INFRASTRUCTURE SERVICES DIVISION
DEPARTMENT OF PUBLIC WORKS

REPORT ON 2003 ACTIVITIES

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 265 positions over the past 9 years to a level of 992. In 2003, 1,309 Alderman Service Requests were received, a 25% increase over the number received in 2000.

ADMINISTRATION SECTION

The Administration Section 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 Section coordinates accounting functions along with the Department of Public Works Administration Services Division and the Comptrollers Office. The accounting services provided by the Section include establishing projects, recording payments, monitoring costs, and closing project budgets and expenditures for the Transportation Section and Environmental Section in coordination with the Construction Section. In addition, the Section is involved in accumulating, categorizing, recording and reporting operation and maintenance expenditures for the Division. The Section 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 2003, the Section administered Capital Improvement and Grant and Aid Programs in excess of $48.3 million, an Operations and Maintenance budget of over $16 million, and payroll of nearly $23 million. Capital expenditures for the 2003 Sewer program were just under $20 million. The Section processed 315 payments to contractors for sewer capital projects and payments for other City projects. The 2003 expenditures for these contract payments totaled over $38 million. In addition to processing payments and monitoring construction contracts, the Administration Section provides support to other areas of the ISD on financial matters. The Section 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 2003, Highway Aids in the amount of $24,244,761 were received by the City of Milwaukee. The net expenditures related to DPW-Infrastructure activities, using a 6-year average (based on 2002) of 58.7% applied to this total, resulted in approximately $14,231,674.71 of aid received. In addition, $584,539 was received for reimbursement of costs incurred in maintaining and operating lift bridges on the connecting highway system program. Also, $1,973,816.00 was received for Connecting Highways within the City of Milwaukee, reflecting a percentage of actual costs. 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 Section 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 Section also provides support for the day to day operations of the computer systems within the Division and acts as liaison with other computer support areas within the City. This support includes hardware and software maintenance of the 77 GIS/CADD units, 195 general-purpose units and 10 special purpose units within the Division. During the past year, the Section replaced 23 of the GIS/CADD units and 39 general-purpose units for Division users. In addition, hardware was reconditioned, reconfigured, updated and reinstalled for many Division users. This section was responsible for responding to several serious virus attacks upon the Division's systems in 2003. This section generated various ad-hoc reports from data contained in the Division's data bases, maintained the database system that is used by the Transportation and Construction Sections to administer paving and walk contracts, and helped users deal with process changes caused by changes in other City departments.

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.

At the start of 2003, the Underground Operations unit moved from the Field Operations Section to become part of the Environmental Section. Underground Operations is also funded through the Sewer Maintenance fund and 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 2003 by the Environmental Section.

Sewer Design Area

The Section designed and let to contract 0.81 miles of new sanitary sewers, 13.11 miles of replacement sewers and 2.00 miles of sewer lining for a total cost of $25.10 million. These projects included:

West Vliet Street Replacement Sewer

A $645,000 contract was awarded for the construction of a combined sewer in West Vliet Street between North 6th Street and North Dr. Martin Luther King, Jr. Drive. The size of replacement pipe varies from 48-inches to 60-inches in diameter. This sewer will replace an existing pipe that varies from 36-inches to 48-inches in diameter in order to provide adequate hydraulic capacity. This contract included an additional combined sewer relay in North Dr. Martin Luther King, Jr. Drive from West Vliet Street to West Cherry Street, as well as the alley bounded by North 4th Street, North Dr. Martin Luther King, Jr. Drive, West Cherry Street and West Vliet Street.

East Auer Avenue Sewer Project

A $2,030,000 Contract was awarded for the construction of 72-inch diameter combined sewer to replace the existing 60-inch diameter combined sewer located in East Auer Avenue from North Richards Street to North Booth Street. The existing 60-inch diameter combined sewer was constructed in 1925 and was in poor structural condition. Approximately 907 linear feet of 72-inch diameter combined sewer was built with tunnel section to avoid utility conflicts and to reduce the impact on the traffic flow. This rehabilitation method also minimized surface disturbances and disruption to the area residents.

West Blue Mound Road Project

Contracts were awarded in West Blue Mound Road at various locations between North 50th Street to North 65th Street. These projects were performed to replace structurally and hydraulically inadequate storm, sanitary, and combined sewers in anticipation of a State of Wisconsin paving project in West Blue Mound Road from North Story Parkway to North 66th Street. The combined total of these three projects is $695,090. Approximately 3,300 feet of sewers ranging in size from 8-inch to 36-inch is being relayed.

West National Avenue Project

A $1,237,000 contract was awarded in August of 2003 for the construction of various sizes of combined sewer in West National Avenue at various locations between South Cesar E. Chavez Drive and South 34th Street. The existing combined sewers were in poor structural condition. This sewer work will provide adequate hydraulic capacity to the service area of the system.

West Dakota Street Lining Project

A $622,000 contract was awarded for the rehabilitation of a 1,050 feet 78-inch diameter combined sewer located in West Dakota Street between South 10th and South 13th Streets. The pipe will be rehabilitated by the cured-in-place liner method.

Storm Water Management Area

Storm Water Management Plan Review

On January 1, 2002, the City adopted a revised storm water management ordinance. Regulations imposed by both the Wisconsin Department of Natural Resources (WDNR) and the Milwaukee Metropolitan Sewerage District (MMSD) are reflected in this ordinance. The ordinance requires that a storm water management plan be submitted to and approved by the City Engineer for construction or reconstruction activities on parcels of land greater than one acre or where there will be a net increase of 0.5 acres of impervious surface. This change has resulted in an approximately 50% increase in the number of storm water management plans being submitted and approved.

In 2003, the Section reviewed 128 storm water management plans, with 117 being approved. To comply with MMSD requirements, 20 of the storm water management plans were forwarded to the MMSD for their review. The MMSD approved all 20 of these plans.

Illegal/Illicit Discharge Testing

Field-testing of storm water 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 593 dry weather tests during 2003. Of these tests, 292 were at the outfall and 301 were at points upstream from the outfall.

The dry weather testing identified two locations as being potential sources of pollution. Dye testing was performed at both locations and a cross-connection was found at one of the locations. No illegal/illicit connections were found at the other dye test location.

Lyons Creek Study

During 2003, the Section completed the initial testing phase of the Lyons Creek study with the assistance of the United States Geological Survey (USGS). This study would determine the effectiveness of storm water pollution prevention information and education (I&E) programs on reducing pollutants in urban streams. A sampling site was located near the intersection of South 55th Street and West Holt Avenue and a control site was established near the intersection of South 18th Street and West Ramsey Avenue. Based on the results of the testing, it was determined, in conjunction with the WDNR, that the two sites were not compatible for the study to advance at this time. The Section, with the WDNR, will be looking for a different sampling site that would be more compatible with the established control site.

Regional Wet Detention Facility

In 2002, a consulting firm was engaged to design a regional wet detention basin to treat storm water runoff from a 165-acre City-developed industrial park on the northwest side. The detention basin will control storm water runoff volume, peak flow, and pollutants entering the Little Menomonee River from the industrial park. A contractor was hired, in 2003, to construct the detention basin on a nine-acre City-owned property located near the intersection of North 91st Street and West Dean Road. Construction was completed during December 2003. Approximately 58,650 cubic yards of earth were excavated to construct the detention basin. The City and the WDNR will share the total project cost of $631,015, which includes engineering and construction.

Infiltration and Inflow Reduction Program Area

Sanitary Sewer Flow Monitoring

A total of 19 sanitary sewer systems were monitored in 2004 for different reasons. The MMSD requested that the City flow monitor along a section of Metropolitan Interceptor Sewer (MIS) which included 10 City sanitary sewer connections (10 systems). The purpose of this monitoring was to determine sources of inflow and infiltration (I/I) entering the MIS. Three systems were monitored due to the number of backwater complaints received during a storm on August 13, 2002. Six other systems were monitored due to a history of backwater complaints. The data was collected from March through December. 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.

Sanitary Sewer Evaluation Surveys

In 2003, a contractor was hired to perform dye testing of 263 catch basins and 23,073 lineal feet of storm sewer at various locations throughout the City. The catch basins and storm sewers had previously been identified by smoke testing as potentially leaking into sanitary sewers. The primary tasks of the dye testing were to determine locations and rates of transference of dyed water from the catch basins and storm sewers to the sanitary sewers. The results of the contract will indicate which catch basins, storm sewers, and sanitary sewers can be repaired to reduce I/I entering the sanitary sewer system. The cost of the dye-testing contract was $227,131.

In addition, a contractor was hired to perform manhole inspections in seven sanitary sewer systems that had recently been identified as having excess I/I. The contract was to inspect 436 manholes for lid, frame, chimney, corbel, and barrel defects that contribute to I/I. The results of the contract will be used to identify work items for a manhole rehabilitation contract in 2004.

Manhole Rehabilitation Program

In order to conform to the MMSD's 2010 Facilities Plan goal of reducing infiltration and inflow in sanitary sewer systems, the Section began a sanitary manhole inspection and rehabilitation program in 1998. The inspection phase was completed in 2002. A contract was let in 2003 for the repair of 1,960 sanitary sewer manholes at a cost $1,830,000. The rehabilitation consists of replacing lids, installing chimney seals and repairing defective brick work in the manholes.

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.

In 2003 this section drafted a total of 209 sewer engineering plans. This represented an increase of 38 plans over the total of 171 plans drafted in 2002, an increase of over 22%. This was in response to an increase of $2.3 million in the Sewer Capital Improvement Budget, an increase of thirteen (13 percent). This was achieved through additional effort expended in more effectively coordinating Environmental Engineering drafting and engineering functions toward the objective of continuous staff productivity gains.

Building Sewers Area

In 2003 GIS software programming had been completed for placing sewer laterals on the already-digitized sewer main maps. This software will enable this area to progressively retire its hand-drawn sewer plat maps. When these maps are retired, updates can be completed more quickly and accurately and eliminate duplication of effort. In addition, this information will be able to be shared with other City departments through the GIS system. This area processed 464 permit in 2003, an increase of 7% over the 434 permits processed in 2002. One thousand four hundred and fifty-six (1,456) Deferred Sewer Charge Statements were processed in 2003, an increase of 25 percent (25%) over the 1,166 processed in 2002.

Other responsibilities of the Unit include:

Provide the Sewer Design Area with street and utility information for new and replacement sewer projects

Draw sewer construction plans for capital program work

Assist citizens and plumbing contractors with sewer and sewer lateral questions

Determine and collect sewer assessment income for the City from new land developments

Update and provide sewer system plans for design studies and general reference

Review completed sewer construction reports and update original plans with " as-built" information

Prepare sewer construction sketches for use at public hearings

Provide easement plans for sewer construction

Maintain record retention schedules for sewer construction projects

Process plumbing and building permits

Underground Operations Unit

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

During 2003, 84.0 miles of sewers were examined, 422.2 miles of sewers were cleaned, and 20,650 catch basins and storm inlets were cleaned. In addition, we responded to 7,934 service calls.

In 2003, Underground Operations installed underground conduit in North 84th Street from West Lisbon Avenue to West Hampton Avenue, North Water Street from North Holton Street to East Pleasant Street, and relocated underground conduit in East Kilbourn Avenue and North Prospect Avenue for the Kilbourn Tower development.

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 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 responsible for the disposal of the debris removed. The wet material is currently taken to Waste Management, Inc. or United Water, Inc. for disposal. A study was performed to look at alternative methods to reduce the tonnage of debris by dewatering the material prior to disposal. After considering several alternative methods for dewatering, it was determined that the current method of disposal was the most cost effective.

TRANSPORTATION SECTION

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

Project Programming Area

Administration of the City of Milwaukee's $8.6 million capital paving budget by the Project Programming Unit resulted in approval of 32 street paving and 32 alley projects in 2003, and the award of $1.3 million in contracts.

In 2003, the Project Programming Unit prepared 301 estimates and verified 90 city certified paving projects for improvement in the City of Milwaukee. The formal estimates prepared include 70 street paving projects (8 sponsored by the State of Wisconsin) and 40 alley-paving projects. The verified certificates include 42 street paving projects, of which 20 were sponsored by the State of Wisconsin and 28 alley paving projects.

Project Programming staff appeared before the Common Council's Public Improvements Committee for public hearings on 101 paving, new sewer and new water projects. In addition, resolutions were prepared to authorize construction for approximately 240 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 2003, the unit issued 6,381 bills resulting in $4,315,000 in revenue to the City.

Major Projects Area

The Major Projects Unit coordinated the completion of six Federal and/or State Major Arterial Street projects at a total cost of $10,809,000, of which the City's portion was $1,734,000. The Major Federal and/or State paving projects completed in 2003 include the following:

Reconstruction of South Howell Avenue from East Oklahoma Avenue. to East Wilbur Avenue

Resurfacing of North Green Bay Avenue (STH 57) from West Villard Avenue to the north city limits.

Reconstruction of the Green Bay Avenue Bridge over Lincoln Creek.

Reconstruction of West Capitol Drive (STH 190) from a point north of North 35th Street to North Green Bay Avenue

Reconstruction/resurfacing of North Milwaukee Street from East Mason Street to East Ogden Avenue

Reconstruction of South 20th Street from West Howard Avenue to West Morgan Avenue

Resurfacing of North 84th Street from West Burleigh Street to West Hampton Avenue

Major Projects, at the request of the Wisconsin Department of Transportation, revised the portion of North. 12th Street from West Wells Street to West Highland Avenue for submittal with the first phase of the Marquette Interchange. This was requested due to the rerouting of a major steam tunnel in North 12th Street related to utility work required for the Interchange. Major Projects also worked with Marquette University toward completing the required preliminary engineering requirements associated with a Congestion Mitigation/Air Quality (CMAQ) Grant received from the Wisconsin Department of Transportation (WISDOT) for additional pedestrian lighting, landscaping and other streetscape items in and around the campus area.

Preliminary engineering was in progress for 16 Federal and/or State Aided Major Street paving projects, 19 Local Bridge Replacement Program projects and two State Trunk Highway Bridge Replacement/Rehabilitation Projects. Working with Federal, State, County staffs and private consultants, the unit continued the process to remove the Park East Freeway. The project involves the removal of the existing freeway and replacement with an at-grade roadway facility and a new movable bridge over the Milwaukee River at a total estimated cost of $25,000,000. The first construction contracts were let in 2002 and the work is progressing for an overall project completion in the spring of 2004. This unit continues to work with City and County staff in developing the redevelopment plan and streetscaping work for the lands formerly occupied by the Park East Freeway.

Major Project's staff also coordinated the City's efforts to assist the Southeast Wisconsin Regional Planning Commission in their preparation of the Transportation Improvement Program (TIP). This program is part of the Statewide Transportation Improvement Plan, which involves not only transportation planning efforts but also analyzing whether the State's air quality will meet future goals. This major effort involves compiling and updating project information on all Federal/State aided projects proposed for the TIP period.

As one of the City's major liaisons with the WISDOT, the Major Projects Unit was involved in several major efforts in 2003. These include the planned reconstruction and extension of W. Canal St. in the Menomonee Valley. Agreements were negotiated with the WISDOT to partially fund this major street improvement in the Valley, which in addition to providing an alternate route for traffic during the reconstruction of the Marquette Interchange, will open up the Valley for development. The unit is also working with the WISDOT in their efforts to design and coordinate work on the Marquette Interchange. This multimillion-dollar project will have a significant impact on the City, its citizens and its facilities.

In 2003, this unit again coordinated work undertaken with a WISDOT grant under the Local Roads Improvement Program (LRIP). This grant provides 50% State funds for construction work on City local streets. In 2002-2003, the City's entitlement was $1,067,000.

Major Projects is working 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 2005 for the portion from West Florist Avenue to West Clinton Avenue and for the spring/summer 2006 for the portion from West Clinton Avenue to West County Line Road.

In 2004, the Major Projects unit will be combined with the Planning and Development unit under the direction of the Chief Planning and Development Engineer. A new Civil Engineer IV in lieu of the Major Projects Manager will assist in operations of the unit.

Structural Engineering Area

The structures unit 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. The unit designs and prepares contract documents, and performs construction administration for a wide variety of projects involving bridges, retaining walls, parking structures, and other structures. In 2004 this area will be moved to the Field Operations Section which will combine Structural Design and Analysis with Structural Maintenance functions under one manager to facilitate better coordination and continuity in addressing structural infrastructure of the City of Milwaukee.

Bridge Design and Construction

The Green Bay Avenue bridge deck replacement over Lincoln Creek was let to contract with construction started in May of 2003 with project completion in December of 2003. The bridge was constructed in two stages to minimize traffic disturbance.

Final plans and specifications for the deck replacement of the South 27th Street Bridge over Union Pacific Railroad were completed, Zenith Tech Inc. was awarded the construction contract. Rehabilitation of that bridge is to be completed in 2004. Final plans and specifications were sent to WisDOT for contract letting of the deck replacement of the North Farwell Avenue Bridge over the Milwaukee County Bike Trail for construction in 2004.

The State Street Bascule Bridge was designated a Historic Structure and preliminary plans were developed by this unit to rehabilitate the bridge and restore the aesthetic features that drove the historical designation. The State Street Bascule Bridge is the oldest remaining Milwaukee style trunnion and was the first bridge in the city to exhibit architectural features to enhance the bridge aesthetics. These features include copper clad bridge houses and ornamental bridge railing. An in-depth investigation of the structural and electrical items was prepared and preliminary plans developed by this unit. A Request for Proposal was prepared to select an outside consultant to prepare final plans and specifications. Rehabilitation of the bridge is to be let to contract at the end of 2004.

Final contract plans and specifications for the North Ave Dam Pedestrian Bridge over the Milwaukee River were reviewed by this unit and the contract was awarded. Construction started in fall of 2003 with completion of the new bridge expected in spring of 2004. The new pedestrian bridge will connect new housing developments along River Boat Road with Caesar's Park and proposed walking paths along each side of the mud flats along the Milwaukee River.

A Request for Proposal was prepared, consultants were interviewed and selected, plans and specifications were reviewed, and a construction contract advertised for the new Marsupial Pedestrian Bridge over the Milwaukee River. The new cast-in-place post-tensioned concrete pedestrian bridge will be hung via high strength steel cables from under the existing Holton Street Viaduct and will connect the Brady Street Business District with new housing developments along Commerce St. and the redeveloped Kilbourn Park. The bridge will incorporate architectural enhancements, projection and recessed rail lighting, and plaza areas at each landing to provide an enjoyable and safe experience for pedestrians and cyclists.

Final plans and specifications for the redecking of the Hawley Road Viaduct are currently being worked on to be submitted to WisDOT for construction starting in 2005. Plans and specifications were also finalized for the rehabilitation of the North 35th Street Bridge over Lincoln Creek Construction for this bridge is to commence in 2004 with the bridge opened to traffic by the end of the year.

Construction of the new Knapp St. Lift Bridge continued in 2003. The new bridge is located one block north of Juneau Avenue in place of the elevated Park East Freeway bridges over the Milwaukee River. The bridge connecting a new widened West McKinley Avenue to East Knapp Street is scheduled for completion in the spring of 2004.

Final plans and specifications were let to contract for a remote control bridge operating system to allow operation of the West St. Paul Avenue Lift Bridge over the Milwaukee River from the West Michigan Street Bridge. Construction started in late summer of 2003 and full operation. The bridge is expected to be completed in spring of 2004.

This unit worked with staff from Buildings and Fleet, Bridge Maintenance, and Communications to provide a contract for card access to the City moveable bridges. Access via key cards will provide greater security, eliminate misplaced keys, and will be able to record the identity of all staff with access to the bridges.

A proposal to install a Roadway Weather Information System (RWIS) and camera system was reviewed and coordinated for installation at the new 6th Street Viaduct. The RWIS will allow information received from pavement sensors installed in the bascule bridge slab and the N/S 6th Street and WestCanal Street intersection, along with video feed from the cameras, to be relayed to the control room of Sanitation Division for monitoring the effectiveness of the City's winter salting operations. Information from the sensors and video feed will also be made available to WisDOT via the Internet.

Preliminary engineering was started for the rehabilitation of the West Bradley Road Bridge over the Little Menomonee River, the West Highland Boulevard Bridge over the Canadian Pacific Railroad, the West Mill Road Bridge over the Menomonee River, and the South 29th Street Bridge over the Union Pacific Railroad.

Bridge Inspection

Numerous bridge inspections were performed during 2003 in accordance with mandated Federal and State requirements. Twenty-six (26) in-depth fracture critical bridge inspections were performed along with generating drawings identifying each fracture critical member. The South 35th Street Viaduct alone has 74 fracture critical members. Inspection of the City's moveable bridges is now a yearly requirement and twenty (20) separate moveable bridge inspections were preformed. Thirty-four (34) interim bridge inspections were also performed for those bridges that require a more frequent inspection than the mandated minimum bi-yearly routine inspection.

Federal and State regulations require underwater dive inspections be performed every five (5) years on all bridge foundations located in waterways in which the bottom of the footing is not visible or located by probing. A Request for Proposal was prepared, consultants were interviewed, and a contract issued for the underwater dive inspections of twenty-seven (27) bridges including riverbed sounding profiles. Final reports were reviewed and submitted to the State to satisfy bridge inspection regulations.

A bridge inspection was performed on an old timber and steel vehicular bridge over Canadian Pacific Railroad in the Menomonee Valley that was acquired with the purchase of land from CMC for the proposed West Canal Street extension. The inspection revealed the bridge was structural deficient and was immediately closed to traffic. The bridge will be removed and replaced with a new bridge as part of the West Canal Street extension project.

This unit researched and replied to a WisDOT inquiry of overburden reporting and affect on the load rating for twenty-six (26) City bridges. As a result of the inquiry, load-rating analysis commenced for several bridges. Load rating analysis was also performed on the West Becher Street Bridge over the Kinnickinnic River, North Teutonia Avenue Bridge over Lincoln Creek, West Mill Road over the Menomonee River, and North 91st Culvert over the Little Menomonee River.

Parking Structures

Final plans and specifications were prepared and a contract was let for painting of the 4th and Highland Parking Structure and miscellaneous railing at the 2nd and Plankinton Parking Structure. This unit also provided contact administration and coordination for this project.

Analysis and design of restoration repairs to a deteriorated concrete corbel at MacArthur Square Garage was performed. Plans and specifications were issued to contract and repairs were made. This unit assisted in selecting a consultant for a contract to evaluate the concrete slabs for the application of a traffic deck waterproof membrane for the 2nd and Plankinton Parking Structure. Plans and specifications were reviewed with a contract scheduled to be let in spring of 2004.

This unit started the bi-annual inspections of the City owned parking structures. The inspections adopt a report format similar to that used for bridge inspections with major and minor elements of the parking structure given a numerical evaluation rating. Recommendations were given both for short and long term repair needs accompanied by pictures identifying the deteriorated condition. Using the information gathered from the inspections, a Capital Improvement Program was recommended to Parking dministration.

Miscellaneous Structures

Contract documents were prepared and the contract let for the Phase 2 construction work related to the Kilbourn Park extension to North Commerce Street. The Phase 2 work consisted of a soldier pile, precast concrete lagging retaining wall with bridge type railing along East Glover Street, a cast-in-place concrete retaining wall adjacent to the bike path, and a concrete amphitheater seating area. A pedestrian stair at the end of North Booth Street was also included in the bid package and will create a direct pedestrian access to North Commerce Street. The Phase 2 construction work is expected to be completed in spring of 2004.

As part of the continued development related to the Beerline B Improvement District, plans and specifications were developed for two (2) concrete cast-in-place retaining walls. The first retaining wall is located along the north side of Commerce Street and will allow extension of the Beerline Bike Trail. The second retaining wall is located along East Reservoir Avenue and will allow extension of that street for access to a new housing development. Work for both of these projects started in fall of 2003 with completion expected in spring of 2004.

Plans were developed for the replacement of a concrete topping slab and waterproof membrane for a city owned, underground signal and street lighting vault at the corner of North 6th Street and West Kilbourn Avenue. A structural inspection, analysis, estimate, contract, construction coordination, and inspection were performed for work on this electrical substation.

This unit continued to provide engineering review and contract administration for the Department of City Development in connection with the Milwaukee Riverwalk initiative. The unit'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 2003.

The dock wall and riverwalk for the Trostle Square residential development along North Commerce Street was completed. The Phase 1 River Homes riverwalk in the Beerline B Redevelopment project area was completed with the Phase 2 work expecting to be completed in spring of 2004. The Kilbourn Landing/Milwaukee Rowing Club Riverwalk and site development was completed in the fall of 2003. The Phase 1 riverwalk for the River Bridge residential project along North Water Street was completed with Phase 2 expected completion in 2004. The first phase of the Historic Third Ward Riverwalk on the east bank of the Milwaukee River from East St. Paul Avenue to North Water Street was completed. The Milwaukee Institute of Design Riverwalk between North Water Street and North Broadway on the east bank of the Milwaukee River was also completed. Final plans and specifications were reviewed for the final phase of the Historic Third Ward Riverwalk that will fill in the gaps of the original riverwalk caused by extended property owner negotiations. Riverwalk construction work was also started in 2003 for the Waterfront Lofts residential development on the west bank of the Milwaukee River.

Structural analysis was performed for various repairs 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 analysis was performed for the existing 8th floor of City Hall for its ability to support a proposed new document storage area. Structural inspection and estimate was provided for renovation of a concrete T-beam floor system for Fire Engine House No. 2. Structural analysis was provided on the floor system of Fire Engine House No. 27 to assess its capability to carry heavier fire fighting vehicles with varying positioning of those trucks.

A structural report for the Critical Inspection of the City Hall Fire Escape was formally submitted to the Department of Neighborhood Services. Analysis of bridges by this unit for permit overload vehicles has increased almost two fold in recent years as the numbers of permit applications and enforcement has increased.

Planning and Development Area

This unit provided technical assistance to the Southeastern Wisconsin Regional Planning Commission with regard to the Transportation Improvement Program, the Regional Freeway Reconstruction Study, an amendment to the Regional Bicycle and Pedestrian System Plan, and the Kenosha-Racine-Milwaukee Corridor Transit Alternatives Analysis (a.k.a. WISERIDE).

Activities also included providing plan review and utility coordination to the Wisconsin Department of Transportation (WISDOT) on freeway maintenance projects, on the improvement of the ramp metering, variable message signing, and vehicle detection systems phases of MONITOR (The Freeway Traffic Management Plan), and on various freeway bridge rehabilitation projects.

In conjunction with reconstruction/resurfacing activity on the Freeway System within Milwaukee County, traffic mitigation plans for local streets were developed and implemented to minimize the impacts of traffic diverted from the freeway system during construction. Local street traffic mitigation plans include changes in traffic signal timing and other operational adjustments, as well as designs and implementations of signing and pavement markings to change traffic flow patterns and regulate local street traffic.

Assistance was provided to the WISDOT with regard to traffic mitigation and administration during the resurfacing of the Milwaukee Freeway system along IH-894 from the Belton Overpass to the Mitchell Interchange. Assistance was further provided on the Intermodal Passenger Facility location study; the alternatives study and preliminary engineering for the Marquette Interchange; 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); the implementation and testing of an Integrated Corridor Operations Program (ICOP); and on the Local Roads & Streets Council (LR&SC), an initiative to better coordinate and create a more efficient relationship between local jurisdictions and the state Department of Transportation. This unit also participated in the WISDOT Marquette Interchange Mitigation Advisory Committee, the Transit and Travel Demand Management Subcommittee, and the Local Roads Subcommittee and prepared numerous traffic mitigation proposals designed to maintain mobility during reconstruction of the Marquette Interchange.

In November 2003 the Wisconsin Department of Transportation approved a $20 million traffic mitigation program for the reconstruction of the Marquette Interchange. Due partially to efforts by members of this unit, funding of approximately $94,000 was established for installing emergency vehicle signal preemption on main alternate routes, approximately $923,000 was established for local intersection improvements necessary during the reconstruction, approximately $740,000 was established for the retiming of traffic signals during the various stages of construction and approximately $1.1 million established for an enhanced traffic signal communications system in areas affected by the construction.

The unit coordinated projects being completed under the Congestion Mitigation and Air Quality (CMAQ) Program, the Statewide Multi-Modal Improvement Program (SMIP), and the Transportation Enhancement (TE) Program, all of which were continued under the Transportation Equity Act for the 21st Century (TEA-21), as well as the Transportation Demand Management (TDM) Program. These programs generally provide up to 80% Federal and/or State funding for eligible projects.

During 2003, the unit prepared a Request for Proposal (RFP) for the design of a CMAQ funded Summerfest Shuttle Bus Parking Management System. 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

Data collection and preparation of computer model inputs continued for several computerized signal optimization projects, which utilize CMAQ grants. Included were studies of the Milwaukee central business district, the near south side, and the West Appleton Avenue/West Lisbon Avenue signal system.

The unit was involved in several bicycle related projects in 2003. The City of Milwaukee Publicity Plan was completed by the Bicycle Federation of Wisconsin (BFW) under a contract with the City. The Bicycle Publicity Plan project was funded by a Transportation Demand Management grant. The plan includes various advertising schemes, including a public service announcement (PSA). The BFW is investigating how to get the PSA aired on the local television stations in 2004.

The unit continued its efforts in implementing the City's Bike Rack Assistance Program. This program, funded by a Transportation Enhancements (TE) grant, provides local business with free bike racks. In 2003, City forces installed new bike racks in several local business districts, including downtown, East North Avenue, East Brady Street, Riverwest, University Square, and Walker's Point. To date, over 750 free bike racks have been distributed since 2000. The unit will continue to promote the program in 2004.

In 2003, the City retained the BFW to undertake two bicycle related planning studies. The first is the Evaluation, Selection, Designation and Spot Improvements of Bike Routes. This project, funded by a CMAQ grant, involves the evaluation of the City's current bicycle route system and makes recommendations as to additions to the system and proposed improvements, particularly providing bike lanes. This project will be complete in early 2004. The BFW was also retained to undertake 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. This project will continue through 2004.

In 2003, this unit worked to finalize the acquisition of the former Union Pacific Railroad right of way between South 6th Street and East Washington Street. This project, funded by a CMAQ grant, will result in a paved bicycle trail, known as the Kinnicinnic River Trail. Engineering will take place in 2004.

In 2003 construction began on two segments of the Beer Line "B" Bicycle Trail. The first segment between East Pleasant Street and North Humboldt Avenue is funded by a CMAQ grant, and the second segment between North Humboldt Avenue and the East North Avenue Viaduct is funded by a TE grant. Both projects will be completed in 2004.

Two more bicycle related STP-Discretionary projects were approved by the Common Council in 2003. They are Update and Distribute City Bike Map, and Update City Bike Plan. This unit will work to implement these two projects in 2004.

In 2003, this unit worked to retain consultants for the Marsupial Bridge project. The design team of Bloom Consultants and LaDallman Architects produced plans and specifications for this project, which allowed us to advertise for bids by the end of 2003. This project, funded by a CMAQ grant, will be under construction in 2004. The Marsupial Bridge will be a bike/pedestrian bridge suspended beneath the North Holton Street Viaduct.

In 2003, this unit worked to get bicycle lanes marked on South Kinnickinnic Avenue between East Oklahoma Avenue and East Maple Street, and on South Howell Avenue between East Wilbur Avenue and East Oklahoma Avenue. This unit continued to provide membership and staff assistance to the City's Bicycle and Pedestrian Task Force. The Task Force was active in 2003 fulfilling its mission to recommend to City policy makers ways to make the City of Milwaukee more bicycle and pedestrian friendly.

During 2003 this unit was very active in the planning and implementation of several off-road bicycle trail segments. This unit continues to work in a cooperative effort with the DNR to implement remaining segments of the Hank Aaron State Trail (HAST). During 2003 this unit negotiated responsibilities between the City and DNR to implement three segments of the HAST - the North 44th Street segment (Doyne Park to Miller Park), the CMC/CP segment (Miller Park to North 25th Street), and the West Canal Street segment (North Emmber Lane to North 6th Street). These projects are funded primarily with CMAQ grants previously secured by this unit. Furthermore, this unit provided technical assistance to the DNR to secure an additional CMAQ grant for the construction of 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. Much of the work on the HAST is anticipated to begin in 2004 in conjunction with the Canal St Paving through Menomonee Valley. Furthermore, CMAQ funding was secured for the Kinnickinnic River Bike Trail on abandoned Union Pacific Railroad Company right-of-way between South 6th Street at West Rosedale Avenue and East Washington Avenue and for the Beerline "B" bicycle trail between East Pleasant Street and East Humboldt Avenue. A substantial portion of the right of way was secured on the KK segment in 2003 and a short segment of the Beerline "B" trail was constructed in 2001. A Transportation Enhancement grant was obtained to extend the Beerline "B" trail to East North Avenue. Right of way acquisition was commenced in 2003 and engineering is expected to be completed with construction starting in 2004.

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 transit improvements linking multiple tourist and business venues. The Alternatives Analysis and Draft Environmental Impact Statements are expected to be completed during the fall of 2004 with Preliminary Engineering commencing shortly thereafter.

In 2003, this unit coordinated the writing and submission of six applications under the Congestion Mitigation and Air Quality (CMAQ) Program. In late 2003 the City was awarded four of the six grants totaling around $6,000,000 including over $4,000,000 for continued improvements on the Downtown Pedestrian Corridors project, and around $700,000 on each of North Holton Avenue and West Greenfield Avenue for pedestrian and bicycle improvements.

In 2003, this unit developed conceptual plans and cost estimates for the West Canal Street Reconstruction/Extension project in the Menomonee Valley. This project includes relocation of an existing railroad spur within West Canal Street, reconstruction of West Canal Street between North 6th Street and North 25th Street on the existing alignment, construction of a new roadway from North 25th Street to Miller Park through the west end of the Menomonee Valley and construction of portions of the Hank Aaron State Bike Trail. 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. A Request for Proposals (RFP) was issued to secure consultant services for engineering and plan preparation for the project with input provided by numerous partners and stakeholders. Engineering commenced in early 2003, with construction expected in 2004.

In 2003, this unit provided technical assistance to the Mayor's office in the development of alternative configurations for the Marquette Interchange that attempt to achieve project goals in a more cost effective manner as compared to the alternative currently being pursued by the WISDOT.

In 2001, this unit coordinated the writing and submission of eight applications under the Congestion Mitigation Air Quality grant program. In 2002 the City of Milwaukee was awarded in excess of $ 9,400,000 in Federal funds ($11,800,000 total projects cost) for six initiatives, including Way Finding signage, Marquette University campus amenities, the Marsupial Bridge project (a pedestrian and bicycle facility hung beneath the Holton Street viaduct) and $ 6.0 million in additional federal funding for the Downtown Pedestrian Corridors project. CMAQ grants totaling nearly $ 5.0 million were previously received for the Corridors project to implement intersection treatments, plantings, art work, and other street amenities along major downtown pedestrian corridors. A contract was completed in late 2003 for a demonstration project to improve a portion of West Wisconsin Avenue. The Marquette University work was substantially completed in 2003 and a Request for Proposals was issued in late 2002 to secure professional services for the Marsupial Bridge project, which was let to contract in 2003.

In 2003, this unit made application for and was awarded a Hazard Elimination Safety grant in the amount of $510,000 for the purpose of reconfiguring the East North Avenue curve between North Holton Street and North Humboldt Boulevard. Engineering for this initiative was started in 2003.

Traffic count data was collected under a grant provided by the Wisconsin Department of Natural Resources through the WISDOT to meet travel-monitoring requirements for the Southeastern Wisconsin Ozone Non-attainment area.

During 2002 and 2003 this unit in conjunction with members of the Summerfest staff and the Milwaukee Police Department designed and oversaw the installation of a new traffic control system on East Erie Street for a reversible traffic lane pattern used during the end of the day egress of Summerfest crowds. This system included the installation of a cost effective but more visible overhead sign message display that could be removed following the festival so as to be less visually and aesthetically obtrusive.

During 2003, 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 Kilbourn Tower, The Boardwalk (Metro Center), St. Lukes Regional Medical Center, the Milwaukee Art Museum Expansion, Trostel Square, Humboldt Ridge, Brewers Hill Commons, Warren Manor, Marquette University, Highbridge, River Bridge, the Humboldt Yards Redevelopment, Phase II of the Cherokee Point Subdivision, and the Pabst City redevelopment project. Other development projects include the Third District Police Station, Reed Street Yard Redevelopment, Lakeshore State Bank, USF Holland, and the Midtown Retail Center at the site of the former Capitol Court Shopping Center. This unit also 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.

The unit worked closely with several Business Improvement Districts (BID's), Tax Incremental Financing Districts (TID's), and General Planned Developments (GPD's). Major developments include the East North Avenue (East Side BID) streetscape improvements; the Brady Street (BID 11) plaza along the Holton Street Bridge; Avenues West (BID 10) streetscape improvements; the Beerline "B" (TID 22) Vine Street Stairway and the design and construction of Kilbourn Park and the Park Place GPD work, including the construction of North Liberty Drive. This unit also worked closely with the Menomonee Valley Partners business group in their planning efforts including participation in a National Design Competition for the "Green Development" of the former Milwaukee Road Shops site. The results of this competition were integrated into the design initiatives for the extension of West Canal Street from about North 25th Street to Miller Park.

This unit continues to assist the Department of City Development with the expansion of the Riverwalk system, including planning for roadway and streetscape improvements to complement the adjacent riverwalk. Work continued in 2003 on planning of a southerly extension of the Riverwalk system into and through the Historic 3rd Ward as well as a Riverwalk extension north of West Pleasant Street along the Beer Line "B" redevelopment area to the former North Avenue Dam including a new pedestrian bridge across the former dam weir connecting the Beerline "B" area to Caesars Park on the east side of the River. Construction also commenced in 2003 on a number of Riverwalk segments along the east side of the Milwaukee River extending from East Clybourn Street to North Broadway in the Historic Third Ward, as well as a number of segments along the Beerline "B".

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. The unit also reviews applications for special privileges and air/subterranean space leases, and writes resolutions for Common Council action.

During 2003, 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, and private drainage complaints.

Over 600 weekday or weekly traffic counts were taken on arterial streets, at key count stations, and at other locations on an as-needed basis. Continuous count stations (key counts) are operated by the City at 24 permanent installations at selected arterial locations throughout the City. Seven-day counts are extracted on a monthly basis to monitor travel patterns in the City. Various manual traffic counts and speed checks are performed by unit staff in response to new development proposals, site access management, traffic complaints, and requests for additional traffic control.

Technical assistance, including testimony at public hearings and meetings, was provided to other City agencies and organizations, including the Bicycle Task Force, the Railroad Commission, the Menomonee Valley Partners Infrastructure Committee, the City Plan Commission and the Board of Zoning Appeals. This unit participates with the Department of City Development, the Department of Neighborhood Services and the Board of Zoning Appeals in the Zoning Administration Group (ZAG) to provide consistency of review and timely processing of the special use/variance cases referred to us. In 2003, 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 2003, approximately 650 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. In 2003 there were 14 BOZA meetings. 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 2003.

This unit also participates in three subcommittees of the Local Roads and Streets Council - the Education and Communication subcommittee, the Infrastructure Management subcommittee and the Regulatory, Environmental, and Legislative (REAL) subcommittee. This unit also represents the City's interests in promoting and deploying intelligent transportation technology regionally as a representative on the Gary-Chicago-Milwaukee ITS Corridor Deployment Committee and statewide as a member of the Wisconsin ITS Alliance.

In 2003, this unit continued the implementation of the Pavement Management Administration (PMA) system, which provides a computerized method for evaluating and comparing the characteristics of more than 19,000 segments of the City's paved roadways. Based on information obtained in 2000 and 2001 through a Visual Pavement Condition Evaluation Survey, the PMA was re-calibrated to accurately reflect the present condition of our streets and to predict the rate at which our roadways will deteriorate. This system provides data for preparation of the annual capital paving budget and the annual and long range local and major streets paving programs. This system also assists us in biennial reporting for the Wisconsin Inventory of Streets and Local Roads as required by the WisDOT.

During 2004 the Planning and Development Unit will combine with the Major Projects Unit as part of the ever evolving restructuring of the Infrastructure Services Division and Transportation Section. We will work closely with other City, State, County, Federal, and private entitities in continue 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 enhancements under the CMAQ program along North Holton Avenue and along West Greenfield Avenue, in coordinating efforts in the acquisition of and conversion to recreational corridors of former rail right-of-ways along the Kinnickinnic River/South Chase Avenue corridor on the south side and along the Beerline north from East Chambers Street to North Holton Street on the north east side, construction of the Marsupial Bridge Project (a pedestrian & bicycle facility hung below the North Holton Street Viaduct) and construction of a pedestrian bridge across the former weir at the North Avenue Dam site, extension of a Riverwalk system in the Historic 3rd Ward, final design and construction of West Canal Street from North 6th Street to North 26th Street and final design of West Canal Street from North 26th Street to Miller Park, redevelopment of the Menomonee Valley, reconfiguration and redevelopment of the Park East Freeway Corridor, implementation of various mitigation elements as well as infrastructure modifications included in the rehabilitation of the Marquette Interchange, continued evaluation of alternatives for upgrading the regional freeway system, implementation of ($5,000,000.00) in streetscape improvements and the programming of another ($ 7, 500,000) of improvements on West Wisconsin Avenue – North Water Street and West Kilbourn Avenue, continued evaluation of alternatives in the Downtown Connector Study, and coordination of large outlying developments such as St. Luke's, Granville Station, Columbia-St. Mary's and the Metro Center. 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 the WISDOT on continued study involving Freeway Traffic Management and in evaluating a pilot program to integrate signal systems of complementary arterial and freeway corridors.

Traffic and Lighting Area

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 21 paving projects. Lighting work done in conjunction with these projects included the installation of overhead circuitry prior to construction to maintain adequate lighting levels during construction, protecting and adjusting facilities during construction work, and where required, the installation of new street lighting cable and the upgrade of electrical circuitry and components.

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 2003, a total of 1,450 streetlights in the City were converted to high-pressure sodium lighting. With this work, approximately 90 percent of the 67,065 streetlights in the City of Milwaukee have now been converted to high-pressure sodium. Replacement of obsolete electrical circuitry also continued under the street lighting Capital Improvements Program. Circuitry to approximately 683 lighting units was replaced Citywide in 2003. With this work, circuitry upgrades have now been completed on over 56 percent of the City's street lighting system.

Historic Milwaukee lanterns and harp lights continue to be installed in conjunction with streetscape, redevelopment and neighborhood and business district beautification projects. In 2003, grant funds, special assessment or private funding was used to provide historical lighting as part of the neighborhood and business district improvement projects. Examples of projects completed this year are West Wisconsin Avenue from North 11th Street to North 16th Street and North Milwaukee Street from East Mason Street to Street Kilbourn Avenue.

Engineering was completed and work was begun in 2003 for the installation of Milwaukee lanterns and harps in conjunction with the streetscaping of the reconstructed Park East Freeway corridor west of the Milwaukee River. Work will continue in 2004 on remaining roadway segments within the corridor.

Engineering for street lighting was also completed for the first stage of construction with the Marquette Interchange Reconstruction Project, and was initiated for subsequent construction stages as this project progresses. Improvements to street lighting facilities on City streets in conjunction with this project will include upgrade to Milwaukee harps and lanterns on all roadways within the project limits.

In 2003, work was also begun on the replacement of the City's Master Street Lighting Control System. The current system, which was developed using World War II era technology, is used to turn the street lights on and off. A request for proposals was issued in late Fall, and a consultant was selected to assist in the design of the new control and supporting communications systems. Deployment of the first test segment is anticipated in mid-2004. In addition to more reliable, effective and efficient control of street light burning time, the new system will provide quicker notification to repair crews of system outages, thereby improving response to circuit troubles and area lighting outages.

Central Drafting and Records Area

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, structure plans, street lighting plans, circuit maps, traffic signal 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 preparation and/or review of certified survey maps and subdivision plats; the assignment of addresses; the preparation 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 Infrastructure Services Division.

Transportation Section.

In 2003, 27 plans and petitions for the vacation of public ways were processed. The Unit also processed 3 subdivision plats and 105 certified survey maps, produced 224 paving plans for 75 separate paving projects, 9 structure projects and 6 state paving projects, and acted upon 45,880 requests from Diggers Hotline to locate the city's underground electrical and water main facilities.

Electrical Facilities Digitizing Project

The Central Drafting and Records Section maintains and distributes records of underground conduit, street lighting and traffic signal facilities to the appropriate design, field operations and digger's hotline personnel. Current work processes based on a combination of paper and digital records have not kept pace with the volume of changes that occur. During 2002, the existing work processes were examined to determine where the system short falls exist, and users were interviewed to obtain first hand knowledge of how the system operates and what can be done to improve it.

A considerable amount of mapping has been done over the years using microstation. Some data files exist that track inventory. There is value in linking mapped information with data files, as it will allow information to be quickly utilized (i.e. inputted, reviewed, updated, displayed, distributed and analyzed). To this end, GeoMedia Pro software is being examined to determine if this is the best way to link existing mapping and data information as well as being the appropriate tool for future growth and applications.

The pilot study continued through 2003, as the GeoMedia software was used to develop the links between the existing maps and the data files. During 2003, 44 street lighting quarter sections were digitized in mircrostation utilizing certain drafting techniques that would support a GeoMedia application to link the map with the data bases.

City Underground Conduit

On December 18, 2002, the Underground Conduit Unit was transferred from the Environmental Section to Central Drafting and Records, Transportation Section. This reorganization brought an Engineering Technician VI and IV to Central Drafting and Records. An Engineering Drafting Technician II was added to the work group.

During 2003, City forces installed an additional 2.0 miles of conduit, abandoned 0.2 miles and 18 additional manholes. An additional 0.4 miles of conduit and 6 manholes were installed for the City by others. City forces installed new conduit in North 84th Street from West Lisbon Avenue to West Hampton Avenue This conduit will service existing City facilities in addition to alleviating conduit congestion that exists in the area.

City forces installed new conduit in North Water Street from East Pleasant Street to East Brady Street. This conduit alleviates the congestion in the area. Conduit installation is planned for North Water Street from East Juneau Avenue to East Pleasant Sttreet. This will provide a vital link from the downtown area to the northeast side of the City.

City forces installed conduit in East Kilbourn Avenue from North Astor Street to North Prospect Avenue and in North Prospect Avenue from West Kilbourn Avenue to East Wells Street. This conduit replaced the facilities that were in conflict with the Kilbourn Tower Project. This project was requested and funded by the developer.

Conduit installations in the Park East Freeway Project have been completed. This installation was in East/West McKinley Boulevard from North Milwaukee Street to North 8th Street, which also included a package under the Milwaukee River. This conduit provides another vital link between the downtown area of the City to the west. Conduit was also installed from the bridge house at West McKinley Street to the bridge house at West Juneau Avenue, thus providing for remote control access to both bridges. This conduit was both designed and installed by others as part of the Park East Freeway paving project.

As of December 31, 2003, there are 548.5 miles of underground conduit lines and 7,411 manholes in active service. The Underground Conduit Area has spent the last two years working with a telecommunications company interested in leasing space in the City conduit system. This project was completed in 2003 and we are currently now leasing 24 miles of conduit to this company.

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:

Inspection, maintenance and repair of the City's sewer system.

Maintenance of the City's streets, alleys and sidewalk.

Design and inspection of street, alley, sidewalk and bridge projects.

Construction and maintenance of all public way lighting, traffic control signals and signing.

Pavement markings.

Construction and maintenance of the underground communication conduit system.

Operation of the Municipal Asphalt Plant and the Traffic Sign Shop.

Inspection of permitted utility construction in the public way.

Operation and maintenance of the City's moveable and fixed bridges and viaducts.

CONSTRUCTION UNIT

Construction Section

The Construction section has become part of the Field Operations Section to improve efficiency and reduce costs. It has been an advantage to combine the maintenance of our roads and sewers with the construction of our roads and sewers. The Construction Section provides administration and inspection for contracts involving the construction of streets, sidewalks, alleys, storm and sanitary sewer, water main, and house services. Two District Engineering Units design the street and alley pavements and have field crews that measure final contract quantities for payment purposes. A Technical Services Unit tests all sewer and water main pipe to be installed and monitors all other materials testing performed by a private contractor.

In 2003 local paving work consisted of 14 contracts that totaled 5.16 miles. In addition, there were 1.57 miles of alleys. The total contract cost was $4.24 million. Three walk repair contracts cost $1.41 million. Sewer construction totaled $25.79 million for 50 contracts covering 14.53 miles. Relay of 9.50 miles of water main cost $5.84 million of 29 contracts. Inspection was also provided for 0.81 miles of suburban water main installation. Two minor building service contracts had work totaling $81,600.

State Paving

The Construction Section also performs administrative duties on WISDOT projects within the City of Milwaukee. These functions include construction management, contractor payments, and wage/labor verification and monitoring. Seven WISDOT paving projects were constructed this year at a cost of $13.63 million covering 6.72 miles. They include the following:

North Green Bay Avenue - West Villard Avenue to West Silver Spring Drive

North 84th Street - West Burleigh Street to West Hampton Avenue

West Capitol Avenue - North Green Bay Avenue to North 35th Street

North Milwaukee Street - East Mason Street to East Ogden Avenue

South 20th Street - West Howard Avenue to West Morgan Avenue

Park East Freeway - Hillside connection to North Jefferson Street (Freeway Demolition and local street improvements.)

Two bridge projects were also constructed this year at a cost of $7.49 million. They include following:

- North Teutonia Avenue Bridge over the Lincoln Creek.
- Knapp Street Bridge over the Milwaukee River

HUBBARD TRAFFIC CIRCLES

Two traffic circles were constructed in the intersections of North Hubbard Street at Brown and Reservoir Streets. These traffic calming circles feature large planter areas, decorative concrete walls and curved stamped colored concrete cross walks.

NORTH MILWAUKEE STREET

East Mason Street to East Ogden Avenue:

This extensive resurfacing and reconstruction project took place during the busy Milwaukee festival season. The project was coordinated to accommodate Bastille Days, and the Harley Davidson's 100th birthday celebration. The project included the narrowing and the reconstruction of two blocks between East Mason Street and East Wells Street.

MCKINLEY STREETSCAPE PROJECT

This beautification project featured raised concrete planter walls along the medians between North 6th Street and North Martin Luther King Jr. Drive. Additionally, granite blocks decorated the area between the main walk and the curb and gutter. Mature trees were planted along the entire stretch of the project.

NORTH GREEN BAY AVENUE

West Villard Avenue to West Silver Spring Drive

Work on North Green Bay Avenue was done under WISDOT contract that totaled $1.6 million. The work that encompassed this project was the re-decking of the bridge over Lincoln Creek, reconfiguring the ramps to West Silver Spring Drive, repair of curb and walk, and resurfacing the roadway with asphalt.

PARK EAST FREEWAY

2003 brought an end to the Park East Freeway Spur. The removal of the structure began in June 2002, and was completed in November 2003. In its place, West McKinley Avenue and East Knapp Street were constructed along with the intersecting streets from North Milwaukee Street to North 6th Street. In the 1.5 years that it took to complete the project, there were nearly 162,000 cubic yards of dirt moved, 60,000 tons of concrete recycled into crushed aggregate, and 39,000 square yards of concrete pavement constructed. The total cost of the project was about $11 million.

KNAPP STREET BRIDGE

A vertical left bridge spanning the Milwaukee River and connecting the new West McKinley Avenue and East Knapp Street was under construction in 2003. The bridge is an integral part of the Park East Development and is expected to be complete in June 2004.

WEST CAPITOL DRIVE

North 36th Street to North Green Bay Avenue

The City of Milwaukee, in conjunction with the Wisconsin Department of Transportation, has completed the construction of West Capitol Drive from North 36th Street to North Green Bay Avenue.

The work on this project consisted of removing the existing pavement structure and replacing it with a new nine-inch thick concrete pavement. Concrete curb and gutter and driveway approaches were replaced throughout the length of the project. Sidewalks were replaced at areas where it was needed. During construction, West Capitol Drive remained open to traffic in both directions. The construction was undertaken in two stages. During Stage I, the south half (eastbound roadway) was constructed first 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. The project started on April 21, 2003 and was completed by December 7, 2003 at a cost of $4.6 million.

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.

Streets and Bridges Unit

Street Maintenance Area

The Street Maintenance Section administers three types of maintenance contracts, pavement seal coating, crackfilling and asphalt pavement resurfacing. We have completed our fifth season of the "Slurry Seal" method of seal coating asphalt pavements. It was also our second season of the "Flex Seal" method of seal coating asphalt pavements. Again this years' program was a success, receiving favorable public and Aldermanic reaction while receiving very few complaints. City streets received 242,934 square yards of "Slurry Seal" and 18,354 square yards of "Flex Seal" in 2003.

Under the Crackfilling Contract a contractor crackfilled 323,790 square yards of pavement throughout the city with a rubberized joint seal. Asphalt resurfacing occurred on West Layton Avenue, West Glendale Avenue, North 50th Place, West Keefe Avenue, North 6th Street, North Halyard Street, North Plankinton Avenue, West Kilbourn Avenue, West Locust Street, North 7th Street and North 17th Street where 9,476 tons of asphalt were placed.

Street Maintenance Section field crews placed an additional 10,459 tons of asphalt on city streets. Repair projects included asphalt shims on roadways, asphalt shims on sidewalks, small asphalt patches and pothole repairs.

In preparation of Harley's 100th Anniversary Celebration routine street maintenance and event-driven projects were scheduled to dovetail with the planned Anniversary celebrations. The downtown area streets were checked, patched and motorcycle friendly prior to the celebration and onslaught of thousands of motorcycles. West Kilbourn Avenue from the river west to North 4th Street was repaved with asphalt. In addition curbs along this stretch of roadway were replaced in conjunction with this project.

Street Maintenance Section has improved our tracking of incoming customer requests. All service requests that are phoned in to the City of Milwaukee are answered by the Call Center. 2003 marked the first full year that Street Maintenance Section utilized the services of the Call Center. Telephone calls for pothole complaints, offsets along sidewalks, guardrail problems and pavement concerns that use to come into our offices are now answered by the Call Center. These calls are placed into a computer database and retrieved daily by our supervisors via computer. Utilizing the services of the Call Center has improved our record keeping and improved the tracking of complaints, Aldermanic Service Requests and City Attorney Claims.

Bridge Maintenance Area

This Section maintains and operates over 200 fixed and movable bridges. In 2003 our operators conducted 14,119 bridge openings for commercial and recreational traffic. Presently seven of the twenty-one movable bridges can be remotely operated from another bridge(s), namely the North Emmber Lane, North Plankinton Avenue, West Clybourn Street, South 1st Street, North 6th Street, South 6th Street and West Highland Avenue Pedestrian bridges. Additional remote operations are planned for West St. Paul Avenue Bridge.

The Bridge Section joined other DPW divisions in preparing Milwaukee for the Harley's 100th Anniversary Celebration. Routine bridge maintenance and several event-driven projects were scheduled to dovetail with the planned Anniversary celebrations. Work proceeded on the East St. Paul Avenue Bridge to East Michigan Street Bridge remote project. At the West Kilbourn Avenue Bascule, pit ladders were replaced and concrete and sacrificial timbering repairs were made to the piers. Structures and Maintenance Sections developed a replacement steel channel timber mounting system that will be installed as needed along the City's navigable waterways. On outlying structures, in addition to the usual spring repairs, expansion joints were replaced on North 51st Street and North 60th Street bridges over Lincoln Creek. Bicycle racks were again installed this year at various locations throughout the city.

Our downtown bridges are often decorated for local festivals. Two lighting projects stood out this past year. With help form Harley, our decorative white bridge lights went orange for the 100th Anniversary Celebration. Support work was also performed for the Milwaukee Downtown Holiday Lights Festival. Outlets were installed to allow placement of lights on bridge rails.

The Bridge & Iron Painting Crew continued anti-graffiti work throughout the year in co-operation with the Department of Neighborhood Services and the Police Department. A lower cost graffiti shield for signs is being field-tested. Our Bridge and Iron Painting shop was reorganized and a small blasting cabinet was installed. Ahead of the Harley 100th Anniversary Celebration, bridge railings, police call boxes, fire hydrants, and traffic lights were inspected and touched up. Extensive graffiti sweeps were conducted around festival events. For the Water Department, several projects were completed. At the Howard Avenue Treatment Plant the cavernous pipe gallery was prepped and painted by a four-person crew.

Inspections Area

The Inspection Section handled over 9000 construction permits in 2003. In addition to construction permits, the Inspection Section reviews Special Event Permits such as block parties, walk/runs and parades. There was a dramatic increase in the number of Special Event Permits due to Harley's 100th Anniversary Celebration. 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 the Special Event.

Electrical Services Unit

Electrical Services is proud to serve the City of Milwaukee by overseeing the operation, maintenance and installation of facilities and equipment related to street lighting, traffic control and street signage.

Traffic & Sign Services Area

The Traffic Services professionals maintained 713 controlled intersections in the City of Milwaukee. Other operations and maintenance total included:

Replaced 3,766 signal lamp outages

Repaired / restored 97.4% of 516 controller troubles within one day

Repaired / restored 75.2% of 278 circuit troubles in one day

Repaired / replaced 246 controller / signal knockdowns in 2003

Some additional highlights for 2003 were the installation of new traffic controlled intersections at the following location:

North 55th Street & W. Capitol Drive

North 6th Street & W. McKinley Ave

North Commerce Street & E. Pleasant Street

The Traffic Signal Shop installed 8 complete "LED" signal heads plus 4 "LED" "Walk/Don't Walk" signals at the intersection of West Silver Spring Drive and North Teutonia Avenue. This installation was done to test the industry's new signal technology and monitor the electrical energy costs for possible future savings i.e. "LED's" vs. incandescent lamps.

Work continued on the "Park East Corridor" with the installation of an underground "Closed Loop System" consisting of underground vaults and conduits.

Finally, the Traffic Signal Shop installed its first "Wireless" traffic interconnect between N. Dr. Martin Luther King, Jr. Dr. and N. Commerce St.

Sign Shop Area

The Sign Shop provided the following services for 2003:

Maintained and replaced / repaired 2,143 permanent signs.

Maintained and replaced / repaired 437 Street name signs.

Provided traffic control at 1,059 special events.

Installed over 8,000 temporary signs.

Screen-printed and installed approximately 1,400 special "Harley-Davidson" signs for "Harley-Fest".

Painted 1,147 crosswalks.

Painted 2,253,000 feet of long line striping.

Electrical Services Area

Electrical Services personnel performed as a team throughout 2003 to provide the City of Milwaukee well-lit neighborhoods and roadways. With priorities changing often, personnel responded professionally around the clock to citizen requests, Alderperson's Service Requests and departmental directives.

Electrical Services collaborated on a major Streetscape project at Marquette University on West Wisconsin Avenue – North 11th Street to North 20th Street and North 11th Street – West Wisconsin Avenue to West Wells Street. This project included the "Closed Loop" system [Underground Junction boxes and conduits] along with all associated circuitry for street lighting and traffic control equipment.

Additionally, Street Lighting crews removed numerous temporary construction poles and existing poles, and installed 125 new concrete poles. These crews also removed old fixtures and arms from the old poles and re-installed new fixture arms and Milwaukee lanterns and Harps.

Other high priority projects completed were:

West Howard Avenue – South 13th Street to South 27t Street

East/West Center Street – North Humboldt Boulevard to
North Martin Luther King, Jr. Drive

South 21st Street – West Greenfield Avenue to West Mitchell Street

South 20th Street – West Howard Avenue to West Morgan Street

North Sherman Boulevard - West Glendale Avenue to West Marion Street and

West Congress Street/North-South Roadways - North 35thStreet to
North Sherman Boulevard due to MMSD Lincoln Creek Project

North Milwaukee Street – East Mason Street to East Ogden Street

Work is continuing on the "Park East Corridor" which includes the installation of concrete poles, poured concrete bases for "Bolt-down poles," underground conduits and vaults [Closed loop system] and completely re-cabling of the entire Park East project limits.

Although not completed, work continued on the following projects:

West Wisconsin Avenue – North 2nd Street to North 4th Street

West Capitol Drive – North Green Bay Avenue to West Roosevelt Drive

South Howell Avenue to South Chase Avenue to West Oklahoma Avenue

North 84th Street – West Burleigh Street to West Capitol Drive

East Commerce Street – North Pleasant Street to North Humboldt Avenue

North Green Bay Avenue – West Silver Spring Drive to West Villard Avenue

Additional smaller projects were also completed in 2003:

West Clovernook Street/West Mill Road to North 93rd Street to North 94th Street

South 21st Street – West Greenfield Avenue to West Mitchell Street

North Terrace Avenue – East Lafayette Place to East North Avenue

As part of a special project, Street Lighting installed all poles, underground cable and performed circuit cut-overs to eliminate the substation, T19C located on North 35th Street and West North Avenue in the time frame requested by the Department of City Development.

Street lighting personnel maintained a system of 67,061 streetlights and 8,792 alley lights and completed the following:

Electrical Mechanics replaced or repaired 667 of 762 inoperable alley lights [87%] within 72 hrs.

Replaced 268 deteriorated poles

Repaired 2058 of 2087 circuit troubles [98%] in 24hrs.

Repaired 2194 of 2528 [86%] single unit troubles within 30 days

11,906 streetlights relamped as part of the Annual Group Replacement program

3,656 units were relamped as scattered outages

Utility locators completed 34,040 hotline requests

In 2003, budget constraints caused many crews to be understaffed until six weeks into the paving construction season. This shortage could have delayed timely completion and coordination of construction projects. In addition, the retirement of key personnel in management and hourly positions presented additional challenges. However, due to the dedication, professionalism and commitment from the diligent team in Electrical Services and the support from the rest of the Infrastructure Division, 2003 was a great success.

Support Services Unit

Support Services staff continued their excellent work in 2003. Year-end inventory value was more than $360,000 less than the previous year. Inventory value is now down more than $665,000 since the end of 2000.

The City's Asphalt Plant produced 15,012 tons of mix in 2003. The operation of this valuable asset gives the Division the flexibility to provide its field crews with the proper type and amount of material on an as needed basis.

2003 GENERAL STATISTICS

Streets, area of (improved and unimproved)
Net change in 2002: plus 12.735 acres
Total area at end of 2002 ..... 1,741.458 acres or 18.346 square miles

Alleys, area of (improved and unimproved)
Net change in 2002: minus 0.025 acres
Total area at end of 2002 ..... 928.562 acres or 1.451 square miles

Pedestrian ways and malls, Area of (improved and unimproved)
Net change in 2002: None
Total area at end of 2002 ..... 29.614 acres or 0.046 square miles

State and County rights-of-way, area of (improved) Net change
in 2002: minus 0.593 acres
Total area at end of 2002 ..... 1,815.074 acres or 2.836 square miles

Area of City:
At end of 2002 ..... 95.859 square miles
At end of 1993 ..... 95.828 square miles
At end of 1969 ..... 95.773 square miles
At end of 1945 ..... 44.188 square miles
At end of 1919 ..... 25.851 square miles
At incorporation, January 31, 1846 ..... 7.408 square miles

CONSTRUCTION PLANS AND SPECIAL DRAWINGS - 2003

Paving Plans produced:

- 75 Separate Paving Projects 224
- The Paving Plans included:
  - Background Drawings 94
  - Cross-Sections Transferred 70
  - New Designs Transferred 60

Final Official Map one-quarter section plots made 105

Election Commission Aldermanic District Ward Maps and
Single and Double Line Street Maps Revised 142

Number of Structural Design Projects for which plans were prepared 9

Number of State of Wisconsin paving projects for which plans were prepared 6

One-quarter section map final plots prepared 159

Color maps prepared for Summerfest and other annual special events 38

Color maps prepared for Harley Davidson 100th Anniversary Reunion Event 15

Miscellaneous drawings and maps prepared for various City Departments 37

One-quarter section maps prepared for GIS Transformation Project 61

ONE-QUARTER SECTION MAPS, STREET MAPS, SUBDIVISION PLATS, AND CERTIFIED SURVEY MAPS, THE OFFICIAL MAP, ALDERMANIC DISTRICT MAPS, OTHER PLANS - 2003

One-quarter section maps on file, in the graphics system and on file on microfilm aperture cards maintained on a continuous basis 524

One-quarter section maps reproduced to a scale of 1" = 200' and bound in atlases 524

One-quarter section maps revised:

Number of revisions to the one-quarter section maps 159

Number of one-quarter section maps remicrofilmed* 0

Street maps of the City updated (only area within City of Revised from 2001 map-change data):

A single-line map, size: 36"x60", scale: 1" = 1,800'

A double-line map, size: 42"x90", scale: 1" = 1,500'

Certified Survey Maps processed 105

Subdivision Plats processed 3

The Official Map one-quarter section maps;

Scale: 1" = 200', on file (76 of these maps were revised with a total of 176 revisions) 445

*Due to the backlog of microfilming in City Records Center, no new one-quarter section maps were sent to be microfilmed.

LAND ACQUISITION, STREET DEDICATION, PUBLIC WAYS VACATION AND MISCELLANEOUS ACTIVITIES – 2003

Dedications of City Property for public right-of-way 2

Acquisition of rights-of-way by accepting deed reservations or by quit-claim 0

Reject Reservations 0

Release access restriction 0

City property to be sold 0

Vacation of Public Ways 27

Prepare easement and private road descriptions 0

Annexations to the City of Milwaukee 0

Transfer right-of-way jurisdiction (County to City) 0

Various title reports for vacation projects and/or sewer and water easements 12

Street name change ordinances prepared 2

Designate private streets 1

Latitude and longitude locations compiled for the public 0

Oversize and overweight load routes checked for the Department of Public Works, Contract and Permits Office and private trucking companies* 723

House moving permit applications processed for the Department of Public Works 1

State subpoenas received for criminal felony cases** 0

Drawings prepared for use as evidence in criminal trials** 0

Appearances in court as a witness under State subpoena for criminal 0

DIGGERS HOT LINE - 2003

Hot line requests 35,467

Utility information requests 468

Out-of-City requests 9,535

Total Hot Line Requests 45,470

*Changes to Ordinance 101-5.5 became effective October 12, 2001. The changes were more restrictive thus more permits were issued.

**This office no longer provides drawings for the District Attorney's office because the County would not cover our cost to prepare these drawings.

TRAFFIC AND STREET LIGHTING ACTIVITIES - 2003

Street Lighting Circuit Maps on file 715

Street Lighting one-quarter of one-quarter section maps on file 1,228

Revisions to Street Lighting circuit and one-quarter section maps 634

Special Lighting Maps on file 223

Revisions to and creating special lighting maps 18

Problem signal records processed 100

Traffic count studies-manual 8

Revisions to pavement marking records* 0

Revisions to Street Lighting Data Base 11,469

One-quarter section curbline maps prepared for
Street Lighting digitizing project 154

ADDRESS ASSIGNMENTS AND SALES - 2003

Address assignments 20

Sales Summary:

Maps, Plats and Plan Sales $9,940.22

SUPPLY SERVICES - 2003

Dollar amount of supplies requisitioned by Central Drafting and Records $7,924.13

REPRODUCTION SERVICES - 2003

Approximate quantity of electrostatic printing done in house ..... 60,965 square feet

Approximate quantity of microfilm aperture card
copy machine paper used ..... 29,250 square feet

Approximate quantity of paper used for plotters:
Large format HD's bond paper ..... 86,400 square feet
Vellum ..... 1,800 square feet

Approximate quantity of electrostatic printing done
under contract by a private printer ..... 183,185 square feet

Total Reproduction Services ..... 361,600 square feet

FIELD OPERATIONS – 2002

Bridges, viaducts and pedestrian overpasses	220
Bridges, movable	21
Bridges, number of openings	14,119
Pavement seal coating (square yards)	261,288
Asphalt surface by contract (miles)	3.57
Production of asphalt mixes (tons)	15,012
Inspection of permits	9,024
Sewers examined (miles)	84.0
Sewers cleaned (miles)	422.2
Structures cleaned	20,650
Service calls answered	7,934