ANNUAL REPORT 2006

2006 MILWAUKEE COMMON COUNCIL

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City of Milwaukee

Mayor Tom Barrett

Table of Contents

Mission

To promote the health, safety, mobility, and quality-of-life for all City of Milwaukee residents and visitors by providing:

- Safe, attractive, and efficient surface infrastructure systems;
- Solid waste collection, disposal, recycling, and waste reduction;
- Safe, aesthetically pleasing, and sufficient drinking water;
- Storm water and waste water conveyance; and,
- Support services and facilities for the Department of Public Works (DPW) and other city departments.

Initiatives for 2006

- Continue to incorporate the Mayor's sustainability vision into as many DPW projects as possible, i.e., removal of asphalt from school playgrounds and recreation areas, stormwater management on parking lots, etc.
- Complete new 230,000 square foot DPW Field Headquarters and consolidate various DPW sections which will eliminate duplicative functions and save money.
- Provide a single access telephone number for all City services and information, 286-CITY.
- Begin installation of the Gateway signage program which will welcome residents and visitors to the City and dedicate a portion of funding from sign sponsors for boulevard maintenance.
- Begin collection of household hazardous waste at Lincoln Avenue Self-Help Center located at 3785 West Lincoln Avenue in partnership with MMSD.
- Complete the last portion of the Canal Street project west, from 25th Street to Miller Park Way.
- Continue to market Milwaukee Water Works to companies in an effort to increase business development and job creation.

2006 Message from the Commissioner: Year in Review

Jeffrey J. Mantes

The Department of Public Works has continued to make strides in every Division in 2006, in many instances making sure there was a positive impact on the environment and money saving efficiencies.

One of the highlights of 2006 was the opening of the new 230,000 square foot DPW Field Headquarters. The facility houses Street Maintenance, Sewer Maintenance, Milwaukee Water Works distribution facilities, their 24-hour Control Center, sections of the Operations Division, such as Building Maintenance, Carpentry and a satellite Equipment Repair Shop. The consolidation will allow 480 employees of the combined Divisions to cooperate and eliminate duplicative functions which will save money over the next 20 years.

The **Administrative Services Division** helped Mayor Tom Barrett and Common Council President Willie Hines unveiled 286-CITY. 286-CITY is a single access telephone number for all City services and information. Utilizing the City's state-of-the-art telephone system and current resources, the City designed the 286-CITY at no cost to the taxpayer.

Governor Doyle signed bill AB240, now Act 185 that allows a municipality to ticket and tow any unregistered vehicle parked in the public right-of-way. The legislation was requested due to the proliferation of unregistered vehicles parked on city streets.

Buildings & Fleet made sure the new DPW Field Headquarters was completed by the estimated date of completion. The project was "on time and on budget." Buildings and Fleet served as the project manager with Director of Operations Jim Purko providing the overall coordination. The building incorporates several "green principles" in its design and operation.

Buildings and Fleet started purchasing biodiesal fuel this year, and it was utilized by 35% of the City fleet vehicles. Staff will evaluate future purchase of vehicles based on their ability to use biodiesal fuel. The fuel reduces the health risks associated with conventional diesel.

The **Environmental Services Division** opened a new household hazardous waste facility at the City's Self-Help Center on 3879 West Lincoln Avenue. This was a Metropolitan Milwaukee Sewerage District and City of Milwaukee partnership.

Environmental Services' Recycling Program had several successes in 2006:

- The program honored the top schools that participated in the Cans for Cash Recycling Challenge. Ten schools received recycling magic shows and the top three schools received cash prizes. The City of Milwaukee received $5,000 for collecting the most cans nationwide in a city of its size for the second year in a row.
- DPW's Recycling Manager Rick Meyers worked with the operations and grounds staff at Summerfest in designing and implementing a plastic bottle recycling program which was continued until the end of the festival season. The total amount of recyclables collected from the City's festivals was 38,233 pounds. This is material that can be reused, rather than ending up in landfill sites.
- The City of Milwaukee ranked number one in the nation for collecting plastic bottles in the "*Return to Warmth*" campaign. During the collection period 172,551 pounds of plastic was collected. The recycling challenge was coordinated by Keep Greater Milwaukee Beautiful. Each school received a $1,000 gift card from Sam's Club and fleece jackets made from PET, recycled plastic bottles.

Environmental Services held the first of four unveilings of the Gateway Signage program. The sign was unveiled on a boulevard at 5311 South Howell Avenue near the entrance of General Mitchell Field. The sign features the Milwaukee Brewers logo and Milwaukee Art Museum's Calatrava-designed brise soleil. The City receives a guaranteed percentage of 33% from each Gateway signage sale and the proceeds provide dedicated funding for the beautification of the boulevards.

Infrastructures Services Division received the Mayor's Urban Design Award for three projects, the Sixth Street Bridge, the Boothe Street Stairs, and the Marsupial Bridge. The purpose of the award is to recognize projects that respect the urban fabric, contributes to the character of its surroundings, and adds value to the neighborhood.

The long awaited completion of the Canal Street Project, from 25th Street to Miller Park Way, occurred with great fanfare. Several organizations participated in the ribbon cutting ceremony. The Canal Street Project provides critical infrastructure to serve existing industries, and facilitates the redevelopment of the Menomonee Valley.

The *StreetShare* initiative was announced in July by Mayor Barrett and City Engineer Jeff Polenske. The program

is designed to improve the safety and comfort of pedestrians by educating motorists about the laws that require them to follow the law. The Milwaukee Police Department, Milwaukee Downtown, Milwaukee County Transit, and several other agencies partnered with the City on the program.

Milwaukee Water Works consolidated three distribution work units for efficiency and flexibility of operations into a single unit at the new DPW Field Headquarters facility. For the first time since the 1960s, all emergency response vehicles have heated garage space, critical for timely response in winter months. The Water Works' 24-hour Control Center moved from the Municipal Building where it had originated in 1959. This led to integration of dispatch and information sharing directly within Distribution operations. Having Municipal Equipment mechanics on site for preventive maintenance of vehicles on second shift improves productivity by eliminating the shuttling of vehicles between Distribution work facilities, and vehicle maintenance facilities.

Upgrades to the Water Works' Customer Information System (CIS) strengthened the accounting integrity of the various fees on the Municipal Services Bill. The enhanced flexibility of the system allowed for the billing of the Storm Water Management Charge starting in 2006.

A massive and fatal propane gas explosion late in 2006 at the Falk Corp. in the Menomonee Valley proved the value of continuous investment in infrastructure. Just over a year before the blast, through the Milwaukee Water Works' capital improvement program, DPW began a $1.05 million water main extension project to provide new and enhanced service to the redeveloping valley.

One mile of 12" water main in the realigned W. Canal St. from S. 32nd St. to S. 44th St. was linked with a 12" main at 32nd Street and a 30" main in 44th Street. There had been no water main in that portion of Canal Street. The project allowed the Falk Corp. to feed its fire protection system from a 12" branch off the new main, rather than an 8' branch off a 12" main with only one source of supply. The improved fire flow capabilities of the water mains in the valley gave the Milwaukee Fire Department plentiful, pressurized water to control and suppress the December 6th conflagration.

The joint business recruiting and retention efforts of the Milwaukee Water Works and other development agencies led to the Cintas Corp. decision in 2006 to locate an $8.5 million industrial laundry in Milwaukee. Cintas' decision to build in the city and create up to 125 jobs was driven by Milwaukee's superior water supply and distribution system, according to the Milwaukee Economic Development Corp.

A "greening Milwaukee" project began in 2006 with the physical deconstruction of the Kilbourn Reservoir, no longer needed after 125 years of service. The Water Works is replacing the structure with a park, working closely with neighborhood groups to design a new Kilbourn Reservoir Park.

These are only the highlights of the numerous accomplishments made by the Department of Public Works in 2006. We have a Department that we can be proud of and one that will continue to work on behalf of the citizens and businesses of Milwaukee. Thanks to the staff for your continued hard work and dedication.

Jeffery J. Mantes, *Commissioner,*
City of Milwaukee — Department of Public Works

2006 Department of Public Works Budget Summary

	2004 Actual Expenditures	2005 Adopted Budget	2006 Adopted Budget	Change 2006 Adopted vs. 2005 Adopted
Personnel*				
FTEs – Operations & Maintenance	1652.63	1729.16	1688.87	-40.29
FTEs – Other	391.49	429.62	439.43	9.81
Total Positions Authorized	3509	3145	3105	-40
Expenditures – General City Purposes				
Administrative Services	$4,656,013	$4,610,376	$4,811,231	$200,855
Infrastructure	23,448,108	21,482,735	23,131,188	1,648,453
Operations	79,907,916	71,264,031	79,782,017	8,517,986
Subtotal – General City Purposes	**$108,012,037**	**$97,357,142**	**$107,724,436**	**$10,367,294**
Milwaukee Water Works				
Operating Budget	$60,366,377	$65,242,241	$67,730,974	$2,488,733
Capital Budget	12,754,805	18,790,000	20,120,000	1,330,000
Total Milwaukee Water Works**	**$73,121,182**	**$84,032,241**	**$87,850,974**	**$3,818,733**
Parking Budget				
Operating And Maintenance Budget	$37,165,867	$41,384,408	$42,191,593	$807,185
Capital Budget	1,553,499	6,200,000	7,080,000	880,000
Addition to Parking Reserves	0	0	0	0
Transfer to General Fund	12,000,000	15,210,000	15,200,000	-10,000
Capital Improvements to be Financed				0
from Permanent Improvement				0
Reserve Fund - Parking	0	5,000,000	5,000,000	0
Total Parking Budget	**$50,719,366**	**$67,794,408**	**$69,471,593**	**$1,677,185**
Sewer Maintenance Fund				
Operating and Maintenance Budget	$21,847,326	$31,823,316	$35,420,730	$3,597,414
Capital Improvements	21,477,981	22,706,000	23,500,000	794,000
Total Sewer Fund Budget	**$43,325,307**	**$54,529,316**	**$58,920,730**	**$4,391,414**
Grand Total – Department of Public Works	**$275,177,892**	**$303,713,107**	**$323,967,733**	**$20,254,626**

*Personnel totals reflect Operating Divisions, Water Works, Parking Fund and Sewer Maintenance Fund

**Does not include retained earnings

The City of Milwaukee unveils 286-CITY

The One-Stop Shop for City Services and Information

Mayor Tom Barrett and Common Council President Willie Hines unveiled 286-CITY to the public at a press conference held on June 26th. 286-CITY is a single access telephone number for all City services and information.

Although the City of Milwaukee receives millions of calls annually for services and information, finding the right telephone number for City services can be difficult and sometimes overwhelming for residents. The City publishes over 800 telephone numbers in the white pages of the telephone book.

Mayor Barrett stated, "the goal was to develop a system whereby residents can reach their final destination with "three clicks or less". We believe that 286-CITY will improve the way Milwaukee residents access City government".

One of Mayor Barrett's initiatives outlined in his 2005 State of the City address was to streamline public access to City government. Utilizing the City's state-of-the-art telephone system and current resources, the City designed 286-CITY at no cost to the taxpayer. The system is in both English and Spanish and is designed to be both static and dynamic in processing requests for services and information. Over 80% of all calls to City government can be routed through 286-CITY and the remaining calls can be answered by customer service representatives who are available during normal business hours. Police and fire non-emergencies can be routed through the system as well, but residents must still dial 911 for all emergencies.

Common Council President Willie Hines reiterated that, "one of the goals of the system is to divert non-emergency calls from 911". He further stated, "80% of City residents polled in a survey contact the City at least one to six times a year for services or information. And nearly 85% find it difficult to locate the correct telephone number for the City department they are trying to contact".

(Left to right) Sabrina Gillon, Office Assistant III, City Attorney's Office; Dorinda Floyd, Administrative Services Director; and Christina Green, the Spanish voice for 286-CITY.

Administrative Services Director Dorinda Floyd and her staff worked on the 286-CITY project for months. The process included developing the system, meeting with departments designing the text, making presentations to the Steering & Rules Committee, developing and supervising the survey to determine the needs and concerns of City residents when contacting the City for services, finding the right "voices" and recording the information line in both English and Spanish, and developing the mailer with the magnet.

Call Center Customer Service Representatives (left to right) Brenda Scott, Naomi Miller, Latrisha Smith, Martha Austin (rear), Mary Skenandore and Jason Manske.

Approximately 195,000 households received a mailing in the following weeks about the program including a magnet that could be placed on any appliance. The magnet is a cheat sheet of sorts that will help residents navigate the system and to use it as efficiently and effectively as possible.

Sabrina Gillon, Office Assistant III, from the City Attorney's Office, provides the English voice for the 286-CITY information line. She has been in the City Attorney's Office for four years and is the very pleasant voice that answers the City Attorney's main number. Before coming to the City of Milwaukee Ms. Gillon was involved in the Campaign for a Sustainable Milwaukee, where she was a public speaker on behalf of the program. She was pleased to be asked to be a part of the project. Dorinda Floyd, Administrative Services Director, provided the overall direction on the 286-CITY project from start to finish. A lot of staff time was devoted to the project and to make sure it launched on time. Christina Green, the Spanish voice for 286-CITY, has been employed as a communication analyst for Milwaukee Public Schools since the beginning of this year. She is in charge of the foreign language publications for the school system and area hospitals. Christina, who is from Venezuela, is fluent in English, Spanish, Italian and French. She was the first certified court interpreter in the State of Wisconsin and has translated and interpreted for the Wisconsin Attorney General, the U.S. Department of Justice, the Federal Bureau of Investigation and the Drug Enforcement Agency.

Administrative Services

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Dorinda R. Floyd,
Administrative Services Director

LaQuisha Schroeder,
Finance and Planning Manager
Gerard Froh, *Network Planning Manager*
Thomas Sanders, *Parking Enforcement Manager*
Cindy Angelos, *Parking Financial Manager*

Office of the Commissioner:
James P. Purko, *Director of Operations*
Thomas Miller, *Coordination Manager*
Dan Thomas, *Personnel Administrator*
Cecilia Gilbert, *Permits and Communications Manager*

The Administrative Services Division serves as department liaison to elected officials and the public and coordinates major transportation, environmental and economic development related projects. In addition, this division is responsible for coordinating the department's operating and capital budgets as well as enterprise fund budgets, finance and planning, payroll, personnel, employee safety and contract management. The division also manages all communication responsibilities including media relations for the department, special event permits, DPW Call Center, 286-CITY and all City data and voice telecommunications infrastructure.

The division manages all parking-related activities including parking enforcement, parking information desk, city tow lot, towing contracts, citation processing contract, parking structures and lots, parking permits and parking meters.

Major Projects

The Department of Public Works Administrative Services Division coordinated planning and construction of public improvements for several major projects during 2006. These projects included the Harley Davidson Museum, the Manpower headquarters building, and the Potawatomi Casino expansion project. The Division also coordinated the design of public infrastructure for a number of single family home subdivisions including Heritage Hills, River View, and Oak Hill.

Landfills

DPW is working with the Department of City Development to market several closed landfill sites. Potential developers have expressed interest in the Layton and Pennsylvania site but to-date no sale agreement has been reached. Both the College Avenue North and College Avenue South properties have also seen preliminary development interest. DPW will continue actively monitoring groundwater and methane at all the City's landfill properties until those properties are sold.

The Hartung Quarry is nearing the end of its useful life as a fill site. During 2006, plans for the phased conversion of the site into a park were prepared. The surrounding neighborhood played a crucial role in this planning process which was led by Alderman Bohl and aided by the Departments of City Development and Public Works. It is hoped that phase I of the park project can be developed in 2008.

Contract Administration

DPW contracts for all City infrastructure projects. It also contracts for several major public service functions including solid waste recycling, public parking structure operation, vehicle towing, and parking meter revenue collection. During 2006, 127 formal contracts were awarded totaling over $51 million. Through its contracts, DPW leverages employment opportunities for city residents who live within the Community Development Block Grant boundaries. This initiative is known as the Residents Preference Program. The Department requires that at least 25% of all hours worked on individual City contracts be allocated to unemployed residents of the target area. The Department partners with Esperanza Unida, the Milwaukee Urban League, and Big Step to assist contractors in locating eligible resident workers. All resident workers must be certified by the City prior to a contractor receiving credit for their hours worked. DPW maintains a list of all certified resident workers and reports annually to the Common Council on the success of the program. For the 2005 contracts that were closed out as of January 1, 2007, resident participation averaged 32% of all contract hours worked.

DPW requires that contractors use Emerging Business Enterprises (EBEs) in their contracts. EBEs are certified by the City and are mandated by ordinance to be involved in at least 18% of all work contracted by the Department. In 2006, the overall EBE participation requirement for DPW contracts was 18.4%, or just slightly higher than the established 18% minimum requirement.

As part of its contracting activities the Department actively monitors all public works contracts for compliance with the Prevailing Wage and Livable Wage ordinances. If underpayment to workers is discovered, the Department collects makeup payments from offending contractors and distributes them to the underpaid

workers. Penalties, including debarment, can be levied. In 2006, one contractor was debarred for a year due to prevailing wage violations.

During 2006, the Department continued its efforts to place public works contract bidding procedures on line. Contractors and other interested parties can now find information on the DPW web site about projects coming up for bid, which contractors have taken out plans on various projects, rules and procedures for the EBE and Residents Preference programs, the results of recent bid openings, monthly EBE performance reports, a map of the Residents Preference Program target area, and various contracting forms. In addition, in 2006 DPW and the EBE office began requiring some contractors to submit monthly EBE participation reports electronically.

Finally, in 2006, the City Comptroller's Office conducted audits of DPW's contracting program as well as its EBE and Resident Preference Program administration. The audits concluded that these programs were generally being administered in accord with applicable ordinances and regulations. However, the audits also suggested several ways DPW could improve its administration of these programs. The Department has taken steps to implement the Comptroller's recommendations including preparation of the first annual report to the Common Council summarizing DPW's contracting activities for the year.

Finance and Planning

The Administrative Services Division is responsible for coordinating the operating and capital budgets for the department as well as several enterprise funds, including Water Works, Sewer Maintenance Fund and the Parking Fund. The division is also responsible for tracking and monitoring revenues and expenditures on a monthly basis.

In the 2006 budget, the department's operating budget (excluding enterprise funds) totaled $107.7 million and the capital budget totaled $83 million. Revenues were projected to total $42.8 million.

Throughout 2006, the Department of Public Works was challenged by significant increases in fuel and energy prices. The department spent $850,000 more for fuel and energy. However, due to less than anticipated snowfall and costs savings in other areas, DPW was able to cover this shortfall without utilizing contingent funds. In addition, the department generated $47.1 million in general City revenue, $4.3 million more than the Comptroller's Office 2006 estimate. This excess revenue is diverted to the City's Tax Stabilization Fund. In fact, over the past four years, the department has contributed approximately $23 million to the Fund in excess revenue and expenditure savings.

The Finance and Planning Section is also responsible for paying invoices, billing City and external agencies for services performed by the department and inventory control. In 2006, this section processed 31,372 vouchers totaling over $138 million and produced 3,009 invoices and interdepartmental requisitions totaling over $44.7 million. DPW ended 2006 with an inventory value of $7.9 million, almost $1 million higher than year-end 2005. This balance is due to higher prices for materials, purchase of specialty lighting for the downtown streetscape project and implementation of new energy efficient lights for the City's traffic control system.

Personnel/Safety

Contracts for all locals have been settled and will cover the period through December 31, 2006. Negotiations for some 06-08 contracts have begun.

January 22, 2006 marked the four-year anniversary of the Operations Division of the Department of Public Works. In the Operations Division employees with driving titles have been given greater flexibility in assignments and increased promotional opportunities.

There have been two important developments in the department in 2006. The first was the development of a Disciplinary Data Base. This data base allows managers with security clearance to view an employee's disciplinary history without the requirement to go through a paper file. The second development is the creation of an electronic file for all of the department's job descriptions. These tools will provide accurate, real time data, that will allow managers to work more efficiently.

The Safety Section staff has increased their field presence in 2006. Field inspections and interviews are up 15% in 2006.

The Injury Review Committee has been reconvened. This group last met in the 1990's. The goal is to reduce injuries by having direct dialogue with employees who have a significant injury history. The 2006 goal for the committee is to meet personally with the employees who are in the highest 25 percentile for workplace injury claims.

DPW Call Center

The Department of Public Works' Call Center began operations in November 1998. It is a "one-stop-shop" for citizens requesting services or seeking information either over the telephone or through the Internet. By calling a central number, citizens can talk to customer service representatives who process requests for services, provide information and respond to citizen complaints for sanitation, forestry, street maintenance, street lighting, sewer maintenance, street signs and traffic signals.

DPW service requests are entered electronically using an application developed by staff. The application contains all relevant information required to deliver the requested service. Once received, the service request is sent electronically to the field district offices to expedite processing. For all service requests, the Call Center application is used to track the number and type of request and its disposition, monitor response times, and schedule and route staff to deliver services in the most cost efficient and effective manner. This data is also an important tool for department managers and City policymakers in evaluating workload and effectiveness.

In 2006, the Call Center received 167,253 calls and requests for services, a decrease of 3% from 2005. The decrease in calls, while not as significant as the decrease from 2004 to 2005, is due to a change in many sanitation services over the past several years.

Of the total calls received, over 120,800, or 72%, were service requests, of which 75.5% were for sanitation-related services. In addition, the Call Center also processes service requests received online at www.dpwworks.mpw.net. In 2006, over 8,700 online requests were received, an increase of 11.5% from 2005.

286-CITY

In June of 2006, the City implemented 286-CITY, the single access telephone number for all City services and information. The purpose of 286-CITY is to streamline public access to City government. The most commonly called telephone numbers and requested services are available through 286-CITY through its menu or submenus, including police and fire non-emergency calls. However, residents must still dial 911 for all emergency calls. By utilizing the City's state-of-the-art Avaya telephone system, which was installed in 2005, and expanding upon the existing capabilities of the DPW Call Center, 286-CITY was designed and implemented using existing City resources. The system is in both English and Spanish and is designed to be both static and dynamic. Customer service representatives are available during normal business hours to process requests for services and information. As part of the implementation plan, 195,000 households received a mailing explaining the system, including a magnet that was designed to help residents navigate the system and to use it as efficiently and effectively as possible.

For the last six months in 2006, 286-CITY recorded 42,395 incoming calls, of which 96% selected the English option, 2% selected the Spanish option and 2% made no selection and defaulted to the DPW Call Center. Of the callers that made a selection, 35% selected DPW, 11% Police and Fire non-emergency, 7% Department of City Development, 5% Department of Neighborhood Services, 3% Library, 3% Mayor's Office and City Clerk and 2% Health Department. In addition, 20% selected the opt-out option (by pressing "0"), which defaults to the DPW Call Center. Approximately 9% of the callers disconnected during the process. For seasonal requests for services and information such as elections, property assessments, property tax payments or even health emergencies, 2% selected this option.

Special Event Permits

The Department of Public Works' Special Events Office processed 1,064 permits for the public-right-of way in 2006. This included 32 permits for banners to promote special events, business districts, schools and welcome conventions. Fourteen permits were issued for marches; one of them was for the Voces de la Frontera organization that sponsored, "A Day Without Latinos" which was held on March 23rd. The estimates for the march ranged from 30,000 to 50,000 participants. The march made the national news.

In 2006 40 walk/runs were held in the City of Milwaukee. The events are sometimes fundraisers for very worthy causes, such as 2006 March of Dimes Walk America; MS Walk; Making Strides Against Breast Cancer; Next Door Foundation; Black Health Coalition of Wisconsin's African American Health Walk; Strides for Lupus; United Negro College Fund; Sprint for Spinal Bifida; Make-a-Wish Walk and Run; Al's Memorial Run/Walk for Children's Hospital; the Susan G. Komen Race for the Cure and Dylan's Run for Autism. Many organizations rely on these events to not only raise funds for cures, but to also raise awareness of the diseases or causes.

There were 24 permits issued for the filming of commercials, and 1 for an independent movie. Some of the permits were for catalogs for Harley-Davidson products, a couple for the Wisconsin Lottery and Potawatomi Bingo and two national commercials for Miller Brewing. The commercials provide the rest of the country great 'snapshots' of the city's neighborhoods and lakefront.

Several permits are issued without cost; they are considered 'civic events'. They include the Veterans Day Parade; Memorial Day parade; neighborhood 4th of July parades and any school parade.

Neighborhood festivals provide an opportunity for business districts and community organizations to get exposure for their neighborhoods. The larger festivals are RiverSplash, which showcases the Milwaukee Riverwalk and adjacent businesses; Bastille Days, held in East Town, around Cathedral Square; Bay View Bash, held along Kinnickinnic Avenue; Summer Solstice, held on the lower east side; Summer Sizzle in the Historic Third Ward, and Garfield Street Days, held on Garfield Street between King Drive and 7th Street. Many of the festivals feature businesses in their areas and local vendors.

The Special Event staff meets with the organizers of the larger events and the aldermen of the area where the event is held. It is important to make sure that the events do not have a negative impact on the residents and businesses. In addition, the Milwaukee Police Department, Milwaukee County Transit and sometimes the Milwaukee County Sheriff Department are involved in the planning process to make sure the events are successful, and more importantly safe.

DPW Equipment	Total	Fees
Sanitation		
Barricades	8,982	$27,678
Garbage Carts	58	1,350
Dumpsters	123	7,380
Snow Fence	106	1,484
Roll Off Boxes	14	1,820
DPW Administration		
Meter Hoods	9,806	86,319
Infrastructure		
Traffic Control Plan		$5,580
Traffic Signs	5,135	73,712
Street Poles *(Banners, Flags, Holiday Decorations)*	737	5,925
Miscellaneous		845
Police		
Class A Events	26	52,120
Class B Events	22	9,200
Class C Events	41	4,510
Class D Events	978	0
Total		**$277,923**

Total Permits Issued: **2006** = 1,064; **2005** = 1,062
Total Permit Fees: **2006** = $277,923; **2005** = $265,922

Technological Support Services

The Technology Support Services (TSS) Section has responsibilities in three areas of technology for the Department of Public Works and the City: server/desktop computing, application development and City-wide telecommunications infrastructure.

Server/Desktop Computing

This team performs software and hardware installation, administration, support and maintenance for server hardware and operating systems. In 2006, the technology support section successfully designed an Active Directory using Microsoft Windows Server 2003 in preparation for the department's move from a Novell environment to a Microsoft Server environment. In addition, this team is responsible for the deployment of software updates to all desktops and servers in order to help maintain a secure computing environment. Support is provided for applications including the department-wide calendar and email systems, new client server applications for 286-CITY, work management systems, public works' permits, DPW invoice/accounts receivable system, Microstation, PeopleSoft and parking enforcement applications.

Application Development

The application development team works directly with DPW operational managers to custom build functionality into applications to maximize the efficiency and effectiveness of DPW operations. With the exception of the database itself, all the software used to develop and support DPW's 52 production applications is "Open Source" or free. In addition to these 52 user applications, there are dozens of utility programs that import data, convert data, monitor server utilization, and perform other functions that improve the efficiency and productivity of the application development team. The application servers are low cost powerful Intel computers that run the Linux operating system that is also open source. In addition to small code revisions and supporting all the users of the 52 applications, the application development team has developed many new reports, dozens of database field additions, SQL streamlining, modular code libraries, and other algorithm enhancements to provide improvements to the end user experience. The framework of classes that allow for greater productivity by the application development team has been greatly expanded. New print preview objects, graphics manipulation, better table models, and more have been implemented. All programs using this framework are automatically affected, resulting in a more intuitive user interface across many applications at once. All DPW appservers are now running with our GenericServer as the base. User disruption is at an all-time low because servers never need to be stopped and re-started whenever a new function or report is added.

The most widely used DPW web application is CityTime, operational since 1999, flawlessly transferred over 2.3 million time card entries in 2006 to the City's PeopleSoft payroll system. A finer-grained access control system has also been instituted in CityTime so the administrators can have more control of the access given to users.

In 2006, the technology section developed several new applications. Significant effort was expended into building the Infrastructure Information Management Systems. The project programming, boxcar estimates, and assessments are currently in production. Many other pieces of this project are complete and are currently being tested and debugged, including estimates, construction, sidewalk contracts, and contract payments. Construction projects will be available on MapMilwaukee in 2007; a working prototype has been created and tested. Several other related dBase applications such as the Special Privileges and ASR's databases have been converted to Java/Oracle.

In the first City application integrating telephony directly into an application, the DPW Call Center staff can now see the caller's name and phone number appear on the screen when a citizen calls. The program retrieves other addresses and service requests associated with the phone number and allows the user to select data, which is automatically placed into the new record. In addition, Call Center staff can transfer callers to other city departments or other agencies using their PC by clicking an entry in a custom phone book. This reduces dialing errors and speeds up the transfer of the call enhancing customer service and staff efficiency. The 286-CITY application routes callers to the correct destinations without a Call Center customer service representative answering and transferring the call. The Call Center application has enhanced transaction logging so users can retrieve the history of a service request from the moment it was entered until it was resolved. Any action that updated a record in any way is logged. Coordination with DNS has resulted in the Call Center application preventing certain sanitation records from being created if there is an outstanding DNS violation on the property.

Cart Returns is a new charge added to the Special Assessment Program and integrated into the web site https://www.mpw.net/servlets/assmts1. Now title companies can retrieve information on five different special charges, as well as capital paving project assessments, on one web page. A Hardships Program was developed for Sanitation, so they can track the properties requiring special cart retrieval/return service. A Backwater Complaints Program was developed to track volume and patterns for sewer engineering. A Circuits Management System was developed for DPW Telecommunications to manage data about circuits for any phone, radio, callbox, tie line, and other circuits running over the City's infrastructure. This replaced an MS Access table, and several new features were added in the process. The Parking Meter Hoods database was developed for parking enforcement, to track the scheduling and statistics of parking meter hood placement. This application is a precursor to the new parking meter system that will be implemented in 2007.

Telecommunication Services

City cellular telephone service was bid out in 2006 with U.S. Cellular selected as the City's new service provider. As a result, 1,300 cellular telephones and accessories were exchanged. All telephone numbers were ported successfully with little or no service disruption.

The Department of Public Works began working with WiscNet and others in 2003 to facilitate the establishment of UW-Milwaukee as a node on Internet2. In 2006 the effort was completed with the UWM connection to BOREAS-Net (Broadband Optical Research Education & Sciences Network). BOREAS-Net is a five-state

consortium of leading research institutions in the upper Midwest. Milwaukee is one of only seven cities to become primary nodes on the network. The purpose of the project is to build and operate a Regional Optical Network (RON) to service the advanced production and experimental network requirements of the research and educational institutions in the upper Midwest.

In 2006, DPW-TSS replaced the network equipment servicing City Hall with standard equipment and is now responsible for its support as part of an agreement with ITMD. The agreement transfers all responsibility for the design, acquisition, installation, maintenance, documentation, management and support of network equipment and services to DPW.

The DPW-TSS provides installation, maintenance and support for a wide variety of telecommunication equipment. Most importantly, DPW-TSS supports the network infrastructure for the Police, Fire and Water departments. DPW-TSS provides on-site response for problems that impact health and safety 24 hours a day, 365 days a year. While information technology focuses primarily on applications and the associated hardware, telecommunication services and the deployment of the City's network equipment, fiber and copper infrastructure involves a great deal more. Beside "data" communication services, DPW also supports telecommunication services for: municipal security systems, the City and Police Department telephone internode's links, radio backbone, low speed data communications services such as the fuel system and the Water and Sewer System Control and Data Analysis Systems.

Various construction projects by other governmental entities continue to challenge DPW's ability to maintain telecommunication services. In 2006 a new node was installed on the COMON (City of Milwaukee Optical Network) at 35th and Capitol – the DPW Field Headquarters. A variety of servers and network services were consolidated onto a more energy efficient, easier to support Dell blade server. The DPW-TSS also developed and standardized a firewall platform for the networks it supports.

Parking Fund

The Parking Fund is an enterprise fund administered by the Department of Public Works. It receives revenues from various parking activities, including parking enforcement, which finances the City's on and off-street parking operations.

The Parking Fund's activities include owning and operating four City-owned parking structures that provide 4,454 parking spaces. The City leases a fifth structure to a private company. In addition, DPW manages approximately 50 City-owned surface parking lots. Revenue received in 2006 from parking structures and lots totaled over $6.7 million.

A staff of four manages 6,250 parking meters citywide, 5,931 on-street and 319 off-street meters. In 2006, over $4.0 million was generated in meter revenue. Parking meter staff is also responsible for hooding, installing and removing meters. This activity generated nearly $145,000 in 2006.

DPW also administers the overnight parking permit program. Permits are sold at all Police District Stations, three Violations Bureau locations and the City Tow Lot. In 2006, nearly $2.8 million was generated from the sale of quarterly and annual night parking permits.

The City's towing program is also managed through the Parking Fund. DPW is responsible for managing the City's Tow Lot, two towing contracts and the vehicle recycling contract. In 2006, 31,659 vehicles were towed, the second highest total ever. Of this amount, 2,139 vehicles were abandoned and 29,520 vehicles were illegally parked. In addition, of the vehicles towed 32% were unclaimed causing the City to dispose of the vehicles. This is a significant reduction from 2005 whereby 43% of the vehicles were unclaimed. Of the vehicles disposed, the City recycled 71% and sold 29%. Revenue generated from towing, storage and disposal of vehicles totaled over $5.8 million in 2006, significantly higher than in 2005. This reflects higher prices for scrap metal, higher retrieval rates of vehicles and billing individuals who failed to retrieve their vehicles for towing and storage fees.

Parking enforcement operations along with the Parking Information Desk are housed at 123 N. 25th Street in the Menomonee Valley. Parking enforcement operations includes 64 parking checkers. The goal of parking enforcement is to deploy parking checkers to provide the most comprehensive and consistent parking enforcement citywide. In addition, parking checkers are deployed 24/7/365 and are assigned to special patrols, including abandoned vehicles, citizen complaints and Aldermanic Service Requests. In 2006, parking checkers issued nearly 845,000 parking citations, an increase of 5.5% from 2005. Police-issued parking citations continued to decline in 2006 by over 21%. The Police have reallocated their resources to concentrate more on crime-fighting activities. In addition, in 2006 the average response time to a parking complaint totaled 1 hour and 2 minutes, close to the goal of 1 hour.

The Parking Information Desk operates 24/7/365 and includes 21 communication assistants. Parking Information Desk personnel receive parking complaints, process night parking permissions, provide general parking information and dispatch tow operators. In 2006, the Parking Information Desk received 210,764 calls, an increase of 15.5% from 2005. Of the calls, 40,476 calls were parking complaints from citizens, a decrease of nearly 8% and 170,288 calls were for night parking permissions, an increase of nearly 23%. In addition, DPW developed an online night parking permissions request form to make night parking permissions even more convenient for the public. This form can be accessed through www.parking.mpw.net. In 2006, 45,190 permissions were requested online, an increase of nearly 16,000, or 55% over 2005. Further, Parking Information Desk personnel also dispatched 41,336 tows in 2006, an increase of over 21%.

Parking Citation Processing

The Department of Public Works manages the processing and collection of parking citations with the help of contracted services. There are several ways citizens can pay parking citations. They may use the pay-by-mail service (28%), visit the three Violations Bureau locations, or utilized drop boxes which are located in the Police District Stations and City Hall (32%). In 2002, the City offered two more convenient ways to pay parking citations, which are available to the public 24/7. Citizens can pay by phone through the Interactive Voice Response (IVR) system by calling the Violations Bureau at 344-0840 at any time (5%). In addition, citizens can pay parking citations online by accessing www.parking.mpw.net (19%). In 2005 with the installation of the

Automated Payment Centers in the police district stations, citizens can also pay their parking citations (3%). And lastly, in 2006 the Tow Lot staff was given the capability to receive parking citation payments as well (1%). The City participates in the Tax Refund Intercept Program, whereby state income refunds are intercepted to pay for outstanding parking citations. In 2006, 13% of all citations payments were collected through this program.

The automated citation processing/cash management system tracks citation issuance and payments and has improved the City's ability to pursue overdue and delinquent citations and to better manage City parking resources. In 2002, the City began utilizing the Tax Refund Intercept Program implemented by the State of Wisconsin Department of Revenue to intercept state income tax returns for those individuals with outstanding parking citations. Currently, persons with unpaid parking citation balances exceeding $75 are registered with the Department of Revenue. In 2006, nearly $2.6 million in outstanding parking citations was collected through this program, an increase of $1.3 million from 2005.

Although the Tax Refund Intercept Program has been successful in collecting citations that would have otherwise gone unpaid, the Department of Revenue requirements for a social security number or driver's license number to certify the debt had reduced certifications to about 47% of those eligible. In August of 2006, through a change in state law, the City now is able to obtain a driver's license number as part of the vehicle registration information from the State Department of Transportation. Data shows that the certification rate has improved to 89%.

From 2003 through 2006, 472,525 citations have been certified with the Department of Revenue totaling over $22 million of which 127,976 citations have been paid totaling over $6.6 million. This represents a collection rate of 30%. Under the tax intercept program, the debt remains certified until fully paid. Consequently, $15.4 million in outstanding debt still remains certified, which will likely be collected over many years.

The Violations Bureau processed over 935,000 parking citations in 2006. The amount of revenue collected totaled $20.5 million. Of that amount, over $7.25 million, or 35.45%, was collected from past due violations. This amount includes $2.6 million collected from the Tax Refund Intercept Program. It appears that the clearance rate of citations issued in 2006 is expected to resemble the clearance rates of prior years of nearly 80%.

Parking Citation Adjudication

In 2003, the Department of Public Works, City Attorney's Office and the Municipal Court worked cooperatively to develop and implement a number of strategies to deal with the large number of parking scofflaws. These strategies include the Municipal Court obtaining jurisdiction for adjudication and enhanced collection efforts of outstanding parking citations. One of these strategies includes utilizing the Notice of Appearance form to address parking scofflaws who schedule an appointment with the Citation Review Manager and miss the appointment. Over 50% of parking scofflaws who schedule an appointment miss the first appointment. In order to reschedule an appointment, the scofflaw must go to the Violations Bureau or the Tow Lot to sign a Notice of Appearance form. This form includes a Municipal Court date and a summary of all outstanding parking citations. Failure to appear in Court will result in a default judgment and may include a suspension of vehicle registration or a lien on assets.

Another strategy implemented in late 2003 included the utilization of the Summons and Complaint form. The purpose of this form is to address parking scofflaws whose vehicles have been towed by the City and retrieved by the owners. When the scofflaw retrieves his/her vehicle at the Tow Lot and there are eligible outstanding parking citations, a summons and complaint will be personally served to the parking scofflaw. This form will include a Municipal Court date and a summary of all outstanding parking citations. Failure to appear in Court will result in a default judgment and may include a suspension of vehicle registration or a lien on assets. In 2006, 2,055 summons were issued for 20,014 citations valued over $855,000. This is a significant increase over 2005, which reflects the adoption of a new City ordinance that authorizes the City to ticket and tow any vehicle parked on the street not displaying valid registration. In most cases the vehicle owner can not obtain registration because of unpaid parking citations.

In 2005, the Municipal Court judges issued an order requiring the City Attorney to prevent the filing of any actions in the Municipal Court which contained parking citations that were more than two years old unless the citations had been submitted to the DOT for registration holds. Because it is cost prohibitive for the City to place a registration hold on every outstanding citation (the City requests over 100,000 holds annually at a cost of $5 per hold), the City is discussing with the Wisconsin Department of Transportation to allow the City to bundle all overdue citations under one registration hold. Currently, the City places a registration hold on the oldest citation. Placing a vehicle registration hold on any outstanding parking citation extends the statute of limitations to adjudicate a citation from 2 years to 6 years. As a result, all outstanding parking citations will have to be paid before a vehicle registration hold is released. DPW is hopeful that this change can be implemented in 2007.

In 2005 the Outstanding Debt Task Force was created to assess the level of outstanding debt owed to the City of Milwaukee and make recommendations relating to its collection. Parking citations comprise the largest amount of outstanding debt owed to the City. One of the recommendations of the Task Force to encourage payment of outstanding parking citations is to seek legislation that would allow municipalities to ticket and tow or boot any legally parked vehicle with three or more outstanding parking citations and require the citations to be paid or scheduled to be adjudicated prior to releasing the vehicle. Currently, if a vehicle with outstanding citations is legally parked, the City cannot tow or boot the vehicle for unpaid citations. DPW estimates that there are over 110,800 violators with three or more open citations valued at $33.3 million. DPW will work with Intergovernmental Relations to prepare and lobby for such legislation in 2007.

Another recommendation of the Task Force to encourage timely payment of outstanding parking citations is to seek legislation establishing a time frame to adjudicate parking citations for cities of the first class. The legislation would require a parking citation to be paid, adjudicated or arranged to be adjudicated

within 180 days after issuance. For a violator who does not do any of these things, the legislation would also allow the Municipal Court to enter a default judgment without requiring signed acceptance or responsibility by the vehicle owner or violator. DPW will work with Intergovernmental Relations to pursue this legislation in 2007.

Parking Technology

In 2004 the Department of Public Works negotiated an amendment to the parking citation processing contract to require the development and installation of automated payment centers that sell and dispense quarterly and annual night parking permits and accept payments for parking citations. Automated Payment Centers have been installed in Police District Stations 2 (two), 3, 5 (two), 6 (two) and 7. In 2007 one will be installed in District 4. The Automated Payment Centers accept cash, check, or credit/debit cards and electronically dispense the permits. The information is in both English and Spanish and the machines are accessible 24/7. Because the purchaser of a permit is required to enter all the permit data or update the data when necessary, the night parking permit data is more timely and the City no longer requires its contractor to hand-enter this data after a permit is sold. In addition, the Automated Payment Centers have significantly reduced the workload for the Milwaukee Police Department staff who previously sold night parking permits. In 2006, over 95,100 permits were sold through the Automated Payment Centers totaling over $1.6 million. Parking citations can also be paid through the machines and are processed in real time. In 2006, over 25,400 parking citations were paid totaling over $621,000. In addition, the Automated Payment Centers began receiving payment of WE Energy bills in July 2005. In 2006, 1,140 bills have been paid at the machines. The City receives $0.50 for each transaction processed.

In late 2004, automated revenue control equipment was installed in four City-owned parking structures. The purpose of this investment in technology was to enhance financial management and auditing capabilities and provide payment options for the public. The equipment has the ability to provide for credit card payment on entrance, exit, and at pay-on-foot machines. Over time, it was anticipated that this technology would reduce the number of cashiers needed to staff the parking structures.

In 2006, three of the four parking structures are fully automated, whereby no cashiers are present on a daily basis. MacArthur Square is the only structure where some cashiers are present on a daily basis due to the use of this structure. In 2006, 51% of all revenue was processed through the automated equipment compared to 36.5% in 2005. In addition, in 2006 34.2% of all payments were made with credit card as oppose to 30% in 2005.

The 2006 Parking Fund budget included $1.3 million to purchase and install multi-space parking meters in the downtown area. The purpose of this request is to replace the old single-spaced parking meter with a multi-space parking meter that accepts credit/debit cards. The City issued an RFP and six vendors responded. The City selected Digital Payment Technologies and the LUKE parking meter. It is anticipated the City will purchase over 100 meters to replace up to 1,200 single-spaced parking meters in the first phase of a three-phase project. Installation is anticipated to begin in the spring of 2007. The LUKE parking meter accepts coins and credit/debit cards and issues a receipt. The meters are networked so payment can be made at any meter as long as a space number is entered. All transactions will be real time with real time reporting on usage, revenue and meter status. The meter management system is fully automated and will enhance adjudication, financial auditing and meter maintenance capabilities.

Parking enforcement has utilized handheld computers since 1998 to issue parking citations. In the spring of 2006, 72 new AutoCites Series X3 were distributed to parking enforcement officers. Although they have the same functionality as the existing AutoCites, they have expanded memory to enable the full integration of the scofflaw, stolen vehicle and night parking permit databases. As a result, parking enforcement has been more efficient and effective in processing parking scofflaws, in particular.

Mayor Barrett, Commissioner Mantes, City Officials and Other Elected Officials Participate in Program/Ribbon Cutting Ceremony for New DPW Field Headquarters

As a part of National Public Works Week, May 22nd to 26th, Mayor Tom Barrett, Common Council President Willie Hines, Alderman Willie Wade, Department of Public Works Commissioner Jeff Mantes, Department of City Development Deputy Commissioner Martha Brown and others who contributed to the success of the new 230,000 square foot facility participated in a program and ribbon cutting ceremony on May 25th. The facility, located on a 24-acre site on a portion of the previous Tower Automotive site, at 3850 North 35th Street, was completed on time and within budget. The ground-breaking for the facility had occurred one year earlier during National Public Works Week.

Cutting the ribbon from left to right are City Engineer Jeff Polenkse, Water Works Administration and Projects Manager Laura Daniels, Director of Operations Division Jim Purko, Mayor Tom Barrett, DPW Commissioner Jeff Mantes, President of the Common Council Willie Hines, State Representative Barbra Toles and Alderman Willie Wade.

Photo credit: Dave LaHaye/DCD

The new DPW Headquarters, 3850 North 35th Street, is located on 24 acres, contains 230,000 square feet, houses 480 employees and is located on a major bus route.

Commissioner Mantes reminded the audience that the Department of Public Works (DPW) touches many aspects of day-to-day life on a 24-hour, 7 days a week basis. Many of those services are performed by the staff that is housed in the new DPW Field Headquarters. He praised Mayor Barrett for his leadership and support on the project.

Mayor Barrett complimented the Department for staying within the $24 million budget for the building as well as, "making sure the design incorporated the latest in environmental friendly technology and design".

Before the development of the facility could happen, the Department of City Development helped to pave the way for the facility by negotiating the sale of the land and providing assistance with the clean up of environmental contamination.

A grant from We Energies allowed the Department to work with the Energy Center of Wisconsin and Renschler Company to evaluate energy savings measures for the facility. Four strategies were selected. These improvements translate to annual current value energy savings of $48,000 for the City of Milwaukee. Although the grant had been received, a ceremonial check was presented to Mayor Barrett and Commissioner Mantes by Thelma Sias, Vice President of Local Affairs for We Energies.

The building also has a retention pond that captures all the water run-off from the roof area of the building, over five acres. The Department of Natural Resources assisted with that initiative.

During the demolition of buildings in preparation for the new facility, 100,000 tons of concrete was recycled into granular fill with on-site crushing machines and 8,000 tons of metal was salvaged.

Mayor Barrett was also very proud of the fact that the project reached its goals for the Residential Preference Program, which required 25% of work hours be performed by residents. The project also required 18%

of the construction be performed by Emerging Business Enterprises. The project exceeded its combined employment requirements.

During his comments Commissioner Mantes gave a special thanks to Tom Gartner, City Attorney's Office, and Jim Scherer, Department of City Development, for their expertise in negotiating the development agreement and dealing with all the legal issues of the unique private/public partnership. Ben Goetter and Dan Sisel of the M. A. Mortenson Company were thanked. They were the City's representatives and functioned as the day to day liaisons with the developer and general contractor. Mantes also acknowledged Sam Dickman of the Dickman Company, the project developer, and Brian Byrne of Briohm Construction, the general contractor.

A new public building isn't complete without a piece of public art. For the new DPW Field Headquarters, an Art Selection Committee was formed comprised of Lula Chambers, Norman Barrientos, Jeff Jones, Laura Ashleigh, and Jim Purko, Director of Operations Division. The committee selected a wonderful piece of art by local sculptor Richard Taylor. The sculpture will be installed this fall.

Several DPW staff members were instrumental in the successful completion of the new DPW Headquarters. Commissioner Mantes recognized Michael Krause, Project Manager, Facilities Section, for working on all aspects of the building design and construction. Other Facilities staff members who contributed to the success were Bryan Pawlak, communications data installation; Jim Morden, coordination of the relocation; Len Moye, mechanical and custodial support, and Tom Tarkowski for mechanical systems review.

Artist Richard Taylor with scale model of sculpture and Ms. Lula Chambers, member of the Art Selection Committee.

Staff members were part of an employee team that assisted with the operational functionality and lay-out of the building space. They included: Laura Daniels and Dave Goldapp, Milwaukee Water Works; Dale Mejaki, Tom Rach, Jeff Dellemann and Bob Brooks, from Infrastructure Services Division.

The overall coordination of the project was handled by Jim Purko, Operations Division Director. Purko had weekly meetings with the contractors and the staff to ensure the project was on track. Alderman Wade also attended several meetings regarding the facility as it is located in his district.

The new DPW Field Headquarters includes the Street Maintenance, Sewer Maintenance, Milwaukee Water Works distribution facilities, their 24-hour Control Center, sections of the Operations Division, such as Building Maintenance, Carpentry, and a satellite Equipment Repair Shop. The consolidation will allow the 480 employees of the combined Divisions to cooperate and consolidate similar functions.

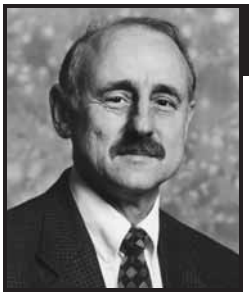
The move from the Traser Yard by Street Maintenance allowed for the development of the Harley-Davidson Motor Company Museum. Former Milwaukee Water Works distribution sites no longer fitted the needs of personnel, so the opportunity to build the new facility was a winning one for DPW staff. By combining these facilities, the City will save money by eliminating duplication of services in several locations. This will also avoid future capital and operating expenses at the old facilities. The overall project is projected to save the City taxpayers over $13 million over the next 25 years.

[The new DPW Field Headquarters] incorporated the latest in environmental friendly technology and design.

MAYOR BARRETT

Photo credit: Dave LaHaye/DCD

Mayor Barrett at podium, from left to right, Deputy Commissioner of the Dept. of City Development Martha Brown; Vice President of Local Affairs, We Energies, Thelma Sias; President of the Common Council Willie Hines; Alderman Willie Wade; Sam Dickman, the Dickman Company; State Senator Spencer Coggs; and DPW Commissioner Jeff Mantes.



Operations Division

Zeidler Municipal Building
841 North Broadway, Room 516
[414] 286-8333

James P. Purko, *Operations Division Director, left*

Venu J. Gupta, *Buildings & Fleet Superintendent*

Preston D. Cole, *Environmental Services Superintendent*

The Operations Division was created in 2002 by consolidating the Forestry, Sanitation and Buildings & Fleet divisions. The division is responsible for solid waste collection and disposal, recycling and waste reduction, trees and landscaping, fleet maintenance and dispatch, support services to City facilities and snow and ice control.

Administration

The administration section coordinates, prepares and monitors the division's operating and capital budgets. A small, cross-trained administrative staff provides key support to managers of each operating section. Support functions include monitoring the facilities hotline to quickly dispatch service requests for City buildings, maintaining the City's keycard access database, responding to solid waste fee inquiries and environmental code citations and generating over $1,000,000 in accounts receivable invoices annually. This section also manages the solid waste scale system that tracks all refuse and recycling brought through the City's three transfer sites.

Buildings and Fleet Servies

Buildings & Fleet Services is a composite of licensed professionals, skilled trades, certified mechanics and technicians, fleet operators, communication specialists, dispatchers and experienced office staff. Buildings and Fleet serves the needs of employees, managers, agencies, departments and the public users of city facilities. The Division's goal is to provide efficient and effective service to internal and external customers by supplying quality work environments and a well-maintained fleet that will allow customers to work more efficiently. Buildings & Fleet has undergone many changes over the past several years.Methods and processes have been streamlined and the application of technology has created a more efficient and effective section. Our future is the vast array of talent, known as human resources (our employees), that on a day-to-day basis does the work and represents the front line teamwork of our services and projects.

Environmental Services

The merged Forestry and Sanitation sections continue to explore new opportunities for improved efficiencies resulting in a cost effective Environmental Services. These include the areas of facilities usage, equipment, emergency management, staff cross training and customer service. Utilizing these opportunities ensures that the Environmental Services section continues to provide the City of Milwaukee high quality services at the lowest possible cost. Our goal is to make Milwaukee cleaner and greener.

Operations Division - Buildings and Fleet

Zeidler Municipal Building
841 North Broadway, Room 602
[414] 286-8333

Venu J. Gupta, *Buildings & Fleet Superintendent, left*

Gary Kulwicki, *Facilities Manager*

Fred Gunther, *Fleet Manager*

The Buildings & Fleet Services is the classic example of an internal service agency providing core services to city departments and agencies. The Division is a composite of licensed professionals, skilled trades, certified mechanics and technicians, experienced fleet drivers, communication operations, dispatchers and experienced office staff.

Our future is the vast array of talent that on a day to day basis does the work and represents the front line teamwork of projects and services. The Division has undergone a multitude of staffing changes throughout the past several years. A vast number of methods and processes have been streamlined and the application of technology has created a more efficient and effective Section. Staff works hard in developing relationships.

Highlights for this 2006 report include the completion of a new $24 million facility and the continuation of the $60 million City Hall Restoration.

Facilities Development & Management Section

Facilities Development & Management provides building maintenance services, design and consulting services, project management, inspections and evaluations for the repair, operations and renovation of the City's building assets. Our staff of skilled craftsmen, technicians and professionals provides these services to over 200 buildings that include City agencies and departments' offices, field headquarters, shops and storage facilities.

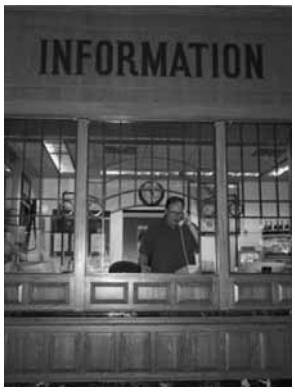
The Facilities section is comprised of functional units which provide design electrical, communications, information, security, custodial, carpentry/masonry, painting and recreational services. Our staff includes registered architects, professional engineers, certified master electricians and trained technicians, journeyman skilled carpenters, bricklayers and painters. Our custodial and laborer staff is well skilled in their area and provides a multitude of talents in facilities management.

In 2006 our diversified staff provided construction and project management services in partnership with consulting firms remodeled over 20,000-sq. ft. of office and field space, installed 7 miles of optical fiber, painted 1800 feet of piping in addition to our multitude of daily preventative and routine maintenance responsibilities. As an integral part of the Sections Design-Build team, our staffs' involvement in major projects include the renovation & construction projects for the Police and Fire Departments., the Heath Department Offices and the completion of the 2nd District Police station remodeling.

On May 25, 2006 the newly completed DPW Field Headquarters Facility project had its grand opening. Facilities staff was instrumental in coordinating the move of each of the DPW Sections into the new facility and making the transition run smoothly. The new facility allowed the City to holistically organize the Repair and Maintenance Divisions of Streets & Bridges, Sewer, Water, Facilities and the Field Engineers. The relocation of the City's existing facility out of the Menomonee Valley opened this valuable site for private development, and provided the opportunity for the City to begin the redevelopment of a large former industrial site with the building of the new DPW Facility in a second area of the City. The new facility combined operations from 7 sites throughout the City on the new 24-acre site. The City is projecting total operational savings of $1,330,000 annually.

Information & Security Services

The unit consists of a small group of Communication Assistant III employees and management that occupy the City Hall Information Center and provide after hours call center services as well as acting as the central station monitoring center for DPW buildings on a 24/7 basis. The City contracts with a security provider during the weekends along with second and third shifts on the weekdays. These officers provide watch tour and patrol service along with monthly fire extinguisher and weekly AED



inspections in the City Hall Complex. Their specific responsibility is to protect the assets under the control of the Department of Public Works. This group also provides consulting services to other City departments on security-related matters and the alarm system. Our long term plan is to manage all of our security functions through this system in all DPW managed buildings.

The Communications Unit

The Communications Unit consists of journeyman electrical mechanics, electrical workers and laborers, and provides and maintains the City's copper cable plant and fiber optic backbone for data and telephone transmission. Our staff is responsible for the maintenance of the City's telephone system, street lighting control circuitry, various alarm systems, all City public address systems, the Community Safety Wide Area Network serving the Fire and Police Departments Dispatch Systems and Police call boxes. This unit is also involved in the remodeling and construction of City facilities where we provide phone and data wiring and fiber connectivity for all City Departments. Communications continues to be in the forefront of the fiber optic and local area network hub technologies linking DPW, other City Departments plus other government and educational facilities.

In 2006, the Communications Unit relocated three Avaya phone systems as a result of building closings including Traser Yard, Johnston and Coggs Community Health Centers. These units were reconfigured and located to provide the features of the Avaya phone system to City staff at other facilities. The Avaya phone system allows Communications to install a telephone system using the Department of Public Works (DPW) network utilizing only a pair of fiber. In the past bringing up a new location involved running copper cables several miles to the nearest phone node to provide phone service. With the present system, relocating a phone system to meet City needs is considerably easier because of reduced cost, reduced size, reduced power needs and reduced environmental needs.

In 2006 Communications installed an additional 7 miles of fiber optic cable to enhance the City's data and telecommunication network. Only a few other municipalities in the nation own and use a community fiber network such as the one Communications is responsible for.

In addition to meeting the challenges of installing state of the art infrastructure technology, our unit replaces approximately 36 miles of copper cable each year due to cable damage, failures or to accommodate paving and road construction projects.

The most significant construction project impacting Communications in 2006 was the Marquette Interchange Project. Activities started in the fall of 2003 on the Marquette Interchange Project and are scheduled to be completed in 2008. Late in 2006, the Communications Unit began the task of relocating cables, and this year we restored cables routed across the Walnut Street Bridge Structure. Five cables containing close to 400 conductors feeding hundreds of circuits were relocated for these projects without causing any significant outage. Future projects will be coordinated around the activities of the Marquette Interchange to take advantage of planned outages while adding to reliability and redundancy of the fiber network.

Finally, our communications staff provides 24 hours a day, 7 days a week, 365 days a year service in maintaining the City wide data and telephone system. As technologies advance in communications, we provide and maintain the latest in category 6 cabling for local area networks as well as multimode and singlemode fiber connectivity utilized by the City's ATM, SONET with DWDM, and Gigabit Ethernet networking technologies.

The Carpentry/Masonry Unit

This year 2006 was a very busy year in that this unit had quite a bit of work to do while making the move to our new location. January 2006 was very busy packing to move and trying to finish the remodeling at the 2nd District Police Station and all the day to day things that always come up.

Our staff of highly skilled trades people which includes carpenters, bricklayers and laborers continue to give the City of Milwaukee and it's taxpayers a great effort trying to contain costs and doing high quality work.

Some of the larger jobs we completed were: the remodeling of 2nd District Police Station, remodeling of the 6th floor at the Police Administration Building, remodeling portions of the 7th and 10th floors to relocate the City Attorneys Office from City Hall to the Municipal Building. There were plenty of other jobs completed that year that are far too numerous to name each one.

In addition to the jobs mentioned our staff also services and maintains (58) children's play areas. We responded to over 3000 board ups of which 1900 were emergency responses. We are on call 24/7 in all kinds of weather. We respond to calls from The Police and Fire Departments and Department of Neighborhood Services.

The Painting Services Unit

This unit provided interior and exterior painting services at numerous City buildings including Water department, Fire Department, City Hall Complex, Police District Stations and DPW facilities. This unit also has capabilities of specialist painting techniques, applications and special effects such as marbling, spattering design and textured surfaces. This staff is also certified in lead abatement. Our staff of journeymen painters completed interior painting of four Engine Houses, completed 1800 lineal feet of 48" diameter water pipe in the Linnwood Water Treatment

plant, painted the newly remodeled portion of the 6th floor of the Police administration building. These were just some of the painting projects accomplished in 2006.

The Mechanical Design Unit

The Mechanical Design Unit's engineering professionals leads DPW in managing and/or coordinating the planning, programming, design and construction process of mechanical systems for existing and new City owned buildings. The unit manages the design and construction of building mechanical systems projects including project scheduling, budget control, compliance with design standards, resolution of on-site construction problems and overall project quality control, in coordination with user agencies. We provide engineering services to enhance the condition and prolong the useful life of public facilities. We provide engineering design services for fire life/safety systems, asbestos and lead paint abatement projects. We provide design services for the City-wide fuel dispensing systems that meet the Environmental Protection Agency and State of Wisconsin Department of Natural Resources requirements.

2nd District Police Station Remodeling

A major renovation to the 2nd District Police Station took place this year. The mechanical design unit incorporated major heating, air conditioning and ventilation changes throughout the station. These changes will increase the efficiency of the facility while providing a more comfortable and healthy environment.

Stormwater Pollution Prevention Plan – Best Management Practices

This year we undertook several efforts in the Stormwater Pollution Prevention Plan to installation several best management practices including secondary containments around calcium chloride storage tanks, a canopy over the fuel pumps at the 123 building, and prefabricated metal buildings used to store hazardous materials. All of these efforts will assist in reducing the amount of chemicals in the stormwater system.

The Architectural Design Unit

The Architectural Design Unit's team of professionals leads DPW's development of new buildings, additions and alterations to existing facilities for the City. They are involved from concept through construction, creating the design, producing contract

Left, canopy over fuel pumps at the 123 Building

Below, concrete containment for calcium chloride tank

drawings and specifications, and administering construction in addition to overseeing architectural consulting firms on projects. This unit also provides architectural technical support for the development of budgets and facility utilization studies, and assists in operations and maintenance activities.

The architectural team works collaboratively with clients to meet their goals and needs. By being proactive and cost conscious in developing design solutions, this team creates functional and efficient workplaces. Better working environments are provided with the installation of energy efficient building operating systems and life/safety building systems.

Police Administration Building - 6th Floor East Side Office Remodeling

951 N. James Lovell Street. The remodeling of the 6th floor for occupancy by the Police Vice Squad was completed in 2006. Removal of asbestos insulation was necessary before other work could proceed. At the east end of the floor, new carpeting, vinyl composition floor tile, acoustical ceiling tile and grid, light fixtures, and systems furnishings were installed to create a large open office area for the officers. An evidence storage room, equipment store room, two smaller enclosed offices, a drug testing area and a kitchenette were constructed. At the north side, near the center of the building, two restrooms were renovated to meet ADA standards while a conference room and records storage room were added. Mechanical, electrical and life safety systems were upgraded. The central corridor was refinished, polished wood accents were installed and the existing terrazzo flooring was repaired. South of the corridor, ten existing holding cells were converted into eight interview rooms and two storage rooms. Next to the storage rooms a women's locker room was constructed with sixteen new

Above, Police Vice Squad General Office

Left, Police Line Up Gallery

lockers. West of the interview area, a men's locker room was built and fitted with fifty new lockers and west of that, a line up area with a staging room, one-way glass and tiered seating / gallery section was constructed. An evidence viewing area is next to the line-up. An elaborate system of video recording equipment and lighting control systems was installed to comply with new federal regulations regarding questioning of suspects and intake of prisoners. The gallery area doubles as a training room with a screen for viewing video recordings. West of this area three more interview rooms and two polygraph rooms were built. All of the remodeled areas received new finishes. In secured areas sheet steel was installed between two layers of gypsum board for extra durability. Lighting fixtures and controls are high efficiency type as well as the HVAC system. Low consumption plumbing fixtures were installed in the renovated restrooms.

The project was designed by an outside consultant, The Zimmermann Design Group and overseen and coordinated by the architectural unit. Inspection services were provided by B&F staff and carpentry, painting, tile setting, electrical and communications work was completed by B&F trades people. Outside contractors installed the systems furnishings, flooring, HVAC, plumbing, ceiling and life-safety systems.

Milwaukee City Hall Historic Building Restoration

200 East Wells Street. The restoration of Milwaukee's City Hall has continued on through 2006 with the removal of major deteriorated elements on the south tower including the copper roof & clay tile underlayment, corner terra cotta turrets & lion heads and the other masonry features taken down to the 12th floor level. On the east & west sides of the main building selective demolition has occurred with the removal of the 8th floor's 20

Milwaukee City Hall – North Side of South Tower

existing dormers and perimeter gutter system.

The selection of new brick, terra cotta and stone pieces was made to blend in with the aged spectrum of existing material colors. New materials were ordered to allow for the long material lead and curing times. When complete, this project will have replaced over 10,000 terra cotta pieces and 200,000 brick.

Many mock-ups of material colors, finishes and construction details have and will continue to take place to confirm that all parties have a clear understanding of the contract documents and to insure a quality restoration project.

The project team is looking forward to the rebuilding/restoration phase planned for 2007 & 2008 as this project continues to exceed the City's provisional requirements and meet the project's budget and completion date of November, 2008.

The project team includes the Engberg Anderson Design Partnership consulting team and the general contracting company of JP Cullen & Sons with support from Concord/Tharps for accounting services and Prism Technical Management & Marketing Services for monitoring the City's provisional requirements. The project is being overseen by Buildings & Fleet.

Facilities Exterior Condition Evaluation

In accordance with the City of Milwaukee Façade Critical Examination Ordinance, facade exterior condition evaluations were conducted on the Zeidler Municipal Building, Anderson Water Tower and Municipal Building and the Police Administration Building. A façade conditional assessment report was conducted on the 809 Broadway Building. An outside consultant, with oversight by the Buildings and Fleet Architectural section, performed the investigations and evaluations.

Zeidler Municipal Building

Investigation of the exterior walls of the Zeidler Municipal Building, constructed in 1959, showed the building's facades to be in generally good condition, with some of the stones cracked or chipped and in need of repair or replacement, and exterior insulating finishing system (EIFS) panels in need of replacement. Sealant and mortar was also found to be deficient. These conditions

were further evaluated in a façade conditional assessment report. Immediate repairs needed included removal and replacement of failed sealant between stones on the east façade, which will be completed in 2007. Long term repair options and short to medium term repair options for 2008 and 2011, covering the balance of the deficiencies, have been generated.

Anderson Water Tower & Municipal Building

The Anderson Water Tower and Municipal Building renovation of 2002 consisted mainly of interior remodeling and roof repairs. During the façade evaluation, it was determined that the facades of this 1938 precast concrete building exhibited some spalling and cracking of the concrete, and deteriorated sealant. Of special concern were eight severely cracked concrete ledges, located below the domed roof on the octagonal tower. Buildings and Fleet carpenters quickly installed wood canopies over the building's entries, to protect pedestrians from pieces of concrete which might fall from these ledges. Buildings and Fleet monitors the area around the building for pieces of fallen concrete on a monthly basis. To date, no concrete fragments have been seen on the site. Repairs are planned for these ledges in 2008. Additional items needing repair are included in the 2008 and 2011 repair lists and cost estimates.

Police Administration Building

Originally built in 1969, the exterior concrete walls of the Police Administration Building were found to be in generally good condition. Deficiencies included deteriorated sealant and some cracking in precast concrete units. Itemized repair lists and cost estimates have been made for 2008 and 2011 repairs.

809 North Broadway Building

A façade conditional assessment report for the 809 Broadway Building, built in 1920 as a car dealership and remodeled in 1980 as office space, showed a number of conditions in need of repair, including flashing, cracked and spalled bricks, corrosion of steel shelf angles and lintels, and deteriorated sealant. Long term repair options and short to medium term repair options for 2008 and 2012 have been generated.

Special Electrical Services Unit

The Electrical Services unit consists of skilled and dedicated electrical mechanics specializing in the fields of electrical wiring, maintenance, and construction. Over fifty percent of our staff are credentialed master electricians and others hold credentials in refrigeration, electrical inspection, and industrial instrumentation.

We provide a wide variety of electrical services for all city owned facilities including Police Districts, Fire Houses, Parking Garages, Forestry and Sanitation Yards, and the Port of Milwaukee.

In 2006 Special Electrical Services undertook and completed a multitude of construction projects ranging from small office and shop alterations to large-scale remodeling projects.

The group worked on the 2nd District Police Station Office and Police Administration 6th Floor Remodels and Lineup Room Project. Each Project involved providing updated power distribution systems throughout with energy efficient lighting, HVAC, security, life safety, and controls. Management of schedules and resources met expectations on these projects and allowed the group to secure additional work during 2006.

There were a host of capitol projects large and small the group worked on in 2006. To mention a few; at the Zeidler Municipal Building progress continued on electrical upgrade projects, 1st Floor DNS/Health Office Alteration Project, 11th Floor MCC replacement and upgrade, and emergency power distribution infrastructure. All the projects required detailed planning and coordination between Departments. Several other electrical projects were completed which included the office remodel for Sanitation at Northwest Garage, electrical work for the asphalt silo at DPW Field Headquarters and the emergency generator system at Parking Enforcement.

In 2006, Special Electrical Services continued to work extensively on upgrading the aging electrical distribution systems within the City Hall Complex. The work involved designing and installing new feeder load panels within pipe chases for accessibility and safety, in addition to the replacement of fuses with circuit breakers. We are actively involved in the pursuit of design, review, and planning of the City Hall power separation project scheduled for installation in 2008.

Special Electrical Services continued to concentrate its effort in responding to customer generated electrical needs and requests. Through the Proteus work order system our staff within Operations and Maintenance was able to manage a substantial volume of requests while still responding to demand maintenance requests from city wide department locations. These primarily are requests from the Police, Fire, Port, and Parking Enforcement Departments.

New to 2006, Department timekeeping and cost tracking were transferred onto the Proteus work order system.

Throughout 2006 staff members participated in a wide range of continuing education opportunities. Examples: arc-flash safety and National Electrical Code Classes, and vendor specific equipment education. As always, the group has been very adaptable to the changing work environment brought on by new systems and technology.

Special Electrical Services continues and makes every effort to provide prompt, competitive service to meet the City of Milwaukee's most critical electrical needs. Providing, 24-hour on call emergency call in service, the group prides itself on their ability to perform high quality, reliable electrical service, to our valued customer base.

The Recreational Facilities Design Unit

The recreational facilities unit provides the City of Milwaukee with neighborhood green spaces in which residents both young and old can enjoy activity and relaxation. The recreational facilities unit is responsible for operating, maintaining and the reconstructions, as required, of forty-eight active areas and eleven passive areas, as well as major reconstructions of thirty-seven Milwaukee Public Schools play fields. The reconstructions are dictated by the age of the facility, safety, demographic and neighborhood needs. These needs are addressed in the reconstruction of the facility which requires a field survey, design, contract drawings, contract documents, specifications, inspections, and payments.

Despite constrained budgets the recreational facilities unit, with years of experience, rises to the challenge, by economizing and making the best use of taxpayer dollars, all while surpassing the guidelines set forth in green initiatives.

The Recreational Facilities reconstructed in 2006 are as follows:

Kilbourn Reservoir Park – 801 East Meinecke Avenue

BEFORE

AFTER

The Kilbourn Reservoir Play Lot reconstruction required the replacement of play equipment installed in 1972 with a new play structure, swing unit and ground level play panels.

Formerly, the obsolete and well worn play equipment was scattered on a sloped terrain.

Presently the play structure offers children a wide variety of play experiences including sliding, climbing and twirling. The ground level play panels, which promote interaction between children of all abilities will also promote enhanced communication with the educational sign language and English/Spanish play panels. An asphalt path meanders amidst several mature trees and a rain garden near the comfort station will attract birds and butterflies.

The color scheme of the play equipment will coordinate well with the benches and trash receptacles which will be installed upon completion of the Kilbourn Reservoir Park Renovation by Milwaukee Water Works which is scheduled to open to the public in the Fall of 2007.

18th and Washington Play Lot – 1825 West Washington Street

The 18th and Washington Play Lot reconstruction truly transformed this dark and unfriendly site into a bright and accommodating facility.

Obsolete play equipment, installed in 1972 and an insect infested tree were removed and replaced with a play structure that offers the large number of children in the neighborhood plenty of play opportunity. The ground level play panels promote better understanding between all the children and convenient benches are provided for those supervising the children.

The renovation allowed an 80% reduction in impervious surface.

BEFORE

AFTER

Lewis Play Field – 1824 East Pryor Avenue

BEFORE

AFTER

The renovation at Lewis Play Field not only replaced obsolete play equipment with a new play structure, ground level play panels and a swing unit, but galvanized the neighborhood residents in a concerted effort to revitalize their neighborhood green space.

The antiquated play equipment was replaced with a play structure that provides a multitude of play experience and ground level play panels promote the interaction of children with all levels of abilities. A meandering path with benches is provided for those supervising the children. A color coated basketball court allows team activity for the older children.

The green initiatives have been surpassed with a rain garden that attracts birds and butterflies, landscaped with a variety of new trees and a 65% reduction in impervious surface. Specimens of five different trees offer the opportunity for the future generations to learn and therefore better appreciate the environment.

The Operations and Maintenance Unit

Energy Efficiency & Operating Costs

In October, 2005 Mayor Barrett introduce his initiatives to map the future course Milwaukee's efforts to be "Green" The facilities Development & Managements role in these efforts are to incorporate sustainable design and engineering concepts in our projects. Our goal is to have our Zeidler Municipal Building be "LEED EB" certified which will be recognized as energy efficient and sustainable designed and retrofitted existing building. Work continues to get this certification by implementing a number of energy efficient measures in 2006 by turning off non essential lighting and other components in order to reduce pressure on the electrical distribution and transmission systems and save energy and dollars Our efforts extend in the use of green products making this a priority objective for in-house and contracted custodial services.

Fleet Services

Fleet Services consist of two sections Fleet Repairs and Fleet Operations.

Fleet Operations schedules approximately 400 operators, support people and laborers on a daily basis for Environmental Services, Street and Sewer maintenance.

Fleet Repairs maintains approximately 3400 pieces of equipment and components for the DPW Fleet along with 679 vehicles for the Milwaukee Police Department. Fleet Services repairs and maintains equipment at four locations with two shifts. The main garage is located at 2142 W. Canal Street with satellite locations at 39th and Lincoln, 31st and Ruby, and the new DPW Field headquarters at 35th and Townsend.

Central Garage

Built in 1978 the Central Repair Garage is the main headquarters for Fleet Services. The building was in need of a major upgrade to the mechanical systems. The HVAC replacement was started in fall of 2006 with completion scheduled for mid 2007. The units that were being replaced were 29 years old. Other systems are scheduled for 2007 and 2008.

Consolidation of equipment at the FHQ site

The fleet repairs section of the Buildings and Fleet Division moved into the DPW Field Headquarters in February of 2006 with a team of three technicians. Their main purpose is to perform preventive maintenance inspections on the 500 vehicles parking at the consolidated site. With the Water Department, Street and Sewer Maintenance all at one location there is no need to have the equipment moved to another location for it's scheduled maintenance. The technicians at DPW FHQ simply pick the vehicle from the yard or shop to perform the scheduled maintenance.

Fleet reduction initiative

A study was performed to investigate the possible reduction of the City fleet. Street sweepers were reduced by 6 to 21. Refuse packers were reduced to 121 from the high in 2005 of 139. Endloaders were also reduced from 21 to 12 while multi purpose tractors dropped from 50 to 42.

New Equipment

Fleet has taken delivery of a variety of new equipment in late 2005 and 2006. There are 11 new salt trucks, with all the components constructed by Monroe Truck. These trucks utilize components built by Monroe to the City Of Milwaukee specifications. The dump boxes along with the underbody plows and the salter inserts were all built by Monroe Truck. Previously the City would buy the chassis and send the chassis to a body vendor. Currently, Fleet Services is purchasing as much as possible as a complete vehicle with all components.

Three new street sweepers were also added, along with auto lube systems for 10 of the current sweepers. These auto lube systems were instrumental in the reduction of street sweepers from 27 to 21. The system continuously lubes the sweeper making the lubrication after each shift a thing of the past. This also gives the staff the ability to double shift the brooms without a lengthy lube service between shifts.

Fleet Services has also sought and received a grant to install Diesel Oxidation Catalysts on many of the existing refuse packers.

Staff will be installing the DOC muffler on 56 current vehicles. The new equipment being delivered will all have the DOC muffler already installed.

Dispatch Operations

A total of 759 training classes were held in 2006 for Department employees. This included major refreshers on leaf operations and small tractor operation. In addition to that, the Operations Section's Driver Instructor Trainers and Auxiliary Trainers performed 215 Third-Party Commercial Drivers License Exams under the authority of the State of Wisconsin's, Department of Motor Vehicles.

Field service is also performed as a function of the Dispatch Office. The following charts show the number of field services calls for 2006 was 8800. The chart also shows the average number of minutes that each field man took to complete the service call they were assigned.

Tire Shop Information

It has long been accepted that tires and fuel are two of the biggest expenses in a fleet operation. The current high price of fuel and more recently rising costs of tires have fleet managers looking for new answers for these budget headaches.

The City of Milwaukee Fleet Services Section has undertaken a pilot program to evaluate the benefits of nitrogen-filled tires. In the simplest terms, an under inflated tire consumes more fuel and increases tire wear. Proponents claim that nitrogen filled tires maintain optimum pressure longer and more consistently. Under-inflated tires increase rolling resistance and consume more fuel in comparison.

Maintaining proper air pressure is a constant battle. Air permeation, temperature fluctuations between seasons, and driver/operator indifference are all contributing factors of less-than-optimum tire maintenance.

Research of nitrogen revealed that people in the tire industry are split. Some believe nitrogen to be a passing fad and some believe it to be the future. Staff believes that nitrogen offers many advantages over compressed air, including the elimination of wheel rust and oxidation (due to the moisture found in compressed air), extended tire life, cooler running tires, and improved retreadability. Tires inflated with nitrogen tend to stay inflated much longer than those with compressed air.

Branick Industries and Ingersoll-Rand offer a variety of nitrogen generators and tank sizes, for use in light duty automotive to high volume over-the-road truck applications. Knowing that the use of nitrogen may be expanded, staff chose the middle-sized Branick Model 500 with a 120 gallon tank. It is the largest of the single membrane generators, is designed for automotive and light truck applications, and allows staff to use our existing house air.

Milwaukee's pilot program started small by monitoring a portion of the Parking Checker Jeeps. Twelve identical new Jeep Wranglers are being monitored. Six have tires filled with compressed air and six have nitrogen-filled tires. The tire pressures on all the test vehicles were set identically, to manufacturer's requirements. All of the test vehicles have the same size and brand tires. Tread depth and tire positions were recorded. Test

2006 Quarterly Fieldman Statistics

1st Quarter

Call #	# Field Calls	# of Mins On Calls	Avg Mins On Calls	Avg Calls Per Day	# Days Worked
64	488	16520	33.9	7.4	66
65	426	13485	31.7	7.3	58
66	458	16690	36.4	7.5	61
67	694	15560	22.4	10.8	64
68	57	2265	39.7	4.8	12
Totals:	**2123**	**64520**	**30.4**	**30.8**	**69**

2nd Quarter

Call #	# Field Calls	# of Mins On Calls	Avg Mins On Calls	Avg Calls Per Day	# Days Worked
64	370	14114	38.1	7.3	51
65	423	11685	27.6	9.4	45
66	426	15350	36.0	7.7	55
67	694	15309	22.1	13.1	53
68	151	5495	36.4	7.2	21
69	43	1785	41.5	10.8	4
Totals:	**2107**	**63738**	**30.3**	**33.4**	**63**

3rd Quarter

Call #	# Field Calls	# of Mins On Calls	Avg Mins On Calls	Avg Calls Per Day	# Days Worked
64	507	17280	34.1	9.6	53
66	228	9030	39.6	8.4	27
67	877	18350	20.9	15.9	55
68	244	8765	35.9	9.0	27
69	207	9801	47.3	8.0	26
Totals:	**2063**	**63226**	**30.6**	**32.7**	**63**

4th Quarter

Call #	# Field Calls	# of Mins On Calls	Avg Mins On Calls	Avg Calls Per Day	# Days Worked
64	196	6080	31.0	10.9	18
66	644	21065	32.7	11.9	54
67	1098	21230	19.3	17.7	62
68	326	11140	34.2	10.9	30
69	243	10079	41.5	9.7	25
Totals:	**2507**	**69594**	**27.8**	**39.8**	**63**

Grand Totals:	**8,800**	**261,078**	**29.7**	**34.1**	**258**

data will be collected on tread wear, pressure fluctuations, mileage and fuel consumption. Should the data collected confirm the benefits of nitrogen as proclaimed, staff will expand its use to include refuse trucks, and other on/off road and specialized equipment.

Severely under inflated tires are dangerous, especially for high speed vehicles, sport utility vehicles and light trucks. The City will investigate the use of nitrogen for the police squads. The City of Milwaukee Police Department has approximately 650 vehicles. These vehicles are subject to high speed pursuits and other severe duty applications.

Staff has also just begun the evaluation of an Elgin street sweeper equipped with two nitrogen filled Goodyear DuraSeal™ tires. Preliminary results at this point have been promising.

Tire Shop staff firmly believes that a good tire maintenance program along with nitrogen inflation will ensure that our fleet vehicles are as fuel efficient as possible, with the added benefits of longer tire life and enhanced safety. The use of nitrogen does not eliminate the need to check tires on a regular basis but should help maintain a more consistent reading.

The chart below shows the amount of activity in the tire shop during 2006.

2006 Tire Shop Activity

	1ST QTR	2ND QTR	3RD QTR	4THQTR	TOTALS
Total Tires Mounted	791	792	880	968	3431
Total Tires Repaired	1,618	1,482	1,609	1,546	6,255
Total Service and Shop Calls	935	855	913	832	3,535

Operations Division - Environmental Services

Zeidler Municipal Building
841 North Broadway, Room 619
[414] 286-8282

Preston D. Cole, *Environmental Services Superintendent, left*

Michael Engelbart, *Sanitation Services Manager*

David Sivyer, *Forestry Services Manager*

Environmental Services' role is to improve the environmental quality of life for all Milwaukee residents. Environmental Services mission of "Clean & Green" promotes clean and healthy neighborhoods, reduces waste, encourages recycling, maintains safe roadways during snow and ice and cares for and preserves a healthy urban forest.

SANITATION

OPERATIONS:

■ Residential Garbage Collection

Environmental Services provides weekly household garbage collection to 190,748 single-family and multi-family households of 4 units or less citywide. Residents are required to place their cart at the collection point from April through November. Sanitation crews collect carts from the storage point from December through March. A total of 190,895 tons of residential garbage was collected in 2006.

City garbage service is also available to apartment buildings of 5 or more units at full cost. In 2006, Sanitation provided garbage collection to 1,351 of the city's 2,661 apartment buildings that generated $1,091,000 in revenue.

In addition, Sanitation crews collect brush piles less than 4 cubic yards (the size of two couches) from March through November. Annual fall leaf collection begins in October and continues to the first snow fall. A total of 27,026 tons of leaves, brush and yard waste were collected and composted.

■ Snow & Ice Control

Environmental Services conducts snow and ice operations to clear City roadways during winter storms. In 2006, Milwaukee's snowfall totaled 31.8 inches which required 3 general plowings and 22 general ice control operations to clear city streets.

As a result of a pilot project begun in 2005, Sanitation implemented the full use of salt brine to prevent frost on city bridges. Salt brine is an anti-icing agent produced by mixing rock salt and water. The application of salt brine provides valuable lead time to prepare for general ice control measures. Because it is a wet application, salt brine dries directly on driving lanes and does not "bounce" to the curb as rock salt can. Sanitation used salt brine to treat bridges and continues to examine expanded application.

■ Project Clean & Green

Environmental Services is committed to a cleaner city to improve neighborhoods and quality-of-life. Project Clean & Green (PCG) is a seven-week program that focuses equipment and resources on a neighborhood-by-neighborhood basis. PCG includes residential bulky collections, neighborhood cleanups and promotes greening efforts. PCG provides residents an opportunity to clean-out their homes and garages by placing large amounts of bulky items at their garbage collection point on their regular garbage day. Sanitation collects brush for composting, tires for recycling and uses skid loaders for large trash piles. 2006 Project Clean & Green results:

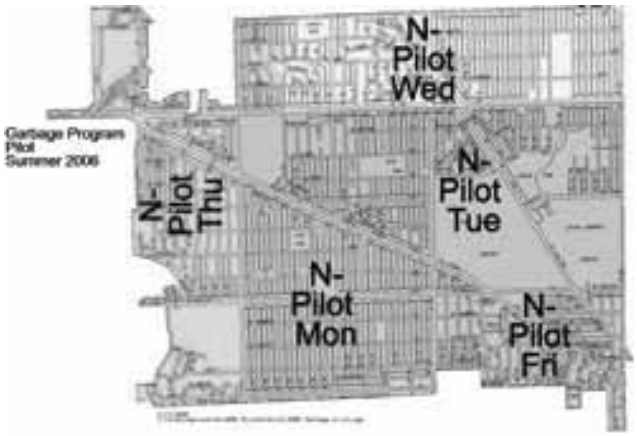
- 1,765 tons of refuse
- 4,390 brush piles
- 2,275 tires
- 3,283 skid loader piles
- 1,562 street sweep yards
- 304 referrals to DNS

■ Dense Packing Pilot Program

The theory of dense packing places multiple garbage trucks into one area to increase collection efficiency and crew cooperation. Implemented in 2006, the Dense Packing Pilot Program combined five northside garbage routes into one collection route. Each former route became a separate collection day. With this change, five crews worked collectively to complete the scheduled day's collection. Results have shown an increase in tonnage collected, fewer missed collections and fewer resident complaints. Crews reported increased satisfaction with greater flexibility in the field and greater cooperation. The pilot program was successful and will continue. Sanitation will explore opportunities to expand dense packing across the city.

The maps on the following page show five routes (N-13; N-14; N-15; N-16; N-17) with five days of collection each combined into one dense packing pilot route with a total of five collection

Previous Collection Routes



Dense Packing Pilot Route

days. Each collection day is represented by a color (Mon=blue; Tue=pink; Wed=yellow; Thurs=green; Fri=orange or grey).

■ Household Hazardous Waste Collection at City Self-Help Center

The City began collection of household hazardous waste (HHW) at Lincoln Avenue Self-Help Station located at 3785 W. Lincoln Avenue. Through a cooperative effort with the Milwaukee Metropolitan Sewerage District, Milwaukee residents now have a convenient location to properly dispose of their hazardous products. On January 26, 2006, Mayor Tom Barrett, Alderman Joe Dudzik, MMSD Executive Director Kevin Shafer and other dignitaries celebrated the opening of HHW at Lincoln Avenue. The addition of HHW collection makes Lincoln Avenue a leading urban self-help center or "one-stop shop" that takes it all including garbage, recyclables, waste oil, car batteries, tires, appliances, furniture, electronics and HHW. MMSD operates the HHW collection at Lincoln Avenue which is open to all Milwaukee County residents (HHW only).

■ Recycling and Waste Reduction

Sanitation is responsible for recycling and waste reduction efforts for the City. Through the curbside recycling program, Sanitation diverted 25,301 tons of recyclables from being landfilled. The recycling program saves money on disposal costs and generates revenue from the sale of collected material.

As part of the curbside recycling program, crews collect recycling carts from their storage point. In 2006, a recycling cart setout program was piloted to test more efficient collection of recyclables. The program involved placement of recycling carts at the curb from May 1, 2007 – November 10, 2007 based on a set collection schedule. The setout program targeted three areas (north, south and central) that included 28,505 households. The pilot program experienced approximately 70% participation defined as recycling carts setout as compared to the average city participation of 75%-85%.

In conjunction with the recycling setout program, households in the target areas were surveyed to determine the effectiveness of the program and to solicit feedback for improvement. Of 28,505 targeted households, nearly 7,000 completed surveys for a response rate of 24.5%. A random drawing from respondents was sponsored by Waste Management Recycle America for three $100 VISA gift cards. Recycling tonnages were similar to past years for the same routes. The survey generated positive feedback and indicated residents favor a set recycling collection date. Comments also suggested that more frequent recycling collection is needed.

In 2006, Sanitation created a Compliance Assurance Plan to formalize its recycling compliance enforcement protocols. Implementation of the plan improved the tracking and documentation of enforcement activities including citations for contaminated recycling carts and/or action for lacking a recycling program. The City services single-family and multi-family residences of 4 units or less through the curbside recycling program. Rental properties of 5 or greater units must contract for recycling service through a private vendor. With a new focus on recycling compliance and enforcement, Sanitation provided assistance to 67 property owners that resulted in new recycling programs at 33 properties. The emphasis is on collaboration with property owners to increase recycling. Only in the cases where properties do not implement recycling programs are fines levied. At present, compliance enforcement is complaint driven.

In efforts to reduce waste, a nearly 50% diversion rate was achieved in the downtown City Hall Complex that includes City Hall, the Frank P. Zeidler Municipal Building and the 809 Building.

■ Special Event Recycling

To encourage recycling away-from-home, Sanitation continued to coordinate recycling at area special events including River Splash; Jazz in the Park; River Rhythms; River Flicks; Bastille Days; local church festivals and lakefront festivals including Festa Italiana, Irish Fest, Mexican Fiesta and Indian Summer.

New in 2006, Mayor Tom Barrett announced pilot plastic bottle recycling at events at Meier Festival Park. The City of Milwaukee partnered with Milwaukee World Festivals to "green" the festival grounds for the 2006 run of Summerfest and summer concerts at the Marcus Amphitheatre. Included as a Milwaukee Green Team recommendation, the pilot recycling program collected 4,920 pounds of plastic bottles. In total, all special events recycling collected a total of 19.11 tons of recyclables.

SERVICE IMPROVEMENTS:

- Reduced the amount of missed 'hardship' collections by 26%. Hardships are defined as households that are unable to place garbage carts at the collection point for pick-up. Crews pick-up and replace garbage carts to the storage point for households that qualify for hardship status. The reduction was achieved by developing new routing procedures including detailed route maps of hardship locations.

- Reduced DPW Call Center reports of missed garbage collection by 33%. This was done by working with call center staff to increase the screening process on these calls and by working with sanitation crews to better document the true causes of these calls

COMMUNITY OUTREACH:

Environmental Education

Sanitation partnered with non-profit organizations to carry out environmental education and disseminate information on waste reduction and recycling. Partnerships included:

- **Keep Greater Milwaukee Beautiful (KGMB)**

The Milwaukee Environmental Education Resource and Tour Center is a joint project between the City of Milwaukee and KGMB. KGMB provides waste reduction education for grades K-3 through a program called *Trash Art* and grades 3-12 through *Waste in Place.* They also host tours of the City recycling facility where children see first hand what happens to the recyclables collect by Sanitation crews. In 2006, a total of 2,185 children completed the waste education programs.

In conjunction with Time Warner Cable, a children's recycling video was produced. The segment was aired on Time Warner Cable stations and also ran on the City Channel 25.

- **Wisconsin BeSMART Coalition**

The City is a member of the Wisconsin Be SMART Coalition, an award-winning partnership of local communities, state agencies, non-profit organizations and business that offers recycling and waste reduction education. In partnership with WI BeSMART, Sanitation presented 10 schools with recycling performances that demonstrated the importance of waste reduction. The show focused on the "Three R's - Reduce, Reuse and Recycle." The schools included 38th Street Elementary School, Grace Preparatory of Excellence, Hawley Environmental School, Resurrection Christian Academy, Sherman Elementary School, IDEAL Charter School, Academy of Learning and Leadership, Messmer Preparatory Catholic School, Humboldt Park School and Northwest Lutheran School.

Cans for Cash City Recycling Challenge

The City participated in the *Cans for Cash City Recycling Challenge* sponsored by the US Conference of Mayors and Novelis Corporation. *Cans for Cash* is a national aluminum can recycling contest whereby cities compete for prizes. In a "three-peat" performance, Milwaukee won first place for the most aluminum cans collected with 1,147,084 pounds of aluminum beverage cans. This was a 14% increase in collection over 2005 totals. The City's aluminum can collection saves the equivalent energy required to drive cross-country from New York to California 9,000 times. The City received $5,000 in prize money.

This year's theme focused on *sustainable recycling*. Recognizing sustainability as the cornerstone of recycling, the City's promotion supported long-term sustainable recycling behaviors and highlighted how recycling conserves natural resources. The City partnered with KGMB to target Milwaukee schools to create sustainable school recycling programs through a competition to collect the most aluminum cans over a three-month period. A total of 23 local elementary, middle and high schools participated in the school competition that collected over 1,550 pounds of aluminum cans. The leading can collecting schools earned cash prizes of $500, $250 and $100 to help fund their school recycling initiatives. The Top 10 schools received a recycling-themed school performance or field trip to the City's recycling facility. The Top 10 schools included: Whitman Elementary School (1); Craig Montessori School (2); Emerson Elementary School (3); Bell Accelerated Academy; Lincoln Center for the Arts; Milwaukee Sign Language School; Bay View High School; Academy of Learning & Leadership; Milwaukee Urban League Academy of Business & Economics and La Causa Charter School.

The City also used part of the *Cans for Cash* winnings to fund a waste reduction themed production, *Waste Not Want Not* by the Milwaukee High School of the Arts that targeted middle schools. Education outreach at the middle school level was a missing link in the Wisconsin Be SMART Coaltion's environmental education efforts. The production of *Waste Not Want Not* was a partnership between the City, MHSA and the Wisconsin Be SMART Coalition. Bell Accelerated Academy and Lincoln Center for the Arts received this performance for their participation in the *Cans for Cash* school competition.

As a part of the public outreach, a bale of crushed recycled aluminum cans was on public display in the lobby of the Municipal Building from September 29, 2006 – October 6, 2006. The display was a provocative method to raise awareness about aluminum can recycling which included a contest to guess the weight and number of aluminum cans to demonstrate the value of recycling.

While on display, the public was invited to guess the total weight and the total number of aluminum cans in the bale. Prizes were offered for the entry with the closest correct weight and for the entry with the closest number of cans. The weight of the crushed aluminum can bale totaled 676 pounds. Two entries tied for total weight guessing 650 pounds each. Both entrants won a $250 Sam's Club gift card. The bale was comprised of 22,308 aluminum cans. The winning entry with 20,000 cans won a year supply of Coca-Cola products. The object of the contest was to both educate the public on how aluminum cans are processed and recycled and to get people talking about recycling. It was an opportunity to educate people on the sustainable act of recycling aluminum cans.

Mayor Barrett Announced Success of Green Festivals Recycling Program at Irish Fest's Greenwish Village

Mayor Tom Barrett shared the results of the "Green Festivals" recycling initiative at this year's Irish Fest's Greenwish Village. Greenwish Village, operated by Keep Greater Milwaukee Beautiful (KGMB) provides fun, hands-on educational activities that teach about environmental topics.

Department of Public Works' Recycling Specialist Rick Meyers assisted the operations and grounds staff at Summerfest in designing and implementing a plastic bottle recycling program this year. The program was continued until the end of the festival season.

Mayor Barrett also noted that, "not only does recycling keep the bottles of the landfills they also pay out dividends in the money made".

Mayor Tom Barrett at podium and left to right: Ed Ward, Founder and Past President of Irish Fest; John Boler, Vice President, Sales & Marketing, World Festivals Inc.; Dan Gutzmann, Irish Fest Food/Vendor Coordinator – Recycling; Rick Meyers, DPW Recycling Specialist; and DPW Commissioner Jeff Mantes.

The City not only worked with festivals held on Maier Park Festival grounds, but also continued its recycling partnerships with Bastille Days, RiverSplash, and with weekly events such as Jazz in the Park, River Rhythms and River Flicks.

This component was identified as a "Quick Win" in the Milwaukee Green Team report to the Mayor and the results thus far have substantiated that claim. The report stated "the City of Milwaukee currently has recycling bins at festivals; however, the City should work to educate all of the festival operations directors of the importance of recycling at festivals and provide counsel on how to minimize the amount of waste."

The event was attended by Ed Ward, Founder and Past President of Irish Fest, who reminded the Mayor that he had been a volunteer at Irish Fest as long as he has been a politician and thanked him for making the announcement at Greenwish Village. Jane Anderson, President of Irish Fest, and John Boler, Vice President, Sales & Marketing, World Festival Inc., also spoke of the importance of recycling during the festivals. "Summerfest was delighted to participate and will continue the program next year," stated Boler.

The Mayor shared impressive totals for the collection of plastic bottles from other festivals, concerts and other events held around the City. Mayor Barrett complimented Recycling Specialist Rick Meyers on his success in forming a partnership with Summerfest to promote recycling on the festival grounds for the first time. His announcement of the initiative's results was timely, as Irish Fest was the first festival to pilot a recycling program with KGMB over a decade ago.

Photos by Niki Espy, KGMB

The plastic bottles recycled at Summerfest, if lined up end to end, starting at Summerfest, would reach all the way to Fox Point, (9.6 miles).

The total amount of recyclables collected from the City's festivals was 38,233 pounds.

Mayor Barrett demonstrates how to use the ClearStream recycling cart while Commissioner Mantes observes.

Children are educated about recycling while playing Reel for Steel at the Greenwish Village located on the Irish Fest Grounds. The Greenwish Village is operated by Keep Greater Milwaukee Beautiful and promotes recycling awareness.

Above left: Aluminum can bale on display
Above right: "Guess the Weight" contest

The 2006 *Cans for Cash City Recycling Challenge* was possible only through the efforts of key partners including Milwaukee's independent recyclers who generously provided aluminum can tonnages collected from September 15-30, 2006. In addition, Felix Bandos Waste Material Inc. provided the crushed aluminum can bale. Contest sponsors included Sam's Club and the Coca-Cola Bottling Company of Wisconsin.

■ Nike Reuse-A-Shoe Program

Sanitation continues to collect used athletic shoes as part of the Nike Reuse-A-Shoe Program. The public keeps "old shoes in the game" by recycling their used athletic shoes. In 2006, the Sanitation collected 6,843 pairs of used athletic shoes for recycling bringing the total collection to 27,586 pairs since the beginning of the program in 2004. To learn about shoe drop-off locations, visit www.mpw.net/Pages/reuseashoe.

The City's 41st Arbor Day Program Celebrates With Potawatomi Bingo Casino and Menomonee Valley Partners

Mayor Tom Barrett was joined by Potawatomi Bingo Casino and Menomonee Valley Partners, Inc. to celebrate the City's 41st Annual Arbor Day Program on April 28, 2006. This public private partnership demonstrates the common concern that the City, Potawatomi Bingo Casino and Menomonee Valley Partners have for the environment of the Valley. Forest County Potawatomi, operators of Potawatomi Bingo Casino have a special, spiritual relationship with the environment and in particular, the land on which their forefathers lived. The Menomonee Valley Partners are committed to renewing the valley to benefit the entire Milwaukee community through economic and ecological revitalization.

Department of Public Works' Environmental Services Superintendent Preston Cole was the program emcee. Speakers included Mike Goodrich, general manager of Potawatomi Bingo Casino, and Laura Bray, executive director of the Menomonee Valley Partners. Also participating were students from the Indian Community School who performed traditional drumming and dancing.

2006 marks the 41st consecutive year that the City of Milwaukee has celebrated Arbor Day at area schools and facilities, and for the 27th year, Milwaukee has received national recognition as a "Tree City-USA" by the National Arbor Day Foundation. Tree plantings and ceremonies took place in each of the 15 aldermanic districts in celebration of Arbor Day.

Left to right: At the podium, Mr. Tom Kitchkume, an Elder from Prairie Band Potawatomi who provided the blessing before the planting of the tree in front of Potawatomi Bingo Casino. Seated are Laura Bray, Executive Director of the Menomonee Valley Partners, Mayor Tom Barrett and Michael Goodrich, General Manager, Potawatomi Bingo Casino.

The 1200-acre, 4-mile Menomonee Valley industrial area is a former estuary in the heart of Milwaukee, heavily degraded through decades of industrial use. In recent years, Milwaukee's business community has joined together with the non-profit and public sectors to restore the Valley as a place with good jobs near workers' homes, healthy waterways and wildlife, and recreational greenspace. Ecological efforts include working with businesses to incorporate native plants in their landscape design, building innovative stormwater facilities that improve water quality, constructing the Hank Aaron State Trail as a pedestrian and bicycle route, and creating a 50-acre community park as a component of the redevelopment of the former Milwaukee Road Shops.

FORESTRY

OPERATIONS:

■ Urban Forest Management

Forestry is responsible for the maintenance and care of the City's urban forest which is made up of 200,000 street trees and 120 miles of boulevards and greenspace. Tree care included 42,644 trees pruned, 3,520 new trees planted and 3,617 trees removed due to hazardous condition, disease or storm damage. Boulevard beautification included the planting of 141,156 annuals, 1,561 perennials, 18,000 bulbs and 45 shrubs.

■ Forestry Services Manager

In 2006, David Sivyer joined Environmental Services as Forestry Services Manager. He oversees the daily operations of the Forestry Section managing a staff of 175+ that care for and preserve the city's urban forest. Mr. Sivyer has 21 years of forestry experience. He previously served as City Forester for Norfolk, VA for 17 years and as City Arborist for Virginia Beach, VA.

■ Gateway Signage Program

On May 9, 2006, Mayor Barrett announced the Gateway Signage Program, a unique public-private partnership that celebrates Milwaukee's boulevards, Milwaukee's hometown companies and the Spirit of Milwaukee. The Gateway Signage Program is an opportunity for Milwaukee's leading corporations to sponsor architectural signs on major boulevards and greenspaces that mark entrances or "gateways" into the city. The City receives 1/3 of the sale price from each sign dedicated toward boulevard maintenance. Mayor Barrett announced four sponsors – the Milwaukee Brewers, WE Energies, Mark Travel/FunJet and the Marcus Corporation.

The inaugural gateway sign sponsored by the Milwaukee Brewers was installed on September 28, 2006. The gateway sign is located at 5311 S. Howell Avenue near General Mitchell International Airport. The sign is the first of four with the potential for an additional 20-30 signs at various locations citywide.

■ Comprehensive Street Tree Inventory

Forestry continued to document and classify the City's street tree population as part of an all-city street tree inventory. In 2006, 36,816 street trees were inventoried bringing the total inventory to 82,416 trees or approximately 40% citywide. The inventory is conducted primarily during the summer to capture trees in the height of the growing season. Completion of a citywide tree inventory will provide valuable information to quantify the benefits of an urban forest as well as provide operational efficiencies.

■ Nursery Operations

The City operates a 160-acre nursery in Franklin equipped with 30,000 square feet of greenhouse space. The nursery grows the plant material used on city streets and boulevards including annuals, perennials and trees. The nursery produces high quality plant material that rivals commercial standards at a considerable savings to the City. In 2006, the nursery produced 311,387 annuals which also supplied other municipalities and local organizations including:

City of Brookfield	City of West Allis
City of Cedarburg	Alverno College
City of Cudahy	David J. Frank Landscape Contracting, Inc.
City of Franklin	Milwaukee County Zoo
City of Glendale	Milwaukee Public Library
City of Oak Creek	Milwaukee World Festival
Village of Shorewood	Olbrich Botanical Gardens
City of South Milwaukee	Partners of Greenfield Parks & Recreation
City of Wauwatosa	Wauwatosa Historical Society

In 2006, $80,400 in revenue was generated from the sale of plant material.

■ Resource Conservation

Through the course of daily operations, Forestry generates 60,000 cubic yards of wood waste. This biomass is a valuable resource. Forestry processes wood waste into woodchips that are used for mulch in tree planting and landscape bed operations. Woodchips also are used as surface cover at City totlots. The recycling of wood waste into woodchips conserves resources, reduces waste and saves on disposal costs.

In addition, excess woodchips are available free to the public at the City's two Self-Help Centers located at 6666 N. Industrial Road and 3785 W. Lincoln Avenue. Forestry also provides woodchips to non-profits at no-cost.

■ Insect and Disease Control

Forestry is responsible for insect and disease control which involves monitoring the City's 200,000 street trees for the threat of invasive species and the spread of tree disease.

● Gypsy Moth

Forestry continued to monitor for Gypsy Moth infestation. Due to past efforts at control, the population is in decline and spraying was not necessary in 2006.

● Emerald Ash Borer

Forestry participated in the Emerald Ash Borer (EAB) Planning Task Force coordinated by the Wisconsin Department of Agriculture, Trade & Consumer Protection that surveyed and identified monitoring locations in the City of Milwaukee. The EAB survey exposed ash trees to stress to raise susceptibility and identified vulnerable trees for removal. To date, no signs of EAB infestation are present. Forestry staff will continue to monitor for EAB. In 2006, staff received additional training from the UW Extension on the detection and identification of EAB and other borer pests. Forestry provided information to the Common Council at a Public Works Committee meeting on EAB. Forestry staff routinely monitors for tree pest infestation and disease.

■ Code Enforcement

Forestry performs code enforcement of the noxious weed, tall grass, hazardous tree, encroachment and snow & ice ordinances. Forestry Technicians inspected for and notified property owners of violations, stipulated corrective action and ensured compliance. Violations that were not corrected within the prescribed timeframe were completed by Environmental Services staff or a contractor and charged to the property owner. In 2006, the following code violations were issued:

93rd Annual City/County Christmas Tree Lighting Ceremony Features Two Local Talents with National Ties and MPS Middle School Choirs

The 93rd Annual City/County Tree Lighting ceremony took place on November 16th in Red Arrow Park. The ceremony was emceed by John McGivern, a local actor with national ties, and included Mayor Tom Barrett, Alderman Joe Dudzik, Sue Black, Milwaukee County Parks, Dashal Young, County Executive's Office and the tree donor, Ms. Barbara Jakopac.

The 38-foot Colorado Blue Spruce was harvested on November 8th from the yard of Ms. Barbara Jakopac, and was planted in the mid-80's. The tree survived two summers of drought and a car crash. Ms. Jakopac's tree had been on the list for the City/County Christmas tree for three years. She said that she was sad to see the tree go, but it was literally taking over her yard as well as her neighbor's yard. The tree provided shelter and food for the animals in the area and she decorated the tree as long as she could reach the top of it. Jakopac invited Ben Yahola to perform an American Indian ceremony for the removal of the tree. Yahola asked for forgiveness for taking the tree and acknowledged its life. Jakopac said that she hope the tree made people feel a sense of peace during the time that it stood in Red Arrow Park.

The harvesting of the tree was a very intricate procedure. For the tree to be selected, it had to be located in an area where there weren't any overhanging wires. A special truck had to be acquired for the crane which picked up the tree and placed it on the 40-foot flat-bed. Steve Heebfh has been harvesting the tree for a number of years. He is responsible to getting under the tree and preparing it for the removal and he does it without the use of a mask, branches scratching his face.

Mayor Barrett, tree donor Barbara Jakopac and Alderman Joe Dudzik stand behind the tree before it takes off for Red Arrow Park.

The experienced and qualified crew from DPW's Forestry Section planned the route after the tree was selected to make sure the route did not contain any other overhead obstacles, such as utility wires and low underpasses. Jeff Boeder, Forestry Area Manager; Durondee Anderson, Urban Forestry Specialist; John Bauer, Urban Forestry Specialist; Steve Heebfh, Urban Forestry Crew Leader; Chris Kling, Urban Forestry Crew Leader; Randy Krouse, Urban Forestry Manager; Art Batchelor, Urban Forestry Manager; John Trojanowski, Urban Forestry Specialist, and Malvin Nichols Urban Forestry Crew Leader, perform the hazardous task of removing the tree and installing it in Red Arrow Park.

Once the tree arrives at Red Arrow Park, it is a very highly coordinated task to remove the tree from the flatbed, using a crane, and drop it into the prepared area. Once the tree is in the area, it remains attached by cables until the crew can anchor it to the ground.

The City/County Christmas tree harvest team consisted of, from left to right, Jeff Boeder, Forestry Area Manager; Durondee Anderson, Urban Forestry Specialist; John Bauer, Urban Forestry Specialist; Steve Heebfh, Urban Forestry Crew Leader; Chris Kling, Urban Forestry Crew Leader; Randy Krouse, Urban Forestry Manager and Art Batchelor, Urban Forestry Manager. Not pictured are John Trojanowski, Urban Forestry Specialist and Malvin Nichols, Urban Forestry Crew Leader.

Greening Milwaukee's Executive Director Joe Wilson and Department of Public Works' staff coordinated the City/County Tree Lighting Ceremony. This year's program was emceed by John McGivern, a local actor with national ties. McGivern has performed with several local acting companies and has received rave reviews. He also had a part in the movie, "*The Princess Diaries*". The crowd was treated to a performance by Joe Puerta, Grammy award winner, co-founder of the rock group Ambrosia, and formerly of Bruce Hornsby and The Range. Puerta had recently recorded a new holiday classic *"I'm Coming Home for Christmas"*, which he performed at the ceremony. The Roosevelt Middle School of the Arts Choir performed prior to the ceremony, and the Lincoln Center for the Arts School Choir rounded out the program activities. Costumed members of The Rep's production of ***"A Christmas Carol"***, added additional ambience to the event and the Starbucks Cheer Patrol dispensed hot drinks.

*Thanks to **Jeff Boeder**, Forestry Area Manager for contributing to the article and to **Joe Wilson** for the photos.*

- Hazardous Tree Condemnations - 1,276 notices issued
- Noxious Weeds – 5,835 properties inspected
- Encroachments – 792 notices issued
- Sidewalk Snow/Ice Complaints – 2,637 properties inspected

■ Mayor Barrett's Safe Streets

As part of the Mayor's summer crime initiative, Forestry heightened enforcement of code violations in the target areas of concern. Target areas included N. 33rd – 38th Streets from Hadley to Garfield, N. 20th - 25th Streets from Burleigh Street to Clarke Street and N. 9th to N. 14th Streets from Hadley to Ring Streets.

In an effort to deter cruising, Forestry continued night watering of boulevards on selected city streets. Other crime deterrent activities included pruning street trees for improved lighting on Grant Boulevard, 28th - 31st Streets from Locust Avenue to Keefe Avenue and the 3600-3900 blocks of N. 6th Street. Such activities were outside the regular pruning schedule.

■ Urban Forestry Specialist Training Crew

Two urban forestry specialist training crews with a total of 30 trainees were hired in 2006. The program trains skilled arborists in tree identification, tree biology and function, tree nutrition, tree health care, urban soil properties, and federal/state safety regulations. Trainees must demonstrate proficiency in arboricultural skills and abilities, including tree climbing and rigging, knot tying, pruning, tree felling, tree hazard assessment, aerial rescue, work safety, and operation and maintenance of specialized forestry equipment

The Urban Forestry Specialist Trainees complete a rigorous 6-month training program designed to provide the knowledge and technical skills needed to maintain Milwaukee's urban forest. Upon completion of the training program, candidates must pass comprehensive written and performance examinations to be hired as an Urban Forestry Specialist.

Begun in the early eighties, Milwaukee's training program is open to professional degreed foresters, commercial arborists, city laborers and members of the general public with a strong work ethic but little or no prior arboricultural experience.

■ Arbor Day Celebration

The 2006 celebration of Arbor Day was commemorated with a native birch tree planting at Potawatomi Bingo Casino to signify the commitment to sustainability in the Menomonee Valley. On April 28th, Mayor Barrett was joined by Mike Goodrich, General Manager of Potawatomi Bingo Casino and Laura Bray, Executive Director of the Menomonee Valley Partners, Inc. in the City's 41st consecutive annual Arbor Day program. Students from the Indian Community School performed traditional drumming and dancing. Tree plantings and ceremonies took place at schools in each of the 15 aldermanic districts. 2006 marks the 27th year Milwaukee received recognition as a "Tree City-USA" by the National Arbor Day Foundation.

■ City/County Christmas Tree

The 93rd annual lighting ceremony for the City/County Christmas Tree was held November 16th at Red Arrow Park hosted by Mayor Tom Barrett, Alderman Joe Dudzik, Dashal Young from the Milwaukee County Executive's Office and County Parks Director Sue Black. The event was emceed by local actor John McGivern and included performances by Joe Puerta with a new holiday classic "I'm Coming Home for Christmas" and choirs from Roosevelt Middle School of the Arts and Lincoln Center for the Arts. The program also included characters from the Milwaukee Repertory Theater's production of "A Christmas Carol." The City partnered with Greening Milwaukee to coordinate the annual celebration. Sponsors included Starbucks and Coca-Cola.

The Christmas tree, a 38-foot Colorado Blue Spruce was donated by resident Barbara Jakopac and harvested on November 8th. Every year, Forestry chooses the Christmas tree from a pool of potential trees donated by local residents, selecting the tree with the greatest aesthetic appeal. Forestry staff also provided the Christmas tree for the Third Ward Celebration at Catalano Square.

SERVICE IMPROVEMENTS:

■ Sustainable Boulevards

Environmental Services developed *Sustainable Boulevards* – Milwaukee's Strategic Boulevard Plan to protect and preserve the City's boulevard system. Stewardship of the boulevard system requires thoughtful, deliberative planning. Environmental Services drafted a plan based in part on recommendations from landscape professionals that provides for the long-term sustainability of resources. *Sustainable Boulevards* calls for an increase in tree canopy cover, creation of signature landscape beds at strategic locations throughout the city, removal of low-impact landscape beds to be replaced with trees and turf and conversion to an automated irrigation system to save operating costs. The plan was presented as part of the 2007 budget. The Common Council directed Environmental Services to conduct public outreach to inform residents and solicit feedback on the plan. *Sustainable Boulevards* will undergo public comment in 2007.

■ Remote Programmable Irrigation System Pilot Program

Forestry installed automated irrigation infrastructure on Capitol Drive between 35th – 60th Streets as part of road reconstruction. The pilot program used computer automated timers to remotely control boulevard irrigation. The remote automation feature allows watering schedules and changes to be programmed using a laptop computer saving staff time and resources. The remote feature requires an electric connection.

COMMUNITY OUTREACH:

■ Mervis Family Park

In a public/private partnership with the Mervis/McCormack Family, Forestry coordinated design and construction of a new park on the city-owned triangle at the intersections of N. Van Buren, N. Water and E. Brady Streets. The public park enhanced the existing greenspace with landscaping including annuals, perennials, trees, shrubs, public art and decorative retaining walls.

Forestry designed and installed the automated irrigation system. Project partners included the Mervis Family, Stano Landscaping, Inc., Firefly Garden Designs, Frank Gillitzer Electric Co., Holliman & Laster Plumbing LLC. and WE Energies.

■ Kilbourn Avenue Boulevard

Forestry completed the design of a new boulevard segment on E. Kilbourn Avenue. The existing median was used for equipment staging during the construction of Kilbourn Towers Condominiums. The developer was required to fund the construction of the new boulevard segment. The design entailed passive pedestrian use that includes a plaza and seating areas.

■ Children's Outing Association

Forestry partnered with the Children's Outing Association (COA) to plan and design landscape enhancements at the COA soccer field. Large landscape planting beds at the COA park facility located at 909 E. North Avenue were installed to eliminate a safety hazard for children while visually enhancing the soccer field.

■ Greening Milwaukee

The City partnered with Greening Milwaukee, a non-profit that targets greening efforts on private property to coordinate the Mayor's Landscape Awards. A total of 253 entries were received in 2006 with 52 awards issued in four categories: residential, commercial, academic and creative. The Mayor's Landscape Awards celebrate the 'City in Bloom' showcasing gardens and landscape designs that beautify our neighborhoods and add to the aesthetic value of the city.

Greening Milwaukee also assisted Forestry in the establishment of a community garden and meeting place for the Millwood Park Gardens Community Group.

■ Menomonee Valley Partners

As part of the continued redevelopment efforts in the Menomonee Valley, Forestry partnered with the Menomonee Valley Partners to consult on landscape plans for the new boulevard segments on Canal Street at 25th Street. Keeping with the sustainable development guidelines for the Valley, the boulevard design is an extension of the stormwater features of the Menomonee Valley Community Park that included the use of native species and drought resistant plants to maximize stormwater irrigation solutions. Project partners include Menomonee Valley Partners, Milwaukee Transportation Partners, Marek Landscaping and other City departments.

■ Havenswood Economic Development Corporation

Forestry developed a conceptual landscape plan for the boulevard segments and street right-of-ways as part of the future reconstruction of 76th Street from W. Good Hope Road to W. Florist Avenue. The design included hardy selections of trees, shrubs and perennials and some fencing enhancements. Forestry partnered with HEDC and Strand Associates, Inc.

Other work with HEDC included a landscape plan for W. Silver Spring Drive that provided tree species and planting locations along boulevard segments between 55th -68th Streets and 60th – 64th Streets. As a bid district, HEDC provided funding for the enhanced plantings along Silver Spring Drive.

ENVIRONMENTAL SERVICES INNOVATION

■ Environmental Services University

Environmental Services University (ESU) is a customized training and development program that prepares staff from Sanitation and Forestry with enhanced management skills and readies employees for promotion. As part of ESU, participants prepared a capstone presentation that asked the question "How can the City increase recycling participation rates citywide?" Presentations were presented to DPW and Environmental Services management on August 15, 2006. Feedback from the Commissioner of Public Works and Environmental Services Superintendent praised the "Class of 2006" for their work and thoughtful presentations.

■ Earn & Learn Summer Youth Internship Program Video

Environmental Services employed a total of 30 high school interns as part of Mayor Barrett's *Earn and Learn Summer Youth Internship Program*. Interns joined the Environmental Services team and assisted Forestry staff with boulevard maintenance including planting, weeding and watering shrubs and flowerbeds. Interns who worked with Sanitation distributed public education materials on recycling, assisted at city self-help centers and assembled garbage and recycling carts. Interns were expected to follow directions, maintain good attendance and to learn and try new things. Interns exceeded expectations proving *Earn and Learn* to be beneficial to both the interns and Environmental Services.

Environmental Services in partnership with Strive Media Institute produced a short documentary film capturing the internship experience and shared student perspectives and lessons learned. The film will be used and shown to future interns.

■ Stormwater Parking

The retrofit of a city-owned parking lot located at 371 E. Ward Street with stormwater best management practices including pervious asphalt and a rain garden were constructed in fall 2006. Stormwater Parking is the result of a Great Cities Partnership Grant from the US Environmental Protection Agency. Environmental Services thanks Parking Services and Environmental Engineering for their assistance on the project. Stormwater Parking will reduce stormwater runoff from this site as it infiltrates into the ground or drains into the rain garden. The rain garden will be planted in spring 2007.

■ Sustainlane's 2006 US City Sustainability Ranking – Milwaukee ranked 16!

The City of Milwaukee was invited to participate in Sustainlane's survey which ranked the top 50 US cities based on sustainable practices and operations. Milwaukee ranked 16th with the likes of Portland, San Francisco, Seattle, Chicago, Denver, Minneapolis and other leading US cities. Sustainlane Government compiles a report card on urban sustainability. Rankings score city's based on air & water quality, solid waste diversion, energy & climate change policy, land use planning, housing, local food sources, green economy and knowledgebase among others.

■ ICLEI Great Lakes Climate Protection Workgroup

Environmental Services participated in the ICLEI Local Governments for Sustainability Great Lakes Climate Protection Workgroup. The workgroup was comprised of cities located within the Great Lakes Region brought together to discuss climate change efforts. Learning from other cities about initiatives to reduce greenhouse gas emissions was insightful. The network included the Cities of Milwaukee, Chicago, Ann Arbor, Toledo, Buffalo, Toronto, Duluth and Minneapolis. Participation in the workgroup demonstrated that cities are taking the lead to reduce GHG emissions.

■ Welcome Reception for Office of Environmental Sustainability

Mayor Tom Barrett and the Milwaukee community welcomed Ann Beier as the Director of the Office of Environmental Sustainability (OES) at a reception on November 27, 2006. Mayor Barrett created the OES based on a recommendation from the Milwaukee Green Team. The OES is responsible for coordinating efforts to improve Milwaukee's water quality, reduce energy consumption and stimulate economic development in the green technology sector.

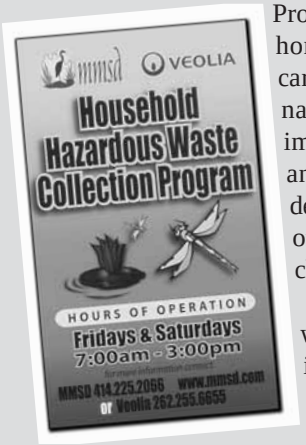
New Centrally Located Site for Safe Disposal of Household Hazardous Waste

Left to right: DPW Commissioner Jeff Mantes, MMSD Commissioner and Environmental Services Superintendent Preston Cole, Mayor Jeanette Bell, West Allis, Mayor Tom Barrett, Village President Margaret Jaberg, Brown Deer and Alderman Joe Dudzik at the ribbon-cutting to open the third permanent Household Hazardous Waste facility.

There is a new more convenient location to provide Milwaukee County residents another location to safely dispose of harmful household chemicals. The facility opened on January 27th at the City of Milwaukee's Self-Help Center at 3879 West Lincoln Avenue. It's an easy way to help protect Lake Michigan and the area rivers.

The new location is a move to strengthen regional cooperation. The City of Milwaukee and the Milwaukee Metropolitan Sewerage District (MMSD) teamed up to open the third permanent Household Hazardous Waste facility with convenient hours for all Milwaukee County residents. The site is open on Fridays and Saturdays, from 7:00 a.m. to 3:00 p.m. Proof of residency is required of all County residents.

Many home products contain chemicals that can be hazardous to people and the environment if improperly disposed of and are called household hazardous waste.



Products used for home cleaning, car care and maintenance, home improvements, and yard and garden maintenance often contain such chemicals.

When these wastes are improperly dumped down a storm sewer street drain they directly enter untreated into local rivers and Lake Michigan. Contact with the wastes is often deadly to plants and animal living in and nearby the water bodies. Human contact with the wastes, through swimming, boating or walking along a beach can result in skin rashes, chemical burns or other significant health concerns.

Improperly dumping these wastes into any drain can result in the buildup of toxic fumes and liquids and explosive gases in downstream sewer facilities. This creates a potentially dangerous work environment for employees of the City of Milwaukee and MMSD who maintains the sewers.

The other two Household Hazardous Waste locations are in Menomonee Falls, w124 N9451 Boundary Road (124th Street) and Franklin, 10518 South 124 Street. These facilities are open three days a week throughout the year. The Household Hazardous Waste facilities will not accept compressed gas cylinders, radioactive wastes, ammunition and explosives.

This trailer is a part of the facility at the Self-Help Center where Milwaukee County residents can dispose of their household hazardous waste safely.

Program Will Provide Additional Funding for Boulevard Beautification

Mayor Tom Barrett, Department of Public Works & Spirit of Milwaukee Unveils Boulevard Signage Sponsored by the Milwaukee Brewers

The first of four informational gateway landmarks was unveiled on September 28th at 5311 South Howell Avenue, near General Mitchell Field featuring the Milwaukee Brewers logo and the Milwaukee Art Museum's Calatrava-designed brise soleil. This was the first installation of the public/ private signage initiative of the Milwaukee Gateway Signage Program. The program is a collaboration between the City of Milwaukee and the Spirit of Milwaukee with the City providing the signage locations on boulevards or City-owned land.

Gateway Signage will inform and welcome those traveling into and through the City of Milwaukee. The signs are three sided and backlit, they will be placed at high profile locations throughout the City.

The City receives a guaranteed percentage of 33% from each Gateway Signage sale. These proceeds provide dedicated funding for the beautification of Milwaukee's highly regarded boulevards.

As the first to sign on as a sponsor, Milwaukee Brewers Executive Vice President of Baseball Operations Rick Schlesinger was part of the event along with Mayor Tom Barrett, Dean Amhaus, from the Spirit of Milwaukee, Alderman Terry Witkowski (who represents the area) and Preston Cole, Environmental Services Superintendent, Department of Public Works. Schlesinger stated, "We are proud to have Milwaukee Brewers Baseball represented in the very first phase of this project. It is a natural fit for our organization and others that have a significant presence in the City of Milwaukee. With the placement of this signage at the airport, we look forward to welcoming guests and returning residents with this symbol of civic pride and a reminder that they are now in Brewers country".

Mayor Barrett stated, "This program pays for the signage, but it also provides for some funding directed to boulevard maintenance and greening. We have over 120 miles of boulevards in Milwaukee that beautify our neighborhoods and transportation corridors, but caring for them is challenging due to budget constraints. This creative program will earmark funding to our boulevard programs without adding further burden on the taxpayers."

The City, along with program partner Spirit of Milwaukee announced the program in May 2006 when the four sponsors, the Milwaukee Brewers, We Energies, Funjet Vacations/ Mark Travel and Marcus Hotels/Marcus Theaters, each agreed to purchase a $50,000 to $65,000 sign. The street architecture/markers were designed by Triad Creative and range between 8 and 20 feet in height to accommodate different locations.

The first Gateway sign was unveiled near General Mitchell Field and has the Milwaukee Brewers logo on along with the Milwaukee Art Museum's iconic Calatrava Brise Soleil. The City receives a guaranteed 33 percent from all Gateway signage sales and proceeds will provide funding for the beautification of Milwaukee's highly regarded boulevards.

Department of Public Works' Commissioner Jeff Mantes, Director of Operations Jim Purko, Timothy E. Hoeksema, CEO of Midwest Airlines and Chair of the Spirit of Milwaukee, Vice President of Community Relations for the Milwaukee Brewers Lynn Sprangers, President and CEO of Visit Milwaukee Doug Neilsen and others were on hand for the historic occasion.

Alderman Terry Witkowski, at the podium, has been working with area businesses to create an environment that welcomes visitors into the City of Milwaukee. Behind him from left to right are Vice President of Milwaukee Brewers Operations Rick Schlesinger, Spirit of Milwaukee Executive Director Dean Amhaus, Mayor Tom Barrett and DPW Environmental Services Superintendent Preston Cole.

Milwaukee Brewers Executive Vice President of Baseball Operations Rick Schlesinger, at the podium, thanks the City for the opportunity to be a part of the Gateway signage program. Behind him left to right are Alderman Terry Witkowski, Mayor Tom Barrett, Preston Cole, DPW Environmental Service Superintendent and Dean Amhaus, Spirit of Milwaukee.

Schools Receive Cash Prizes and Recycling Magic Shows for Participation in Cans for Cash Challenge

Last September, 2005 the Environmental Services Division invited local elementary schools, K through 5 and K through 8, to participate along with the City of Milwaukee in the U. S. Conference of Mayors Cans for Cash competition. Schools were encouraged to collect aluminum cans from September 12th through September 16th.

This is the second year the City of Milwaukee has participated in the contest. In 2004 the City was privileged to be awarded $10,000 for its participation in the Challenge. The City received $5,000 for collecting the largest amount of aluminum cans within a two week period and $5,000 for the most creative means to do it. In 2004 the City broke the record for Guinness Book of World records ***"Longest Consecutive Line of Aluminum Cans".*** In 2005 the City defended its title by once again collecting the most aluminum cans, over one million pounds city-wide over a two week period! This accomplishment again earned the City a $5,000 award from the contest sponsors. The City has elected to use the cash awards to fund waste reduction and recycling education programs for Milwaukee youth and to reward schools that participated in the contest.

This January and February, ten schools received recycling magic shows and three schools received cash awards as well. The top three schools in aluminum can collection were Hawley Environmental School, $500, Northwest Lutheran School, $250, and Resurrection Christian Academy, $100.

The recycling magic shows were performed by a professional magician from Whitewater, Wisconsin, named Tim Glander. The magic shows introduced and reinforced concepts of waste reduction, stressing the importance of the three "R's," reduce, reuse, and recycle. The magic shows mixed fun, awe, and entertainment along with an educational message that increases environmental awareness among the school children.

Alderman Murphy, Principal Rebecca M. Abraham and Recycling Specialist Rick Meyers at Hawley Environmental School. Alderman Murphy presented the school with a check for $500 for the first place school in aluminum can collection.

Guess the Weight!

Guess the weight of the bale...
Person closest to the weight of the bale wins a $250 Sam's Club gift certificate

Guess how many cans in the bale...
Person closest to the number of cans in the bale wins a year supply of Coca-Cola products

Recycle Aluminum Cans
Do it for you, for your community and for your environment

The recycling magic shows were purchased (with the Cans for Cash award money) through the Wisconsin Be SMART Coalition, a partnership of local communities, state agencies, non-profit and environmental organizations, and businesses dedicated to reducing waste and fostering sustainability in Wisconsin.

Alderman Robert W. Puente presents a $100 check to the Resurrection Christian Academy's Assistant Administrator Debra Jones. The school was third in the collection of aluminum cans.

Alderman Bohl presents a $250 check to the Northwest Lutheran School for their participation in the Cans for Cash Challenge. The school was second place for aluminum can collection.

Infrastructure Services Division

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Administration and Transportation Section

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Field Operations Section

The Infrastructure Services Division is responsible for the design, construction, operation and maintenance of all streets, alleys, bridges, public way lighting, traffic control signs and signals, sewers, and underground conduit systems; and overseeing the construction of water facilities. Through consolidation and efficiencies, the Division has been reduced by roughly 350 positions over the past 11 years to a level of 909. In 2006, 801 Alderman Service Requests were received.

Administration and Transportation Section

Administration Area

The Administration Area is responsible for business operations, budget coordination, computer network software and hardware administration, personnel administration, accounting and clerical functions, and the Equal Employment Opportunity administration for the Infrastructure Services Division.

The Area coordinates accounting functions along with the Department of Public Works Administration Services Division and the Comptroller's Office. The accounting services provided by the Area include establishing projects, recording payments, monitoring costs, and closing project budgets and expenditures for the Transportation Area and Environmental Area in coordination with the Construction Area. In addition, the Area is involved in accumulating, categorizing, recording and reporting operation and maintenance expenditures for the Division. The Area also acts as the accounting resource for tracking and monitoring projects; supports the accumulation of accounting data used in the development and measurement of project estimating and performance; and assists in the development and programming of financial reports for use by managers in the Division.

In 2006, the Area administered Capital Improvement and Grant and Aid Programs in excess of $50.8 million, Operations and Maintenance budgets of over $52.1 million, with payrolls of $24.2 million. The 2006 expenditures for all contract payments totaled over $28.3 million. In addition to processing payments and monitoring construction contracts, the Administration Area provides support to the other areas of the ISD on financial matters. The Area recorded and monitored expenditures that included payments to contractors, cost of City provided materials used in projects, as well as the salaries and benefits of City employees involved in the planning, implementing and managing of the projects.

In 2006, Highway Aids in the amount of $22.8 million were received by the City of Milwaukee. The net expenditures related to DPW-Infrastructure activities resulted in approximately $15.1 million of aid received. In addition, $749,252 was received for reimbursement of costs incurred in maintaining and operating lift bridges on the connecting highway system program. Also, $1.9 million was received for Connecting Highways within the City of Milwaukee. Administration personnel were involved in the retrieval of information and gathering of support documents to produce the reports necessary to submit requests for these aids.

The Administrative Area completed the annual report of the Mid-Year Review of the financial condition of the Sewerage System. The Commissioner of Public Works is required to file this report with the city clerk on or before July 1st of each year as stated in the Master Resolution for the Sewer Maintenance Fund to secure bonds. The Section works in conjunction with the Budget Office and the Financial Division of the Comptroller's office to evaluate data for this report. The Sewerage System has a required Debt Service coverage of 1.2 times net revenues. The report determined the Sewerage System is in compliance with the covenant as found in Article VIII of the Master Resolution.

The Computer Services Unit within the Administrative Section of Infrastructure Service provides support for day to day operations of the computer systems within the Division and acts as liaisons with the other computer support areas within the City. The support includes providing hardware and software maintenance for approximately 100 GIS/CADD units, 200 general-purpose units and 30 special purpose units within the Division and providing assistance to Division staff as necessary.

During 2006, significant effort was expended supporting the SCADA system, used to monitor and control the flow of water in the City's storm sewers and the equipment used to control traffic

signals. In addition, older hardware, which would otherwise have been disposed of, was reconditioned, reconfigured, updated and reinstalled where practical. The Unit also generated various ad-hoc reports from data contained in the Division's databases and began the process of upgrading the office automation software used by the Division.

The Unit prepared to migrate the Infrastructure users on the Novell Server network to a Microsoft Server system. In addition, the Unit is leading the effort to convert the Division's obsolescent database software into current web based applications. To date, major portions of the ASR tracking, Contract Letting, Special Privilege, Project Programming and Special Assessments systems have been redeveloped. Finally, applications are under development for processing Paving Contract Payments using a completely new procedure and for displaying the status of the Capitol Paving Program on a map available through the City's web site.

In the coming year, further effort is required on redeveloping the database applications for Special Assessments, Estimating, Construction monitoring, Walk Contract administration, Special Privileges, and Traffic Engineering. In addition, the effort to upgrade the office automation software will be completed in 2006.

Transportation Area

The Transportation Area is responsible for programming street, alley, and bridge improvements using city, state and federal funds; design of public way lighting, traffic control signals, signing and pavement markings; transportation planning; reviewing utility easements; coordinating public improvements in tax incremental districts; reviewing building permits and processing permits for street encroachments; locating bus passenger loading areas, designing handicapped access ramps in sidewalks; maintaining various city maps; operating a "Diggers Hotline" service; coordinating reviews of subdivision plats, certified survey maps, and opening and closings of public rights of way; coordinating transportation improvements with other governmental agencies and railroad companies; representing the City Engineer and/or the Department of Public Works on transportation issues; and undertaking engineering studies and investigations for the Common Council and other city departments.

The Area inspects and makes recommendations for Capital Improvements for all city maintained bridges and city owned parking structures. It also maintains plans and other records for the city's bridges, parking structures, dams, retaining walls, dock walls, and other structures; designs and prepares contract documents, and performs construction administration for a wide variety of projects involving structures.

The Area is also responsible for administering the city's local street and alley capital paving programs.

Project Programming Unit

Administration of the City of Milwaukee's $5.6 million capital paving budget by the Project Programming Unit resulted in approval of 28 street paving and 7 alley projects in 2006, and the award of $4.2 million in contracts for local streets and alleys.

In 2006, the Project Programming Unit prepared 299 estimates and verified 72 city certified paving projects for improvement in the City of Milwaukee. The formal estimates prepared include 106 street paving projects (five (5) of which were sponsored by the State of Wisconsin) and 20 alley-paving projects. The verified certificates include 43 street paving projects, of which eight (8) were sponsored by the State of Wisconsin and 29 alley paving projects.

Project Programming staff appeared before the Common Council's Public Works Committee for public hearings on 67 assessable paving, new sewer, and new water projects. In addition, resolutions were prepared to authorize construction for approximately 210 non-assessable public improvement projects. Upon completion of the work, the Unit reviews assessments, prepares and issues the associated special assessment bills to property owners affected by the work. In 2006, the unit issued 3200 bills resulting in $3,210,000 in revenue to the City.

Major Projects Unit

The Major Projects Unit coordinated the completion of nine Federal and/or State Major Arterial Street and Bridge projects at a total cost of $14,292,432.73 of which the City's portion was $3,116,645.45. The Major Federal and/or State paving and bridge projects completed in 2006 include the following:

- The reconstruction of the West Mill Road Bridge over the Menomonee River
- The reconstruction of the West Bradley Road. Bridge over the Little Menomonee River
- The resurfacing of South 20th Street from West Layton Avenue to West Grange Avenue
- The resurfacing of South Clement Avenue from East Howard Avenue to South Whitnall Avenue.
- The reconstruction of West Capitol Drive from North 35th Street to North 60th Street
- The reconstruction of North 91st Street from West Mill Road to West Flagg Avenue
- The resurfacing of West Silver Spring Drive from North 43rd Street to North 68th Street
- The reconstruction of South 11th Street from West Bruce Street to West Windlake Avenue
- The reconstruction of East North Avenue from North Booth Street to North Bremen Street

Construction is ongoing on the State Street Bridge over the Milwaukee River. This project is 100% funded by the Wisconsin Department of Transportation. The State Street Bridge is a "Milwaukee Type Bascule" bridge and is listed in the National Register as a historically significant structure. The rehabilitation of the bridge includes the entire removal of the superstructure and all mechanical and electrical components, which occurred in 2005. In 2006, replacement of the superstructure was ongoing,

including the rehabilitation of the adjacent bridge houses. The project is scheduled for completion the summer of 2007.

Preliminary engineering was completed in 2006 for the Kilbourn Avenue Bridge over the Milwaukee River. The structure, located several hundred yards downstream of the State Street Bridge, is also listed in the National Register as historically significant and will have significant upgrades to its mechanical, electrical, and structural components. The project was let to contract on September 12, 2006, and construction will begin when the State Street Bridge reopens to traffic. The project is currently scheduled for completion in 2008.

Coordination with several Milwaukee County roadway projects that lie within the City of Milwaukee is in progress. South 13th Street between West Rawson Avenue and West College Avenue, South 76th Street from the north city limits of Greenfield to West Oklahoma Avenue, a bridge rehabilitation project on West Oklahoma Avenue over the Honey Creek, and West College Avenue between South Howell Avenue and South Pennsylvania Avenue.

The Major Projects section is working with the Wisconsin Department of Transportation's design consultant, Kapur & Associates, Inc. on the ongoing planning and design of West Clybourn Street, West Street Paul Avenue, North 5th, 4th, 3rd, and 2nd Streets, which have sustained damage as a result of the construction of the Marquette Interchange and are being rehabilitated and repaired by the Wisconsin Department of Transportation, as a result of this damage.

The Major Projects group also is involved in two Hazard Elimination Safety projects located at the intersections of North 40th Street /West Vliet Street and West National Avenue/ South Layton Boulevard. Both of the intersections have a history of an abnormally high number of accidents. Grant money was secured under the Hazard Elimination Safety program to improve both locations for vehicular and pedestrian safety. A multi-phased construction approach will be utilized to upgrade the signage and signals at each intersection, coupled with median reconfigurations to direct pedestrians and motorists through each intersection at the safest locations. Both of the projects are slated for construction in late 2007 and/or early 2008.

In 2006, the Major Projects group helped to facilitate significant streetscape elements in two major street improvement projects. On West Silver Spring Drive between North 43rd Street and North 68th Street the local Business Improvement District, headed by Havenwoods Investment Corporation, will be supplementing the decorative concrete placed between North 65th Street and North 57th Street and the expanded median area between North 68th Street and North 60th Street with decorative lighting, gateway monuments, neighborhood identification banners, and plantings in 2007. Similarly, West Capitol Drive between North 35th Street and North 60th Street incorporated decorative concrete at the North 60th Street intersection and the West Fond du Lac Avenue intersection. These treatments will be supplemented by future improvements to be undertaken by the Midtown Business District, which will include decorative lighting, additional decorative private sidewalks, and other pedestrian amenities yet to be determined in 2007.

Preliminary engineering was in progress for eight (8) Federal and/or State Aided Major Street paving projects, two (2) Congestion, Mitigation Air Quality (CMAQ) landscaping/ lighting projects, two (2) Hazard Elimination and Safety (HES) project to improve roadway geometrics, six (6) Local Bridge Replacement Program projects and two (2) State Trunk Highway Bridge Replacement/Rehabilitation Project.

Major Projects continues to work with the Wisconsin Department of Transportation (WISDOT) in their efforts to rehabilitate 4.5 miles of North 76th Street (USH 181). Construction is scheduled for the spring/summer of 2007 for the portion of North 76th Street from West Florist Avenue to West Clinton Avenue, which was let December 12, 2006, at an overall cost of $8.8 million. Construction is scheduled for the spring/summer 2008 for the portion of North 76th Street from West Clinton Avenue to West County Line Road.

Finally, the unit continues to work with the WISDOT in their efforts to design and coordinate work on the Marquette Interchange. Phase II of the Interchange (North Leg) from North Avenue to approximately the Hillside Interchange started construction in 2005 and was completed in 2006. Construction of both the South Leg, from the Menomonee River to approximately the South Menomonee Canal, and the Core Interchange, from Marquette University to Water Street, was initiated in 2005. The West Leg is to be complete in 2007 and the Core is to be complete by the end of 2008.

Traffic Design Unit

Approximately 314 miles of lane lines, centerlines, and edge lines were painted in 2006 to maintain adequate visibility of pavement markings and to provide positive guidance to motorists. Crosswalks were painted at 967 locations and 222 special arrow and "only" markings were painted.

During 2006, the unit coordinated the signing, maps, and traffic control for approximately 1000 special events which included bike races, festivals, filming, marches, parades/ processions, parking events, runs, walks, block parties, and many other activities affecting the use of City streets. The unit also coordinates the traffic control for all utility and construction work in City streets, making sure that special events and construction work do not overlap.

In 2006 the unit was involved with implementing the conversion of the following streets from one way to two way traffic:

- West Wells Street from North 6th Street to North 11th Street
- West State Street from North 6th Street to North 11th Street
- East/West St. Paul Avenue from North 2nd Street to North Water Street

This unit also planned and implemented a temporary traffic control plan that was used to operate W. Canal Street at Miller Park using a reversible lane pattern for the Milwaukee Brewers baseball games and other special events for traffic coming to and from the ballpark. This work was done while the permanent reversible lane traffic control equipment was being designed and fabricated for installation in 2007.

Five new traffic signals were installed in 2006 in conjunction with changes to the local street system and new freeway access

points associated with the Marquette Interchange Project.

The City continued its program of replacing older electro-mechanical traffic signal controllers with new microcomputer based solid-state signal controllers to improve reliability, to provide flexibility of operation, and to reduce maintenance costs. Six electro-mechanical controllers were replaced in 2006. There are now only three more electro-mechanical controllers remaining to be replaced, with upgrades now completed at 99 percent of all traffic signal installations.

The City continued its program of installing fire vehicle traffic signal preemption on primary fire response routes. As the fire vehicles approach, vehicular traffic at signalized intersections is cleared for approaching emergency vehicles and a continuous green signal indication is displayed on the emergency approach route until the emergency vehicle clears. This program improves response times for these emergency vehicles while improving safety for emergency vehicles as well as pedestrian and vehicular traffic at affected intersections. The signal preemption devices were made operational at 16 locations under this program in 2006.

Six Wisconsin Department of Transportation sponsored paving projects, which started in 2006 impacted traffic signals requiring hardware modifications and signal retiming. In addition, work for the Marquette Interchange Reconstruction project continued in 2006. Along with installing the five traffic signals mentioned above, the Traffic Design Unit has worked to insure that the additional traffic diverted from the freeway system onto City streets due to the construction moves as efficiently as possible. Major detour routes were set up for when the freeway system ramps or freeway lanes are closed. Traffic signals along the routes were optimized by changing their timing, and in some instances, modifying hardware to facilitate new traffic patterns. There were over 49 work orders issued in 2006 for traffic signal work solely to accommodate changing traffic patterns caused by the Marquette Interchange Reconstruction Project. In 2006, the North Contract of the Marquette Interchange Reconstruction project ended and the Core Contract heated up.

In 2006, over 140 traffic signals had their incandescent bulbs changed to energy saving light emitting diodes (LEDs). LEDs have a six-year warranty, compared to an average lamp life of one year for incandescent bulbs, which is expected to save labor costs on the replacement of burned out bulbs. Additionally, these LED signal indications are expected to improve intersection safety by improving the overall appearance and visibility of signal displays.

For the first time in the City of Milwaukee, a radar speed board was installed in advance of a curve on West Atkinson Avenue near North 32nd Street. The radar speed board is a permanent installation that shows drivers how fast they are driving into the curve in an attempt to slow them down as necessary to safely negotiate the curve with their vehicle.

Two area wide signal systems were retimed to reduce stops and delay for motorists by making improvements in signal synchronization. On the Northwest side, an area along West Appleton Avenue and West Lisbon Avenue from North Sherman Boulevard to North 84th Street was optimized. On the near south side, an area from South 35th Street to South Layton Boulevard and from West National Avenue to West Lincoln Avenue was optimized.

In support of the Milwaukee Police Department, the Division assisted in the installation of surveillance cameras and related equipment at three pilot test sites. It is anticipated that the project will be expanded in 2007 to cover many additional areas of the City.

In 2006, approximately 4,400 traffic signs were replaced throughout the City as part of our sign maintenance program to replace faded, vandalized, damaged, deteriorated or missing signs. Also, 1,700 traffic signs (new installation) were installed throughout the City, now bringing the total amount of traffic signs in the City to 102,398.

Two separate Grants were approved in late spring from the Wisconsin Department of Transportation, Bureau of Transit and Local Roads, under the fiscal year 2005/2006 Traffic Signing and Marking Enhancement Grant Program. Implementation of both projects is anticipated to occur by late spring, 2007.

The first project approved under the program will be used to fund improvements to the Downtown street crossings associated with the Downtown Riverwalk. Under this project, crosswalk pavement markings will be upgraded, and mast-arm mounted pedestrian crossing signs will be installed at all Riverwalk crossings. These improvements are intended to increase the conspicuity of the pedestrian crossings in an effort to improve motorist compliance with current traffic laws and promote safety for pedestrians using the Riverwalk crossings.

Under the second Grant, the City will begin the second phase of a pilot program to evaluate the use of in-street yield to pedestrian signs. The project will provide funds to install the signs at 55 marked crosswalks and school crossings on two lane undivided arterial roadways, to provide further experience with the use of these types of signs on pedestrian and vehicular traffic operation and safety, and to determine the feasibility of further expansion of this type of signage as another traffic control alternative to preserve or improve pedestrian safety.

Also in the summer of 2006, the Common Council of the City of Milwaukee passed an Ordinance prohibiting engine compression braking on any street within the City of Milwaukee. The engineering and installation of traffic signs to advise truckers of this restriction were begun in 2006, and completion of citywide installation of these signs is anticipated in 2007.

The Common Council also approved the implementation of a Residential Permit Parking Program in the University of Wisconsin – Milwaukee Campus area. This program, which is part of a comprehensive program developed to address parking and traffic related issues in the Campus area, will allow on-street parking on one side of the street to be dedicated for use only by residents with valid permits. Regulatory signs implementing these parking restrictions will be installed on affected streets prior to the start of the program in late August 2007.

Street Lighting Design Unit

As part of the City's Capitol Improvement Program, plans were prepared for street lighting alterations and upgrades that were to be done in conjunction with 45 paving projects. Lighting work done in conjunction with these projects included the installation of overhead circuitry prior to construction to maintain adequate light levels during construction, protecting

and adjusting facilities during construction work, and where required, the installation new street lighting cable and the upgrade of electrical circuitry and components. Also in 2006, minor circuit conversion projects to replace obsolete electrical circuitry were initiated in conjunction with major paving projects, such as on South 20th Street from West Layton Avenue to West Grange Avenue.

In 1987, an initiative was begun to convert all mercury vapor and incandescent street lighting in the City of Milwaukee to more energy efficient high-pressure sodium lighting. In 2006, a total of 1,117 streetlights in the City were converted to high-pressure sodium lighting. With this work, approximately 95 percent of the 67,742 streetlights in the City of Milwaukee have now been converted to high-pressure sodium.

Historic Milwaukee lanterns and harp lights continue to be installed in conjunction with streetscape, redevelopment and neighborhood and business district beautification projects. In 2006, grant funds or private funding was used to provide historical lighting as part of neighborhood and business district improvement projects. Specialty lighting projects initiated in 2006 include lighting upgrades on East Wisconsin Avenue from North Milwaukee Street to the intersection of North Prospect Avenue and East Mason Street, West Capitol Drive from West Fond du Lac Avenue to North 60th Street, and on West Silver Spring Drive from North 57th Street to North 68th Street. Also as part of the Milwaukee Central Business District Primary Pedestrian Corridors Project, engineering was completed for lighting upgrades on West Wisconsin Avenue from North 4th Street to North 10th Street. Construction on the West Wisconsin Avenue project began in late 2006, and is anticipated to be completed in 2007.

Work has continued on the installation of street lighting on City streets affected by roadway improvements made in conjunction with the Marquette Interchange Reconstruction Project, which started in 2005. Temporary and permanent street lighting improvements are being coordinated with Wisconsin Department of Transportation contractors as work on the interchange project progresses. Construction will continue in 2007 for the upcoming phases with completion anticipated in 2008.

In 2005, a major circuit cutover to replace aging and unreliable electrical circuitry was started at the west side of the City between the area bounded by North Hawley Road to North 77th Street and West Bluemound Road to West Dickinson Street. Work continued in 2006 on this area wide upgrade, with all work to be completed in 2007 for the remaining segments of the project. Also as part of this project, another circuit cutover was also included in this project in the area bounded by West Adler Avenue, the south City limits, South 84th Street and South 95th Street.

In 2006, work has continued on the replacement of the City's Master Street Lighting Control System. An operational prototype has been developed and is now in service. The reliability of the current system, which was developed using World War II era technology to turn the street lights on and off, is declining due to its age. Technological advancements will not only provide more reliable activation of street lights, but will also provide monitoring capabilities of system performance and assist in more efficient repair and maintenance of street lighting facilities. Engineering began in 2006 for the replacement of the existing control circuitry on the southwest and west central portions of the City. Construction of this portion of the system will start in 2007. When this project and the circuitry upgrade project described above is completed the entire area between Wauwatosa and West Allis, and North Hawley Road to a point east of Highway 100 will have totally been converted to state of the art street lighting facilities.

Lighting was upgraded in two County Parks at the request of the Milwaukee County Parks Department, who provided funding for lighting upgrades in Dineen and Sherman Parks in 2006.

Street lighting personnel continue to maintain and operate outlet circuitry for 15 local business districts and other organizations to provide power for Christmas decorations, and for other yearly neighborhood celebrations and events. Also in 2006, street lighting personnel installed and will maintain and operate circuitry to supply power to the first City of Milwaukee Gateway sign on South Howell Avenue near Mitchell field. Expansion of this program is anticipated to occur in 2007.

City street lighting personnel also installed and will maintain and operate circuitry to supply power to WI-FI ports in conjunction with the initial deployment of the wireless system in a pilot test area located in the Central portion of the City. More locations will be added as further expansion of the wireless system occurs.

Planning and Developments Unit

The Planning and Developments Unit undertakes a variety of tasks related to transportation planning, ranging from non-traditional projects such as traffic calming to arterial roadway and freeway improvements. This unit is involved in almost every major private development and public improvement that occurs Citywide. This unit works closely with other City departments, elected officials, state and county departments, private organizations and the general public. The following is a sampling of work activities that were undertaken in 2006.

In 2006, assistance was provided to the Wisconsin Department of Transportation (WISDOT) with regard to traffic mitigation and administration during the North Leg, and South Leg phases of the reconstruction of the Marquette Interchange. This unit attended numerous meetings concerning Marquette Interchange construction phasing, utility relocation and coordination, traffic mitigation and elected official and public outreach in 2006. All of these efforts were directed at keeping downtown Milwaukee open for business during all phases of the Marquette Interchange construction and minimize the impacts of diverted traffic from the interchange during construction. Assistance was further provided on the Intermodal Passenger Facility construction; the application of Intelligent Transportation System technology (ITS) in the Gary-Chicago-Milwaukee (GCM) Corridor; a study of incident management on southeast Wisconsin's freeways (TIME); and the implementation and testing of an Integrated Corridor Operations Program (ICOP).

The unit coordinated projects being completed under the Congestion Mitigation and Air Quality (CMAQ) Program, the Statewide Multi-Modal Improvement Program, and the Transportation Enhancement Program, all of which were continued under the Transportation Equity Act for the 21st Century

(TEA-21). These programs generally provide up to 80% Federal and/or State funding for eligible projects.

During 2006, the unit worked closely under a three-party design contract with Edwards and Kelsey, Inc. on the Summerfest Shuttle Bus Advanced Parking Guidance system. Draft Agreements between the City of Milwaukee and the participating Parking Structure owners were modified to incorporate changes and concerns of the owners and reconveyed to the owners for their consideration. The City plans to let a construction contract for this project in late summer or fall of 2007 with construction anticipated to begin later that year and operation of the system in early 2008. This system will provide information to drivers headed for Summerfest about available parking in garages located near the shuttle route in the downtown area. It is hoped that this initial deployment will spur the development of a more comprehensive downtown parking management system. In 2006, the City was given funding approval for a CMAQ grant to expand the Advanced Parking System in downtown to parking garages, which serve the Bradley Center, Midwest Airlines Convention Center, and other parking garages near the Summerfest Shuttle Bus route and Downtown Trolley route. It is hoped that design engineering for this project can begin in 2007.

The unit was involved in several bicycle and pedestrian related projects again in 2006. The first is the StreetShare pedestrian safety program designed to educate motorists and pedestrians about the law regarding crossing streets. StreetShare also encourages motorists to allow pedestrians to cross the street in a crosswalk. The grassroots program includes a website, brochures, vehicle magnets and balloons. It works through participatory partnerships, including DPW fleet drivers, We Energies fleets, and other large employers. The program was funded by a WISDOT BOTS grant and has been extremely well received by citizens groups. This program was developed by the Bicycle and Pedestrian Coordinator with assistance from the City's Bicycle and Pedestrian Task Force. The Task Force was active in 2006 fulfilling its mission to recommend to City policy makers ways to make the City of Milwaukee more bicycle and pedestrian friendly.

Planning and Development has also worked with Wisconsin Walks using WISDOT BOTS funding to hold a walking workshop (Pedestrian Roadshow) in the Walnut Way neighborhood. These workshops are designed to get neighborhood input and produce a plan to improve the pedestrian environment from an aesthetic and safety perspective. We have held these workshops in other areas in previous years and the plans have resulted in dramatic improvements such as the bump outs and in-street yield to pedestrian (R1-6) signs on Brady Street. In 2006, the City also received a $400,000 Safe Routes to School for the Forest Home/Manitoba area as a result of a previous Walking Workshop.

The unit continued its efforts in implementing the City's Bike Rack Assistance Program. This program, funded by a Transportation Enhancements grant, provides local business with free bike racks. In 2006, the City contracted to install 700 new bike racks across the City. To date, over 1500 free bike racks have been distributed since 2000. The unit will likely close out the program by installing the remaining racks in 2007.

In 2006, the unit worked with the Bicycle Federation of Wisconsin (BFW) to finish the Off-Street Bikeway Study. This project, funded by the STP-Discretionary program, involves the evaluation of off-street corridors that potentially could accommodate a paved bike trail. The City Bicycle Pedestrian Coordinator also distributed over 20,000 new bicycle route maps.

Engineering continued on the Kinnickinnic River Bike Trail over the former Union Pacific Railroad right of way between South 6th Street and East Washington Street. The City retained Bloom Consultants, Inc. to design a new bicycle bridge over South Chase Avenue. Construction of this CMAQ funded bridge and trail is anticipated to begin in 2007.

In 2006, real estate acquisition, planning and final design continued on the Transportation Enhancement funded Beer Line Bike/Recreational Corridor project (Burleigh Street to Keefe Avenue). Construction is anticipated in 2007.

During 2006, this unit continued to work in a cooperative effort with the Department of Natural Resources (DNR) to implement remaining segments of the Hank Aaron State Trail (HAST). The HAST projects are funded primarily with CMAQ grants previously secured by this unit. The entire segment of the HAST between South 6th Street and Miller Park was completed in 2006. Furthermore, this unit provided technical assistance to the DNR in the planning for a bike ramp structure from the 6th Street Viaduct down to grade along the south bank of the South Menomonee Canal and trail connection to East Pittsburgh Avenue.

In 2006, this unit worked cooperatively with the Construction Section to complete construction of the West Canal Street Extension project between 25th Street and Miller Park in the Menomonee Valley. This project includes construction of a new roadway from North 25th Street to Miller Park through the west end of the Menomonee Valley, a new access road serving Falk Corporation, and construction of portions of the Hank Aaron State Trail. Construction on this project began in 2005 and includes ? mile of elevated roadway, 20,600 tons of concrete, 2.7 miles of bridge girders, 250 tons of reinforcing steel, and 14.6 miles of bridge pilings. This project is expected to provide a catalyst for redevelopment of the Menomonee Valley as well as provide an alternate traffic route during reconstruction of the Marquette Interchange.

In 2006, this unit worked cooperatively with the Construction Section to complete construction of a Lift Station/Bioretention Facility located at 25th St. and Canal Street. This project is partially funded through an MMSD partnership and provides stormwater treatment for Canal Street between 16th Street and 25th Street as well as adjacent private land in the central Menomonee Valley. This unit also worked with the Environmental Section to perform monitoring and performance evaluation of the lift station and bioretention facility. This project is the first element of a comprehensive plan to treat virtually all stormwater generated in the Menomonee Valley with regional treatment facilities. This unit also continues to assist the Environmental Section in the preliminary development of the Stockyards bioretention facility being developed by the City in partnership with the Menomonee Valley Partners.

In 2006, construction began on the Miller Park Reversible Lanes/Variable Message (VMS) Sign Project. This project provides the necessary traffic control equipment including overhead sign structures, static signage, pavement markings, ITS equipment, and a variable message sign to allow efficient parking lot operations

and two-way traffic operation on Canal Street during stadium events. This project is expected to be completed in 2007.

This unit also continues to work cooperatively with the Department of City Development (DCD) and the Menomonee Valley Partners business group in their efforts to redevelop the Menomonee Valley in an environmentally sensitive and sustainable fashion. In 2006, this unit participated in planning efforts for the public spaces within the Menomonee Valley Industrial Center including the development of an extensive plan to improve bike and pedestrian access from the near south side neighborhoods. Furthermore, this unit is implementing the local infrastructure to support the development of the Menomonee Valley Industrial Center. The infrastructure is funded by a federal Economic Development Administration grant and TID funds. South 33rd Ct., which provides access to the Menomonee River and the Palermo's Pizza development was completed in 2006. Design engineering for the underground utilities in Milwaukee Road, Wheelhouse Road, and South 36th Street, which provide service to remaining parcels within the Menomonee Valley Industrial Center including Badger Railing, Caleffi North America, and Taylor Dynomometer, was performed in 2006 with construction scheduled for early 2007. Roadway design and construction will also be performed in 2007.

This unit continues participation in a study of downtown transit improvements known as the Milwaukee Downtown Transit Connector Alternatives Analysis. This study, sponsored by the City, Milwaukee County, the Metropolitan Milwaukee Association of Commerce and the Wisconsin Center District, is investigating alternative downtown fixed guide way transit improvements linking multiple tourist and business venues. The Alternatives Analysis is expected to be completed during 2007 with selection of a Locally Preferred Alternative. With local consensus, the project could advance to the preliminary engineering phase of project development. In 2006, this unit provided technical assistance to the Mayor's Office in the development of the Mayor's Transit Plan for consideration in the Milwaukee Downtown Transit Connector Alternatives Analysis.

In 2006, this unit continued participation in the Kenosha-Racine-Milwaukee Commuter Rail Alternatives Analysis / Project Development/ EIS Phase was initiated. This study, sponsored by the Counties and Cities of Kenosha, Racine and Milwaukee, the Wisconsin Department of Transportation (WISDOT) and the Southeastern Wisconsin Regional Planning Commission, is intended to produce a Draft Environmental Impact Statement (DEIS), refine the previous alternatives analysis, and develop further a commuter transportation project within the corridor. This study will continue into 2007.

In 2006, this unit completed participation in the 2035 Regional Transportation System Plan being undertaken by SEWRPC. This unit also continued participation in the Milwaukee County Transit System Plan: 2007-2011 being undertaken by SEWRPC. Development of this plan is expected to be completed by Summer of 2007.

In 2006, this unit performed coordination of the construction of the Potawatomi Casino parking structure connection to the 16th Street bridge. This work is being funded and undertaken by the Potawatomi Tribe under permit but required extensive conduit, communication, street lighting, and traffic signal work performed by City forces.

During 2006, this unit continued its role as liaison with the various railroad entities doing business in the City in matters of crossings, structures, and right-of-way improvements.

The unit coordinated Infrastructure Services Division and Department of Public Works activities for several major development projects, including Columbia/St. Mary's Hospital, the Harley-Davidson Museum, Potawatomi Casino expansion, Manpower development, the Milwaukee County Grounds development and the Pabst Brewery redevelopment project. This unit also worked on several residential developments in and around the central business district in 2006. This unit participated in several predevelopment roundtable conferences with DCD in which DPW's comments and concerns were identified at an early stage in the development process.

This unit continues to assist the DCD with the expansion of the Riverwalk system, including planning for roadway and streetscape improvements to complement the adjacent riverwalk.

This unit is responsible for the Division's review of various permits, specifically as the proposed work relates to the public's use of the right-of-way. This includes utility permits, building permits, and DPW excavation permits. In 2006 this unit processed 872 utility permits, 242 DPW permits, 59 boring permits, 9 hollow sidewalk and 390 building permits. The unit also reviews applications for special privileges and air/subterranean space leases, and writes resolutions for Common Council action. In 2006 123 special privilege resolutions were prepared by this unit. Additionally, one Air Space Lease was prepared and processed for the Manpower Development.

During 2006, this unit continued its role of assessing impacts to the public way through the review of local and state legislation, and encroachments and obstructions affecting various public improvement projects. This unit also continued to provide public service assistance to our citizens by investigating a variety of traffic, roadway, and railroad grade crossing condition complaints. This unit also continued its role in reviewing the condition of hollow sidewalks that may be impacted by planned paving projects.

In 2006, this unit continued to provide technical assistance to the Board of Zoning Appeals (BOZA). This unit provides membership to the Zoning Administration Group (ZAG), which provides comprehensive and timely reviews of special use and zoning variance requests in front of the Board. In 2006, approximately 700 new requests were submitted to the Board office and reviewed by the ZAG. This unit also provides staff at each BOZA meeting to present the DPW report on cases in front of the Board. This unit also provides technical assistance to the City Plan Commission with regard to DPW concerns on proposed General and Detailed Planned Developments, as well as proposed zoning changes. Both written comments and oral testimony are provided to the City Plan Commission in 2006.

During 2007 the Planning and Developments Unit will continue to work closely with other City, State, County, Federal, and private entities in continued improvement and maintenance of our arterial street and bridge infrastructure with the given resources and funding programs at our disposal. We will also work similarly in implementing streetscape and bicycle enhancements. New initiatives will commence on dynamic parking control and

information, bicycle facilities, pedestrian mobility, and market strategies geared at continued enhancement of the central and surrounding business districts. This unit will also work closely with WISDOT on continued study involving Freeway Traffic Management and in evaluating a pilot program to integrate signal systems of complementary arterial and freeway corridors.

Central Drafting and Records Unit

The Central Drafting and Records Unit is responsible for maintaining the one-quarter section maps of the area within the corporate limits of the city, and those areas outside of the city in which the Milwaukee Water Works provides service and maintains facilities. The maintenance of these maps, along with maintenance of the official maps, aldermanic district maps, police district maps, address assignment maps; and the preparation of state and city paving plans, bridge plans, street lighting plans, circuit maps, traffic signal plans, traffic control and pavement marking plans, underground conduit plans, and other specialty maps and exhibits are accomplished with the use of an interactive computer graphics system.

Additional duties of Central Drafting and Records includes: the operation of a "Diggers Hotline" service to assist in the location of City of Milwaukee facilities in the public way; the preparation of legal descriptions and maps for openings or closings of public rights-of-way; maps for annexation to or detachment from the City of Milwaukee; the review of certified survey maps and subdivision plats; the assignment of addresses; the review of street name change ordinances; checking and optimizing routes for oversize and overweight loads; sales of maps; performing traffic counts and surveys; providing reproduction services for various City departments; and maintaining an office supply facility for the Transportation and Administration Section.

In 2006, 28 plans and petitions for the vacation of public ways were processed. The Unit also processed 11 subdivision plats and 60 certified survey maps, produced 154 paving plans for 106 separate paving projects, 8 bridge structure projects and 14 state paving projects, conducted 5 traffic counts and a cordon count and acted upon 38,429 requests from Diggers Hotline to locate the City's underground electrical and water main facilities and 644 requests for utility plan information.

The City was honored with the Federal Highway Administration 2006 Excellence in "Utility Relocation and Accommodation" award in the category of Relocation for Projects Greater than $100,000,000 for the Marquette Interchange Project. This was a City wide effort from all of our City staff charged with relocation of City utilities during this construction project. The successes regarding the utility relocations were also a direct result of the leadership of the Marquette Transportation Partners and the Wisconsin Department of Transportation.

During 2006, an additional 19,504 lineal trench feet of conduit was installed, 5,188 lineal feet of conduit replaced and 2,131 lineal feet of conduit abandoned.

City forces installed conduit in South Delaware Street from East Oklahoma Avenue to East Russell Street, West Bradley Road from North 94th Street to North 91st Street, as well as a lateral installation at the intersection of North 68th Street and West Silver Spring Drive. The City's bridge contractor installed conduit on the Bradley Road Bridge west of North 92nd Street. These were new installations that were done in conjunction with the paving of those streets. City forces installed conduit in East North Avenue from North Bremen Street to North Holton Street in conjunction with the paving of that street to replace conduit that was abandoned with the removal of the Kilbourn Park Reservoir. City forces also installed conduit in West Capitol Drive from North 51st Street to North 35th Street in conjunction with the paving project to increase the capacity of the conduit system that exists within this street.

As part of the Marquette Interchange Project, City forces installed new conduit in the approaches of the West Wisconsin Avenue, West Winnebago Street, West Highland Avenue, and West Walnut Street bridges. The Department of Transportation's contractor replaced the City's conduit on those four bridges over I-43. The WISDOT's contractor also installed conduit for the City in West Winnebago Street from North 10th Street west to the east abutment of the Winnebago Bridge over I-43. City forces replaced the conduit in West Highland Avenue from North 9th Street to North 10th Street, which had been removed by the WISDOT's contractor for the installation of a sewer. City forces also repaired conduit in North 10th Street from West Wisconsin Avenue to a point 278 feet south of Wisconsin Avenue that had been damaged by the WISDOT's contractor. These projects were funded 90% by WISDOT and 10% by the City. Members of the Underground Conduit staff continue to attend weekly meetings for the Marquette Interchange Project.

City forces installed conduit in West Street Paul Avenue from South 25th Street to South 27th Street as part of the WISDOT's Street Paul Bridge project. WISDOT's contractor installed the conduit on the Street Paul Bridge over I-94. This project was funded 90% by WISDOT and 10% by the City.

Conduit was installed in West Canal Street from North 25th Street to Miller Park baseball stadium by the paving contractor. This installation was included in and funded by the paving contract.

Conduit was installed in East/West State Street beneath the Milwaukee River by the bridge contractor as part of the State Street Bridge project. City forces installed conduit in West State Street from North Old World Third Street east to the bridge and from North Edison Street west to the bridge over the Milwaukee River.

Environmental Section

The Environmental Section is financed through the Sewer Maintenance fund and is responsible for the engineering work required for the programming, funding, design and installation of sanitary, storm and combined sewer facilities. The Section is also responsible for preparing plans and specifications for building sewers and water services and maintaining the sewer records. The section also handles the administration and implementation of the City's two Wisconsin pollutant discharge elimination system permits; this includes reviewing storm water management plans, testing storm system outlets for illicit connections and reporting sanitary to storm sewer crossover activity. In addition, the section performs activities as part of the infiltration and inflow reduction program on flow monitoring, smoke testing, TV inspections, building inspections and manhole inspections and rehabilitation.

In addition, the section, through its underground operations unit, is responsible for the inspection, maintenance, and repair of the City's sewer mains, manholes, catch basins and storm inlets. The construction and maintenance of the underground conduit system is also performed by underground operations.

Following are highlights of the work performed in 2006 by the Environmental Section.

Sewer Design Area

The section designed and let to contract 1.96 miles of new sanitary sewers, 1.78 miles of new storm sewers, 7.61 miles of replacement sewers and 3.49 miles of sewer lining for a total cost of $27.83 million. These projects included:

Box Sewer Replacement project:

This project was performed to replace the existing combined sewer located in a sewer easement through the property of Miller Brewing Company from West State Street to West Highland Avenue. The existing sewer was constructed in 1893 and was structurally deteriorated and hydraulically inadequate. Approximately 1,040 feet of 10-foot high x 7-foot wide combined box sewer was installed for a total cost of $1,743,000.

North 27th Street sewer project:

A contract was awarded for the rehabilitation of a large diameter combined sewer located in North 27th Street from West Juneau Avenue to West Walnut Street. This project was undertaken to reinforce a structurally deteriorating 96-inch diameter combined sewer that was constructed in 1883. Approximately 1,935 feet of 78-inch diameter glass fiber reinforced mortar pipe was inserted inside the existing host sewer. The exceptional smoothness of the 78-inch diameter pipe provided comparable flow capacities as the existing sewer. The trenchless methods used to install this sewer minimized impacts to traffic as well as nearby residents and businesses. The total cost of this project is $2,651,000.

West Brown Street sewer project:

A contract was awarded for the replacement of a 78-inch diameter combined sewer located in West Brown Street from North 20th Street to North 26th Street that was constructed in 1887. This project was performed to replace the structurally deteriorating and hydraulically inadequate combined sewer. Approximately 2,416 feet of 78-inch diameter combined sewer was installed. The total cost of this project is $4,609,000

South 38th / West National / South 39th Street storm sewer project:

This project involved the rehabilitation of existing large diameter storm sewers located in South 38th Street from West Scott Street to West National Avenue, West National Avenue from South 38th Street to South 39th Street, and North 39th Street from West National Avenue to the Menomonee River. The storm sewer is approximately 50 feet deep and was in poor structural condition. The work included installing 2,582 feet of 60-inch, 66-inch and 72-inch diameter cured-in-place liner was inserted inside the existing host sewers. The smoothness of the lined sewer will provide comparable flow capacities as the existing sewer. The trenchless methods of installation minimized impacts to traffic as well as nearby residents and businesses. The total cost of this project is $2,090,000.

Storm Water Management Area

Storm Water Management Plan Review:

On November 10, 2006, the Common Council adopted revisions to the Storm Water Management Ordinance, Chapter 120 of the Code of Ordinances. The revisions were made to better define when a SWMP (Storm Water Management Plan) is required. A SWMP will now be required if there will be disturbance of 1 acre of land or if there will be a net increase of 0.5 acres of impervious surface. The land disturbance requirement replaces a SWMP being required based on the area under a common ownership. The revised ordinance will also require a reduction of 10% in the peak flows from a site, which will enhance the runoff quality.

The City has received a total of 1037 SWMPs since the implementation of the program in 1993. In 2006, the Section reviewed 90 storm water management plans, with 82 approved that same year.

Illegal/Illicit Discharge Testing:

Field-testing of storm sewer outfalls for illegal/illicit discharges continued throughout the City. The dry weather testing consists of a visual and chemical test for pollution at each outfall. The Section performed a total of 760 dry weather tests during 2006. Of these tests, 455 were at the outfall and 305 were at points upstream from the outfall.

Storm Water Information & Education:

In 2006, using a grant from the Milwaukee Metropolitan Sewerage District, we developed an information and education module for the bioretention facility located at 25th and Canal Streets. Keep Greater Milwaukee Beautiful, Inc was contracted to develop this module that would provide information and education to the public on the bioretention facility. The module includes brochure with photos, a PowerPoint presentation and the design and installation of an informational sign. Staff has

conducted several information and education presentations at the site for developers, site owners, consulting firms, City and other government agencies officials to promote and publicize the environmental benefits of the bioretention facility.

The website dedicated to storm water management, which was developed by the Environmental Section in 2005, still provides information on storm water pollution prevention, storm water management plans, and construction site erosion control. It can be accessed through links on the City's main website or directly at www.milwaukee.gov/stormwater.

I /I Reduction Pilot Project:

To further reduce infiltration and inflow of clear water into the sanitary sewer system, the City in 2006 designed and awarded a contract to perform a foundation drain disconnection demonstration project. The Northlawn public housing complex was selected as the project area for the foundation drain disconnection project. In this pilot project, the effectiveness of removing clear water from the sanitary sewer by disconnecting the foundation drains of existing buildings and directing this water to the storm sewer will be studied. Pre-project and post-project sewer flow monitoring will be analyzed to determine the effectiveness of the project.

Infiltration and Inflow Reduction Program Area

Sanitary Sewer Flow Monitoring:

A total of 19 sanitary sewer systems were monitored in 2006 for various reasons. Flow monitoring data is analyzed to determine the quantity of I/I in a system, flow restrictions, MIS surcharges, and other problems that may lead to backwater complaints and/or overflows. Seventeen of the systems were monitored as a result of the stipulation agreement reached between the State of Wisconsin and the communities within the Milwaukee Metropolitan Sewerage District (MMSD) service area.

Manhole Inspection and Rehabilitation Program:

In order to meet the requirements of the stipulation between the Wisconsin Department of Justice and all 29 communities served by the Milwaukee Metropolitan Sewerage District, communities will be required to inspect all sanitary manholes within 5 years and make all required repairs. To accomplish this requirement, the city has been divided into five areas, with the areas being inspected on a rotating 5-year schedule.

In 2006 we awarded an inspection contract worth more than $ 200,000.00 for approximately 5000 sanitary manholes. This work will provide us with a more accurate assessment of our existing manhole facilities.

A separate contract was let in 2006 for the repair of 1,502 sanitary sewer manholes at a cost of $1,101,000. The rehabilitation consists of replacing lids, installing chimney seals and repairing defective brick work in the manholes. This work will reduce the amount of I/I entering sanitary manholes.

By-pass Pump Rehabilitation: In the 2006 construction year, we awarded two by-pass pump rehabilitation contracts totaling more than $420,000.00. This work consists of the replacement of the existing facilities with new; structures, pumps, valves, transmitters, lids and frames, discharge pipes, and shear gates. This work is a continuing effort to up grade our aging facilities to better serve the public and the public good.

Supervisory Control and Data Acquisition (SCADA) System:

A Supervisory Control and Data Acquisition (SCADA) system that provides remote monitoring and control of the City's five lift stations, 83 sanitary bypass pumps and 15 rain gauges is now managed and updated by City staff. The SCADA system allows staff to remotely control the lift stations and bypass pumps if necessary. In addition, it provides real time information on the operational status of each lift station and bypass pump. Rainfall information is also collected in real time and is provided to the Milwaukee Metropolitan Sewerage District for their use.

Automated Mapping and Drafting Area

This section drafted a total of 176 sewer construction plans in 2006. These plans are used in the installation, replacement, or rehabilitation of sanitary, storm, and combined sewers at various locations throughout the City.

In 2006, significant additional progress was made in the conversion of sewer maps and other records from paper files and/or microfilm to digital documents. These electronic documents and databases enable staff to access information from their workstation, as well as update and edit the documents with greater speed and accuracy than before. The documents can also be easily shared with other departments.

The "transformation" of our digital sewer maps by staff to conform to GIS standards was completed in 2006. This transformation process corrects any discontinuity at the adjoining borders of each sewer quarter section map and gives a fully unified map of the City sewer system.

In 2006, this area processed 260 building permits and 860 Deferred Sewer Charge statements.

Other responsibilities of the Unit include:

- Provide the public and other City departments with maps and information regarding City sewers.
- Draft CAD sewer construction plans for capital program work
- Assist citizens and plumbing contractors with sewer and sewer lateral questions
- Determine and collect deferred sewer assessment
- Continually update graphic city sewer records
- Prepare sewer construction sketches for public hearings
- Draft sewer easement plans for construction projects and street vacations
- Process utility, plumbing, and building permits

Underground Operations Unit

Underground Operations is responsible for cleaning, inspecting and repairing the City of Milwaukee's sanitary, combined and storm sewers, manholes, catch basins and storm inlets. This includes responding to and investigating complaints of backwater and street ponding throughout the City of Milwaukee. In addition, Underground Operations inspects and repairs sanitary, combined, storm sewer and communication manholes, catch basins and storm inlets on streets prior to the paving work being completed.

During 2006, 96.2 miles of sewers were examined, 394 miles of sewers were cleaned, and 8,683 catch basins and 25,734 storm inlets were cleaned. Cleaning the catch basins and storm inlets maintains the surface water drainage during storm events and reduces the amount of storm water ponding on streets. In addition, we responded to 8,747 service calls, which included backwaters, clogged catch basins and storm inlets, and other sewer related complaints.

In 2006, the major underground conduit installation projects performed by Underground Operations were:

- 32,000 feet of conduit in West Capital Drive from North 36th Street to North 51st Street
- 24,000 feet of conduit in South Delaware Avenue from East Russell Avenue to East Oklahoma Avenue.

Other installation projects in 2006 included:

- 663 feet of conduit in West Bradley Road from North 91st Street to North 94th Street
- 1,168 feet of conduit installed in East North Avenue from North Bremen Street to North Holton Street
- 412 feet of conduit in West St Paul Avenue to North 25th Street to North 27th Street
- 400 feet of conduit in West Highland Avenue from North 9th Street to N 10th Street.

Storm Inlets.

In order to reduce street debris run-off from entering the rivers and creeks in the City and affecting water quality, sump storm inlets are being constructed in place of the bowl type inlets. The sump catches a large portion of street debris material that is vacuumed out by large specialty equipment on a yearly basis before it gets in the sewer system and ultimately creeks, channels, rivers and Lake Michigan. This effort is being done to meet the requirements of our Storm Water Discharge Permit issued by the Wisconsin Department of Natural Resources.

Debris Dewatering.

As a part of the cleaning of sanitary and combined sewers, catch basins, and storm inlets, Underground Operations is also responsible for the disposal of the debris removed. In 2006, a contract was awarded to United Water, Inc. for disposal of the wet material collected in the cleaning process.

Construction Unit

The Construction Unit administers all facets of paving, sewer, water, and grading projects. This includes construction inspection, materials administration inspection, labor compliance, contractor payments, pavement construction erosion control plan approval and inspection, as-built plans of record, maintaining a 156,000 record Road Life data base and construction management. The Field Engineering Area performs existing roadway surveys, designs, as-built certificates and construction staking. In 2006 the Field Engineers started operating out of the new DPW Field Headquarters.

Sewer and Water

Sewer construction totaled $18.2 million for 45 contracts covering 9.55 miles. Water main construction consisted of 24 contracts that totaled 11.8 miles of water main relay at a cost $9.1 million. Inspection was also provided for 0.53 miles of suburban and private water main installation.

Local Paving

In 2006 local paving work consisted of 14 contracts that totaled 5.87 miles of roads and 1.17 miles of alleys. The total local paving contract cost was $7.7 million. In addition, Street Maintenance resurface paving work consisted of one contract that totaled 1.8 miles of roads and private development paving work that totaled 0.2 miles of roads.

State Paving

The Construction Unit also performs administrative duties on Wisconsin Department of Transportation (WISDOT) projects within the City of Milwaukee. These functions include construction management, design, inspection, contractor payment estimates, materials monitoring and reporting, as-built measuring and certificate completion, and wage/labor verification. For select projects, survey and design duties were also performed. Nine WISDOT paving projects were constructed this year at a 2006 contract cost of a $15.2 million covering 7.77 miles. They include the following:

- West Canal Street – Miller Park to North 25th Street
- West Capitol Drive – North 60th Street to North 35th Street
- South Clement Avenue – South Whitnall Avenue to East Howard Avenue
- North Hawley Road - West Valley Forge Drive to West Vliet Street
- East North Avenue – North Booth Street to North Bremen Street
- West Silver Spring Drive – North 68th Street to North 43rd Street
- South 11th Street – West Windlake Avenue to West Bruce Street
- South 20th Street – West Grange Avenue to West Layton Avenue
- South 33rd Court – West Roundhouse Road to a point south
- North 91st Street – West Flagg Avenue to West Mill Road

Five bridge projects were completed and one bridge project (West State Street) continued construction in 2006 at a total 2006 contract cost of $21.8 million. These WISDOT projects were administered by the City of Milwaukee:

- West Bradley Road over the Little Menomonee River
- West Canal Street over the Menomonee River
- West Canal Street viaduct over the Menomonee Valley / CP Rail ROW (2005 start)
- North Hawley Road viaduct and ramp over the Menomonee River / CP Rail ROW / West State Street (2005 start)
- West Mill Road over the Menomonee River (North 124th Street)
- West State Street over the Milwaukee River (2005 start)

In addition, construction on seven bridges over Interstate 43 was completed as part of the continuing WisDOT Marquette Interchange (Mchange) Core replacement, North - South Leg, and East – West Leg projects. This work was under WisDOT contracts and administration. Six bridges replaced were: West Highland Avenue, West Walnut Street, West Wells Street, West Wisconsin Avenue, and West Winnebago Street, West State Street. The West Juneau Avenue Bridge was removed only and will not be replaced.

Project Highlights as Follows: West Canal Street/Menonomee Valley Projects

West Canal Street

North 25th Street to Miller Park Ring Road.

As the Menomonee Valley renewal process continues, this new asphalt road links the 2005 reconstructed West Canal Street (North 6th Street to the North 25th Street roundabout) to the Miller Park Stadium. Many other projects in and around this project's limits were constructed prior and during its construction. The main portion of this complex project was the construction of a 4000 foot asphalt road. This road will also serve as an alternate east west route during the Marquette Interchange project. A bridge and a viaduct were constructed within the project and included concrete decking, walk, curb, and various retaining walls. Road work included the construction of concrete curb and walk. Also, a portion of West Greves Street was removed and a cul-de-sac was constructed.

Prior to paving, 2000 feet of storm sewer, 5600 feet of sanitary and combined sewer, and 5800 feet of water main were installed. The excavating and grading required in this historically industrial area made soil remediation necessary for debris hauled away. This was done in accordance to State Environmental Investigation and Remediation of Environmental Contamination regulations under the City's environmental consultant review. Removal of railroad tracks, a railroad bridge, an access bridge, and ramps were completed with required testing and asbestos abatement. Conduit and vaults where installed for the City's street lighting system.

Hank Aaron State Trail Phase II

Miller Park Ring Road to 25th Street.

This asphalt bicycle path was constructed along Canal Street behind the curb line and along the Menomonee River. This phase links the 2005 Phase I portion to the east with Miller Park stadium to the west.

Additional New Road Construction

West Roundhouse Road – South 33rd Court to West Canal Street.

A 569 ft long asphalt road with concrete curb and gutter.
SOUTH 33RD COURT - West Roundhouse Road to point north: a 587 ft long asphalt road with concrete curb and gutter.
SOUTH 33RD COURT - West Roundhouse Road to point south: a 602 ft long concrete road with concrete driveway, walk, and curb and gutter.

Bio-Retention Facility and Lift Station

West Canal Street east and west of North 35th Street.

Construction of this facility to improve and protect water quality and storm water management for the eastern Menomonee Valley drainage basin was completed in 2006. This system incorporates the 2005 storm diversion main which conveys storm water via a pump house to a fore-bay pond. When the water reaches a certain elevation it is allowed to enter a bio-retention pond. The fore-bay helps to purify the water through settlement. The bio-retention pond retains the water to reduce the volume of discharge and also allows settlement. Both ponds were constructed with a clay lining. The bio-retention pond included a peat / sand fill and special plantings such as aquatic plants and native species.

West Capitol Drive

North 60th Street to North 36th Street.

The City of Milwaukee in conjunction with the WisDOT constructed this 1.47 mile project in 2006 at a cost of $ 3.5 million. The work on this project consisted of removing the existing pavement structure and replacing it with a new 8.5-inch thick concrete dowelled pavement. Concrete curb, gutter and driveway approaches were replaced throughout the length of the project. Sidewalks were replaced at areas where it was needed. In addition, stamped and colored concrete resembling brick was placed at two intersections. During construction, West Capitol Drive remained open to traffic in both directions by staging work in two stages. During Stage I, the south half (eastbound roadway) was constructed while traffic continued to travel in both directions on the north half (westbound roadway). During Stage II, the north half was constructed while traffic continued to travel in both directions on the newly constructed south half. All major intersections remained open to traffic during construction. Prior to the start of construction, all businesses on West Capitol Drive were contacted and access arrangements were made. Special signage was placed throughout the project corridor to indicate that businesses were open during construction.

North Hawley Road Viaduct/North Hawley Road

West Valley Forge Drive to West Vliet Street

These two projects were constructed during the same time period, beginning in 2005 and completed in 2006 under a $5.2 million WisDOT contract. The road was reconstructed

with 8-inch concrete pavement and the viaduct was rehabilitated. Traffic on North Hawley Road was maintained by staging construction and traffic control during construction. Staging included the network of ramps to and from North Hawley Road and West State Street and coordination with the Canadian Pacific Railroad that included flagging requirements when the railroad underpass was affected. During the rehabilitation of the viaduct the deck was removed and replaced with a reinforced concrete deck. The existing metal structure was prepared by abrasive blast cleaning and a complete coating system was installed. A weather station was installed on the west end of the project to help monitor the condition of North Hawley Road.

West Silver Spring Drive

North 43rd Street to North 68th Street.

This WisDOT contracted asphalt resurfacing project was completed in stages to allow two-way traffic throughout construction on this busy commuter and truck route. Streetscape items installed for this project were stamped and colored concrete walk and tree wells. The pavement operations included cracking and seating of existing concrete pavement into a stabilized base for the installation of two layers of asphalt pavement. Concrete replacement included walk, driveway, curb, bus stop pavement pads, and median revisions. Asphalt resurfacing occurred with four key operations: portions of existing concrete or asphalt was removed by milling (via mobile grinders), the lower course asphalt binder was placed, manhole adjustment work was done, and to complete the project a top course of asphalt with permanent pavement markings was placed. Pavement markings included the addition of bicycle lanes. This project had a contract cost of $1.75 million.

East/West Wisconsin Avenue

North Milwaukee Street to North Prospect Avenue *and* North 4th Street to North 10th Street.

The streetscape and asphalt resurfacing of East and West Wisconsin Avenue involved the main arterial of an important business area located in the heart of downtown Milwaukee. The project east of North Milwaukee Street was completed and the project west of North 4th Street was 30% constructed with completion planned for 2007. The total 2006 contract costs are $4.3 million.

Asphalt resurfacing was placed in stages to allow two-way traffic and parking throughout construction. In addition to concrete bus pavement pads and curb placement, special joint patterned walk was installed according to an overall Architectural streetscape design. Intersections were constructed with stamped and colored pavement to complement crosswalks with special jointing patterns. Other streetscape features installed were tree wells, granite planters with wrought iron railing, and black iron trash receptacle and bike racks. Specialty kiosks and harp street lighting installation is planned. As expected in an older commercial area, there was hollow walk present. These underground vaults directly under sidewalk may be an extension of existing historic buildings' basements and had to be dealt with in a manner unique to each building before or during construction.

West Bradley Road *and* West Mill Road

Bridge over the Little Menomonee River *and* Bridge over the Menomonee River.

The West Mill Road and West Bradley Road bridges were replaced under two WisDOT contracts at a cost of $1.25 million and $790,000 respectively. The West Mill Road project involved the removal of two structures and the construction of one structure with asphaltic pavement approaches and the addition of bike lanes. The West Bradley bridge replacement included concrete pavement approaches and the placement of stamped and colored concrete median areas.

Field Operations Section

The Field Operations Section operates, maintains and repairs the many infrastructure facilities located in the public way and river system. Responsibilities of the Field Operations Section are wide ranging and include:

- Maintenance of the City's streets, alleys and sidewalks.
- Design of street, alley, sidewalk and bridge improvement projects.
- Construction management and inspection of street, alley, sidewalk, bridge, sewer, and water improvement projects.
- Construction and maintenance of all public way lighting, traffic control signals, traffic signage and pavement markings.
- Operation and maintenance of the City's moveable and fixed bridges and viaducts.
- Operation of the Inventory/Stores function for Street Maintenance, Sewer Maintenance, Underground Services, Electrical Services, and Water Works including materials, parts, tools and supplies.
- Inspection of permitted utility construction and occupancy in the public way.

Streets and Bridges Unit

Street Maintenance Area

The Street Maintenance Area administers three types of maintenance contracts; pavement seal coating, crack-filling and asphalt pavement resurfacing. 2006 marked the eighth season of the "Slurry Seal" method of seal coating asphalt pavements which has received favorable public and Aldermanic reaction while receiving very few complaints. City streets received 202,448 square yards of "Slurry Seal" in 2006. Under the Crack-filling Contract a contractor crack-filled 300,208 square yards of pavement throughout the city utilizing a rubberized joint seal. In additionally, a trial program was implemented using a new method of crack-filling called Mulch Seal which involves filling cracks with a crack-fill material and then covering it with an organic material such as mulch which acts as a filler material. Approximately 15,000 square yards of Mulch Seal were placed along West Roosevelt Drive.

Asphalt resurfacing occurred on North 124th Street between West Brown Deer Road and West County Line Road, North 51st Street at the intersection of West Fairmont Avenue, West Locust Street between North Teutonia Avenue and North 27th Street, North 27th Street Between West State Street and West Vliet Street and South 35th Street between West National Avenue and West Greenfield Avenue where 4,100 tons of asphalt were placed. In an effort to eliminate most of the rutting and shoving that is typically seen at intersections and in high traffic areas superpave asphalt was utilized on this projects.

Street Maintenance Area field crews placed an additional 9,800 tons of asphalt on city streets. Repair projects included asphalt shims on roadways, asphalt shims on sidewalks, small asphalt patches and pothole repairs.

The new DPW Field Headquarters building at North 35th and West Capital Drive was completed in early 2006. At this time all three street repair districts (north, center and south districts) moved into this new Headquarters' building. This created some efficiency relative to personnel. It was easier to adjust and share crews as the workload throughout the City flocculated on a daily basis. Additionally, some crews that did not have immediate access to support personnel such as the mechanics and the Tool Room now had this access and support.

Street Maintenance Area has continued to make improvements in the tracking of customer requests. All service requests phoned into the City of Milwaukee are answered by the Call Center at (414) 286-CITY. Telephone calls for pothole complaints, offsets along sidewalks, guardrail problems and pavement concerns are recorded into a database by the Call Center. Supervisors access this data, via computer, a minimum of twice daily. Utilizing the services of the Call Center has improved the record keeping and improved the tracking of complaints, Aldermanic Service Requests and City Attorney Claims. Printing pothole patching lists for crews can now be done directly from the Call Center data base.

Street Maintenance crews continued to utilize a sidewalk grinder on offsets along city sidewalks and to correct water flow problems along curb flanges, within alleys and along approached to bridges.

Bridge Maintenance Area

This Area is responsible for over 220 structures maintained by the City of Milwaukee, including routine daily and seasonal maintenance, and response to bridge emergencies 24 hours a day, 7 days a week. These structures span navigable waterways, the extended watershed, and highway or railroad grade separations. Most critically, the City operates 21 movable bridges on a year round basis.

In 2006 most of the Bridge Maintenance crews (Carpentry/Masonry crews, Painter crews and Ironworker crews) moved into the new DPW Field Headquarters building at North 35th and West Capital Drive while the two groups that work closely with the downtown movable bridges were relocated to 1540 West Canal Street. The Bridge Operator Maintenance Crew and Bridge Electricians remained near the downtown area where they are readily accessible for any problems and emergencies that may impact the movable bridges.

The Bridge Maintenance crews are responsible for regular and preventative maintenance associated with our movable bridges, fixed bridges and viaducts. These duties include snow removal from the sidewalk area of our bridges and viaducts, graffiti removal from City owned structures, weed removal & grass cutting along bridge approaches, cleaning of drains along our bridges, cleanup of pedestrian bridges and the cleaning of expansion joints at the ends of our bridges & along the entire length of our viaducts.

In 2006, scheduled bridge maintenance projects included the removal and replacement of the open steel grating, replacement of the timber bumpers, approach span repairs, and pier repairs of the Cherry Street Bascule Bridge. Other bridge maintenance work included tension cable repairs along the Wisconsin Avenue Viaduct, guardrail repair at West Buffalo Street and North Water Street, placement of monuments along the Hank Aaron Trail, conversion of St. Paul Lift Bridge from a one way roadway to a two way roadway, retaining wall repairs at East Greenfield Avenue and bridge deck repairs at the West Beecher Street Bridge. Expansion joints were replaced on the West Cameron Street Bridge, South 35th Street over the Kinnickinnic River and the 35th Street Viaduct.

Bridge Maintenance crews performed work for other DPW divisions and other City Agencies. Repair work and painting were performed at the Linnwood and Howard Avenue Purification Plants. Repair work was performed on Police Department buildings, Fire Department buildings, City Hall, DPW Parking Structures and Health Department buildings. Work was also performed within Forestry yards, Sanitation yards and within the city facility at North 15th Street and West Canal Street.

Bridge Operations Area

In 2006 bridge operators conducted 13,338 bridge openings for commercial and recreational traffic. Eight of the twenty-one movable bridges can be remotely operated from a hub bridge. Winter operations were consolidated with the Broadway Bridge without a drop in service. They continue to update bridge electrical layouts and circuit designs to current practices thereby eliminating an increasing trend of unreliability. The Bridge Operator Maintenance Crew and Bridge Electricians have moved into the City facility located at 1540 West Canal Street.

Inspections Area

The Inspection Area handled nearly 11,900 construction permits in 2006. In addition to construction permits, the Inspection Area reviews Special Event Permits such as block parties, walk/runs and parades. Contractors working in the location of Special Events are notified of the event and directed to complete their work or close up their excavations so as to cause little or no disruption to a Special Event.

Structural Design Area

The Structural Design Area designs and prepares contract documents and performs construction administration for a wide variety of projects involving bridges, retaining walls, parking structures, riverwalks, and other structures. The unit develops a Capital Improvement Program and performs safety inspection for all city maintained bridges and city owned parking structures. It also maintains plans and other records for the city's bridges, parking structures, retaining walls, dock walls, riverwalks, and other structures.

Photo courtesy of Jeanne Paul

Kevin Schaefer, Executive Director, Milwaukee Metropolitan Sewerage District, Alderman Willie Hines, Alderman Michael Murphy, Alderman Robert Bauman, Mayor Tom Barrett, Laura Bray, Executive Director of Menomonee Valley Partners, Jeff Polenske, City Engineer, Melissa Cook, Department of Natural Resources and Michael Goodrich, General Manager, Potawatomi Bingo Casino.

Completion of Canal Street Signals New Growth in Menomonee Valley

On Friday, March 31st City of Milwaukee City Engineer Jeff Polenske served as the master of ceremonies for the ribbon-cutting ceremony for the completion of Canal Street from 6th Street to Miller Park Way. The Canal Street project provides critical infrastructure to serve existing industries and facilitates the redevelopment of the Menomonee Valley. The timing for the opening of Canal Street was great for the Milwaukee Brewers since their Opening Day was the following Monday.

Mayor Tom Barrett commented on the fact that the project was "completed on time" and that redevelopment will "translate into family supporting jobs". He mentioned that Palermo's Pizza is building a new facility that will translate into 200 jobs and Proven Direct, a business from the northwest side, will be relocating in the Valley bringing another 80 jobs to the area.

The Department of Public Works had been working on the project since 2004 to finalize plans and acquire right-of-way for the West Canal reconstruction/extension. The project included relocation of an existing railroad spur within Canal Street, the reconstruction of the existing alignment between 6th Street and 25th Street; construction of a new roadway from 25th Street to Miller Park and construction of portions of the Hank Aaron State Trail. A roundabout is in place at 25th and Canal Street and the Bio-Retention Facility and storm water Lift Station, planned near the intersection of 25th and Canal Street are almost complete and will demonstrate innovative storm water management measures. It is designed to treat storm water from both public roadways and private development parcels.

Extensive traffic control equipment to facilitate traffic flow during Miller Park events has been installed. DPW staff was involved in negotiations with the Milwaukee Brewers and the Southeastern Wisconsin Professional Baseball Park District to acquire certain Miller Park roadways to provide a Canal Street connection to Miller Park Way. Those roadways will also serve as critical public infrastructure to support redevelopment of the Milwaukee Road Shops Tax Incremental District.

DPW staff worked very closely with the Department of City Development and the Menomonee Valley Partners business group in their planning efforts including participation in a national design competition for the "Green Develop- ment" of the former Milwaukee Road Shops site. The results of the competition were integrated into the design initiatives for the 25th Street to Miller Park extension.

The Canal Street Project represented an unprecedented example of intergovernmental cooperation between the City of Milwaukee, the State of Wisconsin, the Department of Trans-portation, the Milwaukee Metropolitan Sewerage District, the Menomonee Valley Partners, C.P. Railroad, Department of Natural Resources, Falk Corporation, the Milwaukee Brewers, the Southeastern Wisconsin Professional Baseball Park District, Potawatomi Bingo Casino and numerous private partners.

The ribbon-cutting ceremony was attended by more than 100 representatives of the community, including City government, Wisconsin DOT, Potawatomi Bingo, We Energies and included former DPW Commissioners James Kaminski and Mariano Schifalacqua. City Engineer Jeff Polenske commended Dave Windsor, Project Manager for the Canal Street Project for his excellent work on the project and for keeping it on schedule. Common Council members, Robert Bauman, Willie Hines, Michael Murphy were part of the ribbon-cutting ceremony, as well as, Laura Bray, Executive Director of the Menomonee Valley Partners and Michael Goodrich, General Manager of Potawatomi Bingo Casino, Kevin Schaefer, Milwaukee Metropolitan Sewerage District and Melissa Cook, Department of Natural Resources.

Bridge Design and Construction

Work on the rehabilitation of the State Street Bascule Bridge over the Milwaukee River continued in 2006. The State Street Bridge has been designated a historic structure, is the oldest remaining Milwaukee style trunnion bascule bridge, and was the first bridge in the city to exhibit architectural features to enhance the bridge aesthetics. The rehabilitation, which is scheduled to be completed in summer of 2007, will rehabilitate the structural, mechanical, electrical, and architectural elements of the bridge.

The Kilbourn Avenue Bascule Bridge was also designated a historic structure and an outside consultant was selected to prepare final plans to rehabilitate the structural, mechanical, electrical components of the bridge and restore the aesthetic features that warrant the historical designation. The contract was let in September and preliminary construction work is expected to start in January, 2007. Closure of the Kilbourn Bascule Bridge will not occur until after the State Street Bridge is reopened to traffic. Rehabilitation work is expected to be completed in November of 2008.

Work on the rehabilitation of the Hawley Road Viaduct continued in 2006. The project consisted of redecking the bridge, painting the superstructure, and repairing extensively damaged concrete substructure. The two stage construction, which allowed traffic to remain on the bridge during rehabilitation, was completed in July.

A contract for the replacement of the West Mill Road Bridge over the Menomonee River was let in January and construction started in March. The new single span prestressed girder bridge replaces two adjacent deteriorated bridges at the site. The Mill Road Bridge was opened to traffic in August.

A contract for the replacement of the West Bradley Road Bridge over the Little Menomonee River was let in May and construction started in July. The new single span prestressed girder bridge replaced a load restricted bridge at the site. The new structure features a wide sidewalk for a multiuse trail connecting to area bike paths and a longer and higher span to allow for river flood flow. The Bradley Road Bridge was opened to traffic in December.

Final plans and specifications were prepared for the rehabilitation of the West Bluemound Road Bridge over Honey Creek. The project consists of concrete repairs to the super and substructure and replacing the timber and steel railing with decorative, crash tested concrete railing. Final contract documents were submitted in August with construction expected in 2007.

Final plans and specifications were prepared for the rehabilitation of the Teutonia Avenue Bridge over the Union Pacific Railroad. The project consists of re-decking the bridge, painting the superstructure, repairing the concrete substructure, providing new bridge railing, and asphaltic slope paving. Final contract documents were submitted in November with construction expected in 2007-2008.

Preliminary plans and specifications were submitted for the South 29th Street Bridge over the Union Pacific Railroad (UPRR). The existing deteriorated bridge will be replaced with a single span cast-in–place rigid fame bridge, increasing the vertical railroad clearance under the bridge. The project is scheduled for construction in 2007.

Preliminary engineering continued for the replacement of the Highland Boulevard Bridge over the Canadian Pacific Railway (CPRR). Construction of this project is expected to occur in 2008-2009. Preliminary plans were submitted for the replacement of the Humboldt Ave. Bridges over Riverboat Road and the Milwaukee River. The Riverboat Bridge will provide increased vertical clearance under the bridge while maintaining an adjacent ramp for access to the Riverboat Road. The two bridge replacements and associated retaining wall work will be let as one project so as to minimize traffic disruption to the area. Construction of these bridge projects is expected to occur in 2008-2009. Preliminary engineering was started for the rehabilitation of the N. Prospect Ave. Bridge over Oak Leaf Trail. The work will consist of replacing the concrete filled steel grating with a new concrete deck, painting the structural steel, and making repairs to the substructure elements. Work is scheduled for construction in 2008.

A Request for Proposal was prepared, and an outside consultant was selected, for performing an engineering analysis, cost estimates, and recommendations for the rehabilitation of the North Teutonia Avenue Bridge over Silver Spring Drive. The propose scope includes replacing the bridge slab, replacing the steel railing with crash tested rails, and performing a structural and traffic analysis for the incorporation of a single point intersection to reduce the traffic accidents at the site. Rehabilitation of the bridge is expected in 2008.

Final plans, specifications, and cost estimates were reviewed for the construction of a bicycle bridge over Chase Avenue and the rehabilitation of the abandoned Union Pacific Railroad bridges over Greenfield Avenue and Kinnickinnic Avenue. The acquired railroad bridges and new bicycle bridge will eventually become part of the Kinnickinnic River Bicycle Trail funded through a Congestion Mitigation and Air Quality grant. Construction of the bridge is expected in 2007.

The Canal Street Bridge over the CPRR and the Canal Street Viaduct over the Menomonee River were opened to traffic in April. The bridges are part of the Canal Street extension from 25th Street to Miller Parkway. The bridges and roadway provide access to the former Milwaukee Railroad yard and shops for development and accommodate a continuous roadway and multi-use trail from 6th Street to Miller Park.

Bridge Inspection

This area performed inspection on 154 bridges which the City maintains. The bridge inspection reports were entered into the Highway Structures Inventory System (HSIS) database and copies were submitted to Milwaukee County and WisDOT. The bridge inspections were performed in accordance with the State of Wisconsin Structure Inspection Manual and National Bridge Inspection Standards. Copies of the reports and photos of the deficiencies were given to Bridge Maintenance for their use in scheduling and prioritizing repair work

Parking Structures

Final plans and specifications were prepared and a contract was let for expansion joint replacement and waterproofing of selected areas for the 1000 N. Water Street Parking Structure. The work required shutting down the entire upper levels of the

parking structure to allow the work to be completed. The contractor successfully completed the majority of the work over the July 4th weekend, resulting in minimal disruption to parking patrons.

Final plans and specifications were prepared and a contract was let for work on the MacArthur Square Parking Structure. This work consisted of painting the walls, columns, and lane striping of the westerly half of the lower level, painting of the lobby areas on the 9th Street level, and concrete repairs to the columns, walls, and on-grade slab in the painted areas. This work was completed in September and is a continuation of a multi year program to provide a safer and brighter appearance for the parking structure.

In accordance with the City of Milwaukee's façade critical examination ordinance, reports were prepared and submitted for both the Milwaukee-Michigan and 4th and Highland parking structures. The inspections classified both structures as safe, with minimal maintenance required to maintain the structural integrity of the façade.

Using information gathered from the area's 2005 inspection of the City owned parking structures, recommendations were given both for short and long term repair needs to Parking Administration. This information was used to prepare a recommended Capital Improvement Program for the parking structures.

Miscellaneous Structures

This area continued to provide engineering review and contract administration for the Department of City Development in connection with the Milwaukee Riverwalk initiative. The area's responsibility included review and recommendations for approval on all contracts, plans and specifications, construction budgets, change orders and payments, shop drawings and construction field reports for the Riverwalk development. The following riverwalk projects had activity in 2006.

Construction was completed for the Riverwalk System Upgrade Project, which included installation of new riverwalk signage and ornamental trellises for the Downtown Riverwalk system, and the 2060 N. Humboldt Riverwalk adjacent to the Humboldt Street Bridge on the north side of the Milwaukee River. The Phase 1, Phase 2, and Downstream Parcel portion of the Harborfront Riverwalk adjacent to Erie Street at the mouth of the Milwaukee River was substantially completed. Conceptual plans and estimates were reviewed for the riverwalk for the North End project generally bounded by N. Water Street, the Milwaukee River, E. Cherry Street, and E. Pleasant Street and the riverwalk at First Place located at 100 W. Seeboth along the Milwaukee River. Plans, specifications, and budget were reviewed for the River Renaissance Riverwalk at 102 North Water Street and construction on that segment of riverwalk started with completion expected in summer of 2007.

Structural analysis was performed for various repair and construction projects including bridges, hollow walks, public buildings, firehouses and bridges with overload vehicles. The following is a summary of some of those projects. A structural inspection, analysis, and estimate were prepared for a replacement lift elevator at the City Hall main entrance. A structural inspection and recommendations were given for the replacement of the floor slab of the Milwaukee Fire Department Engine House #2. Structural analysis was performed and details were prepared for reinforced foundations for eccentrically loaded street light poles. A structural inspection and recommendations were given for damage caused from vehicle impact for a support column at the Milwaukee Police Department Police Station #6 and Milwaukee Fire Department Engine House #4. Final plans were reviewed for the proposed Potawatomi Casino connector bridge with the 16th Street Viaduct. Estimates were prepared for a proposed bridge over the Canadian Pacific Railroad for the Menomonee Valley Rail Transit and a series of pedestrian bridges over the Menomonee River in the Menomonee Valley.

A contract was let for the repair of the steel piling for the Becher Street Bridge over the Kinnickinnic River. Construction is expected to be completed in 2007.

Analysis of bridges for permit overload vehicles has increased yearly as the numbers of permit applications and enforcement has increased. 516 bridge analyses of overload vehicles were performed in 2006. The overload review and analysis process was streamlined by this unit to allow a timely response to the permit desk to avoid trucking delays.

Electrical Services Unit

Electrical Services serves the City of Milwaukee by overseeing the operation, maintenance and installation of facilities and equipment related to street and alley lighting, traffic control signals and street signage. In addition, in 2006 the Traffic Sign and Machining Shops were transferred to this unit.

Traffic Signal Services.

The Traffic Services area operates and maintains 722 controlled intersections in the City of Milwaukee.

This unit performed the required traffic signal work to accommodate various construction improvement projects including:

- W. Capitol Dr (N. 36th St to N. 60th St)
- S. Clement Ave (E. Howard Ave to S. Whitnall Ave)
- N. 91st St (W. Flagg Ave to W. Mill Rd)
- N. 11th St (W. Windlake to W. Bruce St)
- S. 20th St (W. Grange Ave to W. Layton Ave)
- W. Wisconsin Ave Streetscaping improvement – Phase III and IV featuring countdown pedestrian heads.
- Marquette Interchange project
- Temporary overhead wiring was installed at various intersections to accommodate various construction projects.

In addition, various maintenance activities are required to maintain existing City facilities in good operating condition:

- Hazard elimination project at 27th & National. This involved the addition of 12" signal heads, mast arms, reflective backboards located behind signal heads, upgraded to LED and countdown pedestrian heads.
- Two-way conversion of State St. and Wells St. from 6th St. to 11th St. and Saint Paul from Water to 2nd St.

Bike-to-Work Week Celebrated by Barrett and Bicycle Enthusiasts
City Receives Bronze-Level Bicycle Friendly Community Award

Mayor Tom Barrett celebrated national Bike-to-Work Week on Monday, May 15th, by riding from his home in Washington Heights to the Zeidler Municipal Building where he joined other bicyclists for a press conference to promote cycling as an alternative mode of transportation. The majority of the riders were members of the Bicycle Federation of Wisconsin who help to plan other activities for week. Riders were rewarded by coffee and breakfast rolls provided by Alterra Coffee.

"I am a huge proponent of bicycling in the city as a way to cut down on traffic and emissions from cars and to encourage residents to get more exercise," said Mayor Barrett. "I encourage Milwaukeeans to get on their bikes and enjoy them. It is important to me that Milwaukee continues to find ways to make our City more bicycle and pedestrian friendly."

Jessica Weinberg, Bicycle Federation of Wisconsin, at podium addresses the media as she speaks of the increased opportunities for Milwaukee residents to enjoy bicycling. Mayor Barrett addressed the media and the bicyclists earlier.

Milwaukee was recently recognized for the first time as a bronze-level Bicycle Friendly Community by the League of American Bicyclists. The criteria was based on a number of things including having a bike map to promote routes, how many miles of existing bike lanes are available and does the City have a pedestrian and bicycle coordinator?

This year the City could answer affirmatively on all questions. The Milwaukee by Bike map was launched last year and is available in paper form and online. The City now has a total of 45 miles of bike lanes and 75 miles of bike routes, made possible by Federal grant money. The City also has a Pedestrian & Bicycle Coordinator, Dave Schlabowske, hired in 2005. Schlabowske comes to City with a wealth of experienced gained while working at the Bicycle Federation of Wisconsin. He was involved in a lot of the City's bicycle initiatives prior to becoming a staff member.

The overall sentiment of the press conference was to not only encourage residents to bike to work during the designated national Bike-to-Work Week, but to keep the spirit of biking alive all year long.

- Hazard response project at W. Atkinson Ave and N. 32nd St. The project included a radar detection unit which displays current vehicle speed and blinking Chevron signs.
- Installation of a dual pedestrian crossing at 6750 W. Industrial Rd. featuring blinking LED pedestrian signs mounted on mast arms.
- Installation of audible pedestrian crossing at the intersections of W. Reservoir St. and N. 6th and N. Hawley Rd. and W. Bluemound Rd.
- Cabling and hardware was completed for an additional 9 intersections for the Milwaukee Fire Department Opticom (traffic signal interruption) system.
- Completed the new upgrade of 140 signaled intersections from incandescent lights to LED technology for improved energy savings.
- Ongoing response to signal outages and damaged facilities.

Street Lighting Services.

Street Lighting operates and maintains over 72,000 street lights and 12,000 alley lights and associated facilities to ensure City neighborhoods and roadways are well-lit. Personnel responded professionally around the clock to citizen requests, Alderperson's service requests, contractor damages and departmental priorities.

In 2006, approximately 2,400 underground troubles were reported and repaired, 2,000 light pole knock downs were replaced or repaired, 4,300 street lighting lamps were replaced in grouping or scattered locations and 2,100 alley lights were replaced or repaired.

This unit performed the required street lighting work to accommodate various major construction improvement projects including:

- W. Capitol Dr (N. 36th St to N. 60th St)
- S. Clement Ave (E. Howard Ave to S. Whitnall Ave)
- N. 91st St (W. Flagg Ave to W. Mill Rd)
- N. 11th St (W. Windlake to W. Bruce St)
- S. 20th St (W. Grange Ave to W. Layton Ave)
- W. Wisconsin Ave. Streetscape (N. 4th St to N.10th St)
- W. Wisconsin Ave. Streetscape (N. Milwaukee St. to E. Mason St.)
- East North Avenue (N.Breman St to N. Booth St)
- Marquette Interchange including various bridge lighting components
- W. Canal St (N.25th St to Miller Park)
- Josey Heights new subdivision

Work commenced on street lighting conversions/replacements including the WX 7-8 circuit conversion where transclosures were installed and energized along with the entire job being bored awaiting cutover. A portion of the west side of the City had lighting cabling converted.

Traffic Sign Shop.

The Traffic Sign Shop oversees the fabrication, inventory, installation and maintenance of all the traffic, parking and specialty signage in the City as well as the painting maintenance of all traffic centerlines and lane lines and crosswalks. In 2006, the following was accomplished

- Completed 1800 conversions/replacements of the school crossing sign program.
- Completed 375 conversions/replacements of the stop signs program.
- Printed over 300 signs for the Election Commission
- Designed and printed 500 blue plastic "Construction Signs"
- Designed, printed and installed folding traffic signs for Miller Park.

Machine Shop.

The Machine Shop provides the support for routine and specialty machining services for the Electrical Services group including:

- Designed and fabricated a new mast arm for the "JR-Poles."
- Repaired numerous poles and bases for the Marquette project
- Built over 20 new JR style mast arms for the Traffic Signal Shop
- Repair of boring machines used by Electrical Services

Department of Public Works Receives Three Mayor's Urban Design Awards

The Mayor's Urban Design Award recognizes design excellence throughout Milwaukee. This project respects the urban fabric and contributes to the character of its surroundings, adding value to the neighborhood.

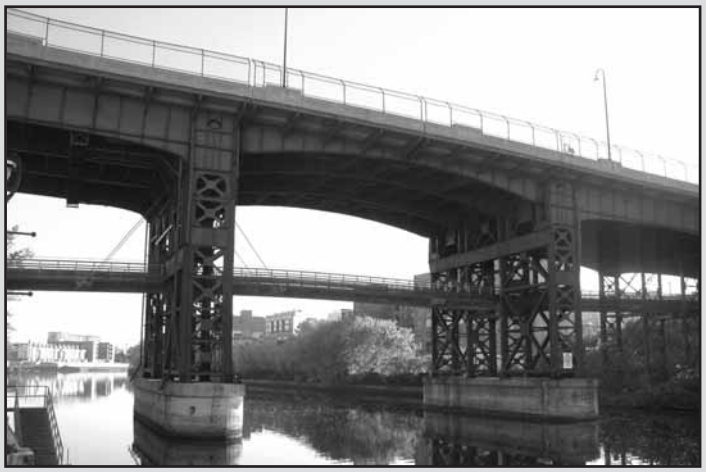
The three Department of Public Works projects which received the award in January 2006 were the Marsupial Bridge (beneath the Holton Street Viaduct), the Sixth Street Bridge, and the Booth Street Stairs.

The Marsupial Bridge, located underneath the Holton Street Bridge, was recently completed in 2005. The bridge is a pedestrian and bicycle path crossing the river and is suspended from the Holton Street Bridge. The unique design was created by La Dallman Architects. The bridge has received rave reviews for its stylish design which incorporates a deck of Brazilian ipe wood and a railing of gleaming mahogany slats topped by stainless steel. Lighting is built into the bridge to provide illumination at night, and on the Water Street side there are several low slung concrete benches in a plaza like area. The sleek, sweeping design by La Dallman connects two neighborhoods, the Riverwest area and Brady Street. The Marsupial Bridge is part of the Crossroads Project undertaken by the Brady Street Business Association to assist with the revitalization of the Brady Street area and surrounding neighborhoods.

The Sixth Street Bridge, completed in 2002, replaced a 1908 viaduct which had been the primary link between Milwaukee's downtown and its southside. The bridge, besides being a stunning landmark and visual symbol of the growing vitality of the surrounding neighborhoods, is an important direct connection to the Menomonee Valley. The old viaduct passed over the valley and connected to it via hard to access ramps and stairway at Canal Street. The new system of roadways and bridges follows a similar footprint but includes an at-grade intersection with Canal Street and Milwaukee's first-ever roundabout on the south end. The Sixth Street Bridge is just as visually exciting at night as it is during the day. The concrete pylons rise 145 feet above the Menomonee Valley and are "up-lit" at night. The bridge has won several awards for design, local and state. It also received national attention as well.

The striking design of the Sixth Street Bridge is even more spectacular at night. The concrete pylons are "up-lit" at night.

The Booth Street Stairs is a part of the Beerline "B" redevelopment area. Beerline "B" is a former industrial corridor located along the Milwaukee River from Pleasant Street to Humboldt Avenue. The staircase rises above Commerce Street, one the fastest growing housing markets in the City, and includes a walkway and viewing platform with connections to a mid-bluff path and bike trail. Vetter Denk, the architect of the stairs, is also the architect of the 63-unit River Homes condos along the Commerce between Humboldt Avenue and Holton Street. The stairs have a cabled steel railing, concrete deck and a progression of square, steel arches that are purposely designed to rust. The Booth Street Stairs provides a connection between the Brewers Hill neighborhood at the intersection on Booth and Glover Streets, and the Beerline "B" neighborhood along Commerce Street.



The Marsupial Bridge provides a connection for the Riverwest neighborhood and Brady Street. There are plans to add stairs from Commerce Street to the bridge.

The viewing platform of the Booth Street stairs projects over Commerce Street.

Milwaukee Water Works

Zeidler Municipal Building
841 North Broadway, Room 409
[414] 286-2830
www.mpw.net

Milwaukee
Water Works

Safe, Abundant Drinking Water.

Carrie Lewis, *Superintendent, left*
Laura Daniels, *Administration and Projects Manager*

The Milwaukee Water Works (MWW) provides safe, abundant drinking water to the City of Milwaukee and 15 communities. The Water Works' mission is to provide drinking water that is exceptional in quality and is healthier than any standards set by regulators. The Water Works exceeded that goal throughout 2006.

Milwaukee water is an excellent value. The average cost per person per day for water in 2006 was 8.5 cents. And, only tap water delivers clean water to protect public health, provides water and pressure for fire suppression, and supports the regional economy and the overall quality of life in the Milwaukee area.

The MWW is a self-financing enterprise owned by the City of Milwaukee and regulated by the Public Service Commission of Wisconsin, the U.S. Environmental Protection Agency (EPA), and the Wisconsin Department of Natural Resources.

The Milwaukee Water Works is a source of revenue for the City of Milwaukee. In 2006, the utility paid to the city $7.5 million in the form of a payment in lieu of taxes (PILOT). This payment was used to directly offset the city tax levy, reducing the 2006 tax rate by $0.25 per thousand dollars of assessed valuation. The Water Works pays other city departments for the municipal services it uses and for the payment of employee benefits.

Suburbs that are retail customers who receive water, billing service, and maintenance of their piping systems include a small portion of Franklin; Greenfield, Hales Corners, St. Francis, and West Milwaukee, which provides its own maintenance.

Wholesale suburban customers, receiving water only, are Brown Deer, Butler, Greendale, Menomonee Falls, We Energies Water Services for part of Mequon and Thiensville, Milwaukee County Grounds facilities, New Berlin, Shorewood, Wauwatosa, and West Allis.

The organization of the Water Works focuses on the key tasks of delivering exceptional quality water:

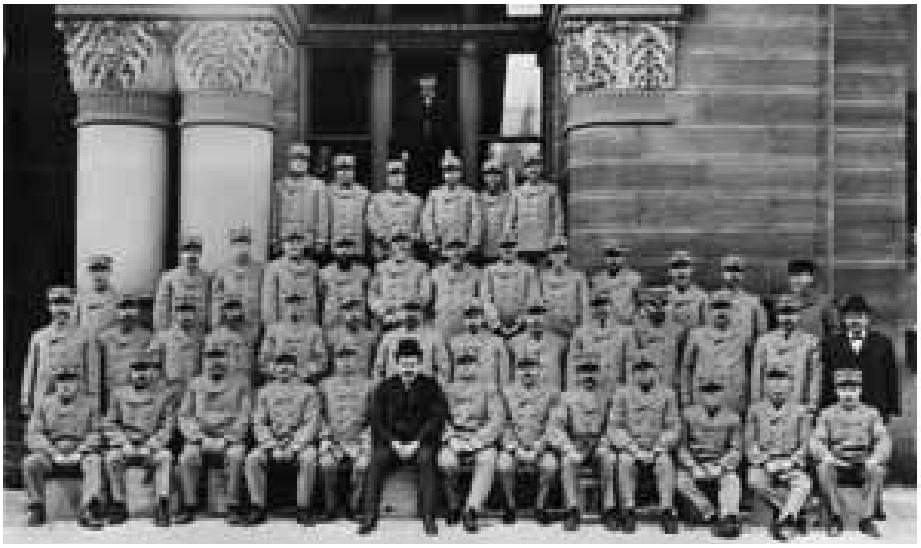
- Water Treatments Plants, Linnwood and Howard Avenue. The Water Works treats Lake Michigan water with a multiple-step process to protect public health. Ozone gas, one of the most powerful disinfectants available, destroys microorganisms, minimizes formation of chlorinated disinfection byproducts, and removes taste and odor. Coagulation, settling, and filtration remove additional particles. Fluoride is added for dental health.
- The Water Quality Section conducts continuous process control monitoring and validates the tests in its laboratories, leading the nation in its thoroughness. The Water Works continually meets EPA requirements to test for 90 regulated contaminants, and voluntarily tests for over 500 non-regulated contaminants to assure the highest quality water. Most of the contaminants are not detected.
- Distribution crews repair and maintain the water piping system throughout Milwaukee and the utility's retail customer suburbs to ensure continuous delivery of sufficient high quality water.
- The Water Engineering Section is an internal resource for the utility, responsive to applied research needs and coordinator of the Capital Improvements Program (CIP). The CIP projects are planned to increase efficiency and maintain the reliability of the entire Water Works system.
- The Business Section includes Accounting, Meter Services, Customer Service, Billings and Collections, and Water Marketing.

Highlights of 2006

Consolidation of two distribution yards and 24-hour Control Center at the new DPW Field Headquarters

Three Water Works Distribution work units were consolidated into a single work unit at the new location at 3850 N. 35th St. The new facility was designed specifically to allow efficient and flexible operations.

- Additional garage space is an enormous advantage for the Water Works. For the first time since the early 1960s, the utility can accommodate emergency response vehicles in a heated garage. Forty-five percent of the emergency response work



As part of its 135th anniversary observation, the Milwaukee Water Works displayed historic photos from its archives at City Hall.

is in December, January, and February, so a heated garage keeps vehicles and personnel warmed up and ready to go.

- The new yard provides overhang bin storage along the east side of the building, protecting materials from the weather. Heated floors underneath the ground and backfill chips inventory prevent materials from freezing in inclement weather.
- New shop areas provide state-of-the art lighting and ventilation for shop work and adequate space for safe storage of materials. Water Works can now easily collaborate with colleagues in Infrastructure and Operations staff to eliminate duplication and expand expertise.
- The Water Works' 24-hour Control Center moved to the Field Headquarters from the Municipal Building where it had originated in 1959. This led to integration of the dispatch function and information sharing directly within Distribution operations.
- With Municipal Equipment mechanics on site, preventive maintenance of vehicles is performed on site during second shift. This improves productivity by eliminating the need to shuttle vehicles between Distribution work facilities and vehicle maintenance facilities.

Customer Information System project

Upgrades to the Water Works' Customer Information System (CIS) strengthened the accounting integrity of the various fees on the Municipal Services Bill. The enhanced flexibility of the system allowed for the billing of the Storm Water Management Charge starting in 2006. This was also the first full year using a new multi-functional telephone system. Groundwork was laid for the new interactive Web page. Nearly 300 customers contacted the Water Works through the website email address. Customers are now able to view account balances and make address changes using the web page, and in the near future, will be able to pay their Municipal Services Bill online.

Canal Street Water Main project

A plentiful supply of water used to respond to the gas explosion and fire in December at the Falk Corp. in the Menomonee Valley proved the value of continuous investment in infrastructure. Just over a year before the blast, through the Milwaukee Water Works' capital improvement program, DPW began a $1.05 million water main extension project to provide new and enhanced service to the redeveloping valley.

The project linked one mile of 12" water main in the newly realigned West Canal Street from S. 32nd St. to S. 44th St. to a 12" main at 32nd St. and a 30" main in 44th St. There had been no water main in that portion of Canal Street. The improvement allowed the Falk Corp. to feed its fire protection system from a 12" branch off the new main. The previous connection was an 8" branch off of a 12" main with only one source of supply. The improved fire flow capabilities of the water mains in the valley gave the Milwaukee Fire Department plentiful, pressurized water to control and suppress the fire that raged after the explosion.

Kilbourn Reservoir Park

A "greening Milwaukee" project began in 2006 with the physical deconstruction of the Kilbourn Reservoir just west of E. North Ave. and N. Humboldt St. After 125 years of service, the Water Works determined the structure was no longer needed, and has sought input from neighborhood groups since 2004 to design a new park. Storm water management calculations show that 3.63 acres of pavement will be returned to water-absorbing vegetation once the project is complete.

The final shape of the hill, once the reservoir is removed, was a topic of much discussion and study during the master planning process with neighbors and elected officials. General consensus was that the south end of the hill should stay about the same shape and without the reservoir underneath, the top of the hill would be about five feet lower than with the reservoir. This would allow for a large, flat plateau at the top and would meet the guideline of preserving the hill as a landmark with an unmatched view for the neighborhood.

The center, east, and west sides of the hill are to be reduced in height, with the sides shaped to an ADA-accessible slope and the center shaped like a large bowl to provide a sledding hill and a natural amphitheater setting. The east, west, and north sides of the old reservoir will have a paved path that outlines the old shape of the reservoir and allows access to the upper reservoir overlook. The north end of the site will be significantly re-graded to create a much larger flat park-like area than what currently exists.

By December, the contractor had made significant progress on the demolition of the internal structure of the reservoir. Removal of certain non-historic trees and weedy overgrowth was completed. Following demolition of the structure under the hill, the contractor will bring in soil and grade to re-form the hill. Landscaping and plantings will follow.

135 Years of Water Service

Milwaukee's drinking water utility observed its 135th anniversary with Mayor Tom Barrett and members of the Common Council by encouraging community stewardship for maintaining water infrastructure for future generations. The Milwaukee Water Works' anniversary activities and public education campaign focusing on the value of a safe, reliable drinking water supply received a Utility Special Achievement Award from the Wisconsin Water Association.

Water quality personnel use the treatment plant laboratories for process control monitoring and to collect samples for over 500 non-regulated contaminants, in addition to 90 regulated contaminants required by the Environmental Protection Agency.

Mayor Tom Barrett (center) and Common Council President Willie Hines (second from left) salute "filling at the tap" in honor of the Milwaukee Water Works' 135th anniversary in May. Joining them (l-r) are Master of Ceremonies Commissioner Jeffrey Mantes (l), Ald. Robert Puente, Ald. Terry Witkowski, Milwaukee Water Works Superintendent Carrie Lewis, and Ald. Michael Murphy.

Top Honor for Milwaukee's Water Superintendent

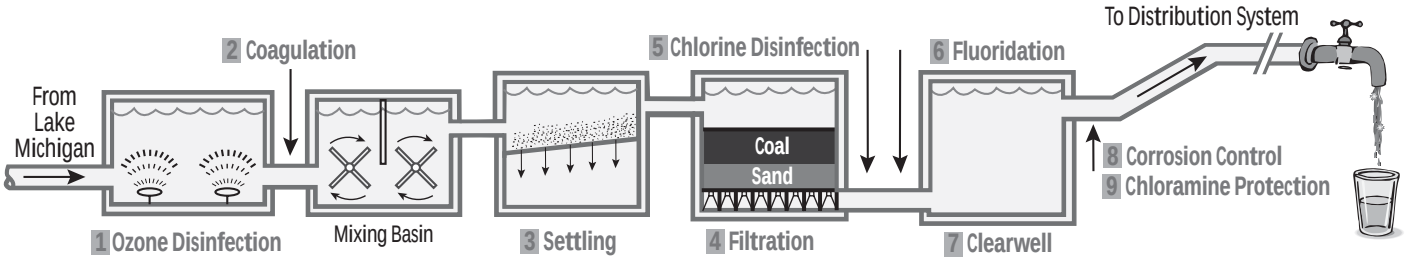
In September, Milwaukee Water Works Superintendent Carrie M. Lewis received the American Water Works Association (AWWA) George Warren Fuller Award, the drinking water industry's highest honor for leadership and contributions toward the advancement of the water works practice. The co-author of two books on particle counting in drinking water treatment, Lewis has been published over 30 times by the AWWA, the AWWA Research Foundation (AwwaRF), Centers for Disease Control, and various public health associations. Lewis was featured in the March 2006 AWWA *Journal* commemorating the 125th anniversary of the AWWA.

Lewis directed the reorganization of the Water Works that resulted in the 2003 Association of Metropolitan Water Agencies Gold Award for competitiveness and financial efficiency. She has served with numerous AwwaRF Project Advisory Committees contributing to reports of topics ranging from treatment plant optimization to water system security. Lewis assists a Project Advisory Committee writing Critical Information Policies for Water Utilities, and serves on a Milwaukee countywide critical infrastructure protection group.

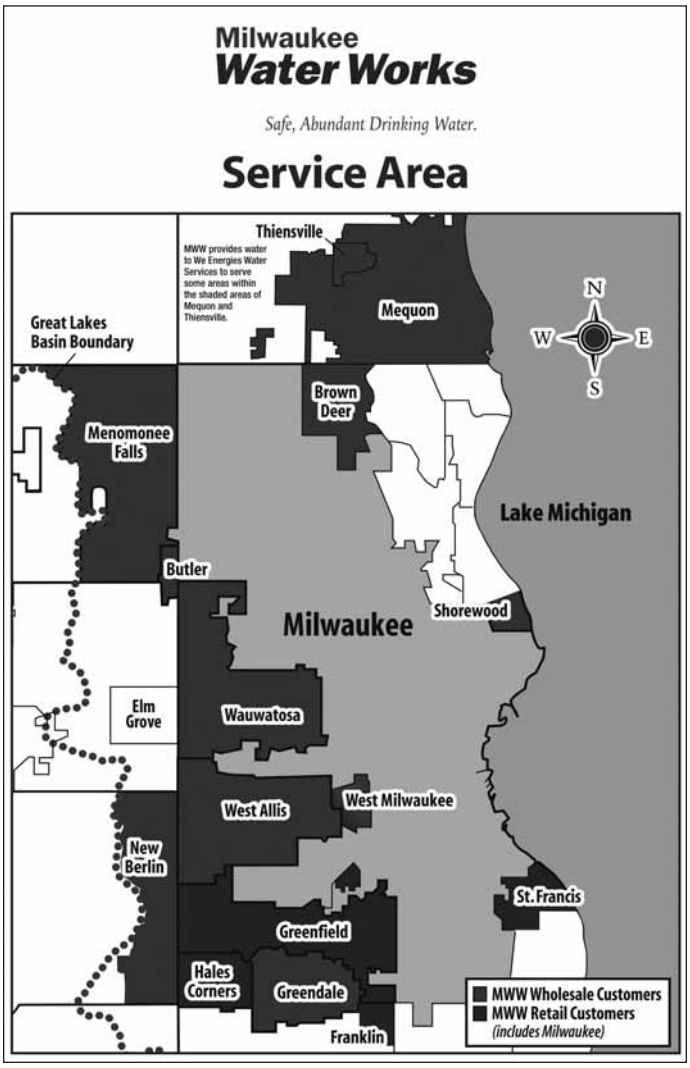
Recruitment of Large Water Customer

The joint business recruiting and retention efforts of the Milwaukee Water Works and other development agencies led to the Cintas Corp. decision in 2006 to locate an $8.5 million industrial laundry in Milwaukee. Cintas' decision to build in the city and create up to 125 jobs was driven by Milwaukee's superior water supply and distribution system, according to the Milwaukee Economic Development Corp.

Milwaukee Water Works Drinking Water Treatment Process



1. **Ozone Disinfection —** Ozone gas is bubbled through the incoming lake water. Ozone destroys disease-causing microorganisms including *Giardia* and *Cryptosporidium*, controls taste and odor, and reduces chlorinated disinfection byproducts.
2. **Coagulation —** Very fine particles in the water adhere together to form larger particles as the coagulant alum is mixed into the water. Large particles are more effectively removed during the settling and filtering processes.
3. **Settling —** Settling is the process in which solid particles settle out and are removed from the water.
4. **Filtration —** The water is slowly filtered through 24" of anthracite coal and 12" of crushed sand to remove very small particles.
5. **Chlorine Disinfection —** After filters, chlorine is added as a secondary disinfectant. This provides extra protection from potentially harmful microorganisms.
6. **Fluoridation —** Fluoride, when administered at low levels, is proven to help prevent tooth decay.
7. **Clearwell —** Treated water is stored in deep underground tanks and pumped as needed through the distribution system.
8. **Corrosion Control —** A phosphorous compound is added to help control corrosion of pipes. This helps prevent lead and copper from leaching from plumbing into the water.
9. **Chloramine Protection —** Ammonia changes the chlorine to chloramine, a disinfectant that maintains bacteriological protection in the distribution system.



2006 Statistics

General Information About Milwaukee

Altitude (City datum) . . . . . 581.2 feet
City Area. . . . . 96.1 square miles
Geographic Center . . . . . North 42nd Street and West North Avenue
Shoreline of Lake Michigan in City. . . . . 10.2 miles
Incorporated by Wisconsin Charter. . . . . January 31, 1846

General Information About Milwaukee's Infrastructure

Alleys, total . . . . . 414.2 miles
Freeways . . . . . 40.1 miles
Paved City Streets . . . . . 1,418.4 miles
Unpaved City Streets . . . . . 2.1 miles
Total city streets . . . . . 1,450.5 miles
Miles of lighted streets . . . . . 1,288.63 miles
City maintained bridges 203
Movable bridges 21
Total bridge openings 13,338
Total sewer mileage in operation
(Sanitary, storm and combined) 2,439
Streets with interim lighting . . . . . 81.96 miles
Unlit streets . . . . . 47.41 miles
Street lighting units 67,702
Alley lighting units 8,803
Traffic control signals . . . . . 731 intersections
Traffic control signs 107,080
Underground conduit. . . . . 556.1 miles
Bus stops, signage maintained. 4,267

Milwaukee Water Works

Howard Avenue treatment
plant rated capacity . . . . . 105 million gallons per day (MGD)
Linnwood treatment plant rated capacity . . . . . 275 MGD
Average daily pumpage 2006 . . . . . 115 MGD
Total gallons sold 2006 . . . . . 35.5 billion gallons
Total length of all water mains in service . . . . . 1,964 miles
# of meters in service 161,618
# of fire hydrants in service 19,780
Population served 849,981
Area served . . . . . 195 square miles
Average daily use per person . . . . . 52 gallons
Cost of drinking water: four gallons for one cent
or 100 cubic feet (748 gallons) for $1.22
MWW payment to city for taxes and services used: $7,460,814
Retail customers: (water, billing service, maintenance) Franklin, Greenfield, Hales Corners, St. Francis, West Milwaukee (provides its own maintenance)
Wholesale customers: (water only): Brown Deer, Butler, Greendale, Menomonee Falls, We Energies Water Services for part of Mequon, Milwaukee County Grounds facilities, New Berlin, Shorewood, Wauwatosa, West Allis.

Sanitation

Residential waste collected . . . . . 190,895 tons
Recyclables collected . . . . . 25,301 tons
Leaves & yard waste collected & composted . . . . . 27,026 tons
Snowfall (January – December). . . . . 31.8 inches
General snow plowings 3
Ice control operations. 22

Forestry Division

Trees on city streets 200,000
Shade trees planted 3,520
Trees pruned 42,644
Trees removed (all causes) 3,617
Stumps removed. 3,479
Boulevard medians & greenspaces maintained . . . . . 476 acres
Flowers produced, annuals 311,387
Flowers planted, annuals 141,156
Flowers planted, perennials. 1,561
Flowers planted, bulbs 18,000
Shrubs planted 45
Landscaped boulevard medians . . . . . 121.8 miles
Greenspaces maintained 59
Totlots maintained. 57
City properties maintained 20
Service requests 14,702

Infrastructure Services – Sewer Designa and Maintenance

Sewers examined . . . . . 96.2 miles
Sewers cleaned . . . . . 394 miles
New Sewers 3.74
Replacement sewers. 7.61
Sewer lining 3.49
Service class answered 8747

Fleet Services

Repair Orders. 28,738
Preventive Maintenance Inspections Performed 6,618
Tires Mounted. 3,431
Field Service Calls, Tires 3,535
Field Service Calls, Other 8,800
Stockroom Activity 4,559,436
Vehicles Serviced
Automobiles 120
Vans. 163
Pickups. 306
Police Units 679
Parking Enforcement 52
Packers, Rear Load 131
Packers, Front Load and Roll-off 20
Packers, Recycling 49
Tractors 64
Street Sweepers. 27
Sewer cleaners, flushers, etc 17
Construction equipment 499
Trucks, all other 398
Compressors. 82
Vehicle Total. 2,607
Non-Automotive equipment 1,512
Total Serviced 4,119

STREET AND BRIDGE MAINTENANCE

Bridges, inspected 195
Bridges, number of openings 13,338
Pavement seal coating (square yards) 202,448
Asphalt surface by contract (tons) 4,180
Asphalt patching (tons) 10,344
Crack filling (square yards) 416,208

Zeidler Municipal Building, 841 North Broadway, Room 501 • [414] 286-3300 • TDD [414] 286-2025