



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 5:00 P.M. ON THURSDAY, JANUARY 13, 2005, 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, JANUARY 13, 2005
5:00 P.M.**

**600 EAST BUTTERFIELD ROAD
ELMHURST, IL 60126**

- I. Roll Call**
- II. Approval of Minutes**
 - Committee of the Whole October 14, 2004**
- III. Capital Improvement Plan**
- IV. Adjournment**

Board/Agenda/Commission/COW0501doc

All visitors must present a valid drivers license or other government-issued photo identification, sign in at the reception area and wear a visitor badge while at the DuPage Pumping Station.

**MINUTES OF A SPECIAL MEETING OF THE
COMMITTEE OF THE WHOLE OF THE
DuPAGE WATER COMMISSION
HELD ON THURSDAY, OCTOBER 14, 2004
600 E. BUTTERFIELD ROAD
ELMHURST, ILLINOIS**

The meeting was called to order by Chairman Vondra at 8:00 A.M.

Commissioners in attendance: R. Benson, E. Chaplin, T. Feltes, L. Hartwig, G. Mathews, W. Mueller, W. Murphy, A. Poole, J. Vrdolyak, G. Wilcox, D. Zeilenga and M. Vondra

Commissioners absent: R. Ferraro

Also in attendance: Treasurer R. Thorn, R. Martin, C. Pattelli, M. Crowley, C. Johnson, R. C. Bostick, E. Kazmierczak, T. McGhee, J. Schori, W. Green (Alvord Burdick & Howson), Vicki Hellenbrand (Virchow Krause & Company), Lewis Greenbaum (Katten Muchin Zavis Rosenman) and K. Godden

Commissioner Wilcox moved to approve the Minutes of the September 9, 2004 Committee of the Whole Meeting of the DuPage Water Commission. Seconded by Commissioner Mueller and unanimously approved by a Voice Vote.

All voted aye. Motion carried.

The General Manager introduced Vicki Hellenbrand from Virchow Krause & Company to present future Subsequent Customer capital buy-in methodologies that comply with the newly-adopted Illinois Public Act 93-0226.

Vicki Hellenbrand presented the report prepared by a working group of Commissioners, independent consultants, and staff entitled "Report on Capital Buy-in Analysis," dated October 14, 2004, which report was previously distributed to the Commissioners and customer utilities and briefly described the Commission's rate structure before Illinois Public Act 93-0226; the rate structure required by Illinois Public Act 93-0226; the steps the Commission had taken to develop a rate structure conforming to the requirements of Illinois Public Act 93-0226; and the various alternative yet compliant rate structures—high, low, and recommended—that may be implemented by the Commission.

During the course of the presentation, Chairman Vondra inquired whether the recommended capital buy-in methodology could be translated into a rate per 1,000 gallons and why the working group recommended the "low" definition of capital costs. Vicki Hellenbrand advised that it would be difficult to convert the recommended capital buy-in methodology into a rate per 1,000 gallons without knowing the precise financing terms and that the "low" definition of capital costs was chosen because it was consistent with past practice and fair. Commissioner Wilcox added that the working group felt strongly that financing should be addressed on a case-by-case basis and Commissioner Hartwig questioned the utility of converting the recommended capital buy-in methodology into a rate per 1,000 gallons. In response to Commissioner Benson's

question, West Chicago, DuPage County, and Warrenville were identified as the units of local governments with waterworks systems that were the most likely potential candidates to become future subsequent customers.

The General Manager concluded the presentation on the Capital Buy-In Analysis by announcing that a similar presentation would be made to the Administrators and Managers of the customer utilities on October 27, 2004. Commissioner Wilcox requested that staff inform the Commissioners of any questions and/or suggestions for additional analysis that were raised by the customers and provide copies of staff responses in advance of the next Board Meeting in November.

The General Manager then presented the proposed updated five year capital improvement plan that was deferred at the September 2004 Committee of the Whole meeting and included the results of the survey conducted by Commission staff regarding backup generation and storage. Discussion ensued concerning the merits of centralized versus decentralized backup electrical generation and the need for an electrical supply reliability study regarding the generator project.

Commissioner Murphy moved to recommend to the Commission that the General Manager be authorized to engage the services of Camp Dresser & McKee/Patrick Engineering, at a cost not to exceed \$100,000, to perform a study on the reliability of the electrical supply system in Illinois and the economics of backup electrical generation. Seconded by Commissioner Wilcox and unanimously approved by a Roll Call Vote:

Ayes: R. Benson, E. Chaplin, T. Feltes, L. Hartwig, G. Matthews, W. Mueller, W. Murphy, A. Poole, J. Vrdolyak, G. Wilcox, D. Zeilenga and M. Vondra.

Nays: None

Absent: R. Ferraro

Commissioner Mueller moved to adjourn the meeting at 9:30 A.M. Seconded by Commissioner Feltes and unanimously approved by a Voice Vote.

All voted aye. Motion carried.

DuPage Water Commission

Power Generation Benchmarking Evaluation

January 2005

Executive Summary

Executive Summary

Introduction and Background

The DuPage Water Commission (DWC) is investigating the installation of on-site power generation facilities at the DuPage Pumping Station and Lexington Pumping Station to enhance operational reliability and security.

In April 2004, Camp Dresser and McKee Inc. (CDM) completed an electrical generation study that evaluated on-site power generation alternatives and recommended the installation of diesel-fueled engine generators at the DuPage Pumping Station to provide standby power for 2020 average day flow requirements.

In the summer of 2004, CDM initiated the design of on-site power generation facilities for the DuPage Pumping Station. During the fall of 2004, the DWC's Board inquired whether DWC's incoming electrical service was sufficiently reliable to avoid implementing on-site power generation at the DuPage Pumping Station. Design efforts were suspended and the DWC requested a reliability evaluation for their incoming electrical service and a power generation benchmarking evaluation of other comparable water utilities.

Consolidated Consulting Corporation (CCC) was selected to prepare the electrical service reliability evaluation and CDM was selected to complete the power generation benchmarking evaluation.

Purpose

Several water utilities were contacted and interviews were conducted related to the reliability of their electrical service and their power generation capabilities. The purpose of this power generation benchmarking study is to summarize the findings of these interviews and summarize how DWC compares with other water utilities.

Utilities Interviewed

The following twelve utilities were interviewed for this benchmarking evaluation:

- Aurora Water Production ;Aurora, Illinois
- Central Lake County Joint Action Water Agency (CLCJAWA); Lake Bluff, Illinois
- Chicago Department of Water Management (CDWM); Chicago, Illinois
- Denver Water; Denver, Colorado
- Detroit Water and Sewerage Department (DWSD); Detroit, Michigan
- Elgin Water Department; Elgin, Illinois
- Evanston Water Department; Evanston, Illinois

- Glenview Public Works Department; Glenview, Illinois
- Northwest Suburban Municipal Joint Action Water Agency (NSMJAWA); Rosemont, Illinois
- Northwest Water Commission (NWC); Des Plaines, Illinois
- Racine Water Utility (RWU); Racine, Wisconsin
- Wilmette Water Department; Wilmette, IL

It should be noted that 9 of these utilities are “neighbors” of the DWC and provide water service for surrounding communities. One of these utilities, the Detroit Water and Sewerage Department, was affected by the August 14 blackout.

Interview Questions

Each utility was interviewed about the following topics:

- General (e.g., utility name, communities served, population served)
- Description of facilities
- Electrical service related (e.g, electrical service provider, number of incoming electrical services, on-site power generation)
- Power reliability (e.g., history of power outages, confidence in electrical service)
- Economic related (e.g., electric rate structure)
- Communities served for CLCJAWA, NSMJAWA, and NWC only (e.g., water storage available, power generation capability)

Summary of Key Findings

Key findings from the interviews include:

- Populations served ranged from 30,000 to greater than 5,000,000.
- Annual operating budgets ranged from \$8,000,000 to \$500,000,000.
- Quantity of water provided ranged from approximately 10 million gallons per day (MGD) to 1,600 MGD.
- The 9 Illinois-based water utilities have ComEd as their incoming electrical service provider.

- All 12 water utilities have at least two incoming electrical services and 10 of the 12 utilities have at least two incoming electrical services from independent substations.
- 11 of 12 utilities have on-site power generation facilities. Elgin is the only utility that does not currently have on-site power generation and they are currently in the design phase of on-site power generation facilities.
- 10 utilities use on-site power generation strictly for standby power purposes and 4 of these utilities do some form of load curtailment. The 11th utility, CLCJAWA, has the ability to peak shave.
- 8 utilities have sufficient on-site power generation to meet average day flow demands. 3 utilities have sufficient on-site power generation to meet peak flow demands.
- 6 utilities have only diesel-fueled engine generators. 2 utilities have only natural gas-fueled engine generators. 1 utility has a combination of diesel-fueled and natural gas-fueled engine generators. 1 utility has diesel-fueled and dual fuel (diesel and natural gas) engine generators.
- Only two utilities quantified any electrical cost-savings from participating in interruptible/curtailable programs – Evanston saved approximately \$26,000 in 2004 and Racine reduced their electric bill by approximately 25%.
- All utilities installed on-site power generation facilities to enhance operational reliability. Detroit had on-site power generation facilities prior to the August 14 blackout and is installing additional on-site power generation capacity as a result of the August 14 blackout.
- Power losses/interruptions over the last 3 years ranged from none (Elgin) to over 35 (CLCJAWA). Most power losses/interruptions were less than 2 hours. CLCJAWA had one power interruption that lasted for about 9 hours.
- The Chicago Department of Water Management supplies water to the DuPage Water Commission and indicated the following:
 - Chicago has incoming electrical services from at least two substations at all of their facilities, e.g., water purification plants and pumping stations.
 - The Jardine Water Purification Plant and South Water Purification Plant have sufficient on-site generation to meet average day flow requirements.
 - 4 of 8 electrified pumping stations have on-site power generation. The design for the conversion the Springfield Pumping Station from steam-operated to electric-operated is currently underway and includes on-site generation facilities.

- The 4 electric pumping stations that have on-site power generation were selected because of their ability to back-up other pumping stations. On-site power generation at these four pumping stations is sufficient to meet average day flow requirements for Chicago residents.
- As Chicago converts their remaining steam-operated pumping stations to electrically-operated, their standard design is to provide on-site power generation. The Roseland Pumping Station was recently converted from steam operation to electric operation and on-site generation facilities were constructed. The Springfield Pumping Station is currently being designed for conversion from steam to electric and on-site generation facilities will be included.
- Three water service providers (CLCJAWA, NSMJAWA, NWC) were surveyed about the storage and standby power facilities of their member communities. All of these water service providers have on-site power generation and they provided the following information about their member communities:
 - NSMJAWA's member communities have nearly 30 million gallons of storage resulting in 48 hours of storage at average day flow conditions for these communities.
 - NWC's member communities have 53.5 million gallons of storage resulting in approximately 12 hours of storage at average day flow conditions for these communities.
 - CLCJAWA's member communities have and maintain wells but do not like to use them.
 - NSMJAWA's member communities include some with wells and others with interconnections to another water service provider.
 - NWC's member communities have and maintain wells.
 - Some of CLCJAWA's member communities have on-site power generation facilities at their wells.
 - NWC's member communities have on-site power generation at their wells.
- On a scale of 1 to 5 (1 = no confidence, 5 = very confident and expect no electrical service interruptions) for confidence in the electrical service, eight utilities gave a rating of 4 or higher and four utilities gave a rating of 3 or higher.
- Although all utilities were relatively confident in their incoming electrical services, all have (or will have) on-site power generation facilities. Those interviewed indicated that while they were confident in their electrical service, they felt obliged

to provide on-site power for increased reliability because of the critical nature of their service, e.g., water provider.

Conclusions

This benchmarking evaluation revealed that installation of on-site power generation facilities is as much a philosophical-based decision as it is a technical-based decision. While all the utilities that were surveyed were relatively confident in their incoming electrical services and have had relatively few power outages/interruptions, they still felt obliged to provide on-site power generation facilities because of the critical nature of the service they provide.

The August 14 blackout showed that catastrophic power failures can occur and cast a spotlight on a vulnerability in water systems that had no or insufficient on-site power generation. Mike Brown, Director of the Federal Emergency Management Agency (FEMA) indicated the following:

"It is unacceptable to me that water treatment plants, for example, don't have backup power or that water treatment plants are susceptible to that kind of outage."

The benchmarking evaluation found that all interviewed Illinois-based water utilities that serve surrounding communities have multiple incoming electrical services, are confident in their electrical services, **and** have on-site power generation. In order for the DWC to provide the same level of reliability as neighboring peers, on-site power generation facilities would have to be installed at the DuPage and Lexington Pumping Stations.

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DuPAGE WATER COMMISSION
BENCHMARKING EVALUATION - RESPONSES

Utility	City of Aurora Water Production Aurora, IL	Central Lake County Joint Action Water Agency (CLCJAWA) Lake Bluff, IL	Chicago Department of Water Management Chicago, IL	Denver Water Denver Colorado	Detroit Water and Sewerage Department, Detroit & Eastern Michigan	City of Elgin Water Department Elgin, IL	City of Evanston Water Department	Village of Glenview Public Works Glenview, IL	Northwest Suburban Municipal Joint Action Water Agency (NSMJAWA) Rosemont, Illinois	Northwest Water Commission Des Plaines, IL	Racine Water Utility Racine, WI	Village of Wilmette IL
General												
1. Description of Facilities	1 WTF with FWPS, Multiple Wells, 1 Booster PS. Source water is Fox River and Deep and Shallow Wells. Approximately 50/50 split between river and wells during summer, rely more on river during winter.	Raw Water Pumping Station, Water Treatment Plant, Booster Pumping Station	Jardine Water Purification Plant, South Water Purification Plant, 12 Pumping Stations (8 electric-operated, 4 steam-operated)	Three Water Treatment Plants, Numerous Treated Water Pumping Stations and Reservoirs, One Reclaimed Water Treatment Plant.	5 WTPs, 21 Booster Pumping Stations	1 larger WTP treating river water and wells if needed. 1 smaller WTP treating only wells. Two booster stations.	<ul style="list-style-type: none">Water Treatment PlantNorthwest Standpipe and Pump StationSouthwest Standpipe and Pump Station	<ul style="list-style-type: none">For Glenview, Village owns 5 Reservoir/Pumping Station Facilities and 2 Elevated TanksVillage also owns North Maine system, which includes no pumping stations and one 750,000 MG elevated tank.	<ul style="list-style-type: none">O'Hare Pump Station4 Booster pump stations	Des Plaines Pump Station	The City of Racine has one Lake Michigan water treatment plant (WTP) that has the following facilities: <ul style="list-style-type: none">Raw water pump stationConventional treatment consisting of coagulation, flocculation, sedimentation and filtration.New submerged membrane system with 50 MGD capacity.High service pumpsChemical feed systemThe distribution system consists of 7 elevated tanks, one standpipe, three booster stations and 475 miles of water mains.	Water Treatment Facility
2. Population Served	Approximately 165,000		Approximately 6 million	Estimated 1 million	4.2 million	Approximately 95,000	~350,000	<ul style="list-style-type: none">Glenview: 90,000North Maine: 35,000	~300,000	~200,000	37,000 connections. Racine is approximately 85,000 people. The various villages Mount Pleasant, Caledonia, Wind Point, Elmwood Park, Sturtevant and Yorkville) add approximately 50,000 for a total served population of ~135,000.	Approx. 30,000 in Wilmette
3. Communities Served	Aurora and parts of Aurora Township	Grayslake, Gurnee, Lake Bluff, Lake County (Knollwood/Rondout, Vernon Hills, Wildwood), Libertyville, Mundelein, Round Lake, Round Lake Beach, Round Lake Consortium (Round Lake Heights, Round Lake Park)	Chicago + 120 communities	City and County of Denver, numerous metropolitan districts around the City and County	Detroit + 125 communities	Elgin, Sleepy Hollow, and Bartlett	Evanston, Skokie, and NWC	<ul style="list-style-type: none">Glenview – Village of Glenview, unincorporated Cook County, IAWCNorth Maine – Unincorporated Cook County	Elk Grove Village, Hanover Park, Hoffman Estates, Rolling Meadows, Schaumburg, Streamwood, and Mt. Prospect	Arlington Heights, Buffalo Grove, Wheeling, and Palatine	The Racine Water Utility provides potable water to areas located within the eastern half of Racine County. Water is also sold to wholesale customers, which include Town of Mount Pleasant, Town of Caledonia, Village of Wind Point, Villages of Elmwood Park and North Bay, and the Village of Sturtevant.	Wilmette, Glenview
4. Approximate Annual Operating Budget	\$15 million		Approximately \$500 million	2003 Operating Revenue = 139 million	\$330 million for water side	\$18 million	\$13,500,000	Combined: ~ \$8 million		\$9,000,000	\$10 Million	Approx. \$8,000,000 for 2005

Utility	City of Aurora Water Production Aurora, IL	Central Lake County Joint Action Water Agency (CLCJAWA) Lake Bluff, IL	Chicago Department of Water Management Chicago, IL	Denver Water Denver Colorado	Detroit Water and Sewerage Department, Detroit & Eastern Michigan	City of Elgin Water Department Elgin, IL	City of Evanston Water Department	Village of Glenview Public Works Glenview, IL	Northwest Suburban Municipal Joint Action Water Agency (NSMJAWA) Rosemont, Illinois	Northwest Water Commission Des Plaines, IL	Racine Water Utility Racine, WI	Village of Wilmette IL
Facility Information												
1. Type and Size of Facility (mgd)	<ul style="list-style-type: none"> WTF – 42 MGD Peak, 17.5 MGD Average Raw Water PS - 22.4 MGD firm WTF PS – 26.9 MGD firm Main PS – 4.2 MGD firm Booster Pump Station - 15 MGD Firm Wells – 19 MGD Peak 	Water Treatment Plant - 50 mgd	Jardine WPP – 960 mgd South WPP – 480 mgd Central Park PS – 336 mgd Springfield PS – 333 mgd Roseland PS – 382 mgd Western PS – 276 mgd Mayfair PS – 372 mgd Chicago PS – 250 mgd Cermak PS – 310 mgd T. Jefferson PS – 195 mgd Lakeview PS – 126 mgd 68 th St. PS – 242 mgd Southwest PS – 280 mgd Lexington PS – 259 mgd	Treatment Plants – Capacity: <ul style="list-style-type: none"> Marston - 250 million gallons per day Moffat - 185 million gallons per day Foothills - 280 million gallons per day Recycle Treatment Plants - Capacity: <ul style="list-style-type: none"> Commerce City - Phase I: Up to 30 million gallons per day 	5 WTPs (180 mgd, 210 mgd, 240 mgd, 330 mgd, 450 mgd); 21 Booster Pumping Stations ranging from 50 mgd to 300 mgd	<ul style="list-style-type: none"> Riverside WTP – 32 MGD (2-16 MGD trains) Airlite WTP – 8 MGD Total average flow: 13 MGD Medium Service Booster PS – 6 MGD Max High Service Booster PS – 4 MGD Max 	<ul style="list-style-type: none"> WTP – 108 MGD Max, 85 MGD Peak, 48.5 MGD average NW PS – 8.5 MGD Max (normally not used) SW PS – 8.5 MGD max (normally not used) 	Ruger Road, West Side, Laramie, Executive, Portage Run Total Pumpage: <ul style="list-style-type: none"> Glenview: 8.5 MGD average, 17 MGD peak North Maine: 2.2 MGD average, 4 MGD peak (pumped by Niles) 	<ul style="list-style-type: none"> O'Hare Pumping Station – 126 MGD Max, 98 MGD Firm, 36 MGD average, 60 MGD peak day Four booster pump station – Capacity not available 	Des Plaines Pump Station – 165 MGD peak, 127.5 MGD firm	Lake Michigan WTP with capacity of 50 MGD	25 mgd
2. If pumping station, then quantity and size of pumps	<ul style="list-style-type: none"> At WTF Raw Water PS – 5 – 5MGD pumps, and 1 – 2.4 MGD pump At WTF – 6 – 4.3 MGD pumps (normal service) and 3 – 1.8 MGD pumps (high service) At Main PS – 1 – 1.4 MGD pumps, 1 – 2.8 MGD pump and 1 – 5.8 MGD pump At Booster PS, 4-5MGD pumps 	Finished Water Pumps: 3 – 800 hp & 3 – 500 hp; Backwash Pumps: 2 – 200 hp	Chicago has 12 pumping stations. In electric-operated pumping stations, motor HPs range from 900 HP to 2250 HP.	Denver Water has over 25 pump stations	Not available	<ul style="list-style-type: none"> Medium Service Booster PS – 1-4 MGD pump, 1-2 MGD pump High Service Booster PS – 2-2 MGD pumps 	<ul style="list-style-type: none"> WTP Raw Water – 6 Pumps - 130 MGD max WTP Finished Water – 8 Pumps – 147 MGD max NW PS – 1 – 8.5 MGD pump SW PS – 1 – 8.5 MGD pump 	Varies (Ruger Road, West Side, and Laramie have 5 pumps each)	<ul style="list-style-type: none"> O'Hare Pump Station – 7 pumps 3 of 4 Booster stations – Three pumps 4th Booster stations – Four Pumps 	4-37.5 MGD pumps, 1-10 MGD pump, 1-5 MGD pump	<ul style="list-style-type: none"> 4 Low Lift pumps (3-300 HP and 1-250 HP) 4 High Lift Pumps (1-450 HP, 1-740 HP, 1-900 & 1-1250 HP). All with VFD's 	7 low lift pumps (2 x 50 Hp, 60 Hp, 75 Hp, 2 x 100 Hp, 200 Hp); 7 high lift pumps (150 Hp, 2 x 200 Hp, 300 Hp, 3 x 400 Hp)
3. Type, size, duration of system storage, e.g., elevated storage, standpipes	<ul style="list-style-type: none"> 23.76 MG of total Storage (1.35 days of storage on average day) comprised of: <ul style="list-style-type: none"> 4-1 MG underground reservoirs at WTF 2-1 MG clearwells at WTF 4-1 MG ground tanks in system 1-5 MG standpipe 1-4 MG standpipe 4.76 MG in various elevated tanks 		No system storage. CDWM pumps on demand.	Denver Water typically has below grade storage reservoirs. There are a few above grade tanks.	Approximately 200 million gallons total reservoir storage. Yearly average flow = 650 mgd; summer peaks > 1 bgd; winter flows < 400 mgd Approximately 7 hours of storage at average flow	<ul style="list-style-type: none"> 16.5 MG of total Storage (1.25 days of storage on average day) comprised of <ul style="list-style-type: none"> 6 MG ground at Riverside 2 MG ground at Airlite 4 MG ground at one booster PS 1-2 MG Elevated Tank 2-1 MG Elevated Tank 1-0.5 MG Elevated Tank 	<ul style="list-style-type: none"> WTF – 9.5 MGD clearwell NW Standpipe – 7.5 MG SW Standpipe – 5 MG 	<ul style="list-style-type: none"> Glenview: 5 Reservoirs and 2 Elevated tanks for a total storage of 15 MG (soon to be 18 MG). Duration of storage: 1.75 days average, 0.8 days peak (soon to be 2.1 days average, 1.0 day peak) North Maine: 0.35 days average (does not include Niles storage) 	<ul style="list-style-type: none"> O'Hare Pump Station – 2-10 MG ground storage System – 2-5 MG Standpipes 	25 MG at Des Plaines Morton Grove Booster Station	The distribution system consists of 7 elevated tanks and one standpipe. Below table provides list of tanks and size of each tank. Caledonia and Sturtevant maintain their own tanks (also listed below). Tank (Size): <ul style="list-style-type: none"> Coolidge Ave – Elevated – (1.5 MG) Summit Ave – Elevated – (1.5 MG) Perry Ave – Standpipe – (2.75 MG) Regency Mall – Elevated (2 MG) Village of Sturtevant – Elevated (0.25 MG) Village of Sturtevant – Elevated (0.75 MG) Town of Caledonia – Elevated (0.75 MG) 	
4. Approximate Year Built		1988 with subsequent expansions			Varies					1984	Low lift pumps upgraded in 1998. High lift pumps have been operational for a very long time (last change - added a pump in 1980).	

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Electrical Service Related												
1. Who is your electric service provider?	ComEd	ComEd	ComEd	Excel Energy	Detroit Edison	ComEd	ComEd	ComEd	ComEd	ComEd	WE Energies	ComEd
2. Number of incoming electrical services. - Are they from independent substations? - If so, how many originate from independent substations?	<ul style="list-style-type: none">WTF and Booster Station have separate feed from different substationsWells have only a single feed	One primary feed with a secondary standby feed that originates from a separate substation.	All facilities have multiple feeds with feeds from at least two separate substations.	Typically have one power source feeding the treatment plants or pump stations. The treatment plants have substations located on-site.	All facilities (WTPs and booster stations) have two incoming services from independent substations.	All have two feeds, but all are from same substation	<ul style="list-style-type: none">WTP – 3 feeds from two separate substationsNW and SW PS – 1 feed	Ruger Road and West Side have two feeds from different substations, the remainder have one feed.	<ul style="list-style-type: none">O'Hare PS – 2 feeds from separate substationsBooster PSs – 1 feed each	3 feeds from 2 separate substations	The Racine WTP has two 3750 kVA incoming power transformers with two service lines. These lines are fed from the same substation.	2 incoming services from independent substations
3. Any on-site power installed at your facilities?	Yes	Yes	Yes, at Jardine and South Purification Plants and Roseland, Cermak, Lakeview and Southwest Pumping Stations. Springfield PS is currently being design for conversion to electric-operated and will include on-site power generation.	All facilities including pump stations have some type of back-up power generation. Typically, Water Treatment Plants have generators sized to continue treating water. At pump stations, the generator power provides energy for controls and lighting and not the pump operation.	Yes	No, but project underway to design new facilities.	Yes	<ul style="list-style-type: none">Ruger Road – 750 kW diesel generator (storage unknown)West Side – 750 kW diesel generator (storage unknown)Laramie – 800 kW natural gas generatorExecutive – One pump has natural gas backup enginePortage Run – One pump has natural gas backup engineNorth Maine: Niles PS has diesel generator	Yes	Yes	Yes	Yes
- What is the purpose, e.g., standby power, load curtailment, peak shaving, excess power sell-back?	Standby Power	Peak shaving	Standby power	At the treatment plants (Marston, Foothills) the stand-by generator can be used for peak shaving. Denver Water does not sell-back power through their generators, but they do have turbines at a couple facilities that they do sell back energy produced from the turbines.	Standby power	Future purpose - Standby Power	Standby power with possibility of load curtailment	Standby power primarily, also used for load curtailment	Standby Power, some load curtailment	Standby Power and Load Curtailment	Standby power for maximum day flow demand.	Standby power
- How much back-up does it provide, e.g., average day flow, design flow?	Average Day Flow	Average day during loss of utility, design flow for peak shaving.	Average day flow	The back-up power can handle the average day flow at the design flow or plant capacity.	Average day flow, e.g., 650 mgd	Will provide 2020 average day flow	Approximately current peak flow (70 MGD)	Unknown	Designed for current average day flow.	40 MGD which is 70% of 2020 average day flow	The Racine WTP has onsite power generation capacity to meet maximum day flow demands.	Average day flow
- How many generator units? - Size? - Type (diesel, natural gas)? - When installed? - If diesel, # days of diesel fuel storage? - Any special fuel delivery arrangements?	<ul style="list-style-type: none">Plant - 1 - 2 MW diesel generator installed in 1999. Generator has 2400 gallons of storage which is enough for 1 week of operation at average flow.Main PS – 1- 1 MW diesel generator. Generator has 1000 gallons of storage	<ul style="list-style-type: none">52 – 1100 kW diesel, 3 – 825 kW natural gas24 hours of diesel storageNo	Roseland PS: 5 -1800 kW diesel Cermak PS: 6 – 1800 kW diesel Lakeview PS: 5 – 1800 kW diesel Southwest PS: 4 – 2000 kW diesel	This depends on the facilities. All areas have one back-up generator that is typically diesel operated. The pump stations have about 5 days of storage and the treatment plant facilities have 20 days of storage. The newest generator at Marston WTP has both natural gas and diesel gas capabilities.	<ul style="list-style-type: none">VariesVaries – includes a CAT 2 MW diesel unitAll diesel350 mgd backup installed pre Y2K; Remaining 300 mgd under design.24 hoursNo	N/A	<ul style="list-style-type: none">4 raw water pumps have natural gas engine drives as backup (70 MGD)5 finished water pumps have natural gas engine drives as backup (82 MGD)500 kW natural gas generator at WTP for ancillary power (process and control)1-250 kW portable diesel generator for additional power at WTP or at one of standpipe pump stations	<ul style="list-style-type: none">O'Hare Pump Station – 1-1800 kW diesel turbine generator – 8000 gal storage (~1.5 days of load)3 of 4 Booster stations – Three pumps – 1 diesel generator each – Power one pump4th Booster stations – Four Pumps – 2 diesel generators – Power two pumps	1 – 1420 kW, Diesel generator (4160 V). 6 Days of storage at max load	Racine has three diesel engines (each 1,500 kW) for an installed capacity of 4,500 kW. The generators were installed in 2003. There is room for a fourth engine to meet future demands. Racine has ~ 1-month of diesel fuel storage (10,000 gal reserve tank and each generator has 150 gallons one-day storage). Special fuel delivery arrangements with Franksville oil to supply	<ul style="list-style-type: none">21000 kW & 500 KwNatural gas1000 kW installed in 1998	

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											fuel in case of area-wide blackout (emergency).	
- Why did you install on site power generation? Reliability? Vulnerability? - Other?	Installed for Y2K reliability. Maintained to provide backup in case of regional blackout.	Primarily related to reliability and vulnerability. Upgraded to peak shaving for economic reasons.	For reliability	On-site power generation was installed at the pump stations to allow control of pump stations from remote locations even during power outages. Denver Water standard. The on-site power generation at the Treatment plants was installed to provide reliability as they have experienced outages in the past.	<ul style="list-style-type: none"> Reliability. With deregulation, the investment back in the grid has been limited and DWSD believes it will grow more vulnerable over time. Before August 14, DWSD had diesel generators at 3 of 5 WTPs and 6 or 7 booster stations and could supply 350 mgd. Spent \$54 million to install 350 mgd backup. After August 14, all 5 WTPs and selected booster stations (based on distribution system modeling) will have diesel generators to supply 650 mgd (average day flow). 	Installing based on previously identified need (pre-2000).	Reliability...installed with original construction.	Reliability	Reliability	Reliability	On site power generation were mainly installed for reliability. Racine wanted to meet customer demands even under loss of utility power.	Reliability
Power Reliability												
1. Approximate number of power failures over last 3 years. <ul style="list-style-type: none"> Any over 2 hours? 4 hours? 8 hours? 	At the plant and booster station, no blackouts in last 3 years. At wells, 3-4 blackouts per year with no backup.	<ul style="list-style-type: none"> 36 to 40 Yes, about 4 1 1 that lasted about 9 hours 	See lots of interruptions but very few sustained power losses. For first 3 months of Lexington operation, Cicero substation probably had about 30 outages. After that, service has been reliable.	Varies due to amount of infrastructure under Denver Water. Denver Water can operate with any treatment plant or pump station out of service for at least 2 weeks. Some of the plants have had power outages of 4-8 hours due to construction activities, weather events, etc. Pump Stations have been lost for weeks due to flooding. The client was unsure about the number experienced at each facility. But they probably average 3-4 outages of less than 2 hours per treatment facility.	<ul style="list-style-type: none"> Many due to ice storms, high winds, transformer failures. Yes, but don't know how many. Don't think so. Don't think so. 	None at four major facilities.	No full power losses	12 to 15 over 3 years. Longest was 1.5 hours.	None	None	Momentary power outages (due to some electric work) in past few years. Last power outage in Racine late 80's (may be internal problem).	
2. Were you affected by August 14, 2003 blackout?: <ul style="list-style-type: none"> If so, did you make any modifications to improve your power reliability as a result, e.g., installing on-site power generation? Any other changes? 	No	No	No	No	Yes, see above.	No	No	No	No	No	The Racine WTP was not affected during the blackout. At the time of the August blackout, Racine was in the final stages of construction for the new engine generation facility.	No

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3. How confident are you in the reliability of your electrical service provider? 1= No confidence, 5 = Very confident	4.5	3	3.5	Denver Water has a moderate comfort level with Excel. Due to the remoteness of some of the facilities and the construction growth in the area, Denver Water has experienced power outages. However, Denver Water's system has so much redundancy if one treatment plant were out of service for a month, the other two treatment plants could make up the difference.	3	4	5 – no problems, but believe their grid is high priority because of NU and Evanston Hospital	4, much better in the last 3 years	4.5	5	4.5	
4. If you rely solely on electric utility, then what is your contingency plan in the event of a regional blackout?		Not applicable	Don't rely solely on electric utility.		Don't rely solely on electric utility.	None		Back up power as described.			N/A	
5. Do you have any contingency plan with local Fire? Police? Others?	Yes, completed per EPA as part of Vulnerability Assessment	Completed as part of VA – not specific for power loss.				Yes, contingency plans with emergency services.	Yes	Have agreement with Northbrook to share up to 6 MGD to other in case of emergency. Two interconnection points with pump stations and backup natural gas generators at the pump stations.	No official contingency plan with emergency services.	No	Emergency response plan (but not necessarily for power loss).	
Economic Related for Those with On-Site Generation												
1. Electric Rate Structure – before and after on-site generation	Same, water pumping.	Rate 6L currently. Will continue to be 6L after natural gas generators are installed and will peak shave.	No different.	No different	Did not change.	Will be same	Load Curtailment Rider	Moved to Load Curtailment arrangement.			<ul style="list-style-type: none"> Standard municipal rate (with peak hour charges). Load management saving (described below) after power generation. 	
2. Any special arrangements with electric utility? Interruptible/curtailable? Sell-back?	No	Peak shaving so CLCJAWA made investment to parallel the electric utility for seamless transfer.	No	Denver Water is on primary feed, non-interruptible service.	<ul style="list-style-type: none"> No, but as a courtesy we do try to help Detroit Edison when they request we shed load. No, there are legal implications. Can't sell power for profit. 	No	Curtailable	Curtailable.	Curtailable		Racine will have the following arrangement with WE Energies: WE can disconnect Racine WTP from WE electric grid up to 300 hours per year. In return, Racine gets a ~ 25% saving on electric bills calculated at ~ \$110,000/year saving)	
3. Was electric bill impacted (reduced) as a result of adding on-site generation?	No	To be determined.	No	No, the electrical peak-shaving has not been used effectively to-date.	No	No	<ul style="list-style-type: none"> No rebate in 2004 ~\$26,000 rebate in 2003 	Only load curtailed 2 or 3 times, very little impact to bill (less than \$1000).	Used curtailment once five years ago		The only saving is the 25% resulted from allowing the Plant to be off the electric utility grid. This saving would not have been realized by Racine if it did not have the engine generators to provide max day flow, even during summer peaks, during loss of power.	

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Communities Served (CLCJAWA, NWC, NSMJAWA)												
1. How much storage do your communities have?		Not available					Skokie includes 10 MG of storage		<ul style="list-style-type: none">Rolling Meadows – 5.5 MG (2 days at average flow)Schaumburg – 6 MG (elevated) and 18 MG (ground) (2.25 days at average flow)	<ul style="list-style-type: none">Arlington Heights – 29 MGBuffalo Grove – 5.75 MGWheeling – 8 MGPalatine – 10.75 MG Approximately 12 hours of storage at average day flow.	Some communities have storage (Caledonia and Sturvenant) – see above table.	
2. What would your communities do if you could not supply them water? For example, do they have and maintain wells?		Member communities do have and maintain wells but they do not like to use them.					No other backup		Some have wells. Some have interconnections with other systems.	Deep well supply as backup	Mike Kosterman didn't think any communities had backup water supply.	
3. Do your communities have on-site power generation at their local pumping stations?		Some do, but not sure how many.					Not for Skokie, but PS not normally used (pressure provided by WTP).		Unknown	Yes	Sturtevant and Caledonia may have engine generators at their pump station.	
4. What are your contractual obligations with respect to supplying water to your member communities?		During loss of power, there is no contractual obligation to supply water.					No penalties but required to provide max of 55 MGD to NWC at all times.		Unknown	Best efforts		

**DUPAGE WATER COMMISSION
2005 - 2006
FIVE YEAR CAPITAL IMPROVEMENT
PLAN**


JANUARY 7, 2005



DuPage Water Commission

MEMORANDUM

TO: Chairman Vondra and Commissioners

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

DATE: January 7, 2005

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. Included in the plan is a 15 year projection of revenues, expenditures and fund balances. The proposed capital plan is included in the projection summary.

The plan is divided into several sections – Distribution System Improvements, DuPage Pump Station Improvements, Lexington Pump Station Improvements, and Standpipe Improvements. A summary shows the capital outlay (funded by sales tax revenues) and major non-recurring maintenance (funded by water rates) 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 2019-20.

The status of the Capital Improvement Plan projects is as follows:

Contract TIB-1: under construction approximately 43% complete

30 Million Gallon Reservoir: design 90% complete

DuPage Electrical Generation Facility: design 30% complete and on hold

Pipe Storage Facility: design complete

The draft fiscal 2005-06 planning document represents the tenth 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 \$1.65 per 1,000 gallons for a period of five years. To accomplish this, and to maintain the rate thereafter, it is necessary to use sales tax beginning in fiscal year 2008-09 to supplement operation and maintenance costs.

Planned improvements accepted by the Board will be included in the 2005-06 budget document. 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, 2005.

**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

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**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

SUMMARY

**DUPAGE WATER COMMISSION
2005 – 2006
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 total charter customer average water rate remains \$1.65 per thousand gallons.
- Sales tax receipts will be used beginning May 1, 2008 to hold the water rate at \$1.65 per thousand gallons.
- Sales tax receipts pay for general obligation bond debt service requirements allowing the abatement of \$13.1 million of property tax annually.
- The 15% subsequent customer capital risk factor has been suspended effective January 1, 2004.
- 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.
- The 20% water purchase credit is based on annual anticipated purchases. This credit ended during fiscal year 2004-05.
- 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 target fund balance available for emergency repairs will increase by 3% per year. However, once this amount reaches a targeted maximum of \$20 million, the balance will hold at that level. (Presently the Commission indexes its targeted emergency repair balance to be 2% of the original construction costs escalated by the annual increases in the Engineering News Record Construction Index.)
- 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.

DuPAGE WATER COMMISSION - 5 YEAR PROJECTION
SUMMARY OF REVENUES, EXPENDITURES AND FUND BALANCES
MAY 1, 2005 TO APRIL 30, 2010

ACCOUNT TITLE	ALL FUNDS FY 03-04 ACTUAL	ALL FUNDS FY 04-05 ADJ. BUDGET	ASSUMPTION OR % CHGE FY 06-10 ONLY	ALL FUNDS FY 05-06 PROJECTION	ALL FUNDS FY 06-07 FORECAST	ALL FUNDS FY 07-08 FORECAST	ALL FUNDS FY 08-09 FORECAST	ALL FUNDS FY 09-10 FORECAST
REVENUES								
O & M PAYMENTS	42,485,698	44,853,380	CALCULATED	47,496,509	48,231,400	48,632,815	49,030,289	49,422,953
SALES TAX USED FOR O & M COSTS	0	0	CALCULATED	0	0	0	7,605,961	16,254,414
FIXED COST PAYMENTS (% PAID BY SALES TAX)	8,916,329	7,143,969	50.0%	7,143,969	7,144,469	7,145,094	7,145,344	7,144,719
SUBSEQUENT CUSTOMER DIFFERENTIAL/EMERGENCY SUPPLY	783,326	791,159	1.0%	799,071	807,062	815,133	823,284	831,517
SALES TAX USED FOR CONSTRUCTION AND BOND PAYMENTS	31,620,982	32,632,524	2.0%	33,285,174	33,950,877	34,629,895	27,716,532	19,774,529
INTEREST INCOME	2,321,233	1,753,263	EXTRAPOLATED	1,639,801	1,341,830	1,160,857	1,013,669	976,596
OTHER INCOME	102,058	0	0.0%	0	0	0	0	0
TOTAL REVENUE	86,229,626	87,174,295		90,364,524	91,475,638	92,383,794	93,335,079	94,404,728
OPERATING EXPENDITURES								
WATER PURCHASES (3% ANNUAL RATE INCREASES)	39,013,675	41,615,189	CALCULATED	45,399,451	47,161,752	48,980,542	50,853,868	52,816,647
20% CREDIT THRU OCTOBER 2004	(7,802,735)	(4,611,512)	CALCULATED	0	0	0	0	0
5 YEAR CAPITAL PLAN MAJOR REPAIRS	4,810,523	2,572,000	CALCULATED	3,000,000	1,020,000	0	0	0
OTHER OPERATING EXPENSES (EXCL BOND INTEREST/DEPRC)	10,036,387	10,738,677	5.0%	11,476,082	12,049,886	12,652,380	13,284,999	13,949,249
REVENUE BOND PRINCIPAL AND INTEREST COSTS	20,727,699	14,287,938	CALCULATED	14,287,938	14,288,937	14,290,188	14,290,687	14,289,438
G.O. BOND PRINCIPAL AND INTEREST COSTS	13,112,650	13,122,150	CALCULATED	13,122,150	13,124,150	13,117,900	13,117,650	13,116,900
CAPITAL EQUIPMENT	84,608	88,838	5.0%	93,280	97,944	102,841	107,983	113,382
TOTAL OPERATING EXPENDITURES AND COMMITMENTS	79,982,807	77,813,280		87,378,901	87,742,669	89,143,851	91,655,187	94,285,616
5 YEAR CAPITAL PLAN NEW CONSTRUCTION	3,432,005	10,505,000	CALCULATED	19,589,000	9,935,000	5,171,000	4,691,000	476,000
5 YEAR CONSTRUCTION PLAN RSRVR (DELAY)-CATCH-UP	0	0	CALCULATED	0	0	0	0	0
OTHER MINOR RELATED OUTLAYS	0	250,000	4.0%	250,000	260,000	270,400	281,216	292,465
DUPAGE COUNTY SALES TAX GRANT	15,000,000	15,000,000	PA93-0226	15,000,000	15,000,000	15,000,000	0	0
WATER QUALITY LOANS	4,034,000	1,250,000	BOARD POLICY	4,716,000	0	0	0	0
REVOLVING LOANS	0	0	BOARD POLICY	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
TOTAL CASH OUTLAYS AND COMMITMENTS	102,448,812	104,818,280		129,433,901	115,437,669	112,085,251	99,127,403	97,554,081
NET TRANSACTIONS	(16,219,186)	(17,643,985)		(39,069,377)	(23,962,031)	(19,701,457)	(5,792,324)	(3,149,353)
BEGINNING FIVE YEAR PLAN CASH AND EQUIVALENTS	136,423,000	136,171,835	CALCULATED	118,527,850	79,458,473	55,496,442	35,794,985	30,002,661
RELEASE OF REV BOND DSR (SURETY BOND)	17,837,213	0		0	0	0	0	0
CONVERTED (TO) - FROM RESTRICTED OR CAPITAL NET ASSETS	(1,869,192)	0		0	0	0	0	0
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS	136,171,835	118,527,850		79,458,473	55,496,442	35,794,985	30,002,661	26,853,308
HELD FOR EMERGENCY REPAIRS-TARGET (1)	11,700,000	12,000,000	3.0%	12,300,000	12,700,000	13,100,000	13,500,000	13,900,000
O&M RATE STABILIZATION RESERVE	44,223,355	40,248,184		29,300,078	18,445,984	6,478,592	0	0
CONSTRUCTION RESERVE	14,282,480	16,563,666		7,858,395	9,350,458	16,216,393	16,502,661	12,953,308
PA93-0226 UNDISTRIBUTED	60,000,000	45,000,000		30,000,000	15,000,000	0	0	0
UNDISTRIBUTED WATER QUALITY LOANS	5,966,000	4,716,000		0	0	0	0	0
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS BY CATEGORY	136,171,835	118,527,850		79,458,473	55,496,442	35,794,985	30,002,661	26,853,308
O & M RATE	1.38	1.43		1.43	1.44	1.44	1.44	1.44
FIXED COST RATE	0.29	0.23		0.22	0.21	0.21	0.21	0.21
TOTAL RATE	1.67	1.66		1.65	1.65	1.65	1.65	1.65

NOTE (1) - TO MAX OF 20,000,000

REVISED: JANUARY 5, 2005

DUPAGE WATER COMMISSION - 5 YEAR PROJECTION
SUMMARY OF REVENUES, EXPENDITURES AND FUND BALANCES
MAY 1, 2005 TO APRIL 30, 2010

ACCOUNT TITLE	ALL FUNDS FY 10-11 FORECAST	ALL FUNDS FY 11-12 FORECAST	ALL FUNDS FY 12-13 FORECAST	ALL FUNDS FY 13-14 FORECAST	ALL FUNDS FY 14-15 FORECAST	ALL FUNDS FY 15-16 FORECAST	ALL FUNDS FY 16-17 FORECAST	ALL FUNDS FY 17-18 FORECAST
REVENUES								
O & M PAYMENTS	49,807,248	50,185,781	50,915,294	51,296,456	51,677,456	52,066,420	52,461,721	60,145,907
SALES TAX USED FOR O & M COSTS	19,384,255	21,826,877	24,058,899	26,762,075	29,474,686	32,347,025	14,883,734	31,326,183
FIXED COST PAYMENTS (% PAID BY SALES TAX)	7,145,219	7,146,219	7,144,594	7,144,844	7,144,163	7,144,969	7,143,844	0
SUBSEQUENT CUSTOMER DIFFERENTIAL/EMERGENCY SUPPLY	839,832	848,230	856,712	865,279	873,932	882,671	891,498	900,413
SALES TAX USED FOR CONSTRUCTION AND BOND PAYMENTS	17,365,267	15,657,635	14,175,303	12,236,811	10,304,178	8,227,416	26,502,196	10,887,466
INTEREST INCOME	960,489	932,480	895,672	949,994	993,742	1,023,343	962,844	1,031,840
OTHER INCOME	0	0	0	0	0	0	0	0
TOTAL REVENUE	95,502,310	96,597,222	98,046,474	99,255,459	100,468,157	101,691,844	102,845,837	104,291,809
OPERATING EXPENDITURES								
WATER PURCHASES (3% ANNUAL RATE INCREASES)	54,830,562	56,898,588	59,063,675	61,291,377	63,582,125	65,983,993	68,497,397	71,076,622
20% CREDIT THRU OCTOBER 2004	0	0	0	0	0	0	0	0
5 YEAR CAPITAL PLAN MAJOR REPAIRS	820,080	836,482	853,212	870,276	887,682	905,436	923,545	942,016
OTHER OPERATING EXPENSES (EXCL BOND INTEREST/DEPRC)	14,646,711	15,379,047	16,147,999	16,955,399	17,803,169	18,693,327	19,627,993	20,609,393
REVENUE BOND PRINCIPAL AND INTEREST COSTS	14,290,437	14,292,438	14,289,187	14,289,688	14,288,325	14,289,937	14,287,688	0
G.O. BOND PRINCIPAL AND INTEREST COSTS	13,121,275	13,119,413	0	0	0	0	0	0
CAPITAL EQUIPMENT	119,051	125,004	131,254	137,817	144,708	151,943	159,540	167,517
TOTAL OPERATING EXPENDITURES AND COMMITMENTS	97,828,116	100,650,972	90,485,327	93,544,557	96,706,009	100,024,636	103,496,163	92,795,548
5 YEAR CAPITAL PLAN NEW CONSTRUCTION	2,032,962	2,073,621	2,115,093	2,157,395	2,200,543	2,244,554	2,289,445	2,335,234
5 YEAR CONSTRUCTION PLAN RSRVR (DELAY)-CATCH-UP	0	0	0	0	0	9,447,000	18,961,000	9,829,000
OTHER MINOR RELATED OUTLAYS	304,164	316,331	328,984	342,143	355,829	370,062	384,864	400,259
DUPAGE COUNTY SALES TAX GRANT	0	0	0	0	0	0	0	0
WATER QUALITY LOANS	0	(305,462)	(401,615)	(764,385)	(764,385)	(764,385)	(764,385)	(764,385)
REVOLVING LOANS	0	0	(192,308)	(384,615)	(576,923)	(769,231)	(961,538)	(961,538)
TOTAL CASH OUTLAYS AND COMMITMENTS	100,165,242	102,735,462	92,335,481	94,895,095	97,921,073	110,552,636	123,405,549	103,634,118
NET TRANSACTIONS	(4,662,932)	(6,138,240)	5,710,993	4,360,364	2,547,084	(8,860,792)	(20,559,712)	657,691
BEGINNING FIVE YEAR PLAN CASH AND EQUIVALENTS	26,853,308	22,190,376	16,052,136	21,763,129	26,123,493	28,670,577	19,809,785	27,153,054
RELEASE OF REV BOND DSR (SURETY BOND)	0	0	0	0	0	0	0	0
CONVERTED (TO) - FROM RESTRICTED OR CAPITAL NET ASSETS	0	0	0	0	0	0	27,902,981	0
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS	22,190,376	16,052,136	21,763,129	26,123,493	28,670,577	19,809,785	27,153,054	27,810,745
HELD FOR EMERGENCY REPAIRS-TARGET (1)	14,300,000	14,700,000	15,100,000	15,600,000	16,100,000	16,600,000	17,100,000	17,600,000
O&M RATE STABILIZATION RESERVE	0	0	0	0	0	0	0	0
CONSTRUCTION RESERVE	7,890,376	1,046,674	5,956,052	9,052,031	10,334,730	209,553	6,288,437	5,681,743
PA93-0226 UNDISTRIBUTED	0	0	0	0	0	0	0	0
UNDISTRIBUTED WATER QUALITY LOANS	0	305,462	707,077	1,471,462	2,235,847	3,000,232	3,764,617	4,529,002
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS BY CATEGORY	22,190,376	16,052,136	21,763,129	26,123,493	28,670,577	19,809,785	27,153,054	27,810,745
O & M RATE	1.44	1.44	1.45	1.45	1.45	1.45	1.45	1.65
FIXED COST RATE	0.21	0.21	0.20	0.20	0.20	0.20	0.20	0.00
TOTAL RATE	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65

NOTE (1) - TO MAX OF 20,000,000

DUPAGE WATER COMMISSION - 5 YEAR PROJECTION
SUMMARY OF REVENUES, EXPENDITURES AND FUND BALANCES
MAY 1, 2005 TO APRIL 30, 2010

ACCOUNT TITLE	ALL FUNDS FY 18-19 FORECAST	ALL FUNDS FY 19-20 FORECAST
REVENUES		
O & M PAYMENTS	60,594,546	61,043,949
SALES TAX USED FOR O & M COSTS	34,573,233	37,924,923
FIXED COST PAYMENTS (% PAID BY SALES TAX)	0	0
SUBSEQUENT CUSTOMER DIFFERENTIAL/EMERGENCY SUPPLY	909,417	918,511
SALES TAX USED FOR CONSTRUCTION AND BOND PAYMENTS	8,484,689	5,994,157
INTEREST INCOME	1,047,344	1,121,062
OTHER INCOME	0	0
TOTAL REVENUE	105,609,229	107,002,602
OPERATING EXPENDITURES		
WATER PURCHASES (3% ANNUAL RATE INCREASES)	73,762,941	76,558,363
20% CREDIT THRU OCTOBER 2004	0	0
5 YEAR CAPITAL PLAN MAJOR REPAIRS	960,856	980,073
OTHER OPERATING EXPENSES (EXCL BOND INTEREST/DEPRC)	21,639,863	22,721,856
REVENUE BOND PRINCIPAL AND INTEREST COSTS	0	0
G.O. BOND PRINCIPAL AND INTEREST COSTS	0	0
CAPITAL EQUIPMENT	175,893	184,688
TOTAL OPERATING EXPENDITURES AND COMMITMENTS	96,539,553	100,444,980
5 YEAR CAPITAL PLAN NEW CONSTRUCTION	2,381,939	2,429,578
5 YEAR CONSTRUCTION PLAN RSRVR (DELAY)-CATCH-UP	0	0
OTHER MINOR RELATED OUTLAYS	416,269	432,920
DUPAGE COUNTY SALES TAX GRANT	0	0
WATER QUALITY LOANS	(764,385)	(764,385)
REVOLVING LOANS	(961,538)	(961,538)
TOTAL CASH OUTLAYS AND COMMITMENTS	97,611,838	101,581,555
NET TRANSACTIONS	7,997,391	5,421,047
BEGINNING FIVE YEAR PLAN CASH AND EQUIVALENTS	27,810,745	35,808,136
RELEASE OF REV BOND DSR (SURETY BOND)	0	0
CONVERTED (TO) - FROM RESTRICTED OR CAPITAL NET ASSETS	0	0
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS	35,808,136	41,229,183
HELD FOR EMERGENCY REPAIRS-TARGET (1)	18,100,000	18,600,000
O&M RATE STABILIZATION RESERVE	0	0
CONSTRUCTION RESERVE	12,414,749	16,571,411
PA93-0226 UNDISTRIBUTED	0	0
UNDISTRIBUTED WATER QUALITY LOANS	5,293,387	6,057,772
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS BY CATEGORY	35,808,136	41,229,183
O & M RATE	1.65	1.65
FIXED COST RATE	0.00	0.00
TOTAL RATE	1.65	1.65

NOTE (1) - TO MAX OF 20,000,000

SUMMARY OF ESTIMATED NEW CONSTRUCTION COSTS

DESCRIPTION (BASED ON FY 05-06 COSTS)	FY 05-06	FY 06-07	FY 07-08	FY 08-09	FY 09-10	TOTAL
DISTRIBUTION SYSTEM IMPROVEMENTS						
Contract TIB-1; Route 83 - Engineering	900,000					900,000
Contract TIB-1; Route 83 - Construction (1)	6,000,000					6,000,000
DuPAGE PUMP STATION IMPROVEMENTS						
8 MW Electrical Generator Facility - Engineering	520,500	470,000				990,500
8 MW Electrical Generator Facility - Construction	8,000,000	4,500,000				12,500,000
Garage/Office Building- Engineering	205,500					205,500
Garage/Office Building- Construction	1,550,000					1,550,000
Granular and Equipment Storage Facilities- Engineering	25,500					25,500
Granular and Equipment Storage Facilities- Construction	640,000					640,000
Cadwell Avenue Realignment- Engineering	26,500					26,500
Cadwell Avenue Realignment- Construction	110,000					110,000
Pump #10-Engineering					40,000	40,000
Pump #10-Installation					400,000	400,000
Reservoir Engineering & Construction (2)						
LEXINGTON PUMP STATION IMPROVEMENTS						
Generator Facility - Engineering		770,500	470,000	420,000		1,660,500
Generator Facility - Construction		4,000,000	4,500,000	4,000,000		12,500,000
STANDPIPE IMPROVEMENTS						
Pipe Storage Facility- Engineering	20,500					20,500
Pipe Storage Facility- Construction	1,500,000					1,500,000
Standpipe #4 East Riser Pipe Modifications- Engineering	10,500					10,500
Standpipe #4 East Riser Pipe Modifications- Construction	80,000					80,000
	<u>19,589,000</u>	<u>9,740,500</u>	<u>4,970,000</u>	<u>4,420,000</u>	<u>440,000</u>	<u>39,159,500</u>
INFLATION FACTOR 2% PER YEAR	100.0%	102.0%	104.0%	106.1%	108.2%	101.8%
	<u>19,589,000</u>	<u>9,935,000</u>	<u>5,171,000</u>	<u>4,691,000</u>	<u>476,000</u>	<u>39,862,000</u>

Note (1) - Includes legal, property acquisition (if any) and soil testing services.

Note (2) - Deferred until FY 10-11. Completed FY 12-13. Estimated costs are as follows:

FY 15-16 \$ 7,700,000

FY 16-17 \$15,250,000

FY 17-18 \$ 7,750,000

SUMMARY OF ESTIMATED MAJOR REPAIR COSTS

BASED ON FY 05-06 COSTS	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	Total
DISTRIBUTION SYSTEM IMPROVEMENTS						
Contract BOV-2; Rehab Blowoff Valves 90" TM-Engineering Design						
Contract BOV-2; Rehab Blowoff Valves 90" TM-Engineering Tech Observ.	DWC In House					
Contract BOV-2; Rehab Blowoff Valves 90" TM-Construction	3,000,000	1,000,000				4,000,000
PUMP STATION IMPROVEMENTS						
None						
STANDPIPE IMPROVEMENTS						
None						
	3,000,000	1,000,000	0	0	0	4,000,000
INFLATION FACTOR 2% PER YEAR	100.0%	102.0%	104.0%	106.1%	108.2%	100.5%
	3,000,000	1,020,000	0	0	0	4,020,000

**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

DISTRIBUTION SYSTEM IMPROVEMENTS

**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

DISTRIBUTION SYSTEM INTRODUCTION

The Commission operates and maintains 170 miles of pipeline ranging in size from 12" to 90" in diameter. Water supply from Chicago is provided by 90" and 72" Transmission Mains. The 90" Transmission Main, with a C-factor of 120, is sized for the year 2020 maximum day demand for the Commission's service area. The 72" Transmission Main, with a C-factor of 120, is sized to provide year 2020 average day demand. Average day demand is defined as the total amount of water used by a customer within a year divided by 365. The projected average day demand is referred to as the Department of Natural Resources (DNR) allocation. Maximum day demand is defined in the Water Purchase Agreement as 1.7 times average day demand.

The pipeline system within DuPage County is sized in accordance with DNR allocations that were based upon estimates made by Commission customers in the early 1980's. This is also based upon C-factors of 120 for pipelines greater than 20" in diameter and 100 for pipelines 20" or smaller in diameter. The distribution system is looped to minimize disruption in the event of a break in one of the mains.^{1,2}

The following are the 2005 IDNR allocations for Commission customer utilities:

	MGD		MGD
Addison	4.561	IAWC-Lombard Heights	0.072
Argonne N L	0.758	IAWC-Valley View	0.700
Bensenville	2.704	Itasca	1.764
Bloomington	2.803	Lisle	3.225
Carol Stream	4.531	Lombard	4.909
Clarendon Hills	0.716	Naperville	20.534
Darien	2.781	Oak Brook	4.133
Downers Grove	6.823	Oakbrook Terrace	0.221
Elmhurst	4.683	Roselle	2.237
Glen Ellyn	2.950	Villa Park	2.115
Glendale Heights	3.049	Westmont	2.884
Hinsdale	2.655	Wheaton	5.873
IAWC-Arrowhead	0.196	Willowbrook	1.342
IAWC-Country Club Est	0.117	Winfield	1.141
IAWC-DuPage/Lisle	0.598	Wood Dale	1.654
IAWC-Liberty Ridge East	0.051	Woodridge	3.208
IAWC-Liberty Ridge West	0.349	Total	96.323

¹ Funds are available in the emergency reserve for C-Factor corrective action.

² The hydraulic analysis reflected in this plan was based upon the original design C-Factors and not the present C-Factors.

**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROPOSED IMPROVEMENTS

As approved in previous Capital Improvement Plans, the Commission is constructing the Inner Belt Transmission Main, Contract TIB-1. This transmission main will increase flow in the system in the event of a break on the Northwest or Southwest Transmission Mains. These mains are the primary conduits for water leaving the DuPage Pumping Station. TIB-1 will become the eastern connection between the Southwest and Northwest Transmission Mains along Illinois Route 83.

To eliminate the need to repair or replace leaking corroded blow-off valves throughout the DuPage County, the rehabilitation of 320 blow-off valves on the Commission's transmission and feeder mains, Contract BOV-1, was completed this fiscal year. To provide the same level of protection for the 90" Transmission Main, Contract BOV-2 has been proposed which rehabilitates 29 blow-off valves. The 72" Transmission Main blow-off valves were installed with the non-corroding bolt design.

**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Contract TIB-1; Route 83

LOCATION: Elmhurst and Oakbrook Terrace

DESCRIPTION: Install 11,000 feet of a 72" transmission main and one remotely operated valve. This transmission main will connect the Northwest Transmission Main with Southwest Transmission Main by Route 83.

PURPOSE: To increase flow in the event of a break on the Northwest or Southwest Transmission Mains which are the main conduits for water leaving the DuPage Pumping Station.

BENEFIT: During a break of the Southwest Transmission or Northwest Transmission Main, service is disrupted. This improvement minimizes the disruption and provides additional flow to satisfy average day demand during emergency conditions.

ESTIMATED COST (2004 DOLLARS):

ENGINEERING: \$900,000 (Remaining for 2005-06)

LAND/ROW: Minimal; pipe installed in public right-of-way

CONSTRUCTION: \$6,000,000 (Remaining for 2005-06)

TIMING: Fiscal year 2005-2006 – Construction completed

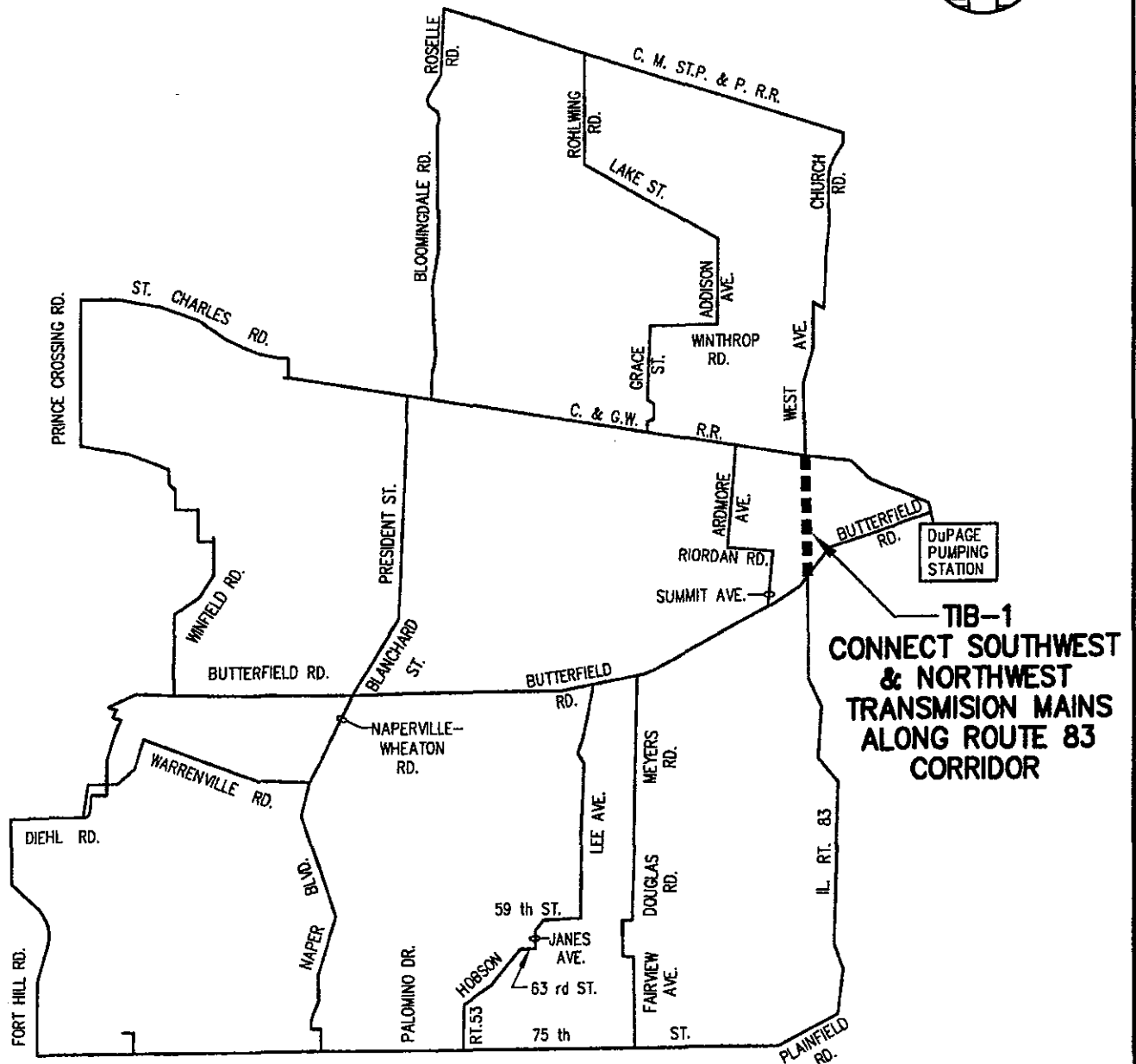
Agreement Date: January 7, 2004

Completion Date: August 29, 2005

Amended Contract Cost: \$15,304,233.01

See location map on next page.

CONTRACT TIB-1 DU PAGE WATER COMMISSION



**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Contract BOV-2; Rehab Blow-off Valves 90"

LOCATION: Cook County

DESCRIPTION: Rehabilitate 29 blow-off valves on the Commission's 90" Transmission Main

PURPOSE: To reduce the number of leaking blow-off valves that requires continuous repair and/or replacement by systematically rehabilitating all such valves.

BENEFIT: This rehabilitation will eliminate untimely leaks along the 90" Transmission Main.

ESTIMATED COST (2004 DOLLARS):

ENGINEERING: \$10,000 (Remaining; reviews only, technical observation by DWC personnel)

LAND/ROW: None; work performed on Commission owned pipe

CONSTRUCTION: \$4,000,000

TIMING: Fiscal Year 2004-2005 – Design completed
Fiscal Year 2006-2007 – Construction completed

**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

DUPAGE PUMP STATION IMPROVEMENTS

**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: 8 MW Electrical Generation Facility

LOCATION: East side of the DuPage Pumping Station service yard

DESCRIPTION: Building and 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 will allow DWC to enter into a "curtailable" electric rate structured contract which will save approximately 10% to 20% in electrical charges.

ESTIMATED COST (2004 DOLLARS):

ENGINEERING: \$990,500 (Remaining)

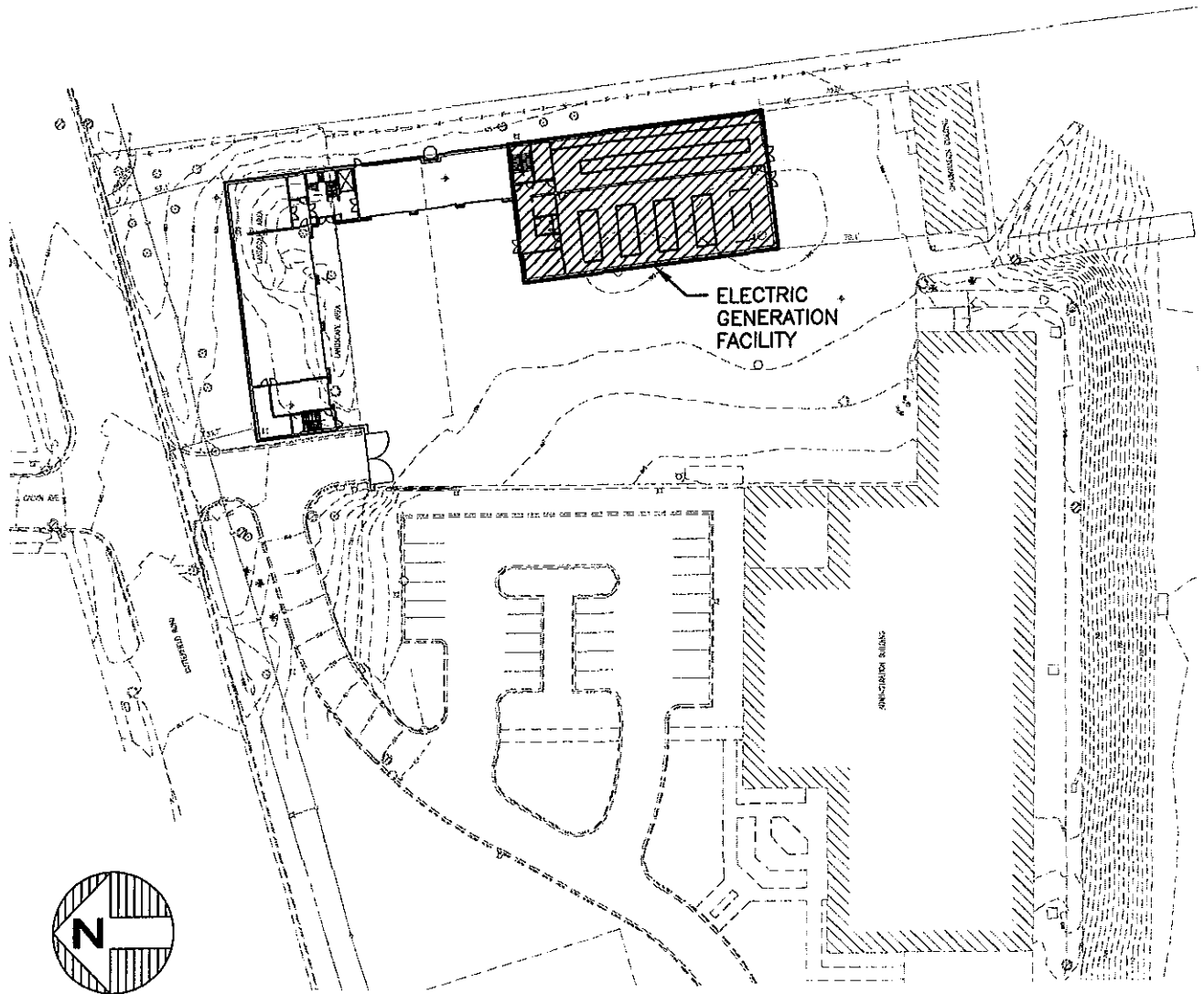
LAND/ROW: Constructed on property owned by Commission

CONSTRUCTION: \$12,500,000

TIMING: Fiscal year 2005-2006 – Complete design, construction begins
Fiscal year 2007-2008 – Complete construction

See site plan on next page.

PROPOSED 8 MW ELECTRIC GENERATION FACILITY DU PAGE WATER COMMISSION



**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Garage/Office Building

LOCATION: East side of the DuPage Pumping Station service yard

DESCRIPTION: Small vehicle, parts storage and additional office space for Pipeline, Facilities Construction and GIS Staff.

PURPOSE: To provide garage space for vehicles and spare/stock parts. In addition, provide office space and training facilities for staff.

ESTIMATED COST (2004 DOLLARS):

ENGINEERING: \$205,500

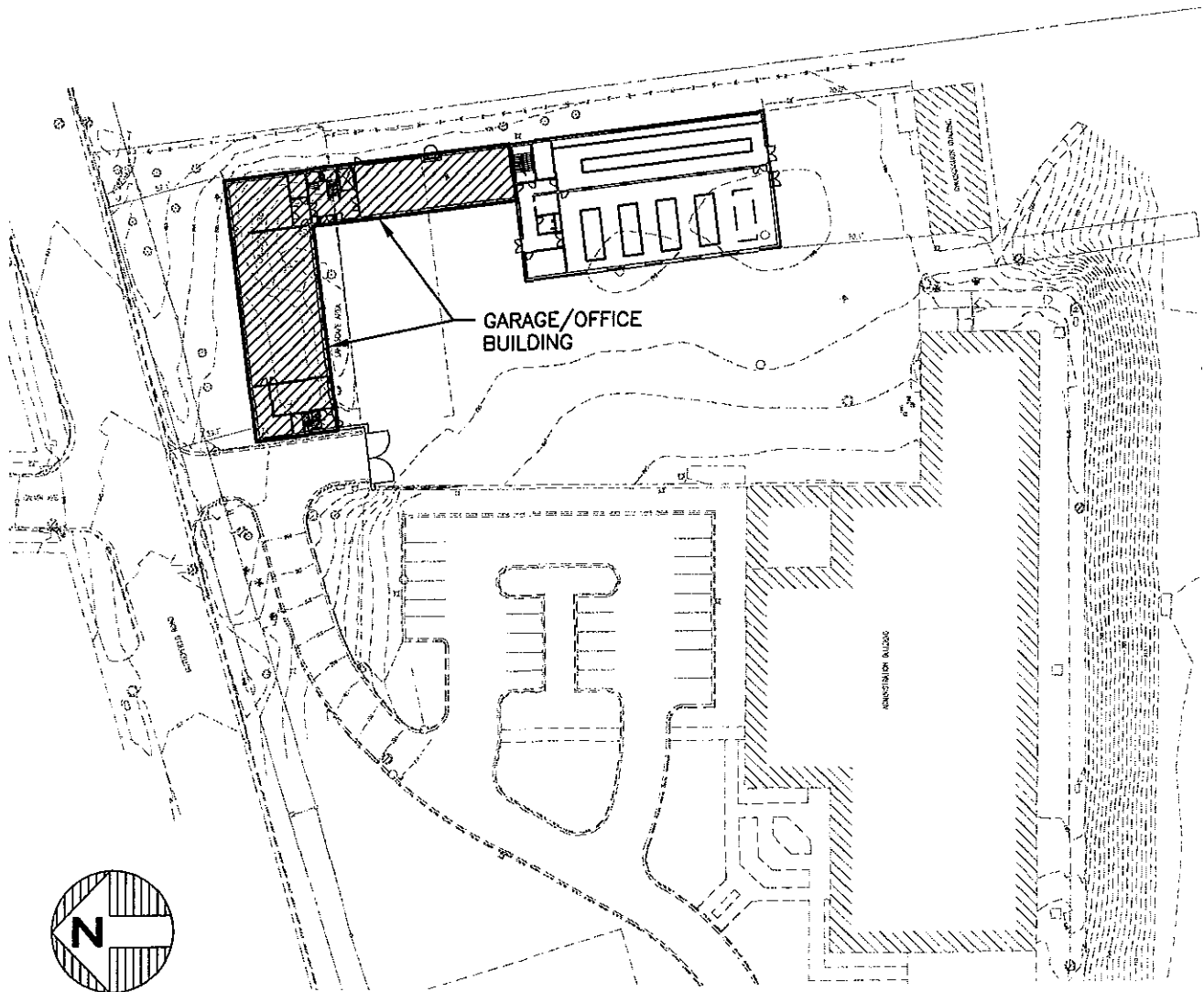
LAND/ROW: Constructed on property owned by Commission

CONSTRUCTION: \$1,550,000

TIMING: Fiscal Year 2005-2006 – Design and Construction

See site plan on next page.

PROPOSED GARAGE/OFFICE BUILDING DU PAGE WATER COMMISSION



**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Material and Equipment Storage Facilities

LOCATION: South side of the DuPage Pumping Station existing 30 MG reservoir

DESCRIPTION: Three sided material storage and a garage for heavy equipment.

PURPOSE: To stockpile granular and landscape materials for facilities maintenance and a garage for heavy vehicles and equipment.

BENEFIT: To provide indoor housing for vehicles and equipment and allowing for materials on hand.

ESTIMATED COST (2004 DOLLARS):

ENGINEERING: \$25,500

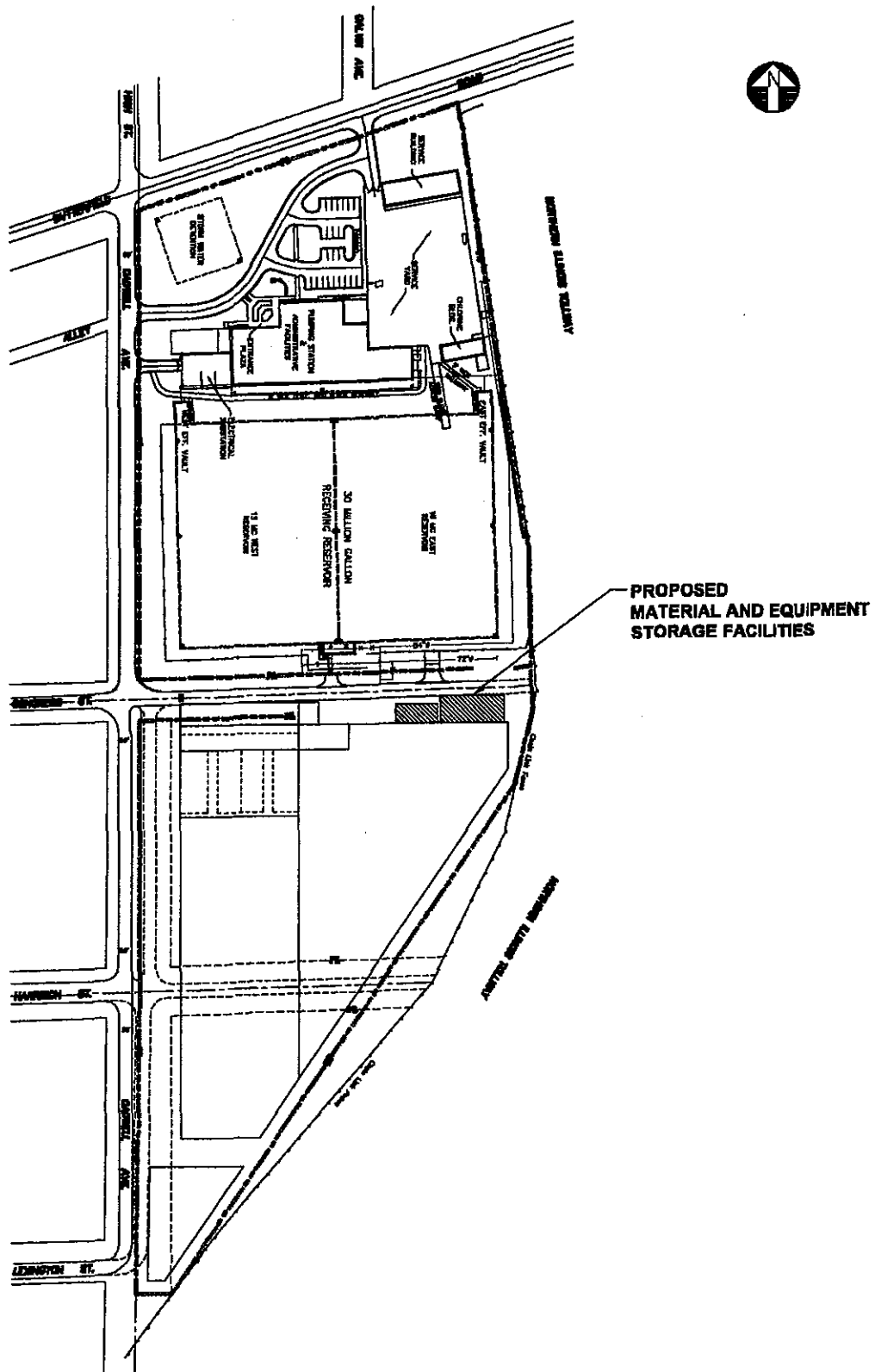
LAND/ROW: Constructed on property owned by Commission

CONSTRUCTION: \$640,000

TIMING: Fiscal Year 2005-2006 – Design and Construction

See site plan on next page.

PROPOSED MATERIAL AND EQUIPMENT STORAGE FACILITIES DU PAGE WATER COMMISSION



**DUPAGE WATER COMMISSION
2005 – 2006
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 (2004 DOLLARS):

ENGINEERING: \$26,500

LAND/ROW: None; previously negotiated and approved

CONSTRUCTION: \$110,000

TIMING: Fiscal Year 2005-2006 – Design and Construction

See site plan on next page.



**DUPAGE WATER COMMISSION
2005 – 2006
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 (2004 DOLLARS):

ENGINEERING: \$40,000 (10%)

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

CONSTRUCTION: \$400,000

TIMING: Fiscal year 2009-2010 – Engineering
Fiscal year 2009-2010 – Installation

See drawing on next page.

LOWER LEVEL PLAN

**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

LEXINGTON PUMP STATION IMPROVEMENTS

**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Electrical Generation Facility

LOCATION: City of Chicago Lexington Pumping Station

DESCRIPTION: Building and stand-by generators

PURPOSE: To provide backup electrical power

BENEFIT: To provide continuous pumping operations to the DuPage Pumping Station during electrical power outages in the City of Chicago. In addition, installed generation will allow the City to enter into a "curtailable" electric rate structured contract which will save approximately 10% to 20% in electrical charges to the Commission.

ESTIMATED COST (2004 DOLLARS):

ENGINEERING: \$1,660,500

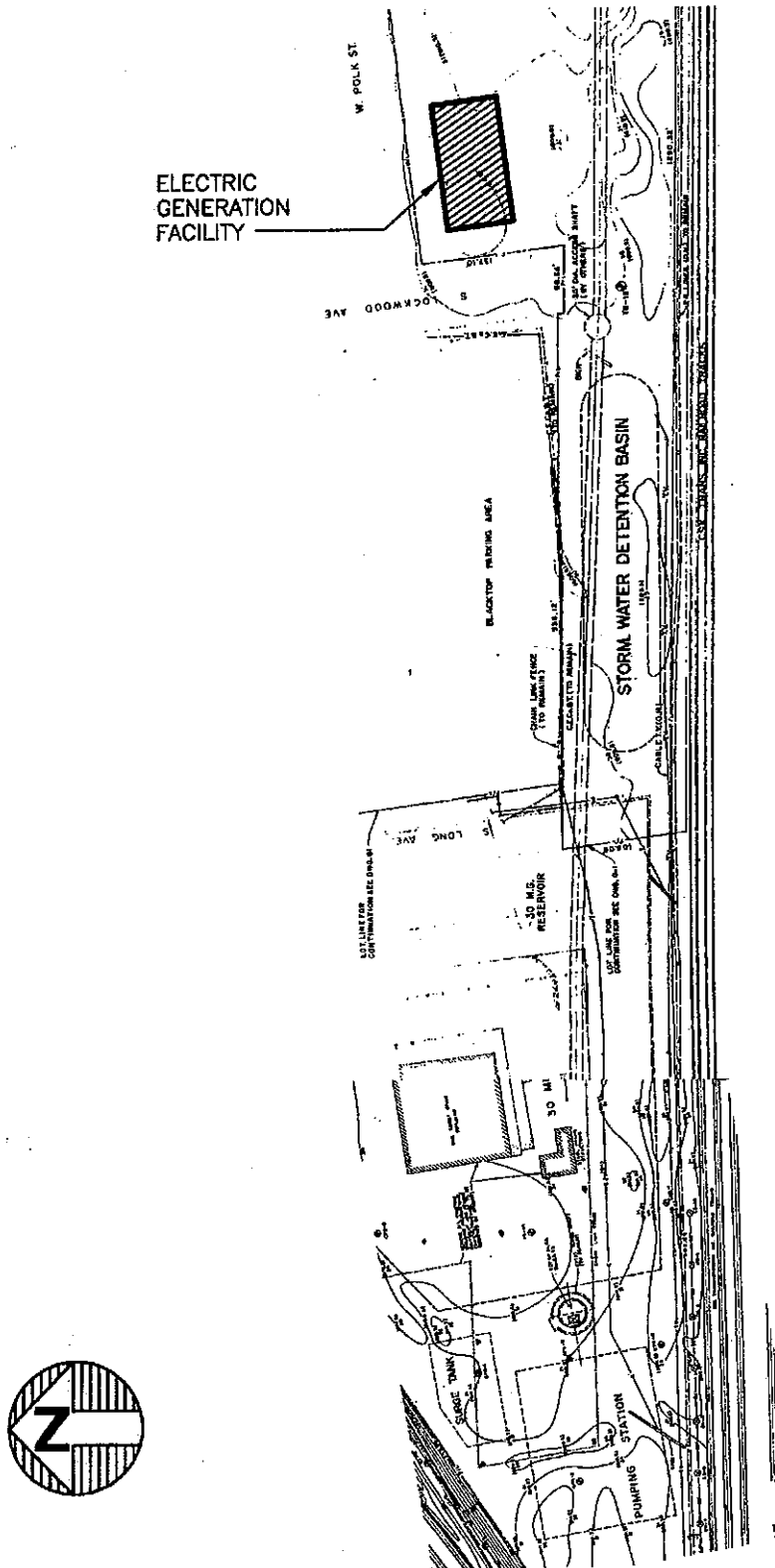
LAND/ROW: Minimal

CONSTRUCTION: \$12,500,000

TIMING: Fiscal year 2005-2006 – Design, construction begins
Fiscal year 2007-2008 – Construction completed

See site plan on next page.

ELECTRIC GENERATION FACILITY AT LEXINGTON PUMPING STATION DU PAGE WATER COMMISSION



**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

STANDPIPE IMPROVEMENTS

**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Pipe Storage Facility

LOCATION: 75th Street – Lisle Township – Tank Site #4

DESCRIPTION: Steel storage structure

PURPOSE: To provide indoor cold storage of spare water main piping, valves, fittings and other distribution system materials

BENEFIT: To provide a protected environment, from ultra-violet and ice damage, to stored materials. Allows for increased materials storage capacity in a more centralized location in the distribution area.

ESTIMATED COST (2004 DOLLARS):

ENGINEERING: \$20,500 (reviews only, technical observation by DWC personnel)

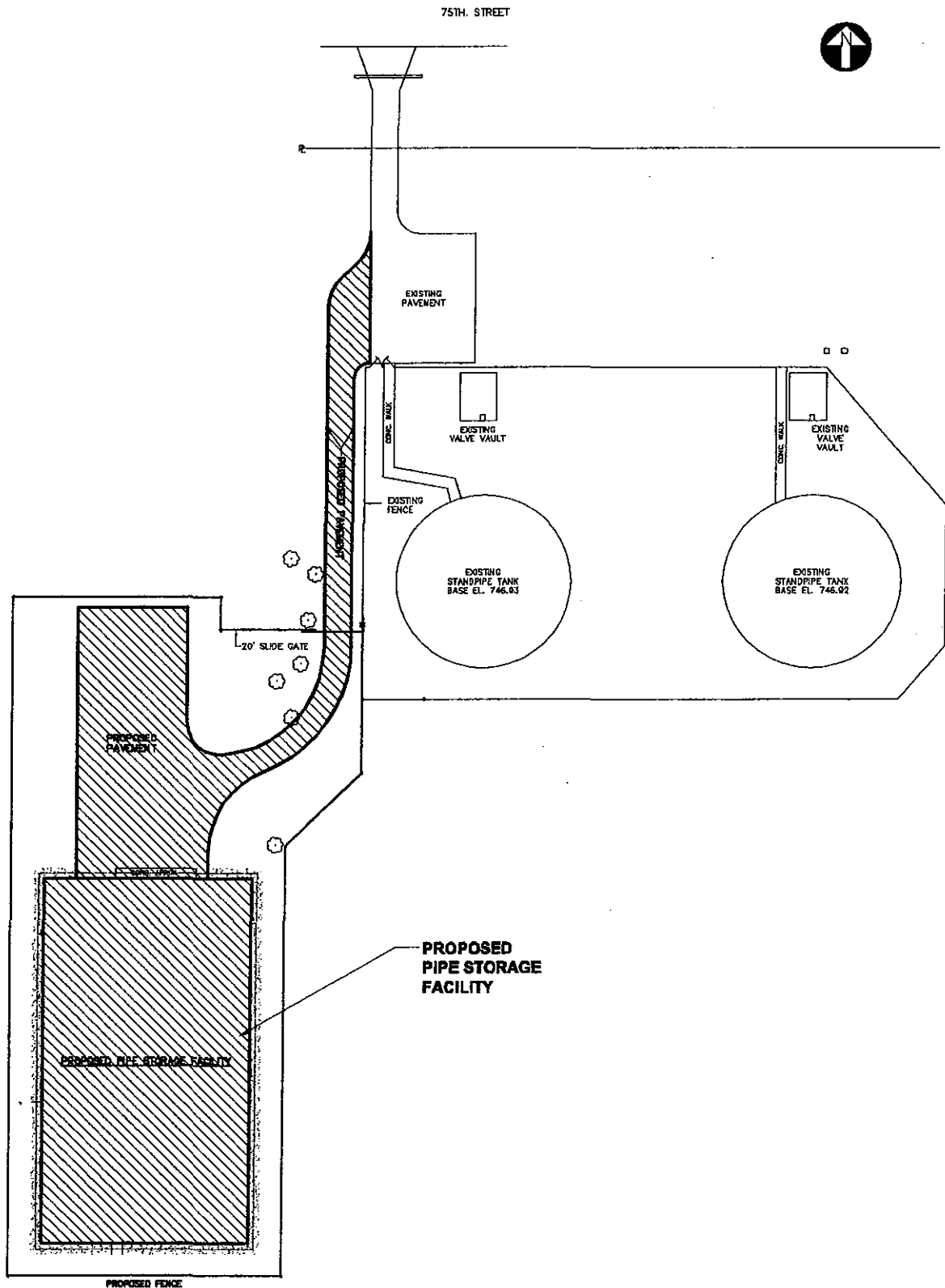
LAND/ROW: None; Constructed on Commission owned property

CONSTRUCTION: \$1,500,000

TIMING: Fiscal year 2005-2006 –Construction

See site plan on next page.

PROPOSED PIPE STORAGE FACILITY DU PAGE WATER COMMISSION



**DUPAGE WATER COMMISSION
2005 – 2006
FIVE YEAR CAPITAL IMPROVEMENT PLAN**

PROJECT: Standpipe #4 East Riser Modifications

LOCATION: Standpipes #4E & #4W Lisle Township.

DESCRIPTION: Install modified inlet riser pipes within standpipes.

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

BENEFIT: By lengthening and providing orifices 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 (2003 DOLLARS):

ENGINEERING: \$10,500

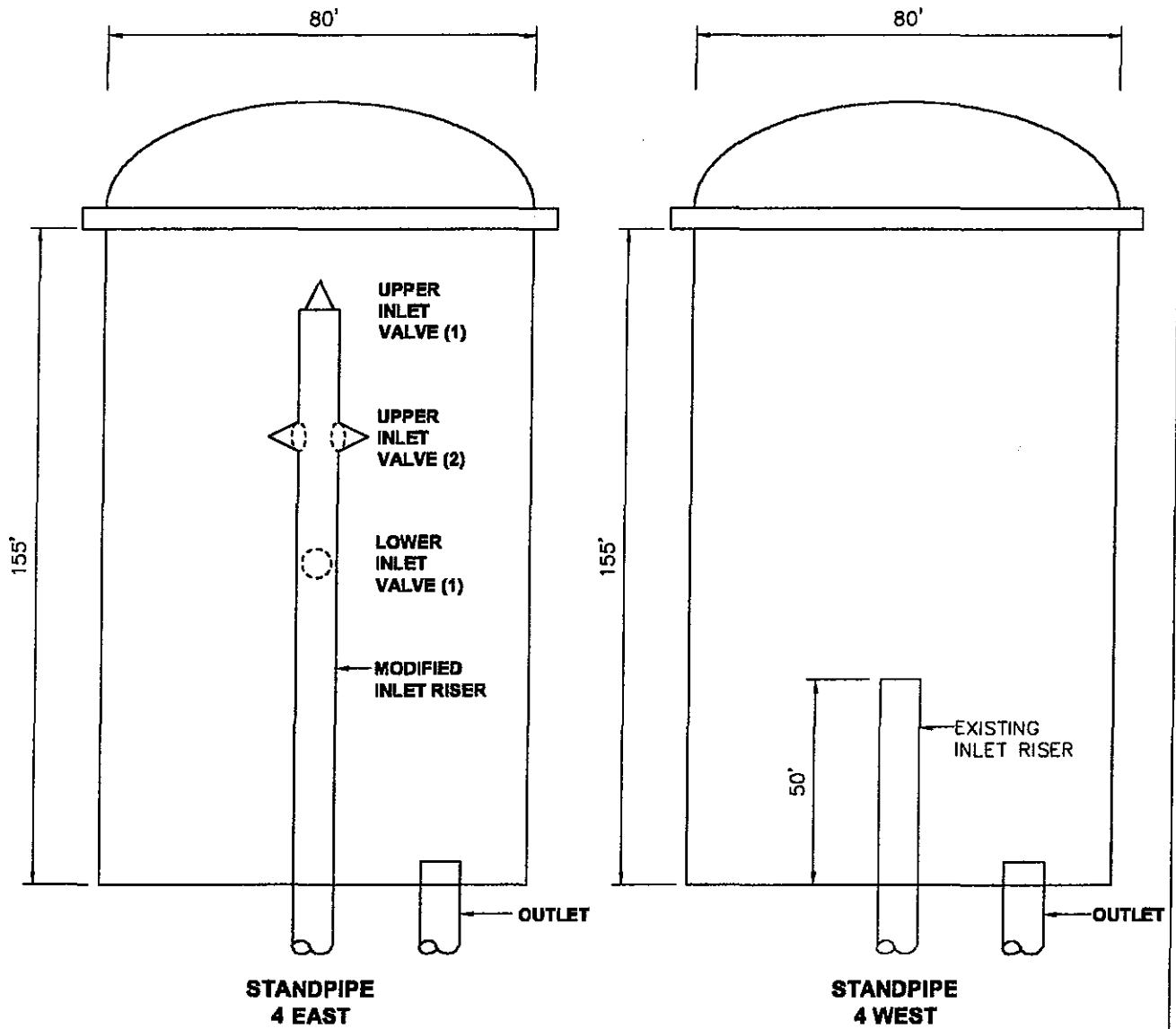
LAND/ROW: Improvements to be constructed on property presently owned by the Commission.

CONSTRUCTION: \$80,000

TIMING: Fiscal year 2005-2006 – Design
Fiscal year 2005-2006 – Construction

See drawing on next page.

PROPOSED TS NO.4 RISER PIPE MODIFICATIONS DU PAGE WATER COMMISSION



Robert Martin

From: Gregory Mathews [mathewslaw@ameritech.net]

Sent: Friday, January 07, 2005 10:14 AM

To: Robert Martin

Bob, have we done an analysis on the impact of a water rate reduction on our capital improvement plan? If not, can you generate something to help me understand what limitations a reduction would have on our ability to move forward with projects over the next several years?

Thank you,

Greg Mathews

1/7/2005

DuPAGE WATER COMMISSION - 5 YEAR PROJECTION
SUMMARY OF REVENUES, EXPENDITURES AND FUND BALANCES
MAY 1, 2005 TO APRIL 30, 2010

ACCOUNT TITLE	ALL FUNDS FY 03-04 ACTUAL	ALL FUNDS FY 04-05 ADJ. BUDGET	ASSUMPTION OR % CHGE FY 06-10 ONLY	ALL FUNDS FY 05-06 PROJECTION	ALL FUNDS FY 06-07 FORECAST	ALL FUNDS FY 07-08 FORECAST	ALL FUNDS FY 08-09 FORECAST	ALL FUNDS FY 09-10 FORECAST
REVENUES								
O & M PAYMENTS	42,485,698	44,853,380	CALCULATED	45,835,792	46,556,699	46,944,175	47,327,849	47,706,878
SALES TAX USED FOR O & M COSTS	0	0	CALCULATED	0	0	0	14,382,406	18,010,184
FIXED COST PAYMENTS (% PAID BY SALES TAX)	8,916,329	7,143,969	50.0%	7,143,969	7,144,469	7,145,094	7,145,344	7,144,719
SUBSEQUENT CUSTOMER DIFFERENTIAL/EMERGENCY SUPPLY	783,326	791,159	1.0%	799,071	807,062	815,133	823,284	831,517
SALES TAX USED FOR CONSTRUCTION AND BOND PAYMENTS	31,620,982	32,632,524	2.0%	33,285,174	33,950,877	34,629,895	20,940,087	18,018,759
INTEREST INCOME	2,321,233	1,753,263	EXTRAPOLATED	1,626,662	1,315,336	1,120,793	959,817	908,741
OTHER INCOME	102,058	0	0.0%	0	0	0	0	0
TOTAL REVENUE	86,229,626	87,174,295		88,690,668	89,774,443	90,655,090	91,578,787	92,620,798
OPERATING EXPENDITURES								
WATER PURCHASES (3% ANNUAL RATE INCREASES)	39,013,675	41,615,189	CALCULATED	45,399,451	47,161,752	48,980,542	50,853,868	52,816,647
20% CREDIT THRU OCTOBER 2004	(7,802,735)	(4,611,512)	CALCULATED	0	0	0	0	0
5 YEAR CAPITAL PLAN MAJOR REPAIRS	4,810,523	2,572,000	CALCULATED	3,000,000	1,020,000	0	0	0
OTHER OPERATING EXPENSES (EXCL BOND INTEREST/DEPRC)	10,036,387	10,738,677	5.0%	11,476,082	12,049,886	12,652,380	13,284,999	13,949,249
REVENUE BOND PRINCIPAL AND INTEREST COSTS	20,727,699	14,287,938	CALCULATED	14,287,938	14,288,937	14,290,188	14,290,687	14,289,438
G.O. BOND PRINCIPAL AND INTEREST COSTS	13,112,650	13,122,150	CALCULATED	13,122,150	13,124,150	13,117,900	13,117,650	13,116,900
CAPITAL EQUIPMENT	84,608	88,838	5.0%	93,280	97,944	102,841	107,983	113,382
TOTAL OPERATING EXPENDITURES AND COMMITMENTS	79,982,807	77,813,280		87,378,901	87,742,669	89,143,851	91,655,187	94,285,616
5 YEAR CAPITAL PLAN NEW CONSTRUCTION	3,432,005	10,505,000	CALCULATED	19,589,000	9,935,000	5,171,000	4,691,000	476,000
5 YEAR CONSTRUCTION PLAN RSRVR (DELAY)-CATCH-UP	0	0	CALCULATED	0	0	0	0	0
OTHER MINOR RELATED OUTLAYS	0	250,000	4.0%	250,000	260,000	270,400	281,216	292,465
DuPAGE COUNTY SALES TAX GRANT	15,000,000	15,000,000	PA93-0226	15,000,000	15,000,000	15,000,000	0	0
WATER QUALITY LOANS	4,034,000	1,250,000	BOARD POLICY	4,716,000	0	0	0	0
REVOLVING LOANS	0	0	BOARD POLICY	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
TOTAL CASH OUTLAYS AND COMMITMENTS	102,448,812	104,818,280		129,433,901	115,437,669	112,085,251	99,127,403	97,554,081
NET TRANSACTIONS	(16,219,186)	(17,643,985)		(40,743,233)	(25,663,226)	(21,430,161)	(7,548,616)	(4,933,283)
BEGINNING FIVE YEAR PLAN CASH AND EQUIVALENTS	136,423,000	136,171,835	CALCULATED	118,527,850	77,784,617	52,121,391	30,691,230	23,142,614
RELEASE OF REV BOND DSR (SURETY BOND)	17,837,213	0		0	0	0	0	0
CONVERTED (TO) - FROM RESTRICTED OR CAPITAL NET ASSETS	(1,869,192)	0		0	0	0	0	0
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS	136,171,835	118,527,850		77,784,617	52,121,391	30,691,230	23,142,614	18,209,331
HELD FOR EMERGENCY REPAIRS-TARGET (1)	11,700,000	12,000,000	3.0%	12,300,000	12,700,000	13,100,000	13,500,000	13,900,000
O&M RATE STABILIZATION RESERVE	44,223,355	40,248,184		27,619,511	15,064,822	1,375,911	0	0
CONSTRUCTION RESERVE	14,282,480	16,563,666		7,865,106	9,356,569	16,215,319	9,642,614	4,309,331
PA93-0226 UNDISTRIBUTED	60,000,000	45,000,000		30,000,000	15,000,000	0	0	0
UNDISTRIBUTED WATER QUALITY LOANS	5,966,000	4,716,000		0	0	0	0	0
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS BY CATEGORY	136,171,835	118,527,850		77,784,617	52,121,391	30,691,230	23,142,614	18,209,331
O & M RATE	1.38	1.43		1.38	1.39	1.39	1.39	1.39
FIXED COST RATE	0.29	0.23		0.22	0.21	0.21	0.21	0.21
TOTAL RATE	1.67	1.66		1.60	1.60	1.60	1.60	1.60

NOTE (1) - TO MAX OF 20,000,000

REVISED: JANUARY 7, 2005

DuPAGE WATER COMMISSION - 5 YEAR PROJECTION
SUMMARY OF REVENUES, EXPENDITURES AND FUND BALANCES
MAY 1, 2005 TO APRIL 30, 2010

ACCOUNT TITLE	ALL FUNDS FY 10-11 FORECAST	ALL FUNDS FY 11-12 FORECAST	ALL FUNDS FY 12-13 FORECAST	ALL FUNDS FY 13-14 FORECAST	ALL FUNDS FY 14-15 FORECAST	ALL FUNDS FY 15-16 FORECAST	ALL FUNDS FY 16-17 FORECAST	ALL FUNDS FY 17-18 FORECAST
REVENUES								
O & M PAYMENTS	48,077,830	48,443,219	49,159,594	49,527,612	49,895,475	50,271,026	50,652,696	58,323,304
SALES TAX USED FOR O & M COSTS	21,166,808	23,636,585	25,896,540	28,627,231	31,368,270	34,270,514	16,808,534	33,301,937
FIXED COST PAYMENTS (% PAID BY SALES TAX)	7,145,219	7,146,219	7,144,594	7,144,844	7,144,163	7,144,969	7,143,844	0
SUBSEQUENT CUSTOMER DIFFERENTIAL/EMERGENCY SUPPLY	839,832	848,230	856,712	865,279	873,932	882,671	891,498	900,413
SALES TAX USED FOR CONSTRUCTION AND BOND PAYMENTS	15,582,714	13,847,927	12,337,662	10,371,655	8,410,594	6,303,927	24,577,397	8,911,712
INTEREST INCOME	878,414	835,969	784,505	823,952	852,604	866,883	790,833	844,047
OTHER INCOME	0	0	0	0	0	0	0	0
TOTAL REVENUE	93,690,817	94,758,149	96,179,607	97,360,573	98,545,038	99,739,990	100,864,801	102,281,413
OPERATING EXPENDITURES								
WATER PURCHASES (3% ANNUAL RATE INCREASES)	54,830,562	56,898,588	59,063,675	61,291,377	63,582,125	65,983,993	68,497,397	71,076,622
20% CREDIT THRU OCTOBER 2004	0	0	0	0	0	0	0	0
5 YEAR CAPITAL PLAN MAJOR REPAIRS	820,080	836,482	853,212	870,276	887,682	905,436	923,545	942,016
OTHER OPERATING EXPENSES (EXCL BOND INTEREST/DEPRC)	14,646,711	15,379,047	16,147,999	16,955,399	17,803,169	18,693,327	19,627,993	20,609,393
REVENUE BOND PRINCIPAL AND INTEREST COSTS	14,290,437	14,292,438	14,289,187	14,289,688	14,288,325	14,289,937	14,287,688	0
G.O. BOND PRINCIPAL AND INTEREST COSTS	13,121,275	13,119,413	0	0	0	0	0	0
CAPITAL EQUIPMENT	119,051	125,004	131,254	137,817	144,708	151,943	159,540	167,517
TOTAL OPERATING EXPENDITURES AND COMMITMENTS	97,828,116	100,650,972	90,485,327	93,544,557	96,706,009	100,024,636	103,496,163	92,795,548
5 YEAR CAPITAL PLAN NEW CONSTRUCTION	2,032,962	2,073,621	2,115,093	2,157,395	2,200,543	2,244,554	2,289,445	2,335,234
5 YEAR CONSTRUCTION PLAN RSRVR (DELAY)-CATCH-UP	0	0	0	0	0	9,447,000	18,961,000	9,829,000
OTHER MINOR RELATED OUTLAYS	304,164	316,331	328,984	342,143	355,829	370,062	384,864	400,259
DUPAGE COUNTY SALES TAX GRANT	0	0	0	0	0	0	0	0
WATER QUALITY LOANS	0	(305,462)	(401,615)	(764,385)	(764,385)	(764,385)	(764,385)	(764,385)
REVOLVING LOANS	0	0	(192,308)	(384,615)	(576,923)	(769,231)	(961,538)	(961,538)
TOTAL CASH OUTLAYS AND COMMITMENTS	100,165,242	102,735,462	92,335,481	94,895,095	97,921,073	110,552,636	123,405,549	103,634,118
NET TRANSACTIONS	(6,474,425)	(7,977,313)	3,844,126	2,465,478	623,965	(10,812,646)	(22,540,748)	(1,352,705)
BEGINNING FIVE YEAR PLAN CASH AND EQUIVALENTS	18,209,331	11,734,906	3,757,593	7,601,719	10,067,197	10,691,162	(121,484)	5,240,749
RELEASE OF REV BOND DSR (SURETY BOND)	0	0	0	0	0	0	0	0
CONVERTED (TO) - FROM RESTRICTED OR CAPITAL NET ASSETS	0	0	0	0	0	0	27,902,981	0
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS	11,734,906	3,757,593	7,601,719	10,067,197	10,691,162	(121,484)	5,240,749	3,888,044
HELD FOR EMERGENCY REPAIRS-TARGET (1)	14,300,000	14,700,000	15,100,000	15,600,000	16,100,000	16,600,000	17,100,000	17,600,000
O&M RATE STABILIZATION RESERVE	0	0	0	0	0	0	0	0
CONSTRUCTION RESERVE	(2,565,094)	(11,247,869)	(8,205,358)	(7,004,265)	(7,644,685)	(19,721,716)	(15,623,868)	(18,240,958)
PA93-0226 UNDISTRIBUTED	0	0	0	0	0	0	0	0
UNDISTRIBUTED WATER QUALITY LOANS	0	305,462	707,077	1,471,462	2,235,847	3,000,232	3,764,617	4,529,002
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS BY CATEGORY	11,734,906	3,757,593	7,601,719	10,067,197	10,691,162	(121,484)	5,240,749	3,888,044
O & M RATE	1.39	1.39	1.40	1.40	1.40	1.40	1.40	1.60
FIXED COST RATE	0.21	0.21	0.20	0.20	0.20	0.20	0.20	0.00
TOTAL RATE	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60

NOTE (1) - TO MAX OF 20,000,000

DUPAGE WATER COMMISSION - 5 YEAR PROJECTION
SUMMARY OF REVENUES, EXPENDITURES AND FUND BALANCES
MAY 1, 2005 TO APRIL 30, 2010

ACCOUNT TITLE	ALL FUNDS FY 18-19 FORECAST	ALL FUNDS FY 19-20 FORECAST
REVENUES		
O & M PAYMENTS	58,758,347	59,194,133
SALES TAX USED FOR O & M COSTS	36,581,433	39,965,571
FIXED COST PAYMENTS (% PAID BY SALES TAX)	0	0
SUBSEQUENT CUSTOMER DIFFERENTIAL/EMERGENCY SUPPLY	909,417	918,511
SALES TAX USED FOR CONSTRUCTION AND BOND PAYMENTS	6,476,489	3,953,509
INTEREST INCOME	843,538	901,006
OTHER INCOME	0	0
TOTAL REVENUE	103,569,224	104,932,730
OPERATING EXPENDITURES		
WATER PURCHASES (3% ANNUAL RATE INCREASES)	73,762,941	76,558,363
20% CREDIT THRU OCTOBER 2004	0	0
5 YEAR CAPITAL PLAN MAJOR REPAIRS	960,856	980,073
OTHER OPERATING EXPENSES (EXCL BOND INTEREST/DEPRC)	21,639,863	22,721,856
REVENUE BOND PRINCIPAL AND INTEREST COSTS	0	0
G.O. BOND PRINCIPAL AND INTEREST COSTS	0	0
CAPITAL EQUIPMENT	175,893	184,688
TOTAL OPERATING EXPENDITURES AND COMMITMENTS	96,539,553	100,444,980
5 YEAR CAPITAL PLAN NEW CONSTRUCTION	2,381,939	2,429,578
5 YEAR CONSTRUCTION PLAN RSRVR (DELAY)-CATCH-UP	0	0
OTHER MINOR RELATED OUTLAYS	416,269	432,920
DUPAGE COUNTY SALES TAX GRANT	0	0
WATER QUALITY LOANS	(764,385)	(764,385)
REVOLVING LOANS	(961,538)	(961,538)
TOTAL CASH OUTLAYS AND COMMITMENTS	97,611,838	101,581,555
NET TRANSACTIONS	5,957,386	3,351,175
BEGINNING FIVE YEAR PLAN CASH AND EQUIVALENTS	3,888,044	9,845,430
RELEASE OF REV BOND DSR (SURETY BOND)	0	0
CONVERTED (TO) - FROM RESTRICTED OR CAPITAL NET ASSETS	0	0
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS	9,845,430	13,196,605
HELD FOR EMERGENCY REPAIRS-TARGET (1)	18,100,000	18,600,000
O&M RATE STABILIZATION RESERVE	0	0
CONSTRUCTION RESERVE	(13,547,957)	(11,461,167)
PA93-0226 UNDISTRIBUTED	0	0
UNDISTRIBUTED WATER QUALITY LOANS	5,293,387	6,057,772
ENDING FIVE YEAR PLAN CASH AND EQUIVALENTS BY CATEGORY	9,845,430	13,196,605
O & M RATE	1.60	1.60
FIXED COST RATE	0.00	0.00
TOTAL RATE	1.60	1.60

NOTE (1) - TO MAX OF 20,000,000