on such policies prior to the commencement of work under the construction contract(s). In addition, any change order, as well as final acceptance and approval of the completed Joint Facility, shall be subject to the approval of the Commission to the extent of the Metering Station, the Village to the extent of the Village PAS, and both Parties to the extent of the common areas of the Joint Facility. Neither Party shall be required to approve or accept any portion of the Joint Facility until all portions of the Joint Facility, including all punch list items, have been fully and properly completed.

6. The Village shall reimburse the Commission for the full actual cost incurred by the Commission in connection with (a) the design, bidding, contracting, managing, and actual construction, installation, removal, relocation, replacement, extension, or

improvement of the Joint Facility, including without limitation equipment required for the operation of the Joint Facility and all administrative, financing, supervisory, inspection, engineering, surveying, and legal fees, costs, and expenses associated therewith; (b) the acquisition and divestment of lands, easements, and rights of way over lands and waters necessary for the construction, installation, removal, relocation, replacement, extension, or improvement of the Joint Facility, and all administrative, title, surveying, and legal fees, costs, and expenses associated therewith; and (c) the review and processing of plans and agreements for the construction, installation, removal, relocation, replacement, extension, or improvement of the Joint Facility and in connection with the negotiation, preparation, consideration, and review of this Agreement, including without limitation all legal, engineering, consulting, and administrative fees, costs, and expenses associated therewith. The Village shall reimburse the Commission monthly for such fees, costs, and expenses, and payment shall be due within thirty (30) days after receipt of an invoice therefor from the Commission.

7. Prior to the Village's award of a contract for the construction of the Joint Facility, the Village, without charge to the Commission, shall: (a) present the Commission with adequate evidence of merchantable fee simple title to the Joint Facility Site; (b) grant to the Commission, after acquiring fee simple title to the Joint Facility Site, all necessary and insured easements for the Joint Facility Site, in substantially the form attached hereto and by this reference incorporated herein and made part hereof as Exhibit C and satisfactory to the Commission's attorneys, free and clear of all liens, claims, encumbrances, and restrictions unless otherwise approved by the Commission in writing;

and (c) grant to the Commission all necessary and insured easements for the appropriate location and installation of antennas and appurtenant facilities for the Commission's Supervisory Control and Data Acquisition Instrumentation System attributable to the Metering Station, free and clear of all liens, claims, encumbrances, and restrictions unless otherwise approved by the Commission in writing. Prior to the Village's award of a contract for the construction of the Joint Facility, the Parties have entered into the "Grant of Ingress, Egress and Water Main Easements" in substantially the form attached hereto and by this reference incorporated herein and made part hereof as Exhibit D. The Village has obtained fee simple title to the Joint Facility Site.

8. The Village has previously deposited with the Commission cash (the "Cash Deposit") in a total amount of one hundred twenty-five percent (125%) of the Commission's estimated costs of designing the Joint Facility. In addition, The Village shall reimburse the Commission for all costs incurred by the Commission in connection with: (i) the design of, and the review and approval of all plans and specifications for, the Metering Station and the common areas of the Joint Facility; (ii) the preparation of all bidding and contract documents for the Joint Facility; (iii) the administration of the contract for the construction of the Joint Facility; and (iv) shop drawing review and the inspection of the construction and installation of the Lombard 14e Metering Station and the common areas of the Joint Facility, including all legal, engineering, and other consulting and administrative fees, costs, and expenses.

The Village shall review all pay requests and supporting documents and shall direct payments to be made of all amounts then due for the Joint Facility work each month.

9. Upon acceptance and approval of the Joint Facility by the Parties, ownership of the Metering Station, as the case may be, and a bill of sale therefor shall be conveyed to the Commission by the Village. Immediately following such conveyance, the Village shall own and operate the Village PAS. The Village PAS shall remain the sole and exclusive property of the Village, and the Village shall have all duty, responsibility, and liability to maintain and repair the Village PAS and the common areas of the Joint Facility and the Commission shall have no obligation or duty with respect thereto. Upon completion of the construction and installation of the Joint Facility, the Commission shall have all duty, responsibility, and liability to maintain and repair the Metering Station.

10. Either Party may terminate this Agreement in the event the other Party fails to comply with any term of this Agreement or any exhibit to this Agreement. Additionally, either Party may terminate this Agreement upon thirty (30) days advance written notice to the other Party in the event the Parties are unable to agree on the award by the Village of a contract(s) for the construction of the Joint Facility on or before December 31, 2025.

Upon termination for any reason, this Agreement shall be void and of no effect; provided, however, that the Village shall remain responsible for all fees, costs, and expenses incurred or accrued by the Commission prior to termination of this Agreement. The obligation of the Village to reimburse the Commission as required by this Agreement is unconditional and irrevocable, payable without set off or counterclaim, and irrespective of whether lake water is ever furnished, made available, or delivered to the Village through the Joint Facility, or whether the Joint Facility is completed, operable, or operating, and notwithstanding suspension, interruption, interference, reduction, or curtailment of the

supply of lake water. In the event that, following service of such notice but before actual termination, the basis for such notice is corrected, the notice shall be considered void and of no effect, and this Agreement shall continue in full force and effect.

11. The Village acknowledges and agrees that: (a) the Commission is not, and shall not be, in any way liable for damages or injuries that may be sustained as a result of the Commission's review and approval of any plans for the Joint Facility, or as a result of the issuance of any approvals, certificates, or acceptances for the development or use of any portion of the Joint Facility, or as a result of the design of the Joint Facility or the operation or maintenance of the Village PAS or the common areas of the Joint Facility; and (b) the Commission's review and approval of any such plans and issuance of any such approvals, certificates, or acceptances does not, and shall not, in any way be deemed to insure the Village, or any respective successors, assigns, tenants, or licensees, or any third party, against damage or injury of any kind at any time.

12. To the fullest extent permitted by law, the Village shall indemnify and hold harmless the Commission, and the Commission's officials, officers, agents, and employees, from and against any and all claims, damages, losses, and expenses (including reasonable attorneys' fees) —but only to the extent caused by the negligent acts or omissions of the Village or its contractors in connection with the design, construction, operation, or maintenance of the Joint Facility.

To the fullest extent permitted by law, the Commission shall indemnify and hold harmless the Village, and the Village's officials, officers, agents, and employees, from and against any and all claims, damages, losses, and expenses (including reasonable

attorneys' fees) —but only to the extent caused by the negligent acts or omissions of the Commission or its contractors in connection with the design, construction, operation, or maintenance of the Metering Station..

Neither Party shall be liable to the other for special, indirect, or consequential damages, including (without limitation) loss of water, loss of revenue, or loss of use, arising out of or relating to this Agreement. Nothing contained in this Agreement is intended to be, nor shall operate as, a waiver by Village or the Commission of the rights, defenses and immunities afforded under the Local Governmental and Governmental Employees Tort Immunity Act.

The Parties' obligations under this Section shall survive the termination or expiration of this Agreement.

13. This Agreement, and the Joint Facility provided by this Agreement, shall be deemed to supplement that certain contract entitled "Water Purchase and Sale Contract between the DuPage Water Commission and Customers," dated as of January 18, 2024 (the " Customer Contract"), by and between, among others, the Parties hereto, to provide for an additional point of delivery to the "Unit System," as defined in the Customer Contract, of the Village. Except where expressly provided in this Agreement, nothing in this Agreement shall be construed to be, or applied in any manner, inconsistent with the terms of the Customer Contract, and, if there is any conflict or inconsistency between the terms of this Agreement and the terms of the Customer Contract, then the terms of the Customer Contract shall control. The Village shall at all times comply with all terms and conditions of the Customer Contract, including without limitation the making of all

payments due thereunder promptly to the Commission. Under no circumstances shall any dispute of any nature under this Agreement, or the Village's inability to receive water through the Metering Station provided by this Agreement, excuse, delay, or in any other way affect the Village's performances under the Customer Contract, including without limitation the making of all such payments.

For the purposes of the Customer Contract, and the Joint Facility provided by this Agreement, the point of delivery with respect to the Village Water System shall be a point in the water main connecting the Metering Station to the Village PAS located downstream from the inside face of the outside wall or foundation of the Metering Station a distance of ten (10) feet or where such water main enters the outside face of the outside wall or foundation of the Village PAS, whichever is closer to the Metering Station.

Notwithstanding anything to the contrary contained in the Customer Contract, the Parties expressly acknowledge and agree that the Village shall not be entitled to payment or reimbursement from the Commission for the design, bidding, contracting, managing, and actual construction, installation, removal, relocation, replacement, extension, or improvement of the Joint Facility.

14. The Parties agree to meet and cooperate in good faith throughout the term of this Agreement to implement the letter and spirit of the provisions set forth herein. The Parties agree and acknowledge that further details regarding the construction and operation of the Joint Facility may be subject to a future agreement.

15. This Agreement may not be assigned by any Party, in whole or in part, without the prior written consent of the other Party, which consent, with respect to the Village, shall not be unreasonably withheld.

16. In case any one or more of the provisions contained in this Agreement should be held by a court of competent jurisdiction to be invalid, illegal, or unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby; provided, however, that if the remaining parts hereof may not reasonably be construed together without the part or parts so held invalid or unenforceable, the Parties agree to negotiate such reasonable amendments hereto as shall be required to most nearly conform this Agreement, as thereby amended, to the original intention of the Parties.

17. All notices required or permitted to be given under this Agreement shall be in writing and shall be deemed received by the addressee thereof when delivered in person on a business day at the address set forth below or on the third business day after being deposited in any main or branch United States post office, for delivery at the address set forth below by property addressed, postage prepaid, certified or registered mail, return receipt requested.

Notices and communications to the Commission shall be addressed to, and delivered at, the following address:

DuPage Water Commission
600 East Butterfield Road
Elmhurst, Illinois 60126-4642
Attention: General Manager

Notices and communications to Lombard shall be addressed to, and delivered at, the following address:

Village of Lombard
255 E. Wilson Ave.
Lombard, Illinois 60148
Attention: Mr. Carl Goldsmith
Director of Public Works

IN WITNESS WHEREOF, the DuPage Water Commission and the Village of Lombard have caused this Agreement to be executed on their behalf by their duly authorized officers as of the day and year first above written.

DU PAGE WATER COMMISSION

ATTEST:

_____
Chairman

_____
Clerk

VILLAGE OF LOMBARD



_____
Village President

ATTEST:



_____
Village Clerk

EXHIBIT A

WATER DELIVERY DATA

DU PAGE WATER COMMISSION

Date: June 10, 2021

CUSTOMER NAME: Village of Lombard

DELIVERY POINT (DWC NODE No.): 12" Blow-Off Valve B11096 – TSW Sta. 253+43

DWC METER STATION NO. & LOCATION: Lombard MS14E

TYPE OF CUSTOMER'S FACILITY REQUIRED: Type D Pressure Increasing

LOCATION AT (1) See Exhibits B-1 and B-2, A, generally located adjacent to the proposed Golfsocial Lombard property at 600 E. Butterfield Road, Lombard,

DWC DESIGN MINIMUM HYDRAULIC GRADE (2) (USGS DATUM): 853.3 USGS

CUSTOMER'S SYSTEM OVERFLOW ELEV. (USGS) AND/OR REQUIRED HEAD (3) 913-925

CUSTOMER'S TYPE and SIZE of STORAGE FACILITY (4) 1.5 to 2.0 MG Elevated Storage Tank-TBD by Lombard

HYDRAULIC DATA

	Flow Rate @ Customer's Proposed Facility In MGD (Provided by Lombard)	DWC Hydraulic Grade 10 ft. Downstream of DWC Meter Station USGS DATUM (Provided by DWC)
Average Day	1.72	890.3
Maximum Day	2.92	895.0
Peak Day (5)	5.15	865.9

(1) Customer to provide location of Customer's Connection Facility
(2) DWC design minimum hydraulic grade will fluctuate approx. ± 10 feet depending upon Commission's elevated storage water elevation.
(3) It is customer's responsibility to verify the system overflow elevation or required head.
(4) Customer to provide Type and Size of Storage Facility where DWC Customer Connection terminates (feeder main and metering station location)
(5) 3 X IDNR highest average day flow or 1500 GPM minimum.

EXHIBIT B-1

DEPICTION OF JOINT FACILITY SITE

(attached)

EXHIBIT B-1

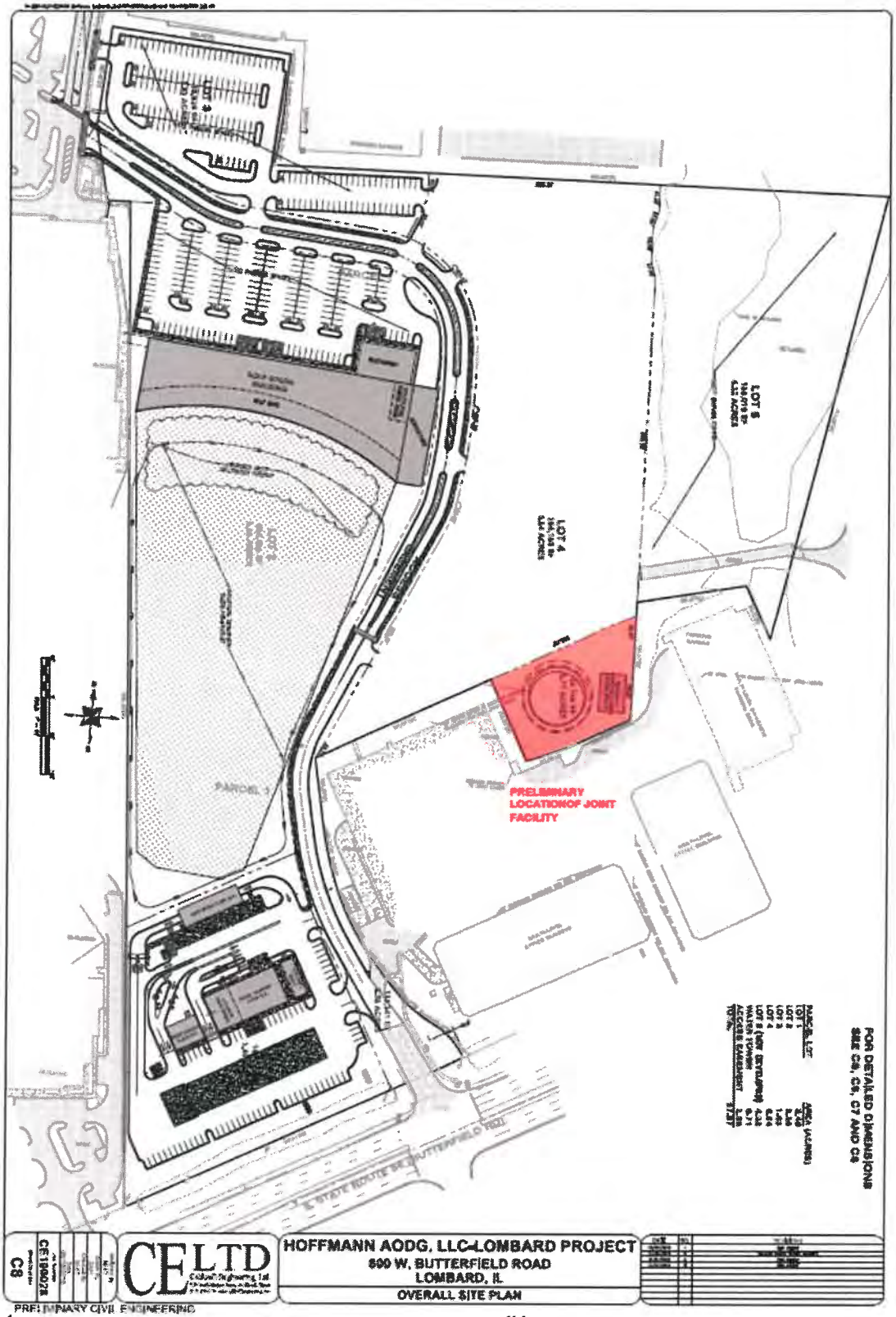

LOT 5
LOT 4
PRELIMINARY
LOCATIONOF JOINT
FACILITY
PARCEL 1
FOR DETAILED DIMENSIONS
SEE C5, C6, C7 AND C8
C8
CE LTD
HOFFMANN AODG, LLC-LOMBARD PROJECT
800 W. BUTTERFIELD ROAD
LOMBARD, IL
OVERALL SITE PLAN
PRELIMINARY CIVIL ENGINEERING

EXHIBIT B-2

LEGAL DESCRIPTION OF JOINT FACILITY SITE

(attached)

EXHIBIT B-2

LOT 2 OF HOFFMANN – LOMBARD SUBDIVISION, A RESUBDIVISION OF PARCEL 1 IN NORTHERN BAPTIST THEOLOGICAL SEMINARY ASSESSMENT PLAT OF LOT 1 IN NORTHERN BAPTIST THEOLOGICAL SEMINARY SUBDIVISION OF PART OF THE NORTHEAST QUARTER OF SECTION 29, TOWNSHIP 39 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN IN LOMBARD, DUPAGE COUNTY, ILLINOIS

P.I.N.: 06-29-200-056 (underlying)

Common Address: Part of 600 to 690 East Butterfield Road located north of Butterfield Road (State Route 56) in Lombard, Illinois 60148;

EXHIBIT C

FORM OF METERING STATION EASEMENT AGREEMENT

(attached)

DUPAGE WATER COMMISSION

METERING STATION

EASEMENT AGREEMENT
(Lombard MS-14e)

PERMANENT REAL ESTATE TAX INDEX NO. __-__-___-___

Prepared by and Mail to:

DuPage Water Commission
600 E. Butterfield Rd.
Elmhurst, IL 60126

METERING STATION
EASEMENT AGREEMENT
(Lombard MS-14e)

THIS METERING STATION EASEMENT AGREEMENT (Lombard MS-14e) is made and entered into as of this ____ day of _____, 202_, by and between the DUPAGE WATER COMMISSION, a county water commission created and existing under the laws of the State of Illinois (the "Commission") and the VILLAGE OF LOMBARD, a municipal corporation created and existing under the laws of the State of Illinois and a customer of the Commission (the "Customer").

W I T N E S S E T H:

WHEREAS, the Commission and the Customer have entered into a certain Water Purchase and Sale Contract, dated as of July 21, 1986 (the " Customer Contract"), as supplemented by a certain Intergovernmental Agreement to Provide for the Construction of a Joint Facility, dated as of _____, 2021 (the "Joint Facility Agreement"); and

WHEREAS, the Joint Facility Agreement provides that the Commission is to furnish, install, own, operate, maintain, and repair certain equipment and devices, together with certain structures and portions of its water distribution main, including underground feeder pipe lines and related equipment, for properly conveying and measuring the quantity of Lake Michigan water delivered by the Commission to the Customer at the additional connection point provided for under the Joint Facility Agreement (collectively referred to as the "Metering Station"); and

WHEREAS, the Joint Facility Agreement provides that the Metering Station is to be located at a site selected and provided by the Customer, subject to review and approval by the Commission; and

WHEREAS, the Customer has selected the site legally described in Exhibit 1 attached hereto and by this reference incorporated herein and made a part hereof (the "Metering Station Easement Premises") for the location of the Metering Station as generally depicted in Exhibit 2 attached hereto and by this reference incorporated herein and made a part hereof; and

WHEREAS, the Commission has reviewed the Metering Station Easement Premises and approved the same for the location of the Metering Station; and

WHEREAS, the Commission has submitted to the Customer for review the drawings and specifications for the Metering Station; and

WHEREAS, the Commission and the Customer desire to enter into this Easement Agreement in order to provide the Commission with a sufficient property interest in the Metering Station Easement Premises to fulfill the provisions and purpose of the Customer Contract, as supplemented by the Joint Facility Agreement; and

WHEREAS, the Commission has duly adopted its Ordinance No. O-__-0_, being "An Ordinance Requesting the Intergovernmental Transfer of Easement Rights for the Lombard Metering Station MS-14e Site and Authorizing the Execution of the Lombard Metering Station Easement Agreement," pursuant to the Local Government Property Transfer Act, 50 ILCS 605/0.01 et seq.; and

WHEREAS, the Customer has duly adopted its Resolution No. _____, being "A Resolution Approving the Intergovernmental Transfer of Easement Rights to the DuPage Water Commission," pursuant to the Local Government Property Transfer Act, 50 ILCS 605/0.01 et seq.;

NOW, THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and in the exercise of their powers and authority under the intergovernmental cooperation provisions of Article VII, Section 10 of the Illinois Constitution of 1970 and the Intergovernmental Cooperation Act, 5 ILCS 220/1 et seq., and other applicable authority, the Commission and the Customer hereby agree as follows:

1. The foregoing recitals are hereby incorporated herein as substantive provisions of this Easement Agreement.

2. The Customer hereby grants, conveys, warrants, and dedicates to the Commission, its successors and assigns, a perpetual easement to construct, furnish, install, own, operate, maintain, test, inspect, remove, repair, and replace the Metering Station at, in, under, and upon the Metering Station Easement Premises, together with all reasonable rights of ingress and egress along or across any adjoining lands of, or under the jurisdiction and control of, the Customer. The Customer hereby further grants, conveys, warrants, and dedicates to the Commission, its successors and assigns, a perpetual access easement upon, along, and across the real property legally described in Exhibit 3 attached hereto and by this reference incorporated herein and made a part hereof (the "Access Easement Premises").

3. The Metering Station shall be not located, constructed, or maintained in any manner not in substantial conformity with Exhibit 2 without the express consent of the Customer, which consent shall not be unreasonably withheld.

4. The Customer hereby further grants to the Commission a temporary construction easement for the installation of the Metering Station upon, along, and across the real property legally described in Exhibit 4 attached hereto and by this reference incorporated herein and made a part hereof (the "Subject Property"). Said temporary construction easement shall be used by the Commission only during periods of actual installation activity and for any necessary restoration of the Metering Station Easement Premises.

5. The Commission shall exercise the easement rights hereby granted with due care, and shall not unreasonably interfere with, damage, or harm any Customer property located upon the Subject Property.

6. After construction of the Metering Station, the Metering Station Easement Premises shall be restored in accordance with the drawings and specifications for the Metering Station.

7. The Customer hereby reserves the right to use the Metering Station Easement Premises, the Access Easement Premises, and its adjacent property in any manner that will not prevent or interfere in any way with the exercise by the Commission of the rights granted hereunder; provided, however, that the Customer shall not in any manner disturb, damage, destroy, injure, obstruct, or permit to be obstructed the Metering Station Easement Premises or the Access Easement Premises without the express prior

written consent of the Commission, nor shall the Customer permanently or temporarily improve, damage, or obstruct the Metering Station Easement Premises [or the Access Easement Premises] in any manner that would impair the exercise by the Commission of the rights hereby granted.

8. The Customer agrees to indemnify and defend the Commission with respect to any and all claims or damages to persons or property which may arise out of any acts or omissions of the Customer, or its agents or employees, arising out of any work on the Metering Station Easement Premises, the Access Easement Premises, and the Subject Property in conjunction with its rights pursuant to Paragraph 7 hereof. Except as otherwise provided in the Joint Facility Agreement, the Commission agrees to indemnify and defend the Customer with respect to any and all claims of damages to persons or property which may arise directly from the acts or omissions of the Commission, or its agents or employees, in performing any work on the Metering Station Easement Premises, the Access Easement Premises, and the Subject Property in conjunction with its rights pursuant to Paragraphs 2, 4, 5, and 6 hereof. The Customer shall provide to the Commission, and the Commission shall provide to the Customer, a certificate of insurance or proof of self-insurance coverage as evidence of its continuing ability to meet the obligation established in this Paragraph, and both shall maintain such coverage at all times. Notwithstanding the foregoing, the Commission shall not be required to defend, indemnify or hold harmless the Village or its employees, officers or agents for the Village's or its employees', officers' or agents' own acts or omissions, and the Village shall not be required to defend, indemnify or hold harmless the Commission or its employees, officers

or agents for the Commission's or its employees', officers' or agents' own acts or omissions. Nothing contained in this Agreement is intended to be, nor shall operate as, a waiver by Village or the Commission of the rights, defenses and immunities afforded under the Local Governmental and Governmental Employees Tort Immunity Act. The Parties' obligations under this Section shall survive the termination or expiration of this Agreement.

9. This Easement Agreement shall constitute and stand in the place of all Customer permits required by the Commission or its contractor to construct, furnish, install, own, operate, maintain, test, inspect, repair, remove, or replace the Metering Station at, in, under, and upon the Metering Station Easement Premises, and the Customer hereby agrees to execute any and all additional documents, approvals, waivers, or consents, if any, that may be reasonably necessary for the Commission to secure any permits required from any county, state, or federal agency for or in connection with constructing, furnishing, installing, owning, operating, maintaining, testing, inspecting, repairing, removing, or replacing the Metering Station.

10. In the event that the Customer Contract is terminated without renewal with respect to the Customer, the Commission shall, within 90 days execute and deliver to the Customer an appropriate document evidencing the termination of this Easement Agreement and releasing the easement rights hereby granted. The Commission may, within said 90 day period, in its own discretion, and at the Customer's expense, remove the Metering Station from the Metering Station Easement Premises. If the Commission

fails to remove the Metering Station, as aforesaid, the Customer may take title to the Metering Station.

11. All rights, title, and privileges herein granted, including all benefits and burdens, shall run with the land and shall be binding upon and inure to the benefit of the parties hereto and their respective grantees, successors, assigns, and legal representatives.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed by their proper representatives duly authorized to execute the same.

DUPAGE WATER COMMISSION

ATTEST:

By: _____
General Manager

VILLAGE OF LOMBARD

ATTEST:

By: _____
Village President

2056463_1

EXHIBIT 1

LEGAL DESCRIPTION OF THE METERING STATION EASEMENT PREMISES

[TO BE SUPPLIED BY LOMBARD]

EXHIBIT 2

PLANS FOR THE LOCATION OF THE METERING STATION

[TO BE SUPPLIED BY THE COMMISSION]

EXHIBIT 3

LEGAL DESCRIPTION OF THE ACCESS EASEMENT PREMISES

[TO BE SUPPLIED BY LOMBARD]

EXHIBIT 4

LEGAL DESCRIPTION OF THE SUBJECT PROPERTY

[TO BE SUPPLIED BY LOMBARD]

STATE OF ILLINOIS)
) SS
COUNTY OF DUPAGE)

I, _____, a Notary Public in and for said County, in the State aforesaid, do hereby certify that _____, personally known to me to be the General Manager of the DuPage Water Commission, and personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that he signed, sealed, and delivered said instrument as his free and voluntary act, and as the free and voluntary act of said Commission, for the uses and purposes therein set forth.

Given under my hand and official seal this _____ day of _____, 202_.

_____
Notary Public

My Commission Expires: _____

2056463_1

STATE OF ILLINOIS)
) SS
COUNTY OF DUPAGE)

I, _____, a Notary Public in and for said County, in the State aforesaid, do hereby certify that _____, personally known to me to be the Village Manager of the Village of Lombard, a municipal corporation, and _____, personally known to me to be the Village Clerk of said Village, and personally known to be the same persons whose names are subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed, and delivered said instrument as their free and voluntary act, and as the free and voluntary act of said Village, for the uses and purposes therein set forth.

Given under my hand and official seal this _____ day of _____, 202_.

_____
Notary Public

My Commission Expires: _____

EXHIBIT D

GRANT OF INGRESS, EGRESS AND WATER MAIN EASEMENTS

(attached)

Resolution #: R-66-25

Account: 01-80-852010

Approvals: *Author / Manager / Finance / Admin*

JL JML CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/14/2025

Description: **Award of a Contract for the Construction of the West Transmission Main along Book Road From 75th Street to the ComEd R.O.W. (Contract TW-6/25 Section 1 (Book Road))**

Agenda Section: Engineering & Construction

Originating Department: Engineering

WaterLink design efforts continue to progress with the goal of advertising for bid each of the five pipeline construction packages along with another for the construction of the meter stations by the end of the 2025 calendar year.

The design for the first such construction package, TW-6/25 Section 1 (Book Road), was completed earlier this summer and consists of approximately three miles of 54" pipeline along Book Road in Naperville, from a connection to the existing Commission distribution network at 75th Street to a point just south of 95th Street near Frontier Park. The project was advertised for bid on May 23rd, with the corresponding bid opening held on July 1st. A total of three bids were received with the Joint Venture of Benchmark Construction Co., Inc. and D. Construction, Inc. (Joint Venture) identified as the apparent low bidder. The summary of the bid results can be seen in the table below:

BID ALTERNATES	D. Construction, Inc. & Benchmark Construction Co, Inc.	NPL Construction Co.	Precision Pipeline, LLC.
Alternate A (54-inch Steel) Total Bid Price:	$69,149,230.00	$82,439,906.00	$254,371,642.14
Alternate B (54-inch PCCP) Total Bid Price:	$67,148,000.00	*	*
Alternate C (48-inch Steel) Total Bid Price:	$68,856,910.00	$81,697,906.00	$249,102,700.14
Alternate D (48-inch PCCP) Total Bid Price:	$66,258,510.00	*	*

Based on the results of the bid opening, installation of 54-inch PCCP has been identified as the desirable alternative. Unfortunately, the bids submitted were all in excess of the project estimate, due in large part to the cost of the trenchless portions of the work (tunnels were designed at three creek crossings as well as four intersections). Because of this budget overage, Commission Staff and the design team of LAN/Stanley/Robinson have conducted negotiations with the apparent low bidder to

re-design portions of the work in order to convert trenchless installation locations to open-cut installations (where feasible) and to minimize the depth of any trenchless installation locations that could *not* be converted. Because these potential changes impact the maintenance of traffic at the aforementioned intersections, additional coordination with City of Naperville Staff was also conducted to ensure that they are in support of the proposed changes.

As a result of the post-bid negotiations and coordination with the City of Naperville, Change Order No. 01 has been developed and is brought forward for Board approval under Resolution R-67-25 (submitted under separate cover) which will proposes to significantly reduce the contract scope and associated cost. However, prior to approving Change Order No. 01, an initial contract with the Joint Venture must first be approved by the Board. Resolution R-66-25 would approve a contract with the Joint Venture for the construction of the TW-6/25 Section 1 (Book Road) Project in the amount of $67,148,000.00.

The Commission has worked with Benchmark Construction on a significant number of projects over the years and the two parties maintain a positive working relationship. Though the Commission has not previously worked with D. Construction, they *have* previously worked with the WaterLink Communities who have provided positive feedback.

Recommended Motion:

To adopt Resolution R-66-25.

DuPAGE WATER COMMISSION

RESOLUTION NO. R-66-25

A RESOLUTION AWARDING A CONTRACT FOR THE CONSTRUCTION OF
THE TW-6/25 SECTION 1 (BOOK ROAD) CONTRACT

WHEREAS, the Commission was formed and exists pursuant to the Water Commission Act of 1985, 70 ILCS 3720/0.01 et seq., and Division 135 of Article 11 of the Illinois Municipal Code, 65 ILCS 5/11-135-1 et seq., for the purpose of securing an adequate source and supply of water for its customers; and

WHEREAS, the Village of Montgomery ("Montgomery"), the Village of Oswego ("Oswego") and the United City of Yorkville ("Yorkville") (Oswego, Montgomery and Yorkville are collectively referred to herein as the "Municipalities") desire to supply Lake Michigan water to their residents by connecting to the Commission's waterworks system;

WHEREAS, the Commission and the Municipalities previously entered into intergovernmental agreements related to the funding of the required connection facilities; and

WHEREAS, pursuant to Article VIII, Section 5 of the Commission's By-Laws, the DuPage Water Commission (the "Commission") invited proposals for the Construction of the TW-6/25 Section 1 (Book Road) Contract; and

WHEREAS, bids for Contract TW-6/25 Section 1 (Book Road) were received on July 1, 2025; and

WHEREAS, the Commission has reviewed the proposals received and determined that the proposal of the Joint Venture of Benchmark Construction Co., Inc. and D. Construction, Inc. (Joint Venture) was the most favorable to the interests of the Commission; and

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The foregoing recitals are hereby incorporated herein and made a part hereof as findings of the Board of Commissioners of the DuPage Water Commission.

SECTION TWO: The Board of Commissioners of the DuPage Water Commission hereby approves the Contract for the Construction of the TW-6/25 Section 1 (Book Road) Project in the amount of $67,148,000.00, attached hereto as Exhibit A, conditioned upon the receipt of all contractually required documentation, and authorizes the Chairman to execute the agreement on behalf of the DuPage Water Commission and to take whatever steps necessary to effectuate the terms of said agreement.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honig, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS _____ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk
Board/Resolutions/2025/R-66-25.docx

EXHIBIT A

DuPage Water Commission

Contract for the Construction of:

West Transmission Main Along Book Road

From 75th Street to ComEd R.O.W.

Contract TW-6/25 Section 1 (Book Road)

VOLUME I

CONTRACT DOCUMENTS

DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

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1. Contract Agreement
2. Contractor's Certification
3. Schedule of Prices
4. General Conditions of Contract
5. Special Conditions of Contract
6. Contract Drawings
7. Specifications
8. Form of Performance Bond
9. Form of Labor and Material Payment Bond
10. Form of Maintenance/Warranty Bond
11. Addenda Nos. 1, 2, 3 and 4

CONTRACT AGREEMENT BETWEEN

DuPAGE WATER COMMISSION

AND

D. CONSTRUCTION, INC. &

BENCHMARK CONSTRUCTION CO., INC.

FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

CONTRACT AGREEMENT BETWEEN

DuPAGE WATER COMMISSION

AND

D. CONSTRUCTION, INC. &

BENCHMARK CONSTRUCTION CO., INC.

FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

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CONTRACT AGREEMENT BETWEEN

DuPAGE WATER COMMISSION

AND

D. CONSTRUCTION INC. & BENCHMARK CONSTRUCTION CO., INC.

FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

THIS CONTRACT AGREEMENT, made as of this 21st day of August, 2025, by and between the DuPage Water Commission, 600 East Butterfield Road, Elmhurst, Illinois 60126-4642, a public corporation, and D. Construction Inc. and Benchmark Construction Co., Inc., a Joint Venture,

W I T N E S S E T H:

In consideration of the mutual promises contained in this Contract Agreement, it is agreed by and between Owner and Contractor as follows:

ARTICLE I
THE WORK

1.1 Performance of the Work

Contractor shall, at its sole cost and expense:

1. Labor, Equipment, Materials, and Supplies. Provide, perform, and complete at the Work Site and in the manner described and specified in this Contract all necessary work, labor, services, transportation, equipment, materials, apparatus, machinery, tools, fuels, gas, electric, water, waste disposal, information, data, and other means and items necessary for the design, if any, construction, and installation of the *Contract TW-6/25 Section 1 (Book Road)* improvements together with related attachments, equipment, and appurtenances thereto.

2. Permits. Unless otherwise stated in the Special Conditions of Contract, procure and furnish all permits, licenses, and other governmental approvals and authorizations necessary in connection therewith.

3. Bonds and Insurance. Procure and furnish all Bonds and all certificates and policies of insurance specified in this Contract.

4. Taxes. Pay all applicable federal, state, and local taxes.

5. Miscellaneous. Do all other things required of Contractor by this Contract.

6. Quality. Provide, perform, and complete all of the foregoing in a proper and workmanlike manner, consistent with the highest standards of professional and construction practices and in full compliance with, and as required by or pursuant to, this Contract, and with the greatest economy, efficiency, and expedition consistent therewith.

1.2 Contract Documents

The Contract Documents consist of the following component parts, all of which are attached to this Contract Agreement and are, by this reference, made a part of this Contract Agreement as though fully set forth herein:

1. Contractor's Certification;
2. Schedule of Prices;
3. General Conditions of Contract;
4. Special Conditions of Contract;
5. Contract Drawings;
6. Specifications;
7. Form of Performance Bond;
8. Form of Labor and Material Payment Bond; and
9. Addenda Nos. ***[ ]***.

Engineer may, during construction, furnish to Contractor such additional Contract Drawings and Specifications or such other explanations as Engineer may consider necessary to illustrate or explain the Work in further detail. Contractor shall comply with the requirements of all such additional Contract Drawings and Specifications or other explanations, all of which shall be considered part of the Contract Documents and shall not be considered as indicating additional Work.

1.3 Interpretation of Contract Documents

A. Definitions. Whenever used in this Contract Agreement or in the Contract Documents:

1. General Definitions. Except for the terms specially defined in Paragraph 1.3A2 below, all capitalized terms shall have the meanings given to them in Article VII of the General Conditions of Contract.

2. Special Definitions. The following capitalized terms shall have the following meanings:

a. Contractor. The Person first identified above with whom Owner has executed this Contract Agreement and its duly authorized officers, employees, agents, and representatives.

b. Engineer. Burns & McDonnell, Lockwood, Andrews and Newnam, Inc. (LAN), Robinson Engineering, Ltd. (REL), or such additional or

different Person as Owner may from time to time designate in writing to perform any or all of the functions of the Engineer under this Contract as well as the duly authorized officers, employees, agents, and representatives of any such Person.

c. Owner. The DuPage Water Commission and its duly authorized officers, employees, agents, and representatives.

d. Work. All matters described, exhibited, contemplated, implied, or embraced in this Article I of this Contract Agreement and in Article I of the General Conditions of Contract, including all risks and changes in the Work that Contractor is responsible for dealing with under this Contract without any equitable adjustment in the Contract Price or Contract Time, and all matters described, exhibited, contemplated, implied, or embraced in any Change Order issued pursuant to Section 2.1 of the General Conditions of Contract.

e. Work Site. From the intersection of Book Road and 75th St. in the City of Naperville, Book Road south in Unincorporated Naperville Township and Unincorporated Wheatland Township and the City of Naperville south of 95th Street to the southern limits of the Work as described in the Contract Documents.

f. Owner's Representative. Individual or firm appointed to or assigned by Owner to be its on-site representative under this Contract, to exercise certain power on behalf of the Owner and Engineer and to undertake certain contract administration activities as specifically outlined in the Contract Agreement.

B. Rules of Interpretation. This Contract shall be interpreted so that:

1. Requirements Cumulative. Each requirement imposed on Contractor shall be cumulative of every other requirement imposed on Contractor, and any Work required to be performed by any one component part of this Contract shall be performed to the same extent as if required by all component parts of this Contract.

2. Details to be Assumed. The Work shall be provided, performed, and completed in every detail whether or not every item of detail is particularly set forth in the Contract Documents, including work reasonably inferable from the Contract Documents.

3. Priority of Contract Provisions. In the event of a discrepancy, error, omission, ambiguity, or conflict in the application or interpretation of any of the provisions of this Contract, the terms of this Contract Agreement and of the General Conditions of Contract shall govern over the terms and provisions of all other Contract Documents.

4. Engineer's Interpretation. Subject to Paragraphs 1.3B1, B2, and B3 above, Engineer shall determine which provision or provisions of this Contract

Agreement and the Contract Documents best promotes or promote the overall objectives, and best fulfill the intents and purposes, of this Contract, and such provision or provisions shall govern. Such determination of Engineer shall be final.

C. Contractor's Duty to Report Discrepancies. Contractor shall carefully review this Contract Agreement and each of the Contract Documents before performing the Work, and each part thereof, and shall promptly call to the attention of Engineer any discrepancy, error, omission, ambiguity, or conflict that may exist among any of the component parts of this Contract or among any of the provisions of any one of such component parts before proceeding with any part of the Work affected by such discrepancy, error, omission, ambiguity, or conflict. Contractor shall be responsible for all corrective Work required resulting from Contractor's failure to give such notice and shall bear all damages and costs associated therewith, arising therefrom, or resulting from such matters first discovered during the progress of the Work, including, but not limited to, damages or costs resulting from, arising out of, or in any way related to, increases in time-related costs; increases in costs of labor, equipment, materials, or supplies; costs of additional personnel; costs of additional equipment; costs of additional premium time for personnel or equipment; lower labor productivity; lost profits or alternative income; effects on other contracts; and costs of demobilization and remobilization. Information pertaining to subsurface, underground or other concealed conditions or obstructions, soils analysis, borings, test pits, buried structures, utility locations or conditions, conditions of existing structures, and similar site information or data and other investigations shown or indicated on the Contract Drawings, provided by Owner or Engineer, or otherwise made available to Contractor is not part of this Contract and, therefore, any discrepancy, error, omission, ambiguity, or conflict in such site information or data does not constitute a discrepancy, error, omission, ambiguity, or conflict in this Contract.

ARTICLE II
CONTRACT TIME

2.1 Commencement Date

Contractor shall commence the Work immediately upon execution of this Contract Agreement by Owner.

2.2 Completion Date

Contractor shall diligently and continuously prosecute the Work from the Commencement Date at such a rate as will allow the Work to be fully provided, performed, and completed in full compliance with, and as required by or pursuant to, this Contract. The Work shall be completed in full compliance with this Contract, not later than December 31, 2026.

2.3 Time of the Essence

The time of commencement, rate of progress, and time of completion are of the essence of this Contract.

ARTICLE III
CONTRACTOR'S WARRANTIES AND REPRESENTATIONS

3.1 Warranties and Representations

In order to induce Owner to enter into this Contract, Contractor hereby warrants and represents to Owner as follows:

A. Review of Contract. Contractor has carefully examined, reviewed, and accepted this Contract Agreement and all of the Contract Documents prior to submission of its Bidder's Proposal and execution of this Contract and there are no discrepancies, errors, omissions, ambiguities, or conflicts in this Contract that are material to Contractor's provision, performance, or completion of the Work, the Contract Price or the Contract Time that have not already been clarified in writing by Owner to the satisfaction of Contractor. For claims based upon discrepancies, errors, omissions, ambiguities, or conflicts in this Contract, Contractor shall hereafter have no claim for payment or compensation in excess of the Contract Price based upon discrepancies, errors, omissions, ambiguities, or conflicts in this Contract. Contractor shall be entitled only to a possible extension of the Contract Time, if applicable, as provided in this Contract and then only in those cases where Contractor can show that such discrepancies, errors, omissions, ambiguities, or conflicts (1) could not have been discovered by Contractor prior to execution of this Contract or prior to the performance of any of the Work affected by such discrepancy, error, omission, ambiguity, or conflict and (2) has caused an unavoidable delay. Information pertaining to subsurface, underground or other concealed conditions or obstructions, soils analysis, borings, test pits, buried structures, utility locations or conditions, conditions of existing structures, and similar site information or data and other investigations shown or indicated on the Contract Drawings, provided by Owner or Engineer, or otherwise made available to Contractor is not part of this Contract and, therefore, shall not constitute the basis for claims based upon discrepancies, errors, omissions, ambiguities, or conflicts in this Contract.

B. Investigation of Work Site. Contractor has had a sufficient opportunity to conduct a thorough inspection and investigation of the Work Site and the surrounding area and has completed such inspection and investigation to its satisfaction. Contractor has included in the Contract Price allowances and contingency amounts for difficulties or obstructions that may arise or be encountered in the performance of the Work, including without limitation adverse weather conditions, equipment breakdowns, subsurface, underground or other concealed conditions or obstructions, buried structures, utility locations or conditions, adverse soil conditions, and changed site conditions due to work by other contractors, and Contractor hereby waives all claims for, and hereafter shall have no claim for, payment or compensation in excess of the Contract Price based upon

such difficulties or obstructions, or conditions at the Work Site or in the surrounding area except as expressly provided, and only to the limited extent set forth, in Sections 2.1 through 2.3 of the General Conditions of Contract. Contractor is responsible for dealing with conditions found at, and in the vicinity of, the Work Site, including subsurface, underground or other concealed conditions or obstructions, buried structures, utility locations or conditions, adverse soil conditions, changed conditions due to work by other contractors, and similar site conditions without any equitable adjustment in the Contract Price except as expressly provided, and only to the limited extent set forth, in Sections 2.1 through 2.3 of the General Conditions of Contract.

C. Authorization; Enforceable Obligations. This Contract constitutes the legal, valid, and binding obligation of Contractor, is fully enforceable against Contractor in accordance with its terms, will not violate any judgment, Law, or organizational or operating document and will not cause or constitute a default under any contractual obligation of Contractor or any lien, charge, encumbrance, or security interest upon any assets of Contractor.

D. Contractor's Certification. All the facts and information submitted by Contractor in connection with this Contract and its procurement are true and correct in all respects and, in particular, the statements contained in Contractor's Certification are true and correct.

E. Technical Ability to Perform. Contractor is sufficiently experienced and competent, and has the necessary capital, facilities, plant, organization, and staff, to provide, perform, and complete the Work in full compliance with, and as required by or pursuant to, this Contract.

F. Financial Ability to Perform. Contractor is financially solvent, and Contractor has the financial resources necessary to provide, perform, and complete the Work in full compliance with, and as required by or pursuant to, this Contract.

G. Time. Contractor is ready, willing, able, and prepared to begin the Work on the Commencement Date and the Contract Time is sufficient time to permit completion of the Work in full compliance with, and as required by or pursuant to, this Contract for the Contract Price, all with due regard to all natural and man-made conditions that may affect the Work or the Work Site and all difficulties, hindrances, and delays that may be incident to the Work.

H. Acceptance of Allocation of Risks and Changes. Contractor acknowledges and agrees that risks are inherent in the Work of this Contract and changes are to be expected. Contractor acknowledges that this Contract contains specific allocations of responsibility for such risks and changes. Contractor acknowledges, agrees to, and accepts such risks and changes that are allocated to it and that Contractor is responsible for dealing with under this Contract without any equitable adjustment in the Contract Price or Contract Time.

I. No Collusion. The only Persons interested in this Contract as principals are those disclosed as such in the Bidder's Sworn Acknowledgment submitted to Owner by Contractor, and this Contract is made without collusion with any other Person.

J. No Default. Contractor is not in arrears to Owner upon any debt or contract and is not a defaulter as surety, contractor, or otherwise to any Person.

K. Not Barred. Contractor is not barred by law from contracting with Owner or with any unit of state or local government, and neither Contractor nor any Person affiliated with Contractor or that has an economic interest in Contractor or that has or will have an interest in the Work or will participate, in any manner whatsoever, in the Work is acting, directly or indirectly, for or on behalf of any Person, group, entity or nation named by the United States Treasury Department as a Specially Designated National and Blocked Person, or for or on behalf of any Person, group, entity or nation designated in Presidential Executive Order 13224 as a person who commits, threatens to commit, or supports terrorism, and neither Contractor nor any Person affiliated with Contractor or that has an economic interest in Contractor or that has or will have an interest in the Work or will participate, in any manner whatsoever, in the Work is, directly or indirectly, engaged in, or facilitating, the Work on behalf of any such Person, group, entity or nation.

L. Taxes and Benefits. Contractor has excluded from the Contract Price all state and local sales, use, and excise taxes. Contractor has included in the Contract Price, and has or will pay or cause to be paid out of the Contract Price, all other applicable federal, state, and local taxes of every kind and nature applicable to the Work as well as all taxes, contributions, and premiums for unemployment insurance, old age or retirement benefits, pensions, annuities, or other similar benefits for Contractor's and its Subcontractors' employees.

M. Patent Costs. Contractor has included in the Contract Price, and has or will pay or cause to be paid out of the Contract Price, all costs, royalties, and fees arising from the use on, or the incorporation into, the Work of patented equipment, materials, supplies, tools, appliances, devices, processes, or inventions.

3.2 Affirmation of Other Warranties and Representations

In addition to the foregoing warranties and representations, Contractor hereby acknowledges that Contractor has carefully read, reviewed, and understood, and hereby agrees to honor, the Warranty of the Work contained in Article III of the General Conditions of Contract as well as all other warranties and representations set forth in the Contract Documents.

ARTICLE IV
FINANCIAL ASSURANCES

4.1 Bonds

A. Bonds Required. Contemporaneous with Contractor's execution of this Contract Agreement, Contractor shall provide a Performance Bond, a Labor and Material Payment Bond, and a Maintenance/Warranty Bond in the forms included in the Contract Documents, from a surety company licensed to do business in the State of Illinois with a general rating of A minus and a financial size category of Class X or better in Best's Insurance Guide, each in the penal sum of the Contract Price, and such other bonds as and when required by Owner. Contractor shall, at all times while providing, performing, or completing the Work, including, without limitation, at all times while repairing, correcting, or replacing all or any part of the Work that is defective, damaged, flawed, unsuitable, nonconforming, or that fails to meet warranty subject to correction by Contractor pursuant to Section 3.1 or Section 3.2 of the General Conditions of Contract, maintain and keep in force, at Contractor's expense, the Bonds required hereunder. All bonds provided by the Contractor and its subcontractors shall include a provision guarantying performance of the prevailing wage clause contained in the Contract. The Contractor shall insert into each subcontract a requirement that not less than the prevailing rate of wages shall be paid to all laborers, workers and mechanics performing work on the project and a requirement that each subcontractor insert a comparable requirement into each lower tiered subcontract.

B. No Release of Bond Obligations. No changes, modifications, alterations, omissions, deletions, additions, extensions of time, or forbearances on the part of either Owner or Contractor to the other in or to the terms of this Contract, in or to the Contract Drawings or Specifications, in or to the schedules, methods, or manner of performance of the Work, in or to Owner-furnished facilities, equipment, materials, services, or sites, or in or to the mode or manner of payment therefor, shall operate in any way to release Contractor or any surety or affect the obligation of either of them under any Bond required to be provided by Contractor. All notice of any and all of the foregoing changes, modifications, alterations, omissions, deletions, additions, extensions of time, or forbearances, and all notice of any and all defaults by Contractor, and all notice of Owner's termination of Contractor shall be waived by every surety under every Bond provided pursuant to this Contract.

4.2 Insurance

A. Insurance Required. Contemporaneous with Contractor's execution of this Contract Agreement, Contractor shall provide certificates and policies of insurance evidencing the insurance coverages set forth in Article IV of the General Conditions of Contract and Section 4 of the Special Conditions of Contract. For good cause shown, Owner may extend the time for submission of the required policies of insurance upon such terms, and with such assurances of complete and prompt performance, as Owner may impose in the exercise of its sole discretion.

B. Additional Insureds. The insurance coverages required pursuant to this Contract shall name Owner, including its Board members and elected and appointed officials, its officers, employees, agents, attorneys, consultants, and representatives, and the Persons identified in Section 4 of the Special Conditions of Contract as additional insured parties (the "Additional Insureds"). The coverage afforded the Additional Insureds shall be primary and non-contributory insurance for the Additional Insureds with respect to claims arising out of operations performed by or on behalf of Contractor. If the Additional Insureds have other insurance which is applicable to the loss, such other insurance shall be on an excess or contingent basis. The amount of the insurance companies' liability under the insurance policies Contractor maintains shall not be reduced by the existence of such other insurance.

4.3 Indemnification

To the fullest extent permitted by law, Contractor shall indemnify, save harmless, and defend Owner, Engineer, and the Additional Insureds against any and all lawsuits, claims, demands, liabilities, losses, and expenses, including attorneys' fees and administrative expenses, that may arise, or be alleged to have arisen, out of or in connection with Contractor's, or its Subcontractors' or Suppliers', performance of, or failure to perform, the Work or any part thereof, whether or not due or claimed to be due in whole or in part to the active, passive, or concurrent negligence or fault of Contractor, except to the extent caused by the sole negligence of Owner, Engineer, or the Additional Insureds, as the case may be, including, without limitation lawsuits, claims, demands, liabilities, losses, and expenses for or on account of:

1. Any delays or interference or damage to other contractors; and

2. Labor, equipment, materials, or supplies furnished under this Contract, including all liens or notices of liens on account thereof or Contractor's failure to remove or discharge same; and

3. Contractor's failure to obtain any required permits, licenses, approvals, or authorizations; and

4. Bodily injury, sickness, disease, or death sustained by any Person or Persons or injury or damage to, or loss or destruction of, any property; and

5. Any act or omission of Contractor or any of its Subcontractors or Suppliers, including but not limited to any failure to fulfill the terms of, or comply with, any Laws or to pay any taxes, contributions, or premiums; and

6. Infringement, alleged infringement, or use of patent rights in connection with the Work and the use by Owner of any equipment, materials, supplies, processes, or inventions furnished under this Contract.

The indemnification obligations of Contractor under this Section 4.3 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any such Subcontractor or Supplier under workers' compensation acts, disability benefit acts or other employee benefit acts. Contractor's obligations under this Section 4.3 shall survive termination or completion of this Contract.

4.4 Penalties

Contractor shall be solely liable for any fines or civil penalties that are imposed by any governmental or quasi-governmental agency or body that may arise, or be alleged to have arisen, out of or in connection with Contractor's, or its Subcontractors' or Suppliers', performance of, or failure to perform, the Work or any part thereof. Contractor may contest any such fines or penalties in administrative or court proceedings; provided, however, that Contractor shall pay such fines or civil penalties prior to such protest if payment is required prior to making such protest. Contractor shall be solely responsible for all costs, including attorneys' fees and administrative expenses, of protesting any such fines or civil penalties.

ARTICLE V
CONTRACT PRICE AND PAYMENT

5.1 Contract Price

Owner shall pay to Contractor, in full satisfaction for providing, performing, and completing the Work, including such risks and changes in the Work that Contractor is responsible for dealing with under this Contract without any equitable adjustment in the Contract Price, subject to any additions or deductions provided for in this Contract, in current funds, the lump sum amount or amounts, if any, stated in the Schedule of Prices and, for each acceptable unit of each Unit Price Item, if any, installed and complete in place, measured on the basis provided in the Contract Drawings and Specifications, the Unit Price for such Unit Price Item stated in the Schedule of Prices.

5.2 Acceptance as Full Payment and Satisfaction

Contractor shall accept the Contract Price in full satisfaction and payment for well and faithfully providing, performing, and completing within the Contract Time all the Work in compliance with, and as required by or pursuant to, this Contract, including such risks and changes in the Work that Contractor is responsible for dealing with under this Contract without any equitable adjustment in the Contract Price or Contract Time. The acceptance by Contractor of Final Payment shall operate as a full and complete release of Owner and Engineer of and from any and all lawsuits, claims, demands,

damages, liabilities, losses, and expenses of, by, or to Contractor for anything done, furnished for, arising out of, relating to, or in connection with the Work or for or on account of any act or neglect of Owner or Engineer arising out of, relating to, or in connection with the Work, except the claim against Owner for the unpaid balance, if any, of any amounts retained by Owner pursuant to the Special Conditions of Contract.

5.3 Method of Payment

Progress and Final Payments shall be made to Contractor in accordance with, and subject to the terms and conditions set forth in, Article V of the General Conditions of Contract.

ARTICLE VI
LEGAL RELATIONSHIPS AND REQUIREMENTS

6.1 Binding Effect

This Contract shall be binding upon Owner and Contractor and upon their respective heirs, executors, administrators, personal representatives, and permitted successors and assigns.

Contractor agrees that if Contractor is a joint venture, then each Person participating in such joint venture shall be individually, personally, severally, and jointly responsible and liable, financially, legally, and in all other respects, for the full and proper performance of each and every provision and requirement of this Contract, notwithstanding any arrangement, understanding, or agreement to the contrary, if any, whether disclosed to Owner or not, entered into by, between or among the Persons participating in such joint venture.

6.2 Relationship of the Parties

Contractor, and its Subcontractors and Suppliers, shall act as independent contractors in providing, performing, and completing the Work. No right of supervision, requirement of approval, or other provision of this Contract and no subsequent conduct of Owner or Contractor shall be construed (1) to create the relationship of principal and agent, partners, or joint venturers between Owner and Contractor, or (2) except as provided in Paragraph 6.6B6 of the General Conditions of Contract, to create any relationship between Owner and any Subcontractor or Supplier of Contractor. The rights of Owner under this Contract, either directly or through Engineer, in the control of the quality and completeness of the Work shall not make Contractor, or any Subcontractor or Supplier of Contractor, an agent of Owner, and the liability of Contractor, and of all Subcontractors and Suppliers of Contractor, for all damages to persons or to public or private property arising from the provision, performance, or completion of the Work by Contractor, or any Subcontractor or Supplier of Contractor, shall not be lessened because of the existence, exercise, or the non-exercise of such rights.

6.3 Assignment

A. Assignment by Contractor. Contractor shall not (1) assign this Contract in whole or in part, (2) assign any of Contractor's rights or obligations under this Contract, or (3) assign any payment due or to become due under this Contract, without the prior express written consent of Owner, which consent may be withheld in the sole and unfettered discretion of Owner; provided, however, that Owner's prior written consent shall not be required for assignments of accounts, as defined in the Illinois Commercial Code, if to do so would violate Section 9-318 of the Illinois Commercial Code, 810 ILCS 5/9-318. Any attempted or purported assignment made by Contractor without the written consent of Owner shall be void and of no force or effect and shall constitute a default under this Contract for which Owner shall have the right to invoke any of its remedies under Section 6.6 of the General Conditions of Contract. In no event shall Owner's consent to any assignment of this Contract or of any of Contractor's rights under this Contract, whether in whole or in part, operate as a release or satisfaction of Contractor's responsibility and liability for the provision, performance, and completion of the Work in full compliance with the requirements of this Contract on or before the Completion Date, or for the proper performance of all other obligations of Contractor under this Contract, or for Contractor's liability on all representations and warranties made in or pursuant to this Contract. Contractor shall remain as fully responsible and liable for the acts, omissions, and performance of Contractor's assignee as Contractor is for its own acts, omissions, and performance.

B. Assignment by Owner. Owner may assign this Contract, in whole or in part, or any or all of its rights or obligations under this Contract, without the consent of Contractor. In the event of an assignment by Owner of any or all of its rights or obligations under this Contract, Owner shall be released from all liability with respect to the rights or obligations so assigned.

6.4 Confidential Information

All information supplied by Owner or Engineer to Contractor for or in connection with this Contract or the Work shall be held confidential by Contractor and shall not, without the prior express written consent of Owner, be used for any purpose other than performance of the Work. Neither Contractor nor any Subcontractor or Supplier shall own or be entitled to claim a copyright in the Contract or other documents prepared by Owner or Engineer.

Contractor shall identify any information supplied by it in providing, performing and completing the Work that is considered by it to be confidential or proprietary. Owner and Engineer shall not disclose any such designated confidential or proprietary information, unless such disclosure will not cause competitive harm, or such information was actually known to Owner or Engineer prior to its submission by Contractor, or such information was properly obtained or developed independently by Owner or Engineer, or Contractor consents to such disclosure. Notwithstanding the foregoing, Contractor acknowledges that Owner is subject to the Illinois Freedom of Information Act, 5 ILCS 140/1 et seq., and that no disclosure made in good faith by Owner pursuant to such Act shall be deemed to violate this Section.

6.5 Publicity

Owner's name or insignia, photographs of the Work or the Work Site, or any other publicity pertaining to the Work shall not be used in any magazine, trade paper, newspaper, or other medium without the express written consent of Owner.

By entering the Work Site, Contractor personnel, including Subcontractor and Supplier personnel, irrevocably authorize and grant to Owner, and to its successors, agents, representatives, and assigns, the irrevocable and unrestricted right, permission, and authority to:

1. Use the likeness and/or voice of such personnel in photographs, time-lapse photography, film, video, digital recordings, and other media in any magazine, trade paper, newspaper, or other medium, whether now known or hereafter existing, including newsletters, brochures, viewbooks, movies, tapes, diskettes, promotional items, and websites, without prior approval or inspection, without payment, compensation, or any other consideration, including royalties, and without liability; and

2. Use, edit, alter, copy, exhibit, publish, broadcast, distribute, and otherwise reproduce, modify, and display such likenesses and/or voices, in whole or in part, for purposes of publicizing Owner's activities and for any other lawful purpose in any manner, media, and medium.

Contractor shall, upon request of Owner, execute, acknowledge, and deliver such further instruments and take such action as may be necessary, desirable, or proper to carry out more effectively the purposes of this Section 6.5.

6.6 No Waivers

No examination, inspection, investigation, test, measurement, review, determination, decision, certificate or approval by Owner or Engineer, nor any order by Owner for the payment of money, nor any payment for, or use, occupancy, possession, or acceptance of, the whole or any part of the Work by Owner, nor any extension of time granted by Owner, nor any delay by Owner in exercising any right under this Contract, nor any other act or omission of Owner or Engineer shall constitute or be deemed to be an acceptance of any defective, damaged, flawed, unsuitable, nonconforming or incomplete Work, equipment, materials, or supplies, nor operate to waive or otherwise

diminish the effect of any warranty or representation made by Contractor; or of any requirement or provision of this Contract; or of any remedy, power, or right of Owner.

No notices required to be given to Owner under this Contract are intended to be waived by Owner, and no action or inaction by Owner or Engineer shall be construed as waiving any such notice.

6.7 No Third Party Beneficiaries

No claim as a third party beneficiary under this Contract by any Person other than Contractor shall be made or be valid against Owner and Owner shall not be liable for or be held to pay any money to any such Person.

6.8 Notices

All notices required or permitted to be given under this Contract shall be in writing and shall be deemed received by the addressee thereof when delivered in person or sent by electronic mail on a business day at the address set forth below or on the third business day after being deposited in any main or branch United States post office, for delivery at the address set forth below by properly addressed, postage prepaid, certified or registered mail, return receipt requested.

Notices and communications to Owner shall be addressed to, and delivered at, the following address:

DuPage Water Commission
600 East Butterfield Road
Elmhurst, Illinois 60126-4642
Attention: General Manager
may@dpwc.org

Notices and communications to Contractor shall be addressed to, and delivered at, the following address:

D. Construction Inc. & Benchmark Construction Co., Inc., a Joint Venture
1488 S. Broadway
Coal City, IL 60416
(with copies of all correspondence to 2260 Southwind Blvd, Bartlett IL, 60103)
Attention: Kenneth Sandeno & Mark Atkins Jr.

The foregoing shall not be deemed to preclude the use of other non-oral means of notification or to invalidate any notice properly given by any such other non-oral means.

By notice complying with the requirements of this Section, Owner and Contractor each shall have the right to change the address or addressee or both for all

future notices to it, but no notice of a change of address shall be effective until actually received.

6.9 Governing Laws; Venue; Attorney's Fees

This Contract and the rights of Owner and Contractor under this Contract shall be interpreted according to the internal laws of the State of Illinois. This Contract and the rights of Owner and Contractor under this Contract shall be interpreted according to the internal laws of the State of Illinois. The parties agree that all disputes between them, whether arising out of or related to the Contract or arising out of any statute, regulation or common law, will be litigated exclusively in the Circuit Court of the Eighteenth Judicial Circuit, DuPage County, Illinois. The parties expressly consent to the exclusive jurisdiction and venue of such court, and covenant not to sue in any other court or tribunal, state, federal or otherwise. The parties waive their right to argue that this court is an inconvenient forum. In the event either party initiates litigation under or regarding this Contract or the Project, the substantially prevailing party shall be entitled to its reasonable attorney's fees and costs including, without limitation, expert witness costs. The determination of who is the substantially prevailing party and the amount that will be paid will be decided by the court that presides over the dispute. This section is intended to be severable and shall survive the termination of this agreement.

6.10 Changes in Laws

Unless otherwise explicitly provided in this Contract, any reference to Laws shall include such Laws as they may be amended or modified from time to time.

6.11 Compliance with Laws and Grants

A. Compliance with Laws. Contractor shall give all notices, pay all fees, and take all other action that may be necessary to ensure that the Work is provided, performed, and completed in accordance with the requirements of all governmental permits, licenses, or other approvals or authorizations that may be required in connection with providing, performing, and completing the Work and with all applicable Laws, including, without limitation, the Prevailing Wage Act, 820 ILCS 130/0.01 et seq. (if the Illinois Department of Labor revises the prevailing rate of hourly wages to be paid, the revised rate shall apply to this Contract); any other prevailing wages Laws; the Fair Labor Standards Act; any Laws regarding qualification to do business; any Laws requiring preference to laborers of specified classes; the Illinois Steel Products Procurement Act, 30 ILCS 565/1 et seq.; any Laws prohibiting discrimination because of, or requiring affirmative action based on, race, creed, color, national origin, age, sex, or other prohibited classification, including, without limitation, the Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101 et seq., the Illinois Human Rights Act, 775 ILCS 5/1-101 et seq. and the Public Works Employment Discrimination Act, 775 ILCS 10/1 et seq.; any Laws respecting the assumption of liability for taxes, contributions, and premiums for unemployment insurance, old age or retirement benefits, pensions, annuities, or other similar benefits for Contractor's and Subcontractors' employees; and any Laws regarding

safety or the performance of the Work, including the Illinois Structural Work Act, the Illinois Underground Utility Facilities Damage Prevention Act, and the Occupational Safety and Health Act. Contractor shall keep itself fully informed of all Laws affecting this Contract; affecting those engaged or employed on the Work; affecting the equipment, materials, and supplies used in the Work; affecting the conduct of the Work; and affecting the rights, duties, powers, or obligations of Owner or of Contractor; and shall also keep itself fully informed of all orders, decrees, and other requirements of bodies or tribunals having any jurisdiction or authority over any of the foregoing. Contractor shall display all permits, licenses, and other approvals and authorizations as required by Law.

This Project is subject to the provisions of the Illinois Prevailing Wage Act (820 ILCS 130/0.01 *et seq.*), providing for the payment of the prevailing rate of wage to all laborers, workmen and mechanics engaged in the Work. Contractor shall pay prevailing rates of wages in accordance with the Illinois Department of Labor's wage determination, and any subsequent determinations issued by the Illinois Department of Labor. These revisions may be accessed by computer at https://labor.illinois.gov/laws-rules/conmed/prevailing-wage-rates.html. Contractor is responsible for determining the applicable prevailing wage rates at the time of bid submission and at the time of performance of the Work. Failure of Contractor to make such determination shall not relieve it of its obligations in accordance with the Contract Documents. Contractor shall also comply with all other requirements of the Act including without limitation those pertaining to inclusion of required language in subcontracts, job site posting, maintenance and submission of certified payroll records and inspection of records. All certified payroll documents for this project shall be submitted directly to the Illinois Department of Labor ("IDOL") through the IDOL Certified Transcript of Payroll Portal, which can be accessed at: https://labor.illinois.gov/laws-rules/conmed/certifiedtranscriptofpayroll.html.

B. Compliance by Subcontractors and Suppliers. Contractor shall, at all times, cause all of its Subcontractors and Suppliers to observe and comply with all such Laws.

C. Noncompliance of Contract Documents. Contractor shall promptly examine the Contract Drawings and Specifications and other Contract Documents and report to Owner any respects in which it appears that any of them may fail to conform to any applicable Laws.

D. Verification of Compliance. At or before the time of Owner's Final Acceptance of the Work, Contractor shall deliver to Owner all certificates, receipts, or other evidences of approval, acceptance, or payment of fees that may be required to establish the compliance of the Work with all applicable Laws, permits, licenses, approvals, authorizations, or other requirements.

E. Provisions Deemed Inserted. Each and every provision required by Law to be inserted in this Contract shall be deemed to be inserted herein, and this Contract shall be read and enforced as though all such provisions were set out in full in this Contract. If through mistake or otherwise any such provision is not set out in this

Contract, or is not correctly set out in this Contract, then upon the application of either Owner or Contractor, this Contract shall forthwith be physically amended to correctly set out such provision.

F. Compliance With Grant Conditions. Contractor shall comply with all conditions of, and all Laws applicable to, and all policies, practices, and procedures of Owner applicable to, any federal, state, or local grant received by Owner or by Contractor at any time with respect to this Contract or with respect to the provision, performance, or completion of the Work.

G. Regulatory Authority. Nothing in this Contract shall be construed to waive or limit any aspect of Owner's lawful authority to regulate the activities of Contractor, its Subcontractors, or any other Person or to regulate the Work, the Work Site, or any other matter falling within its lawful regulatory jurisdiction and powers. No review, inspection, test, audit, measurement, order, determination, decision, disapproval, approval, payment for, or use or acceptance of, the Work, or any other act or omission of Owner shall imply, create any interest in, be deemed to be the issuance of, or require Owner to issue any license or permit to Contractor or any Subcontractor.

6.12 Compliance with Patents

A. Patent Rights. Contractor shall do all things necessary to obtain such rights and licenses as may be necessary in connection with all costs, royalties, and fees arising from the use on, or the incorporation into, the Work of patented equipment, materials, supplies, tools, appliances, devices, processes, or inventions.

B. Effect of Contractor Being Enjoined. Should Contractor be enjoined from furnishing or using any equipment, materials, supplies, tools, appliances, devices, processes, or inventions supplied or required to be supplied or used under this Contract, Contractor shall promptly offer substitute equipment, materials, supplies, tools, appliances, devices, processes, or inventions in lieu thereof, of equal efficiency, quality, suitability, and market value, for review by Owner. If Owner should disapprove the offered substitutes and should elect, in lieu of a substitution, to have supplied, and to retain and use, any such equipment, materials, supplies, tools, appliances, devices, processes, or inventions as may by this Contract be required to be supplied, Contractor shall pay such royalties and secure such valid licenses as may be requisite and necessary for Owner to use such equipment, materials, supplies, tools, appliances, devices, processes, or inventions without being disturbed or in any way interfered with by any proceeding in law or equity on account thereof. Should Contractor neglect or refuse to make any approved substitution promptly, or to pay such royalties and secure such licenses as may be necessary, then Owner shall have the right to make such substitution, or Owner may pay such royalties and secure such licenses and charge the cost thereof against any money due Contractor from Owner or recover the amount thereof from Contractor and its surety or sureties notwithstanding that Final Payment may have been made.

6.13 Severability

The provisions of this Contract shall be interpreted when possible to sustain their legality and enforceability as a whole. In the event any provision of this Contract shall be held invalid, illegal, or unenforceable by a court of competent jurisdiction, in whole or in part, neither the validity of the remaining part of such provision, nor the validity of any other provisions of this Contract, shall be in any way affected thereby. The unenforceability of any provision of this Contract in a specific situation shall not affect the enforceability of that provision in any other situation.

6.14 Entire Agreement

This Contract sets forth the entire agreement of Owner and Contractor with respect to the accomplishment of the Work and the payment of the Contract Price therefor, and there are no other understandings or agreements, oral or written, between Owner and Contractor with respect to the Work and the compensation therefor, nor was the making and execution of this Contract induced by any representation, statement, warranty, agreement, or action other than those expressed or explicitly referenced herein.

6.15 Amendments

No modification, addition, deletion, revision, alteration or other change to this Contract shall be effective unless and until such change is reduced to writing and executed and delivered by Owner and Contractor.

6.16 Counterparts

This Contract is being executed in five original counterparts, each of which shall be deemed to be an original.

IN WITNESS WHEREOF, Owner and Contractor have caused this Contract Agreement to be executed as of the day and year first written above.

Attest/Witness: **DuPAGE WATER COMMISSION**

By: _____ By: _____
Paul D. May, P.E.

Title: _____ Title: General Manager

D. Construction Inc. & Benchmark Construction Co., Inc.

Attest/Witness:

By: _____ By: _____

Mark Atkins Jr.
Benchmark Construction Co., Inc.

Title: _____ Title: _____

Attest/Witness:

By: _____ By: _____

Kenneth Sandeno
D. Construction, Inc.

Title: _____ Title: _____

SEE GENERAL INSTRUCTIONS TO BIDDERS, SECTION 8, FOR SIGNATURE REQUIREMENTS

STATE OF ILLINOIS)
) SS
COUNTY OF _____)

CONTRACTOR'S CERTIFICATION

Mark Atkins Jr. and Kenneth Sandeno, being first duly sworn on oath, deposes and states that all statements made herein are made on behalf of Contractor, that this deponent is authorized to make them, and that the statements contained herein are true and correct.

Contractor deposes, states, and certifies that Contractor is not barred from contracting with a unit of state or local government as a result of (i) a violation of either Section 33E-3 or Section 33E-4 of Article 33 of the Criminal Code of 1961, 720 ILCS 5/33E-1 et seq.; or (ii) a violation of the USA Patriot Act of 2001, 107 Public Law 56 (October 26, 2001) (the "Patriot Act") or other statutes, orders, rules, and regulations of the United States government and its various executive departments, agencies and offices related to the subject matter of the Patriot Act, including, but not limited to, Executive Order 13224 effective September 24, 2001.

DATED this _ day of 20___.

Attest/Witness:

By: _____ By: _____
Mark Atkins Jr.
Benchmark Construction Co., Inc.

Title: _____ Title: _____

Attest/Witness:

By: _____ By: _____
Kenneth Sandeno
D. Construction, Inc.

Title: _____ Title: _____

Subscribed and Sworn to
before me this ____ day
of _____, 20___.

My Commission Expires: _____

_____ [SEAL]
Notary Public

**SEE GENERAL INSTRUCTIONS TO BIDDERS, SECTION 8,
FOR SIGNATURE REQUIREMENTS**

DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

SCHEDULE OF PRICES

00 42 22 BID FORM

PART 1 - GENERAL

1.01 SUMMARY

A. See Special Instructions to Bidders.

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
ALTERNATES TABLE					
A1	54-INCH STEEL WATER MAIN BY OPEN-CUT	LF	14,840	1,405.00	20,850,200.00
A2	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400	17,623.00	24,672,200.00
A3	ALTERNATE A SUBTOTAL (A1 + A2)				45,522,400.00
B1	54-INCH PCCP WATER MAIN BY OPEN-CUT	LF	14,840	1,281.75	19,021,170.00
B2	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400	17,500.00	24,500,000.00
B3	ALTERNATE B SUBTOTAL (B1 + B2)				43,521,170.00
C1	48-INCH STEEL WATER MAIN BY OPEN-CUT	LF	14,840	1,387.00	20,583,080.00
C2	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400	17,605.00	24,647,000.00
C3	ALTERNATE C SUBTOTAL (C1 + C2)				45,230,080.00
D1	48-INCH PCCP WATER MAIN BY OPEN-CUT	LF	14,840	1,227.00	18,208,680.00
D2	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400	17,445.00	24,423,000.00
D3	ALTERNATE D SUBTOTAL (D1 + D2)				42,631,680.00
BASE BID TABLE					
1	MOBILIZATION	LS	1	3,900,000.00	3,900,000.00
2	TEMPORARY FIELD OFFICE	MNTH	18	8,000.00	144,000.00
3	16-INCH BUTTERFLY VALVE IN VAULT	EA			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
4	20-INCH BUTTERFLY VALVE IN VAULT	EA			
5	24-INCH BUTTERFLY VALVE IN VAULT	EA			
6	24-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
7	30-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
8	36-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
9	36-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
10	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (75TH STREET – STA 25+00) (OWNER-FURNISHED VALVE)	LS	1	1,000,000.00	1,000,000.00
11	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (75TH STREET – STA 29+25) (OWNER-FURNISHED VALVE)	LS	1	900,000.00	900,000.00
12	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE AND DISINFECTION BYPASS ASSEMBLY (BOOK ROAD) (OWNER-FURNISHED VALVE)	LS	1	500,000.00	500,000.00
13	54-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (OWNER-FURNISHED VALVE)	EA	2	400,000.00	800,000.00
14	54-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT (OWNER-FURNISHED VALVE)	EA	1	450,000.00	450,000.00
15	54-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
16	54-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
17	AIR RELEASE VALVE MANHOLE (24-INCH DIA. AND SMALLER PIPE)	EA			
18	AIR RELEASE AND ACCESS MANHOLE (TYPE 1)	EA	5	60,000.00	300,000.00

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
19	AIR RELEASE AND ACCESS MANHOLE (TYPE 2)	EA	9	75,000.00	675,000.00
20	BLOW-OFF VALVE WITH MANHOLE (30-INCH DIA. AND SMALLER PIPE)	EA			
21	BLOW-OFF VALVE WITH MANHOLE (36-INCH DIA. AND LARGER PIPE)	EA	5	85,000.00	425,000.00
22	16-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
23	16-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
24	20-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
25	20-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
26	24-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
27	24-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
28	30-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
29	36-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
30	36-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
31	36-INCH PCCP WATER MAIN BY OPEN-CUT	LF			
32	36-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
33	36-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
34	36-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
35	48-INCH PCCP WATER MAIN BY OPEN-CUT	LF			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
36	48-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
37	48-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
38	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
39	48-INCH STEEL WATER MAIN BY OPEN-CUT (BOOK ROAD STA 752+60.00 TO 756+64.30)	LF	430	1,000.00	430,000.00
40	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION (BOOK ROAD STA 756+64.30 TO 758+52.24)	LF	188	15,000.00	2,820,000.00
41	54-INCH PCCP WATER MAIN BY OPEN-CUT	LF			
42	54-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
43	54-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
44	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
45	60-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
46	60-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
47	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 25+00)	LS	1	1,000,000.00	1,000,000.00
48	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 26+22)	LS	1	1,500,000.00	1,500,000.00
49	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 29+25)	LS	1	1,000,000.00	1,000,000.00
50	30-INCH STUB FOR FUTURE CONNECTION	LS	1	100,000.00	100,000.00
51	REMOVE 36-INCH TEST PLUG AND CONNECT TO 36-INCH WATER MAIN (ADJACENT CONTRACT)	EA			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
52	REMOVE 54-INCH TEST PLUG AND CONNECT TO 54-INCH WATER MAIN (ADJACENT CONTRACT)	EA	1	50,000.00	50,000.00
53	TRENCH BACKFILL (SELECT MATERIAL)	CY	39,240	1.00	39,240.00
54	TRENCH BACKFILL (NATIVE MATERIAL)	CY			
55	CATHODIC PROTECTION SYSTEM	LS	1	300,000.00	300,000.00
56	EARTH EXCAVATION	CY	4,210	30.00	126,300.00
57	AGGREGATE BASE COURSE, TYPE B 2-INCH	SY	760	8.00	6,080.00
58	AGGREGATE BASE COURSE, TYPE B 4-INCH	SY	70	10.00	700.00
59	AGGREGATE BASE COURSE, TYPE B 6-INCH	SY	25,100	10.00	251,000.00
60	PORTLAND CEMENT CONCRETE BASE COURSE, 8-INCH	SY			
61	BITUMINOUS MATERIALS (PRIME COAT)	LB	53,000	0.01	530.00
62	BITUMINOUS MATERIALS (TACK COAT)	LB	25,220	0.01	252.20
63	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	13,590	76.00	1,032,840.00
64	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON			
65	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX D, N50	TON	6,470	80.00	517,600.00
66	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX D, N70	TON			
67	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 8-INCH	SY			
68	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 12-INCH	SY			
69	PORTLAND CEMENT CONCRETE PAVEMENT, 12-INCH	SY			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
70	PROTECTIVE COAT	SY			
71	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6-INCH	SY			
72	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8-INCH	SY	70	100.00	7,000.00
73	PORTLAND CEMENT CONCRETE SIDEWALK, 5-INCH	SF			
74	PORTLAND CEMENT CONCRETE SIDEWALK, 6-INCH	SF	6,720	14.00	94,080.00
75	DETECTABLE WARNINGS	SF	400	40.00	16,000.00
76	PAVEMENT REMOVAL	SY	24,290	16.00	388,640.00
77	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2-INCH	SY			
78	HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4-INCH	SY	32,470	2.15	69,810.50
79	DRIVEWAY PAVEMENT REMOVAL	SY	430	16.00	6,880.00
80	COMBINATION CURB AND GUTTER REMOVAL	LF	3,630	10.00	36,300.00
81	SIDEWALK REMOVAL	SF	6,590	3.00	19,770.00
82	MEDIAN REMOVAL	SF			
83	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	LF	3,630	28.00	101,640.00
84	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18	LF			
85	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	LF			
86	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-4.12	LF			
87	CONCRETE MEDIAN, TYPE SB-6.18	SF			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
88	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6-FOOT POSTS	LF	50	48.00	2,400.00
89	LONG-SPAN GUARDRAIL OVER CULVERT, 12-FOOT 6-INCH SPAN	LF	30	65.00	1,950.00
90	TRAFFIC BARRIER TERMINAL, TYPE 1B	EA	2	2,300.00	4,600.00
91	TRAFFIC BARRIER TERMINAL, TYPE 2	EA	2	1,700.00	3,400.00
92	GUARDRAIL REMOVAL	LF	160	7.00	1,120.00
93	PAVEMENT MARKING BLACKOUT TAPE, 6-INCH	LF	1,220	4.00	4,880.00
94	CHANGEABLE MESSAGE SIGN	CAL DAY	2,920	25.00	73,000.00
95	SHORT TERM PAVEMENT MARKING	LF	9,190	2.00	18,380.00
96	SHORT TERM PAVEMENT MARKING REMOVAL	SF	3,610	3.00	10,830.00
97	TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS – PAINT	SF	190	3.00	570.00
98	TEMPORARY PAVEMENT MARKING – LINE 4-INCH – PAINT	LF	23,150	0.50	11,575.00
99	TEMPORARY PAVEMENT MARKING – LINE 6-INCH – PAINT	LF			
100	TEMPORARY PAVEMENT MARKING – LINE 24-INCH – PAINT	LF	100	3.00	300.00
101	TEMPORARY PAVEMENT MARKING – LINE 4-INCH – TYPE IV TAPE	LF	6,230	3.00	18,690.00
102	TEMPORARY PAVEMENT MARKING – LINE 6-INCH – TYPE IV TAPE	LF			
103	TEMPORARY CONCRETE BARRIER	LF	2,170	30.00	65,100.00
104	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 2	EA	4	6,500.00	26,000.00

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
105	RELOCATE SIGN PANEL ASSEMBLY – TYPE A	EA	21	255.00	5,355.00
106	THERMOPLASTIC PAVEMENT MARKING – LETTERS AND SYMBOLS	SF	1,040	6.00	6,240.00
107	THERMOPLASTIC PAVEMENT MARKING – LINE 4-INCH	LF	64,350	1.00	64,350.00
108	THERMOPLASTIC PAVEMENT MARKING – LINE 6-INCH	LF	4,910	1.50	7,365.00
109	THERMOPLASTIC PAVEMENT MARKING – LINE 12-INCH	LF	2,460	3.50	8,610.00
110	THERMOPLASTIC PAVEMENT MARKING – LINE 24-INCH	LF	300	7.00	2,100.00
111	PAVEMENT MARKING REMOVAL – GRINDING	SF	16,010	1.00	16,010.00
112	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2-INCH DIA.	LF	1,380	28.00	38,640.00
113	HANDHOLE	EA	3	2,600.00	7,800.00
114	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EA	6	2,900.00	17,400.00
115	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, ONE PAIR	LF	820	2.00	1,640.00
116	DRILL EXISTING HANDHOLE	EA	2	482.00	964.00
117	DETECTOR LOOP, TYPE I	LF	320	74.00	23,680.00
118	DETECTOR LOOP REPLACEMENT	LF	1,770	55.00	97,350.00
119	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EA	5	20,000.00	100,000.00
120	MODIFY EXISTING CONTROLLER	EA	6	2,500.00	15,000.00
121	REBUILD EXISTING HANDHOLE	EA			
122	REMOVE EXISTING HANDHOLE	EA	3	660.00	1,980.00
123	CLASS D PATCHES, 12-INCH	SY	1,630	130.00	211,900.00

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
124	BIKE PATH REMOVAL	SY			
125	MAILBOX REMOVE AND REPLACE	EA	2	500.00	1,000.00
126	FENCE REMOVAL AND REINSTALLATION	LF			
127	TEMPORARY ACCESS (PRIVATE ENTRANCE)	EA	12	500.00	6,000.00
128	TEMPORARY ACCESS (COMMERCIAL ENTRANCE)	EA	2	1,000.00	2,000.00
129	TEMPORARY ACCESS (ROAD)	EA	10	1,000.00	10,000.00
130	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LS	1	189,135.30	189,135.30
131	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 4-INCH	SY	330	36.00	11,880.00
132	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 10-INCH	SY			
133	DRAINAGE AND UTILITY STRUCTURES TO BE ADJUSTED	EA	10	1,000.00	10,000.00
134	DRAINAGE AND UTILITY STRUCTURES TO BE RECONSTRUCTED	EA	1	5,000.00	5,000.00
135	TEMPORARY INFORMATION SIGNING	SF	160	25.00	4,000.00
136	TEMPORARY PAVEMENT	SY	740	43.00	31,820.00
137	TEMPORARY TRAFFIC SIGNAL TIMING	EA	27	650.00	17,550.00
138	HOT-MIX ASPHALT SURFACE REMOVAL – BUTT JOINT	SY	740	1.00	740.00
139	TELESCOPING STEEL SIGN SUPPORT	LF	25	25.00	625.00
140	METAL POST – TYPE A	LF	25	25.00	625.00
141	EROSION CONTROL SEEDING, LAWN MIXTURE (CLASS 1)	LB	830	30.00	24,900.00
142	EROSION CONTROL SEEDING, ROADSIDE MIXTURE (CLASS 2)	LB	660	28.00	18,480.00

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
143	EROSION CONTROL SEEDING – PASTURE MIXTURE	LB			
144	EROSION CONTROL SEEDING – SPORTS TURF MIXTURE	LB			
145	HIGH VISIBILITY SAFETY FENCE	LF	30,100	6.00	180,600.00
146	TREE AND SHRUBBERY PROTECTION	EA	130	500.00	65,000.00
147	TREE REMOVAL (6- TO 15-UNIT DIAMETER)	EA			
148	TREE REMOVAL (OVER 15-UNIT DIAMETER)	EA			
149	TREE REMOVAL (AREA)	AC			
150	DUAL FENCE BARRIER (HIGH-VISIBILITY GEOTEXTILE OUTER FENCE)	LF	3,830	10.00	38,300.00
151	SILT FENCE	LF	11,000	6.00	66,000.00
152	INLET PROTECTION, CURB	EA	15	300.00	4,500.00
153	INLET PROTECTION, AREA	EA	40	300.00	12,000.00
154	ROLLED EROSION CONTROL PRODUCTS	LF			
155	UTILITY RELOCATION/IMPROVEMENT	EA			
156	REMOVE AND REPLACE COMMUNICATIONS LINE	LF			
157	LIGHT POLE RELOCATION	EA			
158	WATER MAIN RELOCATION	LS			
159	REMOVE AND REPLACE 2-INCH GAS MAIN	LF			
160	REMOVE AND REPLACE 4-INCH GAS MAIN	LF			
161	REMOVE AND REPLACE 6-INCH GAS MAIN	LF			
162	REMOVE AND REPLACE 6-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
163	REMOVE AND REPLACE 8-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	130	359.00	46,670.00

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
164	REMOVE AND REPLACE 12-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
165	REMOVE AND REPLACE 15-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
166	REMOVE AND REPLACE 16-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
167	REMOVE AND REPLACE 18-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
168	REMOVE AND REPLACE 24-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
169	REMOVE AND REPLACE 12-INCH FES	EA			
170	REMOVE AND REPLACE 15-INCH FES	EA			
171	REMOVE AND REPLACE 18-INCH FES	EA	1	25,800.00	25,800.00
172	REMOVE AND REPLACE 24-INCH FES	EA			
173	REPLACE 4-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
174	REPLACE 6-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
175	REPLACE 8-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
176	REPLACE 10-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	240	225.00	54,000.00
177	REPLACE 12-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	630	255.00	160,650.00
178	REPLACE 15-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	191	281.00	53,671.00
179	REPLACE 16-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
180	REPLACE 18-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	260	296.00	76,960.00

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
181	REPLACE 20-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
182	REPLACE 24-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	270	385.00	103,950.00
183	REPLACE 30-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
184	REPLACE 36-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
185	REPLACE 42-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
186	REMOVE AND REPLACE HEADWALL OF 36-INCH RCP CULVERT	LS			
187	REMOVE AND REPLACE 12-INCH STORM CULVERT WITH 12-INCH CMP CULVERT	LF			
188	REMOVE AND REPLACE 15-INCH STORM CULVERT WITH 15-INCH CMP CULVERT	LF			
189	REMOVE AND REPLACE 24-INCH STORM CULVERT WITH 24-INCH CMP CULVERT	LF			
190	REMOVE AND REPLACE 30-INCH STORM CULVERT WITH 30-INCH CMP CULVERT	LF	60	385.00	23,100.00
191	REMOVE AND REPLACE 48-INCH BY 48-INCH REINFORCED CONCRETE BOX CULVERT	LF			
192	REMOVE AND REPLACE HEADWALL OF 65-INCH BY 65-INCH BOX CULVERT	LS			
193	REMOVE AND REPLACE CATCH BASIN	EA	21	7,000.00	147,000.00
194	REMOVE AND REPLACE STORM MANHOLE	EA			
195	REMOVE AND REPLACE INLET	EA	1	7,000.00	7,000.00
196	CONNECTION TO EXISTING SEWER STRUCTURE	EA	42	1,200.00	50,400.00
197	REMOVE AND REPLACE DUAL STORM CULVERTS 36-INCH AND HEADWALLS	LS	1	104,000.00	104,000.00

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
198	CROSSING EXISTING 58-INCH BY 91-INCH ELLIPTICAL CONCRETE PIPE (BOOK ROAD)	LS	1	182,000.00	182,000.00
199	STEEL SHEET PILING COFFERDAM	SF			
200	STRUCTURAL LINER FOR WATER MAIN	LF			
201	STRUCTURAL LINER FOR SEWERS	LF			
202	MS 31A METERING STATION (MONTGOMERY 1)	LS			
203	MS 31B METERING STATION (MONTGOMERY 2)	LS			
204	MS 32A METERING STATION (OSWEGO 1)	LS			
205	MS 32B METERING STATION (OSWEGO 2)	LS			
206	MS 32C METERING STATION (OSWEGO 3)	LS			
207	MS 33A METERING STATION (YORKVILLE 1)	LS			
208	MS 33B METERING STATION (YORKVILLE 2)	LS			
209	CHEMICAL FEED BUILDING	LS			
210	VERTICAL DROP STRUCTURES (STA 619+71 AND STA 623+24)	LS	1	460,000.00	460,000.00
211	VERTICAL DROP STRUCTURES (STA 677+21 AND STA 679+55)	LS	1	460,000.00	460,000.00
212	VERTICAL DROP STRUCTURES (STA 700+39 AND STA 708+30)	LS	1	460,000.00	460,000.00
213	VERTICAL DROP STRUCTURES (STA 724+89 AND STA 726+79)	LS	1	460,000.00	460,000.00
IND1	EXPLORATORY EXCAVATION	CF	1,000	50.00	50,000.00
IND2	EXPLORATORY EXCAVATION, VACUUM	EA	12	1,886.00	22,632.00

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
IND3	ADJUST WATER SERVICE LINE	LF	100	254.00	25,400.00
IND4	ADJUST SEWER SERVICE LINE	LF	100	506.00	50,600.00
IND5	REMOVE AND REPLACE DRAIN TILE	LS			
ALL1	ALLOWANCE: CITY OF NAPERVILLE DPU-E ELECTRIC SERVICES	LS	1	$25,000	$25,000
BB1	BASE BID SUBTOTAL (SUM OF BID PRICE FOR ITEMS 1–213 + IND 1–5 + ALL1)		$23,626,830.00		

Steel Pipe Manufacturer: Northwest

PCCP Manufacturer: Thompson Pipe Group Pressure

TOTAL BID PRICE TABLE
ALTERNATE A (54-INCH STEEL) TOTAL BID PRICE (A3 + BB1)
TOTAL BID PRICE ($ Figures)
69,149,230.00
TOTAL BID PRICE (Words)
Sixty-nine million, one hundred forty-nine thousand, two hundred thirty dollars and zero cents
ALTERNATE B (54-INCH PCCP) TOTAL BID PRICE (B3 + BB1)
TOTAL BID PRICE ($ Figures)
67,148,000.00
TOTAL BID PRICE (Words)
Sixty seven million, one hundred forty-eight thousand dollars and zero cents
ALTERNATE C (48-INCH STEEL) TOTAL BID PRICE (C3 + BB1)
TOTAL BID PRICE ($ Figures)
68,856,910.00
TOTAL BID PRICE (Words)
Sixty eight million, eight hundred fifty six thousand, nine hundred and ten dollars and zero cents
ALTERNATE D (48-INCH PCCP) TOTAL BID PRICE (D3 + BB1)
TOTAL BID PRICE ($ Figures)
66,258,510.00
TOTAL BID PRICE (Words)
Sixty-six million, two hundred fifty-eight thousand, five hundred and ten dollars and zero cents

DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

GENERAL CONDITIONS OF CONTRACT

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DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

GENERAL CONDITIONS OF CONTRACT

ARTICLE I
PERFORMANCE OF THE WORK

1.1 Performance Standards and Obligations

A. Quality of Work.

1. General Standard. All Work shall be provided, performed, and completed in a proper and workmanlike manner, consistent with the highest standards of professional and construction practices and in full compliance with, and as required by or pursuant to, this Contract, and with the greatest economy, efficiency, and expedition consistent therewith. All equipment, materials, and supplies incorporated into the Work shall be new and undamaged and shall be the best of their respective kinds for their intended use.

2. Referenced Standards. References to standards, specifications, manuals, or codes of any technical society, organization, or association, or to codes of local, state or federal authorities, shall mean the latest standard, specification, manual or code adopted and published at the date of the Bidder's Proposal, unless specifically stated otherwise. However, no provision of any referenced standard, specification, manual or code shall change the duties and responsibilities of Owner, Engineer, or Contractor from those set forth in this Contract.

3. Proprietary Standards and Equivalency. Whenever any equipment, materials or supplies are specified or described in this Contract by using the name or other identifying feature of a proprietary product or the name or other identifying feature of a particular manufacturer or vendor, the specific item mentioned shall be understood as establishing the type, function and quality desired. Other manufacturers' or vendors' products may be accepted, provided sufficient information is submitted to allow Engineer to determine that the products proposed are equivalent in substance and function to those named. The equivalency of any product proposed shall be determined by Engineer, in its sole and absolute discretion, and no such product shall be purchased, fabricated or installed until equivalency shall have been determined, in writing, by Engineer. Engineer's written decision with respect to equivalency shall be final.

B. Timeliness of Work.

1. Time is of the Essence. The time of beginning, rate of progress, and time of completion of the Work is of the essence of this Contract.

Contractor shall be solely responsible for completing the Work in a timely fashion. Contractor shall promptly, continuously, diligently, vigorously, and systematically provide and perform the Work, and all component parts of the Work, within such time or times as may be set forth in this Contract or in the Approved Schedule and to the ends that, and at a rate, with due allowances and contingencies for difficulties or obstructions that may arise out of, or be encountered as a result of, adverse weather conditions, equipment breakdowns, subsurface, underground or other concealed conditions or obstructions, buried structures, utility locations or conditions, adverse soil conditions, and changed site conditions due to work by other contractors, that assures that, all Work, and all component parts of the Work, will be completed and ready for inspection and testing when required pursuant to this Contract and that all Work will be completed in full compliance with, and as required by or pursuant to, this Contract within the Contract Time. Contractor shall cooperate with Owner and Engineer to assure maximum coordination and efficiency in the progress of the Work.

2. Approved Schedule. Unless otherwise provided in the Special Conditions of Contract or the Specifications, Contractor shall submit to Engineer, within 30 Days after the execution of this Contract, a detailed schedule of the Work showing the time of beginning and completion for at least every major component of the Work. Such schedule shall be presented in graphical form using the bar graph method or a time-sequence method, but not a critical path method. Such schedule shall logically and realistically relate the performance of each component of the Work to each other component of the Work and to the whole of the Work so as to demonstrate that sufficient time has been allowed for the completion of each component without interference or delay from or to any other component and with due allowances and contingencies for difficulties or obstructions that may arise out of, or be encountered as a result of, adverse weather conditions, equipment breakdowns, subsurface, underground or other concealed conditions or obstructions, buried structures, utility locations or conditions, adverse soil conditions, and changed site conditions due to work by other contractors. The schedule shall demonstrate Contractor's ability to comply with the requirements of Paragraph 1.1B1 above. Engineer shall return a copy of the schedule to Contractor with such exceptions noted as Engineer may deem appropriate and Contractor shall submit a revised schedule to Engineer within two business days. If acceptable, Engineer shall return a copy of the schedule to Contractor with no exceptions noted or an equivalent notation ("Approved Schedule"). Engineer may require the Approved Schedule to be revised or updated as frequently as Engineer may deem necessary prior to Final Acceptance of the Work.

3. No Liability. Review and stamping of any Approved Schedule by Engineer shall not constitute approval or acceptance of the schedule or an extension or waiver of the Contract Time and no review by Engineer, no noting of an exception by Engineer, and no failure to note an exception by Engineer shall relieve Contractor of the entire responsibility for the performance of the Work in full compliance with the requirements of this Contract within the Contract Time. Engineer's review and stamping, with or without exceptions noted, of any Approved Schedule shall not be regarded as an any assumption of risk or liability by Owner or Engineer. Contractor shall have no claim

under this Contract on account of any error, omission, or defect in, or revealed by, any Approved Schedule so reviewed and stamped or any failure, partial failure, or inefficiency of any Approved Schedule so reviewed and stamped. Engineer's stamping of any Approved Schedule with no exception noted or an equivalent notation shall be considered to mean merely that Engineer has no objection to Contractor proceeding, upon its own full responsibility and liability, with the schedule or schedules proposed.

4. Acceleration. If, at any time, the Work, or any component part of the Work, is behind the Approved Schedule, Contractor shall initiate immediate and definite procedures for accelerating the Work as required to bring the Work, and all component parts of the Work, into compliance with the Approved Schedule. Owner shall not be subject to any claims, demands, or liability for Contractor's acceleration damages or costs incurred to keep the Work in compliance with the Approved Schedule, including, but not limited to, damages or costs resulting from, arising out of, or in any way related to increases in time- related costs; increases in costs of labor, equipment, materials, or supplies; costs of additional personnel; costs of additional equipment; costs of additional premium time for personnel or equipment; increase in costs for Bond or insurance premiums; lower labor productivity; lost profits or alternative income; effects on other contracts; and costs of demobilization and remobilization. Failure of Owner or Engineer to inform Contractor that Contractor is behind the Approved Schedule or to direct and enforce procedures to ensure compliance with the Approved Schedule shall not relieve Contractor of the entire responsibility for the performance of the Work in full compliance with the requirements of this Contract within the Contract Time.

5. Owner's Right to Perform Work. Any failure of Contractor to comply with this Subsection 1.1B shall entitle Owner to perform or have performed all Work necessary for compliance with this Subsection and to withhold or recover from Contractor the cost of such Work.

C. Completeness of Work. Except for such items as are expressly and specifically required by this Contract to be furnished by Owner, Contractor shall provide at the Work Site, and at no charge to Owner other than the Contract Price, all personnel, equipment, materials, supplies, and other things required to provide, perform and complete the Work described, shown, or reasonably implied, or inferred from prevailing custom or trade usage as being required to produce the results intended, in this Contract. If any personnel, equipment, materials, or supplies that are not directly or indirectly set forth in this Contract are nevertheless necessary to the proper provision, performance, and completion of the whole of the Work in accordance with the intent of this Contract, Contractor shall understand such personnel, equipment, materials, or supplies to be implied and shall provide such personnel, equipment, materials, or supplies as fully as if it were particularly described. Without limiting the foregoing, Contractor, at its sole cost and expense, shall: (1) arrange for a supply of water, heat, light, power, telecommunications, and other services needed for the Work and for testing, including the installation of temporary utility lines, wiring, switches, fixtures, hoses, connections, and meters; (2) provide and maintain sanitary conveniences of sufficient number to accommodate all workers and all personnel of Owner and Engineer engaged in or about

the Work; and (3) provide and maintain a clean, weather-tight office, temporary in character, at a central location at the Work Site, with telephone facilities and service, for use as a field office by Contractor, for storage of Contract Drawings and Specifications, for storage of permits and Required Submittals reviewed with no exception noted, and for shelter of workers.

D. Conformity of Work. Contractor shall, at no increase in the Contract Price, provide workmanship, equipment, materials, and supplies that fully conform to this Contract, notwithstanding the fact that Contractor may have based its Bidder's Proposal on workmanship, equipment, materials, or supplies that do not so conform. When the equipment, materials, or supplies furnished by Contractor cannot be installed as specified in the Contract Drawings or Specifications, Contractor shall, without any increase in the Contract Price, make all modifications required to properly install the equipment, materials, or supplies. Any such modification shall be subject to the prior review and consent of Engineer.

1.2 Engineer's Authority

Engineer has been employed as an independent contractor to represent Owner during the term of this Contract and to observe the Work in progress on behalf of Owner. To prevent delays and disputes and to discourage litigation, it is agreed by Owner and Contractor that Engineer shall, in all cases, determine the amount, quality, acceptability, and fitness of the several kinds of Work that are to be paid for under this Contract; determine all disputes in relation to the true construction, meaning, and intent of the Contract Drawings and Specifications; and determine all disputes in relation to the execution of the Work, the classifications and measurements of quantities and materials, the suitability of equipment, materials, and supplies, and the fulfillment of this Contract. In interpreting this Contract, Engineer shall be subject to Section 1.3 of the Contract Agreement.

Engineer shall have the power to reject or condemn all Work that is defective, flawed, unsuitable, or nonconforming to the terms of this Contract.

Engineer's determination in all matters shall be a condition precedent to an appeal by Contractor to Owner, to the right of Contractor to receive, demand, or claim any money or other compensation under this Contract, and to any liability on the part of Owner to Contractor on account of this Contract.

1.3 Required Submittals

A. Submittals Required. Contractor shall submit to Engineer all documents, data, and information specifically required to be submitted by Contractor under this Contract and shall, in addition, submit to Engineer all such drawings, specifications, descriptive information, and engineering documents, data, and information as may be required, or as may be requested by Engineer, to show the details of the Work, including a complete description of all equipment, materials, and supplies to be provided

under this Contract ("Required Submittals"). Such details shall include, but shall not be limited to, the kind, size, arrangement and operations of component materials and devices; the external connections, anchorages, and supports required; performance characteristics; test data; concrete reinforcement; structural details; dimensions needed for installation and correlation with other equipment, materials, and supplies; principal dimensions, weight, structural and operating features; space required; clearances; utility connections; wiring and control diagrams; type and/or brand of finish or shop coat; adequate operation and maintenance information for all equipment requiring maintenance or other attention; and all similar matters, for all components of the Work. When it is customary to do so, when the dimensions are of particular importance, or for equipment and materials, the Required Submittals shall be certified by the Supplier as correct for, and in full compliance with, this Contract and meeting intended functions.

B. Number and Format. Except as otherwise provided in the Specifications: Contractor shall provide its Required Submittal with suitable identification; all Required Submittals shall be submitted electronically in PDF format; and all drawings shall be clearly marked in the lower right-hand corner with the names of Owner, Engineer, and Contractor.

C. Verification by Contractor. Contractor shall be responsible for obtaining Required Submittals complying with the foregoing from its Subcontractors and Suppliers and returning reviewed documents to them. Contractor shall check and approve all Required Submittals before submitting them to Engineer for review. Contractor shall check and verify, or resubmit for correction, all Required Submittals prepared by a Subcontractor or Supplier, before submitting them to Engineer. Verification and submission of Required Submittals by Contractor shall be deemed to mean that Contractor has, in fact, reviewed and coordinated the information in the Required Submittals with the requirements of the Work and this Contract. Any Required Submittals submitted to Engineer which have not been checked, reviewed, and stamped "Verified by Contractor" (or its equivalent), will be returned unprocessed.

D. Time of Submission. All Required Submittals shall be provided to Engineer no later than the time, if any, specified in this Contract for their submission or, if no time for submission is specified, in sufficient time, in Engineer's sole opinion, to permit Engineer to review the same prior to the commencement of the part of the Work to which they relate and prior to the purchase of any equipment, materials, or supplies that they describe.

E. Engineer's Review. Engineer shall review all Required Submittals as soon as reasonably possible after their submission and shall have the right to require resubmittal of, and such corrections in and additions to, any or all Required Submittals as may be necessary to make the Required Submittals conform to this Contract.

F. Responsibility for Delay and Costs of Additional Review. Contractor shall be responsible for any delay in the Work due to delay in providing Required Submittals conforming to this Contract. In the event more than one re-submittal of any

Required Submittal is necessary to make such Required Submittal conform to this Contract, Contractor shall be charged the total cost incurred by Engineer for all subsequent reviews of Required Submittals. If the amount due Contractor is not sufficient to cover such costs, Contractor shall reimburse Owner for such costs upon demand.

G. Condition Precedent to Performance of Work. No Work with respect to which any Required Submittal is required or has been requested, and no Work dependent on any such Work, shall be provided or performed unless and until the Required Submittal for such Work has been reviewed and stamped by Engineer with no exception noted or an equivalent notation. No equipment, materials, or supplies shall be purchased, fabricated, or installed until all Required Submittals pertaining thereto have been reviewed and stamped by Engineer with no exception noted or an equivalent notation. Where samples are required, the samples reviewed and stamped by Engineer with no exception noted or its equivalent notation shall be kept at the Work Site for comparison with, and to establish the standards of acceptance for, equipment, materials or supplies proposed for incorporation into the Work.

H. Incorporation After Review With No Exception Noted. Every Required Submittal that is reviewed and stamped by Engineer with no exception noted or an equivalent notation shall immediately thereupon become a part of the Contract Documents, and the Work shown or described thereby shall be performed in conformity therewith unless otherwise required by Engineer.

I. No Liability. Review and stamping of any Required Submittal by Engineer shall be for the sole purpose of examining the general arrangement, design, and details of the proposed Work, and no review by Engineer, no noting of an exception by Engineer, and no failure to note an exception by Engineer shall relieve Contractor of the entire responsibility for the performance of the Work in full compliance with the requirements of this Contract. Engineer's review and stamping, with or without exceptions noted, of any Required Submittal shall not constitute an approval of any part of the Work shown in such Required Submittal and shall not be regarded as any assumption of risk or liability by Owner or Engineer. Contractor shall have no claim under this Contract on account of any error, omission or defect in, or revealed by, any Required Submittal so reviewed and stamped. Engineer's stamping of any Required Submittal with no exception noted or an equivalent notation shall be considered to mean merely that Engineer has no objection to Contractor proceeding, upon its own full responsibility and liability, with the Work as shown on such Required Submittal.

1.4 Administration of the Work

A. Contractor's Duty to Administer the Work. Contractor shall have full and sole responsibility for administration of the Work. Contractor's field organization shall include fully qualified and adequate management, supervisory and technical personnel to insure competent and expeditious handling of all matters related to the Work. Contractor shall have full and sole responsibility for keeping all personnel, equipment, materials, supplies, and other things required to provide, perform, and complete the Work within the

designated construction area limits of the Work Site and out of areas not designated for Contractor's use. On all other lands, Contractor shall have no rights unless it obtains them from the proper parties.

Owner shall have the authority to order Contractor to remove from the Work Site any of Contractor's employees or any Subcontractors' employees who fail to discharge responsibilities, refuse to obey instructions, or who are incompetent, abusive, threatening, or disorderly in their conduct. Any such Person so removed shall not be employed again on the Work. No adjustment in the Contract Price or Contract Time shall be made as a result of such removal.

All Subcontractors and Suppliers shall be directly responsible to Contractor and shall be subject to Contractor's supervision and control. Contractor shall have the duty to coordinate all Subcontractors and Suppliers so as to avoid hindrance or interference among them and to ensure that the Work will be completed in full compliance with, and as required by or pursuant to, this Contract and within the Contract Time.

Contractor shall attend, and shall cause any Subcontractor or Suppliers whose attendance is requested to attend, any pre-construction meetings or construction progress meetings as may be necessary for the orderly performance of the Work, as determined by Owner or Engineer.

B. Contractor's Superintendent. Contractor shall appoint and employ throughout the performance of the Work a competent superintendent who shall be approved by Owner in writing and who shall have complete charge of the Work on behalf of Contractor. Contractor's superintendent shall be at the Work Site at all times during performance of the Work. Contractor shall, before beginning the Work, and at all times during the performance of the Work, keep Owner advised in writing of such superintendent's name and address, and of telephone numbers where such superintendent may be reached at all times. Such superintendent shall not be changed without the consent of Owner unless the individual serving in that capacity leaves Contractor's employ or becomes unable to serve due to circumstances beyond the control of Contractor, which shall in no event be construed to include the necessity of employing such Person on any other contract or work. Any substitute superintendent proposed by Contractor shall be approved by Owner in writing. In any case where Owner determines the performance of Contractor's superintendent is unsatisfactory or unacceptable to Owner, Owner shall have the right to require Contractor to remove such superintendent and to replace such superintendent with a new superintendent satisfactory to Owner.

1.5 Conditions at the Work Site; Record Drawings

Contractor shall be fully responsible for conditions found at, and in the vicinity of, the Work Site. Contractor shall have no claim for damages, for compensation in excess of the Contract Price except as expressly provided, and only to the limited extent set forth, in Sections 2.1 through 2.3 of these General Conditions of Contract, or for a delay or extension of the Contract Time based upon conditions found at, or in the vicinity

of, the Work Site. When information pertaining to subsurface, underground or other concealed conditions or obstructions, soils analysis, borings, test pits, buried structures, utility locations or conditions, conditions of existing structures, and similar site information or data and other investigations is or has been shown or indicated on the Contract Drawings, is or has been provided by Owner or Engineer, or is or has been otherwise made available to Contractor by Owner or Engineer, such information is or has been shown, indicated, provided, or made available solely for the convenience of Contractor and is not part of this Contract. Owner assumes no responsibility whatever in respect to the sufficiency or accuracy of such information, and there is no guaranty or warranty, either expressed or implied, that the conditions indicated are representative of those existing throughout the Work or the Work Site, or that the conditions indicated are representative of those existing at any particular location, or that contractors working on other projects may not change the conditions indicated at, and in the vicinity of, the Work Site, or that unanticipated conditions may not be present.

Contractor shall be solely responsible for locating all existing underground installations by prospecting no later than two workdays prior to any scheduled excavation or trenching or 200 lineal feet in advance of such excavation or trenching, whichever is earlier. Contractor shall, prior to any excavation, notify the proper underground utility locating notification service for the area of excavation (e.g., Joint Utility Locating Information for Excavators (J.U.L.I.E.), (1-800-892-0123), DIGGER, 811), and, with respect to owners or operators of underground utility facilities who are not members of an underground utility locating notification service, shall directly notify such non-member owners or operators and shall otherwise fully comply with the Illinois Underground Utility Facilities Damage Prevention Act, 220 ILCS 50/1 et seq. Contractor shall check all dimensions, elevations, and quantities shown on the Contract Drawings and Specifications within the same time period as set forth above for prospecting underground installations. Contractor shall lay out the Work in accordance with the Contract Drawings and Specifications and shall establish and maintain such locations, lines and levels, except that wherever pre-existing work is encountered, Contractor shall verify and be responsible for dimensions and locations of such pre-existing work. Contractor shall notify Engineer of any discrepancy between the dimensions, elevations and quantities shown on the Contract Drawings and Specifications and the conditions of the Work Site or any other discrepancies which Contractor may discover during such inspections. Contractor shall make any necessary adjustments in the alignment or grade of the Work, subject to Engineer's approval, to pass around, over, or under any obstruction discovered without any equitable adjustment in the Contract Time or, except as expressly provided, and only to the limited extent set forth, in Sections 2.1 through 2.3 of these General Conditions of Contract, the Contract Price.

Contractor shall maintain, during the progress of the Work, up-to-date copies of all Contract Drawings and Specifications and a continuous record of all field deviations from the Contract Drawings. Before Final Acceptance of the Work, Contractor shall submit to Owner two printed sets of Drawings of Record, unless a greater number is specified elsewhere in this Contract, indicating all necessary additions and corrections to the Contract Drawings to show record conditions for verification of Engineer's drawings

of record. Upon acceptance of Contractor's printed Drawings of Record, Contractor shall also submit to Owner electronic Drawings of Record in electronic CADD files and/or other electronic file format acceptable to Owner operating on an IBM compatible microcomputer under a Windows operating system. Each such drawing and electronic drawing file shall be plainly marked "Drawing of Record" near the title block and shall be certified as to correctness by Contractor.

1.6 Safety of the Work Site

A. Contractor's Responsibility. Contractor shall be solely and completely responsible for providing and maintaining safe conditions at the Work Site, including the safety of all Persons and property during performance of the Work. This requirement shall apply continuously and shall not be limited to normal working hours. Contractor shall take all safety precautions as shall be necessary to comply with all applicable Laws, regulations, and guidelines, including without limitation OSHA, and to prevent injury to Persons and damage to property. Contractor shall employ or hire a competent safety representative or Subcontractor, who is capable of identifying predictable and existing conditions that are unsanitary, hazardous, or dangerous to Persons or property, to devise, supervise and ensure compliance with all safety precautions and programs as shall be necessary to comply with all applicable Laws, regulations, and guidelines, including without limitation OSHA, and to prevent injury to Persons and damage to property. Contractor shall advise Owner, in writing, of such safety representative's name, address, and telephone number or numbers where such safety representative may be reached at all times, 24 hours per Day, and such safety representative shall have full and complete authority to promptly correct or eliminate any such unsanitary, hazardous, or dangerous conditions. Neither Owner nor Engineer shall be responsible for conditions at the Work Site, nor for the safety of Persons or property, during the performance of the Work.

Contractor is advised that potentially hazardous conditions described in the Illinois Health and Safety Act, federal OSHA Regulations and Guidelines, ANSI Standard B30.5-1968 as amended, ANSI Standard Z117.1-1995 as amended, and Illinois Department of Labor Rules and Regulations, could be encountered during the performance of the Work, including without limitation energized electrical facilities and overhead wires; cranes, derricks, and other hoisting machinery with operational and use limitations, special hazard warnings and instructions, and revolving superstructures requiring proper barricading; underground utility facilities requiring protection, support, or removal to safeguard employees; excavations requiring, among other things, safe means of egress and protection from cave-ins, fall-ins, hazardous atmospheres, hazardous substances, and other hazardous conditions; and confined or enclosed spaces that are subject to the accumulation of hazardous substances or toxic or flammable contaminants or that have oxygen deficient or other hazardous atmospheres, requiring, among other things, independent fall protection, respiratory equipment, ventilation, two-way communication with the outside, and safe means of egress. Contractor should take special notice of the potentially hazardous conditions identified in this paragraph and take all necessary precautions to guard against such potential hazards, including without

limitation conducting employee safety training and education, posting warnings and instructions, testing and inspecting, and utilizing adequate protective and emergency systems, equipment, and devices, in as much safety remains Contractor's sole responsibility under this Contract. Contractor is directed to the Illinois Health and Safety Act, federal OSHA Regulations and Guidelines, including without limitation Occupational Safety & Health Standards and Construction Industry Safety & Health Regulations as outlined in Parts 1910 and 1926 of US Dept. of Labor Chapter XVII - Occupational Safety and Health Administration, Title 29, and US Dept. of Labor Document OSHA 2202 "OSHA Safety and Health Standards Digest," ANSI Standard B30.5-1968 as amended, ANSI Standard Z117.1-1995 as amended, and Illinois Department of Labor Rules and Regulations for a further description of these potentially hazardous conditions and the regulations applicable thereto.

Contractor is being notified of these potentially hazardous conditions so that Contractor may independently assess the potentially hazardous conditions and take the necessary precautions to ensure a safe workplace pursuant to this Contract and Contractor's legal obligations. Owner's notification of these potentially hazardous conditions should not be construed to be, nor interpreted as, an exclusive listing of the potentially hazardous conditions that could be encountered during the performance of the Work but, rather, such notice shall be construed to be, and interpreted as, exemplary only. Owner's notification of these potentially hazardous conditions should not be construed or interpreted as waiving Contractor's sole and complete responsibility for conditions at the Work Site or for providing and maintaining safe conditions at the Work Site, including the safety of all Persons and property during performance of the Work. This notification of potentially hazardous conditions is provided solely to assist Contractor in the performance of these duties, in the interest of maximum safety.

B. Confined Spaces. Even though the Contractor is required to independently assess the potentially hazardous conditions at the Work site or sites and take the necessary precautions to ensure a safe workplace pursuant to the Contract and the Contractor's legal obligations, when the Contractor is advised that the Owner has designated a particular Work site or sites as a permit-required confined space because the space has limited means of egress and other hazardous conditions exist such as electricity and the space may be subject to the accumulation of toxic gasses, flammable gasses, combustible materials, or engulfing substances, or be subject to oxygen deficient or oxygen enriched atmospheres, requiring (i) equipment, including without limitation continual atmospheric testing equipment and supplied air respiratory equipment, (ii) mechanical ventilation, (iii) two-way communication with the outside, (iv) body harnesses and personnel retrieval systems, and (v) rescue services, entry into such permit-required confined space shall be only through compliance with a confined space entry permit program meeting the requirements of OSHA and other applicable law. In such case, the Owner will inform the Contractor of the precautions and procedures that the Owner has implemented for the protection of the Owner's employees in or near the Work site or sites where the Contractor's personnel will be working. The Contractor shall inform the Owner of the precautions and procedures that the Contractor has implemented for the protection of the Contractor's employees in or near the Work site or sites, including the confined

space permit entry program that the Contractor will follow and of any hazards confronted or created while working in the Owner's designated permit-required confined spaces. When both Contractor and Owner personnel will be working simultaneously in or near Owner's designated permit-required confined spaces, the Owner and the Contractor shall coordinate entry operations as required by OSHA and other applicable law.

C. Energized Electrical Work/Energy Control Programs and Procedures. When working on or in the vicinity of electrically, hydraulically, pneumatically, kinetically, mechanically, thermally, and/or other energized facilities, it would be reasonable to assume that hazardous electrical voltage and current may be present, and unexpected energization, start up, or release of stored energy may occur, at any time during the Work. The Contractor shall not rely upon the Owner's energized electrical work or energy control program and procedures or the Owner's placement of lockout/tagout devices, the Owner's verification of isolation, deenergization, and readiness of the Work site or sites for release from lockout/tagout, or the Owner's notification of affected employees. The Contractor shall independently affix its own lockout/tagout devices, independently verify isolation, deenergization, and readiness of the Work site or sites for release from lockout/tagout, and independently notify affected employees in accordance with the Contractor's own electrical safety work practices and energy control program and procedures, and as required by OSHA and other applicable law. The Owner and the Contractor shall inform each other of their respective lockout/tagout programs and procedures and the Owner shall instruct its employees to comply with the restrictions and prohibitions of the Contractor's energy control program and procedures. Finally, the Contractor shall provide, by its own designation, only "Qualified Workers" to perform energized electrical Work and shall provide its own PPE for such Work including, but not limited to: flame resistant clothing, rubber insulated work gloves, rubber insulating blankets, electrically safe eyewear/safety glasses, arc flash protective head/face shields, switching hoods, arc-flash protection suits and thermo gloves, certified voltage testing equipment, dielectric footwear, dielectric hard hats, and hearing protection for work on potentially energized electrical circuits, as appropriate for the hazard risk category as determined by the Contractor.

D. Hot Work. Hot Work (any temporary operation involving open flames or producing smoke, heat, slag, and/or sparks, including without limitation brazing, cutting, grinding, soldering, torch heating, and welding) shall only be performed through compliance with a Hot Work program meeting the requirements of OSHA and other applicable law. When the Work site or sites is owned by the Owner, the Owner shall notify the Contractor of any unique or concealed flammable materials or any undisclosed potentially hazardous conditions of which it is aware, and the Contractor shall obtain the approval of the Owner's Manager of Water Operations prior to performing any Hot Work within such Work site or sites. At all Work sites, regardless of ownership, the Contractor shall independently make its own determination as to the presence or absence of flammable materials and hazardous conditions in the area(s) where such Hot Work will be performed, even when the Owner has notified the Contractor of any unique or concealed flammable materials or any undisclosed potentially hazardous conditions of which it is aware; the Contractor shall independently secure authorization from its own

supervisory and management personnel who have been designated by the Contractor as responsible for authorizing Contractor's Hot Work; and the Contractor shall comply with any safety precautions imposed by such persons, including without limitation:

a. Making areas where Hot Work is to be performed fire safe by either changing the location of the Hot Work or by removing or guarding against fire hazards;

b. Employing supervisors, cutters, welders, and fire watchers that have been effectively trained in (i) the safe use and operation of the relevant equipment and processes (brazing, cutting, grinding, soldering, torch heating, welding, ventilating, fire protection, extinguishing, watching, and warning, etc.) and (ii) the need for, and the appropriate use and protective level of, PPE;

c. Maintaining suitable brazing, cutting, grinding, soldering, torch heating, welding, ventilating, fire protection, extinguishing, warning, etc. equipment on-site in good working condition; and

d. Posting adequate warnings.

The Contractor shall not rely upon the Owner's Hot Work practices, programs, or procedures at the Work sites owned by the Owner, or the Owner's verification of readiness for Hot Work of the Work sites owned by the Owner, or the Owner's placement of fire extinguishers, ventilation equipment, warning signs, or fire watches at the Work sites owned by the Owner. The Contractor shall independently verify the readiness of all of the Work sites for Hot Work and independently place fire extinguishers, ventilation equipment, warning signs, and fire watches in accordance with the Contractor's Hot Work practices, programs, and procedures, and as required by law.

E. Hazardous Chemicals. The Contractor shall not use or store hazardous chemicals in such a way that the Owner's employees may be exposed to such hazardous chemicals. Whenever hazardous chemicals are used or stored by the Contractor in such a way that employees of the Owner may be exposed to such hazardous chemicals, the Contractor shall inform the Owner of (i) the precautions and procedures that the Contractor has implemented for the protection of its own employees exposed to such hazardous chemicals in or near the location(s) where Owner personnel will be working and (ii) the labeling system that the Contractor uses to label hazardous chemical containers. In addition, the Contractor shall provide the Owner with a copy of the most current SDS for such hazardous chemicals and access to the central SDS binder maintained by the Contractor.

Whenever hazardous chemicals are used or stored by the Owner in such a way that employees of the Contractor may be exposed to such hazardous chemicals, the Owner shall inform the Contractor of (i) the precautions and procedures that the Owner has implemented for the protection of its own employees exposed to such hazardous chemicals in or near the location(s) where Contractor personnel will be working and (ii) the labeling system that the Owner uses to label hazardous chemical containers. In addition, the Owner shall provide Contractor with access to the central SDS binder maintained by Owner.

F. Fire Protection. Access to sources of water for fire protection shall be identified and be available at all times. Fire hydrants and stop valves adjacent to the Work shall be kept clear and readily accessible to fire apparatus and no materials or other obstruction shall be placed, parked or stored within 15 feet of any hydrant or stop valve except by special permission of the proper authorities.

Only construction procedures that minimize fire hazards to the extent practicable shall be used. There shall be no open burning or confined trash fires. Combustible debris and waste materials shall be collected or removed from the Work Site each workday. Fuels, solvents, and other volatile or flammable materials shall be stored away from construction and storage areas in well-marked, safe containers. Good housekeeping, essential to fire prevention, shall be practiced by Contractor throughout the Work.

G. Safety-Related Equipment. The Contractor shall not use, nor be entitled to use, any of the Owner's safety-related equipment, including without limitation: The Owner's fall-protection, fall-restraint, or fall-arrest equipment; the Owner's ladders or work platforms, forklifts, movable or overhead cranes, or other materials handling equipment; the Owner's confined space entry equipment, including gas monitors, ventilation equipment, or personnel retrieval systems; or the Owner's ventilators, fire extinguishers, or personnel rescue systems.

H. Accident Records; Insurance Adjusters. Contractor shall maintain an accurate record of all accidents and other incidents resulting in death, injury, or occupational disease to any Person or in damage to, or loss of, any property and shall promptly report any such accident or incident to Owner and shall provide Owner with copies of all correspondence and pleadings related thereto, including insurance claims and settlements. Contractor shall arrange for Contractor's insurance adjuster to meet with any Person affected by any such accident or other incident promptly and, in all events, within 48 hours after Contractor's receipt of notice from such Person, and a report of the insurance adjuster's findings shall be delivered to such Person within 10 days thereafter, copies of which shall be provided to Owner and Engineer.

1.7 Cleanliness of the Work Site and Environs

Contractor shall keep the Work Site and adjacent areas clean at all times during performance of the Work and shall remove and properly dispose of all waste and

surplus materials from the Work Site each workday in such a manner as may be necessary to conform to Law. Contractor shall sweep and clean, and shall remove from the Work Site all hoses, cables, extension cords and similar materials, as may be necessary to leave the Work Site and adjacent areas in a clean and orderly condition at the end of each workday. If Contractor fails to comply with its obligations under this Section, Owner shall have the right to perform, or to have performed, such obligations and to withhold or recover the cost thereof from Contractor.

1.8 Damage to the Work, the Work Site, and Other Property

The Work and everything pertaining thereto shall be provided, performed, completed, and maintained at the sole risk and cost of Contractor from the Commencement Date until Final Payment. Contractor shall be responsible and liable for any damages, losses, and injuries resulting from its operations. Contractor shall be fully responsible for the protection of all public and private property and all Persons. Without limiting the foregoing, Contractor shall, at its own cost and expense, (1) provide temporary heating, covering and enclosures, to the satisfaction of Engineer, as necessary to protect the Work against damage by dampness and cold, to dry out the Work, and to facilitate the completion of the Work; (2) provide all permanent and temporary shoring, anchoring and bracing required by the nature of the Work, in order to make all parts absolutely stable and rigid, even when such shoring, anchoring and bracing is not explicitly specified; and (3) support and protect all buildings, bridges, roadways, conduits, wires, water pipes, gas pipes, sewers, pavements, curbs, sidewalks, fixtures and landscaping of all kinds and all other public or private property that may be encountered or endangered in providing, performing and completing the Work.

Contractor shall have no claim against Owner because of any damage or loss to the Work or to Contractor's equipment, materials, or supplies from any cause whatever, including damage or loss due to simultaneous work by others.

Contractor shall, promptly and without charge to Owner, repair or replace, to the satisfaction of Owner, any damage done to, and any loss suffered by, the Work and any damage done to, and any loss suffered by, the Work Site or other property as a result of the Work.

No specific provision of this Contract to the effect that Contractor shall be responsible and liable at its sole risk and cost for the Work or any part thereof or for damage, loss, or injury caused by Contractor shall be construed to be an exclusive listing of the circumstances in which Contractor bears such responsibility and liability, but, rather, all such provisions shall be construed to be exemplary only.

Notwithstanding any other provision of this Contract, Contractor's obligations under this Section shall exist without regard to, and shall not be construed to be waived by, the availability or unavailability of any insurance, either of Owner or Contractor, to indemnify, hold harmless, or reimburse Contractor for the cost of any repair or replacement work required by this Section.

1.9 Subcontractors and Suppliers

A. Approval and Use of Subcontractors and Suppliers. Contractor shall perform the Work with its own personnel and under the management, supervision, and control of its own organization unless otherwise approved by Owner in writing, which approval Owner may exercise and revoke in its sole discretion. All Subcontractors, Suppliers, and Subcontracts used by Contractor shall be acceptable to, and approved in advance by, Owner. All Persons engaged in the Work, whether or not as approved Subcontractors, shall be deemed to be employees of Contractor for all purposes and Contractor hereby assumes, in addition to any liability imposed by law upon Contractor for its Subcontractors, full responsibility and liability for such Subcontractors as if they were the employees of Contractor. Nothing in this Contract shall be construed to create any contractual relationship between Owner and any Subcontractor or Supplier. All relations with approved Subcontractors and Suppliers shall be the responsibility of Contractor, and Owner shall not be responsible or obligated to deal directly with any Subcontractor or Supplier.

Contractor is responsible for providing, performing, and completing all Work that meets or exceeds specified requirements notwithstanding specific references in the Contract Drawings or Specifications to duties and obligations of other contractors, Subcontractors, Suppliers, manufacturers, trades, etc., all at no extra cost to Owner other than the Contract Price. All such duties and obligations specifically imposed upon such other contractors, Subcontractors, Suppliers, manufacturers, trades, etc., shall be deemed to be imposed upon Contractor.

Owner's approval of any Subcontractor, Supplier, or Subcontract shall not relieve Contractor of full responsibility and liability for the provision, performance, and completion of the Work in full compliance with, and as required by or pursuant to, this Contract on or before the Completion Date or for the proper performance of all other requirements of this Contract, or for Contractor's liability on all representations and warranties made in or pursuant to this Contract. Contractor shall remain as fully responsible and liable for the acts, omissions, and performance of all Subcontractors and Suppliers as Contractor is for its own acts, omissions, and performance.

If Owner refuses to approve any Subcontractor or Supplier, or, having once approved a Subcontractor or Supplier, thereafter advises Contractor that such Subcontractor or Supplier is no longer acceptable to Owner, then Contractor shall undertake the Work itself or propose another Subcontractor or Supplier for Owner's approval. No adjustment of the Contract Price or Contract Time shall be made as a result of Owner's refusal to approve, or Owner's revocation of any approval of, any Subcontractor or Supplier.

This Section shall not be construed to prohibit Owner, if and when it exercises any of its rights under Section 6.6 of these General Conditions of Contract, from entering into an independent contractual relation with any Subcontractor or Supplier employed by Contractor, and no such relation shall be construed as interfering with any

Subcontract or other relation Contractor may have with such Subcontractors and Suppliers.

B. Subcontractor and Supplier Requirements. In addition to any and all conditions and other requirements that may be imposed by Owner in its approval of any Subcontractor or Supplier, all Work performed under any Subcontract shall be subject to the same provisions set forth in this Contract for the Work performed by Contractor. Furthermore, every Subcontract shall include at least the following provisions:

1. Flow-down. A statement that this Contract has been reviewed by the Subcontractor or Supplier; that Subcontractor or Supplier agrees to be bound by the terms, provisions and conditions of this Contract so far as they are applicable to the Work under its Subcontract; that Subcontractor or Supplier agrees to assume all obligations and responsibilities of Contractor under this Contract; and that Subcontractor or Supplier agrees to be bound by and governed by any change or alteration in this Contract.

2. Discrimination. The provisions of the Public Works Employment Discrimination Act, 775 ILCS 10/1 et seq., shall be printed or otherwise inscribed on the face of the Subcontract.

3. Laws. A statement substantially identical to Section 6.11 of the Contract Agreement requiring Subcontractor or Supplier to comply with all Laws.

4. Application of Payments. A statement that Subcontractor or Supplier agrees that all funds received directly or indirectly from Owner shall be applied to the payment or reimbursement of the costs for which they were paid and not to any preexisting or unrelated debt between Contractor and Subcontractor or Supplier.

5. No Compensation for Delay. A statement substantially identical to Subsection 2.3D of these General Conditions of Contract to the effect that there shall be no payment, compensation, damages, or adjustment of any kind, other than an extension of time, because of hindrances or delays, whether avoidable or unavoidable, from any cause in the commencement, provision, performance, or completion of the Work under the Subcontract.

6. Termination for Convenience of Contractor. A statement that the Subcontract may be terminated for the convenience of

Contractor, if this Contract is terminated for any reason by Owner or if Owner exercises its right to require termination of the Subcontract; provided, however, that no such termination shall defeat Owner's rights under Paragraph 1.9B7 below.

7. Conditional Assignment. A statement that Subcontractor or Supplier agrees to the assignment of the Subcontract to Owner, at Owner's option exercised by written notice to Subcontractor or Supplier and without further action, if this Contract is terminated by Owner and that no such assignment shall be construed as interfering with Subcontractor's or Supplier's Subcontract with Contractor.

8. Dispute Resolution. A statement that in case of any dispute or claim between Subcontractor or Supplier and Contractor involving Owner, or between Contractor and Owner involving Subcontractor or Supplier, Subcontractor or Supplier agrees to be bound by the provisions in this Contract pertaining to the resolution of disputes to the same extent that Contractor is bound to Owner by the terms of this Contract; and that Subcontractor or Supplier agrees to be bound by any and all decisions or determinations made thereunder as authorized in this Contract; and that Subcontractor or Supplier agrees to join in, or consolidate any claim it may have with, any related pending dispute resolution proceeding or to allow such joinder or consolidation of other related claims with its claim; and that Subcontractor or Supplier agrees that, pending the final disposition of any dispute or claim under or in any way relating to the Subcontract, Subcontractor or Supplier shall proceed diligently with all Work to be performed by it under its Subcontract.

9. Representations and Warranties. A statement of representations and warranties substantially identical to Article III of the Contract Agreement.

1.10 Simultaneous Work By Others

A. By Owner. Owner shall have the right to perform or have performed such other work as Owner may desire in, about, or near the Work Site during the performance of the Work by Contractor.

B. Coordination. Contractor shall make every reasonable effort to perform the Work in such manner as to enable both the Work and such other work to be completed without hindrance or interference from each other. Contractor shall keep itself informed of the progress and the detail of such other work; shall afford Owner and other

contractors reasonable opportunity for the execution of such other work; shall properly connect and coordinate the Work with such other work; and shall notify Engineer immediately of lack of progress or defective workmanship in the provision, performance, or completion of such other work in any case where such lack of progress or defective workmanship will or may interfere with the Work or the operations of Contractor or its Subcontractors. Whenever there is a conflict between the Work and such other work, Engineer shall, upon request of Contractor or the Person performing such other work, determine the manner in which such conflict shall be resolved or accommodated. Contractor shall proceed at its own risk in the event Contractor fails to request such determination from Engineer.

C. By Others. Contractor acknowledges that other contractors not under the direction or control of Owner may be encountered in the performance of the Work by Contractor. Contractor shall perform the Work in such a manner as to enable both the Work and the work of such other contractors to be completed without hindrance or interference from each other.

D. Changes. If other contractors, regardless of whether such contractors are under the direction or control of Owner or are not under the direction or control of Owner, change the conditions found at, or in the vicinity of, the Work Site, both Contractor and Owner shall treat the new conditions as if they were previously existing conditions. Owner shall not be entitled to any credits and Contractor shall not be entitled to any equitable adjustment in the Contract Price as a result of such changes except as expressly provided, and only to the limited extent set forth, in Sections 2.1 through 2.3 of these General Conditions of Contract.

E. Claims. If the Work or any of Contractor's operations or property is damaged by any other Person, Contractor shall make its claim directly against such Person. If a dispute develops between Contractor and any such other Person concerning the responsibility for any such damage, the dispute shall be resolved with such other Person by whatever method may be available and appropriate, but such dispute shall not be cause for delay in the restoration of the damaged Work, and Contractor shall restore the Work immediately. Failure of Contractor to comply with this Subsection shall entitle Owner to perform, or to have performed, all Work necessary for compliance with this Subsection and to withhold or recover from Contractor the cost of such Work.

1.11 Occupancy Prior to Final Acceptance

Owner shall have the right, at its election, to occupy, use, or place in service any part of the Work prior to Final Acceptance of the Work. Such occupancy, use, or placement in service shall be conducted in such manner as not to damage any of the Work or to unreasonably interfere with the progress of the Work. No such occupancy, use, or placement in service shall be construed as an acceptance of any of the Work or a release or satisfaction of Contractor's duty to insure and protect the Work, nor shall it be considered as an interference with Contractor's provision, performance, or completion of the Work.

1.12 Suspension or Termination of Work for Convenience

A. Suspension for Convenience. Owner shall have the right at any time, by Change Order, for its convenience, to suspend, for such period of time as may be determined by Owner to be necessary or desirable for the convenience of Owner, and thereafter to require resumption of, the whole or any part of the Work, without invalidating the provisions of this Contract. Contractor shall not be entitled to any equitable adjustment in the Contract Price as a result of any such suspension for convenience of Owner.

B. Termination for Convenience. Owner shall have the right at any time, by Change Order, for its convenience, to terminate the Work in whole or in part.

C. Owner's and Contractor's Obligations. Every Change Order issued pursuant to Subsection 1.12A or Subsection 1.12B shall state the extent and effective date of such termination or suspension. On such effective date, Contractor shall, as and to the extent directed, stop Work under this Contract, cease all placement of further orders or Subcontracts, terminate or suspend Work under existing orders and Subcontracts, cancel any outstanding orders or Subcontracts that can be canceled, and take any action necessary to protect any property in its possession in which Owner has or may acquire any interest and to dispose of such property in such manner as may be directed by Owner.

D. Payments for Completed Work. In the event of any termination pursuant to Subsection 1.12B above, Owner shall pay Contractor (1) such direct costs, determined in accordance with generally accepted accounting practices in the construction industry, consistently applied, and excluding overhead, as Contractor shall have paid or incurred for all Work done in compliance with, or as required by or pursuant to, this Contract up to the effective date of termination, together with ten percent of such costs for overhead and profit; and (2) such other costs pertaining to the Work, exclusive of overhead and profit, as Contractor may have reasonably and necessarily incurred as the result of any such termination. The total payment to be made to Contractor by reason of such termination shall not in any event exceed a percentage of this Contract equal to the proportion that the Work completed prior to the effective date of termination bears to the total Work required by this Contract. Any such payment shall be offset by any prior payment or payments and shall be subject to Owner's rights to withhold or deduct as provided in this Contract.

1.13 Charge for Overtime Engineering

Owner shall have the right to charge Contractor for engineering and inspection services in connection with any Overtime Work. Such charge shall be equal to the total cost incurred by Engineer for the number of Engineer's personnel reasonably required to be present during such Overtime Work. If the amount due Contractor is not sufficient to cover such charge, Contractor shall reimburse Owner upon demand. For purposes of this provision, Overtime Work shall mean any Work conducted beyond the working hours specified in the Special Conditions of Contract.

ARTICLE II
CHANGES AND DELAYS

2.1 Changes

A. Field Adjustments. No equitable adjustment shall be made in the Contract Price, and no Change Order, other than a possible Balancing Change Order pursuant to Paragraph 5.1C2 of these General Conditions of Contract, shall be issued, for field adjustments in the Work ordered by Owner or resulting from, arising out of, or in any way related to, conditions found at, or in the vicinity of, the Work Site, including subsurface, underground or other concealed conditions or obstructions, buried structures, utility locations or conditions, adverse soil conditions, changed site conditions due to work by other contractors, and similar site conditions, that, in combination with all Change Orders and all other field adjustments, increase the quantity of any Unit Price Item by 20 percent or less of the approximate quantity for that Unit Price Item set forth in the Schedule of Prices, or increase the quantity of discrete units comprising any lump sum component part of the Work by 20 percent or less of the quantity of discrete units comprising that lump sum component part of the Work set forth in the Breakdown Schedule, as the case may be. Contractor shall be solely responsible for dealing with such field adjustments and Owner shall not be entitled to any credits and Contractor shall not be entitled to any equitable adjustments in the Contract Price as a result of such field adjustments. For Work to be paid on a Unit Price basis, any such increases in the quantity of any Unit Price Item shall be paid for at the respective Unit Price for each such Unit Price Item set forth in the Schedule of Prices. For lump sum Unit Prices, the percentage of increase, and the amount to be paid for such field adjustments, shall be determined on the basis of the number of discrete units comprising such lump sum Unit Price Item set forth in the Breakdown Schedule for that lump sum Unit Price Item. For Work to be paid on a lump sum basis, no amounts shall be paid for such increases in any lump sum component part of the Work other than the lump sum amount included in the Breakdown Schedule for that lump sum component part of the Work.

B. Change Orders. Owner shall have the right to issue Change Orders to Contractor without the consent of Contractor and without notice to any surety of Contractor. Owner shall also issue Change Orders making an equitable adjustment in the Contract Price for any field adjustment as set forth in Subsection 2.1A above that, in combination with all Change Orders and all other field adjustments pursuant to Subsection 2.1A above, increase the quantity of any Unit Price Item by more than 20 percent of the approximate quantity for that Unit Price Item set forth in the Schedule of Prices, or increase the quantity of discrete units comprising any lump sum component part of the Work by more than 20 percent of the quantity of discrete units comprising that lump sum component part of the Work set forth in the Breakdown Schedule, as the case may be, but only for that portion of Work that exceeds 120 percent of said quantity or discrete units comprising a lump sum component part of the Work. For lump sum Unit Prices, the percentage of increase shall be determined on the basis of the number of discrete units comprising such lump sum Unit Price Item set forth in the Breakdown Schedule for that lump sum Unit Price Item.

Contractor shall promptly comply with every Change Order, notwithstanding any disputes or objections concerning such Change Order. No Change Order shall be construed to invalidate this Contract not to entitle Contractor to additional compensation except and only to the extent provided in Sections 2.2 and 2.3 below.

No Balancing Change Order issued pursuant to Paragraph 5.1C2 of these General Conditions of Contract shall constitute, be deemed to be, or operate as, an equitable adjustment in the Contract Price.

C. Classification. For purposes of Subsections 2.1A and 2.1B above, in determining whether an equitable adjustment in the Contract Price shall be made based upon any field adjustment, any increase in any component part of the Work included or subsumed within a Unit Price Item as defined in the Contract Drawings and Specifications, or included or subsumed within a discrete unit comprising a lump sum component part of the Work set forth in the Breakdown Schedule, as the case may be, shall be classified under such Unit Price Item or discrete unit, and the fact that Contractor uses a different method of providing, performing, and completing such field adjustment than originally contemplated shall not be a basis for not classifying such Work under one or more of the Unit Price Items set forth in the Schedule of Prices, or under one or more of such discrete units set forth in the Breakdown Schedule, as the case may be.

2.2 Equitable Adjustments

Subject to the limitations set forth in this Article II, if any Change Order causes an increase or decrease in the amount of the Work or if a Change Order is required to be issued for certain field adjustments as set forth in Subsection 2.1B above, an equitable adjustment in the Contract Price or Contract Time may, upon the request of either Owner or Contractor, be made pursuant to Section 2.3 or Section 2.4 of these General Conditions of Contract.

Any Change Order issued that does not include an equitable adjustment in the Contract Price or Contract Time shall be construed to be a determination by Owner that Contractor is not entitled to any equitable adjustment by reason of such Change Order. All claims by Contractor for an equitable adjustment in either the Contract Price or the Contract Time based on a Change Order shall be made, whenever feasible, before Contractor proceeds with any Work pursuant to such Change Order and shall, in all events, be made no later than two business days after receipt of such Change Order. All such claims shall, if not made prior to such time, be conclusively deemed to have been waived. Any claims by Contractor for an equitable adjustment in the Contract Price or Contract Time that have not been included, or fully included, in a Change Order shall not relieve Contractor of its responsibility to proceed without delay to perform the Work in compliance with the Change Order.

No equitable adjustment shall be made in the Contract Price or Contract Time on the basis that the Work is, or has become, more difficult than Contractor's Price Proposal would reflect or because of any risk or change in the Work that Contractor is

responsible for dealing with under this Contract without any equitable adjustment in the Contract Price or Contract Time as set forth in Subsection 2.1A above and in Subsection 2.4A below.

2.3 Contract Price Adjustments

A. Increased Work. If any Change Order causes an increase in the amount of the Work or if a Change Order is required to be issued for certain field adjustments as set forth in Subsection 2.1B above ("Increased Work"), then Engineer shall determine, and include in such Change Order, subject to the limitations of Sections 2.1 and 2.2 above, the amount of the equitable adjustment in Contract Price, if any, to be allowed. Such determination shall be made as follows:

1. Unit Prices. If the Schedule of Prices provides Unit Prices and if the Increased Work or any part thereof that can be classified under one or more of the Unit Price Items set forth in the Schedule of Prices, then such Increased Work or part thereof classified under such Unit Price Item shall be paid for at the Unit Price listed in the Schedule of Prices for such Unit Price Item unless, for good cause shown, Contractor and Owner agree upon either a greater or lesser Unit Price for such Increased Work or part thereof or unless Owner, in its sole discretion, elects not to pay for the Increased Work or part thereof on the basis of Unit Prices, in which event, such Increased Work shall be paid for as set forth in either Paragraph 2.3A2 or Paragraph 2.3A3 below.

2. Agreed Prices. If the Schedule of Prices does not provide Unit Prices or if the Increased Work or any part thereof cannot be classified under one or more of the Unit Price Items set forth in the Schedule of Prices or if Owner elects, pursuant to Paragraph 2.3A1 above, not to pay for the Increased Work or part thereof on the basis of Unit Prices, then such Increased Work or part thereof shall be paid for on the basis of such lump sum price or such time and material prices as Owner and Contractor may agree prior to the commencement of such Increased Work unless Owner elects, in its sole discretion, to pay for such Increased Work or part thereof as set forth in Paragraph 2.3A3 below.

3. Reasonable Cost Plus. Any Increased Work or part thereof not paid for pursuant to Paragraphs 2.3A1 or 2.3A2 above shall, to the extent entitled to be paid for pursuant to this Contract, be paid for at the reasonable cost of such Increased Work or part thereof, as determined by Engineer and

approved by Owner, in the manner provided in this Paragraph.

Except as hereinafter limited, the reasonable cost of Increased Work shall include the reasonable cost, as determined by Engineer and approved by Owner, to Contractor of all personnel employed and all equipment, materials, and supplies used, on the Increased Work for the period of such employment or use.

The reasonable cost of Increased Work shall include amounts paid, if any, for Social Security, insurance such as workers' compensation, other direct assessments upon Contractor's payroll by authorized public agencies, and other approved assessments such as union benefits not normally included in payments made directly to employees but customarily recognized as part of the payroll cost of doing the Work.

The reasonable cost of Increased Work shall not include insurance not directly related to payroll expenses such as liability insurance or property damage insurance.

The reasonable cost of Increased Work shall not include the cost of any purchase or rental of any buildings or small tools.

The reasonable cost of Increased Work shall not include the cost of any personnel above the level of foreman or the cost of Contractor's office and engineering staff.

The reasonable cost of all equipment used on the Increased Work shall be based upon the monthly rental rates set forth in the most recent edition of "RENTAL RATE BLUEBOOK FOR CONSTRUCTION EQUIPMENT" published by Nielson/DATAQUEST or a similar publication approved by Engineer (the "Approved Rate"). The reasonable hourly cost of equipment shall be calculated by multiplying the Approved Rate (without consideration of overtime charges or charges for fuel and oil) by 12 and dividing the product by 2,080. If the Increased Work requires the use of equipment not already on the Work Site, or not already required to be provided at the Work Site under the terms of this Contract, the cost of transportation, not exceeding a distance of 100 miles, of such equipment to and from the Work Site shall be considered part of the reasonable cost of the Increased Work.

Contractor may add a maximum of fifteen percent of the reasonable costs set forth above to cover the costs of use of capital, overhead, and profit, including premiums on any Bonds or insurance on account of the Increased Work (except as hereinbefore permitted for direct reimbursement), and profit and overhead of any and all Subcontractors and Suppliers performing all or any part of the Increased Work.

Contractor shall keep a daily record of all Increased Work provided, performed, or completed by Contractor or any Subcontractor or Supplier. The daily record shall include the nature of the Increased Work performed, the names of all personnel employed and the hours worked by each, the equipment, materials and supplies used, including, where appropriate, the quantities used and the hours of use. To constitute verification that Increased Work was provided, performed, or completed, the daily record for each Day must be signed by both Contractor and Engineer not later than the end of the following business day. Contractor's failure to so keep and so verify such a daily record shall constitute a waiver of any claim for compensation for Increased Work.

In the event of any dispute as to the reasonableness of the method or manner of performing any Increased Work, or the cost thereof, including, but not limited to, personnel or equipment requirements to perform the Increased Work, Contractor shall provide all supporting documentation, including cancelled checks, payroll documentation, and any relevant union requirements or regulations. In the absence of such supporting documentation, Engineer's determination of the reasonableness of the chosen method or manner of performing the Increased Work, of the cost thereof, and, if unreasonable, of the reasonable cost of providing, performing, and completing the Increased Work if a reasonable method or manner or cost had been chosen, shall be conclusive and binding on Contractor.

4. For purposes of Paragraphs 2.3A1 and 2.3A2, in determining whether the Increased Work or any part thereof can be classified under one or more of the Unit Price Items set forth in the Schedule of Prices, any increase in any component part of the Work included or subsumed within a Unit Price Item as defined in the Contract Drawings and Specifications shall be classified under such Unit Price Item and the fact that Contractor uses a different method of providing, performing, and completing Increased Work than Contractor originally

contemplated shall not be a basis for not classifying Increased Work under one or more of the Unit Price Items set forth in the Schedule of Prices.

5. Except as set forth above, no claim for compensation in excess of the Contract Price shall be made or allowed on account of Increased Work.

B. Decreased Work. If any Change Order causes a decrease in the amount of the Work ("Decreased Work"), then Engineer shall determine, and include in such Change Order, (1) the amount of the equitable adjustment in the Contract Price to be credited to Owner based on the value of the Decreased Work determined in accordance with Subsection 5.1C of these General Conditions of Contract and (2) the allowance, if any, due Contractor for any actual loss incurred in connection with the purchase, delivery, and subsequent disposal of equipment, materials, or supplies that would have been used on the Work but for the Change Order and that could not be returned to their source for credit or used in any part of the Work as actually provided, performed and completed. In no event shall any Decreased Work entitle Contractor to make a claim for damages, anticipated profits, or any other compensation except the aforesaid allowance for actual loss incurred for such unused and unreturned equipment, materials, or supplies. Ownership of any such unused equipment, materials, or supplies paid for by Owner shall, at Owner's option, be conveyed to Owner.

C. Netting of Price Adjustments. When both Increased Work and Decreased Work result from a single Change Order, the allowance for overhead and profit pursuant to the reasonable cost method of Paragraph 2.3A3 above, if utilized, shall be figured on the basis of the net increase, if any, in the Work.

D. No Compensation for Delays. Contractor shall not claim or be entitled to any payment, compensation, damages, or adjustment of any kind, other than a possible extension of the Contract Time, if applicable, as provided for in Subsection 2.4C below, because of hindrances or delays, whether avoidable or unavoidable, from any cause in the commencement, provision, performance, or completion of the Work, including but not limited to:

1. Any act, error, omission or interference of Owner, Engineer, or any other Person, including, without limitation, late, changed, or erroneous Bidding Documents or Contract Documents; changes in sequence, suspensions, accelerations, or de-accelerations of the Work; lack of access, rights-of-way, or easements for the Work; lack of approvals, decisions, or payments; issuance of Change Orders; or occupancy, use, or placement into service of the Work prior to Final Acceptance;

2. Differing or unanticipated conditions at, or in the vicinity of, the Work Site;

3. The simultaneous presence and operations of other contractors;

4. Strikes, lockouts, or labor or material shortages;

5. Fires or other casualties;

6. Delays in transportation; and

7. Acts of God or natural phenomena, whether or not such phenomena are unusual or unusually severe considering the time of year and the particular locality involved.

Contractor expressly agrees that it will accept in full satisfaction for all such delays and hindrances a possible extension of the Contract Time, if applicable, as provided in Subsection 2.4C below and that it will make no claim for, nor be entitled to, equitable adjustment of the Contract Price; or any compensatory, acceleration, or disruption damages; or any other damages or costs of any kind or nature for any such delays or hindrances, including, but not limited to, damages or costs resulting from, arising out of, or in any way related to increases in time-related costs; increases in costs of labor, equipment, materials, or supplies; costs of additional personnel; costs of additional equipment; costs of additional premium time for personnel or equipment; increase in costs for Bond or insurance premiums; lower labor productivity; lost profits or alternative income; effects on other contracts; and costs of demobilization and remobilization.

2.4 Extensions of Contract Time

A. Anticipated Delays. Difficulties or obstructions that may arise out of, or be encountered as a result of, adverse weather conditions, equipment breakdowns, subsurface, underground or other concealed conditions or obstructions, buried structures, utility locations or conditions, adverse soil conditions, and changed site conditions due to work by other contractors are inherent in the nature of the Work of this Contract. Allowances and contingencies for dealing with such difficulties or obstructions are to be allowed for in Contractor's schedule and shall not be treated as unavoidable delays pursuant to Subsection 2.4C below. Changes in the sequence in which the Work is provided, performed, and completed resulting from delays or hindrances that affect only part of the Work but not the provision, performance, or completion of other parts of the Work, nor completion of the whole of the Work, are also inherent in the nature of the Work of this Contract. Allowances and contingencies for such changes are to be allowed for in Contractor's schedule and shall not be treated as unavoidable delays pursuant to Subsection 2.4C below.

B. Extensions for Increased Work. Subject to Subsection 2.4A above, when a Change Order causes an increase in the time required to complete the Work, an

extension of the Contract Time shall be granted as part of such Change Order for a period of time equal to the additional time required to complete the Work.

C. Extensions for Unavoidable Delays. Subject to Subsection 2.4A above, for any delay or hindrance in completing the Work that may result from causes that could not be avoided or controlled by Contractor, as determined by Owner, Contractor shall upon timely written application, immediately upon the occurrence of any event giving rise to such unavoidable delay and, in any event, no later than two business days thereafter, be entitled to issuance of a Change Order providing for an extension of the Contract Time for a period of time equal to the delay resulting from such unavoidable cause.

D. Extensions for Suspensions. If Owner orders Contractor to suspend the whole of the Work or to suspend a part of the Work that increases the time required to complete the Work, Owner shall, unless such suspension was due to Contractor's failure to perform in accordance with the requirements of this Contract, extend the Contract Time for a period of time equal to the delay caused by such suspension.

2.5 Constructive Change Orders

Sections 2.2 through 2.4 set forth the sole means by which an equitable adjustment in the Contract Price or Contract Time shall be allowed. No waiver, action or inaction by Owner shall be held to create a custom, practice, course of dealing or usage to waive the requirement for written changes and Owner shall under no circumstances be required to pay for any changes to the extent not in writing and signed by Owner in advance of such Work. No claims for equitable adjustments in the Contract Price or Contract Time shall be made or allowed unless embodied in a Change Order initiated by Owner pursuant to Section 2.1 or requested by Contractor, and approved by Owner, pursuant to this Section 2.5. If Owner fails to issue a Change Order including, or fully including, an equitable adjustment in the Contract Price or Contract Time to which Contractor claims it is entitled under Sections 2.2 through 2.4, Contractor may assert a claim that it is entitled to a constructive change order for, but only for, the equitable adjustment due under said Sections pursuant to the procedures of this Section 2.5. If Contractor believes that any requirement, direction, instruction, interpretation, determination, or decision of Owner or Engineer entitles Contractor to an equitable adjustment in the Contract Price or Contract Time under Sections 2.2 through 2.4 that has not been included, or fully included, in a Change Order, then Contractor shall submit to Engineer, with a copy to Owner, a written request for the issuance of, or revision of, a Change Order, including the equitable adjustment, or the additional equitable adjustment, in the Contract Price or Contract Time that Contractor claims has not been included, or fully included, in a Change Order. Such request shall, whenever feasible, be submitted before Contractor proceeds with any Work for which Contractor claims an equitable adjustment is due and shall, in all events, be submitted no later than two business days after receipt of notice of such requirement, direction, instruction, interpretation, determination, or decision. Upon receipt by Engineer of any such request, the parties shall proceed as provided in Article VI of these General Conditions of Contract pertaining

to disputes and remedies. Notwithstanding the submission of any such request, Contractor shall proceed without delay to perform the Work as required, directed, instructed, interpreted, or decided by Owner or Engineer and shall, pending a final resolution of the issue, keep a daily record of such Work in the manner provided in Paragraph 2.3A3 above. Unless Contractor submits such a request within two business days after receipt of notice of such requirement, direction, instruction, interpretation, determination, or decision, Contractor shall be conclusively deemed (1) to have agreed that such requirement, direction, instruction, interpretation, determination, or decision does not entitle Contractor to an equitable adjustment in the Contract Price or Contract Time and (2) to have waived all claims based on such requirement, direction, instruction, interpretation, determination, or decision.

2.6 No Waiver and Release

Except to the extent embodied in a Change Order, neither the provisions of this Article II nor any communication between or among Owner, Engineer, and Contractor shall operate to relieve Contractor of its duty to perform the Work in full compliance with, and as required by or pursuant to, this Contract, within the Contract Time, and for the Contract Price, or to release or discharge Contractor from any duty arising under this Contract.

2.7 No Other Compensation

No payments, compensation, damages, reimbursements, or monetary consideration of any kind shall be paid or owing to Contractor in connection with, or arising out of, this Contract other than, and subject to deduction as provided for in this Contract, the lump sum amount or amounts stated in the Schedule of Prices, for Work to be paid on a lump basis, the Unit Price stated in the Schedule of Prices for each acceptable unit of each Unit Price Item installed and complete in place, measured on the basis defined in the Contract Drawings and Specifications or, in the absence of such definition, on the basis determined by Engineer, for Work to be paid on a Unit Price basis, the equitable adjustment in the Contract Price included in any Change Order, and any bonuses provided for, and only to the extent provided in, the Special Conditions of Contract. Contractor shall not claim or be entitled to any other payment, compensation, damage, reimbursement, or monetary consideration of any kind for the provision, performance, or completion of the Work.

2.8 Specific References Exemplary

No specific provision of this Contract to the effect that there shall be no change or adjustment in the Contract Price or Contract Time shall be construed to be an exclusive listing of the circumstances in which there shall be no adjustment in Contract Price or Contract Time, but, rather, all such provisions shall be construed to be exemplary only.

ARTICLE III

CONTRACTOR'S RESPONSIBILITY FOR DEFECTIVE WORK

3.1 Inspection; Testing; Correction of Defects

A. Inspection. Until Final Payment, all parts of the Work shall be subject to inspection and testing by Owner, by Engineer, by any public authority having jurisdiction, and by any other Person designated by Owner. Contractor shall furnish, at its own expense, all reasonable access, assistance, and safe and proper facilities required by such Persons for such inspection and testing, both at the Work Site and at any Subcontractor's or Supplier's plant or other source of supply, with full permission to take samples of any materials or supplies that may or might be used in the Work, at Contractor's own expense. Contractor shall notify Owner and Engineer of the readiness of any part of the Work for any inspection or test that may be required by or pursuant to this Contract or applicable Laws. Owner and Engineer shall perform all of their inspections and tests so as not to delay the Work unduly, but Contractor shall schedule the Work in light of the need for time to perform such inspections and tests. No part of the Work as to which any specific inspection or test is required shall be covered or closed until such inspection or test has been completed. If such Work is covered or closed, then it shall be uncovered or opened and, after the inspection or test, recovered or reclosed, by Contractor, all at Contractor's expense.

B. Additional Inspections. If any Work for which an inspection or test is not required by this Contract has been covered or closed so as to prevent inspection or testing, Owner shall nevertheless have the right to order such Work to be inspected or tested and, if so ordered, such Work shall be uncovered or opened by Contractor. If the Work thus uncovered or opened is found to be free from defects, damage, and flaws and to be suitable for its intended purpose and to be otherwise in conformity with this Contract, then Owner shall pay the cost of uncovering, opening, re-inspecting, re-testing, covering, or closing, as the case may be. If the Work uncovered or opened is not free from defects, damage, and flaws or is not suitable for its intended purpose or is otherwise not in conformity with this Contract, then Contractor shall pay all such costs.

C. Re-Inspections. Re-inspection and re-testing of any Work may be ordered by Owner at any time, and, if so ordered, any covered or closed Work shall be uncovered or opened by Contractor. If the Work thus uncovered or opened is found to be free from defects, damage, and flaws and to be suitable for its intended purpose and to be otherwise in conformity with this Contract, then Owner shall pay the cost of uncovering, opening, re-inspecting, re-testing, covering, or closing, as the case may be. If the Work uncovered or opened is not free from defects, damage, and flaws or is not suitable for its intended purpose or is otherwise not in conformity with this Contract, then Contractor shall pay all such costs.

D. Correction. Until Final Payment, Contractor shall, promptly and without charge, repair, correct, or replace all or any part of the Work that is defective, damaged, flawed, or unsuitable or that in any way fails to conform strictly to the requirements of this Contract and shall pay to Owner all resulting costs, expenses, losses,

or damages suffered by Owner as a result of any such defect, damage, flaw, unsuitability or nonconformity.

E. No Waiver. No inspection or test, failure to inspect or test, or waiver of inspection or testing by Owner or Engineer shall relieve Contractor of its duty to complete the Work in full compliance with, and as required by or pursuant to, this Contract. Failure or neglect on the part of Engineer to condemn Work that is defective, damaged, flawed, unsuitable, or nonconforming shall not be construed as acceptance of such Work nor as a waiver of compliance with the requirements of this Contract.

3.2 Warranty of Work

A. Scope of Warranty. Contractor warrants that the Work and all of its components shall be free from defects and flaws in design, workmanship, and materials; shall strictly conform to the requirements of this Contract; and shall be fit, sufficient, and suitable for the purposes expressed in, or reasonably inferred from, this Contract. Contractor further warrants that the strength of all parts of all equipment, materials, and supplies incorporated into the Work shall be adequate and as specified and sufficient to meet the performance requirements of this Contract. The warranty herein expressed shall not be the sole and exclusive warranty but, rather, shall be in addition to any other warranties expressed in this Contract, or expressed or implied by Law, which are hereby reserved unto Owner.

B. Repairs; Extension of Warranty. Contractor shall, promptly and without charge, correct any failure to fulfill the above warranty that may be discovered or develop at any time within two years after Final Payment or such longer period as may be prescribed in the Contract Drawings and Specifications, in the Special Conditions of Contract, or by Law. The above warranty shall be extended automatically to cover all repaired and replacement parts and labor provided or performed under such warranty and Contractor's obligation to correct Work shall be extended for a period of two years from the date of such repair or replacement. Nothing contained in this Subsection 3.2B shall be construed to establish a period of limitation with respect to other obligations that Contractor has under this Contract. The time period established in this Subsection 3.2B relates only to the specific obligation of Contractor to correct Work and has no relationship to the time within which the obligations to comply with this Contract may be sought to be enforced, nor to the time within which proceedings may be commenced to establish Contractor's liability with respect to Contractor's obligations other than specifically to correct the Work.

C. Maintenance/Warranty Bond. Contractor shall provide a maintenance bond in the amount of at least $1,000,000 that obligates the Contractor for a period of three (3) years from the date of Project completion and acceptance by the Owner to repair or replace any and all defects arising in the work, whether resulting from defective materials or defective workmanship. Surety providing the bond shall conform to the requirements detailed in the Contract Agreement.

3.3 Contractor Duty to Correct Without Delay

In the event of any claim by Owner pursuant to Section 3.1 or Section 3.2 above that the Work is defective, damaged, flawed, unsuitable, nonconforming, or that the Work fails to fulfill the above warranty, Contractor shall be given a reasonable opportunity to confirm the validity of such claim, but Contractor shall not, unless authorized in writing by Owner, delay correction of the claimed defect, damage, flaw, unsuitability, nonconformity, or failure while making such determination. In the event any such claim is shown to be invalid following such correction by Contractor, Owner shall pay the cost of such correction.

3.4 Owner's Right to Correct

If, within two business days after Owner gives Contractor notice of any defect, damage, flaw, unsuitability, nonconformity, or failure to meet warranty subject to correction by Contractor pursuant to Section 3.1 or Section 3.2 above, Contractor fails, refuses, or neglects to make, or to undertake with due diligence to make, the necessary corrections, then Owner shall be entitled to make, either with its own forces or with contract forces, the corrections and to recover from Contractor all resulting costs, expenses, losses, or damages, including attorneys' fees and administrative expenses.

If in the judgment of Owner, the delay required to give Contractor the aforesaid two business days notice would cause serious damage or loss that could be avoided by immediate action, Owner shall have the right, without giving prior notice to Contractor, to perform, or to have performed, all work necessary to make the corrections and to recover from Contractor the cost of such corrections. In such event, Contractor shall be notified as promptly as possible and shall assist, whenever possible, in making the necessary corrections.

3.5 Subcontractor and Supplier Warranties

Whenever the Special Conditions of Contract or the Specifications require a Subcontractor or Supplier to provide a guaranty or warranty, Contractor shall be solely responsible for obtaining said guaranty or warranty in form satisfactory to Owner and assigning said warranty or guaranty to Owner. Acceptance of any assigned warranties or guaranties by Owner shall be a precondition to Final Payment and shall not relieve Contractor of any of its guaranty or warranty obligations under this Contract.

Whenever the Special Conditions of Contract or the Specifications require a Subcontractor or Supplier to provide a guaranty or warranty, Contractor shall be solely responsible to obtain from the guarantying or warranting Person a written certification, in form satisfactory to Owner, that (1) all things required for the successful operation of the warranted item in accordance with the Specifications have been designed, manufactured and installed in accordance with all requirements of the guarantying or warranting Person; (2) all requirements and conditions necessary to validate the guaranty or warranty, whether specified in this Contract or not, have been complied with; and (3) all procedures

necessary to maintain the guaranty or warranty in full force and effect during the applicable guaranty or warranty period, including but not limited to maintenance obligations and storage conditions, have been provided to Owner in writing and written acknowledgments of all such disclosed procedures have been provided by Owner to the warranting or guarantying Person. Acceptance of any such certification by Owner shall be a precondition to Final Payment and shall not relieve Contractor of any of its obligations under this Contract to provide additional or other certifications.

ARTICLE IV
INSURANCE

4.1 Required Coverages

Contractor shall, prior to and at all times while providing, performing, or completing the Work, including, without limitation, at all times while repairing, correcting, or replacing all or any part of the Work that is defective, damaged, flawed, unsuitable, nonconforming, or that fails to meet warranty subject to correction by Contractor pursuant to Section 3.1 or Section 3.2 of these General Conditions of Contract, procure, maintain, and keep in force, at Contractor's expense, all insurance necessary to protect and save harmless Owner, the Work, the Work Site, and all property located at or about the Work Site, including but not limited to the insurance coverages specified in Section 4.3 below and in Section 4 of the Special Conditions of Contract ("Required Coverages").

4.2 Insurance Companies and Policies

All Required Coverages shall be provided by insurance companies rated A minus or better in Best's Insurance Guide and otherwise acceptable to, and approved by, Owner. Required Coverages may be in any combination of primary, excess, and umbrella policies. Any excess or umbrella policy must provide excess coverage over underlying insurance on a following-form basis such that when any loss covered by the primary policy exceeds the limits under the primary policy, the excess or umbrella policy becomes effective to cover such loss. No policy may have a deductible or self-insured retention of more than one percent of the policy limit. Contractor shall furnish to Owner two copies of a certificate of insurance and one copy of an insurance policy for each Required Coverage. Each such certificate and policy shall be in a form satisfactory to Owner and shall provide that no change, modification in, or cancellation of the insurance represented by it shall become effective until the expiration of 30 Days after written notice thereof shall have been given by the insurance company to Owner and any Additional Insured.

4.3 Minimum Coverages

Unless otherwise provided in the Special Conditions of Contract, Contractor shall, prior to and at all times while, providing, performing, or completing the Work, procure, maintain, and keep in force, at Contractor's expense, at least the following minimum insurance coverages:

1. Workers' Compensation and Employer's Liability with limits not less than:

   (a) Workers' Compensation: Statutory;

   (b) Employer's Liability:

   $1,000,000 injury-per occurrence

   $1,000,000 disease-per employee

   $1,000,000 disease-policy limit

   Such insurance shall evidence that coverage applies to the State of Illinois, contain an "all States" endorsement, and provide a waiver of subrogation in favor of Owner.

2. Commercial Motor Vehicle Liability with a combined single limit of liability for bodily injury and property damage of not less than $5,000,000 per occurrence for vehicles owned, non-owned, or rented.

   All employees must be included as insureds.

3. Commercial General Liability with coverage written on an "occurrence" basis and with limits no less than:

   (a) Each Occurrence: $5,000,000

   (b) General Aggregate: $10,000,000

   (c) Completed Operations Aggregate: $10,000,000

   (d) Personal Injury: $5,000,000

   Coverages shall include:

   - Premises Operations
   - Products/Completed Operations (to be maintained for two years following Final Payment)
   - Independent Contractors
   - Personal Injury (with Employment Exclusion deleted)
   - Broad Form Property Damage Endorsement

- Blanket Contractual Liability (must expressly cover the indemnity provisions contained in clause 4 of Section 4.3 of the Contract Agreement)

- Bodily injury and property damage

"X", "C", and "U" exclusions shall be deleted.

Blasting exclusions shall be deleted if Work involves blasting.

Railroad exclusions shall be deleted if Work Site is within 50 feet of any railroad track.

All employees shall be included as insureds.

4. Builders Risk Insurance. This insurance shall be written in completed value form, shall protect Contractor, Owner, and Engineer against "all risks" of direct physical loss to buildings, structures, equipment, and materials to be used in providing, performing, and completing the Work, including without limitation fire, extended coverage, vandalism and malicious mischief, sprinkler, leakage, flood, earth movement and collapse, and shall be designed for the circumstances that may affect the Work.

   This insurance shall be written with limits not less than the insurable value of the Work at completion. The insurable value shall include the aggregate value of all Owner-furnished equipment and materials to be constructed or installed by Contractor.

   This insurance shall include coverage while equipment or materials are in warehouses or storage areas, during installation, during testing, and after the Work is completed, but prior to Final Payment. This insurance shall include coverage while Owner is occupying or using all or any part of the Work prior to Final Payment without the need for the insurance company's consent.

   This insurance coverage requirement shall not be construed as a waiver of Contractor's duties stated in Section 1.8 of these General Conditions of Contract.

5. Owner's and Contractor's Protective Liability Insurance. Contractor, at its sole cost and expense, shall purchase this insurance in the names of Owner and Engineer for the period between the Commencement Date and Final Payment, with a

combined single limit of liability for bodily injury and property damage of $20,000,000 per occurrence and in the aggregate.

The named insureds for this insurance shall be the DuPage Water Commission and Burns & McDonnell, Lockwood, Andrews and Newnam, Inc., Robinson Engineering, Ltd, and Stanley Consultants, Inc. (the "Named OCP Insureds"). The coverage afforded the Named OCP Insureds by this insurance shall be primary insurance for the Named OCP Insureds. If the Named OCP Insureds have other insurance which is applicable to the loss, such other insurance shall be on an excess or contingent basis. The amount of the insurance company's liability under this policy of insurance shall not be reduced by the existence of such other insurance. This policy of insurance shall be specifically endorsed to provide such primary coverage for Owner and Engineer. In addition to the submittal requirements of Section 4.2 above, Contractor shall furnish to Engineer one copy of a certificate of insurance for this Required Coverage.

4.4 Additional Coverages

The insurance coverages and limits required by Section 4.3 above shall be deemed to be minimum coverages and limits and shall not be construed in any way as a limitation on Contractor's duty to carry adequate insurance as required by Section 4.1 above or on Contractor's liability for losses and damages under this Contract. Contractor shall at all times carry such additional coverages and limits as may be necessary to fully comply with this Contract.

4.5 Subcontractor Insurance

Unless otherwise provided in the Special Conditions of Contract or unless otherwise approved by Owner in a Change Order, Contractor shall not allow any Subcontractor to commence or continue any part of the Work until and unless such Subcontractor provides and has in force Commercial General Liability insurance coverage equal to $2,000,000 or the amount of its Subcontract, whichever is greater, and Workers' Compensation and Employer's Liability and Commercial Motor Vehicle Liability insurance coverages equal to those required of Contractor by this Article.

ARTICLE V
PAYMENT

5.1 Progress Payments

A. General. Owner shall pay to Contractor in monthly installments, subject to any additions, deductions, or withholdings provided for in this Contract, 95 percent of the Value of the Work, determined in the manner set forth in

Subsection 5.1C below, installed and complete up to the Day before the Pay Request, less the aggregate of all previous Progress Payments. Upon completion of 50 percent of the Work, Owner shall thereafter pay to Contractor no less than 95 percent of the Value of the Work, determined in the manner set forth in Subsection 5.1C below, installed and complete up to the Day before the Pay Request, less the aggregate of all previous Progress Payments, and thereafter the total amount of Progress Payments made prior to Final Acceptance by Owner shall be no less than 95 percent of the Contract Price.

B. Pay Requests. Contractor shall, as a condition precedent to its right to receive each Progress Payment, submit to Engineer four (unless otherwise provided in the Specifications) originally executed copies of a request for payment in the form provided by Owner and accompanied by such supporting data and documentation as may be required by this Contract or by Owner or Engineer ("Pay Request"). The first Pay Request shall be submitted not sooner than 30 Days following the Commencement of the Work. Owner may, by written notice to Contractor, designate a specific Day of each month on or before which Pay Requests must be submitted.

Pay Requests shall include the following minimum data and documentation, all of which shall be on forms supplied by, or otherwise acceptable to, Owner:

(i) Contractor's certification of the Value of the Work for which payment is then requested. If such certification is accepted by Engineer, it shall constitute the Value of the Work for the purpose of determining the amount of the current Progress Payment. If such certification is not accepted by Engineer, and if Engineer and Contractor are unable to agree as to the Value of the Work in question, such value shall, for the purpose of determining the amount of the current Progress Payment, be determined by Engineer in accordance with Subsection 5.1C below.

(ii) Contractor's certification that all prior Progress Payments have been properly applied to the payment or reimbursement of the costs with respect to which they were paid.

(iii) Contractor's Sworn Statement.

(iv) Contractor's partial or final waiver of lien.

(v) Subcontractors' and Suppliers' Sworn Statements.

(vi) Subcontractors' and Suppliers' partial or final waivers of lien.

(vii) Such other receipts, releases, affidavits, certificates, and other evidence as may be necessary to establish, to Owner's satisfaction, Contractor's, and its Subcontractors' and Suppliers', entitlement to the Progress Payment being requested, prior payment for all labor, equipment, materials, supplies, and other things covered by the Pay

Request; and the absence of any interest, whether in the nature of a Lien or otherwise, of any Person in the Work, the Work Site, or any other property belonging to, or being held by, Owner.

C. Value of Work. The Value of the Work shall be determined as follows:

1. Lump Sum Items. For all Work to be paid on a lump sum basis, Contractor shall, not later than 10 days after execution of the Contract Agreement unless otherwise provided in the Specifications and, in all events, before submitting its first Pay Request, submit to Engineer a schedule showing the value of each component part of such Work, and the quantity of discrete units comprising such component part of the Work, in form and with substantiating data and documentation acceptable to Engineer ("Breakdown Schedule"). The sum of the items listed in the Breakdown Schedule shall equal the amount or amounts set forth in the Schedule of Prices for lump sum Work. Overhead and profit shall not be listed as separate items in the Breakdown Schedule. An unbalanced Breakdown Schedule providing for overpayment of Contractor on component parts of the Work to be performed first will not be accepted. The Breakdown Schedule shall be revised and resubmitted until acceptable to Engineer. No payment shall be made for any lump sum Work until Contractor has submitted, and Engineer has approved, an acceptable Breakdown Schedule.

Engineer may require that the approved Breakdown Schedule be revised based on developments occurring during the provision and performance of the Work. If Contractor fails to submit a revised Breakdown Schedule that is acceptable to Engineer, Owner shall have the right either to suspend Progress and Final Payments for lump sum Work or to make such Payments based on Engineer's determination of the value of the Work completed.

2. Unit Price Items. For all Work to be paid on a Unit Price basis, the value of such Work shall be determined by Engineer on the basis of the actual number of acceptable units of Unit Price Items installed and complete in place, multiplied by the applicable unit price set forth in the Schedule of Prices. The actual number of acceptable units installed and complete in place shall be measured on the basis defined in the Contract Drawings and Specifications or, in the absence of such definition, on the basis determined by Engineer. For lump sum Unit Prices, Contractor shall submit, as and when required pursuant to Paragraph 5.1C1 above, a Breakdown Schedule for such lump sum Unit Price Items.

The number of units of Unit Price Items stated in the Schedule of Prices are Engineer's estimate only and shall not be used in establishing the Progress and Final Payments due Contractor. The Contract Price shall be adjusted, by a Balancing Change Order, to reflect the actual number of acceptable units of Unit Price Items installed and complete in place upon Final Acceptance.

D. Date of Payment. Contractor shall be paid no later than 45 Days following Owner's approval of each Pay Request, and the amount of the Progress Payment requested, at a meeting of Owner's governing body. Owner shall have no obligation to approve any Pay Request that is not in full compliance with the requirements of this Contract.

5.2 Final Acceptance and Final Payment

A. Notice of Completion. When the Work has been completed and is ready in all respects for acceptance by Owner, Contractor shall notify Engineer, with a copy to Owner, and request a final inspection ("Notice of Completion"). Contractor's Notice of Completion shall be given sufficiently in advance of the Completion Date to allow for scheduling of the final inspection and for completion or correction before the Completion Date of any items identified by such inspection as being defective, damaged, flawed, unsuitable, nonconforming, incomplete, or otherwise not in full compliance with the requirements of this Contract ("Punch List Work"). Before giving its Notice of Completion, Contractor shall satisfy itself that the whole Work, and every part thereof, has been completed in full compliance with, and as required by or pursuant to, this Contract, that all defects, damage, flaws, and non-conformities have been corrected, and that the Work Site and adjacent areas are fully restored, clean, and in good order.

B. Punch List and Final Acceptance. The Work shall be finally accepted when, and only when, the whole and all parts thereof shall have been completed and tested to the satisfaction of Owner in full compliance with, and as required by or pursuant to, this Contract and the Work Site and adjacent areas shall have been fully restored, cleaned, and placed in good order and in at least the same condition as immediately prior to commencement of the Work. Upon receipt of Contractor's Notice of Completion and at a time mutually agreeable to Owner, Engineer, and Contractor, Engineer shall make a review of the Work and shall either notify Contractor in writing of all Punch List Work, if any, to be completed or corrected ("Punch List") and of the time, not later than the Completion Date, by which Contractor shall complete or correct all Punch List Work or, if the Work is complete in full compliance with, and as required by or pursuant to, this Contract and the Work Site and adjacent areas are fully restored, clean, and in good order and in at least the same condition as immediately prior to commencement of the Work, prepare and deliver to Owner a written recommendation that the Work be finally accepted. Following Contractor's completion or correction of all Punch List Work, Engineer shall make another review of the Work and shall either prepare and deliver to Contractor another Punch List or, if the Work is complete in full compliance with, and as required by or pursuant to, this Contract and the Work Site and adjacent areas are fully restored, clean, and in good order and in at least the same condition as immediately prior to commencement of the Work, prepare and deliver to Owner a written recommendation that the Work be finally accepted.

The failure of Engineer to list any item on a Punch List shall not relieve Contractor of its obligation to provide, perform and complete the Work in full compliance with, and as required by or pursuant to, this Contract.

Whenever any permit, license, site agreement, or other approval or authorization that may be required in connection with the Work requires that the Work within public or private property not owned by Owner be installed, and the property restored, to a condition satisfactory to such approving or authorizing Person, Contractor shall be responsible for obtaining a written acknowledgment of the acceptance of such Person in form satisfactory to Owner. Acceptance of any such acknowledgment by Owner shall be a precondition to Owner's final acceptance of the Work and shall not relieve Contractor of any of its obligations under this Contract to provide additional or other acknowledgments.

In the event more than two inspections and Punch Lists are required before Engineer is prepared to deliver to Owner its written recommendation that the Work be finally accepted, Contractor shall be charged the total cost incurred by Engineer for all subsequent inspections and the preparation of such additional Punch Lists. If the amount due Contractor is not sufficient to cover such costs, Contractor shall reimburse Owner for such costs upon demand.

Upon being satisfied that the Work and Work Site are ready for final acceptance pursuant to the requirements of this Contract, Owner shall issue its written notice of final acceptance of the Work to Contractor ("Final Acceptance").

C. Final Payment. As soon as practicable, but not more than 60 Days, after Final Acceptance, Contractor shall submit to Engineer four originally executed copies of a Pay Request requesting Final Payment ("Final Pay Request") for Engineer's review and recommendation of appropriate payment. Owner shall pay to Contractor the balance of the Contract Price, as determined by Engineer, after deducting therefrom all charges against Contractor as provided for in this Contract and all amounts, if any, to be retained under the Special Conditions of Contract ("Final Payment"). Final Payment shall be made not later than 15 Days after the expiration of the time within which claims for labor performed or equipment, materials, or supplies provided must be filed under any applicable Law pertaining to Liens, or the expiration of 30 Days after Owner approves the Final Pay Request, whichever is later; provided, however, that Owner shall not be obligated to make Final Payment unless and until Contractor has submitted and has caused its Subcontractors and Suppliers to submit all required data and documentation to Owner and all such data and documentation is complete and in proper form.

5.3 Title to Work and Liens

A. Title. Nothing in this Contract shall be construed as vesting in Contractor any right of property in any equipment, materials, supplies and other items provided under this Contract after they have been installed in, incorporated into, attached to, or affixed to, the Work or the Work Site. All such equipment, materials, supplies and other items shall, upon being so installed, incorporated, attached or affixed, become the property of Owner, but such title shall not release Contractor from its duty to insure and protect the Work in accordance with the requirements of this Contract.

B. Waivers of Lien. Contractor shall, from time to time, at Owner's request and in any event prior to Final Payment, furnish to Owner such receipts, releases, affidavits, certificates, and other evidence as may be necessary to establish, to the reasonable satisfaction of Owner, that no liens against the Work or the public funds held by Owner exist in favor of any Person whatsoever for or by reason of any equipment, material, supplies, or other item furnished, labor performed, or other thing done in connection with the Work or this Contract ("Lien") and that no right to file any Lien exists in favor of any Person whatsoever.

C. Removal of Liens. If at any time any notice of any Lien is filed for or by reason of any equipment, materials, supplies, or other item furnished, labor performed, or other thing done in connection with the Work or this Contract, then Contractor shall, promptly and without charge, discharge, remove, or otherwise dispose of such Lien, or, if permitted by Owner, furnish a Bond or other collateral satisfactory to Owner to indemnify Owner against such Lien. The Work is subject to the provisions of the Illinois Mechanics Lien Act, specifically, 770 ILCS 60/23.

D. Protection of Owner Only. This Section shall not operate to relieve Contractor's surety or sureties from any of their obligations under the Bonds, nor shall it be deemed to vest any right, interest or entitlement in any Subcontractor or Supplier. Owner's retention of funds pursuant to this Section shall be deemed solely for the protection of its own interests pending removal of such Liens by Contractor, and Owner shall have no obligation to apply such funds to such removal but may, nevertheless, do so where Owner's interests would thereby be served.

5.4 Deductions

A. Owner's Right to Withhold. Notwithstanding any other provision of this Contract and without prejudice to any of Owner's other rights or remedies, Owner shall have the right at any time or times, whether before or after approval of any Pay Request, to deduct and withhold from any Progress or Final Payment that may be or become due under this Contract such amount as may reasonably appear necessary to compensate Owner for any actual or prospective loss due to: (1) Work that is defective, damaged, flawed, unsuitable, nonconforming, or incomplete; (2) damage for which Contractor is liable under this Contract; (3) state or local sales, use, or excise taxes from which Owner is exempt; (4) Liens or claims of Lien regardless of merit; (5) claims of Subcontractors, Suppliers, or other Persons regardless of merit; (6) delay in the progress or completion of the Work; (7) inability of Contractor to complete the Work; (8) reasonable doubt that this Contract can be completed for the balance of the Contract Price then unpaid; (9) reasonable doubt that the balance of the Contract Price then unpaid is not adequate to cover actual or liquidated damages, if any; (10) failure of Contractor to properly complete or document any Pay Request; (11) any other failure of Contractor to perform any of its obligations under this Contract; (12) the cost to Owner, including attorneys' fees and administrative expenses, of correcting any of the aforesaid matters or exercising any one or more of Owner's remedies set forth in Section 6.6 of these General Conditions of Contract; or (13) engineering and inspection charges imposed pursuant to

Subsection 1.3F, Section 1.13, or Subsection 5.2B of these General Conditions of Contract.

B. Use of Withheld Funds. Owner shall be entitled to retain any and all amounts withheld pursuant to Subsection 5.4A above until Contractor shall have either performed the obligation or obligations in question or furnished security for such performance satisfactory to Owner. Owner shall be entitled to apply any money withheld or any other money due Contractor under this Contract to reimburse itself for any and all costs, expenses, losses, damages, liabilities, suits, judgments, awards, attorneys' fees, and administrative expenses incurred, suffered, or sustained by Owner and chargeable to Contractor under this Contract.

5.5 Application of Payments

All Progress and Final Payments made by Owner to Contractor shall be applied to the payment or reimbursement of the costs with respect to which they were paid and not to any preexisting or unrelated debt between Contractor and Owner or between Contractor and any other Person.

5.6 Work Entire

This Contract and the Work are entire and the Work as a whole is of the essence of this Contract. Notwithstanding any other provision of this Contract, each and every part of this Contract and of the Work are interdependent and common to one another and to Owner's obligation to pay all or any part of the Contract Price or any other consideration for the Work. Any and all Progress Payments made pursuant to this Article are provided merely for the convenience of Contractor and for no other purpose.

ARTICLE VI
DISPUTES AND REMEDIES

6.1 Notice of Dispute

If Contractor disputes or objects to any requirement, direction, instruction, interpretation, determination, or decision of Owner or Engineer ("Disputed Decision"), Contractor may, immediately upon receiving any such Disputed Decision, notify Engineer in writing, with a copy to Owner, of its dispute or objection and of the amount of any equitable adjustment to the Contract Price or Contract Time to which Contractor claims it will be entitled as a result thereof ("Notice of Dispute"); provided, however, that Contractor shall, nevertheless proceed without delay to perform the Work as required, directed, instructed, interpreted, determined, or decided by Owner or Engineer without regard to such dispute or objection and such Notice of Dispute. Unless Contractor so notifies Engineer not later than two business days after receipt of such Disputed Decision, and, whenever feasible, prior to taking any action based upon such Disputed Decision, Contractor shall be conclusively deemed (1) to have agreed to and accepted such Disputed Decision as being fair, reasonable, and finally determinative of Contractor's obligations and rights under this Contract; (2) to have waived all grounds for dispute of or

objection to such Disputed Decision; and (3) to have waived all claims for damages and equitable adjustments to the Contract Price and Contract Time based on such Disputed Decision.

6.2 Negotiation of Disputed Decisions

To avoid and settle without litigation any Disputed Decision, Owner and Contractor agree to engage in good faith negotiations as provided in this Section. Within three business days after Engineer's receipt of any Notice of Dispute, Engineer shall deliver to Contractor, with a copy to Owner, Engineer's preliminary written response either rejecting Contractor's claim, recommending to Owner approval of Contractor's claim, suggesting a compromise of Contractor's claim, or requesting additional information. Within three business days after Contractor's receipt of Engineer's preliminary written response, Contractor shall deliver to Engineer any additional information requested and notify Engineer whether Contractor is withdrawing, modifying or reaffirming its Notice of Dispute. Within three business days after Engineer's receipt of Contractor's reply, a conference among Owner, Engineer, and Contractor shall be held to resolve the dispute.

6.3 Owner's Final Decision

Within three business days after the end of the conference required pursuant to Section 6.2 above, Engineer shall deliver to Contractor Owner's final written decision.

6.4 Contractor's Final Demand

If Contractor objects to Owner's final decision, Contractor shall, within three business days of the receipt thereof, give Owner written notice of such objection and shall, in such notice, state its final demand for settlement of the Disputed Decision. Unless Contractor so notifies Owner, Contractor shall be conclusively deemed (1) to have agreed to and accepted Owner's final decision and (2) to have waived all claims based on such final decision.

6.5 Contractor's Remedies

If Owner fails or refuses to satisfy a final demand made by Contractor pursuant to Section 6.4 above, or to otherwise resolve the Disputed Decision which is the subject of such demand to the satisfaction of Contractor, within 15 Days following receipt of such demand, Contractor shall be entitled to pursue such remedies, not inconsistent with the provisions of this Contract, as it may have in law or equity; provided, however, that Contractor agrees that its compliance with the dispute resolution procedures set out in Sections 6.1 through 6.4 above shall be a condition precedent to the initiation of any legal action concerning any matter subject to the provisions of said Sections; and provided further, however, that Contractor agrees that any claim for an equitable adjustment in the Contract Price or Contract Time or both, as the case may be, shall be conditioned upon Contractor having first complied with the procedures set out in Section 2.5 of these General Conditions of Contract and shall in no event exceed, and shall be

further limited to, the amount of equitable adjustment in the Contract Price or Contract Time or both, as the case may be, included in Contractor's written request submitted in accordance with Section 2.5 of these General Conditions of Contract.

6.6 Owner's Remedies

A. Events of Default. Each of the following acts or omissions of Contractor shall be a default by Contractor of its obligations under this Contract ("Event of Default") and the occurrence or existence of any such Event of Default shall entitle Owner to invoke any or all of the remedies set forth in Subsection 6.6B below:

1. Contractor's initiation of, acquiescence in, or failure to have withdrawn any voluntary or involuntary petition in bankruptcy or for reorganization or for relief from its creditors or for any similar relief.

2. Contractor's initiation of, acquiescence in, or failure to have withdrawn any action or agreement for the appointment of a receiver for its business or any of its property.

3. Contractor being or becoming insolvent, making a general assignment for the benefit of creditors, or assigning its right to any or all payments due under this Contract or to any part of the Work.

4. Contractor's failure or refusal to pay any of its debts as they come due, including failure to pay when due any money owed to any Subcontractor or Supplier.

5. Contractor's failure, refusal, or delay to prosecute the Work, or any part thereof, diligently at a rate that assures completion of the Work in full compliance with, and as required by or pursuant to, this Contract on or before the Completion Date.

6. Contractor's failure, refusal, or delay to provide, perform, and complete the Work, or any part thereof, free from defects, damage, and flaws; in strict conformity to the requirements of this Contract; and in a manner suitable for its intended purposes.

7. Contractor falsely making, or being found to have falsely made, any representation or warranty in any Bidding Document or in or pursuant to this Contract.

8. Contractor executing the Work in bad faith.

9. Contractor's failure, refusal, or delay to perform, to satisfy, or to be in full compliance with, any other material requirement of this Contract.

B. Owner's Remedies for Contractor's Default. If it should appear at any time prior to Final Payment, whether as a result of any inspection or test or otherwise, that an Event of Default has occurred or is in existence, and if Contractor should fail to cure and eliminate such Event of Default within five business days after Contractor's receipt of Owner's written notice of such Event of Default, then Owner shall have the right, at its election and without prejudice to any other remedies provided by law or equity, to pursue any one or more of the following remedies:

1. Owner may require Contractor, within such reasonable time as may be fixed by Owner, to complete or correct all or any part of the Work that is defective, damaged, flawed, unsuitable, nonconforming, or incomplete; to remove from the Work Site any such Work; to accelerate all or any part of the Work; and to take any or all other action necessary to bring Contractor and the Work into strict compliance with this Contract.

2. Owner may perform or have performed all Work necessary for the accomplishment of the results stated in Paragraph 6.6B1 above and withhold or recover from Contractor all the cost and expense, including attorneys' fees and administrative costs, incurred by Owner in connection therewith.

3. Owner may accept the defective, damaged, flawed, unsuitable, nonconforming, incomplete, or dilatory Work or part thereof and make an equitable reduction in the Contract Price.

4. Owner may terminate this Contract without liability for further payment of amounts due or to become due under this Contract.

5. Owner may, without terminating this Contract, terminate Contractor's rights under this Contract and, for the purpose of completing or correcting the Work, evict Contractor and take possession of all equipment, materials, supplies, tools, appliances, plans, specifications, schedules, manuals, drawings, and other papers relating to the Work, whether at the Work Site or elsewhere, and either complete or correct the Work with its own forces or contracted forces, all at Contractor's expense.

6. Upon any termination of this Contract or of Contractor's rights under this Contract, and at Owner's option exercised in writing, any or all Subcontracts of Contractor shall be deemed to be assigned to Owner without any further action being required, but Owner shall not thereby assume any obligation for payments due under such Subcontracts for any Work provided or performed prior to such assignment.

7. Owner may withhold from any Progress Payment or Final Payment, whether or not previously approved, or may recover from Contractor, any and all costs, including attorneys' fees and administrative expenses, incurred by Owner as the result of any Event of Default or as a result of actions taken by Owner in response to any Event of Default.

8. Owner may recover any damages suffered by Owner.

C. Owner's Special Remedy for Delay. If the Work is not completed by Contractor, in full compliance with, and as required by or pursuant to, this Contract, within the Contract Time as such time may be extended by Change Order, then Owner may invoke its remedies under Subsection 6.6B above or may, in the exercise of its sole and absolute discretion, permit Contractor to complete the Work but charge to Contractor, and deduct from any Progress or Final Payments, whether or not previously approved, administrative expenses and costs for each Day completion of the Work is delayed beyond the Completion Date computed on the basis of a per diem charge of $5,000.00 per Day, as well as any additional damages caused by such delay or any liquidated damages provided for in the Special Conditions of Contract. Notwithstanding an election made pursuant to this Subsection, Owner may thereafter exercise any of its remedies under Subsection 6.6B above if Owner at any time is not, in Owner's opinion, adequately assured of prompt completion of the Work.

D. Remedies Cumulative. Each of the remedies listed in this Section shall be deemed to be cumulative of all other remedies listed in this Section or elsewhere in this Contract and to exist in addition to every other such remedy and in addition to all other remedies provided by law or equity.

E. Provisions Exemplary. Any reference in this Contract to Owner's right to invoke the remedies of this Section are not intended to be, nor shall they be construed to be, an exclusive listing of the circumstances under which these remedies may be exercised, but rather they are intended to be only exemplary.

F. Termination or Suspension Deemed for Convenience. Any termination or suspension of Contractor's rights under this Section 6.6 for an alleged Event of Default that is ultimately held unjustified shall be deemed a termination or suspension for the convenience of Owner under Section 1.12 of these General Conditions of Contract.

ARTICLE VII
DEFINITIONS

7.1 Defined Terms

A. Addendum. Any written or graphic instrument issued prior to the execution of this Contract, dated and signed by Owner or Engineer, that modifies, interprets, or corrects the Bidding Documents or this Contract.

B. Additional Insureds. The Persons identified in Section 4 of the Special Conditions of Contract.

C. Approved Rate. See Paragraph 2.3A3 of these General Conditions of Contract.

D. Approved Schedule. See Paragraph 1.1B2 of these General Conditions of Contract.

E. Balancing Change Order. See Paragraph 5.1C2 of these General Conditions of Contract.

F. Bid Package. The bound set of documents based upon which Owner solicited proposals for this Contract, consisting of the Bidding Documents and this Contract.

G. Bidder's Proposal. The proposal to enter into this Contract, completed and executed by Contractor, and based upon which this Contract was awarded by Owner to Contractor.

H. Bidding Documents. The documents incorporated by reference in Section 3 of the Invitation for Bidder's Proposals and included in the Bid Package.

I. Bond. Performance Bond, Labor and Material Payment Bond, and any other instrument of security, furnished, or required by this Contract to be furnished, by Contractor or its surety or sureties.

J. Breakdown Schedule. See Paragraph 5.1C1 of these General Conditions of Contract.

K. Change Order. A written order to Contractor executed by Owner authorizing or directing a change in this Contract; an addition to, deletion from, or revision in the Work or the Work Site; or an equitable adjustment in the Contract Price or the Contract Time.

L. Commencement Date. The date set forth in Section 2.1 of the Contract Agreement.

M. Completion Date. The date set forth in Section 2.2 of the Contract Agreement.

N. Contract. The Contract Agreement and all Contract Documents.

O. Contract Agreement. The contract agreement executed by Owner and Contractor.

P. Contract Documents. The documents listed in Section 1.2 of the Contract Agreement.

Q. Contract Drawings. All (i) drawings furnished with the Invitation for Bidder's Proposals, (ii) supplementary drawings furnished to clarify and to define in greater detail the intent of the drawings and specifications furnished with the Invitation for Bidder's Proposals, (iii) drawings submitted by Contractor to Engineer pursuant to this Contract and reviewed and stamped by Engineer with no exception noted or an equivalent notation, and (iv) drawings submitted to Contractor by Engineer during the progress of the Work as provided for in this Contract.

R. Contract Price. The lump sum amount or amounts, if any, stated in the Schedule of Prices and, for each acceptable unit of each Unit Price Item, if any, installed and complete in place, measured on the basis provided for in the Contract Drawings and Specifications, the Unit Price for such Unit Price Item stated in the Schedule of Prices, subject to any additions or deductions provided for in this Contract.

S. Contract Time. The period of time allowed, including the Commencement Date and Completion Date, pursuant to Article II of the Contract Agreement for Contractor to provide, perform, and complete the Work, as such period of time may be modified by Change Order.

T. Contractor. See Subparagraph 1.3A2(a) of the Contract Agreement.

U. Day. Except where otherwise expressly defined, a calendar day of 24 hours, measured from midnight to the next midnight.

V. Decreased Work. See Subsection 2.3B of these General Conditions of Contract.

W. Disputed Decision. See Section 6.1 of these General Conditions of Contract.

X. Engineer. See Subparagraph 1.3A2(b) of the Contract Agreement.

Y. Event of Default. See Section 6.6 of these General Conditions of Contract.

Z. Final Acceptance. See Subsection 5.2B of these General Conditions of Contract.

AA. Final Pay Request. See Subsection 5.2C of these General Conditions of Contract.

BB. Final Payment. See Subsection 5.2C of these General Conditions of Contract.

CC. General Instructions to Bidders. The instructions to bidders included in the Bid Package.

DD. Increased Work. See Subsection 2.3A of these General Conditions of Contract.

EE. Invitation for Bidder's Proposal. The invitation for bidder's proposals included in the Bid Package and by which Owner invited proposals to enter into this Contract.

FF. Laws. All laws, statutes, ordinances, regulations, orders, decrees and other legal requirements, whether federal, state or local existing on or after the date of execution of this Contract.

GG. Lien. See Subsection 5.3B of these General Conditions of Contract.

HH. Notice of Completion. See Subsection 5.2A of these General Conditions of Contract.

II. Notice of Dispute. See Section 6.1 of these General Conditions of Contract.

JJ. Overtime Work. See Section 1.13 of these General Conditions of Contract.

KK. Owner. See Subparagraph 1.3A2(c) of the Contract Agreement.

LL. Pay Request. See Subsection 5.1B of these General Conditions of Contract.

MM. Person. Any corporation, partnership, individual, joint venture, trust, estate, association, business, enterprise, proprietorship or other legal entity of any kind, either public or private, and any legal successor, agent, representative or authorized assign of the above.

NN. Price Proposal. The total compensation proposed to be accepted by Contractor for the Work in the Bidder's Proposal and from which the Contract Price is derived.

OO. Progress Payment. The monthly installment payment to be made by Owner to Contractor in accordance with, and subject to the terms and conditions set forth in, Article V of these General Conditions of Contract.

PP. Punch List. See Subsection 5.2B of these General Conditions of Contract.

QQ. Punch List Work. See Subsection 5.2A of these General Conditions of Contract.

RR. Required Coverages. See Section 4.1 of these General Conditions of Contract.

SS. Required Submittals. See Subsection 1.3A of these General Conditions of Contract.

TT. Specifications. All (i) specifications furnished with the Invitation for Bidder's Proposals, (ii) supplementary specifications furnished to clarify and to define in greater detail the intent of the drawings and specifications furnished with the Invitation for Bidder's Proposals, (iii) specifications submitted pursuant to this Contract by Contractor to Engineer and reviewed and stamped by Engineer with no exception noted or an equivalent notation, and (iv) specifications submitted to Contractor during the progress of the Work as provided for in this Contract. Unless otherwise noted, the term "Specifications" as used in this Contract shall not refer to any other standard specifications.

UU. Subcontract. Any written or oral contract between Contractor and a Subcontractor or Supplier.

VV. Subcontractor. Any Person, other than Contractor, that provides, performs or completes any part of the Work at the Work Site, and the duly authorized officers, employees, agents, and representatives of any such Person.

WW. Supplier. Any Person, other than Contractor, that supplies equipment, materials or supplies for the Work, including that fabricated to a special design, but that does not provide or perform labor at the Work Site, and the duly authorized officers, employees, agents, and representatives of any such Person.

XX. Unit Price. The price set forth in the Schedule of Prices to be paid for each acceptable unit of each Unit Price Item, if any, installed and complete in place, measured on the basis provided for in the Contract Drawings and Specifications.

YY. Unit Price Items. The items set forth in the Schedule of Prices, if any, to be paid for on a Unit Price basis.

ZZ. Value of the Work. The value of the Work, determined in accordance with Subsection 5.1C of these General Conditions of Contract, for purposes of determining the then current amount of any Progress Payment to be made by Owner under this Contract.

AAA. Work. See Subparagraph 1.3A2(d) of the Contract Agreement.

BBB. Work Site. See Subparagraph 1.3A2(e) of the Contract Agreement.

7.2 Word Usage

A. Tense and Form. Words used or defined in one tense or form shall include other tenses and derivative forms.

B. Number. Words in the singular number shall include the plural number, and words in the plural number shall include the singular number.

C. Shall and May. The word “shall” is mandatory. The word “may” is permissive.

D. Subjective Standards. Whenever in this Contract the terms “as ordered,” “as directed,” “as required,” “as allowed,” “as approved,” or terms of like effect or import, or the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” or “satisfactory,” or adjectives of like effect or import, are used to describe a requirement, direction, review, or judgment of Owner or Engineer as to the Work, it is intended that such requirement, direction, review, or judgment shall be solely to evaluate the Work for compliance with this Contract, shall not relieve Contractor of the entire responsibility for the performance of the Work in full compliance with the requirements of this Contract, and shall not be regarded as any assumption of risk or liability by Owner or Engineer.

E. Headings. In case of any difference of meaning or implication between any provision of this Contract and any heading, the Contract provision shall control and no heading shall be construed to limit the scope or intent of any provision of this Contract.

DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

SPECIAL CONDITIONS OF CONTRACT

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DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

SPECIAL CONDITIONS OF CONTRACT

1. Scheduling

A. See Section 01 11 00 – SUMMARY OF WORK and Drawings.

2. Special Financial Assurances

A. Additional Insureds/Indemnities. As provided in Subsection 4.2B and Section 4.3 of the Contract Agreement, the following Persons, including the elected and appointed officers, agents, employees, and officials of said Persons (the "Additional Insureds") shall be named as additional insureds on the Commercial General Liability insurance required pursuant to this Contract, and the hold harmless and indemnification protection specified in Section 4.3 of the Contract Agreement shall be extended to such Additional Insureds as third-party beneficiaries thereof:

1. County of DuPage
2. County of Will
3. City of Naperville
4. Naperville Township
5. Wheatland Township
6. DuPage County Department of Transportation
7. Lockwood, Andrews and Newnam, Inc.
8. Robinson Engineering, Ltd.
9. Stanley Consultants, Inc.
10. Burns & McDonnell
11. Geocon Professional Services

DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

LIST OF CONTRACT DRAWINGS

GENERAL

SHEET NO.	DRAWING NO.	DRAWING TITLE
1	G-001	COVER SHEET
2	G-002	SHEET INDEX
3	G-003	SEALS AND SIGNATURES
4	G-004	GENERAL NOTES
5	G-005	LEGEND AND ABBREVIATIONS
6	G-006	PROJECT LOCATION MAP
7	G-007	KEY MAP BOOK ROAD
8	G-008	HORIZONTAL ALIGNMENT CONTROL BOOK ROAD STA 596+56.80 TO STA 680+00
9	G-009	HORIZONTAL ALIGNMENT CONTROL BOOK ROAD STA 680+00 TO STA 758+79.74

CIVIL

SHEET NO.	DRAWING NO.	DRAWING TITLE
10	C-101	BOOK ROAD WATER TRANSMISSION MAIN PLAN & PROFILE STA 596+56.80 TO STA 607+00
11	C-102	BOOK ROAD WATER TRANSMISSION MAIN PLAN & PROFILE STA 607+00 TO STA 619+00
12	C-103	BOOK ROAD WATER TRANSMISSION MAIN PLAN STA 619+00 TO STA 631+00
13	C-104	BOOK ROAD WATER TRANSMISSION MAIN PROFILE STA 619+00 TO STA 631+00
14	C-105	BOOK ROAD WATER TRANSMISSION MAIN PLAN & PROFILE STA 631+00 TO STA 643+00
15	C-106	BOOK ROAD WATER TRANSMISSION MAIN PLAN & PROFILE STA 643+00 TO STA 655+00
16	C-107	BOOK ROAD WATER TRANSMISSION MAIN PLAN & PROFILE STA 655+00 TO STA 667+00
17	C-108	BOOK ROAD WATER TRANSMISSION MAIN PLAN STA 667+00 TO STA 679+00
18	C-109	BOOK ROAD WATER TRANSMISSION MAIN PROFILE STA 667+00 TO STA 679+00
19	C-110	BOOK ROAD WATER TRANSMISSION MAIN PLAN STA 679+00 TO STA 691+00
20	C-111	BOOK ROAD WATER TRANSMISSION MAIN PROFILE STA 679+00 TO STA 691+00
21	C-112	BOOK ROAD WATER TRANSMISSION MAIN PLAN STA 691+00 TO STA 703+00
22	C-113	BOOK ROAD WATER TRANSMISSION MAIN PROFILE STA 691+00 TO STA 703+00
23	C-114	BOOK ROAD WATER TRANSMISSION MAIN PLAN STA 703+00 TO STA 715+00
24	C-115	BOOK ROAD WATER TRANSMISSION MAIN PROFILE STA 703+00 TO STA 715+00
25	C-116	BOOK ROAD WATER TRANSMISSION MAIN PLAN STA 715+00 TO STA 727+00
26	C-117	BOOK ROAD WATER TRANSMISSION MAIN PROFILE STA 705+00 TO STA 727+00
27	C-118	BOOK ROAD WATER TRANSMISSION MAIN PLAN STA 727+00 TO STA 739+00

28	C-119	BOOK ROAD WATER TRANSMISSION MAIN PROFILE STA 727+00 TO STA 739+00
29	C-120	BOOK ROAD WATER TRANSMISSION MAIN PLAN & PROFILE STA 739+00 TO STA 751+00
30	C-121	BOOK ROAD WATER TRANSMISSION MAIN PLAN & PROFILE STA 751+00 TO STA 759+00
31	C-122	BOOK ROAD WATER TRANSMISSION MAIN PLAN & PROFILE 87TH STREET TUNNEL DETAIL
32	C-123	75TH STREET WATER TRANSMISSION MAIN OVERALL PLAN DWC SYSTEM CONNECTIONS
33	C-124	75TH STREET WATER TRANSMISSION MAIN PLAN 48-INCH WATER MAIN CONNECTION
34	C-125	75TH STREET WATER TRANSMISSION MAIN PLAN 48-INCH REMOTE OPERATED BFV (WEST)
35	C-126	75TH STREET WATER TRANSMISSION MAIN PLAN 48-INCH REMOTE OPERATED BFV (EAST)
36	C-501	WATER TRANSMISSION MAIN DETAILS SHEET 1 OF 29
37	C-502	WATER TRANSMISSION MAIN DETAILS SHEET 2 OF 29
38	C-503	WATER TRANSMISSION MAIN DETAILS SHEET 3 OF 29
39	C-504	WATER TRANSMISSION MAIN DETAILS SHEET 4 OF 29
40	C-505	WATER TRANSMISSION MAIN DETAILS SHEET 5 OF 29
41	C-506	WATER TRANSMISSION MAIN DETAILS SHEET 6 OF 29
42	C-507	WATER TRANSMISSION MAIN DETAILS SHEET 7 OF 29
43	C-508	WATER TRANSMISSION MAIN DETAILS SHEET 8 OF 29
44	C-509	WATER TRANSMISSION MAIN DETAILS SHEET 9 OF 29
45	C-510	WATER TRANSMISSION MAIN DETAILS SHEET 10 OF 29
46	C-511	WATER TRANSMISSION MAIN DETAILS SHEET 11 OF 29
47	C-512	WATER TRANSMISSION MAIN DETAILS SHEET 12 OF 29
48	C-513	WATER TRANSMISSION MAIN DETAILS SHEET 13 OF 29
49	C-514	WATER TRANSMISSION MAIN DETAILS SHEET 14 OF 29
50	C-515	WATER TRANSMISSION MAIN DETAILS SHEET 15 OF 29
51	C-516	WATER TRANSMISSION MAIN DETAILS SHEET 16 OF 29
52	C-517	WATER TRANSMISSION MAIN DETAILS SHEET 17 OF 29
53	C-518	WATER TRANSMISSION MAIN DETAILS SHEET 18 OF 29
54	C-519	WATER TRANSMISSION MAIN DETAILS SHEET 19 OF 29
55	C-520	WATER TRANSMISSION MAIN DETAILS SHEET 20 OF 29
56	C-521	WATER TRANSMISSION MAIN DETAILS SHEET 21 OF 29
57	C-522	WATER TRANSMISSION MAIN DETAILS SHEET 22 OF 29
58	C-523	WATER TRANSMISSION MAIN DETAILS SHEET 23 OF 29
59	C-524	WATER TRANSMISSION MAIN DETAILS SHEET 24 OF 29
60	C-525	WATER TRANSMISSION MAIN DETAILS SHEET 25 OF 29
61	C-526	WATER TRANSMISSION MAIN DETAILS SHEET 26 OF 29
62	C-527	WATER TRANSMISSION MAIN DETAILS SHEET 27 OF 29
63	C-528	WATER TRANSMISSION MAIN DETAILS SHEET 28 OF 29
64	C-529	WATER TRANSMISSION MAIN DETAILS SHEET 29 OF 29
65	C-530	DRAINAGE DETAILS SHEET 1 OF 3
66	C-531	DRAINAGE DETAILS SHEET 2 OF 3

67	C-532	DRAINAGE DETAILS SHEET 3 OF 3
68	C-533	CULVERT DETAILS SHEET 1 OF 3
69	C-534	CULVERT DETAILS SHEET 2 OF 3
70	C-535	CULVERT DETAILS SHEET 3 OF 3

ELECTRICAL

SHEET NO.	DRAWING NO.	DRAWING TITLE
71	E-001	LEGEND AND SYMBOLS
72	E-501	REMOTE OPERATED VALVE DETAILS SHEET 1 OF 4
73	E-502	REMOTE OPERATED VALVE DETAILS SHEET 2 OF 4
74	E-503	REMOTE OPERATED VALVE DETAILS SHEET 3 OF 4
75	E-504	REMOTE OPERATED VALVE DETAILS SHEET 3 OF 4

ROADWAY RESTORATION

SHEET NO.	DRAWING NO.	DRAWING TITLE
76	R-001	BOOK ROAD TYPICAL CROSS SECTIONS
77	R-002	BOOK ROAD TYPICAL CROSS SECTIONS
78	R-003	BOOK ROAD TYPICAL CROSS SECTIONS
79	R-004	BOOK ROAD TYPICAL CROSS SECTIONS
80	R-101	BOOK ROAD PLAN & PROFILE STA 596+56.80 TO STA 606+50
81	R-102	BOOK ROAD PLAN & PROFILE STA 606+50 TO STA 618+50
82	R-103	BOOK ROAD PLAN & PROFILE STA 618+50 TO STA 630+50
83	R-104	BOOK ROAD PLAN & PROFILE STA 630+50 TO STA 642+50
84	R-105	BOOK ROAD PLAN & PROFILE STA 642+50 TO STA 654+50
85	R-106	BOOK ROAD PLAN & PROFILE STA 654+50 TO STA 666+50
86	R-107	BOOK ROAD PLAN & PROFILE STA 666+50 TO STA 679+50
87	R-108	BOOK ROAD PLAN & PROFILE STA 679+50 TO STA 690+50
88	R-109	BOOK ROAD PLAN & PROFILE STA 690+50 TO STA 702+50
89	R-110	BOOK ROAD PLAN & PROFILE STA 702+50 TO STA 714+50
90	R-111	BOOK ROAD PLAN & PROFILE STA 714+50 TO STA 726+50
91	R-112	BOOK ROAD PLAN & PROFILE STA 726+50 TO STA 738+50
92	R-113	BOOK ROAD PLAN & PROFILE STA 738+50 TO STA 750+50
93	R-114	BOOK ROAD PLAN & PROFILE STA 750+50 TO STA 759+97.30
94	R-115	BOOK ROAD PAVEMENT MARKING PLAN STA 596+56.80 TO STA 618+50
95	R-116	BOOK ROAD PAVEMENT MARKING PLAN STA 618+50 TO STA 642+50
96	R-117	BOOK ROAD PAVEMENT MARKING PLAN STA 642+50 TO STA 666+50
97	R-118	BOOK ROAD PAVEMENT MARKING PLAN STA 666+50 TO STA 690+50
98	R-119	BOOK ROAD PAVEMENT MARKING PLAN STA 690+50 TO STA 714+50
99	R-120	BOOK ROAD PAVEMENT MARKING PLAN STA 714+50 TO STA 738+50
100	R-121	BOOK ROAD PAVEMENT MARKING PLAN STA 738+50 TO STA 759+97.30
101	R-501	BOOK ROAD ROADWAY DETAILS
102	R-502	BOOK ROAD ROADWAY DETAILS

103	R-503	BOOK ROAD ROADWAY DETAILS
104	R-504	BOOK ROAD ROADWAY DETAILS
105	R-505	BOOK ROAD ROADWAY DETAILS
106	R-506	BOOK ROAD ROADWAY DETAILS
107	R-507	BOOK ROAD ROADWAY DETAILS
108	R-508	BOOK ROAD ROADWAY DETAILS

EROSION CONTROL

SHEET NO.	DRAWING NO.	DRAWING TITLE
109	EC-101	BOOK ROAD PLANS SHEET 1 OF 7
110	EC-102	BOOK ROAD PLANS SHEET 2 OF 7
111	EC-103	BOOK ROAD PLANS SHEET 3 OF 7
112	EC-104	BOOK ROAD PLANS SHEET 4 OF 7
113	EC-105	BOOK ROAD PLANS SHEET 5 OF 7
114	EC-106	BOOK ROAD PLANS SHEET 6 OF 7
115	EC-107	BOOK ROAD PLANS SHEET 7 OF 7
116	EC-108	DETAILS SHEET 1 OF 2
117	EC-109	DETAILS SHEET 2 OF 2

MAINTENANCE OF TRAFFIC

SHEET NO.	DRAWING NO.	DRAWING TITLE
118	MOT-000	BOOK ROAD SUGGESTED TRAFFIC CONTROL STAGING NOTES
119	MOT-001	BOOK ROAD DETOUR PLANS STAGE 1A
120	MOT-002	BOOK ROAD DETOUR PLANS STAGE 1B
121	MOT-003	BOOK ROAD DETOUR PLANS STAGE 2A
122	MOT-004	BOOK ROAD DETOUR PLANS STAGE 2B
123	MOT-005	BOOK ROAD DETOUR PLANS STAGE 3A
124	MOT-006	BOOK ROAD DETOUR PLANS STAGE 3B
125	MOT-007	BOOK ROAD DETOUR PLANS STAGE 3C
126	MOT-008	BOOK ROAD DETOUR PLANS STAGE 4A
127	MOT-009	BOOK ROAD DETOUR PLANS STAGE 4B
128	MOT-010	BOOK ROAD DETOUR PLANS STAGE 4C
129	MOT-011	BOOK ROAD TYPICAL CROSS SECTIONS
130	MOT-012	BOOK ROAD TYPICAL CROSS SECTIONS
131	MOT-013	BOOK ROAD TYPICAL CROSS SECTIONS
132	MOT-101	BOOK ROAD PLAN STAGE 1A
133	MOT-102	BOOK ROAD PLAN STAGE 1A
134	MOT-103	BOOK ROAD PLAN STAGE 1B
135	MOT-104	BOOK ROAD PLAN STAGE 1B
136	MOT-105	BOOK ROAD PLAN STAGE 2A
137	MOT-106	BOOK ROAD PLAN STAGE 2A
138	MOT-107	BOOK ROAD PLAN STAGE 2B
139	MOT-108	BOOK ROAD PLAN STAGE 2B
140	MOT-109	BOOK ROAD PLAN STAGE 3A

141	MOT-110	BOOK ROAD PLAN STAGE 3A
142	MOT-111	BOOK ROAD PLAN STAGE 3B
143	MOT-112	BOOK ROAD PLAN STAGE 3B
144	MOT-113	BOOK ROAD PLAN STAGE 3B
145	MOT-114	BOOK ROAD PLAN STAGE 3C
146	MOT-115	BOOK ROAD PLAN STAGE 3C
147	MOT-116	BOOK ROAD PLAN STAGE 3C
148	MOT-117	BOOK ROAD PLAN STAGE 4A
149	MOT-118	BOOK ROAD PLAN STAGE 4B
150	MOT-119	BOOK ROAD PLAN STAGE 4B
151	MOT-120	BOOK ROAD PLAN STAGE 4C
152	MOT-121	BOOK ROAD PLAN STAGE 4C
153	MOT-501	BOOK ROAD DETAILS
154	MOT-502	BOOK ROAD DETAILS
155	MOT-503	BOOK ROAD DETAILS
156	MOT-504	BOOK ROAD DETAILS
157	MOT-505	BOOK ROAD DETAILS

TRAFFIC SIGNALS

SHEET NO.	DRAWING NO.	DRAWING TITLE
158	TS-101	TEMP TRAFFIC SIGNAL INSTALLATION PLAN & REMOVE EXIST TRAFFIC SIGNAL EQUIP PLAN 75TH STREET AND BOOK ROAD
159	TS-102	BOOK ROAD TEMP TRAFFIC SIGNAL PLAN - MOT STAGES 75TH STREET AND BOOK ROAD
160	TS-103	TEMP CABLE PLAN, PHASE DESIGNATION DIAGRAM AND TEMP EVP SEQUENCE 75TH STREET AND BOOK ROAD
161	TS-104	TRAFFIC SIGNAL RESTORATION PLAN, DETECTOR LOOP REPLACEMENT 75TH STREET AND BOOK ROAD
162	TS-105	TEMP TRAFFIC SIGNAL INSTALLATION PLAN & REMOVE EXIST TRAFFIC SIGNAL EQUIP PLAN 83RD STREET AND BOOK ROAD
163	TS-106	BOOK ROAD TEMP TRAFFIC SIGNAL PLAN - MOT STAGES 83RD STREET AND BOOK ROAD
164	TS-107	TEMP CABLE PLAN, PHASE DESIGNATION DIAGRAM AND TEMP EVP SEQUENCE 83RD STREET AND BOOK ROAD
160	TS-103	TEMP CABLE PLAN, PHASE DESIGNATION DIAGRAM AND TEMP EVP SEQUENCE 75TH STREET AND BOOK ROAD
161	TS-104	TRAFFIC SIGNAL RESTORATION PLAN, DETECTOR LOOP REPLACEMENT 75TH STREET AND BOOK ROAD
162	TS-105	TEMP TRAFFIC SIGNAL INSTALLATION PLAN & REMOVE EXIST TRAFFIC SIGNAL EQUIP PLAN 83RD STREET AND BOOK ROAD
163	TS-106	BOOK ROAD TEMP TRAFFIC SIGNAL PLAN - MOT STAGES 83RD STREET AND BOOK ROAD
164	TS-107	TEMP CABLE PLAN, PHASE DESIGNATION DIAGRAM AND TEMP EVP SEQUENCE 83RD STREET AND BOOK ROAD
165	TS-108	TRAFFIC SIGNAL RESTORATION PLAN, DETECTOR LOOP REPLACEMENT 83RD STREET AND BOOK ROAD
166	TS-109	TEMP TRAFFIC SIGNAL INSTALLATION PLAN & REMOVE EXIST TRAFFIC SIGNAL EQUIP PLAN 87TH STREET AND BOOK ROAD
167	TS-110	BOOK ROAD TEMP TRAFFIC SIGNAL PLAN - MOT STAGES 87TH STREET AND BOOK ROAD

168	TS-111	TEMP CABLE PLAN, PHASE DESIGNATION DIAGRAM AND TEMP EVP SEQUENCE 87TH STREET AND BOOK ROAD
169	TS-112	TRAFFIC SIGNAL RESTORATION PLAN, DETECTOR LOOP REPLACEMENT 87TH STREET AND BOOK ROAD
170	TS-113	TEMP TRAFFIC SIGNAL INSTALLATION PLAN & REMOVE EXIST TRAFFIC SIGNAL EQUIP PLAN 95TH STREET AND BOOK ROAD
171	TS-114	BOOK ROAD TEMP TRAFFIC SIGNAL PLAN - MOT STAGES 95TH STREET AND BOOK ROAD
172	TS-115	TEMP CABLE PLAN, PHASE DESIGNATION DIAGRAM AND TEMP EVP SEQUENCE 95TH STREET AND BOOK ROAD
173	TS-116	TRAFFIC SIGNAL RESTORATION PLAN, DETECTOR LOOP REPLACEMENT 95TH STREET AND BOOK ROAD
174	TS-117	TEMP TRAFFIC SIGNAL INSTALLATION PLAN & REMOVE EXIST TRAFFIC SIGNAL EQUIP PLAN CONAN DOYLE ROAD AND BOOK RD
175	TS-118	BOOK ROAD TEMP TRAFFIC SIGNAL PLAN - MOT STAGES CONAN DOYLE ROAD AND BOOK RD
176	TS-119	TEMP CABLE PLAN, PHASE DESIGNATION DIAGRAM AND TEMP EVP SEQUENCE CONAN DOYLE ROAD AND BOOK RD
177	TS-120	TRAFFIC SIGNAL RESTORATION PLAN, DETECTOR LOOP REPLACEMENT CONAN DOYLE ROAD AND BOOK RD
178	TS-121	BOOK ROAD INTERCONNECT PLAN CONAN DOYLE RD TO 103RD ST
179	TS-501	BOOK ROAD DETAILS
180	TS-502	BOOK ROAD DETAILS
181	TS-503	BOOK ROAD DETAILS
182	TS-504	BOOK ROAD DETAILS

CATHODIC PROTECTION

SHEET NO.	DRAWING NO.	DRAWING TITLE
183	CP-501	DETAILS SHEET 1 OF 3
184	CP-502	DETAILS SHEET 2 OF 3
185	CP-503	DETAILS SHEET 3 OF 3

GEOTECHNICAL

SHEET NO.	DRAWING NO.	DRAWING TITLE
186	B-101	BORING PLANS SHEET 1 OF 7
187	B-102	BORING PLANS SHEET 2 OF 7
188	B-103	BORING PLANS SHEET 3 OF 7
189	B-104	BORING PLANS SHEET 4 OF 7
190	B-105	BORING PLANS SHEET 5 OF 7
191	B-106	BORING PLANS SHEET 6 OF 7
192	B-107	BORING PLANS SHEET 7 OF 7
193	B-201	BORING LOGS SHEET 1 OF 7
194	B-202	BORING LOGS SHEET 2 OF 7
195	B-203	BORING LOGS SHEET 3 OF 7
196	B-204	BORING LOGS SHEET 4 OF 7
197	B-205	BORING LOGS SHEET 5 OF 7
198	B-206	BORING LOGS SHEET 6 OF 7
199	B-207	BORING LOGS SHEET 7 OF 7

DUPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF
CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

SPECIFICATIONS

SEE VOLUME II

DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that ***[FULL NAME, ADDRESS AND ORGANIZATION OF CONTRACTOR]***, as Principal, hereinafter called Contractor, and ***[FULL NAME AND ADDRESS OF SURETY]***, as Surety, a corporation organized and existing under the laws of the State of ***[INCORPORATION]***, hereinafter called Surety, are held and firmly bound unto the DuPage Water Commission, 600 East Butterfield Road, Elmhurst, Illinois 60126-4642, as Obligee, hereinafter called Owner, in the full and just sum of ***[CONTRACT PRICE]*** Dollars ($***[CONTRACT PRICE]***), for the payment of which sum of money well and truly to be made, Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents, said amount to include payment of actual costs and damages and for attorneys' fees, architectural fees, design fees, engineering fees, accounting fees, testing fees, consulting fees, administrative costs, court costs, interest and any other fees and expenses resulting from or incurred by reason of Contractor's failure to promptly and faithfully perform its contract with Owner, said contract being more fully described below, and to include attorneys' fees, court costs and administrative and other expenses necessarily paid or incurred in successfully enforcing performance of the obligation of Surety under this bond.

WHEREAS, Contractor has entered into a written agreement dated ***[DATE OF CONTRACT AGREEMENT]***, with Owner entitled "Contract Agreement Between DuPage Water Commission and ***[CONTRACTOR'S NAME]*** for the Construction of *Contract TW-6/25 Section 1(Book Road)* (the "Contract"), the terms and conditions of which are by this reference incorporated herein as though fully set forth herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT if Contractor shall well, truly, and promptly perform all the undertakings, covenants, terms, conditions, and agreements of said Contractor under the Contract, including, but not limited to, Contractor's obligations under the Contract: (1) to provide, perform and complete at the Work Site and in the manner specified in the Contract all necessary work, labor, services, transportation, equipment, materials, apparatus, machinery, tools, fuels, gas, electric, water, waste disposal, information, data, and other means and items necessary for the design, if any, construction, and installation of the *Contract TW-6/25 Section 1(Book Road)*, together with related attachments, equipment, and appurtenances thereto; (2) to procure and furnish all permits, licenses, and other governmental approvals and authorizations necessary in connection therewith except as otherwise expressly provided in the Special Conditions of Contract; (3) to procure and furnish all bonds and certificates and policies of insurance specified in the Contract; (4) to pay all applicable federal, state, and local taxes; (5) to do all other things required of Contractor by the

Contract; (6) comply with its obligation to pay not less than the prevailing rate of wages and otherwise comply with the Prevailing Wage Act, 820 ILCS 130/1 *et seq*.; and (7) to provide, perform, and complete all of the foregoing in a proper and workmanlike manner and in full compliance with, and as required by and pursuant to, the Contract; all of which is herein referred to as the "Work," whether or not any of said Work enter into and become component parts of the improvement contemplated, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that no changes, modifications, alterations, omissions, deletions, additions, extensions of time, or forbearances on the part of either Owner or Contractor to the other in or to the terms of said Contract; in or to the schedules, plans, drawings, or specifications; in or to the method or manner of performance of the Work; in or to Owner-furnished facilities, equipment, materials, services, or sites; or in or to the mode or manner of payment therefor, shall in any way release Contractor and Surety or either or any of them, or any of their heirs, executors, administrators, successors, or assigns, or affect the obligations of Surety on this bond, all notice of any and all of the foregoing changes, modifications, alterations, omissions, deletions, additions, extensions of time, or forbearances, and notice of any and all defaults by Contractor or of Owner's termination of Contractor being hereby waived by Surety.

Notwithstanding anything to the contrary in the foregoing paragraph, in no event shall the obligations of Surety under this bond in the event of Contractor's default be greater than the obligations of Contractor under the Contract in the absence of such Contractor default.

Notwithstanding anything herein to the contrary, Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to faithfully fulfill the prevailing wage requirements of the Contract.

In the event of a default or defaults by Contractor, Owner shall have the right to take over and complete the Contract upon 30 calendar days' written notice to Surety, in which event Surety shall pay Owner all costs incurred by Owner in taking over and completing the Contract.

At its option, Owner may instead request that Surety take over and complete the Contract, in which event Surety shall take reasonable steps to proceed promptly with completion no later than 30 calendar days from the date on which Owner notifies Surety that Owner wants Surety to take over and complete the Contract.

Owner shall have no obligation to actually incur any expense or correct any deficient performance of Contractor in order to be entitled to receive the proceeds of this bond.

No right of action shall accrue on this bond to or for the use of any person or corporation other than Owner or the heirs, executors, administrators, or successors of Owner.

Signed and sealed this ___ day of _____, 20___.

Attest/Witness:	PRINCIPAL: ***[NAME OF CONTRACTOR]***
By: _____	By: _____ ***[NAME OF CONTRACTOR'S EXECUTING OFFICER]***
Title: _____	Title: ***[TITLE OF CONTRACTOR'S EXECUTING OFFICER]***
Attest/Witness:	SURETY: ***[NAME OF SURETY]***
By: _____	By: _____
Title: _____	Title: _____
	Telephone: _____

SEE GENERAL INSTRUCTIONS TO BIDDERS, SECTION 8, FOR SIGNATURE REQUIREMENTS

DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that ***[FULL NAME, ADDRESS AND ORGANIZATION OF CONTRACTOR]***, as Principal, hereinafter called Contractor, and ***[FULL NAME AND ADDRESS OF SURETY]***, as Surety, a corporation organized and existing under the laws of the State of ***[INCORPORATION]***, hereinafter called Surety, are held and firmly bound unto the DuPage Water Commission, 600 East Butterfield Road, Elmhurst, Illinois 60126-4642, as Obligee, hereinafter called Owner, for the use and benefit of itself and of claimants as hereinafter defined, in the full and just sum of ***[CONTRACT PRICE]*** Dollars ($***[CONTRACT PRICE]***), to be paid to it or the said claimants or its or their assigns, to which payment well and truly to be made Contractor and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents, said amount to include attorney's fees, court costs, and administrative and other expenses necessarily paid or incurred in successfully enforcing performance of the obligation of Surety under this bond.

WHEREAS, Contractor has entered into a written agreement dated ***[DATE OF CONTRACT AGREEMENT]***, with Owner entitled "Contract Agreement Between DuPage Water Commission and ***[CONTRACTOR'S NAME]*** for the Construction of *Contract TW-6/25 Section 1 (Book Road)* (the "Contract"), the terms and conditions of which are by this reference incorporated herein as though fully set forth herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT if Contractor shall promptly pay or cause to be paid all sums of money that may be due to any claimant with respect to Contractor's obligations under the Contract: (1) to provide, perform, and complete at the Work Site and in the manner specified in the Contract all necessary work, labor, services, transportation, equipment, materials, apparatus, machinery, tools, fuels, gas, electric, water, waste disposal, information, data, and other means and items necessary for design, if any, construction, and installation of the *Contract TW-6/25 Section 1 (Book Road)*, together with related attachments, equipment, and appurtenances thereto; (2) to procure and furnish all permits, licenses, and other governmental approvals and authorizations necessary in connection therewith except as otherwise expressly provided in the Special Conditions of Contract; (3) to procure and furnish all bonds and certificates and policies of insurance specified in the Contract; (4) to pay all applicable federal, state, and local taxes; (5) to do all other things required of Contractor by the Contract; (6) comply with its obligation to pay not less than the prevailing rate of wages and otherwise comply with the Prevailing Wage Act, 820 ILCS 130/1 *et seq*.; and (7) to provide, perform, and complete all of the foregoing in a proper and workmanlike manner and in full compliance with, and as required by and pursuant to, the Contract; all of which is herein referred to as the "Work," whether or not any of said Work enter into and become component parts of the improvement

contemplated, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

For purpose of this bond, a claimant is defined as one having a direct contract with Contractor or with a subcontractor of Contractor to provide, perform or complete any part of the Work.

Contractor and Surety hereby jointly and severally agree that every claimant who has not had all just claims for the furnishing of any part of the Work paid in full, including, without limitation, all claims for amounts due for materials, lubricants, oil, gasoline, rentals of, or service or repairs on, machinery, equipment, and tools consumed or used in connection with the furnishing of any part of the Work, may sue on this bond for the use of such claimant, may prosecute the suit to final judgment for such sum or sums as may be justly due such claimant, and may have execution therein; provided, however, that Owner shall not be liable for the payment of any costs or expenses of any such suit. The provisions of 30 ILCS 550/1 and 30 ILCS 550/2 shall be deemed inserted herein, including the time limits within which notices of claim must be filed and actions brought under this bond.

Notwithstanding anything herein to the contrary, Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to faithfully fulfill the prevailing wage requirements of the Contract.

Contractor and Surety hereby jointly agree that Owner may sue on this bond if Owner is held liable to, or voluntarily agrees to pay, any claimant directly, but nothing in this bond shall create any duty on the part of Owner to pay any claimant.

Surety, for value received, hereby stipulates and agrees that no changes, modifications, alterations, omissions, deletions, additions, extensions of time, or forbearances on the part of Owner or Contractor to the other in or to the terms of said Contract; in or to the schedules, plans, drawings, or specifications; in or to the method or manner of performance of the Work; in or to Owner-furnished facilities, equipment, materials, services, or sites; or in or to the mode or manner of payment therefor shall in any way release Contractor and Surety or either or any of them, or any of their heirs, executors, administrators, successors, or assigns, or affect the obligations of said Surety on this bond, all notice of any and all of the foregoing changes, modifications, alterations, omissions, deletions, additions, extensions of time, or forbearances and notice of any and all defaults by Contractor or of Owner’s termination of Contractor being hereby waived by Surety.

Signed and sealed this ___ day of _____, 20___.

Attest/Witness:	PRINCIPAL: ***[NAME OF CONTRACTOR]***
By: _____	By: _____ ***[NAME OF CONTRACTOR'S EXECUTING OFFICER]***
Title: _____	Title: ***[TITLE OF CONTRACTOR'S EXECUTING OFFICER]***
Attest/Witness:	SURETY: ***[NAME OF SURETY]***
By: _____	By: _____
Title: _____	Title: _____
	Telephone: _____

SEE GENERAL INSTRUCTIONS TO BIDDERS, SECTION 8,
FOR SIGNATURE REQUIREMENTS

DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

MAINTENANCE/WARRANTY BOND

Know ALL MEN BY THESE PRESENTS. That we _____ as Principal, and ___, as Surety, are held and firmly bound unto _____, State of Illinois as Obligee, in the penal sum of _____ ($_____) to which payment well and truly to be made we do bind ourselves, our and each of our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

WHEREAS, the said Principal entered into a Contract with the _____, State of Illinois _____ dated _____ for _____

WHEREAS, said Contract provides that the Principal will furnish a Bond conditioned to guarantee for the period of _____ year(s) after approval of the final payment on said job, by the Owner, against all defects in workmanship and materials which may become apparent during said period, and

WHEREAS, the said Contract has been completed, and was approved on the _____ day of _____20_____.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that, if the Principal shall indemnify the Obligee for all loss that the Obligee may sustain by reason of any defective materials or workmanship which becomes apparent during the period of _____ year(s) from and after _____ then this obligation shall be void, otherwise to remain in full force and effect.

SIGNED, SEALED, AND DATED

_____ (L.S.)

_____ (L.S.)

_____ (L.S.)

Principal(s)

[Surety Name]

by _____

, Attorney-in-Fact

DuPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

ADDENDA NOS. *1, 2, 3 AND 4*

00 91 13 ADDENDUM NO. 1

PART 1 - G E N E R A L

1.01 ADDENDUM

A. Project Information:

1. To: PROSPECTIVE BIDDERS
2. Project Title: CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)
3. Date of Addendum: JUNE 10, 2025.
4. Owner: DUPAGE WATER COMMISSION.
5. Engineer: LOCKWOOD, ANDREWS & NEWNAM, INC.

B. This Addendum forms a part of the Contract Documents and modifies the original documents dated May 23, 2025.

C. Acknowledge receipt of this Addendum in the space provided in the Bidder's Proposal documents included with Bidding Documents Failure to do so may disqualify the Bidder.

1.02 CHANGES TO PROJECT MANUAL

A. Contract Documents – Contract Agreement - Article IV Financial Assurances

1. Remove Subsection "4.2.B Additional Insureds" in its entirety and replace with the following:

B. Additional Insureds

The insurance coverages required pursuant to this Contract shall name Owner, including its Board members and elected and appointed officials, its officers, employees, agents, attorneys, consultants, and representatives, and the Persons identified in Section 4 of the Special Conditions of Contract as additional insured parties (the "Additional Insureds"). The coverage afforded the Additional Insureds shall be primary and non-contributory insurance for the Additional Insureds with respect to claims arising out of operations performed by or on behalf of Contractor. If the Additional Insureds have other insurance which is applicable to the loss, such other insurance shall be on an excess or contingent basis. The amount of the insurance companies' liability under the insurance policies Contractor maintains shall not be reduced by the existence of such other insurance. All policies shall list the Owner as an additional insured and said coverage must specifically state it is primary and non-contributory.

B. Bidding Documents – General Instructions to Bidders

1. Remove Subsection "9.B Return of Bid Security" in its entirety and replace with the following:

B. Return of Bid Security

Bid Security submitted in the form of Cashier's Checks or Certified Checks will be returned to all except the Most Favorable Bidders within sixty (60) Days after the opening of Bidder's Proposals, and to the Most Favorable Bidders within five (5) Days after execution of the Contract Agreement by Owner. Bid Bonds will not be returned unless otherwise requested by Bidder.

C. Bidding Documents – Special Instructions to Bidders

1. Add the following Paragraph under “Bid Form Instructions”:

7. Provide name of steel pipe manufacturer, where indicated on the Bid Form. If a bid price is provided for Alternate B or Alternate D, provide name of prestressed concrete cylinder pipe manufacturer, where indicated on the Bid Form. Proposals without at least one pipe manufacturer named in accordance with this instruction will be rejected. Named pipe manufacturer(s) may not be changed after Proposal has been submitted to Owner.

2. Remove Subsection “Bidder Questions Deadline” in its entirety and replace with the following:

Bidder Questions Deadline
Bidder questions shall be submitted via email to Bids@dpwc.org. Bidders shall include company name and contact information with submitted questions.
Deadline for Bidder questions is 4:00pm on Friday, June 13th, 2025.

D. Bidding Documents – Bidder’s Proposal

1. Remove Subsection “3. Contract Time Proposal” in its entirety and replace with the following:

3. Contract Time Proposal

If this Bidder’s Proposal is accepted, Bidder will commence the Work immediately upon execution by Owner of the Contract Agreement (“Commencement Date”) and will perform the Work diligently and continuously and will complete the Work, no later than December 31, 2026 (“Completion Date”).

E. Bidding Documents – Section 00 42 22 – BID FORM

1. Remove Section 00 42 22 in its entirety and replace with the attached revised Section 00 42 22.

1.03 CHANGES TO TECHNICAL SPECIFICATIONS

A. Section 01 30 01 – DIGITAL UTILITY DATA COLLECTION

1. Delete Subsection 3.01.B in its entirety and replace with the following:

B. Contractor shall obtain as-built survey data during or immediately after installation of utility. For open trench and exposed water main or sewer utilities, data points shall be obtained on top of pipe and pipe invert along centerline, at intervals of no more than 50 feet and at all horizontal and vertical directional changes with a minimum of 2 points no more than 5 feet from bend/deflection joints. Utilities that are bored (trenchless) will be surveyed at exposed pit locations at both ends and along boring route with depths manually input every 10 feet from above ground locating devices.

B. Section 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN

1. Remove “Anticipated Project Schedule” table under Subsection 3.03.A and replace with the following:

Anticipated Project Schedule		
Activity Description	***Estimated Start Date***	***Estimated End Date***
Demolition Activities	*Fall 2025*	*Fall 2026*
Surface Restoration and Final Stabilization	*Spring 2026*	*Winter 2026*

Note: Contractor to prepare and submit final detailed construction schedule for Owner approval.

C. Section 33 11 01 – PRESTRESSED CONCRETE CYLINDER PIPE

1. Remove Section 33 11 01 in its entirety and replace with the attached revised Section 33 11 01.

D. Section 33 11 02 – STEEL PIPE

1. Remove Section 33 11 02 in its entirety and replace with the attached revised Section 33 11 02.

E. Section 33 11 03 – DUCTILE IRON PIPE

1. Remove Section 33 11 03 in its entirety and replace with the attached revised Section 33 11 03.

F. Section 40 05 05 – DISMANTLING JOINTS

1. Add Section 40 05 05 in its entirety.

G. Section 40 05 61 – GATE VALVES

1. Add Subsection 1.05.B.8:

8. Certificate of Compliance

a. *Submit Certificate of Compliance* certifying conformance with American Iron and Steel (AIS) requirements.

H. Section 40 05 62 – PLUG VALVES

1. Add Subsection 1.05.C:

C. Certificate of Compliance

1. Submit Certificate of Compliance certifying conformance with American Iron and Steel (AIS) requirements.

1.04 CHANGES TO DRAWINGS

A. Remove Sheet 7 of 199 (Drawing G-007) in its entirety and replace with the attached revised Sheet 7 of 199 containing revised Drawing numbers.

1.05 QUESTIONS AND CLARIFICATIONS

A. Clarification: Bidder questions shall be submitted via email to Bids@dpwc.org. Bidders shall include company name and contact information with submitted questions.

B. The following questions were asked during the Pre-Bid Meeting on 6/3/2025 or submitted via email.

1. **Q:** Will pre-bid attendee list be distributed?

   A: Yes, attendee list is attached herein.

2. **Q:** Are accessories (i.e. bolts, nuts, gaskets) included with Owner-furnished butterfly valves?

   A: Owner-furnished butterfly valves include valve, bonnet extension, and manual actuator only. Accessories and electric actuator (where applicable) shall be furnished by Contractor and include cost of installation.

3. **Q:** Can cut-sheets of Owner-furnished valves be shared?

   A: Yes, valve cut-sheets for Owner-furnished butterfly valves are attached herein.

4. **Q:** Will Contractors receive a copy of everyone's Value Engineering (VE) proposals?

   A: No, Contractors' VE proposals are confidential and considered propriety information prior to Contract Award. Upon approval of VE Proposal and Contract Award by Owner, the VE Proposal shall be included in Contract Documents, as detailed in Special Instructions to Bidders.

5. **Q:** On Bid opening day, will award be based on lowest base bid or lowest bid including VE proposals?

   A: At Bid opening, Contractor's base bids will be read for each of the submitted Bid Alternates (Page 15 of Bid Form). Determination of Most Favorable Bidder(s) will include subsequent evaluation of Bidder Qualifications and evaluation of VE Proposals submitted with bids, as detailed in Special Instructions to Bidders.

6. **Q:** Why are trenchless sections designed as steel pipe only?

   A: Trenchless crossing at 75th Street (48-inch pipe) was designed as steel pipe only to minimize the casing diameter and maximize depth of cover. Pipe elevation was set based on the connection to the existing 48-inch PCCP water main.

   Other trenchless crossings on the Project were designed with vertical drop designs to allow pipe to maintain shallow depth of cover approaching trenchless crossings. This design is based on use of steel pipe. Contractors can propose alternate designs for evaluation, such as use of PCCP with traditional bends, as part of their VE proposal(s).

7. **Q:** Who is responsible for the LPC-662 (Source Site Certification) & LPC-663 (Uncontaminated Soil Certification) forms?

   A: Upon Contract Award, completed forms signed by Owner will be provided to Contractor.

8. **Q:** Is ductile iron pipe allowed for water main?

   A: For pipe 48-inch and 54-inch pipe, PCCP and Steel are the only acceptable pipe material options. Use of ductile iron pipe is acceptable for pipe diameters up to 36-inch**.**

9. **Q:** Who is responsible for pipe survey layout in the field?

   A: Owner has contracted with Robinson Engineering, Ltd. for construction layout of pipeline.

10. **Q:** Who is responsible for video documentation of pipe joints?

    A: Owner's Representative (i.e. Construction Engineer/Program Manager) will be responsible for video and photographic documentation of pipe joints. Contractor is responsible for coordination and providing Owner's Representative with proper access to pipe for video and photographic documentation.

11. **Q:** Is winter work allowed?

    A: Yes, winter work is allowed and expected. Shutdown of existing 48-inch PCCP water main is only allowed from November 2025 through March 2026. Connections to existing 48-inch water main must be completed during that time.

12. **Q:** Can you specify work restrictions, allowable work hours, and days per week?

    A: Allowable work hours and days established by Authority Having Jurisdiction (AHJ) must be followed. Though this has already been discussed with the applicable AHJ(s) at a conceptual level, the Contractor's desired working hours will ultimately be subject to the approval of the Owner and AHJ.

13. **Q:** Can extension to bid period be issued?

    A: Bid period will not be extended beyond the June 23, 2025 deadline at this time.

LOCKWOOD ANDREWS & NEWNAM, INC.



06/10/2025
Expires: 11/30/2025

END OF ADDENDUM NO. 1

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00 42 22 BID FORM

PART 1 - G E N E R A L

1.01 SUMMARY

A. See Special Instructions to Bidders.

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
ALTERNATES TABLE					
A1	54-INCH STEEL WATER MAIN BY OPEN-CUT	LF	14,840		
A2	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
A3	ALTERNATE A SUBTOTAL (A1 + A2)				
B1	54-INCH PCCP WATER MAIN BY OPEN-CUT	LF	14,840		
B2	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
B3	ALTERNATE B SUBTOTAL (B1 + B2)				
C1	48-INCH STEEL WATER MAIN BY OPEN-CUT	LF	14,840		
C2	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
C3	ALTERNATE C SUBTOTAL (C1 + C2)				
D1	48-INCH PCCP WATER MAIN BY OPEN-CUT	LF	14,840		
D2	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
D3	ALTERNATE D SUBTOTAL (D1 + D2)				
BASE BID TABLE					
1	MOBILIZATION	LS	1		
2	TEMPORARY FIELD OFFICE	MNTH	18		
3	16-INCH BUTTERFLY VALVE IN VAULT	EA			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
4	20-INCH BUTTERFLY VALVE IN VAULT	EA			
5	24-INCH BUTTERFLY VALVE IN VAULT	EA			
6	24-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
7	30-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
8	36-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
9	36-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
10	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (75TH STREET – STA 25+00) (OWNER-FURNISHED VALVE)	LS	1		
11	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (75TH STREET – STA 29+25) (OWNER-FURNISHED VALVE)	LS	1		
12	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE AND DISINFECTION BYPASS ASSEMBLY (BOOK ROAD) (OWNER-FURNISHED VALVE)	LS	1		
13	54-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (OWNER-FURNISHED VALVE)	EA	2		
14	54-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT (OWNER-FURNISHED VALVE)	EA	1		
15	54-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
16	54-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
17	AIR RELEASE VALVE MANHOLE (24-INCH DIA. AND SMALLER PIPE)	EA			
18	AIR RELEASE AND ACCESS MANHOLE (TYPE 1)	EA	6		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
19	AIR RELEASE AND ACCESS MANHOLE (TYPE 2)	EA	8		
20	BLOW-OFF VALVE WITH MANHOLE (30-INCH DIA. AND SMALLER PIPE)	EA			
21	BLOW-OFF VALVE WITH MANHOLE (36-INCH DIA. AND LARGER PIPE)	EA	5		
22	16-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
23	16-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
24	20-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
25	20-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
26	24-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
27	24-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
28	30-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
29	36-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
30	36-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
31	36-INCH PCCP WATER MAIN BY OPEN-CUT	LF			
32	36-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
33	36-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
34	36-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
35	48-INCH PCCP WATER MAIN BY OPEN-CUT	LF			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
36	48-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
37	48-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
38	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
39	48-INCH STEEL WATER MAIN BY OPEN-CUT (BOOK ROAD STA 752+60.00 TO 756+64.30)	LF	425		
40	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION (BOOK ROAD STA 756+64.30 TO 758+52.24)	LF	188		
41	54-INCH PCCP WATER MAIN BY OPEN-CUT	LF			
42	54-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
43	54-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
44	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
45	60-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
46	60-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
47	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 25+00)	LS	1		
48	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 26+22)	LS	1		
49	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 29+25)	LS	1		
50	30-INCH STUB FOR FUTURE CONNECTION	LS	1		
51	REMOVE 36-INCH TEST PLUG AND CONNECT TO 36-INCH WATER MAIN (ADJACENT CONTRACT)	EA			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
52	REMOVE 54-INCH TEST PLUG AND CONNECT TO 54-INCH WATER MAIN (ADJACENT CONTRACT)	EA	1		
53	TRENCH BACKFILL (SELECT MATERIAL)	CY	39,240		
54	TRENCH BACKFILL (NATIVE MATERIAL)	CY			
55	CATHODIC PROTECTION SYSTEM	LS	1		
56	EARTH EXCAVATION	CY	4,210		
57	AGGREGATE BASE COURSE, TYPE B 2-INCH	SY	760		
58	AGGREGATE BASE COURSE, TYPE B 4-INCH	SY	70		
59	AGGREGATE BASE COURSE, TYPE B 6-INCH	SY	25,100		
60	PORTLAND CEMENT CONCRETE BASE COURSE, 8-INCH	SY			
61	BITUMINOUS MATERIALS (PRIME COAT)	LB	53,000		
62	BITUMINOUS MATERIALS (TACK COAT)	LB	25,220		
63	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	13,590		
64	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON			
65	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX D, N50	TON	6,470		
66	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX D, N70	TON			
67	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 8-INCH	SY			
68	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 12-INCH	SY			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
69	PORTLAND CEMENT CONCRETE PAVEMENT, 12-INCH	SY			
70	PROTECTIVE COAT	SY			
71	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6-INCH	SY			
72	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8-INCH	SY	70		
73	PORTLAND CEMENT CONCRETE SIDEWALK, 5-INCH	SF			
74	PORTLAND CEMENT CONCRETE SIDEWALK, 6-INCH	SF	6,720		
75	DETECTABLE WARNINGS	SF	400		
76	PAVEMENT REMOVAL	SY	24,290		
77	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2-INCH	SY			
78	HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4-INCH	SY	32,470		
79	DRIVEWAY PAVEMENT REMOVAL	SY	430		
80	COMBINATION CURB AND GUTTER REMOVAL	LF	3,630		
81	SIDEWALK REMOVAL	SF	6,590		
82	MEDIAN REMOVAL	SF			
83	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	LF	3,630		
84	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18	LF			
85	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	LF			
86	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-4.12	LF			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
87	CONCRETE MEDIAN, TYPE SB-6.18	SF			
88	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6-FOOT POSTS	LF	50		
89	LONG-SPAN GUARDRAIL OVER CULVERT, 12-FOOT 6-INCH SPAN	LF	30		
90	TRAFFIC BARRIER TERMINAL, TYPE 1B	EA	2		
91	TRAFFIC BARRIER TERMINAL, TYPE 2	EA	2		
92	GUARDRAIL REMOVAL	LF	160		
93	PAVEMENT MARKING BLACKOUT TAPE, 6-INCH	LF	1,220		
94	CHANGEABLE MESSAGE SIGN	CAL DAY	2,920		
95	SHORT TERM PAVEMENT MARKING	LF	9,190		
96	SHORT TERM PAVEMENT MARKING REMOVAL	SF	3,610		
97	TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS – PAINT	SF	190		
98	TEMPORARY PAVEMENT MARKING – LINE 4-INCH – PAINT	LF	23,150		
99	TEMPORARY PAVEMENT MARKING – LINE 6-INCH – PAINT	LF			
100	TEMPORARY PAVEMENT MARKING – LINE 24-INCH – PAINT	LF	100		
101	TEMPORARY PAVEMENT MARKING – LINE 4-INCH – TYPE IV TAPE	LF	6,230		
102	TEMPORARY PAVEMENT MARKING – LINE 6-INCH – TYPE IV TAPE	LF			
103	TEMPORARY CONCRETE BARRIER	LF	2,170		
104	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 2	EA	4		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
105	RELOCATE SIGN PANEL ASSEMBLY – TYPE A	EA	21		
106	THERMOPLASTIC PAVEMENT MARKING – LETTERS AND SYMBOLS	SF	1,040		
107	THERMOPLASTIC PAVEMENT MARKING – LINE 4-INCH	LF	64,350		
108	THERMOPLASTIC PAVEMENT MARKING – LINE 6-INCH	LF	4,910		
109	THERMOPLASTIC PAVEMENT MARKING – LINE 12-INCH	LF	2,460		
110	THERMOPLASTIC PAVEMENT MARKING – LINE 24-INCH	LF	300		
111	PAVEMENT MARKING REMOVAL – GRINDING	SF	16,010		
112	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2-INCH DIA.	LF	1,380		
113	HANDHOLE	EA	3		
114	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EA	6		
115	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, ONE PAIR	LF	820		
116	DRILL EXISTING HANDHOLE	EA	2		
117	DETECTOR LOOP, TYPE I	LF	320		
118	DETECTOR LOOP REPLACEMENT	LF	1,770		
119	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EA	5		
120	MODIFY EXISTING CONTROLLER	EA	6		
121	REBUILD EXISTING HANDHOLE	EA			
122	REMOVE EXISTING HANDHOLE	EA	3		
123	CLASS D PATCHES, 12-INCH	SY	1,630		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
124	BIKE PATH REMOVAL	SY			
125	MAILBOX REMOVE AND REPLACE	EA	2		
126	FENCE REMOVAL AND REINSTALLATION	LF			
127	TEMPORARY ACCESS (PRIVATE ENTRANCE)	EA	12		
128	TEMPORARY ACCESS (COMMERCIAL ENTRANCE)	EA	2		
129	TEMPORARY ACCESS (ROAD)	EA	10		
130	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LS	1		
131	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 4-INCH	SY	330		
132	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 10-INCH	SY			
133	DRAINAGE AND UTILITY STRUCTURES TO BE ADJUSTED	EA	10		
134	DRAINAGE AND UTILITY STRUCTURES TO BE RECONSTRUCTED	EA	1		
135	TEMPORARY INFORMATION SIGNING	SF	160		
136	TEMPORARY PAVEMENT	SY	740		
137	TEMPORARY TRAFFIC SIGNAL TIMING	EA	27		
138	HOT-MIX ASPHALT SURFACE REMOVAL – BUTT JOINT	SY	740		
139	TELESCOPING STEEL SIGN SUPPORT	LF	25		
140	METAL POST – TYPE A	LF	25		
141	EROSION CONTROL SEEDING, LAWN MIXTURE (CLASS 1)	LB	830		
142	EROSION CONTROL SEEDING, ROADSIDE MIXTURE (CLASS 2)	LB	660		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
143	EROSION CONTROL SEEDING – PASTURE MIXTURE	LB			
144	EROSION CONTROL SEEDING – SPORTS TURF MIXTURE	LB			
145	HIGH VISIBILITY SAFETY FENCE	LF	9,580		
146	TREE AND SHRUBBERY PROTECTION	EA	130		
147	TREE REMOVAL (6- TO 15-UNIT DIAMETER)	EA			
148	TREE REMOVAL (OVER 15-UNIT DIAMETER)	EA			
149	TREE REMOVAL (AREA)	AC			
150	DUAL FENCE BARRIER (HIGH-VISIBILITY GEOTEXTILE OUTER FENCE)	LF	3,830		
151	SILT FENCE	LF	11,000		
152	INLET PROTECTION, CURB	EA			
153	INLET PROTECTION, AREA	EA	40		
154	ROLLED EROSION CONTROL PRODUCTS	LF			
155	UTILITY RELOCATION/IMPROVEMENT	EA			
156	REMOVE AND REPLACE COMMUNICATIONS LINE	LF			
157	LIGHT POLE RELOCATION	EA			
158	WATER MAIN RELOCATION	LS			
159	REMOVE AND REPLACE 2-INCH GAS MAIN	LF			
160	REMOVE AND REPLACE 4-INCH GAS MAIN	LF			
161	REMOVE AND REPLACE 6-INCH GAS MAIN	LF			
162	REMOVE AND REPLACE 6-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
163	REMOVE AND REPLACE 8-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	130		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
164	REMOVE AND REPLACE 12-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
165	REMOVE AND REPLACE 15-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
166	REMOVE AND REPLACE 16-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
167	REMOVE AND REPLACE 18-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
168	REMOVE AND REPLACE 24-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
169	REMOVE AND REPLACE 12-INCH FES	EA			
170	REMOVE AND REPLACE 15-INCH FES	EA			
171	REMOVE AND REPLACE 18-INCH FES	EA			
172	REMOVE AND REPLACE 24-INCH FES	EA			
173	REPLACE 4-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
174	REPLACE 6-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
175	REPLACE 8-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
176	REPLACE 10-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	240		
177	REPLACE 12-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	630		
178	REPLACE 15-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	160		
179	REPLACE 16-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
180	REPLACE 18-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	240		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
181	REPLACE 20-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
182	REPLACE 24-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	270		
183	REPLACE 30-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
184	REPLACE 36-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
185	REPLACE 42-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
186	REMOVE AND REPLACE HEADWALL OF 36-INCH RCP CULVERT	LS			
187	REMOVE AND REPLACE 12-INCH STORM CULVERT WITH 12-INCH CMP CULVERT	LF			
188	REMOVE AND REPLACE 15-INCH STORM CULVERT WITH 15-INCH CMP CULVERT	LF			
189	REMOVE AND REPLACE 24-INCH STORM CULVERT WITH 24-INCH CMP CULVERT	LF			
190	REMOVE AND REPLACE 30-INCH STORM CULVERT WITH 30-INCH CMP CULVERT	LF	60		
191	REMOVE AND REPLACE 48-INCH BY 48-INCH REINFORCED CONCRETE BOX CULVERT	LF			
192	REMOVE AND REPLACE HEADWALL OF 65-INCH BY 65-INCH BOX CULVERT	LS			
193	REMOVE AND REPLACE CATCH BASIN	EA	21		
194	REMOVE AND REPLACE STORM MANHOLE	EA			
195	REMOVE AND REPLACE INLET	EA			
196	CONNECTION TO EXISTING SEWER STRUCTURE	EA	42		
197	REMOVE AND REPLACE DUAL STORM CULVERTS 36-INCH AND HEADWALLS	LS	1		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
198	CROSSING EXISTING 58-INCH BY 91-INCH ELLIPTICAL CONCRETE PIPE (BOOK ROAD)	LS	1		
199	STEEL SHEET PILING COFFERDAM	SF			
200	STRUCTURAL LINER FOR WATER MAIN	LF			
201	STRUCTURAL LINER FOR SEWERS	LF			
202	MS 31A METERING STATION (MONTGOMERY 1)	LS			
203	MS 31B METERING STATION (MONTGOMERY 2)	LS			
204	MS 32A METERING STATION (OSWEGO 1)	LS			
205	MS 32B METERING STATION (OSWEGO 2)	LS			
206	MS 32C METERING STATION (OSWEGO 3)	LS			
207	MS 33A METERING STATION (YORKVILLE 1)	LS			
208	MS 33B METERING STATION (YORKVILLE 2)	LS			
209	CHEMICAL FEED BUILDING	LS			
210	VERTICAL DROP STRUCTURES (STA 619+71 AND STA 623+24)	LS	1		
211	VERTICAL DROP STRUCTURES (STA 677+21 AND STA 679+55)	LS	1		
212	VERTICAL DROP STRUCTURES (STA 700+39 AND STA 708+30)	LS	1		
213	VERTICAL DROP STRUCTURES (STA 724+89 AND STA 726+79)	LS	1		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
IND1	EXPLORATORY EXCAVATION	CF	1,000		
IND2	ADJUST WATER SERVICE LINE	LF	100		
IND3	ADJUST SEWER SERVICE LINE	LF	100		
IND4	REMOVE AND REPLACE DRAIN TILE	LS			
ALL1	ALLOWANCE: CITY OF NAPERVILLE DPU-E ELECTRIC SERVICES	LS	1	$25,000	$25,000
BB1	BASE BID SUBTOTAL (SUM OF BID PRICE FOR ITEMS 1–213 + IND 1–4 + ALL1)				

Steel Pipe Manufacturer: _____

PCCP Manufacturer: _____

TOTAL BID PRICE TABLE
ALTERNATE A (54-INCH STEEL) TOTAL BID PRICE (A3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)
ALTERNATE B (54-INCH PCCP) TOTAL BID PRICE (B3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)
ALTERNATE C (48-INCH STEEL) TOTAL BID PRICE (C3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)
ALTERNATE D (48-INCH PCCP) TOTAL BID PRICE (D3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)

VALUE ENGINEERING PROPOSAL NO. _____							
BIDDER NAME: _____							
Item No.	**Plan Quantity**	**Plan Unit Price**	**Plan Bid Price**	**Revised Quantity**	**Revised Unit Price**	**Revised Bid Price**	**Deductions/Additions (Plan Bid Price – Revised Bid Price, or Price of New Item)**
TOTAL DEDUCTIONS (SUM OF ROWS ABOVE)							$
TOTAL APPLIED DEDUCTIONS[1] (50% TOTAL DEDUCTIONS)							$
ALTERNATE A REVISED TOTAL BID PRICE (A3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$
ALTERNATE B REVISED TOTAL BID PRICE (B3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$
ALTERNATE C REVISED TOTAL BID PRICE (C3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$
ALTERNATE D REVISED TOTAL BID PRICE (D3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$

1. Total applied deductions calculated in accordance with VE Incentive formula provided in Special Instructions to Bidders. Actual final approved Total Applied Deductions will be calculated based on final Owner's costs, as described in the Special Instructions to Bidders.

Reduction in schedule (calendar days): _____

Description of Value Engineering Proposal (provide attachments or additional pages as necessary):

VALUE ENGINEERING SUMMARY TABLE	
Alternates Total Bid Prices from Total Bid Price Table	
Alternate A Total Bid Price	$
Alternate B Total Bid Price	$
Alternate C Total Bid Price	$
Alternate D Total Bid Price	$
Value Engineering Proposals 50% Deductions from VE Proposal Table(s), as Applicable	
Value Engineering Proposal #1 Deductions (50% Total)	$
Value Engineering Proposal #2 Deductions (50% Total)	$
Value Engineering Proposal #3 Deductions (50% Total)	$
Value Engineering Proposal #4 Deductions (50% Total)	$
Value Engineering Proposal #5 Deductions (50% Total)	$
Value Engineering Proposal #6 Deductions (50% Total)	$
Value Engineering Proposal #7 Deductions (50% Total)	$
POTENTIAL TOTAL VALUE ENGINEERING DEDUCTIONS IF ALL VE PROPOSALS ARE APPROVED:	$
Reduced Total Bid Prices (Total Bid Price – Potential Total VE Deductions)	
Alternate A Reduced Total Bid Price	$
Alternate B Reduced Total Bid Price	$
Alternate C Reduced Total Bid Price	$
Alternate D Reduced Total Bid Price	$

33 11 01 PRESTRESSED CONCRETE CYLINDER PIPE

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes requirements for providing supervision, labor, material, tools equipment, testing, training, and related items to install and place in operation prestressed concrete cylinder pipe.

B. Extent of prestressed concrete cylinder piping is shown on Drawings and/or in Schedules.

1.02 RELATED WORK

A. Section 01 22 00 – UNIT PRICES

B. Section 01 33 00 – SUBMITTAL PROCEDURES

C. Section 01 40 00 – QUALITY REQUIREMENTS

D. Section 13 47 13 – CATHODIC PROTECTION

E. Section 31 23 16 – EXCAVATION, BACKFILL, AND COMPACTION FOR UTILITIES

F. Section 33 11 02 – STEEL PIPE

G. Section 33 11 03 – DUCTILE IRON PIPE

1.03 REFERENCES

A. AASHTO HS-20 – Loading Design Specifications.

B. ACI 318 – Building Code Requirements for Structural Concrete.

C. ANSI B16.1 – Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

D. ANSI/ASME Boiler and Pressure Vessel Code, Section IX.

E. ANSI/AWS B2.1 – Welding Procedure and Performance Qualification.

F. ANSI/AWS D1.1 – Structural Welding Code – Steel.

G. ANSI/AWS D1.3 – Structural Welding Code – Sheet Steel.

H. ANSI/NSF 61 – Drinking Water System Components – Health Effects.

I. ASTM A36 – Carbon Structural Steel.

J. ASTM A283 – Low and Intermediate Tensile Strength Carbon Steel Plates.

K. ASTM A370 – Standard Test Methods and Definitions for Mechanical Testing of Steel Products.

L. ASTM C497 – Standard Test Methods for Concrete Pipe, Concrete Box Sections, Manhole Sections, or Tile.

M. ASTM C595 – Blended Hydraulic Cements

N. ASTM A648 – Steel Wire, Hard-Drawn for Prestressed Concrete Pipe.

O. ASTM C33 – Concrete Aggregates.

P. AWWA C200 – Steel Water Pipe, 6 Inches (150 mm) and Larger.

Q. AWWA C206 – Field Welding of Steel Water.

R. AWWA C207 – Steel Pipe Flanges for Waterworks Service, Sizes 4 Inches Through 144 Inches (100 mm Through 3,600 mm).

S. AWWA C208 – Dimensions for Fabricated Steel Water Pipe Fittings.

T. AWWA C210 – Liquid-Epoxy Coatings and Linings for Steel Water Pipe and Fittings.

U. AWWA C301 – Prestressed Concrete Pressure Pipe, Steel-Cylinder Type.

V. AWWA C304 – Design of Prestressed Concrete Cylinder Pipe.

W. AWWA M9 – Concrete Pressure Pipe.

1.04 QUALITY ASSURANCE

A. Quality Assurance Testing

1. Each completed cylinder with joint rings welded to its ends shall be subjected to a hydrostatic test as specified. Reports of all cylinder hydrostatic tests shall be submitted to Owner's Representative on a weekly basis.

2. All welds on fittings, specials, and appurtenances shall be tested and inspected by dye penetrant method. Submit test report to Owner's Representative.

3. Quality control tests shall be conducted for each production coil of wire. Reports shall be submitted to Owner's Representative on a weekly basis.

4. Mill test reports of all steel plates and sheets used in fabrication of pipes, fittings, specials, and appurtenances shall be submitted to Owner's Representative.

5. At least two standard concrete test cylinders shall be made in accordance with AWWA C301, Sec. 4.6.5.5. Quality assurance test to determine modulus of elasticity of concrete shall be made at 2-month intervals, or whenever source of aggregate or cement are changed. Reports shall be submitted to Owner's Representative on a weekly basis.

6. In event that pipe fails to withstand such tests to satisfaction of Owner's Representative, manufacturer shall have right to test two additional standard length of pipes, selected at random by Owner's Representative, from same lot of pipes that faulty pipe was selected. If two pipes successfully pass tests, remainder of lot may be accepted by Owner's Representative. If either of two pipes fails to pass test, remainder of lot will not be accepted, unless each pipe successfully passes quality assurance test.

7. All rejected materials and pipes shall be plainly marked and replaced by Contractor with materials which meet requirements of these Specifications, without additional cost to Owner. Prior to performing tests, manufacturer shall submit proposed test procedures and dates for Owner's Representative review. Owner's Representative reserves right to witness any or all tests.

B. Proof of Design Tests

1. One proof of design test shall be performed for each size of each class of pipe by manufacturer, witnessed, and each witnessed pipe marked by Owner's Representative – at no additional cost to Owner – and results of tests submitted to Owner's Representative for approval prior to start of manufacture. Proof of design test shall be conducted before delivery of any pipe. Purpose of the tests is to prove that design and quality of each size and class of pipe meets Specification requirements. For each test, one standard length from each size of pipe shall be selected. Test results shall meet requirements as outlined in this Specification. In the event that pipe fails to meet above requirements, manufacturer may conduct two additional tests on two lengths of pipe randomly selected by Owner's Representative. Failure of either two lengths shall require an independent thorough review of pipe manufacturing process quality control and quality assurance test program by an outside expert acceptable to Owner's Representative and manufacturer. Manufacturer shall be responsible for all cost incurred by review. Proof of design tests shall be as follows:

a. Hydrostatic Test

1) Hydrostatic test to zero concrete stress pressure, P_o, without incipient pipe coating crack, leaks, and seeps. This test pressure shall be maintained for a minimum 20 minutes.

2) Test to determine pressure to cause first visible coating crack (0.002 inch x 12 inches long).

3) Hydrostatic test to cause bursting pressure, P_b.

C. Restrained Joint Tests

1. In lieu of satisfactory design calculations, a minimum of one test for each type and size of restrained joint shall be performed to prove serviceability of proposed design. Test pipe shall be selected from pipe to be used for Project. Restrained joint tests shall be performed on initial pipe prior to manufacturing remaining of pipe with restrained joints to prove restrained joints meet Specification requirements. Test shall consist of two pipe units from each size pipe harnessed together with each type of proposed restrained joint and hydrostatically tested to zero concrete stress, P_o, or maximum permissible joint design pressure. Restrained joint shall be grouted as recommended by manufacturer for field installation.

2. Restrained joints tests shall be as follows:

a. Apply internal pressure to zero concrete stress, P_o, or maximum permissible joint design pressure for minimum of 20 minutes. There shall be no incipient pipe coating cracks, leaks, seeps, or loss of water from pipe or restrained joint. No circumferential crack greater than 0.04 inch on restrained joint cement-mortar grout shall occur.

b. In the event that restrained joint fails to withstand such test to satisfaction of Owner’s Representative, design of restrained joint will be rejected. It will be manufacturer's responsibility to redesign restrained joint and retest restrained joint without additional cost to Owner’s Representative.

D. Test Reports

1. Results of quality assurance tests, proof of design tests, and restrained joint tests shall be summarized in certified reports and submitted to Owner’s Representative for review, in accordance with AWWA C301, Sec. 5.1.2.

1.05 SUBMITTALS

A. Conform to requirements of Section 01 33 00 – SUBMITTAL PROCEDURES.

B. No laying schedule will be reviewed without all design data Submittals. Submit shop drawings and product data.

C. Design Calculations

1. All design calculations shall be signed and sealed by a Professional Engineer licensed in the State of Illinois.

2. Manufacturer’s pipe design calculations shall be submitted with Contractor’s Bid Documents.

D. Laying Schedule

1. Tabulate laying schedules giving order and location of each pipe section and each special corresponding to serial number and/or identification numbers to be painted onto each pipe section, in accordance with AWWA C301, Sec. 4.3.2.

2. Each pipe section and each special shall be identified with a serial number and/or identification number to be painted onto pipe interior or fitting wall.

B. Test Reports

1. Quality assurance, proof of design, and restrained joint tests reports.
2. Concrete Reports, including the following:
    a. Concrete mix design.
    b. Concrete compression strength.
    c. Concrete modulus of elasticity.
    d. Creep and shrinkage properties.
    e. Mortar mix design.
    f. Mortar compression strength and absorption tests.
3. Prestressed wire, steel cylinder, and steel plate test reports.
4. Rubber gasket test reports, joint ring detail dimensions, and gasket sizing calculations.

C. Certificates of Compliance certifying:

1. Conformance with Contract Specifications in every aspect; for example, Certificate of Design.
2. Compliance with NSF/ANSI 61 Standards and certified to be lead-free.
3. Compliance with American Iron and Steel (AIS).

D. Manufacturer's written statement that pipe will meet an $\varepsilon = 0.005$ ft (ε is defined as specific surface roughness).

E. Manufacturer's written quality control procedures.

F. Written Welding Procedures and Specifications.

G. Manufacturer's Standard Repair Procedures

1. Pipe manufacturer shall submit certificate of approval for each field repair, with a reference to a specific pipe serial number.

H. Detail Drawings and design calculations of prestressed concrete pipe specials and fittings, including combined load design, pipe class, wire size, inches of pitch, cylinder thickness, etc.

I. Details of fittings, specials, and appurtenances.

J. Design calculations for non-restrained and restrained joint rings and connections to steel cylinder. Calculations shall show maximum bending, shearing, compressive, tensile, and combined stresses.

K. If restrained joint calculations are not satisfactory, restrained joint tests may be performed as outlined in Subsection 1.04C of this Specification.

L. Provide 12 feeler gauges to Owner's Representative prior to installation of pipe.

M. Manufacturer's installation guide and approved techniques for field unloading and installation. Provide four copies to Owner's Representative and two copies to Owner.

N. No pipe shall be manufactured until all Drawings and design calculations have been reviewed with no exception noted.

1.06 MEASUREMENT AND PAYMENT

A. Refer to Section 01 22 00 – UNIT PRICES.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to Site and store and protect. Pipe fittings shall be handled by padded slings or devices which will not damage mortar coating. Chains and cables shall not be used.

B. Rolling or sliding of pipe shall be prohibited under all circumstances, regardless of provisions made to protect pipe. Any pipe dropped shall be returned to manufacturer's plant.

C. Provide padded bolsters on trucks or rail cars to spread load and provide uniform support.

D. Provide padded tie-downs on trucks and rail cars. No cables or other metal shall be in contact with mortar coating.

E. Pipe ends shall be covered/sealed with temporary plastic end caps to prevent debris and foreign materials from contacting pipe interior.

F. All pipe and fittings damaged in shipment or by handling at Job Site prior to placement at discretion of Owner's Representative shall be repaired at Site, rejected, or returned to fabrication plant for approved repairs or replacement. Manufacturer shall provide recommendations for repairs. Owner's Representative shall be provided written notification 24 hours in advance of all job site repairs.

G. Pipe shall be strung along route of pipeline to satisfaction of Owner's Representative and shall be protected by pipelaying Contractor with proper lights, barricades, etc.

1.08 WELDING MATERIALS AND PROCEDURES

A. Conform to ANSI/AWS D1.1, D1.3; ANSI/ASME Boiler and Pressure Vessel Code, Sec. IX; AWWA C206; and applicable state labor regulations. Contractor or manufacturer shall prepare written welding procedure specifications for all welding, in accordance with applicable Standards and AWWA C301.

B. Contractor or manufacturer shall certify that all welders have been tested and are qualified in accordance with ANSI/ASME Boiler and Pressure Vessel Code Sec. IX or ANSI/AWS B2.1.

PART 2 - P R O D U C T S

2.01 GENERAL

A. Prestressed concrete cylinder pipe specified is a composite structure which consists of the following principal elements: concrete core, steel cylinder and joint rings, high tensile wire, and cement-mortar coating. Compatibility and workability of various pipe elements to act and work together as a single element pipe structure is an essential and basic requirement of Contract Specifications. Maintenance of strict quality control measures at point of manufacture is essential to ensure pipe supplied will function properly over period of intended service life. Special attention is required in design and quality control to provide structurally sound protective cement-mortar coating for pipe during entire service life.

B. It is Contractor's and pipe manufacturer's responsibility to design, manufacture, deliver, and install pipe in accordance with general guidelines and criteria as defined and specified herein, all in accordance with AWWA C301 and AWWA C304.

C. Pipe manufacturer shall demonstrate current production capability for volume of work required for Project and shall have had successful fabrication of at least 50,000 linear feet of 48-inch diameter or larger pipe within past 5 years and in accordance with AWWA C301.

2.02 DESIGN AND MANUFACTURE

A. Design Requirements

1. Pressure class and inside diameter of pipe shall be as specified in Specifications or as shown on Drawings.

2. Fluid to be transported shall be potable water.
3. Height of cover over pipe shall be 10 feet minimum, or for special applications. Pipe, specials, and fittings shall be designed for a loading condition of not less than indicated on Drawings.
4. External live load shall be AASHTO HS-20. If indicated on Drawings, external live load (rail load) shall be Cooper E-80 for specific location.
5. Pipe to be installed inside of tunnel casing shall be designed for full cover, including live load (a single HS-20 or railroad E-80) neglecting casing.
6. External surcharge, if any, shall be as indicated on Drawings or as specified.
7. Internal working pressure, P_w, shall be 150 psi (Class 150).
8. Internal surge pressure, P_t, shall be 100 psi ($P_w + P_t$ = 250 psi).
9. Internal field test pressure, P_{ft}, shall be 1.0 P_w.
10. Minimum value of time period of pipe exposed to outdoor environment, t_1, for which pipe shall be designed is 365 days.
11. Maximum relative humidity for which pipe shall be designed is 60 percent.
12. Minimum value of time period of exposure of pipe to buried environment before water filling, t_2, for which pipe shall be designed is 550 days. Contractor and manufacturer shall take action as necessary to ensure that design strength of the pipe is not compromised by any variations of time to installation and filling.
13. In designing pipe, decompression pressure, P_o (which relieves final prestress in core concrete), shall be equal to, or not less than, sum of internal working pressure, P_w, and internal surge pressure, P_t.
14. Pipe design shall be made based on materials specified and strictly in accordance with each material's prospective standards and specifications. Design base for specified material strength grade classification shall not be altered or changed from material manufacturer/supplier original designation. No change in specified concrete strength is permitted based on concrete cylinder tests.

B. For trench conduit, external soil load shall be calculated based upon $W_d = C_d W B_d^2$. When trench width is equal to or greater than transition width, external soil load shall be calculated as embankment conduit, in accordance with AWWA M9: Kμ=0.15 and $r_{sd}p$= 0.50.

C. In calculating external soil load, unit weight, W, of cover shall be 120 pounds per cubic foot with trench width as follows:

Pipe Nominal Diameter (Inches)	Trench Width (B_d)
30	7'-7"
36	8'-3"
42	8'-9"
48	9'-4"
54	10'-0"
60	10'8"

D. Bedding coefficients shall be Olander 90 degrees for water weight and earth/live loads. Use Olander zero degrees for pipe weight.

E. Concrete pipe and fittings shall be designed and manufactured for the "Design Pressure," as stated previously.

F. The whole of above Specification requirements shall apply with the following modifications or stipulations to AWWA C301(Section references below have same numerical designation as AWWA C301):

1. Sec. 4.3 – Data to Be Submitted by Manufacturer

    a. Sec. 4.3.1 – Pipe shall not be supplied from inventory. Manufacturer shall submit detail drawings and tabulated layout schedule for review by Owner's Representative prior to delivery.

    b. Sec. 4.3.1 – Manufacturer shall provide Owner's Representative with copies of all written quality control procedures, tests, and reports (as required by Specifications) as may be performed by manufacturer during production of pipe. Weekly inspection reports shall be submitted to Owner's Representative.

    c. Sec. 4.3.2 – Provide a tabulated layout schedule with reference to Stationing and grade line shown on Drawings, as required by Section 1.05B.

2. Sec. 4.4 – Materials

    a. Sec. 4.4.1.1 – No fly ash or pozzolanic material shall be used to replace cement. Type II cement shall be used for cement-mortar coating and core concrete. Pozzolanic material may be used in core concrete to improve workability.

    b. Sec. 4.4.2 – Fine aggregate for concrete and mortar shall comply with ASTM C33 and shall not contain coal or lignite.

    c. Sec. 4.4.3 – Coarse aggregate for concrete shall comply with ASTM C33 and shall not contain coal or lignite.

    d. Sec. 4.4.4 – Provide samples of each aggregate.

    e. Sec. 4.4.6 – No admixture shall be used without prior review of Owner's Representative. Test data of admixtures, which manufacturer requests to use, shall be submitted to Owner's Representative for review. Any admixture used shall be chloride free.

    f. Sec. 4.4.7.1 & 2 – Steel sheets and coils shall have a minimum yield strength of 33,000 psi.

    g. Sec. 4.4.7.3 – Steel plates for pipe fittings shall be ASTM A283, Grade D or ASTM A36.

    h. Sec. 4.4.8.1 – Wire for circumferential reinforcement shall conform to ASTM A648, Class II or III.

        1) Wire shall be tested in accordance with ASTM A648 and ASTM A370 (and Supplement IV) Specifications with the following modifications or stipulations. Tests shall be conducted on one specimen for every coil of wire for tension, bend, tensile strength, reduction of area, and wrapping tests. Reduction of area test shall meet requirement of 35 percent minimum.

        2) In addition to above and tests required under Sec. 4.4.8.1, bolt cutter tests shall be made for one specimen per coil of wire.

            a) For bolt cutter test, wire specimen shall be cut twice within 3 inches and 90 degrees to each other by a sharp bolt cutter. For acceptance, there shall be no cracks or splits visible to the naked eye.

3) Failure of any of test specimens to comply with requirements of this Specification shall constitute grounds for rejection of coil represented by the specimen. Pipe manufacturer, at its discretion, may test three additional new samples to re-examine coil as to why it failed initial test. Should any of these specimens fail, entire coil shall be rejected.

4) Pipe manufacturer shall furnish documents certifying that wire was manufactured and tested in accordance with Specifications, together with reports of test results, to Owner's Representative prior to shipment of pipe.

3. Sec. 4.5 – Design

a. Sec. 4.5.1 – General Requirements

1) Sec. 4.5.1.5 – Thickness of mortar coating shall provide a minimum cover of 3/4 inch over wire.

b. Sec. 4.5.2 – Design of Pipe

1) Sec. 4.5.2.1 – Manufacturer shall submit to Owner's Representative design calculations and supporting test results of concrete properties used in design for review. No pipe shall be manufactured until all design calculations have been reviewed with no exceptions noted.

2) Sec. 4.5.2.2 – Either Class II or Class III wire may be used. Design gross wrapping stress for both Classes of wire shall not exceed 75 percent of Class II minimum tensile strength. All prestressed pipe 48 inches in diameter and larger shall be embedded cylinder pipe.

c. Sec. 4.5.3 – Joint Rings

1) Sec. 4.5.3.1 – General

a) Joint rings shall be zinc metalized. Minimum thickness of zinc metalizing shall be 0.004 inch. Joint rings shall be designed to provide minimum safety factor of 1.67, based on specified minimum yield strength of joint ring under internal design pressure plus surge pressure.

b) For restrained joints, joints shall be designed for internal pressure plus surge and thrust without credit given to blocking resistance. Submit design calculations for Owner's Representative's review.

c) Steel bell and spigot joint rings shall be within dimension tolerances permitted under Sec. 4.5.3.2. Spigot ring shall have a groove to receive, hold, and protect gasket, and joints will be self-centering when pipe is laid; therefore, gasket will not be required to support weight of adjoining pipe. Repairs of bell rings are not permitted after core is prestressed. Repair of spigot ring will be permitted if cylinder is welded to ring and weld is dye-tested after repair is made.

2) Sec. 4.5.3.2 – Dimensions and Tolerances

a) Where specified or shown on Drawings, joints shall have double gasket for watertightness. Field pressure tests shall be conducted for each joint as pipe is placed.

b) Steel bell-and-spigot joint rings shall be designed and fabricated so that when pipe is under various design loading. Differential deflection due to external loading and differential radial deformation (strain) – due to internal pressure loading between joint rings and prestressed pipe section – shall be kept to a minimum such that there shall be no visible cracking of mortar coating near joint area. Submit design calculations to justify proposed design for review. No visible initial shrinkage cracks of coating in joint areas, joint, and pipe interface shall be allowed. No separations of coating at joint ring shall be allowed. Each pipe shall be inspected prior to shipping. Any pipe with shrinkage, cracks, or coating separation shall be rejected.

c) Concrete at ends of pipe shall not extend beyond bell ring or theoretical face of concrete at spigot-end by more than 1/4-inch. Concrete beyond these limits shall be removed by grinding.

d. Sec. 4.5.4 – Rubber Gaskets

1) Rubber gasket, or "O-ring," shall be of sufficient volume to substantially fill recess provided when pipe joint is assembled. Volume of the annular space to be occupied by gasket shall be calculated considering the tolerances on spigot groove width and depth, bell ring inside diameter, and spigot outside diameter.

2) "O-ring" shall have a minimum stretch of approximately 20 percent and nominal compression of no less than 30 percent after pipe installation. Selection of "O-ring" shall meet all above three criteria. Submit design calculations to justify "O-ring" selection for Owner’s Representative’s review.

3) If more than one size of gasket is required, manufacturer shall label each pipe joint for which type of gasket to use. Deviation from above criteria may be permitted based on history of field performance data or satisfactory field test results provided by pipe manufacturer.

4) In the event that more than two gaskets are cut when attempting installation of one pipe section, installation work shall stop and shall not be resumed until pipe manufacturer’s representative is on-site and problem has been resolved.

4. Sec. 4.6 – Fabrication

a. Sec. 4.6.3 – Welding Procedure Specifications

1) Provide written Welding Procedure Specifications for all welding in accordance with applicable Standard.

b. Sec. 4.6.4 – Fabrication of Steel Cylinders

1) Sec. 4.6.4.2 – When wire is wrapped directly on cylinder (lined cylinder pipe), cylinders shall have weld seams that are smooth and plain with continuous surface. Grind as required.

2) Sec. 4.6.4.3 – Hydrostatic test for steel cylinder shall be performed only in presence of selected testing service inspector or manufacturer's quality control inspector. Test pressure shall be held for 1 minute or longer.

3) Sec. 4.6.4.4 – All indentations and bulges in steel cylinder deviating from cylindrical surface by more than 1/4 inch shall be removed prior to placing concrete. No indentations or bulges shall be permitted in cylinder of concrete-lined cylinder pipe that would cause more than 1/16 inch of clear space between prestressing wire and cylinder after wrapping.

c. Sec. 4.6.5 – Concrete for Pipe Core

1) Sec. 4.6.5.2 – A minimum of 6.5 sacks (611 lbs.) of cement shall be used per cubic yard of concrete. Water-cement ratio shall not exceed 0.44. Submit concrete mix designs to Owner's Representative.

2) Sec. 4.6.5.4 – Temperature of mix shall not exceed 90°F at time of placement.

3) Sec. 4.6.5.8 – Concrete 28-day compression strength for core concrete shall be limited to f'_c = 5,400 psi for cast concrete and f'_c = 6,900 psi for spun concrete.

a) Concrete test cylinders shall be in accordance with ACI 318, Sec. 5.6.3.3, and no single test cylinder shall be less than f'_c.

d. Sec. 4.6.7 – Placing of Wire Reinforcement

1) Sec. 4.6.7.1 – At end wraps, all prestress wires shall have a clear distance separation of at least 1/16 inch. Adjacent wires shall not touch at any point except at end of pipe, not more than 1 1/2 inches or less than 1 inch from edge of core to be coated with full depth of mortar coating. Splices in prestress wire shall not be closer than 3 feet, as measured along longitudinal axis of pipe.

2) Sec. 4.6.7.1 – Temperature of cores shall be at least 35°F and free of any frozen particles at time of prestressing. Concrete core shall be properly saturated and surface dry at time cement slurry and prestressing wire are applied. Concrete core shall be thoroughly cleaned prior to wrapping. Pipe manufacturer shall be required to demonstrate that procedure will remove laitance and form release agent from pipe surface, but not cause protrusions of aggregate on surface, which would cause stress concentrations in prestressing wire.

e. Sec. 4.6.8 – Pipe Coating

1) Sec. 4.6.8.1 – Coating shall be applied within 16 hours after prestressing. If manufacturer has not applied coating within time period, pipe shall be protected and shall show no sign of rust, scale, flaking, or pitting on prestress wires at time of coating. Temperature of pipe shall be at least 40°F at time of coating.

2) Sec. 4.6.8.2 – Mortar for coating shall consist of at least one-part cement to not more than 2 1/2-parts fine aggregate by weight. Design compressive strength of mortar coating shall be limited to f'_{mc} = 5,500 psi. Mortar coating shall be rounded at ends to avoid thinning of mortar at ends.

3) Sec. 4.6.8.4 – All pipe detected with delamination, hollows, and cracks in coating shall be rejected.

f. Sec. 4.6.10 – Cracks in Pipe

1) Sec. 4.6.10.2 – Concrete cores which have circumferential cracks greater than 0.04 inch in width shall be repaired with cement or epoxy grout. Concrete cores with visible longitudinal cracks shall be rejected.

g. Sec. 4.6.11 – Repair of Concrete or Mortar

1) Sec. 4.6.11 – Repairs shall not be permitted without specific prior review of Owner's Representative as to degree of damage, materials, methods, and curing to be used. Prior to pipe repair, standard repair procedures shall be submitted to Owner's Representative for review and stamped "No Exception Noted" or "Exceptions Indicated - Revise and Resubmit for Record Purposes Only."

5. Sec. 4.7 – Fittings and Special Pipe

    a. Sec. 4.7.1 – General

        1) Special fitting details shall be furnished by manufacturer for Owner's Representative review.

        2) Prestressed concrete cylinder pipe crossing a major waterway – for example, a large stream, river, or channel – shall be designed for negative buoyancy and no allowance shall be taken for earth cover in buoyancy calculation.

    b. Sec. 4.7.2 – Fittings

        1) Sec. 4.7.2.1 – Fittings, flanged pipes, and special pipes – including manhole and blow-off nozzles – shall be designed for same design condition as pipe specified in this Section and Section 33 11 02 – STEEL PIPE, and in accordance with AWWA C200 and AWWA C208.

        2) Sec. 4.7.2.3 – Interior lining and exterior coating shall be wire fabric reinforced mortar and have minimum thickness of 3/4 inch and 1 1/2 inches, respectively. Inside diameter of fittings shall be smooth and the same as pipe. For outlets and connections, see Section 4.7.4. All exposed steel surfaces not lined or coated with mortar shall be painted with liquid epoxy, in accordance with AWWA C210. Any areas abraded in handling shall be touched up in field.

        3) Sec. 4.7.2.4 – Interior and exterior surfaces of outlets and connections shall be lined and coated with reinforced mortar as specified in Section 4.7.2.3 for sizes larger than 12 inches. For sizes 12 to 36 inches, thickness of reinforced mortar lining shall be a minimum of 3/8 inch. Mortar shall contain not less than one-part cement to 2 1/2-parts fine aggregate by weight. Interior of all outlets and connections 6 inches and smaller shall be painted with liquid epoxy, in accordance with AWWA C210.

    c. Sec. 4.7.4 – Outlets and Connections on Pipe

        1) Connections for air valves, blow-offs, and other branches larger than 2 inches and less than 12 inches in diameter may be designed and constructed in accordance with Section 4.7.2 with Owner's Representative approval.

        2) Changes in alignment or grade may be made by deflecting joints of straight pipe or using beveled end pipe, unless single bend fittings are called for on Drawings. Joint openings shall not exceed one-half of maximum opening recommended by pipe manufacturer.

        3) Pipe joints in vicinity of bend fittings and bevel pipes 2 degrees and greater shall be restrained for distances, as tabulated on Drawings. All fittings and bevel joints shall be furnished with restrained joints.

6. Sec. 5.1 – Inspection and Testing by Purchaser

    a. Sec. 5.1.1 – Inspection at Manufacturer's Plant

        1) Owner's Representative retains right to observe pipe, fittings, all Work performed, and all materials furnished under Contract at manufacturer's plant. During inspection, Owner's Representative shall have free access to those parts of manufacturer's plant that are necessary to ensure compliance with Standard. Manufacturer shall make available gauges necessary for inspection. Manufacturer shall provide Owner's Representative with assistance for handling of pipe and fittings, as necessary. Prior to shipment, each piece of pipe and each fitting may be inspected and stamped by Owner's Representative for their compliance with Specifications.

b. Sec. 5.1.2 – Inspection of Test Reports

1) Provide to Owner's Representative all test reports required for cylinder assembly, concrete, mortar coating, steel wire, joint, and gasket, as required by Section 1.04F.

7. Sec. 6.3 – Affidavit of Compliance

a. Manufacturer shall provide an affidavit that pipe and fittings furnished under Contract comply with all applicable provisions of AWWA C301.

8. Provisions for Corrosion Monitoring and Control System: Provide the following provisions for corrosion monitoring and control system:

a. Each pipe segment and fitting shall be provided with a minimum of two bonding plates (14 gauge x 3 inches minimum at 30 degree angle from top) at each end. Bonding plates shall have electrical conducting capacity equivalent to No. 2 copper cable. Bonding plates shall be suitable to accept thermite brazed connections of No. 2 copper cables, each bonded as shown on Drawings.

b. For embedded cylinder type pipe, positive bonding connection between bonding plates and prestressing wire is required. A minimum of two 1/32- x 2-inch steel shorting straps (180 degrees apart) shall be provided under each layer of prestressing wire with welded connection to bell-and-spigot rings.

9. Based upon chloride test results, which must be received by Owner's Representative prior to laying any pipe, Owner's Representative may designate portions of pipeline to receive an exterior protective coating. Coating system shall be a two-coat vinyl ester system. Primer shall be Tnemec's Vinester Series 120-5002 and topcoat shall be Tnemec's Vinester Series 120-5001. Each coat shall have dry film thickness of 12 to 18 mils. All painting of pipe shall be done strictly in accordance with paint manufacturer's instructions, and all painting shall be performed at pipe manufacturer's plant. Concrete pipe shall be aged for minimum length of time, as recommended by paint manufacturer, before being painted. Any damage to coating shall be touched up with two coats of paint.

G. Furnished With Pipe

1. In addition to straight lengths of pipe, there shall be furnished (within Contract Unit Prices for installed pipe) all fittings, elbows, bends, tees, shorts, reducers, access manholes, special fittings, and wall pieces for manholes – all types of adapters, beveled pipe, outlets, closures, night-caps, plugs, bolts, nuts, etc. – required for complete pipeline construction, not only as shown on Drawings, but also as required by field conditions during construction. Blow-off connections and air valve connections may be fabricated into full pipe lengths where possible with Owner's Representative's approval.

2. Furnish all rubber gaskets, all special materials required for making of joints, and all special materials required to be incorporated in certain pieces of pipe or fittings, such as materials for restrained joints, etc., as shown on Drawings.

3. Pipe supplier shall furnish (within Contract Unit Prices for installed pipe) at no extra cost to Owner, all required closure pieces, shorts, half and full bevel adapters, and all other types of fittings; which, though not specifically called for on Drawings, may still be required by field conditions during construction. Wire mesh required to finish installation of closure pieces shall be supplied by manufacturer.

H. Wall Pipes

1. When connecting a prestressed concrete pipe to a ductile iron pipe, wall pipes shall be ductile iron, in accordance with Section 33 11 03 – DUCTILE IRON PIPE. When connecting a prestressed concrete pipe to a prestressed concrete pipe or a steel pipe, steel wall pipes shall be provided, in accordance with Section 33 11 02 – STEEL PIPE.

I. Restrained Joints

1. Unbalanced forces at pipe bends, tees, valves, etc., shall be restrained by transmitting those forces to pipe wall by means of flexible-tied jointing systems, which shall be accomplished at joint and not between joints. Restrained joint system to be used shall be bell bolt, snap ring, and harnessed clamp type flexible-tied joints, or approved equal. Welding of joints shall not be permitted. Restrained joint materials shall be non-corrosive.

2. Each restrained joint pipe cylinders and steel joint rings shall be designed to withstand and transmit whole angle component of longitudinal thrust force caused by deflection angle, Δ, in accordance with AWWA M9, from pipe pressure of working plus surge, as specified in this Section.

   a. Required length for restrained pipe on each side of valves, bends and bevel pipes, or tees shall be calculated in accordance with AWWA M9 (latest edition) and shall meet or exceed lengths shown on Drawings.

   b. All bevel joints shall be restrained as shown on Drawings. Reduction of design longitudinal thrust force along pipeline from maximum thrust point will be permitted. Maximum longitudinal cylinder tensile stress shall have minimum factor of safety of 1.67, based on minimum steel plate yield strength.

   c. Joint ring circumferential welded joint maximum shearing stress shall not exceed 75 percent of maximum allowable stress of welds, in accordance with applicable AISC Specification.

   d. Submit design calculations of restrained joint pipes and fittings to Owner's Representative. In designing restrained joints, combined effect of both longitudinal thrust force and radial hoop tensile force (caused by design internal pressure plus surge pressure) shall be considered. Restrained joint system shall have minimum safety factor of 1.67.

      1) Soil Type IV.

      2) Use minimum soil cover over the entire restrained area.

   e. Design calculations shall be submitted for Owner's Representative's review. In lieu of satisfactory design calculations, satisfactory restrained joint test results, as specified in Subsection 1.04E, will be accepted.

J. Flanged Joints

1. Concrete pipe flange joints shall be compatible with flange joints specified for ductile iron pipe and valves. Concrete pipe flanges shall have same dimensions as steel pipe and/or valve flanges. Steel flanges shall be in accordance with AWWA C207, Class D.

2. For pipe connected to valves, drilling shall be in accordance with ANSI B16.1, Class 125, or as required. All bolts for buried flange joints shall be COR-TEN type corrosion-resistant steel (CRS).

K. Bolts, Studs, and Nuts

1. All bolts, studs, and nuts shall be in accordance with Section 05 55 00 – BOLTS, ANCHOR BOLTS, AND EXPANSION ANCHORS

2. Cathodic Protection Refer to Section 13 47 13 – CATHODIC PROTECTION.

PART 3 - E X E C U T I O N

3.01 CLEANING AND INSPECTION

A. Thoroughly clean and dry interior of pipe and fittings of foreign matter before installation and keep interior clean until Work has been accepted. Keep joint contact surfaces clean until jointing is completed. Do not place debris, tools, clothing or other materials in pipe. After pipe laying and joining operations are completed, clean inside of pipe and remove debris.

B. Before installation, inspect each pipe and fitting for defects. Reject defective, damaged or unsound pipe and fittings and remove them from site.

3.02 INSTALLATION

A. Do not install pipe without approved lay schedule.

B. Manufacturer will make available services of representative throughout project duration when deemed necessary by Owner's Representative to advise aspects of installation; including, but not limited to, handling, storing, cleaning and inspecting, coatings and linings repairs, and general construction methods affecting pipe.

C. Gasketed pipe joints shall be checked around entire circumference with feeler gauge to ensure gasket remains seated in the spigot groove. If displacement has occurred, remove pipe section and remake joint as if for new pipe. Remove old gasket and replace before remaking joint.

D. In addition to pipe manufacturer's installation guide, the following requirements shall be met:

1. Pipe manufacturer may provide Contractor with suitable lifting devices to be used during pipe unloading operations, to move pipe, to place pipe in trench, or during any other pipe handling operations. Prior approval of pipe manufacturer and Owner's Representative shall be required for lifting devices not furnished by manufacturer.

2. Pipe shall be unloaded, handled, and placed using padded slings or other lifting devices furnished by pipe manufacturer to prevent damage to interior and exterior coating.

3. Joint deflection in field to correct alignment shall be limited to one-half of maximum amount recommended by pipe manufacturer.

4. 1/2-inch minimum joint gap, measured on inside of completed pipe, is required for mortar-filled joint.

E. Protection of Pipeline:

1. Securely place stoppers or bulkheads in openings and in end of line when construction is stopped temporarily and at end of each day's work.

F. BEDDING AND BACKFILLING

1. Conform to requirements of Section 31 23 16 – EXCAVATION, BACKFILL, AND COMPACTION FOR UTILITIES.

2. Align pipe at proper grade prior to joint connection and do not shift after jointing operation has been completed.

3. Do not move trench support system (trench safety system) once bedding material is compacted.

4. Excavate outside specified trench section for bell holes and for spaces sufficient to permit removal of slings. Provide bell holes at proper locations for unrestricted access to joint. Form bell holes large enough to facilitate joint wrapping and to permit visual examination of process. Enlarge bell holes as required or directed by Owner's Representative. Subsequent backfilling, thereof, will not be considered as authorized additional excavation and backfill. Backfill bell holes and spaces to satisfaction of Owner's Representative.

5. Remove blocking after placing sufficient backfill to hold pipe in position.

6. Use CLSM in areas of trench excavation 16 feet and greater as embedment material up to springline of pipe.

G. Follow manufacturer's specifications for nonshrink grouting.

H. Install each pipe section in sequence identified on lay schedule. Deviations from lay schedule sequence shall be approved by Owner’s Representative and denoted on final lay schedule.

I. Static Electricity

1. Properly ground pipeline during construction as necessary to prevent build-up of static electricity.

2. Electrically test, where required, after installation of pipeline is complete.

3.03 CLOSURES AND APPROVED PIPE MODIFICATIONS

A. No modifications of standard pipe for closures will be permitted in the field.

B. Pipe manufacturer's representative and Owner’s Representative to entirely witness closures and approved pipe modification efforts.

C. If a butt strap is being used to complete a closure the provide minimum lap of 4 inches between member being joined and edge of butt strap. Weld on both interior and exterior, unless otherwise approved by Owner’s Representative.

D. Provide full circumferential welds on closure joints required to be welded. Owner’s Representative will employ an independent certified testing laboratory to perform weld tests on field welds. Use magnetic particle test method for lap welds (or X-ray methods for butt welds) for 100 percent of joint welds. Maintain records of tests. When defective weld is revealed, repair defective weld and retest. Use wire and flux from same manufacturer throughout entire Project.

E. Fill wrapper in field and allow excess grout water to seep out. Refill wrapper as necessary. When joint mortar level has stabilized and begun to mechanically stiffen, place Ethafoam wrapper over top of joint and secure in place.

F. Stretch test each gasket splice to twice its unstretched length and inspect for defects.

3.04 VISIBLE CRACKS

A. No visible cracks longer than 6 inches, measured to be within 15 degrees of line parallel to pipe longitudinal axis, are permitted except:

1. In surface laitance of centrifugally cast concrete,

2. In sections of pipe with steel reinforcing collars or wrappers, OR

3. Within 12 inches of pipe ends.

B. Repair interior lining cracks that exceed 1/16 inch (0.0625 inch) wide.

C. Reject pipe with exterior coating cracks that exceed 0.01 inch wide.

D. Immediately remove pipe from Site when pipe has cracks exceeding limitations and cracks are not repairable.

3.05 FIELD REPAIR PROCEDURES FOR COATING AND LINING

A. Areas less than or equal to 6 inches in diameter: Patch honeycomb and minor defects in concrete surfaces with nonshrink grout. Use only manual or small (low pressure) air chisels to chip away mortar coating or lining. Cut out unsatisfactory material and replace with nonshrink grout, securely bonded to existing coating or lining. Finish junctures between patches and existing concrete as inconspicuous as possible. Strike off nonshrink grout flush with surrounding surface after patch has stiffened sufficiently to allow for greatest portion of shrinkage. Finish surface in accordance with lining requirements.

B. Pipe with defective coating areas greater than 6 inches in diameter cannot be used. Immediately remove pipe from Project.

C. Reject pipe when steel cylinder is dented while making field repair. Immediately remove pipe from Project.

3.06 SURVEYING

A. Use adequate surveying methods and procedures and employ competent personnel to ensure pipe sections are laid to line and grade and within stipulated tolerances. Measure and record, in form approved by Owner's Representative, in-place survey data for pipe laid each day and submit data to Owner's Representative in accordance with Section 01 30 01 – DIGITAL UTILITY DATA COLLECTION and Section 01 31 00 – PROJECT MANAGEMENT AND COORDINATION.

3.07 PHOTOGRAPH AND VIDEO REPORTING OF PIPE JOINTS

A. Each completed pipe joint shall be photographed by Owner's Representative. Contractor shall notify Owner's Representative when joints are complete, prior to backfilling pipe. Contractor shall mark date that joint was completed and initials of foreman next to factory painted pipeline station number. Lettering size shall be same as used for pipe stationing number.

B. Owner's Representative will provide internal pipe joint video report for the pipeline. Video report shall show full circumference of each joint with pipe mark number and station number labeled or identified by voice. Date and time shall be recorded on video.

C. Contractor shall coordinate with Owner's Representative upon completion of pipe joints and provide access to pipe for visual observation and documentation.

END OF SECTION

33 11 02 STEEL PIPE

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes requirements for providing supervision, labor, material, tools, equipment, testing, training, and related items to install and place in operation steel pipe for water mains 6 inches and larger.

B. Extent of steel piping is shown on Drawings and in Schedules.

1.02 RELATED WORK

A. Section 01 22 00 – UNIT PRICES

B. Section 01 33 00 – SUBMITTAL PROCEDURES

C. Section 01 40 00 – QUALITY REQUIREMENTS

D. Section 13 47 13 – CATHODIC PROTECTION

E. Section 33 23 16 – EXCAVATION, BACKFILL, AND COMPACTION FOR UTILITIES

1.03 REFERENCES

A. AASHTO HS-20 – Loading Design Specifications.

B. AMPP – Associated for Materials Protection and Performance

C. ANSI B16.1 – Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

D. ANSI/AISC 360 – Structural Steel Buildings.

E. ANSI/ASME Boiler and Pressure Vessel Code, Sec. IX.

F. ANSI/AWS B2.1 –Welding Procedure and Performance Qualification.

G. ANSI/AWS D1.1 – Structural Welding Code – Steel.

H. ANSI/AWS D1.3 – Structural Welding Code – Sheet Steel.

I. ANSI/NSF 61 – Drinking Water System Components – Health Effects.

J. ASTM A6 – General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling.

K. ASTM A36 – Carbon Structural Steel.

L. ASTM A139 – Electric-Fusion (Arc)-Welded Steel Pipe (NPS 4 and Over).

M. ASTM A572 – High-Strength Low-Alloy Columbium Vanadium Structural Steel.

N. ASTM A1018 – Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled, Carbon, Commercial, Drawing, Structural, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.

O. ASTM C33 – Concrete Aggregates.

P. ASTM C150 – Portland Cement.

Q. ASTM C595 – Blended Hydraulic Cements.

R. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).

S. AWS D1.1 – Structural Welding Code – Steel.

T. AWS QC1 – AWS Certification of Welding Inspectors.

U. AWWA C115 – Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.

V. AWWA C200 – Steel Water Pipe, 6-Inches (150 mm) and Larger.

W. AWWA C205 – Cement-Mortar Protective Lining and Coating for Steel Water Pipe 4 In. (100 mm) and Larger.

X. AWWA C206 – Field Welding of Steel Water.

Y. AWWA C207 – Steel Pipe Flanges for Waterworks Service, Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm).

Z. AWWA C208 – Dimensions for Fabricated Steel Water Pipe Fittings.

AA. AWWA C209 – Cold-Applied Tape Coatings for Steel Water Pipe, Special Sections, Connections, and Fittings.

BB. AWWA C210 – Liquid-Epoxy Coatings and Linings for Steel Water Pipe and Fittings.

CC. AWWA C216 – Heat-Shrinkable Cross-Linked Polyolefin Coatings for Steel Water Pipe and Fittings.

DD. AWWA C218 – Liquid Coatings for Aboveground Steel Water Pipe and Fittings.

EE. AWWA C222 – Polyurethane Coatings and Linings for Steel Water Pipe and Fittings.

FF. AWWA C602 – Cement-Mortar Lining of Water Pipelines in Place – 4 In. (100 mm) and Larger.

GG. AWWA M11 – Steel Pipe: A Guide for Design and Installation.

HH. SSPC-SP 1 – Surface Preparation Standard No. 1 – Solvent Cleaning.

II. SSPC-SP 10 – Surace Preparation Standard No. 10 – Near-White Metal Blast Cleaning.

JJ. SSPC-SP 11 – Surace Preparation Standard No. 11 – Power-Tool Cleaning to Bare Metal.

KK. SSPC-VIS 1 – Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning.

1.04 QUALITY ASSURANCE

A. All steel pipe and fittings shall be furnished by manufacturers who are fully experienced, SPFA or IOS 9000-2000 certified, reputable, and qualified in manufacture of products to be furnished.

B. Quality Assurance Tests

1. After joint configuration is complete, regardless of quality of steel selected for use, each length of pipe shall be shop-tested hydrostatically to a pressure which will induce hoop stress equal to at least 75 percent of yield stress of steel. Daily certified reports of hydrostatic tests shall be submitted to Owner’s Representative on a weekly basis.

2. All fittings, specials, and appurtenances shall be hydrostatically tested in accordance with requirements above. Above test could be substituted with nondestructive testing, if approved by Owner’s Representative. Submit test reports to Owner’s Representative.

3. All quality control tests conducted by manufacturer for each production run of pipe shall be submitted to Owner’s Representative on a weekly basis.

4. Mill test reports of all steel plates, sheets, or coils used in fabrication of pipe, fittings, specials, and appurtenances shall be submitted to Owner’s Representative.

C. All rejected materials shall be plainly marked and shall be replaced by the Contractor to meet requirements of Specifications, without additional cost to Owner’s Representative.

D. Owner’s Representative to provide a welding inspector whenever there is welding to be done. Welding inspector shall have prior pipe welding experience and shall be a certified welding inspector (CWI), in accordance with AWS QC1.

E. Provide administrative documents showing that QA/QC personnel in both shop and field are certified as AMPP/NACE International Coating Inspector (Level III).

1.05 SUBMITTALS

A. Conform to requirements of Section 01 33 00 – SUBMITTAL PROCEDURES.

B. Design Calculations

1. All design calculations shall be signed and sealed by a Professional Engineer licensed in the State of Illinois.

2. Manufacturer’s pipe design calculations shall be submitted with Contractor’s Bid Documents.

C. Pipe Manufacturer’s Submittals

1. Detailed drawings of pipes, specials, fittings, and joints with design calculations for internal pressure, vacuum, and external load conditions.

2. Design calculations for non-restrained and restrained joints, and rubber gasket reports and gasket sizing calculations.

3. Tabulate laying schedules corresponding to serial numbers and/or identification numbers to be painted on pipes, specials, and fittings.

4. Quality assurance test procedures and test reports for pipes, specials, and fittings (as specified under Subsection 1.04B).

5. Quality control test reports for each production run of pipe, including production welds, welding operator tests, and mill test reports of all steel plates, sheets, and other materials used.

6. Manufacturer's installation guide.

7. Certificates of compliance with Contract Specifications; for example, Certificate of Design. Certificates shall include:

a. Pipes, specials, and fittings, in accordance with AWWA C200 and AWWA C208.

b. Cement-mortar protective interior lining, in accordance with AWWA C205 or AWWA C602.

c. Polyurethane coating for exterior, in accordance with AWWA C222.

d. Paint system for exterior, in accordance with AWWA C210 or C218.

e. Manufacturer’s standard repair procedures.

f. Manufacturer’s written quality control procedures.

g. Manufacturer’s written statement that pipe will meet an $\varepsilon = 0.005$ ft. (ε is defined as specific surface roughness).

8. Certificates of Compliance certifying:

a. Compliance with NSF/ANSI 61 Standards and certified to be lead-free.

b. Compliance with American Iron and Steel (AIS).

9. No pipe, special section, or fitting shall be manufactured until Drawings and design calculations have been reviewed, with no exception noted or stamped "Exceptions as Noted – Resubmit for Record Purpose Only.”

D. Field Welding Report

1. Welding Reports for each field-welded joint shall be submitted and signed to Owner's Representative daily by welding inspector. Welding Report shall include:

   a. Weld joint station number.

   b. Date of weld.

   c. Welder's name and signature.

   d. Actual weld size at four quadrants of pipe and total number of weld passes.

1.06 MEASUREMENT AND PAYMENT

A. Refer to Section 01 22 00 – UNIT PRICES.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver Products to Site to store and protect.

B. Pipe fittings shall be handled by padded slings or manufacturer's approved devices, which will not damage pipe exterior coating or mortar lining.

C. Rolling or sliding of pipe shall be prohibited under all circumstances, regardless of provisions made to protect pipe. Any pipe dropped shall be returned to manufacturer plant.

D. Pipe shall be stulled for shipping as required by manufacturer's recommendations to maintain pipe roundness of ±1 percent and provide temporary plastic end caps on all pipe and fittings.

E. Provide padded bolsters on trucks or rail cars to spread load and provide uniform support.

F. All pipe and fittings damaged in shipment or by handling at Job Site prior to placement shall be returned to fabrication plant for approved repairs.

G. Pipe shall be strung along route of pipeline to satisfaction of Owner's Representative and shall be protected by pipelaying Contractor with proper lights, barricades, etc.

H. Pipe shall be stored on padded skids, sand dirt berms, sandbags, old tires, or other suitable means so that coating will not be damaged.

1.08 WELDING MATERIALS AND PROCEDURES

A. Conform to AWS D1.1, D1.3; ANSI/ASME Boiler and Pressure Vessel Code, Sec. IX; AWWA C206; and applicable State Labor Regulations. Welding procedures shall be required for (but not limited to) longitudinal and girth or spiral welds for pipe cylinders, spigot-and-bell ring attachment, reinforcing plates, outlet reinforcement, ring flange welds, and plates for lug connections.

B. Contractor or manufacturer shall certify that all welders have been tested and maintain current qualification in accordance with ANSI/ASME Boiler and Pressure Vessel Code Sec. IX or ANSI/AWS B2.1.

PART 2 - P R O D U C T S

2.01 GENERAL

A. Pipe manufacturer shall demonstrate current production capability for volume of work required for this Project and shall have had successful fabrication to AWWA C200 Standards of at least 50,000 linear feet of 48-inch diameter or larger pipe within past 5 years.

2.02 STEEL PIPE DESIGN

A. All steel pipe, specials, and fittings shall be designed as herein specified and shall be manufactured in accordance with minimum wall thickness, as shown in Subsections 2.02E and 2.02F of this Specification, all in accordance with AWWA C200 and AWWA M11.

B. Unless otherwise shown on Drawings, all specials and fittings shall conform to dimensions of AWWA C208. Fittings shall be of same material and minimum thickness as pipe.

1. Minimum radius of elbows shall be 2.5 times the pipe diameter, and maximum miter angle on each section of elbow shall not exceed 11 1/4 degrees.

2. If elbow radius is less than 2.5 times the pipe diameter, stresses shall be checked per AWWA M11 and wall thickness shall be increased as required.

3. Fittings shall be equal in pressure design strength and shall have same lining and coating as abutting pipe.

4. Specials and fittings, unless otherwise shown on Drawings, shall be made of segmentally welded sections from hydrostatically-tested pipe with end compatible and type of joint or coupling specified for pipe.

C. Design Pressure

1. Internal Pressure

	Class 150
Working Pressure (psi)	150
Surge Pressure (psi)	100
Total Transient Pressure (psi)	250
Field Test Pressure (psi)	150

2. Vacuum: Collapse vacuum pressure of -14.7 psi. Design with trench soil compacted to 95 percent of maximum density, per ASTM D1557, and a minimum factor of safety 2.0, based on actual external loading [10-foot minimum] plus vacuum of -14.7 psi. Proper credit may be given to cement-mortar lining.

3. External Loading: Minimum 10-foot depth of cover or as indicated on Drawings at 120 pounds per cubic foot soil weight with one AASHTO HS-20 truck. If indicated on Drawings, external load (rail load) shall be Cooper E-80. Water table shall be at ground surface.

4. Deflection: Maximum deflection shall be 2 percent of pipe diameter.

5. Where Drawings show depth of cover exceeds 10 feet or for special applications, pipes, specials, and fittings shall be designed for loading condition of not less than indicated on Drawings. Pipes to be installed inside of tunnel casing shall be designed for full cover, including live load (HS-20 or railroad E-80, neglecting casing).

D. Design Stress and Materials

1. Steel plate for all fabricated pipe, specials, and fittings shall, unless otherwise specified in Specification, conform to latest edition of one of the following: ASTM A1018, Gr 36 minimum; ASTM A572, Grade 42; ASTM A36; ASTM A139, Grade C. Maximum tensile stress under design internal working pressure shall not exceed 50 percent of minimum specified yield strength of material. Combined design internal working pressure of 150 psi plus water hammer of 100 psi shall not exceed 75 percent of minimum specified yield strength of material for all unburied and buried pipe, specials, and fittings.

E. Diameter or Size of Pipe

1. Unless otherwise specifically stated in Drawings, Specifications, or both, nominal diameter shall mean inside diameter (I.D.) of pipe after lining, except for pipe 12 inches and smaller. Pipe manufacturer shall provide dimensions of outside diameter of each pipe supplied.

F. Minimum Wall Thickness

1. All pipe, specials, and fittings shall be designed in accordance with specified design pressure, design stress, and materials and shall have the following minimum wall thickness, in accordance with ASTM A6. No pipe shall have walls less than minimum due to tolerances.

Water Main Pipe		
	Minimum Wall Thickness[1]	
Nominal Pipe Diameter (Inch)	**Unburied[2] (Inch)**	**Buried (Inch)**
60	0.468	0.297
54	0.422	0.250
48	0.376	0.250
42	0.330	0.250
36	0.284	0.250
30	0.250	0.250

Note 1: Wall thickness shall be designed based on specified internal pressure, collapse vacuum pressure, and external loads, and shall not be less than minimum thickness shown above.

Note 2: Including all pipe installed inside of tunnel casing pipe and vaults.

Note 3: Wall thickness may be calculated using AWWA M11. For calculating earth load, use Equation 5-3.

Note 4: For pipe wall thickness greater than 1/2 inch in buried pipe and inside tunnel casing, Charpy V-notch impact test shall be at 25 pound-foot average at 30°F.

G. Design and Manufacture

1. Steel pipe, specials, and fittings shall be designed and manufactured in accordance with specified design pressure, materials, and stresses.

2. Steel pipe crossing a major waterway such as a large stream, river, or channel shall be designed for negative buoyancy by concrete encasement, or other approved means, and no allowance for earth cover in buoyancy calculation.

3. AWWA C200 and AWWA C208 shall apply, except as specified under these Specifications, with the following modifications or stipulations. The following Sections have same numeral designation as AWWA C200:

    a. Sec. 4.3 – Submit design detail drawings of pipe, specials, fittings, and joints to Owner's Representative for review.

    b. Sec. 4.4 – Submit design calculations of pipe, specials, fittings, and joints to Owner's Representative for review.

    c. Sec. 4.12 – Protective Lining and Coating of Pipe, Specials, and Fittings

        1) Lining: Interior of all pipes, specials, and fittings shall have cement-mortar lining.

            a) Cement-Mortar Lining: All pipe shall be cement-mortar lined in shop with centrifugally spun lining, in accordance with AWWA C205. All specials and fittings shall be cement-mortar lined in shop, in accordance with AWWA C205. Field joints shall be made in accordance with AWWA C205, Sec. 4.7.

            b) No pozzolanic material shall be used to replace cement. Interior of all outlets and connections smaller than 12 inches shall be painted with liquid epoxy, in accordance with AWWA C210.

            c) Fine aggregate for lining shall comply with requirements of ASTM C33 and shall not contain coal or lignite.

        2) Coating

            a) All material, procedures, etc. shall conform to applicable AWWA Standards and coating manufacturer's recommendations. Overlap factory-applied coating system with pipe manufacturer's specified heat-shrink sleeve system by minimum 6 inches.

            b) Buried Pipe, Specials, and Fittings:

                i. All buried specials and fittings shall be coated with polyurethane, in accordance with AWWA C222. Total thickness of 35 mils and materials used for coating shall be compatible with coating applied to pipe.

                ii. Finish Coat color shall be approved by Owner's Representative.

            c) Unburied Pipe, Specials, and Fittings:

                i. All unburied pipe (i.e. exposed, in vaults), specials, and fittings, which will be exposed after installation, shall receive one coat of rust-inhibitive primer, in accordance with AWWA C218.

                ii. Pipe shall be coated with epoxy coating system, in accordance with AWWA C210.

                iii. Total thickness of coating shall not exceed manufacturer's recommended maximum dry film thickness.

iv. Finish Coat color shall match adjacent buried piping, or as approved by Owner's Representative.

d) Provide shop-applied primer on coating holdback areas at joint in accordance with type of joint utilized.

e) Pipe ends, fittings, and specials, which require field heat-shrink sleeves, shall have their pipeline station number painted near joint at 2:00 or 10:00 position. Size of lettering for stationing shall be readable when a photograph is taken of completed joint.

f) Heat-Shrink Joint Sleeves for Polyurethane Coating

i. Provide heat-shrink (cross-linked polyolefin wrap or sleeve with a mastic sealant) suitable for pipeline operating temperature, in accordance with AWWA C216. Provide Canusa-CPS's "Aqua-Shield," Seal For Life's "Covalence," or approved equal. Where weld-after-backfill procedures are used, conform to manufacturer's recommendations for installation.

g) Field-Applied Heat-Shrink Sleeves: Contractor shall select between two options for method of application of joint heat-shrink sleeves:

i. Welding Before Sleeve: First option is to weld joint, then apply exterior joint sleeve. Wrap joints with heat-shrink sleeve system conforming to AWWA C216. Overlap factory-applied coating system with a sleeve minimum of 6 inches.

ii. Sleeve Before Welding: Second option is to apply heat-shrink sleeve for post-welding, backfill trench, and then weld joint from pipe interior. Wrap joints with heat-shrink sleeve as recommended by pipe manufacturer.

iii. For either option, Contractor shall be responsible for its operations so that no damage is done to mortar lining or coating system (factory-applied or joint-shrink sleeve).

iv. If second option is chosen, Contractor shall provide to Owner's Representative documentation necessary to prove validity of method and demonstrate that operation will not damage polyurethane coating system or the field-applied shrink-sleeve.

v. Contractor will be required to fully uncover a total of ten joints, selected at random by Owner's Representative (five at beginning of construction period and five spread throughout period) to visually inspect joints after welding from pipe interior. Inspection of welds' interior and exterior is to check integrity of welding and heat-shrink sleeve.

vi. If Contractor's welding procedure causes damage to heat-shrink sleeve, Contractor shall uncover all joints installed prior to test (or between this test and a prior test) to inspect joints and repair as required. Contractor, at option of Owner's Representative, may be allowed to modify welding procedure or be required to perform welding before applying heat-shrink sleeve to joint.

vii. If Contractor is required to change welding procedure before heat-shrink sleeve application, no additional compensation will be made to Contractor by Owner's Representative.

d. Sec. 4.5 – All steel plate, sheet, or coils for fabricated pipe, specials, and fittings shall conform to latest edition of ASTM A1018, Grade 36 minimum; ASTM A572, Grade 42; ASTM A36; or ASTM A139, Grade C, unless otherwise specified in this Specification.

e. Sec. 4.11 – Preparation of Pipe Ends

1) Buried pipe, specials, fittings, and tied joints, except as shown or noted, shall have single fillet lap-welded slip joint welded inside or outside, as approved by Owner's Representative. Provide a nominal lap of 2 1/4 inches.

2) For pipe 60-inch diameter and under, bell-and-spigot "O-ring" joints may be used. Bell-and-spigot ends shall be formed integrally with steel cylinder or may be fabricated from separate plates, sheets, or special sections for attachment to pipe ends. All welds on inside of bell and outside of spigot shall be continuous and ground even with plate surface for a distance not less than insertion depth.

3) For pipe installed inside casing, joints shall be lap-welded slip joint and welded inside and outside. Outside welding shall be single pass weld adequate for joint testing. Provide tapped hole at each joint for field air testing of lap welds. In addition to hydrostatic test, double-welded lap joint shall be tested by applying 40 psi air pressure into connection between two fillet welds, as outlined in AWWA C206, Sec. 5.2.2.2.

4) For pipes 60-inch diameter and under, bell-and-spigot ends may be sized by forcing over a sizing die or expanding to stretch steel beyond elastic limit. Difference in diameter between outside of spigot and inside of bell at normal engagement shall not exceed 0.04 inch – measured on circumference with a diameter tape.

5) Spigot ring shall have a groove to receive, hold, and protect gasket; and joint surfaces shall be of such shape and dimensions that joints will be self-centering when pipe is laid so that gasket will not be required to support weight of adjacent pipe. "O-ring" gasket shall have sufficient volume (approximately 100 percent) to fill area of groove, and shall conform to AWWA C200, Sec. 4.11.3.3. "O-ring" shall have minimum stretch of approximately 20 percent and compression of no less than 30 percent after pipe installation. Selection of "O-ring" shall meet above three criteria. Submit gasket design calculations for Owner's Representative's review. Deviation from above criteria may be permitted based on satisfactory field performance data provided by pipe manufacturer. Joint shall be suitable for total design pressure equal to Class of pipe furnished and shall operate satisfactorily with deflection.

6) Shop-applied outside coating shall be continuous to end of pipe on bell end and shall be cut back on spigot end so coating extends at least 1/2 inch inside bell end at normal engagement. Shop-applied inside lining shall be continuous to end of pipe on spigot end and shall be cut back on bell end to point of maximum engagement or further, as shown on Plans. Inside of bell and outside of spigot shall be painted one shop coat of primer to prevent rust.

7) Pipe manufacturer shall demonstrate current production capability for volume of work required for Project and shall have had successful fabrication to AWWA C200 Standards of at least 50,000 linear feet of 48-inch diameter or larger pipe within past five years.

8) Changes in alignment or grade may be made by breaking joints of straight pipe or by use of beveled-end pipe, unless single-bend fittings are called for on Drawings. Joint openings shall not exceed one-half of maximum joint opening recommended by pipe manufacturer.

9) Unburied pipe, specials, and fittings, except as shown or noted, shall have single or double butt-weld joints.

f. Sec. 4.15 – Specials and fittings shall be provided in accordance with details shown on Drawings, as specified or required.

g. Sec. 5.1 – Owner’s Representative retains right to observe pipe, fittings, all work performed, and all materials furnished under Contract at manufacturer's plant. During inspection, Owner's Representative shall have free access to those parts of manufacturer's plant that are necessary to ensure compliance with this Standard. Manufacturer shall make gauges necessary for inspection available for Owner's Representative’s use. Manufacturer shall provide Owner's Representative with assistance handling pipe and fittings as necessary. Prior to shipment, each piece of pipe and fitting may be inspected and stamped by Owner's Representative for compliance with Specifications.

1) Manufacturer shall provide Owner’s Representative with copies of all written quality control procedures, tests, and reports, as required by Specifications, and as may be employed by manufacturer during production of pipe. Weekly inspection reports shall be submitted to Owner’s Representative.

h. Sec. 5.2 – Each length of pipe and fitting shall be hydrostatically-tested in accordance with Subsection 1.05. Submit test procedures to Owner’s Representative for review.

i. Sec. 5.2.2 – Testing of special sections shall be either hydrostatically-tested or nondestructively tested, in accordance with Subsection 1.05. Submit test procedures to Owner’s Representative for review.

j. Sec. 6.1 – Provide Owner’s Representative with laying schedules showing where each numbered pipe or special section belongs in pipeline.

1) Designations on schedule shall correspond with those painted on pipe and special sections.

2) Pipe, fittings, and specials shall be marked as to serial number, date of manufacture, type with head classification, and/or depth of bury for insertion into pipeline at designated points, in conformance and corresponding with approved laying schedule.

3) Fittings and specials shall be marked with pipeline stationing.

m. Sec.6.3 – Furnish Owner’s Representative with an affidavit certifying that pipe, specials, fittings, and other Products or materials furnished comply with all applicable provisions of these Standards

n. Installation Requirements: In addition to pipe manufacturer's installation guide, the following requirements shall be met:

4) Pipe manufacturer may provide Contractor with suitable lifting devices to be used during pipe unloading operations to move pipe, to place pipe in trench, or during any other pipe handling operations. Prior approval of pipe manufacturer and Owner’s Representative shall be required for lifting devices not furnished by manufacturer.

5) Pipe shall be unloaded, handled, and placed using padded slings or other lifting devices furnished by pipe manufacturer to prevent damage to interior and exterior coating.

6) Unloading or movement of pipe by rolling or sliding is strictly prohibited at any time.

7) An acceptable device shall be used to distribute rubber gaskets uniformly on all joints.

8) Joint pull in-field to correct alignment shall be limited to one-half of maximum amount recommended by pipe manufacturer.

H. Flanged Joints

1. Flanges for steel pipe, specials, and fittings shall be in accordance with AWWA C207, Class D (for pressure, Class 150) and drilled compatible with concrete pipe and ductile iron pipe with ANSI B16.1 (Class 125 Cast Iron) drilling. For pipe connected to valves, drilling shall be ANSI B16.1, Class 125 or Class 250, or as required.

2. All flanged joints shall be made with single-piece, red rubber gaskets 1/8-inch or 1/16-inch thick, as recommended by pipe manufacturer. Gaskets shall be full-face or ring-type, as recommended by pipe manufacturer, meeting AWWA C115, Appendix A, or AWWA C207 requirements. All bolts for buried flange joints shall be COR-TEN type corrosion-resistant steel (CRS).

I. Welded Joints for Steel Pipe

1. Factory-Welded Joints

a. All welds shall be sound and free from embedded scale or slag, shall have tensile strength across weld not less than that of the thinner of the connected sections, and shall be watertight. Butt welds shall be used for all welded joints in fabrication of bends and other specials. Fillet welds shall be used for flange attachment, in accordance with AWWA C207.

b. A yield point determination of a welded joint shall be made by an independent or manufacturer's certified testing laboratory at beginning of Work. All costs for laboratory testing shall be paid for by Contractor. Submit test report to Owner's Representative.

2. Field-Welded Joints

a. Field-welded joints shall conform to AWWA C206.

b. Qualifications of Procedures and Welders

1) All welders and welding procedures used to install pipe shall be qualified under provisions of ANSI/AWS B2.1 or ANSI/ASME Boiler and Pressure Vessel Code, Sec. IX.

c. If requested by Owner's Representative, Contractor shall furnish a weld test specimen from each welder used on Project for inspection by an independent testing laboratory. If independent testing laboratory determines weld does not meet Specification, welder shall not perform any welding on Project and all welder's welds may be inspected for compliance with Specification at no cost to Owner.

d. Where exterior welds are performed, adequate space shall be provided for welding and inspection of joints.

e. All welded pipe joints shall have a minimum of two passes. First pass for sealing joint shall be continuous seal weld around joint.

3. Unless double fillet welds are specified or shown on Plans, field-welded lap joints and butt straps shall be fillet-welded from inside or outside of pipe when pipe is larger than 30 inches, and from outside of pipe for pipe 30 inches and smaller.

a. Fillet weld for pipe wall 1/4 inch and thinner shall be thickness of thinner part. For pipe wall thicker than 1/4 inch, weld shall be designed for thrust force at weld joint and meeting AWS D1.1 minimum weld size requirement, but shall not be less than 1/4 inch.

b. Butt straps, where used or required, shall be minimum of 12 inches wide (same thickness as pipe wall) and shall provide for minimum of 2 inches lap at each pipe joint.

4. All welds shall be visually inspected and shall be acceptable for the following criteria:

a. Weld shall have no cracks.

b. Thorough fusion shall exist between adjoining layers of weld metal.

c. All craters shall be filled to cross-section of weld.

d. Weld profiles shall be in conformance with AWS D1.1, Sec. 5.24.

e. A fillet weld in single continuous weld is permitted to underrun nominal fillet size specified by 1/16 inch, provided that undersize portion of weld does not exceed 10 percent of length of weld.

f. Undercut shall be no more than 0.01 inch deep.

g. Frequency of piping porosity in weld shall not exceed 1 in each 4 inches of weld length, and maximum diameter shall not exceed 3/32 inch.

J. Restrained joints

1. Unbalanced forces at pipe bends, tees, valves, etc., shall be restrained by transmitting those forces to pipe wall by means of harnessed, flanged, or welded joints. Restrained joint materials shall be non-corrosive.

2. Each of restrained joint pipe sections and steel joints shall be designed to withstand and transmit whole angle component of longitudinal thrust of force caused by deflection angle (Δ) from pipe total transient pressure, in accordance with AWWA M11. Required length for restrained pipe on each side of bends and bevel pipes or tees shall be calculated in accordance with AWWA M11, and shall meet or exceed lengths shown on Drawings. Reduction of design longitudinal thrust force along pipeline from maximum thrust point will be permitted. Maximum longitudinal cylinder tensile stress shall have minimum factor of safety of 1.67, based on minimum steel plate yield strength. Circumferential welded joint maximum stresses shall not exceed allowable stress of weld shown in ANSI/AISC 360, Table J2.5.

3. Submit design calculations of restrained joint pipes and fittings to Owner’s Representative. In designing restrained joints, combined effect of both longitudinal thrust force and radial hoop tensile force, caused by design internal pressure plus surge pressure, shall be considered. Restrained joint system shall have a minimum safety factor of 1.67. Design calculations shall be submitted for Owner’s Representative’s review.

K. Furnished With Pipe

1. In addition to straight lengths of pipe, the following (within Contract Unit Prices for installed pipe) shall be furnished: all bends, tees, reducers, access manholes with butt strap joints or butt joints, special fittings, and wall pieces for manholes, adapters, beveled pipe, sleeves, caps, plugs, blind flanges, butt straps, bolts, studs, nuts, etc., required for complete pipeline construction, not only as shown on Drawings but also as required by field conditions during construction. Fittings, elbows, tees, access manholes, blow-off connections, and air valve connections may be fabricated into full pipe lengths where possible.

2. Furnish all rubber gaskets and all special materials required for making of joints, and all special materials required to be incorporated in certain pieces of pipe or fittings, restrained joints, etc., as shown or noted on Drawings.

3. Pipe supplier shall furnish, within Contract Unit Prices for installed pipe, all required butt straps and adapters; which, though not specifically called for on Drawings, may still be required by field conditions during construction at no additional cost to Owner’s Representative.

L. Wall Pipes

1. Wall pipes shall be steel pipe where both connecting pipes are steel pipe. Minimum wall thickness shall be as specified under in Subsections 2.01E and 2.01F of this Specification and in no case shall be thinner than the connecting pipes. They shall extend beyond wall, as shown on Plans. Wall pipes shall have intermediate wall collars and flanged end at inside and outside of structure, or as shown on Plans. Protective coating and lining of these pipes shall be in accordance with Sec. 4.5.1.

M. All unburied steel pipe, specials, and fittings shall be designed for the following minimum combined conditions:

1. Internal Pressure

	Class 150
Working Pressure (psi)	150
Surge Pressure (psi)	100
Total Transient Pressure (psi)	250

2. Vacuum: Collapse vacuum pressure of -14.7 psi with a minimum factor of safety of 1.5 as shown in AWWA M11.

PART 3 - E X E C U T I O N

3.01 PIPING INSTALLATION

A. Comply with following:

1. Make available services of manufacturer's representative when deemed necessary by Owner's Representative. Representative to advise in aspects of installation, including but not limited to handling and storing, cleaning and inspecting, coating and lining repair, and general construction methods as applicable to pipe.
2. Handling and Storage: Install struts or stulls prior to shipping, horizontally and vertically, as proposed by manufacturer and approved by Owner's Representative.
3. Stulls: Installed in joint ends of fittings. Stulls to remain in place, horizontally and vertically, positioned under following conditions:
    a. During storage and shipping.
    b. Until welding is complete.
4. Install stulls prior to placement of pipe, bends, and fittings to prevent deflection during installation. Provide stulls consisting of timber struts with end blocks shaped to fit curvature of interior surface of pipe, or other appropriate configuration and material. Firmly edge and secure stulls to blocks so that they will remain intact position during handling and installation. Provide stulls adequate to resist handling loads encountered without structural failure to stull members or damage to pipe.
5. Repair, reject, and remove from Site pipe that arrives with defects in lining, including sand pockets, voids, and oversanded areas. Repairs must be made to satisfaction of Owner's Representative to be accepted.
6. Store pipe at Job Site with securely fastened plastic endcaps to maintain moist pipe interior. Promptly replace damaged endcaps to avoid shrinkage or cracking of cement-mortar lining.

7. Immediately replace damaged plastic end caps. Do not leave uncapped for more than 4 hours. If left uncapped for more than 4 hours add four gallons of potable water per 40 feet of pipe before replacing plastic cap.

8. Bedding and Backfilling

    a. Conform to requirements of Section 33 23 16 – EXCAVATION, BACKFILL, AND COMPACTION FOR UTILITIES.

    b. Align pipe at proper grade prior to joint connection and do not shift after jointing operation has been completed.

    c. Take necessary precautions during bedding and backfilling operations to prevent deformation or deflection of pipe's cylindrical shape by more than allowable pipe deflection. Do not move trench support system (trench safety system) once bedding material is compacted.

    d. Excavate outside specified trench section for bell holes and for spaces sufficient to permit removal of slings. Provide bell holes at proper locations for unrestricted access to joint. Form bell holes large enough to facilitate joint wrapping and to permit visual examination of process. Enlarge bell holes as required or directed by Owner's Representative. Subsequent backfilling thereof will not be considered as authorized additional excavation and backfill. Backfill bell holes and spaces to satisfaction of Owner's Representative.

    e. Blocking may be removed 24 hours after placing backfill to top of pavement or natural ground level.

9. Pipe Deflection: After backfill is complete, test pipe for excessive deflection by measuring actual inside vertical diameter. For maximum deflection allowable, see Subsection 2.02C.4.

    a. Deflection may be measured by Owner's Representative at any location along pipe. Arithmetical averages of deflection are not acceptable.

    b. If deflection exceeds that specified, Contractor shall do one of the following:

        1) Remove backfill and side support. Reround pipe and properly replace compacted backfill and side support. Review cement-mortar lining to assure that no harmful damage has occurred.

        2) Remove entire portion of deflected pipe section and install new pipe as directed by Owner's Representative at no additional cost to Owner.

    c. Move pipe in such manner not to damage pipe or coating. Do not roll pipe nor drag on ground. Use a minimum of two wide non-abrasive slings or belts to lift and lower pipe. Handle pipe using a spreader bar. Provide adequate spacing of pipe supports to prevent cracking or damage to lining or coating. Inspect and repair coating abrasions before pipe is lowered into trench.

10. Use of dogs, clips, lugs, or equivalent devices welded to steel pipe to force it into position will not be permitted unless approved by Owner's Representative. Remove foreign matter and protective material from surfaces that are to be in contact at joints. Leave surfaces of joint areas thoroughly clean for metal-to-metal contact of field joints.

B. Static Electricity

1. Properly ground steel pipeline during construction as necessary to prevent build-up of static electricity.

2. Electrically test where required after installation of pipeline is complete.

C. Any time that laying of additional pipe is stopped for more than 8 hours, plug ends of installed pipe and take proper precautions against flotation of pipe segments.

3.02 EXTERNAL COATING SYSTEM FOR BURIED STEEL PIPE

A. Polyurethane Coating System

1. Conform to requirements of AWWA C222.

B. Epoxy Coating System

1. Conform to requirements of AWWA C210.

C. Heat-Shrink Joint Sleeves

1. Provide field-applied shrink-wrap coating system for coating field joints, tie-ins, and other field-welded joints. Apply heat-shrink sleeves prior to internal welding of pipe using approved procedure compatible with coating system. Install heat-shrink joint sleeves in accordance with manufacturer's recommendations. Provide services of manufacturer’s technical representative available on Site at beginning of pipe laying operations. Representative to advise Contractor and Owner’s Representative regarding installation, repairs, and general construction methods.

2. Do not expose heat-shrink joint sleeves to harmful ultraviolet light for longer than recommended by coating manufacturer.

3.03 JOINTS AND JOINTING

A. Rubber Gasketed Bell-and-Spigot Joints

1. Use “O-ring” gasket with sufficient volume to approximately fill area of groove and gasket material, in accordance with AWWA C200. Check each splice in gasket by stretching gasket to at least twice original length of gasket. Visually check stretched splice by rotating 360 degrees. Reject splices showing visible separation or cracks.

2. Equalize rubber gasket cross-section after rubber gasket is placed in spigot groove of pipe by inserting tool or bar, such as large screwdriver, under rubber gasket and moving it around periphery of pipe spigot. Lubricate gaskets with nontoxic water-soluble lubricant before pipe units are joined. Fit pipes together in manner to avoid twisting or otherwise displacing or damaging rubber gasket.

3. Check gaskets after pipe sections are joined with feeler gauge to ensure that no displacement of gasket has occurred at point around circumference after joining. If displacement has occurred, remove pipe section and remake joint as if for new pipe. Remove old gasket and replace before remaking joint.

4. Bond “O-ring” joints as on Drawings.

B. Welded Joints

1. For welded lap joints, conform to requirements of Subsection 2.02.I

2. Butt joints to be complete penetration for entire circumference.

C. Do not allow steel plugs for threaded outlets to project beyond inner surface of pipe shell and seal weld by at least two passes. Apply weld around outside of plug after it has been inserted in final position. Coat outlets and plugs inside and outside as required at field joints on pipe.

3.04 COATINGS AND LININGS INSPECTION RESPONSIBILITIES

A. Contractor is responsible for quality control of coatings and linings applications and testing and inspection, as stipulated in this Section. Owner's Representative is responsible for quality assurance and reserves right to inspect or acquire services of independent third-party inspector who is fully knowledgeable and qualified to inspect surface preparation and application of high-performance coatings at phases of coatings and linings, field- or shop-applied. Contractor is responsible for proper application and performance of coatings and linings, whether or not Owner's Representative provides such inspection.

B. Cement-Mortar Lining and Joint Finish: Finished surface of lining and joint to be comparable to surface rubbed with No. 16 Carborundum stone. Rub joint mortar sufficiently to bring paste to surface to remove depressions and projections, and to produce smooth, dense surface. Add cement to form surface paste as necessary. Leave interior with clean, neat, and uniform-appearing finish.

3.05 FIELD REPAIR PROCEDURE OF COATINGS FOR POLYURETHANE

A. Remove oil or grease by solvent wiping pipe and adjacent coating in accordance with SSPC-SP1, Solvent Cleaning.

B. Clean pipe surface in accordance with SSPC-SP11, Power-Tool Cleaning to Bare Metal or abrasively blast in the field in accordance with SSPC-SP10, Near-White Metal Blast Cleaning. Clean the full circumference of the pipe and feather the edges of the existing polyurethane coating a minimum of 2 inches.

C. Apply repair material as described above in accordance with manufacturer's recommendations.

D. Use heat applied patches or single use polyurethane coating repair product.

E. If a heat-applied repair patch is used, do not overlap patches or use more than one patch for a single repair. If repair area exceeds the size of a single patch, use alternate repair method as listed above.

3.06 FIELD REPAIR PROCEDURES AND SPECIAL FITTINGS APPLICATION FOR CEMENT-MORTAR LINING

A. Areas Less Than or Equal to 6 Inches in Diameter: Patch honeycomb and minor defects in concrete surfaces with non-shrink grout. Repair defects by cutting out unsatisfactory material and replacing with nonshrink grout, securely bonded to existing concrete. Finish to make junctures between patches and existing concrete as inconspicuous as possible. After each patch has stiffened sufficiently to allow for greatest portion of shrinkage, strike off grout flush with surrounding surface.

B. Areas Greater Than 6 Inches in Diameter

1. Remove defective lining down to bare steel by chipping, making sure care is taken to prevent further lining damage. Ends of lining where defective lining is removed are to be left square and uniform, not feathered.

2. Clean bare steel with wire brush to remove loose or other foreign matter.

3. Remove existing wire reinforcement and replace. Overlap new reinforcement to existing reinforcement by 1/2 inch. Secure reinforcement against wall of pipe at frequent intervals by tack welding to pipe.

4. Prepare cement-mortar mixture. Mixture to be composed of cement, sand, and water per AWWA C205. Proportions of sand to cement not to exceed three-parts sand to one-part cement, by weight. Use only enough water to obtain proper placement characteristics. Set-up time before mixture is to be discarded is to be no longer than 30 minutes. Non-shrink grout may also be used. Do not use combination of cement-mortar and non-shrink grout within same repair.

5. Apply Larsen Products' Weld-Crete, or approved equal, concrete bonding agent to bare steel and interface of existing lining. After bonding agent is applied to steel and lining, new mix must be applied within 10 minutes.

6. Apply cement-mortar to repair area 1/2-inch thick, then hand trowel to achieve smooth dense finish, making sure wire is not left exposed. To ensure proper thickness while placing new mortar, check thickness with 1/2-inch long wire gauge.

7. Curing: Place plastic sheeting over repair area; use tape to adhere plastic to area surrounding repair area. Let cure for 4 days, then remove plastic sheeting.

3.07 SURVEYING

A. Use adequate surveying methods and procedures and employ competent personnel to ensure pipe sections are laid to line and grade and within stipulated tolerances. Measure and record, in form approved by Owner's Representative, in-place survey data for pipe laid each day and submit data to Owner's Representative in accordance with Section 01 30 01 – DIGITAL UTILITY DATA COLLECTION and Section 01 31 00 – PROJECT MANAGEMENT AND COORDINATION.

3.08 PHOTOGRAPH AND VIDEO REPORTING OF PIPE JOINTS

A. Each completed pipe joint shall be photographed by Owner's Representative. Contractor shall notify Owner's Representative when joints are complete, prior to backfilling pipe. Contractor shall mark date that joint was completed and initials of foreman next to factory painted pipeline station number. Lettering size shall be same as used for pipe stationing number.

B. Owner's Representative will provide internal pipe joint video report for the pipeline. Video report shall show full circumference of each joint with pipe mark number and station number labeled or identified by voice. Date and time shall be recorded on video.

C. Contractor shall coordinate with Owner's Representative upon completion of pipe joints and provide access to pipe for visual observation and documentation.

END OF SECTION

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33 11 03 DUCTILE IRON PIPE

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes requirements for providing supervision, labor, material, tools equipment, testing, training, and related items to install and place in operation ductile iron pipe for water mains.

B. Extent of ductile iron piping is shown on Drawings and shall include all buried or exposed yard piping and interior process piping.

1.02 RELATED WORK

A. Section 01 22 00 – UNIT PRICES

B. Section 01 33 00 – SUBMITTAL PROCEDURES

C. Section 01 40 00 – QUALITY REQUIREMENTS

D. Section 13 47 13 – CATHODIC PROTECTION

E. Section 31 23 16 – EXCAVATION, BACKFILL, AND COMPACTION FOR UTILITIES

1.03 REFERENCES

A. AASHTO HS-20 – Loading Design Specifications.

B. ANSI B16.1 – Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

C. ANSI/NSF 61 – Drinking Water System Components – Health Effects.

D. AWWA C104/A21.4-22 – Cement-Mortar Lining for Ductile Iron Pipe and Fittings.

E. AWWA C105/A21.5-18 – Polyethylene Encasement for Ductile-Iron Pipe Systems.

F. AWWA C110 – Ductile-Iron and Gray-Iron Fittings.

G. AWWA C111/A21.11-23 – Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

H. AWWA C115 – Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.

I. AWWA C116/A21.16 – Protective Fusion-Bonded Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings.

J. AWWA C150/A21.50-21 – Thickness Design of Ductile-Iron Pipe.

K. AWWA C151/A21.51 – Ductile-Iron Pipe, Centrifugally Cast.

L. AWWA C153 – Ductile-Iron Compact Fittings.

M. AWWA C207 – Steel Pipe Flanges for Waterworks Service, Sizes 4 Inches Through 144 Inches (100 mm Through 3,600 mm).

N. AWWA C600 – Installation of Ductile-Iron Mains and Their Appurtenances.

O. AWWA M41 – Ductile-Iron Pipe and Fittings

P. ISO 8179 – Ductile Iron Pipes, Fittings, Accessories and Their Joints – External Zinc-Based Coating – Part 1: Metallic Zinc with Finishing Layer.

1.04 SUBMITTALS

A. Conform to requirements of Section 01 33 00 – SUBMITTAL PROCEDURES.

B. Design Calculations

1. All design calculations shall be signed and sealed by a Professional Engineer licensed in the State of Illinois.

2. Manufacturer’s pipe design calculations shall be submitted with Contractor’s Bid Documents.

C. No laying schedule will be reviewed without all design data submittals.

D. Submit shop drawings and product data as required below:

1. Submit detailed drawings and data on pipe, fittings, gaskets, and appurtenances in conjunction with shop drawings required.

2. Pipe Manufacturer's Submittals

a. Pipe Design Calculations: Detailed drawings of pipes, specials, fittings, and joints with design calculations for internal pressure, vacuum, and external load conditions.

b. Design Calculations for Restrained Joints: Rubber gasket reports and gasket sizing calculations.

c. Written transcripts of results of acceptance test, low temperature impact test, and foundry records – in accordance with AWWA C151, Sec. 5.2.2, Sec. 5.3, and Sec. 5.4, respectively.

d. Rubber gasket test report.

e. Certificate of Compliance with Contract Specifications and specified AWWA Standards; specifically, AWWA C151, Sec.5.1.1.2 – Manufacturer’s Statement.

1) Basis for design of pipe.

2) Details of fittings, specials, and appurtenances.

3) Manufacturer's installation guide.

4) Manufacturer’s written statement that pipe lining will meet an $\varepsilon = 0.005$ ft (ε is defined as specific surface roughness).

f. Certificate of Compliance certifying:

1) Compliance with NSF/ANSI 61 Standards and certified to be lead-free.

2) Compliance with American Iron and Steel (AIS).

1.01 MEASUREMENT AND PAYMENT

A. Refer to Section 01 22 00 – UNIT PRICES.

1.02 DELIVERY, STORAGE, AND HANDLING

A. Pipe and fittings shall be handled by padded slings, hooks, or pipe tongs, or by manufacturer’s approved devices which will not damage pipe exterior surface and internal lining.

B. Rolling or sliding of pipe under all circumstances, regardless of provisions made to protect pipe, shall be prohibited. Any pipe dropped shall be returned to manufacturer’s plant.

C. All pipe and fittings damaged in shipment or by handling at Job Site prior to placement shall be returned to manufacturer’s plant.

D. Pipe ends shall be covered/sealed with temporary plastic end caps to prevent debris and foreign materials from contacting pipe interior.

E. The pipe shall be strung along route of the pipeline to satisfaction of Owner's Representative and shall be protected by Contractor with proper lights, barricades, etc.

PART 2 - P R O D U C T S

2.01 DESIGN REQUIREMENTS

A. All ductile iron pipe shall be in accordance with AWWA Standards; specifically, AWWA C104, AWWA C110, AWWA C115, AWWA C151, and AWWA C153.

B. Ductile iron pipe crossing a major waterway such as a large stream, river, or channel shall be designed for negative buoyancy by concrete casing or other approved means and no allowance for earth cover in buoyancy calculations.

C. All ductile iron pipe and fittings shall have a minimum design strength for a combined loading of an internal pressure of 150 psi, an external loading of 10 feet cover of 120 pounds per cubic foot soil weight and trench width of outside pipe diameter plus 4 feet with a single AASHTO HS-20 truck live load on unpaved road or flexible pavement, plus a water hammer allowance of 100 psi. If indicated on Drawings, external load (rail load) shall be Cooper E-80. Water table shall be at ground surface.

D. Ductile iron pipe and fittings, unless otherwise specified, shall be double-thickness cement-lined without seal-coating, in accordance with AWWA C104/A21.4-22. Cement mortar lining shall comply with ANSI/NSF Standard 61.

E. Coatings

1. All pipe shall be coated as follows:

a. Zinc Basecoat: Exterior of ductile iron pipe shall be coated with a layer of arc-sprayed zinc, per ISO 8179. Mass of zinc applied shall be 200 grams per square meter of pipe surface area. A finishing layer topcoat shall be applied to zinc. Mean dry film thickness of finishing layer shall not be less than 3 mils with local minimum not less than 2 mils. Coating system shall conform in every respect to ISO 8179-1. Ductile iron fittings shall also have zinc protective coating sprayed on at factory at a minimum of 3 mils.

b. Asphaltic Coating: All ductile iron pipe and fittings shall be outside-coated with an asphaltic material applied by airless spray method. For this kind of coating, exterior coating shall comply with AWWA C151/A21.51, and shall be smooth without pinholes and no thin, bare, or overly thick areas. Smoothness shall be such that when hand rubbed, no "sandpaper" feeling will be experienced and spigot area will readily slide through gasket without pulling, tearing, rolling, or otherwise disturbing sealing capabilities of gasket. Spigot ends shall be beveled prior to coating to an extent that will permit ready insertion of spigot through gasket area outside, in accordance with AWWA C151, Sec. 4.4.1.

F. Minimum Thickness

1. Where Drawings show depth of cover exceeds 10 feet or for special applications, pipe shall be designed for a loading condition of not less than indicated on Drawings. Use standard pipe laying condition Type 4 for thickness design calculation. Pipes to be installed inside tunnel liner or casing shall be designed for full overburden neglecting liner or casing.

2. In addition to external load, all pipe and fittings shall be designed for collapse vacuum pressure -14.7 psi with a factor of safety of 2.0.

3. All pipe shall have a nominal wall thickness as follows:

Diameter (Inches)	Depth of Cover[1] (Feet)	Pressure Class	Laying Condition Type	Thickness (Inches)
3	100	350	4	0.25
4	85	350	4	0.25
6	47	350	4	0.25
8	34	350	4	0.25
10	28	350	4	0.26
12	28	350	4	0.28
14	27	350	4	0.31
16	28	350	4	0.34
18	28	350	4	0.36
20	28	350	4	0.38
24	20	250	4	0.37
30	19	250	4	0.42
36	18	250	4	0.47

Note 1: If depth of cover shown on Drawings exceeds depth of cover shown in this column, pressure class of pipe shall be increased in accordance with AWWA C151.

G. Ductile-Iron Outlets

1. Welded on bosses or outlets may be permitted. Outlets must be fabricated from centrifugally-cast ductile iron pipe, manufactured and tested in accordance with AWWA C151. Outlets must be rated for a minimum 350 psi water pressure. Flange or mechanical joint bosses may also be furnished.

H. Joint

1. Restrained Joints

a. Unbalanced forces at pipe bends, tees, valves, etc., shall be restrained by transmitting those forces to pipe wall by means of flexible-tied jointing systems, which shall be accomplished at joint and not between joints. Each restrained joint shall be designed to withstand and transmit longitudinal thrust forces due to pipe working pressure plus transient pressure. For ductile iron pipe, system to be used shall be AMERICAN "Lok-Ring" or "Flex-Ring"; or U.S. Pipe's "TR FLEX."or approved equal. Mechanical joint retaining glands with set screws or Megalug type will not be accepted. All nuts and bolts shall be COR-TEN steel. Pipe joints in vicinity of bend fittings shall be restrained for distances tabulated on Drawings.

2. Flanged Joints

    a. All flanged joints shall be made with single-piece, red rubber gaskets 1/8 or 1/16-inch thick, as recommended by pipe manufacturer. Gaskets shall be full-face (meeting AWWA C115, Appendix A and AWWA C207 requirements) and as recommended by manufacturer.

    b. Flanges for ductile iron pipe fittings, companion flanges, and castings shall be in conformity with current ANSI B16.1, Class 125. Flat-faced flanges shall be used where mating flange is flat-faced. All bolts for buried flange joints shall be COR-TEN steel, as specified under Subsection 2.01L.

3. Mechanical Joint and Push-on Joint

    a. All mechanical joints and push-on joints for ductile iron pipe shall be in conformity with requirements of AWWA C111/A21.11-23. Joints shall be restrained where shown. All bolts for buried mechanical joints shall be COR-TEN steel, as specified under Subsection 2.01H.2.a.

I. Furnished With Pipe

1. In addition to straight lengths of pipe, access manholes, reducers, special fittings, and wall pieces for manholes, adapters, outlets, sleeves, caps, plugs, blind flanges, etc., there shall be furnished (within Contract Unit Prices for installed pipe) all fittings, elbows, bends, tees, solid sleeves, night-caps, bolts, nuts, etc., required for complete pipeline construction, not only as shown on Drawings but also as required by field conditions during construction. Blow-off connections and air valve connections may be fabricated into full pipe lengths where possible.

2. Furnish all rubber gaskets and special materials required for making joints and all special materials required to be incorporated in certain pieces of pipe or fittings (such as materials for restrained joints, etc.) as shown on Drawings.

3. Pipe supplier shall furnish – within Contract Unit Prices for installed pipe – all required solid sleeves, shorts, and adapters, which, though not specifically called for on Drawings, may still be required by field conditions during construction, at no extra cost to Owner's Representative.

J. V-Bio Polyethylene Encasement

1. V-Bio Enhanced Polyethylene Encasement shall be installed on all underground ductile iron pipe and ductile iron appurtenances, in accordance with AWWA C600 and AWWA C105/A21.5-18. Color shall be blue for potable water, purple for recycled water, and green for sanitary sewage service. Polyethylene encasement for use with ductile iron pipe systems shall consist of three layers of co-extruded linear low-density polyethylene (LLDPE) fused into a single thickness of no less than 8 mils. Inside layer of polyethylene wrap to be in contact with pipe exterior shall be infused with corrosion inhibitor and antimicrobial biocide to control galvanic corrosion. Product shall be "V-Bio" or approved equal.

2. Polyethylene encasement for ductile iron pipe shall be supplied as a flat tube meeting dimensions of AWWA C105/A21.5-18, Table 1, and shall be supplied by ductile iron pipe manufacturer.

3. Plastic adhesive tape shall consist of polyolefin backing and adhesive, which bonds to common pipeline coatings, including polyethylene. Products: Canusa-CPS's "WrapidTape"; "Tapecoat H35"; "Polyken 934"; AA Thread Seal Tape, Inc.; or approved equal.

K. Wall Pipes

1. Wall pipes shall be ductile iron where both connecting pipes are ductile iron with a minimum wall thickness as called for under Subsection 2.02F. They shall extend beyond the wall, as shown on Drawings. Wall pipes shall have intermediate wall collars and flanged-end at inside and outside of structure, or as shown on Plans. These pipes shall be cement-mortar lined and have an asphaltic coating. Wall collars shall be designed as not to transmit any load or force to the wall.

2. Wall pipes shall conform to AWWA C110, except for length of fittings which may be varied as needed. These fittings shall be cement-mortar lined and have an outside asphaltic coating. Length of fittings may be varied as needed.

L. Dielectric Connection Between Dissimilar Pipe Materials

1. In all cases where dissimilar pipe materials are connected together, corrosion caused by galvanic action shall be avoided by insulating connection by means of a dielectric connector for small pipe or an insulated flange. Strength of coupling or connection shall in no case be less than pipe to which it is connected. Refer to Section 13 47 13 – CATHODIC PROTECTION.

PART 3 - E X E C U T I O N

3.01 INSTALLATION

A. In addition to pipe manufacturer's installation guide, the following requirements shall be met:

1. Install in accordance with AWWA C600.

2. Pipe shall be unloaded, handled, and placed using padded slings or other pipe manufacturer approved devices which distribute weight of pipe and prevent damage to exterior coating, joint rings, or pipe interior lining. Use of cables and other metal surfaces in contact with pipe exterior is prohibited.

3. Unloading or movement of pipe by rolling or sliding at any time is strictly prohibited.

4. Joint pull in-field to correct alignment shall be limited to one-half maximum amount recommended by pipe manufacturer.

5. Check gaskets after pipe sections are joined with feeler gauge to ensure that no displacement of gasket has occurred at point around circumference after joining. If displacement has occurred, remove pipe section and remake joint as if for new pipe. Remove old gasket and replace before remaking joint.

6. Install double wrap polyethylene encasement in conformance with AWWA C105/A21.5.

a. Polyethylene encasement shall be installed by Modified Method A for wet trench condition, unless otherwise approved by Owner’s Representative.

b. Install polyethylene to completely encase pipe and fittings to provide a watertight corrosion barrier. Continuously secure overlaps and ends of sheet and tube with polyethylene tape. Make circumferential seams with two or more complete wraps and no exposed edges. Tape longitudinal seams and longitudinal overlaps, extending tape beyond and beneath circumferential seams. Wrap bell-spigot interfaces, restrained joint components, and other irregular surfaces with wax tape or moldable sealant prior to placing polyethylene encasement. Minimize voids beneath polyethylene.

c. Place circumferential or spiral wraps of polyethylene tape at 2-foot intervals along barrel of pipe to minimize space between pipe and polyethylene. Overlap adjoining polyethylene tube coatings a minimum of 1 foot and wrap prior to placing concrete anchors, collars, supports, or thrust blocks. Hand-wrap polyethylene sheet, apply two complete wraps with no exposed edges to provide a watertight corrosion barrier, and secure in place with 2-inch wide plastic adhesive tape. Repair polyethylene material that is damaged during installation. Use polyethylene sheet, place over damaged or torn area and secure in place with 2-inch wide plastic adhesive tape.

d. Repair polyethylene encasement at all service connections, in accordance with AWWA C600, Sec. 4.8.

7. Holiday Testing

a. Fusion-Bonded Epoxy: Conform to requirements for new fittings in AWWA C116/A21.16.

8. Provide electrical continuity bonding across buried mechanical and push-on joint assemblies, except where insulating flanges are required by Drawings.

a. Provide minimum number of bond wires shown on Drawings. Remove 1 inch of HMWPE insulation from each of bond wire prior to attaching.

b. Secure wire onto pipe using approved thermite welding procedures.

c. Coat bare metal and weld metal after weld is secure. Use coal-tar compound or other compatible coating. For polyurethane-coated pipe, use compatible polyurethane coating.

d. Visually inspect thermite weld connections for electrical continuity, strength, and suitable coating prior to backfilling or placing pipe in augered hole or casing.

3.02 FIELD REPAIR OF COATINGS

A. Fusion Bonded Epoxy: Conform to requirements for new fittings in AWWA C116/A21.16.

3.03 SURVEYING

A. Use adequate surveying methods and procedures and employ competent personnel to ensure pipe sections are laid to line and grade and within stipulated tolerances. Measure and record, in form approved by Owner's Representative, in-place survey data for pipe laid each day and submit data to Owner's Representative in accordance with Section 01 30 01 – DIGITAL UTILITY DATA COLLECTION and Section 01 31 00 – PROJECT MANAGEMENT AND COORDINATION.

3.04 PHOTOGRAPH AND VIDEO REPORTING OF PIPE JOINTS

A. Each completed pipe joint shall be photographed by Owner's Representative. Contractor shall notify Owner's Representative when joints are complete, prior to backfilling pipe. Contractor shall mark date that joint was completed and initials of foreman next to factory painted pipeline station number. Lettering size shall be same as used for pipe stationing number.

B. Owner's Representative will provide internal pipe joint video report for the pipeline. Video report shall show full circumference of each joint with pipe mark number and station number labeled or identified by voice. Date and time shall be recorded on video.

C. Contractor shall coordinate with Owner's Representative upon completion of pipe joints and provide access to pipe for visual observation and documentation.

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40 05 05 DISMANTLING JOINTS

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes design, manufacture, and installation of 3- through 72-inch dismantling joints with a maximum rated pressure equal to AWWA C207 flange.

1.02 RELATED WORK

A. Section 01 22 00 – UNIT PRICES

B. Section 01 33 00 – SUBMITTAL PROCEDURES

C. Section 01 40 00 – QUALITY REQUIREMENTS

1.03 REFERENCES

A. ASTM A36 – Carbon Structural Steel.

B. ASTM A53/A53M – Pipe, Steel, Black and Hot Dipped, Zinc-Coated, Welded and Seamless.

C. ASTM A193/193M – Alloy-Steel and Stainless-Steel Bolting Material for High Temperature or High Pressure Service and Other Special Service Applications.

D. ASTM A194/A194M – Carbon Steel, Alloy Steel, and Stainless Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both.

E. ASTM A283/A283M – Low and Intermediate Tensile Strength Carbon Steel Plates.

F. ASTM A536 – Ductile Iron Castings.

G. ASTM A588/A588M – High-Strength Low-Alloy Structural Steel, up to 50 ksi [345 MPa] Minimum Yield Point, with Atmospheric Corrosion Resistance.

H. ASTM D2000 – Standard Classification System for Rubber Products in Automotive Applications.

I. AWWA C207 – Steel Pipe Flanges for Waterworks Service, Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm).

J. AWWA C213 – Fusion-Bonded Epoxy Coatings and Linings for Steel Water Pipe and Fittings.

K. ISO 9001 – Quality Management Systems – Requirements.

L. NSF/ANSI 61 – Drinking Water System Components – Health Effects.

M. NSF/ANSI/CAN 372 – Drinking Water System Components – Lead Content.

1.04 QUALITY ASSURANCE

A. Manufacturer shall demonstrate a minimum of 10 years' experience in manufacture of dismantling joints.

B. Manufacturer shall have a quality management system that is certified to ISO 9001 by an accredited, certifying body.

1.05 SUBMITTALS

A. Conform to requirements of Section 01 33 00 – SUBMITTAL PROCEDURES.

B. Shop drawings shall include:

1. Critical dimensions.

2. Parts list.

3. Materials of construction.

4. Manufacturer's installation instructions.

C. Certificate of Compliance

1. Submit Certificate of Compliance certifying conformance with American Iron and Steel (AIS) requirements.

1.06 MEASUREMENT AND PAYMENT

A. Refer to Section 01 22 00 – UNIT PRICES.

PART 2 - P R O D U C T S

2.01 GENERAL

A. Pressure ratings shall be 175 psi for sizes through 12 inches, and 150 psi for 14 inches and larger with AWWA C207, Class D flanges.

B. All Materials shall comply with NSF/ANSI/CAN 372.

2.02 ACCEPTABLE MANUFACTURERS

A. Romac Industries, Inc.

B. Xylem’s Smith-Blair, Inc.; OR

C. Approved equal.

2.03 FLANGE SPOOL

A. Flange spool shall be fabricated from ASTM A36, ASTM A53/A53M, or ASTM A283/A283M carbon steel having a minimum yield of 30,000 psi or greater.

B. Flange shall comply with AWWA C207, Class D.

2.04 END RING AND BODY

A. End ring and body shall be made of ASTM A536, Grade 65-45-12 ductile iron or ASTM A36 steel with a minimum yield of 36,000 psi or greater.

2.05 GASKETS

A. Gaskets shall be NBR rubber compounded for water service in accordance with ASTM D2000 MBA810Z.

2.06 FASTENERS

A. Bolts and nuts shall be ASTM A588/A588M, HSLA Type 316 Stainless Steel.

B. Tie-rods shall comply with ASTM A193/193M, B8M and ASTM A194/A194M, Grade 8 heavy hex nuts.

2.07 ASSEMBLY TOLERANCE

A. For 3 to 13-Inch Sizes: 2 inches flange face to flange face.

B. For 14 to 72-Inch Sizes: 3 inches flange face to flange face.

2.08 COATINGS AND LININGS

A. Interior and exterior of dismantling joint shall be coated with an NSF/ANSI 61 approved fusion-bonded epoxy in accordance AWWA C213.

PART 3 - E X E C U T I O N

3.01 INSTALLATION

A. Dismantling joints shall be installed in strict accordance with manufacturer's published recommendations.

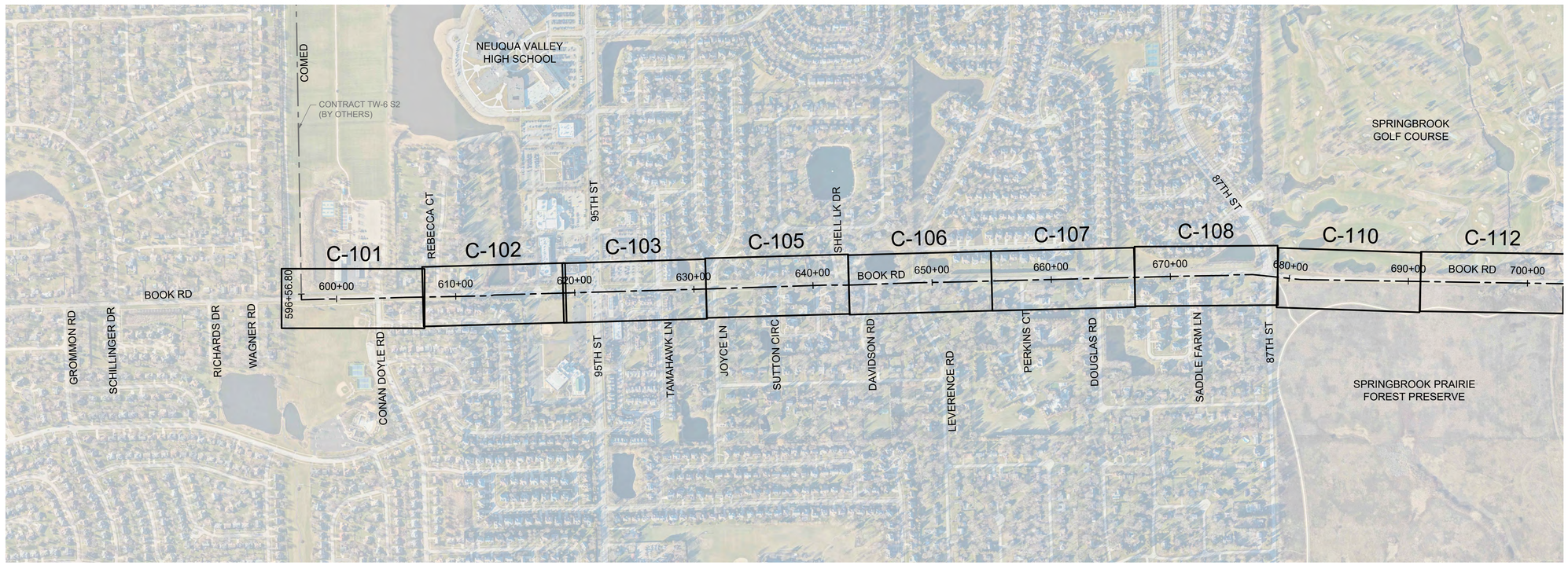
B. Extreme care shall be used in handling, storage, and installation of dismantling joint to prevent damage or distortion of equipment and to ensure proper performance.

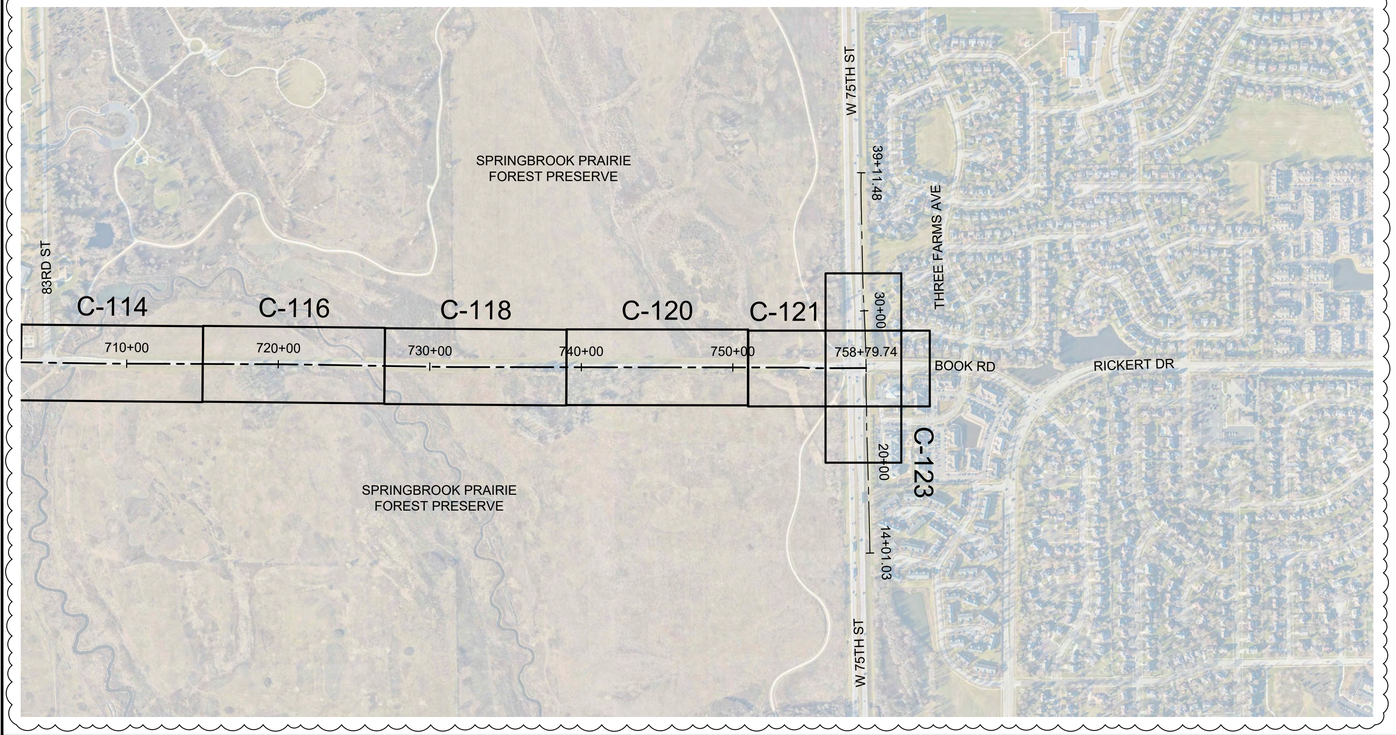
3.02 FIELD PAINTING

A. Touch-up field painting shall be performed using manufacturer's recommended materials and procedures.

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JURISDICTION TABLE			
JURISDICTION	**STATION START (APPROX)**	**STATION END (APPROX)**	**PRIMARY SPECIFICATIONS**
CITY OF NAPERVILLE	596+00	710+50	CITY OF NAPERVILLE STANDARD SPECIFICATIONS FOR CONSTRUCTION
NAPERVILLE TOWNSHIP	710+50	757+25	CITY OF NAPERVILLE STANDARD SPECIFICATIONS FOR CONSTRUCTION
DUPAGE COUNTY DIVISION OF TRANSPORTATION (DuDOT) (1)	757+25	758+80	IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

NOTE:
1. DuDOT JURISDICTION INCLUDES WORK ALONG 75TH STREET (STA 24+50 TO 30+00).

REV.	DATE	DESCRIPTION	BY
1	06/10/25	ADDENDUM NO. 1	OG

DATE = MAY 2025
SCALE = 1"=500'
SCALE =
PROJECT NO = 128-10031-001

DESIGNED — OG
CHECKED — JWG
DRAWN — EDB
CHECKED — OG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

GENERAL
KEY MAP
BOOK ROAD

0 500 1000

DRAWING NO. G-007
SHEET NO. 7 of 199

File: C:\Users\JGBrown\DC\ACCDocs\Lan A Dell\128-10031-001 Project Files\4-1-BIM-CAD_PROGRAM-WDS\General\PKG1-TW6S1\G006-KEYMAP-TW6S1.dwg Plot Date: 6/3/2025 12:48 PM By: Brown, Eric

00 91 13 ADDENDUM NO. 2

PART 1 - G E N E R A L

1.01 ADDENDUM

A. Project Information:

1. To: PROSPECTIVE BIDDERS
2. Project Title: CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)
3. Date of Addendum: JUNE 16, 2025
4. Owner: DUPAGE WATER COMMISSION
5. Engineer: LOCKWOOD, ANDREWS & NEWNAM, INC.

B. This Addendum forms a part of the Contract Documents and modifies the original documents dated May 23, 2025.

C. Acknowledge receipt of this Addendum in the space provided in the Bidder's Proposal documents included with Bidding Documents Failure to do so may disqualify the Bidder.

1.02 CHANGES TO PROJECT MANUAL

A. Bidding Documents – Invitation for Bidder's Proposals

1. Revise Bid Opening time and date under Subsection "6. Bid Opening" as follows:

6. Bid Opening

Owner will receive sealed Bidder's Proposals for the Work until 10:00 o'clock, a.m., local time, July 1, 2025, at Owner's office listed above, at which time, or as soon thereafter as possible, all Bidder's Proposals will be publicly opened and read aloud.

B. Bidding Documents – Special Instructions to Bidders

1. Revise deadline for Bidder Questions as follows:

Deadline for Bidder questions is 12:00pm on Friday, June 20th, 2025.

C. Contract Documents – Apprenticeship and Training Program Certification

1. Remove Apprenticeship and Training Program Certification form in its entirety (2 pages) and replace with the attached revised form.

D. Contract Documents – Qualified Illinois Bidder Certification

1. Remove Qualified Illinois Bidder Certification form in its entirety (1 page) and replace with the attached revised form (1 page).

E. Contract Documents – Notice of Award

1. Remove Notice of Award in its entirety (2 pages) and replace with the attached revised notice (2 pages).

F. Contract Agreement - Article I The Work

1. Revise Subsection "1.3. Interpretation of Contract Documents" and replace reference to "Burns & McDonnell" with the following:

Burns & McDonnell Engineering Company, Inc.

G. Contract Documents – General Conditions - Article IV Insurance

1. Revise Subsection “4.3.5. Owner’s and Contractor’s Protection Liability Insurance” and replace reference to “Burns & McDonnell” with the following:

   Burns & McDonnell Engineering Company, Inc.

H. Contract Documents – Special Conditions of Contract

1. Revise Subsection “2.A. Additional Insureds/Indemnities” and replace reference to “Burns & McDonnell” with the following:

   Burns & McDonnell Engineering Company, *Inc.*

1.03 QUESTIONS AND CLARIFICATIONS

A. Clarifications:

1. Bidders shall note that Bids will be received at Owner’s office located at 600 E. Butterfield Rd, Elmhurst, IL 60126, on revised Bid Opening date listed above.
2. Due to change in Bid Opening date, Bid Award date will be shifted to August 21, 2025 to coincide with Owner’s next board meeting. Owner and Engineer recognize reduced timeline between Bid Award and start of low demand shutdown period for 48-inch water main connections. Owner, Engineer, and Owner’s Representative will prioritize and expedite shop drawing reviews related to 48-inch water main connection.
3. Pipe calculations to be submitted with Bid shall be signed and sealed by a licensed Professional Engineer. Professional Engineer may be licensed in another U.S. State for calculations submitted with Bids. After Contract Award, Contractor’s Pipe Supplier shall submit pipe design calculations signed and sealed by Professional Engineer licensed in the State of Illinois with official shop drawings.



END OF ADDENDUM NO. 2

DUPAGE WATER COMMISSION

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

SOLICITATION NO. _____

APPRENTICESHIP AND TRAINING PROGRAM CERTIFICATION

BIDDERS MUST RETURN THIS EXECUTED CERTIFICATION WITH THE BID

FAILURE TO RETURN THIS EXECUTED CERTIFICATION MAY RESULT IN DISQUALIFICATION OF YOUR BID

COMPANY NAME: _____

DuPage Water Commission's Bylaws ("Bylaws") requires the Board of Commissioners to consider various factors in determining the responsibility of bidders or offerors on contracts. In addition to all other responsibility factors in the Bylaws, with respect to contracts for construction of public works, all bidders and all bidders' subcontractors must participate in active apprenticeship and training programs that are approved by and registered with the United States Department of Labor's Bureau of Apprenticeship and Training for each of the trades of work contemplated under the contract.

Therefore, all bidders are required to complete the following certification:

I. Except as provided in paragraph IV below, the undersigned bidder certifies that it is a participant, either as an individual or as part of a group program, in an approved, active apprenticeship and training program registered with the U.S. Department of Labor's Office of Apprenticeship applicable to each type of work or craft that the bidder will perform with its own employees.

II. The undersigned bidder further certifies for work to be performed by subcontract that each of its subcontractors submitted for approval either (A) is, at the time of such bid, participating in an approved, active apprenticeship and training program registered with the U.S. Department of Labor's Office of Apprenticeship applicable to the type of work or craft that the subcontractor will perform; or (B) will, prior to commencement of performance of work pursuant to this contract, establish participation in an approved active apprenticeship or training program registered with the U.S. Department of Labor's Office of Apprenticeship applicable to the type of work of the subcontract.

III. The undersigned bidder, by inclusion in the list in the space below, certifies the official name of each program sponsor holding the Certificate of Registration for all the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's employees. **Types of work or craft that will be subcontracted shall be included and listed as subcontract work**. The list shall also indicate any type of work or craft job category for which there is no applicable apprenticeship or training program available.

_____

_____

_____

_____

(add sheets if necessary)

IV. Except for any work identified above, any bidder or subcontractor that shall perform all or part of the work of the contract or deliver and install materials solely by individual owners, partners or members and not by employees to whom the payment of prevailing rates of wages would be required, shall be identified, including the owner/operator workforce and positions of ownership.

_____

_____

_____

_____

_____

(add sheets if necessary)

The requirements of this Certification and disclosure are a material part of the contract, and **the contractor shall require this Certification provision to be included in all approved subcontracts**. The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project is accounted for and listed. The DuPage Water Commission at any time before or after award may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all its subcontractors. To fulfill the participation requirement, it shall not be necessary that any applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract or deliver and install proposal.

_____
Signature and Title

CORPORATE SEAL (if available)

_____
Business Address

_____
City and State

_____
Phone

_____
email address

Subscribed and Sworn to before me this _____ day of _____, 20__.

_____ My Commission Expires: _____
Notary Public

DUPAGE WATER COMMISSION

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

SOLICITATION NO. _____

QUALIFIED ILLINOIS BIDDER CERTIFICATION

BIDDERS MUST RETURN THIS EXECUTED CERTIFICATION WITH THE BID TO BE CONSIDERED AN ILLINOIS BIDDER FOR PURPOSES OF THIS BID

FAILURE TO RETURN THIS EXECUTED CERTIFICATION WILL RESULT IN YOUR INELIGIBILITY FOR QUALIFIED ILLINOIS BIDDER STATUS

The affiant deposes and states that he/she has reviewed the qualified Illinois bidder preference provisions of this Invitation for Bids and the DWC's Bylaws regarding qualified Illinois bidder preference and certifies that the Bidder is/is not (circle one) a Qualified Illinois Bidder as defined by this Invitation for Bids and DWC's Bylaws. Bidder is (mark applicable criterion):

___ a sole proprietor whose primary residence is in Illinois;
___ a business incorporated or organized as a domestic corporation under the Illinois Business Corporation Act of 1983 (805 ILCS 5/1.01 et seq.);
___ a business organized as a domestic partnership under the Uniform Partnership Act of 1997 (805 ILCS 206/100 et seq.);
___ a business organized as a domestic limited partnership under the Uniform Limited Partnership Act of 2001 (805 ILCS 215/0.01 et seq);
___ a business organized under the Illinois Limited Liability Company Act (805 ILCS 180/1-1 et seq.); or
___ a business organized under the Illinois Professional Limited Liability Company Act (805 ILCS 185/1 et seq.);
___ A joint venture in which each joint venturer satisfies one of the qualifications above.

_____
Signature and Title

CORPORATE SEAL (if available)

_____
Business Address

_____
City and State

_____
Phone

_____
email address

Subscribed and Sworn to before me this _____ day of _____, 20__.

_____ My Commission Expires: _____
Notary Public

DUPAGE WATER COMMISSION

CONTRACT FOR THE CONSTRUCTION OF

CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)

NOTICE OF AWARD

PERSONAL DELIVERY OR CERTIFIED MAIL/RETURN RECEIPT REQUESTED

TO: ***[SUCCESSFUL BIDDER]*** _____

[ADDRESS Of _____

SUCCESSFUL BIDDER] _____

_____

("Contractor")

FROM: DuPage Water Commission
600 East Butterfield Road
Elmhurst, Illinois
60126-464270

("Owner")

On the ***[ ]*** day of ***[MONTH]***, 20___, Owner found to be most favorable to the interests of Owner the Bidder's Proposal submitted by Contractor and dated on the ***[ ]*** day of ***[MONTH]***, 20___, in which Contractor proposes to contract with Owner, in the form of the Contract Agreement included in the Bid Package to perform the following Work: (1) to provide, perform, and complete at the Work Site and in the manner described and specified in the Bid Package all necessary work, labor, services, transportation, equipment, materials, apparatus, machinery, tools, fuels, gas, electric, water, waste disposal, information, data, and other means and items necessary for the design, if any, construction, and installation of the WEST TRANSMISSION MAIN ALONG BOOK ROAD – 75TH STREET TO COMED ROW (Contract TW-6/25 Section 1) together with related attachments, equipment, and appurtenances thereto; (2) to procure and furnish all permits, licenses, and other governmental approvals and authorizations necessary in connection therewith except as otherwise expressly provided in the Special Conditions of Contract included in the Bid Package; (3) to procure and furnish all Bonds and all certificates and policies of insurance specified in the Bid Package; (4) to pay all applicable federal, state, and local taxes; (5) to do all other things required of Contractor by the Contract; and (6) to provide, perform, and complete all of the foregoing in a proper and workmanlike manner and in full compliance with, and as required by or pursuant to, the Contract.

OWNER ACCORDINGLY AWARDS CONTRACTOR, EFFECTIVE AS OF THE DATE OF DELIVERY OF THIS NOTICE OF AWARD, THE CONTRACT FOR SAID WORK FOR THE LUMP SUM AND/OR UNIT PRICES SET FORTH IN THE BIDDER'S PROPOSAL.

NOTICE OF AWARD

A Closing will be held at ***[__:__ _.m.]*** on the ***[ ]*** day of ***[MONTH]***, 20___, at the above listed office of Owner at which time the Contract Agreement will be executed by Owner provided that all Conditions Precedent to Closing have been satisfied. Contractor must have complied with all Conditions Precedent to Closing set forth in Section 18 of the General Instructions to Bidders included in the Bid Package on or before the Closing Date.

The failure or refusal to comply with the Conditions Precedent to Closing on or before the Closing Date or to Close on the Closing Date shall result, at Owner's option, in the imposition of liquidated damages and the annulment of this award, or in Owner's exercise of any or all equitable remedies Owner may have, all as more specifically set forth in Sections 9, 18, and 19 of the General Instructions to Bidders included in the Bid Package.

CONTRACTOR WILL BE DIRECTED TO COMMENCE THE WORK IMMEDIATELY UPON EXECUTION OF THE CONTRACT AGREEMENT BY OWNER AT THE CLOSING.

DATED this ***[ ]*** day of ***[MONTH]***, 20___.

DuPAGE WATER COMMISSION

By: /s/ Paul D. May, P.E.

General Manager

00 91 13 ADDENDUM NO. 3

PART 1 - G E N E R A L

1.01 ADDENDUM

A. Project Information:

1. To: PROSPECTIVE BIDDERS
2. Project Title: CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)
3. Date of Addendum: JUNE 23, 2025
4. Owner: DUPAGE WATER COMMISSION
5. Engineer: LOCKWOOD, ANDREWS & NEWNAM, INC.

B. This Addendum forms a part of the Contract Documents and modifies the original documents dated May 23, 2025.

C. Acknowledge receipt of this Addendum in the space provided in the Bidder's Proposal documents included with Bidding Documents Failure to do so may disqualify the Bidder.

1.02 CHANGES TO PROJECT MANUAL

A. Bidding Documents – Section 00 42 22 – BID FORM

1. Remove Section 00 42 22 in its entirety and replace with the attached revised Section 00 42 22.

B. Bidding Documents – Section 00 85 00 – WIFIA Program & Related Requirements

1. Remove Section 00 85 00 in its entirety and replace with the attached revised Section 00 85 00.

1.03 CHANGES TO TECHNICAL SPECIFICATIONS

A. Section 01 22 00 – UNIT PRICES

1. Remove Section 01 22 00 in its entirety and replace with the attached revised Section 01 22 00.

B. Section 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN

1. Remove Subsection 3.01.E in its entirety and replace with the following:

E. Kane-DuPage Soil & Water Conservation District requirements (for the portion of Project within Kane and DuPage Counties):

1. Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed according to minimum standards and specifications in the Illinois Urban Manual's latest edition.

2. The Kane-DuPage Soil and Water Conservation District (KDSWCD) must be notified one week prior to the pre-construction conference, one week prior to the commencement of land-disturbing activities, and one week prior to the final inspection.

3. A copy of the approved erosion and sediment control plan shall be maintained on the site at all times.

4. *Any additional means in-stream means and methods should be communicated and confirmed at the preconstruction meeting (or additional meeting) prior to implementation.*
5. *Prior to commencing land-disturbing activities in areas other than indicated on these plans (including but not limited to, additional phases of development and off-site borrow or waste areas) a supplementary erosion control plan shall be submitted to the owner for review by the KDSWCD.*
6. *The contractor is responsible for the installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the KDSWCD.*
7. *The contractor shall keep backup BMPs on-site in order to implement corrective actions following instances of noncompliance.*
8. *During dewatering operations, water will be filtered or pumped into sediment basins or silt traps. Dewatering directly into field tiles or stormwater structures is prohibited.*
9. *The means, methods, and locations for any dewatering work should be coordinated with KDSWCD prior to implementation.*
10. *It is the responsibility of the Contractor to inform any sub-contractor(s) who may perform work on this project, of the requirements in implementing and maintaining these erosion control plans and assure compliance with all applicable local, state, and federal regulations.*

2. Add the following text as Subsection 3.01.G:

G. Illinois Department of Natural Resources requirement for work within or adjacent to Springbrook Prairie INAI, Springbrook Marsh Land and Water Reserve, and Springbrook Prairie Nature Preserve (Approx. Stations Left 705+00 to 757+00 and Right 678+50 to 757+00)

1. *No equipment should be stored within the right-of-way.*
2. *Parking and staging in areas adjacent to the Nature Preserve should also be avoided.*
3. *High-visibility Safety Fence shall be installed along the Limits of Construction within the boundaries of the Nature Preserve. Additionally, signage identifying the area as "NATURE PRESERVE – NO DISTURBANCE BEYOND THIS POINT" shall be affixed to the safety fence at least every 200'.*
4. *Good housekeeping practices will be implemented and maintained during and after construction to prevent trash and other debris from inadvertently blowing or washing away.*
5. *Any required night lighting should follow International Dark-Sky Association's (IDA) Five Principles for Responsible Outdoor Lighting to minimize the effect of light pollution on wildlife.*
6. *All equipment should be power washed off-site to remove exotic/invasive seed or propagules prior to working within this area.*
7. *All equipment, including but not limited to boots, tools, equipment, tires, and treads, should be cleaned of all debris prior to entry of the project area in order to avoid spreading of exotic or invasive plant seeds into the Nature Preserve.*

8. *A rigorous long-term invasive species management program shall be coordinated and implemented between Contractor and Owner. The plan shall cover a period of a minimum of three years, to minimize the spread of invasive species into the Nature Preserve.*

9. *Should any herbicide use be required for construction or operation, wind speed and direction should be carefully monitored, in order to avoid herbicide drift into the Nature Preserve.*

10. *Prescribed burns may be used adjacent to the Project boundary for vegetation management by Nature Preserve Staff or designated representatives. Contractor shall coordinate with Nature Preserve staff to identify potential burn dates and locations. Reasonable adjustments shall be made if necessary to the work area to accommodate burn activities (for instance: temporary relocation of flammable perimeter fencing).*

C. Section 13 47 13 – CATHODIC PROTECTION FOR PIPELINES

1. Remove Section 13 47 13 in its entirety and replace with the attached revised Section 13 47 13.

D. Section 33 07 00 – TUNNEL SHAFTS

1. Remove Subsection 1.06.C in its entirety and replace with the following:

C. Design shaft located within 100-year flood plain with water retaining liner extending 2 feet above 100-year flood elevation. It is acceptable, when liner is stored at Site, for immediate installation in lieu of it being installed at shaft, provided that shaft liner extends at least 2 feet above existing ground elevation. Contractor may submit alternate method of protecting shaft above ground from surface water with shop drawings.

E. Section 33 11 01 – PRESTRESSED CONCRETE CYLINDER PIPE

1. Remove Section 33 11 01 in its entirety and replace with the attached revised Section 33 11 01.

F. Section 33 11 02 – STEEL PIPE

1. Remove Section 33 11 02 in its entirety and replace with the attached revised Section 33 11 02.

G. Section 33 11 03 – DUCTILE IRON PIPE

1. Add the following Subsections 3.05 and 3.06.

3.05 HYDROSTATIC TESTING

A. Pipe shall be hydrostatically tested in accordance with AWWA C600.

1. Maximum allowable leakage shall not exceed requirements of AWWA C600.

2. All visible leaks shall be repaired regardless of the amount of leakage.

3.06 DISINFECTION

A. Disinfection of water main pipe shall be performed in accordance with AWWA C651.

H. Section 40 05 57 – ELECTRIC VALVE ACTUATORS

1. Remove Section 40 05 57 in its entirety and replace with the attached revised Section 40 05 57.

1.04 CHANGES TO DRAWINGS

A. Remove Sheet 4 of 199 (Drawing G-004) in its entirety and replace with the attached revised Sheet 4 of 199.

B. Remove Sheet 8 of 199 (Drawing G-008) in its entirety and replace with the attached revised Sheet 8 of 199.

C. Remove Sheet 9 of 199 (Drawing G-009) in its entirety and replace with the attached revised Sheet 9 of 199.

D. Remove Sheet 14 of 199 (Drawing C-105) in its entirety and replace with the attached revised Sheet 14 of 199.

E. Remove Sheet 17 of 199 (Drawing C-108) in its entirety and replace with the attached revised Sheet 17 of 199.

F. Remove Sheet 18 of 199 (Drawing C-109) in its entirety and replace with the attached revised Sheet 18 of 199.

G. Remove Sheet 30 of 199 (Drawing C-121) in its entirety and replace with the attached revised Sheet 30 of 199.

H. Remove Sheet 32 of 199 (Drawing C-123) in its entirety and replace with the attached revised Sheet 32 of 199.

I. Remove Sheet 33 of 199 (Drawing C-124) in its entirety and replace with the attached revised Sheet 33 of 199.

J. Remove Sheet 34 of 199 (Drawing C-125) in its entirety and replace with the attached revised Sheet 34 of 199.

K. Remove Sheet 35 of 199 (Drawing C-126) in its entirety and replace with the attached revised Sheet 35 of 199.

L. Remove Sheet 40 of 199 (Drawing C-505) in its entirety and replace with the attached revised Sheet 40 of 199.

M. Revise Sheet 44 of 199 (Drawing C-509) as follows: Replace all references to “Owner-Furnished BFV” with “Butterfly Valve”.

N. Revise Sheet 57 of 199 (Drawing C-522) as follows: Revise all stations in Detail titles from “STA 756+07” to “STA 752+80”.

O. Remove Sheet 72 of 199 (Drawing E-501) in its entirety and replace with the attached revised Sheet 72 of 199.

P. Remove Sheet 73 of 199 (Drawing E-502) in its entirety and replace with the attached revised Sheet 73 of 199.

Q. Remove Sheet 74 of 199 (Drawing E-503) in its entirety and replace with the attached revised Sheet 74 of 199.

R. Remove Sheet 112 of 199 (Drawing EC-104) in its entirety and replace with the attached revised Sheet 112 of 199.

S. Remove Sheet 113 of 199 (Drawing EC-105) in its entirety and replace with the attached revised Sheet 113 of 199.

T. Remove Sheet 114 of 199 (Drawing EC-106) in its entirety and replace with the attached revised Sheet 114 of 199.

U. Remove Sheet 115 of 199 (Drawing EC-107) in its entirety and replace with the attached revised Sheet 115 of 199.

V. Remove Sheet 183 of 199 (Drawing CP-501) in its entirety and replace with the attached revised Sheet 183 of 199.

W. Remove Sheet 184 of 199 (Drawing CP-502) in its entirety and replace with the attached revised Sheet 184 of 199.

X. Remove Sheet 185 of 199 (Drawing CP-503) in its entirety and replace with the attached revised Sheet 185 of 199.

1.05 QUESTIONS AND CLARIFICATIONS

A. The following Bidder questions were submitted via email:

1. **Q:** The bid list states only 4,210 CY of earth excavation; what item contains the rest of the excavation?

   A: The Earth Excavation Bid Item is for pavement-related earth excavation only. This includes 6-inches of stone/earth removal under the pavement removal area as noted on the Roadway Typical Sections and Roadway Restoration Plan Sheet Legend. Excavation Quantity has also been included in the Contract for removal of 9-inches of earth/stone in preparation for temporary pavement installation as noted on the Maintenance of Traffic Plan Sheets. Excavation for installation of pipeline is included in cost of related water main, valve, or appurtenance bid items as described in Section 01 22 00 – UNIT PRICES.

2. **Q:** The bid list is greyed out for curb inlet protection but in the erosion control sheets it shows curb inlet protection. Do I still need to figure for the curb style inlet protection?

   A: See revised Bid Form included with this Addendum No. 3. Bid item has been revised to include curb inlet protection**.**

3. **Q:** Is there a PSI rating available for the weathered limestone shown on the geotechnical bore logs?

   A: Yes, compressive strength of limestone is available in Geotechnical Report included in Appendix of Project Manual. Test results can be found starting on Page 1034 of 1183 of Project Manual PDF file. Rock core data is also included after boring log sheets.

4. **Q:** Upon reviewing the staging plan are there any key dates that coincide with each stage?

   A: Section 01 11 00 – SUMMARY OF WORK, Subsection 1.04 Work Sequence provides key dates and time restrictions for Work. Additionally, see General Notes on Sheet 118 (MOT-000) which includes various requirements including but not limited to completing roadway restoration within an active construction zone prior to moving into a subsequent construction stage which utilizes that pavement for detour traffic.

5. **Q:** Does the Contractor need to pay for water used for testing, flushing etc.? If so at what rate?

   A: Contractor is responsible for procuring potable water for the purposes of testing/flushing/etc., the source of which shall be subject to Owner approval. If Owner is able to provide water, the current rate is $5.80/1,000 gallons, which is subject to annual increases. All costs associated with the procurement of water for the project shall be considered incidental.

   Q: In Section 00 85 00 WIFIA Program & Related Requirements the link for goals https://www.dol.gov/agencies/ofccp/construction leads to a page not found. Please post the correct link.

   A: Revised Section 00 85 00 is included in this Addendum No. 3. The link for goals is no longer active, but the requirements are listed in the specification.

6. **Q:** In Section 00 85 00 WIFIA Program & Related Requirements the link for the six good faith efforts https://www.epa.gov/grants/disadvantaged-business-enterprise-program-requirements#sixgoodfaithefforts leads to a page that does not exist, please post the correct link.

   A. Revised Section 00 85 00 is included in this Addendum No. 3. The link has been updated.

7. **Q:** In the Naperville Standard Specification 103 Developer/Contractor Responsibilities 103.2 Bonding and Licensing stats that "all contactors must provide a surety bond or letter of credit equal to 110 percent of the value of the proposed improvements..." Is that applicable to this project, or is that just added as part of Naperville's standard specs? Also, would we need a bond for DuPage County? Will County?

   A: For any excavation work performed in the public right-of-way, the City of Naperville requires a Construction & Performance Bond equal to 110% of the cost of estimated construction.

   The final permit from DuPage County DOT is still in process and will require a Bond to be posted by the Contractor. The final Bond amount is still pending from the County. However, the County requires a Bond in an amount of 110% of the value of improvements within the County ROW. The Contractor will be required to post this Bond.

   The final written authorization to utilize IDOT IL Route 59 for the Project's various Detour Routes is still in process and typically requires a Bond to be posted by the Contractor. The Detour has been approved by the IDOT District 1 Detour Committee on 5/29/2025, and final written authorization is still in process by IDOT Permit Section. A final Bond Amount is still pending from IDOT for the use of IL Route 59 as a Detour Route. For bidding purposes, the Contractor can assume a max Bond amount of $50,000 for IDOT for use of IL Route 59 as a detour route.

   There are no permits or bonds required from Will County DOT.

8. **Q:** Is there any additional work needed, or processes to be followed, associated with the Owner obtained permits and licenses that are not included in the specifications?

   A: All permit requirements are covered on Drawings or Specifications. The permits are listed under Section 6 of the General Instructions. Final permits/licenses will be provided with the Issued for Construction Documents.

   Review Section 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN for additional permitting requirements.

   The Contractor shall assist Owner in obtaining required permits from DuPage County DOT and IDOT by posting required bonds and providing required Certificates of Insurance for the respective permitting agency.

   Permit requirements for DuPage County can be found on their website: https://willcounty.gov/County-Offices/Economic-Development/Division-of-Transportation/Permit-and-Access-Regulations/Utility-Permit

   Permit requirements for IDOT can be found on their website: https://idot.illinois.gov/doing-business/permits.html

   Notifications are required to Soil & Water Conservations districts as shown on General Notes Sheet of Drawings. Revised General Notes sheet included with this Addendum No. 3.

9. **Q:** Will item IND1 Exploratory Excavation be used to locate each utility on the project, or is it only to be measured and paid as Directed by the Owners Representative? It also states that this work is to be done "….by traditional excavation means or vacuum excavation, as directed by Owners Representative" if the excavation means are up to the Owners rep, can separate items be made 1. Traditional Exploratory Ex., and 2 Vacuum Exploratory Ex.?

   A: Indeterminate Bid Item for Exploratory Excavations is intended to be used only as directed by Owner's Representative. Bid Item is to be used for conflicting utilities found in the field that are not shown on Drawings. Additional Item has been added to Bid Form to separate traditional and vacuum excavation.

10. **Q:** Has a Geotech Baseline Report been prepared for this project? If so, please provide.

    A: A Geotechnical Baseline Report was not prepared for this project, only the Geotechnical Data Report included in Appendix of the Project Manual is available.

11. **Q:** Section 31 23 16 – EXCAVATION BACKFILL AND COMPACTION FOR UTILITIES, 1.05 Quality Assurance Tests states that the testing company will be provided by the Owner, but also states that the Contractor will arrange for all in-place moisture or density testing on the project, and also states that the Contractor will have the option to demonstrate acceptable compaction at the start of the project as an alternative to the testing frequency specified. Please clarify if the Owner will provide compaction testing or if it's the Contractor's responsibility to hire a testing agency.

    A: Owner will provide testing company for compaction tests. Contractor will be required to coordinate and schedule testing with Owner's Representative as Work progresses.

12. **Q:** In Section 33 07 00 – TUNNEL SHAFTS, it is mentioned that a water retaining liner must extend 2 feet above the 50-year flood elevation. Please clarify what type of liner material you are referencing.

    A: Requirement refers to liner plate, sheet piling, or other shoring used for shaft construction to protect from flood waters entering shaft. Contractor may propose alternative method for providing protection with shop drawings. Requirement revised in this Addendum No. 3 above.

13. **Q:** For some of the remove and replace catch basins there are no exiting grades or type of catch basin. Will this information be provided so the correct structures can be manufactured?

    A: Type of catch basins are unknown to Engineer. Field-verification by Contractor will be required to verify type(s). Existing grades and rim elevations are shown on Drawings.

14. **Q:** Can a combination of stages be used so the work can be done more efficiently? For example, not set up stage 1B but stay in 2A for a longer duration.

    A: Contractor may submit modified MOT staging plans for review and approval by Owner and City of Naperville as part of shop drawing reviews. The intent of the plan was that Stage 2A would have a relatively short duration for the trenchless operations under 83rd Street. Modified MOT plan and schedule submittals that do not have conflicting detour route signage may be considered for approval.

15. **Q:** Does the owner want any of the asphalt, concrete, and waste dirt?

    A: No.

16. **Q:** At the tie-in location 75th and Book Road can the existing 34”x54” RCP culvert be salvaged and reused?

    A: Re-use of existing elliptical RCP culvert can be submitted as Value Engineering proposal. Condition of removed culvert will need to be evaluated and accepted by Owner’s Representative during construction and any re-use may be subject to the approval of the authority having jurisdiction.

17. **Q:** Where are the existing valve locations for the tie-ins in 75th?

    A: Existing valves are located approximately 2,400 ft east and 2,700 ft west of the tie-in area along 75th Street.

18. **Q:** Will the Owner operate all valves?

    A: Yes, Owner will operate all valves on their water main (i.e. 48-inch pipe). If valve operation is required on smaller (local) distribution mains, Contractor coordination with municipal utility owner will be required.

19. **Q:** Are the working times 7 AM to 7 PM Monday thru Saturday?

    A: Working times are subject to requirements of Authority Having Jurisdiction (AHJ). The majority of this Project is located in the City of Naperville, which has published work hours of 7 AM to 7 PM Monday through Friday, and 8 AM to 4 PM on Saturdays. Preliminary discussions indicated that extended hours may be allowed for work in non-residential areas but will ultimately be subject to approval of Owner and AHJ.

20. **Q:** Is the completion date going to be pushed back due to Addendum #2 since lead time on the pipe if roughly 16 weeks?

    A: Completion date will not be pushed back at this time. Discussions with pipe manufacturers have indicated that 48-inch steel pipe can be supplied for 48-inch connections in time for low-demand shutdown period. Owner and Engineer recognize the reduced timeline between Bid Award and start of shutdown window and will prioritize and expedite initial shop drawing reviews related to 48-inch water main connection.

21. **Q:** Boring B-2 shows the asphalt be a depth of 18”. Is this depth of asphalt to be expected over a large area?

    A: City of Naperville’s standard pavement section for Book Road is 12 inches of asphalt. The boring logs show varying depths of asphalt within the project area some more and some less than 12 inches. Roadway Special Provision Section 31 10 00-2 1.04 notes payment limits for PAVEMENT REMOVAL and EARTH EXCAVATION, of which both items may include combinations of asphalt, aggregate and earth.

22. **Q:** Is there any known concrete under the asphalt?

    A: There is no known concrete pavement under the asphalt pavement on Book Road. City of Naperville’s standard pavement section for Book Road is asphalt pavement over aggregate base. None of the borings encountered concrete under the asphalt along Book Road.

23. **Q:** Can topsoil be stockpiled in the RW?

    A: Topsoil can be stockpiled in right-of-way in areas closed to traffic, provided access is maintained where required by MOT plan. Owner’s Representative reserves right to review and modify stockpiling plan.

24. **Q:** Can excess waste material be stockpiled on the RW?

    A: See Response to Question No. 23.

25. **Q:** Are both remove and replace mailboxes decorative brick?

    A: Yes.

26. **Q:** Is the Owner to provide line and grade stakes?

    A: Yes, staking and layout to be provided by Owner.

27. **Q:** Is NDT only needed for the steel casing pipe?

    A: Steel casing pipe can be shop tested by either hydrostatic testing or 100% NDT per Subsection 2.06 of Section 33 08 00 – TUNNEL EXCAVATION AND PRIMARY LINER.

28. **Q:** Requested change to Section 33 11 01 – PRESTRESSED CONCRETE CYLINDER PIPE, Subsection 2.02.A.12: Request to change decompression Pressure, P_o, requirement to "equal to, or not less than, 1.4 times the sum of the working pressure, Pw, and the internal surge pressure, Pt."

    A: No change. P_o requirement is Owner standard design requirement.

29. **Q:** Requested change to Section 33 11 01 – PRESTRESSED CONCRETE CYLINDER PIPE, Subsection 2.02.F.3.(b).(2): Request to allow manufacturer to use and wrap Class III wire.

    A: No change. Requirement is Owner standard design requirement.

30. **Q:** Section 33 11 01 – PRESTRESSED CONCRETE CYLINDER PIPE and Section 33 11 02 – STEEL PIPE.

    PCCP Subsection 1.04.A.2 states: *All welds on fittings, specials, and appurtenances shall be tested and inspected by dye penetrant method. Submit test report to Owner's Representative*. Steel Pipe Subsection 1.04.B.2 states: *All fittings, specials, and appurtenances shall be hydrostatically tested in accordance with requirements above. Above test could be substituted with nondestructive testing, if approved by Owner's Representative. Submit test reports to Owner's Representative*.

    Knowing PCCP fittings are built in conformance to Section 33 11 02 – STEEL PIPE, the testing for fabricated fittings and specials should match in both specification sections. Please clarify the use of dye penetrant method in the steel pipe specification.

    In Steel Pipe Subsection 1.04.B.2, Hydrostatic testing should be completed on full pipe lengths and dye penetrant testing on all fittings.

    A: Requirements of both Specifications have been updated to include Non-Destructive (NDT) testing per AWWA C200. Revised Specifications are included in this Addendum No. 3.

31. **Q:** Steel Pipe section: 1.04.D Is the referring to Fabrication or, and field welding. Is Owner to provide all welding inspections?

    A: Field welding. Owner will not provide all welding inspections. Owner may, at their discretion, provide welding inspector for independent verification of welds. However, Contractor is responsible for quality and inspection of field welds meeting requirements of AWWA C206.

32. **Q:** What is the tolerance of the ε value? Is it a positive or negative tolerance? Can C factor of 140 be used instead of ε surface roughness?

    A: Surface roughness is used to determine the Darcy friction factor for use of the Darcy-Weisbach formula as shown in AWWA M11. Certification that pipe meets a Hazen-Williams coefficient (C) value is acceptable. See revised Section 33 11 03 – STEEL PIPE included with this Addendum for requirements.

33. **Q:** Steel Pipe Section: 1.05.D.1 Can the inspections (CWI) completing the VT be a full-time CWI employee of the Contractor, so long as they are certified by A.W.S.

    A: Yes.

34. **Q:** Requested change to Section 33 11 02 – STEEL PIPE, Subsection 1.05.D.1: Request to revise to add Contractor to supply field welding reports for reach field-welded joint.

    A: See Response to Question No. 31.

35. **Q:** Requested change to Section 33 11 02 – STEEL PIPE, Subsection 1.07.C & 1.07.F: Request to add “All pipe dropped shall be repaired in the field or returned to the manufacturer’s plant, if repair is not possible in the field. Field repair to adhere or return to manufacturer’s plan if field repair is not possible.

    A: No change. Dropped pipe shall be returned to manufacturer’s plant.

36. **Q:** Steel Pipe Section: 1.08B Welders will meet ANSI/ASME BPVC Sect. IX , if so required although AWWA recognizes A.W.S D1.1 so should they not also be certified to that code?

    A: Welder Qualification Record (WQR) meeting requirements of AWWA C206 will need to be submitted for Contractor’s welders. Manufacturer’s welders shall meet qualification requirements of AWWA C200.

37. **Q:** Requested change to Section 33 11 02 – STEEL PIPE, Subsection 2.02.C.4: Request to modify maximum deflection from 2% to 3% in accordance with AWWA C200.

    A: No change. Maximum deflection remains 2% per Specification.

38. **Q:** Specification Section 33 11 02 – STEEL PIPE, Subsection 2.02.F: Please allow 0.209-inch nominal steel thickness on the 48-inch buried steel pipe, and 0.235-inch nominal steel thickness on the 54-inch buried steel pipe. Current minimum thickness of 0.250-inch for both diameters exceed requirements for working and transient pressure designs, thus adding significant steel tons to the project with little benefit to the Owner.

    A: Minimum thickness for buried steel pipe shall be in accordance with AWWA M11 and requirement has been removed from Specification. Revised Specification is included with this Addendum No. 3.

39. **Q:** Requested change to Section 33 11 02 – STEEL PIPE, Subsection 2.02.G.3.c.(2).(d): Request to remove requirement for primed ends.

    A: No change. Rust-inhibitive primer shall be provided on coating holdback areas.

40. **Q:** Requested change to Section 33 11 02 – STEEL PIPE, Subsection 2.02.G.3.c.(2).(g): Request to reduce requirement to uncover 10 joints for visual inspection of welds to 1-2 joints. Request for same requirement to be included in Section 33 11 01 PRESTRESSED CONCRETE CYLINDER PIPE.

A: Specification modified to clarify that uncovering pipe and inspection of joints will be at discretion of Owner's Representative, but requirement remains at up to ten joints. The requirement is for inspection of welding and heat-shrink sleeves, no change to PCCP Specification. Revised Specification is included in this Addendum No. 3.

41. **Q:** Requested change to Section 33 11 03 – STEEL PIPE, Subsection 2.02.G.3.n. Request to remove *"furnished by pipe manufacturer*" from paragraph.

A: Revision incorporated into revised Specification included with this Addendum No. 3.

42. **Q:** Requested change to Section 33 11 02 – STEEL PIPE, Subsection 2.03.H.1: Request to clarify AWWA Class D Flange requirements, as Detail Drawings C-526 and C-527 show AWWA Class E Flanges for blind flanges at top of vertical shaft piping.

A: Specification modified to clarify that AWWA C207 Class D Flanges are required, unless otherwise shown on Drawings. Detail Drawings on C-526 and C-527 specifically require AWWA Class E flanges due to tapped hole requirements at those locations. AWWA Class D Flanges are acceptable elsewhere. Revised Specification is included in this Addendum No. 3.

43. **Q:** Requested change to Section 33 11 03 – STEEL PIPE, Subsection 3.03.A.3. Request to add *"If a seal cannot be made, the joint should be sealed by welding a rolled steel round bar into the flare of the outside of the bell or seal weld the interior of the joint per AWWA C604".*

A: Revision incorporated into revised Specification.

44. **Q:** Section 33 11 03 – STEEL PIPE. What will the allowable leakage be for the pipeline? What will be the difference in the allowable leakage between the push on O-ring joints and lap welded joints?

A: During hydrostatic testing, no leakage will be allowed for welded joints. Leakage allowance for rubber gasketed pipe shall be in accordance with AWWA C604. Specification has been updated to include requirements. Revised Specification is included in this Addendum No. 3.

45. **Q:** My landscaper is looking for some clarification on the Erosion Control Seeding Class 1 and Erosion Control Seeding Class 2. The spec doesn't note anything about erosion control blanket, hydro mulch, or straw cover. Do these items need to have a cover? And is this just a temporary application even though Class 1 and Class 2 seeds are technically permanent seeds?

A: Seeding is covered in Section 01 45 33-13 and Division 34. Due to relatively short duration of Work in any given area, no interim seeding is required. Seeding indicated is permanent/final restoration seeding. Seeding shall meet requirements of Illinois Urban Manual Code 880, IDOT Standard Spec 250.07, and Division 34. Mulch shall be in accordance with IUM 875 and Division 34.

46. **Q:** Please clarify that the air release and valves are not incidental to item 39.

A: Air release and valves are not incidental to Bid Item 39. Include cost under applicable Air Release and Access Manhole, and 48-inch Butterfly Valve bid items.

47. **Q:** Item 39 48-inch Steel Water Main by Open Cut (Book Road Sta 752+60 to 756+64.3) has a quantity of 425 LF but the Item description calls for only 404 LF. Please clarify.

A: Additional quantity accounts for 48-inch pipe north of 75th Street trenchless crossing between end of casing and connection to existing 48-inch water main. Pipe installed in shafts but beyond limits of casing is paid as open-cut.

48. **Q:** The stationing for Item 12 48-inch Butterfly Valve with Actuator Manhole and Disinfection Bypass Assembly is shown 752+80 on the plans and 756+07 on Details. Please clarify.

A: Station 752+80 is correct location. Revision to sheet included in this Addendum No. 3 above.

49. **Q:** Please clarify if all the steel pipe used for item 47 is incidental to Item 47.

A: Yes, steel pipe and fittings used for Bid Item 47 are incidental to that Bid Item.

50. **Q:** Detail for 30-inch and 36-inch Butterfly valve with actuator manhole calls out an Owner-Furnished BFV. The spec for item 50 states to supply the Butterfly valve. Please clarify if the 30-inch BFV for item 50 is owner furnished.

A: 30-inch butterfly valve is a Contractor-furnished valve. Revision to sheet included in this Addendum No. 3 above.

51. **Q:** What is the distance needed from pipe springline to the floor of the Chemical vault on plan page C-523? What is the thickness needed for the floor?

A: Distance needed from center line of injection quill at pipe springline to floor of Chemical Vault is 4 to 4.5 feet. Thickness of cast-in-place floor is 4 to 6 inches.

52. **Q:** Will it be allowed to work in multiple stages to at the same time to hit the completion date? Many of the trenchless crossing have long durations that will need to be completed to maintain schedule.

A: Contractor may submit modified MOT staging plans for review and approval by Owner and City of Naperville as part of shop drawing reviews. Modified MOT plan and schedule submittals that do not have conflicting detour route signage may be considered for approval.

53. **Q:** Will it be allowed to work 24/7 on the trenchless crossings? Once crews start they must work 24/7 to complete the trenchless crossings.

A: Yes.

LOCKWOOD ANDREWS & NEWNAM, INC.

LICENSED PROFESSIONAL ENGINEER
OSVALDO GARZA JR
062-067465
OF ILLINOIS

06/23/2025
Expires: 11/30/2025

END OF ADDENDUM NO. 3

00 42 22 BID FORM

PART 1 - G E N E R A L

1.01 SUMMARY

A. See Special Instructions to Bidders.

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
ALTERNATES TABLE					
A1	54-INCH STEEL WATER MAIN BY OPEN-CUT	LF	14,840		
A2	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
A3	ALTERNATE A SUBTOTAL (A1 + A2)				
B1	54-INCH PCCP WATER MAIN BY OPEN-CUT	LF	14,840		
B2	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
B3	ALTERNATE B SUBTOTAL (B1 + B2)				
C1	48-INCH STEEL WATER MAIN BY OPEN-CUT	LF	14,840		
C2	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
C3	ALTERNATE C SUBTOTAL (C1 + C2)				
D1	48-INCH PCCP WATER MAIN BY OPEN-CUT	LF	14,840		
D2	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
D3	ALTERNATE D SUBTOTAL (D1 + D2)				
BASE BID TABLE					
1	MOBILIZATION	LS	1		
2	TEMPORARY FIELD OFFICE	MNTH	18		
3	16-INCH BUTTERFLY VALVE IN VAULT	EA			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
4	20-INCH BUTTERFLY VALVE IN VAULT	EA			
5	24-INCH BUTTERFLY VALVE IN VAULT	EA			
6	24-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
7	30-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
8	36-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
9	36-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
10	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (75TH STREET – STA 25+00) (OWNER-FURNISHED VALVE)	LS	1		
11	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (75TH STREET – STA 29+25) (OWNER-FURNISHED VALVE)	LS	1		
12	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE AND DISINFECTION BYPASS ASSEMBLY (BOOK ROAD) (OWNER-FURNISHED VALVE)	LS	1		
13	54-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (OWNER-FURNISHED VALVE)	EA	2		
14	54-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT (OWNER-FURNISHED VALVE)	EA	1		
15	54-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
16	54-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
17	AIR RELEASE VALVE MANHOLE (24-INCH DIA. AND SMALLER PIPE)	EA			
18	AIR RELEASE AND ACCESS MANHOLE (TYPE 1)	EA	6		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
19	AIR RELEASE AND ACCESS MANHOLE (TYPE 2)	EA	8		
20	BLOW-OFF VALVE WITH MANHOLE (30-INCH DIA. AND SMALLER PIPE)	EA			
21	BLOW-OFF VALVE WITH MANHOLE (36-INCH DIA. AND LARGER PIPE)	EA	5		
22	16-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
23	16-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
24	20-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
25	20-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
26	24-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
27	24-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
28	30-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
29	36-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
30	36-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
31	36-INCH PCCP WATER MAIN BY OPEN-CUT	LF			
32	36-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
33	36-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
34	36-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
35	48-INCH PCCP WATER MAIN BY OPEN-CUT	LF			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
36	48-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
37	48-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
38	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
39	48-INCH STEEL WATER MAIN BY OPEN-CUT (BOOK ROAD STA 752+60.00 TO 756+64.30)	LF	425		
40	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION (BOOK ROAD STA 756+64.30 TO 758+52.24)	LF	188		
41	54-INCH PCCP WATER MAIN BY OPEN-CUT	LF			
42	54-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
43	54-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
44	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
45	60-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
46	60-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
47	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 25+00)	LS	1		
48	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 26+22)	LS	1		
49	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 29+25)	LS	1		
50	30-INCH STUB FOR FUTURE CONNECTION	LS	1		
51	REMOVE 36-INCH TEST PLUG AND CONNECT TO 36-INCH WATER MAIN (ADJACENT CONTRACT)	EA			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
52	REMOVE 54-INCH TEST PLUG AND CONNECT TO 54-INCH WATER MAIN (ADJACENT CONTRACT)	EA	1		
53	TRENCH BACKFILL (SELECT MATERIAL)	CY	39,240		
54	TRENCH BACKFILL (NATIVE MATERIAL)	CY			
55	CATHODIC PROTECTION SYSTEM	LS	1		
56	EARTH EXCAVATION	CY	4,210		
57	AGGREGATE BASE COURSE, TYPE B 2-INCH	SY	760		
58	AGGREGATE BASE COURSE, TYPE B 4-INCH	SY	70		
59	AGGREGATE BASE COURSE, TYPE B 6-INCH	SY	25,100		
60	PORTLAND CEMENT CONCRETE BASE COURSE, 8-INCH	SY			
61	BITUMINOUS MATERIALS (PRIME COAT)	LB	53,000		
62	BITUMINOUS MATERIALS (TACK COAT)	LB	25,220		
63	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	13,590		
64	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON			
65	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX D, N50	TON	6,470		
66	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX D, N70	TON			
67	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 8-INCH	SY			
68	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 12-INCH	SY			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
69	PORTLAND CEMENT CONCRETE PAVEMENT, 12-INCH	SY			
70	PROTECTIVE COAT	SY			
71	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6-INCH	SY			
72	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8-INCH	SY	70		
73	PORTLAND CEMENT CONCRETE SIDEWALK, 5-INCH	SF			
74	PORTLAND CEMENT CONCRETE SIDEWALK, 6-INCH	SF	6,720		
75	DETECTABLE WARNINGS	SF	400		
76	PAVEMENT REMOVAL	SY	24,290		
77	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2-INCH	SY			
78	HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4-INCH	SY	32,470		
79	DRIVEWAY PAVEMENT REMOVAL	SY	430		
80	COMBINATION CURB AND GUTTER REMOVAL	LF	3,630		
81	SIDEWALK REMOVAL	SF	6,590		
82	MEDIAN REMOVAL	SF			
83	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	LF	3,630		
84	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18	LF			
85	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	LF			
86	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-4.12	LF			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
87	CONCRETE MEDIAN, TYPE SB-6.18	SF			
88	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6-FOOT POSTS	LF	50		
89	LONG-SPAN GUARDRAIL OVER CULVERT, 12-FOOT 6-INCH SPAN	LF	30		
90	TRAFFIC BARRIER TERMINAL, TYPE 1B	EA	2		
91	TRAFFIC BARRIER TERMINAL, TYPE 2	EA	2		
92	GUARDRAIL REMOVAL	LF	160		
93	PAVEMENT MARKING BLACKOUT TAPE, 6-INCH	LF	1,220		
94	CHANGEABLE MESSAGE SIGN	CAL DAY	2,920		
95	SHORT TERM PAVEMENT MARKING	LF	9,190		
96	SHORT TERM PAVEMENT MARKING REMOVAL	SF	3,610		
97	TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS – PAINT	SF	190		
98	TEMPORARY PAVEMENT MARKING – LINE 4-INCH – PAINT	LF	23,150		
99	TEMPORARY PAVEMENT MARKING – LINE 6-INCH – PAINT	LF			
100	TEMPORARY PAVEMENT MARKING – LINE 24-INCH – PAINT	LF	100		
101	TEMPORARY PAVEMENT MARKING – LINE 4-INCH – TYPE IV TAPE	LF	6,230		
102	TEMPORARY PAVEMENT MARKING – LINE 6-INCH – TYPE IV TAPE	LF			
103	TEMPORARY CONCRETE BARRIER	LF	2,170		
104	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 2	EA	4		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
105	RELOCATE SIGN PANEL ASSEMBLY – TYPE A	EA	21		
106	THERMOPLASTIC PAVEMENT MARKING – LETTERS AND SYMBOLS	SF	1,040		
107	THERMOPLASTIC PAVEMENT MARKING – LINE 4-INCH	LF	64,350		
108	THERMOPLASTIC PAVEMENT MARKING – LINE 6-INCH	LF	4,910		
109	THERMOPLASTIC PAVEMENT MARKING – LINE 12-INCH	LF	2,460		
110	THERMOPLASTIC PAVEMENT MARKING – LINE 24-INCH	LF	300		
111	PAVEMENT MARKING REMOVAL – GRINDING	SF	16,010		
112	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2-INCH DIA.	LF	1,380		
113	HANDHOLE	EA	3		
114	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EA	6		
115	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, ONE PAIR	LF	820		
116	DRILL EXISTING HANDHOLE	EA	2		
117	DETECTOR LOOP, TYPE I	LF	320		
118	DETECTOR LOOP REPLACEMENT	LF	1,770		
119	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EA	5		
120	MODIFY EXISTING CONTROLLER	EA	6		
121	REBUILD EXISTING HANDHOLE	EA			
122	REMOVE EXISTING HANDHOLE	EA	3		
123	CLASS D PATCHES, 12-INCH	SY	1,630		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
124	BIKE PATH REMOVAL	SY			
125	MAILBOX REMOVE AND REPLACE	EA	2		
126	FENCE REMOVAL AND REINSTALLATION	LF			
127	TEMPORARY ACCESS (PRIVATE ENTRANCE)	EA	12		
128	TEMPORARY ACCESS (COMMERCIAL ENTRANCE)	EA	2		
129	TEMPORARY ACCESS (ROAD)	EA	10		
130	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LS	1		
131	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 4-INCH	SY	330		
132	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 10-INCH	SY			
133	DRAINAGE AND UTILITY STRUCTURES TO BE ADJUSTED	EA	10		
134	DRAINAGE AND UTILITY STRUCTURES TO BE RECONSTRUCTED	EA	1		
135	TEMPORARY INFORMATION SIGNING	SF	160		
136	TEMPORARY PAVEMENT	SY	740		
137	TEMPORARY TRAFFIC SIGNAL TIMING	EA	27		
138	HOT-MIX ASPHALT SURFACE REMOVAL – BUTT JOINT	SY	740		
139	TELESCOPING STEEL SIGN SUPPORT	LF	25		
140	METAL POST – TYPE A	LF	25		
141	EROSION CONTROL SEEDING, LAWN MIXTURE (CLASS 1)	LB	830		
142	EROSION CONTROL SEEDING, ROADSIDE MIXTURE (CLASS 2)	LB	660		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
143	EROSION CONTROL SEEDING – PASTURE MIXTURE	LB			
144	EROSION CONTROL SEEDING – SPORTS TURF MIXTURE	LB			
145	HIGH VISIBILITY SAFETY FENCE	LF	30,100		
146	TREE AND SHRUBBERY PROTECTION	EA	130		
147	TREE REMOVAL (6- TO 15-UNIT DIAMETER)	EA			
148	TREE REMOVAL (OVER 15-UNIT DIAMETER)	EA			
149	TREE REMOVAL (AREA)	AC			
150	DUAL FENCE BARRIER (HIGH-VISIBILITY GEOTEXTILE OUTER FENCE)	LF	3,830		
151	SILT FENCE	LF	11,000		
152	INLET PROTECTION, CURB	EA	15		
153	INLET PROTECTION, AREA	EA	40		
154	ROLLED EROSION CONTROL PRODUCTS	LF			
155	UTILITY RELOCATION/IMPROVEMENT	EA			
156	REMOVE AND REPLACE COMMUNICATIONS LINE	LF			
157	LIGHT POLE RELOCATION	EA			
158	WATER MAIN RELOCATION	LS			
159	REMOVE AND REPLACE 2-INCH GAS MAIN	LF			
160	REMOVE AND REPLACE 4-INCH GAS MAIN	LF			
161	REMOVE AND REPLACE 6-INCH GAS MAIN	LF			
162	REMOVE AND REPLACE 6-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
163	REMOVE AND REPLACE 8-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	130		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
164	REMOVE AND REPLACE 12-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
165	REMOVE AND REPLACE 15-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
166	REMOVE AND REPLACE 16-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
167	REMOVE AND REPLACE 18-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
168	REMOVE AND REPLACE 24-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
169	REMOVE AND REPLACE 12-INCH FES	EA			
170	REMOVE AND REPLACE 15-INCH FES	EA			
171	REMOVE AND REPLACE 18-INCH FES	EA	1		
172	REMOVE AND REPLACE 24-INCH FES	EA			
173	REPLACE 4-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
174	REPLACE 6-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
175	REPLACE 8-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
176	REPLACE 10-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	240		
177	REPLACE 12-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	630		
178	REPLACE 15-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	160		
179	REPLACE 16-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
180	REPLACE 18-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	260		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
181	REPLACE 20-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
182	REPLACE 24-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	270		
183	REPLACE 30-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
184	REPLACE 36-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
185	REPLACE 42-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
186	REMOVE AND REPLACE HEADWALL OF 36-INCH RCP CULVERT	LS			
187	REMOVE AND REPLACE 12-INCH STORM CULVERT WITH 12-INCH CMP CULVERT	LF			
188	REMOVE AND REPLACE 15-INCH STORM CULVERT WITH 15-INCH CMP CULVERT	LF			
189	REMOVE AND REPLACE 24-INCH STORM CULVERT WITH 24-INCH CMP CULVERT	LF			
190	REMOVE AND REPLACE 30-INCH STORM CULVERT WITH 30-INCH CMP CULVERT	LF	60		
191	REMOVE AND REPLACE 48-INCH BY 48-INCH REINFORCED CONCRETE BOX CULVERT	LF			
192	REMOVE AND REPLACE HEADWALL OF 65-INCH BY 65-INCH BOX CULVERT	LS			
193	REMOVE AND REPLACE CATCH BASIN	EA	21		
194	REMOVE AND REPLACE STORM MANHOLE	EA			
195	REMOVE AND REPLACE INLET	EA			
196	CONNECTION TO EXISTING SEWER STRUCTURE	EA	42		
197	REMOVE AND REPLACE DUAL STORM CULVERTS 36-INCH AND HEADWALLS	LS	1		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
198	CROSSING EXISTING 58-INCH BY 91-INCH ELLIPTICAL CONCRETE PIPE (BOOK ROAD)	LS	1		
199	STEEL SHEET PILING COFFERDAM	SF			
200	STRUCTURAL LINER FOR WATER MAIN	LF			
201	STRUCTURAL LINER FOR SEWERS	LF			
202	MS 31A METERING STATION (MONTGOMERY 1)	LS			
203	MS 31B METERING STATION (MONTGOMERY 2)	LS			
204	MS 32A METERING STATION (OSWEGO 1)	LS			
205	MS 32B METERING STATION (OSWEGO 2)	LS			
206	MS 32C METERING STATION (OSWEGO 3)	LS			
207	MS 33A METERING STATION (YORKVILLE 1)	LS			
208	MS 33B METERING STATION (YORKVILLE 2)	LS			
209	CHEMICAL FEED BUILDING	LS			
210	VERTICAL DROP STRUCTURES (STA 619+71 AND STA 623+24)	LS	1		
211	VERTICAL DROP STRUCTURES (STA 677+21 AND STA 679+55)	LS	1		
212	VERTICAL DROP STRUCTURES (STA 700+39 AND STA 708+30)	LS	1		
213	VERTICAL DROP STRUCTURES (STA 724+89 AND STA 726+79)	LS	1		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
IND1	EXPLORATORY EXCAVATION	CF	1,000		
IND2	EXPLORATORY EXCAVATION, VACUUM	EA	12		
IND3	ADJUST WATER SERVICE LINE	LF	100		
IND4	ADJUST SEWER SERVICE LINE	LF	100		
IND5	REMOVE AND REPLACE DRAIN TILE	LS			
ALL1	ALLOWANCE: CITY OF NAPERVILLE DPU-E ELECTRIC SERVICES	LS	1	$25,000	$25,000
BB1	BASE BID SUBTOTAL (SUM OF BID PRICE FOR ITEMS 1–213 + IND 1–5 + ALL1)				

Steel Pipe Manufacturer: _____

PCCP Manufacturer: _____

TOTAL BID PRICE TABLE
ALTERNATE A (54-INCH STEEL) TOTAL BID PRICE (A3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)
ALTERNATE B (54-INCH PCCP) TOTAL BID PRICE (B3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)
ALTERNATE C (48-INCH STEEL) TOTAL BID PRICE (C3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)
ALTERNATE D (48-INCH PCCP) TOTAL BID PRICE (D3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)

VALUE ENGINEERING PROPOSAL NO. _____							
BIDDER NAME: _____							
Item No.	**Plan Quantity**	**Plan Unit Price**	**Plan Bid Price**	**Revised Quantity**	**Revised Unit Price**	**Revised Bid Price**	**Deductions/Additions (Plan Bid Price – Revised Bid Price, or Price of New Item)**
TOTAL DEDUCTIONS (SUM OF ROWS ABOVE)							$
TOTAL APPLIED DEDUCTIONS[1] (50% TOTAL DEDUCTIONS)							$
ALTERNATE A REVISED TOTAL BID PRICE (A3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$
ALTERNATE B REVISED TOTAL BID PRICE (B3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$
ALTERNATE C REVISED TOTAL BID PRICE (C3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$
ALTERNATE D REVISED TOTAL BID PRICE (D3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$

1. Total applied deductions calculated in accordance with VE Incentive formula provided in Special Instructions to Bidders. Actual final approved Total Applied Deductions will be calculated based on final Owner's costs, as described in the Special Instructions to Bidders.

Reduction in schedule (calendar days): _____

Description of Value Engineering Proposal (provide attachments or additional pages as necessary):

VALUE ENGINEERING SUMMARY TABLE	
Alternates Total Bid Prices from Total Bid Price Table	
Alternate A Total Bid Price	$
Alternate B Total Bid Price	$
Alternate C Total Bid Price	$
Alternate D Total Bid Price	$
Value Engineering Proposals 50% Deductions from VE Proposal Table(s), as Applicable	
Value Engineering Proposal #1 Deductions (50% Total)	$
Value Engineering Proposal #2 Deductions (50% Total)	$
Value Engineering Proposal #3 Deductions (50% Total)	$
Value Engineering Proposal #4 Deductions (50% Total)	$
Value Engineering Proposal #5 Deductions (50% Total)	$
Value Engineering Proposal #6 Deductions (50% Total)	$
Value Engineering Proposal #7 Deductions (50% Total)	$
POTENTIAL TOTAL VALUE ENGINEERING DEDUCTIONS IF ALL VE PROPOSALS ARE APPROVED:	$
Reduced Total Bid Prices (Total Bid Price – Potential Total VE Deductions)	
Alternate A Reduced Total Bid Price	$
Alternate B Reduced Total Bid Price	$
Alternate C Reduced Total Bid Price	$
Alternate D Reduced Total Bid Price	$

00 85 00 WIFIA PROGRAM & RELATED REQUIREMENTS

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes requirements for the Project based on the funding to be used for the Project. Comply with all aspects of the applicable rules and regulations.

B. If any discrepancies exist between the requirements in this section and any other requirements included anywhere in the Contract Documents, the requirements in this Section 00 85 00 prevail.

1.02 REFERENCES

A. 2 CFR Part 180 – OMB Guidelines to Agencies on Government-Wide Department and Suspension (Non-procurement).

B. 2 CFR 200.216 – Prohibition on Certain Telecommunications and Video Surveillance Equipment or Services.

C. 2 CFR Part 1532 – Non-procurement Debarment and Suspension.

D. 3 CFR 1966-1970 Comp., p. 684.

E. 3 CFR 1978 Comp., p. 230.

F. 28 CFR 35.104 – Rehabilitation Act of 1973, Section 504.

G. 29 CFR Part 1 – Procedures for Predetermination of Wage Rates.

H. 29 CFR Part 3 – Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States.

I. 29 CFR Part 5 – Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction (Also Labor Standards Provisions Applicable to Non-construction Contracts Subject to the Contract Work Hours and Safety Standards Act).

J. 29 CFR Part 6 – Rules of Practice for Administrative Proceedings Enforcing Labor Standards in Federal and Federally Assisted Construction Contracts and Federal Service Contracts.

K. 29 CFR Part 7 – Practice Before the Administrative Review Board with Regard to Federal and Federally Assisted Construction Contracts.

L. 29 CFR 5.1 – Davis-Bacon and Related Acts Provisions and Procedures, Purpose and Scope.

M. 29 CFR 5.5 – Davis-Bacon and Related Acts Provisions and Procedures, Contract Provisions and Related Matters.

N. 29 CFR 5.12 – Davis-Bacon and Related Acts Provisions and Procedures, Debarment Proceedings.

O. 29 CFR 5.16 – Davis-Bacon and Related Acts Provisions and Procedures, [Reserved].

P. 29 CFR 5.30 – Davis-Bacon and Related Acts Provisions and Procedures, Types of Wage Determinations.

Q. 40 CFR Part 7 – Nondiscrimination in Programs of Activities Receiving Federal Assistance from the Environmental Protection Agency.

R. 40 CFR Part 34 – New Restrictions on Lobbying.

S. 40 CFR Part 34.110 – Certification and Disclosure.

T. 41 CFR Part 60 – Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.

U. 41 CFR Part 60-1.8 – Segregated Facilities.

V. 41 CFR Part 60-3 – Uniform Guidelines on Employee Selection Procedures (1978).

W. 41 CFR Part 60-4 – Construction Contractors – Affirmative Action Programs.

X. 41 CFR Part 60-4.2 – Solicitations.

Y. 41 CFR Part 60-4.3 – Equal Opportunity Clauses.

Z. 41 CFR Part 60-4.5 – Hometown Plans.

AA. 41 CFR Part 60-4.8 – Show Cause Notice.

AB. 18 U.S.C. § 1001 – Statements or Entries Generally

AC. 29 U.S.C. § 794 – Nondiscrimination under Federal Grants and Programs.

AD. 31 U.S.C. § 231 – Money and Finance, [Reserved].

AE. 31 U.S.C. 1352 – Limitation on Use of Appropriated Funds to Influence Certain Federal Contracting and Financial Transactions.

AF. 33 U.S.C. § 1251 – Federal Water Pollution Control Act Amendments of 1972, Section 13.

AG. 40 U.S.C. Ch. 37 – Contract Work Hours and Safety Standards.

AH. 42 U.S.C. 1437 Et Seq. – United States Housing Act of 1937.

AI. 42 U.S.C. 1471 Et Seq. – United States Housing Act of 1949.

AJ. 42 U.S.C. 6101 – Statement of Purpose.

AK. 42 U.S.C. § 2000d Et Seq. – Civil Rights Act of 1964, Title VI.

AL. 42 U.S.C. § 6101-6107 – Age Discrimination Act of 1975.

AM. 42 U.S.C. § 7606 – Clean Air Act, Federal Procurement.

AN. 42 U.S.C. Chapter 80 – Public Works Employment of 1977

AO. EO 11246, 30 FR 12319 – Equal Employment Opportunity.

AP. EO 11250, 30 FR 13003 – Administration of the Peace Corps in the Department of State.

AQ. EO 11914, 41 FR 17871 – Nondiscrimination with Respect to the Handicapped in Federally Assisted Programs.

AR. EO 12086, 43 FR 46501 – Consolidation of Contract Compliance Functions for Equal Employment Opportunity.

AS. EO 12549, 51 FR 6370 – Debarment and Suspension.

AT. EO 13665, 79 FR 20749 – Non-Relatiation for Disclosure of Compensation Information.

AU. H.R. 5515, P.L. 115-232 – John S. McCain National Defense Authorization Act for Fiscal Year 2019.

AV. WH-347 – Wage Hour Form.

AW. WH-1321 – Davis-Bacon Poster.

1.03 ECONOMIC AND MISCELLANEOUS AUTHORITIES

A. Debarment and Suspension and Prohibitions Relating to Violations of CWA and CAA with Respect to Federal Contracts, Grants, or Loans

1. Debarment and Suspension

a. Contractor certifies that he will not knowingly enter into a contract with anyone who is ineligible under the 2 CFR Part 180 and Part 1532 (per Executive Order 12549, 51 FR 6370, February 21, 1986) or who is prohibited under Section 306 of the Clean Air Act or Section 508 of the Clean Water Act to participate in the Project. Suspension and debarment information can be accessed at http://www.sam.gov. Contractor represents and

warrants that he has or will include a term or conditions requiring compliance with this provision in all of its subcontracts under this Agreement.

B. New Restrictions on Lobbying

1. Federal Restrictions (31 USC 1352)

a. Recipients of federal financial assistance may not pay any person for influencing or attempting to influence any officer or employee of a federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress with respect to the award, continuation, renewal, amendment, or modification of a federal grant, loan, or contract. These requirements are implemented for USEPA in 40 CFR Part 34, which also describes types of activities, such as legislative liaison activities and professional and technical services, which are not subject to this prohibition. Upon award of this contract, Complete and submit to the City the certification and disclosure forms in 40 CFR Part 34, Appendix A and Appendix B. Require all subcontractors and suppliers of any tier awarded a subcontract over $100,000 to similarly complete and submit the certification and disclosure forms pursuant to the process set forth in 40 CFR 34.110.

1.04 CIVIL RIGHTS, NONDISCRIMINATION, AND EQUAL EMPLOYMENT OPPORTUNITY AUTHORITIES

A. Age Discrimination Act; Rehabilitation Act, Section 504; Civil Rights Act of 1964, Title VI; and Clean Water Act, Section 13

1. Civil Rights Obligations

a. Comply with the following federal non-discrimination requirements:

1) Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color, and national origin, including limited English proficiency (LEP). (42 U.S.C 2000D, et. seq)

2) Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination against persons with disabilities. (29 U.S.C. 794, supplemented by EO 11914, 41 FR 17871, April 29, 1976 and EO 11250, 30 FR 13003, October 13, 1965)

3) The Age Discrimination Act of 1975, which prohibits age discrimination. (42 U.S.C 6101 *et. Seq)*

4) Section 13 of the Federal Water Pollution Control Act Amendments of 1972, which prohibits discrimination on the basis of sex.

5) 40 CFR Part 7, as it relates to the foregoing.

B. Equal Employment Opportunity

1. Equal Employment Opportunity (EEO)

a. Comply with Department of Labor regulations (41 CFR Part 60).

b. Contractor's compliance will be based on implementation of the Equal Opportunity Clause, and specific affirmative active obligations required by the Standard Federal Equal Employment Opportunity Construction Contract Specifications, as set forth in 41 CFR Part 60-4.

c. During the performance of this contract, the contractor agrees as follows:

1) Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action must include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or

other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

2) Contractor will, in all solicitations or advancements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

3) Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with Contractor's legal duty to furnish information.

4) Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of Contractor's commitments and post copies of the notice in conspicuous places available to employees and applicants for employment.

5) Contractor will comply with all provisions of **Department of Labor regulations (41 CFR Part 60**

6) Contractor will furnish all information and reports required by the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

7) In the event of Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and Contractor may be declared ineligible for further Government contracts.

8) Contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor so that such provisions will be binding upon each subcontractor or vendor. Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, Contractor may request the United States to enter into such litigation to protect the interests of the United States.

2. Standard Federal Equal Employment Opportunity Construction Contract Specifications (41 CFR 60-4.3)

a. As used in these Specifications:

1) "Covered area" means the geographical area described in the solicitation from which this contract resulted;

2) "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;

3) “Employer identification number” means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

4) “Minority” includes:

a) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

b) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

c) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

d) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

b. Whenever Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

c. If Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) must be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

d. Implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract must apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

e. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom Contractor has a collective bargaining agreement, to refer either minorities or women excuses Contractor's obligations under these specifications or the regulations promulgated pursuant thereto.

f. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by Contractor during the training period, and Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs

approved by the U.S. Department of Labor.

g. Take specific affirmative actions to ensure equal will opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. Document these efforts fully, and implement affirmative action steps at least as extensive as the following:

1) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which Contractor's employees are assigned to work. Contractor, where possible, will assign two or more women to each construction project. Specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

2) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

3) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to Contractor by the union or, if referred, not employed by Contractor, document this in the file with the reason therefor, along with whatever additional actions Contractor may have taken.

4) Provide immediate written notification to Director when the union or unions with which Contractor has a collective bargaining agreement has not referred to Contractor a minority person or woman sent by Contractor, or when Contractor has other information that the union referral process has impeded Contractor's efforts to meet its obligations.

5) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to Contractor's employment needs, especially those programs funded or approved by the Department of Labor. Provide notice of these programs to the sources compiled under 7b above.

6) Disseminate Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

7) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. Make and maintain a written record identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

8) Disseminate Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing

written notification to and discussing Contractor's EEO policy with other Contractors and Subcontractors with whom Contractor does or anticipates doing business.

9) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

10) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of Contractor's work force.

11) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.

12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

13) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and Contractor's obligations under these specifications are being carried out.

14) Ensure that all facilities and company activities are non-segregated, except that separate or single- user toilet and necessary changing facilities must be provided to assure privacy between the sexes.

15) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

16) Conduct a review, at least annually, of all supervisors' adherence to and performance under Contractor's EEO policies and affirmative action obligations.

h. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of Contractor. The obligation to comply, however, is Contractor's and failure of such a group to fulfill an obligation will not be a defense for Contractor's noncompliance.

i. A single goal for minorities and a separate single goal for women have been established. Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though Contractor has achieved its goals for women generally, Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

j. Do not use the goals and timetables or affirmative action standards to discriminate against

any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.

k. Do not enter into any Subcontract with any person or firm debarred from Government contracts. .

l. Carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts , by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties will be in violation of these specifications..

m. In fulfilling obligations under these specifications, implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, Director shall proceed in accordance with 41 CFR 60-4.8.

n. Designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records must at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records must be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors will not be required to maintain separate records.

o. Nothing herein provided will be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

3. Segregated Facilities (41 CFR 60-1.8)

a. Ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. Contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. Contractor's obligation extends further to ensuring that its employees are not assigned to perform their services at any location, under Contractor's control, where the facilities are segregated. This obligation extends to all contracts containing the equal opportunity clause regardless of the amount of the contract. The term “facilities,” as used in this section, means waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, wash rooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees; Provided, That separate or single-user restrooms and necessary dressing or sleeping areas must be provided to assure privacy between the sexes.

4. Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity located at 41 CFR 60-4.2

a. Offeror's or Bidder's attention is called to the “Equal Opportunity Clause” and the “Standard Federal Equal Employment Specifications” set forth herein.

b. The goals and timetables for minority and female participation, expressed in percentage terms for Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

1)

Timetables	Goals for minority participation for each trade	Goals for female participation in each trade
	19.6%	6.9%

c. These goals are applicable to all Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If Contractor performs construction work in a geographical area located outside of the covered area, apply the goals established for such geographical area where the work is actually performed. With regard to this second area, Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

d. Contractor's compliance with the Executive Order and the regulations in 41 CFR part 60-4 will be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting Contractor's goals will be a violation of the contract, the Executive Order and the regulations in 41 CFR part 60-4. Compliance with the goals will be measured against the total work hours performed.

e. Provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. List the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed in the notification.

f. As used in this Notice, and in the contract resulting from this solicitation, the “covered area” is DuPage, Kendall, and Will Counties in Illinois.

C. Participation by Disadvantaged Business Enterprises in Procurement Under EPA Financial Assistance Agreements

1. Disadvantaged Business Enterprises (DBE)

a. Contractor must ensure that the DBE’s six good faith efforts are used during the procurement of subcontractors for the Project. The six good faith efforts are found at: Disadvantaged Business Enterprise Requirements Overview

1.05 AMERICAN IRON AND STEEL (AIS) REQUIREMENT

A. Contractor acknowledges to and for the benefit of DuPage Water Commission (“Purchaser”) and the United States Environmental Protection Agency (“EPA”) that it understands the goods and services under this Agreement are being funded with monies made available by the Water Infrastructure Finance and Innovation Act program of the EPA that has statutory requirements commonly known as “American Iron and Steel” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by Contactor pursuant to this Agreement. Contractor hereby represents, warrants and covenants to and for the benefit of the Purchaser and the EPA that

1. Contractor has reviewed and understands the American Iron and Steel Requirement,

2. All of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c)

3. Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the EPA.

B. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by Contractor permits Purchaser or the EPA to recover as damages against Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or the EPA resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the EPA or any damages owed to the EPA by the Purchaser). While Contractor has no direct contractual privity with the EPA, as a lender to Purchaser for the funding of its project, Purchaser and Contractor agree that the EPA is a third- party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) will be amended or waived without the prior written consent of the EPA.

1.06 LABOR LAWS AND STANDARDS

A. Compliance with Davis-Bacon and Related Acts

1. In any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in 29 C.F.R. § 5.1, the following clauses (or any modifications thereof to meet the particular needs of the agency, provided that such modifications are first approved by the Department of Labor):

a. Minimum Wages

1) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) must be posted at all times by Contractor and his subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

2)

a) The WIFIA assistance recipient, DuPage Water Commission, on behalf of the U.S. Environmental Protection Agency (EPA), requires that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract will be classified in conformance with the wage determination. The WIFIA assistance recipient must approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

i. The work to be performed by the classification requested is not performed by a classification in the wage determination; and

ii. The classification is utilized in the area by the construction industry; and

iii. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

b) If Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the WIFIA assistance recipient agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent to the Administrator of the Wage and Hour Division (WHD Administrator), U.S. Department of Labor, Washington, DC 20210. The WHD Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the WIFIA assistance recipient or will notify the WIFIA assistance recipient within the 30- day period that additional time is necessary.

c) In the event Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the WIFIA assistance recipient do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the WIFIA assistance recipient will refer the questions, including the views of all interested parties and the recommendation of the WIFIA assistance recipient, to the WHD Administrator for determination. The WHD Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the WIFIA assistance recipient or will notify the WIFIA assistance recipient within the 30-day period that additional time is necessary.

d) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, either pay the benefit as stated in the wage determination or pay another bona fide fringe benefit or an hourly cash equivalent thereof.

4) If Contractor does not make payments to a trustee or other third person, Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

b. Withholding. DuPage Water Commission, upon written request of the WIFIA Director or an authorized representative of the Department of Labor, will withhold or cause to be withheld

from Contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the WIFIA Director may, after written notice to Contractor, Sponsor, Applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

c. Payrolls and basic records.

1) Payrolls and basic records relating thereto must be maintained by Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records will contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. When employing apprentices or trainees under approved programs, maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

2)

a) Submit weekly, for each week in which any contract work is performed, a copy of all payrolls to DuPage Water Commission. The payrolls submitted must set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses will not be included on weekly transmittals. Instead, the payrolls only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division web site at https://www.dol.gov/agencies/whd/forms/wh347 or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors must maintain the full social security number and current address of each covered worker, and provide them upon request to DWC, for transmission to the EPA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to DWC.

b) Each payroll submitted must be accompanied by a "Statement of Compliance," signed by Contractor or Subcontractor, or his or her agent who pays or supervises the payment of the persons employed under the contract, and certify the following:

i. That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

ii. That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

iii. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 satisfies the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

d) The falsification of any of the above certifications may subject Contractor or Subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

3) Make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of DuPage Water Commission, EPA, or the Department of Labor, and permit such representatives to interview employees during working hours on the job. If Contractor or Subcontractor fails to submit the required records or to make them available, the EPA may, after written notice to the DuPage Water Commission, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

d. Apprentices and Trainees

1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification must not be greater than the ratio permitted to Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, must be paid not less than the applicable wage rate on the wage determination for

the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program must be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in Contractor's or Subcontractor's registered program must be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the WHD Administrator determines that a different practice prevails for the applicable apprentice classification, fringes must be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

2) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site must not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees must be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees must be paid the full amount of fringe benefits listed on the wage determination unless the WHD Administrator determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program must be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

3) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part must be in conformity with the equal employment opportunity requirements.

e. Compliance with Copeland Act requirements. Comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

f. Subcontracts. Insert, in any subcontracts, the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance of any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

g. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

h. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

i. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract will not be subject to the general disputes clause of this contract. Such disputes will be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between Contractor (or any of his Subcontractors) and DuPage Water Commission, EPA, the U.S. Department of Labor, or the employees or their representatives.

j. Certification of eligibility.

1) By entering into this contract, Contractor certifies that neither he nor any person or firm who has an interest in Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

2) No part of this contract may be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

2. Contract Work Hours and Safety Standards Act.

a. The following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section must be inserted in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by § 5.5(a) or § 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1) Overtime requirements. No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics will require or permit any such laborer or mechanic in any workweek in which he is employed on such work to work in excess of forty hours in such workweek, unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section, Contractor and any Subcontractor responsible therefor will be liable for the unpaid wages. In addition, such Contractor and Subcontractor will be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages will be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $25 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

3) Withholding for unpaid wages and liquidated damages. The DuPage Water Commission, upon its own action or upon written request of an authorized representative of the Department of Labor, or the EPA, will withhold or cause to be

withheld, from any moneys payable on account of work performed by Contractor or Subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or Subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

4) Subcontracts. Insert, in any subcontracts, the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the Subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

3. In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in § 5.1, maintain payrolls and basic payroll records during the course of the work and preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records must contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the EPA will cause or require the DuPage Water Commission to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by Contractor or Subcontractor for inspection, copying, or transcription by authorized representatives of the DuPage Water Commission, EPA and the Department of Labor, and Contractor or Subcontractor will permit such representatives to interview employees during working hours on the job.

1.07 LATEST UPDATES ON FEDERAL REQUIREMENTS

A. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment (Effective August 13, 2020)

1. The John S. McCain National Defense Authorization Act for Fiscal Year 2019 (P.L. 115- 232), at Section 889, prohibits EPA financial assistance recipients, including WIFIA borrowers, from expending loan funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in the Act, “covered telecommunications equipment or services” means:

a. Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

b. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

c. Telecommunications or video surveillance services provided by such entities or using such equipment.

d. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

2. This Act does not prohibit:

a. Procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements.

b. Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

END OF SECTION

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01 22 00 UNIT PRICES

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes the following requirements:

1. Items of Work described herein are specifically listed in Agreement for separate measurement and payment.

2. No other items of Work required by Contract Documents shall be measured or paid for as a separate item, but shall be included as part of listed Unit Price item to which Work pertains. Failure to list all such related Work in the following descriptions of Unit Price items shall not invalidate this stipulation.

3. Measure Unit Price quantities for payment and submit to Owner's Representative.

1.02 REFERENCES

A. IDOT Standard Specifications for Road and Bridge Construction 2022, as modified by IDOT Supplemental Specifications and Recurring Special Provisions 2025.

1.03 DESCRIPTION OF UNIT PRICE ITEMS

A. The following paragraphs describe measurement and payment for items of work to be completed under each Unit Price item listed in Schedule of Prices. Each item includes all associated costs.

Bid Item No. A1: 54-Inch Steel Water Main by Open-Cut (LF)

1. Payment will be made per horizontal linear foot of installed 54-inch steel water main.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main in open-cut trenches as shown on Drawings and in accordance with Specifications herein.

a. Includes excavation, trench safety, dewatering, bedding, pipe embedment, pipe fittings, appurtenances, butt straps, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

3. Measurement will be taken horizontally along centerline of water main installed, with no deductions for fittings or valves.

Bid Item No. A2: 54-Inch Steel Water Main by Trenchless Construction (LF)

1. Payment will be made per horizontal linear foot of trenchless construction.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main and casing pipe/liner plate by trenchless construction as shown on Drawings and in accordance with Specifications herein.

    a. Includes all related work such as construction of launch/receiving shafts ground support systems, dewatering activities, steel casing pipe or liner plate installation, CLSM backfill, trench backfill, instrumentation and monitoring, and restoration. Includes removal, transport, and disposal of excess excavated material.

    b. Includes installation of steel water main in casing/liner plate and associated casing spacers, guide rails, inverts, end seals/bulkheads, grouting, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.

    c. No separate payment will be made for trenchless construction exceeding length shown on Drawings, unless proposed modifications are submitted for review as part of Contractor's shop drawing submittals and accepted by Owner's Representative.

    d. Payment for water main through shaft areas that do not require vertical drop structures will be made as part of associated open-cut bid item.

3. Measurement will be taken horizontally along centerline of steel casing/liner plate installed.

Bid Item No. B1: <u>54-Inch PCCP Water Main by Open-Cut (LF)</u>

1. Payment will be made per horizontal linear foot of installed 54-inch PCCP water main.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main in open-cut trenches as shown on Drawings and in accordance with Specifications herein.

    a. Includes excavation, trench safety, dewatering, bedding, pipe embedment, pipe fittings, shorts, bevel adapters, appurtenances, closures, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

3. Measurement will be taken horizontally along centerline of water main installed, with no deductions for fittings or valves.

Bid Item No. B2: <u>54-Inch Steel Water Main by Trenchless Construction (LF)</u>

1. See Bid Item No. A2 above for description.

Bid Item No. C1: <u>48-Inch Steel Water Main by Open-Cut (LF)</u>

1. Payment will be made per horizontal linear foot of installed 48-inch steel water main.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main in open-cut trenches as shown on Drawings and in accordance with Specifications herein.

    a. Includes excavation, trench safety, dewatering, bedding, pipe embedment, pipe fittings, appurtenances, butt straps, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

3. Measurement will be taken horizontally along centerline of water main installed, with no deductions for fittings or valves.

Bid Item No. C2: 48-Inch Steel Water Main by Trenchless Construction (LF)

1. Payment will be made per horizontal linear foot of trenchless construction.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main and casing pipe/liner plate by trenchless construction as shown on Drawings and in accordance with Specifications herein.

    a. Includes all related work such as construction of launch/receiving shafts ground support systems, dewatering activities, steel casing pipe or liner plate installation, CLSM backfill, trench backfill, instrumentation and monitoring, and restoration. Includes removal, transport, and disposal of excess excavated material.

    b. Includes installation of steel water main in casing/liner plate and associated casing spacers, guide rails, inverts, end seals/bulkheads, grouting, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.

    c. No separate payment will be made for trenchless construction exceeding length shown on Drawings, unless proposed modifications are submitted for review as part of Contractor's shop drawing submittals and accepted by Owner's Representative.

    d. Payment for water main through shaft areas that do not require vertical drop structures will be made as part of associated open-cut bid item.

3. Measurement will be taken horizontally along centerline of steel casing/liner plate installed.

Bid Item No. D1: 48-Inch PCCP Water Main by Open-Cut (LF)

1. Payment will be made per horizontal linear foot of installed 48-inch PCCP water main.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main in open-cut trenches as shown on Drawings and in accordance with Specifications herein.

    a. Includes excavation, trench safety, dewatering, bedding, pipe embedment, pipe fittings, shorts, bevel adapters, appurtenances, closures, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

3. Measurement will be taken horizontally along centerline of water main installed, with no deductions for fittings or valves.

Bid Item No. D2: 48-Inch Steel Water Main by Trenchless Construction (LF)

1. See Bid Item No. C2 above for description.

Bid Item No. 1: Mobilization (LS)

1. Measurement and payment in lump sum for mobilization.
2. Payment limited to six percent of Total Bid Price.
3. Preparatory work and operations necessary for movement of personnel, equipment, supplies, and incidentals to Project Site for establishment of offices, buildings, and other facilities necessary for Work on Project, and for all other work or operations which must be performed, or costs incurred when beginning Project Work.

Bid Item No. 2: Temporary Field Office (MNTH)

1. Measurement and payment per month that temporary field office is supplied.
2. Mobile units or temporary buildings with potable water, sanitary facilities, electrical power, and parking facilities for use of Owner's Representative in administering Contract. Field office shall be situated in or near Work area at a location approved by Owner's Representative and Authority Having Jurisdiction, adjacent to Contractor's field office.

Bid Item No. 10: 48-Inch Butterfly Valve with Actuator Manhole (75th Street – STA 25+00) (Owner-Furnished Valve) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in place installation of 48-inch butterfly valve with actuator manhole as shown on Drawings and in accordance with Specifications herein.
3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, valves, appurtenances, pipe supports, structural concrete, precast manhole, sump pump with piping, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.
4. Includes installation of Owner-furnished 48-inch butterfly valve and manual actuator.
5. Includes Contractor-furnished and installed Limitorque L120 electric actuator.
6. Includes copper lines, fittings, valves and pressure transducer assemblies.
7. Includes all associated electrical equipment and improvements, telemetry antenna, Valmont steel pole, mast pole foundation, and SCADA controls.

Bid Item No. 11: 48-Inch Butterfly Valve with Actuator Manhole (75th Street – STA 29+25) (Owner-Furnished Valve) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in place installation of 48-inch butterfly valve with actuator manhole as shown on Drawings and in accordance with Specifications herein.
3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, valves, appurtenances, pipe supports, cast in-place structural concrete, precast manhole, sump pump with piping, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

4. Includes installation of Owner-furnished 48-inch butterfly valve and manual actuator.

5. Includes Contractor-furnished and installed Limitorque L120 electric actuator.

6. Includes copper lines, fittings, valves and pressure transducer assemblies.

7. Includes all associated electrical equipment and improvements, telemetry antenna, Valmont steel pole, mast pole foundation, and SCADA controls.

Bid Item No. 12: 48-Inch Butterfly Valve with Actuator Manhole and Disinfection Bypass Assembly (Book Road) (Owner-Furnished Valve) (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, and materials necessary for complete in place installation of 48-inch butterfly valve with actuator manhole, chemical vault, and disinfection bypass assembly as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, valves, appurtenances, pipe supports, cast-in-place structural concrete, two (2) precast manholes, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

4. Includes installation of Owner-furnished 48-inch butterfly valve and actuator.

5. Includes injection quill assembly.

Bid Item No. 13: 54-Inch Butterfly Valve with Actuator Manhole (Owner-Furnished Valve) (EA)

1. Payment will be made for each valve with manhole installed.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of 54-inch butterfly valve with actuator manhole as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, valves, appurtenances, pipe supports, cast-in-place structural concrete, precast manhole, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

4. Includes installation of Owner-furnished 54-inch butterfly valve and manual actuator.

Bid Item No. 14: 54-Inch Remote Operated Butterfly Valve with Vault (Owner-Furnished Valve) (EA)

1. Payment will be made for each remote operated valve with vault installed.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of 54-inch butterfly valve with actuator manhole as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, dismantling joint, valves, appurtenances, pipe supports, cast-in-place structural concrete, precast manhole, sump pump with piping, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

4. Includes installation of Owner-furnished 54-inch butterfly valve and manual actuator.
5. Includes Contractor-furnished and installed Limitorque L120 electric actuator.
6. Includes copper lines, fittings, valves and pressure transducer assemblies.
7. Includes all associated electrical equipment and improvements, telemetry antenna, Valmont steel pole, mast pole foundation, and SCADA controls.

Bid Item No. 18: Air Release and Access Manhole (Type 1) (EA)

1. Payment will be made for each Type 1 air release & access manhole installed.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of Type 1 air release and access manhole as shown on Drawings and in accordance with Specifications herein.
3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, concrete fill pipe encasement, pipe fittings, valves, appurtenances, precast manhole, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

Bid Item No. 19: Air Release and Access Manhole (Type 2) (EA)

1. Payment will be made for each Type 2 air release & access manhole installed.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of Type 2 air release and access manhole as shown on Drawings and in accordance with Specifications herein.
3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, concrete fill pipe encasement, pipe fittings, valves, appurtenances, precast manhole, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

Bid Item No. 21: Blow-Off Valve with Manhole (36-Inch Dia. And Larger Pipe) (EA)

1. Payment will be made for each blow-off valve with manhole installed.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of blow-off valve with manhole as shown on Drawings and in accordance with Specifications herein.
3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, valves, appurtenances, precast manhole, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

Bid Item No. 39: 48-Inch Steel Water Main by Open-Cut (Book Road STA 752+60.00 to 756+64.30) (LF)

1. Payment will be made per horizontal linear foot of installed 48-inch steel water main.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main in open-cut trenches as shown on Drawings and in accordance with Specifications herein.
3. Includes excavation, trench safety, dewatering, bedding, pipe embedment, pipe fittings, appurtenances, butt straps, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

4. Measurement will be taken horizontally along centerline of water main installed, with no deductions for fittings or valves.

Bid Item No. 40: 48-Inch Steel Water Main by Trenchless Construction (Book Road STA 756+64.30 to 758+52.24) (LF)

1. Payment will be made per horizontal linear foot of trenchless construction.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main and casing pipe/liner plate by trenchless construction as shown on Drawings and in accordance with Specifications herein.
3. Includes all related work such as construction of launch/receiving shafts ground support systems, dewatering activities, steel casing pipe or liner plate installation, CLSM backfill, trench backfill, instrumentation and monitoring, and restoration. Includes removal, transport, and disposal of excess excavated material.
4. Includes installation of steel water main in casing/liner plate and associated casing spacers, guide rails, inverts, end seals/bulkheads, grouting, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.
5. No separate payment will be made for trenchless construction exceeding length shown on Drawings, unless proposed modifications are submitted for review as part of Contractor's shop drawing submittals and accepted by Owner's Representative.
6. Payment for water main through shaft areas that do not require vertical drop structures will be made as part of associated open-cut bid item.
7. Measurement will be taken horizontally along centerline of steel casing/liner plate installed.

Bid Item No. 47: 75th Street Connection to Existing DWC 48-Inch PCCP (STA 25+00) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of steel water main connection to existing 48-inch PCCP line in open-cut trench as shown on Drawings and in accordance with Specifications herein.
3. Includes excavation, trench safety, dewatering, bedding, CLSM pipe embedment, pipe fittings, appurtenances, butt straps, PCCP bell/spigot adapters, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material. See Section 01 11 00 – SUMMARY OF WORK for phasing and schedule requirements.
4. Includes installation of 48-inch steel water main pipe and fittings.
5. Includes cutting and removal of existing 48-inch PCCP water main, connections to 48-inch PCCP, as well as repair of cement mortar lining on remaining pipe damaged during removal.

Bid Item No. 48: 75th Street Connection to Existing DWC 48-Inch PCCP (STA 26+22) (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of steel water main connection to existing 48-inch PCCP line in open-cut trench as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, dewatering, bedding, CLSM pipe embedment, pipe fittings, appurtenances, butt straps, PCCP bell/spigot adapters, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material. See Section 01 11 00 – SUMMARY OF WORK for phasing and schedule requirements.

4. Includes installation of 48-inch steel water main pipe and fittings.

5. Includes cutting and removal of existing 48-inch PCCP water main, connections to 48-inch PCCP, as well as repair of cement mortar lining on remaining pipe damaged during removal.

Bid Item No. 49: 75th Street Connection to Existing DWC 48-Inch PCCP (STA 29+25) (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of steel water main connection to existing 48-inch PCCP line in open-cut trench as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, dewatering, bedding, CLSM pipe embedment, pipe fittings, appurtenances, butt straps, PCCP bell/spigot adapters, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material. See Section 01 11 00 – SUMMARY OF WORK for phasing and schedule requirements.

4. Includes installation of 48-inch cement mortar coated steel water main pipe and fittings.

5. Includes cutting and removal of existing 48-inch PCCP water main, connections to 48-inch PCCP, as well as repair of cement mortar lining on remaining pipe damaged during removal.

6. Includes cutting, removal, and replacement of existing 34-inch x 53-inch elliptical RCP storm culvert, connections to existing culvert, bypass pumping (as required), CLSM embedment, and regrading of storm ditches.

Bid Item No. 50: 30-Inch Stub for Future Connection (LS)

1. Measurement and payment by lump sum per installed 30-inch stub for future connection.

2. Includes 30-inch pipe (ductile iron pipe, steel pipe, or prestressed concrete cylinder pipe at Contractor's option) installed in open-cut trench, connection to reducer on main water line, 30-inch butterfly valve with actuator manhole, and 30-inch dished head plug at location shown in Drawings. All materials (including fittings and joint restraint), labor, equipment, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, pipe embedment, utility repair, welding, testing, disinfection, polyethylene encasement (if DI pipe is selected), gaskets, underground warning tape, restrained mechanical joints, valve with operator, associated joint restraints inside vault, restrained joints on water main bell, spigot slip joints external to valve vault, valve vault with frame and lid, steps, appurtenances shown in Detail, and associated miscellaneous materials and work required to furnish and install 30-inch stub for future connection.

3. Trench backfill and compaction above pipe embedment is also included as shown on Drawings. Does not include reducer. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. 52: Remove 54-Inch Test Plug and Connect to 54-Inch Water Main (Adjacent Contract) (EA)

1. Payment will be made for each test plug removed with water main connection.

2. Payment includes all labor, equipment, and materials necessary for test plug removal and connection as shown on Drawings and in accordance with Specifications herein.

3. Includes pipe fittings, appurtenances, dewatering of adjacent pipe, repair of damaged linings, connection to water main on adjacent contract, disinfection, hydrostatic testing of connection, and associated miscellaneous materials and work required.

4. No separate payment for removal of intermediate test plugs used on this Contract for hydrostatic testing.

Bid Item No. 53: Trench Backfill (Select Material) (CY)

1. Payment will be made per cubic yard of trench backfill placed.

2. Payment includes all labor, equipment, and materials necessary for complete placement and compaction of trench backfill above pipe embedment zone as shown on Drawings and in accordance with Specifications herein.

3. Includes compacted IDOT CA-6, FA-6, or CLSM material and removal, transport, and disposal of excess excavated material.

4. Measurement will be subject to maximum trench width for payment shown on Drawings.

Bid Item No. 55: Cathodic Protection System (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, materials, and supervision for the installation of the cathodic protection system, complete in-place, including sacrificial anodes, test stations, junction boxes, power feed hookups, excavation, backfill, field welding, connections, adjustments, testing, commissioning, cleanup, and other related work necessary for construction as shown on Drawings and in accordance with Specifications herein.

Bid Item No. 56: Earth Excavation (CY)

1. Measurement and payment per cubic yard of earth excavated.

2. Work under this item to be completed according to IDOT Section 202. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 57: Aggregate Base Course, Type B 2-Inch (SY)

1. Measurement and payment per square yard of aggregate base course, Type B, 2-inch applied.
2. Work under this item to be completed according to IDOT Section 351. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 58: Aggregate Base Course, Type B 4-Inch (SY)

1. Measurement and payment per square yard of aggregate base course, Type B, 4-inch applied.
2. Work under this item to be completed according to IDOT Section 351. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 59: Aggregate Base Course, Type B 6-Inch (SY)

1. Measurement and payment per square yard of aggregate base course, Type B, 6-inch applied.
2. Work under this item to be completed according to IDOT Section 351. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 61: Bituminous Materials (Prime Coat) (LB)

1. Measurement and payment per pound of bituminous materials, prime coat, applied.
2. Work under this item to be completed according to IDOT Section 406.

Bid Item No. 62: Bituminous Materials (Tack Coat) (LB)

1. Measurement and payment per pound of bituminous materials, tack coat, applied.
2. Work under this item to be completed according to IDOT Section 406.

Bid Item No. 63: Hot-Mix Asphalt Binder Course, IL-19.0, N50 (TON)

1. Measurement and payment per ton of hot-mix asphalt binder course applied.
2. Work under this item to be completed according to IDOT Section 406. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 65: Hot-Mix Asphalt Surface Course, IL-9.5, Mix D, N50 (TON)

1. Measurement and payment per ton of hot-mix asphalt surface course applied.
2. Work under this item to be completed according to IDOT Section 406. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 72: Portland Cement Concrete Driveway Pavement, 8-Inch (SY)

1. Measurement and payment per square yard of driveway pavement installed.

2. Work under this item to be completed according to IDOT Section 423. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 74: Portland Cement Concrete Sidewalk, 6-Inch (SF)

1. Measurement and payment per square foot of sidewalk installed.
2. Work under this item to be completed according to IDOT Section 424. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 75: Detectable Warnings (SF)

1. Measurement and payment per square foot of detectable warnings installed.
2. Work under this item to be completed according to IDOT Section 424. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 76: Pavement Removal (SY)

1. Measurement and payment per square yard of pavement removal.
2. Work under this item to be completed according to IDOT Section 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 78: Hot-Mix Asphalt Surface Removal, 1 3/4-Inch (SY)

1. Measurement and payment per square yard of asphalt surface removal.
2. Work under this item to be completed according to IDOT Section 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 79: Driveway Pavement Removal (SY)

1. Measurement and payment per square yard of driveway pavement removal.
2. Work under this item to be completed according to IDOT Section 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 80: Combination Curb and Gutter Removal (LF)

1. Measurement and payment per foot of combination curb and gutter removal.
2. Work under this item to be completed according to IDOT Section 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 81: Sidewalk Removal (SF)

1. Measurement and payment per square foot of sidewalk removal.
2. Work under this item to be completed according to IDOT Section 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 83: Combination Concrete Curb and Gutter, Type B-6.12 (LF)

1. Measurement and payment per foot of combination curb and gutter installed.
2. Work under this item to be completed according to IDOT Section 606. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 88: Steel Plate Beam Guardrail, Type A, 6-Foot Posts (LF)

1. Measurement and payment per foot of guardrail installed.
2. Work under this item to be completed according to IDOT Section 630.

Bid Item No. 89: Long-Span Guardrail over Culvert, 12-Foot 6-Inch Span (LF)

1. Measurement and payment per foot of guardrail installed.
2. Work under this item to be completed according to IDOT Section 630.

Bid Item No. 90: Traffic Barrier Terminal, Type 1B (EA)

1. Measurement and payment per each traffic barrier terminal, Type 1B installed.
2. Work under this item to be completed according to IDOT Section 631.

Bid Item No. 91: Traffic Barrier Terminal, Type 2 (EA)

1. Measurement and payment per each traffic barrier terminal, Type 2 installed.
2. Work under this item to be completed according to IDOT Section 631.

Bid Item No. 92: Guardrail Removal (LF)

1. Measurement and payment per foot of guardrail removed.
2. Work under this item to be completed according to IDOT Section 632.

Bid Item No. 93: Pavement Marking Blackout Tape, 6-Inch (LF)

1. Measurement and payment per foot of 6-inch pavement marking tape applied
2. Work under this item to be completed according to IDOT Section 701. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 94: Changeable Message Sign (CAL DAY)

1. Measurement and payment per calendar day changeable message sign is supplied.
2. Work under this item to be completed according to IDOT Section 701.

Bid Item No. 95: Short Term Pavement Marking (LF)

1. Measurement and payment per foot of short term pavement marking applied.
2. Work under this item to be completed according to IDOT Section 703. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 96: Short Term Pavement Marking Removal (SF)

1. Measurement and payment per square foot of short term pavement marking removal.
2. Work under this item to be completed according to IDOT Section 703. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 97: Temporary Pavement Marking Letters and Symbols – Paint (SF)

1. Measurement and payment per square foot of pavement marking applied.
2. Work under this item to be completed according to IDOT Section 703.

Bid Item No. 98: Temporary Pavement Marking – Line 4-Inch – Paint (LF)

1. Measurement and payment per foot of pavement marking applied.

2. Work under this item to be completed according to IDOT Section 703.

Bid Item No. 100: Temporary Pavement Marking – Line 24-Inch – Paint (LF)

1. Measurement and payment per foot of pavement marking applied.
2. Work under this item to be completed according to IDOT Section 703.

Bid Item No. 101: Temporary Pavement Marking – Line 4-Inch – Type IV Tape (LF)

1. Measurement and payment per foot of pavement marking applied
2. Work under this item to be completed according to IDOT Section 703. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 103: Temporary Concrete Barrier (LF)

1. Measurement and payment per foot temporary concrete barrier placed.
2. Work under this item to be completed according to IDOT Section 704. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 104: Impact Attenuators, Temporary (Fully Redirective, Narrow), Test Level 2 (EA)

1. Measurement and payment per each impact attenuator placed.
2. Work under this item to be completed according to IDOT Section 706.

Bid Item No. 105: Relocate Sign Panel Assembly – Type A (EA)

1. Measurement and payment per each sign panel relocated.
2. Work under this item to be completed according to IDOT Section 724. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 106: Thermoplastic Pavement Marking - Letters and Symbols (SF)

1. Measurement and payment per square foot of thermoplastic pavement marking applied.
2. Work under this item to be completed according to IDOT Section 780.

Bid Item No. 107: Thermoplastic Pavement Marking – Line 4-Inch (LF)

1. Measurement and payment per foot of thermoplastic pavement marking applied.
2. Work under this item to be completed according to IDOT Section 780.

Bid Item No. 108: Thermoplastic Pavement Marking – Line 6-Inch (LF)

1. Measurement and payment per foot of thermoplastic pavement marking applied.
2. Work under this item to be completed according to IDOT Section 780.

Bid Item No. 109: Thermoplastic Pavement Marking – Line 12-Inch (LF)

1. Measurement and payment per foot of thermoplastic pavement marking applied.
2. Work under this item to be completed according to IDOT Section 780.

Bid Item No. 110: Thermoplastic Pavement Marking – Line 24-Inch (LF)

1. Measurement and payment per foot of thermoplastic pavement marking applied.
2. Work under this item to be completed according to IDOT Section 780.

Bid Item No. 111: Pavement Marking Removal – Grinding (SF)

1. Measurement and payment per square foot of pavement marking removal.
2. Work under this item to be completed according to IDOT Section 783.

Bid Item No. 112: Underground Conduit, Galvanized Steel, 2-Inch Dia. (LF)

1. Measurement and payment per foot of underground conduit installed.
2. Work under this item to be completed according to IDOT Section 810. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 113: Handhole (EA)

1. Measurement and payment per each handhole installed.
2. Work under this item to be completed according to IDOT Section 814. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 114: Maintenance of Existing Traffic Signal Installation (EA)

1. Measurement and payment per each maintenance of existing traffic signal installation.
2. Work under this item to be completed according to IDOT Section 850. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 115: Electric Cable in Conduit, Lead-In, No. 14, One Pair (LF)

1. Measurement and payment per foot of cable in conduit installed.
2. Work under this item to be completed according to IDOT Section 873. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 116: Drill Existing Handhole (EA)

1. Measurement and payment per each existing handhole drilled.
2. Work under this item to be completed according to IDOT Section 879.

Bid Item No. 117: Detector Loop, Type 1 (LF)

1. Measurement and payment per foot of detector loop Type 1 installed.
2. Work under this item to be completed according to IDOT Section 886. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 118: Detector Loop Replacement (LF)

1. Measurement and payment per foot of detector loop replacement.
2. Work under this item to be completed according to IDOT Section 886. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 119: Temporary Traffic Signal Installation (EA)

1. Measurement and payment per each temporary traffic signal installation.
2. Work under this item to be completed according to IDOT Section 890. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 120: Modify Existing Controller (EA)

1. Measurement and payment per each Existing Controller modified.
2. Work under this item to be completed according to IDOT Section 895. See full requirements as specified in Division 34, General Civil Special Provisions.

Bid Item No. 122: Remove Existing Handhole (EA)

1. Measurement and payment per each existing handhole removed.
2. Work under this item to be completed according to IDOT Section 895.

Bid Item No. 123: Class D Patches, 12-Inch (SY)

1. Measurement and payment per square yard of Class D patches installed.
2. Work under this item to be completed according to IDOT Section 442. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 125: Mailbox Remove and Replace (EA)

1. Measurement and payment per each mailbox removed and replaced.
2. Work under this item to be completed according to IDOT Section 107. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 127: Temporary Access (Private Entrance) (EA)

1. Measurement and payment per each private entrance with temporary access.
2. Work under this item to be completed according to IDOT Section 402. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 128: Temporary Access (Commercial Entrance) (EA)

1. Measurement and payment per each commercial entrance with temporary access.
2. Work under this item to be completed according to IDOT Section 402. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 129: Temporary Access (Road) (EA)

1. Measurement and payment per each road with temporary access.
2. Work under this item to be completed according to IDOT Section 402. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 130: Traffic Control and Protection, (Special) (LS)

1. Measurement and payment by lump sum for traffic control and protection.
2. Work under this item to be completed according to IDOT Section 701. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 131: Hot-Mix Asphalt Driveway Pavement, 4-Inch (SY)

1. Measurement and payment per square yard of driveway pavement installed.

2. Work under this item to be completed according to IDOT Section 406. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 133: Drainage and Utility Structures to be Adjusted (EA)

1. Measurement and payment per each adjusted drainage and utility structure.
2. Work under this item to be completed according to IDOT Section 602. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 134: Drainage and Utility Structures to be Reconstructed (EA)

1. Measurement and payment per each reconstructed drainage and utility structure.
2. Work under this item to be completed according to IDOT Section 602. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 135: Temporary Information Signing (SF)

1. Measurement and payment per square foot of temporary information signing.
2. Work under this item to be completed according to IDOT Sections 701 and 720. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 136: Temporary Pavement (SY)

1. Measurement and payment per square yard of temporary pavement.
2. Work under this item to be completed according to IDOT Sections 355, 356, 406, and 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 137: Temporary Traffic Signal Timing (EA)

1. Measurement and payment per each temporary traffic signal timing.
2. Work under this item to be completed according to IDOT Section 701. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 138: Hot-Mix Asphalt Surface Removal – Butt Joint (SY)

1. Measurement and payment per square yard of butt joint surface removal.
2. Work under this item to be completed according to IDOT Section 406.

Bid Item No. 139: Telescoping Steel Sign Support (LF)

1. Measurement and payment per foot of sign support.
2. Work under this item to be completed according to IDOT Section 728. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 140: Metal Post – Type A (LF)

1. Measurement and payment per foot of Type A metal post installed.
2. Work under this item to be completed according to IDOT Section 729. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 141: Erosion Control Seeding, Lawn Mixture (Class 1) (LB)

1. Payment per pound of seed placed as required by area.
2. Measurement per area shown on Drawings, measured by Contractor survey On-site.
3. Material, equipment, labor, and associated miscellaneous work required for installation and removal (if necessary) of temporary erosion control seeding as shown on Drawings. See full requirements as specified in Section 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 142: Erosion Control Seeding, Roadside Mixture (Class 2) (LB)

1. Payment per pound of seed placed as required by area.
2. Measurement per area shown on Drawings, measured by Contractor On-site.
3. Material, equipment, labor, and associated miscellaneous work required for installation and removal (if necessary) of temporary erosion control seeding as shown on Drawings. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 145: High Visibility Safety Fence (LF)

1. Measurement and payment per foot of safety fence placed as shown on Drawings, measured by Contractor on Site.
2. Material, equipment, labor, and associated miscellaneous work required for installation of temporary fence as shown on Drawings. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 146: Tree and Shrubbery Protection (EA)

1. Measurement and payment per each tree trunk protection installed.
2. Material, equipment, labor, and associated miscellaneous work required for installation and removal of tree trunk protection as shown on Drawings. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 150: Dual Fence Barrier (High-Visibility Geotextile Outer Fence) (LF)

1. Measurement and payment per foot of dual fence placed as shown on Drawings, measured by Contractor on Site.
2. Material, equipment, labor, and associated miscellaneous work required for installation of dual layer silt fence in accordance with DuPage County Stormwater Ordinance Article VII. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 151: Silt Fence (LF)

1. Measurement and payment per foot of dual fence placed as shown on Drawings, measured by Contractor on Site.
2. Material, equipment, labor, and associated miscellaneous work required for installation of silt fence in accordance with DuPage County Stormwater Ordinance Article VII. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 152: Inlet Protection, Curb (EA)

1. Measurement and payment per each curb inlet protected.
2. Material, equipment, labor, and miscellaneous work required for installation of curb inlet protection for stormwater inlets located in existing curb and gutter. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 153: Inlet Protection, Area (EA)

1. Measurement and payment per each inlet protected.
2. Material, equipment, labor, and miscellaneous work required for installation of inlet protection for stormwater inlets not located in existing curb and gutter. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 163: Remove and Replace 8-Inch Sanitary Sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 8-inch sanitary sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Bid Item No. 192.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing sanitary sewer and furnish and install replacement water main quality sanitary sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 171: Remove and Replace 18-Inch FES (EA)

1. Measurement and payment per each flared end section (FES) removed and replaced.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, trench backfill, compaction, and associated miscellaneous work required to remove flared end section and furnish and install replacement flared end section to match existing conditions. Includes removal, transporting, and disposal of removed flared end section material and excess excavated material.

Bid Item No. 176: Replace 10-Inch Storm sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 10-inch storm sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Connection to Existing Structure.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing storm sewer and furnish and install replacement water main quality storm sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 177: Replace 12-Inch Storm Sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 12-inch storm sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Connection to Existing Structure.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing storm sewer and furnish and install replacement water main quality storm sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 178: Replace 15-Inch Storm Sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 15-inch storm sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Connection to Existing Structure.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing storm sewer and furnish and install replacement water main quality storm sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 180: Replace 18-Inch Storm Sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 18-inch storm sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Connection to Existing Structure.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing storm sewer and furnish and install replacement water main quality storm sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 182: Replace 24-Inch Storm Sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 24-inch storm sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Connection to Existing Structure.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing storm sewer and furnish and install replacement water main quality storm sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 190: Remove and Replace 30-Inch Storm Culvert with 30-Inch CMP Culvert (LF)

1. Measurement and payment per foot of installed culvert. Length will be measured along centerline of pipe.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, trench backfill, compaction, utility repair, testing, and associated miscellaneous work required to furnish and install replacement storm culvert of class, type, and size specified. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. 193: Remove and Replace Catch Basin (EA)

1. Measurement and payment per each catch basin replaced.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing catch basin and furnish and install replacement catch basin and frame and grate, to match existing conditions, including adaptors, couplings, and boots as necessary to connect to existing. Includes removal, transporting, and disposal of removed catch basin material and excess excavated material.

Bid Item No. 196: Connection to Existing Sewer Structure (EA)

1. Measurement and payment per each connection to existing structure.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to furnish and install connection to existing structure at locations as shown on Drawings including adaptors, couplings, watertight boots, concrete collars, and waterstops as necessary to connect to existing. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. 197: Remove and Replace Dual Storm Culverts 36-Inch and Headwalls (LS)

1. Measurement and payment by lump sum for the culverts and headwalls removal and replacement.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, trench backfill, compaction, utility repair, testing, replacement of concrete headwalls, riprap, and associated miscellaneous work required to remove existing culvert and furnish and install replacement storm culvert of class, type, and size specified. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. 198: Crossing Existing 58-Inch by 91-Inch Elliptical Concrete Pipe (Book Road) (LS)

1. Measurement and payment by lump sum for completed crossing.

2. All material, equipment, labor, and associated miscellaneous materials and work required to furnish and install 54-inch water main under an existing crossing existing 58- by 91-inch elliptical concrete pipe. Labor and materials required will vary based on the option selected for the crossing, but could include 84-inch steel casing, replacement elliptical O-ring gasket RCP, or structural liner for the elliptical pipe, additional excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, and all associated miscellaneous materials and labor. This item does not include the cost of the 54-inch water main pipe or associated items paid under 54-Inch Water Main by Open Cut Bid Item description of chosen material. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. 210: Vertical Drop Structures (STA 619+71 and STA 623+24) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main vertical drop piping within two trenchless shafts (launch and receiving) as shown on Drawings and in accordance with Specifications herein.
3. Includes all related work such as vertical steel pipe, tees, fittings, appurtenances, butt straps, dished head plug, concrete fill, pipe support foundation, thrust blocks, fall protection, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.
4. Includes blind flange, flanged outlet, gate valve, appurtenances, and precast concrete access structure.
5. Payment for pipe beyond the end of the tee branch and outside of trenchless liner will be made as part of associated open-cut bid items.

Bid Item No. 211: Vertical Drop Structures (STA 677+21 and STA 679+55) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main vertical drop piping within two trenchless shafts (launch and receiving) as shown on Drawings and in accordance with Specifications herein.
3. Includes all related work such as vertical steel pipe, tees, fittings, appurtenances, butt straps, dished head plug, concrete fill, pipe support foundation, thrust blocks, fall protection, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.
4. Includes blind flange, flanged outlet, gate valve, appurtenances, and precast concrete access structure.
5. Payment for pipe beyond the end of the tee branch and outside of trenchless liner will be made as part of associated open-cut bid items.

Bid Item No. 212: Vertical Drop Structures (STA 700+39 and STA 708+30) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main vertical drop piping within two trenchless shafts (launch and receiving) as shown on Drawings and in accordance with Specifications herein.

3. Includes all related work such as vertical steel pipe, tees, fittings, appurtenances, butt straps, dished head plug, concrete fill, pipe support foundation, thrust blocks, fall protection, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.

4. Includes blind flange, flanged outlet, gate valve, appurtenances, and precast concrete access structure.

5. Payment for pipe beyond the end of the tee branch and outside of trenchless liner will be made as part of associated open-cut bid items.

Bid Item No. 213: Vertical Drop Structures (STA 724+89 and STA 726+79) (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main vertical drop piping within two trenchless shafts (launch and receiving) as shown on Drawings and in accordance with Specifications herein.

3. Includes all related work such as vertical steel pipe, tees, fittings, appurtenances, butt straps, dished head plug, concrete fill, pipe support foundation, thrust blocks, fall protection, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.

4. Includes blind flange, flanged outlet, gate valve, appurtenances, and precast concrete access structure.

5. Payment for pipe beyond the end of the tee branch and outside of trenchless liner will be made as part of associated open-cut bid items.

Bid Item No. IND1: Exploratory Excavation (CF)

1. Measurement and payment per cubic foot of exploratory excavation.

2. Material, labor, excavation, sheeting, shoring, dewatering, backfill, compaction, utility repair, and associated miscellaneous work required to excavate for underground investigation by traditional excavation means or vacuum excavation, as directed by Owner's Representative. Includes removal, transporting, and disposal of excavated material.

Bid Item No. IND2: Exploratory Excavation, Vacuum (EA)

1. Measurement and payment for each vacuum exploratory excavation.

2. Material, labor, excavation, sheeting, shoring, dewatering, backfill, compaction, utility repair, and associated miscellaneous work required to excavate for underground investigation by vacuum excavation, as directed by Owner's Representative. Includes removal, transporting, and disposal of excavated material.

Bid Item No. IND3: Adjust Water Service Line (LF)

1. Measurement and payment per linear foot of water service line adjusted. Length will be measured along centerline of pipe.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, disinfection, pipe, fittings, couplings, connections to remaining existing service line, and additional miscellaneous work required to adjust water service line, as directed by Owner's Representative. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. IND4: Adjust Sewer Service Line (LF)

1. Measurement and payment per linear foot of sewer service line adjusted. Length will be measured along centerline of pipe.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, disinfection, pipe, fittings, couplings, connections to remaining existing service line, and additional miscellaneous work required to adjust sewer service line, as directed by Owner's Representative. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. ALL1: Allowance: City of Naperville DPU-E Electric Services

1. Allowance for payment to City of Naperville DPU-E for providing new 100A electrical services to:
   a. Two Contractor-furnished and installed free standing meter pedestals at Book Road and 75th Street intersection.
   b. One Contractor-furnished and installed panel mounted meter along Book Road (STA 602+46).
      1) City of Naperville to furnish and install 25kVA transformer (120/240V, 1P) at this location.
2. Allowance is for City of Naperville charges for electrical service only. Payment for all other Contractor-furnished materials, labor, and equipment and overhead/profit shall be made under applicable remote operated valve bid items.
3. Any unused portion of allowance will be credited back to Owner. Any additional cost shall be reimbursed to Contractor by Final Change Order.

PART 2 - P R O D U C T S

NOT USED

PART 3 - E X E C U T I O N

NOT USED

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13 47 13 CATHODIC PROTECTION FOR PIPELINES

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes requirements for the following:

1. Sacrificial anode cathodic protection on steel, ductile iron, and concrete cylinder pipes, and metallic fittings in plastic pipe systems using zinc and/or magnesium anodes.

1.02 RELATED WORK

A. Section 01 22 00 – UNIT PRICES

B. Section 01 33 00 – SUBMITTAL PROCEDURES

C. Section 01 70 00 – EXECUTION AND CLOSEOUT REQUIREMENTS

D. Section 33 11 01 – PRESTRESSED CONCRETE CYLINDER PIPE

E. Section 33 11 02 – STEEL PIPE

F. Section 33 11 03 – DUCTILE IRON PIPE

1.03 REFERENCES

A. AASHTO H-20 – Loading Design Specifications.

B. AASHTO LRFDLTS-1-M – LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

C. ANSI/NEMA WC 70/ICEA S-95-658 – Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy.

D. ASTM A366 – Commercial Steel (CS) Sheet, Carbon (0.15 Maximum Percent) Cold-Rolled.

E. ASTM A1008 – Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable

F. ASTM B3 – Soft or Annealed Copper Wire.

G. ASTM B8 – Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.

H. ASTM B418 – Cast and Wrought Galvanic Zinc Anodes.

I. ASTM D32 – Catalysts.

J. ASTM D149 – Standard Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies.

K. ASTM D229 – Standard Test Methods for Rigid Sheet and Plate Materials Used for Electrical Insulation.

L. ASTM D256 – Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.

M. ASTM D638 – Standard Test Method for Tensile Properties of Plastics.

N. ASTM D695 – Standard Test Method for Compressive Properties of Rigid Plastics.

O. ASTM D785 – Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials.

P. ASTM D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

Q. ASTM F36 – Standard Test Method for Compressibility and Recovery of Gasket Materials.

R. AWWA C207 – Steel Pipe Flanges for Waterworks Service, Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm).

S. DIN 3535-5 – Seals for Gas Supply – Part 5: Sealing Materials of Rubber, Cork, and Synthetic Fibres for Gas Fittings and Gas Appliances.

T. DIN 3535-6 – Gaskets for Gas Supply – Part 6: Gasket Materials Based on Fibres, Graphite, or Polytetrafluoroethylene (PTFE) for Gas Valves, Gas Appliances, and Gas Mains.

U. IDOT 228-814001-03 – Handholes.

V. NACE International SP0169 – Recommended Practice, Control of External Corrosion on Underground or Submerged Metallic Piping Systems.

1.04 QUALITY ASSURANCE

A. Certification: Provide manufacturer's certification that all components of cathodic protection system meet requirements of Drawings and Specifications.

B. Reference applicable section of Specifications and applicable Standard detail on certification.

C. Drawings: Drawings for cathodic protection system are diagrammatic and not scaled for exact locations, unless scales are explicitly stated on specific drawing. Determine exact locations by field conditions and non-interference with other utilities or mechanical and structural features. Test station locations are to be installed in grassy areas where possible, avoiding roadways. Note other existing utilities in area and do not damage these utilities during excavation. Repair any damaged utilities to satisfaction of Owner’s Representative at Contractor's expense.

D. Inspection: All materials, fabrication and installations are subject to inspection and testing by Owner’s Representative.

1.05 SUBMITTALS

A. Submittals to conform to requirements of Section 01 33 00 – SUBMITTAL PROCEDURES.

B. Design Drawings and Computations: Prepared by or under direct supervision of a Professional Engineer, registered in State of Illinois with minimum 10 years’ experience in cathodic protection design, all computations and drawings.

C. Catalog Cuts: Submit manufacturer's catalog cuts for each item. Include manufacturer’s name on catalog cuts. Provide sufficient information to show that materials meet requirements of Drawings and Specifications. Where more than one item or catalog number appears on a catalog cut, clearly identify item proposed.

D. Logs: Give Owner’s Representative a minimum of 48 hours’ notice prior to drilling anode bore. Type and submit to Owner’s Representative copies of detailed geological and resistance logs of each deep anode bore.

E. Rectifier Operation and Maintenance Manual: Rectifier manufacturer to include a complete operation and maintenance manual with each rectifier shipped to Job Site. In addition to operating instructions, include a circuit diagram and spare parts list in manual. Operate rectifier under full load conditions at factory and thoroughly inspect and test by manufacturer prior to delivery to Job Site. Report results of this testing on a manufacturer's quality control form and include in operation manual. Rectifier manufacturer is to reference each operating manual by rectifier model number and individual serial number.

F. Report: Submit six operating, monitoring, and maintenance reports for cathodic protection systems. Include all test data as required by Subsection 3.08H. Include operating instructions, maintenance data, product data, and test procedures in manuals.

G. Drawings: Maintain as-built drawings of cathodic protection installation during installation and construction.

1. Revise drawings to show exact locations of all anodes, wiring, connections and terminal boxes. Properly identify all items of equipment and material.

2. Submit original as-built drawings to Owner's Representative.

1.06 MEASUREMENT AND PAYMENT

A. Refer to Section 01 22 00 – UNIT PRICES.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver Products to Site per manufacturer recommendations.

B. Store and protect Products per manufacturer recommendations.

C. Cathodic protection materials and equipment that are damaged or dropped will not be accepted.

D. Store all materials off ground and in an enclosed shelter.

1.08 WARRANTY

A. Vendor shall warrant equipment furnished under this Section for a period of 3 years against defects in materials and workmanship and operational failure.

B. In event of failure of any part or parts of equipment during 3 years of service, provided that equipment has been operated and maintained in accordance with good practice, vendor shall furnish, deliver, and install defective part or parts at his own expense.

C. First 3 years of service shall be interpreted as 36-month period following installation, adjusting, and acceptance testing, and start of actual operation of equipment, or 42 months following delivery of equipment, whichever comes first.

PART 2 - P R O D U C T S

2.01 SACRIFICIAL ANODES – MAGNESIUM

A. Magnesium Anodes: Use high potential magnesium anodes. Follow metallurgical composition of magnesium anodes as listed below:

Element	Percent Composition
Aluminum	0.01 Max.
Manganese	0.50 - 1.3
Copper	0.02 Max.
Nickel	0.001 Max.
Iron	0.03 Max.
Other – (Each)	0.05 Max.
Other – (Total)	0.30 Max.
Magnesium	Balance

B. Magnesium Anode Current Capacity: Magnesium anodes require a current capacity of no less than 500 amp-hours per pound of magnesium.

C. Anode Backfill Material: Use chemical backfill material around all galvanic anodes. Backfill provides a reduced contact resistance to earth, provides a uniform environment surrounding anode, retains moisture around anode, and prevents passivation of anode.

1. All galvanic anodes come prepacked in a backfill material conforming to the following composition:
    a. Ground Hydrated Gypsum: 75 percent.
    b. Powdered Bentonite: 20 percent.
    c. Anhydrous Sodium Sulfate: 5 percent.
2. Have a grain size backfill such that 100 percent is capable of passing through a 20-mesh screen and 50 percent is retained by a 100-mesh screen.
3. Completely surround anode with backfill mixture within a cotton bag.
4. For standard cast magnesium ingots, required weight of backfill is as follows:

Anode Weight (lbs)	Backfill Weight (lbs)	Total Weight (lbs)
9	15	24
17	25	42
20	50	70
32	38	70
48	48	96
60	70	130

D. Anode Lead Wires: Use a 20-foot length of No. 12 AWG solid copper wire equipped with TW or THW insulation for standard lead wires for a galvanic anode. Color code all anode lead wires as specified in Drawings when terminated in test stations.

E. Lead Wire Connection to Magnesium Anode: Cast magnesium anodes with a galvanized steel core with weight of core not to exceed 0.10 pounds per linear foot.

F. Recess one end of anode to expose core for lead wire connection. Silver solder lead wire to core and fully insulate connection by filling recess with electrical potting compound.

2.02 SACRIFICIAL ANODES – ZINC

A. Zinc Anodes: Use high purity zinc anodes. Metallurgical composition of zinc anodes conforms to ASTM B418, Type II and the following:

Element	Percent Composition
Aluminum	0.005 Max.
Cadmium	0.003 Max.
Iron	0.0014 Max.
Lead	0.003 Max.
Zinc	Balance

B. Zinc Anode Current Capacity: Zinc anodes require a current capacity of no less than 335 amp-hours per pound of zinc.

C. Anode Backfill Material: Use chemical backfill material around all galvanic anodes.

1. Backfill provides a reduced contact resistance to earth, provides a uniform environment surrounding anode, retains moisture around anode, and prevents passivation of anode.

D. All galvanic anodes come prepackaged in a backfill material conforming to the following composition:

1. Ground Hydrated Gypsum: 75 percent.

2. Powdered Bentonite: 20 percent.
3. Anhydrous Sodium Sulfate: 5 percent.
4. Have a grain size backfill such that 100 percent is capable of passing through a 20-mesh screen and 50 percent is retained by a 100-mesh screen.
5. Completely surround anode with backfill mixture within a cotton bag.
6. For standard cast zinc ingots, required weight of backfill is as follows:

Anode Weight (lbs)	Backfill Weight (lbs)	Total Weight (lbs)
30	40	70
45	55	100
60	70	130

E. Anode Lead Wires: For lead wire for zinc anodes, use a 20-foot length of No. 12 AWG solid copper wire equipped with TW of THW insulation. Lead Wire Connection to Zinc Anode: Cast zinc anodes with a 1/4-inch diameter galvanized steel core. Extend one end of core beyond anode for lead wire connection. Silver-solder lead wire to core and fully insulate connection.

2.03 PERMANENT REFERENCE ELECTRODES

A. Type: Provide a copper/copper sulfate, double membrane, ceramic cell in a geomembrane package.

B. Wire: Equip electrode with No. 14 AWG stranded copper wire with HMWPE insulation of suitable length to attach to terminal board of test station without splicing

2.04 EXOTHERMIC WELD EQUIPMENT

A. Charges and Molds: Use weld charges and molds sized as specified by manufacturer for specific wire size and surface configuration. Weld charges and molds to be nVent's ERICO's "Cadweld" or Hubbell's Continental Industries' "thermOweld."

B. Limitation: For high-strength steel pipelines, use only 15-gram Cadweld charges.

C. Weld Coating: Coat all bare metal and weld metal with "STOPAQ WRAPPINGBAND CZ" tape by Seal for Life Group.

D. Weld Cap: Cover coated weld with a plastic weld cap.

2.05 WIRE AND CABLE

A. Anode Header Cable: Single-conductor, Type HMWPE, insulated cable specifically designed for direct-buried DC service in cathodic protection installations.

B. Conductor: Stranded, annealed, uncoated copper, not less than No. 8 AWG, complying with ASTM B3 and ASTM B8.

C. Insulation: High-molecular-weight polyethylene, complying with ANSI/NEMA WC 70/ICEA S-95-658.

D. Minimum Average Thickness of Insulation: 110 mils for Nos. 8 through 2 AWG, and 125 mils for Nos. 1 through 4/0 AWG; rated at 600 volts.

E. Connectors: Copper-compression type

F. Bonding Conductors for Joint and Continuity Bonds: Not less than No. 8 AWG, stranded, Type THWN copper conductors.

G. Flexible Pipe Coupling Bonds: Flexible copper straps with electrical resistance equal to No. 1/0 AWG stranded copper wire and with five holes for five exothermic/Cadwelds to pipe.

H. Test Wires: No. 12 AWG, Type THWN copper conductors.

I. Resistance Wires: No. 16 or No. 22 AWG nickel-chromium wire.

J. Cables for Installation in Conduit: Type THWN copper conductors.

2.06 ELECTRICAL CONTINUITY BONDS

A. Applications for electrical continuity bonding include the following:

1. Bonding across bolted joint assemblies

2. Bonding across gasketed joint assemblies

B. Preparation of Prestressed Concrete Pipe for Bonding

1. General

a. Fabrication: Use prestressed concrete pipe for this Project that has been fabricated in such a manner as to establish electrical continuity between metallic components of pipe and joints.

2. Acceptable Methods: Establish electrical continuity as indicated in Drawings and Specifications. Criteria for electric continuity includes:

a. Tensile Wire: Pipe manufacturer to obtain a resistance no greater than 0.03 ohms between any wire and steel joint ring at end of pipe farthest from that wire. Manufacturer to report values obtained and method of measurement.

b. Internal Pipe Joint Components: Pipe manufacturer to obtain resistance of less than 0.03 ohms between any component and steel pipe cylinder.

3. Tensile Wire Continuity

a. Establish continuity between tensile wire coils and steel cylinder on embedded cylinder type prestressed pipe by tightly wrapping tensile wire over longitudinal mild steel straps during pipe manufacture.

1) Use and install two continuous straps 180 degrees apart longitudinally along pipe. These straps must maintain electrical continuity between metallic components

2) Use steel straps made of mild steel and free of grease, mill scale, or other high resistance deposits.

3) Make longitudinal straps electrically continuous with pipe cylinder by steel fasteners of suitable dimensions placed between steel cylinder and longitudinal straps. Connect fasteners so as to remain intact during pipe fabrication process.

4. Steel Cylinder Continuity

a. Establish continuity of all joint components and steel cylinder. These components include the following:

1) Anchor socket brackets.

2) Anchor socket.

3) Spigot ring.

4) Bell ring.

b. If mechanical contact does not provide a resistance of less than 0.03 ohms between components, tack weld component to provide electrical continuity.

C. Preparation of Steel Pipe for Bonding: Bonding wires are not required for welded steel pipe.

D. Preparation of Ductile Iron Pipe for Bonding: Install insulated bond wires as shown on Contract Drawings.

E. Electrical Bond Wires: Electrical bond wires are to be a minimum No. 2 AWG, seven strand, copper cable with THHN insulation. Remove 1 inch of THHN insulation from each end of bond wire. Provide minimum number of bond wires, as shown on Drawings, for steel or ductile iron pipe.

F. Electrical Bond Clip: Weld 3 ASTM A366 steel bonding clips, each approximately 0.13 inches thick, 2 1/2 inches long, and 1 1/4 inches wide, with 1/8-inch fillet welds to bell and spigot of adjacent steel. Manufacture clips to maintain continuity regardless of small deflections of finished joints.

2.07 FLANGE ISOLATION

A. Applications: Required applications of dielectric flange isolation assemblies include, but are not limited to, the following:

1. At selected locations where new piping is mechanically connected to existing piping.
2. At selected below-grade to above-ground piping transitions.
3. At locations shown on Drawings.
4. At locations where carrier pipe material changes between PCCP and Steel.

B. Isolation: Provide electrical isolation through installation of the following materials:

1. Welded flange connections to steel pipe.
2. Flange connections to bell and spigot adapters for concrete cylinder and ductile iron pipe.
3. Flange isolation gasket.
4. Sleeves and washers.

C. Flange Isolation Gasket: Provide Type “E” NEMA Grade G-10 gaskets with an EPDM sealing element.

1. Thickness: Gasket to be 1/8 inches thick.
2. Dimensions: Gasket’s I.D. should be 1/8 inch smaller than I.D. of flange it will be installed in, and it should extend to O.D. of flange.
3. Flange Face: Provide sealing element positioned to accommodate either flat or raised face flanges.
4. Temperature Range: Temperature range of Product shall be -65°F to +250°F.
5. Product Performance Testing: Gasket shall meet or exceed the following test criteria:
    a. ASTM D149 – Dielectric Strength (short term): 550 volts/mil.
    b. ASTM D695 – Compressive Strength: 50,000 psi minimum.
    c. ASTM D229 – Water Absorption: 0.15 percent maximum.
    d. ASTM D 790 – Flexural Strength: 50,000 psi minimum.
    e. ASTM D785 – Hardness: 110 minimum.
    f. ASTM D256 – IZOID Impact Strength: 12.5 foot-pounds/inch minimum.
    g. ASTM D638 – Tensile Strength: 45,000 psi minimum.

h. ASTM D32 – Shear Strength: 20,000 minimum.

i. ASTM F36 – Compressibility: 2.1 percent maximum.

j. ASTM F36 – Recovery: 88.9 percent minimum.

k. ASTM F38 (Method B) – Creep Relation: 5.1 percent maximum.

l. DIN-3535-5 and DIN-3535-6 – Gas Permeability: 0.43 centimeters^3/minute maximum.

D. Alternate Isolation Gasket: As an alternate to above, provide a plain-faced phenolic gasket. Place phenolic gasket between two full-faced gaskets. Provide cloth-inserted rubber gasket material, 1/8 inches thick, in accordance with AWWA C207. Use factory-cut gaskets of proper dimensions.

E. Sleeves and Washers

1. Sleeve: Provide full length 1/32 inches thick mylar sleeves for each bolt. Length of sleeve shall extend half way into outside steel backup washers.

2. Isolation Washers: Supply two 1/8 inches thick G-10 isolation washers per bolt. Isolation washers to have a compressive strength of 50,000 psi, dielectric strength of 550 volts/mil and maximum water absorption of 0.10 percent.

3. Backup Washers: Provide two 1/8 inches thick zinc-plated, hot rolled steel backup washers for each bolt. For pipe greater than 30-inch diameter, provide two additional steel washers to be placed inside isolation washers for additional support.

4. Size: Isolation washers and backup washers shall be of same O.D. and I.D., with a sufficiently large I.D. to fit over isolation sleeve.

F. Coatings: Coat buried isolation flanges with petroleum-based tape or synthetic, a-polar polymer wrap.

2.08 TEST STATIONS

A. Plastic Test Stations: Flush-mounted type, manufactured of high-impact-resistant PVC or polycarbonate with watertight conduit connections and cover and removable terminal board having at least five terminals.

1. Test stations installed along AC Corridors shall be installed with a dead front terminal block.

B. Test stations to be installed with engraved laminated plastic nameplates, as shown in Drawings. Name plate shall be mounted to removable terminal block and included information stated within Drawings.

C. Test Station Mounting Enclosures

1. For traffic boxes in subparagraph below, verify that AASHTO's LRFD LTS-1-M and AASHTO H-20 traffic loads is adequate.

2. Traffic area boxes shall be precast concrete handholes.

a. Handholes shall be precast in accordance with IDOT 228-814001-03, sized as shown on Drawing Details. Handholes shall include provisions for conduit entry as detailed.

b. Covers shall be Neenah Foundry’s bolted “R-6660-JH” equipped with a Type G handle and Type E countersunk flat head screws, or approved equal. Covers shall have raised flush letters cast on lid reading “DWC WATER CP TEST STATION,” as indicated on Details. Minimum clearance from edge of handhole to conduit entry shall be 1 foot 10 inches, as detailed.

D. Remote Monitoring Test Stations: Where required, install Remote Monitoring Test Stations, per manufacturer's instructions.

1. Remote Monitoring Test Stations shall be installed at time of construction or retrofitted to existing test stations, as instructed by manufacturer.
2. All equipment installed within Project limits shall be of same manufacturer.
3. Communication
    a. Equipment shall be compatible with Owner's systems.
    b. Equipment shall use cellular or satellite communications.
4. Power Supply
    a. Shall be battery powered for test stations
        1) Shall have a minimum 10-year battery.
    b. Shall have a replaceable power supply.
5. Shall allow for in-person cathodic protection testing without disassembly of remote monitoring unit.
6. Remote Monitoring Units shall be MobilTex or approved equal.

2.09 FLUSH MOUNT TEST STATIONS

A. Plastic Test Station Terminal Boards: Flush-mounted type, manufactured of high-impact-resistant PVC or polycarbonate with watertight conduit connections and cover and removable terminal board having at least five terminals.

B. Test Station Mounting Enclosures

1. Use a Neenah Foundry's bolted "R-6660-JH" with Type G Handle and Type E countersunk flat head screws and a cast iron cover as manufactured by Neenah Foundry or approved equal. Covers shall have raised flush letters cast on lid reading "DWC WATER CP TEST STATION," as indicated on Details.

2.10 ABOVE-GRADE TEST STATIONS

A. At test station locations where flush-mounted structures are not practical or where specified in Drawings, use an above grade test station and place such that possible damage from vandalism, traffic, etc. is minimized.

B. Plastic Test Stations: Flush-mounted type, manufactured of high-impact-resistant PVC or polycarbonate with watertight conduit connections and cover, and removable terminal board having at least five terminals.

2.11 TEST STATION LEAD WIRES

A. Test station lead wires of all sizes shall have TW, THW, or THHN insulation.

B. Color code insulation based upon connection to underground structures, as specified in Drawings.

C. Wire all terminal boards as shown on Drawings.

2.12 EXOTHERMIC WELDING MATERIALS

A. Exothermic Weld Kits: Use weld charges and molds, sized as specified by manufacturer, for specific wire size and surface configuration. Weld charges and molds to be nVent's ERICO's "Cadweld" or Hubbell's Continental Industries' "thermOweld."

B. Exothermic Weld Caps: Dome of high-density polyethylene, 10-mil minimum thickness, filled with mastic and containing a tunnel portion to separate lead wire from exothermic weld.

C. Limitation: For high-strength steel pipelines, use only 15-gram Cadweld charges.

D. Weld Cap: Cover coated weld with a plastic weld cap.

E. Weld Coating: Coat all bare metal and weld metal with Seal for Life Group's "STOPAQ WRAPPINGBAND CZ" tape.

2.13 COATING REPAIR MATERIALS

A. Repair coating as recommended by manufacturer following all requirements for surface preparation and quality control.

PART 3 - E X E C U T I O N

3.01 INSTALLATION OF SACRIFICIAL ANODES

A. Location: Install sacrificial anodes at locations where anodes will operate at maximum effectiveness.

B. Placement: Install anodes in native soil in a vertically augured hole, as shown on Drawings. If a vertical installation of anodes is not feasible, anodes may be installed horizontally.

C. Backfilling: Hole is augured, lower packaged anode into hole and firmly tamp soil around package so that it is in intimate contact with package.

D. Lead Wire: Run lead wires from anodes underground at a minimum depth of 36 inches. Connect wires through a test station, as indicated on Drawings.

E. Handling: Handle galvanic anodes carefully to avoid damaging anode materials and wire connections.

3.02 INSTALLATION OF WIRE AND CABLE

A. Depth: Install all underground wires and cables at a minimum of 36 inches below final grade with a minimum separation of 6 inches from other underground structures.

B. Above-Grade Conduit: Enclose all positive and negative cables and anode lead wires in rigid galvanized steel conduit when above grade.

1. Use insulating bushings at ends of all conduits.

C. Extend conduit 12 inches below grade.

D. Below Grade Conduit: Enclose all cables and wires in grey electrical PVC conduit when below grade.

3.03 INSTALLATION OF NEGATIVE CABLE AND TEST LEAD ATTACHMENT

A. Attach negative cables and test leads to pipe (for dielectrically coated steel and ductile iron pipe options) or to "L" bracket (for concrete cylinder pipe option) by exothermic welding.

B. Clean and dry pipe to which negative cables and test lead are to be attached.

C. Use a grinding wheel to remove all coating, mill scale, oxide, grease, and dirt from pipe over an area approximately 3 inches square. Clean surface to bright metal.

D. Remove approximately 1 inch of insulation from each end of wires to be exothermically welded to pipe, exposing clean, oxide-free copper for welding.

E. Using proper size exothermic weld mold, as recommended by manufacturer. Place wire between graphite mold and prepared metal surface. Use a copper sleeve crimped over wire for all wires No. 12 AWG size.

F. Place metal disk in bottom of mold.

G. Remove cap from weld charge container. Pour contents into mold. Squeeze bottom of weld charge container and spread ignition powder over charge.

H. Close mold cover and ignite starting powder with a flint gun. Hold mold firmly in place until all of charge has burned and weld has cooled slightly.

I. Remove exothermic weld mold and gently strike weld with a hammer to remove weld slag. Pull on wire to assure a secure connection. If weld is not secure or wire breaks, repeat procedure.

J. If weld is secure, coat all bare metal and weld metal with Seal for Life Group's "STOPAQ WRAPPINGBAND CZ" tape.

3.04 PERMANENT REFERENCE CELL

A. Location: When not shown on Drawings, locate permanent reference cell near negative structure connection.

B. Placement: Remove permanent reference cell from shipping package and place below springline and 1 foot away from pipeline. Make certain that reference electrode is completely surrounded by special backfill material in geomembrane package.

1. Backfill reference electrode with 6 inches of select, native soil and compact by hand. Moisten soil for good compaction.

2. Saturate backfilled reference cell with 5 gallons of water.

3.05 INSTALLATION OF ELECTRICAL CONTINUITY BOND WIRES

A. Inspection: Use continuous bond wires with no cuts or tears in insulation covering conductor

B. General: Attach bond wires at required locations by welding.

1. Exothermic/Cadwelding: Perform Cadwelding of bond wires to piping in the following manner:

2. Clean and dry pipe to which wires are to be attached.

3. Use grinding wheel to remove all coating, mill scale, oxide, grease, and dirt from an area approximately 3 inches square. Grind surface to bright metal.

4. Remove approximately 1 inch of insulation from each end of wire to be Cadwelded to pipe, exposing clean, oxide-free copper for welding.

5. Select proper size Cadweld mold, as recommended by manufacturer. Place wire between graphite mold and prepared metal surface. Use a copper sleeve crimped over wire for all 12 AWG wires.

6. Place metal disk in bottom of mold.

7. Pour Cadweld charge into mold. Squeeze bottom of cartridge to spread ignition powder over change.

8. Close mold cover and ignite starting powder with flint gun.

9. After exothermic reaction, remove Cadweld mold and gently strike weld with a hammer to remove weld slag. Pull on wire to assure a secure connection. If weld is not secure or wire breaks, repeat procedure with new wire.

10. If weld is secure, coat all bare metal and weld metal with Kop-Coat. Cover coated weld with a plastic weld cap.

C. Post-Installation Inspection: Make post-installation inspection of all electrical continuity bonds through a visual examination of each Cadweld connection for strength and suitable coating prior to backfilling. In addition, perform one or more of the following tests:

1. Circulate current through pipe using DC power supply. Calculate resistance through known length of pipe. Resistance must not exceed 150 percent of theoretical resistance for pipe and bonds.
2. Measure resistance through select bonded joints with a digital low resistance ohmmeter (DLRO). Resistance of 0.001 ohms or less is acceptable.
3. Position a CSE at a stationary location adjacent to bonded pipeline. Impress a temporary current on pipe. Record static, current-applied, and instant “off” pipe-to-soil potential readings along pipe relative to stationary CSE.
4. Static potential measurements referenced to stationary CSE must be nearly identical along pipe to indicate electrical continuity.
5. Instant “off” potentials referenced to stationary CSE must be nearly identical along pipe to indicate electrical continuity.
6. Difference between instant “off” and static potential referenced to stationary CSE must be equal at each point of contact to pipe to indicate electrical continuity.
7. If any of above procedures indicates a poor quality bond connection, re-bond joint.
8. Record results and submit to Owner’s Representative for approval prior to backfilling.

D. Backfilling of Bonded Joints

1. Backfill bonded piping in manner that prevents damage to bond wires and all connections to metallic structures.
2. If construction activity damages a bonded connection, install new bond wire.

3.06 INSTALLATION OF FLANGE ISOLATION DEVICES

A. Placement: Install above-grade dielectric insulators at a minimum 12 inches and maximum of 48 inches above final grade.

B. Assembly: Place gasket, sleeves, and washers as shown on Drawings. Follow manufacturer's recommendations for even tightening to proper torque. See Drawings.

C. Testing: Immediately after an insulating fitting has been installed, test electrical isolation with a M.C. Miller Co., Inc.’s “Model 601” meter. Fully document test results and submit to Owner’s Representative.

D. Painting: Do not use metal base paints on insulating fittings.

E. Encapsulation: Encapsulate below-grade insulating flanges with petrolatum tape system, or approved equal, after insulating flange has been tested for effectiveness.

3.07 INSTALLATION OF FLANGE ISOLATION DEVICES AT REMOTE OPERATED VALVES

A. In addition to requirements set forth within 3.09, additional requirements shall be set forth within this section for locations installed with a remote operated valve.

B. Testing: 10 days prior to installation of remote operated valve electrical components assembly but after installation of valve body, test electrical isolation with a M.C. Miller Co., Inc.’s “Model 601” meter. Fully document test results and submit to Owner’s Representative.

1. Electrical Isolation must be shown prior to installation of remote operated valve electrical components assembly to protect equipment from damage.

C. Testing: Immediately after installation of remote operated valve electrical components assembly, test electrical isolation with a M.C. Miller Co., Inc.’s “Model 601” meter. Fully document test results and submit to Owner’s Representative.

1. Electrical Isolation must be shown prior to installation of remote operated valve electrical components assembly to protect equipment from damage.

3.08 INSTALLATION OF TEST STATIONS

A. Install test stations at locations specified by Drawings.

B. Install test stations on backfill complying with requirements for trench bottom fill for anode wires, unless otherwise indicated.

C. Terminate test conductors on terminal boards and install a spare set of test leads at each testing location.

D. Locate test stations adjacent to manholes where possible. If a flush mounted test station is not feasible in a particular location, then an above-grade test station may be used, subject to approval by Owner's Representative.

E. Use continuous test station lead wires without cuts or tears in insulation.

F. Locate test stations as close to directly over pipe as possible. If pipe is installed under a road, place test station at curb for easy access.

G. Attach test lead wires to pipe by Cadwelding.

H. Use color coded test wires, as indicated on Drawings.

I. Wire test station terminal board configurations, as shown on Drawings.

J. At foreign pipeline crossing test stations, owners of pipeline(s) must be notified and must give permission before test leads are connected to their pipeline. Utility owner should have a representative present. If utility owner refuses test leads connected to their pipeline, then document utility owner's refusal and install potential test station on water main. Document utility owner's contact name, phone number, email address, and date of contact. Submit documentation to Owner's Representative.

3.09 FLUSH-MOUNT TEST STATIONS

A. Install flush-mount test stations, as shown on Drawings.

B. Coil sufficient slack beneath test station to allow for soil settlement and to prevent damage to leads during backfilling. Leave additional slack to allow for withdrawal of terminal board a minimum of 18 inches above top of concrete traffic box for test purposes. Install flush-mount test stations with permanent copper or copper sulfate reference electrodes where indicated on Drawings.

C. Install reference electrode approximately 12 inches from pipe.

D. Compact native soil by hand around electrode. Use select granular backfill material for balance of backfill.

E. Saturate backfilled reference electrode with 5 gallons of water.

F. Set test stations outside areas of permanent paving in a Portland cement concrete pad, minimum of 24 inches square and no less than 4 inches thick.

3.10 ABOVE-GRADE TEST STATIONS

A. Install above-grade test stations where a flush-mounted test station cannot be located or specified by Drawings. Use and location of above-grade test stations must be approved by Owner's Representative.

B. Locate test station adjacent to a permanent structure (e.g. a power pole), if possible, for physical protection.

C. Coil sufficient slack beneath test station to allow for soil settlement. Do not damage leads during backfilling.

D. Set test stations in a Portland cement concrete anchor, a minimum of 12 inches in diameter and no less than 2 feet thick.

3.11 INSTALLATION OF PIPE JOINTS

A. Insulating Flange Sets: Cover flanges with sealing and dielectric compound.

B. Insulating Unions: Install electrical isolation at each building entrance and at other locations indicated on Drawings. Cover unions with sealing and dielectric compound.

3.12 POST INSTALLATION TESTING OF CATHODIC PROTECTION SYSTEMS

A. General: Inspect, energize, and adjust cathodic protection as soon as possible after equipment has been installed.

B. Energization: Perform energizing of cathodic protection system by a Corrosion Engineer to achieve compliance with referenced corrosion control standards set forth by NACE and/or AWWA.

C. Notice: Prior to native state, polarized potential testing, and commissioning of system, give a minimum of 48 hours' notice to DuPage Water Commission, Engineering Project Manager to facilitate observation of tests by a Client Representative.

D. Method: Corrosion Engineer shall:

1. Measure native state pipe-to-soil potentials at all test stations, permanent reference cells, electrical isolation devices, and locations of exposed pipe prior to energizing cathodic protection system.
2. Measure casing-to-soil potentials and foreign line potentials prior to energizing cathodic protection system.
3. Energize cathodic protection system and adjust DC current output such that pipe-to-soil potentials near cathodic protection current source (either transformer-rectifier or sacrificial anodes) is approximately -1000 millivolts to a copper sulfate electrode (CSE). Record DC voltage and current of power supply.
4. Allow sufficient time for pipeline to polarize.
5. Using a current interrupter, cycle power supply "On" and "Off".
6. Record "On" and "Instant Off" potentials at all water pipeline bis, permanent reference cells, electrical isolation devices, locations of exposed pipe, casings and foreign pipelines.
7. For steel and ductile iron pipe, adjust cathodic protection power supplies to satisfy criteria of a minimum 100 millivolts of polarization or an "Instant Off" potential at least as negative as -850 millivolts CSE.
8. For concrete cylinder pipe, adjust cathodic protection power supplies to achieve a minimum 100 millivolt of polarization without any "Instant Off" potentials more negative than -1000 millivolts CSE.
9. Record all final adjustments of DC power supplies.
10. Verify that all electrical isolation devices are operating properly, including flange isolators and casing spacers.
11. Verify that interference does not exist with foreign pipelines. Perform joint tests and mitigate any interference detected.

E. After initial energization and after rectifiers have been adjusted as necessary for compliance with NACE RP-0169 (latest revision), perform a walk-through inspection with Client Engineer to verify that all corrosion control components have been installed in accordance with Project Drawings and Specifications.

F. Make a punch list of outstanding work identified during walk-through inspection. Once Contractor has completed all work on punch list, pipeline will be allowed to polarize for 30 days before final testing. Perform final testing and adjustment after 30-day polarization period. Repair deficiencies discovered during final testing at Contractor's expense and at no additional cost to DuPage Water Commission.

G. Equipment: All cathodic protection testing instruments to be in proper working order and calibrated according to factory specifications.

H. Report: Submit a written report in accordance with Section 1.05. Include all test data, resistance and geologic logs, rectifier O&M Manual, and As-Built Drawings.

END OF SECTION

33 11 01 PRESTRESSED CONCRETE CYLINDER PIPE

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes requirements for providing supervision, labor, material, tools equipment, testing, training, and related items to install and place in operation prestressed concrete cylinder pipe.

B. Extent of prestressed concrete cylinder piping is shown on Drawings and/or in Schedules.

1.02 RELATED WORK

A. Section 01 22 00 – UNIT PRICES

B. Section 01 33 00 – SUBMITTAL PROCEDURES

C. Section 01 40 00 – QUALITY REQUIREMENTS

D. Section 13 47 13 – CATHODIC PROTECTION

E. Section 31 23 16 – EXCAVATION, BACKFILL, AND COMPACTION FOR UTILITIES

F. Section 33 11 02 – STEEL PIPE

G. Section 33 11 03 – DUCTILE IRON PIPE

1.03 REFERENCES

A. AASHTO HS-20 – Loading Design Specifications.

B. ACI 318 – Building Code Requirements for Structural Concrete.

C. ANSI B16.1 – Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

D. ANSI/ASME Boiler and Pressure Vessel Code, Section IX.

E. ANSI/AWS B2.1 – Welding Procedure and Performance Qualification.

F. ANSI/AWS D1.1 – Structural Welding Code – Steel.

G. ANSI/AWS D1.3 – Structural Welding Code – Sheet Steel.

H. ANSI/NSF 61 – Drinking Water System Components – Health Effects.

I. ASTM A36 – Carbon Structural Steel.

J. ASTM A283 – Low and Intermediate Tensile Strength Carbon Steel Plates.

K. ASTM A370 – Standard Test Methods and Definitions for Mechanical Testing of Steel Products.

L. ASTM C497 – Standard Test Methods for Concrete Pipe, Concrete Box Sections, Manhole Sections, or Tile.

M. ASTM C595 – Blended Hydraulic Cements

N. ASTM A648 – Steel Wire, Hard-Drawn for Prestressed Concrete Pipe.

O. ASTM C33 – Concrete Aggregates.

P. AWWA C200 – Steel Water Pipe, 6 Inches (150 mm) and Larger.

Q. AWWA C206 – Field Welding of Steel Water.

R. AWWA C207 – Steel Pipe Flanges for Waterworks Service, Sizes 4 Inches Through 144 Inches (100 mm Through 3,600 mm).

S. AWWA C208 – Dimensions for Fabricated Steel Water Pipe Fittings.

T. AWWA C210 – Liquid-Epoxy Coatings and Linings for Steel Water Pipe and Fittings.

U. AWWA C301 – Prestressed Concrete Pressure Pipe, Steel-Cylinder Type.

V. AWWA C304 – Design of Prestressed Concrete Cylinder Pipe.

W. AWWA M9 – Concrete Pressure Pipe.

1.04 QUALITY ASSURANCE

A. Quality Assurance Testing

1. Each completed cylinder with joint rings welded to its ends shall be subjected to a hydrostatic test as specified. Reports of all cylinder hydrostatic tests shall be submitted to Owner's Representative on a weekly basis.

2. All fittings, specials, and appurtenances shall be hydrostatically tested or tested using Nondestructive Testing (NDT) in accordance with AWWA C200 if fabricated from previously hydrostatically tested straight pipe. Submit test reports to Owner's Representative.

3. Quality control tests shall be conducted for each production coil of wire. Reports shall be submitted to Owner's Representative on a weekly basis.

4. Mill test reports of all steel plates and sheets used in fabrication of pipes, fittings, specials, and appurtenances shall be submitted to Owner's Representative.

5. At least two standard concrete test cylinders shall be made in accordance with AWWA C301, Sec. 4.6.5.5. Quality assurance test to determine modulus of elasticity of concrete shall be made at 2-month intervals, or whenever source of aggregate or cement are changed. Reports shall be submitted to Owner's Representative on a weekly basis.

6. In event that pipe fails to withstand such tests to satisfaction of Owner's Representative, manufacturer shall have right to test two additional standard length of pipes, selected at random by Owner's Representative, from same lot of pipes that faulty pipe was selected. If two pipes successfully pass tests, remainder of lot may be accepted by Owner's Representative. If either of two pipes fails to pass test, remainder of lot will not be accepted, unless each pipe successfully passes quality assurance test.

7. All rejected materials and pipes shall be plainly marked and replaced by Contractor with materials which meet requirements of these Specifications, without additional cost to Owner. Prior to performing tests, manufacturer shall submit proposed test procedures and dates for Owner's Representative review. Owner's Representative reserves right to witness any or all tests.

B. Proof of Design Tests

1. One proof of design test shall be performed for each size of each class of pipe by manufacturer, witnessed, and each witnessed pipe marked by Owner's Representative – at no additional cost to Owner – and results of tests submitted to Owner's Representative for approval prior to start of manufacture. Proof of design test shall be conducted before delivery of any pipe. Purpose of the tests is to prove that design and quality of each size and class of pipe meets Specification requirements. For each test, one standard length from each size of pipe shall be selected. Test results shall meet requirements as outlined in this Specification. In the event that pipe fails to meet above requirements, manufacturer may conduct two additional tests on two lengths of pipe randomly selected by Owner's Representative. Failure of either two lengths shall require an independent thorough review of pipe manufacturing process quality control and quality assurance test program by an

outside expert acceptable to Owner's Representative and manufacturer. Manufacturer shall be responsible for all cost incurred by review. Proof of design tests shall be as follows:

a. Hydrostatic Test

1) Hydrostatic test to zero concrete stress pressure, P_o, without incipient pipe coating crack, leaks, and seeps. This test pressure shall be maintained for a minimum 20 minutes.

2) Test to determine pressure to cause first visible coating crack (0.002 inch x 12 inches long).

3) Hydrostatic test to cause bursting pressure, P_b.

C. Restrained Joint Tests

1. In lieu of satisfactory design calculations, a minimum of one test for each type and size of restrained joint shall be performed to prove serviceability of proposed design. Test pipe shall be selected from pipe to be used for Project. Restrained joint tests shall be performed on initial pipe prior to manufacturing remaining of pipe with restrained joints to prove restrained joints meet Specification requirements. Test shall consist of two pipe units from each size pipe harnessed together with each type of proposed restrained joint and hydrostatically tested to zero concrete stress, P_o, or maximum permissible joint design pressure. Restrained joint shall be grouted as recommended by manufacturer for field installation.

2. Restrained joints tests shall be as follows:

a. Apply internal pressure to zero concrete stress, P_o, or maximum permissible joint design pressure for minimum of 20 minutes. There shall be no incipient pipe coating cracks, leaks, seeps, or loss of water from pipe or restrained joint. No circumferential crack greater than 0.04 inch on restrained joint cement-mortar grout shall occur.

b. In the event that restrained joint fails to withstand such test to satisfaction of Owner's Representative, design of restrained joint will be rejected. It will be manufacturer's responsibility to redesign restrained joint and retest restrained joint without additional cost to Owner's Representative.

D. Test Reports

1. Results of quality assurance tests, proof of design tests, and restrained joint tests shall be summarized in certified reports and submitted to Owner's Representative for review, in accordance with AWWA C301, Sec. 5.1.2.

1.05 SUBMITTALS

A. Conform to requirements of Section 01 33 00 – SUBMITTAL PROCEDURES.

B. No laying schedule will be reviewed without all design data Submittals. Submit shop drawings and product data.

C. Design Calculations

1. All design calculations shall be signed and sealed by a Professional Engineer licensed in the State of Illinois.

2. Manufacturer's pipe design calculations shall be submitted with Contractor's Bid Documents.

D. Laying Schedule

1. Tabulate laying schedules giving order and location of each pipe section and each special corresponding to serial number and/or identification numbers to be painted onto each pipe section, in accordance with AWWA C301, Sec. 4.3.2.

2. Each pipe section and each special shall be identified with a serial number and/or identification number to be painted onto pipe interior or fitting wall.

B. Test Reports

1. Quality assurance, proof of design, and restrained joint tests reports.
2. Concrete Reports, including the following:
    a. Concrete mix design.
    b. Concrete compression strength.
    c. Concrete modulus of elasticity.
    d. Creep and shrinkage properties.
    e. Mortar mix design.
    f. Mortar compression strength and absorption tests.
3. Prestressed wire, steel cylinder, and steel plate test reports.
4. Rubber gasket test reports, joint ring detail dimensions, and gasket sizing calculations.

C. Certificates of Compliance certifying:

1. Conformance with Contract Specifications in every aspect; for example, Certificate of Design.
2. Compliance with NSF/ANSI 61 Standards and certified to be lead-free.
3. Compliance with American Iron and Steel (AIS).

D. Manufacturer’s written statement that pipe will meet an $\varepsilon = 0.005$ ft (ε is defined as specific surface roughness).

E. Manufacturer’s written quality control procedures.

F. Written Welding Procedures and Specifications.

G. Manufacturer’s Standard Repair Procedures

1. Pipe manufacturer shall submit certificate of approval for each field repair, with a reference to a specific pipe serial number.

H. Detail Drawings and design calculations of prestressed concrete pipe specials and fittings, including combined load design, pipe class, wire size, inches of pitch, cylinder thickness, etc.

I. Details of fittings, specials, and appurtenances.

J. Design calculations for non-restrained and restrained joint rings and connections to steel cylinder. Calculations shall show maximum bending, shearing, compressive, tensile, and combined stresses.

K. If restrained joint calculations are not satisfactory, restrained joint tests may be performed as outlined in Subsection 1.04C of this Specification.

L. Provide 12 feeler gauges to Owner’s Representative prior to installation of pipe.

M. Manufacturer's installation guide and approved techniques for field unloading and installation. Provide four copies to Owner’s Representative and two copies to Owner.

N. No pipe shall be manufactured until all Drawings and design calculations have been reviewed with no exception noted.

1.06 MEASUREMENT AND PAYMENT

A. Refer to Section 01 22 00 – UNIT PRICES.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to Site and store and protect. Pipe fittings shall be handled by padded slings or devices which will not damage mortar coating. Chains and cables shall not be used.

B. Rolling or sliding of pipe shall be prohibited under all circumstances, regardless of provisions made to protect pipe. Any pipe dropped shall be returned to manufacturer's plant.

C. Provide padded bolsters on trucks or rail cars to spread load and provide uniform support.

D. Provide padded tie-downs on trucks and rail cars. No cables or other metal shall be in contact with mortar coating.

E. Pipe ends shall be covered/sealed with temporary plastic end caps to prevent debris and foreign materials from contacting pipe interior.

F. All pipe and fittings damaged in shipment or by handling at Job Site prior to placement at discretion of Owner's Representative shall be repaired at Site, rejected, or returned to fabrication plant for approved repairs or replacement. Manufacturer shall provide recommendations for repairs. Owner's Representative shall be provided written notification 24 hours in advance of all job site repairs.

G. Pipe shall be strung along route of pipeline to satisfaction of Owner's Representative and shall be protected by pipelaying Contractor with proper lights, barricades, etc.

1.08 WELDING MATERIALS AND PROCEDURES

A. Conform to ANSI/AWS D1.1, D1.3; ANSI/ASME Boiler and Pressure Vessel Code, Sec. IX; AWWA C206; and applicable state labor regulations. Contractor or manufacturer shall prepare written welding procedure specifications for all welding, in accordance with applicable Standards and AWWA C301.

B. Contractor or manufacturer shall certify that all welders have been tested and are qualified in accordance with ANSI/ASME Boiler and Pressure Vessel Code Sec. IX or ANSI/AWS B2.1.

PART 2 - P R O D U C T S

2.01 GENERAL

A. Prestressed concrete cylinder pipe specified is a composite structure which consists of the following principal elements: concrete core, steel cylinder and joint rings, high tensile wire, and cement-mortar coating. Compatibility and workability of various pipe elements to act and work together as a single element pipe structure is an essential and basic requirement of Contract Specifications. Maintenance of strict quality control measures at point of manufacture is essential to ensure pipe supplied will function properly over period of intended service life. Special attention is required in design and quality control to provide structurally sound protective cement-mortar coating for pipe during entire service life.

B. It is Contractor's and pipe manufacturer's responsibility to design, manufacture, deliver, and install pipe in accordance with general guidelines and criteria as defined and specified herein, all in accordance with AWWA C301 and AWWA C304.

C. Pipe manufacturer shall demonstrate current production capability for volume of work required for Project and shall have had successful fabrication of at least 50,000 linear feet of 48-inch diameter or larger pipe within past 5 years and in accordance with AWWA C301.

2.02 DESIGN AND MANUFACTURE

A. Design Requirements

1. Pressure class and inside diameter of pipe shall be as specified in Specifications or as shown on Drawings.

2. Fluid to be transported shall be potable water.
3. Height of cover over pipe shall be 10 feet minimum, or for special applications. Pipe, specials, and fittings shall be designed for a loading condition of not less than indicated on Drawings.
4. External live load shall be AASHTO HS-20. If indicated on Drawings, external live load (rail load) shall be Cooper E-80 for specific location.
5. Pipe to be installed inside of tunnel casing shall be designed for full cover, including live load (a single HS-20 or railroad E-80) neglecting casing.
6. External surcharge, if any, shall be as indicated on Drawings or as specified.
7. Internal working pressure, P_w, shall be 150 psi (Class 150).
8. Internal surge pressure, P_t, shall be 100 psi ($P_w + P_t$ = 250 psi).
9. Internal field test pressure, P_{ft}, shall be 1.0 P_w.
10. Minimum value of time period of pipe exposed to outdoor environment, t_1, for which pipe shall be designed is 365 days.
11. Maximum relative humidity for which pipe shall be designed is 60 percent.
12. Minimum value of time period of exposure of pipe to buried environment before water filling, t_2, for which pipe shall be designed is 550 days. Contractor and manufacturer shall take action as necessary to ensure that design strength of the pipe is not compromised by any variations of time to installation and filling.
13. In designing pipe, decompression pressure, P_o (which relieves final prestress in core concrete), shall be equal to, or not less than, sum of internal working pressure, P_w, and internal surge pressure, P_t.
14. Pipe design shall be made based on materials specified and strictly in accordance with each material's prospective standards and specifications. Design base for specified material strength grade classification shall not be altered or changed from material manufacturer/supplier original designation. No change in specified concrete strength is permitted based on concrete cylinder tests.

B. For trench conduit, external soil load shall be calculated based upon $W_d = C_d W B_d^2$. When trench width is equal to or greater than transition width, external soil load shall be calculated as embankment conduit, in accordance with AWWA M9: Kμ=0.15 and $r_{sd}p$= 0.50.

C. In calculating external soil load, unit weight, W, of cover shall be 120 pounds per cubic foot with trench width as follows:

Pipe Nominal Diameter (Inches)	Trench Width (B_d)
30	7'-7"
36	8'-3"
42	8'-9"
48	9'-4"
54	10'-0"
60	10'8"

D. Bedding coefficients shall be Olander 90 degrees for water weight and earth/live loads. Use Olander zero degrees for pipe weight.

E. Concrete pipe and fittings shall be designed and manufactured for the "Design Pressure," as stated previously.

F. The whole of above Specification requirements shall apply with the following modifications or stipulations to AWWA C301(Section references below have same numerical designation as AWWA C301):

1. Sec. 4.3 – Data to Be Submitted by Manufacturer

    a. Sec. 4.3.1 – Pipe shall not be supplied from inventory. Manufacturer shall submit detail drawings and tabulated layout schedule for review by Owner's Representative prior to delivery.

    b. Sec. 4.3.1 – Manufacturer shall provide Owner's Representative with copies of all written quality control procedures, tests, and reports (as required by Specifications) as may be performed by manufacturer during production of pipe. Weekly inspection reports shall be submitted to Owner's Representative.

    c. Sec. 4.3.2 – Provide a tabulated layout schedule with reference to Stationing and grade line shown on Drawings, as required by Section 1.05B.

2. Sec. 4.4 – Materials

    a. Sec. 4.4.1.1 – No fly ash or pozzolanic material shall be used to replace cement. Type II cement shall be used for cement-mortar coating and core concrete. Pozzolanic material may be used in core concrete to improve workability.

    b. Sec. 4.4.2 – Fine aggregate for concrete and mortar shall comply with ASTM C33 and shall not contain coal or lignite.

    c. Sec. 4.4.3 – Coarse aggregate for concrete shall comply with ASTM C33 and shall not contain coal or lignite.

    d. Sec. 4.4.4 – Provide samples of each aggregate.

    e. Sec. 4.4.6 – No admixture shall be used without prior review of Owner's Representative. Test data of admixtures, which manufacturer requests to use, shall be submitted to Owner's Representative for review. Any admixture used shall be chloride free.

    f. Sec. 4.4.7.1 & 2 – Steel sheets and coils shall have a minimum yield strength of 33,000 psi.

    g. Sec. 4.4.7.3 – Steel plates for pipe fittings shall be ASTM A283, Grade D or ASTM A36.

    h. Sec. 4.4.8.1 – Wire for circumferential reinforcement shall conform to ASTM A648, Class II or III.

        1) Wire shall be tested in accordance with ASTM A648 and ASTM A370 (and Supplement IV) Specifications with the following modifications or stipulations. Tests shall be conducted on one specimen for every coil of wire for tension, bend, tensile strength, reduction of area, and wrapping tests. Reduction of area test shall meet requirement of 35 percent minimum.

        2) In addition to above and tests required under Sec. 4.4.8.1, bolt cutter tests shall be made for one specimen per coil of wire.

            a) For bolt cutter test, wire specimen shall be cut twice within 3 inches and 90 degrees to each other by a sharp bolt cutter. For acceptance, there shall be no cracks or splits visible to the naked eye.

3) Failure of any of test specimens to comply with requirements of this Specification shall constitute grounds for rejection of coil represented by the specimen. Pipe manufacturer, at its discretion, may test three additional new samples to re-examine coil as to why it failed initial test. Should any of these specimens fail, entire coil shall be rejected.

4) Pipe manufacturer shall furnish documents certifying that wire was manufactured and tested in accordance with Specifications, together with reports of test results, to Owner's Representative prior to shipment of pipe.

3. Sec. 4.5 – Design

a. Sec. 4.5.1 – General Requirements

1) Sec. 4.5.1.5 – Thickness of mortar coating shall provide a minimum cover of 3/4 inch over wire.

b. Sec. 4.5.2 – Design of Pipe

1) Sec. 4.5.2.1 – Manufacturer shall submit to Owner's Representative design calculations and supporting test results of concrete properties used in design for review. No pipe shall be manufactured until all design calculations have been reviewed with no exceptions noted.

2) Sec. 4.5.2.2 – Either Class II or Class III wire may be used. Design gross wrapping stress for both Classes of wire shall not exceed 75 percent of Class II minimum tensile strength. All prestressed pipe 48 inches in diameter and larger shall be embedded cylinder pipe.

c. Sec. 4.5.3 – Joint Rings

1) Sec. 4.5.3.1 – General

a) Joint rings shall be zinc metalized. Minimum thickness of zinc metalizing shall be 0.004 inch. Joint rings shall be designed to provide minimum safety factor of 1.67, based on specified minimum yield strength of joint ring under internal design pressure plus surge pressure.

b) For restrained joints, joints shall be designed for internal pressure plus surge and thrust without credit given to blocking resistance. Submit design calculations for Owner's Representative's review.

c) Steel bell and spigot joint rings shall be within dimension tolerances permitted under Sec. 4.5.3.2. Spigot ring shall have a groove to receive, hold, and protect gasket, and joints will be self-centering when pipe is laid; therefore, gasket will not be required to support weight of adjoining pipe. Repairs of bell rings are not permitted after core is prestressed. Repair of spigot ring will be permitted if cylinder is welded to ring and weld is dye-tested after repair is made.

2) Sec. 4.5.3.2 – Dimensions and Tolerances

a) Where specified or shown on Drawings, joints shall have double gasket for watertightness. Field pressure tests shall be conducted for each joint as pipe is placed.

b) Steel bell-and-spigot joint rings shall be designed and fabricated so that when pipe is under various design loading. Differential deflection due to external loading and differential radial deformation (strain) – due to internal pressure loading between joint rings and prestressed pipe section – shall be kept to a minimum such that there shall be no visible cracking of mortar coating near joint area. Submit design calculations to justify proposed design for review. No visible initial shrinkage cracks of coating in joint areas, joint, and pipe interface shall be allowed. No separations of coating at joint ring shall be allowed. Each pipe shall be inspected prior to shipping. Any pipe with shrinkage, cracks, or coating separation shall be rejected.

c) Concrete at ends of pipe shall not extend beyond bell ring or theoretical face of concrete at spigot-end by more than 1/4-inch. Concrete beyond these limits shall be removed by grinding.

d. Sec. 4.5.4 – Rubber Gaskets

1) Rubber gasket, or "O-ring," shall be of sufficient volume to substantially fill recess provided when pipe joint is assembled. Volume of the annular space to be occupied by gasket shall be calculated considering the tolerances on spigot groove width and depth, bell ring inside diameter, and spigot outside diameter.

2) "O-ring" shall have a minimum stretch of approximately 20 percent and nominal compression of no less than 30 percent after pipe installation. Selection of "O-ring" shall meet all above three criteria. Submit design calculations to justify "O-ring" selection for Owner’s Representative’s review.

3) If more than one size of gasket is required, manufacturer shall label each pipe joint for which type of gasket to use. Deviation from above criteria may be permitted based on history of field performance data or satisfactory field test results provided by pipe manufacturer.

4) In the event that more than two gaskets are cut when attempting installation of one pipe section, installation work shall stop and shall not be resumed until pipe manufacturer’s representative is on-site and problem has been resolved.

4. Sec. 4.6 – Fabrication

a. Sec. 4.6.3 – Welding Procedure Specifications

1) Provide written Welding Procedure Specifications for all welding in accordance with applicable Standard.

b. Sec. 4.6.4 – Fabrication of Steel Cylinders

1) Sec. 4.6.4.2 – When wire is wrapped directly on cylinder (lined cylinder pipe), cylinders shall have weld seams that are smooth and plain with continuous surface. Grind as required.

2) Sec. 4.6.4.3 – Hydrostatic test for steel cylinder shall be performed only in presence of selected testing service inspector or manufacturer's quality control inspector. Test pressure shall be held for 1 minute or longer.

3) Sec. 4.6.4.4 – All indentations and bulges in steel cylinder deviating from cylindrical surface by more than 1/4 inch shall be removed prior to placing concrete. No indentations or bulges shall be permitted in cylinder of concrete-lined cylinder pipe that would cause more than 1/16 inch of clear space between prestressing wire and cylinder after wrapping.

c. Sec. 4.6.5 – Concrete for Pipe Core

1) Sec. 4.6.5.2 – A minimum of 6.5 sacks (611 lbs.) of cement shall be used per cubic yard of concrete. Water-cement ratio shall not exceed 0.44. Submit concrete mix designs to Owner's Representative.

2) Sec. 4.6.5.4 – Temperature of mix shall not exceed 90°F at time of placement.

3) Sec. 4.6.5.8 – Concrete 28-day compression strength for core concrete shall be limited to f'_c = 5,400 psi for cast concrete and f'_c = 6,900 psi for spun concrete.

a) Concrete test cylinders shall be in accordance with ACI 318, Sec. 5.6.3.3, and no single test cylinder shall be less than f'_c.

d. Sec. 4.6.7 – Placing of Wire Reinforcement

1) Sec. 4.6.7.1 – At end wraps, all prestress wires shall have a clear distance separation of at least 1/16 inch. Adjacent wires shall not touch at any point except at end of pipe, not more than 1 1/2 inches or less than 1 inch from edge of core to be coated with full depth of mortar coating. Splices in prestress wire shall not be closer than 3 feet, as measured along longitudinal axis of pipe.

2) Sec. 4.6.7.1 – Temperature of cores shall be at least 35°F and free of any frozen particles at time of prestressing. Concrete core shall be properly saturated and surface dry at time cement slurry and prestressing wire are applied. Concrete core shall be thoroughly cleaned prior to wrapping. Pipe manufacturer shall be required to demonstrate that procedure will remove laitance and form release agent from pipe surface, but not cause protrusions of aggregate on surface, which would cause stress concentrations in prestressing wire.

e. Sec. 4.6.8 – Pipe Coating

1) Sec. 4.6.8.1 – Coating shall be applied within 16 hours after prestressing. If manufacturer has not applied coating within time period, pipe shall be protected and shall show no sign of rust, scale, flaking, or pitting on prestress wires at time of coating. Temperature of pipe shall be at least 40°F at time of coating.

2) Sec. 4.6.8.2 – Mortar for coating shall consist of at least one-part cement to not more than 2 1/2-parts fine aggregate by weight. Design compressive strength of mortar coating shall be limited to f'_{mc} = 5,500 psi. Mortar coating shall be rounded at ends to avoid thinning of mortar at ends.

3) Sec. 4.6.8.4 – All pipe detected with delamination, hollows, and cracks in coating shall be rejected.

f. Sec. 4.6.10 – Cracks in Pipe

1) Sec. 4.6.10.2 – Concrete cores which have circumferential cracks greater than 0.04 inch in width shall be repaired with cement or epoxy grout. Concrete cores with visible longitudinal cracks shall be rejected.

g. Sec. 4.6.11 – Repair of Concrete or Mortar

1) Sec. 4.6.11 – Repairs shall not be permitted without specific prior review of Owner's Representative as to degree of damage, materials, methods, and curing to be used. Prior to pipe repair, standard repair procedures shall be submitted to Owner's Representative for review and stamped "No Exception Noted" or "Exceptions Indicated - Revise and Resubmit for Record Purposes Only."

5. Sec. 4.7 – Fittings and Special Pipe

    a. Sec. 4.7.1 – General

        1) Special fitting details shall be furnished by manufacturer for Owner's Representative review.

        2) Prestressed concrete cylinder pipe crossing a major waterway – for example, a large stream, river, or channel – shall be designed for negative buoyancy and no allowance shall be taken for earth cover in buoyancy calculation.

    b. Sec. 4.7.2 – Fittings

        1) Sec. 4.7.2.1 – Fittings, flanged pipes, and special pipes – including manhole and blow-off nozzles – shall be designed for same design condition as pipe specified in this Section and Section 33 11 02 – STEEL PIPE, and in accordance with AWWA C200 and AWWA C208.

        2) Sec. 4.7.2.3 – Interior lining and exterior coating shall be wire fabric reinforced mortar and have minimum thickness of 3/4 inch and 1 1/2 inches, respectively. Inside diameter of fittings shall be smooth and the same as pipe. For outlets and connections, see Section 4.7.4. All exposed steel surfaces not lined or coated with mortar shall be painted with liquid epoxy, in accordance with AWWA C210. Any areas abraded in handling shall be touched up in field.

        3) Sec. 4.7.2.4 – Interior and exterior surfaces of outlets and connections shall be lined and coated with reinforced mortar as specified in Section 4.7.2.3 for sizes larger than 12 inches. For sizes 12 to 36 inches, thickness of reinforced mortar lining shall be a minimum of 3/8 inch. Mortar shall contain not less than one-part cement to 2 1/2-parts fine aggregate by weight. Interior of all outlets and connections 6 inches and smaller shall be painted with liquid epoxy, in accordance with AWWA C210.

    c. Sec. 4.7.4 – Outlets and Connections on Pipe

        1) Connections for air valves, blow-offs, and other branches larger than 2 inches and less than 12 inches in diameter may be designed and constructed in accordance with Section 4.7.2 with Owner's Representative approval.

        2) Changes in alignment or grade may be made by deflecting joints of straight pipe or using beveled end pipe, unless single bend fittings are called for on Drawings. Joint openings shall not exceed one-half of maximum opening recommended by pipe manufacturer.

        3) Pipe joints in vicinity of bend fittings and bevel pipes 2 degrees and greater shall be restrained for distances, as tabulated on Drawings. All fittings and bevel joints shall be furnished with restrained joints.

6. Sec. 5.1 – Inspection and Testing by Purchaser

    a. Sec. 5.1.1 – Inspection at Manufacturer's Plant

        1) Owner's Representative retains right to observe pipe, fittings, all Work performed, and all materials furnished under Contract at manufacturer's plant. During inspection, Owner's Representative shall have free access to those parts of manufacturer's plant that are necessary to ensure compliance with Standard. Manufacturer shall make available gauges necessary for inspection. Manufacturer shall provide Owner's Representative with assistance for handling of pipe and fittings, as necessary. Prior to shipment, each piece of pipe and each fitting may be inspected and stamped by Owner's Representative for their compliance with Specifications.

b. Sec. 5.1.2 – Inspection of Test Reports

1) Provide to Owner's Representative all test reports required for cylinder assembly, concrete, mortar coating, steel wire, joint, and gasket, as required by Section 1.04F.

7. Sec. 6.3 – Affidavit of Compliance

a. Manufacturer shall provide an affidavit that pipe and fittings furnished under Contract comply with all applicable provisions of AWWA C301.

8. Provisions for Corrosion Monitoring and Control System: Provide the following provisions for corrosion monitoring and control system:

a. Each pipe segment and fitting shall be provided with a minimum of two bonding plates (14 gauge x 3 inches minimum at 30 degree angle from top) at each end. Bonding plates shall have electrical conducting capacity equivalent to No. 2 copper cable. Bonding plates shall be suitable to accept thermite brazed connections of No. 2 copper cables, each bonded as shown on Drawings.

b. For embedded cylinder type pipe, positive bonding connection between bonding plates and prestressing wire is required. A minimum of two 1/32- x 2-inch steel shorting straps (180 degrees apart) shall be provided under each layer of prestressing wire with welded connection to bell-and-spigot rings.

9. Based upon chloride test results, which must be received by Owner's Representative prior to laying any pipe, Owner's Representative may designate portions of pipeline to receive an exterior protective coating. Coating system shall be a two-coat vinyl ester system. Primer shall be Tnemec's Vinester Series 120-5002 and topcoat shall be Tnemec's Vinester Series 120-5001. Each coat shall have dry film thickness of 12 to 18 mils. All painting of pipe shall be done strictly in accordance with paint manufacturer's instructions, and all painting shall be performed at pipe manufacturer's plant. Concrete pipe shall be aged for minimum length of time, as recommended by paint manufacturer, before being painted. Any damage to coating shall be touched up with two coats of paint.

G. Furnished With Pipe

1. In addition to straight lengths of pipe, there shall be furnished (within Contract Unit Prices for installed pipe) all fittings, elbows, bends, tees, shorts, reducers, access manholes, special fittings, and wall pieces for manholes – all types of adapters, beveled pipe, outlets, closures, night-caps, plugs, bolts, nuts, etc. – required for complete pipeline construction, not only as shown on Drawings, but also as required by field conditions during construction. Blow-off connections and air valve connections may be fabricated into full pipe lengths where possible with Owner's Representative's approval.

2. Furnish all rubber gaskets, all special materials required for making of joints, and all special materials required to be incorporated in certain pieces of pipe or fittings, such as materials for restrained joints, etc., as shown on Drawings.

3. Pipe supplier shall furnish (within Contract Unit Prices for installed pipe) at no extra cost to Owner, all required closure pieces, shorts, half and full bevel adapters, and all other types of fittings; which, though not specifically called for on Drawings, may still be required by field conditions during construction. Wire mesh required to finish installation of closure pieces shall be supplied by manufacturer.

H. Wall Pipes

1. When connecting a prestressed concrete pipe to a ductile iron pipe, wall pipes shall be ductile iron, in accordance with Section 33 11 03 – DUCTILE IRON PIPE. When connecting a prestressed concrete pipe to a prestressed concrete pipe or a steel pipe, steel wall pipes shall be provided, in accordance with Section 33 11 02 – STEEL PIPE.

I. Restrained Joints

1. Unbalanced forces at pipe bends, tees, valves, etc., shall be restrained by transmitting those forces to pipe wall by means of flexible-tied jointing systems, which shall be accomplished at joint and not between joints. Restrained joint system to be used shall be bell bolt, snap ring, and harnessed clamp type flexible-tied joints, or approved equal. Welding of joints shall not be permitted. Restrained joint materials shall be non-corrosive.

2. Each restrained joint pipe cylinders and steel joint rings shall be designed to withstand and transmit whole angle component of longitudinal thrust force caused by deflection angle, Δ, in accordance with AWWA M9, from pipe pressure of working plus surge, as specified in this Section.

   a. Required length for restrained pipe on each side of valves, bends and bevel pipes, or tees shall be calculated in accordance with AWWA M9 (latest edition) and shall meet or exceed lengths shown on Drawings.

   b. All bevel joints shall be restrained as shown on Drawings. Reduction of design longitudinal thrust force along pipeline from maximum thrust point will be permitted. Maximum longitudinal cylinder tensile stress shall have minimum factor of safety of 1.67, based on minimum steel plate yield strength.

   c. Joint ring circumferential welded joint maximum shearing stress shall not exceed 75 percent of maximum allowable stress of welds, in accordance with applicable AISC Specification.

   d. Submit design calculations of restrained joint pipes and fittings to Owner's Representative. In designing restrained joints, combined effect of both longitudinal thrust force and radial hoop tensile force (caused by design internal pressure plus surge pressure) shall be considered. Restrained joint system shall have minimum safety factor of 1.67.

      1) Soil Type IV.

      2) Use minimum soil cover over the entire restrained area.

   e. Design calculations shall be submitted for Owner's Representative's review. In lieu of satisfactory design calculations, satisfactory restrained joint test results, as specified in Subsection 1.04E, will be accepted.

J. Flanged Joints

1. Concrete pipe flange joints shall be compatible with flange joints specified for ductile iron pipe and valves. Concrete pipe flanges shall have same dimensions as steel pipe and/or valve flanges. Steel flanges shall be in accordance with AWWA C207, Class D.

2. For pipe connected to valves, drilling shall be in accordance with ANSI B16.1, Class 125, or as required. All bolts for buried flange joints shall be COR-TEN type corrosion-resistant steel (CRS).

K. Bolts, Studs, and Nuts

1. All bolts, studs, and nuts shall be in accordance with Section 05 55 00 – BOLTS, ANCHOR BOLTS, AND EXPANSION ANCHORS

2. Cathodic Protection Refer to Section 13 47 13 – CATHODIC PROTECTION.

PART 3 - E X E C U T I O N

3.01 CLEANING AND INSPECTION

A. Thoroughly clean and dry interior of pipe and fittings of foreign matter before installation and keep interior clean until Work has been accepted. Keep joint contact surfaces clean until jointing is completed. Do not place debris, tools, clothing or other materials in pipe. After pipe laying and joining operations are completed, clean inside of pipe and remove debris.

B. Before installation, inspect each pipe and fitting for defects. Reject defective, damaged or unsound pipe and fittings and remove them from site.

3.02 INSTALLATION

A. Do not install pipe without approved lay schedule.

B. Manufacturer will make available services of representative throughout project duration when deemed necessary by Owner's Representative to advise aspects of installation; including, but not limited to, handling, storing, cleaning and inspecting, coatings and linings repairs, and general construction methods affecting pipe.

C. Gasketed pipe joints shall be checked around entire circumference with feeler gauge to ensure gasket remains seated in the spigot groove. If displacement has occurred, remove pipe section and remake joint as if for new pipe. Remove old gasket and replace before remaking joint.

D. In addition to pipe manufacturer's installation guide, the following requirements shall be met:

1. Pipe manufacturer may provide Contractor with suitable lifting devices to be used during pipe unloading operations, to move pipe, to place pipe in trench, or during any other pipe handling operations. Prior approval of pipe manufacturer and Owner's Representative shall be required for lifting devices not furnished by manufacturer.

2. Pipe shall be unloaded, handled, and placed using padded slings or other lifting devices furnished by pipe manufacturer to prevent damage to interior and exterior coating.

3. Joint deflection in field to correct alignment shall be limited to one-half of maximum amount recommended by pipe manufacturer.

4. 1/2-inch minimum joint gap, measured on inside of completed pipe, is required for mortar-filled joint.

E. Protection of Pipeline:

1. Securely place stoppers or bulkheads in openings and in end of line when construction is stopped temporarily and at end of each day's work.

F. BEDDING AND BACKFILLING

1. Conform to requirements of Section 31 23 16 – EXCAVATION, BACKFILL, AND COMPACTION FOR UTILITIES.

2. Align pipe at proper grade prior to joint connection and do not shift after jointing operation has been completed.

3. Do not move trench support system (trench safety system) once bedding material is compacted.

4. Excavate outside specified trench section for bell holes and for spaces sufficient to permit removal of slings. Provide bell holes at proper locations for unrestricted access to joint. Form bell holes large enough to facilitate joint wrapping and to permit visual examination of process. Enlarge bell holes as required or directed by Owner's Representative. Subsequent backfilling, thereof, will not be considered as authorized additional excavation and backfill. Backfill bell holes and spaces to satisfaction of Owner's Representative.

5. Remove blocking after placing sufficient backfill to hold pipe in position.

6. Use CLSM in areas of trench excavation 16 feet and greater as embedment material up to springline of pipe.

G. Follow manufacturer's specifications for nonshrink grouting.

H. Install each pipe section in sequence identified on lay schedule. Deviations from lay schedule sequence shall be approved by Owner’s Representative and denoted on final lay schedule.

I. Static Electricity

1. Properly ground pipeline during construction as necessary to prevent build-up of static electricity.

2. Electrically test, where required, after installation of pipeline is complete.

3.03 CLOSURES AND APPROVED PIPE MODIFICATIONS

A. No modifications of standard pipe for closures will be permitted in the field.

B. Pipe manufacturer's representative and Owner’s Representative to entirely witness closures and approved pipe modification efforts.

C. If a butt strap is being used to complete a closure the provide minimum lap of 4 inches between member being joined and edge of butt strap. Weld on both interior and exterior, unless otherwise approved by Owner’s Representative.

D. Provide full circumferential welds on closure joints required to be welded. Owner’s Representative will employ an independent certified testing laboratory to perform weld tests on field welds. Use magnetic particle test method for lap welds (or X-ray methods for butt welds) for 100 percent of joint welds. Maintain records of tests. When defective weld is revealed, repair defective weld and retest. Use wire and flux from same manufacturer throughout entire Project.

E. Fill wrapper in field and allow excess grout water to seep out. Refill wrapper as necessary. When joint mortar level has stabilized and begun to mechanically stiffen, place Ethafoam wrapper over top of joint and secure in place.

F. Stretch test each gasket splice to twice its unstretched length and inspect for defects.

3.04 VISIBLE CRACKS

A. No visible cracks longer than 6 inches, measured to be within 15 degrees of line parallel to pipe longitudinal axis, are permitted except:

1. In surface laitance of centrifugally cast concrete,

2. In sections of pipe with steel reinforcing collars or wrappers, OR

3. Within 12 inches of pipe ends.

B. Repair interior lining cracks that exceed 1/16 inch (0.0625 inch) wide.

C. Reject pipe with exterior coating cracks that exceed 0.01 inch wide.

D. Immediately remove pipe from Site when pipe has cracks exceeding limitations and cracks are not repairable.

3.05 FIELD REPAIR PROCEDURES FOR COATING AND LINING

A. Areas less than or equal to 6 inches in diameter: Patch honeycomb and minor defects in concrete surfaces with nonshrink grout. Use only manual or small (low pressure) air chisels to chip away mortar coating or lining. Cut out unsatisfactory material and replace with nonshrink grout, securely bonded to existing coating or lining. Finish junctures between patches and existing concrete as inconspicuous as possible. Strike off nonshrink grout flush with surrounding surface after patch has stiffened sufficiently to allow for greatest portion of shrinkage. Finish surface in accordance with lining requirements.

B. Pipe with defective coating areas greater than 6 inches in diameter cannot be used. Immediately remove pipe from Project.

C. Reject pipe when steel cylinder is dented while making field repair. Immediately remove pipe from Project.

3.06 SURVEYING

A. Use adequate surveying methods and procedures and employ competent personnel to ensure pipe sections are laid to line and grade and within stipulated tolerances. Measure and record, in form approved by Owner's Representative, in-place survey data for pipe laid each day and submit data to Owner's Representative in accordance with Section 01 30 01 – DIGITAL UTILITY DATA COLLECTION and Section 01 31 00 – PROJECT MANAGEMENT AND COORDINATION.

3.07 PHOTOGRAPH AND VIDEO REPORTING OF PIPE JOINTS

A. Each completed pipe joint shall be photographed by Owner's Representative. Contractor shall notify Owner's Representative when joints are complete, prior to backfilling pipe. Contractor shall mark date that joint was completed and initials of foreman next to factory painted pipeline station number. Lettering size shall be same as used for pipe stationing number.

B. Owner's Representative will provide internal pipe joint video report for the pipeline. Video report shall show full circumference of each joint with pipe mark number and station number labeled or identified by voice. Date and time shall be recorded on video.

C. Contractor shall coordinate with Owner's Representative upon completion of pipe joints and provide access to pipe for visual observation and documentation.

3.08 HYDROSTATIC TESTING

A. Pipe shall be hydrostatically tested in accordance with AWWA C607.

1. Maximum allowable leakage for pipe with gasketed joints shall not exceed requirements of AWWA C607.

2. No leakage shall be allowed for pipe with welded joints.

3. All visible leaks shall be repaired regardless of the amount of leakage.

3.09 DISINFECTION

A. Disinfection of water main pipe shall be performed in accordance with AWWA C651.

END OF SECTION

33 11 02 STEEL PIPE

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes requirements for providing supervision, labor, material, tools, equipment, testing, training, and related items to install and place in operation steel pipe for water mains 6 inches and larger.

B. Extent of steel piping is shown on Drawings and in Schedules.

1.02 RELATED WORK

A. Section 01 22 00 – UNIT PRICES

B. Section 01 33 00 – SUBMITTAL PROCEDURES

C. Section 01 40 00 – QUALITY REQUIREMENTS

D. Section 13 47 13 – CATHODIC PROTECTION

E. Section 33 23 16 – EXCAVATION, BACKFILL, AND COMPACTION FOR UTILITIES

1.03 REFERENCES

A. AASHTO HS-20 – Loading Design Specifications.

B. AMPP – Associated for Materials Protection and Performance

C. ANSI B16.1 – Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

D. ANSI/AISC 360 – Structural Steel Buildings.

E. ANSI/ASME Boiler and Pressure Vessel Code, Sec. IX.

F. ANSI/AWS B2.1 –Welding Procedure and Performance Qualification.

G. ANSI/AWS D1.1 – Structural Welding Code – Steel.

H. ANSI/AWS D1.3 – Structural Welding Code – Sheet Steel.

I. ANSI/NSF 61 – Drinking Water System Components – Health Effects.

J. ASTM A6 – General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling.

K. ASTM A36 – Carbon Structural Steel.

L. ASTM A139 – Electric-Fusion (Arc)-Welded Steel Pipe (NPS 4 and Over).

M. ASTM A572 – High-Strength Low-Alloy Columbium Vanadium Structural Steel.

N. ASTM A1018 – Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled, Carbon, Commercial, Drawing, Structural, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.

O. ASTM C33 – Concrete Aggregates.

P. ASTM C150 – Portland Cement.

Q. ASTM C595 – Blended Hydraulic Cements.

R. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3)).

S. AWS D1.1 – Structural Welding Code – Steel.

T. AWS QC1 – AWS Certification of Welding Inspectors.

U. AWWA C115 – Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges.

V. AWWA C200 – Steel Water Pipe, 6-Inches (150 mm) and Larger.

W. AWWA C205 – Cement-Mortar Protective Lining and Coating for Steel Water Pipe 4 In. (100 mm) and Larger.

X. AWWA C206 – Field Welding of Steel Water.

Y. AWWA C207 – Steel Pipe Flanges for Waterworks Service, Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm).

Z. AWWA C208 – Dimensions for Fabricated Steel Water Pipe Fittings.

AA. AWWA C209 – Cold-Applied Tape Coatings for Steel Water Pipe, Special Sections, Connections, and Fittings.

BB. AWWA C210 – Liquid-Epoxy Coatings and Linings for Steel Water Pipe and Fittings.

CC. AWWA C216 – Heat-Shrinkable Cross-Linked Polyolefin Coatings for Steel Water Pipe and Fittings.

DD. AWWA C218 – Liquid Coatings for Aboveground Steel Water Pipe and Fittings.

EE. AWWA C222 – Polyurethane Coatings and Linings for Steel Water Pipe and Fittings.

FF. AWWA C602 – Cement-Mortar Lining of Water Pipelines in Place – 4 In. (100 mm) and Larger.

GG. AWWA M11 – Steel Pipe: A Guide for Design and Installation.

HH. SSPC-SP 1 – Surface Preparation Standard No. 1 – Solvent Cleaning.

II. SSPC-SP 10 – Surace Preparation Standard No. 10 – Near-White Metal Blast Cleaning.

JJ. SSPC-SP 11 – Surace Preparation Standard No. 11 – Power-Tool Cleaning to Bare Metal.

KK. SSPC-VIS 1 – Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning.

1.04 QUALITY ASSURANCE

A. All steel pipe and fittings shall be furnished by manufacturers who are fully experienced, SPFA or IOS 9000-2000 certified, reputable, and qualified in manufacture of products to be furnished.

B. Quality Assurance Tests

1. After joint configuration is complete, regardless of quality of steel selected for use, each length of pipe shall be shop-tested hydrostatically to a pressure which will induce hoop stress equal to at least 75 percent of yield stress of steel. Daily certified reports of hydrostatic tests shall be submitted to Owner's Representative on a weekly basis.

2. All fittings, specials, and appurtenances shall be hydrostatically tested or tested using Nondestructive Testing (NDT) in accordance with AWWA C200 if fabricated from previously hydrostatically tested straight pipe. Submit test reports to Owner's Representative.

3. All quality control tests conducted by manufacturer for each production run of pipe shall be submitted to Owner's Representative on a weekly basis.

4. Mill test reports of all steel plates, sheets, or coils used in fabrication of pipe, fittings, specials, and appurtenances shall be submitted to Owner's Representative.

C. All rejected materials shall be plainly marked and shall be replaced by the Contractor to meet requirements of Specifications, without additional cost to Owner's Representative.

D. Contractor is responsible for quality and inspection of field welds meeting requirements of AWWA C206.

E. Owner’s Representative may provide a welding inspector, at their discretion, for independent verification of welds. Welding inspector shall have prior pipe welding experience and shall be a certified welding inspector (CWI), in accordance with AWS QC1.

F. Provide administrative documents showing that QA/QC personnel in both shop and field are certified as AMPP/NACE International Coating Inspector (Level III).

1.05 SUBMITTALS

A. Conform to requirements of Section 01 33 00 – SUBMITTAL PROCEDURES.

B. Design Calculations

1. All design calculations shall be signed and sealed by a Professional Engineer licensed in the State of Illinois.

2. Manufacturer’s pipe design calculations shall be submitted with Contractor’s Bid Documents.

C. Pipe Manufacturer’s Submittals

1. Detailed drawings of pipes, specials, fittings, and joints with design calculations for internal pressure, vacuum, and external load conditions.

2. Design calculations for non-restrained and restrained joints, and rubber gasket reports and gasket sizing calculations.

3. Tabulate laying schedules corresponding to serial numbers and/or identification numbers to be painted on pipes, specials, and fittings.

4. Quality assurance test procedures and test reports for pipes, specials, and fittings (as specified under Subsection 1.04B).

5. Quality control test reports for each production run of pipe, including production welds, welding operator tests, and mill test reports of all steel plates, sheets, and other materials used.

6. Manufacturer's installation guide.

7. Certificates of compliance with Contract Specifications; for example, Certificate of Design. Certificates shall include:

a. Pipes, specials, and fittings, in accordance with AWWA C200 and AWWA C208.

b. Cement-mortar protective interior lining, in accordance with AWWA C205 or AWWA C602.

c. Polyurethane coating for exterior, in accordance with AWWA C222.

d. Paint system for exterior, in accordance with AWWA C210 or C218.

e. Manufacturer’s standard repair procedures.

f. Manufacturer’s written quality control procedures.

g. Manufacturer’s written statement that pipe will meet an $\varepsilon = 0.005$ ft. (ε is defined as specific surface roughness) or Hazen-Williams coefficient (C) value in accordance with AWWA M11.

8. Certificates of Compliance certifying:

a. Compliance with NSF/ANSI 61 Standards and certified to be lead-free.

b. Compliance with American Iron and Steel (AIS).

9. No pipe, special section, or fitting shall be manufactured until Drawings and design calculations have been reviewed, with no exception noted or stamped "Exceptions as Noted – Resubmit for Record Purpose Only."

D. Field Welding Report

1. Welding Reports for each field-welded joint shall be submitted and signed to Owner's Representative daily by welding inspector. Welding Report shall include:

a. Weld joint station number.

b. Date of weld.

c. Welder's name and signature.

d. Actual weld size at four quadrants of pipe and total number of weld passes.

1.06 MEASUREMENT AND PAYMENT

A. Refer to Section 01 22 00 – UNIT PRICES.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver Products to Site to store and protect.

B. Pipe fittings shall be handled by padded slings or manufacturer's approved devices, which will not damage pipe exterior coating or mortar lining.

C. Rolling or sliding of pipe shall be prohibited under all circumstances, regardless of provisions made to protect pipe. Any pipe dropped shall be returned to manufacturer plant.

D. Pipe shall be stulled for shipping as required by manufacturer's recommendations to maintain pipe roundness of ±1 percent and provide temporary plastic end caps on all pipe and fittings.

E. Provide padded bolsters on trucks or rail cars to spread load and provide uniform support.

F. All pipe and fittings damaged in shipment or by handling at Job Site prior to placement shall be returned to fabrication plant for approved repairs.

G. Pipe shall be strung along route of pipeline to satisfaction of Owner's Representative and shall be protected by pipelaying Contractor with proper lights, barricades, etc.

H. Pipe shall be stored on padded skids, sand dirt berms, sandbags, old tires, or other suitable means so that coating will not be damaged.

1.08 WELDING MATERIALS AND PROCEDURES

A. Conform to AWS D1.1, D1.3; ANSI/ASME Boiler and Pressure Vessel Code, Sec. IX; AWWA C206; and applicable State Labor Regulations. Welding procedures shall be required for (but not limited to) longitudinal and girth or spiral welds for pipe cylinders, spigot-and-bell ring attachment, reinforcing plates, outlet reinforcement, ring flange welds, and plates for lug connections.

B. Contractor or manufacturer shall certify that all welders have been tested and maintain current qualification in accordance with ANSI/ASME Boiler and Pressure Vessel Code Sec. IX or ANSI/AWS B2.1.

PART 2 - P R O D U C T S

2.01 GENERAL

A. Pipe manufacturer shall demonstrate current production capability for volume of work required for this Project and shall have had successful fabrication to AWWA C200 Standards of at least 50,000 linear feet of 48-inch diameter or larger pipe within past 5 years.

2.02 STEEL PIPE DESIGN

A. All steel pipe, specials, and fittings shall be designed as herein specified and shall be manufactured in accordance with minimum wall thickness, as shown in Subsections 2.02E and 2.02F of this Specification, all in accordance with AWWA C200 and AWWA M11.

B. Unless otherwise shown on Drawings, all specials and fittings shall conform to dimensions of AWWA C208. Fittings shall be of same material and minimum thickness as pipe.

1. Minimum radius of elbows shall be 2.5 times the pipe diameter, and maximum miter angle on each section of elbow shall not exceed 11 1/4 degrees.

2. If elbow radius is less than 2.5 times the pipe diameter, stresses shall be checked per AWWA M11 and wall thickness shall be increased as required.

3. Fittings shall be equal in pressure design strength and shall have same lining and coating as abutting pipe.

4. Specials and fittings, unless otherwise shown on Drawings, shall be made of segmentally welded sections from hydrostatically-tested pipe with end compatible and type of joint or coupling specified for pipe.

C. Design Pressure

1. Internal Pressure

	Class 150
Working Pressure (psi)	150
Surge Pressure (psi)	100
Total Transient Pressure (psi)	250
Field Test Pressure (psi)	150

2. Vacuum: Collapse vacuum pressure of -14.7 psi. Design with trench soil compacted to 95 percent of maximum density, per ASTM D1557, and a minimum factor of safety 2.0, based on actual external loading [10-foot minimum] plus vacuum of -14.7 psi. Proper credit may be given to cement-mortar lining.

3. External Loading: Minimum 10-foot depth of cover or as indicated on Drawings at 120 pounds per cubic foot soil weight with one AASHTO HS-20 truck. If indicated on Drawings, external load (rail load) shall be Cooper E-80. Water table shall be at ground surface.

4. Deflection: Maximum deflection shall be 2 percent of pipe diameter.

5. Where Drawings show depth of cover exceeds 10 feet or for special applications, pipes, specials, and fittings shall be designed for loading condition of not less than indicated on Drawings. Pipes to be installed inside of tunnel casing shall be designed for full cover, including live load (HS-20 or railroad E-80, neglecting casing).

D. Design Stress and Materials

1. Steel plate for all fabricated pipe, specials, and fittings shall, unless otherwise specified in Specification, conform to latest edition of one of the following: ASTM A1018, Gr 36 minimum; ASTM A572, Grade 42; ASTM A36; ASTM A139, Grade C. Maximum tensile stress under design internal working pressure shall not exceed 50 percent of minimum specified yield strength of material. Combined design internal working pressure of 150 psi plus water hammer of 100 psi shall not exceed 75 percent of minimum specified yield strength of material for all unburied and buried pipe, specials, and fittings.

E. Diameter or Size of Pipe

1. Unless otherwise specifically stated in Drawings, Specifications, or both, nominal diameter shall mean inside diameter (I.D.) of pipe after lining, except for pipe 12 inches and smaller. Pipe manufacturer shall provide dimensions of outside diameter of each pipe supplied.

F. Minimum Wall Thickness

1. All pipe, specials, and fittings shall be designed in accordance with specified design pressure, design stress, and materials and shall have the following minimum wall thickness, in accordance with ASTM A6. No pipe shall have walls less than minimum due to tolerances.

Water Main Pipe	
	Minimum Wall Thickness[1]
Nominal Pipe Diameter (Inch)	**Unburied[2] (Inch)**
60	0.468
54	0.422
48	0.376
42	0.330
36	0.284
30	0.250

Note 1: Wall thickness shall be designed based on specified internal pressure, collapse vacuum pressure, and external loads, and shall not be less than minimum thickness shown above.

Note 2: Including all pipe installed inside of tunnel casing pipe and vaults.

Note 3: Wall thickness may be calculated using AWWA M11. For calculating earth load, use Equation 5-3.

Note 4: For pipe wall thickness greater than 1/2 inch in buried pipe and inside tunnel casing, Charpy V-notch impact test shall be at 25 pound-foot average at 30°F.

G. Design and Manufacture

1. Steel pipe, specials, and fittings shall be designed and manufactured in accordance with specified design pressure, materials, and stresses.

2. Steel pipe crossing a major waterway such as a large stream, river, or channel shall be designed for negative buoyancy by concrete encasement, or other approved means, and no allowance for earth cover in buoyancy calculation.

3. AWWA C200 and AWWA C208 shall apply, except as specified under these Specifications, with the following modifications or stipulations. The following Sections have same numeral designation as AWWA C200:

    a. Sec. 4.3 – Submit design detail drawings of pipe, specials, fittings, and joints to Owner's Representative for review.

    b. Sec. 4.4 – Submit design calculations of pipe, specials, fittings, and joints to Owner's Representative for review.

    c. Sec. 4.12 – Protective Lining and Coating of Pipe, Specials, and Fittings

        1) Lining: Interior of all pipes, specials, and fittings shall have cement-mortar lining.

            a) Cement-Mortar Lining: All pipe shall be cement-mortar lined in shop with centrifugally spun lining, in accordance with AWWA C205. All specials and fittings shall be cement-mortar lined in shop, in accordance with AWWA C205. Field joints shall be made in accordance with AWWA C205, Sec. 4.7.

            b) No pozzolanic material shall be used to replace cement. Interior of all outlets and connections smaller than 12 inches shall be painted with liquid epoxy, in accordance with AWWA C210.

            c) Fine aggregate for lining shall comply with requirements of ASTM C33 and shall not contain coal or lignite.

        2) Coating

            a) All material, procedures, etc. shall conform to applicable AWWA Standards and coating manufacturer's recommendations. Overlap factory-applied coating system with pipe manufacturer's specified heat-shrink sleeve system by minimum 6 inches.

            b) Buried Pipe, Specials, and Fittings:

                i. All buried specials and fittings shall be coated with polyurethane, in accordance with AWWA C222. Total thickness of 35 mils and materials used for coating shall be compatible with coating applied to pipe.

                ii. Finish Coat color shall be approved by Owner's Representative.

            c) Unburied Pipe, Specials, and Fittings:

                i. All unburied pipe (i.e. exposed, in vaults), specials, and fittings, which will be exposed after installation, shall receive one coat of rust-inhibitive primer, in accordance with AWWA C218.

                ii. Pipe shall be coated with epoxy coating system, in accordance with AWWA C210.

                iii. Total thickness of coating shall not exceed manufacturer's recommended maximum dry film thickness.

iv. Finish Coat color shall match adjacent buried piping, or as approved by Owner's Representative.

d) Provide shop-applied rust-inhibitive primer on coating holdback areas at joint in accordance with type of joint utilized.

e) Pipe ends, fittings, and specials, which require field heat-shrink sleeves, shall have their pipeline station number painted near joint at 2:00 or 10:00 position. Size of lettering for stationing shall be readable when a photograph is taken of completed joint.

f) Heat-Shrink Joint Sleeves for Polyurethane Coating

i. Provide heat-shrink (cross-linked polyolefin wrap or sleeve with a mastic sealant) suitable for pipeline operating temperature, in accordance with AWWA C216. Provide Canusa-CPS's "Aqua-Shield," Seal For Life's "Covalence," or approved equal. Where weld-after-backfill procedures are used, conform to manufacturer's recommendations for installation.

g) Field-Applied Heat-Shrink Sleeves: Contractor shall select between two options for method of application of joint heat-shrink sleeves:

i. Welding Before Sleeve: First option is to weld joint, then apply exterior joint sleeve. Wrap joints with heat-shrink sleeve system conforming to AWWA C216. Overlap factory-applied coating system with a sleeve minimum of 6 inches.

ii. Sleeve Before Welding: Second option is to apply heat-shrink sleeve for post-welding, backfill trench, and then weld joint from pipe interior. Wrap joints with heat-shrink sleeve as recommended by pipe manufacturer.

iii. For either option, Contractor shall be responsible for its operations so that no damage is done to mortar lining or coating system (factory-applied or joint-shrink sleeve).

iv. If second option is chosen, Contractor shall provide to Owner's Representative documentation necessary to prove validity of method and demonstrate that operation will not damage polyurethane coating system or the field-applied shrink-sleeve.

v. Contractor will be required to fully uncover up to a total of ten joints selected at random, at Owner's Representative discretion, to visually inspect joints after welding from pipe interior. Inspection of welds' interior and exterior is to check integrity of welding and heat-shrink sleeve.

vi. If Contractor's welding procedure causes damage to heat-shrink sleeve, Contractor shall uncover all joints installed prior to test (or between this test and a prior test) to inspect joints and repair as required. Contractor, at option of Owner's Representative, may be allowed to modify welding procedure or be required to perform welding before applying heat-shrink sleeve to joint.

vii. If Contractor is required to change welding procedure before heat-shrink sleeve application, no additional compensation will be made to Contractor by Owner's Representative.

d. Sec. 4.5 – All steel plate, sheet, or coils for fabricated pipe, specials, and fittings shall conform to latest edition of ASTM A1018, Grade 36 minimum; ASTM A572, Grade 42; ASTM A36; or ASTM A139, Grade C, unless otherwise specified in this Specification.

e. Sec. 4.11 – Preparation of Pipe Ends

1) Buried pipe, specials, fittings, and tied joints, except as shown or noted, shall have single fillet lap-welded slip joint welded inside or outside, as approved by Owner's Representative. Provide a nominal lap of 2 1/4 inches.

2) For pipe 60-inch diameter and under, bell-and-spigot "O-ring" joints may be used. Bell-and-spigot ends shall be formed integrally with steel cylinder or may be fabricated from separate plates, sheets, or special sections for attachment to pipe ends. All welds on inside of bell and outside of spigot shall be continuous and ground even with plate surface for a distance not less than insertion depth.

3) For pipe installed inside casing, joints shall be lap-welded slip joint and welded inside and outside. Outside welding shall be single pass weld adequate for joint testing. Provide tapped hole at each joint for field air testing of lap welds. In addition to hydrostatic test, double-welded lap joint shall be tested by applying 40 psi air pressure into connection between two fillet welds, as outlined in AWWA C206, Sec. 5.2.2.2.

4) For pipes 60-inch diameter and under, bell-and-spigot ends may be sized by forcing over a sizing die or expanding to stretch steel beyond elastic limit. Difference in diameter between outside of spigot and inside of bell at normal engagement shall not exceed 0.04 inch – measured on circumference with a diameter tape.

5) Spigot ring shall have a groove to receive, hold, and protect gasket; and joint surfaces shall be of such shape and dimensions that joints will be self-centering when pipe is laid so that gasket will not be required to support weight of adjacent pipe. "O-ring" gasket shall have sufficient volume (approximately 100 percent) to fill area of groove, and shall conform to AWWA C200, Sec. 4.11.3.3. "O-ring" shall have minimum stretch of approximately 20 percent and compression of no less than 30 percent after pipe installation. Selection of "O-ring" shall meet above three criteria. Submit gasket design calculations for Owner's Representative's review. Deviation from above criteria may be permitted based on satisfactory field performance data provided by pipe manufacturer. Joint shall be suitable for total design pressure equal to Class of pipe furnished and shall operate satisfactorily with deflection.

6) Shop-applied outside coating shall be continuous to end of pipe on bell end and shall be cut back on spigot end so coating extends at least 1/2 inch inside bell end at normal engagement. Shop-applied inside lining shall be continuous to end of pipe on spigot end and shall be cut back on bell end to point of maximum engagement or further, as shown on Plans. Inside of bell and outside of spigot shall be painted one shop coat of primer to prevent rust.

7) Pipe manufacturer shall demonstrate current production capability for volume of work required for Project and shall have had successful fabrication to AWWA C200 Standards of at least 50,000 linear feet of 48-inch diameter or larger pipe within past five years.

8) Changes in alignment or grade may be made by breaking joints of straight pipe or by use of beveled-end pipe, unless single-bend fittings are called for on Drawings. Joint openings shall not exceed one-half of maximum joint opening recommended by pipe manufacturer.

9) Unburied pipe, specials, and fittings, except as shown or noted, shall have single or double butt-weld joints.

f. Sec. 4.15 – Specials and fittings shall be provided in accordance with details shown on Drawings, as specified or required.

g. Sec. 5.1 – Owner’s Representative retains right to observe pipe, fittings, all work performed, and all materials furnished under Contract at manufacturer's plant. During inspection, Owner's Representative shall have free access to those parts of manufacturer's plant that are necessary to ensure compliance with this Standard. Manufacturer shall make gauges necessary for inspection available for Owner's Representative’s use. Manufacturer shall provide Owner's Representative with assistance handling pipe and fittings as necessary. Prior to shipment, each piece of pipe and fitting may be inspected and stamped by Owner's Representative for compliance with Specifications.

    1) Manufacturer shall provide Owner’s Representative with copies of all written quality control procedures, tests, and reports, as required by Specifications, and as may be employed by manufacturer during production of pipe. Weekly inspection reports shall be submitted to Owner’s Representative.

h. Sec. 5.2 – Each length of pipe and fitting shall be hydrostatically-tested in accordance with Subsection 1.05. Submit test procedures to Owner’s Representative for review.

i. Sec. 5.2.2 – Testing of special sections shall be either hydrostatically-tested or nondestructively tested, in accordance with Subsection 1.05. Submit test procedures to Owner’s Representative for review.

j. Sec. 6.1 – Provide Owner’s Representative with laying schedules showing where each numbered pipe or special section belongs in pipeline.

    1) Designations on schedule shall correspond with those painted on pipe and special sections.

    2) Pipe, fittings, and specials shall be marked as to serial number, date of manufacture, type with head classification, and/or depth of bury for insertion into pipeline at designated points, in conformance and corresponding with approved laying schedule.

    3) Fittings and specials shall be marked with pipeline stationing.

m. Sec.6.3 – Furnish Owner’s Representative with an affidavit certifying that pipe, specials, fittings, and other Products or materials furnished comply with all applicable provisions of these Standards

n. Installation Requirements: In addition to pipe manufacturer's installation guide, the following requirements shall be met:

    1) Pipe manufacturer may provide Contractor with suitable lifting devices to be used during pipe unloading operations to move pipe, to place pipe in trench, or during any other pipe handling operations. Prior approval of pipe manufacturer and Owner’s Representative shall be required for lifting devices not furnished by manufacturer.

    2) Pipe shall be unloaded, handled, and placed using padded slings or other lifting devices to prevent damage to interior and exterior coating.

    3) Unloading or movement of pipe by rolling or sliding is strictly prohibited at any time.

    4) An acceptable device shall be used to distribute rubber gaskets uniformly on all joints.

    5) Joint pull in-field to correct alignment shall be limited to one-half of maximum amount recommended by pipe manufacturer.

B. Flanged Joints

1. Flanges for steel pipe, specials, and fittings shall be in accordance with AWWA C207, Class D (for pressure, Class 150), unless otherwise shown on Drawings, and drilled compatible with concrete pipe and ductile iron pipe with ANSI B16.1 (Class 125 Cast Iron) drilling. For pipe connected to valves, drilling shall be ANSI B16.1, Class 125 or Class 250, or as required.

2. All flanged joints shall be made with single-piece, red rubber gaskets 1/8-inch or 1/16-inch thick, as recommended by pipe manufacturer. Gaskets shall be full-face or ring-type, as recommended by pipe manufacturer, meeting AWWA C115, Appendix A, or AWWA C207 requirements. All bolts for buried flange joints shall be COR-TEN type corrosion-resistant steel (CRS).

C. Welded Joints for Steel Pipe

1. Factory-Welded Joints

a. All welds shall be sound and free from embedded scale or slag, shall have tensile strength across weld not less than that of the thinner of the connected sections, and shall be watertight. Butt welds shall be used for all welded joints in fabrication of bends and other specials. Fillet welds shall be used for flange attachment, in accordance with AWWA C207.

b. A yield point determination of a welded joint shall be made by an independent or manufacturer's certified testing laboratory at beginning of Work. All costs for laboratory testing shall be paid for by Contractor. Submit test report to Owner's Representative.

2. Field-Welded Joints

a. Field-welded joints shall conform to AWWA C206.

b. Qualifications of Procedures and Welders

1) All welders and welding procedures used to install pipe shall be qualified under provisions of ANSI/AWS B2.1 or ANSI/ASME Boiler and Pressure Vessel Code, Sec. IX.

c. If requested by Owner's Representative, Contractor shall furnish a weld test specimen from each welder used on Project for inspection by an independent testing laboratory. If independent testing laboratory determines weld does not meet Specification, welder shall not perform any welding on Project and all welder's welds may be inspected for compliance with Specification at no cost to Owner.

d. Where exterior welds are performed, adequate space shall be provided for welding and inspection of joints.

e. All welded pipe joints shall have a minimum of two passes. First pass for sealing joint shall be continuous seal weld around joint.

3. Unless double fillet welds are specified or shown on Plans, field-welded lap joints and butt straps shall be fillet-welded from inside or outside of pipe when pipe is larger than 30 inches, and from outside of pipe for pipe 30 inches and smaller.

a. Fillet weld for pipe wall 1/4 inch and thinner shall be thickness of thinner part. For pipe wall thicker than 1/4 inch, weld shall be designed for thrust force at weld joint and meeting AWS D1.1 minimum weld size requirement, but shall not be less than 1/4 inch.

b. Butt straps, where used or required, shall be minimum of 12 inches wide (same thickness as pipe wall) and shall provide for minimum of 2 inches lap at each pipe joint.

4. All welds shall be visually inspected and shall be acceptable for the following criteria:
    a. Weld shall have no cracks.
    b. Thorough fusion shall exist between adjoining layers of weld metal.
    c. All craters shall be filled to cross-section of weld.
    d. Weld profiles shall be in conformance with AWS D1.1, Sec. 5.24.
    e. A fillet weld in single continuous weld is permitted to underrun nominal fillet size specified by 1/16 inch, provided that undersize portion of weld does not exceed 10 percent of length of weld.
    f. Undercut shall be no more than 0.01 inch deep.
    g. Frequency of piping porosity in weld shall not exceed 1 in each 4 inches of weld length, and maximum diameter shall not exceed 3/32 inch.

D. Restrained joints
1. Unbalanced forces at pipe bends, tees, valves, etc., shall be restrained by transmitting those forces to pipe wall by means of harnessed, flanged, or welded joints. Restrained joint materials shall be non-corrosive.
2. Each of restrained joint pipe sections and steel joints shall be designed to withstand and transmit whole angle component of longitudinal thrust of force caused by deflection angle (Δ) from pipe total transient pressure, in accordance with AWWA M11. Required length for restrained pipe on each side of bends and bevel pipes or tees shall be calculated in accordance with AWWA M11, and shall meet or exceed lengths shown on Drawings. Reduction of design longitudinal thrust force along pipeline from maximum thrust point will be permitted. Maximum longitudinal cylinder tensile stress shall have minimum factor of safety of 1.67, based on minimum steel plate yield strength. Circumferential welded joint maximum stresses shall not exceed allowable stress of weld shown in ANSI/AISC 360, Table J2.5.
3. Submit design calculations of restrained joint pipes and fittings to Owner's Representative. In designing restrained joints, combined effect of both longitudinal thrust force and radial hoop tensile force, caused by design internal pressure plus surge pressure, shall be considered. Restrained joint system shall have a minimum safety factor of 1.67. Design calculations shall be submitted for Owner's Representative's review.

E. Furnished With Pipe
1. In addition to straight lengths of pipe, the following (within Contract Unit Prices for installed pipe) shall be furnished: all bends, tees, reducers, access manholes with butt strap joints or butt joints, special fittings, and wall pieces for manholes, adapters, beveled pipe, sleeves, caps, plugs, blind flanges, butt straps, bolts, studs, nuts, etc., required for complete pipeline construction, not only as shown on Drawings but also as required by field conditions during construction. Fittings, elbows, tees, access manholes, blow-off connections, and air valve connections may be fabricated into full pipe lengths where possible.
2. Furnish all rubber gaskets and all special materials required for making of joints, and all special materials required to be incorporated in certain pieces of pipe or fittings, restrained joints, etc., as shown or noted on Drawings.
3. Pipe supplier shall furnish, within Contract Unit Prices for installed pipe, all required butt straps and adapters; which, though not specifically called for on Drawings, may still be required by field conditions during construction at no additional cost to Owner's Representative.

F. Wall Pipes

1. Wall pipes shall be steel pipe where both connecting pipes are steel pipe. Minimum wall thickness shall be as specified under in Subsections 2.01E and 2.01F of this Specification and in no case shall be thinner than the connecting pipes. They shall extend beyond wall, as shown on Plans. Wall pipes shall have intermediate wall collars and flanged end at inside and outside of structure, or as shown on Plans. Protective coating and lining of these pipes shall be in accordance with Sec. 4.5.1.

G. All unburied steel pipe, specials, and fittings shall be designed for the following minimum combined conditions:

1. Internal Pressure

	Class 150
Working Pressure (psi)	150
Surge Pressure (psi)	100
Total Transient Pressure (psi)	250

2. Vacuum: Collapse vacuum pressure of -14.7 psi with a minimum factor of safety of 1.5 as shown in AWWA M11.

PART 3 - E X E C U T I O N

3.01 PIPING INSTALLATION

A. Comply with following:

1. Make available services of manufacturer's representative when deemed necessary by Owner's Representative. Representative to advise in aspects of installation, including but not limited to handling and storing, cleaning and inspecting, coating and lining repair, and general construction methods as applicable to pipe.
2. Handling and Storage: Install struts or stulls prior to shipping, horizontally and vertically, as proposed by manufacturer and approved by Owner's Representative.
3. Stulls: Installed in joint ends of fittings. Stulls to remain in place, horizontally and vertically, positioned under following conditions:
   a. During storage and shipping.
   b. Until welding is complete.
4. Install stulls prior to placement of pipe, bends, and fittings to prevent deflection during installation. Provide stulls consisting of timber struts with end blocks shaped to fit curvature of interior surface of pipe, or other appropriate configuration and material. Firmly edge and secure stulls to blocks so that they will remain intact position during handling and installation. Provide stulls adequate to resist handling loads encountered without structural failure to stull members or damage to pipe.
5. Repair, reject, and remove from Site pipe that arrives with defects in lining, including sand pockets, voids, and oversanded areas. Repairs must be made to satisfaction of Owner's Representative to be accepted.
6. Store pipe at Job Site with securely fastened plastic endcaps to maintain moist pipe interior. Promptly replace damaged endcaps to avoid shrinkage or cracking of cement-mortar lining.

7. Immediately replace damaged plastic end caps. Do not leave uncapped for more than 4 hours. If left uncapped for more than 4 hours add four gallons of potable water per 40 feet of pipe before replacing plastic cap.

8. Bedding and Backfilling

    a. Conform to requirements of Section 33 23 16 – EXCAVATION, BACKFILL, AND COMPACTION FOR UTILITIES.

    b. Align pipe at proper grade prior to joint connection and do not shift after jointing operation has been completed.

    c. Take necessary precautions during bedding and backfilling operations to prevent deformation or deflection of pipe's cylindrical shape by more than allowable pipe deflection. Do not move trench support system (trench safety system) once bedding material is compacted.

    d. Excavate outside specified trench section for bell holes and for spaces sufficient to permit removal of slings. Provide bell holes at proper locations for unrestricted access to joint. Form bell holes large enough to facilitate joint wrapping and to permit visual examination of process. Enlarge bell holes as required or directed by Owner's Representative. Subsequent backfilling thereof will not be considered as authorized additional excavation and backfill. Backfill bell holes and spaces to satisfaction of Owner's Representative.

    e. Blocking may be removed 24 hours after placing backfill to top of pavement or natural ground level.

9. Pipe Deflection: After backfill is complete, test pipe for excessive deflection by measuring actual inside vertical diameter. For maximum deflection allowable, see Subsection 2.02C.4.

    a. Deflection may be measured by Owner's Representative at any location along pipe. Arithmetical averages of deflection are not acceptable.

    b. If deflection exceeds that specified, Contractor shall do one of the following:

        1) Remove backfill and side support. Reround pipe and properly replace compacted backfill and side support. Review cement-mortar lining to assure that no harmful damage has occurred.

        2) Remove entire portion of deflected pipe section and install new pipe as directed by Owner's Representative at no additional cost to Owner.

    c. Move pipe in such manner not to damage pipe or coating. Do not roll pipe nor drag on ground. Use a minimum of two wide non-abrasive slings or belts to lift and lower pipe. Handle pipe using a spreader bar. Provide adequate spacing of pipe supports to prevent cracking or damage to lining or coating. Inspect and repair coating abrasions before pipe is lowered into trench.

10. Use of dogs, clips, lugs, or equivalent devices welded to steel pipe to force it into position will not be permitted unless approved by Owner's Representative. Remove foreign matter and protective material from surfaces that are to be in contact at joints. Leave surfaces of joint areas thoroughly clean for metal-to-metal contact of field joints.

B. Static Electricity

1. Properly ground steel pipeline during construction as necessary to prevent build-up of static electricity.

2. Electrically test where required after installation of pipeline is complete.

C. Any time that laying of additional pipe is stopped for more than 8 hours, plug ends of installed pipe and take proper precautions against flotation of pipe segments.

3.02 EXTERNAL COATING SYSTEM FOR BURIED STEEL PIPE

A. Polyurethane Coating System

1. Conform to requirements of AWWA C222.

B. Epoxy Coating System

1. Conform to requirements of AWWA C210.

C. Heat-Shrink Joint Sleeves

1. Provide field-applied shrink-wrap coating system for coating field joints, tie-ins, and other field-welded joints. Apply heat-shrink sleeves prior to internal welding of pipe using approved procedure compatible with coating system. Install heat-shrink joint sleeves in accordance with manufacturer's recommendations. Provide services of manufacturer’s technical representative available on Site at beginning of pipe laying operations. Representative to advise Contractor and Owner’s Representative regarding installation, repairs, and general construction methods.

2. Do not expose heat-shrink joint sleeves to harmful ultraviolet light for longer than recommended by coating manufacturer.

3.03 JOINTS AND JOINTING

A. Rubber Gasketed Bell-and-Spigot Joints

1. Use “O-ring” gasket with sufficient volume to approximately fill area of groove and gasket material, in accordance with AWWA C200. Check each splice in gasket by stretching gasket to at least twice original length of gasket. Visually check stretched splice by rotating 360 degrees. Reject splices showing visible separation or cracks.

2. Equalize rubber gasket cross-section after rubber gasket is placed in spigot groove of pipe by inserting tool or bar, such as large screwdriver, under rubber gasket and moving it around periphery of pipe spigot. Lubricate gaskets with nontoxic water-soluble lubricant before pipe units are joined. Fit pipes together in manner to avoid twisting or otherwise displacing or damaging rubber gasket.

3. Check gaskets after pipe sections are joined with feeler gauge to ensure that no displacement of gasket has occurred at point around circumference after joining. If displacement has occurred, remove pipe section and remake joint as if for new pipe. Remove old gasket and replace before remaking joint.

a. If pipe segment cannot be removed, seal-weld interior of the joint or insert a rolled steel round bar into the flare of the bell and seal-weld the round bar to the bell and spigot in accordance with AWWA C604.

4. Bond “O-ring” joints as on Drawings.

B. Welded Joints

1. For welded lap joints, conform to requirements of Subsection 2.02.I

2. Butt joints to be complete penetration for entire circumference.

C. Do not allow steel plugs for threaded outlets to project beyond inner surface of pipe shell and seal weld by at least two passes. Apply weld around outside of plug after it has been inserted in final position. Coat outlets and plugs inside and outside as required at field joints on pipe.

3.04 COATINGS AND LININGS INSPECTION RESPONSIBILITIES

A. Contractor is responsible for quality control of coatings and linings applications and testing and inspection, as stipulated in this Section. Owner's Representative is responsible for quality assurance and reserves right to inspect or acquire services of independent third-party inspector who is fully knowledgeable and qualified to inspect surface preparation and application of high-performance coatings at phases of coatings and linings, field- or shop-applied. Contractor is responsible for proper application and performance of coatings and linings, whether or not Owner's Representative provides such inspection.

B. Cement-Mortar Lining and Joint Finish: Finished surface of lining and joint to be comparable to surface rubbed with No. 16 Carborundum stone. Rub joint mortar sufficiently to bring paste to surface to remove depressions and projections, and to produce smooth, dense surface. Add cement to form surface paste as necessary. Leave interior with clean, neat, and uniform-appearing finish.

3.05 FIELD REPAIR PROCEDURE OF COATINGS FOR POLYURETHANE

A. Remove oil or grease by solvent wiping pipe and adjacent coating in accordance with SSPC-SP1, Solvent Cleaning.

B. Clean pipe surface in accordance with SSPC-SP11, Power-Tool Cleaning to Bare Metal or abrasively blast in the field in accordance with SSPC-SP10, Near-White Metal Blast Cleaning. Clean the full circumference of the pipe and feather the edges of the existing polyurethane coating a minimum of 2 inches.

C. Apply repair material as described above in accordance with manufacturer's recommendations.

D. Use heat applied patches or single use polyurethane coating repair product.

E. If a heat-applied repair patch is used, do not overlap patches or use more than one patch for a single repair. If repair area exceeds the size of a single patch, use alternate repair method as listed above.

3.06 FIELD REPAIR PROCEDURES AND SPECIAL FITTINGS APPLICATION FOR CEMENT-MORTAR LINING

A. Areas Less Than or Equal to 6 Inches in Diameter: Patch honeycomb and minor defects in concrete surfaces with non-shrink grout. Repair defects by cutting out unsatisfactory material and replacing with nonshrink grout, securely bonded to existing concrete. Finish to make junctures between patches and existing concrete as inconspicuous as possible. After each patch has stiffened sufficiently to allow for greatest portion of shrinkage, strike off grout flush with surrounding surface.

B. Areas Greater Than 6 Inches in Diameter

1. Remove defective lining down to bare steel by chipping, making sure care is taken to prevent further lining damage. Ends of lining where defective lining is removed are to be left square and uniform, not feathered.

2. Clean bare steel with wire brush to remove loose or other foreign matter.

3. Remove existing wire reinforcement and replace. Overlap new reinforcement to existing reinforcement by 1/2 inch. Secure reinforcement against wall of pipe at frequent intervals by tack welding to pipe.

4. Prepare cement-mortar mixture. Mixture to be composed of cement, sand, and water per AWWA C205. Proportions of sand to cement not to exceed three-parts sand to one-part cement, by weight. Use only enough water to obtain proper placement characteristics. Set-up time before mixture is to be discarded is to be no longer than 30 minutes. Non-shrink grout may also be used. Do not use combination of cement-mortar and non-shrink grout within same repair.

5. Apply Larsen Products' Weld-Crete, or approved equal, concrete bonding agent to bare steel and interface of existing lining. After bonding agent is applied to steel and lining, new mix must be applied within 10 minutes.

6. Apply cement-mortar to repair area 1/2-inch thick, then hand trowel to achieve smooth dense finish, making sure wire is not left exposed. To ensure proper thickness while placing new mortar, check thickness with 1/2-inch long wire gauge.

7. Curing: Place plastic sheeting over repair area; use tape to adhere plastic to area surrounding repair area. Let cure for 4 days, then remove plastic sheeting.

3.07 SURVEYING

A. Use adequate surveying methods and procedures and employ competent personnel to ensure pipe sections are laid to line and grade and within stipulated tolerances. Measure and record, in form approved by Owner's Representative, in-place survey data for pipe laid each day and submit data to Owner's Representative in accordance with Section 01 30 01 – DIGITAL UTILITY DATA COLLECTION and Section 01 31 00 – PROJECT MANAGEMENT AND COORDINATION.

3.08 PHOTOGRAPH AND VIDEO REPORTING OF PIPE JOINTS

A. Each completed pipe joint shall be photographed by Owner's Representative. Contractor shall notify Owner's Representative when joints are complete, prior to backfilling pipe. Contractor shall mark date that joint was completed and initials of foreman next to factory painted pipeline station number. Lettering size shall be same as used for pipe stationing number.

B. Owner's Representative will provide internal pipe joint video report for the pipeline. Video report shall show full circumference of each joint with pipe mark number and station number labeled or identified by voice. Date and time shall be recorded on video.

C. Contractor shall coordinate with Owner's Representative upon completion of pipe joints and provide access to pipe for visual observation and documentation.

3.09 HYDROSTATIC TESTING

A. Pipe shall be hydrostatically tested in accordance with AWWA C604.

1. Maximum allowable leakage for pipe with gasketed joints shall not exceed requirements of AWWA C604.

2. No leakage shall be allowed for pipe with welded joints.

3. All visible leaks shall be repaired regardless of the amount of leakage.

3.10 DISINFECTION

A. Disinfection of water main pipe shall be performed in accordance with AWWA C651.

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40 05 57 ELECTRIC VALVE ACTUATORS

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes requirements for provision of electric valve actuators to be installed, complete and operable, in accordance with Drawings and Specifications.

1.02 REFERENCES

A. ANSI/AWWA C542-16 – AWWA Standard for Power-Actuating Devices for Valves and Sluice Gates.

1.03 SUBMITTALS

A. Conform to requirements of Section 01 33 00 – SUBMITTAL PROCEDURES.

B. Shop Drawings: Shop drawings for all actuators shall be submitted together with valve information as a complete package.

1.04 QUALITY ASSURANCE

A. All valve actuator manufacturers shall have at least 5 years of experience manufacturing actuators similar to those supplied for this Work.

B. Where two or more valve actuators of same type or size are required, a single manufacturer shall be utilized for provision of all such actuators.

C. Valve actuator manufacturer shall be responsible for furnishing the electric actuator to properly operate a traveling nut operator on valve (supplied by Owner); however, this shall not negate Contractor's responsibility to Owner for full contract compliance.

PART 2 - P R O D U C T S

2.01 GENERAL

A. General: Where indicated on Drawings, provide electrical actuated valves power actuators. Contractor shall furnish all actuators complete and operable with mounting hardware, motors, gears, controls, wiring, solenoids, handwheels, levers, chains, and extensions, as applicable. All actuators shall be capable of holding valve in any intermediate position between fully open and fully closed without creeping or fluttering. All wires of motor-driven actuators shall be identified by unique numbers and/or acronyms as indicated on Drawings.

B. Manufacturers: Flowserve, Limitorque Model L120-20 with no substitutions. Actuator to include but not limited to:

1. Handwheel
2. Actuator Nameplate Information
3. Housing
4. Declutch Lever
5. Motor
6. Motor Nameplate Information
7. Mounting base(s)

8. No Control Unit at actuator with signal converter for valve position. (Owner to provide 24V DC power for signal). Include necessary limit and torque switches for required operation and indicated in Drawings
9. Motor relays and capacitors for reversing operation of the actuator motor
10. Local/Off/Remote Selector Switch with five feet of wiring for mounting in Motor Starter Panel located in ROV Control Panel. (See Electrical Drawings)
11. Capable of up to 200 ft-lbs of torque
12. O-ring sealed electrical compartment covers with condensate electric heater
13. Drive 1 steel stem nut

C. All actuators shall be current models and liberally sized for maximum expected torque. Actuator enclosure and associated components shall be capable of being installed in confined/hazardous locations susceptible to the following conditions: Moisture, condensation, corrosion, flooding, atmospheric conditions, etc. Shall be weatherproof, submersible, and/or explosionproof NEMA 6P and IP68 or equivalent. (watertight, submersible, All external fasteners on electric actuators will be stainless steel. Fasteners on limit switch and terminal compartments shall be captive to prevent loss while covers are removed. Actuator gear housing, gear reductions (worm and spur) gears, motor gear reduction assemblies, motor adaptors, pinion shafts, bearings, drive gears, etc. shall be of Limitorque L120-20 specifications unless otherwise specified by Owner. All torque and thrust bearing housings, except motor housings, shall be cast iron. All gearing shall be grease lubricated and designed to withstand full stall torque of motor.

D. Mounting: All actuators shall be securely mounted by means of brackets, flanges, adaptors, or hardware specially designed and sized for this purpose and of ample strength. "Open and Close" shall be cast on each valve plate cover and “Open” shall also be cast on actuator handwheel to indicate direction to rotate for manual operation of valve. Valve to open in counterclockwise direction

E. Standard: Unless otherwise indicated and where applicable, all actuators shall be in accordance with ANSI/AWWA C542-16 – AWWA Standard for Power-Actuating Devices for Valves and Sluice Gates.

F. Functionality

1. Electric actuators shall be coordinated with power and instrumentation equipment indicated elsewhere in Drawings and Specifications.
2. All actuators will be furnished with a Contractor supplied motor starter panel inside the ROV Control Cabinet as indicated on Drawings. Panel construction to be in accordance with UL 508A with labeled. Limitorque to provide necessary drawings of supplied electric actuator and no controls unit for coordination.
3. Controls to include:
    a. Reversing contactors
    b. Starters
    c. Power supply/control transformer
    d. Auxiliary relays
    e. Phase discriminator/Phase monitor
    f. "Open-stop-close" momentary selector switch along with red and green indicator lights
    g. "Local-off-remote" selector switch
    h. Control relays and timers
    i. Fuses

j. Limit switches

k. Torque switches

l. Motor protection overloads and over-temperature

m. Space heaters

n. Circuit breakers disconnect

4. Communication and signal feedback between actuators and control panel shall:

a. Low Voltage 24vdc DI/DO's: 14 AWG or appropriately sized.

b. AI Signal: Shielded conductor cables.

1) 4-20mA valve feedback via analog signal or potentiometer (1000 ohm, 10 turn POT) via 3-C shielded to a Potentiometer/ DC convertor card installed in RTU cabinet

c. Valve control power (120 volts): 14 AWG or appropriately sized.

5. Actuator digital communications board must be capable of providing the following:

a. Control Features

1) OPEN.

2) CLOSE.

3) STOP.

b. Indications

1) End-of-travel positions (OPEN/CLOSED Limit -LSC/LSO valve status).

2) Selector switch in position (LOCAL/OFF/REMOTE) -Control Mode Status.

c. Fault Indications

1) Motor protection tripped.

2) Phase failure/wrong phase sequence.

3) Control Power Alarm (Secondary side of Control Power Transformer)

d. Digital inputs and outputs as shown on drawings.

e. 4-20 milliamp valve position analog output.

2.02 ELECTRIC MOTOR ACTUATORS

A. General: Where electric motor actuators are indicated, an electric motor-actuated valve control unit shall be attached to actuating mechanism housing by means of a flanged motor adaptor piece.

B. Gearing. Motor actuator shall include motor, reduction gearing, reversing starter, torque switches, and limit switches in a weather-proof NEMA 4 assembly. Actuator shall be a single or double reduction unit consisting of spur or helical gears and worm-gearing. Spur or helical gears shall be of hardened alloy steel and worm-gear shall be alloy bronze. All gearing shall be accurately cut with hobbing machines. All power gearing shall be grease- or oil-lubricated in a sealed housing. Ball or roller bearings shall be used throughout. Actuator output speed changes shall be mechanically possible by simply removing motor and changing exposed or helical gearset ratio without further disassembly of electric actuator. Exploded parts diagram for gearing reduction units to be included in submittals.

C. Switches and Wiring: Travel in opening and closing directions shall be governed by a limit switch responsive to valve reaching fully open or closed position, torque switch responsive to mechanical torque developed in valve seating or an obstruction/resistance met in opening or

closing the valve, or an on-board microprocessor . Torque switch shall be adjustable and shall function without auxiliary relays or devices, or it shall be adjustable in 1 percent increments, sensed by a pulse-counter, which receives 15 pulses per rotation of unit. Geared limit switches shall be of open type and shall be actuated by a rotor cam with four contacts to each cam or gear train. Actuator shall have a number of gear trains as required to produce operation indicated. Actuator shall be wired in accordance with schematic diagram. All wiring for external connections shall be connected to marked terminals. One 1-inch and one 1 1/4-inch conduit connection shall be provided in enclosing case. A calibration tag shall be mounted near each switch correlating dial setting to unit output torque. Position limit switches and associated gearing shall be an integral part of valve actuator. To provide best possible accuracy and repeatability, limit-switch gearing shall be of "counting" intermittent type, made of stainless steel, grease-lubricated, and enclosed in its own gearcase to prevent dirt and foreign matter from entering gear train. Switches shall not be subject to breakage or slippage due to over-travel. Traveling-nuts, cams, or microswitch tripping mechanisms shall not be used. Limit-switches shall be of heavy-duty open contact type with rotary wiping action. Quarter turn actuators will be furnished with mechanical stops that restrict valve/actuator travel. Actuator must be capable of the following valve closing times/operating speeds:

1. Quarter Turn Valves: 240 second closing time.

D. Emergency Nut Operation: A permanently attached 2” nut shall be provided for emergency manual operation. Nut shall not rotate during electrical operation. Maximum torque required on nut under most adverse conditions shall not exceed 60 pound-feet from above ground T-Wrench. Engaging and de-engaging emergency operation shall provide by means of cabling from above ground where actuator is below grade.

E. Motor: Motor shall be of totally-enclosed, non-ventilated, high-starting torque, low-starting current type for full voltage starting. It shall be suitable for operation on 240-volt, 1-phase, 60-Hertz current, and have Class D insulation and a motor frame with all dimensions in accordance with latest revised NEMA MG Standards. With a line voltage ranging between 10 percent above to 10 percent below rated voltage, motor shall develop full rated torque continuously for 15 minutes without causing thermal contact protective devices imbedded in motor winding to trip or starter overloads to dropout. All bearings shall be of ball type and thrust bearings shall be provided where necessary. All bearings shall be provided with suitable seals to confine lubricant and prevent entrance of dirt and dust. Motor conduit connections shall be watertight. Motor construction shall incorporate use of stator and rotor as independent components from valve operation such that failure of either item shall not require actuator disassembly or gearing replacement.

F. Electric Motor Actuators (AC Reversing Control Type)

1. General: Electric motor actuators of AC reversing type shall be complete with remote control station with open/close/stop and local/remote selector switches.

2. Actuator Appurtenances: Actuator for each valve shall be supplied with open and close status lights; open, close and lock-out-stop push-buttons; close couple service disconnects or equivalent, and all other devices indicated.

3. Starter

   a. Starter shall be suitably sized amperage rated reversing starter with its coils rated for operation on 240-volt, 1-phase, 60-Hertz current. Starter shall be equipped with overload relay of manual reset-type. Starter shall be located in remote control package (ROV Cabinet) actuator enclosure.

   b. An integral weatherproof compartment shall contain a suitably sized space heater to prevent moisture condensation on electrical components.

PART 3 - E X E C U T I O N

3.01 SERVICE OF MANUFACTURER

A. Field Adjustments. Field representatives of manufacturers of valves with electric actuators shall adjust actuator controls and limit-switches in field for required function. Field representative shall instruct Owner's Representative in proper adjustments procedures, care, maintenance, and operation of equipment. Any technical literature to be provided for reference as well.

3.02 INSTALLATION

A. All valve actuators and accessories shall be installed in accordance with manufacturer's installation instructions. Actuators shall be located to be readily accessible for operation and maintenance, without obstructing walkways.

B. Actuators shall be field-mounted on Owner-furnished valve manual actuator. Actuators shall not be mounted where shock or vibrations will impair their operation, nor shall support systems be attached to handrails, process piping, or mechanical equipment. Electric valve actuators shall be installed in horizontal orientation, so replacement of motor and/or servicing actuator enclosure is "Serviceable".

3.03 ACCEPTANCE TEST

A. Upon receipt of the actuator, inspection of equipment condition shall be performed for any damages, missing parts, components, verification of nameplates, etc.

B. Upon completion of installation of each valve actuator, an acceptance test will be conducted to verify satisfactory operation and performance of each actuator. Test shall be conducted in a manner approved by and in the of Owner's Representative. Each valve shall be tested for but not limited to:

1. Torque switch
    a. Test TSC – During close travel
    b. Test TSO – During open travel
2. Alarms/Indications/Controls
    a. Verify all alarming and indications are reporting properly.
3. Manual Operation
    a. Testing handwheel operation
    b. Valve key operation
4. Electric Operation
    a. Local Operation – Fully Close and Open
    b. Remote Operation
        1) Fully Close – 0% setpoint command
        2) 25% open setpoint command
        3) 50% open setpoint command
        4) 75% open setpoint command
        5) Fully Open – 100% setpoint command

C. Each valve actuator must perform in a manner acceptable to Owner's Representative before final acceptance will be made.

D. Project specific readings and/or checklist to include but limited to: motor amp draws, torque switch values (for open and close), etc to be recorded as part of acceptance test.

END OF SECTION

GENERAL NOTES

1. ANY REFERENCE TO A STANDARD IN THESE DRAWINGS SHALL BE TAKEN TO MEAN THE LATEST EDITION OF THE CITED STANDARD.

2. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ALL PERMITS AND BONDS ASSOCIATED WITH THIS PROJECT, COMED, RAILROADS, MUNICIPALITIES, IDOT, COUNTY AND TOWNSHIP HIGHWAY DEPARTMENTS, AND ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.

3. ALL CONSTRUCTION WORK MUST BE COORDINATED WITH LOCAL MUNICIPALITIES/AGENCIES (CITY OF NAPERVILLE, NAPERVILLE TOWNSHIP, WHEATLAND TOWNSHIP, DUPAGE COUNTY, WILL COUNTY). A SCHEDULE MUST BE SUBMITTED TO THE OWNER'S REPRESENTATIVE AND LOCAL MUNICIPALITIES FOR APPROVAL. MINIMIZE THE DISTURBANCE OF THE PROJECT AREA. NOTIFY OWNER'S REPRESENTATIVE AND ALL LOCAL MUNICIPALITIES/AGENCIES A MINIMUM OF 30 DAYS IN ADVANCE OF BEGINNING CONSTRUCTION.

4. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH ALL UTILITY COMPANIES, INCLUDING COMED.

5. CONTRACTOR SHALL VERIFY SIZE, MATERIAL, AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

6. CONTRACTOR SHALL CONTACT 811 (J.U.L.I.E.) TO HAVE ALL UNDERGROUND UTILITIES LOCATED. THE LOCATION AND ELEVATION OF THE VARIOUS UNDERGROUND UTILITIES AS SHOWN ON DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL USE SPECIAL CARE WHEN CONDUCTING CONSTRUCTION OPERATIONS NEAR UTILITIES TO PREVENT DAMAGE. CONTRACTOR IS RESPONSIBLE TO FIELD LOCATE AND EXPOSE, AS THE CONTRACTOR DEEMS NECESSARY, ALL EXISTING UNDERGROUND UTILITIES AND HOUSE SERVICE UTILITIES (IF APPLICABLE) THAT WILL BE CROSSED DURING CONSTRUCTION. FAILURE TO EXPOSE AN EXISTING UTILITY OR HOUSE SERVICE UTILITY THAT IS LOCATED BY J.U.L.I.E. WILL NOT RESULT IN ADDITIONAL COMPENSATION. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IF UNFORESEEN UTILITIES ARE LOCATED VIA J.U.L.I.E. NO SEPARATE PAYMENT WILL BE MADE FOR UTILITY LOCATES, UTILITY LOCATES ARE INCIDENTAL TO COST OF CONSTRUCTION.

7. CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY OWNERS FOR ALL BRACING/SUPPORTING OF EXISTING FACILITIES, INCLUDING WATER MAIN, GAS LINE, SEWERS, TRAFFIC CONTROL BOXES, TELECOMMUNICATION FACILITIES, UTILITY POLES, AND WIRE PROTECTION AS NECESSARY FOR PROPOSED CONSTRUCTION ACTIVITIES. COST INCIDENTAL TO COST OF CONSTRUCTION.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND/OR REPLACEMENT OF ALL DAMAGED UTILITIES AT NO ADDITIONAL COMPENSATION, UNLESS REPLACEMENT OF SAID UTILITY IS SPECIFICALLY CALLED OUT ON DRAWINGS.

9. CONTRACTOR SHALL NOTIFY ALL RESIDENTS OF INTERRUPTION OF THEIR UTILITIES THAT WILL BE CAUSED BY THE CONSTRUCTION.

10. AT NO TIME DOES THE CONTRACTOR HAVE THE PERMISSION OR AUTHORITY TO ENTER OR DISTURB PROPERTY OUTSIDE OF THE EXISTING RIGHT-OF-WAY, OR EASEMENTS, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.

11. NO TRENCHES/HOLES ARE TO BE LEFT OPEN IN THE PAVEMENT OR PARKWAY OVER A LEGAL HOLIDAY, WEEKEND, OR AFTER 3:00 P.M. ON THE DAY PRECEDING A LEGAL HOLIDAY OR WEEKEND, UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE. TRENCHLESS SHAFT EXCAVATIONS SHALL BE SECURED AND PROTECTED PER SPECIFICATIONS. LEGAL HOLIDAYS AND LENGTH OF HOLIDAY PERIODS ARE AS DEFINED BY ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION.

12. ALL SAW CUTTING REQUIRED SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND COST SHALL BE INCLUDED IN RELATED PAY ITEMS. SAW CUT SHALL BE FULL DEPTH FOR HMA PAVEMENTS, PCC PAVEMENTS, AND CURB & GUTTERS.

13. MAJOR THOROUGHFARE AND HIGHWAY CROSSINGS SHALL BE INSTALLED WITH TRENCHLESS CONSTRUCTION AND ENCASED ACCORDING TO THESE DRAWINGS, CONSTRUCTION SPECIFICATIONS, AND ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION. PRIOR TO CONSTRUCTION IN RIGHTS-OF-WAY, THE CONTRACTOR SHALL PROVIDE MINIMUM 7 DAY NOTICE TO THE PROPER AGENCY.

14. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL NECESSARY BARRICADES, DETOUR SIGNS, WARNING SIGNALS, AND LIGHTS BY NIGHT (IN CONFORMANCE WITH THE ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - LATEST EDITION) REQUIRED TO DIRECT TRAFFIC SAFELY OVER OR AROUND THE PLACE WHERE SUCH WORK IS BEING DONE, SO LONG AS THE WORK IN ANY WAY INTERFERES WITH TRAFFIC.

15. BARRICADES: ALL UNBALLASTED TYPE I AND TYPE II BARRICADES SHALL HAVE TWO (2) SANDBAGS PLACED ON THE BOTTOM RAIL. A TYPE II BARRICADE SHALL REQUIRE A MINIMUM OF FOUR (4) SANDBAGS. TYPE I AND II BARRICADES SHALL HAVE WORKING BEACONS AT ALL TIMES.

16. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL TRAFFIC SIGNS THAT MUST BE TEMPORARILY MOVED.

17. CONTRACTOR SHALL CLEAN SITE OF CONSTRUCTION DEBRIS DAILY TO THE SATISFACTION OF THE LOCAL MUNICIPALITY AND OWNER'S REPRESENTATIVE.

18. NO FENCE SHALL BE CUT WITHOUT CONTRACTOR HAVING WRITTEN PERMISSION FROM THE PROPERTY OWNER.

19. NO OPEN BURNING OF CONSTRUCTION DEBRIS SHALL BE ALLOWED WITHOUT A PROPER PERMIT.

20. NO CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIAL, RAW SEWAGE, TREES, BRUSH, OR DEBRIS FROM DEMOLITION OR EXCAVATION ACTIVITIES SHALL BE DISCHARGED OR DISPOSED OF INTO OR ALONGSIDE ANY STREAM, WATERCOURSE, FLOOD PLAIN, OR WETLAND UNDER ANY CIRCUMSTANCES.

21. ALL MATERIALS DISPOSED OF OFF-SITE MUST BE DONE SO IN AN ENVIRONMENTALLY SOUND FASHION AND IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

22. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDOR, ANY WETLAND, ANY SURFACE WATER, OR OUTSIDE THE CONSTRUCTION LIMITS IS PROHIBITED.

23. IF DURING THE COURSE OF CONSTRUCTION, EVIDENCE OF DEPOSITS OF HISTORICAL OR ARCHAEOLOGICAL INTEREST IS FOUND, CEASE OPERATIONS AFFECTING THE FIND AND NOTIFY OWNER'S REPRESENTATIVE, WHO SHALL NOTIFY THE ILLINOIS HISTORIC PRESERVATION OFFICE. NO FURTHER DISTURBANCE OF THE DEPOSITS SHALL ENSUE UNTIL THE CONTRACTOR HAS BEEN NOTIFIED IN WRITING THAT HE/SHE MAY PROCEED. THE OWNER'S REPRESENTATIVE SHALL ISSUE A NOTICE TO PROCEED ONLY AFTER THE ILLINOIS HISTORIC PRESERVATION OFFICE HAS SURVEYED THE FIND AND HAS MADE A DETERMINATION OF VALUE AND EFFECT AND SUBMITTED SUCH DETERMINATION TO THE OWNER'S REPRESENTATIVE.

24. DRAINAGE TILE BROKEN OR DAMAGED IN THE CONSTRUCTION OF THE PROPOSED UTILITY MAIN SHALL BE REPLACED FOR A DISTANCE OF TWO (2) FEET ON EACH SIDE OF THE TRENCH WITH A SOLID PIPE OF THE SAME SIZE. THE REPLACEMENT PIPE SHALL BE INSTALLED WITH PEA GRAVEL OR ANY OTHER SUITABLE GRANULAR BACKFILL FROM THE BOTTOM OF THE TRENCH TO SIX (6) INCHES ABOVE THE TOP OF THE REPLACEMENT PIPE AND ONE (1) FOOT EACH WAY FROM THE CENTERLINE OF THE REPLACEMENT PIPE ALONG THE TRENCH. IN ALL CASES, THE REPAIR OF THE DRAINAGE TILE SHALL BE TO THE SATISFACTION OF OWNER'S REPRESENTATIVE.

25. CONTRACTOR IS RESPONSIBLE FOR REPLACING PAVEMENTS SCORED, MARRED, CRACKED, OR OTHERWISE DAMAGED BY NEGLIGENT USE OF EQUIPMENT AND MATERIAL FOR THE ENTIRE LENGTH OF THE PROJECT.

26. WHERE SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL OWNER'S REPRESENTATIVE, AN AUTHORIZED AGENT, OR LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS/HER OPERATIONS.

27. DRIVEWAY ACCESS TO BE MAINTAINED AT ALL TIMES WITH AGGREGATE SURFACE COURSE.

28. ALL AREAS DISTURBED TO BE RESTORED TO EXISTING CONDITIONS AND ELEVATIONS TO THE SATISFACTION OF OWNER'S REPRESENTATIVE. THIS INCLUDES, BUT IS NOT LIMITED TO, GRASS AREAS, SIDEWALK, CURB AND GUTTER, ETC.

29. THE TRENCHES FOR PIPE INSTALLATION SHALL BE KEPT DRY AT ALL TIMES DURING PIPE REPLACEMENT. APPROPRIATE FACILITIES TO MAINTAIN THE DRY TRENCH SHALL BE PROVIDED BY THE CONTRACTOR AND THE COST OF SUCH SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR THE ITEM. PLAN FOR SITE DEWATERING, IF EMPLOYED, SHALL BE SUBMITTED TO AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO IMPLEMENTATION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR DEWATERING DURING CONSTRUCTION, UNLESS APPROVED IN WRITING BY OWNER'S REPRESENTATIVE.

30. BACKFILLING AND ROUGH GRADING (WITHIN 2-INCHES ± OF FINAL GRADE) SHALL BE COMPLETED THE SAME DAY FOR THE FULL EXTENT OF THE EXCAVATION FOR THE DAY'S PIPE LAYING OPERATION.

31. AT THE CLOSE OF EACH WORKING DAY AND THE CONCLUSION OF CONSTRUCTION OPERATION, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS.

32. THE CONTRACTOR SHALL MAINTAIN ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.

33. POSTAL SERVICE AND RESIDENT ACCESS TO MAILBOXES (IF APPLICABLE) MUST BE MAINTAINED AT ALL TIMES.

34. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH GARBAGE COMPANIES AND GARBAGE COLLECTION IN WORK AREAS THAT ARE INACCESSIBLE TO GARBAGE COLLECTION VEHICLES DUE TO CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL MOVE GARBAGE TO AN AGREED UPON LOCATION THAT GARBAGE COLLECTION VEHICLES CAN ACCESS. NO SEPARATE PAYMENT. COST INCIDENTAL TO CONSTRUCTION.

35. VALVES SHALL ONLY BE OPERATED BY OR IN THE PRESENCE OF THE OWNER. COORDINATE ALL OPERATIONS OF EXISTING VALVES WITH THE OWNER'S REPRESENTATIVE, PROVIDE MINIMUM OF 24 HOURS NOTICE.

36. ANY TIME THE TRENCH IS UNATTENDED FOR MORE THAN 30 MINUTES, A TEMPORARY PLUG OR CAP SHALL BE INSTALLED TO PREVENT WATER OR DEBRIS INTRUSION.

37. FOR LOCATIONS WHERE THE EXISTING STORM SEWER IS BEING REPLACED AND EXTENDS BEYOND THE TYPICAL WORK ZONE FOR THE WATER MAIN INSTALLATION AND REQUIRES ADDITIONAL LANE CLOSURES, REMOVE AND REPLACE THE STORM SEWER DURING OFF-PEAK WORKING HOURS. THE TRENCH MUST BE BACKFILLED AND COVERED WITH A STEEL PLATE OR TEMPORARY PAVEMENT. THIS WORK MUST BE COMPLETED WITHIN THE SAME WORKING DAY. ADDITIONAL TRAFFIC CONTROL REQUIRED FOR THE WORK WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION.

38. PROVIDE BYPASS PUMPING FOR ALL STORM AND SANITARY SEWER REPLACEMENT WORK, AS NEEDED. REMOVAL AND REPLACEMENT OF SEWERS MUST TAKE PLACE DURING DRY WEATHER CONDITIONS OR ANOTHER TIME APPROVED BY OWNER'S REPRESENTATIVE.

39. ALL CULVERT PIPE REPLACEMENTS MUST INCLUDE REPLACEMENT OF CONNECTED FLARED END SECTIONS (IF APPLICABLE) AND HEAD WALLS IN KIND AT NO EXTRA COST.

40. MAINTAIN AS-BUILT DRAWINGS SHOWING PIPE SIZES, PIPE ELEVATIONS, PIPE LENGTHS, PIPE MATERIALS, FITTINGS, STRUCTURES, CROSSING UTILITIES, AND CATHODIC PROTECTION TEST STATIONS AND ANODES. DATA COLLECTION SHALL BE PERFORMED WITH GPS UNITS AND MOBILE DEVICES PER SPECIFICATIONS.

41. IF DRAIN TILE IS ENCOUNTERED, PHOTOGRAPH THE DRAIN TILE UPON DISCOVERY TO DOCUMENT EXISTING CONDITION. IF REPAIRS ARE NECESSARY DUE TO DISTURBANCE DURING THE WORK, PHOTOGRAPH THE REPAIRED DRAIN TILE CONDITION. SUBMIT ALL PHOTOGRAPHS TO OWNER'S REPRESENTATIVE.

42. SURFACE INLETS MAY NOT BE CONNECTED TO ANY CLAY OR PLASTIC DRAIN TILE.

EROSION CONTROL

1. NOTIFY KANE-DUPAGE SOIL & WATER CONSERVATION DISTRICT (KDSWCD) AND WILL-SOUTH COOK SOIL & WATER CONSERVATION DISTRICT A MINIMUM OF ONE (1) WEEK PRIOR TO START OF LAND-DISTURBING ACTIVITIES AND ONE (1) WEEK PRIOR TO FINAL INSPECTION.

2. CONTRACTOR SHALL INSTALL INLET FILTERS AT LOCATIONS SHOWN ON THE EROSION CONTROL PLAN.

3. CONTRACTOR SHALL INSTALL JUTE MAT ROLLS AT ALL UP-STREAM ENDS OF CULVERTS ON STREET SIDE OF CONSTRUCTION (TYPICAL).

4. CONTRACTOR SHALL PROVIDE EROSION CONTROL CONSISTENT WITH "BEST MANAGEMENT PRACTICES FOR EROSION CONTROL."

5. RECOMMENDED EROSION CONTROL MEASURES ARE INTENDED TO BE USED AS GUIDELINES FOR BEST MANAGEMENT PRACTICES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FURNISH, INSTALL, MAINTAIN, REPAIR, REPLACE, AND REMOVE THE APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES AS REQUIRED BY ALL APPLICABLE PERMITS.

6. ALL ACTIVITIES ON THE SITE SHALL BE CONDUCTED IN A LOGICAL SEQUENCE TO MINIMIZE THE AREA OF UNSTABILIZED SOIL AT ANY ONE TIME.

7. ANY DISTURBED SOIL LEFT INACTIVE FOR SEVEN OF MORE DAYS SHALL BE STABILIZED BY SEEDING OR SODDING, BY MULCHING OR COVERING, OR OTHER EQUIVALENT CONTROL MEASURES IN ACCORDANCE WITH "BEST MANAGEMENT PRACTICES OR EROSION CONTROL."

8. ANY SOIL OR DIRT STORAGE PILES CONTAINING MORE THAN 10 CUBIC YARDS OF MATERIAL SHALL NOT BE LOCATED WITH DOWN-SLOPE DRAINAGE OR LESS THAN 25 FEET TO A ROADWAY, DRAINAGE CHANNEL, OR BODY OF WATER. IF REMAINING FOR MORE THAN 14 DAYS, THE PILE SHALL BE STABILIZED WITH MULCH, VEGETATIVE COVER, TARPS, OR OTHER MEANS. EROSION FROM PILES IN EXISTENCE LESS THAN 14 DAYS SHALL BE CONTROLLED BY PLACING STRAW BALES OR FILTER FENCE BARRIER AROUND THE PILE.

9. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO DISTURBING ANY LANDS ON SITE. ALL APPLICABLE PERMITS AND AUTHORIZATIONS PERTAINING TO EROSION CONTROL ACTIVITIES SHALL BE OBTAINED PRIOR TO DISTURBING ANY LANDS ON SITE.

10. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE SITE IS STABILIZED BY PERMANENT BEST MANAGEMENT PRACTICES.

11. STORAGE OF EQUIPMENT AND CONSTRUCTION MATERIALS IN THE FLOODPLAIN IS NOT PERMITTED.

WATER MAIN

1. IN THE EVENT OF A BREAK ON AN EXISTING WATER MAIN IN THE WORK AREA, ALL WORK ADJACENT TO MAIN BREAK MUST IMMEDIATELY CEASE AND THE CONTRACTOR MUST REPAIR DAMAGED OR LEAKING EXISTING WATER MAIN PRIOR TO RESUMING WORK. FOR DAMAGES TO EXISTING CITY OF NAPERVILLE DISTRIBUTION MAINS, THE CITY OF NAPERVILLE MUST BE IMMEDIATELY NOTIFIED AND REPAIRS MUST BE MADE TO THE CITY OF NAPERVILLE SPECIFICATION.

2. WATER MAIN MUST BE INSTALLED WITH A MINIMUM 6 FEET OF COVER.

3. ALL EXISTING WATER MAINS MUST REMAIN IN SERVICE UNLESS OTHERWISE NOTED ON DRAWINGS.

4. EDGE-TO-EDGE SEPARATION OF THE PROPOSED WATER MAIN AND ANY SEWERS SHALL BE 10 FEET HORIZONTAL. WHERE 10 FEET HORIZONTAL SEPARATION CANNOT BE MET, WATER MAIN INVERT MUST BE MINIMUM OF 18 INCHES ABOVE CROWN OF EXISTING SEWER AND INSTALLED IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED EARTH SHELF LOCATED TO ONE SIDE OF SEWER. WHERE IT IS NOT POSSIBLE TO MAINTAIN HORIZONTAL AND VERTICAL SEPARATION AS DESCRIBED ABOVE, BOTH WATER MAIN AND SEWER MUST BE CONSTRUCTED WITH PRESSURE RATED WATER MAIN MATERIALS, PER ILLINOIS ADMINISTRATIVE CODE TITLE 35, SECTION 604.1440, UNLESS VARIANCE IS NOTED ON DRAWINGS. SEWER SHALL BE PRESSURE TESTED TO MAXIMUM EXPECTED SURCHARGE HEAD BEFORE BACKFILLING.

5. ONLY WATER SHALL BE USED TO CONTROL DUST DURING CONSTRUCTION.

6. ENCASE ALL BURIED DUCTILE IRON PIPE WATER MAIN AND APPURTENANCES IN V-BIO ENHANCED POLYETHYLENE ENCASEMENT MATERIALS CONFORMING TO THE MATERIAL AND INSTALLATION REQUIREMENTS OF AWWA C105.

7. DISINFECTION OF WATER MAIN SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C651.

8. LIMITS OF TRENCHLESS SHAFTS SHOWN ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF SHAFTS IN ACCORDANCE WITH SPECIFICATIONS.

9. CATHODIC PROTECTION TEST STATION HANDHOLES SHALL BE INSTALLED IN GRASS PARKWAY AREAS, OUTSIDE OF PAVEMENT LIMITS. NOTIFY OWNER'S REPRESENTATIVE IF NO PARKWAY AREAS ARE AVAILABLE.

TREE REMOVAL

5. PROTECT ALL TREES, FENCES, AND OTHER ITEMS NOT SHOWN FOR REMOVAL ON DRAWINGS. MINIMIZE CLEARING OF TREES AND PLANT LIFE WHENEVER POSSIBLE AND ONLY REMOVE TREE SHOWN ON DRAWINGS, OR AS DIRECTED BY OWNER'S REPRESENTATIVE.

TURF RESTORATION

1. ALL TURF AREAS DISTURBED DURING CONSTRUCTION MUST BE RESTORED USING 4-INCH THICK TOPSOIL AND SEEDING, UNLESS OTHERWISE NOTED ON DRAWINGS.

2. TOPSOIL MUST BE FERTILE, FRIABLE, NATURAL LOAM, SURFACE SOIL FREE OF SUBSOIL, CLAY LUMPS, BRUSH, WEEDS, LITTER, ROOTS, STUMPS, STONES, AND OTHER MATERIAL HARMFUL TO PLANT GROWTH.

EXISTING LANDSCAPING

1. WHEN SHOWN ON DRAWINGS, EXISTING LANDSCAPING FEATURES MUST BE REMOVED AND STORED PROPERLY FOR THE DURATION OF CONSTRUCTION. DURING FINAL RESTORATION, LANDSCAPING MUST BE INSTALLED IN ITS PREVIOUS LOCATION OR AS APPROVED.

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LINE TABLE - CONTRACT TW-6/25 SECTION 1

LINE #	LENGTH	DIRECTION	START POINT			END POINT		
			STATION	NORTHING	EASTING	STATION	NORTHING	EASTING
L1	48.00'	N88° 57' 06"E	596+56.80	1834480.4906	1024375.0884	597+04.80	1834481.3688	1024423.0834
L2	207.87'	N01° 38' 52"W	597+04.80	1834481.3688	1024423.0834	599+12.67	1834689.1481	1024417.1063
L3	253.15'	N00° 27' 04"W	599+12.67	1834689.1481	1024417.1063	601+65.82	1834942.2940	1024415.1133
L4	248.64'	N01° 34' 04"W	601+65.82	1834942.2940	1024415.1133	604+14.47	1835190.8457	1024408.3106
L5	161.09'	N01° 50' 03"W	604+14.47	1835190.8457	1024408.3106	605+75.56	1835351.8569	1024403.1543
L6	646.00'	N01° 04' 36"W	605+75.56	1835351.8569	1024403.1543	612+21.56	1835997.7427	1024391.0150
L7	75.24'	N01° 40' 53"W	612+21.56	1835997.7427	1024391.0150	612+96.80	1836072.9499	1024388.8071
L8	23.94'	N12° 55' 53"W	612+96.80	1836072.9499	1024388.8071	613+20.74	1836096.2804	1024383.4502
L9	1803.05'	N01° 38' 47"W	613+20.74	1836096.2804	1024383.4502	631+23.79	1837898.5874	1024331.6480
L10	1001.27'	N01° 50' 31"W	631+23.79	1837898.5874	1024331.6480	641+25.06	1838899.3381	1024299.4637
L11	122.08'	N00° 24' 30"E	641+25.06	1838899.3381	1024299.4637	642+47.13	1839021.4118	1024300.3335
L12	28.62'	N00° 24' 30"E	642+47.13	1839021.4118	1024300.3335	642+75.75	1839050.0280	1024300.5374
L13	556.77'	N01° 57' 57"W	642+75.75	1839050.0280	1024300.5374	648+32.52	1839606.4725	1024281.4388
L14	414.63'	N01° 17' 38"W	648+32.52	1839606.4725	1024281.4388	652+47.15	1840020.9923	1024272.0757
L15	1946.99'	N01° 26' 44"W	652+47.15	1840020.9923	1024272.0757	671+94.14	1841967.3637	1024222.9632
L16	302.99'	N00° 47' 46"W	671+94.14	1841967.3637	1024222.9632	674+97.13	1842270.3289	1024218.7533
L17	26.89'	N10° 47' 46"W	674+97.13	1842270.3289	1024218.7533	675+24.03	1842296.7463	1024213.7158
L18	167.85'	N00° 47' 46"W	675+24.03	1842296.7463	1024213.7158	676+91.88	1842464.5802	1024211.3836
L19	404.57'	N06° 00' 48"E	676+91.88	1842464.5802	1024211.3836	680+96.44	1842866.9194	1024253.7658

1

CITY OF NAPERVILLE BENCHMARKS:

1. CITY OF NAPERVILLE MONUMENTS BASED ON FOLLOWING DATUMS:

   HORIZONTAL DATUM
   NAD 83 (2007) ILLINOIS STATE PLANE TRANSVERSE MERCATOR, EAST ZONE.

   VERTICAL DATUM
   NAVD 1988 ADJUSTMENT

2. STATION NO. 625

   BERNSTEN 3D TOP SECURITY MONUMENT CONSISTING OF A 5/8" DIA. STAINLESS STEEL DATUM POINT ON THREADED 5/8" x 4' LONG ROD TOTALING (8') IN LENGTH WITH GREASED TOP SECURITY SLEEVE ENCLOSED IN SAND AND 6" PVC PIPE WITH BMAC 6 ALUMINUM ACCESS COVER. LOCATED ALONG THE NORTH SIDE OF 75TH ST WEST OF PLAINFIELD-NAPERVILLE RD NEAR 1331 W 75TH ST.

   N= 1,850,724.35
   E= 1,027,461.07
   ELEV= 687.65

3. STATION NO. 1004

   BERNSTEN 3D TOP SECURITY MONUMENT CONSISTING OF A 5/8" DIA. STAINLESS STEEL DATUM POINT ON THREADED 5/8" x 4' LONG ROD TOTALING (12') IN LENGTH WITH GREASED TOP SECURITY SLEEVE ENCLOSED IN SAND AND 6" PVC PIPE WITH BMAC 6 ALUMINUM ACCESS COVER. LOCATED AT THE SOUTHEAST CORNER OF RICKERT RD AND SANCTUARY LN.

   N= 1,852,697.84
   E= 1,024,351.32
   ELEV= 703.93

NOTES:

1. ALL HORIZONTAL COORDINATES SHOWN ARE ILLINOIS STATE PLANE, EAST ZONE, GRID COORDINATES. NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT, NAD 83 (2011).
2. ALL VERTICAL COORDINATES ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) ARRIVED AT UTILIZING ELLIPSOID HEIGHTS IN CONJUNCTION WITH GEOID HEIGHTS (GEOID '18) TO ARRIVE AT THE ORTHOMETRIC HEIGHTS (APPROXIMATE ELEVATIONS) FOR THE PROJECT.
3. HORIZONTAL ALIGNMENT SHOWN IS CENTER LINE OF WATER TRANSMISSION MAIN.

PROJECT BENCHMARKS:

1. SITE BM 30000

   SPIKE NAIL IN SOUTH FACE OF 2ND POWER POLE EAST OF BOOK RD ON NORTH SIDE OF 75TH ST
   ELEV=696.61

2. SITE BM 30005

   CROSS ON TOP OF EAST SIDE OF CONCRETE BASE FOR TRAFFIC SIGNAL MAST ARM AT NORTHWEST CORNER 75TH ST AND BOOK RD
   ELEV=696.58

3. SITE BM 40007

   SQUARE CUT ON NORTH SIDE OF LIGHT POLE BASE. FIRST POLE WEST OF BOOK RD, SOUTH SIDE OF 95TH ST
   ELEV=674.18

4. SITE BM 40010

   X CUT ON SOUTH SIDE OF LIGHT POLE BASE. NORTHWEST CORNER OF 95TH ST AND BOOK RD
   ELEV=675.56

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	OG

DATE = MAY 2025
SCALE = 1"=300'
SCALE =
PROJECT NO = 128-10031-001

DESIGNED — OG
CHECKED — JWG
DRAWN — EDB
CHECKED — OG

WATERLINK MONTGOMERY • OSWEGO • YORKVILLE

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

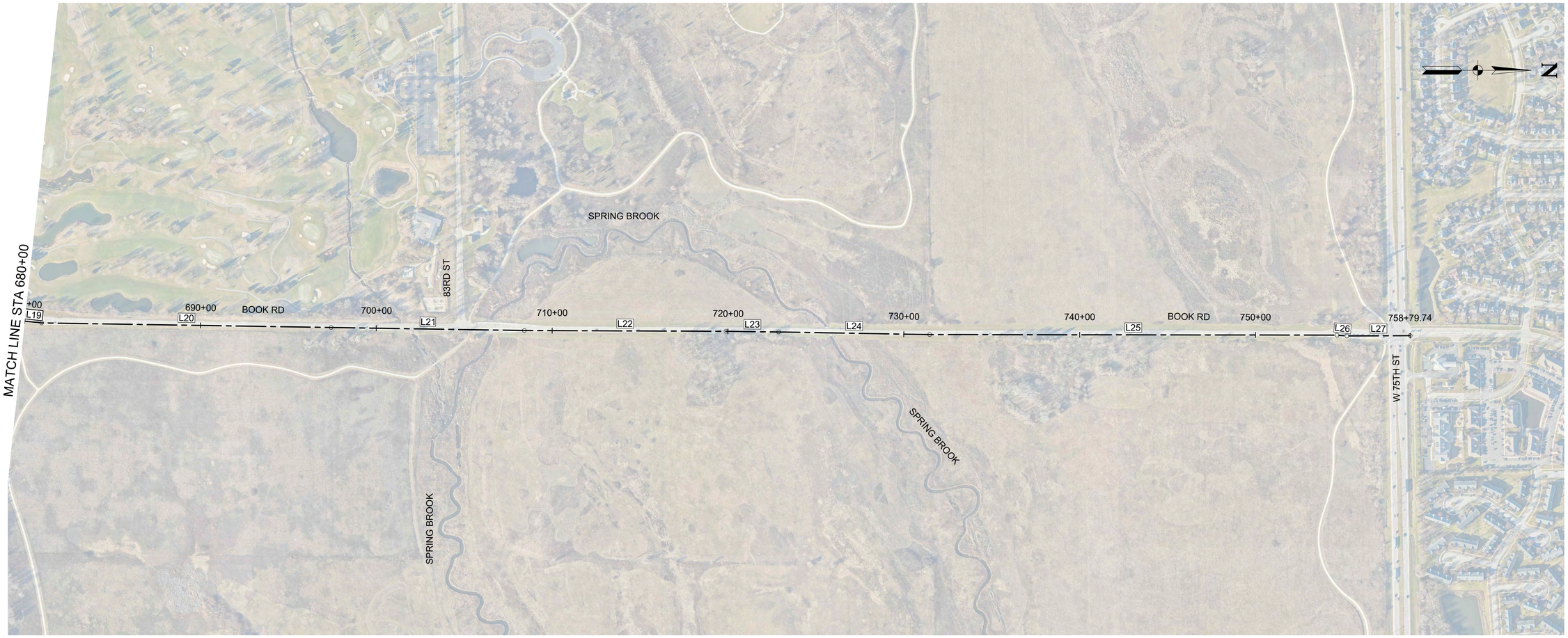
GENERAL
HORIZONTAL ALIGNMENT CONTROL
STA 596+56.80 TO STA 680+00

LAN · Robinson ENGINEERING · Stanley Consultants INC.

0 300 600

DRAWING NO. G-008
SHEET NO. 8 of 199

File: C:\Users\kgarza\DOCUMENTS\ACCDocs\Lee A. Daly\128-10031-001\Project Files\4-1-RM-CAD_PROGRAM-MGE\General\PKG1-TW6S1\G007-008-HOR2074L ALIGNMENT CONTROL-TW6S1.dwg Plot Date: 6/13/2025, 1:43 PM By: Garza, Dyla



LINE TABLE - CONTRACT TW-6/25 SECTION 1								
LINE #	LENGTH	DIRECTION	START POINT			END POINT		
			STATION	NORTHING	EASTING	STATION	NORTHING	EASTING
L19	404.57'	N06° 00' 48"E	676+91.88	1842464.5802	1024211.3836	680+96.44	1842866.9194	1024253.7658
L20	1646.69'	N00° 54' 22"E	680+96.44	1842866.9194	1024253.7658	697+43.13	1844513.4019	1024279.8059
L21	1098.48'	N00° 54' 11"E	697+43.13	1844513.4019	1024279.8059	708+41.61	1845611.7411	1024297.1162
L22	1147.21'	N00° 13' 28"E	708+41.61	1845611.7411	1024297.1162	719+88.82	1846758.9436	1024301.6112
L23	298.57'	N00° 46' 22"E	719+88.82	1846758.9436	1024301.6112	722+87.39	1847057.4880	1024305.6388
L24	859.37'	N00° 58' 32"E	722+87.39	1847057.4880	1024305.6388	731+46.76	1847916.7318	1024320.2717
L25	2316.43'	N00° 04' 26"E	731+46.76	1847916.7318	1024320.2717	754+63.18	1850233.1560	1024323.2543
L26	56.52'	N05° 04' 26"E	754+63.18	1850233.1560	1024323.2543	755+19.71	1850289.4581	1024328.2532
L27	360.03'	N00° 17' 15"W	755+19.71	1850289.4581	1024328.2532	758+79.74	1850649.4856	1024326.4460

1

CITY OF NAPERVILLE BENCHMARKS:

1. CITY OF NAPERVILLE MONUMENTS BASED ON FOLLOWING DATUMS:

   HORIZONTAL DATUM
   NAD 83 (2007) ILLINOIS STATE PLANE TRANSVERSE MERCATOR, EAST ZONE.

   VERTICAL DATUM
   NAVD 1988 ADJUSTMENT

2. STATION NO. 625

   BERNSTEN 3D TOP SECURITY MONUMENT CONSISTING OF A 5/8" DIA. STAINLESS STEEL DATUM POINT ON THREADED 5/8" x 4' LONG ROD TOTALING (8') IN LENGTH WITH GREASED TOP SECURITY SLEEVE ENCLOSED IN SAND AND 6" PVC PIPE WITH BMAC 6 ALUMINUM ACCESS COVER. LOCATED ALONG THE NORTH SIDE OF 75TH ST WEST OF PLAINFIELD-NAPERVILLE RD NEAR 1331 W 75TH ST.

   N= 1,850,724.35
   E= 1,027,461.07
   ELEV= 687.65

3. STATION NO. 1004

   BERNSTEN 3D TOP SECURITY MONUMENT CONSISTING OF A 5/8" DIA. STAINLESS STEEL DATUM POINT ON THREADED 5/8" x 4' LONG ROD TOTALING (12') IN LENGTH WITH GREASED TOP SECURITY SLEEVE ENCLOSED IN SAND AND 6" PVC PIPE WITH BMAC 6 ALUMINUM ACCESS COVER. LOCATED AT THE SOUTHEAST CORNER OF RICKERT RD AND SANCTUARY LN.

   N= 1,852,697.84
   E= 1,024,351.32
   ELEV= 703.93

NOTES:

1. ALL HORIZONTAL COORDINATES SHOWN ARE ILLINOIS STATE PLANE, EAST ZONE, GRID COORDINATES. NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT, NAD 83 (2011).
2. ALL VERTICAL COORDINATES ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) ARRIVED AT UTILIZING ELLIPSOID HEIGHTS IN CONJUNCTION WITH GEOID HEIGHTS (GEOID '18) TO ARRIVE AT THE ORTHOMETRIC HEIGHTS (APPROXIMATE ELEVATIONS) FOR THE PROJECT.
3. HORIZONTAL ALIGNMENT SHOWN IS CENTER LINE OF WATER TRANSMISSION MAIN.

PROJECT BENCHMARKS:

1. SITE BM 30000
   SPIKE NAIL IN SOUTH FACE OF 2ND POWER POLE EAST OF BOOK RD ON NORTH SIDE OF 75TH ST
   ELEV=696.61
2. SITE BM 30005
   CROSS ON TOP OF EAST SIDE OF CONCRETE BASE FOR TRAFFIC SIGNAL MAST ARM AT NORTHWEST CORNER 75TH ST AND BOOK RD
   ELEV=696.58
3. SITE BM 40007
   SQUARE CUT ON NORTH SIDE OF LIGHT POLE BASE. FIRST POLE WEST OF BOOK RD, SOUTH SIDE OF 95TH ST
   ELEV=674.18
4. SITE BM 40010
   X CUT ON SOUTH SIDE OF LIGHT POLE BASE. NORTHWEST CORNER OF 95TH ST AND BOOK RD
   ELEV=675.56

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	OG

DATE = MAY 2025
SCALE = 1"=300'
SCALE =
PROJECT NO = 128-10031-001

DESIGNED — OG
CHECKED — JWG
DRAWN — EDB
CHECKED — OG

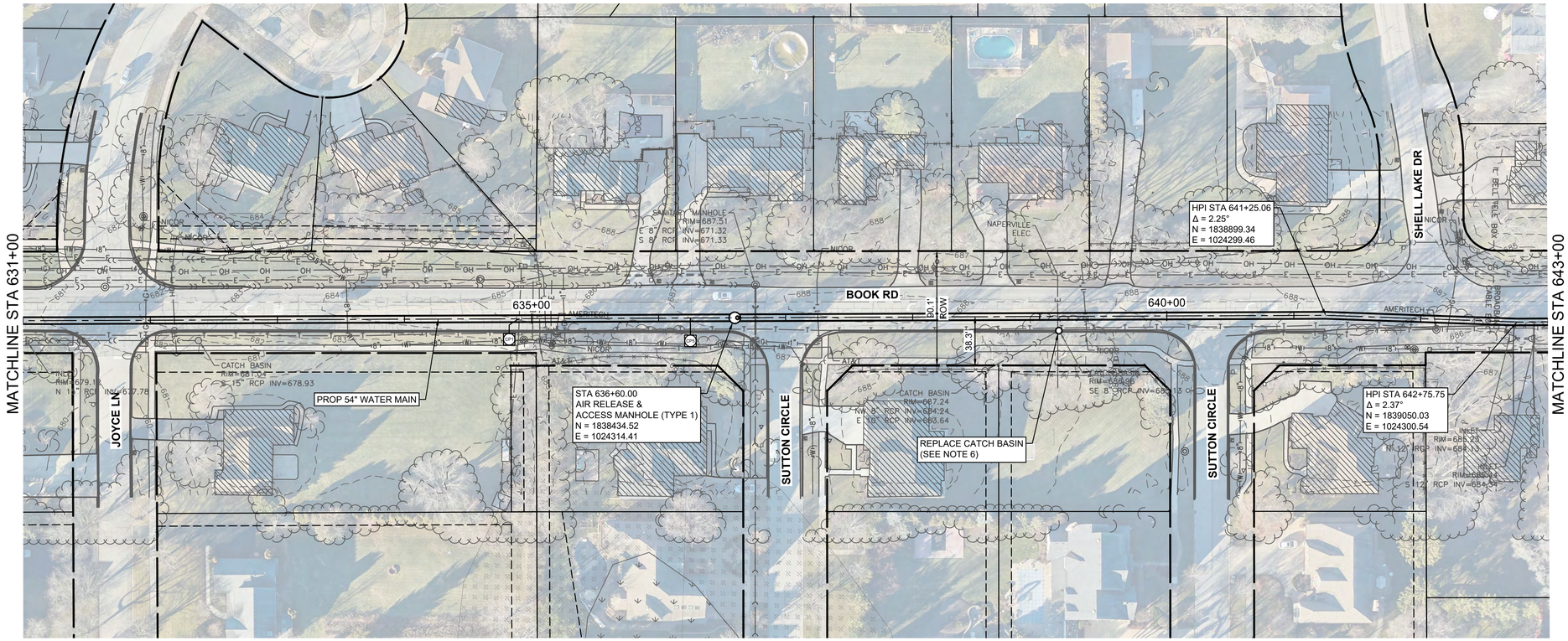
DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

GENERAL
HORIZONTAL ALIGNMENT CONTROL
STA 680+00 TO STA 758+79.74

0 300 600

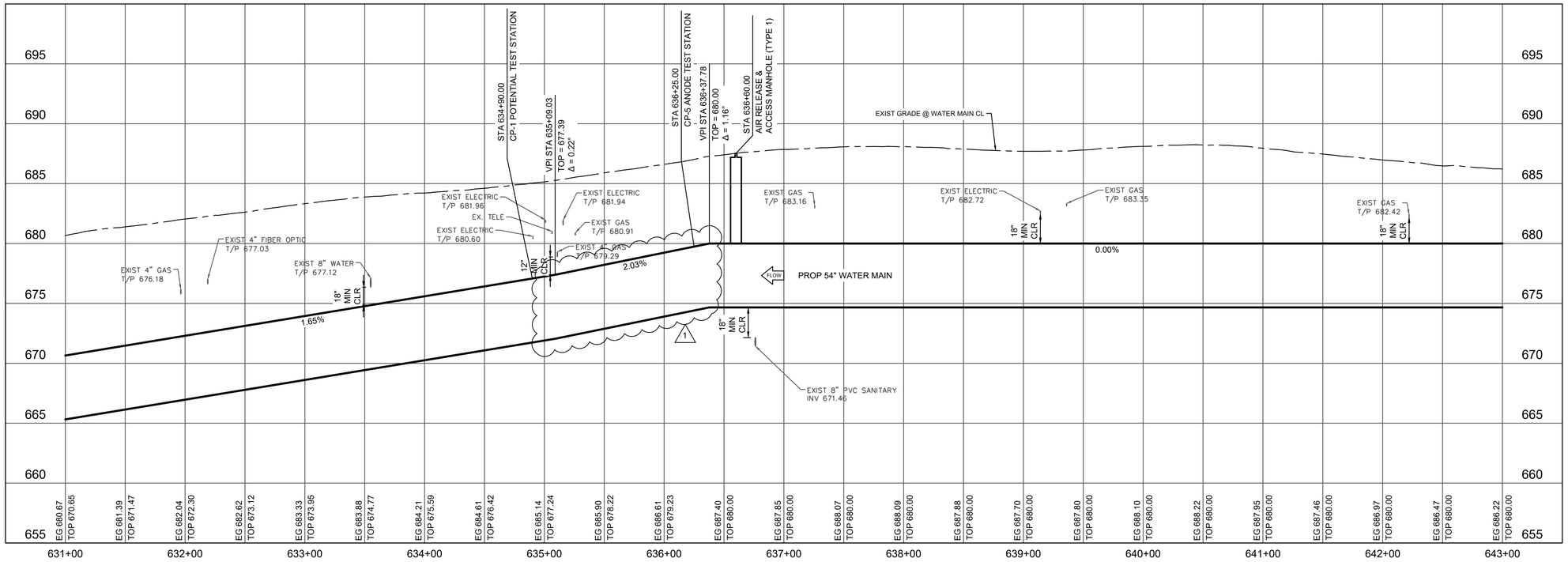
DRAWING NO. G-009
SHEET NO. 9 of 199

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GENERAL NOTES:

1. BACKGROUND AERIAL IMAGERY AND CONTOUR DATA WAS CAPTURED MARCH 2024. FIELD VERIFY PROJECT SITE PRIOR TO CONSTRUCTION AS CONDITIONS MAY HAVE CHANGED.
2. LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
3. COORDINATE UTILITY CONFLICTS AND REQUIRED RELOCATIONS WITH MUNICIPAL AND PRIVATE UTILITY OWNERS.
4. COORDINATE ALL CONSTRUCTION ACTIVITIES WITH OWNER'S REPRESENTATIVE AND NOTIFY LANDOWNERS PRIOR TO ANY WORK ON PRIVATE PROPERTY. NO CONSTRUCTION ACTIVITIES ALLOWED OUTSIDE OF PERMANENT AND TEMPORARY EASEMENT / LICENSE AGREEMENT LIMITS SHOWN.
5. SEE WATER MAIN DETAIL SHEETS.
6. FOR ALL CATCH BASINS TO BE REMOVED AND REPLACED, MATCH EXISTING CATCH BASIN TYPE, SIZE AND INVERTS. SEE CITY OF NAPERVILLE STANDARD CIVIL DETAILS.



REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	CH

DATE	=	MAY 2025	DESIGNED	—	MC
SCALE	=	1"=50' HORZ	CHECKED	—	KD
SCALE	=	1"=5' VERT	DRAWN	—	BH
PROJECT NO	=	128-10031-001	CHECKED	—	JM

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

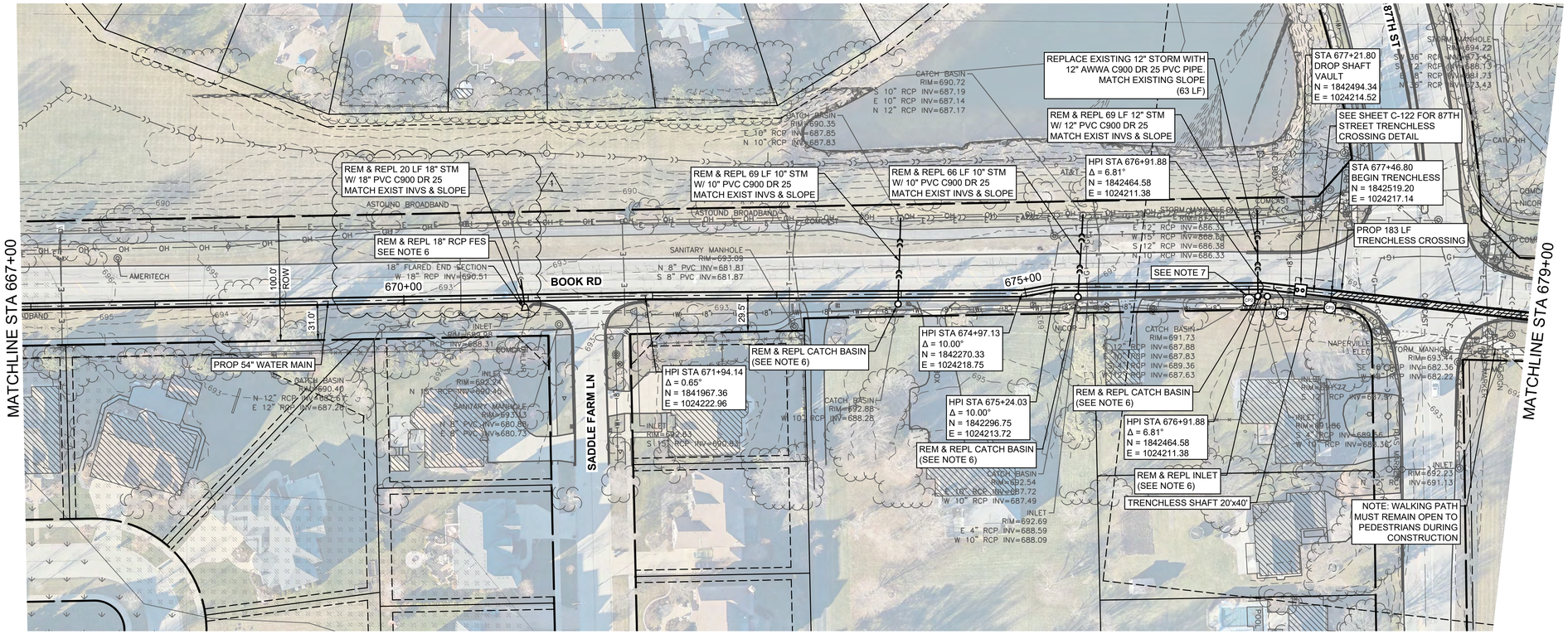
CIVIL
BOOK ROAD
WATER TRANSMISSION MAIN
PLAN & PROFILE
STA 631+00 TO STA 643+00

LAN · Robinson ENGINEERING · Stanley Consultants INC.

0 50 100

DRAWING NO. C-105
SHEET NO. 14 of 199

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N

GENERAL NOTES:

1. BACKGROUND AERIAL IMAGERY AND CONTOUR DATA WAS CAPTURED MARCH 2024. FIELD VERIFY PROJECT SITE PRIOR TO CONSTRUCTION AS CONDITIONS MAY HAVE CHANGED.
2. LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
3. COORDINATE UTILITY CONFLICTS AND REQUIRED RELOCATIONS WITH MUNICIPAL AND PRIVATE UTILITY OWNERS.
4. COORDINATE ALL CONSTRUCTION ACTIVITIES WITH OWNER'S REPRESENTATIVE AND NOTIFY LANDOWNERS PRIOR TO ANY WORK ON PRIVATE PROPERTY. NO CONSTRUCTION ACTIVITIES ALLOWED OUTSIDE OF PERMANENT AND TEMPORARY EASEMENT / LICENSE AGREEMENT LIMITS SHOWN.
5. SEE WATER MAIN DETAIL SHEETS.
6. FOR ALL CATCH BASINS TO BE REMOVED AND REPLACED, MATCH EXISTING CATCH BASIN TYPE, SIZE AND INVERTS. SEE CITY OF NAPERVILLE STANDARD CIVIL DETAILS.

SHEET NOTES:

7. ISOLATION TEST STATION REQUIRED FOR PCCP PIPE OPTION ONLY.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	CH

DATE = MAY 2025 | SCALE = 1"=50' HORZ | SCALE = 1"=5' VERT | PROJECT NO = 128-10031-001

DESIGNED — MC | CHECKED — KD | DRAWN — BH | CHECKED — JM

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

CIVIL
BOOK ROAD
WATER TRANSMISSION MAIN
PLAN
STA 667+00 TO STA 679+00

0 50 100

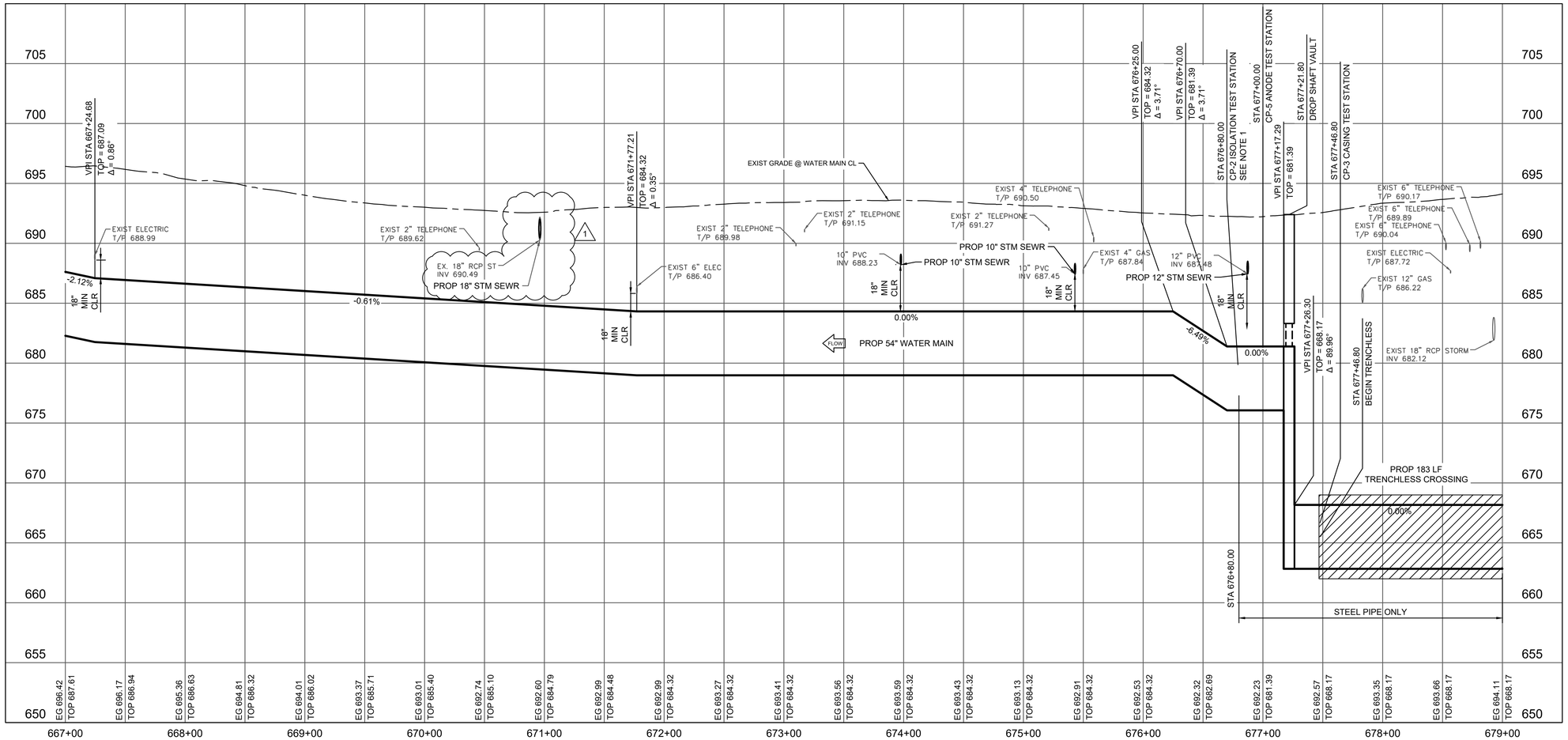
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SHEET NO. 17 of 199

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SHEET NOTES:

1. ISOLATION TEST STATION REQUIRED FOR PCCP PIPE OPTION ONLY.



REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	CH

DATE	=	MAY 2025	DESIGNED	—	MC
SCALE	=	1"=50' HORZ	CHECKED	—	KD
SCALE	=	1"=5' VERT	DRAWN	—	BH
PROJECT NO	=	128-10031-001	CHECKED	—	JM

WATERLINK
MONTGOMERY • OSWEGO • YORKVILLE

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

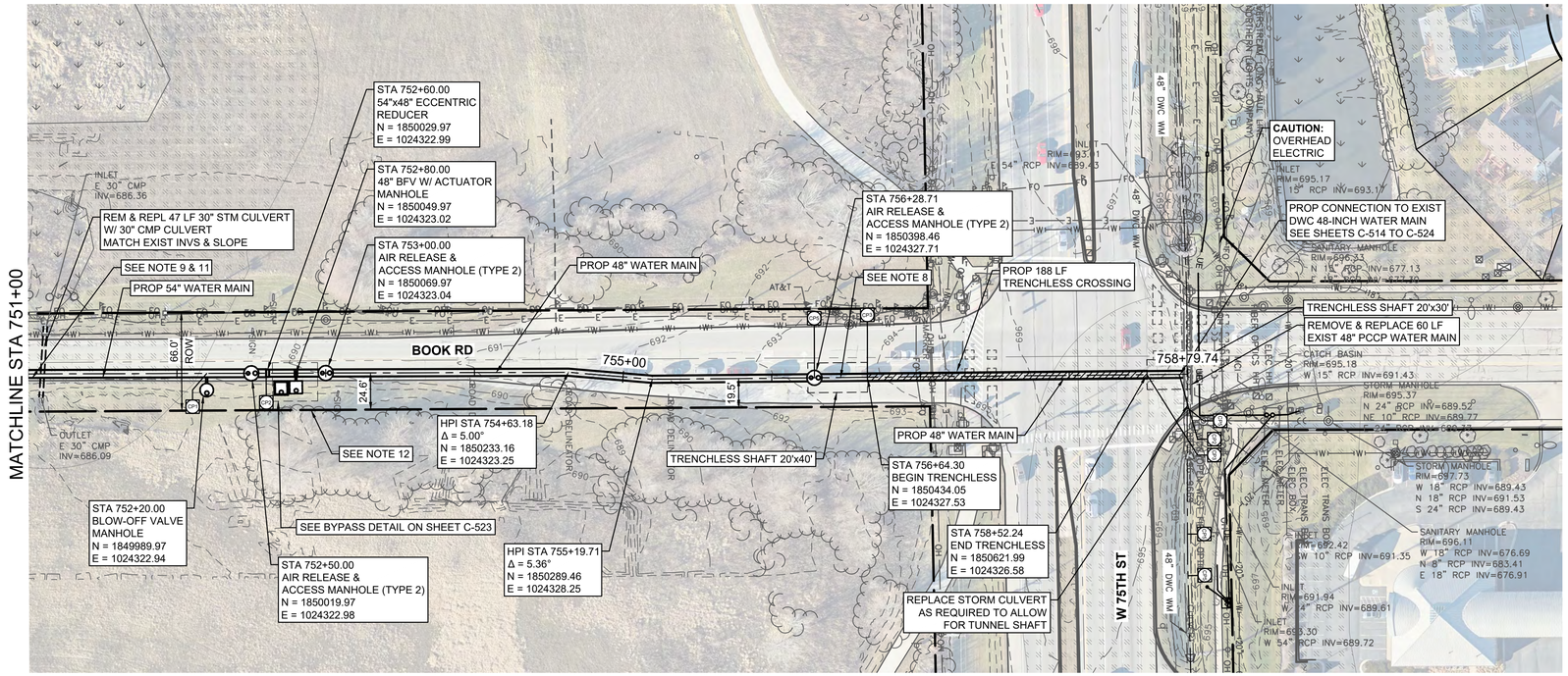
CIVIL
BOOK ROAD
WATER TRANSMISSION MAIN
PROFILE
STA 667+00 TO STA 679+00

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0 50 100

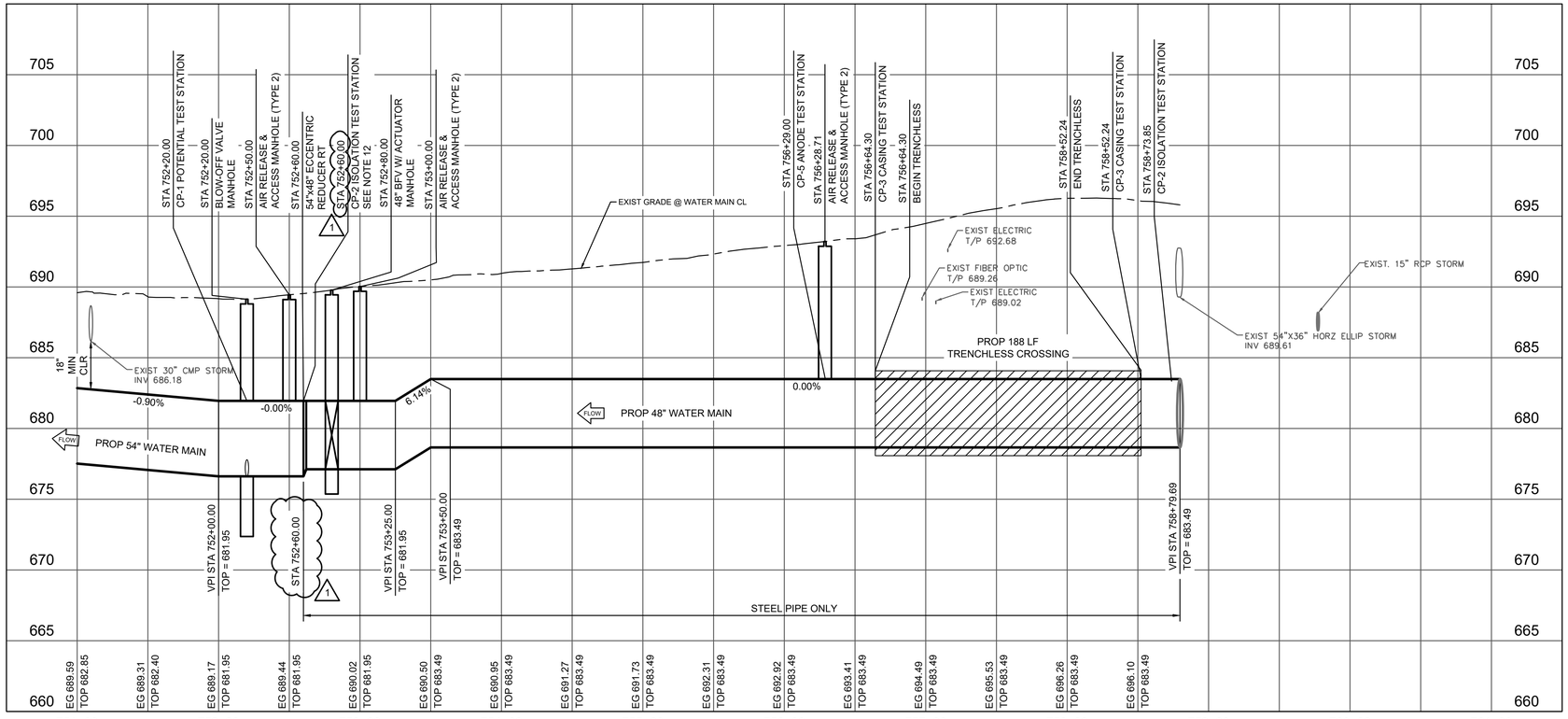
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SHEET NO. 18 of 199

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GENERAL NOTES:

1. BACKGROUND AERIAL IMAGERY AND CONTOUR DATA WAS CAPTURED MARCH 2024. FIELD VERIFY PROJECT SITE PRIOR TO CONSTRUCTION AS CONDITIONS MAY HAVE CHANGED.
2. LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
3. COORDINATE UTILITY CONFLICTS AND REQUIRED RELOCATIONS WITH MUNICIPAL AND PRIVATE UTILITY OWNERS.
4. COORDINATE ALL CONSTRUCTION ACTIVITIES WITH OWNER'S REPRESENTATIVE AND NOTIFY LANDOWNERS PRIOR TO ANY WORK ON PRIVATE PROPERTY. NO CONSTRUCTION ACTIVITIES ALLOWED OUTSIDE OF PERMANENT AND TEMPORARY EASEMENT / LICENSE AGREEMENT LIMITS SHOWN.
5. SEE WATER MAIN DETAIL SHEETS.
6. FOR ALL CATCH BASINS TO BE REMOVED AND REPLACED, MATCH EXISTING CATCH BASIN TYPE, SIZE AND INVERTS. SEE CITY OF NAPERVILLE STANDARD CIVIL DETAILS.



SHEET NOTES:

7. REMOVE AND REPLACE STORM CATCH BASIN, MATCH EXISTING INVERTS, STRUCTURE SIZE & TYPE. (SEE CITY OF NAPERVILLE STANDARD CIVIL DETAILS).
8. DO NOT CONSTRUCT 50 FEET OF WATER MAIN SOUTH OF SOUTH TRENCHLESS CROSSING SHOWN ON THIS SHEET UNTIL THE TRENCHLESS CROSSING UNDER 75TH STREET IS COMPLETE AND THE FINAL INSTALLED LOCATION OF THE SOUTH END OF THE TRENCHLESS PIPE IS KNOWN.
9. DISRUPTION BEYOND THE EXTENTS OF THE EXISTING CULVERT MUST BE MINIMIZED DUE TO SENSITIVE ADJACENT WETLAND AREAS.
10. FIELD VERIFY EXISTING DWC 48-INCH PCCP WATER MAIN PRIOR TO CONSTRUCTION OF 48-INCH TRENCHLESS CROSSING. VERIFY DEPTH AND LOCATION OF PIPE JOINTS AND ADJUST TRENCHLESS CROSSING HORIZONTAL AND VERTICAL ALIGNMENTS AS NEEDED FOR PROPOSED PIPE CONNECTION. SUBMIT PROPOSED MODIFICATIONS TO OWNER'S REPRESENTATIVE FOR REVIEW. SEE SHEET C-514 TO C-524 FOR CONNECTION DETAILS.
11. DURING CULVERT REPLACEMENT CONTRACTOR TO INSTALL COFFER DAM ON UPSTREAM SIDE OF CULVERT IN ACCORDANCE WITH IUM-503 AND WILL UTILIZE DEWATERING SUMP IN ACCORDANCE WITH IL-650
12. ISOLATION TEST STATION REQUIRED FOR PCCP PIPE OPTION ONLY.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	OG

DATE	=	MAY 2025	DESIGNED	—	MC
SCALE	=	1"=50' HORZ	CHECKED	—	KD
SCALE	=	1"=5' VERT	DRAWN	—	BH
PROJECT NO	=	128-10031-001	CHECKED	—	JM

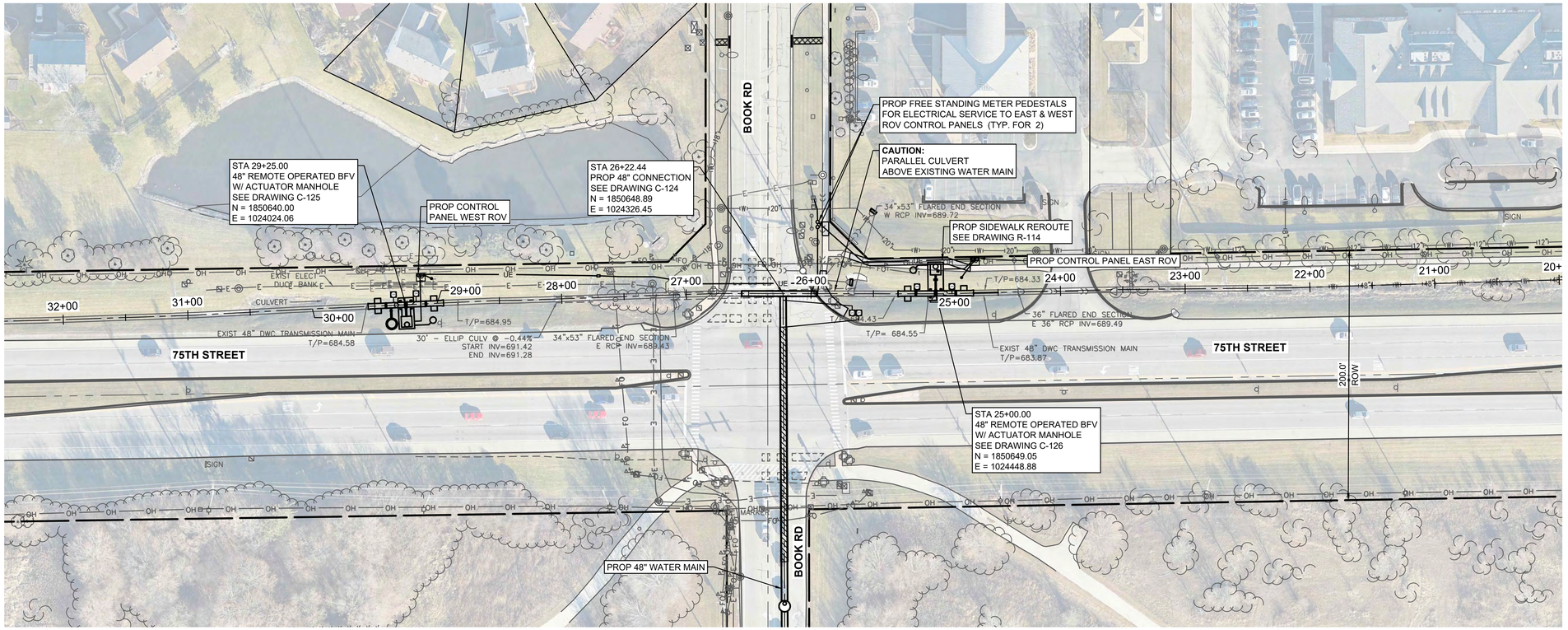
DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

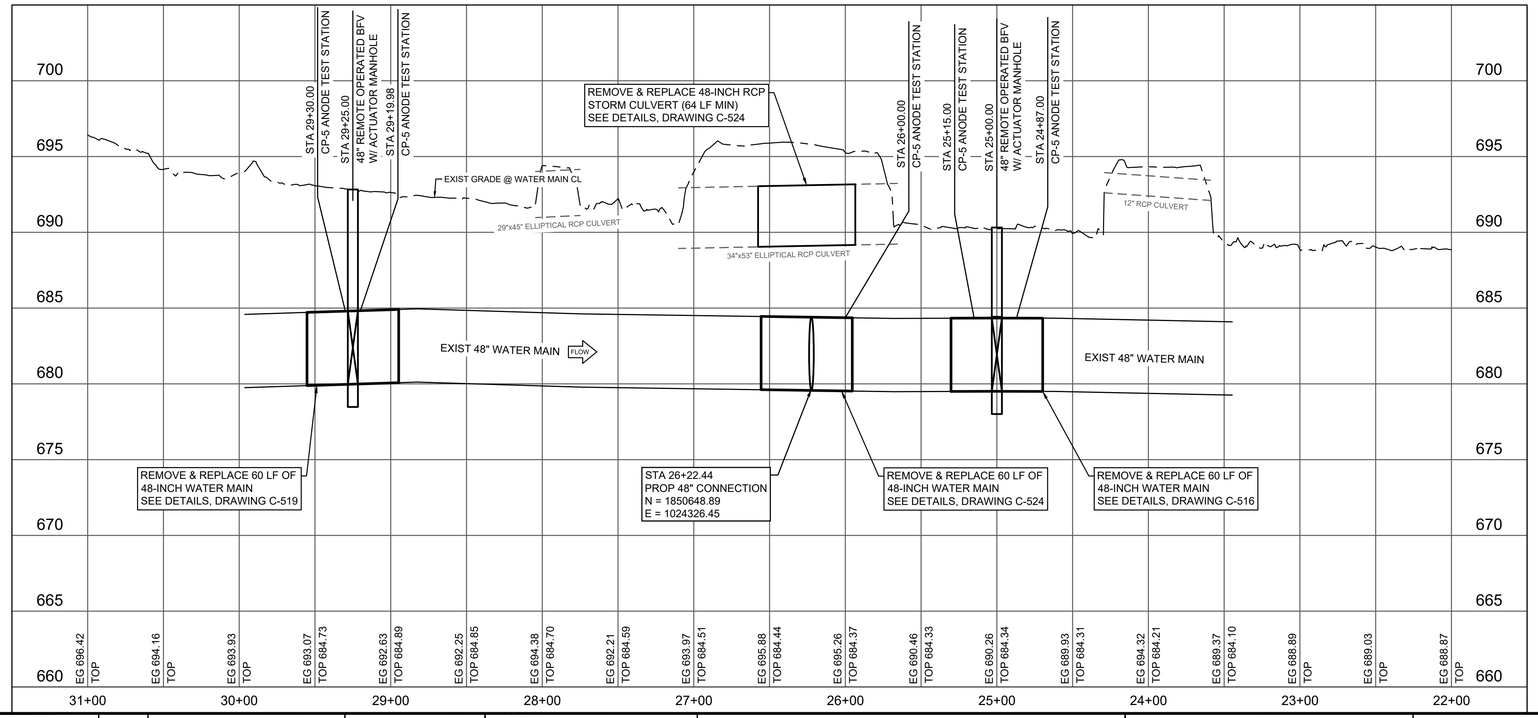
CIVIL
BOOK ROAD
WATER TRANSMISSION MAIN
PLAN & PROFILE
STA 751+00 TO STA 759+00

0 50 100

DRAWING NO. C-121
SHEET NO. 30 of 199

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N

NOTES:

1. BACKGROUND AERIAL IMAGERY AND CONTOUR DATA WAS CAPTURED MARCH 2024. FIELD VERIFY PROJECT SITE PRIOR TO CONSTRUCTION AS CONDITIONS MAY HAVE CHANGED.
2. LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
3. COORDINATE UTILITY CONFLICTS AND REQUIRED RELOCATIONS WITH MUNICIPAL AND PRIVATE UTILITY OWNERS.
4. SHUTDOWN OF 48-INCH WATER MAIN CAN ONLY BE PERFORMED DURING LOW DEMAND MONTHS AS DESCRIBED IN SPECIFICATION SECTION 01 11 00 - SUMMARY OF WORK. OPERATION OF EXISTING VALVES TO BE PERFORMED BY OR IN PRESENCE OF OWNER.
5. COORDINATE ALL CONSTRUCTION ACTIVITIES WITH OWNER'S REPRESENTATIVE AND NOTIFY OWNER MINIMUM OF TWO (2) WEEKS PRIOR TO REQUESTED SHUTDOWN OF EXISTING 48-INCH WATER MAIN.
6. SEE DRAWINGS C-501 TO C-529 FOR WATER MAIN STANDARD DETAILS.
7. SEE DRAWINGS C-514 TO C-525 FOR PROPOSED 48-INCH WATER MAIN CONNECTION AND 48-INCH REMOTE OPERATED VALVE DETAILS.

1

9. HYDROSTATICALLY TEST AND DISINFECT PROPOSED 48-INCH VALVES, PIPING, AND CONNECTION TO EXISTING 48-INCH WATER MAIN BETWEEN STA 24+70 AND STA 29+60 ALONG 75TH STREET AND SOUTH TO BUTTERFLY VALVE AT STA 752+80 ALONG BOOK ROAD PRIOR TO RETURNING EXISTING 48-INCH WATER MAIN TO SERVICE. DISINFECTION SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C651.
10. EXPOSED ENDS OF EXISTING 48-INCH PCCP WATER MAIN SHALL BE CAPPED DURING ALL NON-WORKING HOURS.
11. BYPASS PUMP AS REQUIRED TO MAINTAIN FLOW IN DITCHES AT ALL TIMES UNTIL WORK IN DITCHES AND INSTALLATION OF CULVERT IS COMPLETE.
12. RESTORE AND REGRADE DITCHES TO EXISTING CONDITIONS UPON COMPLETION OF CONSTRUCTION ACTIVITIES.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	OG

DATE	=	MAY 2025	DESIGNED	—	OG
SCALE	=	1"=50' HORZ	CHECKED	—	JWG
SCALE	=	1"=5' VERT	DRAWN	—	TMD
PROJECT NO	=	128-10031-001	CHECKED	—	OG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

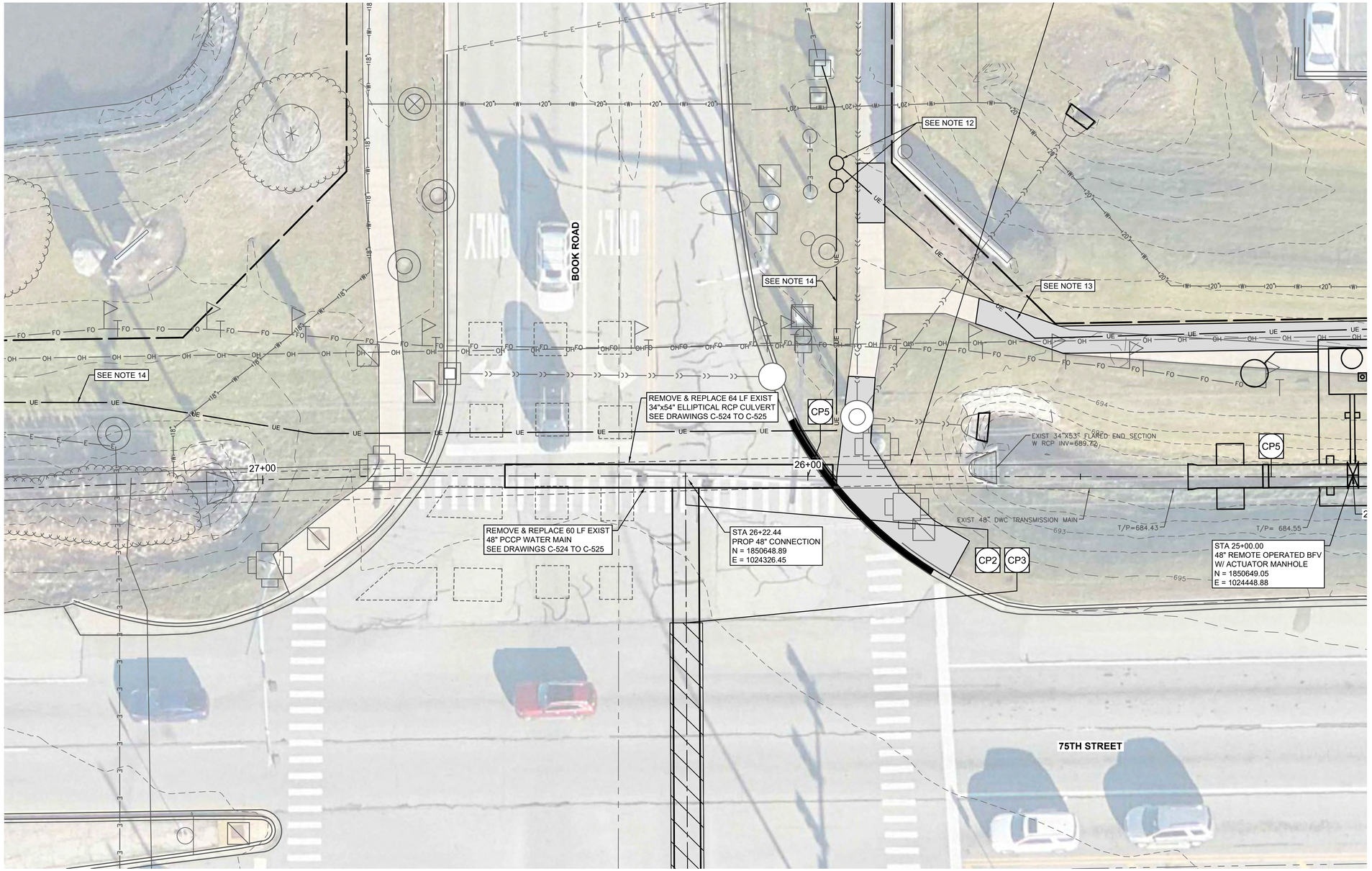
CIVIL
75TH STREET
WATER TRANSMISSION MAIN
OVERALL PLAN
DWC SYSTEM CONNECTIONS

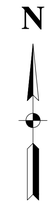
LAN · Robinson ENGINEERING · Stanley Consultants INC.

0 50 100

DRAWING NO. C-123
SHEET NO. 32 of 199

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NOTES:

1. BACKGROUND AERIAL IMAGERY AND CONTOUR DATA WAS CAPTURED MARCH 2024. FIELD VERIFY PROJECT SITE PRIOR TO CONSTRUCTION AS CONDITIONS MAY HAVE CHANGED.
2. LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
3. COORDINATE UTILITY CONFLICTS AND REQUIRED RELOCATIONS WITH MUNICIPAL AND PRIVATE UTILITY OWNERS.
4. SHUTDOWN OF 48-INCH WATER MAIN CAN ONLY BE PERFORMED DURING LOW DEMAND MONTHS AS DESCRIBED IN SPECIFICATION SECTION 01 11 00 - SUMMARY OF WORK. OPERATION OF EXISTING VALVES TO BE PERFORMED BY OR IN PRESENCE OF OWNER.
5. COORDINATE ALL CONSTRUCTION ACTIVITIES WITH OWNER'S REPRESENTATIVE AND NOTIFY OWNER MINIMUM OF TWO (2) WEEKS PRIOR TO REQUESTED SHUTDOWN OF EXISTING 48-INCH WATER MAIN.
6. SEE DRAWINGS C-501 TO C-529 FOR WATER MAIN STANDARD DETAILS.
7. SEE DRAWINGS C-514 TO C-525 FOR PROPOSED 48-INCH WATER MAIN CONNECTION AND 48-INCH REMOTE OPERATED VALVE DETAILS.
8. EXPOSED ENDS OF EXISTING 48-INCH PCCP WATER MAIN SHALL BE CAPPED DURING ALL NON-WORKING HOURS.

1

9. HYDROSTATICALLY TEST AND DISINFECT PROPOSED 48-INCH VALVES, PIPING, AND CONNECTION TO EXISTING 48-INCH WATER MAIN BETWEEN STA 24+70 AND STA 29+60 ALONG 75TH STREET AND SOUTH TO BUTTERFLY VALVE AT STA 752+80 ALONG BOOK ROAD PRIOR TO RETURNING EXISTING 48-INCH WATER MAIN TO SERVICE. DISINFECTION SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C651.
10. BYPASS PUMP AS REQUIRED TO MAINTAIN FLOW IN DITCH AT ALL TIMES UNTIL INSTALLATION OF CULVERT IS COMPLETE.
11. RESTORE AND REGRADE DITCH TO EXISTING CONDITIONS UPON COMPLETION OF CONSTRUCTION ACTIVITIES.
12. PROPOSED FREE STANDING METER PEDESTAL FOR 100 AMP, 120/240V SERVICE FOR ROV CONTROL PANEL IN ACCORDANCE WITH CITY OF NAPERVILLE DPU-ELECTRIC. SERVICE PEDESTAL PROVIDED AND INSTALLED BY CONTRACTOR. UTILITY WORK BY DPU-E NAPERVILLE PAID FOR BY CONTRACTOR UNDER ALLOWANCE (TYP. OF TWO).
13. PROPOSED 3-#2, 1-#6 GRND IN 1-1/2" CONDUIT FOR EAST ROV CONTROL PANEL ELECTRICAL SERVICE.
14. PROPOSED 3-#2, 1-#6 GRND IN 1-1/2" CONDUIT FOR WEST ROV CONTROL PANEL ELECTRICAL SERVICE.
15. SEE DRAWINGS E-501 TO E-504 FOR ELECTRICAL DETAILS.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	OG

DATE = MAY 2025 | DESIGNED — OG
SCALE = 1"=10' HORZ | CHECKED — JWG
SCALE = | DRAWN — TMD
PROJECT NO = 128-10031-001 | CHECKED — OG

WATERLINK MONTGOMERY • OSWEGO • YORKVILLE

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

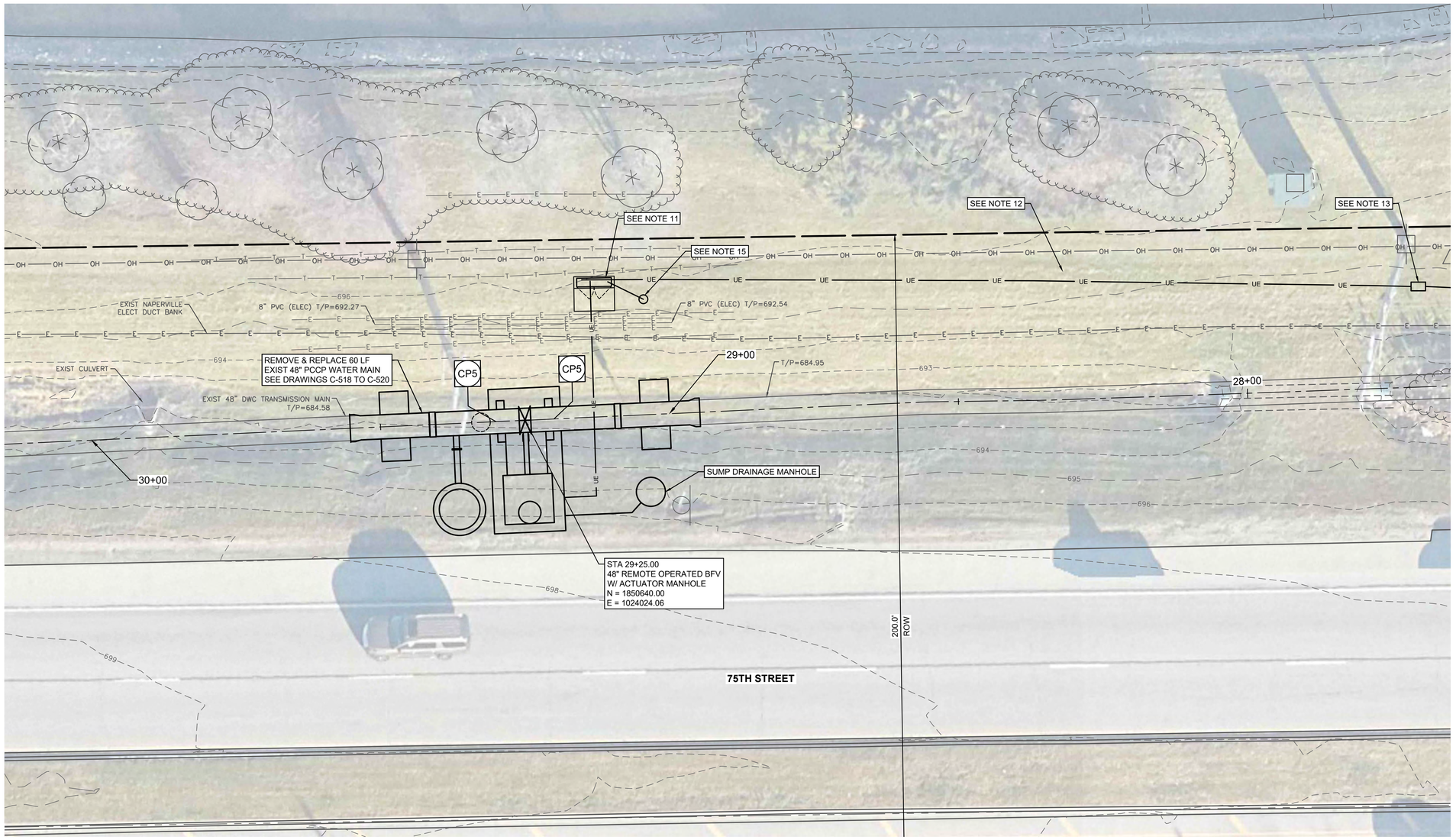
CIVIL
75TH STREET
WATER TRANSMISSION MAIN
PLAN
48-INCH WATER MAIN CONNECTION

LAN | Robinson ENGINEERING | Stanley Consultants INC.

0 10 20

DRAWING NO. C-124
SHEET NO. 33 of 199

File: C:\Users\ogarza\DOCS\ACDocs\Live A Daily\128-10031-001\Project Files\4-1-RM-CAD\TW6-S1\Civil\BookRd_Connection\C-PLPR-BOOK-CONN.dwg Plot Date: 6/13/2025, 3:13 PM By: Garza, Oziel



N

NOTES:

1. BACKGROUND AERIAL IMAGERY AND CONTOUR DATA WAS CAPTURED MARCH 2024. FIELD VERIFY PROJECT SITE PRIOR TO CONSTRUCTION AS CONDITIONS MAY HAVE CHANGED.
2. LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
3. COORDINATE UTILITY CONFLICTS AND REQUIRED RELOCATIONS WITH MUNICIPAL AND PRIVATE UTILITY OWNERS.
4. SHUTDOWN OF 48-INCH WATER MAIN CAN ONLY BE PERFORMED DURING LOW DEMAND MONTHS AS DESCRIBED IN SPECIFICATION SECTION 01 11 00 - SUMMARY OF WORK. OPERATION OF EXISTING VALVES TO BE PERFORMED BY OR IN PRESENCE OF OWNER.
5. COORDINATE ALL CONSTRUCTION ACTIVITIES WITH OWNER'S REPRESENTATIVE AND NOTIFY OWNER MINIMUM OF TWO (2) WEEKS PRIOR TO REQUESTED SHUTDOWN OF EXISTING 48-INCH WATER MAIN.
6. SEE DRAWINGS C-501 TO C-529 FOR WATER MAIN STANDARD DETAILS.
7. SEE DRAWINGS C-514 TO C-525 FOR PROPOSED 48-INCH WATER MAIN CONNECTION AND 48-INCH REMOTE OPERATED VALVE DETAILS.
8. EXPOSED ENDS OF EXISTING 48-INCH PCCP WATER MAIN SHALL BE CAPPED DURING ALL NON-WORKING HOURS.

1

9. HYDROSTATICALLY TEST AND DISINFECT PROPOSED 48-INCH VALVES, PIPING, AND CONNECTION TO EXISTING 48-INCH WATER MAIN BETWEEN STA 24+70 AND STA 29+59 ALONG 75TH STREET AND SOUTH TO BUTTERFLY VALVE AT STA 752+80 ALONG BOOK ROAD PRIOR TO RETURNING EXISTING 48-INCH WATER MAIN TO SERVICE. DISINFECTION SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C651.
10. BYPASS PUMP AS REQUIRED TO MAINTAIN FLOW IN DITCHES AT ALL TIMES UNTIL WORK IN DITCH AND INSTALLATION OF CULVERT IS COMPLETE. RESTORE AND REGRADE DITCH TO EXISTING CONDITIONS UPON COMPLETION OF CONSTRUCTION ACTIVITIES.
11. PROPOSED CONTROL PANEL FOR WEST ROV.
12. PROPOSED 3-#2, 1-#6 GRND IN 1-1/2" CONDUIT FOR WEST ROV CONTROL PANEL ELECTRICAL SERVICE.
13. PROVIDE 17"x30" POLYMER CONCRETE HANDHOLE FOR ELECTRICAL SERVICE FEEDER, CONCAST MODEL PH22-17-30-24 OR APPROVED EQUAL.
14. SEE DRAWINGS E-501 TO E-504 FOR ELECTRICAL DETAILS.
15. ROUND TAPERED STEEL POLE AND FOUNDATION WITH YAGI ANTENNA FOR RADIO COMMUNICATION. SEE ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	OG

DATE	=	MAY 2025	DESIGNED	—	OG
SCALE	=	1"=10' HORZ	CHECKED	—	JWG
SCALE	=		DRAWN	—	TMD
PROJECT NO	=	128-10031-001	CHECKED	—	OG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

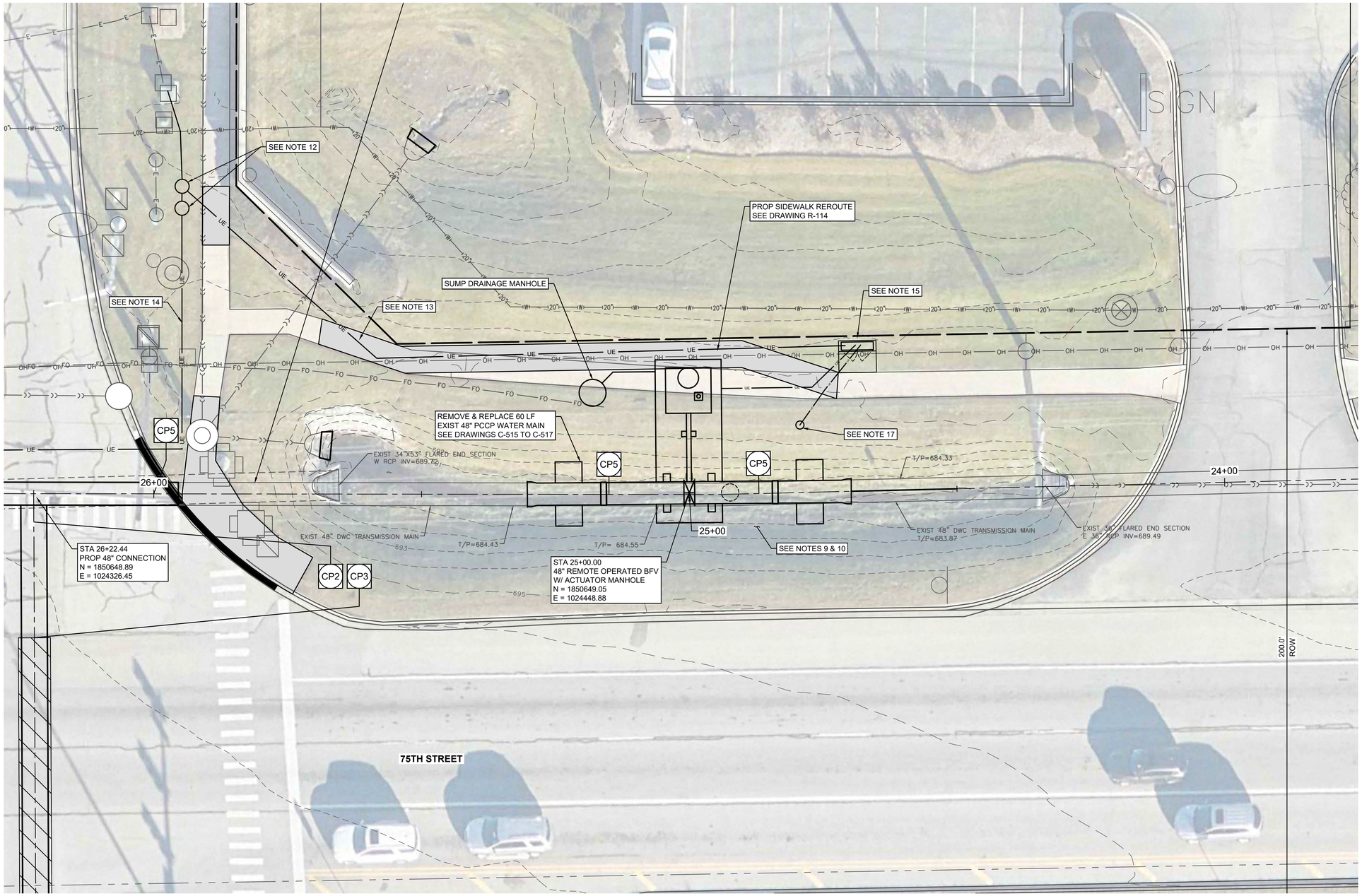
CIVIL
75TH STREET
WATER TRANSMISSION MAIN
PLAN
48-INCH REMOTE OPERATED BFV (WEST)

0 10 20

DRAWING NO. C-125

SHEET NO. 34 of 199

File: C:\Users\ogarcia\DC\ACCDocs\Lee A Daly\128-10031-001 Project Files\1-1-BIM-CAD\TW6-S1\Civil\BookRd_Connection\C-PLPR-BOOK-CONN.dwg Plot Date: 6/23/2025 3:14 PM By: Garcia, Ogde



N

NOTES:

1. BACKGROUND AERIAL IMAGERY AND CONTOUR DATA WAS CAPTURED MARCH 2024. FIELD VERIFY PROJECT SITE PRIOR TO CONSTRUCTION AS CONDITIONS MAY HAVE CHANGED.
2. LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
3. COORDINATE UTILITY CONFLICTS AND REQUIRED RELOCATIONS WITH MUNICIPAL AND PRIVATE UTILITY OWNERS.
4. SHUTDOWN OF 48-INCH WATER MAIN CAN ONLY BE PERFORMED DURING LOW DEMAND MONTHS AS DESCRIBED IN SPECIFICATION SECTION 01 11 00 - SUMMARY OF WORK. OPERATION OF EXISTING VALVES TO BE PERFORMED BY OR IN PRESENCE OF OWNER.
5. COORDINATE ALL CONSTRUCTION ACTIVITIES WITH OWNER'S REPRESENTATIVE AND NOTIFY OWNER MINIMUM OF TWO (2) WEEKS PRIOR TO REQUESTED SHUTDOWN OF EXISTING 48-INCH WATER MAIN.
6. SEE DRAWINGS C-501 TO C-529 FOR WATER MAIN STANDARD DETAILS.
7. SEE DRAWINGS C-514 TO C-525 FOR PROPOSED 48-INCH WATER MAIN CONNECTION AND 48-INCH REMOTE OPERATED VALVE DETAILS.
8. EXPOSED ENDS OF EXISTING 48-INCH PCCP WATER MAIN SHALL BE CAPPED DURING ALL NON-WORKING HOURS.

1 9. HYDROSTATICALLY TEST AND DISINFECT PROPOSED 48-INCH VALVES, PIPING, AND CONNECTION TO EXISTING 48-INCH WATER MAIN BETWEEN STA 24+70 AND STA 29+60 ALONG 75TH STREET AND SOUTH TO BUTTERFLY VALVE AT STA 752+80 ALONG BOOK ROAD PRIOR TO RETURNING EXISTING 48-INCH WATER MAIN TO SERVICE. DISINFECTION SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C651.

10. BYPASS PUMP AS REQUIRED TO MAINTAIN FLOW IN DITCHES AT ALL TIMES UNTIL WORK IN DITCH AND INSTALLATION OF CULVERT IS COMPLETE.
11. RESTORE AND REGRADE DITCH TO EXISTING CONDITIONS UPON COMPLETION OF CONSTRUCTION ACTIVITIES.
12. PROPOSED FREE STANDING METER PEDESTAL FOR 3-#6, 120/240V SERVICE FOR ROV CONTROL PANEL IN ACCORDANCE WITH CITY OF NAPERVILLE DPU-ELECTRIC.
13. PROPOSED 3-#2, 1-#6 GRND IN 1-1/2" CONDUIT FOR EAST ROV CONTROL PANEL ELECTRICAL SERVICE.
14. PROPOSED 3-#2, 3-#6 GRND IN 1-1/2" CONDUIT FOR WEST ROV CONTROL PANEL ELECTRICAL SERVICE.
15. PROPOSED CONTROL PANEL FOR EAST ROV.
16. SEE DRAWINGS E-501 TO E-504 FOR ELECTRICAL DETAILS.
17. ROUND TAPERED STEEL POLE AND FOUNDATION WITH YAGI ANTENNA FOR RADIO COMMUNICATION. SEE ELECTRICAL DETAILS FOR ADDITIONAL INFORMATION.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	OG

DATE = MAY 2025 | SCALE = 1"=10' HORZ | PROJECT NO = 128-10031-001

DESIGNED — OG | CHECKED — JWG | DRAWN — TMD | CHECKED — OG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

CIVIL
75TH STREET
WATER TRANSMISSION MAIN
PLAN
48-INCH REMOTE OPERATED BFV (EAST)

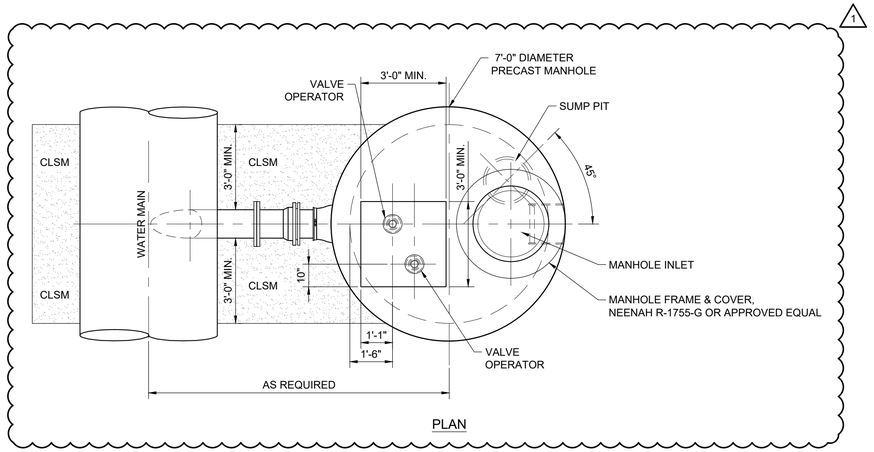
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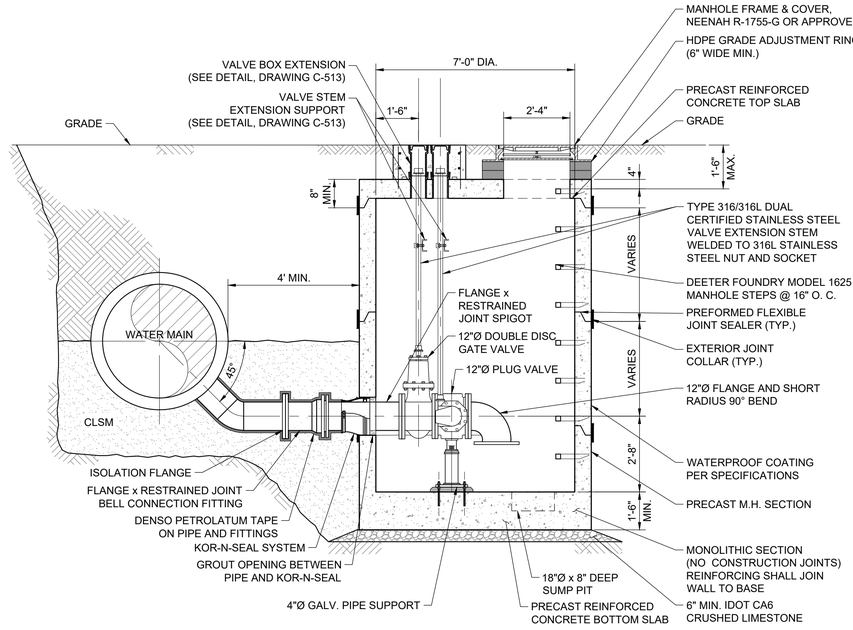
DRAWING NO. C-126 | SHEET NO. 35 of 199

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NOTES:

1. EXCEPT WHERE NOTED IN DETAIL, BACKFILL AROUND MANHOLE TO MATCH TRENCH BACKFILL FOR CORRESPONDING LOCATIONS.
2. ALL FLANGE BOLTS AND NUTS SHALL BE CORTEN, UNLESS OTHERWISE NOTED.
3. VALVE STEM EXTENSIONS AND VALVE BOXES IN MANHOLE COVER TO BE CENTERED OVER 2" VALVE OPERATING NUTS.





1 36"Ø AND LARGER PIPE BLOW-OFF VALVE MANHOLE

SCALE: 3/8" = 1'-0"

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	OG

DATE = MAY 2025 | SCALE = AS SHOWN | SCALE = | PROJECT NO = 128-10031-001

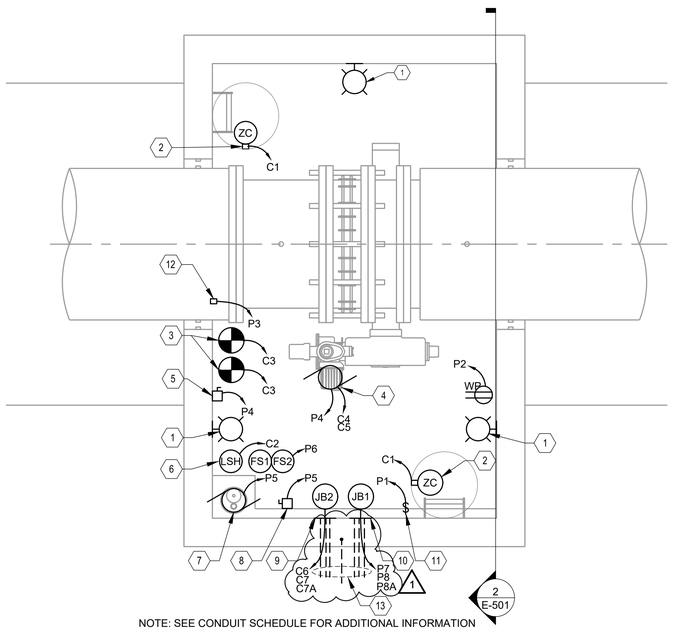
DESIGNED — MJQ | CHECKED — JWG | DRAWN — LPM | CHECKED — OG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

CIVIL
WATER TRANSMISSION MAIN
DETAILS
SHEET 5 OF 29

DRAWING NO. C-505
SHEET NO. 40 of 199

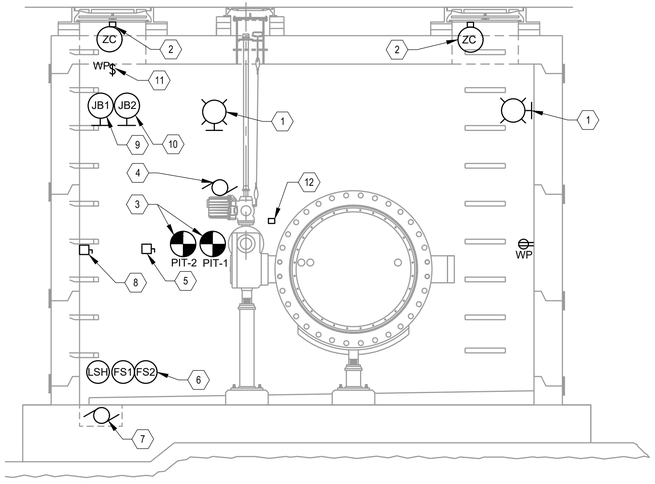
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NOTE: SEE CONDUIT SCHEDULE FOR ADDITIONAL INFORMATION

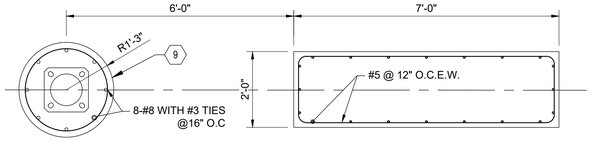
1 PLAN VIEW

SCALE: NOT TO SCALE



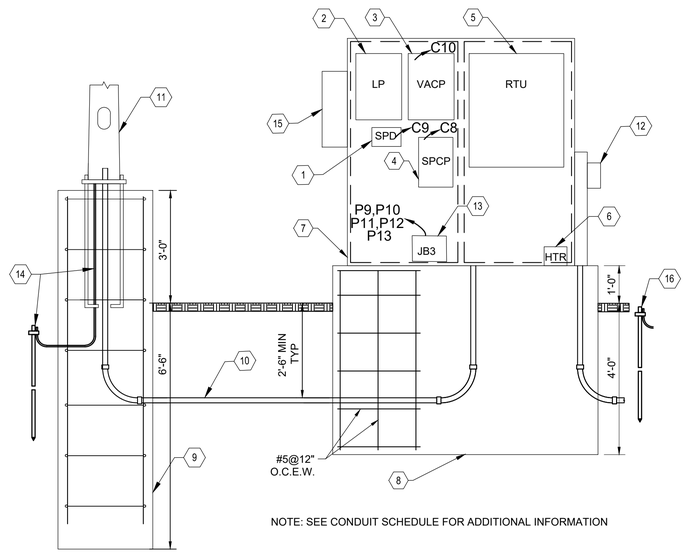
2 SECTION A-A

SCALE: NOT TO SCALE



STEEL POLE FOUNDATION

ROV CONTROL PANEL CONC. FOUNDATION PLAN



NOTE: SEE CONDUIT SCHEDULE FOR ADDITIONAL INFORMATION

3 VALVE CONTROL ENCLOSURE FOR ROV AT STATION 602+46.80

SCALE: NOT TO SCALE

DETAIL 3, KEYED NOTES:

1. SURGE PROTECTION DEVICE, GE TRANQUELL OR EQUAL
2. 100A LIGHTING PANELBOARD, NEMA 4X, WITH 60A MCB, HUBBLE OR EQUAL. SEE DETAIL 5
3. VALVE ACTUATOR CONTROL PANEL (VACP)
4. ZOELLER SIMPLEX PIVOT CONTROL PANEL (SPCP), MODEL 31324-001, WITH SCHNEIDER MOTOR CONTACTOR AUXILIARY CONTACTS (LC1D25G7) TO MONITOR SUMP PUMP RUN TO RTU
5. RTU SUPPLIED BY OWNER AND MOUNTED BY CONTRACTOR. CONTROL WIRING INSTALLED WITH SUFFICIENT LENGTH AND IDENTIFIED BY CONTRACTOR - TERMINATIONS BY OWNER
6. 400W ELECTRIC HEATER, HOFFMAN MODEL DAH4001B OR EQUAL
7. FREE STANDING, 2 DOOR, SINGLE ACCESS 72"X72"X18" 304 SS ENCLOSURE WITH BOTTOM (NEEDS TO BE MODIFIED TO ALLOW CONDUIT ENTRY), HOFFMAN MODEL A727218SSFSDN4 OR EQUAL WITH GROUNDING KIT (87552742). BACK PANELS TO BE HALF LENGTHS WITH GALVANIZED FINISHED AS SUPPLIED BY HOFFMAN, MODEL A72P72F1G, OR EQUAL. ENCLOSURE LED LIGHTS AND GFIC RECEPTACLE REQUIRED BUT NOT INDICATED.WIRING BETWEEN DEVICES IN ENCLOSURE SHALL BE WITHIN CONDUIT.PROVIDE LIMIT SWITCHES ON DOORS, GRAINGER MODEL 2EXU6 OR EQUAL, TO ALARM TO RTU
8. REINFORCED CONCRETE FOUNDATION PLACED ON 6" OF CA7 STONE. PROVIDE 6" CONCRETE PAD IN FRONT OF CONTROL PANEL AS REQUIRED ON DRAWINGS
9. STEEL POLE FOUNDATION FOR RADIO COMMUNICATION
10. 1-1/2" PVC COAT RGS WITH LONG RADIUS BENTS FOR COAXIAL CABLE TO YAGI ANTENNA. SEE SPECIFICATION 33 83 00, DWC RADIO TELEMETRY SYSTEM, FOR ADDITIONAL INFORMATION
11. ROUND TAPERED STEEL POLE (VALMONT DS210 -50') WITH YAGI ANTENNA SUPPLIED AND INSTALLED BY CONTRACTOR. RADIO IN RTU ENCLOSURE BY OWNER
12. PANEL MOUNTED METER PROVIDE BY CONTRACTOR IN ACCORDANCE WITH NAPERVILLE DPU-ELECTRIC REQUIREMENTS
13. ELECTRICAL NEMA 4X HINGED JUNCTION BOX, WITH SS METAL SEPARATION PARTITION BETWEEN DIFFERENT WIRE VOLTAGES
14. 10' COPPER GROUND ROD AND 4/0 BARE GROUND CONNECTED TO FOUNDATION REBAR AND SERVICE GROUND GRID BY EXOTHERMIC WELD AND EXTENDED UP INTO POLE HANDHOLE TO GROUND POLE.
15. POLARIZED CELL REPLACEMENT UNIT (DAIRYLAND MODEL PCR-5KA-CC) MOUNTED IN 304 SS HINGED HOFFMAN ENCLOSURE (MODEL A24H1608SSLP) WITH HOFFMAN 316 SS BACK PANEL (MODEL A24P16SS6). CONNECT 4/0 INSULATED AND ISOLATED GROUND WIRE FROM VAULT STRUCTURE TO NEGATIVE TERMINAL AND 4/0 BARE GROUND WIRE FROM POSITIVE TERMINAL TO GROUND ROD
16. PROVIDE GROUND RODS AND 4/0 BARE GROUND WIRE FOR PCR CABINET AND ELECTRIC SERVICE (TYP OF 2). CONNECT ALL ELECTRODES (SERVICE, MAST POLE, PCR - NEGATIVE TERMINAL) TOGETHER WITH 4/0 BARE WIRE EXOTHERMICALLY WELD TO FORM A GROUND GRID

1

MOY ROV I/O List (15G)

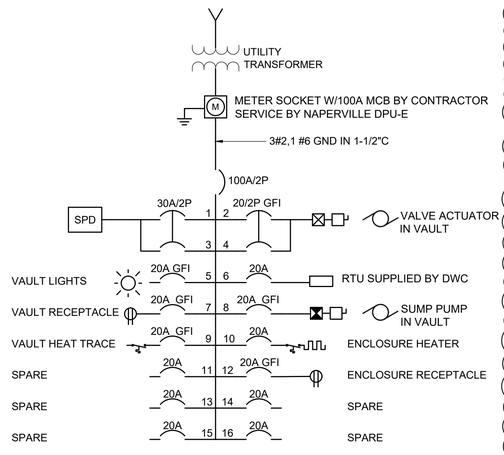
Type	Tagname	Description
DI	EY-3157-CPS	RTU Power
DI	EY-3157-52	24V Power Supply 1
DI	EY-3157-56	24V Power Supply 2
DI	EY-3157-24	Surge Portection Device 24VDC
DI	JI-3157-UPS-STS	UPS Ready
DI	JI-3157-UPS-BAT	UPS Battery Fault
DI	TS-3157-12	Panel High Temp
DI	TS-3157-24	Panel Low Temp
DI	ZS-3157-06	Cabinet Door Status
DI	EY-3157-SPD	Incoming Power SPD
DI	EY-3157-PM	Valve Phase Monitor
DI	EY-3157-VCP	Valve Control Power
DI	HSAR-3157-01	Valve in Remote
DI	ZSC-3157-01	Valve Close Status
DI	ZSO-3157-01	Valve Open Status
DI	LSH-3157-01	Sump Flood Status
DI	AUX1-3157-04	Sump Pump Run Status
DI	ESH-3157-21	Sump Pump Control Power
DI	ZC-3157-02	Vault Hatch Closed
DO	ZCC-3157-01	Valve Close
DO	ZCH-3157-01	Valve Hold
DO	ZCO-3157-01	Valve Open
AI	Z-3157-01	Valve Position
AI	P-3157-03	Pressure Transmitter 1
AI	P-3157-10	Pressure Transmitter 2

4 STA. 602+46.8 ROV RTU I/O LIST

SCALE: NOT TO SCALE

DETAIL 1 & 2 KEYED NOTES:

1. CODE MASTER JR. CJLL2 120V X 4, LENS TAILORED TO FIXTURE (TYP OF 3)
2. LIMIT SWITCH FOR ENTRY ALARM, GO SWITCH MODEL 11-12128-B4, WITH 10' LEADS (TYP OF 2)
3. PRESSURE TRANSDUCER ASSEMBLY. SEE ELECTRICAL DETAILS (TYP OF 2, FOR EACH SIDE OF VALVE) MOUNTED SIX FEET ABOVE FLOOR. PROVIDE BUNA-N ½" THICK INSULATION AND HEAT TAPE (RAYCHEM SELF-REGULATING, OR EQUAL) FOR SMALL PIPING IN THE VAULT.
4. LIMITORQUE L120-20 ELECTRIC ACTUATOR WITH REMOTE CONTROL PANEL IN ROV CONTROL PANEL ENCLOSURE. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION
5. NEMA 4X, 6-POLE STAINLESS STEEL DISCONNECT SWITCH FOR ELECTRIC ACTUATOR WITH AUXILIARY CONTACT
6. HIGH LEVEL ALARM FLOAT SWITCH PIPE MOUNTED 6" ABOVE FLOOR. PUMP FLOAT SWITCHES FOR ON (FS1) AND OFF (FS2) LOCATED AT SUMP. ECO FLOAT GSE20NO FOR LSH, MINI FLOAT SWITCH SM20NO FOR FS1 AND FS2. FLOAT MOUNTING HARDWARE - GRAINGER #45JZ59
7. 1/2 HP EBARA MODEL EPD-5MS1 SUMP PUMP WITH ON AND OFF FLOATS CONTROLLED BY SUMP CONTROL PANEL IN ROV CONTROL PANEL ENCLOSURE
8. NEMA 4X STAINLESS STEEL DISCONNECT SWITCH FOR SUMP PUMP
9. NEMA 4X HINGED JUNCTION BOX JUNCTION FOR WIRING. PROVIDE SS METAL PARTITION BETWEEN DIFFERENT POWER TYPES. DO NOT RUN CONDUIT FROM BOTTOM OF PULL BOXES
10. NEMA 4X HINGED JUNCTION BOX FOR SIGNAL/CONTROL WIRING. PROVIDE SS METAL PARTITION BETWEEN DIFFERENT POWER TYPES. DO NOT RUN CONDUIT FROM BOTTOM OF PULL BOXES
11. NEMA 4X LIGHT SWITCH LOCATED NEAR VAULT ACCESS
12. HEAT TRACE JUNCTION BOX
13. CONDUIT FROM CONTROL PANEL TO VAULT TO BE CONCRETE ENCASED PVC CONDUIT. PROVIDE 4/0 INSULATED GROUND WIRE FROM VAULT REBAR (EXOTHERMIC WELDED) TO PCR UNITAND SHALL BE NOT BE CONNECTED TO ANY OTHER GROUNDS/GRID UNTIL AFTER THE PCR UNIT.



100A NEMA 4X PANELBOARD WITH
100A MCB, 10KAIC

5 ROV LIGHTING PANEL

SCALE: NOT TO SCALE

1

CONDUIT SCHEDULE

CONDUIT NUMBER	FROM	TO	CONDUCTORS/RACEWAY	NOTES
P1	LIGHT SWITCH/LIGHTS	JB1	2#10, 1#12 GND IN 3/4"C	
P2	RECEPTACLE	JB1	2#10, 1#12 GND IN 3/4"C	
P3	HEAT TRACE (HT JB)	JB1	2#10, 1#12 GND IN 3/4"C	
P4	VALVE ACTUATOR & DISCONNECT	JB1	5#10, 2#12, 1#12 GND IN 3/4"C	2#12 FOR AUX. CONTACT
P5	SUMP PUMP & DISCONNECT	JB1	MANUFACTURE CABLE TO D.S. & 2#10, 1#12 GND IN 3/4"C	
P6	SUMP FLOATS	JB1	2- MANUFACTURE CABLE (4#14)	
P7	JB1	JB3	15#10,2#12,5#12 GND IN 1-1/4"C	2#12 FOR AUX. CONTACT
P8	JB1	JB3	24#14 IN 1"C	INCLUDES 4#14 SERVICE LOOP LABELED "SPARE"
P8A	JB1	JB3	3/4"C	SPARE CONDUIT
P9	JB3	VACP	5#10,2#12,1#12 GND IN 3/4"C	2#12 FOR AUX. CONTACT
P9	JB3	VACP	24#14 1"C	4#14 SPARE
P10	JB3	SPCP	2#10,1#12 GND IN 3/4"C	
P11	JB3	LP	6#10, 3#12 GND IN 3/4"C	
P12	JB3	RTU	4#14 IN 3/4"C	INCLUDES 4#14 SERVICE LOOP LABELED "SPARE"
P13	JB3	SPCP	6#14 IN 3/4"C	
C1	ACCESS ALARM	JB2	2#14 IN 3/4"C	LIMIT SWITCH WITH 10' LEADS, PROVIDE WATERTIGHT SPLICE IN JB2
C2	HWL FLOAT (LSH)	JB2	MANUFACTURE CABLE (2#14)	
C3	PIT-1 & PIT-2	JB2	1-2/C#16 TSP IN 3/4"C	1-3/4"C AND 1-2/C#16 TSP FROM JB2 TO EACH PRESSURE TRANSDUCER
C4	VALVE ACTUATOR	JB2	1-3/C#16 TSP IN 3/4"C	
C5	VALVE ACTUATOR	JB2	10#14 IN 3/4"C	INCLUDES 4#14 SERVICE LOOP LABELED "SPARE"
C6	JB2	RTU	3-2/C#16 TSP, 2-3/C#16 TSP IN 1"C	INCLUDES ONE SPARE 2/C#16 TSP, 1-3/C#16 TSP WITH SERVICE LOOP LABELED "SPARE" IN JB2
C7	JB2	RTU	10#14 IN 1"C	INCLUDES 4#14 SERVICE LOOP LABELED "SPARE"
C7A	JB2	JB3	3/4" C	SPARE CONDUIT
C8	SPCP	RTU	4#14 IN 3/4"C	
C9	SPD	RTU	2#14 IN 3/4"C	
C10	VACP	RTU	14#14 IN 1"C	4#14 SPARE

6 STA. 602+46.8 ROV CONDUIT SCHEDULE

SCALE: NOT TO SCALE

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	JPD

DATE = MAY 2025 | SCALE = AS SHOWN | SCALE = | PROJECT NO = 128-10031-001

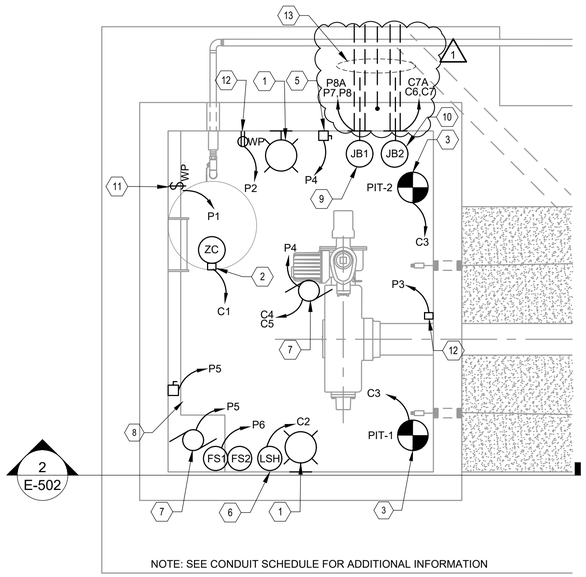
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DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

ELECTRICAL
REMOTE OPERATED VALVE DETAILS
SHEET 1 OF 4

DRAWING NO. E-501
SHEET NO. 72 of 199

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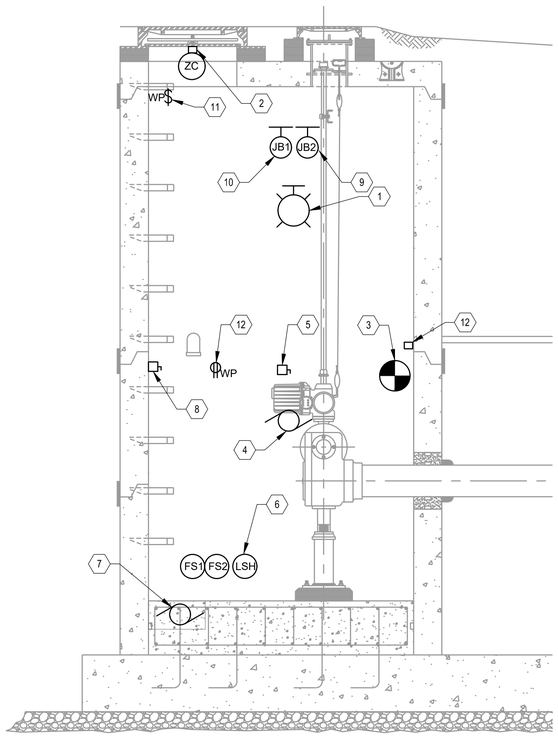


2 E-502

NOTE: SEE CONDUIT SCHEDULE FOR ADDITIONAL INFORMATION

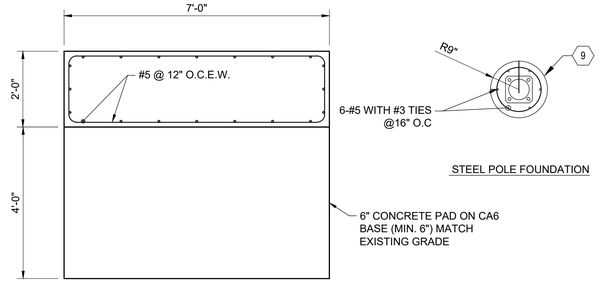
1 PLAN VIEW

SCALE: NOT TO SCALE



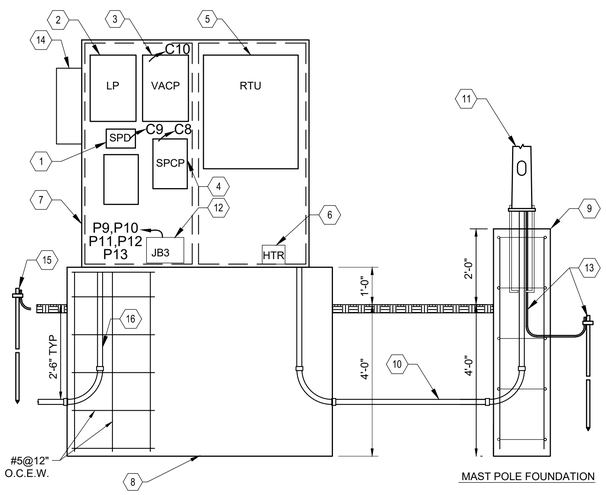
2 SECTION A-A

SCALE: NOT TO SCALE



STEEL POLE FOUNDATION

ROV CONTROL PANEL CONC. FOUNDATION PLAN



MAST POLE FOUNDATION

NOTE: SEE CONDUIT SCHEDULE FOR ADDITIONAL INFORMATION

3 VALVE CONTROL ENCLOSURE FOR ROV AT STA 25+00 & 29+25

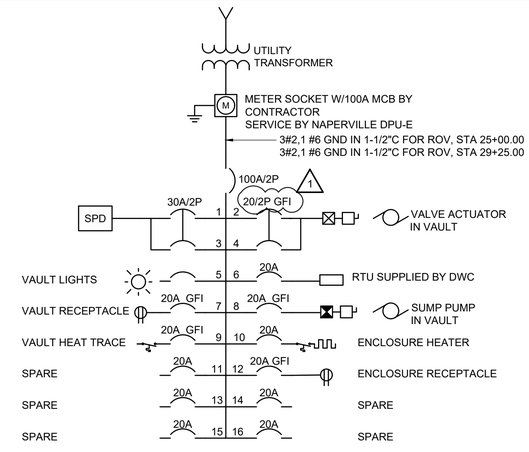
SCALE: NOT TO SCALE

DETAIL 1 & 2 KEYED NOTES:

1. CODE MASTER JR. CJLL2 120V X 4, LENS TAILORED TO FIXTURE (TYP OF 2)
2. LIMIT SWITCH FOR ENTRY ALARM, GO SWITCH MODEL 11-12128-B4, WITH 10' LEADS
3. PRESSURE TRANSDUCER ASSEMBLY. SEE ELECTRICAL DETAILS (TYP OF 2, FOR EACH SIDE OF VALVE) MOUNTED SIX FEET ABOVE FLOOR. PROVIDE BUNA-N ½" THICK INSULATION AND HEAT TAPE (RAYCHEM SELF-REGULATING, OR EQUAL) FOR SMALL PIPING IN THE VAULT.
4. LIMITORQUE L120-20 ELECTRIC ACTUATOR WITH REMOTE CONTROL PANEL IN ROV CONTROL PANEL ENCLOSURE. SEE SPECIFICATIONS 40 05 57 FOR ADDITIONAL INFORMATION
5. NEMA 4X, 6-POLE STAINLESS STEEL DISCONNECT SWITCH FOR ELECTRIC ACTUATOR WITH AUXILIARY CONTACT
6. HIGH LEVEL ALARM FLOAT SWITCH PIPE MOUNTED 6" ABOVE FLOOR. PUMP FLOAT SWITCHES FOR ON (FS1) AND OFF (FS2) LOCATED AT SUMP. ECO FLOAT GSE20NO FOR LSH, MINI FLOAT SWITCH SM20NO FOR FS1 AND FS2. FLOAT MOUNTING HARDWARE - GRAINGER #45JZ59
7. 1/2 HP EBARA MODEL EPD-5MS1 SUMP PUMP WITH ON AND OFF FLOATS CONTROLLED BY SUMP CONTROL PANEL IN ROV CONTROL PANEL ENCLOSURE
8. NEMA 4X STAINLESS STEEL DISCONNECT SWITCH FOR SUMP PUMP
9. NEMA 4X HINGED JUNCTION BOX JUNCTION FOR WIRING. PROVIDE SS METAL PARTITION BETWEEN DIFFERENT POWER TYPES. DO NOT RUN CONDUIT FROM BOTTOM OF PULL BOXES
10. NEMA 4X HINGED JUNCTION BOX FOR SIGNAL/CONTROL WIRING. PROVIDE SS METAL PARTITION BETWEEN DIFFERENT POWER TYPES. DO NOT RUN CONDUIT FROM BOTTOM OF PULL BOXES
11. NEMA 4X LIGHT SWITCH LOCATED NEAR VAULT ACCESS
12. HEAT TRACE JUNCTION BOX
13. CONDUIT FROM CONTROL PANEL TO VAULT TO BE CONCRETE ENCASED PVC CONDUIT. PROVIDE 4/0 INSULATED GROUND WIRE FROM VAULT REBAR (EXOTHERMIC WELDED) TO PCR UNITAND SHALL BE NOT BE CONNECTED TO ANY OTHER GROUNDS/GRID UNTIL AFTER THE PCR UNIT.

DETAIL 3, KEYED NOTES:

1. SURGE PROTECTION DEVICE, GE TRANQUELL OR EQUAL
2. 100A LIGHTING PANELBOARD, NEMA 4X, WITH 60A MCB, HUBBLE OR EQUAL. SEE DETAIL 4.
3. VALVE ACTUATOR CONTROL PANEL (VACP) 1
4. ZOELLER SIMPLEX PIVOT CONTROL PANEL (SPCP), MODEL 31324-001, WITH SCHNEIDER MOTOR CONTACTOR AUXILIARY CONTACTS (LC1D25G7) TO MONITOR SUMP PUMP RUN TO RTU
5. RTU SUPPLIED BY OWNER AND MOUNTED BY CONTRACTOR. CONTROL WIRING INSTALLED WITH SUFFICIENT LENGTH AND IDENTIFIED BY CONTRACTOR - TERMINATIONS BY OWNER
6. 400W ELECTRIC HEATER, HOFFMAN MODEL DAH4001B OR EQUAL
7. FREE STANDING, 2 DOOR, SINGLE ACCESS 72"X72"X18" 304 SS ENCLOSURE WITH BOTTOM (NEEDS TO BE MODIFIED TO ALLOW CONDUIT ENTRY), HOFFMAN MODEL A72721825SFSDN4 OR EQUAL WITH GROUNDING KIT (87552742). BACK PANELS TO BE HALF LENGTHS WITH GALVANIZED FINISHED AS SUPPLIED BY HOFFMAN, MODEL A72P72F1G, OR EQUAL. ENCLOSURE LED LIGHTS AND GFIC RECEPTACLE REQUIRED BUT NOT INDICATED.WIRING BETWEEN DEVICES IN ENCLOSURE SHALL BE WITHIN CONDUIT. PROVIDE LIMIT SWITCHES ON DOORS, GRAINGER MODEL 2EXU6 OR EQUAL, TO ALARM TO RTU
8. REINFORCED CONCRETE FOUNDATION PLACED ON 6" OF CA7 STONE. PROVIDE 6" CONCRETE PAD IN FRONT OF CONTROL PANEL AS REQUIRED
9. STEEL POLE FOUNDATION FOR RADIO COMMUNICATION SHOWN IN VIEW. FOR ACTUAL LOCATION, SEE SHEETS C-125 AND C-126.
10. 1-1/2" PVC COAT RGS WITH LONG RADIUS BENTS FOR COAXIAL CABLE TO YAGI ANTENNA. SEE SPECIFICATION 33 83 00, DWC RADIO TELEMETRY SYSTEM, FOR ADDITIONAL INFORMATION
11. ROUND TAPERED STEEL POLE (VALMONT DS210 -20') WITH YAGI ANTENNA SUPPLIED AND INSTALLED BY CONTRACTOR. RADIO IN RTU ENCLOSURE BY OWNER.
12. ELECTRICAL NEMA 4X HINGED JUNCTION BOX, WITH SS METAL SEPARATION PARTITION BETWEEN DIFFERENT WIRE VOLTAGES (TYP)
13. 10' COPPER GROUND ROD AND 4/0 BARE GROUND CONNECTED TO FOUNDATION REBAR AND SERVICE GROUND GRID BY EXOTHERMIC WELD AND EXTENDED UP INTO POLE HANDHOLE TO GROUND POLE
14. POLARIZED CELL REPLACEMENT UNIT (DAIRYLAND MODEL PCR-5KA-CC) MOUNTED IN 304 SS HINGED HOFFMAN ENCLOSURE (MODEL A24H1608SSLP) WITH HOFFMAN 316 SS BACK PANEL (MODEL A24P16SS6). CONNECT 4/0 INSULATED GROUND WIRE FROM VAULT STRUCTURE TO NEGATIVE TERMINAL AND 4/0 BARE GROUND WIRE FROM POSITIVE TERMINAL TO GROUND ROD (SEE NOTE 15)
15. PROVIDE GROUND RODS AND 4/0 BARE GROUND WIRE FOR PCR CABINET AND ELECTRIC SERVICE (TYP OF 2). CONNECT ALL ELECTRODES (SERVICE, MAST POLE, PCR - NEGATIVE TERMINAL) TOGETHER WITH 4/0 BARE WIRE EXOTHERMICALLY WELD TO FORM A GROUND GRID.
16. ELECTRICAL SERVICE FEEDERS



100A NEMA 4X PANELBOARD WITH 100A MCB, 10KAIC

4 ROV LIGHTING PANEL STA 25+00 & STA 29+25

SCALE: NOT TO SCALE

CONDUIT SCHEDULE				
CONDUIT NUMBER	FROM	TO	CONDUCTORS/RACEWAY	NOTES
P1	LIGHT SWITCH/LIGHTS	JB1	2#10, 1#12 GND IN 3/4"C	
P2	RECEPTACLE	JB1	2#10, 1#12 GND IN 3/4"C	
P3	HEAT TRACE (HT JB)	JB1	2#10, 1#12 GND IN 3/4"C	
P4	VALVE ACTUATOR & DISCONNECT	JB1	5#10, 2#12, 1#12 GND IN 3/4"C	2#12 FOR AUX. CONTACT
P5	SUMP PUMP & DISCONNECT	JB1	MANUFACTURE CABLE TO D.S. & 2#10, 1#12 GND IN 3/4"C	
P6	SUMP FLOATS	JB1	2- MANUFACTURE CABLE (4#14)	
P7	JB1	JB3	15#10,2#12,5#12 GND IN 1-1/4"C	2#12 FOR AUX. CONTACT
P8	JB1	JB3	24#14 IN 1"C	INCLUDES 4#14 SERVICE LOOP LABELED "SPARE"
P8A	JB1	JB3	3/4"C	SPARE CONDUIT
P9	JB3	VACP	5#10,2#12,1#12 GND IN 3/4"C	2#12 FOR AUX. CONTACT
P9	JB3	VACP	24#14 1"C	4#14 SPARE
P10	JB3	SPCP	2#10,1#12 GND IN 3/4"C	
P11	JB3	LP	6#10, 3#12 GND IN 3/4"C	
P12	JB3	RTU	4#14 IN 3/4"C	INCLUDES 4#14 SERVICE LOOP LABELED "SPARE"
P13	JB3	SPCP	6#14 IN 3/4"C	
C1	ACCESS ALARM	JB2	2#14 IN 3/4"C	LIMIT SWITCH WITH 10' LEADS, PROVIDE WATERTIGHT SPLICE IN JB2
C2	HWL FLOAT (LSH)	JB2	MANUFACTURE CABLE (2#14)	
C3	PIT-1 & PIT-2	JB2	1-2/C#16 TSP IN 3/4"C	1-3/4"C AND 1-2/C#16 TSP FROM JB2 TO EACH PRESSURE TRANSDUCER
C4	VALVE ACTUATOR	JB2	1-3/C#16 TSP IN 3/4"C	
C5	VALVE ACTUATOR	JB2	10#14 IN 3/4"C	INCLUDES 4#14 SERVICE LOOP LABELED "SPARE"
C6	JB2	RTU	3-2/C#16 TSP, 2-3/C#16 TSP IN 1"C	INCLUDES ONE SPARE 2/C#16 TSP, 1-3/C#16 TSP WITH SERVICE LOOP LABELED "SPARE" IN JB2
C7	JB2	RTU	10#14 IN 1"C	INCLUDES 4#14 SERVICE LOOP LABELED "SPARE"
C7A	JB2	JB3	3/4" C	SPARE CONDUIT
C8	SPCP	RTU	4#14 IN 3/4"C	
C9	SPD	RTU	2#14 IN 3/4"C	
C10	VACP	RTU	14#14 IN 1"C	4#14 SPARE

6 STA 25+00 & 29+25 CONDUIT SCHEDULE

SCALE: NOT TO SCALE

MOY ROV I/O List (15E)		
Type	Tagname	Description
DI	EY-3155-CPS	RTU Power
DI	EY-3155-52	24V Power Supply 1
DI	EY-3155-56	24V Power Supply 2
DI	EY-3155-24	Surge Portection Device 24VDC
DI	JI-3155-UPS-STS	UPS Ready
DI	JI-3155-UPS-BAT	UPS Battery Fault
DI	TS-3155-12	Panel High Temp
DI	TS-3155-24	Panel Low Temp
DI	ZS-3155-06	Cabinet Door Status
DI	EY-3155-SPD	Incoming Power SPD
DI	EY-3155-PM	Valve Phase Monitor
DI	EY-3155-VCP	Valve Control Power
DI	HSAR-3155-01	Valve in Remote
DI	ZSC-3155-01	Valve Close Status
DI	ZSO-3155-01	Valve Open Status
DI	LSH-3155-01	Sump Flood Status
DI	AUX1-3155-04	Sump Pump Run Status
DI	ESH-3155-21	Sump Pump Control Power
DI	ZC-3155-02	Vault Hatch Closed
DO	ZCC-3155-01	Valve Close
DO	ZCH-3155-01	Valve Hold
DO	ZCO-3155-01	Valve Open
AI	Z-3155-01	Valve Position
AI	P-3155-03	Pressure Transmitter 1
AI	P-3155-10	Pressure Transmitter 2

5 STA 25+00 ROV RTU I/O LIST

SCALE: NOT TO SCALE

MOY ROV I/O List (15F)		
Type	Tagname	Description
DI	EY-3156-CPS	RTU Power
DI	EY-3156-52	24V Power Supply 1
DI	EY-3156-56	24V Power Supply 2
DI	EY-3156-24	Surge Portection Device 24VDC
DI	JI-3156-UPS-STS	UPS Ready
DI	JI-3156-UPS-BAT	UPS Battery Fault
DI	TS-3156-12	Panel High Temp
DI	TS-3156-24	Panel Low Temp
DI	ZS-3156-06	Cabinet Door Status
DI	EY-3156-SPD	Incoming Power SPD
DI	EY-3156-PM	Valve Phase Monitor
DI	EY-3156-VCP	Valve Control Power
DI	HSAR-3156-01	Valve in Remote
DI	ZSC-3156-01	Valve Close Status
DI	ZSO-3156-01	Valve Open Status
DI	LSH-3156-01	Sump Flood Status
DI	AUX1-3156-04	Sump Pump Run Status
DI	ESH-3156-21	Sump Pump Control Power
DI	ZC-3156-02	Vault Hatch Closed
DO	ZCC-3156-01	Valve Close
DO	ZCH-3156-01	Valve Hold
DO	ZCO-3156-01	Valve Open
AI	Z-3156-01	Valve Position
AI	P-3156-03	Pressure Transmitter 1
AI	P-3156-10	Pressure Transmitter 2

7 STA 29+25 ROV RTU I/O LIST

SCALE: NOT TO SCALE

REV.	DATE	DESCRIPTION	BY
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DATE = MAY 2025 | SCALE = AS SHOWN | SCALE = | PROJECT NO = 128-10031-001

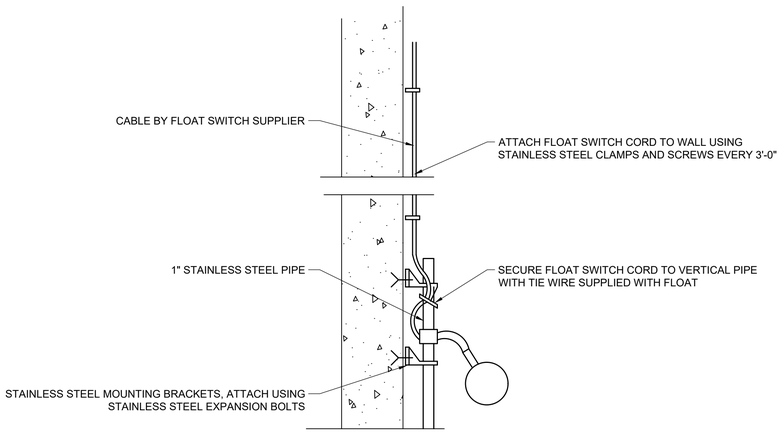
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DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

ELECTRICAL
REMOTE OPERATED VALVE DETAILS
SHEET 2 OF 4

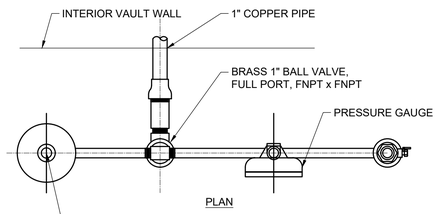
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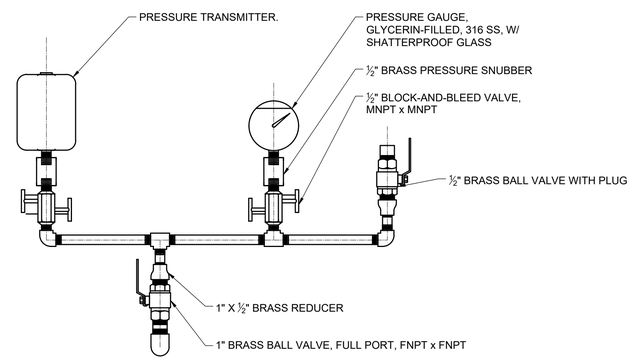
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1 FLOAT SWITCH DETAIL

SCALE: NOT TO SCALE



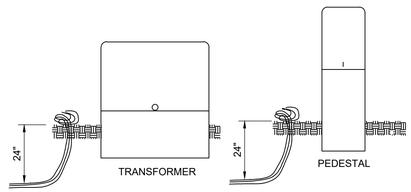


NOTES:
1. THIS IS GENERAL ARRANGEMENT BUT WILL VARY BETWEEN ROV AS NEEDED
2. PRESSURE TRANSDUCER TO BE MOUNTED AT CENTERLINE OF WATER TRANSMISSION MAIN

1

2 PRESSURE TRANSDUCER ASSEMBLY

SCALE: NOT TO SCALE



COPPER EXTERNAL GROUNDING WIRE SIZES	
60-100 AMP	#8
150 AMP	#6
200 AMP	#4

COPPER SERVICE ENTRANCE WIRE SIZES	
60 AMP	#6
100 AMP	#3
150 AMP	1/0
200 AMP	3/0

CUSTOMER FURNISHED, INSTALLS, AND MAINTAINS

1. 4"x4" PRESSURE TREATED POST.
2. METER TROUGH: A DEVICE THE METER PLUGS INTO WITH A REMOVABLE UPPER PROTECTIVE COVER.
3. DISCONNECTING MEANS: THE FACTORY INSTALLED MAIN DISCONNECT.
4. DRIVEN GROUND: A SAFETY CONNECTION TO PROVIDE AN ELECTRICAL PATH TO EARTH (8' x ⅝" COPPER CLAD). SEE CHART.
5. ELECTRICAL SERVICE WIRE (CONTRACTOR INSTALLED) PER NEC REQUIREMENTS.

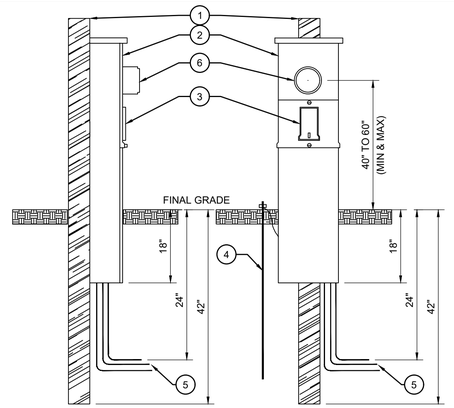
NOTE: ALL HARDWARE MUST BE ⅜" GALVANIZED OR STAINLESS STEEL (NO ZINC ALLOWED).

DPU-E FURNISHES, INSTALLS, AND MAINTAINS

6. METER: A DEVICE THAT MEASURES THE AMOUNT OF ELECTRICITY USED BY A CUSTOMER.

RULES FOR CONNECTING TO DPU-E EQUIPMENT

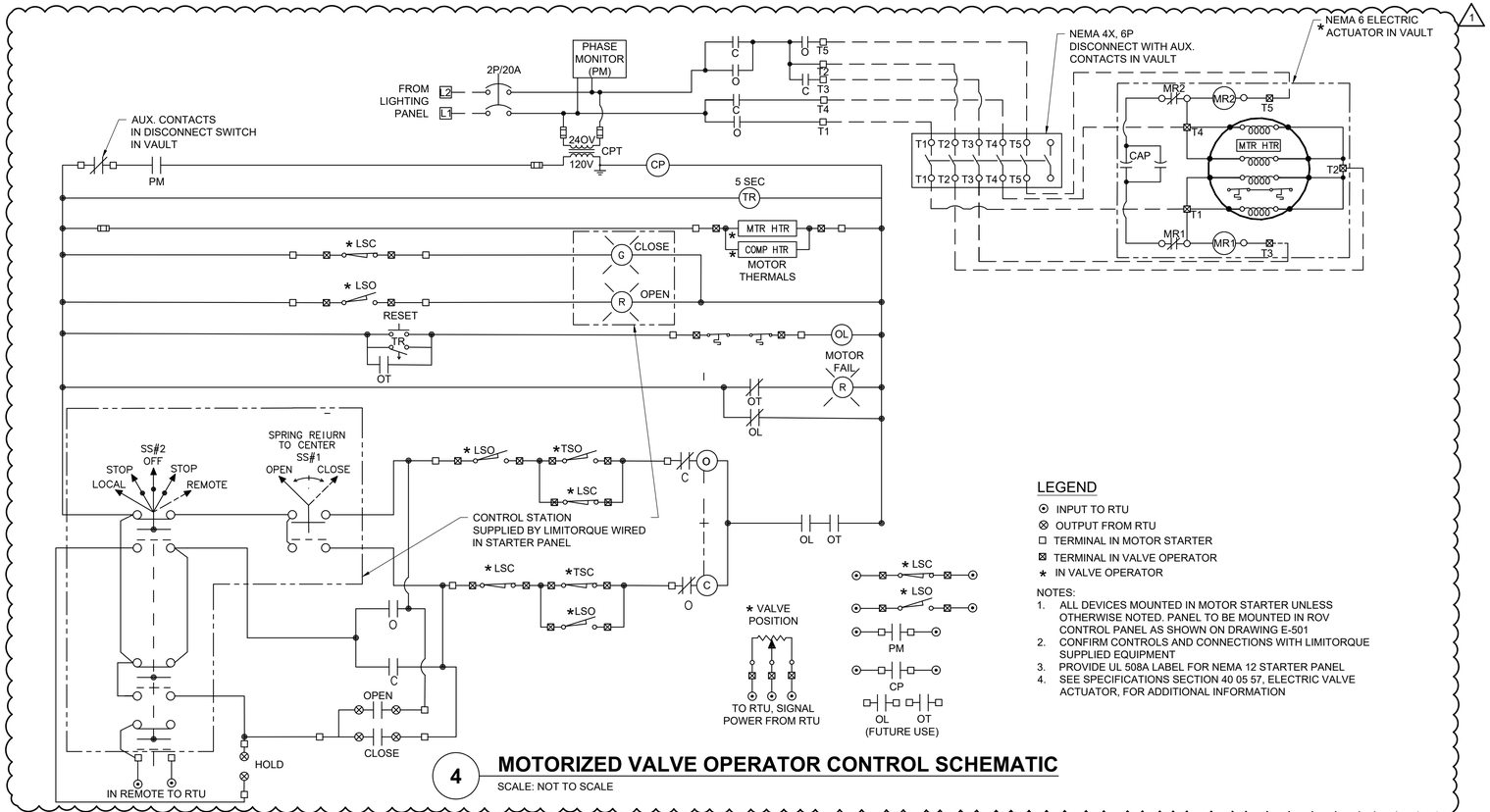
1. SERVICE MUST BE TRENCHED IN AT A DEPTH OF 24" AND A TRENCH INSPECTION MUST BE DONE BEFORE BACK FILL IS COMPLETED (CALL 420-6082 TO SCHEDULE AN INSPECTION WITH TED).
2. AN 8' COIL OF WIRE MUST BE LEFT AS CLOSE TO THE SIDE OF THE TRANSFORMER OR PEDESTAL AS POSSIBLE FOR DPU-E TO CONNECT.
3. NO GROUND WIRES ALLOWED IN DPU-E EQUIPMENT.
4. METER TROUGH TO BE LOCATED 5'-15' FROM DPU-E POINT OF ATTACHMENT.
5. METER TROUGH ASSEMBLY SHALL BE AT LEAST 5' FROM EXCAVATION.
6. MAY BE USED FOR TEMPORARY ELECTRIC SERVICE.



METER TROUGH WITH MAIN DISCONNECT FACTORY INSTALLED

3 FREE STANDING METER

SCALE: NOT TO SCALE



LEGEND

- ⊙ INPUT TO RTU
- ⊗ OUTPUT FROM RTU
- □ TERMINAL IN MOTOR STARTER
- ⊠ TERMINAL IN VALVE OPERATOR
- ✱ IN VALVE OPERATOR

NOTES:
1. ALL DEVICES MOUNTED IN MOTOR STARTER UNLESS OTHERWISE NOTED. PANEL TO BE MOUNTED IN ROV CONTROL PANEL AS SHOWN ON DRAWING E-501
2. CONFIRM CONTROLS AND CONNECTIONS WITH LIMITORQUE SUPPLIED EQUIPMENT
3. PROVIDE UL 508A LABEL FOR NEMA 12 STARTER PANEL
4. SEE SPECIFICATIONS SECTION 40 05 57, ELECTRIC VALVE ACTUATOR, FOR ADDITIONAL INFORMATION

1

4 MOTORIZED VALVE OPERATOR CONTROL SCHEMATIC

SCALE: NOT TO SCALE

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	RESIDENTIAL/COMMERCIAL FREE STANDING METER THROUGH 100–200 AMP SERVICE	DATE: 04–11–07
ELECTRIC STANDARDS		PAGE 1 OF 1
		STD. NO. C50–3320

REV#	DATE	DESCRIPTION	REV BY	APPVD BY	REV#	DATE	DESCRIPTION	REV BY	APPVD BY

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	JPD

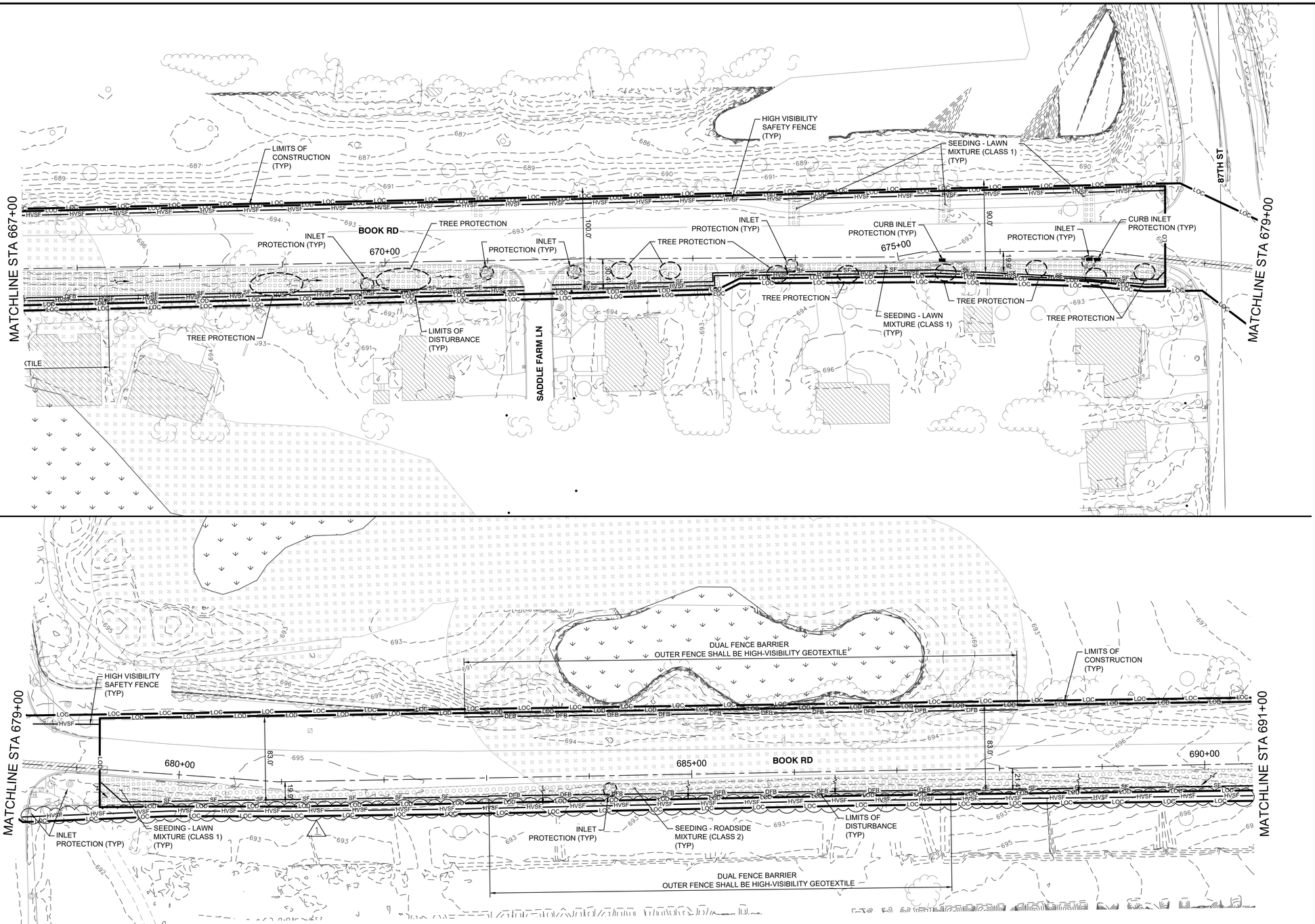
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SCALE	=	AS SHOWN	CHECKED	—	JWG		
SCALE	=		DRAWN	—	DRS		
PROJECT NO	=	128-10031-001	CHECKED	—	OG		

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

ELECTRICAL
REMOTE OPERATED VALVE DETAILS
SHEET 3 OF 4

DRAWING NO.	SHEET NO.
E-503	74 of 199

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LEGEND

- LOC — LIMITS OF CONSTRUCTION
- LOD — LIMITS OF DISTURBANCE
- HVSF — HIGH VISIBILITY SAFETY FENCE
- SF — SILT FENCE
- DFB — DUAL SILT FENCE
- IP — INLET PROTECTION
- DC — DITCH CHECK
- CHECK DAM
- DIRECTION OF FLOW
- TREE PROTECTION
- SEEDING - LAWN MIXTURE CLASS 1)
- PASTURE SEED MIX - COORDINATE WITH LAND OWNER
- SEEDING - ROADSIDE MIXTURE (CLASS 2)
- WETLANDS
- WETLANDS 100' BUFFER
- FLOODPLAIN 100 YEAR

NOTES:

1. WHERE APPLICABLE, EXCAVATED AREAS SHALL BE BACKFILLED WITH NATIVE SOIL IN THE SAME STRATIFICATION IN WHICH THE SOIL WAS REMOVED.
2. STORAGE OF EQUIPMENT AND CONSTRUCTION MATERIALS IS NOT PERMITTED WITHIN THE FLOODPLAIN.
3. ANY WORK ADJACENT TO OR WITHIN THE SPRINGBROOK PRAIRIE INAI, SPRINGBROOK MARSH LAND AND WATER RESERVE, AND SPRINGBROOK PRAIRIE NATURE PRESERVE SHALL ABIDE BY SPECIAL REQUIREMENTS IN SPECIFICATION SECTION 01 45 33-13 SECTION 3.01 G.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	CH

DATE	=	MAY 2025	DESIGNED	—	MC
SCALE	=	1"=50'	CHECKED	—	KD
SCALE	=		DRAWN	—	BH
PROJECT NO	=	128-10031-001	CHECKED	—	JM

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

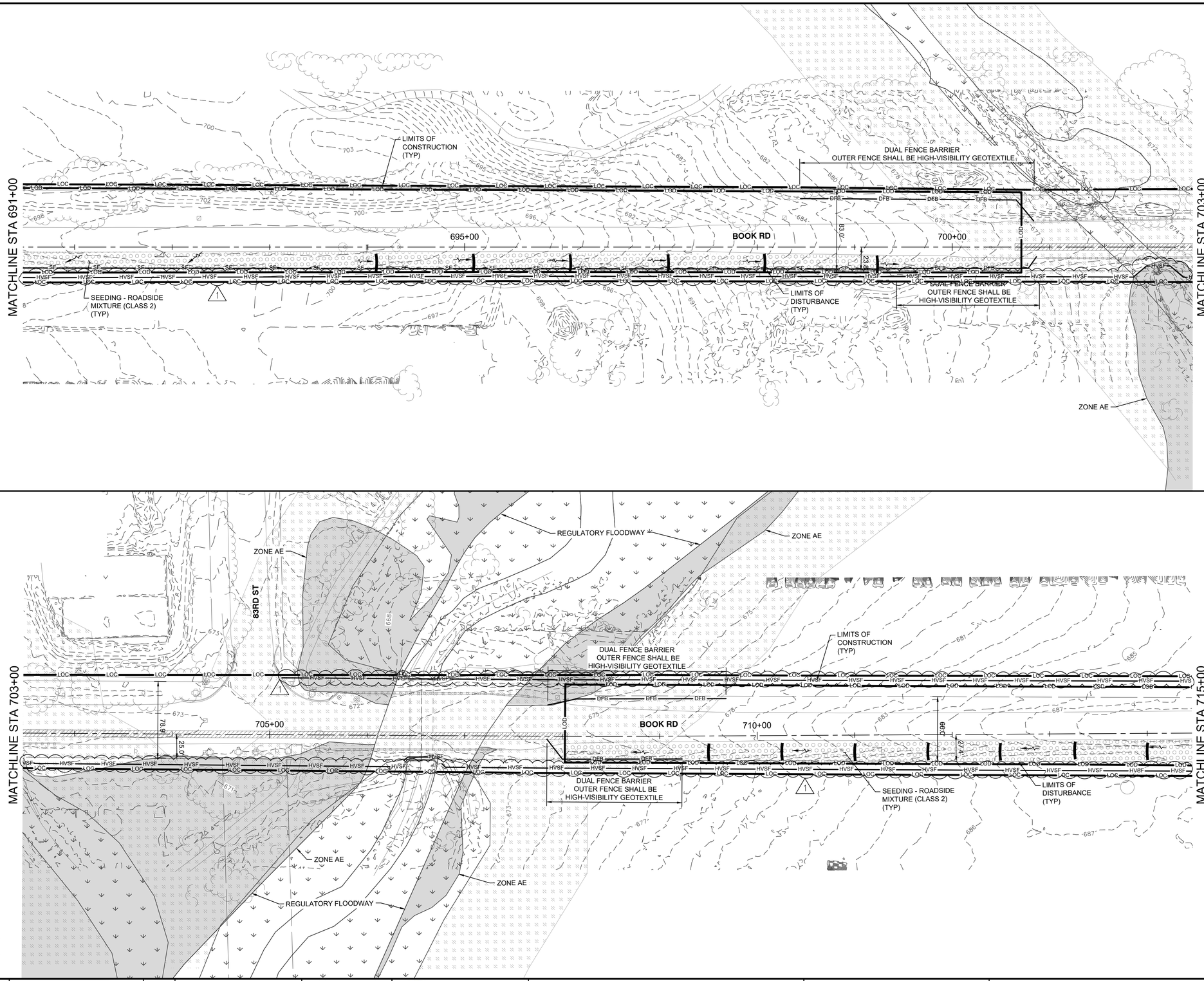
EROSION CONTROL
BOOK ROAD
PLANS
SHEET 4 OF 7

0 50 100

DRAWING NO. EC-104
SHEET NO. 112 of 199

519 of 624

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LEGEND

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- SEEDING - ROADSIDE MIXTURE (CLASS 2)
- WETLANDS
- WETLANDS 100' BUFFER
- FLOODPLAIN 100 YEAR

NOTES:

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REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	CH

DATE = MAY 2025 | DESIGNED — MC
SCALE = 1"=50' | CHECKED — KD
SCALE = | DRAWN — BH
PROJECT NO = 128-10031-001 | CHECKED — JM

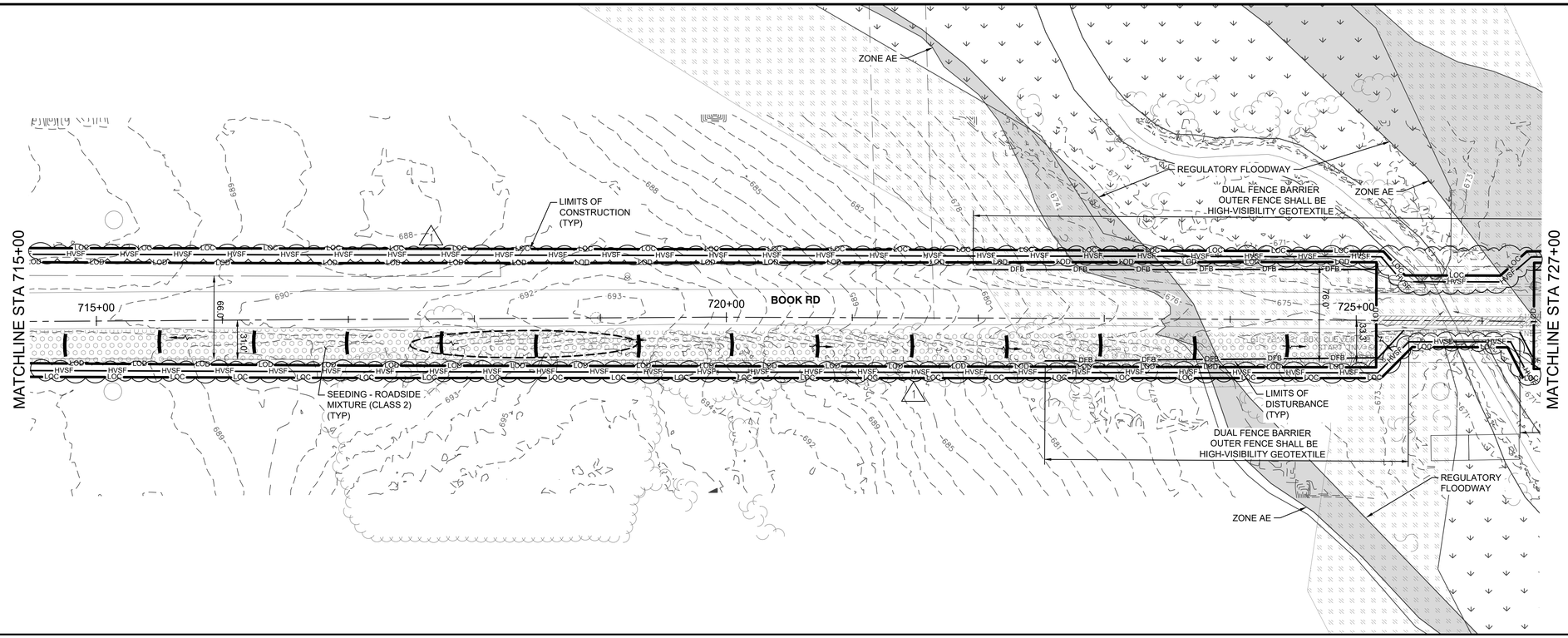
DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

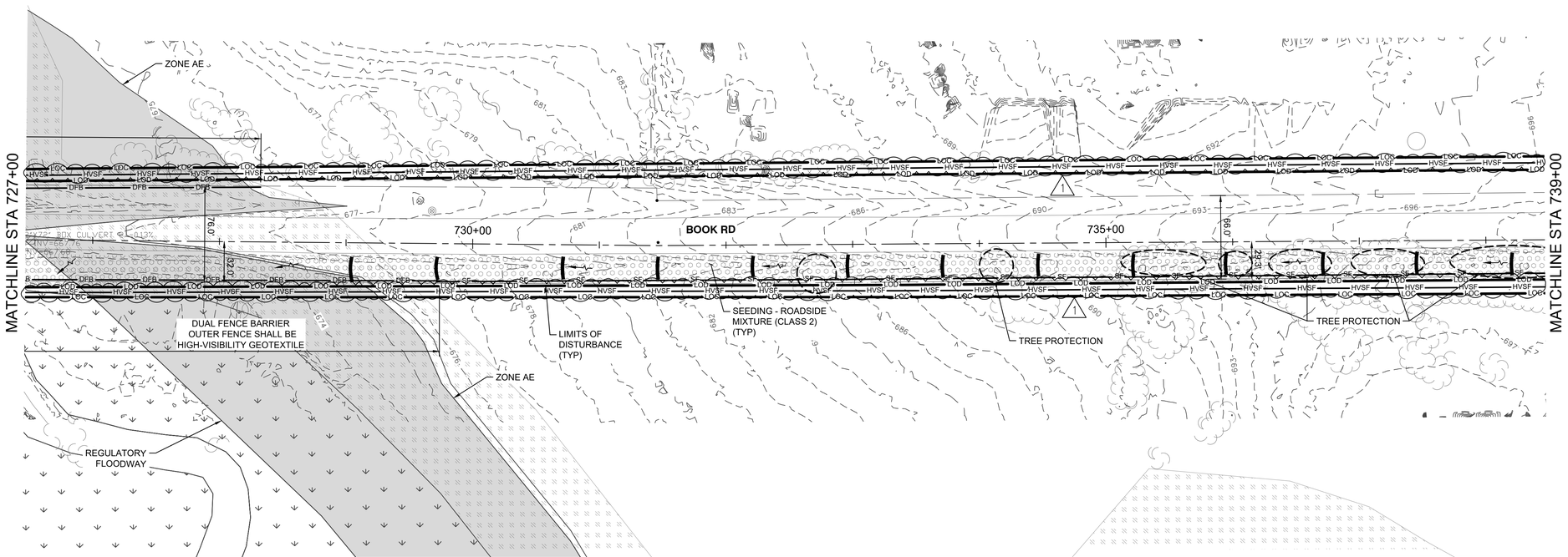
EROSION CONTROL
BOOK ROAD
PLANS
SHEET 5 OF 7

0 50 100

DRAWING NO. EC-105 | SHEET NO. 113 of 199

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LEGEND

- LOC — LIMITS OF CONSTRUCTION
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- WETLANDS 100' BUFFER
- FLOODPLAIN 100 YEAR

NOTES:

1. WHERE APPLICABLE, EXCAVATED AREAS SHALL BE BACKFILLED WITH NATIVE SOIL IN THE SAME STRATIFICATION IN WHICH THE SOIL WAS REMOVED.
2. STORAGE OF EQUIPMENT AND CONSTRUCTION MATERIALS IS NOT PERMITTED WITHIN THE FLOODPLAIN.
3. TREES WITHIN LOC FROM STA 717+00 TO 723+00 AND STA 735+00 TO 745+00 ARE POTENTIAL ENDANGERED BAT HABITAT. NO CLEARING MAY TAKE PLACE WITHOUT COORDINATION WITH OWNER AND IDNR/USFWS.
4. ANY WORK ADJACENT TO OR WITHIN THE SPRINGBROOK PRAIRIE INAI, SPRINGBROOK MARSH LAND AND WATER RESERVE, AND SPRINGBROOK PRAIRIE NATURE PRESERVE SHALL ABIDE BY SPECIAL REQUIREMENTS IN SPECIFICATION SECTION 01 45 33-13 SECTION 3.01 G.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	CH

DATE = MAY 2025 | SCALE = 1"=50' | SCALE = | PROJECT NO = 128-10031-001

DESIGNED — MC | CHECKED — KD | DRAWN — BH | CHECKED — JM

WATERLINK MONTGOMERY • OSWEGO • YORKVILLE

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

EROSION CONTROL
BOOK ROAD
PLANS
SHEET 6 OF 7

LAN | Robinson ENGINEERING | Stanley Consultants INC.

0 50 100

DRAWING NO. EC-106 | SHEET NO. 114 of 199

File: C:\Users\76201\OneDrive - Stanley Consultants\Lee A Daly\128-10031-001\Project Files\4-1-BIM-CAD_PROGRAM-WDES\Environmental\TW6S1\Environmental\C-EEC-TW6S1.dwg Plot Date: 6/19/2025 5:57 PM By: Martin, Josh

MATCHLINE STA 739+00

740+00

745+00

BOOK RD

750+00

MATCHLINE STA 751+00

LIMITS OF CONSTRUCTION (TYP)

ZONE A

DUAL FENCE BARRIER OUTER FENCE SHALL BE HIGH-VISIBILITY GEOTEXTILE

SEEDING - ROADSIDE MIXTURE (CLASS 2) (TYP)

LIMITS OF DISTURBANCE (TYP)

TREE PROTECTION

SEEDING - LAWN MIXTURE (CLASS 1) (TYP)

MATCHLINE STA 751+00

755+00

758+79.74

W 75TH ST

145'-54"X36" RCP @ 0.20%
START INV=689.43
END INV=689.72

REMOVE OR PROTECT TREES AND SHRUBBERY AND RESTORE TO PRE-CONSTRUCTION CONDITIONS

SEEDING - LAWN MIXTURE (CLASS 1) (TYP)

LEGEND

- LOC — LIMITS OF CONSTRUCTION
- LOD — LIMITS OF DISTURBANCE
- HVSF — HIGH VISIBILITY SAFETY FENCE
- SF — SILT FENCE
- DFB — DUAL SILT FENCE
- IP — INLET PROTECTION
- DC — DITCH CHECK
- CHECK DAM
- DIRECTION OF FLOW
- TREE PROTECTION
- SEEDING - LAWN MIXTURE CLASS 1)
- PASTURE SEED MIX - COORDINATE WITH LAND OWNER
- SEEDING - ROADSIDE MIXTURE (CLASS 2)
- WETLANDS
- WETLANDS 100' BUFFER
- FLOODPLAIN 100 YEAR

NOTES:

1. WHERE APPLICABLE, EXCAVATED AREAS SHALL BE BACKFILLED WITH NATIVE SOIL IN THE SAME STRATIFICATION IN WHICH THE SOIL WAS REMOVED.
2. STORAGE OF EQUIPMENT AND CONSTRUCTION MATERIALS IS NOT PERMITTED WITHIN THE FLOODPLAIN.
3. TREES WITHIN LOC FROM STA 717+00 TO 723+00 AND STA 735+00 TO 745+00 ARE POTENTIAL ENDANGERED BAT HABITAT. NO CLEARING MAY TAKE PLACE WITHOUT COORDINATION WITH OWNER AND IDNR/USFWS.
4. ANY WORK ADJACENT TO OR WITHIN THE SPRINGBROOK PRAIRIE INAI, SPRINGBROOK MARSH LAND AND WATER RESERVE, AND SPRINGBROOK PRAIRIE NATURE PRESERVE SHALL ABIDE BY SPECIAL REQUIREMENTS IN SPECIFICATION SECTION 01 45 33-13 SECTION 3.01 G.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	CH

DATE = MAY 2025
SCALE = 1"=50'
SCALE =
PROJECT NO = 128-10031-001

DESIGNED — MC
CHECKED — KD
DRAWN — BH
CHECKED — JM

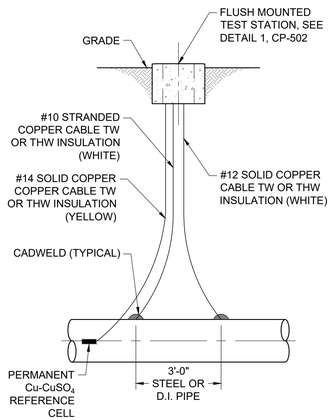
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WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

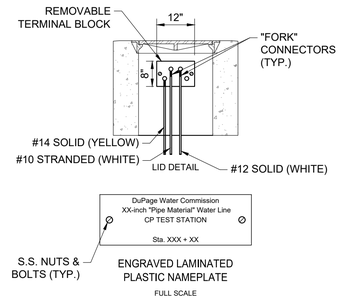
EROSION CONTROL
BOOK ROAD
PLANS
SHEET 7 OF 7

0 50 100

DRAWING NO. EC-107
SHEET NO. 115 of 199

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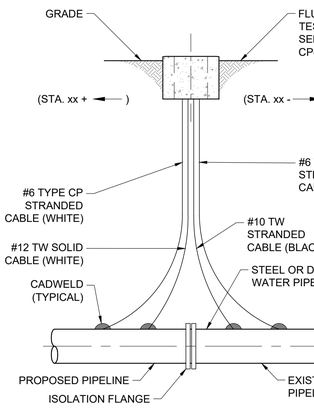


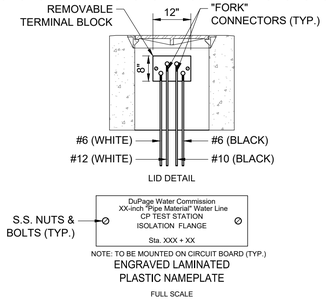


NOTE:
1. FOR CONCRETE PIPE, THE CADWELD CONNECTIONS MUST BE LOCATED AT THE JOINT ELECTRICAL BONDS.

1 CP-1 - FLUSH MOUNTED POTENTIAL TEST STATION

SCALE: N.T.S.

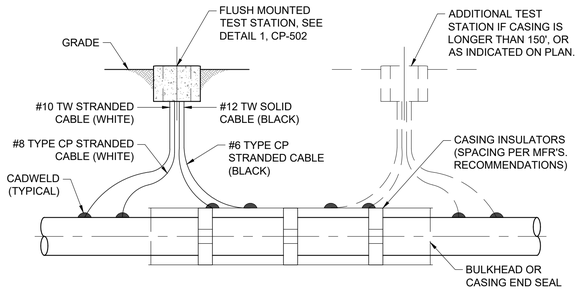


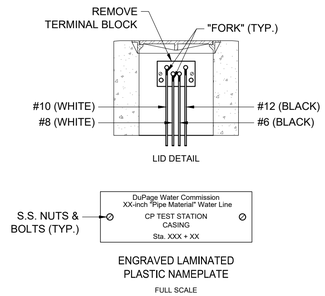


NOTE:
1. FOR CONCRETE PIPE, THE CADWELD CONNECTIONS MUST BE LOCATED AT THE JOINT BONDS OR ON THE FLANGE PROPER.

2 CP-2 - FLUSH MOUNTED ISOLATION TEST STATION

SCALE: N.T.S.

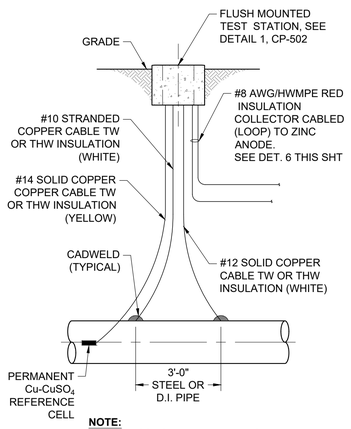


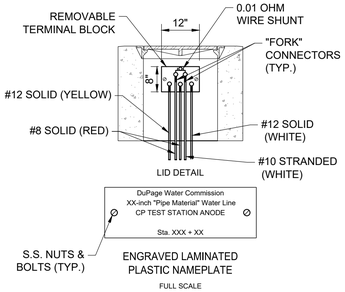


NOTE:
1. CADWELD CONNECTION ON CONCRETE PIPE MUST BE MADE AT THE JOINT ELECTRICAL BONDS.

3 CP-3 - FLUSH MOUNTED CASING TEST STATION

SCALE: N.T.S.

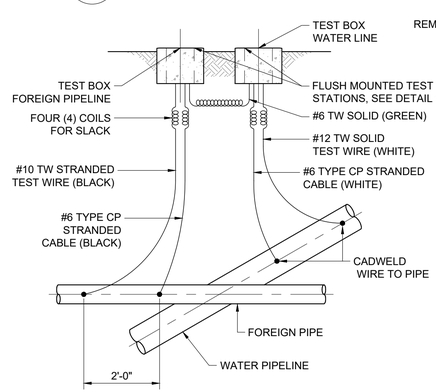


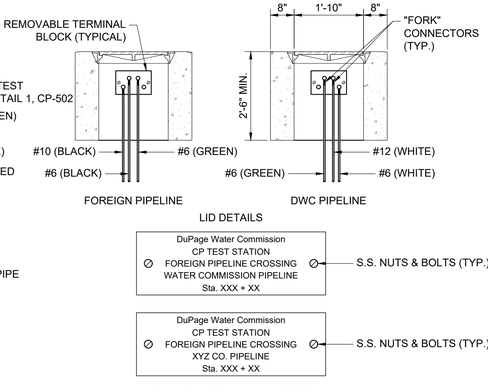


NOTE:
1. FOR CONCRETE PIPE, THE CADWELD CONNECTIONS MUST BE LOCATED AT THE JOINT ELECTRICAL BONDS.

4 CP-4 - FOREIGN PIPELINE CROSSING TEST STATION

SCALE: N.T.S.

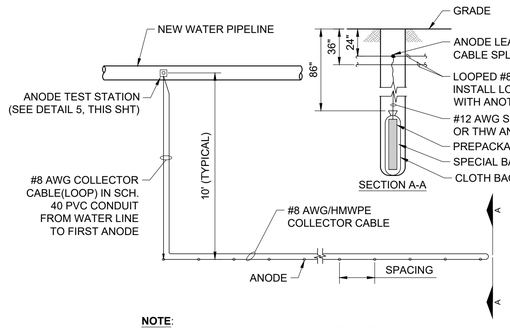




NOTE:
1. FOREIGN PIPELINE COMPANY MAY INSTALL TEST LEADS ON THEIR PIPING AND MAY REQUIRE A NON STANDARD TEST STATION. LEADS ATTACHED TO CONCRETE PIPE MUST BE CADWELDED AT ELECTRICAL JOINT BOND.

5 CP-5 - FLUSH MOUNTED ANODE TEST STATION

SCALE: N.T.S.



NOTE:
1. FOR ANODE SIZE AND SPACING REQUIREMENT, SEE "DESIGN SUMMARY" SCHEDULE

6 ANODE TEST STATION PLAN

SCALE: N.T.S.

NOTES:
1. WHERE WATER MAIN IS LOCATED UNDER PAVEMENT, INSTALL TEST STATIONS APPROXIMATELY 2 TO 3 FEET BEHIND CURB LINE/EDGE OF PAVEMENT. LOCATE TEST STATIONS NEAR EXISTING UTILITY POLES, SIGN POSTS, ETC. WHEN POSSIBLE.
2. NOTIFY OWNER'S REPRESENTATIVE IF FIELD CONDITIONS REQUIRE SIGNIFICANT DEVIATIONS IN TEST STATION LOCATIONS.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	BM

DATE	=	MAY 2025	DESIGNED	—	GRS
SCALE	=	AS-SHOWN	CHECKED	—	BM
SCALE	=		DRAWN	—	GRS
PROJECT NO	=	128-10031-001	CHECKED	—	JW

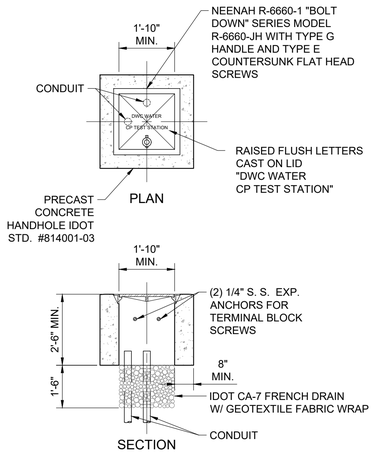
DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

CATHODIC PROTECTION
DETAILS
SHEET 1 OF 3

0 1 2

DRAWING NO. CP-501
SHEET NO. 183 of 199

File: C:\Users\vgarcia\DC\ACCDocs\Lee A. Daly\128-10031-001\Project Files\4-1-BIM-CAD_PROGRAM-WIDE\Civil\Details\STANDARD DETAILS - CATHODIC PROTECTION.dwg Plot Date: 6/19/2025, 6:06 PM By: Garcia, Ozzie

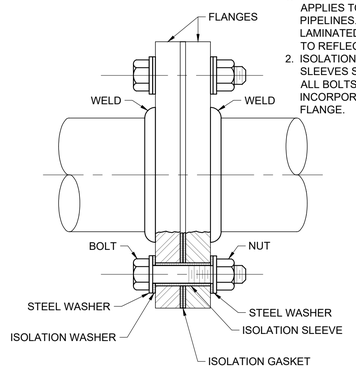


NOTE

1. ANY TEST STATION BOX LOCATED OVER 25 FT FROM PIPE CONNECTION SHOULD ENCASE CP STRANDED CABLES IN 2" PVC CONDUIT FOR UNDERGROUND ELECTRICAL SERVICES

1 FLUSH MOUNTED TEST STATION HANDHOLE

SCALE: N.T.S.

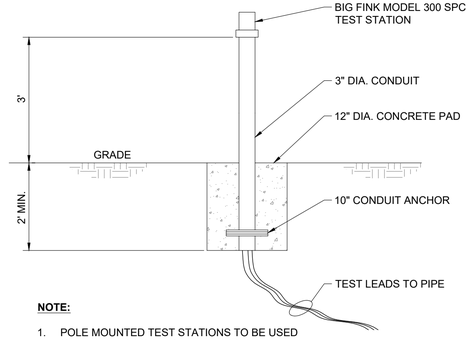


NOTE:

1. THIS ARRANGEMENT ALSO APPLIES TO VALVES ON METALLIC PIPELINES. REVISE TEST STATION LAMINATED PLASTIC NAMEPLATE TO REFLECT PRESENCE OF VALVE.
2. ISOLATION WASHERS AND SLEEVES SHALL BE APPLIED TO ALL BOLTS/NUTS/STUDS INCORPORATED ON ISOLATION FLANGE.

2 PIPE ISOLATION FLANGE

SCALE: N.T.S.

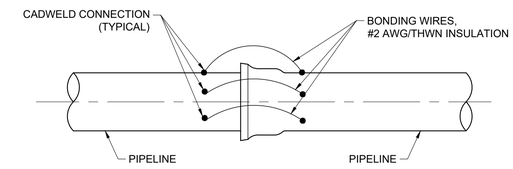


NOTE:

1. POLE MOUNTED TEST STATIONS TO BE USED ONLY WITH PRIOR WRITTEN APPROVAL OF OWNER'S REPRESENTATIVE.

3 ABOVE GRADE TEST STATION

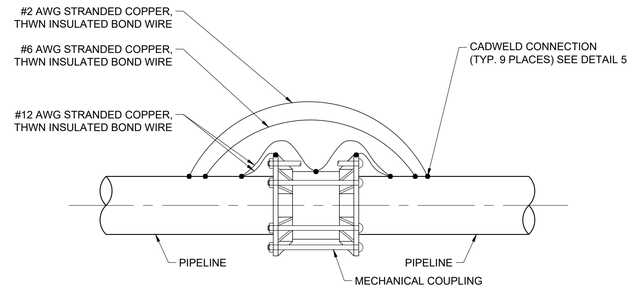
SCALE: N.T.S.



NOTE:
BOND WIRES SHALL BE PLACED A MINIMUM OF 6" APART.

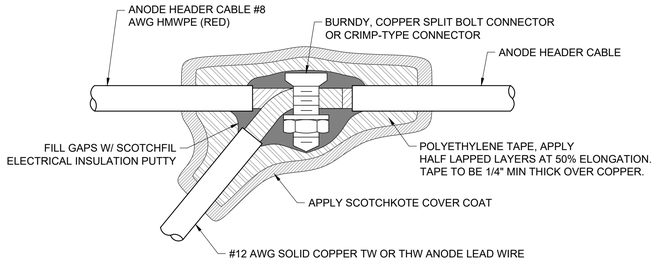
6 BELL & SPIGOT BONDING ARRANGEMENT

SCALE: N.T.S.



7 MECHANICAL COUPLING BONDING

SCALE: N.T.S.



NOTES:

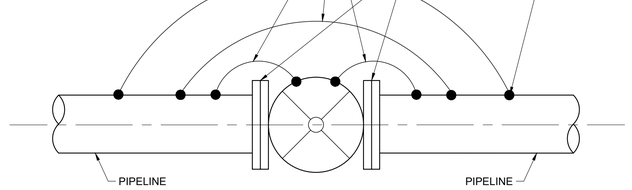
1. MAKE SPLICE WATERPROOF

   A. SMOOTH ALL IRREGULAR SURFACES WITH ELECTRICAL INSULATION PUTTY.
   B. APPLY 2 LAYERS OF HALF LAPPED RUBBER SPLICING TAPE.
   C. APPLY 2 LAYERS OF HALF LAPPED VINYL ELECTRICAL TAPE.

2. NUMBER OF WIRES MAY VARY PER SPLICE

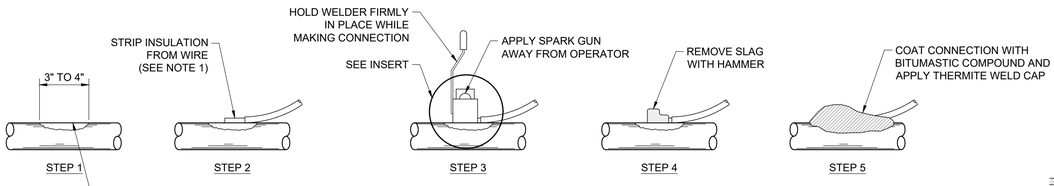
4 SPLICE DETAIL

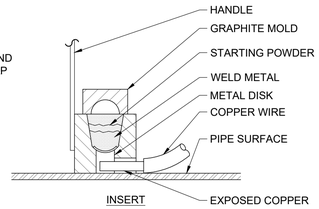
SCALE: N.T.S.



8 VALVE BONDING ARRANGEMENT

SCALE: N.T.S.



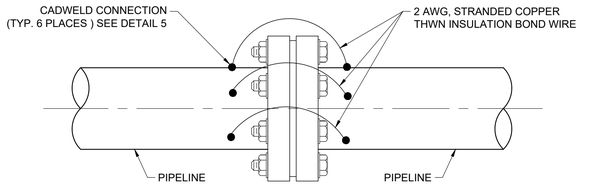


NOTE:

1. WHEN #14 SOLID TO #10 SOLID WIRE IS USED, IT WILL BE NECESSARY TO INSTALL A COPPER SLEEVE OF ADEQUATE SIZE OVER BARE SECTION OF WIRE BEFORE CONNECTION IS ATTEMPTED.
2. CADWELD PROCEDURES SIMILAR FOR "L" BRACKETS.
3. REPAIR ALL DAMAGE TO COATING AND LINING IN ACCORDANCE WITH DIVISION 13 OF SPECIFICATIONS.

5 CADWELD CONNECTION DETAILS

SCALE: N.T.S.



9 ELECTRICAL BONDING ACROSS FLANGE

SCALE: N.T.S.

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	BM

DATE = MAY 2025 | SCALE = AS-SHOWN | SCALE = | PROJECT NO = 128-10031-001

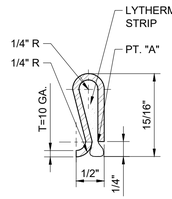
DESIGNED — GRS | CHECKED — BM | DRAWN — GRS | CHECKED — JW

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

CATHODIC PROTECTION
DETAILS
SHEET 2 OF 3

DRAWING NO. CP-502
SHEET NO. 184 of 199

File: C:\Users\cgarza\DCUMENTS\Work A Only\128-10031-001\Project Files\4-I-BIM-CAD_PROGRAM-WIDE\Civil\Details\STANDARD DETAILS - CATHODIC PROTECTION.dwg Plot Date: 6/19/2025 6:06 PM By: Garza, Ozzie

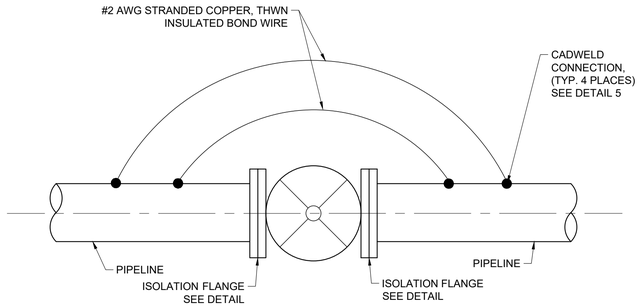


NOTE:

1. BONDING CLIP:
   MATERIAL SPECIFICATION --- ASTM A366 (COMMERCIAL QUALITY)
   CUT LENGTH ---------- 2 ½" ± 1/16"
   WIDTH---------- 1¼" ± 1/16"
2. LYTHERM FILLER STRIP TO BE 1" x 1½" WIDE TO OVERLAP SIDES OF CLIP.
3. CRIMP JUMPER OVER FILLER AT "A" TO COMPRESS FILLER CLOSE AT PT. "A" AS MUCH AS POSSIBLE WITHOUT CUTTING FILLER PAD.
4. THREE BONDING CLIPS ARE REQUIRED PER GASKETED JOINT (TYPICAL).
5. BONDING NOT REQUIRED FOR WELDED JOINTS.

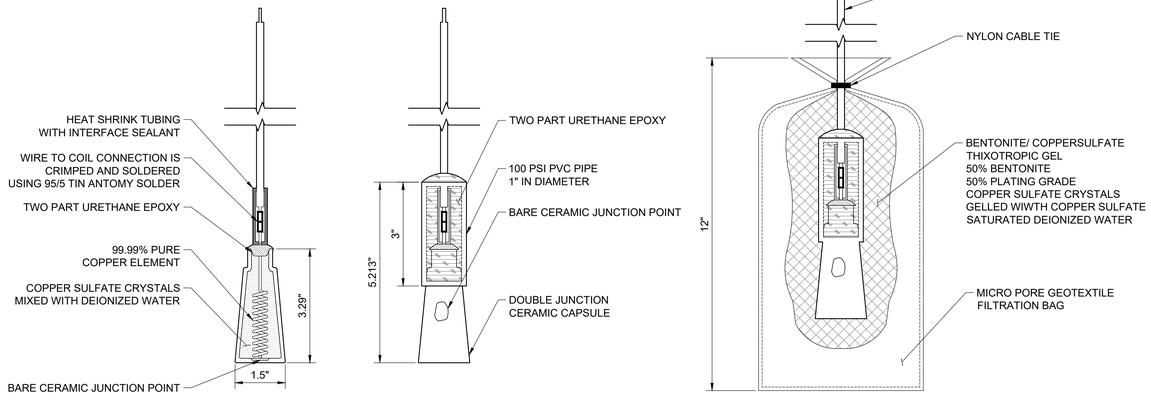
1 STEEL BONDING CLIP DETAIL

SCALE: N.T.S.



2 ROV VALVE BONDING ARRANGEMENT

SCALE: N.T.S.



3 Cu/CuSO4 PERMENANT REFERENCE CELL

SCALE: N.T.S.

STANDARD TEST STATIONS

TEST STATION	STATION NO.	SEGMENT	TYPE OF TEST STATION	STRUCTURE
1	0+06.58	TW6-SECTION 1	CP-2 -FLUSH MOUNTED ISOLATION	PROP BFV / PROP 30-INCH
2	602+46	TW6-SECTION 1	CP-2 -FLUSH MOUNTED ISOLATION	REMOTE OPERATED BFV / PROP 54-INCH
3	604+21	TW6-SECTION 1	CP-1 -FLUSH MOUNTED POTENTIAL	PROP 54-INCH
4	619+25	TW6-SECTION 1	*CP-2 -FLUSH MOUNTED ISOLATION	PROP 54-INCH / PROP 54-INCH
5	619+96	TW6-SECTION 1	CP-3- FLUSH MOUNTED CASED CROSSING	PROP 54-INCH / CASING
6	622+99	TW6-SECTION 1	CP-3- FLUSH MOUNTED CASED CROSSING	PROP 54-INCH / CASING
7	623+65	TW6-SECTION 1	*CP-2 -FLUSH MOUNTED ISOLATION	PROP 54-INCH / PROP 54-INCH
8	634+90	TW6-SECTION 1	CP-1 -FLUSH MOUNTED POTENTIAL	PROP 54-INCH
9	649+51	TW6-SECTION 1	CP-1 -FLUSH MOUNTED POTENTIAL	PROP 54-INCH
10	676+80	TW6-SECTION 1	*CP-2 -FLUSH MOUNTED ISOLATION	PROP 54-INCH / PROP 54-INCH
11	677+46	TW6-SECTION 1	CP-3- FLUSH MOUNTED CASED CROSSING	PROP 54-INCH / CASING
12	679+30	TW6-SECTION 1	CP-3- FLUSH MOUNTED CASED CROSSING	PROP 54-INCH / CASING
13	680+00	TW6-SECTION 1	*CP-2 -FLUSH MOUNTED ISOLATION	PROP 54-INCH / PROP 54-INCH
14	699+95	TW6-SECTION 1	*CP-2 -FLUSH MOUNTED ISOLATION	PROP 54-INCH / PROP 54-INCH
15	700+64	TW6-SECTION 1	CP-3- FLUSH MOUNTED CASED CROSSING	PROP 54-INCH / CASING
16	708+05	TW6-SECTION 1	CP-3- FLUSH MOUNTED CASED CROSSING	PROP 54-INCH / CASING
17	708+75	TW6-SECTION 1	*CP-2 -FLUSH MOUNTED ISOLATION	PROP 54-INCH / PROP 54-INCH
18	724+50	TW6-SECTION 1	*CP-2 -FLUSH MOUNTED ISOLATION	PROP 54-INCH / PROP 54-INCH
19	725+14	TW6-SECTION 1	CP-3- FLUSH MOUNTED CASED CROSSING	PROP 54-INCH / CASING
20	726+55	TW6-SECTION 1	CP-3- FLUSH MOUNTED CASED CROSSING	PROP 54-INCH / CASING
21	727+25	TW6-SECTION 1	*CP-2 -FLUSH MOUNTED ISOLATION	PROP 54-INCH / PROP 54-INCH
22	752+20	TW6-SECTION 1	CP-1 -FLUSH MOUNTED POTENTIAL	PROP 54-INCH
23	752+60	TW6-SECTION 1	*CP-2 -FLUSH MOUNTED ISOLATION	PROP 54-INCH / PROP 54-INCH
24	756+64	TW6-SECTION 1	CP-3- FLUSH MOUNTED CASED CROSSING	PROP 48-INCH / CASING
25	758+53	TW6-SECTION 1	CP-3- FLUSH MOUNTED CASED CROSSING	PROP 48-INCH / CASING
26	758+79	TW6-SECTION 1	CP-2 -FLUSH MOUNTED ISOLATION	PROP 48-INCH / PROP 48-INCH

*ISOLATION TEST STATIONS TO BE INSTALLED IF PCCP IS SELECTED MATERIAL

PCCP PIPE MATERIAL - OPTION 1 (ZINC SACRIFICIAL ANODE)

TEST STATION	STATION NO.	SEGMENT	TYPE OF TEST STATION	ANODE SPACING (FT)	NO. OF ANODES	ANODE MODEL
1	616+25	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
2	623+30	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
3	636+25	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
4	645+85	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
5	656+60	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
6	666+00	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
7	677+00	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
8	686+50	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
9	694+37	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
10	708+40	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
11	718+97	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
12	726+80	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
13	736+50	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
14	746+75	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
15	756+29	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	10	ZUR-60
16	24+87	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	2	ZUR-60
17	25+15	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	2	ZUR-60
18	26+00	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	4	ZUR-60
19	29+20	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	2	ZUR-60
20	29+30	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	2	ZUR-60

STEEL PIPE MATERIAL - OPTION 1 (HIGH POTENTIAL-MAGNESIUM SACRIFICIAL ANODE)

TEST STATION	STATION NO.	SEGMENT	TYPE OF TEST STATION	ANODE SPACING (FT)	NO. OF ANODES	ANODE MODEL
1	616+25	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
2	623+30	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
3	636+25	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
4	645+85	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
5	656+60	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
6	666+00	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
7	677+00	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
8	686+50	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
9	694+37	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
10	708+40	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
11	718+97	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
12	726+80	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
13	736+50	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
14	746+75	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
15	756+29	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	6	60S4
16*	24+87	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	2	ZUR-60
17*	25+15	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	2	ZUR-60
18*	26+00	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	4	ZUR-60
19*	29+20	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	2	ZUR-60
20*	29+30	TW6-SECTION 1	CP-5- ANODE TEST STATION	10	2	ZUR-60

* ANODES TO BE ZUR-60 ZINC ANODES

STEEL ONLY		
619+25.00	623+65.00	440'
676+80.00	680+00.00	320'
699+95.00	708+75.00	880'
724+50.00	727+25.00	275'
752+60.00	758+80.00	620'

REV.	DATE	DESCRIPTION	BY
1	06/23/25	ADDENDUM NO. 3	BM

DATE = MAY 2025 | SCALE = AS-SHOWN | SCALE = | PROJECT NO = 128-10031-001

DESIGNED — GRS | CHECKED — BM | DRAWN — BRS | CHECKED — JW

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

CATHODIC PROTECTION
DETAILS
SHEET 3 OF 3

DRAWING NO. CP-503
SHEET NO. 185 of 199

File: C:\Users\sgarza\3D\ACCDocs\Lee A Daly\128-10031-001\Project Files\4-1-BIM-CAD_PROGRAM-WIDE\Civil\Details\STANDARD DETAILS - CATHODIC PROTECTION.dwg Plot Date: 6/19/2025 6:06 PM By: Garza, Dzie

00 91 13 ADDENDUM NO. 4

PART 1 - G E N E R A L

1.01 ADDENDUM

A. Project Information:

1. To: PROSPECTIVE BIDDERS
2. Project Title: CONTRACT TW-6/25 SECTION 1 (BOOK ROAD)
3. Date of Addendum: JUNE 25, 2025
4. Owner: DUPAGE WATER COMMISSION
5. Engineer: LOCKWOOD, ANDREWS & NEWNAM, INC.

B. This Addendum forms a part of the Contract Documents and modifies the original documents dated May 23, 2025.

C. Acknowledge receipt of this Addendum in the space provided in the Bidder's Proposal documents included with Bidding Documents Failure to do so may disqualify the Bidder.

1.02 CHANGES TO PROJECT MANUAL

A. Bidding Documents – Section 00 42 22 – BID FORM

1. Remove Section 00 42 22 in its entirety and replace with the attached revised Section 00 42 22.
    a. Bid Item 18 Air Release and Access Manhole (Type 1) revised from 6 to 5.
    b. Bid Item 19 Air Release and Access Manhole (Type 2) revised from 8 to 9.
    c. Bid Item 39 48-Inch Steel Water Main By Open-Cut (Book Road STA 752+60.00 to 756+64.30) revised from 425 to 430 LF.
    d. Bid item 178 Replace 15-Inch Storm Sewer (With AWWA C900 DR 25 PVC Pipe) revised from 160 to 191 LF.
    e. Add Bid item 195 Remove and Replace Inlet

B. Bidding Documents – Section 01 22 00 – Unit Prices

1. Remove Section 01 22 00 in its entirety and replace with the attached revised Section 01 22 00.
    a. Add Bid item 195 Remove and Replace Inlet
        1) Bid item 195 Remove and Replace Inlet
            1. Measurement and payment per each inlet replaced.
            2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing inlet and furnish and install replacement catch basin and frame and grate, to match existing conditions, including adaptors, couplings, and boots as necessary to connect to existing. Includes removal, transporting, and disposal of removed material and excess excavated material.

1.03 CHANGES TO TECHNICAL SPECIFICATIONS

A. Section 34 20 00 – IDOT District One Special Provisions

1. Revise subsection 1.09. L. Restoration of Work Area with the following:

"Removal, Disposal, and Salvage of Existing Traffic Signal Equipment.
The removal, disposal, and/or salvage of existing traffic signal equipment shall become the property of the Contractor and disposed of by the Contractor outside the State's right-of-way, unless otherwise noted. No additional compensation shall be provided to the Contractor for removal, disposal or salvage expense for the work in the Contract."

1.04 CHANGES TO DRAWINGS

A. Replace Sheet 118 of 199 (Drawing MOT-000) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated General Notes to revised lettering on D3-1 signs to 5" and added 3 additional General Notes. Revised Detour Route Timing Impacts Table to remove timing for Stage 2B and 3A for IL Route 59 at 75th Street and IL Route 59 at Beebe Drive.

B. Replace Sheet 119 of 199 (Drawing MOT-001) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated Sign Legends to clarify panels are Orange by adding (O) after sign codes. Added Additional Detour Signs "V" and "W" to sign legend. Added Legend Item to note Temporary Traffic Signal Timing locations to supplement Table on Sheet MOT-000. Revised Sign locations and types at various locations as clouded on the sheet.

C. Replace Sheet 120 of 199 (Drawing MOT-002) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated Sign Legends to clarify panels are Orange by adding (O) after sign codes. Added Additional Detour Signs "V" and "W" to sign legend. Added Legend Item to note Temporary Traffic Signal Timing locations to supplement Table on Sheet MOT-000. Revised Sign locations and types at various locations as clouded on the sheet.

D. Replace Sheet 121 of 199 (Drawing MOT-003) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated Sign Legends to clarify panels are Orange by adding (O) after sign codes. Added Additional Detour Signs "V" and "W" to sign legend. Added Legend Item to note Temporary Traffic Signal Timing locations to supplement Table on Sheet MOT-000. Revised Sign locations and types at various locations as clouded on the sheet.

E. Replace Sheet 122 of 199 (Drawing MOT-004) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated Sign Legends to clarify panels are Orange by adding (O) after sign codes. Added Additional Detour Signs "V" and "W" to sign legend. Added Legend Item to note Temporary Traffic Signal Timing locations to supplement Table on Sheet MOT-000. Revised Sign locations and types at various locations as clouded on the sheet.

F. Replace Sheet 123 of 199 (Drawing MOT-005) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated Sign Legends to clarify panels are Orange by adding (O) after sign codes. Added Additional Detour Signs "V" and "W" to sign legend. Added Legend Item to note Temporary Traffic Signal Timing locations to supplement Table on Sheet MOT-000. Revised Sign locations and types at various locations as clouded on the sheet.

G. Replace Sheet 124 of 199 (Drawing MOT-006) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated Sign Legends to clarify panels are Orange by adding (O) after sign codes. Added Additional Detour Signs "V" and "W" to sign legend. Added Legend Item to note Temporary Traffic Signal Timing locations to supplement Table on Sheet MOT-000. Revised Sign locations and types at various locations as clouded on the sheet.

H. Replace Sheet 125 of 199 (Drawing MOT-007) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated Sign Legends to clarify panels are Orange by adding (O) after sign codes. Added Additional Detour Signs "V" and "W" to sign legend. Added Legend Item to note Temporary Traffic Signal Timing locations to supplement Table on Sheet MOT-000. Revised Sign locations and types at various locations as clouded on the sheet.

I. Replace Sheet 126 of 199 (Drawing MOT-008) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated Sign Legends to clarify panels are Orange by adding

(O) after sign codes. Added Additional Detour Signs “V” and “W” to sign legend. Added Legend Item to note Temporary Traffic Signal Timing locations to supplement Table on Sheet MOT-000. Revised Sign locations and types at various locations as clouded on the sheet.

J. Replace Sheet 127 of 199 (Drawing MOT-009) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated Sign Legends to clarify panels are Orange by adding (O) after sign codes. Added Additional Detour Signs “V” and “W” to sign legend. Added Legend Item to note Temporary Traffic Signal Timing locations to supplement Table on Sheet MOT-000. Revised Sign locations and types at various locations as clouded on the sheet.

K. Replace Sheet 128 of 199 (Drawing MOT-010) to address comments from IDOT Permits for use of IL Route 59 for Detour Routes. Updated Sign Legends to clarify panels are Orange by adding (O) after sign codes. Added Additional Detour Signs “V” and “W” to sign legend. Added Legend Item to note Temporary Traffic Signal Timing locations to supplement Table on Sheet MOT-000. Revised Sign locations and types at various locations as clouded on the sheet.

1.05 QUESTIONS AND CLARIFICATIONS

Q: UPDATE TO RESPONSE TO QUESTIONS AND CLARFICATIONS PROVIDED IN ADDENDUM NO 3 TO QUESTION #7: In the Naperville Standard Specification 103 Developer/Contractor Responsibilities 103.2 Bonding and Licensing stats that “all contactors must provide a surety bond or letter of credit equal to 110 percent of the value of the proposed improvements...” Is that applicable to this project, or is that just added as part of Naperville’s standard specs? Also, would we need a bond for DuPage County? Will County?

A: IDOT has confirmed that there will be no bond required for the use of IL Route 59 as a Detour Route. Contractor will be required to fill out and submit an IDOT Traffic Control Authorization Request, form BSPE 725, which is typical and required for any traffic control placed within an IDOT ROW. Contractor will have to provide a Certificate of Insurance naming IDOT has an additional insured since there is no active contract with IDOT associated with this DWC Contract.

Stanley Consultants, Inc.



6/25/2025
Expires 11/30/2025

END OF ADDENDUM NO. 4

00 42 22 BID FORM

PART 1 - G E N E R A L

1.01 SUMMARY

A. See Special Instructions to Bidders.

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
ALTERNATES TABLE					
A1	54-INCH STEEL WATER MAIN BY OPEN-CUT	LF	14,840		
A2	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
A3	ALTERNATE A SUBTOTAL (A1 + A2)				
B1	54-INCH PCCP WATER MAIN BY OPEN-CUT	LF	14,840		
B2	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
B3	ALTERNATE B SUBTOTAL (B1 + B2)				
C1	48-INCH STEEL WATER MAIN BY OPEN-CUT	LF	14,840		
C2	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
C3	ALTERNATE C SUBTOTAL (C1 + C2)				
D1	48-INCH PCCP WATER MAIN BY OPEN-CUT	LF	14,840		
D2	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF	1,400		
D3	ALTERNATE D SUBTOTAL (D1 + D2)				
BASE BID TABLE					
1	MOBILIZATION	LS	1		
2	TEMPORARY FIELD OFFICE	MNTH	18		
3	16-INCH BUTTERFLY VALVE IN VAULT	EA			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
4	20-INCH BUTTERFLY VALVE IN VAULT	EA			
5	24-INCH BUTTERFLY VALVE IN VAULT	EA			
6	24-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
7	30-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
8	36-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
9	36-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
10	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (75TH STREET – STA 25+00) (OWNER-FURNISHED VALVE)	LS	1		
11	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (75TH STREET – STA 29+25) (OWNER-FURNISHED VALVE)	LS	1		
12	48-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE AND DISINFECTION BYPASS ASSEMBLY (BOOK ROAD) (OWNER-FURNISHED VALVE)	LS	1		
13	54-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE (OWNER-FURNISHED VALVE)	EA	2		
14	54-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT (OWNER-FURNISHED VALVE)	EA	1		
15	54-INCH BUTTERFLY VALVE WITH ACTUATOR MANHOLE	EA			
16	54-INCH REMOTE OPERATED BUTTERFLY VALVE WITH VAULT	EA			
17	AIR RELEASE VALVE MANHOLE (24-INCH DIA. AND SMALLER PIPE)	EA			
18	AIR RELEASE AND ACCESS MANHOLE (TYPE 1)	EA	5		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
19	AIR RELEASE AND ACCESS MANHOLE (TYPE 2)	EA	9		
20	BLOW-OFF VALVE WITH MANHOLE (30-INCH DIA. AND SMALLER PIPE)	EA			
21	BLOW-OFF VALVE WITH MANHOLE (36-INCH DIA. AND LARGER PIPE)	EA	5		
22	16-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
23	16-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
24	20-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
25	20-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
26	24-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
27	24-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
28	30-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
29	36-INCH DUCTILE IRON WATER MAIN BY OPEN-CUT	LF			
30	36-INCH DUCTILE IRON WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
31	36-INCH PCCP WATER MAIN BY OPEN-CUT	LF			
32	36-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
33	36-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
34	36-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
35	48-INCH PCCP WATER MAIN BY OPEN-CUT	LF			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
36	48-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
37	48-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
38	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
39	48-INCH STEEL WATER MAIN BY OPEN-CUT (BOOK ROAD STA 752+60.00 TO 756+64.30)	LF	430		
40	48-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION (BOOK ROAD STA 756+64.30 TO 758+52.24)	LF	188		
41	54-INCH PCCP WATER MAIN BY OPEN-CUT	LF			
42	54-INCH PCCP WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
43	54-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
44	54-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
45	60-INCH STEEL WATER MAIN BY OPEN-CUT	LF			
46	60-INCH STEEL WATER MAIN BY TRENCHLESS CONSTRUCTION	LF			
47	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 25+00)	LS	1		
48	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 26+22)	LS	1		
49	75TH STREET CONNECTION TO EXISTING DWC 48-INCH PCCP (STA 29+25)	LS	1		
50	30-INCH STUB FOR FUTURE CONNECTION	LS	1		
51	REMOVE 36-INCH TEST PLUG AND CONNECT TO 36-INCH WATER MAIN (ADJACENT CONTRACT)	EA			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
52	REMOVE 54-INCH TEST PLUG AND CONNECT TO 54-INCH WATER MAIN (ADJACENT CONTRACT)	EA	1		
53	TRENCH BACKFILL (SELECT MATERIAL)	CY	39,240		
54	TRENCH BACKFILL (NATIVE MATERIAL)	CY			
55	CATHODIC PROTECTION SYSTEM	LS	1		
56	EARTH EXCAVATION	CY	4,210		
57	AGGREGATE BASE COURSE, TYPE B 2-INCH	SY	760		
58	AGGREGATE BASE COURSE, TYPE B 4-INCH	SY	70		
59	AGGREGATE BASE COURSE, TYPE B 6-INCH	SY	25,100		
60	PORTLAND CEMENT CONCRETE BASE COURSE, 8-INCH	SY			
61	BITUMINOUS MATERIALS (PRIME COAT)	LB	53,000		
62	BITUMINOUS MATERIALS (TACK COAT)	LB	25,220		
63	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	13,590		
64	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON			
65	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX D, N50	TON	6,470		
66	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX D, N70	TON			
67	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 8-INCH	SY			
68	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 12-INCH	SY			
69	PORTLAND CEMENT CONCRETE PAVEMENT, 12-INCH	SY			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
70	PROTECTIVE COAT	SY			
71	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6-INCH	SY			
72	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8-INCH	SY	70		
73	PORTLAND CEMENT CONCRETE SIDEWALK, 5-INCH	SF			
74	PORTLAND CEMENT CONCRETE SIDEWALK, 6-INCH	SF	6,720		
75	DETECTABLE WARNINGS	SF	400		
76	PAVEMENT REMOVAL	SY	24,290		
77	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2-INCH	SY			
78	HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4-INCH	SY	32,470		
79	DRIVEWAY PAVEMENT REMOVAL	SY	430		
80	COMBINATION CURB AND GUTTER REMOVAL	LF	3,630		
81	SIDEWALK REMOVAL	SF	6,590		
82	MEDIAN REMOVAL	SF			
83	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	LF	3,630		
84	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18	LF			
85	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	LF			
86	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-4.12	LF			
87	CONCRETE MEDIAN, TYPE SB-6.18	SF			

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
88	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6-FOOT POSTS	LF	50		
89	LONG-SPAN GUARDRAIL OVER CULVERT, 12-FOOT 6-INCH SPAN	LF	30		
90	TRAFFIC BARRIER TERMINAL, TYPE 1B	EA	2		
91	TRAFFIC BARRIER TERMINAL, TYPE 2	EA	2		
92	GUARDRAIL REMOVAL	LF	160		
93	PAVEMENT MARKING BLACKOUT TAPE, 6-INCH	LF	1,220		
94	CHANGEABLE MESSAGE SIGN	CAL DAY	2,920		
95	SHORT TERM PAVEMENT MARKING	LF	9,190		
96	SHORT TERM PAVEMENT MARKING REMOVAL	SF	3,610		
97	TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS – PAINT	SF	190		
98	TEMPORARY PAVEMENT MARKING – LINE 4-INCH – PAINT	LF	23,150		
99	TEMPORARY PAVEMENT MARKING – LINE 6-INCH – PAINT	LF			
100	TEMPORARY PAVEMENT MARKING – LINE 24-INCH – PAINT	LF	100		
101	TEMPORARY PAVEMENT MARKING – LINE 4-INCH – TYPE IV TAPE	LF	6,230		
102	TEMPORARY PAVEMENT MARKING – LINE 6-INCH – TYPE IV TAPE	LF			
103	TEMPORARY CONCRETE BARRIER	LF	2,170		
104	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 2	EA	4		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
105	RELOCATE SIGN PANEL ASSEMBLY – TYPE A	EA	21		
106	THERMOPLASTIC PAVEMENT MARKING – LETTERS AND SYMBOLS	SF	1,040		
107	THERMOPLASTIC PAVEMENT MARKING – LINE 4-INCH	LF	64,350		
108	THERMOPLASTIC PAVEMENT MARKING – LINE 6-INCH	LF	4,910		
109	THERMOPLASTIC PAVEMENT MARKING – LINE 12-INCH	LF	2,460		
110	THERMOPLASTIC PAVEMENT MARKING – LINE 24-INCH	LF	300		
111	PAVEMENT MARKING REMOVAL – GRINDING	SF	16,010		
112	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2-INCH DIA.	LF	1,380		
113	HANDHOLE	EA	3		
114	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EA	6		
115	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14, ONE PAIR	LF	820		
116	DRILL EXISTING HANDHOLE	EA	2		
117	DETECTOR LOOP, TYPE I	LF	320		
118	DETECTOR LOOP REPLACEMENT	LF	1,770		
119	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EA	5		
120	MODIFY EXISTING CONTROLLER	EA	6		
121	REBUILD EXISTING HANDHOLE	EA			
122	REMOVE EXISTING HANDHOLE	EA	3		
123	CLASS D PATCHES, 12-INCH	SY	1,630		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
124	BIKE PATH REMOVAL	SY			
125	MAILBOX REMOVE AND REPLACE	EA	2		
126	FENCE REMOVAL AND REINSTALLATION	LF			
127	TEMPORARY ACCESS (PRIVATE ENTRANCE)	EA	12		
128	TEMPORARY ACCESS (COMMERCIAL ENTRANCE)	EA	2		
129	TEMPORARY ACCESS (ROAD)	EA	10		
130	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LS	1		
131	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 4-INCH	SY	330		
132	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 10-INCH	SY			
133	DRAINAGE AND UTILITY STRUCTURES TO BE ADJUSTED	EA	10		
134	DRAINAGE AND UTILITY STRUCTURES TO BE RECONSTRUCTED	EA	1		
135	TEMPORARY INFORMATION SIGNING	SF	160		
136	TEMPORARY PAVEMENT	SY	740		
137	TEMPORARY TRAFFIC SIGNAL TIMING	EA	27		
138	HOT-MIX ASPHALT SURFACE REMOVAL – BUTT JOINT	SY	740		
139	TELESCOPING STEEL SIGN SUPPORT	LF	25		
140	METAL POST – TYPE A	LF	25		
141	EROSION CONTROL SEEDING, LAWN MIXTURE (CLASS 1)	LB	830		
142	EROSION CONTROL SEEDING, ROADSIDE MIXTURE (CLASS 2)	LB	660		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
143	EROSION CONTROL SEEDING – PASTURE MIXTURE	LB			
144	EROSION CONTROL SEEDING – SPORTS TURF MIXTURE	LB			
145	HIGH VISIBILITY SAFETY FENCE	LF	30,100		
146	TREE AND SHRUBBERY PROTECTION	EA	130		
147	TREE REMOVAL (6- TO 15-UNIT DIAMETER)	EA			
148	TREE REMOVAL (OVER 15-UNIT DIAMETER)	EA			
149	TREE REMOVAL (AREA)	AC			
150	DUAL FENCE BARRIER (HIGH-VISIBILITY GEOTEXTILE OUTER FENCE)	LF	3,830		
151	SILT FENCE	LF	11,000		
152	INLET PROTECTION, CURB	EA	15		
153	INLET PROTECTION, AREA	EA	40		
154	ROLLED EROSION CONTROL PRODUCTS	LF			
155	UTILITY RELOCATION/IMPROVEMENT	EA			
156	REMOVE AND REPLACE COMMUNICATIONS LINE	LF			
157	LIGHT POLE RELOCATION	EA			
158	WATER MAIN RELOCATION	LS			
159	REMOVE AND REPLACE 2-INCH GAS MAIN	LF			
160	REMOVE AND REPLACE 4-INCH GAS MAIN	LF			
161	REMOVE AND REPLACE 6-INCH GAS MAIN	LF			
162	REMOVE AND REPLACE 6-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
163	REMOVE AND REPLACE 8-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	130		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
164	REMOVE AND REPLACE 12-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
165	REMOVE AND REPLACE 15-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
166	REMOVE AND REPLACE 16-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
167	REMOVE AND REPLACE 18-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
168	REMOVE AND REPLACE 24-INCH SANITARY SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
169	REMOVE AND REPLACE 12-INCH FES	EA			
170	REMOVE AND REPLACE 15-INCH FES	EA			
171	REMOVE AND REPLACE 18-INCH FES	EA	1		
172	REMOVE AND REPLACE 24-INCH FES	EA			
173	REPLACE 4-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
174	REPLACE 6-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
175	REPLACE 8-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
176	REPLACE 10-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	240		
177	REPLACE 12-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	630		
178	REPLACE 15-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	191		
179	REPLACE 16-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
180	REPLACE 18-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	260		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
181	REPLACE 20-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
182	REPLACE 24-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF	270		
183	REPLACE 30-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
184	REPLACE 36-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
185	REPLACE 42-INCH STORM SEWER (WITH AWWA C900 DR 25 PVC PIPE)	LF			
186	REMOVE AND REPLACE HEADWALL OF 36-INCH RCP CULVERT	LS			
187	REMOVE AND REPLACE 12-INCH STORM CULVERT WITH 12-INCH CMP CULVERT	LF			
188	REMOVE AND REPLACE 15-INCH STORM CULVERT WITH 15-INCH CMP CULVERT	LF			
189	REMOVE AND REPLACE 24-INCH STORM CULVERT WITH 24-INCH CMP CULVERT	LF			
190	REMOVE AND REPLACE 30-INCH STORM CULVERT WITH 30-INCH CMP CULVERT	LF	60		
191	REMOVE AND REPLACE 48-INCH BY 48-INCH REINFORCED CONCRETE BOX CULVERT	LF			
192	REMOVE AND REPLACE HEADWALL OF 65-INCH BY 65-INCH BOX CULVERT	LS			
193	REMOVE AND REPLACE CATCH BASIN	EA	21		
194	REMOVE AND REPLACE STORM MANHOLE	EA			
195	REMOVE AND REPLACE INLET	EA	1		
196	CONNECTION TO EXISTING SEWER STRUCTURE	EA	42		
197	REMOVE AND REPLACE DUAL STORM CULVERTS 36-INCH AND HEADWALLS	LS	1		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
198	CROSSING EXISTING 58-INCH BY 91-INCH ELLIPTICAL CONCRETE PIPE (BOOK ROAD)	LS	1		
199	STEEL SHEET PILING COFFERDAM	SF			
200	STRUCTURAL LINER FOR WATER MAIN	LF			
201	STRUCTURAL LINER FOR SEWERS	LF			
202	MS 31A METERING STATION (MONTGOMERY 1)	LS			
203	MS 31B METERING STATION (MONTGOMERY 2)	LS			
204	MS 32A METERING STATION (OSWEGO 1)	LS			
205	MS 32B METERING STATION (OSWEGO 2)	LS			
206	MS 32C METERING STATION (OSWEGO 3)	LS			
207	MS 33A METERING STATION (YORKVILLE 1)	LS			
208	MS 33B METERING STATION (YORKVILLE 2)	LS			
209	CHEMICAL FEED BUILDING	LS			
210	VERTICAL DROP STRUCTURES (STA 619+71 AND STA 623+24)	LS	1		
211	VERTICAL DROP STRUCTURES (STA 677+21 AND STA 679+55)	LS	1		
212	VERTICAL DROP STRUCTURES (STA 700+39 AND STA 708+30)	LS	1		
213	VERTICAL DROP STRUCTURES (STA 724+89 AND STA 726+79)	LS	1		
IND1	EXPLORATORY EXCAVATION	CF	1,000		
IND2	EXPLORATORY EXCAVATION, VACUUM	EA	12		

TW-6/25 SECTION 1					
No.	**Description**	**Unit**	**Estimated Quantity**	**Bid Unit Price**	**Bid Price**
IND3	ADJUST WATER SERVICE LINE	LF	100		
IND4	ADJUST SEWER SERVICE LINE	LF	100		
IND5	REMOVE AND REPLACE DRAIN TILE	LS			
ALL1	ALLOWANCE: CITY OF NAPERVILLE DPU-E ELECTRIC SERVICES	LS	1	$25,000	$25,000
BB1	BASE BID SUBTOTAL (SUM OF BID PRICE FOR ITEMS 1–213 + IND 1–5 + ALL1)				

Steel Pipe Manufacturer: _____

PCCP Manufacturer: _____

TOTAL BID PRICE TABLE
ALTERNATE A (54-INCH STEEL) TOTAL BID PRICE (A3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)
ALTERNATE B (54-INCH PCCP) TOTAL BID PRICE (B3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)
ALTERNATE C (48-INCH STEEL) TOTAL BID PRICE (C3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)
ALTERNATE D (48-INCH PCCP) TOTAL BID PRICE (D3 + BB1)
TOTAL BID PRICE ($ Figures)
TOTAL BID PRICE (Words)

VALUE ENGINEERING PROPOSAL NO. _____							
BIDDER NAME: _____							
Item No.	**Plan Quantity**	**Plan Unit Price**	**Plan Bid Price**	**Revised Quantity**	**Revised Unit Price**	**Revised Bid Price**	**Deductions/Additions (Plan Bid Price – Revised Bid Price, or Price of New Item)**
TOTAL DEDUCTIONS (SUM OF ROWS ABOVE)							$
TOTAL APPLIED DEDUCTIONS[1] (50% TOTAL DEDUCTIONS)							$
ALTERNATE A REVISED TOTAL BID PRICE (A3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$
ALTERNATE B REVISED TOTAL BID PRICE (B3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$
ALTERNATE C REVISED TOTAL BID PRICE (C3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$
ALTERNATE D REVISED TOTAL BID PRICE (D3 + BB1 – 50% TOTAL APPLIED DEDUCTIONS)							$

1. Total applied deductions calculated in accordance with VE Incentive formula provided in Special Instructions to Bidders. Actual final approved Total Applied Deductions will be calculated based on final Owner's costs, as described in the Special Instructions to Bidders.

Reduction in schedule (calendar days): _____

Description of Value Engineering Proposal (provide attachments or additional pages as necessary):

VALUE ENGINEERING SUMMARY TABLE	
Alternates Total Bid Prices from Total Bid Price Table	
Alternate A Total Bid Price	$
Alternate B Total Bid Price	$
Alternate C Total Bid Price	$
Alternate D Total Bid Price	$
Value Engineering Proposals 50% Deductions from VE Proposal Table(s), as Applicable	
Value Engineering Proposal #1 Deductions (50% Total)	$
Value Engineering Proposal #2 Deductions (50% Total)	$
Value Engineering Proposal #3 Deductions (50% Total)	$
Value Engineering Proposal #4 Deductions (50% Total)	$
Value Engineering Proposal #5 Deductions (50% Total)	$
Value Engineering Proposal #6 Deductions (50% Total)	$
Value Engineering Proposal #7 Deductions (50% Total)	$
POTENTIAL TOTAL VALUE ENGINEERING DEDUCTIONS IF ALL VE PROPOSALS ARE APPROVED:	$
Reduced Total Bid Prices (Total Bid Price – Potential Total VE Deductions)	
Alternate A Reduced Total Bid Price	$
Alternate B Reduced Total Bid Price	$
Alternate C Reduced Total Bid Price	$
Alternate D Reduced Total Bid Price	$

01 22 00 UNIT PRICES

PART 1 - G E N E R A L

1.01 SUMMARY

A. This Section includes the following requirements:

1. Items of Work described herein are specifically listed in Agreement for separate measurement and payment.

2. No other items of Work required by Contract Documents shall be measured or paid for as a separate item, but shall be included as part of listed Unit Price item to which Work pertains. Failure to list all such related Work in the following descriptions of Unit Price items shall not invalidate this stipulation.

3. Measure Unit Price quantities for payment and submit to Owner's Representative.

1.02 REFERENCES

A. IDOT Standard Specifications for Road and Bridge Construction 2022, as modified by IDOT Supplemental Specifications and Recurring Special Provisions 2025.

1.03 DESCRIPTION OF UNIT PRICE ITEMS

A. The following paragraphs describe measurement and payment for items of work to be completed under each Unit Price item listed in Schedule of Prices. Each item includes all associated costs.

Bid Item No. A1: 54-Inch Steel Water Main by Open-Cut (LF)

1. Payment will be made per horizontal linear foot of installed 54-inch steel water main.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main in open-cut trenches as shown on Drawings and in accordance with Specifications herein.

a. Includes excavation, trench safety, dewatering, bedding, pipe embedment, pipe fittings, appurtenances, butt straps, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

3. Measurement will be taken horizontally along centerline of water main installed, with no deductions for fittings or valves.

Bid Item No. A2: 54-Inch Steel Water Main by Trenchless Construction (LF)

1. Payment will be made per horizontal linear foot of trenchless construction.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main and casing pipe/liner plate by trenchless construction as shown on Drawings and in accordance with Specifications herein.

    a. Includes all related work such as construction of launch/receiving shafts ground support systems, dewatering activities, steel casing pipe or liner plate installation, CLSM backfill, trench backfill, instrumentation and monitoring, and restoration. Includes removal, transport, and disposal of excess excavated material.

    b. Includes installation of steel water main in casing/liner plate and associated casing spacers, guide rails, inverts, end seals/bulkheads, grouting, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.

    c. No separate payment will be made for trenchless construction exceeding length shown on Drawings, unless proposed modifications are submitted for review as part of Contractor's shop drawing submittals and accepted by Owner's Representative.

    d. Payment for water main through shaft areas that do not require vertical drop structures will be made as part of associated open-cut bid item.

3. Measurement will be taken horizontally along centerline of steel casing/liner plate installed.

Bid Item No. B1: <u>54-Inch PCCP Water Main by Open-Cut (LF)</u>

1. Payment will be made per horizontal linear foot of installed 54-inch PCCP water main.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main in open-cut trenches as shown on Drawings and in accordance with Specifications herein.

    a. Includes excavation, trench safety, dewatering, bedding, pipe embedment, pipe fittings, shorts, bevel adapters, appurtenances, closures, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

3. Measurement will be taken horizontally along centerline of water main installed, with no deductions for fittings or valves.

Bid Item No. B2: <u>54-Inch Steel Water Main by Trenchless Construction (LF)</u>

1. See Bid Item No. A2 above for description.

Bid Item No. C1: <u>48-Inch Steel Water Main by Open-Cut (LF)</u>

1. Payment will be made per horizontal linear foot of installed 48-inch steel water main.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main in open-cut trenches as shown on Drawings and in accordance with Specifications herein.

    a. Includes excavation, trench safety, dewatering, bedding, pipe embedment, pipe fittings, appurtenances, butt straps, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

3. Measurement will be taken horizontally along centerline of water main installed, with no deductions for fittings or valves.

Bid Item No. C2: 48-Inch Steel Water Main by Trenchless Construction (LF)

1. Payment will be made per horizontal linear foot of trenchless construction.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main and casing pipe/liner plate by trenchless construction as shown on Drawings and in accordance with Specifications herein.

    a. Includes all related work such as construction of launch/receiving shafts ground support systems, dewatering activities, steel casing pipe or liner plate installation, CLSM backfill, trench backfill, instrumentation and monitoring, and restoration. Includes removal, transport, and disposal of excess excavated material.

    b. Includes installation of steel water main in casing/liner plate and associated casing spacers, guide rails, inverts, end seals/bulkheads, grouting, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.

    c. No separate payment will be made for trenchless construction exceeding length shown on Drawings, unless proposed modifications are submitted for review as part of Contractor's shop drawing submittals and accepted by Owner's Representative.

    d. Payment for water main through shaft areas that do not require vertical drop structures will be made as part of associated open-cut bid item.

3. Measurement will be taken horizontally along centerline of steel casing/liner plate installed.

Bid Item No. D1: 48-Inch PCCP Water Main by Open-Cut (LF)

1. Payment will be made per horizontal linear foot of installed 48-inch PCCP water main.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main in open-cut trenches as shown on Drawings and in accordance with Specifications herein.

    a. Includes excavation, trench safety, dewatering, bedding, pipe embedment, pipe fittings, shorts, bevel adapters, appurtenances, closures, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

3. Measurement will be taken horizontally along centerline of water main installed, with no deductions for fittings or valves.

Bid Item No. D2: 48-Inch Steel Water Main by Trenchless Construction (LF)

1. See Bid Item No. C2 above for description.

Bid Item No. 1: Mobilization (LS)

1. Measurement and payment in lump sum for mobilization.
2. Payment limited to six percent of Total Bid Price.
3. Preparatory work and operations necessary for movement of personnel, equipment, supplies, and incidentals to Project Site for establishment of offices, buildings, and other facilities necessary for Work on Project, and for all other work or operations which must be performed, or costs incurred when beginning Project Work.

Bid Item No. 2: Temporary Field Office (MNTH)

1. Measurement and payment per month that temporary field office is supplied.
2. Mobile units or temporary buildings with potable water, sanitary facilities, electrical power, and parking facilities for use of Owner's Representative in administering Contract. Field office shall be situated in or near Work area at a location approved by Owner's Representative and Authority Having Jurisdiction, adjacent to Contractor's field office.

Bid Item No. 10: 48-Inch Butterfly Valve with Actuator Manhole (75th Street – STA 25+00) (Owner-Furnished Valve) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in place installation of 48-inch butterfly valve with actuator manhole as shown on Drawings and in accordance with Specifications herein.
3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, valves, appurtenances, pipe supports, structural concrete, precast manhole, sump pump with piping, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.
4. Includes installation of Owner-furnished 48-inch butterfly valve and manual actuator.
5. Includes Contractor-furnished and installed Limitorque L120 electric actuator.
6. Includes copper lines, fittings, valves and pressure transducer assemblies.
7. Includes all associated electrical equipment and improvements, telemetry antenna, Valmont steel pole, mast pole foundation, and SCADA controls.

Bid Item No. 11: 48-Inch Butterfly Valve with Actuator Manhole (75th Street – STA 29+25) (Owner-Furnished Valve) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in place installation of 48-inch butterfly valve with actuator manhole as shown on Drawings and in accordance with Specifications herein.
3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, valves, appurtenances, pipe supports, cast in-place structural concrete, precast manhole, sump pump with piping, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

4. Includes installation of Owner-furnished 48-inch butterfly valve and manual actuator.

5. Includes Contractor-furnished and installed Limitorque L120 electric actuator.

6. Includes copper lines, fittings, valves and pressure transducer assemblies.

7. Includes all associated electrical equipment and improvements, telemetry antenna, Valmont steel pole, mast pole foundation, and SCADA controls.

Bid Item No. 12: 48-Inch Butterfly Valve with Actuator Manhole and Disinfection Bypass Assembly (Book Road) (Owner-Furnished Valve) (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, and materials necessary for complete in place installation of 48-inch butterfly valve with actuator manhole, chemical vault, and disinfection bypass assembly as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, valves, appurtenances, pipe supports, cast-in-place structural concrete, two (2) precast manholes, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

4. Includes installation of Owner-furnished 48-inch butterfly valve and actuator.

5. Includes injection quill assembly.

Bid Item No. 13: 54-Inch Butterfly Valve with Actuator Manhole (Owner-Furnished Valve) (EA)

1. Payment will be made for each valve with manhole installed.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of 54-inch butterfly valve with actuator manhole as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, valves, appurtenances, pipe supports, cast-in-place structural concrete, precast manhole, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

4. Includes installation of Owner-furnished 54-inch butterfly valve and manual actuator.

Bid Item No. 14: 54-Inch Remote Operated Butterfly Valve with Vault (Owner-Furnished Valve) (EA)

1. Payment will be made for each remote operated valve with vault installed.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of 54-inch butterfly valve with actuator manhole as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, dismantling joint, valves, appurtenances, pipe supports, cast-in-place structural concrete, precast manhole, sump pump with piping, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

4. Includes installation of Owner-furnished 54-inch butterfly valve and manual actuator.

5. Includes Contractor-furnished and installed Limitorque L120 electric actuator.

6. Includes copper lines, fittings, valves and pressure transducer assemblies.

7. Includes all associated electrical equipment and improvements, telemetry antenna, Valmont steel pole, mast pole foundation, and SCADA controls.

Bid Item No. 18: Air Release and Access Manhole (Type 1) (EA)

1. Payment will be made for each Type 1 air release & access manhole installed.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of Type 1 air release and access manhole as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, concrete fill pipe encasement, pipe fittings, valves, appurtenances, precast manhole, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

Bid Item No. 19: Air Release and Access Manhole (Type 2) (EA)

1. Payment will be made for each Type 2 air release & access manhole installed.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of Type 2 air release and access manhole as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, concrete fill pipe encasement, pipe fittings, valves, appurtenances, precast manhole, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

Bid Item No. 21: Blow-Off Valve with Manhole (36-Inch Dia. And Larger Pipe) (EA)

1. Payment will be made for each blow-off valve with manhole installed.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of blow-off valve with manhole as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, support of existing utilities, dewatering, bedding, CLSM pipe embedment, pipe fittings, valves, appurtenances, precast manhole, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

Bid Item No. 39: 48-Inch Steel Water Main by Open-Cut
(Book Road STA 752+60.00 to 756+64.30) (LF)

1. Payment will be made per horizontal linear foot of installed 48-inch steel water main.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main in open-cut trenches as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, dewatering, bedding, pipe embedment, pipe fittings, appurtenances, butt straps, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material.

4. Measurement will be taken horizontally along centerline of water main installed, with no deductions for fittings or valves.

Bid Item No. 40: 48-Inch Steel Water Main by Trenchless Construction (Book Road STA 756+64.30 to 758+52.24) (LF)

1. Payment will be made per horizontal linear foot of trenchless construction.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main and casing pipe/liner plate by trenchless construction as shown on Drawings and in accordance with Specifications herein.
3. Includes all related work such as construction of launch/receiving shafts ground support systems, dewatering activities, steel casing pipe or liner plate installation, CLSM backfill, trench backfill, instrumentation and monitoring, and restoration. Includes removal, transport, and disposal of excess excavated material.
4. Includes installation of steel water main in casing/liner plate and associated casing spacers, guide rails, inverts, end seals/bulkheads, grouting, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.
5. No separate payment will be made for trenchless construction exceeding length shown on Drawings, unless proposed modifications are submitted for review as part of Contractor's shop drawing submittals and accepted by Owner's Representative.
6. Payment for water main through shaft areas that do not require vertical drop structures will be made as part of associated open-cut bid item.
7. Measurement will be taken horizontally along centerline of steel casing/liner plate installed.

Bid Item No. 47: 75th Street Connection to Existing DWC 48-Inch PCCP (STA 25+00) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of steel water main connection to existing 48-inch PCCP line in open-cut trench as shown on Drawings and in accordance with Specifications herein.
3. Includes excavation, trench safety, dewatering, bedding, CLSM pipe embedment, pipe fittings, appurtenances, butt straps, PCCP bell/spigot adapters, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material. See Section 01 11 00 – SUMMARY OF WORK for phasing and schedule requirements.
4. Includes installation of 48-inch steel water main pipe and fittings.
5. Includes cutting and removal of existing 48-inch PCCP water main, connections to 48-inch PCCP, as well as repair of cement mortar lining on remaining pipe damaged during removal.

Bid Item No. 48: 75th Street Connection to Existing DWC 48-Inch PCCP (STA 26+22) (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of steel water main connection to existing 48-inch PCCP line in open-cut trench as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, dewatering, bedding, CLSM pipe embedment, pipe fittings, appurtenances, butt straps, PCCP bell/spigot adapters, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material. See Section 01 11 00 – SUMMARY OF WORK for phasing and schedule requirements.

4. Includes installation of 48-inch steel water main pipe and fittings.

5. Includes cutting and removal of existing 48-inch PCCP water main, connections to 48-inch PCCP, as well as repair of cement mortar lining on remaining pipe damaged during removal.

Bid Item No. 49: 75th Street Connection to Existing DWC 48-Inch PCCP (STA 29+25) (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of steel water main connection to existing 48-inch PCCP line in open-cut trench as shown on Drawings and in accordance with Specifications herein.

3. Includes excavation, trench safety, dewatering, bedding, CLSM pipe embedment, pipe fittings, appurtenances, butt straps, PCCP bell/spigot adapters, restrained joints, thrust blocks, buried warning/locating tape, test plugs/caps, hydrostatic testing, disinfection, support of existing utilities, and associated miscellaneous materials and work required. Includes removal, transport, and disposal of excess excavated material. See Section 01 11 00 – SUMMARY OF WORK for phasing and schedule requirements.

4. Includes installation of 48-inch cement mortar coated steel water main pipe and fittings.

5. Includes cutting and removal of existing 48-inch PCCP water main, connections to 48-inch PCCP, as well as repair of cement mortar lining on remaining pipe damaged during removal.

6. Includes cutting, removal, and replacement of existing 34-inch x 53-inch elliptical RCP storm culvert, connections to existing culvert, bypass pumping (as required), CLSM embedment, and regrading of storm ditches.

Bid Item No. 50: 30-Inch Stub for Future Connection (LS)

1. Measurement and payment by lump sum per installed 30-inch stub for future connection.

2. Includes 30-inch pipe (ductile iron pipe, steel pipe, or prestressed concrete cylinder pipe at Contractor's option) installed in open-cut trench, connection to reducer on main water line, 30-inch butterfly valve with actuator manhole, and 30-inch dished head plug at location shown in Drawings. All materials (including fittings and joint restraint), labor, equipment, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, pipe embedment, utility repair, welding, testing, disinfection, polyethylene encasement (if DI pipe is selected), gaskets, underground warning tape, restrained mechanical joints, valve with operator, associated joint restraints inside vault, restrained joints on water main bell, spigot slip joints external to valve vault, valve vault with frame and lid, steps, appurtenances shown in Detail, and associated miscellaneous materials and work required to furnish and install 30-inch stub for future connection.

3. Trench backfill and compaction above pipe embedment is also included as shown on Drawings. Does not include reducer. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. 52: Remove 54-Inch Test Plug and Connect to 54-Inch Water Main (Adjacent Contract) (EA)

1. Payment will be made for each test plug removed with water main connection.

2. Payment includes all labor, equipment, and materials necessary for test plug removal and connection as shown on Drawings and in accordance with Specifications herein.

3. Includes pipe fittings, appurtenances, dewatering of adjacent pipe, repair of damaged linings, connection to water main on adjacent contract, disinfection, hydrostatic testing of connection, and associated miscellaneous materials and work required.

4. No separate payment for removal of intermediate test plugs used on this Contract for hydrostatic testing.

Bid Item No. 53: Trench Backfill (Select Material) (CY)

1. Payment will be made per cubic yard of trench backfill placed.

2. Payment includes all labor, equipment, and materials necessary for complete placement and compaction of trench backfill above pipe embedment zone as shown on Drawings and in accordance with Specifications herein.

3. Includes compacted IDOT CA-6, FA-6, or CLSM material and removal, transport, and disposal of excess excavated material.

4. Measurement will be subject to maximum trench width for payment shown on Drawings.

Bid Item No. 55: Cathodic Protection System (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, materials, and supervision for the installation of the cathodic protection system, complete in-place, including sacrificial anodes, test stations, junction boxes, power feed hookups, excavation, backfill, field welding, connections, adjustments, testing, commissioning, cleanup, and other related work necessary for construction as shown on Drawings and in accordance with Specifications herein.

Bid Item No. 56: Earth Excavation (CY)

1. Measurement and payment per cubic yard of earth excavated.

2. Work under this item to be completed according to IDOT Section 202. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 57: Aggregate Base Course, Type B 2-Inch (SY)

1. Measurement and payment per square yard of aggregate base course, Type B, 2-inch applied.
2. Work under this item to be completed according to IDOT Section 351. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 58: Aggregate Base Course, Type B 4-Inch (SY)

1. Measurement and payment per square yard of aggregate base course, Type B, 4-inch applied.
2. Work under this item to be completed according to IDOT Section 351. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 59: Aggregate Base Course, Type B 6-Inch (SY)

1. Measurement and payment per square yard of aggregate base course, Type B, 6-inch applied.
2. Work under this item to be completed according to IDOT Section 351. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 61: Bituminous Materials (Prime Coat) (LB)

1. Measurement and payment per pound of bituminous materials, prime coat, applied.
2. Work under this item to be completed according to IDOT Section 406.

Bid Item No. 62: Bituminous Materials (Tack Coat) (LB)

1. Measurement and payment per pound of bituminous materials, tack coat, applied.
2. Work under this item to be completed according to IDOT Section 406.

Bid Item No. 63: Hot-Mix Asphalt Binder Course, IL-19.0, N50 (TON)

1. Measurement and payment per ton of hot-mix asphalt binder course applied.
2. Work under this item to be completed according to IDOT Section 406. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 65: Hot-Mix Asphalt Surface Course, IL-9.5, Mix D, N50 (TON)

1. Measurement and payment per ton of hot-mix asphalt surface course applied.
2. Work under this item to be completed according to IDOT Section 406. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 72: Portland Cement Concrete Driveway Pavement, 8-Inch (SY)

1. Measurement and payment per square yard of driveway pavement installed.

2. Work under this item to be completed according to IDOT Section 423. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 74: Portland Cement Concrete Sidewalk, 6-Inch (SF)

1. Measurement and payment per square foot of sidewalk installed.
2. Work under this item to be completed according to IDOT Section 424. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 75: Detectable Warnings (SF)

1. Measurement and payment per square foot of detectable warnings installed.
2. Work under this item to be completed according to IDOT Section 424. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 76: Pavement Removal (SY)

1. Measurement and payment per square yard of pavement removal.
2. Work under this item to be completed according to IDOT Section 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 78: Hot-Mix Asphalt Surface Removal, 1 3/4-Inch (SY)

1. Measurement and payment per square yard of asphalt surface removal.
2. Work under this item to be completed according to IDOT Section 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 79: Driveway Pavement Removal (SY)

1. Measurement and payment per square yard of driveway pavement removal.
2. Work under this item to be completed according to IDOT Section 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 80: Combination Curb and Gutter Removal (LF)

1. Measurement and payment per foot of combination curb and gutter removal.
2. Work under this item to be completed according to IDOT Section 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 81: Sidewalk Removal (SF)

1. Measurement and payment per square foot of sidewalk removal.
2. Work under this item to be completed according to IDOT Section 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 83: Combination Concrete Curb and Gutter, Type B-6.12 (LF)

1. Measurement and payment per foot of combination curb and gutter installed.
2. Work under this item to be completed according to IDOT Section 606. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 88: Steel Plate Beam Guardrail, Type A, 6-Foot Posts (LF)

1. Measurement and payment per foot of guardrail installed.
2. Work under this item to be completed according to IDOT Section 630.

Bid Item No. 89: Long-Span Guardrail over Culvert, 12-Foot 6-Inch Span (LF)

1. Measurement and payment per foot of guardrail installed.
2. Work under this item to be completed according to IDOT Section 630.

Bid Item No. 90: Traffic Barrier Terminal, Type 1B (EA)

1. Measurement and payment per each traffic barrier terminal, Type 1B installed.
2. Work under this item to be completed according to IDOT Section 631.

Bid Item No. 91: Traffic Barrier Terminal, Type 2 (EA)

1. Measurement and payment per each traffic barrier terminal, Type 2 installed.
2. Work under this item to be completed according to IDOT Section 631.

Bid Item No. 92: Guardrail Removal (LF)

1. Measurement and payment per foot of guardrail removed.
2. Work under this item to be completed according to IDOT Section 632.

Bid Item No. 93: Pavement Marking Blackout Tape, 6-Inch (LF)

1. Measurement and payment per foot of 6-inch pavement marking tape applied
2. Work under this item to be completed according to IDOT Section 701. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 94: Changeable Message Sign (CAL DAY)

1. Measurement and payment per calendar day changeable message sign is supplied.
2. Work under this item to be completed according to IDOT Section 701.

Bid Item No. 95: Short Term Pavement Marking (LF)

1. Measurement and payment per foot of short term pavement marking applied.
2. Work under this item to be completed according to IDOT Section 703. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 96: Short Term Pavement Marking Removal (SF)

1. Measurement and payment per square foot of short term pavement marking removal.
2. Work under this item to be completed according to IDOT Section 703. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 97: Temporary Pavement Marking Letters and Symbols – Paint (SF)

1. Measurement and payment per square foot of pavement marking applied.
2. Work under this item to be completed according to IDOT Section 703.

Bid Item No. 98: Temporary Pavement Marking – Line 4-Inch – Paint (LF)

1. Measurement and payment per foot of pavement marking applied.

2. Work under this item to be completed according to IDOT Section 703.

Bid Item No. 100: Temporary Pavement Marking – Line 24-Inch – Paint (LF)

1. Measurement and payment per foot of pavement marking applied.
2. Work under this item to be completed according to IDOT Section 703.

Bid Item No. 101: Temporary Pavement Marking – Line 4-Inch – Type IV Tape (LF)

1. Measurement and payment per foot of pavement marking applied
2. Work under this item to be completed according to IDOT Section 703. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 103: Temporary Concrete Barrier (LF)

1. Measurement and payment per foot temporary concrete barrier placed.
2. Work under this item to be completed according to IDOT Section 704. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 104: Impact Attenuators, Temporary (Fully Redirective, Narrow), Test Level 2 (EA)

1. Measurement and payment per each impact attenuator placed.
2. Work under this item to be completed according to IDOT Section 706.

Bid Item No. 105: Relocate Sign Panel Assembly – Type A (EA)

1. Measurement and payment per each sign panel relocated.
2. Work under this item to be completed according to IDOT Section 724. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 106: Thermoplastic Pavement Marking - Letters and Symbols (SF)

1. Measurement and payment per square foot of thermoplastic pavement marking applied.
2. Work under this item to be completed according to IDOT Section 780.

Bid Item No. 107: Thermoplastic Pavement Marking – Line 4-Inch (LF)

1. Measurement and payment per foot of thermoplastic pavement marking applied.
2. Work under this item to be completed according to IDOT Section 780.

Bid Item No. 108: Thermoplastic Pavement Marking – Line 6-Inch (LF)

1. Measurement and payment per foot of thermoplastic pavement marking applied.
2. Work under this item to be completed according to IDOT Section 780.

Bid Item No. 109: Thermoplastic Pavement Marking – Line 12-Inch (LF)

1. Measurement and payment per foot of thermoplastic pavement marking applied.
2. Work under this item to be completed according to IDOT Section 780.

Bid Item No. 110: Thermoplastic Pavement Marking – Line 24-Inch (LF)

1. Measurement and payment per foot of thermoplastic pavement marking applied.
2. Work under this item to be completed according to IDOT Section 780.

Bid Item No. 111: Pavement Marking Removal – Grinding (SF)

1. Measurement and payment per square foot of pavement marking removal.
2. Work under this item to be completed according to IDOT Section 783.

Bid Item No. 112: Underground Conduit, Galvanized Steel, 2-Inch Dia. (LF)

1. Measurement and payment per foot of underground conduit installed.
2. Work under this item to be completed according to IDOT Section 810. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 113: Handhole (EA)

1. Measurement and payment per each handhole installed.
2. Work under this item to be completed according to IDOT Section 814. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 114: Maintenance of Existing Traffic Signal Installation (EA)

1. Measurement and payment per each maintenance of existing traffic signal installation.
2. Work under this item to be completed according to IDOT Section 850. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 115: Electric Cable in Conduit, Lead-In, No. 14, One Pair (LF)

1. Measurement and payment per foot of cable in conduit installed.
2. Work under this item to be completed according to IDOT Section 873. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 116: Drill Existing Handhole (EA)

1. Measurement and payment per each existing handhole drilled.
2. Work under this item to be completed according to IDOT Section 879.

Bid Item No. 117: Detector Loop, Type 1 (LF)

1. Measurement and payment per foot of detector loop Type 1 installed.
2. Work under this item to be completed according to IDOT Section 886. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 118: Detector Loop Replacement (LF)

1. Measurement and payment per foot of detector loop replacement.
2. Work under this item to be completed according to IDOT Section 886. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 119: Temporary Traffic Signal Installation (EA)

1. Measurement and payment per each temporary traffic signal installation.
2. Work under this item to be completed according to IDOT Section 890. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 120: Modify Existing Controller (EA)

1. Measurement and payment per each Existing Controller modified.
2. Work under this item to be completed according to IDOT Section 895. See full requirements as specified in Division 34, General Civil Special Provisions.

Bid Item No. 122: Remove Existing Handhole (EA)

1. Measurement and payment per each existing handhole removed.
2. Work under this item to be completed according to IDOT Section 895.

Bid Item No. 123: Class D Patches, 12-Inch (SY)

1. Measurement and payment per square yard of Class D patches installed.
2. Work under this item to be completed according to IDOT Section 442. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 125: Mailbox Remove and Replace (EA)

1. Measurement and payment per each mailbox removed and replaced.
2. Work under this item to be completed according to IDOT Section 107. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 127: Temporary Access (Private Entrance) (EA)

1. Measurement and payment per each private entrance with temporary access.
2. Work under this item to be completed according to IDOT Section 402. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 128: Temporary Access (Commercial Entrance) (EA)

1. Measurement and payment per each commercial entrance with temporary access.
2. Work under this item to be completed according to IDOT Section 402. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 129: Temporary Access (Road) (EA)

1. Measurement and payment per each road with temporary access.
2. Work under this item to be completed according to IDOT Section 402. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 130: Traffic Control and Protection, (Special) (LS)

1. Measurement and payment by lump sum for traffic control and protection.
2. Work under this item to be completed according to IDOT Section 701. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 131: Hot-Mix Asphalt Driveway Pavement, 4-Inch (SY)

1. Measurement and payment per square yard of driveway pavement installed.

2. Work under this item to be completed according to IDOT Section 406. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 133: Drainage and Utility Structures to be Adjusted (EA)

1. Measurement and payment per each adjusted drainage and utility structure.
2. Work under this item to be completed according to IDOT Section 602. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 134: Drainage and Utility Structures to be Reconstructed (EA)

1. Measurement and payment per each reconstructed drainage and utility structure.
2. Work under this item to be completed according to IDOT Section 602. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 135: Temporary Information Signing (SF)

1. Measurement and payment per square foot of temporary information signing.
2. Work under this item to be completed according to IDOT Sections 701 and 720. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 136: Temporary Pavement (SY)

1. Measurement and payment per square yard of temporary pavement.
2. Work under this item to be completed according to IDOT Sections 355, 356, 406, and 440. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 137: Temporary Traffic Signal Timing (EA)

1. Measurement and payment per each temporary traffic signal timing.
2. Work under this item to be completed according to IDOT Section 701. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 138: Hot-Mix Asphalt Surface Removal – Butt Joint (SY)

1. Measurement and payment per square yard of butt joint surface removal.
2. Work under this item to be completed according to IDOT Section 406.

Bid Item No. 139: Telescoping Steel Sign Support (LF)

1. Measurement and payment per foot of sign support.
2. Work under this item to be completed according to IDOT Section 728. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 140: Metal Post – Type A (LF)

1. Measurement and payment per foot of Type A metal post installed.
2. Work under this item to be completed according to IDOT Section 729. See full requirements as specified in Division 34 – GENERAL CIVIL SPECIAL PROVISIONS.

Bid Item No. 141: Erosion Control Seeding, Lawn Mixture (Class 1) (LB)

1. Payment per pound of seed placed as required by area.
2. Measurement per area shown on Drawings, measured by Contractor survey On-site.
3. Material, equipment, labor, and associated miscellaneous work required for installation and removal (if necessary) of temporary erosion control seeding as shown on Drawings. See full requirements as specified in Section 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 142: Erosion Control Seeding, Roadside Mixture (Class 2) (LB)

1. Payment per pound of seed placed as required by area.
2. Measurement per area shown on Drawings, measured by Contractor On-site.
3. Material, equipment, labor, and associated miscellaneous work required for installation and removal (if necessary) of temporary erosion control seeding as shown on Drawings. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 145: High Visibility Safety Fence (LF)

1. Measurement and payment per foot of safety fence placed as shown on Drawings, measured by Contractor on Site.
2. Material, equipment, labor, and associated miscellaneous work required for installation of temporary fence as shown on Drawings. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 146: Tree and Shrubbery Protection (EA)

1. Measurement and payment per each tree trunk protection installed.
2. Material, equipment, labor, and associated miscellaneous work required for installation and removal of tree trunk protection as shown on Drawings. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 150: Dual Fence Barrier (High-Visibility Geotextile Outer Fence) (LF)

1. Measurement and payment per foot of dual fence placed as shown on Drawings, measured by Contractor on Site.
2. Material, equipment, labor, and associated miscellaneous work required for installation of dual layer silt fence in accordance with DuPage County Stormwater Ordinance Article VII. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 151: Silt Fence (LF)

1. Measurement and payment per foot of dual fence placed as shown on Drawings, measured by Contractor on Site.
2. Material, equipment, labor, and associated miscellaneous work required for installation of silt fence in accordance with DuPage County Stormwater Ordinance Article VII. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 152: Inlet Protection, Curb (EA)

1. Measurement and payment per each curb inlet protected.
2. Material, equipment, labor, and miscellaneous work required for installation of curb inlet protection for stormwater inlets located in existing curb and gutter. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 153: Inlet Protection, Area (EA)

1. Measurement and payment per each inlet protected.
2. Material, equipment, labor, and miscellaneous work required for installation of inlet protection for stormwater inlets not located in existing curb and gutter. See full requirements as specified in 01 45 33-13 – STORM WATER POLLUTION PREVENTION PLAN.

Bid Item No. 163: Remove and Replace 8-Inch Sanitary Sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 8-inch sanitary sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Bid Item No. 192.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing sanitary sewer and furnish and install replacement water main quality sanitary sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 171: Remove and Replace 18-Inch FES (EA)

1. Measurement and payment per each flared end section (FES) removed and replaced.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, trench backfill, compaction, and associated miscellaneous work required to remove flared end section and furnish and install replacement flared end section to match existing conditions. Includes removal, transporting, and disposal of removed flared end section material and excess excavated material.

Bid Item No. 176: Replace 10-Inch Storm sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 10-inch storm sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Connection to Existing Structure.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing storm sewer and furnish and install replacement water main quality storm sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 177: Replace 12-Inch Storm Sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 12-inch storm sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Connection to Existing Structure.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing storm sewer and furnish and install replacement water main quality storm sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 178: Replace 15-Inch Storm Sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 15-inch storm sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Connection to Existing Structure.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing storm sewer and furnish and install replacement water main quality storm sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 180: Replace 18-Inch Storm Sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 18-inch storm sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Connection to Existing Structure.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing storm sewer and furnish and install replacement water main quality storm sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 182: Replace 24-Inch Storm Sewer (with AWWA C900 DR 25 PVC Pipe) (LF)

1. Measurement and payment per foot of installed 24-inch storm sewer. Length will be measured along centerline of pipe with no deduction for manholes. Sewer connections to existing sewer structures will be paid for under Connection to Existing Structure.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing storm sewer and furnish and install replacement water main quality storm sewer of same size. Includes removal, transporting, and disposal of removed sewer material and excess excavated material, piping and pumping for bypassing sewage flow as necessary to maintain service, and connections to existing sewer piping, including adaptors and couplings as necessary to connect to existing.

Bid Item No. 190: Remove and Replace 30-Inch Storm Culvert with 30-Inch CMP Culvert (LF)

1. Measurement and payment per foot of installed culvert. Length will be measured along centerline of pipe.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, trench backfill, compaction, utility repair, testing, and associated miscellaneous work required to furnish and install replacement storm culvert of class, type, and size specified. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. 191: Remove and Replace Catch Basin (EA)

1. Measurement and payment per each catch basin replaced.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing catch basin and furnish and install replacement catch basin and frame and grate, to match existing conditions, including adaptors, couplings, and boots as necessary to connect to existing. Includes removal, transporting, and disposal of removed catch basin material and excess excavated material.

Bid Item No. 195: Remove and Replace Inlet (EA)

1. Measurement and payment per each inlet replaced.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to remove existing inlet and furnish and install replacement catch basin and frame and grate, to match existing conditions, including adaptors, couplings, and boots as necessary to connect to existing. Includes removal, transporting, and disposal of removed material and excess excavated material.

Bid Item No. 196: Connection to Existing Sewer Structure (EA)

1. Measurement and payment per each connection to existing structure.

2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, and associated miscellaneous work required to furnish and install connection to existing structure at locations as shown on Drawings including adaptors, couplings, watertight boots, concrete collars, and waterstops as necessary to connect to existing. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. 197: Remove and Replace Dual Storm Culverts 36-Inch and Headwalls (LS)

1. Measurement and payment by lump sum for the culverts and headwalls removal and replacement.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, trench backfill, compaction, utility repair, testing, replacement of concrete headwalls, riprap, and associated miscellaneous work required to remove existing culvert and furnish and install replacement storm culvert of class, type, and size specified. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. 198: Crossing Existing 58-Inch by 91-Inch Elliptical Concrete Pipe (Book Road) (LS)

1. Measurement and payment by lump sum for completed crossing.
2. All material, equipment, labor, and associated miscellaneous materials and work required to furnish and install 54-inch water main under an existing crossing existing 58- by 91-inch elliptical concrete pipe. Labor and materials required will vary based on the option selected for the crossing, but could include 84-inch steel casing, replacement elliptical O-ring gasket RCP, or structural liner for the elliptical pipe, additional excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, and all associated miscellaneous materials and labor. This item does not include the cost of the 54-inch water main pipe or associated items paid under 54-Inch Water Main by Open Cut Bid Item description of chosen material. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. 210: Vertical Drop Structures (STA 619+71 and STA 623+24) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main vertical drop piping within two trenchless shafts (launch and receiving) as shown on Drawings and in accordance with Specifications herein.
3. Includes all related work such as vertical steel pipe, tees, fittings, appurtenances, butt straps, dished head plug, concrete fill, pipe support foundation, thrust blocks, fall protection, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.
4. Includes blind flange, flanged outlet, gate valve, appurtenances, and precast concrete access structure.
5. Payment for pipe beyond the end of the tee branch and outside of trenchless liner will be made as part of associated open-cut bid items.

Bid Item No. 211: Vertical Drop Structures (STA 677+21 and STA 679+55) (LS)

1. Payment will be made on a lump sum basis.
2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main vertical drop piping within two trenchless shafts (launch and receiving) as shown on Drawings and in accordance with Specifications herein.
3. Includes all related work such as vertical steel pipe, tees, fittings, appurtenances, butt straps, dished head plug, concrete fill, pipe support foundation, thrust blocks, fall protection, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.

4. Includes blind flange, flanged outlet, gate valve, appurtenances, and precast concrete access structure.

5. Payment for pipe beyond the end of the tee branch and outside of trenchless liner will be made as part of associated open-cut bid items.

Bid Item No. 212: Vertical Drop Structures (STA 700+39 and STA 708+30) (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main vertical drop piping within two trenchless shafts (launch and receiving) as shown on Drawings and in accordance with Specifications herein.

3. Includes all related work such as vertical steel pipe, tees, fittings, appurtenances, butt straps, dished head plug, concrete fill, pipe support foundation, thrust blocks, fall protection, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.

4. Includes blind flange, flanged outlet, gate valve, appurtenances, and precast concrete access structure.

5. Payment for pipe beyond the end of the tee branch and outside of trenchless liner will be made as part of associated open-cut bid items.

Bid Item No. 213: Vertical Drop Structures (STA 724+89 and STA 726+79) (LS)

1. Payment will be made on a lump sum basis.

2. Payment includes all labor, equipment, and materials necessary for complete in-place installation of water main vertical drop piping within two trenchless shafts (launch and receiving) as shown on Drawings and in accordance with Specifications herein.

3. Includes all related work such as vertical steel pipe, tees, fittings, appurtenances, butt straps, dished head plug, concrete fill, pipe support foundation, thrust blocks, fall protection, hydrostatic testing, disinfection, and associated miscellaneous materials and work required.

4. Includes blind flange, flanged outlet, gate valve, appurtenances, and precast concrete access structure.

5. Payment for pipe beyond the end of the tee branch and outside of trenchless liner will be made as part of associated open-cut bid items.

Bid Item No. IND1: Exploratory Excavation (CF)

1. Measurement and payment per cubic foot of exploratory excavation.

2. Material, labor, excavation, sheeting, shoring, dewatering, backfill, compaction, utility repair, and associated miscellaneous work required to excavate for underground investigation by traditional excavation means, as directed by Owner's Representative. Includes removal, transporting, and disposal of excavated material.

Bid Item No. IND2: Exploratory Excavation, Vacuum (EA)

1. Measurement and payment for each vacuum exploratory excavation.

2. Material, labor, excavation, sheeting, shoring, dewatering, backfill, compaction, utility repair, and associated miscellaneous work required to excavate for underground investigation by vacuum excavation, as directed by Owner's Representative. Includes removal, transporting, and disposal of excavated material.

Bid Item No. IND3: Adjust Water Service Line (LF)

1. Measurement and payment per linear foot of water service line adjusted. Length will be measured along centerline of pipe.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, disinfection, pipe, fittings, couplings, connections to remaining existing service line, and additional miscellaneous work required to adjust water service line, as directed by Owner's Representative. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. IND4: Adjust Sewer Service Line (LF)

1. Measurement and payment per linear foot of sewer service line adjusted. Length will be measured along centerline of pipe.
2. Material, labor, excavation, sheeting, shoring, dewatering, bedding, backfill, compaction, utility repair, testing, disinfection, pipe, fittings, couplings, connections to remaining existing service line, and additional miscellaneous work required to adjust sewer service line, as directed by Owner's Representative. Includes removal, transporting, and disposal of excess excavated material.

Bid Item No. ALL1: Allowance: City of Naperville DPU-E Electric Services

1. Allowance for payment to City of Naperville DPU-E for providing new 100A electrical services to:
    a. Two Contractor-furnished and installed free standing meter pedestals at Book Road and 75th Street intersection.
    b. One Contractor-furnished and installed panel mounted meter along Book Road (STA 602+46).
        1) City of Naperville to furnish and install 25kVA transformer (120/240V, 1P) at this location.
2. Allowance is for City of Naperville charges for electrical service only. Payment for all other Contractor-furnished materials, labor, and equipment and overhead/profit shall be made under applicable remote operated valve bid items.
3. Any unused portion of allowance will be credited back to Owner. Any additional cost shall be reimbursed to Contractor by Final Change Order.

PART 2 - P R O D U C T S

NOT USED

PART 3 - E X E C U T I O N

NOT USED

END OF SECTION

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GENERAL NOTES

- ALL SIGNS, BARRICADES, SIGN LIGHTS & FLAGS SHALL BE IN ACCORDANCE WITH THOSE INDICATED IN TRAFFIC CONTROL STANDARDS OF MUTCD & STANDARD SPECIFICATIONS.
- THE DUPAGE COUNTY DEPARTMENT OF TRANSPORTATION & HIGHWAYS, ILLINOIS DEPARTMENT OF TRANSPORTATION, CITY OF NAPERVILLE AND THE NAPERVILLE TOWNSHIP ROAD DISTRICT SHALL BE NOTIFIED TWO (2) WEEKS IN ADVANCE PRIOR TO THE OPERATION OF THE DETOUR ROUTES FOR THE SUBJECT CONSTRUCTION.
- "D3-1" SIGNS SHALL HAVE 6" BLACK LETTERING ON FLUORESCENT ORANGE BACKGROUND.
- TRAFFIC CONTROL AND PROTECTION, INCLUDING DETOUR PLAN/ROUTING, SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIAL PROVISIONS FOR THIS PROJECT, SECTION 701 OF THE IDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", APPLICABLE GUIDELINES IN THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AND APPLICABLE HIGHWAY STANDARDS FOR TRAFFIC CONTROL.
- PRIOR TO THE START OF CONSTRUCTION, REQUIRED TRAFFIC CONTROL DEVICES SHALL BE IN PLACE.
- IDOT TRAFFIC CONTROL STANDARDS LISTED BY REFERENCE IN THE SPECIAL PROVISIONS SHALL BE USED AS GUIDES IN IMPLEMENTING TRAFFIC CONTROL, INCLUDING SIGN LOCATIONS, FOR THIS PROJECT.
- THE CONTRACTOR SHALL PROVIDE THE OWNER'S REPRESENTATIVE WITH THE NAMES AND PHONE NUMBERS OF HIS REPRESENTATIVES ON THE CONSTRUCTION SITE AND HIS REPRESENTATIVE RESPONSIBLE FOR THE DETOUR SIGNING, PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FIELD LOCATION OF ALL DETOUR AND CONSTRUCTION SIGNING. THE CONTRACTOR MAY REQUEST THE OWNER'S REPRESENTATIVE TO FIELD VERIFY THE POSITIONS OF ANY SIGNS.
- ALL EXISTING SIGNING THAT IS NOT APPLICABLE WHILE THE DETOUR IS IN EFFECT SHALL BE COMPLETELY COVERED, OR REMOVED, BY THE CONTRACTOR IN A MANNER MEETING THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- CHANGEABLE MESSAGE SIGNS SHALL BE INSTALLED TWO WEEKS PRIOR TO ALL TRAFFIC STAGE CHANGES ON EACH APPROACH OF THE AFFECTED ROADWAY TO WARN MOTORISTS OF THE UPCOMING EVENT. THE SIGN MESSAGE SHALL BE REVISED TWO WEEKS THEREAFTER WITH MESSAGES WARNING TRAFFIC OF POTENTIAL TRAFFIC DELAYS, QUEUING AND/OR WITH MESSAGE NOTIFYING TRAFFIC TO USE ALTERNATE ROUTES. THE SIGN LOCATIONS AND MESSAGE SHALL BE DETERMINED BY THE OWNER'S REPRESENTATIVE.
- RESIDENTIAL DRIVEWAY ACCESS TO BE MAINTAINED AT ALL TIMES. IF ACCESS IS TO BE IMPACTED, THE CONTRACTOR SHALL NOTIFY THE RESIDENT FORTY-EIGHT (48) HOURS IN ADVANCE OF CLOSING AND ACCESS SHALL BE RESTORED BY THE END OF THE WORKING DAY.
- CROSS STREET ACCESS TO BE MAINTAINED AT ALL TIMES. IF ACCESS IS TO BE IMPACTED, THE STREET SHALL BE BLOCKED OFF NO LONGER THAN TWENTY-FOUR (24) HOURS. TWO (2) OR MORE TYPE III BARRICADES SHALL BE USED TO BLOCK PEDESTRIAN ACCESS AT THESE CROSS STREETS.
- THE CONTRACTOR'S ATTENTION IS CALLED OUT TO PERKINS COURT. SINCE THERE IS NO OTHER ACCESS TO THIS CUL-DE-SAC, ACCESS MUST BE MAINTAINED AS MUCH AS POSSIBLE. EVERY RESIDENT ON THE STREET SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF CLOSURE AND ACCESS SHALL BE RESTORED BY THE END OF EACH WORKING DAY.
- THE CONTRACTOR'S ATTENTION IS CALLED OUT TO SUTTON CIRCLE. THE COMMUNITY HAS ONLY TWO ENTRANCES AND BOTH ARE ON BOOK ROAD. AT LEAST ONE ENTRANCE TO SUTTON CIRCLE MUST REMAIN OPEN AT ALL TIMES.
- THE CONTRACTOR SHALL COMPLETE ROADWAY RESTORATION AND PAVEMENT MARKINGS AS DETAILED IN THE PLANS WITHIN THE ACTIVE CONSTRUCTION ZONE PRIOR TO MOVING INTO A SUBSEQUENT CONSTRUCTION STAGE WHICH UTILIZES THAT PAVEMENT FOR DETOUR TRAFFIC.
- SEE IDOT DISTRICT ONE DETAIL TC-21 FOR SIGN SPACING AND SIGN SIZES.
- THE CONTRACTOR SHALL NOT OBSTRUCT ANY EXISTING SIGNS WITH THE PLACEMENT OF DETOUR SIGNAGE.
- TEMPORARY TRAFFIC SIGNAL TIMING TO BE ENACTED AT THE SIGNALS AS SHOWN ON THE PLAN SHEET AND AS LISTED IN THE DETOUR ROUTE SIGNAL TIMING IMPACTS TABLE.

CONSTRUCTION STAGING

STAGE 1A MAINTENANCE OF TRAFFIC

- ESTABLISH AND MAINTAIN THE BOOK ROAD DETOUR ROUTE UTILIZING RICKERT DRIVE, 75TH STREET, 83RD STREET, 87TH STREET, ROUTE 59 & PLAINFIELD-NAPERVILLE ROAD.
- BAG AND DISCONNECT DESIGNATED TRAFFIC SIGNAL HEADS AT 75TH STREET INTERSECTION AND 83RD STREET INTERSECTION ACCORDING TO TEMPORARY TRAFFIC SIGNAL PLANS. IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING ALONG DETOUR ROUTE.
- INSTALL TEMPORARY CONCRETE BARRIER, CLOSE DESIGNATED TURN LANES AND INSTALL TEMPORARY PAVEMENT MARKING TAPE AT 75TH STREET INTERSECTION AND 83RD STREET INTERSECTION ACCORDING TO STAGE 1A MAINTENANCE OF TRAFFIC PLANS.
- MAINTAIN EASTBOUND AND WESTBOUND THRU TRAFFIC ON 75TH STREET IN EXISTING TRAVEL LANES.
- CLOSE BOOK ROAD FROM THREE FARMS AVENUE TO 75TH STREET AND FROM 75TH STREET TO 83RD STREET.
- ESTABLISH AND MAINTAIN TWO-WAY LOCAL TRAFFIC UTILIZING EXISTING TRAVEL LANES ON BOOK ROAD FROM RICKERT DRIVE TO THREE FARMS AVENUE.
- INSTALL TEMPORARY EAST-WEST CROSSWALK NORTH OF 75TH STREET FOR PEDESTRIAN TRAFFIC AS SHOWN ON STAGE 1A MAINTENANCE OF TRAFFIC PLANS.

STAGE 1A CONSTRUCTION

- INSTALLATION OF BORE PITS AND TRENCHLESS WATER MAIN INSTALLATION SHALL BE PERFORMED TO CROSS UNDER 75TH STREET.
- CONTRACTOR TO MAKE WATER MAIN CONNECTION ON THE NORTH SIDE OF 75TH STREET.
- ALL PAVEMENT RESTORATION NORTH OF 75TH STREET SHALL BE COMPLETED PRIOR TO OPENING BOOK ROAD TO TRAFFIC BETWEEN THREE FARMS AVENUE AND 75TH STREET.

STAGE 1B MAINTENANCE OF TRAFFIC

- ESTABLISH AND MAINTAIN THE BOOK ROAD DETOUR ROUTE UTILIZING 75TH STREET, 83RD STREET, 87TH STREET, ROUTE 59 & PLAINFIELD-NAPERVILLE ROAD.
- BAG AND DISCONNECT DESIGNATED TRAFFIC SIGNAL HEADS AT 75TH STREET INTERSECTION AND 83RD STREET INTERSECTION ACCORDING TO TEMPORARY TRAFFIC SIGNAL PLANS. IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING ALONG DETOUR ROUTE.
- CLOSE DESIGNATED TURN LANES AND INSTALL TEMPORARY PAVEMENT MARKING TAPE AT 75TH STREET INTERSECTION AND 83RD STREET INTERSECTION ACCORDING TO STAGE 1B MAINTENANCE OF TRAFFIC PLANS.
- RE-ESTABLISH TWO WAY TRAFFIC ALONG BOOK ROAD BETWEEN 75TH STREET AND RICKET DRIVE UTILIZING EXISTING TRAVEL LANES.
- MAINTAIN ROAD CLOSURE OF BOOK ROAD FROM 75TH STREET TO 83RD STREET.

STAGE 1B CONSTRUCTION

- OPEN-CUT TRENCH WATER MAIN INSTALLATION AND TRENCHLESS WATER MAIN INSTALLATION ALONG BOOK ROAD BETWEEN 75TH STREET AND 83RD STREET.
- FULL-DEPTH PAVEMENT RECONSTRUCTION OF THE NORTHBOUND LANE AND PAVEMENT IMPACTED BY WATER MAIN INSTALLATION ALONG BOOK ROAD BETWEEN 75TH STREET AND 83RD STREET ACCORDING TO ROADWAY PLANS.

STAGE 2A MAINTENANCE OF TRAFFIC

- ESTABLISH AND MAINTAIN THE BOOK ROAD DETOUR ROUTE UTILIZING 75TH STREET, 87TH STREET, ROUTE 59 & PLAINFIELD-NAPERVILLE ROAD.
- BAG AND DISCONNECT DESIGNATED TRAFFIC SIGNAL HEADS AT 75TH STREET INTERSECTION, 83RD STREET INTERSECTION AND 87TH STREET INTERSECTION ACCORDING TO TEMPORARY TRAFFIC SIGNAL PLANS. IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING ALONG DETOUR ROUTE.
- CLOSE DESIGNATED TURN LANES AND INSTALL TEMPORARY PAVEMENT MARKING TAPE AT 75TH STREET INTERSECTION AND 87TH STREET INTERSECTION ACCORDING TO STAGE 2A MAINTENANCE OF TRAFFIC PLANS.
- CLOSE BOOK ROAD FROM 75TH STREET TO 87TH STREET AND CLOSE 83RD STREET FROM 2120 83RD STREET TO BOOK ROAD.
- MAINTAIN TWO-WAY LOCAL TRAFFIC UTILIZING EXISTING TRAVEL LANES ON 83RD STREET FROM ROUTE 59 TO 2120 83RD STREET.

STAGE 2A CONSTRUCTION

- INSTALLATION OF BORE PITS AND TRENCHLESS WATER MAIN INSTALLATION SHALL BE PERFORMED TO CROSS UNDER 83RD STREET AND DITCH/CREEK CROSSINGS.
- ALL PAVEMENT RESTORATION SHALL BE COMPLETED NORTH OF 83RD STREET PRIOR TO OPENING BOOK ROAD TO TRAFFIC BETWEEN 75TH STREET AND 83RD STREET.

STAGE 2B MAINTENANCE OF TRAFFIC

- ESTABLISH AND MAINTAIN THE BOOK ROAD DETOUR ROUTE UTILIZING 75TH STREET, 83RD STREET, 87TH STREET, ROUTE 59 & PLAINFIELD-NAPERVILLE ROAD.
- BAG AND DISCONNECT DESIGNATED TRAFFIC SIGNAL HEADS AT 83RD STREET INTERSECTION AND 87TH STREET INTERSECTION ACCORDING TO TEMPORARY TRAFFIC SIGNAL PLANS. IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING ALONG DETOUR ROUTE.
- CLOSE DESIGNATED TURN LANES AND INSTALL TEMPORARY PAVEMENT MARKING TAPE AT 83RD STREET INTERSECTION AND 87TH STREET INTERSECTION ACCORDING TO STAGE 2B MAINTENANCE OF TRAFFIC PLANS.
- RE-ESTABLISH TWO WAY TRAFFIC ALONG BOOK ROAD BETWEEN 75TH STREET AND 83RD STREET UTILIZING EXISTING TRAVEL LANES.
- CLOSE BOOK ROAD FROM 83RD STREET TO 87TH STREET.

STAGE 2B CONSTRUCTION

- OPEN-CUT TRENCH WATER MAIN INSTALLATION ALONG BOOK ROAD BETWEEN 83RD STREET AND 87TH STREET.
- FULL-DEPTH PAVEMENT RECONSTRUCTION OF THE NORTHBOUND LANE AND PAVEMENT IMPACTED BY WATER MAIN INSTALLATION ALONG BOOK ROAD BETWEEN 83RD STREET AND 87TH STREET ACCORDING TO ROADWAY PLANS.

STAGE 3A MAINTENANCE OF TRAFFIC

- ESTABLISH AND MAINTAIN THE BOOK ROAD DETOUR ROUTE UTILIZING 75TH STREET, 83RD STREET, 87TH STREET, 95TH STREET, ROUTE 59 & PLAINFIELD-NAPERVILLE ROAD.
- BAG AND DISCONNECT DESIGNATED TRAFFIC SIGNAL HEADS AT 83RD STREET INTERSECTION AND 87TH STREET INTERSECTION ACCORDING TO TEMPORARY TRAFFIC SIGNAL PLANS. IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING ALONG DETOUR ROUTE.
- CLOSE DESIGNATED TURN LANES AND INSTALL TEMPORARY PAVEMENT MARKING TAPE AT 83RD STREET INTERSECTION AND 87TH STREET INTERSECTION ACCORDING TO STAGE 3A MAINTENANCE OF TRAFFIC PLANS.
- MAINTAIN EASTBOUND AND WESTBOUND THRU TRAFFIC ON 87TH STREET IN EXISTING TRAVEL LANES.
- CLOSE BOOK ROAD FROM 83RD STREET TO 87TH STREET AND FROM 87TH STREET TO 10S049 BOOK ROAD.
- ESTABLISH AND MAINTAIN TWO-WAY LOCAL TRAFFIC UTILIZING EXISTING TRAVEL LANES ON BOOK ROAD FROM 10S049 BOOK ROAD TO 95TH STREET.

STAGE 3A CONSTRUCTION

- INSTALLATION OF BORE PITS AND TRENCHLESS WATER MAIN INSTALLATION SHALL BE PERFORMED TO CROSS UNDER 87TH STREET. OPEN CUT WATER MAIN INSTALLATION NORTH OF 10S049 BOOK ROAD.
- ALL PAVEMENT RESTORATION SHALL BE COMPLETED NORTH OF 10S049 BOOK ROAD PRIOR TO OPENING BOOK ROAD TO TRAFFIC BETWEEN 83RD STREET AND 87TH STREET AND ENTERING STAGE 3B TRAFFIC CONFIGURATION.

STAGE 3B MAINTENANCE OF TRAFFIC

- ESTABLISH AND MAINTAIN THE BOOK ROAD DETOUR ROUTE UTILIZING 87TH STREET, 95TH STREET, ROUTE 59 & PLAINFIELD-NAPERVILLE ROAD. IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING ALONG DETOUR ROUTE.
- RE-ESTABLISH TWO WAY TRAFFIC ALONG BOOK ROAD BETWEEN 83RD STREET AND 87TH STREET UTILIZING EXISTING TRAVEL LANES.
- ESTABLISH AND MAINTAIN TWO-WAY LOCAL TRAFFIC UTILIZING 10' TEMPORARY TRAVEL LANES ON EXISTING AND TEMPORARY PAVEMENT ALONG WEST SIDE OF BOOK ROAD FROM 87TH STREET TO 95TH STREET.
- INSTALL TEMPORARY PAVEMENT MARKING PAINT ON BOOK ROAD BETWEEN 87TH STREET AND 95TH STREET ACCORDING TO STAGE 3B MAINTENANCE OF TRAFFIC PLANS.
- TWO-WAY LOCAL TRAFFIC ON BOOK ROAD BETWEEN JOYCE LANE AND 95TH STREET TO BE MAINTAINED VIA FLAGGING OPERATIONS WHEN CONSTRUCTION IS ACTIVE UTILIZING IDOT HIGHWAY STANDARD 701501.
- WHEN FULL WIDTH CLOSURES ARE NECESSARY, TWO-WAY LOCAL TRAFFIC SHALL BE RESTORED BY END OF EACH WORKING DAY.

STAGE 3B CONSTRUCTION

- INSTALL TEMPORARY PAVEMENT ON BOOK ROAD BETWEEN 87TH STREET AND 95TH STREET ACCORDING TO STAGE 3B MAINTENANCE OF TRAFFIC PLANS.
- OPEN-CUT TRENCH WATER MAIN INSTALLATION, UTILITY ADJUSTMENTS AND FULL-DEPTH PAVEMENT PATCHING FOR UTILITY CROSSINGS ALONG BOOK ROAD BETWEEN 87TH STREET AND 95TH STREET.

STAGE 3C MAINTENANCE OF TRAFFIC

- ESTABLISH AND MAINTAIN THE BOOK ROAD ONE-WAY LOCAL TRAFFIC ONLY DETOUR ROUTE UTILIZING 87TH STREET, 95TH STREET, ROUTE 59 & PLAINFIELD-NAPERVILLE ROAD.
- BAG AND DISCONNECT DESIGNATED TRAFFIC SIGNAL HEADS AT 87TH STREET AND 95TH STREET INTERSECTIONS ACCORDING TO TEMPORARY TRAFFIC SIGNAL PLANS. IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING ALONG DETOUR ROUTE.
- CLOSE DESIGNATED TURN AND THRU LANES AND INSTALL TEMPORARY PAVEMENT MARKING TAPE AT 87TH STREET AND 95TH STREET INTERSECTIONS ACCORDING TO STAGE 3C MAINTENANCE OF TRAFFIC PLANS.
- ESTABLISH AND MAINTAIN SOUTHBOUND ONE-WAY LOCAL TRAFFIC UTILIZING 10' TEMPORARY TRAVEL LANES ON EXISTING AND TEMPORARY PAVEMENT ALONG WEST SIDE OF BOOK ROAD FROM 87TH STREET TO 95TH STREET.
- INSTALL TEMPORARY PAVEMENT MARKING PAINT ON BOOK ROAD BETWEEN 87TH STREET AND 95TH STREET ACCORDING TO STAGE 3C MAINTENANCE OF TRAFFIC PLANS.

STAGE 3C CONSTRUCTION

- FULL-DEPTH PAVEMENT RECONSTRUCTION OF THE NORTHBOUND LANE AND PAVEMENT IMPACTED BY WATER MAIN INSTALLATION ALONG BOOK ROAD BETWEEN 87TH STREET AND 95TH STREET ACCORDING TO ROADWAY PLANS.

STAGE 4A MAINTENANCE OF TRAFFIC

- ESTABLISH AND MAINTAIN THE BOOK ROAD DETOUR ROUTE UTILIZING 87TH STREET, 95TH STREET, 103RD STREET, 104TH STREET, ROUTE 59 & PLAINFIELD-NAPERVILLE ROAD.
- BAG AND DISCONNECT DESIGNATED TRAFFIC SIGNAL HEADS AT 95TH STREET INTERSECTION ACCORDING TO TEMPORARY TRAFFIC SIGNAL PLANS. IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING ALONG DETOUR ROUTE.
- CLOSE DESIGNATED TURN LANES AND INSTALL TEMPORARY PAVEMENT MARKING TAPE AT 95TH STREET INTERSECTION ACCORDING TO STAGE 4A MAINTENANCE OF TRAFFIC PLANS.
- MAINTAIN EASTBOUND AND WESTBOUND THRU TRAFFIC ON 95TH STREET IN EXISTING TRAVEL LANES.
- CLOSE BOOK ROAD FROM TAMAHAWK LANE TO 95TH STREET AND FROM 95TH STREET TO 3075 BOOK ROAD.
- ESTABLISH AND MAINTAIN TWO-WAY LOCAL TRAFFIC UTILIZING EXISTING TRAVEL LANES ON BOOK ROAD FROM 87TH STREET TO TAMAHAWK LANE AND FROM 3075 BOOK ROAD TO 103RD STREET.

STAGE 4A CONSTRUCTION

- INSTALLATION OF BORE PITS AND TRENCHLESS WATER MAIN INSTALLATION SHALL BE PERFORMED TO CROSS UNDER 95TH STREET. OPEN CUT WATER MAIN INSTALLATION NORTH OF 3075 BOOK ROAD.
- ALL PAVEMENT RESTORATION SHALL BE COMPLETED NORTH OF 3075 BOOK ROAD PRIOR TO OPENING OF BOOK ROAD TO ALL TRAFFIC BETWEEN 87TH STREET AND 95TH STREET, AND ENTERING STAGE 4B TRAFFIC CONFIGURATION.
- WHEN FULL WIDTH CLOSURES ARE NECESSARY, TWO-WAY LOCAL TRAFFIC SHALL BE RESTORED BY END OF EACH WORKING DAY.

STAGE 4B MAINTENANCE OF TRAFFIC

- ESTABLISH AND MAINTAIN THE BOOK ROAD DETOUR ROUTE UTILIZING 95TH STREET, 103RD STREET, 104TH STREET, ROUTE 59 & PLAINFIELD-NAPERVILLE ROAD.
- RE-ESTABLISH TWO WAY TRAFFIC ALONG BOOK ROAD BETWEEN 87TH STREET AND 95TH STREET UTILIZING EXISTING TRAVEL LANES.
- BAG AND DISCONNECT DESIGNATED TRAFFIC SIGNAL HEADS AT CONAN DOYLE ROAD INTERSECTION ACCORDING TO TEMPORARY TRAFFIC SIGNAL PLANS. IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING ALONG DETOUR ROUTE.
- ESTABLISH AND MAINTAIN TWO-WAY LOCAL TRAFFIC UTILIZING 10' TEMPORARY TRAVEL LANES ON EXISTING PAVEMENT ALONG WEST SIDE OF BOOK ROAD FROM 95TH STREET TO COMED EASEMENT.
- INSTALL TEMPORARY PAVEMENT MARKING PAINT ON BOOK ROAD BETWEEN 95TH STREET AND COMED EASEMENT ACCORDING TO STAGE 4B MAINTENANCE OF TRAFFIC PLANS.
- TWO-WAY LOCAL TRAFFIC ON BOOK ROAD BETWEEN CONAN DOYLE ROAD AND 9638 BOOK ROAD TO BE MAINTAINED VIA FLAGGING OPERATIONS WHEN CONSTRUCTION IS ACTIVE UTILIZING IDOT HIGHWAY STANDARD 701501.
- WHEN FULL WIDTH CLOSURES ARE NECESSARY, TWO-WAY LOCAL TRAFFIC SHALL BE RESTORED BY END OF EACH WORKING DAY.

STAGE 4B CONSTRUCTION

- OPEN-CUT TRENCH WATER MAIN INSTALLATION, UTILITY ADJUSTMENTS AND FULL-DEPTH PAVEMENT PATCHING FOR UTILITY CROSSINGS ALONG BOOK ROAD BETWEEN 95TH STREET AND CONAN DOYLE ROAD.

STAGE 4C MAINTENANCE OF TRAFFIC

- ESTABLISH AND MAINTAIN THE BOOK ROAD DETOUR ROUTE UTILIZING 95TH STREET, 103RD STREET, 104TH STREET, ROUTE 59 & PLAINFIELD-NAPERVILLE ROAD.
- BAG AND DISCONNECT DESIGNATED TRAFFIC SIGNAL HEADS AT 95TH STREET AND CONAN DOYLE ROAD INTERSECTIONS ACCORDING TO TEMPORARY TRAFFIC SIGNAL PLANS. IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING ALONG DETOUR ROUTE.
- CLOSE DESIGNATED TURN AND THRU LANES AND INSTALL TEMPORARY PAVEMENT MARKING TAPE AT CONAN DOYLE ROAD INTERSECTION ACCORDING TO MAINTENANCE OF TRAFFIC PLANS.
- CLOSE BOOK ROAD FROM CONAN DOYLE ROAD TO WAGNER ROAD.
- ESTABLISH AND MAINTAIN ONE-WAY LOCAL TRAFFIC UTILIZING 10' TEMPORARY TRAVEL LANES ON EXISTING PAVEMENT ALONG WEST SIDE OF BOOK ROAD FROM 95TH STREET TO CONAN DOYLE ROAD AND TWO-WAY LOCAL TRAFFIC IN EXISTING TRAVEL ALNES FROM WAGNER ROAD TO 103RD STREET.
- INSTALL TEMPORARY PAVEMENT MARKING PAINT ON BOOK ROAD BETWEEN 95TH STREET AND CONAN DOYLE ROAD ACCORDING TO STAGE 4C MAINTENANCE OF TRAFFIC PLANS.
- UPON COMPLETION OF PAVEMENT RESTORATION NORTH OF CONAN DOYLE ROAD, AND PRIOR TO COMPLETION OF WATER MAIN INSTALLATION AND PAVEMENT RESTORATION SOUTH OF CONAN DOYLE ROAD, RE-ESTABLISH TWO-WAY LOCAL TRAFFIC UTILIZING EXISTING TRAVEL LANES NORTH OF CONAN DOYLE ROAD.

STAGE 4C CONSTRUCTION

- OPEN-CUT TRENCH WATER MAIN INSTALLATION AND UTILITY ADJUSTMENTS AND FULL-DEPTH PAVEMENT PATCHING FOR UTILITY CROSSINGS ALONG BOOK ROAD BETWEEN CONAN DOYLE ROAD AND COMED EASEMENT.
- FULL-DEPTH PAVEMENT RECONSTRUCTION OF NORTHBOUND LANE AND PAVEMENT IMPACTED BY WATER MAIN INSTALLATION ALONG BOOK ROAD BETWEEN 95TH STREET AND COMED EASEMENT ACCORDING TO ROADWAY PLANS.

DETOUR ROUTE SIGNAL TIMING IMPACTS

INTERSECTION		STAGE OF CONSTRUCTION									
N-S ROUTE	E-W ROUTE	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C
BOOK ROAD	RICKERT DRIVE	X									
IL ROUTE 59	75TH STREET	X	X	X							
BEEBE DRIVE	75TH STREET	X	X	X							
FORT HILL DRIVE	75TH STREET	X	X	X							
BOOK ROAD	75TH STREET	X	X	X	X	X					
PLAINFIELD-NAPERVILLE ROAD	75TH STREET	X	X	X	X	X					
IL ROUTE 59	BEEBE DRIVE	X	X	X							
IL ROUTE 59	83RD STREET	X	X	X	X	X					
BOOK ROAD	83RD STREET	X	X	X	X	X					
IL ROUTE 59	87TH STREET			X	X	X	X	X	X		
BOOK ROAD	87TH STREET	X	X	X	X	X	X	X	X		
PLAINFIELD-NAPERVILLE ROAD	87TH STREET	X	X	X	X	X	X	X	X		
PLAINFIELD-NAPERVILLE ROAD	LEVERENZ ROAD					X	X	X	X		
PLAINFIELD-NAPERVILLE ROAD	GATESHEAD DRIVE					X	X	X	X		
IL ROUTE 59	CANTORE ROAD					X	X	X	X		
IL ROUTE 59	95TH STREET					X	X	X	X	X	X
CEDAR GLADE ROAD	95TH STREET					X	X	X	X	X	X
WILD CAT WAY	95TH STREET					X	X	X	X	X	X
SKYLANE DRIVE	95TH STREET					X	X	X	X	X	X
BOOK ROAD	95TH STREET					X	X	X	X	X	X
PLAINFIELD-NAPERVILLE ROAD	95TH STREET					X	X	X	X	X	X
IL ROUTE 59	LACROSE LANE								X	X	X
BOOK ROAD	CONAN DOYLE ROAD								X	X	X
IL ROUTE 59	103RD STREET								X	X	X
BOOK ROAD	103RD STREET								X	X	X
BOOK ROAD	104TH STREET								X	X	X
PLAINFIELD-NAPERVILLE ROAD	104TH STREET								X	X	X

REV.	DATE	DESCRIPTION	BY
1	06/25/25	ADDENDUM 4	

DATE = MAY 2025
SCALE =
SCALE =
PROJECT NO = 128-10031

DESIGNED — JF
CHECKED — JH
DRAWN — RG
CHECKED — AG

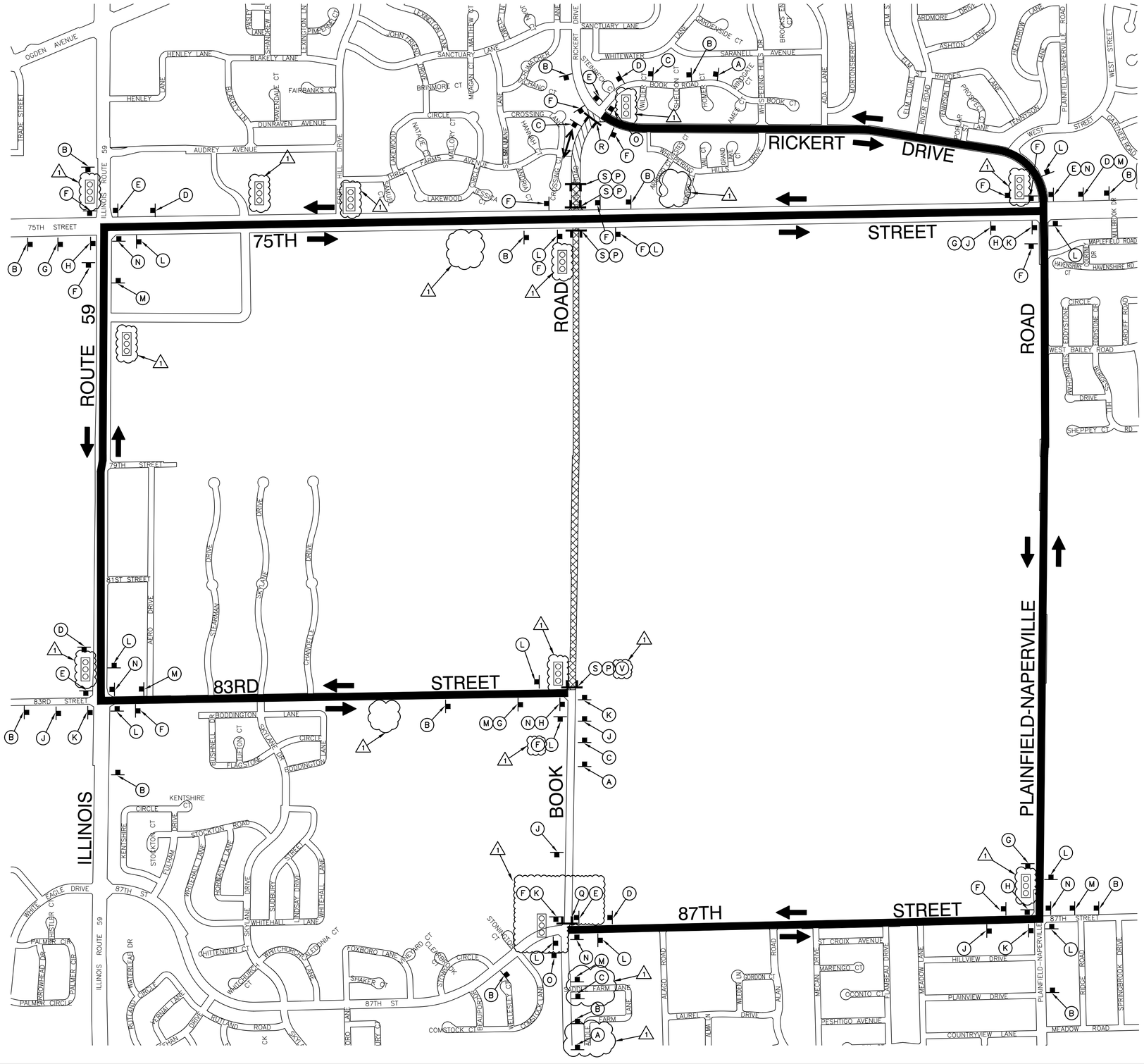
DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

MAINTENANCE OF TRAFFIC
BOOK ROAD
SUGGESTED TRAFFIC CONTROL
STAGING NOTES

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DRAWING NO. MOT-000
SHEET NO. 118 of 199

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A W20-3(0) 48"X48" ROAD CLOSED AHEAD
B W20-2(0) 48"X48" DETOUR AHEAD
C W20-3(0) 48"X48" ROAD CLOSED 500 FT
D M4-9L(MOD)(O) 30"X24" SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR
E M4-9L(O) 30"X24" SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR
F M4-9L(O) 30"X24" SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR
G M4-9R(MOD)(O) 30"X24" SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR
H M4-9R(O) 30"X24" SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR
J M4-9L(MOD)(O) 30"X24" NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR
K M4-9L(O) 30"X24" NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR
L M4-9R(MOD)(O) 30"X24" NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR
M M4-9R(O) 30"X24" NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR
N M4-9R(O) 30"X24" NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR
O M4-8a 24"X18" END DETOUR
P R5-1 30"X30" DO NOT ENTER
Q R11-4 60"X30" ROAD CLOSED TO THRU TRAFFIC DETOUR M4-10R 48"X18" TYPE III BARRICADE
R R11-4 60"X30" ROAD CLOSED TO THRU TRAFFIC DETOUR M4-10L 48"X18" TYPE III BARRICADE
S R11-2 48"X30" ROAD CLOSED TYPE III BARRICADE (2) OR MORE
T R6-2(L) 18"X24" ONE WAY
U R6-2(R) 18"X24" ONE WAY
V M4-10L 48"X18" DETOUR
W M4-10R 48"X18" DETOUR

LEGEND

- PARTIALLY CLOSED (LOCAL TRAFFIC ONLY)
- COMPLETELY CLOSED (NO LOCAL TRAFFIC)
- DETOUR ROUTE
- LOCAL ONE-WAY TRAFFIC
- LOCAL TWO-WAY TRAFFIC
- DETOUR ROUTE STREET
- TEMPORARY TRAFFIC SIGNAL TIMING

REV.	DATE	DESCRIPTION	BY
1	06/25/25	ADDENDUM 4	

DATE = MAY 2025 | SCALE = 1"=600' | SCALE = | PROJECT NO = 128-10031

DESIGNED — JF | CHECKED — JH | DRAWN — RG | CHECKED — AG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

MAINTENANCE OF TRAFFIC
BOOK ROAD
DETOUR PLANS
STAGE 1A

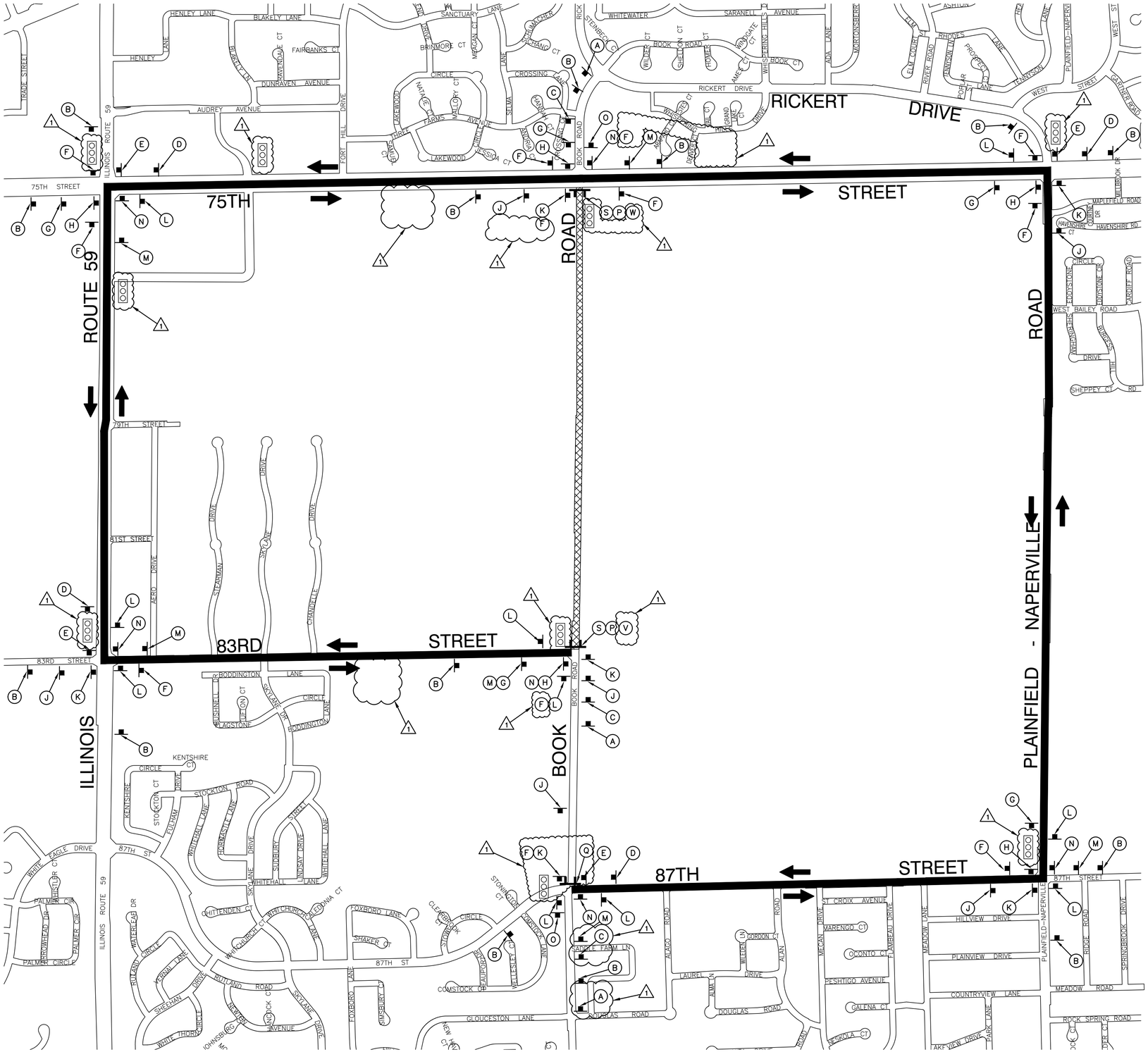
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DRAWING NO. MOT-001

SHEET NO. 119 of 199

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REV.	DATE	DESCRIPTION	BY
1	06/25/25	ADDENDUM 4	

DATE	=	MAY 2025	DESIGNED	—	JF
SCALE	=	1"=600'	CHECKED	—	JH
SCALE	=		DRAWN	—	RG
PROJECT NO	=	128-10031	CHECKED	—	AG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

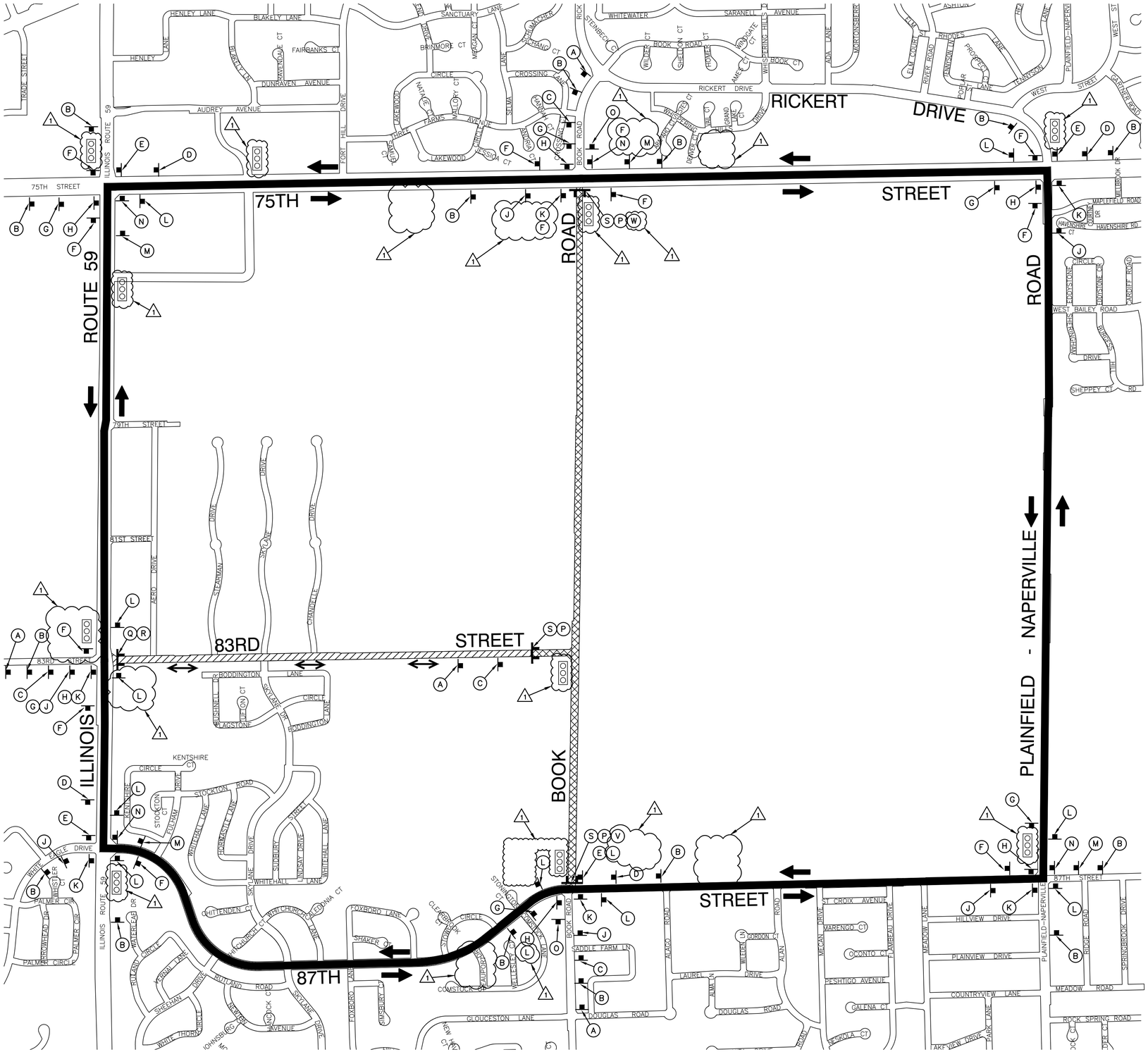
MAINTENANCE OF TRAFFIC
BOOK ROAD
DETOUR PLANS
STAGE 1B

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DRAWING NO. MOT-002
SHEET NO. 120 of 199

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REV.	DATE	DESCRIPTION	BY
1	06/25/25	ADDENDUM 4	

DATE	=	MAY 2025	DESIGNED	—	JF
SCALE	=	1"=600'	CHECKED	—	JH
SCALE	=		DRAWN	—	RG
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DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

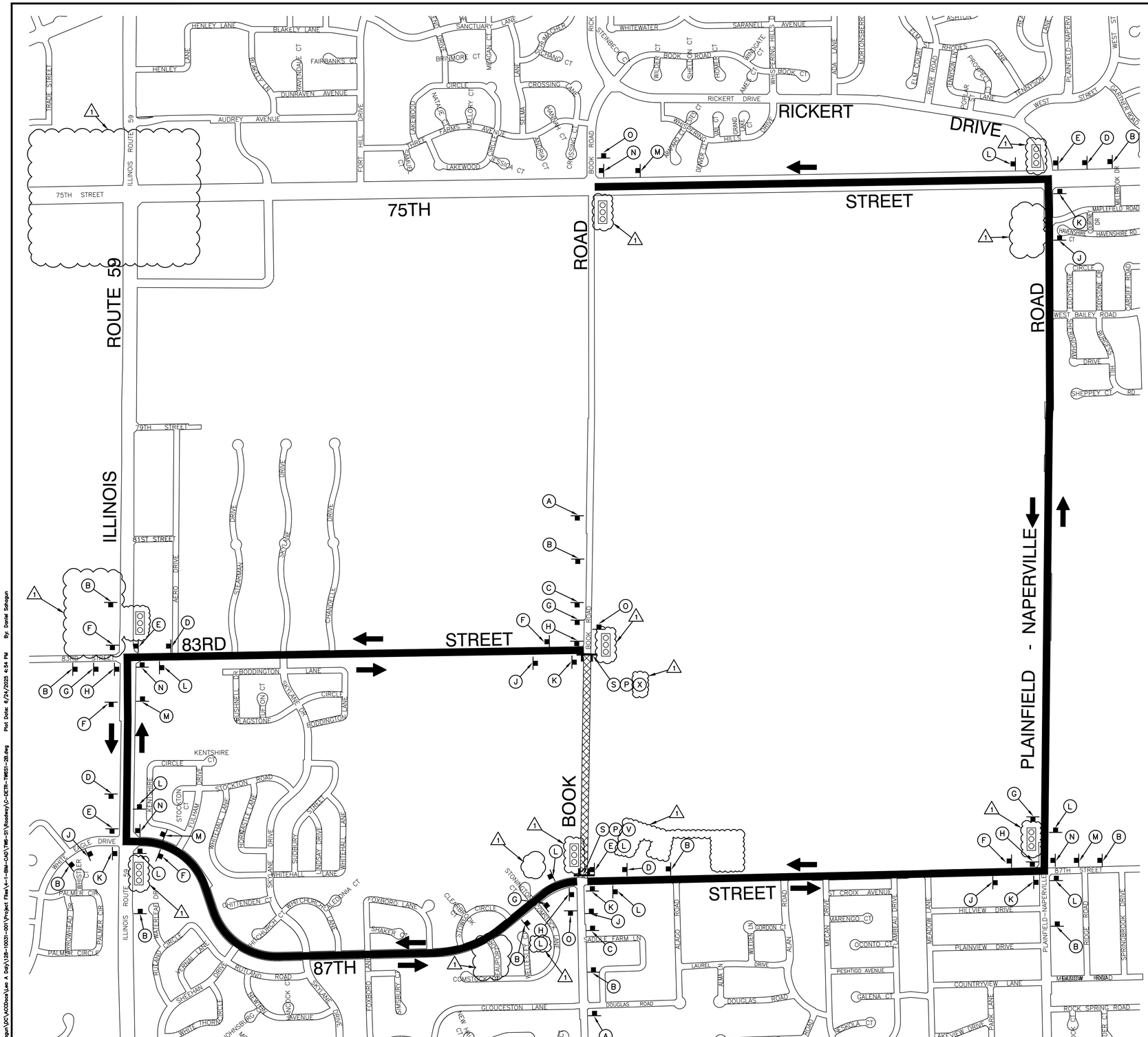
MAINTENANCE OF TRAFFIC
BOOK ROAD
DETOUR PLANS
STAGE 2A

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DRAWING NO.	SHEET NO.
MOT-003	121 of 199

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A ROAD CLOSED AHEAD — W20-3(0) 48"X48"

B DETOUR AHEAD — W20-2(0) 48"X48"

C ROAD CLOSED 500 FT — W20-3(0) 48"X48"

D SOUTH M3-3(0) 24"X12" / BOOK ROAD D3-1(0) 24"X18" / DETOUR M4-9L(MOD)(O) 30"X24"

E SOUTH M3-3(0) 24"X12" / BOOK ROAD D3-1(0) 24"X18" / DETOUR M4-9L(O) 30"X24"

F SOUTH M3-3(0) 24"X12" / BOOK ROAD D3-1(0) 24"X18" / DETOUR M4-9L(O) 30"X24"

G SOUTH M3-3(0) 24"X12" / BOOK ROAD D3-1(0) 24"X18" / DETOUR M4-9R(MOD)(O) 30"X24"

H SOUTH M3-3(0) 24"X12" / BOOK ROAD D3-1(0) 24"X18" / DETOUR M4-9R(O) 30"X24"

J NORTH M3-1(O) 24"X12" / BOOK ROAD D3-1(0) 24"X18" / DETOUR M4-9L(MOD)(O) 30"X24"

K NORTH M3-1(O) 24"X12" / BOOK ROAD D3-1(0) 24"X18" / DETOUR M4-9L(O) 30"X24"

L NORTH M3-1(O) 24"X12" / BOOK ROAD D3-1(0) 24"X18" / DETOUR M4-9(O) 30"X24"

M NORTH M3-1(O) 24"X12" / BOOK ROAD D3-1(0) 24"X18" / DETOUR M4-9R(MOD)(O) 30"X24"

N NORTH M3-1(O) 24"X12" / BOOK ROAD D3-1(0) 24"X18" / DETOUR M4-9R(O) 30"X24"

O END DETOUR M4-8a 24"X18"

P DO NOT ENTER R5-1 30"X30"

Q ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" / DETOUR M4-10R 48"X18" / TYPE III BARRICADE

R ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" / DETOUR M4-10L 48"X18" / TYPE III BARRICADE

S ROAD CLOSED R11-2 48"X30" / TYPE III BARRICADE (2) OR MORE

T ONE WAY R6-2(L) 18"X24"

U ONE WAY R6-2(R) 18"X24"

V DETOUR M4-10L 48"X18"

W DETOUR M4-10R 48"X18"

LEGEND

- PARTIALLY CLOSED (LOCAL TRAFFIC ONLY)
- COMPLETELY CLOSED (NO LOCAL TRAFFIC)
- DETOUR ROUTE
- LOCAL ONE-WAY TRAFFIC
- LOCAL TWO-WAY TRAFFIC
- DETOUR ROUTE STREET
- TEMPORARY TRAFFIC SIGNAL TIMING

REV.	DATE	DESCRIPTION	BY
1	06/25/25	ADDENDUM 4	

DATE = MAY 2025 | SCALE = 1"=600' | SCALE = | PROJECT NO = 128-10031

DESIGNED — JF | CHECKED — JH | DRAWN — RG | CHECKED — AG

WATERLINK MONTGOMERY • OSWEGO • YORKVILLE

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

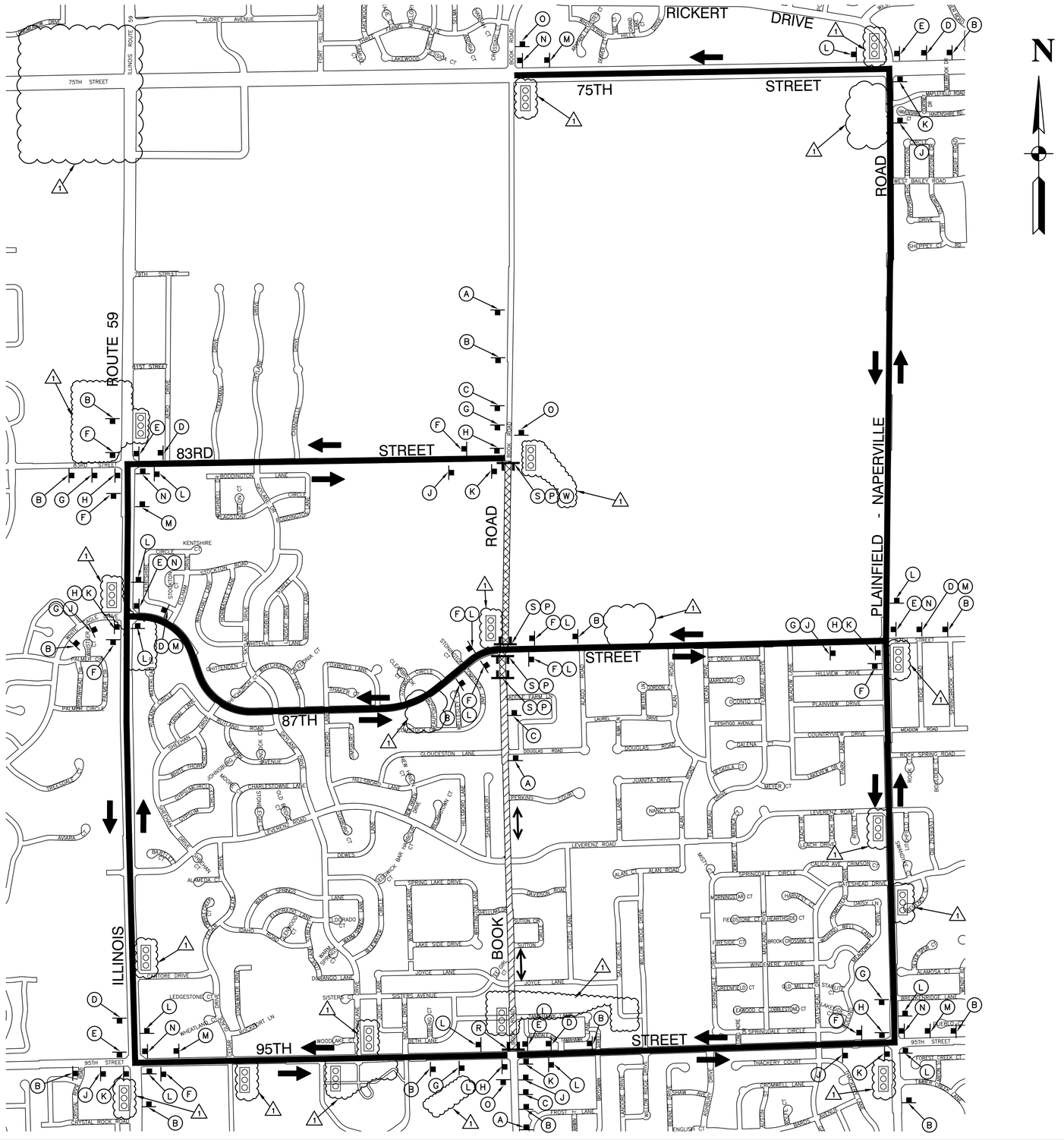
MAINTENANCE OF TRAFFIC
BOOK ROAD
DETOUR PLANS
STAGE 2B

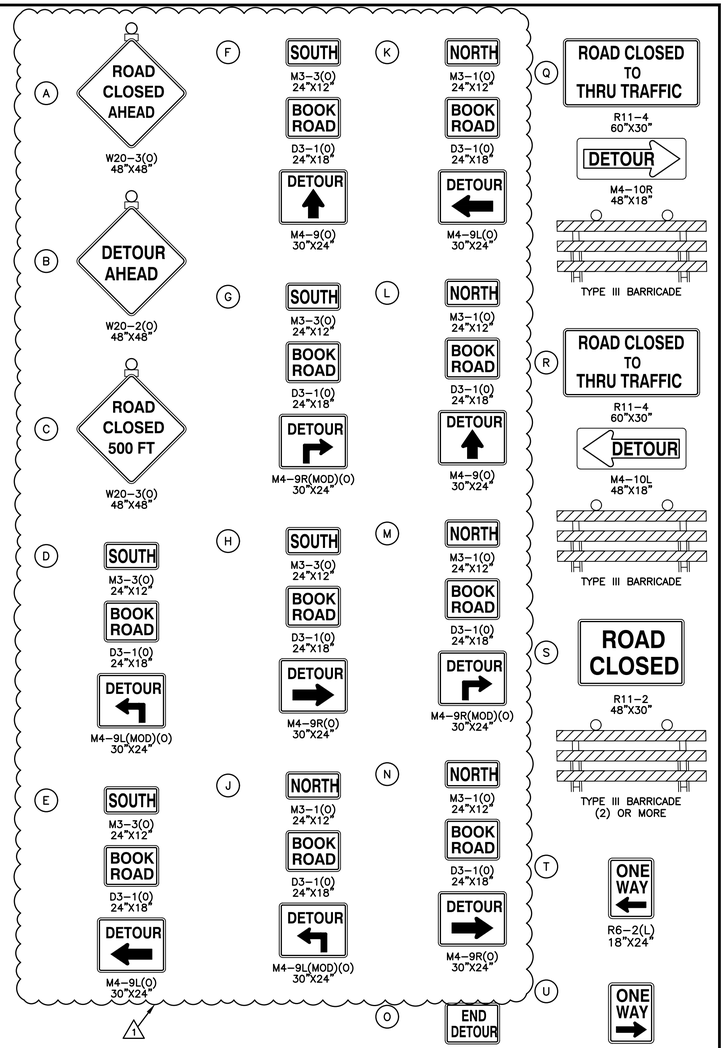
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DRAWING NO. MOT-004 | SHEET NO. 122 of 199

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LEGEND

- PARTIALLY CLOSED (LOCAL TRAFFIC ONLY)
- COMPLETELY CLOSED (NO LOCAL TRAFFIC)
- DETOUR ROUTE
- LOCAL ONE-WAY TRAFFIC
- LOCAL TWO-WAY TRAFFIC
- DETOUR ROUTE STREET
- TEMPORARY TRAFFIC SIGNAL TIMING

REV.	DATE	DESCRIPTION	BY
1	06/25/25	ADDENDUM 4	

DATE = MAY 2025 | SCALE = 1"=600' | SCALE = | PROJECT NO = 128-10031

DESIGNED — JF | CHECKED — JH | DRAWN — RG | CHECKED — AG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

MAINTENANCE OF TRAFFIC
BOOK ROAD
DETOUR PLANS
STAGE 3A

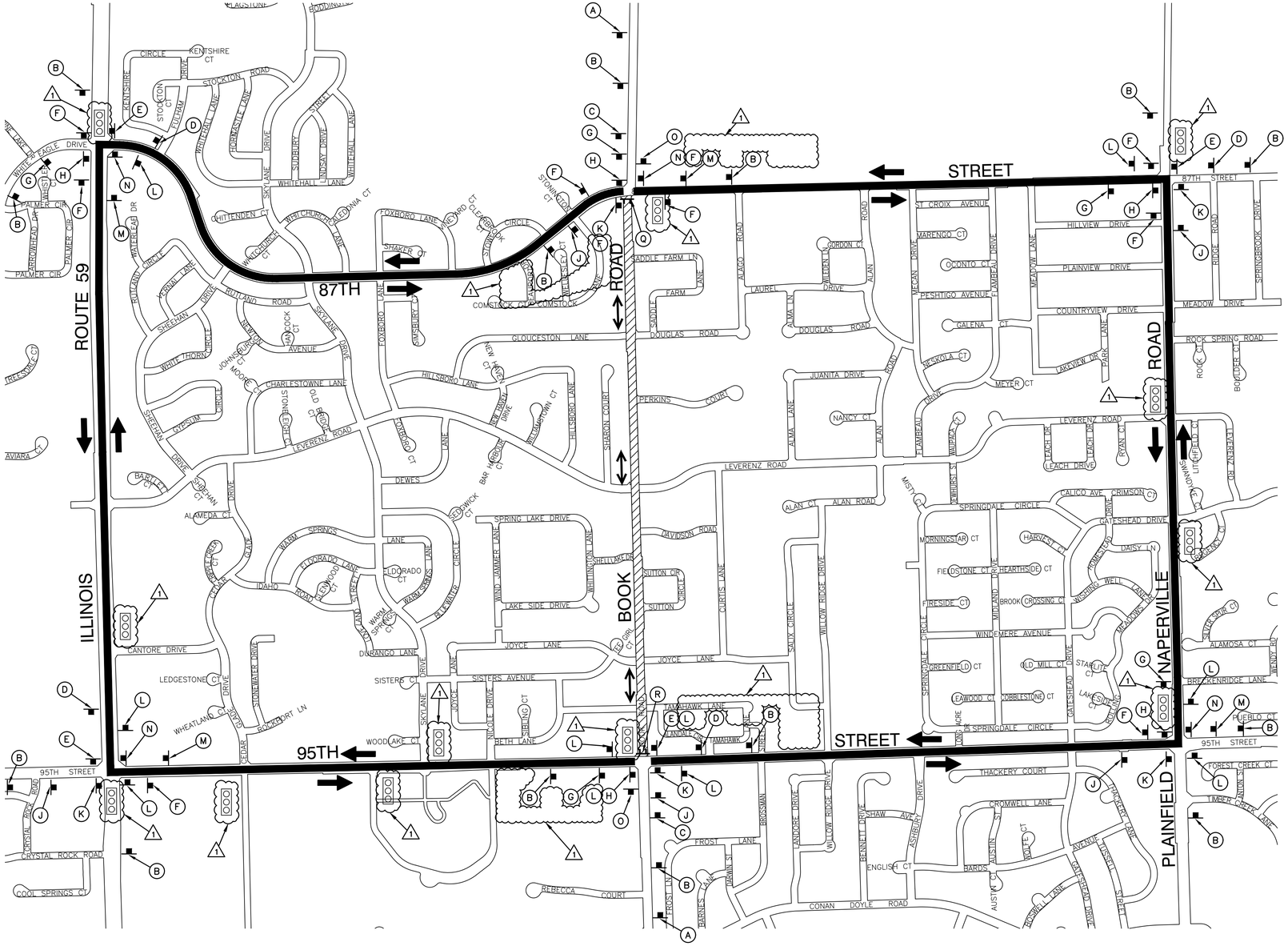
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SHEET NO. 123 of 199

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A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
ROAD CLOSED AHEAD W20-3(0) 48"X48"	DETOUR AHEAD W20-2(0) 48"X48"	ROAD CLOSED 500 FT W20-3(0) 48"X48"	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(MOD)(0) 30"X24"	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(0) 30"X24"	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9(0) 30"X24"	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(MOD)(0) 30"X24"	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(0) 30"X24"	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(0) 30"X24"	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9(0) 30"X24"	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(MOD)(0) 30"X24"	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(0) 30"X24"	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(MOD)(0) 30"X24"	END DETOUR M4-8a 24"X18"	DO NOT ENTER R5-1 30"X30"	ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" DETOUR M4-10R 48"X18" TYPE III BARRICADE	ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" DETOUR M4-10L 48"X18" TYPE III BARRICADE	ROAD CLOSED R11-2 48"X30" TYPE III BARRICADE (2) OR MORE	ONE WAY R6-2(L) 18"X24"	ONE WAY R6-2(R) 18"X24"	DETOUR M4-10L 48"X18"	DETOUR M4-10R 48"X18"

LEGEND

- PARTIALLY CLOSED (LOCAL TRAFFIC ONLY)
- COMPLETELY CLOSED (NO LOCAL TRAFFIC)
- DETOUR ROUTE
- LOCAL ONE-WAY TRAFFIC
- LOCAL TWO-WAY TRAFFIC
- DETOUR ROUTE STREET
- TEMPORARY TRAFFIC SIGNAL TIMING

REV.	DATE	DESCRIPTION	BY
1	06/25/25	ADDENDUM 4	

DATE = MAY 2025 | SCALE = 1"=600' | SCALE = | PROJECT NO = 128-10031

DESIGNED — JF | CHECKED — JH | DRAWN — RG | CHECKED — AG

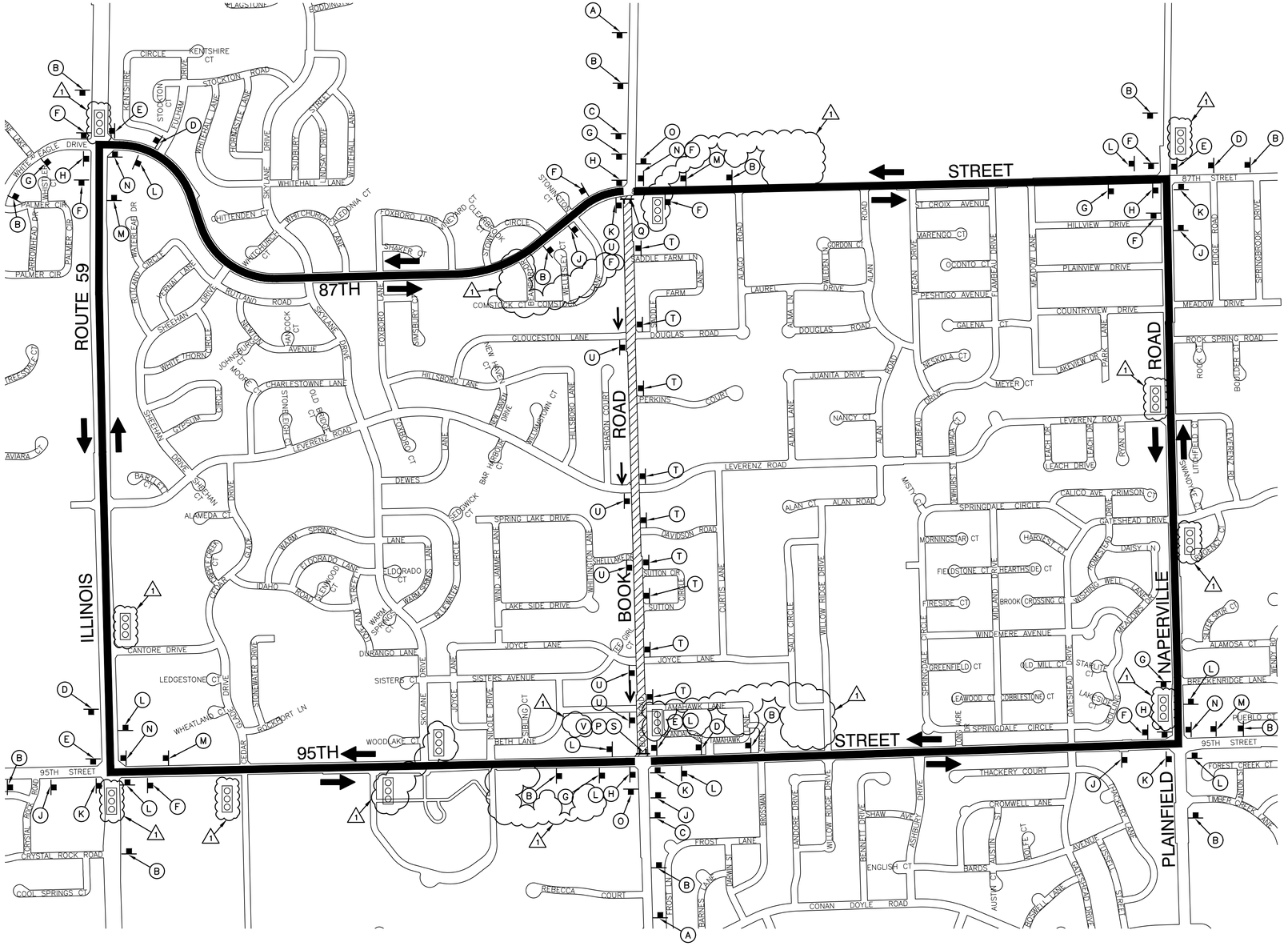
DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

MAINTENANCE OF TRAFFIC
BOOK ROAD
DETOUR PLANS
STAGE 3B

0 600 1200

DRAWING NO. MOT-006 | SHEET NO. 124 of 199

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A	ROAD CLOSED AHEAD W20-3(0) 48"X48"	F	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9(0) 30"X24"	K	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(0) 30"X24"	Q	ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" DETOUR M4-10R 48"X18" TYPE III BARRICADE
B	DETOUR AHEAD W20-2(0) 48"X48"	G	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(MOD)(O) 30"X24"	L	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9(0) 30"X24"	R	ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" DETOUR M4-10L 48"X18" TYPE III BARRICADE
C	ROAD CLOSED 500 FT W20-3(0) 48"X48"	H	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(O) 30"X24"	M	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(MOD)(O) 30"X24"	S	ROAD CLOSED R11-2 48"X30" TYPE III BARRICADE (2) OR MORE
D	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(MOD)(O) 30"X24"	J	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(MOD)(O) 30"X24"	N	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(O) 30"X24"	T	ONE WAY R6-2(L) 18"X24"
E	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(O) 30"X24"					U	ONE WAY R6-2(R) 18"X24"
				O	END DETOUR M4-8a 24"X18"		
				P	DO NOT ENTER R5-1 30"X30"	V	DETOUR M4-10L 48"X18"
						W	DETOUR M4-10R 48"X18"

1

LEGEND

- PARTIALLY CLOSED (LOCAL TRAFFIC ONLY)
- COMPLETELY CLOSED (NO LOCAL TRAFFIC)
- DETOUR ROUTE
- LOCAL ONE-WAY TRAFFIC
- LOCAL TWO-WAY TRAFFIC
- DETOUR ROUTE STREET
- TEMPORARY TRAFFIC SIGNAL TIMING

REV.	DATE	DESCRIPTION	BY
1	06/25/25	ADDENDUM 4	

DATE = MAY 2025 | SCALE = 1"=600' | SCALE = | PROJECT NO = 128-10031

DESIGNED — JF | CHECKED — JH | DRAWN — RG | CHECKED — AG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

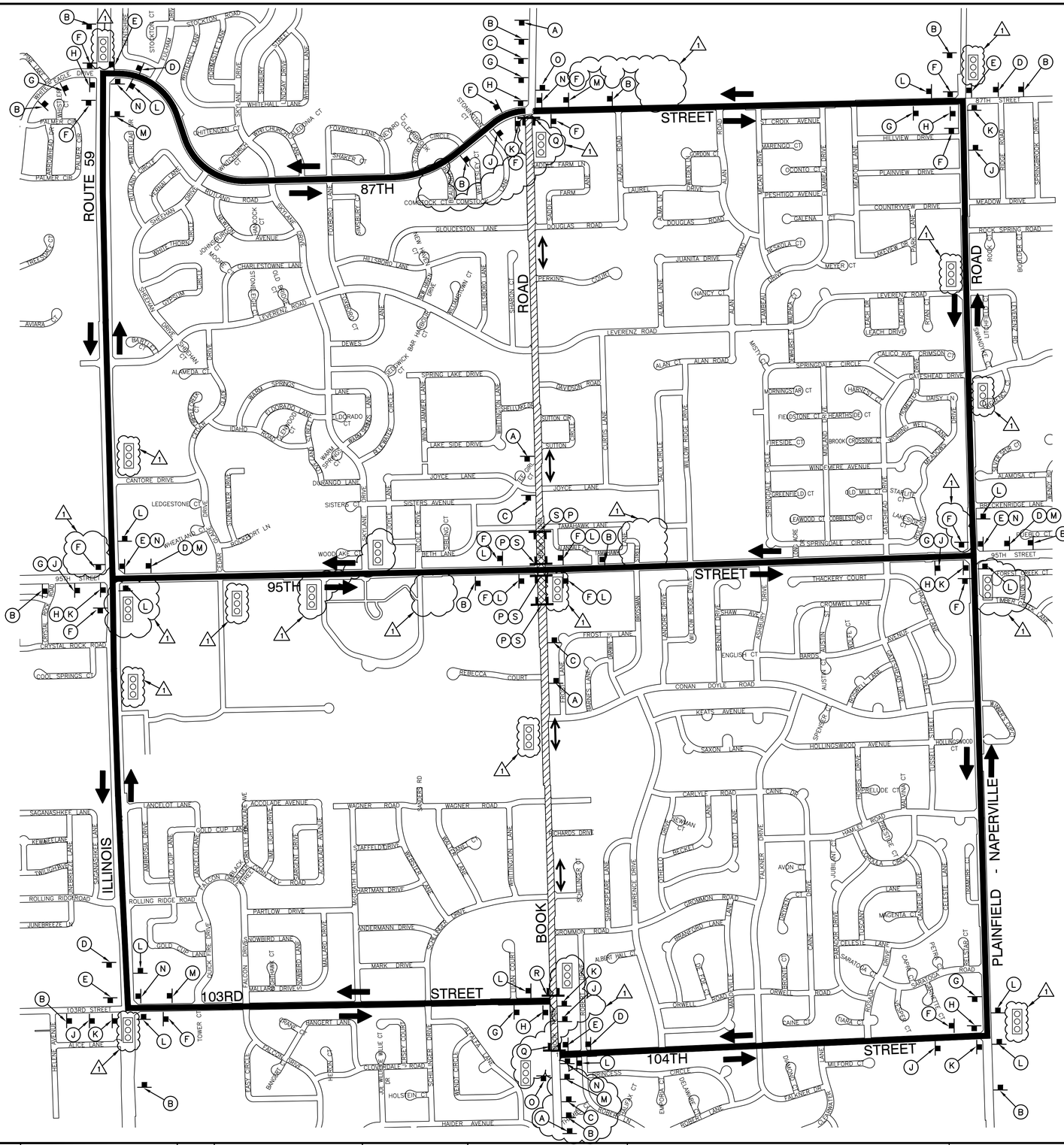
MAINTENANCE OF TRAFFIC
BOOK ROAD
DETOUR PLANS
STAGE 3C

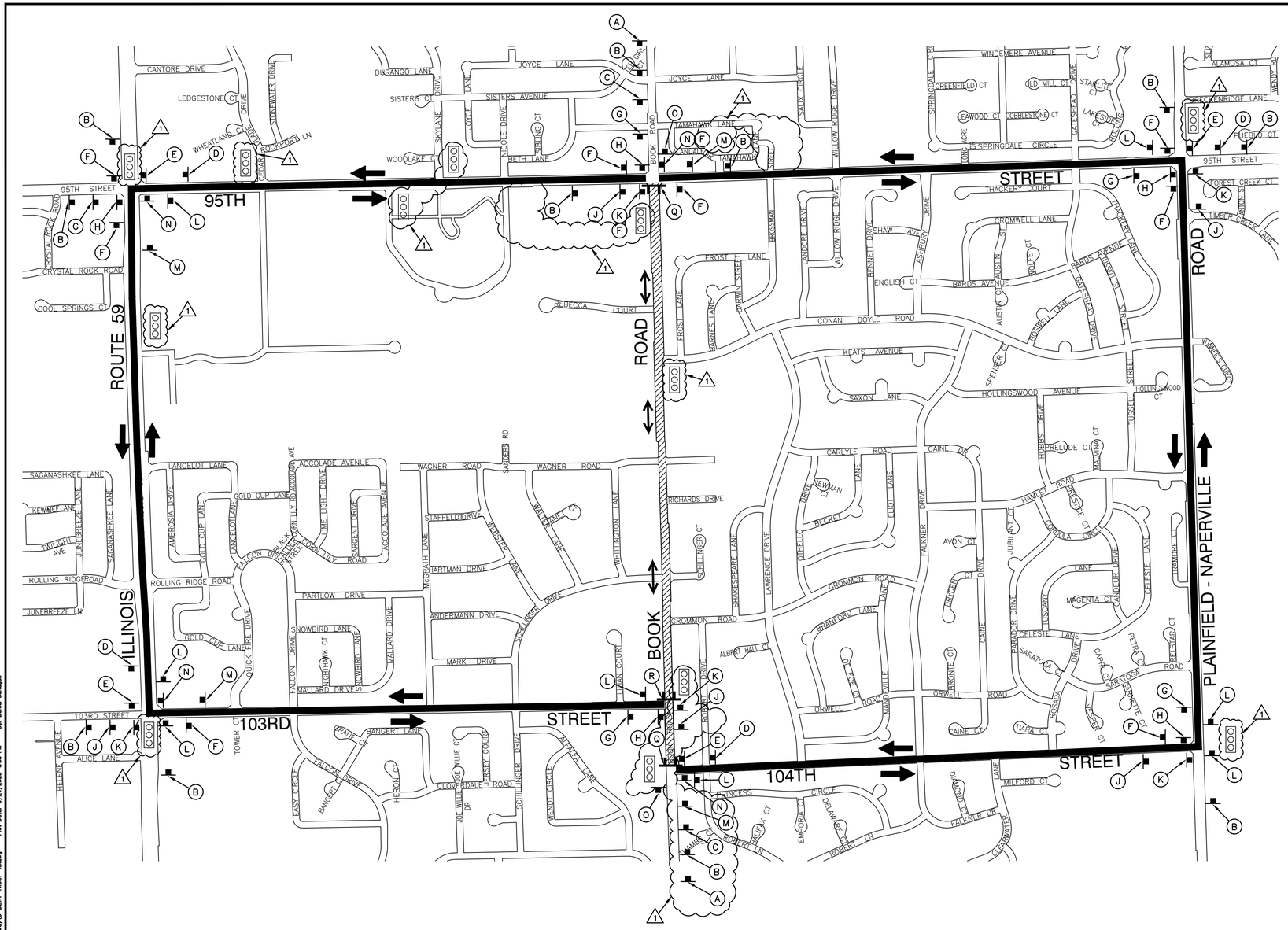
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DRAWING NO. MOT-007 | SHEET NO. 125 of 199

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87TH STREET
95TH STREET
103RD STREET
104TH STREET
ROUTE 59
ILLINOIS ROAD
BOOK ROAD
PLAINFIELD - NAPERVILLE ROAD
WHITEHALL LANE
WHITEHALL CT
PALMER CIR
PALMER DR
STONYCREEK ROAD
SHERIDAN DRIVE
WHITE THORN DRIVE
JOHNSON DRIVE
MOORE DRIVE
CHARLESTOWNE LANE
OLD TRAIL CT
LEVERENZ ROAD
AVIARA CT
BARNEY CT
ALAMEDA CT
DEWES
IDAHO
CANTORE DRIVE
LEDGESTONE CT
WHEATLAND DRIVE
SISTERS AVENUE
SISTERS CT
WOODLAKE CT
COOL SPRINGS CT
CRYSTAL ROCK ROAD
SPRING LAKE DRIVE
WINDJAMMER LANE
SHELLYMAR
SUTTON CIR
SUTTON
LAKE SIDE DRIVE
JOYCE LANE
DINGANGO LANE
WILLOW RIDGE DRIVE
SPRINGDALE CIRCLE
CATSHEAD DRIVE
ALAMOSA CT
BRIDLEWOOD CT
BROOKENRIDGE LANE
WINDEMERE AVENUE
FIRESIDE CT
BROOK CROSSING CT
HARVEST LN
MORNINGSTAR CT
FIELDSTONE CT
HEARTHSIDE CT
GREENFIELD CT
OLD MILL CT
STANLUTZ CT
FAIRVIEW CT
COBBLESTONE CT
FOREST CREEK CT
TIMBER CREEK LANE
THACKERY COURT
CROMWELL LANE
ENGLISH CT
BARNS CT
AUSTIN CT
KEATS AVENUE
SAXON LANE
HOLLINGSWOOD AVENUE
HOLLINGSWOOD CT
CONAN DOYLE ROAD
CARLYLE ROAD
CAINE CT
HAMLET ROAD
AVON CT
JUBILANT CT
CELESTE LANE
MAGENTA CT
SARATOGA DRIVE
SARATOGA CT
PETRICK CT
ORWELL ROAD
ORWELL CT
TIARA CT
MILFORD CT
DIAMOND LANE
FALKNER DR
FALKNER CT
ROBERT CT
ROBERTS RD
SAGANASHKEE LANE
KEWAUKEE LANE
TWIGHWAY LANE
ROLLING RIDGE ROAD
JUNEBREEZE LN
ANGELOT LANE
GOLD CUP LANE
AMBASSADOR DRIVE
ACCOLADE AVENUE
WAGNER ROAD
STAFFELWOOD
WESTMINSTER LANE
WESTMINSTER CT
WESTMINSTER DRIVE



A	ROAD CLOSED AHEAD W20-3(0) 48"X48"	F	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9(0) 30"X24"	K	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(0) 30"X24"	Q	ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" DETOUR M4-10R 48"X18" TYPE III BARRICADE
B	DETOUR AHEAD W20-2(0) 48"X48"	G	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(MOD)(O) 30"X24"	L	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9(0) 30"X24"	R	ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" DETOUR M4-10L 48"X18" TYPE III BARRICADE
C	ROAD CLOSED 500 FT W20-3(0) 48"X48"	H	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(O) 30"X24"	M	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(MOD)(O) 30"X24"	S	ROAD CLOSED R11-2 48"X30" TYPE III BARRICADE (2) OR MORE
D	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(MOD)(O) 30"X24"	J	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(MOD)(O) 30"X24"	N	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(O) 30"X24"	T	ONE WAY R6-2(L) 18"X24"
E	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(O) 30"X24"			O	END DETOUR M4-8a 24"X18"	U	ONE WAY R6-2(R) 18"X24"
				P	DO NOT ENTER R5-1 30"X30"	V	DETOUR M4-10L 48"X18"
						W	DETOUR M4-10R 48"X18"

LEGEND

- PARTIALLY CLOSED (LOCAL TRAFFIC ONLY)
- COMPLETELY CLOSED (NO LOCAL TRAFFIC)
- DETOUR ROUTE
- LOCAL ONE-WAY TRAFFIC
- LOCAL TWO-WAY TRAFFIC
- DETOUR ROUTE STREET
- TEMPORARY TRAFFIC SIGNAL TIMING

REV.	DATE	DESCRIPTION	BY
1	06/25/25	ADDENDUM 4	

DATE	=	MAY 2025	DESIGNED	—	JF
SCALE	=	1"=600'	CHECKED	—	JH
SCALE	=		DRAWN	—	RG
PROJECT NO	=	128-10031	CHECKED	—	AG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

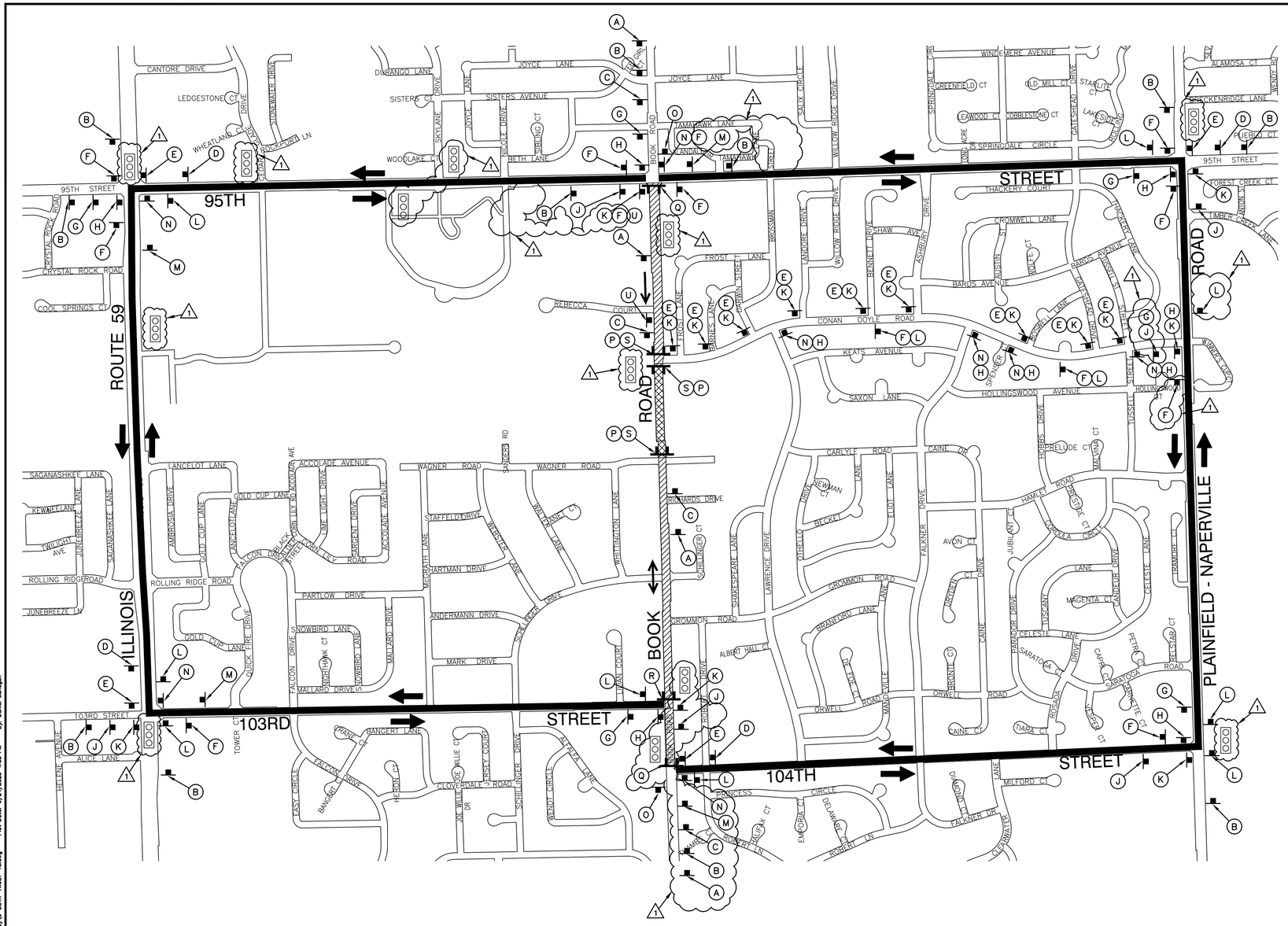
MAINTENANCE OF TRAFFIC
BOOK ROAD
DETOUR PLANS
STAGE 4B

0 600 1200

DRAWING NO. MOT-009
SHEET NO. 127 of 199

579 of 624

File: G:\Users\daniel.sahagun\DC\ACDocs\Loc A Data\128-10031-001\Project Files\4-I-BM-CAD\TW-S1\Roadway\C-DETR-TWS1-48.dwg Plot Date: 6/24/2025 4:55 PM By: Daniel Sahagun



A	ROAD CLOSED AHEAD W20-3(0) 48"X48"	F	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9(0) 30"X24"	K	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(0) 30"X24"	Q	ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" DETOUR M4-10R 48"X18" TYPE III BARRICADE
B	DETOUR AHEAD W20-2(0) 48"X48"	G	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(MOD)(O) 30"X24"	L	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9(0) 30"X24"	R	ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30" DETOUR M4-10L 48"X18" TYPE III BARRICADE
C	ROAD CLOSED 500 FT W20-3(0) 48"X48"	H	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(O) 30"X24"	M	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(MOD)(O) 30"X24"	S	ROAD CLOSED R11-2 48"X30" TYPE III BARRICADE (2) OR MORE
D	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(MOD)(O) 30"X24"	J	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(MOD)(O) 30"X24"	N	NORTH M3-1(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9R(O) 30"X24"	T	ONE WAY R6-2(L) 18"X24"
E	SOUTH M3-3(0) 24"X12" BOOK ROAD D3-1(0) 24"X18" DETOUR M4-9L(O) 30"X24"			O	END DETOUR M4-8a 24"X18"	U	ONE WAY R6-2(R) 18"X24"
				P	DO NOT ENTER R5-1 30"X30"	V	DETOUR M4-10L 48"X18"
						W	DETOUR M4-10R 48"X18"

LEGEND

- PARTIALLY CLOSED (LOCAL TRAFFIC ONLY)
- COMPLETELY CLOSED (NO LOCAL TRAFFIC)
- DETOUR ROUTE
- LOCAL ONE-WAY TRAFFIC
- LOCAL TWO-WAY TRAFFIC
- DETOUR ROUTE STREET
- TEMPORARY TRAFFIC SIGNAL TIMING

REV.	DATE	DESCRIPTION	BY
1	06/25/25	ADDENDUM 4	

DATE	=	MAY 2025	DESIGNED	—	JF
SCALE	=	1"=600'	CHECKED	—	JH
SCALE	=		DRAWN	—	RG
PROJECT NO	=	128-10031	CHECKED	—	AG

DUPAGE WATER COMMISSION
WATERLINK EXTENSION
CONTRACT TW-6/25 SECTION 1 WEST TRANSMISSION MAIN

MAINTENANCE OF TRAFFIC
BOOK ROAD
DETOUR PLANS
STAGE 4C

LAN | Robinson ENGINEERING | Stanley Consultants INC.

0 600 1200

DRAWING NO. MOT-010
SHEET NO. 128 of 199

File: G:\Users\daniel.sahagun\DC\ACADocs\Loc A Data\128-10031-00\Project Files\4-I-BM-CAD\TW-S1\Roadway\C-DETR-TWS1-4C.dwg Plot Date: 6/24/2025 4:55 PM By: Daniel Sahagun

Resolution #: R-67-25

Account: 01-80-852010

Approvals: *Author / Manager / Finance / Admin*

JL JML CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/14/2025

Description: **A Resolution Approving and Ratifying Certain Change Orders for the Construction of the West Transmission Main Along Book Road From 75th Street to the ComEd R.O.W. (Contract TW-6/25 Section 1 (Book Road))**

Agenda Section: Engineering & Construction

Originating Department: Engineering

Change Order No. 1 for the Construction of the West Transmission Main along Book Road from 75th Street to the ComEd R.O.W. (Contract TW-6/25 Section 1 (Book Road))

Change Order No. 1 would authorize a net decrease of in the Contract Price of $18,846,940.27 from the original price of $67,148,000.00 to $48,301,059.73 and a time extension of 0 calendar days. The following significant changes to the Contract would apply:

1. Within the as-bid design, there were several locations that called for installation of the pipeline to be completed via trenchless means (i.e. tunneling or jack-and-bore). Due to the substantial cost of trenchless installations received at the bid opening, Commission staff worked with the design team to negotiate with the Contractor to convert as much of the trenchless installation areas to open-cut as feasible.
2. Some portions of the as-bid trenchless installations could *not* be converted to open-cut installations or, even if they could, would not yield cost savings. These areas will instead be installed at a shallower depth which has significantly reduced the cost of the associated shafts.
3. Due to the change in risk associated with items 1 and 2 above, there is additional risk that the Contractor would need to assume. In order to mitigate that risk and only pay for conflicting field conditions that are actually realized, it was agreed that an owner-designated allowance would be put in place to help cover associated costs for those certain specified conditions.
4. The as-bid design called for two cut-in valves to be placed on the Commission's existing 48" pipeline along 75th Street, one on each side of where the WaterLink connection tee is to be made. The received unit prices for this work was also extremely high. As a result, one of the valves was removed from the scope of work and the scope associated with the installation of

the other was simplified to minimize costs as much as possible while maintaining its intended functionality.

Approval of this Change Order would decrease the net Contract Price by $18,846,940.27 revising the final Contract Price to $48,301,059.73 - a 28.1% net decrease. This amount includes a $1,000,000 Owner's Allowance for unforeseen conditions which will not be used unless necessary and approved by DWC. Approval of this Change Order would have no bearing on the final completion date of the Contract, which currently remains as December 31, 2026.

Approval of this Change Order does not authorize or necessitate a decrease in the Contract Price that is 50% or more of the original Contract Price nor, based upon the Contractor's sworn certification, authorize or necessitate an increase in the price of any subcontract under the Contract that is 50% or more of the original subcontract price.

Recommended Motion:

To adopt Resolution R-67-25.

DuPAGE WATER COMMISSION

RESOLUTION NO. R-67-25

A RESOLUTION APPROVING AND RATIFYING CERTAIN CHANGE ORDERS FOR A CONTRACT FOR THE CONSTRUCTION OF THE WEST TRANSMISSION MAIN ALONG BOOK ROAD FROM 75TH STREET TO THE COMED R.O.W. (CONTRACT TW-6/25 SECTION 1 (BOOK ROAD))

WHEREAS, the Commission was formed and exists pursuant to the Water Commission Act of 1985, 70 ILCS 3720/0.01 et seq., and Division 135 of Article 11 of the Illinois Municipal Code, 65 ILCS 5/11-135-1 et seq., for the purpose of securing an adequate source and supply of water for its customers; and

WHEREAS, the Village of Montgomery ("Montgomery"), the Village of Oswego ("Oswego") and the United City of Yorkville ("Yorkville") (Oswego, Montgomery and Yorkville are collectively referred to herein as the "Municipalities") desire to supply Lake Michigan water to their residents by connecting to the Commission's waterworks system;

WHEREAS, the Commission and the Municipalities previously entered into intergovernmental agreements related to the funding of the required connection facilities; and

WHEREAS, pursuant to Article VIII, Section 5 of the Commission's By-Laws, the DuPage Water Commission (the "Commission") invited proposals for the Construction of the TW-6/25 Section 1 (Book Road) Contract; and

WHEREAS, bids for Contract TW-6/25 Section 1 (Book Road) were received on July 1, 2025; and

WHEREAS, the Commission has reviewed the proposals received and determined that the proposal of the Joint Venture of Benchmark Construction Co., Inc. and D. Construction, Inc. (Joint Venture) was the most favorable to the interests of the Commission; and

WHEREAS, the Commission and the Joint Venture have negotiated the scope and cost of the project, with all changes memorialized in Change Order No. 01;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The Change Orders set forth on Exhibit A, attached hereto and by this reference incorporated herein and made a part hereof, shall be and hereby are approved and, if already issued, ratified because the Board of Commissioners of the DuPage Water Commission has determined, based upon the representations of Staff, the Engineers and the Contractors, that the circumstances said to necessitate the changes were not reasonably foreseeable at the time the contracts were signed, the Change Orders are germane to the original contracts as signed and/or the Change Orders are in the best interest of the DuPage Water Commission and authorized by law.

SECTION TWO: This Resolution shall constitute the written determination required by Section 33E-9 of Article 33E of the Criminal Code of 1961 and shall be in full force and effect from and after its adoption.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honig, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS _____ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk
Board/Resolutions/2025/R-67-25.docx

EXHIBIT A

DWC Book Rd

Revised Scope 4: Per August 11 Request

DATE: August 13, 2025
Location:

ITEM #	PAY ITEM DESCRIPTION	QUANTITY	UN OF MSRE		BID UNIT PRICE	TOTAL
B1	**54-inch PCCP Water Main by Open Cut**	**14,002.00**	**LF**		**1,281.75**	**17,947,063.50**
B1.5	**54-inch PCCP Water Main by Open Cut -Trans Area**	**1,051.00**	**lf**		**4,142.00**	**4,353,242.00**
B1.6	**Trench Backfill for Open Cut in Trans Areas**	**11,259.00**	**TON**		**54.00**	**607,986.00**
B1.7	**Harness Clamp Premium (For Open Cut Trans Area if needed)**	**320.00**	**LF**		**126.00**	**40,320.00**
B2	**54-inch PCCP Water Main by Trenchless Construction**	**553.00**	**LF**		**11,700.00**	**6,470,100.00**
1	**Mobilization**	**1.00**	**LS**		**2,838,000.00**	**2,838,000.00**
2	Temporary Field Office	18.00	MONTH		8,000.00	144,000.00
10	**48" Btrfly Vlv w/Actuator MH (75th St. 25+00 (Owner Spld)**	**0.00**	**LS**		**1,000,000.00**	**0.00**
10.5	**48" BFV w/Acttr MH (75th St. 26+12 (Owner Spld) RVSD Loc**	**1.00**	**LS**		**500,000.00**	**500,000.00**
11	**48" Btrfly Vlv w/Actuator MH (75th St. 29+25 (Owner Spld)**	**0.00**	**LS**		**900,000.00**	**0.00**
12	48" Btrfly Vlv wActr MH & Dsnfctn Bypass Assmbly (Book Rd) (Owner-Frn	1.00	LS		500,000.00	500,000.00
13	54" Btrfly Vlv w/Actuator MH (Owner Furnished)	2.00	EA		400,000.00	800,000.00
14	54" Rmt Btrfly Vlv w/Vault (Owner Furnished)	1.00	EA		450,000.00	450,000.00
18	Air Release and Access Manhole (Type 1)	5.00	EA		60,000.00	300,000.00
19	Air Release and Access Manhole (Type 2)	9.00	EA		75,000.00	675,000.00
21	**Blow-Off Valve w/ Manhole (36" and Larger Pipe)**	**9.00**	**EA**		**85,000.00**	**765,000.00**
39	48" **PCCP** WM Open Cut (Book Rd 752+60-756+64)	430.00	LF		1,000.00	430,000.00
40	48" **PCCP** WM Trnchlss (Book Rd 756+64-758+52)	188.00	LF		15,000.00	2,820,000.00
47	75th Street Cnnctn to Ex DWC 48"PCCP (25+00)	**0.00**	LS		1,000,000.00	0.00
48	75th Street Cnnctn to Ex DWC 48"PCCP (26+22)	1.00	LS		1,500,000.00	1,500,000.00
49	**75th Street Cnnctn to Ex DWC 48"PCCP (29+25)**	**0.00**	**LS**		**1,000,000.00**	**0.00**
50	30" Stub for Future Connection	1.00	LS		100,000.00	100,000.00
52	Rmv 54"Tst Plg Cnnct to Ex 54"WM (Adj Contract)	1.00	EA		50,000.00	50,000.00
53	Trench Backfill (Select Material)	39,240.00	CY		1.00	39,240.00
55	Cathodic Protection System	1.00	LS		300,000.00	300,000.00
56	**Earth Excavation**	**4,561.00**	**CY**		**30.00**	**136,830.00**
57	Aggregate Base Course Type B 2"	760.00	SY		8.00	6,080.00
58	Aggregate Base Course Type B 4"	70.00	SY		10.00	700.00
59	**Aggregate Base Course Type B 6"**	**26,994.00**	**SY**		**10.00**	**269,940.00**
61	**Bituminous Materials (Prime Coat)**	**57,142.00**	**LB**		**0.01**	**571.42**
62	**Bituminous Materials (Tack Coat)**	**27,166.00**	**LB**		**0.01**	**271.66**
63	**HMA Binder Course IL19 N50**	**14,651.00**	**TON**		**76.00**	**1,113,476.00**
65	**HMA Surface Course IL-9.5 Mix D N50**	**6,995.00**	**TON**		**80.00**	**559,600.00**
72	PCC Driveway Pavement 8"	70.00	SY		100.00	7,000.00
74	PCC Sidewalk 6"	6,720.00	SF		14.00	94,080.00
75	Detectable Warnings	400.00	SF		40.00	16,000.00
76	**Pavement Removal**	**26,184.00**	**SY**		**16.00**	**418,944.00**
78	**HMA Surface Removal 1 3/4"**	**34,959.00**	**SY**		**2.15**	**75,161.85**
79	Driveway Pavement Removal	430.00	SY		16.00	6,880.00
80	Combination Curb and Gutter Removal	3,630.00	LF		10.00	36,300.00
81	Sidewalk Removal	6,590.00	SF		3.00	19,770.00
83	Comb Curb & Gutter Type B-6.12	3,630.00	LF		28.00	101,640.00
88	Steel Plate Beam Guardrail Type A 6' Posts	50.00	LF		48.00	2,400.00
89	Long-Span Guardrail over Culvert 12'6" Span	30.00	LF		65.00	1,950.00
90	Traffic Barrier Terminal Type 1B	2.00	EA		2,300.00	4,600.00
91	Traffic Barrier Terminal Type 2	2.00	EA		1,700.00	3,400.00

DWC Book Rd

Revised Scope 4: Per August 11 Request

DATE: August 13, 2025
Location:

ITEM #	PAY ITEM DESCRIPTION	QUANTITY	UN OF MSRE		BID UNIT PRICE	TOTAL
92	Guardrail Removal	160.00	LF		7.00	1,120.00
93	Pavement Marking Blackout Tape 6"	1,220.00	LF		4.00	4,880.00
94	Changeable Message Sign	2,920.00	CAL DAY		25.00	73,000.00
95	Short Term Pavement Marking	9,190.00	LF		2.00	18,380.00
96	Short Term Pavement Marking Removal	3,610.00	SF		3.00	10,830.00
97	Temp Pvmnt Marking Letters & Symbols - Paint	190.00	SF		3.00	570.00
98	Tmp Pvmnt Mrkng - Line 4" - Paint	23,150.00	LF		0.50	11,575.00
100	Tmp Pvmnt Mrkng - Line 24" - Paint	100.00	LF		3.00	300.00
101	Tmp Pvmnt Mrkng - Line 4" - Type IV Tape	6,230.00	LF		3.00	18,690.00
103	Temporary Concrete Barrier	2,170.00	LF		30.00	65,100.00
104	Impct Attntrs Tmp (Flly Rdrctv Nrrw) Test Level 2	4.00	EA		6,500.00	26,000.00
105	Relocate Sign Panel Assembly - Type A	21.00	EA		255.00	5,355.00
106	Thrmo Pvmnt Mrkng - Letters & Symbols	1,040.00	SF		6.00	6,240.00
107	Thermo Pvmnt Mrkng - Line 4"	64,350.00	LF		1.00	64,350.00
108	Thermo Pvmnt Mrkng - Line 6"	4,910.00	LF		1.50	7,365.00
109	Thermo Pvmnt Mrkng - Line 12"	2,460.00	LF		3.50	8,610.00
110	Thermo Pvmnt Mrkng - Line 24"	300.00	LF		7.00	2,100.00
111	Pavement Marking Removal - Grinding	16,010.00	SF		1.00	16,010.00
112	Undrgrnd Cndt Glvnzd Steel 2" Dia	1,380.00	LF		28.00	38,640.00
113	Handhole	3.00	EA		2,600.00	7,800.00
114	Maintenance of Existing Traffiic Signal Installation	6.00	EA		2,900.00	17,400.00
115	Elctric Cable in Cnduit Lead-In No.14 One Pair	820.00	LF		2.00	1,640.00
116	Drill Existing Handhole	2.00	EA		482.00	964.00
117	Deetctor Loop Type 1	320.00	LF		74.00	23,680.00
118	Detector Loop Replacement	1,770.00	LF		55.00	97,350.00
119	Temporary Traffic Signal Installation	5.00	EA		20,000.00	100,000.00
120	Modify Existing Controller	6.00	EA		2,500.00	15,000.00
122	Remove Existing Handhole	3.00	EA		660.00	1,980.00
123	**Class D Patches 12-inch**	**1,858.00**	**SY**		**130.00**	**241,540.00**
125	Mailbox Remove and Replace	2.00	EA		500.00	1,000.00
127	Temporary Access (Private Entrance)	12.00	EA		500.00	6,000.00
128	Temporary Access (Commercial Entrance)	2.00	EA		1,000.00	2,000.00
129	Temporary Access (Road)	10.00	EA		1,000.00	10,000.00
130	Traffic Control and Protection (Special)	1.00	LS		189,135.30	189,135.30
131	HMA Driveway Pavement 4"	330.00	SY		36.00	11,880.00
133	Drainage & Utility Structures to be Adjusted	10.00	EA		1,000.00	10,000.00
134	Drainage & Utility Structures to be Reconstructed	1.00	EA		5,000.00	5,000.00
135	Temporary Information Signing	160.00	SF		25.00	4,000.00
136	Temporary Pavement	740.00	SY		43.00	31,820.00
137	Temporary Traffic Signal Timing	27.00	EA		650.00	17,550.00
138	**HMA Surface Removal - Butt Joint**	**796.00**	**SY**		**1.00**	**796.00**
139	Telescoping Steel Sign Support	25.00	LF		25.00	625.00
140	Metal Post - Type A	25.00	LF		25.00	625.00
141	Erosion Control Seeding Lawn Mix (Class 1)	830.00	LB		30.00	24,900.00
142	Erosion Control Seeding Roadside Mix (Class 2)	660.00	LB		28.00	18,480.00
145	High Visibility Safety Fence	30,100.00	LF		6.00	180,600.00

DWC Book Rd

Revised Scope 4: Per August 11 Request

DATE: August 13, 2025
Location:

ITEM #	PAY ITEM DESCRIPTION	QUANTITY	UN OF MSRE		BID UNIT PRICE	BID TOTAL
146	Tree and Shrubbery Protection	130.00	EA		500.00	65,000.00
150	Dual Fence Barrier (Hi Vis GeoTex Outer Fence)	3,830.00	LF		10.00	38,300.00
151	Silt Fence	11,000.00	LF		6.00	66,000.00
152	Inlet Protection Curb	15.00	EA		300.00	4,500.00
153	Inlet Protection Area	40.00	EA		300.00	12,000.00
163	Rmv & Rplc 8" San SWR (w/C900 DR25 PVC)	130.00	LF		359.00	46,670.00
171	Rmv & Rplc 18" FES	1.00	EA		25,800.00	25,800.00
176	Replace 10" Storm (w/C900 DR25 PVC)	240.00	LF		225.00	54,000.00
177	Replace 12" Storm (w/C900 DR25 PVC)	630.00	LF		255.00	160,650.00
178	Replace 15" Storm (w/C900 DR25 PVC)	191.00	LF		281.00	53,671.00
180	Replace 18" Storm (w/C900 DR25 PVC)	260.00	LF		296.00	76,960.00
182	Replace 24" Storm (w/C900 DR25 PVC)	270.00	LF		385.00	103,950.00
190	Rmv & Rplc 30" Storm Clvrt w/ 30" CMP Clvrt	60.00	LF		385.00	23,100.00
193	Remove and Replace Catch Basin	21.00	EA		7,000.00	147,000.00
195	Remove and Replace Inlet	1.00	EA		7,000.00	7,000.00
196	Connection to Existing Sewer Structure	42.00	EA		1,200.00	50,400.00
197	Rmv & Rplc Dual Storm Clvrts 36" & Hdwlls	1.00	LS		104,000.00	104,000.00
198	Xing Ex 58" x 91" Elliptical Conc Pipe (Book Rd)	1.00	LS		182,000.00	182,000.00
210	**Vertical Drop Structures (Sta 619-71 - 623+24)**	**0.00**	**LS**		**460,000.00**	**0.00**
211	**Vertical Drop Structures (Sta 677+21 - 679+55)**	**0.00**	**LS**		**460,000.00**	**0.00**
212	**Vertical Drop Structures (Sta 700+39 - 708+30)**	**0.00**	**LS**		**460,000.00**	**0.00**
213	**Vertical Drop Structures (Sta 724+89 - 726+79)**	**0.00**	**LS**		**460,000.00**	**0.00**
IND1	Exploratory Excavation	1,000.00	CF		50.00	50,000.00
IND2	Exploratory Excavation, Vacuum	12.00	EA		1,886.00	22,632.00
IND3	Adjust Water Service Line	100.00	LF		254.00	25,400.00
IND4	Adjust Sewer Service Line	100.00	LF		506.00	50,600.00
ALL1	Allwnc City of Naperville DPU-E Electric Services	1.00	LS		25,000.00	25,000.00
						0.00
					BID =	47,301,059.73

Notes on Revised Scope(s) based on August 11th Request:

- All pipe proposed is PCCP
- Trenchless pricing is using the Auger & Jack method. Not full face closure , if conditions warrant it we may need to be paid from an allowance for Dewatering, Rock/Boulder removal, sheeting etc.
- We do not include any costs dealing with the 2' above 50 year flood plain, or 2' waterproof liner. Trenchless pits will be installed with either standard trench shield or slide rail systems
- We do not include any costs dealing with special or non-special waste. (Hauling, testing, monitoring, disposal, etc.)
- The PCCP pipe will be used in trenchless systems will be supplied with "Donut" skids instead of spacers
- We do not include any clsm other than at air release, blowoffs and valves and clsm bedding for the 75th st connection. All other pipe to be bedded with CA6 and CA6 TBF (pay item)
- We have adjusted the bid quantity of the extra pavement as called for in the July 23rd email for 83rd st and a small portion at 95th. All pavement removal and restoration to be paid through bid items. We do not include any incidental pavement.
- We have included only costs for a $50,000.00 bond each for DuPage County and Naperville. That is what our conversations and history with Naperville has shown. We do not include a performance bond for 110% of the project value
- Open Cut pipe in transition areas are priced without dewatering or sheeting, if needed to be paid from allowance
- Prices are based on raising the Trenchless crossings at 87th (183'per original design) and the revised design for 95th St. (180')
- All permits related to the revised scope are the responsibility of the owner
- Pay Item B1.6 Trench Backfill for Open Cut transition areas has been added. This item is to be paid per ton used per tickets. Estimated bid quantity has been figured by using an average width of 14' and depth measured from 1' over the top of the pipe to flush with existing pavement.
- Benchmark will provide engineering backup that the 48" cut in section on 75th can be installed as PCCP.

Possible Allowances (All allowance work to be paid per IDOT force account) dollar values are estimates if any of the work is required.

Dewatering at revised trenchless areas $275,000.00 (for dewatering system at 1 Jacking pit and 1 receiving pit, with 25 days of pumping. Dewatering along route of trenchless is not included, and would be an additional T&M cost)

Rock/Boulder removal $50,000.00 (for an estimated 6 days of boulder removal)

Closed Face Tunnel (excluding microtunneling) 95th $500,000.00

Open Cut Pipe (transition areas) Dewatering $300,000.00 (for an estimated 200' long system, with 25 days of pumping)

Open Cut sheeting (transition areas) $550,000 (to install and remove 12,000sf of sheeting)

DUPAGE WATER COMMISSION
CHANGE ORDER

SHEET 1 OF 3

PROJECT NAME: West Transmission Main Along Book Rd From 75th St to the ComEd R.O.W.

CHANGE ORDER NO. 01

LOCATION: DuPage County, Illinois

CONTRACT NO. TW-6/25 Section1 (Book Road)

CONTRACTOR: D. Construction, Inc. & Benchmark Construction Co., Inc.

DATE: 8/21/25

I. A. DESCRIPTION OF CHANGES INVOLVED:

1. Conversion of trenchless installation locations to open-cut where feasible
2. Reduced depth of installation for remaining trenchless locations
3. Removal of a butterfly valve to the west of the connection tee
4. Relocation of a butterfly valve to the east of the connection tee
5. Inclusion of an owner-initiated allowance for risk mitigation

B. REASON FOR CHANGE:

1. The cost of trenchless installation far exceeded the estimated cost. As such, an effort was made to re-design the trenchless installation locations where feasible and to convert them to an open-cut installation, which is far more cost effective.
2. Though all areas of trenchless installation were reviewed, field conditions (buys intersections, large culverts, etc.) dictated that not all trenchless locations could be converted to open-cut installations. Those areas that are to remain trenchless installations were reduced in depth wherever possible to further reduce construction costs.
3. Two butterfly valves were proposed, one on each side of the connection tee. Due to the substantial costs received for these installations, both were reviewed to determine possible measures of cost reduction. Upon review, one of the valves was determined to be redundant to existing valves within the Commission's existing distribution network and the cost of installation could not be recommended. This valve was reduced from the scope of work.
4. Of the two aforementioned butterfly valves, the second one was determined to be necessary and could not be removed from the scope of work. However, the location of

installation was revised in order to reduce the amount of excavation and (existing) pipe replacement needed and several associated appurtenances were removed from the scope of work.

5. By converting additional segments of pipe installation from trenchless to open-cut and in reducing the depth of remaining trenchless installations, the contractor is now responsible for managing field conditions that were not contemplated as part of the bid process. In order to manage these new field conditions and to only cover costs for any challenges actually realized during construction, an owner-initiated allowance has been included.

C. REVISION IN CONTRACT PRICE:
See attached for Contract price revisions.

II. CHANGE ORDER CONDITIONS:

1. The Contract Period established in the Contract, as signed or as modified by previous Change Orders, is hereby extended for 0 calendar days, maintaining the final Contract Completion Date of December 31, 2026.

2. Any Work to be performed under this Change Order shall be provided, performed, and completed in full compliance with, and as required by or pursuant to, the Contract, including any Specifications and Contract Drawings for the Work to be performed under this Change Order and for Work of the same type as the Work to be performed under this Change Order, and as specified in the preceding "Description of Changes Involved."

3. Unless otherwise provided herein, all Work included in this Change Order shall be guaranteed and warranted as set forth in, and Contractor shall not be relieved from strict compliance with, the guaranty and warranty provisions of the Contract.

4. All Work included in this Change Order shall be covered under the Bonds and the insurance coverages specified in the Contract. If the Contract Price, including this Change Order, exceeds the Contract Price set forth in the Contract, as signed, by twenty percent (20%), Contractor shall submit to Owner satisfactory evidence of such increased coverage under the Bonds if requested by Owner.

III. ADJUSTMENTS IN CONTRACT PRICE:

1.	Original Contract Price	$67,148,000.00
2.	Net Increase/Decrease due to all previous Change Orders	$0.00
3.	Contract Price, not including this Change Order	$67,148,000.00

4.	Increase/Decrease to Contract Price due to this Change Order	-$18,846,940.27
5.	Contract Price including this Change Order	$48,301,059.73

RECOMMENDED FOR ACCEPTANCE:

CONSULTING ENGINEERS: Lockwood, Andrews and Newnam, Inc.

By: _____ ( )
Signature of Authorized Representative Date

ACCEPTED: By my authorized signature below, being first duly sworn on oath, I certify on behalf of Contractor that this Change Order does not authorize or necessitate an increase in the price of any subcontract under the Contract that is 50% or more of the original subcontract price.

CONTRACTOR: D. Construction Inc.

By: _____ ( )
Signature of Authorized Representative Date

CONTRACTOR: Benchmark Construction Co., Inc.

By: _____ ( )
Signature of Authorized Representative Date

DUPAGE WATER COMMISSION:

By: _____ ( )
Signature of Authorized Representative Date

Resolution #: R-68-25

Account: 01-60-771000

Approvals: *Author / Manager / Finance / Admin*

MW RCB CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/14/2025

Description: **A Resolution Authorizing High-Lift Pump Control Valve Repair Services from a Sole Source Provider**

Agenda Section: Engineering & Construction

Originating Department: Operations & Instrumentation

At the time of initial construction circa 1988, each of the nine DuPage Pump Station (DPPS) High-Lift Pumps (HLP) were equipped with an identical 30-inch Allis-Chalmers hydraulically operated cone style valve to develop and regulate necessary pumping discharge head pressure when initiating operator start-up command to an HLP.

Each of the nine identical cone valves has been operating since 1990 and are due for refurbishment. Previously, under R-2-24, the Board authorized the first of nine programmed cone valve refurbishments. Staff are now seeking authorization, under R-68-25, the second of nine such cone valve refurbishments at an estimated expense of $150,000. This expense is included in the approved FY-25/26 Management Budget.

Allis-Chalmers ceased valve operation in 1999 and American Cone Valve, Inc. – A/C Service and Repair, Inc. has assumed the role of being sole authorized vendor for service and repair of Allis-Chalmers Cone Valves in North America.

The costs to remove and reinsert the valves will fall under the existing Heavy Machinery and Rigging Contract with Meccon Industries, Inc.

Recommended Motion: To approve Resolution No. R-68-25

DuPAGE WATER COMMISSION

RESOLUTION NO. R-68-25

A RESOLUTION AUTHORIZING THE GENERAL MANAGER TO PURCHASE REFURBISHMENT SERVICES FOR A HIGH-LIFT PUMP CONTROL VALVE FROM SOLE SOURCE PROVIDERS

WHEREAS, the Commission was formed and exists pursuant to the Water Commission Act of 1985, 70 ILCS 3720/0.01 et seq., and Division 135 of Article 11 of the Illinois Municipal Code, 65 ILCS 5/11-135-1 et seq., for the purpose of securing an adequate source and supply of water for its customers; and

WHEREAS, American Cone Valve is the Sole Source Provider of the existing Hydraulically Activated High-Lift Pump Control Valves at the DuPage Pumping Station; and

WHEREAS, A/C Service and Repair is the Sole Source Service Provider for the existing Hydraulically Activated High-Lift Pump Control Valves at the DuPage Pumping Station; and

WHEREAS the Commission desires to purchase Refurbishment Services for the existing Hydraulically Activated High-Lift Pump Control Valves from A/C Service and Repair; and

WHEREAS, the Board of Commissioners of the DuPage Water Commission, based upon representations made by Staff, believes it is in the best interest of the Commission to authorize the General Manager to purchase Hydraulically Activated High-Lift Pump Control Valve Refurbishment Services from A/C Service and Repair;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The foregoing recitals are hereby incorporated herein and made a part hereof as findings of the Board of Commissioners of the DuPage Water Commission.

SECTION TWO: That in accordance with the purchasing procedures contained in the Commission By-Laws, the General Manager is hereby granted the authority to purchase Hydraulically Activated High-Lift Pump Control Valve Refurbishment Services from A/C Service and Repair.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honing, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS ___ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk
Board/Resolutions/2025/R-68-25docx

Date: July 26th, 2025

To: DuPage Water Commission

Reference: Sole Source Letter

To Whom It May Concern:

American Cone Valve, Inc. is manufactured in York, PA and we are the sole authorized sales and service provider for our products for the State of Illinois.

Your Contact for American Cone Valves, Inc. is:

Justin Ross
5166 Commerce Drive, York, PA 17408
Office: (717) 792-3492 Cell: (717)515-2984
justinross@acservicerepair.com

Sincerely,



Justin Ross
President
American Cone Valve, Inc.
A/C Service and Repair, Inc.

QUOTATION

A/C Service and Repair, Inc.
5166 Commerce Drive York, PA 17408
Ph.(717) 792-3492 **Fax.**(717) 792-5283

Company: DuPage Water Commission

Attention: Jason Unger/Mike Weed

Date	6/26/25
Payment	Net 30 days
Taxes	None
FOB Point	destination

Qty	Unit	A/C Part#	Description	Price Each	$ Amount
1	ea		Rebuild 30"-125 AC Rotovalve New 14" x 18" Hydraulic Cylinder	118500.00	118,500.00
1	ea		Shipping Cost	6000.00	6,000.00

Delivery Date:	TBD		
Ship Via:	Flatbed	other	
For A/C Shop Order:		shipping	
		Total	$124,500.00

Prepared by: Justin Ross justinross@acservicerepair.com

Resolution #: R-69-25

Account: 01-60-662100

Approvals: *Author / Manager / Finance / Admin*

MW RCB CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/14/2025

Description: **A Resolution Approving and Ratifying Certain Work Authorization Orders Under Quick Response Electrical Contract QRE-10/24.**

Agenda Section: Engineering & Construction

Originating Department: Operations & Instrumentation

The Commission entered into certain agreements dated February 15, 2024, with McWilliams Electric Co. Inc., Volt Electric Inc., and Homestead Electrical Contracting, Inc. for quick response electrical work as needed through the issuance of Work Authorization Orders. Resolution No. R-69-25 would approve the following Work Authorization Order under the QRE-10/24 Quick Response Electrical Contract.

Work Authorization Order No. 004 is to perform infrared scanning of critical electrical equipment at the DuPage Pumping Station and the Tank Site 1 Pump Station.

Staff sought four (4) proposals for the IR scanning services; three (3) of the contractors were from the existing QRE-10/24 Contract, and one non-QRE-10/24 service provider as an alternate. Of the two qualified responses received, the proposal by Volt Electric appears to be in the best interest of the Commission.

Volt Electric, Inc.	$10,304
RESA Power, LLC	$17,480
McWilliams Electric Co., Inc.	Non-Responsive
Homestead Electrical Contracting, Inc.	Non-Responsive

Staff are requesting an additional $5,000 above the base quote for any unforeseen and recommended repairs.

Recommended Motion:

Approval of Resolution R-69-25 QR-10/24 Work Authorization Order No. 004 to Volt Electric at an estimated cost of $15,304.

DUPAGE WATER COMMISSION

RESOLUTION NO. R-69-25

A RESOLUTION APPROVING AND RATIFYING CERTAIN WORK AUTHORIZATION ORDERS UNDER QUICK RESPONSE ELECTRICAL CONTRACT QRE-10/24

WHEREAS, the Commission was formed and exists pursuant to the Water Commission Act of 1985, 70 ILCS 3720/0.01 et seq., and Division 135 of Article 11 of the Illinois Municipal Code, 65 ILCS 5/11-135-1 et seq., for the purpose of securing an adequate source and supply of water for its customers; and

WHEREAS, the DuPage Water Commission (the "Commission") entered into certain agreements dated February 15, 2024, with McWilliams Electric Co. Inc., Volt Electric Inc., and Homestead Electrical Contracting, Inc. for quick response electrical work related to the Commission's Waterworks System (said agreements being hereinafter collectively referred to as "Contract QRE-10/24"); and

WHEREAS, Contract QRE-10/24 is designed to allow the Commission to direct one or more or all of the quick response electrical contractors to perform emergency electrical work, including without limitation electrical work that the Commission is unable to perform through its own personnel and with its own equipment, as needed through the issuance of Work Authorization Orders;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The foregoing recitals are by this reference incorporated herein and made a part hereof as findings of the Board of Commissioners of the DuPage Water Commission.

SECTION TWO: The Work Authorization Orders attached hereto and by this reference incorporated herein and made a part hereof as Exhibit 1 shall be and hereby are approved and, if already issued, ratified because the Board of Commissioners of the DuPage Water Commission has determined, based upon the representations of staff, that the circumstances said to necessitate the Work Authorization Orders were not reasonably foreseeable at the time the contracts were signed, the Work Authorization Orders are germane to the original contracts as signed, and/or the Work Authorization Orders are in the best interest of the DuPage Water Commission and authorized by law.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honing, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS ___ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk
Board/Resolutions/2025/R-69-25.docx

EXHIBIT 1

QRE-10/24 Work Authorization Order No. 10.004

CONTRACT QRE-10/24: QUICK RESPONSE ELECTRICAL CONTRACT

WORK AUTHORIZATION ORDER

SHEET 1 OF 2

PROJECT: QRE-10.004

LOCATION: DuPage Pump Station

CONTRACTOR: Volt Electric

DESCRIPTION OF WORK:

Perform Infrared Electrical Scanning and identified repairs of electrical equipment at the DuPage Pumping Station and Tank Site 1 Pump Station.

REASON FOR WORK:

Preventive maintenance of critical electrical equipment.

MINIMUM RESPONSE TIME:

1.) Non-Emergency Response:
    a. Greater than 2 hours

COMMISSION-SUPPLIED MATERIALS, EQUIPMENT AND SUPPLIES TO BE INCORPORATED INTO THE WORK: None

THE WORK ORDERED PURSUANT TO THIS WORK AUTHORIZATION ORDER

[ ] **IS** [X] **IS NOT** **PRIORITY EMERGENCY WORK**

DuPAGE WATER COMMISSION

By: _____

Signature of Authorized Representative

DATE: _____

CONTRACTOR RECEIPT ACKNOWLEDGED AND DESIGNATION OF SAFETY REPRESENTATIVE:

By: _____ Safety Rep: _____

Signature of Authorized Representative Name and 24-Hr Phone No.

DATE: _____

VOLT ELECTRIC, INC.
SERVICE AND CONTRACTING

June 23, 2025

B1204

DuPage Water Commission

Attn: Jason Unger

We hereby propose to provide the necessary labor and material to complete the following as listed. DWC IR scan at main plant located at 600 Butterfield Road, Elmhurst, IL and remote pumping station, 240 W. Central, Roselle, IL.

This price is in reference to email request dated 6/3/2025

We are pleased to submit a total base price of $10,304.00

Included

- Provide Labor and IR scanning of proposed (Approximately 138 items) electrical equipment on spreadsheet. Ref: Email sent June 3rd, 2025
- Provide all NFPA 70E compliant PPE and equipment to complete IR scan
- Provide complete electronic and printed summary of each item scanned after completion of job. This will include photos
- If necessary, any additional work required will be billed at a rate of $161.00 per hour

Excluded

- No Permit cost
- No materials and or replacement included
- Our proposal excludes any devices not shown on the bid drawings or any changes by the AHJ. This proposal and design are subject to the review of the AHJ, any changes shall be additional.

Volt Electric® is Certified WBE/CDB/FBE/IDOT/IDHR in Chicago and Illinois.
All work completed by IBEW journeymen Electricians and workmanship is warranted for 5 years
Work to be completed during normal working hours. 7am – 3:30pm, Mon – Fri.
No premium or shift time is included in this quote.
Volt Electric must be notified of hazardous conditions within work area prior to job start.
Utility, Permit and/or licensing fees not included. License will be provided including Chicago upon acceptance of proposal.

Thank You,
Fred Kala Estimator
Cell 630.878.1255
fk@voltelectricinc.com

Jason Unger
Control Room Operator
DuPage Water Commission
O: 630.834.0100

RE: **DuPage Water Commission – IR Scanning**

RESA Service, LLC. is pleased to submit this proposal to provide testing and commissioning services.

Scope of Work

RESA Service, LLC. to perform IR scanning on electrical equipment.

Scope will include the following:

Testing

- IR Scanning of all devices and equipment included in attachment to this document
- Provide onsite electrician to remove and replace panel doors during scanning, inspecting, etc.

Documentation

- Provide a detailed report of findings and recommendations

Cost

RESA 2025 testing rates:

Lead/Sr. Test Engineer	$175/hr
Lead/Sr. Test Engineer Overtime	$236/hr
Test Engineer	$160/hr
Test Engineer Overtime	$218/hr

Travel and per-diem is per IRS guidelines.

The work will be performed on a T&M basis not to exceed:

T&M (NTE) Estimate … $17,480.00

Assumptions/Exceptions

1. Any approved manpower requirements beyond the estimate (ie, increase in scope, duration, or personnel) will incur additional charges per RESA rates. Other examples include concurrent engineering conflicts, troubleshooting design/wiring problems, retesting caused by design deficiency, and construction/operation delays.

2. In the event of work cancellation, lost opportunity costs will be as follows: 10% total contract cost if cancelled more than 15 business days prior to outage start; 25% total contract cost if cancelled 10-15 business days prior to outage start, and 50% total contract cost if cancelled less than 10 business days prior to outage start.

3. Price does not include work that may extend beyond the anticipated end date

4. Rates subject to annual increase.

Schedule

The approximate timeframe for this scope of work is September 2025.

Questions and comments may be directed to the undersigned.

Sincerely,

Eric C. Soco

Eric C. Soco
RESA Service
Technical Service Manager
(219) 201-9392

2025 RESA Rates	ST	OT
Lead/Sr. Test Engineer	$175.00	$236.00
Test Engineer	$160.00	$218.00

Mobilization

	weeks	lead	tester	specialist	hrs/week	Sub-Totals
Pick-up/Drop off Equip	0.2	0	1	0	40	$1,280.00

IR scanning

weeks	lead	tester	specialist	hrs/week	Sub-Totals
1	1	1	0	40	$13,400.00

Reports

weeks	lead	tester	specialist	hrs/week	Sub-Totals
0.4	1	0	0	40	$2,800.00

Labor Cost:	**$17,480.00**
Per diem/Travel Cost:	**$0.00**
Total Cost:	**$17,480.00**

Asset	Description	IR	Class	Category	Commission Date	Production	Manufacturer	Model	Rating	Serial Number	Size	Voltage	Location	Approximate time of work (20 mins a piece of equip)
13571	POWER PANEL 480v PP1 VEHICLE ST. BLDG	x	ELECT		3/4/2010	YES	CUH	PRL 29		480 BREAKER PANEL			VEH. ST. BUILDING ELECT. RM	20
16600	Disconnect for LPE	x	ELECT	DISCONNECT	12/29/2014	YES							113-ELECT. RM	20
11969	POWER PANEL 1-1	x	ELECT	ELECTPANEL	1/23/2007	YES	GESU	AXT15SB4		AEF33020BX		480V	118-STORE RM	20
11970	POWER PANEL 1-2	x	ELECT	ELECTPANEL	1/23/2007	YES	GESU	AXSB4P		AEF3422MBX		480V	118-STORE RM	20
11971	POWER PANEL 2	x	ELECT	ELECTPANEL	1/23/2007	YES	GESU	AXSSB4				480V	WEST EFFLUENT BUILDINGNORTH WA	20
11972	POWER PANEL 3-1	x	ELECT	ELECTPANEL	1/23/2007	YES	GESU	AXT15SB4		AEF3242DBX		480V	133 - SERV. BLDG TOOL CRIB	20
11973	POWER PANEL 3-2	x	ELECT	ELECTPANEL	1/23/2007	YES	GESU	AXSSB4P3		AEF3421MBX		480V	133 - SERV. BLDG TOOL CRIB	20
11974	POWER PANEL 4	x	ELECT	ELECTPANEL	1/23/2007	YES	GESU	THLC2342DD		TCAL27		480V	120 - CL2 VESTIBULE	20
11975	POWER PANEL 5	x	ELECT	ELECTPANEL	1/23/2007	YES	GESU	AXSSB4				480V	EAST EFFLUENT BUILDING-N.WALL	20
11976	POWER PANEL 6	x	ELECT	ELECTPANEL	1/23/2007	YES	GESU	17-84444-B00		S3F18E6050ETS		480V	INFLUENT BUILDING-S. WALL	20
11977	POWER PANEL 7	x	ELECT	ELECTPANEL	1/23/2007	YES	GESU	17-84444-B00		S3F42ML225FTS		480V	72 INCH METER BUILDINGEAST WAL	20
13571	POWER PANEL 480v PP1 VEHICLE ST. BLDG	x	ELECT	ELECTPANEL	3/4/2010	YES	CUH	PRL 29		480 BREAKER PANEL		480V	VEH. ST. BUILDING ELECT. RM	20
14102	PDP1 Power Distribution Panel 1	x	ELECT	ELECTPANEL	11/5/2014	YES	IEM	N/A		077468-018		480V	B-101, GEN BLDG ELECTRICAL RM	20
14123	PDP2 Power Distribution Panel 2	x	ELECT	ELECTPANEL	11/5/2014	YES	IEM	TYPE SWBD		077468-021		480V	B-101, GEN BLDG ELECTRICAL RM	20
14137	PDP3 Power Distribution Panel 3	x	ELECT	ELECTPANEL	11/5/2014	YES	IEM	Type SWBD		077468-024		480V	B-101, GEN BLDG ELECTRICAL RM	20
14753	PDP4 Power Distribution Panel 4	x	ELECT	ELECTPANEL	11/5/2014	YES	IEM	Type SWBD		077468-027		480V	B-101, GEN BLDG ELECTRICAL RM	20
15917	Breaker 600v Power distribution panel PDP 3	x	ELECT	ELECTPANEL	11/5/2014	YES	GE	SGR B36B D0400		SGJ09522M0161		600	B-101, GEN BLDG ELECTRICAL RM	20
15918	Breaker 400A Power distribution panel PDP 4	x	ELECT	ELECTPANEL	11/5/2014	YES	GE	SGR B36B D0400		SGJ09522M0162		600	B-101, GEN BLDG ELECTRICAL RM	20
15922	Breaker 600v Power distribution panel PDP 1	x	ELECT	ELECTPANEL	11/5/2014	YES	GE	SGR B36B D0400		SGJ09522M0163		600	B-101, GEN BLDG ELECTRICAL RM	20
15923	Breaker 600v Power distribution panel PDP 2	x	ELECT	ELECTPANEL	11/5/2014	YES	GE	SGR B36B D0400		SGJ09522M0160		600	B-101, GEN BLDG ELECTRICAL RM	20
	Transformer UPS - 30kVA	x	ELECT	TRANS	6/1/2023	YES	SQUARE D	EXN30T3H					B-101, GEN BLDG ELECTRICAL RM	20
	UPS safety Switch, NEMA 1, 200A, 600V, 3 poles	x	ELECT	SWITCH	6/1/2023	YES	SQUARE D	82344				480V	B-101, GEN BLDG ELECTRICAL RM	20
	UPS sSafety Switch, NEMA 1, 100A, 600V, 3 poles	x	ELECT	SWITCH	6/1/2023	YES	SQUARE D	DT363				600V	B-101, GEN BLDG ELECTRICAL RM	20
16598	Lighting Panel LPE-1	x	ELECT	LIGHTING PANEL	12/29/2014	YES							105-MAINT SHOP	20
16599	Lighting Panel LP"DA"	x	ELECT	LIGHTING PANEL	12/29/2014	YES							113-ELECT. RM	20
11954	LIGHTING PANEL LP-A	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					210 - HVAC ROOM	20
11955	LIGHTING PANEL LP-B	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					220 LAB STORAGE	20
11956	LIGHTING PANEL LP-C	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					220 LAB STORAGE	20
11957	LIGHTING PANEL LP-D	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					113-ELECT. RM-SOUTH WALL	20
11958	LIGHTING PANEL LP-E	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					113-ELECT. RM-SOUTH WALL	20
11959	LIGHTING PANEL LP-F	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					105-MAINT SHOP-S.WEST	20
11960	LIGHTING PANEL LP-G	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					105-MAINT SHOP-S.WEST	20
11961	LIGHTING PANEL LP-H	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					118-STORE RM	20
11962	LIGHTING PANEL LP-I	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					113-ELECT. RM-SOUTH WALL	20
11963	LIGHTING PANEL LP-J	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					WEST EFFLUENT BUILDING	20
11964	LIGHTING PANEL LP-K	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					INFLUENT BUILDING	20
11965	LIGHTING PANEL LP-L	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					136-SERV. BLDG VEH.STO	20
11966	LIGHTING PANEL LP-M	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					121 - CL2 BLDG ELEC. ROOM	20
11967	LIGHTING PANEL LP-N	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					EAST EFFLUENT BUILDING	20
11968	LIGHTING PANEL LP-P	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					210 - HVAC ROOM	20
13572	LIGHTING PANEL 208v LP2 VEHICLE STORAGE BUILDING	x	ELECT	LIGHTING PANEL	3/5/2010	YES	CUH	PRL1A					VEH. ST. BUILDING ELECT. RM	20
15900	Lighting panel Lp-1	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	007468-0029					B-101, GEN BLDG ELECTRICAL RM	20
15901	Lighting panel Lp-2	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	077468-0032					B-101, GEN BLDG ELECTRICAL RM	20
15902	Power panel PP-13	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	077468-0040					GENERATOR ROOM C-101	20
15903	Power panel PP-12	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	077468-0043					GENERATOR ROOM C-101	20
15904	Lighting panel Lp-4	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	077468-0035					GARAGE. D-101	20
15905	Lighting panel Lp-3	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	077468-0037					B-101, GEN BLDG ELECTRICAL RM	20
15906	Power panel PP-14	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	077648-0046					GARAGE RM. D-101	20
15907	Power panel PP-8	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	077468-0048					GENERATOR ROOM C-101	20
15908	Power panel PP-9	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	077468-0051					B-101, GEN BLDG ELECTRICAL RM	20
15909	Power panel PP-10	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	077468-0054					GENERATOR ROOM C-101	20
15910	Power panel PP-11	x	ELECT	LIGHTING PANEL	11/5/2014	YES	IEM	077468-0057					GENERATOR ROOM C-101	20
11954	LIGHTING PANEL LP-A	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					210 - HVAC ROOM	20
11955	LIGHTING PANEL LP-B	x	ELECT	LIGHTING PANEL	1/23/2007	YES	GESU	AXSSB4					220 LAB STORAGE	20
16598	Lighting Panel LPE-1	x	ELECT	LIGHTING PANEL	12/29/2014	YES							105-MAINT SHOP	20
16599	Lighting Panel LP"DA"	x	ELECT	LIGHTING PANEL	12/29/2014	YES							113-ELECT. RM	20
16657	Mechanical Watt Demand Meter 480v Line B in Cabinet 105C	x	ELECT	MECHANICAL RELAY	12/29/2014	YES	G.E.			31 030 879			113-ELECT. RM	20
12225	MOTOR STARTER HLP 4160v #01 (upper and lower cubes)	x	ELECT	MOTORSTARTER	1/23/2007	YES	GE	IC7160				4160V	110-MOTOR RM-MCC-A	20
12226	MOTOR STARTER HLP 4160v #02 (upper and lower cubes)	x	ELECT	MOTORSTARTER	1/23/2007	YES	GE	IC7160				4160V	110-MOTOR RM-MCC-B	20
12227	MOTOR STARTER HLP 4160v #03 (upper and lower cubes)	x	ELECT	MOTORSTARTER	1/23/2007	YES	GE	IC7160				4160V	110-MOTOR RM-MCC-A	20
12228	MOTOR STARTER HLP 4160v #04 (upper and lower cubes)	x	ELECT	MOTORSTARTER	1/23/2007	YES	GE	IC7160				4160V	110-MOTOR RM-MCC-B	20
12229	MOTOR STARTER HLP 4160v #05 (upper and lower cubes)	x	ELECT	MOTORSTARTER	1/23/2007	YES	GE	IC7160				4160V	110-MOTOR RM-MCC-A	20
12230	MOTOR STARTER HLP 4160v #06 (upper and lower cubes)	x	ELECT	MOTORSTARTER	1/23/2007	YES	GE	IC7160				4160V	110-MOTOR RM-MCC-B	20
12231	MOTOR STARTER HLP 4160v #07 (upper and lower cubes)	x	ELECT	MOTORSTARTER	1/23/2007	YES	GE	IC7160				4160V	110-MOTOR RM-MCC-A	20
12232	MOTOR STARTER HLP 4160v #08 (upper and lower cubes)	x	ELECT	MOTORSTARTER	1/23/2007	YES	GE	IC7160				4160V	110-MOTOR RM-PUMP 8	20
12233	MOTOR STARTER HLP 4160v #09 (upper and lower cubes)	x	ELECT	MOTORSTARTER	1/23/2007	YES	GE	IC7160				4160V	110-MOTOR RM-MCC-A	20
12234	MOTOR STARTER HLP 4160v #10 (upper and lower cubes)	x	ELECT	MOTORSTARTER	1/23/2007	YES	GE	IC7160				4160V	110-MOTOR RM-MCC-B	20
N/A	High Lift Pump #1 termination points in junction box including surge arrestors	x										4160V	110 Motor Rm	
N/A	High Lift Pump #2 termination points in junction box including surge arrestors	x										4160V	110 Motor Rm	
N/A	High Lift Pump #3 termination points in junction box including surge arrestors	x										4160V	110 Motor Rm	
N/A	High Lift Pump #4 termination points in junction box including surge arrestors	x										4160V	110 Motor Rm	
N/A	High Lift Pump #5 termination points in junction box including surge arrestors	x										4160V	110 Motor Rm	
N/A	High Lift Pump #6 termination points in junction box including surge arrestors	x										4160V	110 Motor Rm	
N/A	High Lift Pump #7 termination points in junction box including surge arrestors	x										4160V	110 Motor Rm	
N/A	High Lift Pump #8 termination points in junction box including surge arrestors	x										4160V	110 Motor Rm	
N/A	High Lift Pump #9 termination points in junction box including surge arrestors	x										4160V	110 Motor Rm	
11126	Switch Gear 480v GE Air Breaker, LDP	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-30S		0337A7273-003-001		480V	113-ELECT. RM-480 SW.GEAR	20
11127	Switch Gear 480v GE Air Breaker, Line A	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-30S		0337A7273-001-001		480V	113-ELECT. RM-480 SW.GEAR	20
11128	Switch Gear 480v GE Air Breaker, Line B	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-30S		0337A7273-001-002		480V	113-ELECT. RM-480 SW.GEAR	20
11129	Switch Gear 480v GE Air Breaker, MCC-C	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-30S		0337A7273-004-001		480V	113-ELECT. RM-480 SW.GEAR	20
11130	Switch Gear 480v GE Air Breaker, MCC-D	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-30S		0337A7273-002-001		480V	113-ELECT. RM-480 SW.GEAR	20
11131	Switch Gear 480v GE Air Breaker, MCC-E	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-30S		0337A7273-005-001		480V	113-ELECT. RM-480 SW.GEAR	20
11132	Switch Gear 480v GE Air Breaker, Spare	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-30S		0353A6341-001-001		480V	113-ELECT. RM-480 SW.GEAR	20
11133	Switch Gear 480v GE Air Breaker, Tie	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-30S		0337A7273-001-003		480V	113-ELECT. RM-480 SW.GEAR	20
12237	SWITCHGEAR 480v Main Breaker Line A	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-7D-30S		0337A7273-001-003		480V	113-ELECT. RM-480 SW.GEAR	20
12238	SWITCHGEAR 480v Main Breaker Line B	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-7D-30S		0337A7273-001-001		480V	113-ELECT. RM-480 SW.GEAR	20
12239	SWITCHGEAR 480v Manual Breaker LDP	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-7D-30S		0337A7273-003-001		480V	113-ELECT. RM-480 SW.GEAR	20
12240	SWITCHGEAR 480v Manual Breaker MCC-C	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-7D-30S		0337A7273-002-001		480V	113-ELECT. RM-480 SW.GEAR	20
12241	SWITCHGEAR 480v Manual Breaker MCC-D	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-7D-30S		0337A7273-004-001		480V	113-ELECT. RM-480 SW.GEAR	20
12242	SWITCHGEAR 480v Manual Breaker MCC-E	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-7D-30S		0337A7273-005-001		480V	113-ELECT. RM-480 SW.GEAR	20
12243	SWITCHGEAR 480v Manual Breaker SPARE	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-7D-30S		0353A6341-001-001		480V	113-ELECT. RM-480 SW.GEAR	20

12244	SWITCHGEAR 480v TIE BREAKER	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES	GE	AKR-7D-30S		0337A7273-001-002		480V	113-ELECT. RM-480 SW.GEAR	20	
12251	Switch Gear 4160v Knife Switch MCC-A	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES						4160V	110-MOTOR RM-MCC-A	20	
12252	Switch Gear 4160v Knife Switch MCC-B	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES						4160V	110-MOTOR RM-MCC-B	20	
12253	SWITCH GEAR 480v AUTOMATIC TRANSFER SWITCH ASCO	x	ELECT	SWITCH GEAR BREAKER	1/23/2007	YES						480V	113-ELECT. RM-MCC-E	20	
13869	Switch Gear breaker 480v, Manual with adjustable current setting (spare)	x	ELECT	SWITCH GEAR BREAKER	5/29/2013	YES	GE	AKR-7D-30S		0343A7644-002-002		480V	113-ELECT. RM	20	
16652	Switchgear 480v Manual Breaker (Spare) 800 amp Frame w/GE intelliguard Trip Unit	x	ELECT	SWITCH GEAR BREAKER	12/29/2014	YES	G.E.		800A	034387644-002-002		480V	113-ELECT. RM	20	
16654	Switchgear 480v Manual Breaker (Spare) 800 amp Frame w/GE intelliguard Trip Unit	x	ELECT	SWITCH GEAR BREAKER	12/29/2014	YES	G.E.		800A	034387644-002-004		480V	113-ELECT. RM	20	
15918	Breaker 400A Power distribution panel PDP 4	x	ELECT	BRKR	11/5/2014	YES	G.E.	SGR B36B D0400		SGJ09522M0162		480V	B-101, GEN BLDG ELECTRICAL RM	20	
15922	Breaker 600v Power distribution panel PDP 1	x	ELECT	BRKR	11/5/2014	YES	G.E.	SGR B36B D0400		SGJ09522M0163		480V	B-101, GEN BLDG ELECTRICAL RM	20	
15923	Breaker 600v Power distribution panel PDP 2	x	ELECT	BRKR	11/5/2014	YES	G.E.	SGR B36B D0400		SGJ09522M0160		480V	B-101, GEN BLDG ELECTRICAL RM	20	
15917	Breaker 600v Power distribution panel PDP 3	x	ELECT	BRKR	11/5/2014	YES	G.E.	SGR B36B D0400		SGJ09522M0161			B-101, GEN BLDG ELECTRICAL RM	20	
12338	TRANSFORMER "A"	x	ELECT	TRANS	1/23/2007	YES	GE	9T23Q3573					210 - HVAC ROOM	20	
12339	TRANSFORMER "B"	x	ELECT	TRANS	1/23/2007	YES	GE	9T23Q3572					220 LAB STORAGE	20	
12340	TRANSFORMER "C"	x	ELECT	TRANS	1/23/2007	YES	GE	9T23Q3571					220 LAB STORAGE	20	
12341	TRANSFORMER "D"	x	ELECT	TRANS	1/23/2007	YES	GE	9T23Q3573					113-ELECT. RM-EAST WALL	20	
12343	TRANSFORMER "F"	x	ELECT	TRANS	1/23/2007	YES	GE	9T23Q3573					105-MAINT SHOP-S.WEST	20	
12344	TRANSFORMER "G"	x	ELECT	TRANS	1/23/2007	YES	GE	9T23Q3573					105-MAINT SHOP-S.WEST	20	
12345	TRANSFORMER "H"	x	ELECT	TRANS	1/23/2007	YES	GE	9T23Q3042					118-STORE RM	20	
12346	TRANSFORMER "P"	x	ELECT	TRANS	1/23/2007	YES	GE	9T23Q3571					210 - HVAC ROOM	20	
16595	Transformer for Generator 5	x	ELECT	TRANS	12/29/2014	YES							PORTABLE GENERATOR	20	
15862	Transformer 480/208-120v TR-6 fed by PDP-1	x	ELECT	TRANS	11/5/2014	NO							GENERATOR ROOM C-101	20	
15863	Transformer 480/208-120v TR-7 fed by PDP-2	x	ELECT	TRANS	11/5/2014	NO							GENERATOR ROOM C-101	20	
15864	Transformer TR-1 480/208-120v fed by PDP-4	x	ELECT	TRANS	11/5/2014	NO	MGM	AC370-E0663		10-01-09-834228-1			B-101, GEN BLDG ELECTRICAL RM	20	
15865	Transformer 480/208-120v TR-2 fed by PDP-3	x	ELECT	TRANS	11/5/2014	NO	MGM	AC370-E0663		10-01-09-834228-2			B-101, GEN BLDG ELECTRICAL RM	20	
15866	Transformer 480/240v TR-4 fed by PDP-1	x	ELECT	TRANS	11/5/2014	NO							GENERATOR ROOM C-101	20	
15867	Transformer 480/240v TR-5 fed by PDP-2	x	ELECT	TRANS	11/5/2014	NO							GENERATOR ROOM C-101	20	
15868	Transformer4160v TR-6 fed by PDP-1	x	ELECT	TRANS	11/5/2014	NO	G.E.						B-101, GEN BLDG ELECTRICAL RM	20	
14101	Transformer 4160/480-277v PDP1 MCM	x	ELECT	TRANS	11/5/2014	NO	MCM	AC374-50249-H		09-12-09-12189A-2			B-101, GEN BLDG ELECTRICAL RM	20	
14119	PDP2 MGM Transformer	x	ELECT	TRANS	9/29/2014	YES	MGM	AC374-50250-H		09-12-0912189B-2				20	
14131	Transformer 4160/480-277v PDP2 MCM	x	ELECT	TRANS	11/5/2014	NO	MCM	AC374-50250-H		09-12-09-12189B-2			B-101, GEN BLDG ELECTRICAL RM	20	
14136	Transformer 4160/480-277v PDP3 MCM	x	ELECT	TRANS	11/5/2014	NO	MCM	AC374 S0249		09-12-09-12189A-1			B-101, GEN BLDG ELECTRICAL RM	20	
14152	Transformer 4160/480-277v PDP4 MCM	x	ELECT	TRANS	11/5/2014	NO	MCM	AC374 S0250 H		09-12-09-12189B-1			B-101, GEN BLDG ELECTRICAL RM	20	
15912	Transformer 480v for PP10	x	ELECT	TRANS	11/5/2014	NO	MGM	AL370-G0437		10-01-09-84322C-1			GENERATOR ROOM C-101	20	
15913	Transformer 480v for PP12	x	ELECT	TRANS	11/5/2014	NO	MGM	AL370-B0465		10-01-09-83442A-2			GENERATOR ROOM C-101	20	
15914	Transformer 480v for PP13	x	ELECT	TRANS	11/5/2014	NO	MGM	AL370-B0465		10-01-09-84322A-3			GENERATOR ROOM C-101	20	
15915	Transformer 480v TR-8 fed by PP-14	x	ELECT	TRANS	11/5/2014	NO	MGM	AC370-E0663		10-03-10-83556A			D101-GARAGE	20	
15916	Transformer 480v for PP11	x	ELECT	TRANS	11/5/2014	NO	MGM	AL370-G0437		10-01-09-83422C0			GENERATOR ROOM C-101	20	
15919	Transformer TR-3 for LP3	x	ELECT	TRANS	11/5/2014	NO	MGM						B-101, GEN BLDG ELECTRICAL RM	20	
	4 Sections of LV MCC's	x											Roselle Pump Station		
	Lighting Panel	x											Roselle Pump Station		
	Power Panel	x											Roselle Pump Station		
	Transformer	x											Roselle Pump Station		

Equip scan total time (min)	2400	min
Equip scan total time (hrs)	40	hrs
Mobilization time	8	hrs
Reports	16	hrs
Total 8-hr man days	8	days

Resolution #: R-70-25

Account: 01-60-628000

Approvals: *Author / Manager / Finance / Admin*

RCB RCB CAP PDM

REQUEST FOR BOARD ACTION

Date: 8/14/2025

Description: **A Resolution Approving and Ratifying a 1st Amendment to Task Order No. 02 Under a Master Contract with CDM Smith, Inc.**

Agenda Section: Engineering & Construction

Originating Department: Operations & Instrumentation

On January 21st and again on May 17th, 2025, the DuPage Pumping Station experienced power failures related to Commonwealth Edison service disruptions which in turn caused power supplies and protective relay devices to fail and trip the 4.16kV Switchgear resulting in the prevention of the automatic engagement of the Emergency Generator System. As approved under R-48-25, Staff have engaged the services of CDM Smith, Inc., which was the designer of the Emergency Generation System power distribution system to perform a study of the original 4.16kV power system, its control system and the 4.16kV Emergency Generation System power distribution to determine the nature of the limitations in the control system and to provide technical guidance to improve the necessary resilience and reliability of the Commission's pumping system. CDM Smith, Inc. has provided a draft technical memorandum outlining and suggested system improvements which have been reviewed by Staff with a peer review provided by Strand Associates, Inc.

The 1st Amendment to CDM Smith Inc. Task Order No. 02 would allow CDM Smith, Inc., to provide Design Services, provide Construction Assistance and Generator Transfer Controls Testing Services and provide documentation of the completed upgrades to the 4.16kV switchgear control systems, modifying the not-to-exceed cost from $50,000 to $124,580. Additional peer review and Construction Inspection Services by Strand Associates, Inc., would be provided by separate Task Order with Strand.

Recommended Motion:

To adopt Resolution R-70-25

DuPAGE WATER COMMISSION

RESOLUTION NO. R-70-25

A RESOLUTION APPROVING AND RATIFYING A FIRST AMENDMENT TO TASK ORDER NO. 02 UNDER A MASTER CONTRACT WITH CDM SMITH, INC.

WHEREAS, the DuPage Water Commission (the "Commission") entered into a contract with CDM Smith, Inc. (the "Consultant") to provide, from time to time, professional engineering services in connection with various projects of the Commission (the "Master Contract"); and

WHEREAS, the Master Contract sets forth the terms and conditions pursuant to which the Commission will obtain from time to time, and the Consultant will provide from time to time, professional engineering services for such discrete projects as are delineated and described in Task Orders to be approved by the Commission and the Consultant; and

WHEREAS, the Consultant has approved the 1st Amendment to Task Order No. 02 substantially in the form as attached hereto and by this reference incorporated herein and made a part hereof as Exhibit 1 (the "Task Orders");

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the DuPage Water Commission as follows:

SECTION ONE: The foregoing recitals are incorporated herein and made a part hereof as findings of the Board of Commissioners of the DuPage Water Commission.

SECTION TWO: The 1st Amendment to Task Order No. 02 attached hereto as Exhibit 1 shall be and hereby are approved and, if already issued, ratified because the Board of Commissioners of the DuPage Water Commission has determined, based upon the representations of staff and the Consultant, that the circumstances said to necessitate the Task Orders were not reasonably foreseeable at the time the Master Contract was signed, the Task Orders are germane to the Master Contract as signed, and/or the Task Orders are in the best interest of the DuPage Water Commission and authorized by law.

SECTION THREE: This Resolution shall be in full force and effect from and after its adoption.

	Aye	Nay	Absent	Abstain
Cuzzone, N.				
Fennell, J.				
Greaney, S.				
Honig, A.				
Noonan, T.				
Novotny, D.				
Pruyn, J.				
Romano, K.				
Russo, D.				
Saverino, F.				
Suess, P.				
Van Vooren, D.				
Zay, J.				

ADOPTED THIS _____ DAY OF _____, 2025.

_____
James F. Zay, Chairman

ATTEST:

_____
Danna Mundall, Clerk
Board/Resolutions/2025/R-70-25.docx

EXHIBIT 1

CDM Smith, Inc. 1st Amendment to Task Order No. 02

FIRST AMENDMENT TO
TASK ORDER NO. 02

In accordance with Section 1.1 of the Master Contract for Professional Engineering Services dated July 21, 2016, the Dupage Water Commission (Owner) and CDM Smith Inc. (the Consultant), Owner and Consultant agree to amend Task Order No. 02 to the Contract agree as follows:

1. **Project**:

   Perform studies, design and testing service relating to power monitoring of the Medium Voltage Switchgear (MVSWGR) and High Lift Pump Motor Control Centers.

2. **Services of Consultant**:

   A. Basic Services:

      1. Study and Report Phase

         a. Review available data and consult with Owner to determine a mutually agreed upon program, schedule and preliminary construction budget.

         b. Provide analysis of Owner's needs, planning surveys, and site evaluation and comparative studies of prospective sites and solutions.

         c. Provide economic analysis of various alternatives.

         d. Prepare, for review and approval by the Owner, a report summarizing the Study and Report Services, together with Consultant's opinion of probable Project Costs and Construction Cost of the Project and provide five copies and a .pdf file for review with Owner.

         e. Specific Tasks:

            Task 1 – A Project Management/Project Initiation/Kickoff Meeting

            Task 2 – A Acquire shop drawings/data/information from DWC – Data will be collected using sharepoint site by CDM Smith.

            Task 3 – Review shop drawings/data/information

            Task 4 – Plan and conduct site visit (up to 2 days)

            Task 5 – Prepare technical memo with recommended fix(es) with supporting marked drawings

            Task 6 – Review meeting with DWC

            Task 7 – Finalize technical memorandum/recommendations and resubmit to DWC

            Task 8 – Indeterminate Medium Voltage Review/Support as requested by the Commission.

2. Design Phase

125VDC Control Power Upgrades

The approach for the upgrades to the 125VDC control power is described in the CDM Smith report dated July 2025, which includes utilizing two SEL-RPM units to provide the 125VDC control power to the switchgear. CDM Smith proposes the following scope of services for the project:

a. Meet with DWC staff to confirm the project approach related to the 125VDC control power upgrades, including quantity of new power supplies, locations for new enclosure(s), conduit routing, etc.

b. Develop drawings for the upgrades to the 125VDC power supplies. All equipment will be specified in the drawings.

- There will be one interim submittal one at the 90% milestone. A workshop will be held with DWC and their selected Contractor to review and discuss the documents.

c. Provide assistance during construction.

- CDM Smith will attend a pre-construction meeting with DWC and the Contractor.
- CDM Smith will review shop drawing submittals, including the wiring diagrams/ panel layout for the new 125VDC power supply enclosures.
- CDM Smith will review and respond to Contractor RFIs or questions received during construction.
- CDM Smith will perform up to two site visits/inspections during construction.
- CDM Smith will assist with startup/testing of the new 125VDC power supply.

3. Generator Transfer Controls Testing Phase

a. Meet with DWC staff to discuss any specific scenarios that they want to test based on their observations during the recent power outages.

- Develop a comprehensive, step-by-step testing plan for each scenario being tested.
- Meet with DWC staff to review the testing plan and incorporate any comments.
- Perform the testing on site with DWC staff. Any potential shutdowns or change in operation will be coordinated with DWC ahead of any testing.
    - It is assumed that the on-site testing will be performed over three days.

B. Deliverables:

a. Consultant will develop drawings and will be developed in 2D using AutoCAD.

- 125VDC Control Power Upgrades – 90% drawings
- 125VDC Control Power Upgrades – Bid Set drawings
- Generator Transfer Control System Testing Plan
- Test results and field notes from Generator Transfer Control System testing

3. **Approvals and Authorizations**: Consultant shall obtain the following approvals and authorizations:

None

4. **Commencement Date**:

Effective Date of this Task Order

5. **Completion Date**:

A. Study and Report Phase: 30 days following the Commencement Date plus extensions, if any, authorized by a Change Order issued pursuant to Section 2.1 of the Contract.

B. Design Phase

- Kick-off Meeting – 2 weeks following notice to proceed.
- Submission of the 90% drawings – 4 weeks following kickoff meeting.
- Submission of the Bid Set drawings – 2 weeks after receipt of comments on the 90% deliverable.

C. Generator Transfer Controls Testing Phase

- Kick-off Meeting – 2 weeks following notice to proceed.
- Submission of the Generator Transfer Control Testing Plan - 4 weeks following kickoff meeting.
- Submission of the test results from the Generator Transfer Control Testing – 2 weeks following completion of testing.

* Schedule excludes Owner's review periods.

6. **Submittal Schedule**:

   A. 16 weeks following Effective Date of this Task Order Amendment.

7. **Key Project Personnel**:

   A. David D. Tucker, Senior Electrical Engineer

   B. Mike Kahn, Senior Electrical Engineer

   C. Amrou Atassi, Project Principal

8. **Contract Price**:

For providing, performing, and completing each phase of Services, an amount equal to Consultant's Direct Labor Costs times the following factor set forth opposite each such phase, plus an amount equal to the actual costs of all Reimbursable Expenses, but not to exceed, in each phase of Services, the following not to exceed amount set forth opposite each such phase except as adjusted by a Change Order issued pursuant to Section 2.1 of the Contract:

Phase	Estimated Expense
Study and Report	$30,000
Design, Construction Assistance, and Testing	*$74,589*
Indeterminate Need Allowance	$20,000
Total Estimated Expense	**$124,589**

9. **Payments**:

Direct Labor Costs shall mean the billing rate of all Consultants personnel including all professionals, whether owners or employees, engaged directly on the Project.

Reimbursable Expenses shall mean the actual expenses incurred by Consultant directly or indirectly in connection with the Project, including expenses for transportation, telephone, postage, computer time and other highly specialized equipment, reproduction and similar Project related items.

10. **Modifications to Contract**:

None

11. **Attachments**:

None

Approval and Acceptance: Acceptance and approval of this Task Order, including the attachments listed above, shall incorporate this Task Order as part of the Contract.

The Effective Date of this Task Order is August 22, 2025.

DuPAGE WATER COMMISSION

By: _____

Paul D. May, P.E.
General Manager

DESIGNATED REPRESENTATIVE FOR TASK ORDER:
Name: TBD
Title: TBD
Address: 600 East Butterfield Road, Elmhurst, Illinois 60126-4642
E-mail Address: TBD
Phone: (630) 834-0100
Fax: (630) 834-0120

CDM Smith, Inc.

By: _____

Amrou Atassi
Sr. Vice President

DESIGNATED REPRESENTATIVE FOR TASK ORDER:

Name: Amrou Atassi
Title: Senior Vice President
Address: 125 South Wacker Drive, Suite 2510
E-mail Address: AtassiA@cdmsmith.com
Phone: 312-780-7706
Fax:312-346-5228

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Mr. C ri Bostic
Ma ager of Water Op rations
Du age Water ommissi n
600 E Butterf eld Rd, E mhurst, L 012

Subj ct: Mediu Voltage wit hge r Upgrades

De r Mr. B stick:

C M Sm h Inc (DM Smith is ple sed to s bm t t is sco e of ork for d sig phase se vice t upgrade he 125 DC contro ower yste f r t e mediu voltage wit hg ar n t e DuPage P m ing Stat on a d o as ist ith add tiona testing of the gen ra or tra sfe contro sy tem.

Proje Unders anding and Scope f Services

Du a e W ter C mmis ion (D C requested assis ance de igni g u gra es o the 125VD ont ol po er f r the ediu voltag switchgear in the Du age Pumpin Station nd as ist wi h t sti g o the G nerat r Cont ol System t onf rm sy tem perati n d ring va io s scenario , in lu ing singl phasing of the ComEd sources

25V C Con rol ower Up ra es

The appr ach for the upgrad s to t e 125VDC cont ol power is described in the CDM Smith report dated July 2025, which includes utilizing two SEL-RPM units to provide the 125VDC control power to the switchgear. CDM Smith proposes the following scope of services for the project:

Meet with DWC staff to confirm the project approach related to the 125VDC control power upgrades, including quantity of new power supplies, locations for new enclosure(s), conduit routing, etc.

Develop drawings for the upgrades to the 125VDC power supplies. All equipment will be specified on the drawings.

- There will be one interim submittal one at the 90% milestone. A workshop will be held with DWC and their selected Contractor to review and discuss the documents.

Provide assistance during construction.

- CDM Smith will attend a pre-construction meeting with DWC and the Contractor.
- CDM Smith will review shop drawing submittals, including the wiring diagrams/ panel layout for the new 125VDC power supply enclosures.
- CDM Smith will review and respond to Contractor RFIs or questions received during construction.
- CDM Smith will perform up to two site visits/inspections during construction.

- CDM Smith will assist with startup/testing of the new 125VDC power supply.

Generator Transfer Control Testing

On June 18, 2025, CDM Smith did some testing of the Generator Transfer Control system, including simulating a loss of a single phase on Main No. 3. The system responded as expected for the majority of the testing. The details of the tests performed are described in the CDM Smith report dated July 2025. As noted in the report, additional testing is recommended to confirm that the system will properly respond to any potential condition/failure. CDM Smith proposes following scope of services for the project:

Meet with DWC staff to discuss any specific scenarios that they want to test based on their observations during the recent power outages.

Develop a comprehensive, step-by-step testing plan for each scenario being tested.

Meet with DWC staff to review the testing plan and incorporate any comments.

Perform the testing on site with DWC staff. Any potential shutdowns or change in operation will be coordinated with DWC ahead of any testing.

- It is assumed that the on-site testing will be performed over three days.

Assumptions

Based on the approach developed by CDM Smith, as well as our overall proposal, the following assumptions have been made:

Drawings will be developed in 2D using AutoCAD.

CDM Smith will not develop any technical specifications for the 125VDC Control Power Upgrades. All project information will be included on the drawings.

CDM Smith will not develop any general specifications (Division 01) or contract materials (general conditions, agreement, bonds, etc.).

The 125VDC Control Power Upgrades project will not be publicly bid. DWC will solicit bids directly from their list of quick response contractors. DWC will utilize their in-house front end specifications (Division 00) for this project.

DWC will supply and provide agreement and insurance requirements with the selected Contractor.

The scope of work does not include preparation or coordination of required permits. Any required permits or coordination with the permitting agencies will be handled by DWC or the Contractor.

Deliverables

The following deliverables will be provided as part of this project.

125VDC Control Power Upgrades – 90% drawings

125VDC Control Power Upgrades – Bid Set drawings

Generator Transfer Control System Testing Plan

Test results and field notes from Generator Transfer Control System testing

Schedule

Following the Notice to Proceed the following durations are expected.

125VDC Control Power Upgrades

- Kick-off Meeting – 2 weeks following notice to proceed.
- Submission of the 90% drawings – 4 weeks following kickoff meeting.
- Submission of the Bid Set drawings – 2 weeks after receipt of comments on the 90% deliverable.

Generator Transfer Control Testing

- Kick-off Meeting – 2 weeks following notice to proceed.
- Submission of the Generator Transfer Control Testing Plan - 4 weeks following kickoff meeting.
- Submission of the test results from the Generator Transfer Control Testing – 2 weeks following completion of testing.

Fee

The above Scope of Services shall be billed on a time and materials basis at a not-to-exceed fee of $74,589.00. Monthly invoices and progress reports will be submitted to DWC per the agreement.

Sincerely,

[redacted]

Amrou Atassi, PE, PMP, BCEE
Senior Vice President
CDM Smith Inc.

cc: Dave Tucker, Mike Kahn; CDM Smith