



DuPage Water Commission

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NOTICE IS HEREBY GIVEN THAT A SPECIAL COMMITTEE OF THE WHOLE MEETING OF THE DUPAGE WATER COMMISSION WILL BE HELD AT 6:00 P.M. ON THURSDAY, DECEMBER 14, 2006, AT ITS OFFICES LISTED BELOW. THE AGENDA FOR THE SPECIAL COMMITTEE OF THE WHOLE MEETING IS AS FOLLOWS:

AGENDA

DUPAGE WATER COMMISSION
COMMITTEE OF THE WHOLE
THURSDAY, DECEMBER 14, 2006
6:00 P.M.

600 EAST BUTTERFIELD ROAD
ELMHURST, IL 60126

- I. Roll Call
- II. Discussion Fiscal Year 2007-2008 Capital Improvement Plan and Long Term Fiscal Plan
- III. Other
- IV. Adjournment

Board/Agenda/Commission/COW0612doc

**DUPAGE WATER COMMISSION
2007 - 2008
FIVE YEAR CAPITAL IMPROVEMENT
PLAN
JANUARY 11, 2007**



DuPage Water Commission

MEMORANDUM

TO: Chairman Rathje and Commissioners

FROM: Robert L. Martin, P.E.
General Manager

DATE: January 11, 2007

SUBJECT: Capital Improvement Plan

In accordance with Commission policy, the Capital Improvement Plan is reviewed and evaluated by staff in connection with each new budget cycle. A draft of the updated plan is then submitted to the Commission for its consideration. This annual document is based on the Commission's anticipated needs for normal operations, emergency operations and improvements to the system. While the main focus is the next five fiscal years, included in the plan are additional nine year projections of revenues, expenditures and fund balances. The proposed capital plan is included in the projection summary.

The plan is divided into several sections – DuPage Pump Station Improvements, Lexington Pump Station Improvements, and Standpipe Improvements. A summary shows the capital outlay, which are funded by sales tax revenues, on a fiscal year basis. Each fiscal year's programmed expenditures are included in the financial projection of Commission revenues and expenditures through fiscal year 2020-21.

This plan differs from last year's Capital Improvement Plan as follows:

The 30 Million Gallon Reservoir has been eliminated. It is staff's opinion that backup electrical generation at both the DuPage and Lexington Pumping Stations provides sufficient reliability for the Commission and its customer utilities.

The Material and Equipment Storage Facilities have been eliminated.

The replacement of the variable frequency drives at the Lexington Pumping Station has been added. The variable frequency drives were installed during the initial construction of the pumping station. Obtaining replacement parts has been difficult and the units,

because of the older technology, take up a large space at the pumping station.

Solar Photovoltaic System has been added for the Lexington Pumping Station. The City of Chicago has proposed the installation of photovoltaic cells to promote "green" technology.

The draft fiscal 2007-08 planning document represents the twelfth consecutive year in which the Commission has evaluated a Capital Improvement Plan. Utilizing this process over the years has allowed the Commission to have a much better understanding of its long-term capital and operating needs and the level of funding required from various sources.

Current Commission policy reflected in this plan uses sales tax to pay 50% of the Water Revenue Bonds. Public Act 93-0226, which was enacted on July 22, 2003, requires the Commission to maintain a customer rate of not more than \$1.65 per 1,000 gallons for a period of five years. This plan proposes reducing the water rate to \$1.30 per 1,000 gallons through fiscal year 2011-12. To accomplish this, it is necessary to use sales tax beginning in fiscal year 2008-09 to supplement operation and maintenance costs. The water rate of \$1.30 will result in a reduction in the Commission's reserves to put them in line with the proposed policy of one years operating budget excluding approved five year capital improvement projects.

Planned improvements accepted by the Board will be included in the 2007-08 budget documents. The budget will be sent to the Board for its review in February and released, in tentative draft form, to the Charter Customers prior to March 1, 2007.

DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN

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**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

SUMMARY

DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN

- Operation and maintenance revenues are based on 94.0% of the IDNR allocation for each fiscal year.
- Fixed cost revenue requirements are 50% of the yearly debt service scheduled for the Commission's outstanding revenue bonds. Sales taxes are used to pay the remaining 50%.
- The average water rate is reduced to \$1.30 per thousand gallons through fiscal year 2011-12.
- Sales tax receipts will be used beginning May 1, 2008 to hold the water rate at those respective levels.
- Sales tax receipts pay for general obligation bond debt service requirements allowing the abatement of \$13.1 million of property tax annually.
- Sales tax increases 2% annually.
- Interest income is based on prior year's earnings versus prior year's net revenues excluding interest earned applied to the same figure for each projected fiscal year.
- Water purchase expense is based on the Commission billing 97.1% of all water purchased from Chicago and 3% annual increases in the Chicago water rate beginning January 1, 2007.
- The 10% water purchase credit will be used to fund Chicago's share of the improvements at the Lexington Pumping Station.
- All other operating expenses not specifically mentioned above are anticipated to rise 5% per year.
- Principal and interest costs are the scheduled debt service payments for the Commission's 2003 revenue bonds and general obligation bonds of 2001.
- Construction and major capital repair costs are inflated 2% per year.
- The Commission set a \$60 million goal, which is equivalent to one year annual operating budget, for an unrestricted fund balance.
- Sales tax proceeds not needed for immediate appropriation are reserved for construction. Water sales receipts not needed for immediate appropriation are reserved for rate stabilization. The water rate stabilization reserve will be exhausted in FY 2007-08 when sales taxes begin to support the established rates.

**DuPAGE WATER COMMISSION
SUMMARY OF ESTIMATED NEW CONSTRUCTION COSTS**

DESCRIPTION (BASED ON FY 05-06 COSTS)	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	TOTAL
DuPAGE PUMP STATION IMPROVEMENTS						
8 MW Electrical Generator Facility - Engineering	970,000	450,000	250,000			1,670,000
8 MW Electrical Generator Facility - Construction	4,500,000	3,500,000	2,500,000			10,500,000
Cadwell Avenue Realignment- Engineering	27,000					27,000
Cadwell Avenue Realignment- Construction	385,000					385,000
Pump #10-Engineering				40,000		40,000
Pump #10-Installation				438,000		438,000
LEXINGTON PUMP STATION IMPROVEMENTS 1						
Generator Facility - Engineering	1,114,000	630,000	416,000			2,160,000
Generator Facility - Construction	2,409,000	7,085,000	4,676,000			14,170,000
Variable Frequency Drive Replacement - Engineering	86,000	48,000	31,000			165,000
Variable Frequency Drive Replacement - Construction	190,000	560,000	370,000			1,120,000
Photovoltaic - Engineering	543,000	273,000	179,000			995,000
Photovoltaic - Construction	1,238,000	3,640,000	2,402,000			7,280,000
STANDPIPE IMPROVEMENTS						
Standpipe Riser Pipe Modifications- Engineering	13,000	13,000	13,000	13,000		52,000
Standpipe Riser Pipe Modifications- Construction	98,000	98,000	98,000	98,000		392,000
Undefined Capital Projects				4,100,000	5,000,000	9,100,000
	<u>11,573,000</u>	<u>16,297,000</u>	<u>10,935,000</u>	<u>4,689,000</u>	<u>5,000,000</u>	<u>48,494,000</u>
INFLATION FACTOR 2% PER YEAR	100.0%	102.0%	104.0%	106.1%	100.0%	
	<u>11,573,000</u>	<u>16,623,000</u>	<u>11,377,000</u>	<u>4,976,000</u>	<u>5,000,000</u>	<u>49,549,000</u>
MINOR CAPITAL (5% ANNUAL INCREASE)	200,000	210,000	220,500	231,525	243,101	1,105,126
	<u>11,773,000</u>	<u>16,833,000</u>	<u>11,597,500</u>	<u>5,207,525</u>	<u>5,243,101</u>	<u>50,654,126</u>
NOTE: 1 Chicago Paying 50%						

DuPAGE WATER COMMISSION
SUMMARY OF REVENUES , EXPENDITURES & FUND BALANCES
50% REVENUE BOND SUBSIDY - \$1.30 RATE

	FORECAST FY 12-13	FORECAST FY 13-14	FORECAST FY 14-15	FORECAST FY 15-16	FORECAST FY 16-17	FORECAST FY 17-18	FORECAST FY 18-19	FORECAST FY 19-20	FORECAST FY 20-21
REVENUES:									
FIXED RATE	7,144,844	7,144,163	7,144,969	7,143,844	-	-	-	-	-
O & M REVENUE	38,738,200	38,955,295	39,275,717	39,387,704	47,209,761	47,223,116	47,735,810	48,265,111	48,080,125
SALES TAX	40,178,543	40,982,114	41,801,756	42,637,791	43,490,547	44,360,358	45,247,565	46,152,516	47,075,566
INVESTMENT INCOME	4,118,876	4,380,301	4,602,347	4,781,816	4,916,823	6,152,140	6,602,183	6,412,669	6,412,669
SUBSEQUENT CUSTOMER	758,389	765,973	773,633	781,369	789,183	797,075	805,046	813,096	821,227
EMERGENCY SUPPLY	11,319	11,545	11,776	12,012	12,252	12,497	12,747	13,002	13,262
OTHER INCOME	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
TOTAL REVENUES	90,952,671	92,241,891	93,612,698	94,747,036	96,421,066	98,547,686	100,405,851	101,658,894	102,405,349
EXPENDITURES:									
WATER PURCHASE	56,558,486	58,694,265	60,892,006	63,199,341	65,579,480	68,061,374	70,611,376	73,268,742	75,478,616
CREDIT FORM CHICAGO	-	-	-	-	-	-	-	-	-
OPERATING EXPENSES	13,151,039	13,808,591	14,499,021	15,223,972	15,985,171	16,784,430	17,623,652	18,504,835	19,430,077
MINOR CAPITAL	255,256	268,019	281,420	295,491	310,266	325,779	342,068	359,171	377,130
MAJOR REPAIRS	-	-	-	-	-	-	-	-	-
REV BOND P & I	14,289,688	14,288,325	14,289,938	14,287,688	-	-	-	-	-
GO BOND P & I	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	84,254,469	87,059,200	89,962,385	93,006,492	81,874,917	85,171,583	88,577,096	92,132,748	95,285,823
5 YEAR CONSTRUCTION PLAN	5,100,000	5,202,000	5,306,040	5,412,161	5,520,404	5,630,812	5,743,428	5,858,297	5,975,463
DuPAGE COUNTY PAYMENT	-	-	-	-	-	-	-	-	-
RECLASSIFICATION OF RESTRICTED TO UNRESTRICTED	-	-	-	-	39,120,046	-	-	-	-
QUALITY LOAN REPAYMENT	368,308	368,308	368,308	368,308	368,308	368,308	368,308	368,308	368,308
NET TRANSACTIONS	1,966,510	348,999	(1,287,419)	(3,303,309)	48,514,099	8,113,599	6,453,635	4,036,157	1,512,371
BEGINNING BALANCE	44,525,707	46,492,217	46,841,215	45,553,796	42,250,487	90,764,586	98,878,185	105,331,820	109,367,977
ENDING BALANCE	46,492,217	46,841,215	45,553,796	42,250,487	90,764,586	98,878,185	105,331,820	109,367,977	110,880,348
UNRESTRICTED									
HELD FOR EMERGENCY RESERVE	15,800,000	16,300,000	16,800,000	17,300,000	17,800,000	18,300,000	18,800,000	19,400,000	20,000,000
O&M RATE STABILIZATION	-	-	-	-	-	-	-	-	-
CONSTRUCTION RESERVE	27,665,917	27,514,915	25,727,496	21,924,187	30,818,240	38,431,839	44,385,474	47,821,631	48,734,002
RECLASSIFICATION OF RESTRICTED TO UNRESTRICTED	-	-	-	-	39,120,046	39,120,046	39,120,046	39,120,046	39,120,046
UNDISTRIBUTED PA93-0226	-	-	-	-	-	-	-	-	-
UNDISTRIBUTED QUALITY LOANS	3,026,300	3,026,300	3,026,300	3,026,300	3,026,300	3,026,300	3,026,300	3,026,300	3,026,300
TOTAL UNRESTRICTED CASH & EQUIVALENTS	46,492,217	46,841,215	45,553,796	42,250,487	90,764,586	98,878,185	105,331,820	109,367,977	110,880,348
RESTRICTED									
DEPRECIATION	5,000,000	5,000,000	5,000,000	5,000,000	-	-	-	-	-
O & M	14,882,903	15,475,767	16,098,214	16,743,047	-	-	-	-	-
O & M RESERVE	15,446,423	16,061,735	16,707,751	17,376,999	-	-	-	-	-
TOTAL RESTRICTED CASH & EQUIVALENTS	35,329,325	36,537,502	37,805,965	39,120,046	-	-	-	-	-
TOTAL CASH & EQUIVALENTS	81,821,542	83,378,717	83,359,761	81,370,533	90,764,586	98,878,185	105,331,820	109,367,977	110,880,348

DuPAGE WATER COMMISSION
SUMMARY OF REVENUES , EXPENDITURES & FUND BALANCES
50% REVENUE BOND SUBSIDY - \$1.30 RATE

	ACTUAL FY 05-06	PROJECTED FY 06-07	ASSUMPTIONS OR % CHANGE	FORECAST FY 07-08	FORECAST FY 08-09	FORECAST FY 09-10	FORECAST FY 10-11	FORECAST FY 11-12
REVENUES:								
FIXED RATE	7,144,469	7,145,094	50.0%	7,145,344	7,144,719	7,145,219	7,146,219	7,144,594
O & M REVENUE	40,848,001	41,593,077	CALCULATED	36,691,444	37,193,021	37,376,333	37,590,465	37,922,157
SALES TAX	34,894,007	35,677,396	2.0%	36,390,944	37,118,763	37,861,138	38,618,361	39,390,728
INVESTMENT INCOME	5,429,133	5,237,712	CALCULATED	5,050,378	4,446,791	4,211,295	4,181,984	3,821,108
SUBSEQUENT CUSTOMER	572,790	714,437	1.0%	721,581	728,797	736,085	743,446	750,880
EMERGENCY SUPPLY	9,854	10,051	2.0%	10,252	10,457	10,666	10,879	11,097
OTHER INCOME	1,236	2,500	0.0%	2,500	2,500	2,500	2,500	2,500
TOTAL REVENUES	88,899,490	90,380,267		86,012,443	86,645,048	87,343,236	88,293,854	89,043,064
EXPENDITURES:								
WATER PURCHASE	46,058,449	45,187,726	3.0%	46,920,176	48,706,282	50,580,904	52,505,924	54,484,220
CREDIT FORM CHICAGO		(868,166)		(2,790,000)	(6,118,000)	(4,037,000)	-	-
OPERATING EXPENSES	9,346,198	9,813,508	5.0%	10,304,183	10,819,392	11,360,362	11,928,380	12,524,799
MINOR CAPITAL	397,056	200,000	5.0%	200,000	210,000	220,500	231,525	243,101
MAJOR REPAIRS		2,938,000		-	-	-	-	-
REV BOND P & I	14,288,937	14,290,188	CALCULATED	14,290,688	14,289,438	14,290,438	14,292,438	14,289,188
GO BOND P & I	13,124,150	13,117,900	CALCULATED	13,117,650	13,116,900	13,121,275	13,119,413	-
TOTAL EXPENDITURES	83,214,790	84,679,156		82,042,697	81,024,012	85,536,479	92,077,680	81,541,308
5 YEAR CONSTRUCTION PLAN	5,356,901	1,902,000	CALCULATED	11,573,000	16,623,000	11,377,000	4,976,000	5,000,000
DuPAGE COUNTY PAYMENT	15,000,000	15,000,000	PA 93-0226	15,000,000	15,000,000	-	-	-
RECLASSIFICATION OF RESTRICTED TO UNRESTRICTED			CALCULATED	-	-	-	-	-
QUALITY LOAN REPAYMENT			BOARD POLICY	-	-	-	-	-
NET TRANSACTIONS	(14,672,201)	(11,200,889)		(22,603,254)	(26,001,964)	(9,570,243)	(8,759,826)	2,501,756
BEGINNING BALANCE	119,903,780	120,160,126		108,959,237	86,355,983	60,354,019	50,783,776	42,023,951
ENDING BALANCE	105,231,579	108,959,237		86,355,983	60,354,019	50,783,776	42,023,951	44,525,707
UNRESTRICTED								
HELD FOR EMERGENCY RESERVE	12,900,000	13,300,000	3.0%	13,700,000	14,100,000	14,500,000	14,900,000	15,300,000
O&M RATE STABILIZATION	31,052,607	22,281,709		12,825,328	3,972,637	-	-	-
CONSTRUCTION RESERVE	12,488,672	40,351,228		41,804,355	39,255,082	33,257,476	24,097,651	26,199,407
RECLASSIFICATION OF RESTRICTED TO UNRESTRICTED								
UNDISTRIBUTED PA93-0226	45,000,000	30,000,000		15,000,000	-	-	-	-
UNDISTRIBUTED QUALITY LOANS	3,790,300	3,026,300		3,026,300	3,026,300	3,026,300	3,026,300	3,026,300
TOTAL UNRESTRICTED CASH & EQUIVALENTS	105,231,579	108,959,237	TARGET AT ONE YEAR	86,355,983	60,354,019	50,783,776	42,023,951	44,525,707
RESTRICTED								
DEPRECIATION	5,000,000	5,000,000		5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
O & M	11,112,075	11,173,922		10,963,171	11,886,201	13,226,644	13,755,164	14,309,506
O & M RESERVE	11,632,818	11,597,007		11,378,276	12,336,256	13,727,452	14,275,984	14,851,315
TOTAL RESTRICTED CASH & EQUIVALENTS	27,644,893	27,770,929		27,341,447	29,222,457	31,954,096	33,031,148	34,160,822
TOTAL CASH & EQUIVALENTS	132,876,472	136,730,166		113,697,430	89,576,476	82,737,872	75,055,099	78,686,528

**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

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**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

DUPAGE PUMP STATION IMPROVEMENTS

DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN

PROJECT: 8 MW Electrical Generation Facility

LOCATION: East side of the DuPage Pumping Station service yard

DESCRIPTION: Construct building and install diesel fueled generators.

PURPOSE: Backup electrical power to provide average day flow.

BENEFIT: To maintain pumping operations during electrical power outages. In addition, installed generation could allow DWC to enter into a "curtailable" electric rate structured contract if available.

ESTIMATED COST (2007 DOLLARS):

ENGINEERING: \$1,670,000

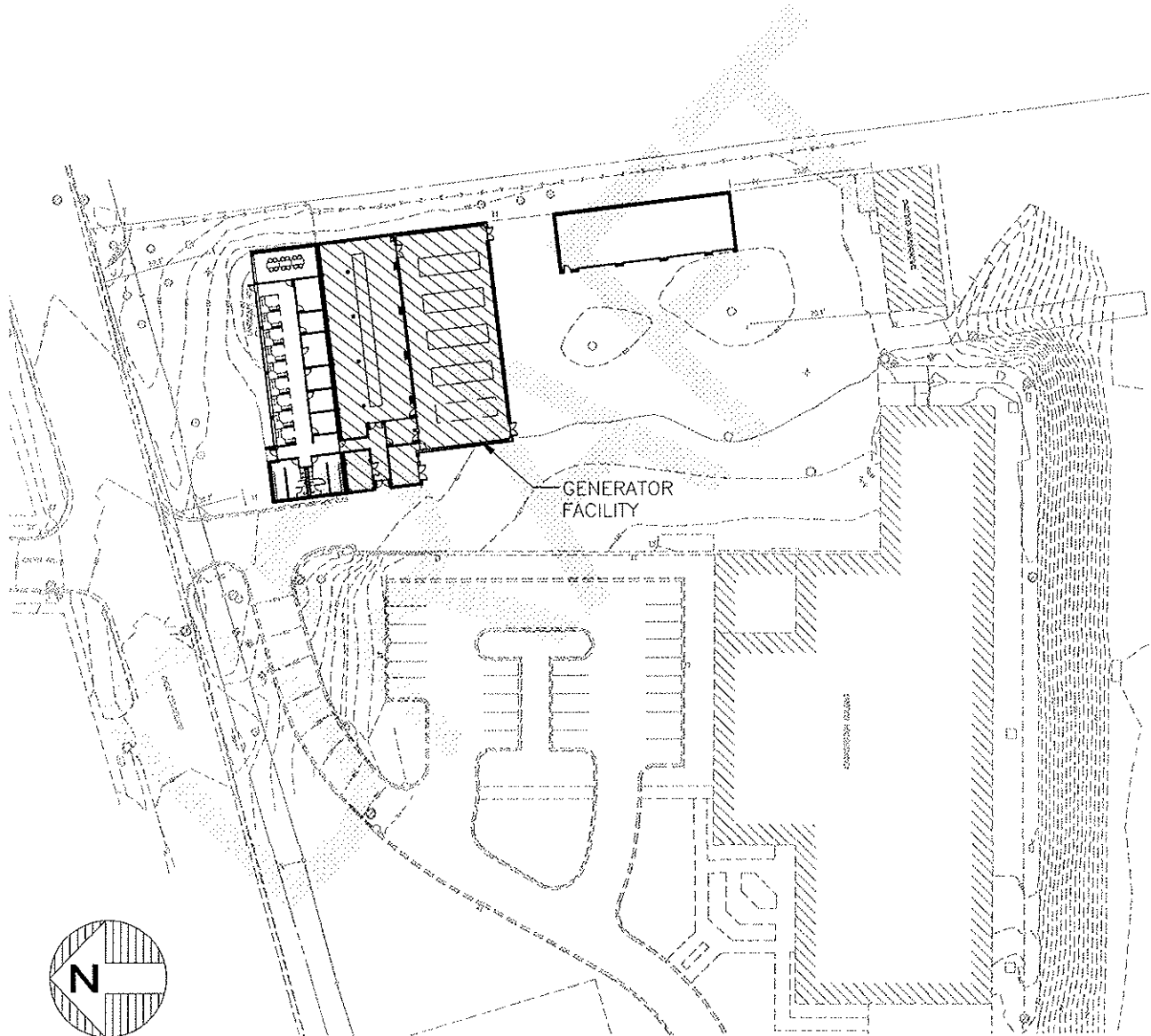
LAND/ROW: Constructed on property owned by Commission

CONSTRUCTION: \$10,500,000

TIMING: Fiscal year 2007-2008 – Complete design
Fiscal year 2007-2008 – Construction begins

See site plan on next page.

PROPOSED GENERATOR FACILITY DU PAGE WATER COMMISSION



**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Cadwell Avenue Realignment

LOCATION: On the south and west sides of the DuPage Pumping Station existing 30 MG reservoir

DESCRIPTION: Remove existing township road and replace with Elmhurst road aligned with existing improved roadway.

PURPOSE: Allows the Commission to formally abandon Congress and Harrison Avenue right of ways as approved in an Intergovernmental Agreement with the City of Elmhurst.

BENEFIT: Allows for relocation of utilities and thereby allowing the Commission to provide and install additional perimeter security at the DuPage Pumping Station.

ESTIMATED COST (2007 DOLLARS):

ENGINEERING: \$27,000

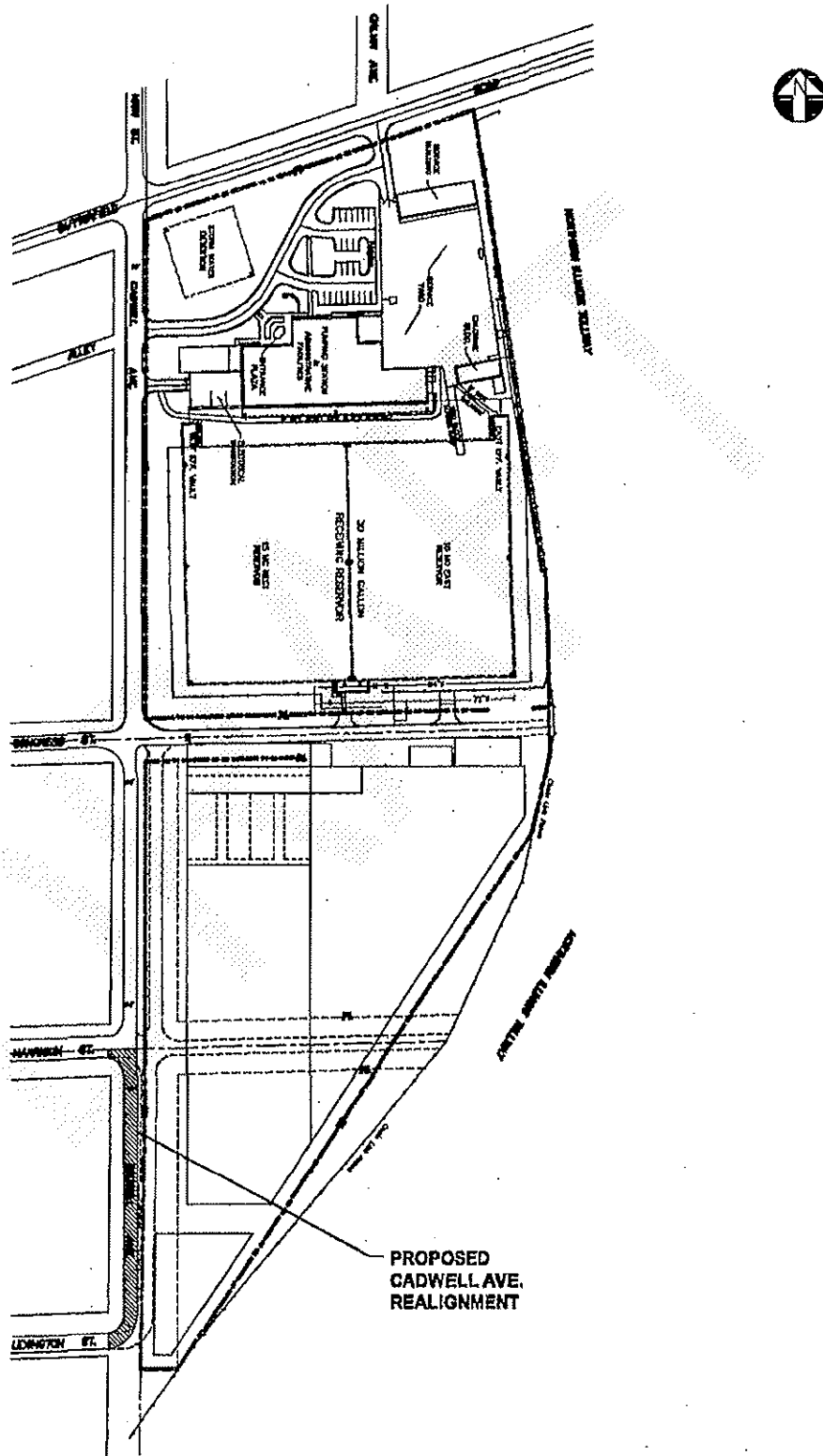
LAND/ROW: None; previously negotiated and acquired

CONSTRUCTION: \$385,000

TIMING: Fiscal Year 2007-2008 – Construction

See site plan on next page.

PROPOSED CADWELL AVENUE REALIGNMENT DU PAGE WATER COMMISSION



**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Pump #10

LOCATION: DuPage Pumping Station

DESCRIPTION: Install 30 MGD split case centrifugal pump and associated piping in space reserved for future pump.

PURPOSE: To increase firm pumping capacity from 210 MGD to 240 MGD to satisfy future demand requirements.

BENEFIT: To keep up with current rising water demands, new customers and maintain current ability to remove pumps from service without reducing pumping capacity.

ESTIMATED COST (2007 DOLLARS):

ENGINEERING: \$40,000

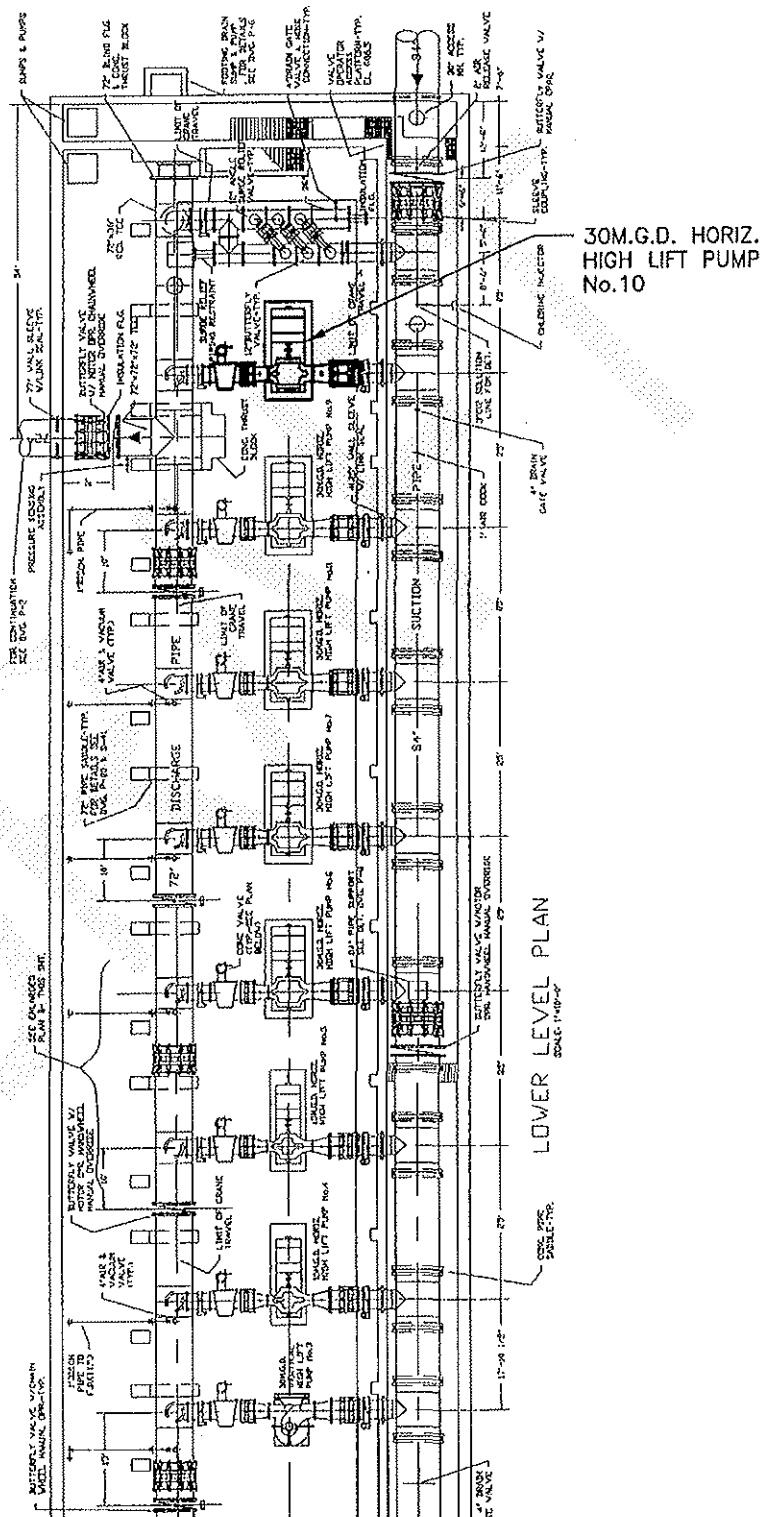
LAND/ROW: Improvements to be constructed on property presently owned by the Commission

CONSTRUCTION: \$438,000

TIMING: Fiscal year 2010-2011 – Engineering
Fiscal year 2010-2011 – Installation

See drawing on next page.

PROPOSED PUMP #10
DU PAGE WATER COMMISSION



**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

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**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

LEXINGTON PUMP STATION IMPROVEMENTS

**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Electrical Generation Facility

LOCATION: City of Chicago Lexington Pumping Station

DESCRIPTION: Construct building and install stand-by generators. Note: Discussions are being held with the Chicago Water Department regarding the design, construction and operation of these facilities. Preliminarily, Chicago is willing to reimburse half of the cost of generation facility up to \$8.5 million. The Commission would provide initial funding and the Chicago Water Department would reimburse the Commission with a credit against the Commission's water purchases.

PURPOSE: To provide critical backup electrical power at Lexington Pumping Station

BENEFIT: To provide continuous pumping operations to the DuPage Pumping Station during electrical power outages in the City of Chicago. In addition, installed generation could allow the City to enter into a "curtailable" electric rate structured contract if available.

ESTIMATED COST (2007 DOLLARS):

ENGINEERING: \$2,160,000

LAND/ROW: Construction on Lexington Pump Station property

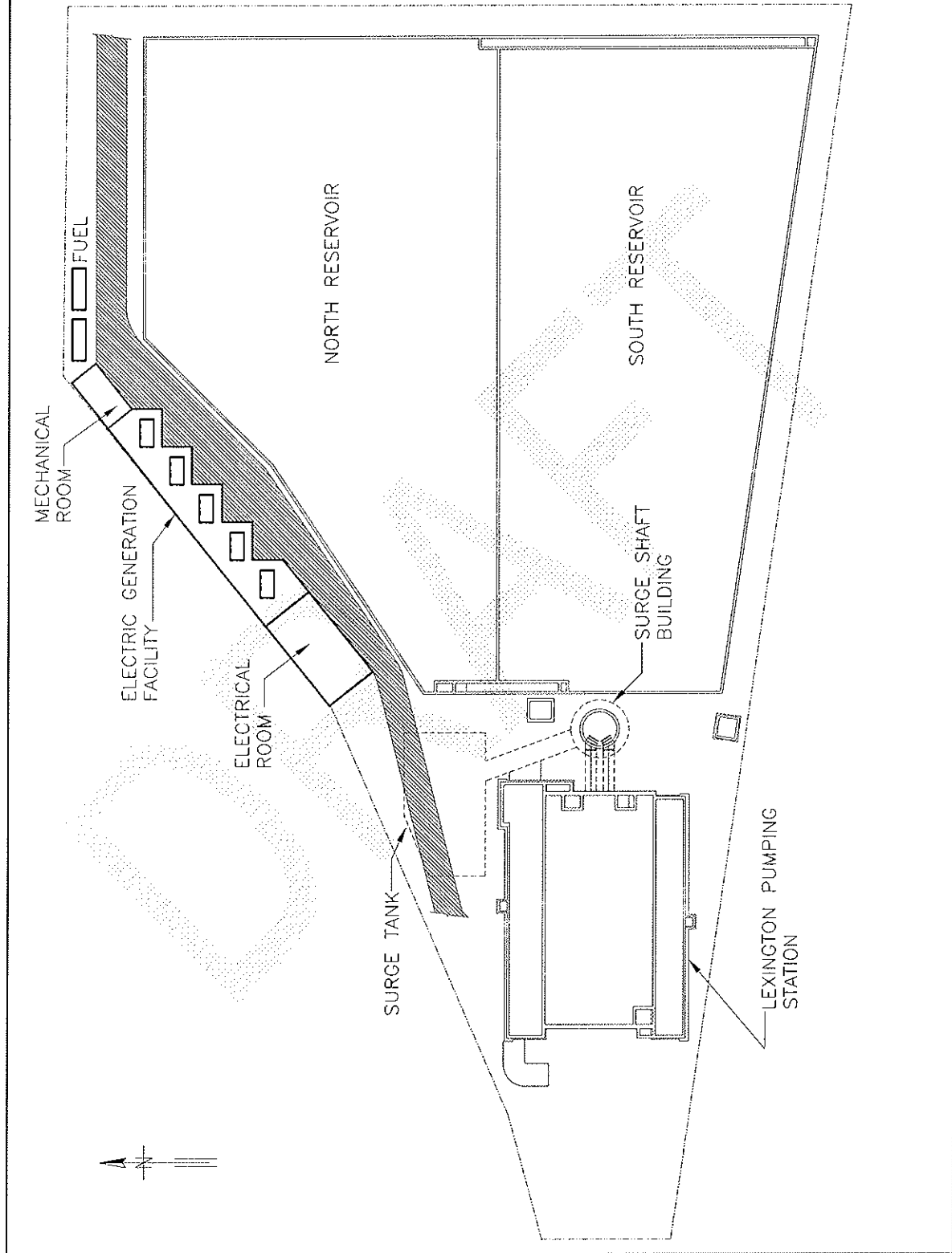
CONSTRUCTION: \$14,170,000

REIMBURSEMENT: \$8,165,000

TIMING: Fiscal year 2007-2008 – Design begins
Fiscal year 2007-2008 – Construction begins

See site plan on next page.

ELECTRIC GENERATION FACILITY AT LEXINGTON PUMPING STATION DU PAGE WATER COMMISSION



**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Variable Frequency Drive Replacement

LOCATION: City of Chicago Lexington Pumping Station

DESCRIPTION: Replace the existing original two variable frequency drive units.
Note: Discussion are being held with the Chicago Water Department regarding the design, construction and operation of these facilities. Preliminarily, the Commission would provide initial funding and the Chicago Water Department would reimburse half of the cost of the variable frequency drive units with a credit against the Commission's water purchases.

PURPOSE: To replace older existing variable frequency drive units at the Lexington Pumping Station

BENEFIT: The existing variable frequency drive units are older models that take up large space at the Lexington Pumping Station and replacement parts are difficult to obtain. The installation would be done as part of the installation of electrical generation facilities.

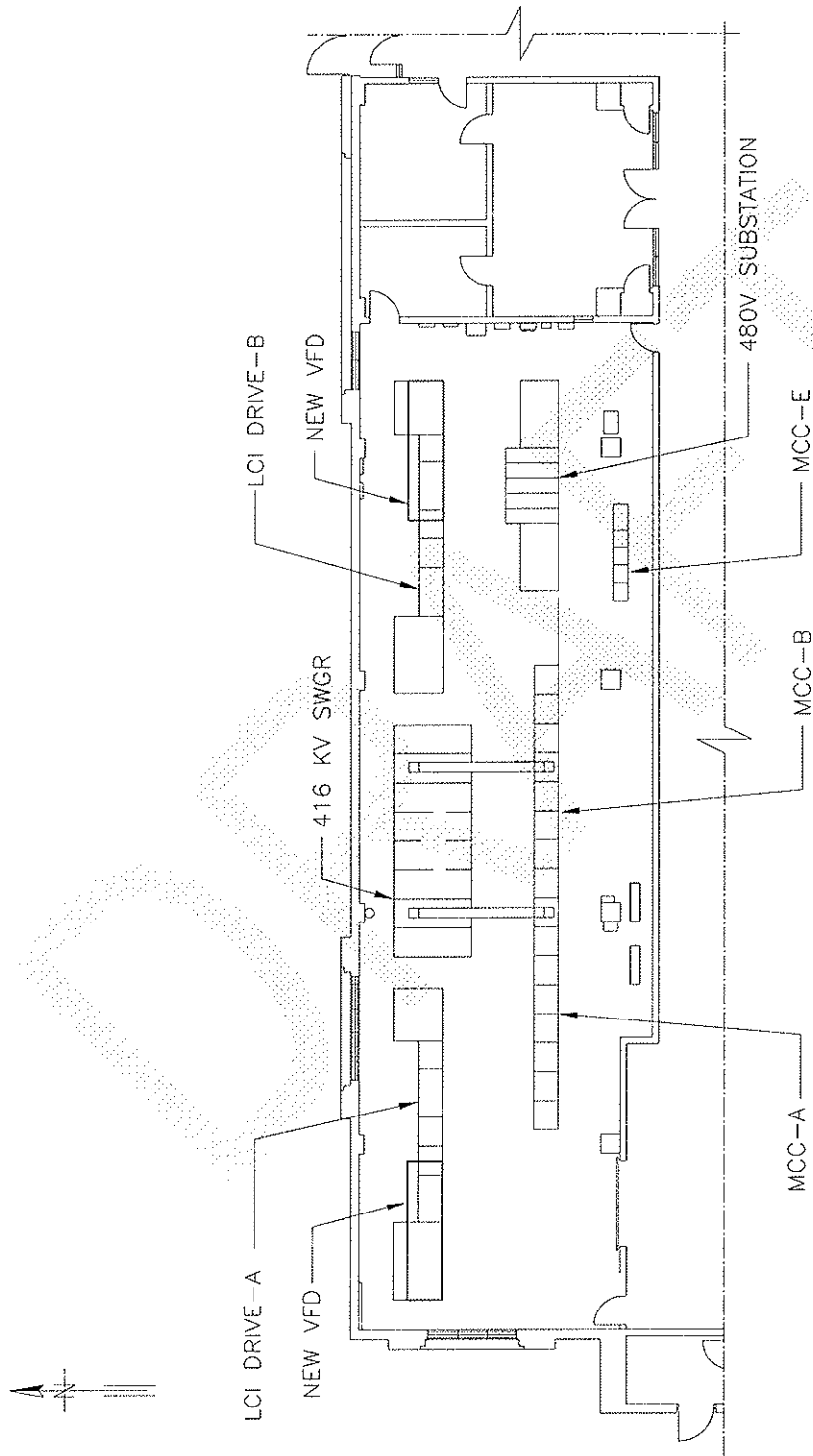
ESTIMATED COST (2007 DOLLARS):

ENGINEERING:	\$165,000
LAND/ROW:	Construction on Lexington Pump Station property
CONSTRUCTION:	\$1,120,000
REIMBURSEMENT:	\$643,000

TIMING: Fiscal year 2007-2008 – Design begins
Fiscal year 2007-2008 – Construction begins

See site plan on next page.

VARIABLE SPEED DRIVES REPLACEMENT AT LEXINGTON PUMPING STATION DUPAGE WATER COMMISSION



FILE: LEXINGTON PUMPING STATION 11/17/2008 15:43 DR-A

**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Solar Photovoltaic System

LOCATION: City of Chicago Lexington Pumping Station

DESCRIPTION: Install solar photovoltaic system on top of 30 million gallon reservoir at the Lexington Pumping Station. The solar photovoltaic system will generate a maximum capacity of 1.14 MW. Note: Discussions are being held with the Chicago Water Department regarding the design, construction and operation of these facilities. Preliminarily, the Commission would reimburse half of the cost of solar photovoltaic system up to \$4.0 million. The Commission would provide initial funding and the Chicago Water Department would reimburse the Commission with a credit against the Commission's water purchases.

PURPOSE: To work cooperatively with the City of Chicago to construct a solar photovoltaic system. The Commission pays approximately 80% of the electrical cost for the Lexington Pumping Station

BENEFIT: To promote "green" power instead of conventionally produced electricity.

ESTIMATED COST (2007 DOLLARS):

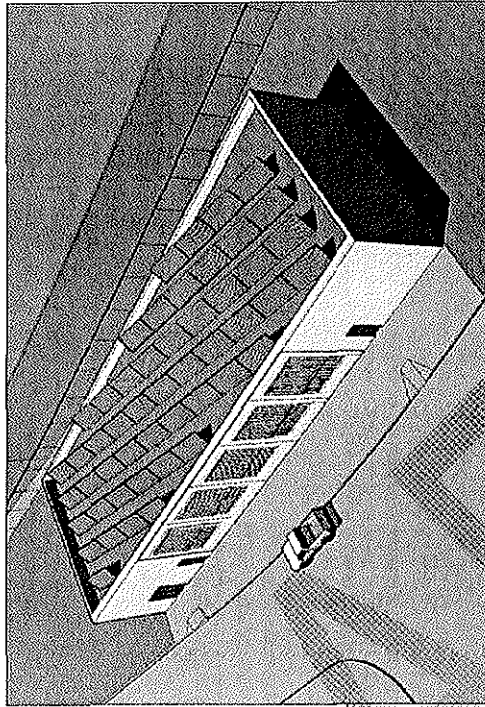
ENGINEERING:	\$995,000
LAND/ROW:	Construction on Lexington Pump Station property
CONSTRUCTION:	\$7,280,000
REIMBURSEMENT:	\$4,275,000

TIMING: Fiscal year 2007-2008 – Design completed
Fiscal year 2007-2008 – Construction begins

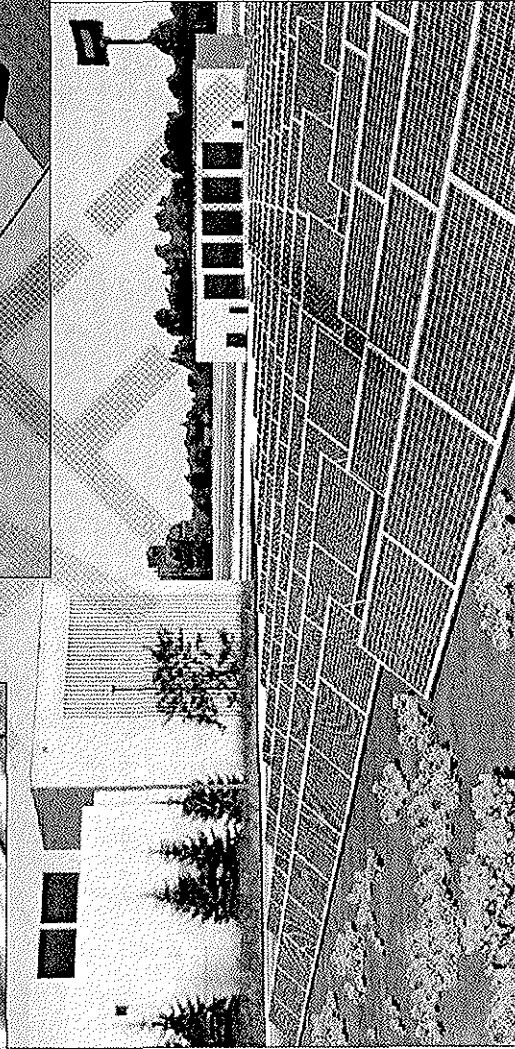
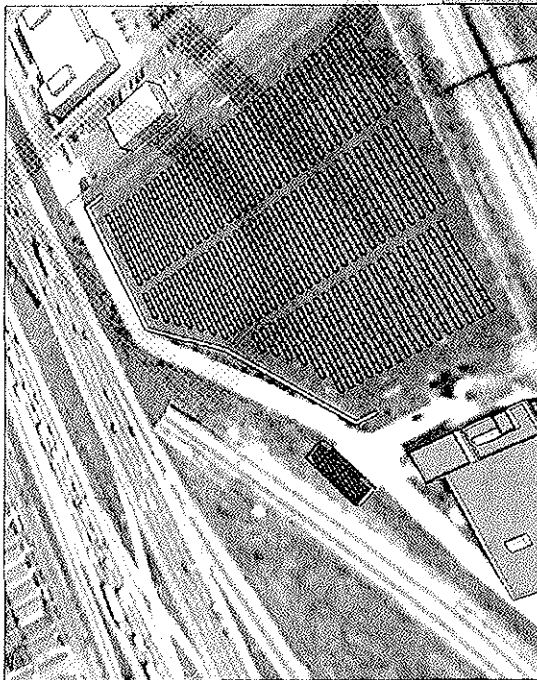
See site plan on next page.

SOLAR PHOTOVOLTAIC SYSTEM AT LEXINGTON PUMPING STATION DU PAGE WATER COMMISSION

NEW ELECTRICAL GENERATION FACILITY



AERIAL VIEW LOOKING FROM THE SOUTH WEST



GROUND VIEW LOOKING FROM THE SOUTH EAST

NOTE:

THE ELECTRICAL GENERATION FACILITY FOOTPRINT SHOWN ON THIS DRAWING HAS BEEN REVISED TO ALLOW ENTIRE FACILITY TO BE PLACED ON LEXINGTON PUMPING STATION PROPERTY.

FILE: LEXINGTON PROPOSAL 8 11 11 11/27/09 12:20 CK-A

**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

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**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

STANDPIPE IMPROVEMENTS

**DUPAGE WATER COMMISSION
2007 – 2008
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Standpipe Riser Pipe Modifications

LOCATION: Standpipes

DESCRIPTION: Install modified inlet riser pipes within standpipes.

PURPOSE: To allow for better mixing of water when filling tanks.

BENEFIT: By lengthening and providing openings on the inlet riser pipes, better mixing of water by de-stratification will assist in reducing taste and odor problems that result from stale water.

ESTIMATED COST (2007 DOLLARS):

ENGINEERING: \$52,000 (\$13,000 each)

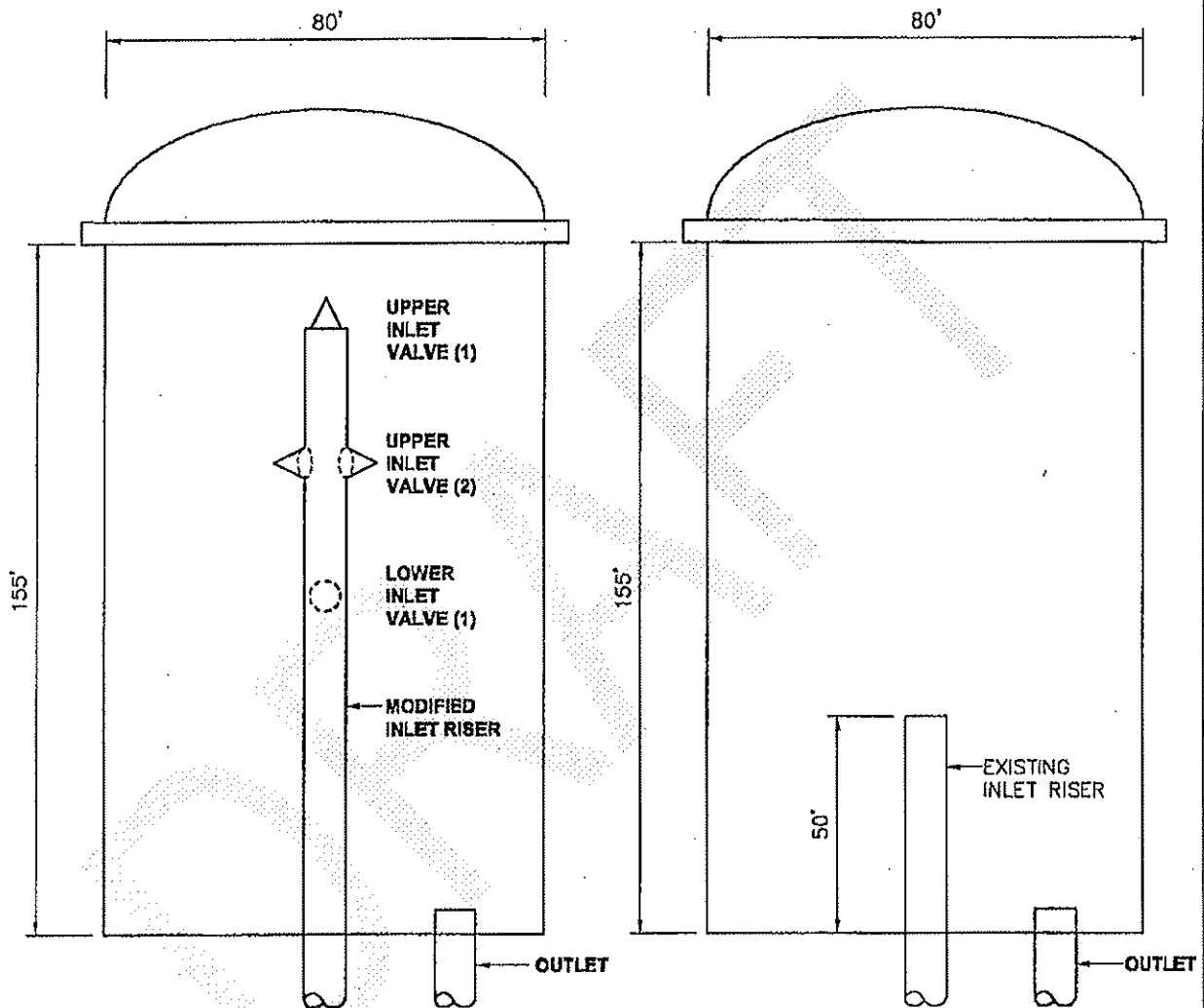
LAND/ROW: Improvements to be constructed on property presently owned by the Commission.

CONSTRUCTION: \$392,000 (\$98,000 each)

TIMING: Fiscal year 2007-2008 – Construction begins

See drawing on next page.

STANDPIPE RISER PIPE MODIFICATIONS DU PAGE WATER COMMISSION





DuPage Water Commission

MEMORANDUM

TO: Chairman Rathje and Commissioners

FROM: Robert L. Martin, P.E.
General Manager

DATE: December 8, 2006

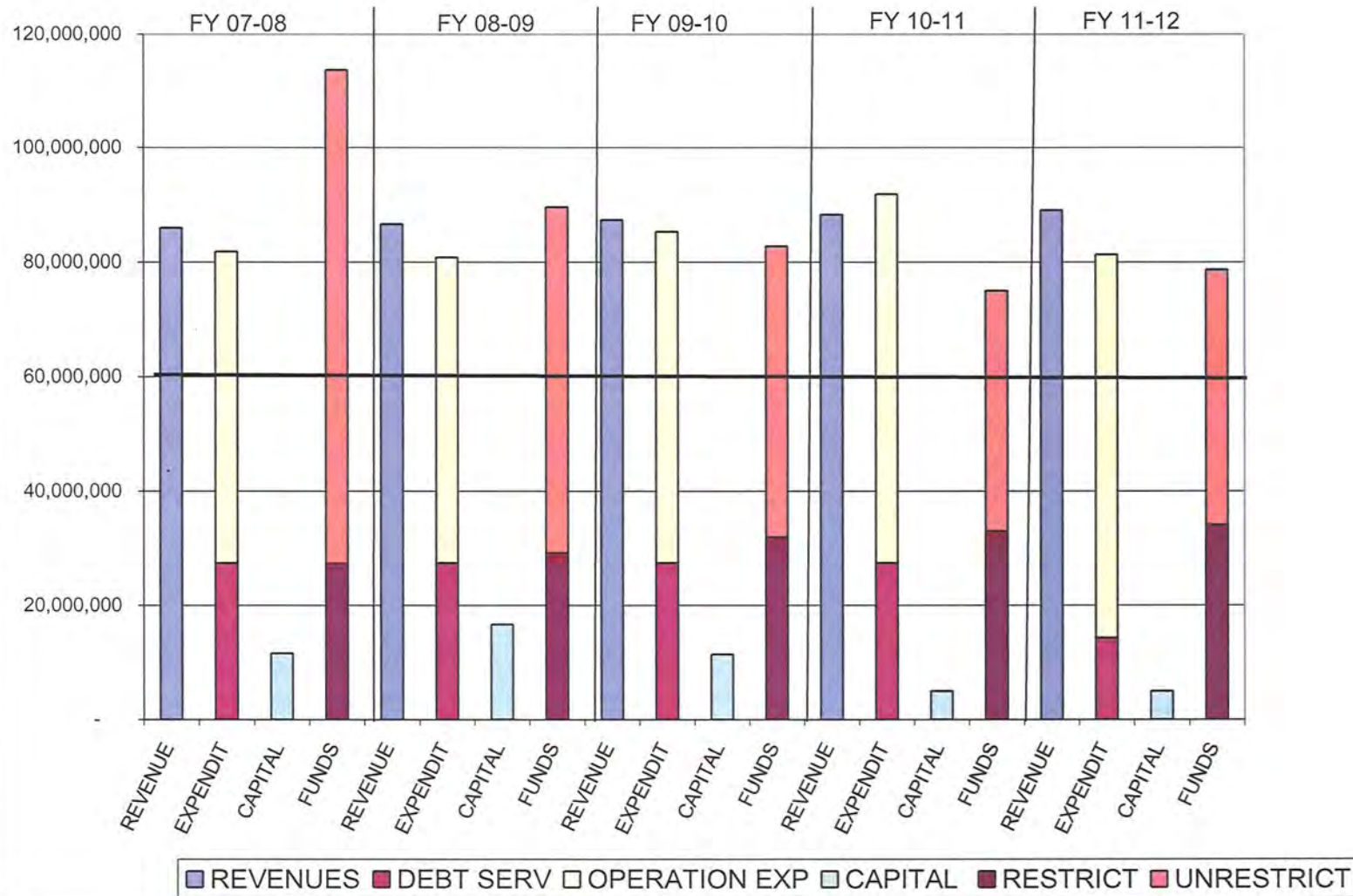
SUBJECT: Long Term Financial Plan

As a result of updated construction numbers, I am providing the following additional information:

1. Revised chart and spreadsheet with the combined rate of \$1.30 excluding the 30 million gallon reservoir. This chart represents unrestricted reserves equivalent to one year annual operating budget.
2. Chart and spreadsheet with the combined rate of \$1.30 including the 30 million gallon reservoir. This chart represents unrestricted reserves equivalent to one year annual operating budget.
3. Chart and spreadsheet with the combined rate of \$1.20 excluding the 30 million gallon reservoir. This chart includes a minimum of \$5 million annual capital and represents unrestricted reserves equivalent to six months annual operating budget.

Rate = \$1.30; No Reservoir

One Year Reserve



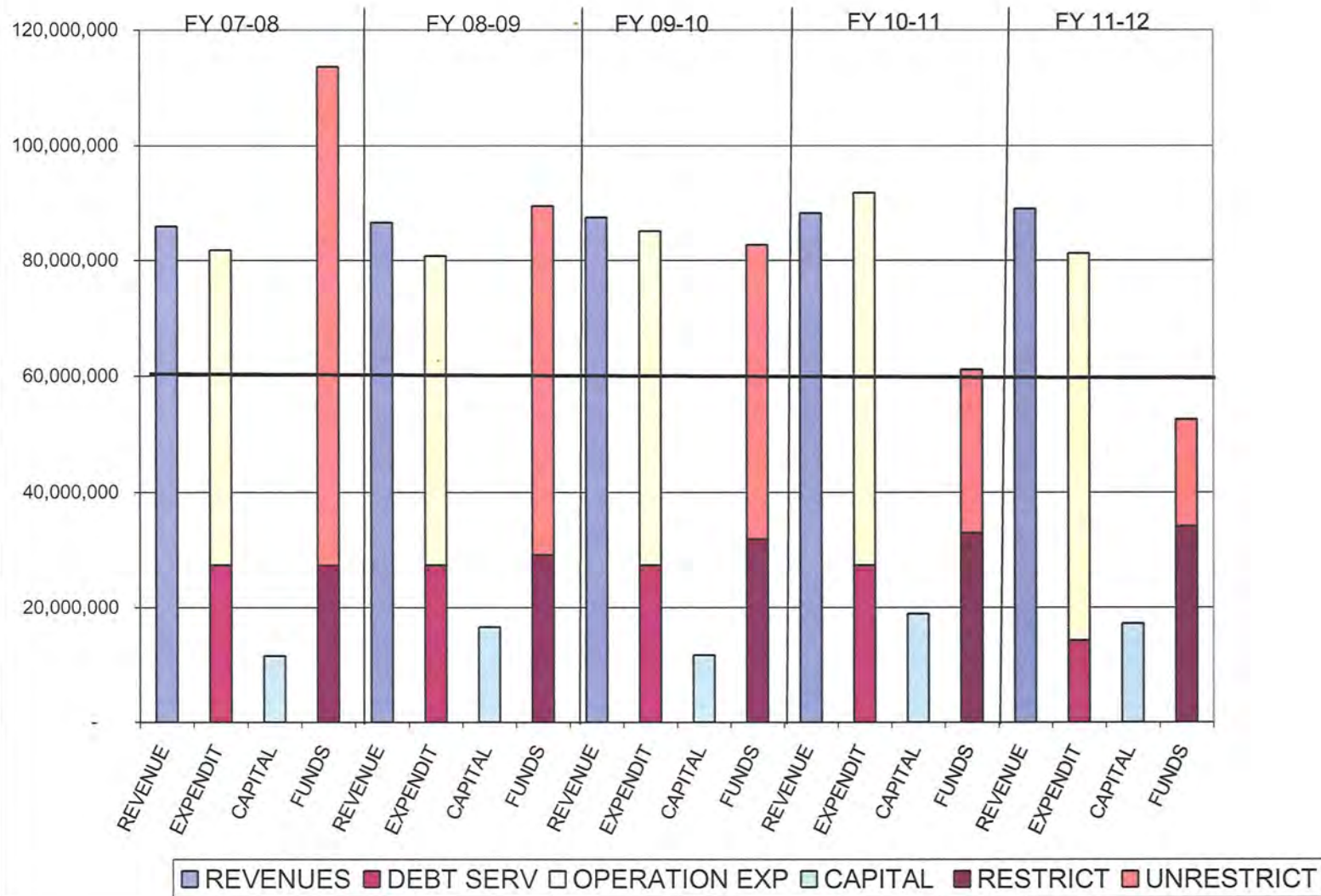
Rate = \$1.30; No Reservoir

One Year Reserve

	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
REVENUES	86,012,443	86,645,048	87,343,236	88,293,854	89,043,064	90,952,671	92,241,891
DEBT SERV	27,408,338	27,406,338	27,411,713	27,411,851	14,289,188	14,289,688	14,288,325
OPERATION EXP	54,434,359	53,407,674	57,904,266	64,434,304	67,009,019	69,709,525	72,502,856
CAPITAL	11,573,000	16,623,000	11,377,000	4,976,000	5,000,000	5,100,000	5,202,000
RESTRICT	27,341,447	29,222,457	31,954,096	33,031,148	34,160,822	35,329,325	36,537,502
UNRESTRICT	86,355,983	60,354,019	50,783,776	42,023,951	44,525,707	46,492,217	46,841,215
<hr/>							
	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21
REVENUES	93,612,698	94,747,036	96,421,066	98,547,686	100,405,851	101,658,894	102,405,349
DEBT SERV	14,289,938	14,287,688	-	-	-	-	-
OPERATION EXP	75,391,027	78,423,313	81,564,651	84,845,804	88,235,028	91,773,577	94,908,693
CAPITAL	5,306,040	5,412,161	5,520,404	5,630,812	5,743,428	5,858,297	5,975,463
RESTRICT	37,805,965	39,120,046	-	-	-	-	-
UNRESTRICT	45,553,796	42,250,487	90,764,586	98,878,185	105,331,820	109,367,977	110,880,348

Rate = \$1.30; With Reservoir

One Year Reserve



Rate = \$1.30; With Reservoir

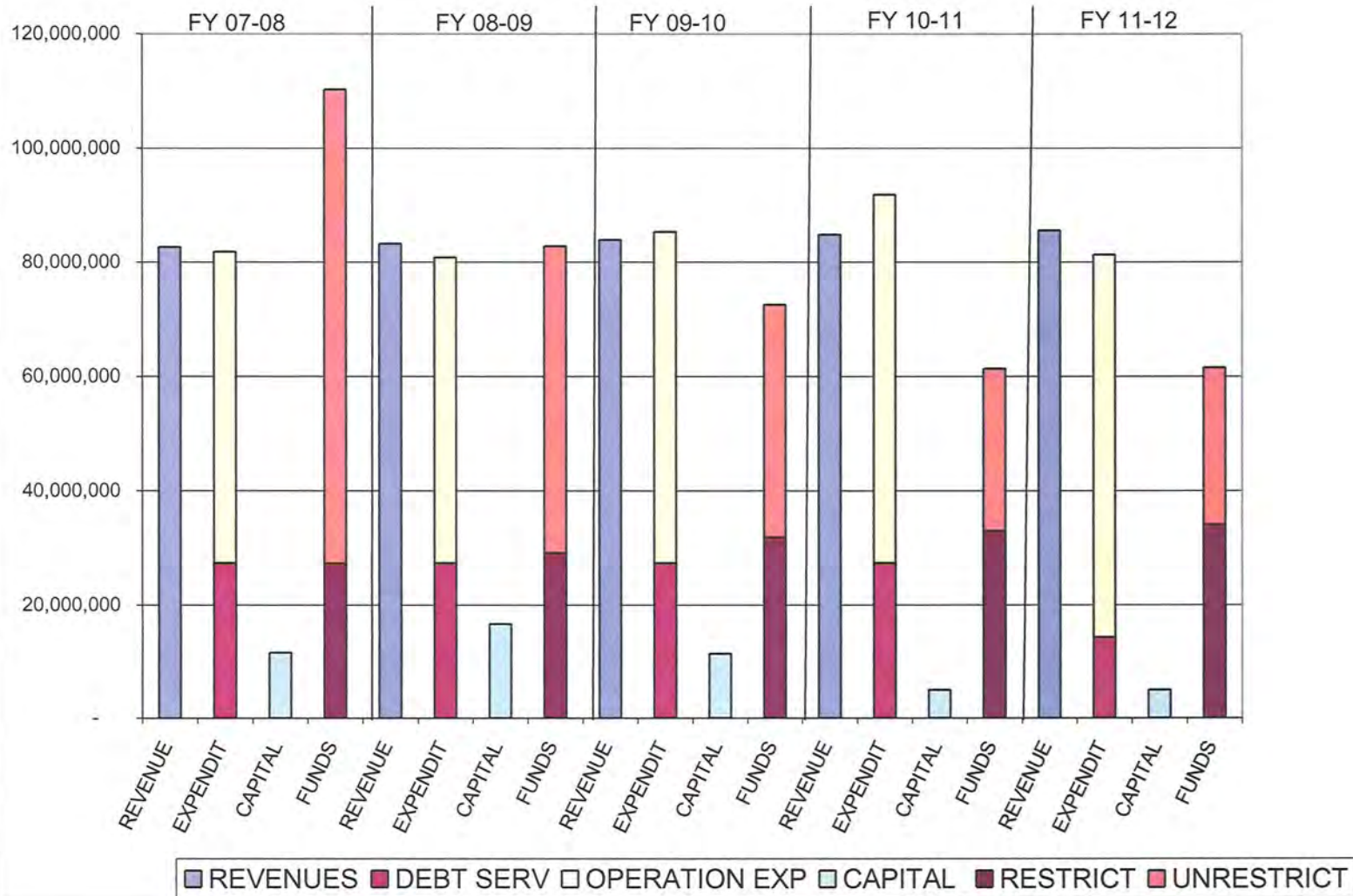
One Year Reserve

	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
REVENUES	86,022,443	86,655,548	87,547,476	88,305,430	89,055,219	90,965,434	92,255,292
DEBT SERV	27,408,338	27,406,338	27,411,713	27,411,851	14,289,188	14,289,688	14,288,325
OPERATION EXP	54,434,359	53,407,674	57,754,266	64,434,304	67,009,019	69,709,525	72,502,856
CAPITAL	11,573,000	16,623,000	11,689,000	18,931,000	17,250,000	5,000,000	5,100,000
RESTRICT	27,341,447	29,159,709	31,954,096	33,031,148	34,160,822	35,329,325	36,537,502
UNRESTRICT	86,355,983	60,354,019	50,814,991	28,100,166	18,351,922	20,418,432	20,869,430

	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21
REVENUES	93,626,769	94,761,811	96,074,774	98,563,975	100,422,954	101,306,890	102,424,205
DEBT SERV	14,289,938	14,287,688	-	-	-	-	-
OPERATION EXP	75,391,027	78,423,313	81,564,651	84,845,804	88,235,028	91,773,577	94,908,693
CAPITAL	5,202,000	5,306,040	5,412,161	5,520,404	5,630,812	5,743,428	5,858,297
RESTRICT	37,805,965	39,120,046	-	-	-	-	-
UNRESTRICT	19,686,051	16,488,863	64,749,400	72,973,407	79,539,658	83,320,721	84,950,258

Rate = \$1.20; No Reservoir

Six month reserve



Rate = \$1.20; No Reservoir

Six Month Reserve

	FY 07-08	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14
REVENUES	82,645,165	83,250,667	83,922,111	84,846,593	85,570,095	87,454,034	88,717,605
DEBT SERV	27,408,338	27,406,338	27,411,713	27,411,851	14,289,188	14,289,688	14,288,325
OPERATION EXP	54,434,359	53,407,674	57,904,266	64,434,304	67,009,019	69,709,525	72,502,856
CAPITAL	11,573,000	16,623,000	11,377,000	4,976,000	5,000,000	5,100,000	5,202,000
RESTRICT	27,341,447	29,222,457	31,954,096	33,031,148	34,160,822	35,329,325	36,537,502
UNRESTRICT	82,978,705	53,571,860	40,569,467	28,350,805	27,367,437	25,822,547	22,633,858

	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21
REVENUES	90,062,807	91,171,023	92,456,725	94,918,768	96,750,557	97,607,257	98,724,572
DEBT SERV	14,289,938	14,287,688	-	-	-	-	-
OPERATION EXP	75,391,027	78,423,313	81,564,651	84,845,804	88,235,028	91,773,577	94,908,693
CAPITAL	5,306,040	5,412,161	5,520,404	5,630,812	5,743,428	5,858,297	5,975,463
RESTRICT	37,805,965	39,120,046	-	-	-	-	-
UNRESTRICT	17,782,477	10,888,380	55,422,625	59,891,017	62,672,255	62,638,816	60,451,554



GREELEY AND HANSEN

100 S. Wacker Drive, Suite 1400
Chicago, Illinois 60606
p. 312.558.9800
f. 312.558.1986
www.greeley-hansen.com

October 30, 2006

Mr. Chris Bostick
Facilities Construction Supervisor
DuPage Water Commission
600 East Butterfield Road
Elmhurst, Illinois 60126-4642

Subject: Feasibility Study for On-Site Generation At
Lexington Pumping Station
Response To Value Engineering Study Recommendations

Dear Mr. Bostick:

On October 19, 2006 representatives of Greeley and Hansen, McDonough and CDM met with DuPage Water Commission to discuss the recommendations from the *Report of Value Engineering Studies Of Emergency Generation Facilities at The DuPage and Lexington Water Pumping Stations*.

The following summarizes the conclusions and recommendations reached at that meeting for the Lexington Pumping Station:

Recommendations Common To Both Stations

- 1. Recommendation No. 5: Reduce System Emergency operating Point to winter flows in 2020, 80 MGD+- which is the year round basic, non-recreational, essential flow:** Based on calculations done by Greeley and Hansen, if neither of the VFDs are available, it requires 4-2000 kW generators to start one pumping unit at Lexington PS across-the-line. These same 4 generators can start and operate multiple pumping units if a VFD is available. Also, in addition to the 2 pumps required to meet the DWIC flow requirements, Chicago has requested that the on-site generation facilities have sufficient capacity to operate a pump to provide flow to the City. Based on these requirements, it was agreed that 4 generators should be provided at Lexington PS and a portable generator be provided, with concurrence of the City of Chicago Department of Water Management (the "City"), for times permanently installed generators are out of service for scheduled maintenance and for when VFDs are not operational. The 4 available generators will have capacity to start and operate three pumps. Two pumps would provide water to the Commission and one would provide water to Chicago.
- 2. Recommendation No. 6: Use A Portable Generator As The N+1 Spare for Scheduled Maintenance Periods:** It was agreed that a portable generator could be provided to reduce the number of generators required at each of the 2 pumping stations. This item needs to be discussed further with the City.
- 3. Recommendation No. 7: Owner Pre-Purchase The Engine-Generator Sets On a Set-in-Place, Started And Tested Basis:** It was agreed that the Commission could pre-purchase the required number of generator sets for the 2 pumping stations plus the portable generator. This will potentially

save costs from the general contractor's mark-ups and will assist the Commission in obtaining the generator sets they want and will assist in getting the same generator sets at both stations. The specifications for this pre-purchase will include requirements for the generator supplier to approve the installation and participate in on-site testing. It will be determined what other equipment, such as generator switchgear, should be pre-purchased with the generators. This item needs to be discussed further with the City.

Lexington Station Recommendations

4. **Recommendation No. 1: At Site #6, Move Generator Building Southerly Into The Road. Leave Room For One Traffic Lane. Provide Temporary Road on South Side of Reservoir.**

Recommendation No. 2: At Site #6, Move Generator Building Southerly Into and Under The Road. Provide Temporary Road on South Side of Reservoir During Construction.

Recommendation No. 3: At Site #6, Move Generator Building Southerly Into The Road, Reduce Footprint with Two Story Structure To 35' x 150'.

The primary objective of Recommendations 1, 2 and 3 was to move the Generator Building away from the existing active CTA rail line to reduce the potential additional construction costs associated with building the facility close to this rail line. In recognition of this potential additional cost identified by the Value Engineering Team, a new building layout was developed that allows the entire Generator Building to be located on property now owned by the City and reduces the required shoring and sheeting needed for construction. This new layout does reduce the width of the Lexington Pumping Station access road and requires some special measures to be taken during construction. However it was agreed that this new building layout provides all of the functions required for the on-site generation facilities at Lexington Pumping Station at a reduced construction cost. This item also needs to be discussed further with the City.

Figure 4-5 from our report has been revised and is attached to show this revised building layout.

5. **Recommendation No. 4: At Site #7, Directly Behind the ComEd Sub-Station, Construct a Modified Generator Facility with: Slab On-Grade, "Pre-Fab" Generator Enclosures, Three-Sided Building Housing Switchgear and Controls:** It was agreed that primarily for security reasons, providing Pre-Fab generator enclosures would not be acceptable for this facility. If a building was to be provided at Site #7 for the generators, the potential increased construction costs due to construction close to the active CTA rail line discussed for Site #6, would also apply to Site #7. It was agreed that the new building layout developed for Site #6 made this site advantageous over Site #7. This item also needs to be discussed further with the City.

It was also agreed that the photovoltaic cells for the reservoir Lexington Pumping Station should also be pre-purchased because of the long lead time to obtain this equipment.

Yours very truly,

Greeley and Hansen LLC

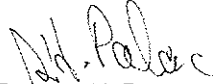
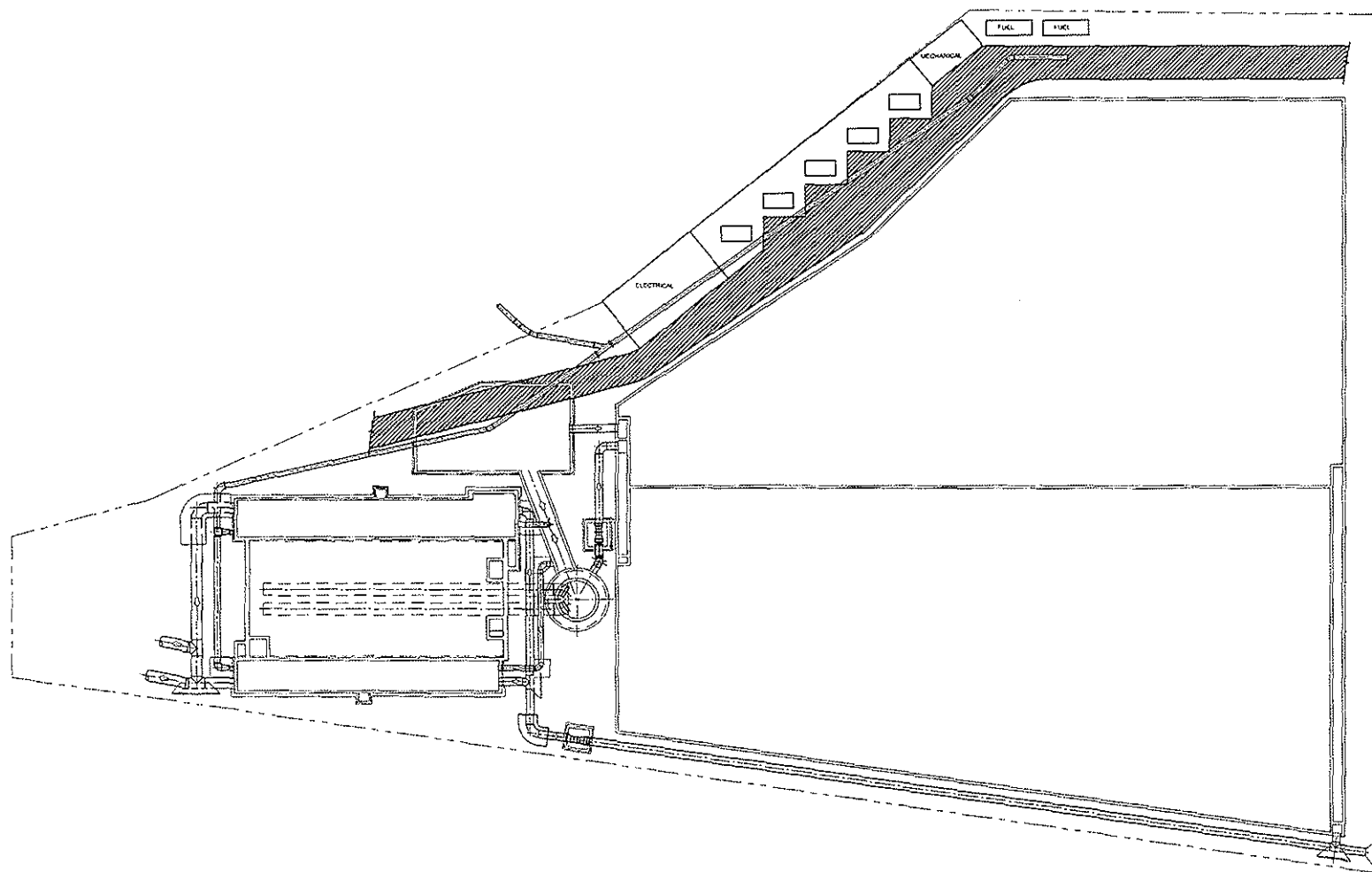

Stephen H. Palac
Principal

FIGURE 4-5



PS Gen Site
REFS



GREELEY AND HANSEN



McDonough Associates Inc.
Engineers/Architects

LEXINGTON PUMPING STATION
FEASIBILITY STUDY ON SITE
GENERATION - SITE 6 LOCATION PLAN



125 South Wacker Drive, Suite 600
Chicago, Illinois 60606
tel: 312 346-5000
fax: 312 346-5228

November 20, 2006

Mr. Robert L. Martin
General Manager
DuPage Water Commission
600 E. Butterfield Rd.
Elmhurst, IL 60126

Subject: CDM's Response to Value Engineering Study for DuPage Pumping Station

Dear Mr. Martin:

CDM has reviewed the Value Engineering Study prepared by Fanning and Company, LLC for the DuPage Pumping Station. The report was thorough and offered a number of suggestions for the DuPage and Lexington Pumping Stations. CDM's comments on the recommendations for the DuPage Pumping Station follow.

- **Reduce System Operating Point to Winter Flows** – CDM's design criteria will reflect that the system will be designed for necessary flows during an outage. Because of the number of pumps required to meet the flow requirement and the capacity of the available engine generators, a reduction in the number of generators is not anticipated.
- **Use a Portable Generator as the Spare During Maintenance** – CDM agrees that there could be a cost savings from using a portable generator as a spare during maintenance. If DWC and Chicago decide to implement this recommendation, we will work with DWC and the design engineer for standby power facilities at the Lexington Pump Station to determine how to best implement this recommendation.
- **Pre-Purchase the Engine Generators** – CDM agrees that there could be a cost savings from pre-purchasing the engine generators. If DWC and Chicago decide to implement this recommendation, CDM will prepare pre-purchase documents for the engine generators. If there are substantially different contractual terms & conditions required by the DWC and Chicago, separate pre-purchase bids may be required. In this case, we suggest letting the bids concurrently and having the bid opening occur on the same date.
- **Reconfiguration of Space to Retain Existing Garage** – CDM agrees that there could be a cost savings from reconfiguration of the space. If DWC decides to implement this recommendation, CDM will reconfigure the space and retain the existing garage.



Mr. Robert L. Martin
November 20, 2006
Page 2

The value engineering study also offered a number of design suggestions and our responses follow.

- **Protect line pressure against water hammer from power fluctuations** – CDM anticipates that the original design engineer for the DuPage Pumping Station accounted for and provided sufficient protection for water hammer.
- **Seek outside private contractor to supply trailer mounted portable engine generator set** – We do not recommend relying on an outside contractor to provide backup power.
- **Seek outside private contractor to supply fixed backup power** – We do not recommend relying on an outside contractor to provide backup power.
- **Reduce generation loads with variable speed drives or soft starts** – CDM evaluated this previously and found the cost-benefit ratio to be prohibitive for the DuPage Pumping Station.
- **Seek outside private contractor for cogeneration power supply** – We do not recommend relying on an outside contractor to provide backup power. We evaluated the additional costs required for a cogeneration facility and determined the payback period was not sufficient to justify the costs.
- **Seek open transition back to utility power** – We will consider this suggestion during detailed design.
- **Avoid peak shaving capability** – CDM evaluated the additional costs for seamless peak shaving capability and determined the payback period was not sufficient to justify the costs. DWC's power supply consultant may wish to revisit this evaluation following incorporation of new rate structures anticipated in early 2007.
- **Maintain high standards for longevity and aesthetics** – CDM will maintain high standards for longevity and aesthetics.
- **Move storage off-site** – CDM will work with DWC.
- **Move employee parking out of service yard** – CDM will work with DWC.



Mr. Robert L. Martin
November 20, 2006
Page 3

CDM has not completed a detailed review of the cost savings proposed in the value engineering study. CDM will provide construction cost opinions following completion of the revised 30%, 60%, 100% design submittals.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Cuneyt Feizoulof'.

Cuneyt Feizoulof, P.E., BCEE
Associate
Camp Dresser & McKee Inc.