Capacity, Management, Operation, and Maintenance Program

Consent Order No. EPD-WQ-4106

Annual Audit – 2020

Gwinnett
Water Resources

January 11, 2021

GWINNETT COUNTY, GEORGIA – DEPARTMENT OF WATER RESOURCES

Capacity, Management, Operation, and Maintenance Program Summary

July 2019 through June 2020

Mission: Provide Superior Water Services at an Excellent Value

Vision: To be widely recognized as a Leader in the Water Industry.

The purpose of this document is to summarize the findings of our annual audit of the Capacity, Management, Operations, and Maintenance (CMOM) Program, which provides for the continued operation and management of Gwinnett County's sanitary sewer collection system in an environmentally conscientious and cost-effective manner. This audit and summary complies with the activities and reporting procedures required to document the progress of the program as outlined in Capacity, Management, Operations and Maintenance (CMOM) Consent Agreement Guidance, Georgia Water Environment Federation, April 2006.

The specific goals of the Gwinnett County CMOM Program are to:

1. Minimize the possibility of sanitary sewer overflows (SSOs) from the Gwinnett County Department of Water Resources' sewerage system;
2. Document a response program to mitigate the effects of SSOs when they occur;
3. Prioritize areas of the sewerage system that need to be addressed via short term and long term solutions based in part on consideration of the frequency of SSOs in specific areas of the sewerage system;
4. Document a spill reporting procedure that, at a minimum, ensures for proper reporting and posting of spills that occur from the Gwinnett County Department of Water Resources sewerage system in accordance with the Georgia Department of Natural Resources Environmental Protection Division's (EPD's) Rules and Regulations for Water Quality Control;
5. Provide firm schedules with major milestone dates for completion of sewerage system improvements as identified in the program;
6. Provide a Capital Improvement Plan (CIP) that ensures for the ongoing funding of sewerage system improvements;
7. Document sanitary sewer system annual operating budgets that ensure that at least 25 percent of each budget is earmarked for the implementation and administration of CMOM components; and
8. Provide regularly scheduled reports as defined in this program to the EPD to document compliance with the Gwinnett County Department of Water Resources' program, as provided in paragraphs (1) through (7) above.

1 Table of Contents

2 ORGANIZATION

Gwinnett County's sanitary sewer collection system is operated and maintained by the Gwinnett County Department of Water Resources (GCDWR). The Department includes several separate but interactive divisions that are responsible for the varied activities undertaken by the department.

Appendix B shows organizational charts of the department divisions that are involved in CMOM implementation. It also shows those personnel who have wastewater collections system operator certification, and certification requirements for vacant positions. The identified workgroups and a summary of their respective responsibilities are as follows:

2.1 Engineering & Construction (E&C):

This workgroup has the primary responsibility for the design and construction of the collection system. This responsibility entails substantial project management, oversight of design consultants, oversight of construction work, as well as some in-house design. Engineering & Construction's CMOM-related activities include the design, procurement, and inspection of new capital construction projects and large rehabilitation or replacement projects associated with the collection system.

2.2 Infrastructure Support (IS):

This workgroup is responsible for the maintenance of the GIS databases and maps used to display locations, attributes, and connectivity of the sewer system. Infrastructure Support collects, compiles, and verifies new GIS data proposed to be added to the County databases and incorporates this data into the base maps. In addition, they are responsible for coordinating between Planning and Development and Field Operations during the processing of variance requests. They also work with developers to assure that the sewer demands associated with proposed developments are appropriately calculated and modeled. This workgroup also maintains the Computerized Maintenance Management System (CMMS) used for sewer asset management.

2.3 Field Operations:

The Field Operations Division is comprised of separate sections with specific CMOM-related functions and responsibilities as set out here.

2.3.1 Corrective Maintenance Section:

The Corrective Maintenance section is primarily composed of repair and hydro-jet crews. Although this group is also responsible for distribution system maintenance, CMOM-related functions include field inspections, maintenance and repair work on gravity sewer pipelines, sewer manholes, sewer force mains, and sewer service laterals. They perform proactive hydro-jet flushing, complete reactive repairs, investigate customer complaints, mitigate and address SSOs, and respond to other emergency situations.

2.3.2 Warehouse Section:

Although this section provides support for all the operations of GCDWR, the Warehouse Section provides fundamental services to those workgroups with direct responsibility for operation and maintenance of the collection system. Key support functions include, purchasing and procurement, warehousing of parts, and coordinating equipment maintenance. This group is also responsible for coordinating with the Fleet

Management group to assure that the vehicles used by the department are properly maintained and are repaired in a timely manner. The Warehouse Section also provides and coordinates the daily operation of the Field Operations dump trucks to provide delivery and removal of soil, stone, and debris to and from work sites. Landscaping services for completed repairs are managed through this Section to restore disturbed areas.

2.3.3 Contracts/Support Section:

This section supports the Field Operations Division in several different functions. This section manages the contracts for maintenance and rehabilitation of the sanitary sewer collection system including chemical root control treatments, manhole and pipeline rehabilitation, easement clearing, and sewer assessment. Additionally, this section includes the Maintenance Customer Service group, which determines the nature, and severity of situations reported by customers and route the issue to the appropriate group. Typical job functions of this group include taking customer calls 24/7, monitoring pump station alarms after normal business hours, investigating customer calls, and are often the first representatives of the department to arrive on-site.

2.3.4 Preventive Maintenance Section:

This section is responsible for assessment of existing publicly owned gravity sewer mains, sewer force mains, and privately installed sewer extensions proposed to be added to the public system. CCTV inspections are performed to assess the internal condition of the pipes proactively, as support for corrective measures, and following backups or SSOs. Other responsibilities include manhole condition assessment, critical sewer crossing inspections, and I/I investigations. This section also includes the Fats, Oils, and Grease (FOG) Facility Inspection Program, which strive to prevent additional grease loading into the sewer system by food service establishments through education and routine inspection of grease interceptors.

2.4 Facility Operations:

The Facility Operations Division is comprised of separate sections with specific CMOM-related functions and responsibilities as set out here.

2.4.1 Water Reclamation Section:

This section is responsible for the operation and maintenance of the County's wastewater treatment facilities. Primarily this section ensures the proper and continuous operation of the mechanical, chemical, and biological treatment processes for the wastewater in compliance with the permitted operations of the facility.

This section is also responsible for implementation of reactive, routine, predictive, and preventive maintenance of the facilities. They are responsible for documenting and reporting the status of compliance with regulations and permit requirements to the appropriate authorities and agencies.

2.4.2 Pump Stations Section:

This section maintains and monitors the performance of the County-owned and operated pump stations which control the transfer of sanitary sewer flows between the mechanical portions of the system and the gravity-driven collection system pipes. This section is also responsible for inspecting air release valves. The section also ensures

the operation of privately installed pump stations, which are to be dedicated to the County.

2.5 Technical Services

This workgroup is convened as needed to address departmental-level issues and is not continuously involved in the daily operation of the utility. This workgroup is made up primarily of the Director, Assistant Director, and Deputy Directors. Other staff members are added as appropriate to effectively address the issue under consideration. The workgroup has departmental-level responsibility for identifying, quantifying, and planning for future sewer needs, supporting state and federal permitting, issuing construction permits for sewer extensions, and monitoring developing regulatory concerns. CMOM-related activities that the strategic planning workgroup has responsibility for include Wastewater Master Plan, CIP development, prioritizing CIP projects across divisions, and reviewing and permitting new sewer extensions proposed by developers and other private entities.

2.6 Operations Technical Support (OTS):

This workgroup identifies, delineates, and prioritizes collection system CIP projects for transfer to E&C. In addition, it manages the contractors performing installations, relocations, and maintenance of the collection system flow meters. Operations Technical Services also identifies condition assessment needs for implementation by Field Operations crews and performs analyses to develop forecasts of future rehabilitation needs and asset performance. In addition, they are responsible for the maintenance and upkeep of the sewer model and evaluates proposed system improvements. The modeling performed by this work group defines the current state of the collections system.

2.7 Water Resources Laboratory:

The Water Resources Laboratory is responsible for laboratory analyses for water production and water reclamation. Additionally, this section manages the Industrial Pretreatment Program, including permitting, monitoring, and enforcement. CMOM-related activities that the Water Resources Laboratory has responsibility for include administration of the pretreatment program and water quality sampling. This group is responsible for testing water samples and reporting the results to the Environmental Protection Division following a major sanitary sewer spill.

3 LEGAL AUTHORITIES

On September 1, 1998, the Gwinnett County Board of Commissioners adopted an ordinance for sewage collection, treatment, and construction. This ordinance, generally known as the "Sewer Use Ordinance", sets forth uniform requirements for contributors into the wastewater collection and treatment system from Gwinnett County, Georgia and enables the County to comply with all applicable state and federal laws required by the Clean Water Act of 1977, amendments to this Act, and the general pretreatment regulations (40 CFR Part 403). Specific provisions of this Sewer Use Ordinance are documented in Chapter 106, Article III of the Gwinnett County Code of Ordinances on the Municode Library (Municode). This ordinance addresses many topics including but not limited to the following.

3.1 Infiltration/Inflow Control:

Section 106-126(a)(2)a.11 Prohibits the discharge of "Stormwater, surface water, groundwater, roof runoff, subsurface drainage, swimming pool drainage, unless specifically authorized by the director."

3.2 Sewer Design and Construction:

Section 106-98(a) provides that "All extensions of the sewer system shall be designed and built in accordance with current DWR standards. The standards shall be those stated in the latest edition of "WATER MAIN AND SANITARY SEWER DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS", which is available at DWR and at the Department of Planning and Development. No installation of pipe or other materials for sewer extensions shall be allowed until the required information is received and the design is approved by the County. Inspection and acceptance procedures shall be specified in these standards."

Standards for the design and construction of sanitary sewer pump stations and force mains are also published and set forth in a standard document which is available directly from the County website.

3.3 Inspection of New and Rehabilitated Sewers:

The Gwinnett County sanitary sewer standards provide minimum acceptable criteria for materials, construction, testing, and installation of sewer lines that are applicable to both new and rehabilitated public sewers.

Section 106-96(d) provides that "Permanent easements for sewer facilities are for the county to install, inspect, observe, measure, sample, repair, protect, maintain and operate any portion of the sewer facilities lying within such easement. It is essential that access to the easement not be obstructed…"

3.4 Satellite Systems:

Section 106-129(g)(1) provides that "If a municipality, other county, or user located within another municipality or county, contributes wastewater to the POTW, the director shall enter into an intergovernmental agreement with the contributing municipality or county."

Section 106-129(g)(3)a. provides that "A requirement for the contributing municipality or county to adopt a sewer use ordinance which is at least as stringent as this division and local limits, including required BMPs, which are at least as stringent as county local limits. The requirement shall specify that such ordinance and limits must be revised as necessary to reflect changes made to the county's ordinance or local limits;"

3.5 National Pretreatment Program:

Chapter 106-Article III-Division 2 implements the general and specific prohibitions of State and Federal Laws including the National Pretreatment Program (40 CFR 403). These sections incorporate the National Pretreatment Standards by reference and set forth local limits on pollutants discharged by system users as well as monitoring and reporting requirements.

4 MEASURES AND ACTIVITIES

The Department of Water Resources is committed to earmarking 25 percent of the annual sanitary sewer system operating budget for the implementation and administration of CMOM components, refer to Appendix A- XVIII.

4.1 Maintenance Facilities and Equipment:

The Department of Water Resources maintains a 118,000 sq. ft. facility for central administrative, engineering, planning, and maintenance operations, located at 684 Winder Highway, Lawrenceville, GA. Opened in 2000, this facility provides office and assembly accommodations for maintenance operations along with a 20,000 square foot warehouse, 4,000 square foot detached storage building, a 224,000 square foot storage yard, an 11 bay detached garage for storing the hydro-jet trucks, and mechanical and electrical shops for equipment and minor vehicle repair.

In 2013 a separate pump station building was constructed on the central facility to provide a space specifically dedicated to the operation and maintenance of pump stations. This facility is used for pump station component maintenance and storage and to house pump station vehicles and equipment.

GCDWR maintains an adequate heavy equipment inventory to fully equip repair crews including: manhole maintenance/repair crews, sewer pipe maintenance/repair crews, hydro-jet crews, and pump station repair crews. GCDWR also maintains vehicles and specialty equipment to fully equip CCTV inspection crews, acoustic inspection crews, electronic technicians, and odor control specialists. The collections workgroup's passenger vehicle inventory is adequate to support field coordinators, contract managers, inspectors, and field technicians. In addition, GCDWR maintains an inventory of stand-by emergency equipment that includes heavy-duty service and repair vehicles, portable generators, pumps, ATVs, light plants, message boards, and arrow boards.

Appendix C contains a more comprehensive list of County vehicles and equipment assigned to the collections system operation and maintenance. The maintenance of vehicles, heavy equipment, and other motorized equipment is centralized countywide through Gwinnett County's Department of Support Services – Fleet Management Division (GCFMD).

4.2 Replacement Parts:

The Department of Water Resources maintains a fully stocked warehouse with all necessary materials required to make emergency repairs on the collection system and to carry on the daily operations of the workgroups responsible for the operation and maintenance of the collection system. Pipe, repair clamps, closure pieces, transition couplings, and similar repair materials are stocked for all sizes of pipelines and force mains in the collection system.

The department also operates the potable water system and stormwater system, and many parts are interchangeable. GCDWR has standardized on one manufacturer of submersible pumps, limiting the amount of replacement parts inventory needed. Replacement parts are stocked for the most common types of failures experienced in pump stations, including control systems, valves, vacuum prime systems and electrical components. A representative sample of items stocked in the warehouse is attached as Appendix D.

As GCDWR has pump stations up to 30 MGD, it is not economically feasible to stock replacement pumps, motors, starters and complete valves for the larger sized facilities, however; in the preparation of project specifications and purchase of equipment, priority is

given to vendors who maintain local service facilities and local inventories of spare parts for the equipment they propose to provide.

The design of the facilities also provides redundancy to allow for the service and repair of failed equipment. The warehouse manages replacement parts through the inventory control system. This software tracks the usage of the parts and notifies inventory personnel when the remaining quantities reach a pre-set reorder point. The parts are then replenished through the procurement process.

4.3 Development and Maintenance of Collection System Maps:

All sewer lines, manholes, pump stations, and related appurtenances have been digitized in a Geographic Information System (GIS). Additionally, paper as-built drawings have been scanned into an Electronic Document Management System (EDMS) and attached to the feature(s) to which they relate in the GIS. This enables the user to select a collection system feature in the GIS and retrieve an electronic copy of the as-built drawings for it. In addition, GCDWR has implemented a computerized maintenance management system (CMMS) which can track work orders and CMOM related activities by asset. These CMOM activities include: inspections, maintenance, rehabilitation, and emergency calls. The CMMS is integrated with the County's GIS.

The Department of Water Resources has collected survey grade GPS coordinates, inverts and rim elevations on the critical sewer structures in our collection system to improve the accuracy of our GIS and sewer model. It is also required by GCDWR for the as-built drawings of any significant sewer improvements, extensions, or repairs to be submitted with associated GIS data. This data is prepared in a format and to a level of detail matching the Department databases to allow direct import of this information and update of the base maps. However, all assets are field verified before the as-built drawings are scanned into the EDMS and uploaded to GIS. The data collection and compilation process is on-going and evolving to provide continuous improvement to the system. This advanced level of information management allows the Department to better coordinate inspection and maintenance activities and increases the effectiveness of planning and execution for system renewal.

4.4 Overflow Correction Prioritization:

Sanitary Sewer Overflows are currently tracked in a module within our CMMS program which houses information regarding the specific asset(s) involved, date, location, volume, and cause(s). Historic data predating the development of this module was migrated into the software during implementation to ensure the continuity of the data. The locations and causes of SSOs are analyzed regularly to determine trends. In addition, SSOs are tracked in the GIS to allow the Department to plot and analyze for trends and other potential correlating factors. Preventive maintenance efforts, such as cleaning, flow monitoring, acoustic surveys, and CCTV inspections are adjusted and concentrated in the geographic areas where the incidences of SSOs are greatest.

4.5 Routine Preventive Operations and Maintenance:

Gwinnett County recognizes that preventive maintenance is an essential key to preventing SSOs and maintaining adequate conveyance capacity for peak flows. Therefore, GCDWR has undertaken a number of preventive maintenance programs which are detailed below.

4.5.1 Inflow/Infiltration Control:

The Department has installed a system of flow meters that allow the OTS workgroup to monitor and evaluate flow depths both during normal operations and under the stresses imparted by storm events. The flow meters are set at locations that divide the collection system into sub-basins containing approximately 100,000 – 125,000 ft. of main. The OTS workgroup manages the contractor responsible for maintaining the meters and performing new installations or relocations when needed. The flow meters take readings on a 15-minute basis and upload this data remotely on a daily basis. The receiving system is set with alarms and protocols to alert OTS if a flow meter has not uploaded data within a predefined delay. The website hosting this data stores the information by both time and location so that historic data is available for specific monitoring locations throughout the collection system. If a flow meter is relocated to another basin, then the data remains associated with the location from which it was collected.

The Department has an inspection program targeting manholes located in flood-prone areas. After rain events which are considered heavy enough to cause localized flooding, OTS reviews the output from the flow meters and notifies the field operations group of any mains that appear to be excessively impacted by inflow. These manholes are then inspected to ensure that they are still undamaged, sealed, and have not shifted out of position. Specialized land/water vehicles have been purchased to access these flood-prone areas following rain events and perform the inspections in a timely manner.

4.5.2 Easement Clearing:

The Department typically has a permanent twenty foot easement along its sewer lines. Easement clearing is performed to provide access to sanitary sewer lines for assessment and maintenance purposes, and reduce the potential for root intrusion into the sewer lines. Where sewers traverse undeveloped property, clearing of easements is typically accepted without complaint. However, opposition has been encountered from homeowners in some portions of the county, and occasionally from groups expressing concerns regarding easement clearing in environmentally sensitive areas. Accordingly, GCDWR has implemented a voluntary program wherein the property owner may take responsibility for clearing the easement on their premises using more individually acceptable methods such as hand-clearing. Such agreements require the owner to provide an adequate level of clearing to allow access to the sewers for inspection and maintenance; however, the majority of the easement clearing operations is performed by GCDWR through a contracted service.

4.5.3 Cleaning, Television Inspection, and Acoustic Assessment:

Hydraulic cleaning and television inspections of the pipes are performed: (1) in support of repairs or routine maintenance, (2) in areas where the heaviest concentrations of SSOs have occurred, (3) where maintenance issues are chronic or recurring, (4) in response to immediate flow problems, and (5) as part of a proactive assessment and maintenance program. Hydraulic cleaning is effective in removing material that becomes deposited in the sewer mains. This deposition typically occurs in lines with minimal slopes and in areas of high commercial activity. The Department employs both mechanical root removal methods to clear blockages and a chemical root control program to minimize the potential for recurring or future growth. The combination of physical root removal and chemical root control has been shown to be more effective in reducing the frequency and severity of root intrusions than the use of either method individually.

Closed Circuit Television (CCTV) inspections and acoustic assessments are aids in identifying lines with obstructions, installation defects, performance issues, corrosion problems, and advancing levels of pipe deterioration associated with the aging process and normal wear. The Department's asset management program has determined the condition of its critical sewer components, and is advancing the CCTV program to inspect less critical components while utilizing rapid acoustic assessment technology to identify pipes throughout the system that may be partially blocked or have artificially reduced capacities. The program calls for critical main lines to be assessed every ten years or more frequently if conditions warrant. On-going investigations and trend analyses are used to identify, delineate, and prioritize areas which may require attention on a more frequent basis. The reaches to be included in subsequent assessment efforts will be continually adjusted to address changing needs and priorities. In addition to in-house collections workgroup crews, GCDWR also funds an annual contract for cleaning and television inspection services.

4.5.4 Manhole Location and Adjustment:

The Department funds an annual contract for sanitary sewer manhole adjustment services to supplement the work performed by in-house crews. Proper maintenance of the manholes provides the GCDWR crews the necessary accessibility to properly assess the collection system and eliminates a major source of inflow and infiltration. These critical components of the sewer system are tracked in the asset management system with regard to current condition and inspection date. This inspection effort is on-going and continuous, when highly aggressive conditions are identified the OTS Workgroup does further evaluation for potential rehab or replacement. When repairs to a manhole are performed, the renewal method employed is documented, and the follow up condition assessment is input into the asset management system. This new condition then becomes the basis for the timing of the next scheduled inspection.

4.5.5 Grease Control:

The Department has implemented a fats, oils, and grease (FOG) program, through Section 106-162 of the County Ordinances. Grease interceptors are required upstream of the connection to the pubic sewer system for food service establishments (FSE) or any facility which generates liquid wastes containing grease in excessive amounts. The Department's FOG group inspects and monitors all grease traps within the County. If a deficiency is found during an inspection, the FSE is notified and is required to address the deficiency within a specified period of time. The site is then re-inspected and enforcement is continued until compliance is achieved. The ordinance imposes a continuing responsibility on customers using grease interceptors to maintain, revamp, enlarge or otherwise modify their interceptors to achieve their intended purpose.

The Sewer Use Ordinance provides GCDWR with the right to enter the facility and inspect the grease trap for compliance. Failure to comply with provisions of the program places the customer in violation of the county code and may result in enforcement actions. Potential enforcement actions include notices, citations, penalties, and ultimately termination of water and sewer service.

Apartment complexes are not required to install grease management devices due to their residential classification. However, these developments may still be significant sources of grease due to the number and concentration of families contributing to the discharge from the facility. When grease-related blockages occur and result in back-ups in the county sewer system, the areas upstream are identified and targeted for distribution of educational materials

developed as door-hangers by the FOG group. The Department also has an extensive FOG education program including posters, fliers, videos, and presentations which are provided to schools or other community groups.

The presence of grease in the collection system normally becomes an operational concern when it attaches to the pipe walls, pipe defects, or intruding roots, and impedes flow. The Field Operations Division addresses these situations by hydro-jetting the pipe or applying a chemical solvent to remove the grease. It is anticipated that the aggressive cleaning, acoustic assessment, television inspection, and root control programs discussed above will continue to address and reduce the impacts of grease on the sewer system. In addition, the FOG workgroup reviews SSOs for FOG and rag related issues, identifies the areas that are the likely source, and targets those areas for public outreach and education.

4.6 Sewage Pump Stations:

The County currently operates many raw sewage pump stations of various sizes and configurations over a large service area. The majority of these stations are serving residential areas and they are either small above-ground wet-well mounted pump stations or submersible pump stations. The County-owned and operated pump stations have been divided into routes based on their locations. At least one mechanic is assigned to each route. The mechanic is responsible for performing routine periodic inspections on each pump station on the route and performing minor repairs as needed. Mechanical maintenance crews perform the heavier repairs that are beyond the capability of the route mechanic. In addition, GCDWR has contracted with qualified contractors to perform repairs on pump stations, generators, and overhead cranes.

It is GCDWR's goal to have a redundant power source at all pump stations in the event of a power failure. The Department standards require all new pump stations to have a secondary power generator installed. All of the existing stations except one have been equipped with on-site generators. This exception in our system is able to operate from a portable generator, and the County has two adequately-sized, portable generators available to ensure that one will be available at all times.

The Department recognized the need for an effective and responsive Supervisory Control and Data Acquisition (SCADA) system to monitor and control the existing sanitary sewer pumping stations as well as those that may be added in the future. SCADA and telemetry systems monitor the operation of remote pump stations, provide an alarm system to warn of pump station failure conditions, and control flows through pump stations. The advantages of an effective SCADA system include:

Reduced labor for monitoring pump stations

Better surveillance of station equipment

Instantaneous notification of alarms

Automatic gathering of operating data for management of flows and reporting

Remote control capability

4.7 Pump Station and Meter Station Monitoring

GCDWR currently uses two types of systems for pump station and metering station communications.

4.7.1 Supervisory Control and Data Acquisition (SCADA):

This system is used to monitor and control pump stations through "real time" communications via cellular communication. All of the pump station sites can be monitored and controlled by this system. With appropriate administrative rights, the pump station operator can view the system's performance, access controls and alter their state from any computer that has internet access, or from specially configured wireless devices. This remote accessibility improves response times greatly by allowing the operator to begin investigating a potential problem immediately upon receiving an alarm instead of requiring a trip to the site.

The "Human Machine Interface" (HMI), an additional software toolset within SCADA, which allows authorized personnel to control or view the status of the connected pump station, metering station, or water reclamation facility. Authorized staff members also have the ability to access and control this equipment from any remote location via wireless (Wi-Fi) or a cellular network. Data from the two primary operating systems is stored at two physically separate locations within the County's IT network. This provides redundancy for both operating systems - capturing and storing operating status changes and sensor logs as historic data. This information is used for trend analyses, pump runtime comparisons, flow measurements and alarm history monitoring.

Alarms from SCADA are received in Maintenance Customer Service which is staffed 24-hours a day. If alarms are not acknowledged within a specified amount of time, they are re-routed to a dedicated telephone at Maintenance Customer Service that only receives incoming calls from the remote telemetry units (RTU).

4.7.2 Cellemetry:

The "Cellemetry" control and monitoring system operates on a cellular base channel frequency. This technology is used as a back-up system for the primary telemetry units. In addition to monitoring the pump station for alarm conditions, this pump management system generates daily discrepancy reports to alert GCDWR's crews to potential problems and disparities in the station's performance.

4.8 Communications:

The County can contact the maintenance crews on a "live and immediate" basis using County-issued cell phones so they are not typically required to return to the office for instructions or advice. The Department leveraged the existing infrastructure when they expanded their radio-based system, by taking advantage of the six existing towers owned and operated by the County.

As communications technology changed, GCDWR improved its connectivity by including cell phones and mobile internet access to the system where appropriate and effective. Crew leaders are typically assigned a cell phone to ensure that communication with the crews is maintained. Further, mobile Wi-Fi hotspots are equipped into the majority of the field trucks allowing the crews to record data, receive work assignments, and access the County's GIS on a live basis while still on the job-site. This connectivity to the County's databases and work order system allows the crews to make more informed decisions, perform their work more effectively, and keep co-workers and management staff informed of on-going issues in the field.

The Department will continue to monitor and will occasionally test new communications technology to determine compatibility with the existing systems, reliability, and effectiveness. These new technologies may then be implemented into the County's communications network. A trial period is typically used with a limited deployment in these instances to ensure that the change is appropriate and meets GCDWR's needs. In this manner, GCDWR tries to protect the continuity of communications to the fullest extent while improving efficiency over time. Given the rapid advances in these technologies, it is possible that specific communications protocols could be different than those reflected in this document.

4.9 Remote Flow Meters:

The Department has a sewer-monitoring network comprised of stand-alone open-channel area, velocity flow meters and depth only meters at various locations throughout the collection system. The primary purposes of these flow meters are to monitor the performance of the system during normal operations, to provide flow data for analysis of capacity, and to evaluate the performance of the system under storm-related stresses. These meters are also associated to the network of County-owned and USGS rain gauges which are located throughout Gwinnett to provide data needed for I&I estimations and the evaluation of renewal effectiveness. The existing flow meters and rain gauges are connected into an automated, web-based, data collection system.

4.10 Training:

The Department provides its employees training opportunities through both in-house programs and programs provided by vendors and subject matter experts. All field personnel receive training from manufacturers and through peer, instruction on the use of equipment relevant to their tasks and refresher training is provided as needed and appropriate. Safety training or certification in areas such as confined space entry, trenching, work zone traffic control, and flagging are required of most field staff and are provided through either the County's Department of Financial Services – Risk Management Division, or recognized safety instructors, including the National Safety Council and the Georgia Institute of Technology.

A position-specific safety-training matrix has been developed and is reviewed by the County annually to ensure proper training is assigned for the staff. Training class attendance is tracked along with the required frequency of attendance to allow the staff to complete refresher training in compliance with their job requirements. County crews and staff are instructed to refrain from undertaking activities or using equipment for which they have not received the appropriate training.

The Field Operations Division has developed and implemented an employee skill development (ESD) program. The goal is to improve the recruitment, learning and growth, and retention of a competent, motivated and agile workforce, while retaining the institutional knowledge that could be lost due to future retirements. Training programs for work skill enhancement, supervisory development, and personnel management are available to GCDWR employees through GCDWR's training program and the County's Department of Human Resources.

5 DESIGN AND PERFORMANCE

5.1 Sewer and Pump Station Requirements and Standards:

All new collection facilities are inspected by GCDWR, utilizing either in-house personnel or consultants under contract. As addressed previously in this document, GCDWR has produced and maintains standards for the design and construction of new collection system pipelines and pump stations. These standards are applied to all projects including county installations and developer installations, thereby assuring acceptable levels of performance.

5.2 Development Inspection Procedures and Specifications:

Section106-98, Paragraph (a) provides that "All extensions of the sewer system shall be designed and built in accordance with current DWR standards. The standards shall be those stated in the latest edition of "Water Main and Sanitary Sewer Installation Regulations and Specifications ", which is available at DWR and at the Department of Planning and Development. No installation of pipe or other materials for sewer extensions shall be allowed until the required information is received and the design is approved by the county. Inspection and acceptance procedures shall be specified in these standards."

Standards for the design and construction of sanitary sewer pump stations and force mains are published and set forth in a standard document entitled "Gwinnett County Department of Water Resources – Developer Pump Station Standards". These documents are updated as appropriate by the County and distributed through the County website. The above referenced Gwinnett County sanitary sewer standards provide minimum acceptable criteria for the construction, testing, and installation of sewer lines, and are applicable to both new and rehabilitated public sewers.

5.2.1 Specification Provisions:

5.2.1.1 At no time will any sewer construction commence before approval of all plans, submittal of required documents, including necessary easements, issuance of permits, and a preconstruction conference with the County inspector.

5.2.1.2 DWRSSS 4.1.4- "The Pipe Contractor is required to be listed on the approved Utility Contractors List by GCDWR to install manholes, tie-in commercial properties or install 8" or larger pipe. No Contractor shall be allowed to commence installation until an application for inclusion to the Approved Utility Contractors List has been received and approved by GCDWR. Appropriate construction permit(s) must also have been issued by GCP&D. See Article 5.15 for penalties for working without the appropriate permits."

5.2.1.3 DWRSSS 4.2.1- "All sewer lines, manholes, and other appurtenances shall be installed according to approved plans and profiles. If a plan revision must occur, the redesigned area(s) must be submitted to GCP&D for approval prior to installation in accordance with Georgia Environmental Protection Division's Rules and Regulations for Water Quality Control, Chapter 391-3-6.02(1). "

5.2.1.4 DWRSSS 5.2.1- "The GCDWR Inspector will make periodic site visitations without advance notice to the Contractor. However, it is the responsibility of the Contractor to contact the Inspector during each phase of the installation for inspections and/or re-inspections."

5.2.1.5 DWRSSS 5.7.1- "All sewers shall be tested for leakage using low pressure air testing, as specified herein."

5.2.1.6 DWRSSS 5.8.1 "If excessive deflection is noted during GCDWR Final Inspection, deflection tests shall be performed by GCDWR."

5.2.1.7 DWRSSS 5.9.7- "…Any defects discovered by GCDWR inspection of the CCTV recording must be corrected immediately in order to receive Final Inspection approval."

5.2.1.8 DWRSSS 5.10- "On newly installed sewers NO infiltration or leaks will be allowed. Any infiltration must be eliminated prior to approval."

5.2.1.9 DWRSSS 5.9.1- "Upon completion and approval of all listed inspections, the sanitary sewer project will be scheduled for a GCDWR Final Inspection."

6 MONITORING, MEASURING, AND MODIFICATIONS

6.1 Metrics and Key Performance Indicators:

It is believed that the overall effectiveness of the Department's CMOM program can be demonstrated using key performance indicators (KPI) that will be monitored over time. The metrics and performance indicators may change over time based on observed condition and performance of the system. The current primary key performance indicators for GCDWR's CMOM Program include but are not limited to:

Sewer spills per 100 miles of sewer pipe

Collections O&M cost per 100 miles of sewer pipe

Percent of collections calls responded to within 24 hours

Collections O&M hours per 100 miles of sewer pipe

In addition to KPIs, the Department tracks other metrics used to track performance goals. Some of the primary metrics are:

Total SSOs per 100 miles of sewer pipe

Miles of sewer pipes inspected

Miles of sewer pipes cleaned

Miles of sewer pipes rehabilitated

Miles of sewer easement cleared

Number of sewer structures rehabilitated

6.2 Program Updates:

The Field Operations Division publishes a comprehensive statistical report that catalogs routine operations and maintenance activities. Included in this report are many CMOM-related elements that are used to monitor the progress of operations and maintenance activities such as SSOs, backups, emergency responses, repairs, and maintenance contract activity. Program elements will be formally updated as appropriate based on monitoring or performance evaluations.

6.3 Program Summary:

The Department views this annual summary report as a working document. There may be changes to the format or layout of the report between submittals that are intended to enhance clarity, document refinements or improvements to GCDWR's CMOM-related activities, or reflect changes that occur within DWR. However, the primary reporting mechanism contained in Appendix A of this report follows the format set forth by EPA and is not expected to change unless we are notified by EPD that they desire such to occur. This report will be updated at least annually, and more often as necessary to reflect significant changes. It will be submitted to EPD via electronically posting to the County website along with a notification to EPD that such posting has occurred. This process will provide easy and continuous access to this document by the public and Georgia EPD.

7 OVERFLOW EMERGENCY RESPONSE PLAN

It is the policy of GCDWR to comply with reporting requirements set forth in Chapter 391-3-6-.05 of EPD's Rules and Regulations for Water Quality Control. Maintenance Customer Service serves as the most common point for receiving information regarding potential sanitary SSOs in the collection system. Maintenance customer service is typically alerted to potential SSOs through telephone calls from customers, contractors, environmental groups, regulatory agencies, and other county agencies. Additionally, all sanitary sewer pump stations in the collection system are equipped with telemetry that sends an alarm to sewer pump stations and maintenance customer service in the event of a pump station failure or when the stored volume in the wet well reaches a specified action level. Maintenance customer service monitors the pump station telemetry system for such alarms and is staffed 24-hours per day, seven days a week. The Field Operations Division maintains field staff on duty from 7am to 4pm five days a week. A rotational on-call schedule of field personnel and supervisors ensures that adequate personnel are available to handle any emergency repairs after regular business hours and on holidays. Facilities Division also provides rotating technical crews including mechanical, electronic, and electrical repair personnel as part of their on-call emergency response crews.

In addition to the continuous SSO related activities and precautions set out above, Field Operations works in close cooperation with the Department's Water & Wastewater Program Support Division to protect the natural waterways. This program is referred to as the Emergency Stream Inspection Program (ESIP). When the County Laboratory Group detects an unexplained, elevated fecal count in a stream, Field Operations reviews the GIS to see if there is an adjacent or upstream sewer that could contribute to flows in the identified area. If so, a crew is sent to the potentially impacted area and begins a walk-through of the zone. This inspection is used to determine whether there has been an unidentified spill. If an SSO is found, the procedures for SSO-response are initiated.

7.1 Receipt of SSO Reports:

Potential sewer overflows are considered emergencies. Maintenance customer service serves 24-hours per day, seven days a week point of contact for the receipt of these reports whether from citizens, agencies, or through the telemetry systems. All sanitary sewer pump stations in the collection system are equipped with telemetry, and critical stations have backup telemetry systems. When conditions arise at a pump station that could result in an overflow (e.g. pump failure, power failure, high wet well level), the telemetry systems send an alarm to maintenance customer service. The maintenance customer service representative on duty then contacts the on-call coordinator for pump stations who sends an appropriate emergency response crew to the reported site. These crews are trained to diagnose the cause of the problem and begin appropriate corrective actions. If the crew determines that an overflow has occurred, they contact a field supervisor (coordinator) if they are not already on-site and immediately initiate actions to contain and stop the overflow. The coordinator meets with the crew at the site and proceeds with (1) estimating the amount of the overflow using the procedures identified in Appendix E, (2) investigating the receiving waterways for any potential impact and the associated need for cleanup, and (3) documenting information needed to report the event.

7.2 Response:

All maintenance customer service personnel, administrative support staff, supervisors, and field crews have two-way radios or a County supplied phone for constant communications. In addition, field crews are supplied with internet in their response vehicles so that they can log onto the County intranet to access e-mail, as-builts, GIS, and work order histories on any asset

they are sent to repair. Once the coordinator confirms that the reported back-up meets the requirements set forth by EPD in section 391-3-6 of the Water Quality Control Act as a sewer spill requiring emergency action, the coordinator then relays all pertinent information to the Maintenance Customer Service representative on duty. The crew and coordinator remain on-site until the spill is stopped and clean up is complete. Target response times to arrive at the site are less than two hours during regular business hours, on evenings, weekends, and holidays.

7.3 Official Notification:

Once the coordinator confirms that the spill has been brought under control and clean up has been performed, the coordinator estimates the size of the spill and then relays all pertinent information to the Maintenance Customer Service representative on duty. Signs are posted at the spill site, where the spill entered state waters, public access areas downstream of the spill, and within reasonable distance downstream depending on the magnitude of the spill. Upon receiving the spill information, the Maintenance Customer Service representative then immediately notifies the EPD either by telephone or e-mailing the EPD approved Notification of Spill form. If the Notification of Spill form indicates a minor spill, the Department's Public Information Officer then proceeds with notification of the local media (newspaper, radio, and T.V.) and the Health Department. If the Notification of Spill form indicates a major spill has occurred or the potential for a water quality violation, the GCDWR Environmental is contacted to perform stream sampling.

If the event occurs during non-business hours, the coordinator is responsible for collecting the initial set of samples and delivering them to the lab for testing. Additional notifications are associated with major spills beyond those that occur for minor spills. In these instances, the Maintenance Customer Service representative also proceeds with the direct notification of downstream municipalities, agencies, or affected entities (citizens, homeowner groups, etc.). Emergency contact lists showing whom to contact in these cases are included in GCDWR's Department-wide Contingency Plan and are posted in the Maintenance Customer Service area. GCDWR also publishes a notice of the spill in the legal organ of the County within seven calendar days. As a final notification, GCDWR issues a written report to EPD within five days confirming the details of the event and providing any corrections to the preliminary report which was originally e-mailed.

7.4 Training:

Emergency response to a spill is the responsibility of the Field Operations Division. All maintenance customer service personnel, field supervisors, foremen, lead workers, and managers involved in emergency response efforts have been trained in the appropriate procedures and requirements. In addition, field supervisors, foremen and lead workers have been trained in the calculation of spill volumes. The coordinators overseeing the field crews are trained in the proper collection, documentation and transport of stream samples. New personnel receive on-the-job training regarding these procedures. If performance reviews of the response or reporting process show that the procedures are not being carried out as effectively as practical, refresher training is provided.

7.5 Emergency Operations:

All initial emergency response and most emergency repair work are carried out with in-house forces. As shown previously, GCDWR has adequate staff, vehicles, and equipment to effectively handle these duties. Annual contracts for the repair of sewer lines and force mains augment the in-house repair capabilities. Such contracts require that the contractor must provide emergency mobilization and repair operations when called on by GCDWR. Construction

contractors can also be hired through an accelerated procurement process to perform emergency repairs.

For pump stations, GCDWR also has emergency and accelerated repair arrangements with its mechanical and equipment suppliers to augment its in-house repair capabilities. The Department also maintains annual contracts with qualified local contractors for electrical repair, motor repair, and generator repairs.

8 SYSTEM EVALUATION AND CAPACITY ASSURANCE

Assessment of the capacity and condition of the collection system and treatment facilities is a continuous process. The Department has a full-time staff of planners, engineers, and technicians who monitor the existing system and estimate potential growth in wastewater flows. In addition, GCDWR has an aggressive master planning program which maintains a current Master Plan. This plan documents projected future average and peak flows. It also outlines activities and improvements recommended to proactively provide a wastewater infrastructure which can accommodate those future flows in a timely and sustainable manner. The Department uses flow projections developed and applied to major drainage basins as part of these infrastructure planning efforts.

8.1 Hydraulic Modeling:

The Operations Technical Services group has an active on-going hydraulic modeling effort for the County sewer system. The best available data is used to analyze the system capacity and compare it to directly metered or model-based flows. Flow monitors within the system are used to constantly assess the capacity that is available within the system and to identify areas in need of I&I control. The County monitors proposed new development within the service areas and anticipates what effect the proposed development will have on the sewer infrastructure as an integral part of the planning and design review processes. If there is any question as to existing conditions, the Infrastructure Support division works with proposed developments to ensure that the necessary survey, as-built, and flow meter data are obtained to improve the hydraulic model accuracy prior to permitting new sewer connections.

8.2 Master Plan:

Gwinnett County has an active on-going Master Planning effort, which provides strategies and long-term capacity enhancements of the wastewater conveyance system along with priorities and dependencies for these projects. The sewer model described previously is integral to this long-term planning process, and is used to assess the capacity of the system with both existing and future peak flows. System improvements are delineated to handle any significant shortfalls in the collection system and to improve efficiency. The estimations of population growth trends developed by the Gwinnett County Department of Planning & Development, private consultants, and the Atlanta Regional Commission are considered to establish a reasonable basis for calculating the ultimate capacity requirements of the wastewater network. The long-range planning efforts set out in the plan are monitored and modified by GCDWR as time passes to ensure the recommendations provided are appropriate to the actual growth patterns realized in the county. The capacity of the treatment facilities and pump stations are also considered when developing recommendations for conveyance system improvements.

8.3 Capital Improvement Plan:

The Engineering and Technical Services Division maintains the long-range plan, including a 5-year Capital Improvement Plan (CIP), for system improvements. The long-range plan includes upgrades to existing lines, the installation of new lines, and the installation or decommissioning of pumping stations. This program is funded from available revenues, bonds, and other sources. The list of CIP projects include not only those originating from the Master Plan referenced above, but also water and wastewater treatment, water distribution, and various other departmental projects. An example of a monthly collections CIP review is presented in Appendix F. As such, collection system improvement projects are compiled and prioritized against not only other collection projects but also projects that address other departmental needs.

The Gwinnett County Board of Commissioners allocates funding for operation, maintenance, and upgrade of the sanitary sewer system through an annual budget process. New projects are recommended for incorporation in the CIP as new planning, engineering and assessment information becomes available.

8.4 Rehabilitation Identification and Prioritization:

Sewer rehabilitation projects are generally identified through the condition assessment programs or through the planning/permitting process. These rehabilitation efforts range from a point repair to address a specific asset to lining projects which can address short lengths of mains. More complex rehabilitation needs that address multiple assets are typically compiled into projects and can address more widespread needs or defects that cannot be addressed by a limited repair. Identified projects are discussed with planning, engineering, and the financial staff to designate a priority and a funding source for the project. Rehabilitation projects are generally funded through the capital budget program.

Funding amounts for the rehabilitation and assessment programs are reviewed and adjusted on an annual basis.

9 PROGRAM AUDIT – INTERNAL

9.1 Program Monitoring:

The Department will monitor CMOM-related activities to determine if they are providing positive results for the collection system and identify those activities that might be adjusted to provide a higher level of benefit. The Department will also attempt to identify gaps in the CMOM program that could be addressed by altering an existing activity or adding new activities. It is intended that the GCDWR's collection system maintenance and operations will be flexible enough to allow for minor changes in response to changing conditions in the collections system. However, proposed revisions to our activities that would potentially modify or impact those conditions of our CMOM program dictated by our voluntary Consent Agreement will not be undertaken without prior approval of such proposed changes by EPD.

9.2 Report Preparation:

The Field Operations Division will prepare the annual report to relay applicable metrics and will use the example, Data Collection Form contained in Appendix A from the Guide for Evaluating Capacity, Management, Operation, and Maintenance (CMOM) programs at sanitary sewer collection systems, published by the United States Environmental Protection Agency Office of Enforcement and Compliance Assurance (2224A), EPA 305-B-05-002_dated January, 2005.

Appendix A – Data Collection Form

COLLECTION SYSTEM PERFORMANCE INDICATOR DATA COLLECTION FORM Rev. January 2021

EXAMPLE
COLLECTION SYSTEM PERFORMANCE INDICATOR DATA COLLECTION FORM

I. General Information

A. Agency Name: **Gwinnett County Department of Water Resources**

B. Agency Address - Street: **684 Winder Hwy** City: **Lawrenceville** State: **GA** Zip: **30045**

C. Contact Person: **Eric Swett**

D. Telephone Voice: **(678) 376-6979** Fax: **(678) 376-6930**

E. Email: **eric.swett@GwinnettCounty.com**

F. Data provided for latest fiscal/calendar year: **2019/2020**

II. Collection System Description

A. Service Area: **437 Square miles**

B. Population Served: **936,250**

C. System Inventory

Miles of gravity sewer	Miles of force main	Number of maintenance access structures	Number of pump stations	Number of siphons	Number of air, vacuum, or air/vacuum relief valves
2,848	**276**	**81,405**	**216**	**0**	**659**

D. Number of Service Connections:

Residential: N/A Commercial: N/A Industrial: N/A Total: **178,515**

E. Lateral Responsibility (check one)

1. At main line connection only
2. **From main line to property line or easement/cleanout**
3. Beyond property line/cleanout
4. Other

F. System combined (storm and sanitary)? **No**

G. Average Annual Precipitation: **53.27** inches (Total for Year)

H. System Flow Characteristics (total for service area)

Peak Dry Weather Flow (MGD)	Peak Wet Weather Flow (MGD)	Average Daily Flow (MGD)
81.52	**100.50**	**57.89**

III. Special Conditions

A. Indicate local conditions that are accounted for during design, construction, operation, and maintenance of the collection system.

1. Precipitation: **Yes** If yes, provide brief explanation: Floodplain/low-land Manholes are sealed and bolted
2. Terrain: **Yes** If yes, provide brief explanation: Easements are cleared for inspections and response
3. Soils: **Yes** If yes, provide brief explanation: Excavation safety considers local soil types
4. Temperature: **Yes** If yes, provide brief explanation: PPE and safety equipment is required
5. Groundwater: **Yes** If yes, provide brief explanation: Pumping during repairs, and infiltration limitations
6. Geology: **Yes** If yes, provide brief explanation: Excavation and backfills require soils consideration
7. Other:

B. Is corrosion a significant problem? **Yes**

1. Is there a corrosion control program in place? **Yes**

C. Is odor a significant problem? **Yes**

1. Is there an odor control program in place? **Yes**

D. Is grease a significant problem? **Yes**

1. Is there a grease control program in place? **Yes**

E. Are roots a significant problem? **Yes**

1. Is there a root control program in place? **Yes**

These maintenance issues are not typically considered as significant problems internally because they are primary considerations in the preventive maintenance programs. They are identified as above to indicate this impact to our operations.

IV. Age Distribution of Collection System

Age	Gravity Sewer, miles	Force Mains, miles	Number of Pump Stations
0 - 25 years	**1,549.69**	**232.65**	**151**
26 - 50 years	**1,289.97**	**43.48**	**64**
51 - 75 years	**7.91**	**0**	**0**
> 76 years	**0**	**0**	**0**
Unknown	**0**	**0**	**0**

V. Size Distribution of Collection System

Diameter in inches	Gravity Sewer, miles	Force Mains, miles
8 inches or less	**2519.11**	**127.4**
9 - 18 inches	**186.83**	**48.12**
19 - 36 inches	**98.70**	**83.55**
> 36	**42.93**	**17.06**
Unkn	**0**	**0**

VI. Distribution of Gravity Sewer By Material

A.	Vitrified Clay Pipe (VCP)	**380.15**	**Miles**
B.	Reinforced Concrete Pipe (RCP)	**86.85**	**Miles**
C.	Unreinforced Concrete Pipe (CP)	**0.0**	**Miles**
D.	Plastic (all types)	**1,742.54**	**Miles**
E.	Brick	**0.0**	**Miles**
F.	Other- CIP	**6.28**	**Miles**
G.	Other- DIP	**628.84**	**Miles**
H.	**Other – Steel**	**0.48**	**Miles**
I.	Other- Unknown	**2.43**	**Miles**

VII. Distribution of Force Mains By Material

A.	Reinforced Concrete Pipe (RCP)	**0**	**Miles**
B.	Prestressed Concrete Cylinder Pipe (PCCP)	**0**	**Miles**
C.	Asbestos Cement Pipe (ACP)	**0**	**Miles**
D.	Polyvinyl Chloride (PVC)	**21.45**	**Miles**
E.	Steel	**0**	**Miles**
F.	Ductile Iron	**252.76**	**Miles**
G.	Cast Iron	**0.75**	**Miles**
H.	Techite (RPMP)	**0**	**Miles**
I.	High Density Polyethylene (HDPE)	**0.50**	**Miles**
J.	Fiberglass Reinforced Plastic (FRP)	**0**	**Miles**
K.	Other	**.67**	**Miles**

VIII. Preventive Maintenance of System

A. Physical Inspection of Collection System, Preventive Maintenance

Inspection Activity	Total Annual Labor Hours Expended for This Activity	Total Completed (Miles of Pipe or Manholes Inspected	Crew Size (s)
CCTV	**NA**	**187.05**	**(4) 2 PERSON CONTRACT**
Visual Manhole Inspection, Surface Only	**NA**	**NA**	**2 PERSON**
Visual Manhole Inspection, Remove Cover	**NA**	**5,610**	**(2) 2 PERSON**
Visual Gravity Line Inspection, Surface Only	**NA**	**79.66**	**2 PERSON**
Visual Force Main Inspection, Surface Only	**NA**	**14.46**	**2 PERSON**
Other - Ultrasonic	**CONTRACT**	**CONTRACT**	**CONTRACT**
Acoustic Inspections	**NA**	**13.95**	**(2) 2 Person**

B. Mechanical and Hydraulic Cleaning, Preventive Maintenance

Cleaning Activity	Total Annual Labor Hours Expended for This	Total Annual Labor Hours Expended for Scheduled	Total Miles Cleaned Annually	Crew Size (s) Four Trucks Available	Range of Pipe Diameters Cleaned
Hydraulic Jet	**8,103**	**5,314.5**	**262.18**	**(4) 2 PERSON**	**4" – 16"**
Bails, Kites, Scooters	**DNA**	**DNA**	**DNA**	**DNA**	**DNA**
Combination Machines	**DNA**	**DNA**	**DNA**	**DNA**	**DNA**
Rod Machines	**DNA**	**DNA**	**DNA**	**DNA**	**DNA**
Hand Rodding	**DNA**	**DNA**	**DNA**	**DNA**	**DNA**
Bucket Machines	**DNA**	**DNA**	**DNA**	**DNA**	**DNA**
Chemical Root Control	**CONTRACT**	**CONTRACT**	**59.01**	**CONTRACT**	**4" – 16"**
Chemical or Biological Grease Control	**DNA**	**DNA**	**DNA**	**DNA**	**DNA**

IX. Dry Weather Stoppages

A.	Number of stoppages backups, overflows, and spills:	**277**
B.	Average time to clear spills:	**1.95 hours**
C.	Number of stoppages resulting in sanitary sewer overflows:	**146**
D.	Total quantity of spills (gallons):	**214,985**
E.	Is there an established procedure for problem diagnosis?	**Yes**
F.	Are future preventive measures initiated based on diagnosis?	**Yes**
G.	What equipment is available for emergency response?	**Jet truck, Vac-con, tractors, pipe repair equipment**

X. Repairs and Rehabilitation, Proactive

A.	Number of annual spot repairs identified	**151**
B.	Number of annual spot repairs completed	**151**
C.	Percent of spot repairs contracted	**41.06%**
D.	Number of manholes identified for rehabilitation	**437**
E.	Number of manholes rehabilitated annually	**437**
F.	Percent of manhole repairs contracted	**40.73%**
G.	Feet of main line needing rehabilitation	**21,669**
H.	Feet of main line rehabilitated (lined or burst)	**21,669**
I.	Percent of main line rehabilitation contracted	**100%**
J.	No. of manholes scheduled for rehab by Capital Improvement Program	**437**
K.	Ft of main scheduled for rehab under Capital Improvement Program	**21,669**

XI. Repairs and Rehabilitation, Reactive

A.	Number of annual line features	**NA**
B.	Number of line repairs (MH and Pipe)	**56**

XII. Pump Stations

A.	Number of pump stations inspected:	**212**
B.	Frequency of inspection:	**Weekly**
C.	Number of inspection crews:	**14**
D.	Crew size:	**1**
E.	Number of pump stations with pump capacity redundancy	**212**
F.	Number of pump stations with backup power sources	**211**
G.	Number of pump stations with dry weather capacity limitations	**0**
H.	Number of pump stations with wet weather capacity limitations	4
I.	Number of pump stations calibrated annually	**212**
J.	Number of pump stations with permanent flowmeters	**22**
K.	Number of pump stations with remote status monitoring	**212**
L.	Number of pump stations with running time meters	**212**
M.	Number of mech maint staff assigned to mechanical maintenance	**25**
N.	Number of elect maint staff assigned to electrical maintenance	**3**
O.	Total labor hours scheduled annually for elect and mech PM tasks	**19,748**
P.	Total labor hours expended annually for elect and mech PM tasks	**22,433**

XIII. Pump Station Failures, Dry Weather

A.	Number of failures resulting in overflows/bypass or backup, annually	**1**
B.	Total quantity of overflow/bypass (gallons)	**2,420**
C.	Average time to restore operational capability	**2 hrs**
D.	Total labor hours expended for electrical and mechanical corrective maintenance	**9,793**
E.	Is failure mode and effect diagnosed?	**Yes**
F.	Are future preventive measures initiated based on diagnosis?	**Yes**

What equipment is available for emergency response?

Electric pumps, diesel pumps, generators, service vehicles, pump trucks, crane truck

G.

XIV. Force Mains

A.	Force mains inspected annually	**14.46 miles**
B.	Force mains monitored annually **(pressure profile, capacity)**	**280 miles**
C.	Number of force main failures annually	**3**
D.	Cause(s) of force main failures **corrosion, construction impacts,poor installation practice**	**Internal H2S**

XV. Air Relief/Vacuum Valves

A.	What is frequency of valve inspections?	**annual**
B.	What is frequency of PM (backflushing, etc)?	**annual**
C.	Number of annual valve failures	**167**
D.	Cause(s) of valve failures **Plastic, fail gaskets**	**Grease and**

XVI. System Operation and Maintenance Efficiency

A.	Total full time or full time equivalent staff assigned to O & M (excluding administration staff but including line managers and Supervisors)	**175**
B.	Total estimated labor hours actually expended for active O & M tasks (this is the total above less hours for sick, vacation, holidays, training, breaks, etc., not directly related to performing O & M tasks)	**55,980.86**

XVII. Level of Service

A.	Average annual rate for residential users:	**$8.14/1000 gal**
B.	Rate based on: **Consumption**	**Water**
C.	Number of complaints annually:	**1,144**
D.	Number of complaints that are agency responsibility:	**465**
E.	Number of public health or other warnings issued annually:	**94**
F.	Number of claims for damages due to backups annually:	**26**
G.	Total cost of claims settled annually:	**$230,134.06**

XVIII. Financial

A.	Total annual revenue received from wastewater:	$**158,048,625**
	1. % of revenue for long-term debt	**22.49%**
	2. % of revenue for treatment and disposal	**40.82%**
	3. % of revenue for collection and conveyance	**36.69%**
B.	Current value of collection system assets (pipe / PS)	**$1.07B/$236M**
C.	Annual O & M expenditure	**$66,955,580**
D.	Annual CIP expenditure for repair, replacement, or rehabilitation	**$107,462,614**
E.	Annual O & M training budget	**$788,295**
F.	Total number of O & M personnel (positions- including admin)	**188**
G.	Number of personnel with collection system certification	**63**
H.	Number of personnel qualified for collection system certification	**63**
I.	Amount of O & M budget allocated for contracted services	**$25,116,784**
J.	Hydroflush cost per foot	**$1.07**
K.	Rodding cost per foot	**DNA**
L.	Bucketing cost per foot	**DNA**
M.	CCTV cost per foot	**$1.0**7
N.	Spot repairs, cost each	**$4,760**

XIX. Safety

A.	Total labor hours assigned to O & M	**1,373.75**

B.	Number of lost time injuries		**12**
C.	Total lost time days		**58**
D.	Total cost of lost time injuries		**$ 28,144.65**

XX. Regulatory

A.	Total number of violations issued by Gwinnett County annually	**60**
B.	Total cost of fines paid annually	**$0**
C.	What is minimum reportable quantity in gallons?	**No minimum**
D.	What is time reporting requirement?	**Immediate**
E.	Number of annual WWTP upsets due to wet weather flow	**0**

XXI. General

A.	Has SSES been performed on system?	**N/A**	
B.	Total O & M positions currently budgeted	**234**	
C.	Total O & M positions currently filled	**220**	
D.	Is computerized maintenance management system used for O & M?		**Yes**
E.	Is GIS system used for O & M managing?		**Yes**

XXII. Procedures or Other Documentation Available

A.	Overflow, bypass and containment	**Yes**
B.	Problem evaluation and solution	**Yes**
C.	Cleanup procedure	**Yes**
D.	Failure mode and effect procedure	**Yes**
E.	O & M budget process	**Yes**
F.	O & M budget with line item detail	**Yes**
G.	Long-range CIP planning for system expansion, rehab,	
H.	and replacement	**Yes**
I.	Is there a written procedure for cleanup to mitigate overflow effects?	**Yes**
J.	Is there a written procedure for containing overflows and bypasses?	**Yes**
K.	Is there an established procedure for containing overflows and bypasses?	**Yes**
L.	Is there an established procedure for problem evaluation and solution?	**Yes**
M.	Is there an established procedure for cleanup to mitigate effect of overflow?	**Yes**
N.	Is there a grease control program?	**Yes**
O.	Is there a pretreatment program?	**Yes**
P.	Is there a private source I/I reduction program?	**Yes**
Q.	Do you have chronic O & M problems that are designed into your system?	**No**
	If yes, provide brief description:	
R.	Do you have chronic O & M problems that are constructed into your system?	**Yes**
	If yes, provide brief description:	

Pipes requiring frequent maintenance have been identified and scheduled to avoid back-ups.

S. How would you rate your construction inspection program?

Very effective Needs improvement Poor

XXIII. Definitions/Clarifications

A. Maintenance access structures, most commonly manholes, in your system that are incorporated into your O & M program.

B. Pump capacity redundancy is the ability to maintain pumping at design capacity with the largest pump out of service.

C. Remote status monitoring is any remote monitoring system such as alarm telemetry or SCADA that provides remote pump station status information.

D. You will notice that in the section on stoppages and pump station failures, we are asking for dry weather incidents only. Dry weather system performance is a good indicator or effectiveness of O& M program. If you have wet weather information that you wish to provide also, please do.

E. Under the Special Conditions sections we are identifying conditions that are present in your system that require consideration during design, construction, and O & M of your system.

F. Any of the questions dealing with labor hours are designed to determine total labor hours irrespective of crew size or crews that are only assigned to cleaning, for example, less than full time.

G. Our goal is to obtain data that can be or are standardized and that are accurate. We also realize that some data may not be available; however, data can be accurately estimated. If you estimate data please follow with an (E).

H. If data is not available please indicate "NA." If data does not apply to your system, please indicate by "DNA."

I. Failure mode and effect refers to any established procedure you have to diagnose system failures to determine the cause and effect of the failure. This can apply to crews clearing stoppages or to pump station failures.

J. Pump station inspection (XII) means scheduled inspection by operators to verify station operation and perform PM. It excludes electrical or mechanical craft maintenance.

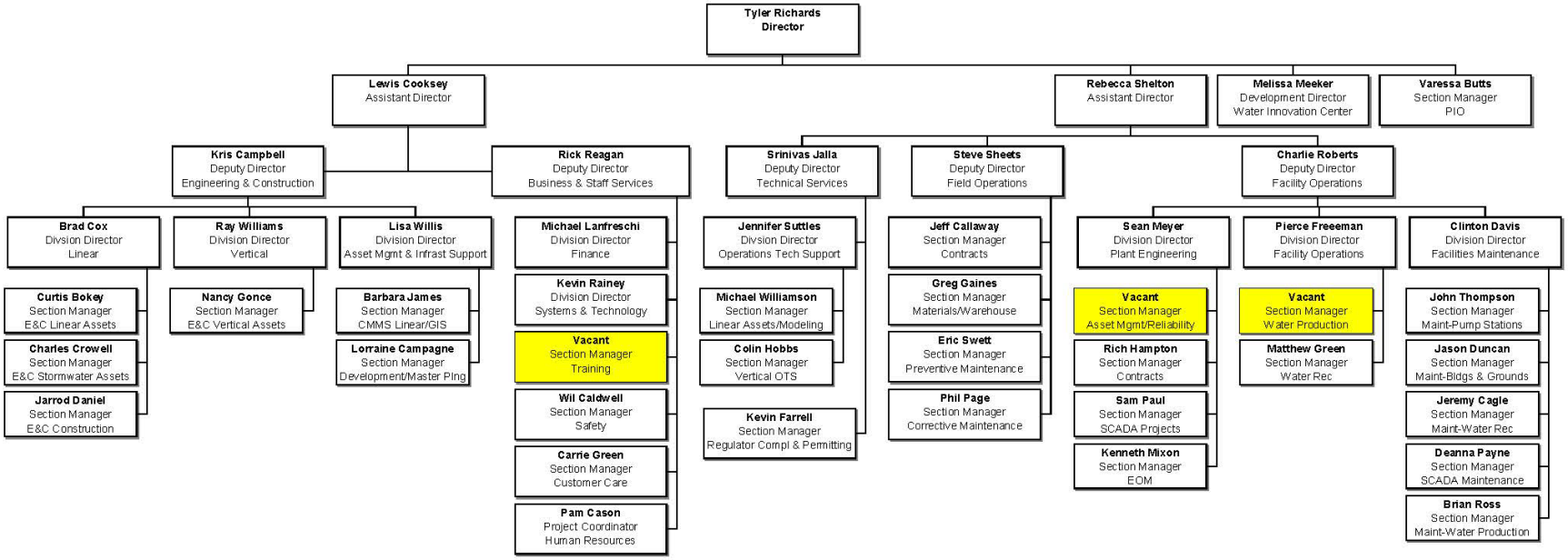
K. Stoppage in section IX refers only to stoppages other than pump stations. Pump stations are covered in Section XIII. Backup in this case refers to a basement or other structure backup as opposed to main line sewer backup.

XXIV. Additional Comments

A. XIV.B. Force mains are monitored through the pump station alarms and telemetry systems of the associated pump stations.

Appendix B – Organization

Gwinnett County
Department of Water Resources
Section Managers and Up
May 29, 2020



Appendix C – Vehicles and Equipment

Equip #	Description	Cost Center
181	2010 FREIGHTLINER M2106	19080007
252	2001 GENIE TMZ34	19090007
508	2010 FREIGHTLINER M2106V	19110001
1482	2007 JOHN DEERE TH	19040005
1591	2013 SUPERIOR 1510-L3513	19090006
1726	1997 TRAILER TRAILER	19090003
1989	2006 KOMATSU PC138USLC-3	19080003
1992	2019 BROUWER BTR30	19080001
2182	2010 FREIGHTLINER M2106	19080007
2183	2010 FREIGHTLINER M2106	19080007
2403	2002 YALE GLP100	19040005
3621	1997 MO TRAILERS MO-06	19080007
3622	1997 MO TRAILERS MO-06	19080007
3623	1997 MO TRAILERS MO-06	19080007
3624	1997 MO TRAILERS MO-06	19080007
3811	2008 FORD F350	19090015
4088	1986 LOW BOY TRAILER	19080002
4158	2020 DEEP SOUTH 7X12	19090015
5148	2009 KOMATSU PC888MR-8	19110001
7222	2005 FORD F350	19090007
7444	2019 ROCK SOLID 8.5X16 CARGO	19080002
7544	2009 STERLING LT8513	19110001
8325	2001 COMP DEWATERING 8TP-D4T-W	19080007
11152	2009 BOBCAT E25	19040005
15475	1996 FORD Y82	19080007
21741	2020 ROCK SOLID 8.5X16 CARGO	19080002
24389	2008 FORD F550	19080003
27850	2004 FORD E350	19090007
31093	2008 FORD RANGER	19040004
31410	2008 JOHN DEERE TS	19040005
32834	2002 MGS N32-6135	19080007
35026	2008 BOBCAT T300	19110001
35812	2006 FORD F150	19080008
40739	2007 FORD E350	19080007
40740	2007 FORD E350	19040004
43054	2008 KOMATSU WB146-5	19080003
43055	2008 KOMATSU WB146-5	19080002
52098	2020 MULTIQUIP GX240	19080002
65988	2008 FORD F150	19100001
66529	2008 FORD F450	19080003
66530	2008 FORD F450	19080003
66646	2007 STERLING LT9500	19080003
66649	2007 STERLING ACTERRA	19080003

Equip #	Description	Cost Center
66650	2007 STERLING ACTERRA	19080003
66651	2007 STERLING ACTERRA	19080003
66652	2007 STERLING ACTERRA	19080003
66658	2007 STERLING ACTERRA	19080002
66659	2007 STERLING ACTERRA	19080007
70190	2008 TOYOTA 7FGU45	19040004
74203	2008 FORD RANGER	19040005
74205	2008 FORD RANGER	19080002
79838	2000 HOMEMADE TRAILER	19090007
81452	2000 FORD E350	19090007
84044	2005 FORD RANGER	19090007
84045	2005 FORD RANGER	19090007
84046	2005 FORD RANGER	19090007
85027	2008 FORD RANGER	19080003
94948	2006 FORD RANGER	19040005
94949	2006 FORD RANGER	19090006
96865	2004 STERLING ACTERRA	19080007
105403	2010 CHEVROLET COLORADO	19080008
105969	2008 CHEVROLET MALIBU	19060002
106290	2008 CHEVROLET MALIBU	19040005
106601	2008 CHEVROLET MALIBU	19100001
109156	2008 CHEVROLET MALIBU	19030003
119022	2001 OBRIEN 3304-JS	19090007
124459	2007 CHEVROLET 1500	19090003
130023	2008 JLG INDUSTRIES E400AJPN	19040004
131938	2005 FORD TAURUS	19060002
132199	2009 CHEVROLET 2500	19060002
137097	2008 CHEVROLET EXPRESS	19080001
139832	2009 CHEVROLET COLORADO	19100001
143057	2008 KOMATSU WB146-5	19080003
144084	2009 CHEVROLET COLORADO	19100001
173561	2007 JLG INDUSTRIES 2030ES	19040004
175305	2018 K & K 83X18E27K	19080001
175621	2007 K & K 824E210K	19090015
179896	2007 CHEVROLET G-VAN	19090003
192811	2007 JOHN DEERE 790	19080001
194844	2003 CHEVROLET G3500	19040005
196094	2007 CHEVROLET SILVERADO	19080008
196472	2007 CHEVROLET SILVERADO	19100001
196566	2007 CHEVROLET SILVERADO	19010004
197245	1997 PRIME EQUIPMENT P95CM	19040005
210047	2008 SULLAIR 185 DPQ JD	19040005
211834	2008 CHEVROLET EXPRESS	19040005
226598	2008 DODGE RAM 3500	19090007
237324	2005 CHEVROLET G-VAN	19080003
267893	2008 CHEVROLET IMPALA	19090003
269516	2008 CHEVROLET IMPALA	19080008

Equip #	Description	Cost Center
270207	2008 CHEVROLET IMPALA	19020001
270926	2008 CHEVROLET IMPALA	19060002
271492	2008 CHEVROLET IMPALA	19060002
273874	2008 CHEVROLET IMPALA	19090016
301472	2006 JLG INDUSTRIES 2030ES	19040004
303166	2011 ARGO AVENGER	19080002
303302	2011 K & K 8X25E220KA	19110001
303303	2011 K & K 8X25E220KA	19110001
304353	2015 FELLING XF-110-3HDG0006	19080002
304363	2015 DITCH WITCH FX30-04	19080003
304466	2015 K & K 7X22E23K	19080002
304467	2015 K & K 7X22E23K	19080002
304468	2015 K & K 7X22E23K	19080001
304492	2015 K & K 8X30E212K	19080002
304493	2015 K & K 8X30E212K	19080002
304495	2015 K & K 8X30E212K	19080003
304499	2015 K & K 8X30E212K	19080002
304540	2015 K & K 8X30E212K	19080002
304681	2015 K & K 8X30E212K	19080003
304749	2016 CLARK C32C	19090003
304878	2016 K & K 8X25E212K	19080003
304879	2016 CASE 580SN	19090007
304880	2016 CASE 580SN	19080001
304881	2016 CASE 580SN	19080003
304902	2016 POLARIS GEM EM1400 LSV	19040004
304903	2016 POLARIS GEM EM1400 LSV	19040005
304904	2016 POLARIS GEM EM1400 LSV	19040005
304905	2016 POLARIS GEM EM1400 LSV	19040004
304906	2016 POLARIS GEM EM1400 LSV	19040004
304907	2016 POLARIS GEM EM1400 LSV	19040005
304909	2016 POLARIS GEM EM1400 LSV	19090006
304910	2016 POLARIS GEM EM1400 LSV	19040005
304911	2016 POLARIS GEM EM1400 LSV	19090006
304912	2016 POLARIS GEM EM1400 LSV	19090006
304913	2016 POLARIS GEM EM1400 LSV	19090003
304914	2016 POLARIS GEM EM1400 LSV	19090006
304915	2016 POLARIS GEM EM1400 LSV	19090015
304950	2016 JOHN DEERE 5055E	19040004
304951	2016 WACKER NEUSON LTN6	19080002
304952	2016 WACKER NEUSON LTN6	19080003
304953	2016 ATLAS COPCO XAS185	19080002
304954	2016 SKID PRO DL-72	19090015
305081	2016 LINCOLN WELDER	19090006
305114	2016 BOMAG BMP8500	19110001
305256	2017 K & K 7X16E27K	19110001
305288	2017 SOLT SILENT MESSENGE	19080003
305289	2017 SOLT SILENT MESSENGE	19080002

Equip #	Description	Cost Center
305290	2017 SOLT SILENT ARROW	19110001
305295	2017 FINN CORP B40	19110001
305328	2017 HYDRA-TECH PUMP HT25DYS	19080003
305698	2018 K & K 8X25E212K	19080003
305699	2018 K & K 8X25E212K	19080003
305700	2018 K & K 8X25E212K	19080003
305701	2018 K & K 8X25E212K	19080003
305702	2018 K & K 8X25E212K	19110001
305726	2018 K & K 8X25E212K	19110001
305766	2018 CLUB CAR CARRYALL II	19090006
305776	2018 K & K 14` DMPTR	19110001
305942	2018 MOTO ELECTRIC ETB-46P	19090007
305943	2019 JOHN DEERE GATOR	19040005
306000	2019 K & K 8X25E212K	19080007
306196	2020 ATLAS COPCO XAS188	19080002
306253	2020 K & K 8X25E212K	19110001
306254	2020 K & K 8X25E210K	19080001
306256	2020 K & K 8X25E212K	19080003
306258	2020 K & K 8X25E212K	19090015
306411	2020 TAYLOR-DUNN BIGFOOT XL	19090007
306412	2020 TAYLOR-DUNN BIGFOOT XL	19090007
306413	2020 TAYLOR-DUNN BIGFOOT XL	19090007
306414	2020 TAYLOR-DUNN BIGFOOT XL	19090007
306415	2020 TAYLOR-DUNN BIGFOOT XL	19090007
306416	2020 TAYLOR-DUNN BIGFOOT XL	19090007
309017	2008 TAKEUCHI TL 130	19040004
329152	2001 WALLACE DLBT40-3	19080003
332976	2015 TRAILER 10	19080002
401217	2002 MITSUBISHI FBC20K	19090007
401685	2012 YAMAHA ADVENTURER TWO	19090003
401687	2011 TOYOTA 7FGU35	19080001
401707	2011 DOOSAN DL220	19080002
401708	2011 DOOSAN DX255LC	19110001
401783	2013 CASE TV380	19080001
401784	2013 CASE CX55	19110001
401785	2013 CASE CX80	19080002
401786	2013 CASE CX55	19080003
401787	2013 CASE CX80	19080003
401788	2013 CASE CX80	19080003
401796	2014 CLUB CAR CARRYALL II	19090003
401828	2013 TOYOTA 8FGU30	19080007
401829	2007 CATERPILLAR 420E1T4ESA	19090006
401831	2007 KOMATSU WA320-5	19080002
401833	2007 KOMATSU D39PX-21A	19080002
401834	2007 KOMATSU FG30HT-16	19090006
401835	2007 GENIE GTH-844	19090006
401869	2014 CASE CX235C	19080002

Equip #	Description	Cost Center
401874	2014 CASE 580SN	19040005
401875	2014 CASE 580SN	19090003
401886	2014 CASE CX80	19080003
401891	2014 CASE CX80	19110001
402005	2016 CASE CX80	19110001
402006	2016 CASE CX80	19080003
402008	2016 VERMEER BC1400	19080002
402011	2016 CASE TV380	19080001
402016	2016 DIAMOND PRODUCT CC2525KC-20	19110001
402017	2016 DIAMOND PRODUCT CC2525KC-20	19080002
402018	2016 DIAMOND PRODUCT CC2525KC-20	19080002
402061	2017 WHITMAN WBH16	19110001
402062	2017 TOYOTA 8FGU25	19090007
402063	2017 TOYOTA 8FGU32	19040005
402081	2017 CASE CX80	19080002
402126	2018 TOYOTA 8BNCU18	19080001
402127	2018 KUBOTA RTVX1100CWL-H	19080002
402128	2018 TAKEUCHI TL 10V2-CRHR	19090007
402132	2018 CATERPILLAR 926M	19080001
402137	2018 CASE TV380	19090003
402140	2018 CASE CX80	19080003
402141	2018 CASE CX80	19080002
402142	2018 CASE CX80	19080003
402143	2018 BOBCAT T770	19110001
402170	2019 CATERPILLAR 299D3	19090015
402177	2020 SEA-ARK 2072-FX	19010002
402192	2019 CATERPILLAR 416F2	19080003
402193	2019 CATERPILLAR 416F2	19080003
402194	2019 CATERPILLAR 308	19110001
440061	2007 BOBCAT T300	19080003
522944	2008 SOLAR TECHNOLOG SILENT SENTINEL	19080002
556283	2009 DODGE RAM 5500	19040005
556284	2009 DODGE RAM 5500	19080007
556285	2009 DODGE RAM 5500	19080007
558168	2009 DODGE RAM	19080003
558172	2009 DODGE RAM	19080003
558187	2009 DODGE RAM	19080002
558188	2009 DODGE RAM 3500	19080002
558189	2009 DODGE RAM 3500	19080002
558190	2009 DODGE RAM 3500	19080002
558293	2009 DODGE RAM 5500	19080007
558294	2009 DODGE RAM 5500	19080007
558299	2009 DODGE RAM 5500	19080003
558300	2009 DODGE RAM 5500	19110001
558301	2009 DODGE RAM 5500	19080003
560075	2009 DODGE RAM 5500	19090015

Equip #	Description	Cost Center
560076	2009 DODGE RAM 5500	19080007
560077	2009 DODGE RAM	19080001
620014	2002 TEREX TB50	19040005
703185	2012 MGS CD103	19080007
703566	2017 HYDRA TECH PMP HT25DYS	19040005
752113	2017 MULTIQUIP MC94SH8	19110001
765070	2007 CLUB CAR CARRYALL II	19090006
832351	2007 DODGE RAM 3500	19090006
832354	2007 DODGE RAM 3500	19080003
866055	2012 HOMEMADE TRAILER	19040004
2003414	2010 FREIGHTLINER M2106	19080002
2003415	2010 FREIGHTLINER M2106	19080002
2003416	2010 FREIGHTLINER M2106	19110001
2003421	2010 FREIGHTLINER M2106	19080003
2003422	2010 FREIGHTLINER M2106	19080003
2003423	2010 FREIGHTLINER M2106	19080003
2003424	2010 FREIGHTLINER M2106	19080003
2003425	2010 FREIGHTLINER M2106	19090015
2003426	2010 FREIGHTLINER M2106	19080002
2003427	2010 FREIGHTLINER M2106	19080001
2003428	2010 FREIGHTLINER M2106	19080001
2003429	2010 FREIGHTLINER M2106	19110001
2003431	2010 FREIGHTLINER M2106	19110001
2003598	2010 CHEVROLET IMPALA	19010004
2003599	2010 CHEVROLET IMPALA	19060002
2003600	2010 CHEVROLET IMPALA	19060002
2003601	2010 CHEVROLET IMPALA	19100001
2003602	2010 CHEVROLET IMPALA	19060002
2003642	2010 FORD F150	19090007
2003648	2011 CHEVROLET 1500	19060002
2003665	2011 DODGE RAM 1500	19090003
2003666	2011 DODGE RAM 1500	19060002
2003673	2011 FORD RANGER	19080008
2003674	2011 DODGE DAKOTA	19060002
2003675	2011 DODGE DAKOTA	19060002
2005516	2012 CHEVROLET 3500	19080003
2005875	2013 GENIE Z-40/23NRJ	19090006
2005878	2011 POLARIS RANGER	19090006
2005879	2012 POLARIS GEM E6	19090007
2005880	2011 POLARIS RANGER	19090003
2005881	2011 POLARIS RANGER	19090006
2005915	2014 FREIGHTLINER 114SD	19110001
2005916	2014 FREIGHTLINER 114SD	19080003
2006231	2016 FORD FUSION	19080008
2006274	2015 FORD TRANSIT	19040006
2006275	2015 FORD TRANSIT	19080007
2006276	2015 FORD TRANSIT	19080007

Equip #	Description	Cost Center
2006277	2015 FORD TRANSIT	19040005
2006278	2015 FORD TRANSIT	19090007
2006279	2015 FORD TRANSIT	19080007
2006283	2015 RAM 1500	19040005
2006284	2015 RAM 1500	19060002
2006285	2015 RAM 1500	19080007
2006286	2015 RAM 1500	19090003
2006289	2015 CHEVROLET SILVERADO	19060002
2006290	2015 CHEVROLET SILVERADO	19080003
2006291	2015 CHEVROLET SILVERADO	19080001
2006292	2015 CHEVROLET SILVERADO	19110001
2006293	2015 CHEVROLET SILVERADO	19090007
2006302	2016 RAM 1500	19060002
2006303	2016 RAM 1500	19080008
2006304	2016 RAM 1500	19080008
2006305	2016 RAM 1500	19080002
2006306	2016 FORD TRANSIT	19080007
2006307	2016 FORD TRANSIT	19080007
2006308	2016 FORD TRANSIT	19040005
2006309	2016 FORD TRANSIT	19080007
2006310	2016 RAM 1500	19080002
2006317	2016 RAM 1500	19090006
2006500	2016 FORD FUSION	19100001
2006501	2016 FORD FUSION	19060002
2006548	2016 FREIGHTLINER M2106	19080002
2006573	2015 FORD TRANSIT	19080003
2006631	2016 FREIGHTLINER M2106	19080007
2006642	2016 CHEVROLET SILVERADO	19080003
2006643	2016 CHEVROLET SILVERADO	19080003
2006644	2016 CHEVROLET SILVERADO	19080003
2006645	2016 CHEVROLET SILVERADO	19080001
2006646	2016 CHEVROLET SILVERADO	19080003
2006647	2016 CHEVROLET SILVERADO	19090007
2006648	2016 CHEVROLET SILVERADO	19080008
2006649	2016 CHEVROLET SILVERADO	19080007
2006650	2016 CHEVROLET SILVERADO	19080007
2006651	2016 CHEVROLET SILVERADO	19080007
2006652	2016 CHEVROLET SILVERADO	19100001
2006653	2016 CHEVROLET SILVERADO	19080001
2006654	2016 CHEVROLET SILVERADO	19060002
2006655	2016 CHEVROLET SILVERADO	19090015
2006656	2016 CHEVROLET SILVERADO	19090007
2006657	2016 CHEVROLET SILVERADO	19090015
2006658	2016 CHEVROLET SILVERADO	19080003
2006659	2016 CHEVROLET SILVERADO	19100001
2006660	2016 CHEVROLET SILVERADO	19100001
2006661	2016 CHEVROLET SILVERADO	19100001

Equip #	Description	Cost Center
2006662	2016 CHEVROLET SILVERADO	19090015
2006663	2016 CHEVROLET SILVERADO	19040005
2006664	2016 CHEVROLET SILVERADO	19090007
2006665	2016 CHEVROLET SILVERADO	19030003
2006666	2016 CHEVROLET SILVERADO	19100001
2006667	2016 CHEVROLET SILVERADO	19080002
2006668	2016 CHEVROLET SILVERADO	19080003
2006669	2016 CHEVROLET SILVERADO	19080003
2006670	2016 CHEVROLET SILVERADO	19080003
2006671	2016 CHEVROLET SILVERADO	19080003
2006672	2016 CHEVROLET SILVERADO	19080003
2006673	2016 CHEVROLET COLORADO	19080002
2006674	2016 CHEVROLET COLORADO	19080003
2006675	2016 RAM 5500	19080007
2006676	2016 RAM 5500	19080007
2006704	2016 FORD EXPLORER	19090016
2006709	2016 CHEVROLET COLORADO	19080002
2006956	2016 DODGE RAM 3500	19080007
2006957	2016 DODGE RAM 3500	19040005
2006958	2016 DODGE RAM 3500	19080007
2006959	2016 DODGE RAM 3500	19080007
2006960	2016 DODGE RAM 3500	19080007
2006961	2016 DODGE RAM 3500	19080003
2006963	2016 CHEVROLET SILVERADO	19100001
2006964	2016 CHEVROLET SILVERADO	19100001
2006965	2016 CHEVROLET SILVERADO	19050007
2006966	2016 CHEVROLET SILVERADO	19040004
2006967	2016 CHEVROLET SILVERADO	19080003
2006974	2016 POLARIS RANGER	19080002
2006977	2016 CHEVROLET SILVERADO	19100001
2006979	2016 FORD TRANSIT	19050007
2006980	2016 FORD TRANSIT	19030003
2006981	2016 CHEVROLET SILVERADO	19080001
2006982	2016 CHEVROLET SILVERADO	19080007
2006995	2016 RAM 5500	19080007
2006997	2016 RAM 5500	19080007
2006998	2016 RAM 5500	19080007
2006999	2016 RAM 5500	19080007
2007000	2016 RAM 5500	19080003
2007001	2016 RAM 5500	19090007
2007005	2016 FREIGHTLINER M2106	19080001
2007006	2016 FREIGHTLINER M2106	19080001
2007010	2016 RAM 5500	19090007
2007011	2016 RAM 5500	19080007
2007041	2017 RAM 3500	19090007
2007043	2017 FREIGHTLINER 114SD	19080002
2007044	2017 FREIGHTLINER 108SD	19080002

Equip #	Description	Cost Center
2007045	2017 FREIGHTLINER M2106	19080007
2007050	2016 FREIGHTLINER M2106	19080003
2007078	2017 FORD TRANSIT	19090015
2007080	2017 FREIGHTLINER M2106	19090003
2007081	2017 RAM 5500	19090007
2007085	2017 RAM 5500	19090003
2007086	2017 FORD TAURUS	19090015
2007087	2017 FORD TAURUS	19090015
2007088	2017 RAM 4500	19080001
2007093	2017 RAM 5500	19090006
2007094	2017 FORD TAURUS	19010001
2007095	2017 FREIGHTLINER M2106	19080001
2007096	2017 FREIGHTLINER M2106	19080001
2007097	2017 FREIGHTLINER M2106	19110001
2007098	2017 FREIGHTLINER M2106	19110001
2007099	2017 CHEVROLET SILVERADO	19080002
2007100	2017 CHEVROLET SILVERADO	19090015
2007101	2017 CHEVROLET SILVERADO	19090015
2007102	2017 CHEVROLET SILVERADO	19060002
2007103	2017 CHEVROLET SILVERADO	19060002
2007104	2017 CHEVROLET SILVERADO	19060002
2007105	2017 CHEVROLET SILVERADO	19100001
2007106	2017 CHEVROLET SILVERADO	19100001
2007107	2017 CHEVROLET SILVERADO	19080008
2007108	2017 CHEVROLET SILVERADO	19080002
2007109	2017 CHEVROLET SILVERADO	19090003
2007110	2017 CHEVROLET SILVERADO	19090003
2007111	2017 CHEVROLET SILVERADO	19080002
2007112	2017 CHEVROLET SILVERADO	19080008
2007113	2017 CHEVROLET SILVERADO	19080003
2007162	2017 FREIGHTLINER M2106	19110001
2007163	2017 RAM 5500	19080002
2007164	2017 FREIGHTLINER M2106	19110001
2007176	2017 FORD TRANSIT	19090015
2007207	2017 RAM 5500	19080003
2007216	2018 FORD TRANSIT	19060002
2007383	2018 CHEVROLET MALIBU	19080008
2007384	2018 CHEVROLET MALIBU	19080008
2007414	2018 CHEVROLET MALIBU	19090016
2007418	2018 RAM 1500	19090015
2007419	2018 RAM 1500	19090015
2007420	2018 RAM 1500	19090015
2007421	2018 RAM 1500	19080002
2007422	2018 RAM 1500	19100001
2007423	2018 RAM 1500	19080003
2007424	2018 RAM 1500	19080002
2007425	2018 RAM 1500	19060002

Equip #	Description	Cost Center
2007434	2018 RAM 1500	19080002
2007435	2018 RAM 1500	19030003
2007436	2018 RAM 1500	19060002
2007437	2018 RAM 1500	19050002
2007438	2018 RAM 1500	19100001
2007439	2018 RAM 1500	19100001
2007440	2018 RAM 1500	19100001
2007450	2018 RAM 1500	19060002
2007451	2018 RAM 1500	19080003
2007452	2018 RAM 2500	19080002
2007455	2018 FORD TRANSIT	19090015
2007456	2018 FORD TRANSIT	19090015
2007457	2018 FORD TRANSIT	19090015
2007458	2018 FORD TRANSIT	19090015
2007464	2019 FORD TRANSIT	19080008
2007490	2018 RAM 5500	19090015
2007894	2019 FORD TRANSIT	19090007
2007905	2019 RAM 5500	19080001
2007919	2020 FREIGHTLINER M2106	19080002
2007920	2020 FREIGHTLINER M2106	19080002
2007921	2020 FREIGHTLINER M2106	19080002
2007930	2020 CHEVROLET COLORADO	19040004
2007931	2020 CHEVROLET COLORADO	19040005
2007932	2020 FORD FUSION	19010004
2007933	2020 FORD FUSION	19060002
2007934	2020 FORD FUSION	19100001
2007935	2020 FORD FUSION	19080007
2007936	2020 FORD FUSION	19060002
2007971	2020 CHEVROLET COLORADO	19090016
2007972	2020 CHEVROLET COLORADO	19080008
2007973	2020 CHEVROLET COLORADO	19090015
2007974	2020 CHEVROLET COLORADO	19060002
2007985	2019 RAM 1500	19090015
2007991	2019 RAM 1500	19090006
2007993	2019 RAM 5500	19090015
2007998	2020 FREIGHTLINER M2106	19080001
2007999	2020 FREIGHTLINER M2106	19080001
2008004	2019 RAM 1500	19050002
2008005	2019 RAM 1500	19050002
2008006	2019 RAM 1500	19080002
2008007	2019 RAM 1500	19080002
2008008	2019 RAM 1500	19080003
2008018	2019 RAM 2500	19010004
2008019	2019 RAM 1500	19080003
2008020	2019 RAM 1500	19080008
2008024	2019 RAM 1500	19080007
2008032	2019 RAM 1500	19090006

Equip #	Description	Cost Center
2008039	2019 RAM 3500	19080003
2008040	2019 RAM 3500	19080003
2008041	2020 FREIGHTLINER M2106	19080001
2008045	2020 FORD TRANSIT	19040005
2008046	2020 FORD TRANSIT	19090007
2008047	2020 FORD TRANSIT	19040004
2008048	2020 FORD TRANSIT	19090006
2008049	2020 FORD TRANSIT	19090015
2008050	2020 FORD TRANSIT	19040005
2008052	2019 FORD E450	19080008
2008053	2019 RAM 3500	19080003
2008054	2019 RAM 3500	19080003
2008055	2020 FREIGHTLINER M2106	19090015
2008059	2019 RAM 3500	19040004
2008060	2019 RAM 3500	19080003
2008061	2019 RAM 3500	19080003
2008062	2019 RAM 3500	19080003
2008063	2019 FORD F550	19080007
2008064	2020 FORD F550	19110001
2008065	2020 FORD F550	19110001
2008066	2020 FORD F550	19110001
2008070	2019 RAM 5500	19040004
2008071	2019 RAM 5500	19040006
2008073	2020 CHEVROLET SILVERADO	19080002
2008074	2020 CHEVROLET SILVERADO	19080002
2008076	2021 FREIGHTLINER M2106	19080001
2008090	2021 FREIGHTLINER M2106	19080002
2008092	2021 FREIGHTLINER 108SD	19090007
2008093	2020 CHEVROLET SILVERADO	19060002
2008094	2020 CHEVROLET SILVERADO	19100001
2008099	2019 RAM 5500	19080007
2008101	2019 RAM 5500	19080007
2008122	2021 CHEVROLET MALIBU	19090016
2008132	2020 CHEVROLET SILVERADO	19100001
2008133	2020 CHEVROLET SILVERADO	19060002
2008142	2020 FORD F550	19080002
2008143	2021 FREIGHTLINER 114SD	19110001
2008144	2021 FREIGHTLINER 114SD	19110001
72D032823	2002 MSG A70-6261-GENERA	19080007

Table 1 - Appendix C - Active Vehicles and Equipment

Appendix D – Warehousing

Table 2 - Appendix D - Monthly Warehouse Cycle Count

MONTHLY CYCLE COUNT			
Month	Total Value Stock on Hand	Value of Items Cycle Counted	Variance
July. 2019	$3,647,986.53	$1,167,550.00	0.06%
Aug. 2019	$3,448,252.41	$987,775.05	0.05%
Sept. 2019	$3,461,361.55	$1,465,699.58	0.06%
Oct. 2019	$3,265,468.99	$1,146,470.00	0.10%
Nov. 2019	$3,129,794.21	$877,303.52	0.07%
Dec. 2019	$3,068,022.45	$675,720.39	0.01%
Jan. 2020	$2,910,532.06	$852,186.41	0.11%
Feb. 2020	$2,907,555.58	N/A	N/A
Mar.2020	$3,419,319.07	$458,624.00	0.08%
Apr.2020	$3,224,159.64	$330,287.00	0.02%
May. 2020	$3,001,214.50	$434,877.31	0.15%
June. 2020	$2,957,428.07	$947,883.35	0.06%

Table 3 - Appendix D - On Hand Inventory Value

Monthly Inventory Transaction				
	# Stock Issue Transactions	Issue Value	Rec Value	Total Value Stock on Hand
July. 2019	2258	$372,741.25	$634,067.24	$3,647,986.53
Aug. 2019	2058	$378,307.43	$178,573.23	$3,448,252.41
Sept. 2019	1854	$290,065.00	$303,174.55	$3,461,361.55
Oct. 2019	2547	$355,872.97	$162,191.38	$3,265,468.99
Nov. 2019	1668	$245,132.12	$108,947.38	$3,129,794.21
Dec.2019	1806	$321,287.53	$260,022.45	$3,068,022.45
Jan. 2020	2011	$342,621.22	$185,223.96	$2,910,532.06
Feb. 2020	3275	$3,052,187.41	$230,748.80	$2,907,555.58
Mar.2020	1972	$388,890.84	$986,771.21	$3,419,319.07
Apr. 2020	1498	$251,090.78	$55,931.37	$3,224,159.64
May. 2020	1886	$378,292.97	$155,685.86	$3,001,214.50
June. 2020	1910	$301,792.95	$258,006.49	$2,957,428.07

Material	Material Description
100002	ACETYLENE, COMPRESSED GAS L-BUILD
100007	ADAPTER, 1 1/2 NST X 1 1/2 NST NPT MALE
100008	ADAPTER, 2 1/2 NST X 1 1/2 NST MALE
100009	ADAPTER, 2 1/2" NST X 2" NPT MA X MA
100010	ADAPTER, 2 1/2" NST X 3/4" MAL GHT NIP
100011	ADAPTER, BELL X MJS 48" LCP YARD
100012	ADAPTER, DOUBLE SPIGOT 48" LCP YARD
100014	ADAPTER, FEMALE PVC SCH 80 1 1/4"
100015	ADAPTER, FEMALE PVC SCH 80 1"
100016	ADAPTER, FEMALE PVC SCH 80 1/2"
100017	ADAPTER, FEM THD/SLP PVC SCH 80 1 1/2"
100018	ADAPTER, FEMALE THD/SLP PVC SCH 80 2"
100019	ADAPTER, FEMALE PVC SCH 80 3/4"
100020	ADAPTER, MALE PVC SCH 80 1 1/2"
100021	ADAPTER, MALE PVC SCH 80 1 1/4"
100022	ADAPTER, MALE PVC SCH 80 1"
100023	ADAPTER, MALE PVC SCH 80 1/2"
100024	ADAPTER, MALE PVC SCH 80 2"
100025	ADAPTER, MALE PVC SCH 80 3/4"
100026	ADAPTER, MALE PVC SCH 80 4"
100027	ADAPTER, SPIGOT X MJS SP-5 48" LCP YARD
100028	ADAPTER, SWIVEL 2 1/2" NST X 2" NPT MALE
100036	ADHESIVE, SUPER/RUBBER- 5.0 OZ
100038	CANNED AIR DUSTER, 10 oz CAN
100039	AIR FILTER KIT, TS400 SAW 4223 007 1010
100049	ALCOHOL, 16OZ
100062	AMMONIA NITRATE, 34-0-0 50LB
100071	ANTI FRICT BEARING 47, MET250 M94 5 1/4
100074	ANTIFREEZE, LOW SILICANT
100075	ANTI-SEIZE, COPPER,16 OZ., W. BRUSH
100079	ARGON, COMPRESS GAS 75/25% CO2 MIX LB
100080	ARGON, COMPRESS GAS UHP 99.9993% LB
100102	AXE BUSH, 16" BLADE
100111	BACKFLOW PREVENT, PVC SCH 40, 4" R/FLAP
100112	BACKFLOW PREVENTOR, PVC SCH 40 6" VALVE
100152	BAG, EQUIPMENT (NET) BLACK 36" X 25"
100157	BAG, PLASTIC ZIP LOC 4" X 6" 100CT
100158	BAG, PLASTIC ZIP LOCK 9" X 12" 25CT
100159	BAG, PLASTIC ZIP LOCK, 5" X 8" 100CT
100170	BAG, SAND-BURLAP 17" X 30"
100172	BAG, TRASH 24" X 33" .23 ML 16GL CL
100173	BAG, TRASH 33" X 40" 1.5 ML 33GL BLK
100174	BAG, TRASH 38" X 58" 2 ML 55GL BLK
100176	BAG, TRASH 40" X 46" 1.5 ML 45GL BLK
100221	BAND AID, STRETCH CLOTH 1" X 3" 50CT
100222	BAND, DIMPLE (FLAT) 10" WIDE FOR 18" CMP
100223	BAND, DIMPLE (FLAT) 10" WIDE FOR 24" CMP
100224	BAND, DIMPLE (FLAT) 10" WIDE FOR 30" CMP
100225	BAND, DIMPLE (FLAT) 10" WIDE FOR 36" CMP
100226	BAND, SMOOTH (FLAT) 24" WIDE FOR 18" CMP

100227	BAND, SMOOTH (FLAT) 24" WIDE FOR 24" CMP
100228	BAND, SMOOTH (FLAT) 24" WIDE FOR 30" CMP
100234	BANDAGE, COMPRESS 3" X 3" 4CT
100240	BARREL, TRAFFIC ORANGE (5) 6" REFLECT
100249	BASIN, 3' HX4' DIAW/18"CR 2/HO 12/6 RCP
100250	BASIN, 3'HX4'DIA W/18"CR 2HOLES 12/3 RCP
100251	BASIN, 4' H X 4' DIAW/24"CR 2/HO12/3RCP
100252	BASIN, 4' H X 4' DIAW/30"CR 2/HO12/6RCP
100256	BATTERY, 6V ALK, LANTERN SPRING DWR ONLY
100259	BATTERY, 9V
100272	BEAKER, PYREX GRIFFIN 50ML
100277	BELL REDUCER, BRASS 1" X 3/4" IP
100279	BELL REDUCER, GALV 1 1/2" X 2" PIPE
100280	BELL REDUCER, GALV 1 1/4" X 1" PIPE
100281	BELL REDUCER, GALV 1" X 1 1/2" PIPE
100283	BELL REDUCER, GALV 2 1/2" X 2" PIPE
100284	BELL REDUCER, GALV 3/4" X 1" PIPE
100285	BELL REDUCER, GALV 3/4" X 1/2" PIPE
100286	BELL REDUCER, GALV 4" X 3" PIPE
100314	BELT, TS400
100431	BEND, 10" DIP MJ 11 1/4DEGREE
100432	BEND, 10" DIP MJ 22 1/2DEGREE
100433	BEND, 10" DIP MJ 45DEGREE
100434	BEND, 10" DIP MJ 90DEGREE
100435	BEND, 12" DIP MJ 11 1/4DEGREE
100436	BEND, 12" DIP MJ 22 1/2DEGREE
100437	BEND, 12" DIP MJ 45DEGREE
100438	BEND, 12" DIP MJ 90DEGREE
100439	BEND, 14" DIP MJ 11 1/4DEG (yard)
100440	BEND, 14" DIP MJ 22 1/2DEG (yard)
100441	BEND, 14" DIP MJ 45DEG (yard)
100442	BEND, 14" DIP MJ 90 DEG (yard)
100443	BEND, 16" DIP MJ 11 1/2DEGREE
100444	BEND, 16" DIP MJ 22 1/2DEGREE
100445	BEND, 16" DIP MJ 45DEGREE
100446	BEND, 16" DIP MJ 90DEGREE
100447	BEND, 18" DIP MJ 11 1/4DEG (yard)
100448	BEND, 18" DIP MJ 22 1/2DEG (yard)
100449	BEND, 18" DIP MJ 45DEG (yard)
100450	BEND, 18" DIP MJ 90DEG (yard)
100451	BEND, 20" DIP MJ 11 1/4DEG (yard)
100452	BEND, 20" DIP MJ 22 1/2DEG (yard)
100453	BEND, 20" DIP MJ 45DEG (yard)
100454	BEND, 20" DIP MJ 90DEG (yard)
100455	BEND, 24" DIP MJ 11 1/4DEG (yard)
100456	BEND, 24" DIP MJ 22 1/2DEG (yard)
100457	BEND, 24" DIP MJ 45DEG (yard)
100458	BEND, 30" DIP MJ 11 1/4DEG (yard)
100459	BEND, 30" DIP MJ 22 1/2DEG (yard)
100460	BEND, 30" DIP MJ 45DEG (yard)
100461	BEND, 30" DIP MJ 90 DEG (yard)
100462	BEND, 4" DIP MJ 11 1/4DEGREE

100463	BEND, 4" DIP MJ 22 1/2DEGREE
100464	BEND, 4" DIP MJ 45DEGREE
100465	BEND, 4" DIP MJ 90DEGREE
100466	BEND, 4" FL X FL 90DEGREE 150LB
100467	BEND, 4" X 1/16" PVC SCH 40 STR GLUE JT
100468	BEND, 4" X 1/8" PVC SCH 40 STR GLUE JT
100470	BEND, 6" DIP MJ 11 1/4DEGREE
100471	BEND, 6" DIP MJ 22 1/2DEGREE
100472	BEND, 6" DIP MJ 45DEGREE
100473	BEND, 6" DIP MJ 90DEGREE
100474	BEND, 8" DIP MJ 11 1/4DEGREE
100475	BEND, 8" DIP MJ 22 1/2DEGREE
100476	BEND, 8" DIP MJ 45DEGREE
100477	BEND, 8" DIP MJ 90DEGREE
100478	BEND, GALV 1" PIPE ELBOW 90D
100479	BEND, GALV 1" PIPE ELBOWS 45D
100480	BEND, GALV 1/2" 90D
100481	BEND, GALV 1/2" STREET 90D
100485	BEND, GALV 1/8" STREET 90D
100486	BEND, GALV 2 1/2" ELBOW 45 D PIPE
100487	BEND, GALV 2 1/2" ELBOW 90 D PIPE
100488	BEND, GALV 2" ELBOW 45 D PIPE
100489	BEND, GALV 2" ELBOW 90 D PIPE
100490	BEND, GALV 2" ELBOW STREET 90D
100491	BEND, GALV 3/4" ELBOW 45D PIPE
100492	BEND, GALV 3/4" ELBOW 90D PIPE
100493	BEND, GALV 3/4" ELBOW STREET 90D PIPE
100494	BEND, GALV 3/8" ELBOW 90D PIPE
100496	BEND, PVC SCH 35 6" STREET ELL 1/16 22 D
100497	BEND, PVC SCH 35 6" STREET ELL 1/8 45 D
100498	BEND, PVC SCH 35 6" X 1/16" 22 D
100500	BEND, PVC SCH 35 6" X 1/8" 45 D
100501	BEND, PVC SCH 40 4" X 1/16" 22D
100503	BEND, PVC SCH 40 4" X 1/8" 45 D
100504	BEND, PVC SCH 80 1 1/2" 45 D
100505	BEND, PVC SCH 80 1 1/2" 90 D
100507	BEND, PVC SCH 80 1 1/4" 90 D
100508	BEND, PVC SCH 80 1" 45 D
100509	BEND, PVC SCH 80 1" 90 D
100510	BEND, PVC SCH 80 1" 90 D THD TO THD
100511	BEND, PVC SCH 80 1/2" 45 D
100512	BEND, PVC SCH 80 1/2" 90 D
100513	BEND, PVC SCH 80 2 1/2" 45 D
100514	BEND, PVC SCH 80 2 1/2" 90 D
100515	BEND, PVC SCH 80 2" 45 D
100516	BEND, PVC SCH 80 2" 90 D
100517	BEND, PVC SCH 80 3" 45 D
100518	BEND, PVC SCH 80 3" 90 D
100519	BEND, PVC SCH 80 3/4" 45 D
100520	BEND, PVC SCH 80 3/4" 90 D
100521	BEND, PVC SCH 80 4" 45 D
100522	BEND, PVC SCH 80 4" 90 D

100523	BEND, PVC SCH 80 6" 45 D
100524	BEND, PVC SCH 80 6" 90 D
100525	BACKFLOW PREVENTER, 1"DBL CHK-FIP, T-PLUG
100526	BACK FLOW PREVENTER,2" DBL CHK-test port
100527	BACKFLOW PREVENTER, 3/4" RESIDENTIAL
100541	BINDER, RING 1" BLK W/View insert
100542	BINDER, RING 2" BLK, W/View Insert
100677	BIT DRILL, 5/8" MASONRY-SHANK 1/2" X6"
100678	BIT DRILL, 5/8" STEEL-SHANK 1/2" X6"
100681	BLADE 8", ROOTCUTTER SPIRAL
100684	BLADE, 16" WHEEL CUTTER
100685	BLADE, 3/4" WHEEL TUBING CUTTERS
100686	BLADE, 6" ROOTCUTTER (CONCLAVE)
100688	BLADE, 8" ROOTSAW W/EXTRA CURL
100689	BLADE, 8" TO 12" WHEEL CUTTER
100694	BLADE, HACKSAW, 12" X18 TOOTH
100699	BLADE, J-HAMMER CHISEL PT 1 1/4 X 6 HEX
100700	BLADE, J-HAMMER MOIL PT 1 1/4X6 HEX
100701	BLADE, J-HAMM P-MENT BRKR CONCR 1 1/4 "
100702	BLADE, PIPE CUTTER 2"
100703	BLADE, PIPE CUTTER 3" AND 4"
100707	BLADE, ROOTSAW SPIRAL 6"
100708	BLADE, SAW 12" DIAMOND TIP ASPHALT 20MM
100709	BLADE, SAW 12" DIAMOND,CURED CONC, 20MM
100710	BLADE, SAW 12" MASONARY 1" ARBOR
100711	BLADE, SAW 12" MASONARY 20MM ARBOR
100712	BLADE, SAW 12" STEEL 20 MM ARBOR
100713	BLADE, SAW 12"STEEL/CARBON, 1"
100714	BLADE, SAW 14" CONC X1/8", 1" W/P-HOLE
100716	BLADE, SAW 14" STEELW/ 20 MM ARBOR
100717	BLADE, SAW 18" DIAMOND W 1" ASPHALT
100718	BLADE, SAW 18" DIAMOND W 1"C-CONCRETE
100719	BLADE, SAW 18" PVC/ABS,CARBON STEEL
100720	BLADE, SAWZALL 10/14T X 12" PLASTIC
100721	BLADE, SAWZALL 4" DEWALT
100722	BLADE, SAWZALL 8" DEWALT DW4809
100733	BOLT CUTTER, 24" HD
100739	BOLT, 1 1/4" X 7" HEX HEAD CAP
100740	BOLT, 1" X 4 1/2" HEX HEAD CAP
100743	BOLT, 1/2" X 1 1/2" 13 HEX HEAD CAP
100744	BOLT, 1/2" X 1 1/4" 13 HEX HEAD CAP
100745	BOLT, 1/2" X 1 3/4" HEX HEAD CAP
100746	BOLT, 1/2" X 1", HEX HEAD CAP, FULL THD
100747	BOLT, 1/2" X 8" CARRIAGE BANDS
100748	BOLT, 1/2" X 2 1/2" 13 HEX CAP FULL THD
100749	BOLT, 1/2" X 2 1/2" S/S HEX HEAD CAP
100750	BOLT, 1/2" X 2 1/4" HEX HEAD CAP
100751	BOLT, 1/2" X 2 3/4" HEX HEAD CAP
100752	BOLT, 1/2" X 2" HEX HEAD CAP
100753	BOLT, 1/2" X 3 1/2" HEX HEAD CAP
100754	BOLT, 1/2" X 3" HEX CAP FULL THD
100755	BOLT, 1/2" X 3/4" HEX HEAD CAP

100756	BOLT, 1/2" X 4" 13 HEX HEAD CAP
100757	BOLT, 1/2" X 6" CARRIAGE BANDS
100758	BOLT, 1/4" X 1 1/2" 20 HEX HEAD CAP
100759	BOLT, 1/4" X 1 1/4" 20 HEX HEAD CAP
100760	BOLT, 1/4" X 1 3/4" 20 HEX CAP FULL THD
100761	BOLT, 1/4" X 1" 20 HEX HEAD CAP
100763	BOLT, 1/4" X 2 1/2" 20 HEX HEAD CAP
100764	BOLT, 1/4" X 2 3/4" 20 HEX HEAD CAP
100765	BOLT, 1/4" X 2",20 HEX HEAD CAP
100766	BOLT, 1/4" X 3/4" HEX HEAD CAP
100767	BOLT, 1/4" X 5/8" 20 HEX CAP FULL THD
100768	BOLT, 3/4" X 1 1/2" HEX CAP FULL THD
100769	BOLT, 3/4" X 1 3/4" HEX CAP FULL THD
100770	BOLT, 3/4" X 1" HEX CAP FULL THD
100771	BOLT, 3/4" X 2 1/2" HEX CAP FULL THD
100772	BOLT, 3/4" X 2 1/4" HEX CAP FULL THD
100773	BOLT, 3/4" X 2" HEX HEAD CAP FULL THD
100774	BOLT, 3/4" X 3 1/2" HEX HEAD CAP
100775	BOLT, 3/4" X 3" HEX CAP W/NUT
100777	BOLT, 3/4" X 4 1/2" T-HEAD MJ W/NUT
100778	BOLT, 3/4" X 4" HEX HEAD CAP
100779	BOLT, 3/4" X 4" MJ ANTI ROTATE
100780	BOLT, 3/4" X 4" MJ T-HEAD W/NUT
100781	BOLT, 3/4" X 4.5" MJ TIE LOOP HEAD
100782	BOLT, 3/4" X 6" MJ ANTI ROTATE
100783	BOLT, 3/4" X 6" MJ 90D TIE LOOP HEAD
100784	BOLT, 3/8" X 1 1/2" 16 HEX HEAD CAP
100785	BOLT, 3/8" X 1 1/4" HEX CAP FULL THD
100786	BOLT, 3/8" X 1 3/4" HEX CAP FULL THD
100787	BOLT, 3/8" X 1" 16 HEX CAP
100788	BOLT, 3/8" X 2 1/2" HEX CAP
100789	BOLT, 3/8" X 2 1/4" HEX CAP FULL THD
100790	BOLT, 3/8" X 2" HEX CAP SS
100791	BOLT, 3/8" X 2" HEX CAP
100792	BOLT, 3/8" X 3/4" HEX CAP FULL THD
100793	BOLT, 5/16" X 1 1/2" HEX CAP FULL THD
100794	BOLT, 5/16" X 1 1/4" HEX CAP FULL THD
100795	BOLT, 5/16" X 1 3/4" HEX CAP FULL THD
100796	BOLT, 5/16" X 1" HEX CAP
100797	BOLT, 5/16" X 2 1/2" HEX CAP
100798	BOLT, 5/16" X 2 1/4" HEX CAP
100799	BOLT, 5/16" X 2" HEX CAP
100800	BOLT, 5/16" X 3/4" HEX CAP
100801	BOLT, 5/8" X 1 1/2" HEX CAP FULL THD
100802	BOLT, 5/8" X 1 1/4" HEX CAP FULL THD
100803	BOLT, 5/8" X 1 3/4" HEX CAP FULL THD
100805	BOLT, 5/8" X 1 1/16" HEX CAP
100806	BOLT, 5/8" X 2 1/2" FRANGIBLE W NUT-EACH
100807	BOLT, 5/8" X 2 1/2" HEX CAP
100808	BOLT, 5/8" X 2 1/2" HEX CAP FULL THD
100809	BOLT, 5/8" X 2 1/4" HEX CAP FULL THD
100810	BOLT, 5/8" X 2" 11 HEX CAP

100812	BOLT, 5/8" X 3" HEX CAP FULL THD
100813	BOLT, 5/8" X 3" MJ 3 AND 4" DIP
100815	BOLT, 5/8" X 4" FRANGIBLE W NUT-each
100816	BOLT, 5/8" X 4" HEX HEAD CAP
100817	BOLT, 7/16" X 1 1/2" HEX CAP FULL THD
100818	BOLT, 7/16" X 1 3/4" HEX CAP
100819	BOLT, 7/16" X 1" HEX CAP FULL THD
100820	BOLT, 7/16" X 2 1/2" HEX CAP FULL THD
100821	BOLT, 7/16" X 2 1/4" HEX CAP FULL THD
100822	BOLT, 7/16" X 2" HEX CAP FULL THD
100823	BOLT, 7/16" X 3/4" HEX CAP FULL THD
100824	BOLT, 7/8" X 4" HEX HEAD CAP
100825	BOLT, 9/16 X 2 1/4" HEX HEAD CAP
100826	BOLT, 9/16" X 1 1/2" HEX CAP FULL THD
100827	BOLT, 9/16" X 2 1/2" HEX CAP FULL THD
100828	BOLT, 9/16" X 2" HEX CAP FULL THD
100829	BOLT, 9/16" X 3 1/2" HEX CAP FULL THD
100830	BOLT, 9/16" X 3" HEX CAP FULL THD
100853	BONNET O RING, CLOW T2401032 M32
100854	BONNET, CLOW M1600809 M30
100856	BOOK, LOG 12 1/8" X 7.5" LINED PAGES
100865	BOOT, KOR-N-SEAL M/H 8" DIP/PVC
100898	BOOT, M/H 106-16 SZ 12 TO 14 1/2
100899	BOOT, M/H 106-16B DI 9 1/2" X 11 1/4"
100900	BOOT, M/H 9X10.5 CR HL 406-12 PL 7.5" 9"
100902	BOOT, M/H KOR-N-SEAL 6" CLAY/DIP/PVC
100903	BOOT, M/H PVC 106-16A 10.5"X13.25"
100904	BOOT, PVC SZ 10 S/TOE 16" PULL UP
100905	BOOT, PVC SZ 11 S/TOE 16" PULL UP
100906	BOOT, PVC SZ 12 S/TOE 16" PULL UP
100907	BOOT, PVC SZ 13 S/TOE 16" PULL UP
100908	BOOT, PVC SZ 14 S/TOE 16" PULL UP
100909	BOOT, PVC SZ 15 S/TOE 16" PULL UP
100910	BOOT, PVC SZ 16 S/TOE 16" PULL UP
100911	BOOT, PVC SZ 6 S/TOE 16" PULL UP
100912	BOOT, PVC SZ 7 S/TOE 16" PULL UP
100913	BOOT, PVC SZ 8 S/TOE 16" PULL UP
100914	BOOT, PVC SZ 9 S/TOE 16" PULL-UP
100915	BOOT, RUBBER HIP STEEL TOE SZ 10
100916	BOOT, RUBBER HIP STEEL TOE SZ 11
100917	BOOT, RUBBER HIP STEEL TOE SZ 12
100918	BOOT, RUBBER HIP STEEL TOE SZ 13
100919	BOOT, RUBBER HIP STEEL TOE SZ 6
100920	BOOT, RUBBER HIP STEEL TOE SZ 7
100921	BOOT, RUBBER HIP STEEL TOE SZ 8
100922	BOOT, RUBBER HIP STEEL TOE SZ 9
100923	BOTTLE, LARGE SQUARE 1GAL W LID
100925	BOTTLE, PLASTIC 1/2GAL CLEAR W CAP
100926	BOTTLE, PLASTIC 32OZ W/TRIGGER SPRAYER
100928	BOTTLE, SAMPLE 1000 ML, Wide Mouth
100929	BOTTLE, SAMPLE 125 ML W/CAP (12PK)
100930	BOTTLE, SAMPLE 500 ML, Wide Mouth

100933	BOTTLE, WASH/SQUIRT, 1000 ML 03 409 22D
100952	BROOM, INDUSTRIAL CORN 12CT
100955	BROOM, STREET PUSH broom only
100960	BRUSH, 9" TRUCK brush only
100961	BRUSH, ALGAE 9" X 1 1/2" PL HD/SS BRIS
100962	BRUSH, FLOOR 24" 12CT
100963	HANDLE, WOODEN 60" X 15/16" W/METAL THD
100966	BRUSH, TOILET BOWL W/12" HANDLE
100968	BRUSH, UTILITY 9" L X 3" W
100973	BRUSH, WIRE 1 1/8" X 10" L
101084	BURN SPRAY, 3 OZ Aerosol Can
101086	BUSHING, REDUCE 1" X 3/4" BR HEX CC THD
101087	BUSHING, REDUCE 1" X 3/4" BR HEX NPT THD
101088	BUSHING, REDUCE PVC SCH 80 1 1/2"X1 1/4"
101089	BUSHING, REDUCER PVC SCH 80 1 1/4" X 1"
101090	BUSHING, REDUCER PVC SCH 80 1" X 3/4"
101091	BUSHING, REDUCER PVC SCH 80 1/2" X 1/4"
101092	BUSHING, REDUCER PVC SCH 80 2" X 1 1/2"
101093	BUSHING, REDUCER PVC SCH 80 2" X 1 1/4"
101094	BUSHING, REDUCER PVC SCH 80 2" X 1"
101095	BUSHING, REDUCER PVC SCH 80 2" X 1/2"
101096	BUSHING, REDUCER PVC SCH 80 2" X 3/4"
101097	BUSHING, REDUCER PVC SCH 80 3" X 2 1/2"
101098	BUSHING, REDUCER PVC SCH 80 3/4" X 1/2"
101099	BUSHING, REDUCER PVC SCH 80 4" X 2"
101100	BUSHING, REDUCER PVC SCH 80 4" X 3"
101101	BUSHING, REDUCER PVC SCH 80 4" X 6"
101102	REDUCING, BUSHING HEX GALV 1 1/2" X 2"
101108	CABLE PULLER, 8000LB LOAD (2.8-55)
101124	CABLE, PULLING 3/8 AIRCRAFT GALV 100FT
101126	CABLE, JUMPER 16FT 4 GUAGE
101128	CALCIUM CHLORIDE, 50LB., LOWER BUILD
101137	JUG, POLY JERRI 2 1/2 GAL CL WI/CAP
101138	JUG, POLY JERRI 5 GAL CL W/CAP
101140	CAP, 1" NPT 150LB 304S/S
101141	CAP, 1/2" NPT 150LB 304S/S
101142	CAP, 1/4" NPT 150LB 304S/S
101143	CAP, 1/8" NPT 150LB 304S/S
101144	CAP, 10" MJ DIP W/ACC
101145	CAP, 12" MJ DIP
101146	CAP, 14" MJ DIP
101147	CAP, 16" MJ DIP
101148	CAP, 2" NPT 150LB 304S/S
101149	CAP, 20" MJ DIP FULL BODY W/ACC
101150	CAP, 24" MJ DIP
101151	CAP, 3" NPT 150LB 304S/S
101152	CAP, 3/8" NPT 150LB 304S/S
101153	CAP, 30" MJ DIP
101154	CAP, 36" MJ DIP
101155	CAP, 6" MJ DIP
101156	CAP, 8" MJ DIP
101159	CAP, GALV 1 1/4"

101160	CAP, GALV 1"
101161	CAP, GALV 1/2"
101164	CAP, GALV 2 1/2" CAP
101165	CAP, GALV 2"
101166	CAP, GALV 3/4" PIPE
101171	CAP, NOZZLE HOSE W/CHAINS 2 1/2"
101172	CAP, PUMPER NOZZLE W CHAINS 4 1/2"
101173	CAP, PVC SCH 40 6" SCREW
101174	CAP, PVC SCH 80 1"
101175	CAP, PVC SCH 80 3/4"
101176	CAP, PVC SCH 80 4"
101177	CAP, PVC SCH 80 6"
101179	CAP, SUMMER-TAN- MESH BACK
101182	CAP, WEATHER CLOW M0800588 M26
101184	CAP, WATCH BLACK, SOCK HAT
101185	CARBURATOR CLEANER, AEROSOL SPRAY
101208	CARTRIDGE, INK HP C6578A COLOR
101235	CAULK, 100% SILICONE CLEAR 10.1OZ
101236	CAULK, BUTYL RUBBER FORMULA 10.1OZ
101237	CAULK, GUN W TIP CUTTER SPOUT NEEDLE
101243	CELL, DISPOSABLE FOR DR2000 HACH
101245	CEMENT, PORTLAND TYPE 1 94LB BAG
101246	CEMENT, SPEED PLUG HYDRAULIC 5GAL
101247	CEMENT, QUICKCRETE W ROCKS SAND 80LB
101258	CHAIN, 3/8" G-70 DOT SPEC 6,600LB
101259	CHAIN, CHAIN SAW STIHL 33RM266
101300	CHISEL, COLD-1" X 12" HEX HEAD
101314	CLAMP, 1" WATER HOSE S/S BANDING
101315	CLAMP, 10" BELL JOINT DI OD 11.10-11.40
101316	CLAMP, 10" FULL CIR 12"LG OD11.04-12.24
101317	CLAMP, 10" FULL CIR 12"LG OD11.10-11.90
101319	CLAMP, 10" FULL CIR 20"LG OD 11.04-12.24
101320	CLAMP, 12" BELL JOINT DI OD 13.20-13.50
101321	CLAMP, 12" FULL CIR 20"LG OD 13.14-14.34
101322	CLAMP, 12" FULL CIR 12"LG OD 13.14-14.34
101323	CLAMP, 12" FULL CIR 12"LG OD 13.20-14.00
101324	CLAMP, 12" FULL CIR 12"LG OD 13.50-14.30
101326	CLAMP, 14" BELL JOINT DI OD 15.16-15.90
101328	CLAMP, 14" FULL CIR 15"LG OD 15.07-15.82
101329	CLAMP, 16" BELL JOINT DI OD 17.40-17.80
101330	CLAMP, 16" FULL CIR 20"LG OD 17.15-17.90
101331	CLAMP, 16" FULL CIR 20"LG OD 18.00-18.90
101332	CLAMP, 16" FULL CIR 20"LG OD 18.46-19.21
101334	CLAMP, 2" FULL CIR 12"LG S-PIPE OD 2.35
101336	CLAMP, 20" FULL CIR 24"LG OD 21.52-22.27
101337	CLAMP, 24" BELL JOINT DI OD 25.80-26.32
101338	CLAMP, 24" FULL CIR 18"LG OD 25.70-26.80
101339	CLAMP, 3" FULL CIR 12" LG S-PIPE OD 3.49
101340	CLAMP, 3" WATER DISCHAR S/S BANDING LB
101341	CLAMP, 3/4" WATER HOSE S/S BANDING
101342	CLAMP, 30" BELL JOINT DI OD 31.74-32.74
101343	CLAMP, 36" BELL JOINT DI OD 37.96-38.70

101344	CLAMP, 4" BELL JOINT DI OD 4.80 5.00
101345	CLAMP, 4" FULL CIR 12" LG OD 4.74-5.57
101346	CLAMP, 6" BELL JOINT DI OD 6.90-7.10
101347	CLAMP, 6" FULL CIR 12" LG OD 6.84-7.24
101348	CLAMP, 6" FULL CIR 20" LG OD 6.62-7.42
101349	CLAMP, 8" BELL JOINT DI OD 9.05 9.30
101350	CLAMP, 8" FULL CIR 12" LG OD 8.62-9.42
101351	CLAMP, 8" FULL CIR 20" LG OD 8.62-9.42
101352	CLAMP, 8" FULL CIR 20" LG OD 8.99-9.79
101357	CLEANOUT, PVC SCH 35 6" W/SCREW CAP
101363	CLEANER, BATHROOM TUB AND TILE 1GAL 4CT
101369	CLEANER, CONTACT SPRAY AEROSOL 18OZ
101377	CLEANER, GLASS 32oz
101381	CLEANER, HAND LANOLIN UNSCENTED 32 OZ
101385	CLEANER, MOISTURE DISPLACER AEROSOL 24OZ
101392	CLEANER, POLISH STAINLESS STEEL AEROSOL
101405	CLEANER, VINYL AND RUBBER RESTORER 32OZ
101414	CLEANOUT CAP, 3" BRASS SCREW
101415	CLEANOUT CAP, 4" BRASS SCREW
101418	CLEANOUT, PVC SCH 40 4" W/SCREW CAP
101422	CLIP, BINDER LARGE 1" 12CT
101426	CLIP, BINDER MEDIUM 5/8" 12CT
101429	CLIP, BINDER SMALL 3/8" 12CT
101431	CLIP, EMPLOYEE BADGE RETRACTABLE
101437	CLIP, PAPER JUMBO
101441	CLIP, PAPER SMALL
101442	CLIPBOARD, HARDBOARD 9 1/2" X 12 1/2"
101444	CLIPBOARD, PLASTIC WITH STORAGE
101446	CLOSURE, 6' LL X 48"W RINGS LCP L301
101449	CLOTH, SANDING 1" X 50YD 180 GRIT
101533	CONCRETE ADAPTER, 5' TO 4' ROUND
101534	CONCRETE ADAPTER, 58" RND X 36" SQ
101570	CONE, 28" FLU ORANGE PVC 6" REFL. STR
101640	COPPER, DISC 3/4" METER PLUG 10CT
101645	CORPORATION, 1" CC X COMP COPPER
101646	CORPORATION, 2" MIP X 2" MIP BALL TYPE
101647	CORPORATION, 3/4" Ball CC X CTS COMP
101648	CORPORATION, DUO STOP 3/4" X 2 PVC BR
101650	Q TIP (COTTON), WOOD HANDLE 6" LG 10CT
101654	COUPLER, FEMALE QUICK DISCONNECT 1/4"
101657	COUPLING UNION, 2" 3 PIECE COMP CTS
101658	COUPLING ADAPT, 2" FIP X NUT AND GASKET
101659	COUPLING ADAPT, 2" MIP X NUT AND GASKET
101660	COUPLING, 1" NPT 150LB 304S/S
101661	COUPLING, 1/2" NPT 150LB 304S/S
101662	COUPLING, 1/4" NPT 150LB 304S/S
101663	COUPLING, 1/8" NPT 150LB 304S/S
101664	COUPLING, 2" NPT 150LB 304S/S
101665	COUPLING, 3" NPT 150LB 304S/S
101666	COUPLING, 3/8" NPT 150LB 304S/S
101668	COUPLING, ADAPT 1" ADAP MIP X COM BR
101669	COUPLING, ADAPT, 1" FIP X COMP BR

101670	COUPLING, ADAPT, 1" METER X 1" FIP
101671	COUPLING, ADAPTER 3/4" FIP X CTS/NUT
101673	COUPLING, ADAPTER 3/4" MIP X COMP/NUT
101674	COUPLING, ANCHOR 6" X 12" LG DI MJ
101675	COUPLING, COMP 2 1/2", GALV/PVC HP PIPE
101676	COUPLING, COMP 3" GALV/PVC HP PIPE
101677	COUPLING, COMP 4" GALV/PVC HP PIPE
101678	COUPLING, DRESSER GALV 1" X 5" LONG
101679	COUPLING, DRESSER GALV 3/4" X 5" LONG
101680	COUPLING, ELBOW 3/4" COMP BRONZE
101681	COUPLING, FERNCO 10" CL TO 10" CL
101682	COUPLING, FERNCO 10" CL TO 10" DI
101683	COUPLING, FERNCO 10" CL TO 10" PL
101684	COUPLING, FERNCO 10" DI/AC TO 10" DI/AC
101685	COUPLING, FERNCO 10" DI/AC TO 10" PL
101686	COUPLING, FERNCO 10" PL/CI X 10" PL/CI
101687	COUPLING, FERNCO 12" CL TO 12" C.I./PL
101688	COUPLING, FERNCO 12" CL TO 12" CL
101689	COUPLING, FERNCO 15" CI/PL TO 15" CI/PL
101690	COUPLING, FERNCO 15" CL TO 15" CI / PL
101691	COUPLING, FERNCO 18" CL TO 18"AC/DI
101692	COUPLING, FERNCO 3" FIT ALL
101693	COUPLING, FERNCO 4" FIT ALL
101694	COUPLING, FERNCO 4" AC/DI TO 4" AC/DI
101695	COUPLING, FERNCO 4" CL TO 4" PL/CI
101696	COUPLING, FERNCO 4" CL/AC TO 4" DI
101697	COUPLING, FERNCO 4" CLAY TO 4" CLAY
101698	COUPLING, FERNCO 4" CONTO 4" CI/PL
101699	COUPLING, FERNCO 6" CL TO 6" DI/AC
101700	COUPLING, FERNCO 6" CL TO 6" PL/CI
101701	COUPLING, FERNCO 6" CL TO CL 1001-66
101702	COUPLING, FERNCO 6" DI TO 6" PL SCH 35
101703	COUPLING, FERNCO 6" DI/AC TO 6" DI/AC
101704	COUPLING, FERNCO 6" PVC 35 X 4" PVC 40
101705	COUPLING, FERNCO 8" CL X 6" CL
101706	COUPLING, FERNCO 8" DIP TO 8" DIP
101707	COUPLING, FERNCO 8" PL TO 6" PL
101708	COUPLING, FERNCO 8" CLAY TO 8" CI/PLAST
101709	COUPLING, FERNCO 8" CLAY TO 8" CLAY
101710	COUPLING, FERNCO 8" CON TO 8" CON
101711	COUPLING, FERNCO 8" DIP TO 6" DI/PL
101712	COUPLING, FERNCO 8" DIP TO 8" PLAST
101713	COUPLING, FERNCO 8" DIP/AC TO 8" CLAY
101714	COUPLING, FERNCO 8" PL/C.I. TO PL/C.I.
101715	COUPLING, GALV 1 1/2"
101716	COUPLING, DRESSER 1 1/2" X 5" LONG
101717	COUPLING, GALV 1 1/4"
101718	COUPLING, DRESSER 1 1/4" X 5" LONG
101719	COUPLING, GALV 1"
101720	COUPLING, GALV 1/2" THD
101721	COUPLING, DRESSER GALV 1/2" X 5" COMP
101722	COUPLING, GALV 1/4" COUPLING

101724	COUPLING, GALV 2 1/2"
101725	COUPLING, GALV 2"
101727	COUPLING, DRESSER 2" X 5" LONG
101728	COUPLING, GALV 3/4" THD
101730	COUPLING, PACK JOINT 1" CTS X 3/4 PE
101731	COUPLING, PACK JOINT 1" PVC PIPE
101732	COUPLING, PACK JOINT 3/4" PEP PIPE
101734	COUPLING, PVC SCH 35 6"
101735	COUPLING, PVC SCH 40 4"
101736	COUPLING, PVC SCH 40 6"
101737	COUPLING, PVC SCH 80 1 1/2"
101738	COUPLING, PVC SCH 80 1 1/4"
101739	COUPLING, PVC SCH 80 1"
101740	COUPLING, PVC SCH 80 1" THD
101741	COUPLING, PVC SCH 80 1/2"
101742	COUPLING, PVC SCH 80 2"
101743	COUPLING, PVC SCH 80 3"
101744	COUPLING, PVC SCH 80 3/4"
101745	COUPLING, PVC SCH 80 4"
101746	COUPLING, PVC SCH 80 6"
101747	COUPLING, REDUCER 2 1/2X2 PVC SCH80 GLUE
101748	COUPLING, REDUCER 3X2 PVC SCH 80 GLUE JT
101752	COUPLING, ROD FRANG A D 4 1/4" MARK 73
101753	COUPLING, ROD FRANG A D 5 1/4" B-62-B
101754	COUPLING, ROD FRANGI A D 5 1/4" B-84-B
101755	COUPLING, ROD KENNEDY K81A 5 1/4"
101756	COUPLING, ROD MET 250 5 1/4 26
101757	COUPLING, ROD NON FRANG M & H 4 1/4"
101759	COUPLING, TRANS 10" X 14" LG, DI TO AC
101760	COUPLING, TRANS 12" X 14" LG, DI TO AC
101761	COUPLING, TRANS 16" X 14" LG, DI TO AC
101763	COUPLING, TRANS 4" X 14" LG, DI TO AC
101765	COUPLING, TRANS 6" X 14" LG, DI TO AC
101767	COUPLING, TRANS 8" X 14" LG, DI TO AC
101770	COUPLING, UNION 1" 3 PC COMP X COMP
101771	COUPLING, UNION 3/4" 3 PC COMP X COMP
101772	COUPLING, ROD VALVE (Frang) MET 250 M94
101773	COUPLING, VALVE ROD ASSEMBLY CLOW MED
101774	COUPLING, W/HOSE 1" FEM NPSM THD W/S
101775	COUPLING, W/HOSE 1" MALE NPSM THD
101776	COUPLING, W/HOSE 3/4" FEM NPSM THD W/S
101777	COUPLING, W/HOSE 3/4" FEM SW/BIB THD
101778	COUPLING, W/HOSE 3/4" MALE HOSE BIB THD
101779	COUPLING, W/HOSE 3/4" MALE NPSM THD
101780	COUPLING, Y COMP 1"X 3/4" X 3/4" CTS
101782	COVER, MANHOLE BOLT DOWN YARD
101783	COVER, MANHOLE NON-BOLT DOWN YARD
101816	CUP, HOLDER, 7 OZ, PAPER CONES
101818	CUP, PAPER WATER 7OZ 250CT
101822	CURB STOP, 1" COMP X MET COUP W/WING
101823	CURB STOP, 1" FIP X COMP W/LOCKWING
101824	CURB STOP, 1"FIP X 1"FIP T-HEAD W/LOCK

101825	CURB STOP, 3/4" FIP T-HEAD W/LOCKWING
101826	CURB STOP, 3/4" FIP X COMP W/LOCKWING
101827	CURB STOP, COMBO 3/4" COMP X MET COUP
101828	CUTTER SHELL, 11/16 FOR 3/4" TAP DMSC-3
101837	DAMP MOPPING, ALL PURPOSE 1GAL
101843	DEGREASER, SOAP SOLVENT, INDUSTRIAL 55GL
101844	DEICER, ICE MELT SPRAY 11.5 OZ
101847	DEODORANT, METER MIST AEROSOL SPRAY 70Z
101854	Detergent, Dishwashing Dawn, 38 oz.
101855	DETERGENT, GERMICIDAL 1GAL
101856	DETERGENT, HEAVY DUTY ALL PURPOSE 1GAL
101893	DIPPER, SAMPLE 3' HANDLE 4" DIA 10CM
101894	DIPPER, SAMPLE POLY 12' 2-PC HANDLE 10CM
101902	DISINFECTANT, DEODORANT AEROSOL 20OZ
101924	DISPENSER, GO JO PLASTIC CARTRIDGE 4.5LB
101929	DISPENSER, TAPE
101930	DISPENSER, TEST DPD FREE CHLORINE 25MM
101932	DOG REPELLENT, HALT SPRAY 1.5OZ
101935	DOOR HANGER, SSES DIV,GREEN, 50PKS
101936	DOOR HANGER, WATER DIV,GREEN PKS/50
101939	DRAIN RING, REPAIR KIT M & H 5 1/4"
101958	DUST MOP HEAD, 24" PAD ONLY 12CT
101963	DUSTER, LAMBS WOOL, 42" TELSC. HANDLE
101967	DYE, LEAK DETECTION KITS (ISSUE BY CASE)
101968	DYE, TRACING TABLET FLUOR RED 200CT
101969	EAR MUFF, HEADBAND MIN 20 DB
101970	EAR PLUG, DISPOSABLE TAPERED 100CT
101972	EAR PLUG, REUSE TRIPLE FLANGE W BX
101978	BEND, 1" 90 DEG NPT 150LB 304S/S
101979	BEND, 1/2" 90 DEG NPT 150LB 304S/S
101980	BEND, 1/4" 90 DEG NPT 150LB 304S/S
101981	BEND, 1/8" 90 DEG NPT 150LB 304S/S
101982	BEND, 2" 90 DEG NPT 150LB 304S/S
101983	BEND, 3" 90 DEG NPT 150LB 304S/S
101984	BEND, 3/8" 90 DEG NPT 150LB 304S/S
101985	BEND, GALV 1 1/2" 45 DEGREE PIPE
101986	BEND, GALV 1 1/2" 90 DEGREE PIPE
101987	BEND, GALV 1 1/4" ELBOW 45 DEG PIPE
101988	BEND, GALV 1 1/4" ELBOW 90 DEG PIPE
102040	ENVELOPES CLASP 10" X 13" (100 ct)
102047	EPOXY, PREDCO KIT
102054	EROSION CONTROL MAT, STRAW 8' X 112.5'
102057	EXTENSION, 4 1/2 X 12" A D MARK 73
102058	EXTENSION, 4 1/2 X 12" KENNEDY K11
102059	EXTENSION, 4 1/2 X 12" M & H VO ACC
102060	EXTENSION, 4 1/2 X 12" MUELLER ACC/KIT
102061	EXTENSION, 4 1/2 X 6" KENNEDY K81A
102062	EXTENSION, 5 1/4 X 12"M & H, VO 129
102063	EXTENSION, 5 1/4 x 12" A D B62B ACC
102064	EXTENSION, 5 1/4 X 12" CLOW MED ACC
102065	EXTENSION, 5 1/4 X 12" KENNEDY K10B
102066	EXTENSION, 5 1/4 X 12" KENNEDY K81A

102067	EXTENSION, 5 1/4 X 12" M & H, VO 6 HOLE
102068	EXTENSION, 5 1/4 X 12" MET 250 TAPERED
102069	EXTENSION, 5 1/4 X 12 MET 250 M94 STRAIT
102070	EXTENSION, 5 1/4 X 12" MUELLER ACC/KIT
102071	EXTENSION, 5 1/4 X 24" A D B62B ACC
102072	EXTENSION, 5 1/4 X 24" MET 250
102073	EXTENSION, 5 1/4 X 48" M & H 129
102074	EXTENSION, 5 1/4 X 6" A D B62B ACC
102075	EXTENSION, 5 1/4 X 6" KENNEDY K81A
102076	EXTENSION, 5 1/4 X 6" MET 250 ACC/KIT
102077	EXTENSION, 5 1/4 X 6" MET 250 ACC/STEM
102078	EXTENSION, 5 1/4" X 6" MUELLER ACC/KIT
102079	EXTENSION, 5 1/4" X 24" MUELLER ACC/KIT
102081	EYE WASH, 1 OZ Bottle
102099	FENCE, BARRIER FL/OR 48" X 100' W STKS
102133	FILTER, QUICK-CUT SAW
102134	FILTER, RESPIR HEPA NORTH N7500-8 144CT
102135	FILTER, RESPIR WELDING NORTH 75SCP100
102137	FILTER, SUSP SOLIDS 21 CM CIRCLES 100CT
102140	FILTER, TTL SOLIDS 4X4 GLASS FIBER SAMP
102145	FIRE EXTINGUISHER, 2.58LB DRY CHEM
102148	FIRE HYDRANT 3-WAY,5 1/4"
102152	FIRST AID KIT, REGULAR SIZE METAL BOX
102153	FISHTAPE, 1/8" X 100' STEEL W CASE
102154	FITTING, 1" 37DEG ST MA 45DEG ELBOW
102159	FITTING, 1" X 37DEG ST MALE 45DEG ELBOW
102160	CAP, GALV 1 1/2"
102168	FIX-A-FLAT, INSTANT TIRE INFLATOR 12OZ
102173	FLAG, BLUE/UNDERGROUND WARNING 100CT
102180	FLAG, GREEN/UNDERGROUND WARNING 100CT
102182	FLAG, HAND FLU ORANGE 24" X 24" W/36"
102185	FLAG, ORANGE/UNDERGROUND WARNING
102199	FLAG, PURPLE UNERGROUND WARNING 100CT
102203	FLANGE ADAPTOR, 10" 10.70-12.00, 260PSI
102204	FLANGE ADAPTOR, 10" DIP 150, LG COLLAR
102205	FLANGE ADAPTOR, 4" 4.25-5.11 260PSI
102207	FLANGE ADAPTOR, 6" 6.42-7.68 , 260PSI
102208	FLANGE ADAPTOR, 6" DIP 150 LG COLLAR
102209	FLANGE, ADA PTER COUPLING RESTRAIN 6"
102210	FLANGE, ADAPTER, COUPLING RESTRAIN 8"
102211	FLANGE, ADAPTOR, 8" 8.54-9.84 260PSI
102212	FLANGE, ADAPTOR, 8" DIP 150 LG COLLAR
102213	FLANGE, BLIND 10",STEEL
102214	FLANGE, BLIND 12", STEEL
102215	FLANGE, BLIND 14", STEEL
102216	FLANGE, BLIND 3" 4 HOLE, STEEL
102217	FLANGE, BLIND 4", STEEL
102218	FLANGE, BLIND 4" W/ 2"TAP, STEEL
102219	FLANGE, BLIND 6" 8 HOLE, STEEL
102220	FLANGE, BLIND 8", STEEL
102221	FLANGE, GALV 2" THD 4 BOLT
102222	FLANGE, METER 1 1/2" F/ FACE W/GS B/NTS

102223	FLANGE, METER 2" F/FACE W/GS B/NTS
102224	FLANGE, PVC SCH 80 2" 4 BOLT
102225	FLANGE, PVC SCH 80 3" 4 BOLT
102226	FLANGE, PVC SCH 80 4" 8 BOLT
102227	FLANGE, PVC SCH 80 6" 8 BOLT
102228	FLANGE, SAFETY REPAIR 5 1/4" CLOW
102232	FLASHLIGHT, 6V LANT SPRING TERMINALS
102236	FLAT TOP, M/H 1' W 2' OFFSET ENTR 4' DIA
102237	FLAT TOP, MANHOLE 60" 1' W PRECAST R/C
102246	FLOAT, HAND MAG METAL, 16" LG X4 1/2 W
102255	FLUID, BRAKE GUNK M44-12 12CT
102258	FLUID, POWER STEERING R-GENT PSF12
102260	FLUID, TRANSMISSION AUTOM DEXTR III 12CT
102280	FOLDER, LEGAL- MANILLA
102284	FOLDER, LETTER MANILA 100CT
102304	FORM, ENTRY ROUTINE CONFINED SPACE 50CT
102344	OIL MIXTURE, 2-CYCLE STIHL 6.4FL.OZ
102346	FUNNEL, PLASTIC- LG 10"X1 5/8" WIRE FILT
102347	FUNNEL, PLASTIC-MED 6 3/8" LARGE END
102348	FUNNEL, PLASTIC- SMALL 4 1/4"
102386	GAS CAN SPOUT, FOR 2 1/2 AND 5GAL
102387	GAS CAN, 2 1/2GL STEEL VENTED W/ NOZZLE
102388	GAS CAN, 5GL STEEL VENTED W/ NOZZLE
102402	GASKET, BELL 10"
102404	GASKET, BELL 14"
102405	GASKET, BELL 16"
102406	GASKET, BELL 18"
102407	GASKET, BELL 20"
102408	GASKET, BELL 24"
102409	GASKET, BELL 3"
102410	GASKET, BELL 30"
102411	GASKET, BELL 36"
102412	GASKET, BELL 4"
102413	GASKET, BELL 48"
102414	GASKET, BELL 6"
102415	GASKET, BELL 8"
102418	GASKET, FLANGE 16" FF RUBBER BOLT KIT
102429	GASKET, M & H 4 1/2" 129T
102430	GASKET, STAND PIPE RUB M & H 5 1/4" 129T
102431	GASKET, FLANGE 10" FF RUBBER W BOLT KIT
102432	GASKET, FLANGE 12" FF RUBBER W BOLT KIT
102433	GASKET, FLANGE 14" FF RED RUBBR W BOLT K
102434	GASKET, FLANGE 18" FF RUBBER W BOLTS
102435	GASKET, FLANGE 20" FF RUBBER W BOLTS
102436	GASKET, FLANGE 24" FF RUBBER W BOLTS
102437	GASKET, FLANGE 3" FF RUBBER W BOLT KIT
102438	GASKET, FLANGE 30" FF RUBBER W BOLTS
102439	GASKET, FLANGE 36" FF RUBBER W BOLTS
102440	GASKET, FLANGE 4" FF RUBBER W BOLT KIT
102441	GASKET, FLANGE 6" FF RUBBER W BOLT K FT
102442	GASKET, FLANGE 8" FF RUBBER W BOLT K FT
102445	GASKET, M/H CVR 1/8" 22 5/8 ID 25 1/2 OD

102446	GASKET, METER FLANG 1 1/2" FULL FACE /HO
102447	GASKET, METER FLANGE 1 1/2" DROP IN
102448	GASKET, METER FLANGE 2" DROP IN
102449	GASKET, METER FLANGE 2" FULL FACE W/HO
102450	GASKET, MJ 10"
102451	GASKET, MJ 10" TRANSITION
102452	GASKET, MJ 12"
102453	GASKET, MJ 12" TRANSITION
102454	GASKET, MJ 14"
102455	GASKET, MJ 14" TRANSITION
102456	GASKET, MJ 16"
102457	GASKET, MJ 16" TRANSITION
102458	GASKET, MJ 18"
102459	GASKET, MJ 20"
102461	GASKET, MJ 3"
102462	GASKET, MJ 3" TRANSITION
102463	GASKET, MJ 30"
102464	GASKET, MJ 36"
102465	GASKET, MJ 4"
102466	GASKET, MJ 4" TRANSITION
102467	GASKET, MJ 42"
102469	GASKET, MJ 6"
102470	GASKET, MJ 6" TRANSITION
102471	GASKET, MJ 8"
102472	GASKET, MJ 8" TRANSITION
102473	GASKET, PUMPER NOZZLE 4 1/2 A D MARK 73
102474	GATORADE
102478	GAUGE, PRESS LIQ FILLED SS 300PSI 1/4 "
102482	GLAND, 24"
102483	GLAND, 30"
102484	GLAND, 36"
102485	GLAND, RETAINER 10" MJ DI MEGA LUG
102486	GLAND, RETAINER 12" MJ DI
102487	GLAND, RETAINER 12" MJ DI MEGA LUGG
102488	GLAND, RETAINER 14" MJ DI MEGA LUGG
102489	GLAND, RETAINER 14" MJ DI BOLT-ON
102490	GLAND, RETAINER 16" MJ DI BOLT-ON
102491	GLAND, RETAINER 16" MJ DI MEGA LUGG
102492	GLAND, RETAINER 18" MJ DI
102493	GLAND, RETAINER 20" MJ DI MEGA LUG STAR
102494	GLAND, RETAINER 24" MJ DI MEGA LUG
102495	GLAND, RETAINER 3" MJ DI BOLT-ON
102496	GLAND, RETAINER 3" MJ DI MEGA LUGG
102497	GLAND, RETAINER 30" MJ DI MEGA LUG STAR
102498	GLAND, RETAINER 36" MJ DI MEGA LUG STAR
102500	GLAND, RETAINER 4" MJ DI MEGA LUG
102501	GLAND, RETAINER 42" MJ DI MEGA LUG
102502	GLAND, RETAINER 48" MJ DI MEGA LUG
102503	GLAND, RETAINER 6" DI MEGA LUGG
102504	GLAND, RETAINER 8" DI MEGA LUGG
102505	GLAND, SPLIT 6" ANCHOR DI
102506	GLAND, SPLIT 8"

102507	GLAND, SPLIT MEGA LUG 10" MJ DI EBAA
102508	GLAND, SPLIT RETAINER 10" MJ DI
102510	GLAND, SPLIT RETAINER 18" MJ DI MEGA LUG
102511	GLAND, SPLIT RETAINER 6" MEGA LUGG
102512	GLAND, SPLIT RETAINER 8" DI MEGA LUGG
102516	GLASSES, SAFETY GREY SHADED
102521	GLOVES, BROWN JERSEY COTTON L LF-RT
102525	GLOVES, LEATHER DRIVING L
102526	GLOVES, LEATHER DRIVING M
102527	GLOVE, LEATHER DRIVING SM
102528	GLOVES, LEATHER DRIVING XL
102530	GLOVES, NITRILE DISPOS LARGE 6.5 MIL
102531	GLOVES, NITRILE DISPOS MED 6.5 MIL
102532	GLOVES, NITRILE DISPOS SM CHEM RESIST
102533	GLOVES, NITRILE DISPOS XL
102535	GLOVES, PVC NITRILE MULTI-DIPPED CHEM
102537	GLOVES, WORK L DOUBLE PALM LEATHER
102566	GOGGLES, CLEAR PLASTIC DIRECT VENT
102570	GRASS SEED, ANNUAL RYE 50LB
102571	GRASS SEED, BERMUDA, HULLED 50LB
102572	GRASS SEED, FESCUE, KENTUCKY 31 50LB
102573	GRASS SEED, FESCUE, REBEL 2, 50LB
102574	GRATE & FRAME, HEAVY DUTY YARD
102575	GRATE, 24" X 36" CAST IRON
102578	GREASE, FITTING 1/8" NPT, SPEC EX SHORT
102579	GREASE GUN, HAND
102581	GREASE, LITHOPLEX 2 MP 10.1OZ
102587	GREASE, WHITE FOOD GRADE TUBE
102588	GREASE, ZENIPLEX 1 14OZ
102589	GRIPPER, 3/4" COPPER PULLERS CABLE EYE
102619	HAMMER, BRICK 16OZ
102620	HAMMER, DOUBLE FACE 2LB
102621	HAMMER, SLEDGE 8 LB FIBERGLASS HANDLE
102631	HANDLE, 16" BUSH BLADE AXE 40" 4-BLT WD
102634	HANDLE, DUST MOP 60"
102640	HANDLE, STREET PUSH BROOM 60" TAPPERED
102646	HANDLE, WET MOP HEAD FIBERGLASS 60"
102681	HAT, HARD WHITE FULL BRIM
102682	HAT, HARD WHITE W SURE LOCK RATCHET
102694	HEADWALL, 18" CONC W/NIPPLES YARD
102698	HEADWALL, 30" HOLE
102700	HEADWALL, 54" HOLE
102701	HEADWALL, 42" HOLE
102702	HEADWALL, 48" WITH NIPPLES yard
102703	HEADWALL, 60" HOLE
102713	HERBICIDE, SUPER KILLZ ALL 2.5GAL lobuil
102736	HOOK S 3"
102737	HOOK, 3/8 CHAIN CLEVIS GRAB
102739	HOOK, MANHOLE SMALL WOOD T-HANDLE
102740	HOOK, METER LID STEEL 1/4" X 30" T-HANDL
102742	HOOK, REFUSE (Large) 4 TINES, 60" HANDLE
102745	GASKET, HOSE NOZZLE 2 1/2, A D

102746	HOSE NOZZLE O-RING CLOW T2400952 M40
102761	HOSE BIB, 3/4 " WATER SPIGOT
102762	HOSE, DISCHARGE 3" PVC LAY FLAT BLUE
102763	HOSE, FIREHOSE 1 1/2" X 50' ROLL 250PSI
102765	HOSE, HYDROJET-1" 3000PSI 500' ROLL
102766	HOSE, RUBBER 1" 200PSI REINFORCD PE 500'
102767	HOSE, RUBBER 3/4" 200PSI REINFOR PE
102768	HOSE, RUBBER ASSEMBLY LINCOLN 5812
102772	HOUSING COVER, AD 4 1/2" MK-73-1
102773	HOUSING COVER, AD 5 1/4" B-62-B
102779	HYDRAULIC FLUID, UNIVERSAL 5GAL Iobuil
102780	HYDROGEN PEROXIDE, 2 oz. SPRAY
102903	INSECT REPELLENT 8 OZ SPRAY
102904	INSECT REPELLENT, WRIST BAND
102908	INSECTICIDE, ANT POISON, 2LB CAN
103014	JUG, PLASTIC W/CAP 1GAL
103017	KENT SEAL ROLL (issue by the case)
103019	KEY, GATE VAL TELESCOP,8', 2" FLEX-HEAD
103020	KEY, WATER CURB STOP 1 1/2" 5FT T-HANDL
103021	KEY, WATER METER 5/8"X27 CURB T-HANDL
103024	KIT, COLLISION KENNEDY 5 1/4" K10B
103027	KIT, COLLISION REPAIR KENN K81A 5 1/4"
103028	KIT, COLL REPAIR M&H 4 1/2" 129T 1994UP
103029	KIT, COLLISION REPAIR M & H 5 1/4" 129T
103030	TRAFFIC REPAIR KIT B62B 5-1/4 AMER. DARL
103031	KIT, EXTENSION ACC KENNEDY K81A 5 1/4/6"
103033	KIT, EXTENSION ACC MUELLER 4 1/2/12
103035	KIT, EXTENSION ACC MUELLER 5 1/4/6"
103036	KIT, MAIN VALVE SEAT REPAIR CLOW/5 1/4
103043	KIT, SAFETY REPAIR CLOW MEDALLION5 1/4"
103044	STEM, CLOW MEDALLION 5 1\4"
103045	KIT, SAFETY REPAIR, MET 250 M94 5 1/4"
103046	KIT, SAFETY REPAIR, MET 250,5 1/4"OLD/ST
103047	KIT, SAFETY REPAIR, MUELLER 4 1/2"
103048	KIT, SAFETY REPAIR, MUELLER 5 1/4"
103049	KIT, SPLICING EPOXY RESIN
103050	KNIFE, PUTTY METAL BLADE 1 1/4" STIFF
103132	LEAD, MECHANICAL PENCIL 0.5MM
103164	LIME HYDRATE, 50 LB. BAGS
103165	LIME PELLETIZED, DOLINATE 40 LB. BAGS
103178	LINERSWINTER, HARD HAT, QUILTED
103183	CORRECTION TAPE, WHITE PACK OF 2
103186	LOAD BINDERS, RATCHET 3/8" GRAB-HOOKS
103192	LOCK NUT, OPER NUT, 4 1/2" M & H 129
103193	LOCKNUT, KENNEDY 5 1/4" K81A-LEF/THDS
103194	LOCKNUT, M & H 5 1/4" 129
103195	LOCKNUT, OPERATING 4 1/2" M & H 129
103199	LOCKOUT, HASP 1 1/2" ELECT. MULTI LOCK
103200	LOCKOUT, HASP 1" ELECT. MULTI LOCK
103201	LOCKS, BRASS M REPAIR W/4" SHAk 1 1/2"
103202	LOCKS, BRASS METER SERV 1 1/2"
103204	LOCKTIGHT, PERMATEX 50ML

103208	LOWER STEM, CLOW M2202374 M12
103209	LOWER VALVE PLATE, CLOW F1600829 M24
103212	OIL, GEAR 85W-140, MULTI-PURPOSE SAE
103213	LUBRICANT, SILICONE 20OZ 12CT
103221	MAILBOX POST, CEDAR
103222	MAILBOX, STANDARD BLACK 1
103223	MAIN SEAT VALVE, MUELLER 4 1/2"
103224	MANHOLE CONE, 2' ECCENTRIC 4' DIA yard
103225	MANHOLE CONE, 3' ECCENTRIC 4' DIA yard
103226	MANHOLE CONE, 3' W RING P-CAST yard
103227	MANHOLE COVER, W/FISH LOGO yard
103228	MANHOLE RING & COVER, BOLT DOWN yard
103229	MANHOLE RING & COV, NON-BLT DOWN yard
103230	MANHOLE RING, 1033D
103231	MANHOLE LID RISER, 2" w/ set screw
103232	MANHOLE LID RISER, 1 1/2" w/ set screw
103233	MANHOLE RISER, 1 foot SECTION 4' DIA
103234	MANHOLE RISER, 2'SECTION 4' DIA
103235	MANHOLE RISER, 3' SECTION 4' DIA
103236	MANHOLE RISER, 60" X 5' ROUND
103238	MANHOLE, 2' BOTTOM SECTION 4' DIA
103239	MANHOLE, 3' BOTTOM SECTION 4' DIA
103247	MARKER, DRY ERASE BLUE
103251	MARKER, HIGHLIGHT BLUE
103252	MARKER, HIGHLIGHT GREEN
103253	MARKER, HIGHLIGHT ORANGE
103255	MARKER, HIGHLIGHT YELLOW
103262	MARKER, MEAN STREAK WHITE
103263	MARKER, MEAN STREAK YELLOW
103264	MARKER, MID-RANGE WATER SCHOTCHMARK
103266	MARKER, KING BLACK CHISEL PT
103268	MARKER, SHARPIE BLACK, Ultra Fine Point
103270	MARKER, SHARPIE BLACK Fine Point
103273	MARKER, UNI PAINT BLUE
103274	MARKER, UNI PAINT RED
103275	MARKER, UNI-PAINT MED LINE WHITE
103284	MASK, RESPIRAT DISPOS NOSE-CLIP 2OZ 20CT
103299	METER ADAPTER, 3/4", MAC #10J23
103300	METER BOX LID, 15"X18" SOLID CAST IRON
103301	METER BOX, 15"X18"X12" PLASTIC W/CI LID
103302	METER BOX, 24"X18"X12" PLASTIC W/CI LID
103305	METER BOX, 24" X 16" X 16" CAST IRON
103306	METER BOX, EXTENSION PLASTIC 6"
103312	METER,RESETTER11/2"X18"H,W/11 V,11/23"LL
103313	METER, RESETTER 1 1/2"X24"H,W/2 V,13"LL
103314	METER, RESETTER 1"X12"H,W10 3.4"LL
103315	METER, RESETTER 2"X18"H,W/2" V, 17"LL
103316	METER, RESETTER 2"X24"H,W/2" V, 17"LL
103317	METER, RESETTER 3/4"X12"H,W/ 7'LL
103318	METER, RESETTER, 3/4X7"H,W/7"LL
103319	CURB STOP,1 1/2"FIP X1 1/2" FLBLW/LW
103320	CURB STOP, 2" FIPX2" FLBALW/LOCKW

103321	METER, WATER 1 1/2" POS DISP FL
103322	METER, WATER 1" POS DISP
103323	METER, WATER 1" POS DISP (REUSE)
103324	METER, WATER 2" POS DISP (FL)
103325	METER, WATER 3" COMP W/ENCODREG
103326	METER, WATER 3/4" SHORT POS.DISPL.
103327	METER, WATER 4" COMPW/ENCODREG
103329	METER, WATER 6" FIRE LINEW/ENCODREG
103331	METER, WATER 8" FIRE LINE W/ENCODREG
103346	MOP, DUST FRAME 5" X24" 12CT
103350	MOP, HEAD WET 4-PLY LAUNDERABLE
103356	MORTAR MIX, TYPE N 72LB
103373	NET, SKIMMER-SURFACE DEEP BAG 20"X6"X12"
103374	NET, SKIMMER-SURFACE FLAT BAG 12" X15"
103377	NIPPLE 1 1/2" X4" NPT,150LB 304 S/S
103378	NIPPLE 1" X 6" NPT, 150LB 304S/S
103379	NIPPLE 1" X CLOSE NPT,150LB 304S/S
103380	NIPPLE 1/2" X4" NPT,150LB 304S/S
103381	NIPPLE 1/2" XCLOSE NPT,150LB 304S/S
103382	NIPPLE 1/4" X2" NPT,150LB 304S/S
103383	NIPPLE 1/4" X4",150LB 304 S/S
103384	NIPPLE 1/4" XCLOSE NPT,150LB 304S/S
103385	NIPPLE 1/8" X3" NPT,150LB 304 S/S
103386	NIPPLE 1/8" XCLOSE NPT,150LB 304 S/S
103387	NIPPLE 2" X 8" NPT,150LB 304S/S
103388	NIPPLE 2" X CLOSE NPT,150LB 304S/S
103389	NIPPLE 3" X 10" NPT,150LB 304S/S
103390	NIPPLE 3" X CLOSE NPT,150LB 304S/S
103391	NIPPLE 3/8" X3" NPT,150LB 304 S/S
103392	NIPPLE 3/8" XCLOSE NPT,150LB 304 S/S
103393	NIPPLE, 10" FL X3' PE DIP,COATED INSIDE
103394	NIPPLE, 12" FL X3' PE DIP,COATED INSIDE
103395	NIPPLE, 16" FL X3' PE DIP,COATED INSIDE
103396	NIPPLE, 4" FL X3' PE DIP, COATED INSIDE
103397	NIPPLE, 6" FL X3' PE DIP, COATED INSIDE
103398	NIPPLE, 8" FL X3' PE DIP, COATED INSIDE
103400	NIPPLE, GALV 1 1/2" X3" PIPE
103401	NIPPLE, GALV 1 1/2" X4" PIPE
103402	NIPPLE, GALV 1 1/2" XCLOSE PIPE
103403	NIPPLE, GALV 1 1/4" X2" PIPE THD
103404	NIPPLE, GALV 1 1/4" X3" PIPE
103405	NIPPLE, GALV 1 1/4" X4" PIPE
103406	NIPPLE, GALV 1 1/4" X6" PIPE
103407	NIPPLE, GALV 1" X2" PIPE THD
103408	NIPPLE, GALV 1" X4" PIPE THD
103409	NIPPLE, GALV 1" X6" PIPE THD
103410	NIPPLE, GALV 1" XCLOSE PIPE
103411	NIPPLE, GALV 1/2" X4" PIPE
103412	NIPPLE, GALV 1/2" X6" PIPE
103413	NIPPLE, GALV 1/4" X4" PIPE
103414	NIPPLE, GALV 1/4" X6" PIPE
103417	NIPPLE, GALV 1/8" X6" PIPE

103418	NIPPLE, GALV 1/8" X 8" PIPE
103419	NIPPLE, GALV 2 1/2" X 12" PIPE
103420	NIPPLE, GALV 2 1/2" X 2" PIPE
103422	NIPPLE, GALV 2 1/2" X 4" PIPE
103423	NIPPLE, GALV 2 1/2" X 6" PIPE
103424	NIPPLE, GALV 2" X 3" PIPE
103425	NIPPLE, GALV 2" X 4" PIPE
103426	NIPPLE, GALV 2" X 6" PIPE
103427	NIPPLE, GALV 2" X CLOSE, PIPE
103428	NIPPLE, GALV 3/4" X 2" PIPE
103429	NIPPLE, GALV 3/4" X 24" PIPE
103430	NIPPLE, GALV 3/4" X 3" PIPE
103431	NIPPLE, GALV 3/4" X 4" PIPE
103432	NIPPLE, GALV 3/4" X 6" PIPE
103433	NIPPLE, GALV 3/4" X CLOSE PIPE
103434	NIPPLE, GALV 3/8" X 2" PIPE
103435	NIPPLE, GALV 3/8" X 4" PIPE
103436	NIPPLE, MALE QUICK DISCONNECT 1/4"
103437	NIPPLE, METER 3/4" X 2 1/2 " BRASS
103438	NIPPLE, METER 3/4" X 2" BRASS
103439	NIPPLE, METER 3/4" X 3" BRASS
103441	NIPPLE, PVC SCH 80 1 1/2" JAM
103442	NIPPLE, PVC SCH 80 1 1/4" JAM
103450	NOZZLE, 1" NST X 8" LG BRASS 5/16"
103463	NOZZLE, FIREHOSE 1 1/2" BRASS BUMPER NST
103465	NOZZLE, FH HOSE 2 1/2" A D B62B 5 1/4"
103466	NOZZLE, FH HOSE 2 1/2" AD MARK 73 4 1/2"
103468	NOZZLE, HOSE 3/4" GHT X 6" LONG
103469	NOZZLE, CLOW 2 1/2" (Outlet) 5 1/4"
103471	NOZZLE, FH PUMPER 4 1/2" AD MARK 73
103473	NOZZLE, RAD AL TEARDRP LANCE TP 1" 11D
103480	NUT DRIVER, 3/8" NUT PLASTIC HANDLE
103481	NUT DRIVER, 5/16" PL HNDLE WTRPRF HVY DT
103482	NUT GASKET ASSEMBLY, 1" FORD NGF4
103483	NUT GASKET ASSY, 1" CURBSTOP 3/8" SCREW
103484	NUT PACK GASKET ASSY, 3/4" 3/8" OLD FORD
103486	NUT, 1/2" BRASS HEX COARSE THD
103488	NUT, 5/8 T0400072 M29 CLOW
103491	NUT, CAP M & H 929 P.N. 46
103493	NUT, COMPRESSION 3/4" BRASS AY McDONALD
103494	NUT, HEX 3/4" MJ BOLTS
103495	NUT, HEX 7/8"
103496	NUT, HEX COARSE THD 1/2"
103497	NUT, HEX COARSE THD ZINC 7/16"
103498	NUT, HEX GRADE 5 ZINC 10 3/4"
103499	NUT, HEX GRADE 5 ZINC 16 3/8"
103500	NUT, HEX GRADE 5 ZINC 20 1/4"
103501	NUT, HEX GRADE 5 ZINC COARS THD 1 1/2"
103502	NUT, HEX GRADE 5 ZINC COARS THD 1 1/4"
103503	NUT, HEX GRADE 5 ZINC COARS THD 11 5/8"
103504	NUT, HEX GRADE 5 ZINC COARS THD 5/16"
103505	NUT, HEX GRADE 5 ZINC COARS THD 9/16"

103506	NUT, HOLD DOWN METROPOLITAN 250 5 1/4"
103507	NUT, OPERATING 4 1/2" A D MARK 73
103508	NUT, OPERATING 5 1/4" A D B62B
103509	NUT, OPERATING 5 1/4" KENNEDY K81A
103510	NUT, WEATHER CAP, MET 250 5 1/4
103511	NUT, OPERATING 5 1/4" MUELLER
103512	NUT, OPERATING CLOW BRONZE M3
103513	NUT, OPERATING STEM KENNEDY K-10
103514	BEARING, THRUST-OPERATING NUT CLOW M2
103515	NUT, REVOLVING MET 250
103517	NUT, THRUST CLOW
103519	NUT, TRAVEL STOP MET 250 M94 5 1/4
103520	NUT, UPPER STEM NUT CLOW
103527	OIL LUBRICANT, BAR AND CHAIN 1GAL
103531	OIL, ABSORBENT PREMIUM 40LB
103536	OIL, HEAVY DUTY ENGINE 15W40 1QT
103538	OIL, HEAVY DUTY ENGINE 30W SAE 1QT
103541	OIL, PENETRATING W TEFLON 24OZ
103547	NUT, OPERATING 4 1/2" M & H 129T NEW
103548	NUT,OPERATING 4 1/2" M & H 129T OLD STY
103549	NUT, OPERATING 5 1/4 M&H 929
103550	NUT, OPERATING 5 1/4" M & H 129 OLD STY
103551	NUT, OPERATING 5 1/4" M & H 129T NEW SY
103553	O-RING, DRAIN RING CLOW MED
103556	O-RING, HOSE NOZZLE 2 1/2" M & H
103557	O-RING, LOWER MAIN VALVE M & H 4 1/2129T
103559	O-RING, LOWER MAIN VALVE SEAT MUELLER
103560	O-RING, PUMPER NOZZLE CLOW
103565	O-RING, SEAT INSIDE/OUT A D B62B 5 1/4
103566	O-RING, SEAT INSIDE/OUT A D MARK 73
103567	O-RING, SEAT RING MET 250 M94 5 1/4
103569	O-RING, THRUST NUT CLOW
103570	O-RING, UP MAIN VALVE SEAT KENN K81 51/4
103571	O-RING, UP MAIN VALVE SEAT MUELLER 5 1/4
103572	O-RING, VALVE ROD LOWER MET 250 5 1/4"
103574	OUTLET, 2 1/2" KENNEDY K81A
103575	NOZZLE, FH HOSE 2 1/2" M & H 129T
103576	NOZZLE, FH 2 1/2" MUELL 1978 NEW L/ H GR
103577	NOZZLE, FH 2 1/2" MUELL 1978/OLD R/H RED
103578	OUTLET, 4 1/2" CLOW MEDALLION
103579	OUTLET, 4 1/2" KENNEDY K81A
103580	NOZZLE, FH PUMPER4 1/2" M & H 129T
103581	NOZZLE, FH PUMPER 4 1/2" MUELLER A423
103588	OXYGEN, COMPRESSED GAS SIZE 200
103615	PAD, LEGAL - WH 8 1/2" x 14", 100 sht.
103619	PAD, LETTER - WH 8 1/2" x 11 3/4",100sht
103622	PAD, MEMO 3" X5", Sprial Top, Pocket sz
103623	PAD, MEMO 5" X7" Spiral-Poly Cov
103635	PAD, POST-IT 3" X 3" yellow (pack of 12)
103637	PAD, POST-IT 3" X 5" yellow
103646	PAD, POST-IT 4" X 6" LINED yellow
103654	PAD, SCOURING 6" X4 1/2" GREEN 12CT

103655	PAD, SCOURING STAINLESS STEEL 12CT
103657	PAD, STENO 6" X9" GREGG RULE
103660	PAD, VALVE BOX CONCRT 24X24X4, 9" OPENG
103661	PADDLE, STOP & SLOW PVC 18" SIGN
103737	PAINT, SPRAY BLACK INT/EXT GLOSS 12OZ
103738	PAINT, SPRAY BROWN GLOSS 12OZ
103742	PAINT, SPRAY GRAY PRIMER 12.5OZ
103743	PAINT, SPRAY GREEN MED GLOSS 12 OZ
103744	PAINT, SPRAY RED GLOSS FIRE ENGINE 12OZ
103745	PAINT, SPRAY SILVER 12OZ CAN
103747	PAINT, SPRAY UPSIDE DN FLUOR GREEN 17OZ
103748	PAINT, SPRAY UPSIDE DN FLUOR ORANGE 17OZ
103749	PAINT, SPRAY UPSIDE DN FLUORSC BLUE 17OZ
103750	PAINT, SPRAY UPSIDE DOWN PURPLE 17OZ
103751	PAINT, SPRAY UPSIDE DOWN WHITE 17OZ
103753	PAINT, SPRAY YELLOW GLOSS SAFETY 12OZ
103763	PAN, DUST PLASTIC 12CT
103835	PANTS, BDU 100% COTTON, MEDIUM
103836	PANTS, BDU 100% COTTON, LARGE
103837	PANTS, BDU 100% COTTON, XL
103838	PANTS, BDU 100% COTTON, 2XL
103839	PANTS, BDU 100% COTTON, 3XL
103840	PANTS, BDU 100% COTTON, 4XL
104088	TOLIET PAPER 96CT.
104096	PAPER, XEROX 8 1/2" X 14"
104097	PAPER, XEROX WHITE 11" X 17" 20
104098	PAPER, XEROX WHITE 8 1/2" X 11" 20
104099	PARAFILM, 2" X250'
104137	PEN, BALL POINT MED BLUE, ISSUE AS BOX
104138	PEN, BALL POINT BLACK, ISSUE AS BOX
104152	PEN, GEL RETRACT BLACK ISSUE AS BOX
104153	PEN, GEL- RETRACTABLE BLUE, ISSUE AS BOX
104154	PEN, GEL RETRACT RED issue by the box
104170	PENCIL, NO. 2, (PER DOZEN ONLY)
104179	SILICONE,RTV 6B BLUE PERMATEX TUBE
104187	PICK, HAND, BLADE 1 1/2" X30" 6LB HEAD
104191	PILLOW, CL2 FREE 100CT
104201	PIN, UPPER STEM CLOW
104203	PINE BARK, MINI NUGGETS 3 CB FT BAGS
104205	PIPE SEC, 48"LCP SH 8.87' LL L301MK286
104206	PIPE, 1 1/2" X20' PVC SCH 80 PL
104207	PIPE, 1 1/4" X20' PVC SCH 80 PL
104208	PIPE, 1" X20' PVC SCH 80 PL
104209	PIPE, 1/2" X20 PVC SCH 80 PL
104210	PIPE, 10" X13' PVC SCH 35 PL,GRN
104211	PIPE, 10" X18' DI CLASS 350
104212	PIPE, 12" X13' PVC SCH 35 PL,GRN
104213	PIPE, 12" X18' DI CLASS 350
104214	PIPE, 14" X18' DI CLASS 350
104216	PIPE, 16" X18' DI CLASS 350
104217	PIPE, 18" X18' DI CLASS 52 EPOXY
104218	PIPE, 2" X20' PVC CLASS 200 PL W/G

104219	PIPE, 2" X20' PVC SCH 80 PL
104220	PIPE, 20" X20' DI CLASS 300
104221	PIPE, 24" X18' DI CLASS 300
104222	PIPE, 3" X18' DI CLASS 350
104223	PIPE, 3" X20' PVC SCH 80 PL
104224	PIPE, 3/4" X20 PVC SCH 80 PL
104225	PIPE, 30" X20' DI CLASS 250
104226	PIPE, HDPE 36" X20' SMOOTH INSIDE POLY
104227	PIPE, 36" X18' DI CLASS 250
104228	PIPE, 4" X20' DI CLASS 350
104229	PIPE, 4" X20' DI CLASS 350,PLAIN XFL
104230	PIPE, 4" X20' PVC SCH 40 PL
104231	PIPE, 4" X20' PVC SCH 80 PL
104232	PIPE, 42" X20' DI CLASS 250
104233	PIPE, HDPE 48" X20' SMOOTH INSIDE
104234	PIPE, 48" X20' DI CLASS 250
104235	PIPE, 6" X14foot PVC SCH 35 PL,GRN
104236	PIPE, 6" X18' DI CLASS 350
104237	PIPE, 6" X18' DI CLASS 350, PLAIN XFL
104238	PIPE, 6" X20' PVC SCH 80 PL
104239	PIPE, 8" X13.5' PVC SCH 35 PL,GR
104240	PIPE, 8" X12.5' PVC TRUSS W/G
104241	PIPE, 8" X18' DI CLASS 350
104242	PIPE, 8" X18' DI CLASS 360, PLAIN XFL
104243	PIPE, ARCH CR 16" 11"RISE X18"SPX8'
104244	PIPE, ARCH CR 18" 13 1/2"RISEX22"SPX8'
104245	PIPE, ARCH CR 24" 18"RISEX28 1/2"SPX8'
104246	PIPE, ARCH CR 30" 22 1/2"RSX36 1/4"SPX8'
104247	PIPE, ARCH CR 36" 26 5/8"RSX43 3/4"SPX8'
104248	PIPE, ARCH CR 42" 31 5/8"RSX51 1/8"SPX8'
104249	PIPE, CMP FULL RND 15" X20' 14 gauge
104250	PIPE, CMP FULL RND 18" X20' 14GA Alum
104252	PIPE, CMP FULL RND 24"X20' 14GA Alum
104253	PIPE, CMP FULL RND 30"X20' 14GA Alum
104254	PIPE, CMP FULL RND 42" X20' 14GA Alumin
104255	PIPE, CUTTERS, 2",RIDGED
104256	PIPE, DOPE THREAD COMPOUND, PINT CAN
104257	PIPE, GALV 1 1/2" X21'
104258	PIPE, GALV 1 1/4" X21' JOINTS
104259	PIPE, GALV 1" X21'
104260	PIPE, GALV 2 1/2" X20'
104261	PIPE, GALV 2" X21' THD
104262	PIPE, GALV 3/4" X21' THD
104263	PIPE, HDPE 18" X20' SMOOTH INSIDE POLY
104264	PIPE, HDPE 24" X20' SMOOTH INSIDE POLY
104265	PIPE, HDPE 30" X20' SMOOTH INSIDE POLY
104266	PIPE, RCP 15" X8' CLASS 3 T IN GROOVE
104267	PIPE, RCP 18" X8' CLASS 3 T IN GROOVE
104268	PIPE, RCP 24" X8' CLASS 3 T IN GROOVE
104269	PIPE, RCP 30" X8' CLASS 3 T IN GROOVE
104270	PIPE, RCP 36" X8' CLASS 3 T IN GROOVE
104271	PIPE, RCP 42" X8' CLASS 3 T IN GROOVE

104272	PIPE, RCP 48" X8' CLASS 3 T IN GROOVE
104273	PIPE, RCP 54" X8' CLASS 3 T IN GROOVE
104279	PLASTIC SHEETING, 4 MILS, 10' X 100', CL
104288	PLATE, UPPER VALVE CLOW 5 1/4"-M17
104289	PLATE, VALVE BOTTOM MET 250 M94 5 1/4
104290	PLATE, VALVE UPPER MET 250 M94 5 1/4
104291	PLIERS, 10" ADJ CHROM CHANNEL LOCK 430G
104292	PLIERS, 10" LOCK VISE GRIPS
104293	PLIERS, 12" ADJ CHR CHANNEL LOCK - 440G
104294	PLIERS, 16" ADJ CHANNEL LOCKS
104296	PLUG, 10" MJ DI W/ACC SIGMA DMP10
104297	PLUG, 10" RUSSELL
104298	PLUG, 12" D.I. SIGMA
104299	PLUG, 12" MJ DI W/ACC SIGMA DMP12
104300	PLUG, 14" MJ DIF-NS-P140
104301	PLUG, 16" MJ
104302	PLUG, 16" TYTON C
104304	PLUG, 30" MJ DIF-NS-P300
104306	PLUG, 4" MJ
104307	PLUG, 6" D.I. SIGMA
104308	PLUG, 6" MJ DI WITH ACC.
104309	PLUG, 6" MJ TAPPING 6" X3"
104310	PLUG, 6" MJ TAPPING 6" X4"
104311	PLUG, 6" PVC PIPE WINGNUT
104312	PLUG, 8" D.I. SIGMA
104313	PLUG, 8" MJ DI W/ACC.
104314	PLUG, 8" MJ WITH 2" TAP
104315	PLUG, 8" PVC PIPE MECH S-802
104318	PLUG, GALV 1/2" SQUARE HEAD
104319	PLUG, GALV 1/4" SQUARE HEAD
104321	PLUG, GALV 2" SQUARE HEAD
104322	PLUG, GALV 3/4" SQUARE HEAD
104324	PLUG, HEXHD 1" NPT 150LB 304S/S
104325	PLUG, HEXHD 1/2" NPT 150LB 304S/S
104326	PLUG, HEXHD 1/4" NPT 150LB 304S/S
104327	PLUG, HEXHD 1/8" NPT 150LB 304 S/S
104328	PLUG, HEXHD 2" NPT 150LB 304S/S
104329	PLUG, HEXHD 3" NPT 150LB 304S/S
104330	PLUG, HEXHD 3/8" NPT 150LB 304 S/S
104331	PLUG, MECHANICAL WINGNUT 6"
104332	PLUG, MECHANICAL WINGNUT 8"
104334	PLUG, GALV 1" SQUARE HEAD
104346	POISON IVY, PLANT - GEL ANTI ITCH 25CT
104347	POISON IVY, SKIN PROTECTANT 4OZ
104352	POLE, ALUMINUM EXTENS 16' TELESCOPIC
104364	POLISH, FURNITURE AEROSOL 10OZ 12
104374	POST HOLE DIGGER, 48" FIBERGLASS HANDLES
104383	POTASSIUM IODIDE, ELECTROLYTE SOLUTION
104478	PROBE, COMBINATION PH/ATC
104480	PROBE, DO SENSOR, W/10 FOOT CABLE
104483	PROBE, PH STAND
104486	PROTECTOR, SHEET LETTER

104493	PRY BAR, 18 60"
104535	PUNCH, PIN 5/16"
104536	PUSH PIN
104539	PVC CEMENT/GLUE, 16 OZ. CAN
104540	PVC CLEANER PURPLE PRIMER, 16 OZ.
104553	RAINCOAT, PVC/NYLON XL 48" W HOOD
104554	RAINCOAT, PVC/NYLON XXL 48" W HOOD
104555	RAINCOAT, PVC/NYLON XXXL 48" W HOOD
104556	RAINCOAT, PVC/NYLON XXXXXL 48" W HOOD
104557	RAINCOAT, PVC/NYLON LARGE 48" W HOOD
104558	RAINSUIT, YELLOW L COAT W HOOD BIB BOTTM
104559	RAINSUIT, YELLOW M COAT W HOOD BIB BTTM
104560	RAINSUIT, YELLOW S COAT W HOOD BIB BOTTM
104561	RAINSUIT, YELLOW XL COAT W HOOD BIB BTTM
104562	RAINSUIT, YELLOW XXL COAT HOOD BIB BTTM
104563	RAINSUIT, YELLOW XXXL COAT HOOD BIB BTTM
104564	RAINSUIT, YELLOW XXXXXL W/HOOD&BIB
104565	RAKE BOW, 15", 15 TINES 60" FIBERGLASS
104574	RATCHET, 1/2" DRIVE, 10 3/8" LONG
104581	REBAR, 1/2" X20' GR 40
104588	REDUCER ,8" X6" DI FL X FL
104589	REDUCER BELL, 1/2"X3/8" NPT 150LB 304S/S
104590	REDUCER BELL, 1/4"X1/8" NPT 150LB 304S/S
104591	REDUCER BELL, 3/8"X1/4" NPT 150LB 304S/S
104592	REDUCER BUSH, 1 1/2"X1" NPT 150LB 304S/S
104593	REDUCER BUSH, 1"X3/4" NPT 150LB 304S/S
104594	REDUCER BUSH, 1/2"X1/4" NPT 150LB304S/S
104595	REDUCER BUSH, 1/2"X3/8" NPT 150LB304S/S
104596	REDUCER BUSH, 1/4"X1/8" NPT 150LB304S/S
104597	REDUCER BUSH, 2 1/2"X2" NPT 150LB304S/S
104598	REDUCER BUSH, 2"X1 1/2" NPT 150LB304S/S
104599	REDUCER BUSH, 3"X2 1/2" NPT 150LB304S/S
104600	REDUCER BUSH, 3/4"X1/2" NPT 150LB304S/S
104601	REDUCER BUSH, 3/4"X1/4" NPT 150LB304S/S
104602	REDUCER BUSH, 3/8"X1/4" NPT 150LB304S/S
104604	REDUCER, 10" X8" DI FL X FL
104605	REDUCER, 10" X8" DI MJ
104606	REDUCER, 12" X8" DI MJ
104608	REDUCER, 6" X4" DI FL X FL
104609	REDUCER, 6" X4" DI MJ
104610	REDUCER, 8" PE X6" DI MJ
104612	REDUCER, 8" X6" DI MJ
104615	REDUCING BUSHING, GALV 1" X1 1/2" HEX
104616	REDUCING BUSHING, GALV 1" X1 1/4" HEX
104617	REDUCING BUSHING, GALV 2 1/2" X2" HEX
104618	REDUCING BUSHING, GALV 2" X1 1/4"
104620	REDUCING BUSHING, GALV 3/4" X1" HEX
104621	REDUCING BUSHING, GALV 3/4" X1/2" HEX
104626	RESPIRATOR, MASK LARGE, CART TYPE
104627	RESPIRATOR, MASK MEDIUM CART TYPE
104628	RESPIRATOR, MASK SMALL, CART TYPE
104645	ROD CONNECTOR COUPLING, 3/4" METAL

104646	ROD, COUPLING MUELLER 4 1/2" NEW
104647	ROD, COUPLING MUELLER 5 1/4" NEW
104648	ROD, OPERATING UPPER A D MARK 73
104649	ROD, PROBING, INSUL ROD,METAL TIP, 4 FT
104660	ROPE, 1/4" SOLID BRAID NYLON 1000'
104662	ROPE, POLY-LIFT INFLATABLE HOSE 20FT
104678	RUBBER, MAIN VALVE A D B62B
104679	RUBBER, MAIN VALVE CLOW MED 5 1/4"
104680	RUBBER, MAIN VALVE KENNEDY K81A 5 1/4
104681	RUBBER, MAIN VALVE M & H 4 1/2"129T V O
104682	RUBBER, MAIN VALVE M & H VO 5 1/4" 129T
104683	RUBBER, MAIN VALVE MET 250 5 1/4"OLDSTYL
104684	RUBBER, MAIN VALVE MUELLER 4 1/2"
104685	RUBBER, MAIN VALVE MUELLER 5 1/4"
104686	RUBBER, MAIN VALVE, MET 250 M94 5 1/4
104687	RUBBERBAND, SIZE 16
104688	RUBBERBAND, SIZE 33
104691	SADDLE, 1 1/2" X 1" CC 1STP OD 1.62 1.92
104692	SADDLE, 1 1/2" X 3/4"CC 1STPOD 1.61-1.92
104693	SADDLE, 10"X1" CC 2ST AC/CI 11.10-12.12
104694	SADDLE, 10"X1" CC TAP2ST SDR21 CL 200
104695	SADDLE, 10"X2" IP 2ST AC/CI 11.10-12.12
104696	SADDLE, 10"X2" IP 2ST SDR21CLASS 200
104697	SADDLE, 10"X3/4" CC 2ST TAPSDR 21CL200
104698	SADDLE, 10"X3/4"CC 2ST AC/CI11.10-12.12
104699	SADDLE, 12" X 8" TAP FAB DI 13.13-13.60
104700	SADDLE, 12"X1" CC 2ST AC/CI 13.20-14.38
104701	SADDLE, 12"X2" IP 2ST AC/CI 13.20-14.38
104702	SADDLE, 12"X3/4"CC 2ST AC/CI 13.20 14.38
104703	SADDLE, 12"X6" TAP CI DI 13.13 13.60
104704	SADDLE, 12"X6" FAB DI 13.13-13.60
104705	SADDLE, 14"X2" IP TAP 2ST DI 15.30-16.80
104706	SADDLE, 16" X 1"CC 2ST CI AC 17.40 18.90
104707	SADDLE, 16" X 8" TAP FAB 17.88 18.43
104708	SADDLE, 16"X2" IP 2ST CI AC 17.40 18.95
104709	SADDLE, 16"X3/4"CC 2STR CI AC17.40 18.95
104710	SADDLE, 18" X 8" TAP FAB 19.41-20.01
104711	SADDLE, 2 1/2" X 1" CC TAPING PVC PIPE
104712	SADDLE, 2 1/2" X 3/4" IP TAP 2.44 2.91
104713	SADDLE, 2" X 1" CC 2STR GALV.2.38 2.56
104714	SADDLE, 2"X3/4"CC 2STR TAP GALV2.35 2.56
104715	SADDLE, 20" X 3/4" TAPPING DI
104716	SADDLE, 20"X 1" CC 3STR DI 21.35 22.60
104717	SADDLE, 20"X 2"IP 2STR NPT 21.58 DI
104718	SADDLE, 20"X8" 3STR TAP DI FLG W/O-RING
104719	SADDLE, 24" X 8" TAP FAB, 27.26 27.96
104720	SADDLE, 24"X1"CC 3STR CI AC 25.50 26.50
104721	SADDLE, 24"X12" TAP DI FL 25.80 OD RANGE
104722	SADDLE, 24"X2" IP 3STR CI 25.50 26.50
104723	SADDLE, 24"X3/4"CCTAP3STRCIAC25.55-26.32
104724	SADDLE, 24"X6",FAB STEEL 25.71-26.41
104725	SADDLE, 3"X 3/4" CC,2STR DI , 3.45 4.05

104726	SADDLE, 3"X3/4" CC,2STR TAP DI
104727	SADDLE, 3"X1"CC, SDR-21CL200 2.97 3.54
104728	SADDLE, 3"X2"IP SDR-21CL 200 2.97 3.54
104729	SADDLE, 30"X1"CC 3STR CIAC OD31.75 32.50
104730	SADDLE, 30"X12" 3STR TAP DI 31.52 32.22
104731	SADDLE, 30"X2"IP3STR TAP CIAC31.75 32.50
104732	SADDLE, 30"X3/4"CC TAP3STR CI AC 31.75
104733	SADDLE, 36"X1"CC TAP CIAC 37.71 38.46
104734	SADDLE, 36"X12" TAP DI 38.18 38.60 O-RG
104735	SADDLE, 36"X2" IP TAP CI AC 37.71 38.46
104736	SADDLE, 36"X3/4"CC TAP DI/CI 7.71 38.46
104737	SADDLE, 4"X1" CC 2 STR CI/AC 4.50-5.40
104738	SADDLE, 4"X1" IP SDR-21 CL200 4.00-4.50
104739	SADDLE, 4"X2" IP 2STR CI/AC 4.50-5.40
104740	SADDLE, 4"X2" IP SDR-21CL200 4.00-4.50
104741	SADDLE, 4"X3/4"CC 2STR CI/AC 4.50-5.40
104742	SADDLE, 4"X3/4"CC TAP 2STR PVC 4.70 5.40
104743	SADDLE, 42"X12"TAP DI FLG W/3STR 44.50
104745	SADDLE, 6"X1" CC 3STR CI AC 6.63 7.60
104746	SADDLE, 6"X1"CC 2STR SDR-21 6.00-6.63
104747	SADDLE, 6"X2" IP 2STR AC/CI 6.63-7.60
104748	SADDLE, 6"X2" IP 2STR SDR-21 6.00-6.63
104749	SADDLE, 6"X3/4" CC 2STR CI AC 6.63 7.60
104750	SADDLE, 6"X3/4" CC 2STR SDR-21 6.00-6.63
104751	SADDLE, 6"X6" TAP MJ CI 7.40 7.73 FAB
104752	SADDLE, 8"X1" CC 2STR AC/CI 9.05-9.55
104753	SADDLE, 8"X1" CC 2STR SDR-21 8.63
104754	SADDLE, 8"X2" IP 2STR AC/CI 9.05-9.55
104755	SADDLE, 8"X2" IP 2STR SDR-21 8.63 9.80
104756	SADDLE, 8"X3/4" CC 2STR AC/CI 9.05-9.55
104757	SADDLE, 8"X3/4" CC 2STR SDR-21 8.00-8.63
104758	SADDLE, PVC TAPPING 8" HUB TYPE, PREDCO
104759	SAFETY BELT, LARGE FLU ORANGE W/SUSP
104760	SAFETY BELT, MEDIUM FLU ORANGE W/SUSP
104761	SAFETY BELT, SMALL FLU ORANGE W/SUSP
104762	SAFETY BELT, XLARGE FLU ORANGE W/SUSP
104763	SAFETY BELT, XXLARGE FLU ORANGE W/SUSP
104764	SAFETY BELT, XXXLARGE FLU ORANGE W/SUSP
104768	SAFETY SOLVENT AND DEGREASER, 20OZ 12CT
104769	SAFETY SUIT, LARGE DISPOS COVERALLS
104770	SAFETY SUIT, XL DISPOS COVERALLS
104771	SAFETY SUIT, XXL DISPOS COVERALLS
104772	SAFETY SUIT, XXXL DISPOS COVERALLS
104773	SAFETY SUIT, XXXXL DISPOS COVERALLS
104778	SALT, ROCK COARSE 50LB
104784	SANITIZER, HAND INSTANT
104788	SAW, HACK 12" HEAVY DUTY INDUSTRIAL
104789	SAW, HAND PLASTIC PIPE ALUMINUM HANDLE
104791	SCISSORS, 8" PLASTIC HANDLES (pack of 2)
104793	SCOOP, UTILITY POLYETHYLENE 2QT WHITE
104808	SCREW, FLATHEAD CLOW 3/8"
104819	SCREW, WEATHER CAP CLOW

104820	SCREWDRIVER, 8" x 1/4" PHILLIPS HEAD
104821	SCREWDRIVER, LG 12" FLAT 3/8" BLADE
104822	SCREWDRIVER, SM 6" FLAT PL HANDLE
104828	SEAL, BONNET MET 250 5 1/4"
104858	SEALER, JT 4" SCH 40 PVC PIPE PREDCO
104859	SEALER, JT 6" DI PIPE PREDCO
104860	SEALER, JT 6" SCH 35 PVC PIPE PREDCO
104861	SEAT RING, BRASS 5 1/4 MET 250 M94
104863	SEAT, MAIN VALVE A D B62B 5 1/4"
104864	SEAT, MAIN VALVE KENNEDY K81A 5 1/4"
104865	SEAT, MAIN VALVE M & H 4 1/2" 129T V O
104866	SEAT, MAIN VALVE M & H VO 5 1/4" 129T
104867	SEAT, MAIN VALVE MUELLER 5 1/4"
104868	SEAT, MAIN VALVE O-RING KIT M&H 129
104869	SEAT, RING CLOW 5 1/4" MEDALLION
104870	SEAT, VALVE A D MARK 73 4 1/2"
104972	SHIRT, GOLF NAVY 100% COTTON 2XL
104973	SHIRT, GOLF NAVY 100% COTTON 3XL
104974	SHIRT, GOLF NAVY 100% COTTON 4XL
104975	SHIRT, GOLF NAVY 100% COTTON LARGE
104976	SHIRT, GOLF NAVY 100% COTTON MEDIUM
104977	SHIRT, GOLF NAVY 100% COTTON XL
105130	SHOVEL, FLAT 48" FIBERGLASS HANDLE
105132	SHOVEL,ROUND-POINT 48" FIBERGLASS HANDLE
105135	SHOVEL, SHARP SHOOTER FIBERGLASS HANDLE
105136	SHOVEL, SHARP SHOOTER 48"LONG FIBERGLASS
105137	SHOVEL, SQUARE POINT 27" D-HANDLE
105155	SIGN, 48" ROLL UP ROAD CLOSED ORANGE
105156	SIGN, 48" ROLL-UP FLAGGER AHEAD ORANGE
105157	SIGN, 48" ROLL-UP LANE CLOSED ORANGE
105158	SIGN, 48" ROLL-UP MEN WORKING ORANGE
105355	SILT FENCE, BLACK CLOTH 36" 100'
105361	SLIPPER HOSE GUIDE, W/ EYE RP TIGER TAIL
105362	SLUDGE CORE SAMPL, BOT SECT 10' W VALVE
105363	SLUDGE CORE SAMPL, TOP SECT 5' W ROPE
105371	SOAP, BODY LIQUID 1GAL
105374	SOAP, HAND ANTISEPTIC, 800 ML REFILL
105376	SOAP, HAND DOUBLEPLAY W PUMICE 1GAL
105377	SOCKET, 1 1/16" 6PT 1/2" DRIVE DEEP DPT
105378	SOCKET, 1 1/16" MJ
105379	SOCKET, 1 1/8" 6PT 1/2" DRIVE DEEP DEPTH
105380	SOCKET, 1" 6PT 1/2" DRIVE DEEP DEPTH
105381	SOCKET, 1/2" 6PT 1/2" DRIVE DEEP DEPTH
105382	SOCKET, 13/16" 6PT 1/2" DRIVE DEEP DEPTH
105383	SOCKET, 15/16" 6PT 1/2" DRIVE DEEP DEPTH
105384	SOCKET, 3/4" 6PT 1/2" DRIVE DEEP DEPTH
105385	SOCKET, 7/8" 6PT 1/2" DRIVE DEEP DEPTH
105386	SOCKET, WRENCH 1 1/4" MJ
105396	SOLID SLEEVE, 10" X 12" MJ DI
105397	SOLID SLEEVE, 12" X 12" MJ DI

105398	SOLID SLEEVE, 14" X 15" MJ DI
105399	SOLID SLEEVE, 16" X 15" MJ DI
105400	SOLID SLEEVE, 18" X 15" MJ DI
105401	SOLID SLEEVE, 20" X 15" MJ DI
105402	SOLID SLEEVE, 24" X 15" MJ DI
105403	SOLID SLEEVE, 3" X 12" MJ DI
105404	SOLID SLEEVE, 30" X 24"MJ DI
105405	SOLID SLEEVE, 36" X 24" MJ DI
105406	SOLID SLEEVE, 4" X 12" MJ DI
105407	SOLID SLEEVE, 42" X 24" MJ DI
105408	SOLID SLEEVE, 48" X 24" MJ DI
105409	SOLID SLEEVE, 6" X 12" MJ DI
105410	SOLID SLEEVE, 8" X 12" MJ DI
105411	SOLID SLEEVE, 8" X 7" MJ DI (SHORT)
105417	SPARK PLUG, QUICK CUT SAW
105421	SPILLWAY THROAT 1033 LEFT WING
105422	SPILLWAY THROAT 1033 RIGHT WING
105423	SPILLWAY THROAT 1033 DOUBLE WING
105430	TWEEZER, METAL WITH NARROW POINT
105432	SPONGE, SCRUBBING 40CT
105434	SPOOL, 10" DIA X 24" LAY FL X FL DI
105435	SPOOL, 10" DIA X 72" LAY FL X FL DI
105436	SPOOL, 4" DIA X 24" LAY FL X FL DI
105437	SPOOL, 4" DIA X 72" LAY FL X FL DI
105438	SPOOL, 6" DIA X 24" LAY FL X FL DI
105439	SPOOL, 6" DIA X 72" LAY FL X FL DI
105440	SPOOL, 8" DIA X 24" LAY FL X FL DI
105441	SPOOL, 8" DIA X 72" LAY FL X FL DI
105449	SPRAY, ANTI-FOG AEROSOL
105455	SPRAYER, COMPRESSED AIR 2 1/2 GAL
105459	PLUG, GALV 1 1/2" SQUARE HEAD
105460	TEE, GALV 1 1/2" SQUARE HEAD
105465	SQUEEGEE, FLOOR 36" (USE HANDLE 1060)
105477	WOOD, STAKE 24" (50 PER BUNDLE)
105478	WOOD, STAKE 36" (25 PER BUNDLE)
105491	STAND, SIGN SINGLE SPRNG STAND-LOCKING
105492	STAND, SIGN T GALV ST BUILT-IN SPR CLIP
105500	STAPLER, STANDARD
105504	STAPLES, STANDARD 1/4" 5000CT
105510	STEM, EXTENSION A D 4 1/2" X 12"
105511	STEM, EXTENSION A D 5 1/4" X 12"
105512	STEM, EXTENSION KENNEDY K10B K11 K81A
105513	STEM, OPER LOWER 3 FT MET 250 5 1/4"
105514	STEM, OPER LOWER 4 FT MUELLER 5 1/4
105515	STEM, OPER UPPER CLOW MEDDALLION 5 1/4"
105516	STEM, OPER UPPER KENNEDY 5 1/4" K81A
105517	STEM, OPER UPPER M & H 4 1/2", 129
105518	STEM, OPER UPPER M & H 5 1/4", 129
105519	STEM, OPER UPPER MET 250 5 1/4"
105520	STEM, OPER UPPER MUELLER 5 1/4
105536	HYDRA-STOP FITTING, 8"X20" DIP 8.89-925
105539	STRAINER, MTR 3" VERT BRONZE 150PSI

105540	STRAINER, MTR 4" VERT BRONZE 150PSI
105541	STRAINER, MTR 6" VERT BRONZE 150PSI
105542	STRAINER, MTR 8" VERT BRONZE 150PSI
105546	STRAW, PINE BALE
105547	STRAW, WHEAT BALE
105574	SUNBLOCK, SPF30 1OZ
105580	ANTIBIOTIC CREAM, TRIPLE- (10 CT Pack)
105581	STING SWAB, PAIN KILL 10CT
105643	SWEEPING COMPOUND, 50LB BOX
105672	TAG, LOCKOUT "DO NOT CLOSE VALVE" 5/pk
105673	TAG, LOCKOUT "DO NOT OPEN VALVE" 5/pk
105679	TAG,"FH OUT OF SERVICE"YW 7 X7 W/3"CIR
105690	TAPE, ADHESIVE 1/2" X10 YD
105691	TAPE, "CAUTION"3"X1000' YELLOW/BLACK
105692	TAPE, BARRICADE "DANGER"3"X1000' RED/ BL
105696	TAPE, CALCULATOR, 2 1/4" (PMC 08835)
105701	TAPE, DUCT 2" X 60 YDS (GREY)
105703	TAPE, ELECT BLACK VINYL , 3/4" X66'
105704	TAPE, ELECT BLUE VINYL , 3/4" X66'
105705	TAPE, ELECT BROWN VINYL 3/4" X60 FOOT
105706	TAPE, ELECT GREEN VINYL 3/4" X60 FOOT
105709	TAPE, ELECT ORANGE VINYL 3/4" X66'
105710	TAPE, ELECT RED VINYL 3/4" X66'
105711	TAPE, ELECT WHITE VINYL 3/4" X66'
105712	TAPE, ELECT YELLOW VINYL 3/4" X66'
105717	TAPE, FLAGGING , 1" X100' FLU ORAN, PL
105728	TAPE, MASKING 1" X60ft, tan
105733	TAPE, MEASURING 25' X1" PL COVER W/LOCK
105736	TAPE, REFLECTIVE WHITE 2" - PK OF 5
105741	TAPE, SEALING, CLEAR-2 INCH
105745	TAPE, TEFLON 1/2" X600FT THREADSEAL
105746	TAPE, TRANSPARENT 3/4" (PACK OF 6)
105749	TAPE,"CAUTION SEWER LINE" 2"X1000' ROLLS
105750	TAR, PLASTIC ROOF CEMENT-5 GALLON BUCKET
105755	TEE, 1" NPT 150LB 304 S/S
105756	TEE, 1/2" NPT 150LB 304 S/S
105757	TEE, 1/4" NPT 150LB 304 S/S
105758	TEE, 1/8" NPT 150LB 304 S/S
105759	TEE, 10" X 10" MJ DI
105760	TEE, 10" X 10" MJ X 10" FLG DI W/ACC
105761	TEE, 10" X 6" DI W/ACC KIT
105762	TEE, 10" X 8" X 10" DI, MJ X MJ REDUCER
105763	TEE, 12" X 12" X 12" MJ DI W/ACC
105764	TEE, 12" X 12" X 8" MJ DI W/ACC
105765	TEE, 12" X 6" MJ DI
105766	TEE, 14" X 6" MJ DI DIF-NS-T140 X 60
105767	TEE, 14" X 6" MJ X FL DI COATED LINED
105768	TEE, 16" X 10" MJ DI
105769	TEE, 16" X 16" MJ DI
105770	TEE, 16" X 8" MJ DI
105771	TEE, 2" NPT, 150 LB 304 S/S
105772	TEE, 20" X 20" X 20" MJ DI W/ACCES.

105773	TEE, 24" X 24" X 24" MJ DI W/ACCES
105774	TEE, 3" NPT, 150 LB 304 S/S
105775	TEE, 3/4" BRASS COMPRESSION
105776	TEE, 3/8" NPT, 150 LB 304 S/S
105777	TEE, 30" X 30" X 30" MJ DI W/ACESS
105779	TEE, 4" X 4" MJ DI
105780	TEE, 4" X 4" MJ X 4" FLG DI W/ACC
105781	TEE, 6" X 4" MJ DI DIF-T60X40
105783	TEE, 6" X 6" X 6" MJ DI W/ACC
105784	TEE, 8" X 8" MJ X 8" FLG DI W/ACC
105785	TEE, 8" X 8" X 6" MJ DI W/ACC
105786	TEE, 8" X 8" X 8" MJ DI W/ACC
105787	TEE, ANCHORING 12"X12"X6" MJ DI W ACC
105789	TEE, ANCHORING 8" X 8" X 6" MJ DI W ACC
105790	TEE, GALV 1 1/4" SQUARE HEAD
105791	TEE, GALV 1"
105792	TEE, GALV 1/2" THD
105793	TEE, GALV 1/4"
105794	TEE, GALV 1/8"
105795	TEE, GALV 2 1/2"
105796	TEE, GALV 2"
105797	TEE, GALV 2" X 1" X 2"
105798	TEE, GALV 3/4" PIPE
105799	TEE, GALV 3/8" PIPE
105800	TEE, PVC SCH 35 6"
105801	TEE, PVC SCH 40 4"
105802	TEE, PVC SCH 80 1 1/2"
105803	TEE, PVC SCH 80 1 1/4"
105804	TEE, PVC SCH 80 1"
105805	TEE, PVC SCH 80 1/2"
105806	TEE, PVC SCH 80 2"
105807	TEE, PVC SCH 80 3"
105808	TEE, PVC SCH 80 3/4"
105809	TEE, PVC SCH 80 4"
105810	TEE, PVC SCH 80 6"
105814	TEST KIT, CHLOR FREE TOTAL 0-3.5 M916
105816	TEST PLUG, 10" MECHANICAL WINGNUT
105818	TEST TUBES, REPLACEMENT FOR TEST KITS
105826	THREADED ROD, 1/2" X 6'
105827	THREADED ROD, 3/4" X 10' ALL THRD ROD
105828	THREADED ROD, 3/4" X 6' ALL THRD ROD
105829	THREADED ROD, 5/8" X 10'
105841	TIE, NYLON FLUOR GREEN- 11 inch
105849	TISSUE, EYE GLASS
105850	TISSUE, KIM WIPE 280 PK
105901	TONER, HP C4127X 4050TN LEX140127A 6CT
105903	TONER, HP C4182X 8100N 8150HP LASERJET
105953	TOP, RND 48" X 12" W/SQ GRATE & FRAME
105954	TOP, BASIN LID, 1033 LEFT WING
105955	TOP, BASIN LID, 1033 RIGHT WING
105956	TOP, CR DOUBLE SPILLWAY 6' X 6'
105957	TOP, BASIN LID, 1033 DOUBLE WING

105958	TOP, CR PEDSTAL 48" ROUND W/1033 R&C
105959	TOP,CR PEDESTAL4' X4' X 6"SQ W/1033 R&C
105960	TOP, CR PEDSTAL5' X5' X8"SQ W/1033 R&C
105961	TOP, CR PEDSTAL6' X6' X6" SQ W/1033 R&C
105962	TOP, CR PLAIN 5' X 5' X 6" SQ SOLID
105963	TOP, CR PRECAST 6' X 6' X 6" SQ SOLID
105964	TOP, CR PRECAST4' X 4' X 6"SQ W/1033 R&C
105965	TOP, CR PLAIN 4' X 4' X 6" SQ SOLID
105966	TOP, CR PRECAST4' X 4' X 8"SQ W/GT&FRM
105967	TOP, CR PRECAST5' X 5' X 8"SQ W/GT&FRM
105968	TOP, CR PRECAST5' X5' X 6"SQ W/1033 R&C
105972	TOWEL, BAR MOP 17"X20" ISSUE AS BALE
105975	TOWEL, PAPER ROLL ISSUE BY CASE
105977	TOWEL, PAPER MULTI-FOLD ISSUE BY CASE
105991	TREEKOTE, TREE WOUND DRESSING AERO
106020	TROWEL, 10" X4 3/4" BRICK,CARBON STEEL
106021	TROWEL, 4 1/2" X14" FLAT BLADE, S/S
106022	TROWEL, 6" X2 3/4",SM DIAMOND HEAD
106024	TROWEL, GARDEN W/3"BLADE AND PL GRIP
106116	TUBING COPPER, 1" X100' RL,"K" SOFT
106117	TUBING COPPER, 3/4" X100' RL,"K" SOFT
106118	TUBING CUTTER, COPPER 3/16" TO 1 1/4"
106120	TUBING CUTTER, RATCH PVC 1/2" TO 1 1/8"
106121	TUBING CUTTER, SCISSOR POLY 1/2" TO 1"
106123	TUBING POLYETHYL, 1" X300' 200PSI
106125	TUBING POLYETHYL, 3/4"X500' 200PSI
106127	TUBING, RUBBER FOR PUMP
106128	TUBING, SAMPLER .375 SILIC RUBBER
106129	TUBING, SAMPLE3/8"IDX5/8ODX100' VINYL CL
106135	TWINE, NYLON 18 X 1093' 100% FILAMENT
106138	UNION 1" NPT, 150 LB 304 S/S
106139	UNION 1/2" NPT, 150 LB 304 S/S
106140	UNION 1/4" NPT, 150 LB 304 S/S
106141	UNION 1/8" NPT, 150 LB 304 S/S
106142	UNION 2" NPT, 150 LB 304 S/S
106143	UNION 3" NPT, 150 LB 304 S/S
106144	UNION 3/8" NPT, 150 LB 304 S/S
106145	UNION, GALV 1 1/4"
106146	UNION, GALV 1"
106147	UNION, GALV 2 1/2"
106148	UNION, GALV 2" THD X THD
106149	UNION, GALV 3/4"
106150	UNION, PVC SCH 80 1"
106151	UNION, PVC SCH 80 1/2"
106152	UNION, PVC SCH 80 2"
106153	UNION, PVC SCH 80 3"
106154	UNION, PVC SCH 80 3/4"
106170	VALVE ASSEM, 2" DUAL CHK W/2PORT B VAL
106171	VALVE BOXLID, 5 1/4" CI,"WATER" ON LID
106172	VALVE BOXRISER, 5 1/4" CI SHAFT 1 1/2"
106173	VALVE BOXRISER, 5 1/4" CI SHAFT 2 1/4"
106174	VALVE BOX, 18" TO 24" SLIP TYPE CI

106175	VALVE MARKER, CONCR, 4"X4' 1" SQ."V" IND
106176	VALVE PLATE, UPPER, MET 250 OLD/STYLE
106184	VALVE, 1 1/2" GATE THD IP WHL BRNZ 200
106185	VALVE, 1 1/2" PVC BALL DBL UNION,D-BLOC
106187	VALVE, 1 1/4" PVC BALL DBL UNION D-BLOC
106188	VALVE, 1" BALL THD BRZ WOG 1" IPS-BRZ
106189	VALVE, 1" S/S BALL THD VINYL COATED HAND
106192	VALVE, 1" PVC BALL DBL UNION D-BLOC
106193	VALVE, 1/2" BALL BRONZE THD
106194	VALVE, 1/2" S/S BALL THD VINLY COAT HAND
106197	VALVE, 1/2" PVC BALL DBL UNION D-BLOC
106198	VALVE, 1/4" S/S BALL THD VINY COAT HAND
106200	VALVE, 10" GATE MJ RESIL ST W/2" OP NUT
106201	VALVE, 10" TAPPING MJ X FLG RESIL SEAT
106202	VALVE, 12" BUTTERFLY MJ W/2" OPER NUT
106204	VALVE, 12" GATE WHEEL FLG X FLG
106205	VALVE, 12" TAPPING MJ X FLG RESIL SEAT
106206	VALVE, 16" BUTTERFLY MJ W/2" OPER NUT
106207	VALVE, 2 1/2" GATE THD WHEEL BRASS
106208	VALVE, 2" S/S BALL THD VINYL COAT HAND
106210	VALVE, 2" GATE THD IP WHL BRZ 200PSI
106211	VALVE, 2" PVC BALL DBL UNION D-BLOC
106212	VALVE, 24" BUTTERFLY MJ W/2" OPER NUT
106213	VALVE, 3" S/S BALL THD VINYL COAT HAND
106214	VALVE, 3" GATE FLG X FLG WHEEL OPER
106215	VALVE, 3" GATE MJ RESIL SEAT W/2" OP NUT
106216	VALVE, 3" GATE OS & Y FLG X FLG RSTEM
106217	VALVE, 3" GATE THD WHEEL BRASS
106218	VALVE, 3" PVC BALL DBL UNION D-BLOC
106219	VALVE, 3/4" BALL THD WOG IPS-BRZ 400
106222	VALVE, 3/4" GATE THD BRNZ 200PSI
106224	VALVE, 3/4" PRESSURE REDUC THD. BRNZ
106225	VALVE, 3/4" PVC BALL DBL UNION D-BLOC
106226	VALVE, 30" BUTTERFLY MJ W/2" OPER NUT
106229	VALVE, 4" FLG CHECK
106230	VALVE, 4" GATE MJ RESIL STW/2" OP NUT
106231	VALVE, 4" GATE OS & Y FLG X FLG RSTEM
106232	VALVE, 4" PVC BALL DBL UNION D-BLOC
106237	VALVE, 6" FLG CHECK
106238	VALVE, 6" GATE FLG X FLG
106240	VALVE, 6" GATE MJ RESIL ST 2" OPER NUT
106241	VALVE, 6" GATE OS & Y FLG X FLG RSTEM
106242	VALVE, 6" TAPPING MJ X FLG W/2"OPER NUT
106247	VALVE, 8" GATE FLG X FLG WHEEL OPER
106248	VALVE, 8" GATE MJ RESIL ST W/2"OPER NUT
106249	VALVE, 8" GATE OS & Y FLG X FLG RSTEM
106250	VALVE, 8" TAPPING MJ X FLG RESIL SEAT
106261	VEST, SAFETY 2XLARGE LIME GRN W/RF STR
106262	VEST, SAFETY 3XLARGE LIME GRN W/RF STR
106263	VEST, SAFETY 4XLARGE LIME GRN W/RF STR
106265	VEST, SAFETY LARGE LIME GRN W/RF STR
106266	VEST, SAFETY MEDIUM LIME GRN W/RF STR

106267	VEST, SAFETY XLARGE LIME GRN W/RFL STR
106292	WASHER, 3/4" MJ FLAT STEEL
106295	Washer, Rubber/Fiber 3/4"X1/16", pk100
106296	WASHER, FLAT 1 1/2" STEEL
106297	WASHER, FLAT 1 1/4" STEEL
106298	WASHER, FLAT 1/2" STEEL
106300	WASHER, FLAT 1/4" STEEL
106301	WASHER, FLAT 3/8" STEEL
106303	WASHER, FLAT 5/16" STEEL
106304	WASHER, FLAT 5/8" STEEL
106305	WASHER, FLAT 7/16" STEEL
106307	WASHER, FLAT 9/16 STEEL
106308	WASHER, FLAT, 1" STEEL
106311	WASHER, LOCK SPLIT 1/2" STEEL
106312	WASHER, LOCK SPLIT 1/4" STEEL
106313	WASHER, LOCK SPLIT 3/4" STEEL
106314	WASHER, LOCK SPLIT 3/8"STEEL
106315	WASHER, LOCK SPLIT 5/16" STEEL
106316	WASHER, LOCK SPLIT 5/8" STEEL
106317	WASHER, LOCK SPLIT 7/16" STEEL
106318	WASHER, LOCK SPLIT 7/8" STEEL
106320	WASHER, METER 1" RUBBER PACK OF 100
106321	WASHER, METER 1" X 1/8" FIBER PK/ 50
106322	WASHER, METER 3/4 X 1/32" rubber PK/100
106323	WASHER, METER 3/4" RUBBER PK/100
106325	Washer, Meter Rubber/Fiber1"X1/16"pk/100
106326	WASHER, METER FIBER 1" X 1/32" PK/100
106329	WASP SPRAY, AEROSOL KILL RANGE 20FT
106334	WATER COOLER, 2 GALLON SCREW LID
106361	WEATHER COVER A D 5 1/4" B62B
106363	WEATHERSHIELD, M&H 4 1/2" 129
106364	WEATHERSHIELD, M&H 5 1/4" 929
106370	WHEEL CHOCKS, RUBBER W/EYEBOLT
106373	WHEEL, GRINDING, 7" X 1/4" X 5/8"-11 H/G
106374	WHEEL, MEASURING, URATHANE
106376	WHEEL, STONE, 8" X 1 1/4" X 1" ARBOR B/G
106385	WINDBREAKER, BLUE OVERSIZE 2XL
106386	WINDBREAKER, BLUE REG CUT LARGE
106387	WINDBREAKER, BLUE REG CUT MEDIUM
106388	WINDBREAKER, BLUE REG CUT XL
106398	WINDSHIELD WIPER SOLVENT
106404	WIPE, HAND-MOIST-CANNISTER
106406	WIPE, BOX-DRY-TOWEL
106442	WRENCH, 10" ADJUST END CHROM
106443	WRENCH, 12" ADJUST END CHROM
106444	WRENCH, 14" PIPE IRON, 2" JAW CAP
106445	WRENCH, 15" ADJUSTABLE CHROME
106446	WRENCH, 18" ADJUST. END NI-CR PLATED ST
106447	WRENCH, 8" ADJUST. END NI-CR PLATED ST
106448	WRENCH, ALLEN 1/2" FOR TAMPER PROOF BOLT
106449	WRENCH, ALLEN 5/8" HOLE TAMPER PRF BOLT
106452	WRENCH, FIRE HYDRANT

106454	WRENCH, METER 1 1/4" ONE HAND
106455	WRENCH, MJ RATCHET
106456	WRENCH, PIPE 10" IRON JAW HEAVY DUTY
106457	WRENCH, PIPE 18" IRON JAW HEAVY DUTY
106458	WRENCH, PIPE 24" IRON JAW HEAVY DUTY
106463	WYE, PVC SCH 35 6"
106464	WYE, PVC SCH 40 4" DWV
106650	SEALER, MANHOLE RAP-0 1/2" X84" ROLL
106651	NIPPLE, METER 1" X2 5/8" BRASS
106660	SOAP, TRUCK&CAR LIQ 35GL DRUM
106678	PIPE, CMP FULL RND 60"X20' 12 GA COATED
106685	TAG, YELLO METER LOCKOUT
106758	NOZZLE, FH HOSE 2 1/2" MET 250, M94
106768	PIPE, CMP FULL RND 48"X20' 14 gauge
106777	BAND, DIMPLE (FLAT) 48 "
106797	RAINSUIT, YELLOW XXXXL COAT/HOOD BIB
106798	RAINCOAT, PVC/NYLON XXXXL 48" W/HOOD
106827	COUPLING, FERNCO 6" PL X6" PL SCH35
106828	NIPPLE, GALV 1 1/2" X6" PIPE
106829	PIPE LUBRICATION, QT/HALF GALLON TUB
106918	PIPE, CMP RULL RND 36"X20' 14 gauge
106937	PEN, STYLUS-COMPUTER, T1012BW
106939	PRINTER CART, BLK, TGA776-26250002 CS
106940	OIL, CUTTING THD, DARK RIDGID#70830
106947	UNION, GALV 1 1/2"
106948	COUPLING, PVC SCH 80 2 1/2"
106958	BEND, 30" FLEXRING 45 D, DI (yard)
106959	PIPE, 54" X20', DI FLEX RING CL250
106960	PIPE, 54" X20', DI MJ CL250
106961	VALVE, 72" BUTTERFLY FLANGED
107000	KEY, COMBO CURB & VALVE, 3.5-6.5 LG
107001	SADDLE, 36" X6" FABRICATED 31.75
107013	CAP, FULL BRIM, CANVAS KHAKI, FLOPPY
107030	SCREWDRIVER, STUBBY SLOTTED TIP
107066	WINDBREAKER, NAVY OVERSIZE 3XLARGE
107084	WINDBREAKER, NAVY OVERSIZE 4XLARGE
107106	CMP METAL 24" SAFETY FLARED END SECTION
107107	CMP METAL 18" SAFETY FLARED END SECTION
107123	CARTRIDGE, INK HP Q5950A BLACK
107124	CARTRIDGE, INK HP Q5951A CYAN
107125	CARTRIDGE, INK HP Q5952A YELLOW
107126	CARTRIDGE, INK HP Q5953A MAGENTA
107130	SEAT RING, BRASS 5 1/4" MET 250 OLD
107140	CARTRIDGE, INK HP Q6470A BLACK
107141	CARTRIDGE, INK HP Q7581A CYAN
107142	CARTRIDGE, INK HP Q7582A YELLOW
107143	CARTRIDGE, INK HP Q7583A MAGENTA
107144	GASKET, BELL 42" RUBBER
107147	OXYGEN, COMPRESSED GAS SIZE 300
107160	BLADE, SAW 14" DIAMOND,CURED CONC.20mm
107161	BLADE, SAW 14" MASONARY 20mm ARBOR
107270	MANHOLE 1 1/2ft., RISER SECT (4' DIA) yd

107317	CLAMP, 12" FULL CIR 12"LG 12.75-13.55
107318	BATTERY, AA CELL 1.5V (DWR ONLY)
107338	BATTERY, D CELL 1.5V (DWR ONLY)
107339	BATTERY, C CELL 1.5V (DWR ONLY)
107341	BLEACH, ONE GALLON/EACH
107360	FLANGE, BLIND 6" W/2 " TAP NPT HOLE
107361	FLANGE, BLIND 8" W/2" TAP NPT HOLE
107370	KITS, WATER CONSERVATION (NIAGARA)
107372	SHOVEL, TRENCH, 5 " BLADE, 48" HANDLE
107373	BACKFLOW PREVENTER, 3/4"DBL CHECK-TPORTS
107382	BOOT, RUBBER HIP STEEL TOE SZ 14
107385	RATCHET, MJ ADJUSTABLE QUICK RELEASE
107386	SOCKET, MJ -CORPORATION SPLIT
107387	WOOD, BOARD 2" X4" X16FT, SPRUCE
107388	WOOD, BOARD 2" X6" X16 FT PINE
107389	WOOD, BOARD 2" X8" X8FT PINE
107390	WOOD, BOARD 1" X4" X16FT
107391	WOOD, BOARD 1" X6" X16 FT
107392	WOOD, PLYWOOD 3/4" 4FT X8FT
107393	BOARD, MASONITE PL LAP, 7/16" X8" X 16FT
107394	WIRE, WELDED, 5FT X 150FT, 6"X6"X10GA
107403	HYDRA-STOP FITTING, 6"X16" AC 7.00-7.50
107404	HYDRA-STOP FITTING, 8"X20" AC 9.30-9.70
107405	VALVE-INSTA 4" OD 4.80, RANGE 4.60-5.00
107408	VALVE-INSTA 4" OD 5.13, RANGE 4.93-5.33
107410	VALVE-INSTA 6" OD 7.20, RANGE 7.00-7.50
109328	CARTRIDGE, TONER HP4350, Q5942X
109403	SILT SCREEN, RND BASE, FLTR ASSY
109404	SILT SCREEN, FILTER ONLY
109542	CAP, CANVAS KHAKI ONE SZ. FIT ALL
109543	BLADE, SAW 14" DIAMOND-DUCTILE IRON BLK
109554	GLOVES, FOAM COATED SZ.8 MED
109555	GLOVES, FOAM COATED SZ.9 LAR
109557	GLOVES, LATEX COATED SZ.8 MED
109560	TEE, 16" X 12" MJ DI
109590	CARTRIDGE, TONER HP Q2612A PRINT C/S
109610	BATTERY, AAA CELL1.5V (DWR ONLY)
109631	PIPE, HDPE 15" X20' SMOOTH INSIDE POLY
109680	BUNGEE CORDS, 18" RUBBER/W HOOKS
109681	NIPPLE 3" FL X3' PE DIP, (4-HOLE)
109682	NIPPLE 3" FL X20' PE DIP, (4-HOLE)
109683	NOZZLE, PUMPER 4 1/2" MET 250, M94
109709	BINDER, RING 1/2" BLK, w/view insert
109733	CLIP, BELT STRAP, RETRACTABLE
109750	HOOD, CURB BASIN W/GRATE/FRAME
109760	CCTV, RING GREASE
109761	CCTV, NITRO CANNISTERS
109762	CCTV, AXLE REPAIR KIT
109764	CCTV, 12" QUICK CHANGE COORUNDUM WHEEL
109766	CCTV, 12" QUICK CHANGE HMS WHEEL
109767	CCTV, 8" QUICK CHANGE HMS WHEEL
109768	CCTV, HUB O-RING 22 X 1

109770	CCTV, 8" QUICK WHEEL RUBBER WHEEL
109771	CCTV, 12" QUICK CHANGE RUBBER WHEEL
109810	COUPLING,REDUCER sch80 pvc, 4" x 3"
109832	CARTRIDGE, HP C8543X, laserjet 9000 sr.
109833	RUBBER, MAIN VALVE A D MARK 73 4 1/2"
109841	BATTERY, MOTOROLA RADIO NTN9858C
109862	CURB STOP, 2" comp.x fip (poly)
109972	PENCIL, MECHANICAL
110003	BLADE, SAWZALL wood 9" DW4803
110015	SPLICER, COUPLING 3/4" 3000lb
110016	HOSE, HYDROJET-3/4" 3000psi 500ft Roll
110017	LEADER HOSE 3/4"X10' WIRE BRAIDED 3000ps
110030	VALVE, 4" GATE, OS&Y FL XMJ, R/STEM
110031	VALVE, 6" GATE, OS&Y FL XMJ, R/STEM
110032	VALVE, 8" GATE, OS&Y FL XMJ, R/STEM
110110	Air Filter,Kit STIHL Saw #4238-140-4404
110121	METER, FH, 3", 2" GATE, New Number
110141	FLANGE, ADAPTER, 3" 2100 SERIES
110175	Cold Patch, Bagged 50# QPR
110177	Notebook, Project Planner, 9x7, #20816
110272	BATTERY, CLEANER-SPRAY
110273	GREASE, DIELECTRIC SILICONE
110277	NUT, HEX GRADE 5 ZINC 1"
110318	FUEL TREATMENT, ETHANOL BLENDED GAS
110353	CCTV, HUB O-RING 40 X 1.5
110528	TOP, RND 48" X 12" OFF-SET W/SW R&C 1033
110835	CHAIN, CHAIN SAW, STIHL 26RS74
110855	DEGREASER, HYDROJET TANKS-KW54 -1gal
110880	FLASH DRIVE, USB 16 GB, HIGH SPEED
110923	FILE BOX, STORAGE-letter&legal* DWR*only
110930	WHEEL, Cutting, 4" x.045 x 5/8"
110931	WHEEL, Cutting, 4.5" x.045 x 7/8"
110932	WHEEL, Disc, 4.5" x 1/4" x 5/8"
110933	WHEEL, Disc, 4.5" x 1/4" x 7/8"
111287	METER BOXLID, 24" X 18" LARGE, CAST
111288	METER BOXLID, 15" X 18" OVAL
111352	CCTV, 8" QUICK CHANGE CORUNDUM WHEEL
111513	PVC Cement Rain-R-Shine 8 oz. Can
111532	BOLT, 20mm x 70mm Stainless , Full-Thd
111533	NUT, 20mm, 11 Thd per Inch, Stainless
111542	MANHOLE RISER, 48" X4' Section, Polymer
111543	MANHOLE RISER, 48" X2' Section, Polymer
111545	MANHOLE CONE, 48" X2' Ecc., Polymer
111546	MANHOLE, Rubber Gasket 48", Polymer
111548	MANHOLE RISER, 48" X3' Section, Polymer
111553	Degreaser, JetPower II, 5 GL,Hyd
111559	BOLT, 5/8" X 4 1/2" TIE LOOP HEAD
111620	DETERGENT, DAWN - 5 GAL.
111626	BASIN, 3' H x 4' DIA W/18" RCP 1Hole
111627	BASIN, 3' H x 4' DIA W/24" RCP 1Hole
111652	SPOOL, 6" DiaX 12"Lay w/2"Tap,Cen. FLXFL
111653	SPOOL, 8" DiaX 12"Lay w/2"Tap,Cen. FLXFL

111664	Tubing, Red Poly - 3/8" O.D.#E-64-R-0500
111742	GASKET, 6" TRANSITION MJ X SCH 35 PVC
111762	Hook, Large for Lifting Chains
111763	Hook, Repair Latch Kit
111764	Manhole Step, Plastic coated steel
111765	BELT, Gas Quick Cut Saw, TS420
111781	Fire Hydrant Oil - 1 GALLON
111785	CARTRIDGE, HP51A, Q7551A
111787	GRATE, FOR HOODED GRATE FRAME
111800	STAPLES, Arrow T50, 3/8 x 10mm #506
111805	Curb Stop, 2" FIPXFIP, AY MD LF M76101WK
111806	CCTV, ROVVER HUB O-RING 30 X 1.5
111807	CCTV, HUB O-RING 25 X 1
111823	MANHOLE BASE, 48" X2', Polymer
111846	NIPPLE 2" X 4" NPT, 150lb 304 S/S
111930	TEE, PVC SCH 35, 8X6X8, glue
111931	SADDLE, 3" X2"ip, 2ST,Cl/AC 3.45 - 4.05
111942	GLASSES, SAFETY, FOAM UVEX Clear
111943	Locknut, New Style Operating Nut,M&H 129
111960	Bonnet Gasket, AD 5 1/4"
111965	Bonnet Gasket, Kennedy 5 1/4"
111968	Bonnet Gasket, Mueller 5 1/4"
111978	Valve, 2" Brass Ball,Thd, Vinyl Coat Hnd
111995	BEND, 1 1/2" 90 DEG NPT 150LB 304 S/S
111998	METER BOX, 17" X 30" X 18" W/PLASTIC LID
112011	LEADER HOSE 1" X10' WIRE BRAIDED 3000PS
112020	TAG, HOT WORK PERMIT, YELLOW 3 PAR
112045	HOOK, REFUSE (Small) 4 TINES, 60" HANDLE
112048	SHIRT, V-NECK GOLF LADIES MW, NAVY SMALL
112054	SWEATSHIRT, ZIPPER-HOOD, 100% COT,SMALL
112055	SWEATSHIRT, FULL ZIP-HOOD, 100%COT,(2XL)
112058	SHIRT, GOLF MW, NAVY (2XL)
112059	SHIRT, GOLF MW, NAVY 4XL
112080	COUPLING-ROD Non Frangi Met 250
112090	PIPE, C900 4" X20 ', DR18 235 PSI
112092	PIPE, C900 6" X20 ', DR18 235 PSI
112095	PIPE, C900 8" X20 ', DR18 235 PSI
112096	VALVE, OP NUT, Gate, RS, M & H
112097	VALVE, OP NUT, Gate, RS, MUELLER
112098	VALVE, OP NUT, Gate, RS, AMER. VALVE
112099	VALVE, OP NUT, Gate, RS, CLOW
112114	HEADWALL, 24" HOLE
112116	HEADWALL,36" HOLE
112117	HEADWALL,48" HOLE
112118	Washer, Thrust M & H 5 1/4
112119	Gasket, Flange A D 5 1/4
112120	Gasket, Flange A D 4 1/2
112121	Gasket, Bonnet A D 4 1/2
112136	CHAIN,CHAIN SAW,OILOMATIC 26RS68 STIHL
112140	Faceshield Plastic-fits Bullard Hard Hat
112142	Fertilizer,Liquid 10-8-8, 55 Gallon Drum
112143	GLOVES, NITRILE DISPOS 2XL, BX

112170	Washer,Thrust, U.S. Met 250, 5 1/4
112171	Washer, Thrust, Mueller, 5 1/4 VO
112180	KEY, GATE VAL TELESCOP,12', 2" Fix-Head
112191	MANHOLE LID,RISER RING 2" GRADE STACKABL
112193	Tags, Malnilla Small w/wire ties (50 pk)
112194	MANHOLE LID,RISER RING 4" GRADE STACKABL
112196	MANHOLE LID,RISER ANGLE RING
112199	COVER,MANHOLE BOLT-DOWN (WATER)
112200	SADDLE, 4" X2", IP 2 Strp,4.40-4.80od.
112229	UNDERSHIRT, MEDIUM L/S-USE WITH RENTAL
112231	UNDERSHIRT, LARGE L/S-USE WITH RENTAL
112233	GLASSES, SAFETY CLEAR (over reg glasses)
112234	UNDERSHIRT, X-LARGE L/S-USE WITH RENTAL
112235	UNDERSHIRT, 2X-LARGE L/S-USE WITH RENTAL
112236	UNDERSHIRT, 3X-LARGE L/S-USE WITH RENTAL
112245	PAINT,SILVER ONE GALLON BUCKETS
112246	CARTRIDGE,INK HP LASERJET CE255A
112261	BLADE,SAW ASPHALT 14 INCH 20MM ARBOR
112275	SHIRT,GOLF MW,NAVY MEDIUM
112277	SHIRT,GOLF MW,NAVY LARGE
112278	SHIRT,GOLF MW,NAVY (XL)
112279	SHIRT,GOLF MW,NAVY (3 XL)
112280	SWEATSHIRT, ZIPPER-HOOD, 100% COT,MEDIUM
112281	SWEATSHIRT, ZIPPER-HOOD, 100% COT,LARGE
112282	SWEATSHIRT, ZIPPER-HOOD, 100% COT, (XL)
112283	SWEATSHIRT, ZIPPER-HOOD, 100% COT,(3 XL)
112285	LIFTER, VALVE BOXCOVER
112289	P.H. STRIPS,MICRO ESSENTIAL #6EGFO
112311	NAIL,GALV. FLAT SIZE 8-BOX-4NEV6
112312	NAIL,GALV. FLAT SIZE 12-BOX-4NEV8
112316	CONCRETE MOVER, 19 1/2 INCH BLADE
112317	CONCRETE HOE, MIXER 7 INCH BLADE
112331	FLUORIDE,ACCUVAC, PACK OF 25
112382	SCREW,SELF TAPPING 1 1/2 INCH #14
112405	BLADE,SAW LACKMOND 16" FOR DUCTILE IRON
112423	HOSE FITTING,3/4 MALE JET TRUCK #UE1121
112424	HOSE FITTING,FEMALE HYDRAJET TR UE1121FS
112425	HOSE MENDER, 3/4 HYDRAJET TRUCK #UE1122
112434	CHAIN,POLE SAW 12" STIHL (36100050044)
112435	BAR,POLE SAW 12" STIHL (30050003905)
112436	CHAIN, 16" STIHL MS241C (36360050055)
112437	BAR,CHAIN SAW 16" MS241C (30050004813)
112438	BAR,CHAIN SAW 18" MS261C (30050004813)
112443	KIT,COLLISION REPAIR, EJ 5CD250 5 1/4
112460	MANHOLE LID INFRA-RISER 1 " THICK
112461	MANHOLE LID INFRA-RISER 2" THICK
112462	MANHOLE LID-INFRA-RISER 3 " THICK
112463	MANHOLE RING & COVER, W/REVOLUTION LID
112467	BEND, 48" DUCTILE IRON 45 DEGREE
112468	BEND, 48" DUCTILE IRON 22 1/2 DEGREE
112469	BEND, 48" DUCTILE IRON 11 1/4 DEGREE
112471	TUBING, 3/4 INCH MUNICIPEX-REHAU 100 FT

112472	TUBING, 2 INCH MUNICIPEX-REHAU 100 FT
112473	LOCK, MASTER 6125KA SHORT SHANK
112474	LOCK, MASTER 6125LJ LONG SHANK
112480	CCTV, SCREW O-RING 5 X 1.5
112481	CCTV, O-RING 1mm X 5mm
112482	CCTV, RAX300 DRUM BELT
112483	CCTV, CNTRSUNK SCREW M6-12
112484	CCTV, LIFTER BOLT (ALLEN HEAD)
112485	CCTV, HANG UP BOLT (FLAT HEAD)
112491	NUT, 2 " PACK JOINT
112492	GASKET, 4 INCH RED RUBBER W/BOLT HOLES
112493	GASKET, 6 INCH RED RUBBER W/BOLT HOLES
112494	GASKET, 8 INCH RED RUBBER W/BOLT HOLES
112503	REDUCER,COMPRESSION 4X6 FLANGED
112580	NIPPLE, 1/8" X 1" NPT 150 304 SS
112581	NIPPLE, 1/8" X 2" NPT 150 304 SS
112582	REDUCER BELL, 1/8" X 1/4" NPT 150 304 SS
112583	REDUCER BUSHING 1/8"X1/4" NPT 150 304 SS
112584	REDUCER BELL 1/4"X1/2" NPT 150 304 SS
112586	NIPPLE, 1/4" X 2" NPT 150 304 SS
112587	NIPPLE, 1/4" X 3" NPT 150 304 SS
112588	NIPPLE, 1/4" X 4 1/2 " NPT 150 304 SS
112589	NIPPLE, 3/8" X 1 1/2 " NPT 150 304 SS
112590	NIPPLE, 3/8" X 2 " NPT 150 304 SS
112591	NIPPLE, 3/8" X 4" NPT 150 304 SS
112592	VALVE 3/8" S/S BALL THD VINYL COAT HANDL
112593	NIPPLE, 1/2" X 1" NPT 150 304 SS
112594	NIPPLE, 1/2" X 2" NPT 150 304 SS
112595	NIPPLE, 1/2" X 3" NPT 150 304 SS
112596	NIPPLE, 1/2" X 4 1/2" NPT 150 304 SS
112597	NIPPLE, 1/2" X 5" NPT 150 304 SS
112598	NIPPLE, 1/2" X 6" NPT 150 304 SS
112599	NIPPLE, 1/2" X 7" NPT 150 304 SS
112600	REDUCER BELL 1/2" X 3/4" NPT 150 304 SS
112601	BEND, 3/4 90 DEGREE NPT 150 30 4SS
112602	COUPLING, 3/4 NPT 150 304 SS
112603	TEE, 3/4 NPT 150 304 SS
112604	CAP, 3/4 NPT 150 304 SS
112605	PLUG HEX, 3/4 NPT 150 304 SS
112606	UNION, 3/4 NPT 150 304 SS
112607	NIPPLE, 3/4" X CLOSE NPT 150 304 SS
112608	NIPPLE, 3/4" X 1 1/2" NPT 150 304 SS
112609	NIPPLE, 3/4" X 2" NPT 150 304 SS
112610	NIPPLE, 3/4" X 2 1/2" NPT 150 304 SS
112611	NIPPLE, 3/4" X 3" NPT 150 304 SS
112612	NIPPLE, 3/4" X 4" NPT 150 304 SS
112613	NIPPLE, 3/4" X 5" NPT 150 304 SS
112614	NIPPLE, 3/4" X 6" NPT 150 304 SS
112616	VALVE,3/4" SS BALL THD VINYL COAT HANDLE
112617	NIPPLE, 1" X 2" NPT 150 304 SS
112618	NIPPLE, 1" X 3" NPT 150 304 SS
112619	NIPPLE, 1" X 4" NPT 150 304 SS

112620	NIPPLE, 1" X5" NPT 150 304 SS
112621	REDUCER BELL 1" X3/4" NPT 150 304 SS
112622	REDUCER BELL 1" X1/2" NPT 150 304 SS
112623	REDUCER BUSHING 1"X1/2" NPT 150 304 SS
112647	CAP,WATCH-YELLOW W/REFLECTIVE STRIPE
112649	SHIRT, V-NECK GOLF LADIES MW, NAVY MED.
112651	SHIRT, V-NECK GOLF LADIES MW, NAVY LARGE
112652	SHIRT, V-NECK GOLF LADIES MW, NAVY XL
112653	SHIRT, V-NECK GOLF LADIES MW, NAVY 2XL
112654	FLUORIDE REAGENT,LR CHECKER HC (20) PACK
112664	UPPER DRAIN VALVE PLATE M&H 4 1/2 547511
112665	UPPER DRAIN VALVE PLATE M&H 5 1/4 557511
112666	GASKET, FOR MET 250 HOLD DOWN NUT
112667	PIN,WEATHER CAP MET 250 5 1/4
112669	GRAFFITI CLEANER, AEROSOL SPRAY CAN
112695	METER BOX,COMPOSITE WITH LID
112702	MANHOLE LID,RISER RING 1 INCH CRETEX
112703	MANHOLE LID,RISER RING 2 INCH CRETEX
112715	AIR FILTER KIT,SAW TS800 #4224-007-1013
112742	EXTENSION,HYDRANT EAST JORDAN 5 1/4 12"
112763	WATER COOLER, 5 GALLON
112765	TOWEL, COOLING & EVAPORATIVE
112771	DUCT SEAL, PANDUIT DS1 ONE LB PACKAGE
112772	VALVE BOXLID,LOCKING
112774	CONDITIONER, COATING PROTECTOR SPRAY CAN
112779	WRENCH,CURB BOXT-HANDLE 36"
112780	COUPLING,RESTRAINED ROMAC ALPHA 6 "
112781	COUPLING,RESTRAINED ROMAC ALPHA 8 "
112782	CONCRETE CLOTH, 30 ' ROLL
112783	OPERATING NUT,EAST JORDAN HYDRANT
112784	STEM,UPPER,EAST JORDAN HYDRANT
112785	STEM,LOWER,EAST JORDAN HYDRANT
112787	SEAT,BRASS VALVE,EAST JORDAN HYDRANT
112788	O-RING,SEAT,BRASS VALVE,EAST JORDAN HYD
112789	RUBBER,SEAT,BRASS VALVE,EAST JORDAN HYD
112795	PINE BARK, MULCH 2 CU BAG BROWN
112796	PINE BARK, MULCH 2 CU BAG BLACK
112797	PINE BARK, MULCH 2 CU BAG RED
112800	BEND,90 DEG ELBOW 2 INCH BRASS
112805	NOZZLE, HOSE, 2 1/2 EAST JORDAN HYDRANT
112806	GASKET,NOZZLE HOSE,2 1/2 EAST JORDAN HYD
112808	GASKET,NOZZLE PUMPER, 4 1/2 EAST JORDAN
112817	NOZZLE, PUMPER, 4 1/2 EAST JORDAN
112824	ASPHALT REPAIR,AQUAPHALT 3.5 GALLON CON.
112827	SHOVEL,ROUND POINT SHORT HANDLE FIBERGLA
112851	SADDLE, 2 X3/4 FOR MUNICIPEX
112852	SADDLE, 2 X1" FOR MUNICIPEX
112853	COUPLING,RESTRAINED ROMAC ALPHA 10"
112854	COUPLING,RESTRAINED ROMAC ALPHA 12"
112971	CARTRIDGE,INK LASERJET BLACK CE285A

112972	BATTERY, AAAA
112986	SLIPPER HOSE GUIDE,TIGER TAIL,SMALL 2"
113007	EXTENSION,HYDRANT EAST JORDAN 5 1/4 24"
113008	EXTENSION,HYDRANT EAST JORDAN 5 1/4 36"
113331	Curb Stop, 2" FIP XFLG TELESCOPING
113340	SHIRT, GOLF RB 100% COTTON MEDIUM
113342	SHIRT,GOLF RB 100% COTTON LARGE
113343	SHIRT,GOLF RB 100% COTTON XLARGE
113344	SHIRT, GOLF RB 100% COTTON 2XLARGE
113345	SHIRT, GOLF RB 100% COTTON 3XLARGE
113347	CMP METAL 15" SAFETY FLARED END SECTION
113403	SOCKET, 1 1/4" 6PT 1/2 DRIVE
113410	CCTV, QC HUB CAP
113416	JACKET, HI-VIZ SZ. MEDIUM
113418	JACKET, HI-VIZ SZ. LARGE
113419	JACKET, HI-VIZ SZ. X-LARGE
113420	JACKET, HI-VIZ SZ. 2X-LARGE
113421	JACKET, HI-VIZ SZ. 3X-LARGE
113422	JACKET, HI-VIZ SZ. 4X-LARGE
113424	HEAD, TRIMMER STIHL FS240R
113426	RAKE GARDEN 24" 24 TINES 51" FIBERGLASS
113439	TRAP, FRUIT FLY 2-pack
114234	ADAPT MIP 2" AY MCD 74753-55 IP GALV
114235	ADAPT MIP 1 1/2" AY MCD 74753-55 IP GALV
114420	STEM, UPPER ROD AD 5 1/4 B62B
114248	PANTS, HI-VIZ SZ. MEDIUM / LARGE
114281	PANTS, HI-VIZ SZ. X-LARGE / 2X-LARGE
114283	PANTS, HI-VIZ SZ. 3X-LARGE / 4XLARGE
114285	PANTS, HI-VIZ SZ. 5X-LARGE / 6XLARGE
103026	KIT, COLLISION REPAIR AD MARK 73
103025	KIT, COLLISION REPAIR AD B62B5 1/4"86/UP

Table 4 - Appendix D - Sample Inventory List

Appendix E – Spill Calculation Procedures

A-01: Sanitary Sewer Overflow (SSO) Mitigation

General Information – this SOP applies ONLY to Field Crew activities

The Corrective Maintenance Section Manager is responsible for ensuring non-field Activities such as notifications, reporting, etc. are conducted as set out in the County SSO Response Documents.

This SOP is intended to assist Gwinnett County Water Resources field crews with the primary goal of identifying and repairing sanitary sewer releases. Multiple activities as set out below may be underway at the same time - as safe operations allow - to minimize the impacts of the overflow.

A "Spill" (also referred to as reportable spill) is any discharge of raw sewage by a Publicly Owned Treatment Works (POTW) to the waters of the state.

A "Major Spill" is any discharge of raw sewage that 1) exceeds 10,000 gallons or 2) results in water quality violations in the water of the state.

Guidelines for estimating spill volumes are provided in Attachment 1.

Responsibilities

Sewer Corrective Maintenance Coordinator, Investigator, On-Call Coordinator (if after hours), Repair Crew, Dispatch, Administrative Support Associate

Procedure

Spill by Overflowing Manhole, Wetwell, or Broken Gravity Pipe

1. First responder may be an investigator or on-call coordinator and will investigate the report of possible overflow or back-up. The goal is to investigate as soon as possible or within two hours of initial report.
2. Upon arriving at the site, set up work zone according to safety procedures (Safety Manual located in DWR Library).
3. Investigator walks line and locates overflowing manhole or evidence of ruptured pipe.
4. If spill is suspected, but no obvious source can be determined, get test sample and take to DWR Lab for fecal count analysis.
5. Investigator contacts Coordinator/Dispatch and informs of condition.
6. Investigator follows the path of the overflow and determines:
    a. Where the flow stops moving. If it is still moving, estimate its path.
    b. If sewage has reached a storm water drain.
    c. If sewage has reached a body of water.
    d. Potential containment areas.
7. If a County spill, the investigator contacts the Sewer Corrective Maintenance Coordinator who assigns a Response Crew and immediately directs them to the site.
8. If a "spill" or "major spill", the investigator is to immediately send an email to the Field Operations Deputy Director, Assistant Director, Corrective Maintenance Section Manager, Preventive Maintenance Section Manager, Contracts/Support Section Manager and DWR Public Information Officer. If the spill involves a pump station also

copy the Facilities Deputy Director notifying them that a "spill" or "major spill" has occurred and the location. This should be done immediately and not wait until the flow is stopped or the spill volume is calculated.

9. Response Crew goes to the location of the reported problem.
10. Crew secures site and implements additional safety measures as needed.
11. Response crew sets up any practical measures to minimize or prevent the overflowing sewage from reaching water body, storm drains, or private properties. Measures include building dikes or berms, excavating trenches, using
12. pump truck, collecting flows in road-side ditches or other natural swales. Care is to be used to minimize exposure of public or crews to wastewater.
13. If line is to be flushed, Response Crew follows SOP A-02 for flushing.
14. Coordinator and Response Crew continue walking the downstream line until a dry or low-flowing manhole is found.
    a. Crew extends safety measures and work zone as appropriate.
    b. Coordinator determines whether flow control is practical or needed. Reference SOP A-17 for Flow Control.
    c. Crew determines depth of flow at the low-flowing or dry manhole before flushing line.
    d. Crew flushes line in the upstream direction from this manhole to remove blockage according to SOP A-02 (Back-ups in Main Line) or A-03 (Back Ups - Service Lateral). More than one blockage may be in the main.
    e. Crew visually identifies type of blockage removed when possible (grease, roots, debris, etc.).
    f. After clearing blockage, crew returns to the overflowing manhole and visually verifies that flow in the main has been restored.
    g. Crew proceeds to manhole upstream of overflow location to verify flow is restored.
    h. Crew documents the time at which flow is restored to the main.
        i. The time recorded should reflect the time that overflow stops escaping from the sewer system.
        ii. Re-measure depth of flow in previously dry/low-flowing manhole when flow appears to have stabilized and surcharge is gone from upstream manhole.
        iii. Calculate flow using the attached chart for the depth before clearing line and depth after clearing line. Subtract second calculated flow from the first. Multiply this flow value times the length of the overflow time. This is the total spill volume.
        iv. Subtract the volume of spill which was contained on-site by the restoration crew from the total spill volume. This is the volume to be reported.
        v. If an accurate volume of the release cannot be immediately determined, the Repair Coordinator should estimate the volume and provide on the SSO NOTIFICATION FORM as an estimate before the end of the work shift. Clearly identify the volume reported as an ESTIMATE.
        vi. If the estimated volume released is approaching 10,000 gallons, the event should be treated as a MAJOR SPILL until the actual volume of the spill can be accurately determined.
15. If Response Crew determines need for repair in the main or manhole, Coordinator immediately dispatches repair crew to the site.
16. All SSO's on gravity mains are to be CCTV inspected to identify the cause, following the restoration of flow. The inspection is to document one segment upstream and downstream of the overflow location at a minimum. Refer to SOP A-05 for CCTV Surveillance.
17. Response crew cleans site to remove all solids deposited, rakes area, spreads lime to disinfect as appropriate. Standing fluids are to be removed by pump truck if possible, and wet soil is to be removed and hauled to landfill. Impervious areas are to be washed down using a jet truck or similar equipment. Remaining area is filled with rock.

18. Response Crew completes work order with all events and activities and submits to the Coordinator for review and approval.
19. Response Coordinator verifies the depth of flow in the manhole previously used to access the blocked main.
20. Response Coordinator determines spill amount using the methods shown in Attachment 1 for depth of flow in downstream manhole or escaping flow from a manhole.
21. COORDINATOR MUST RETURN THE COMPLETED SPILL NOTIFICATION FORM TO DISPATCH PRIOR TO LEAVING AT THE END OF THE SHIFT.
22. If a spill reaches a waters-of-the-State,
    a. The Response Coordinator shall have spill signs posted and return to remove the Spill Signs after 7-days.
    b. Samples must be collected by a properly trained person.
        i. If a major spill occurs during weekend or holiday, Coordinator collects Spill Samples
        ii. Response Coordinator completes Chain-of-Custody form and sample labels and delivers samples to the testing facility
        iii. During other times – Response Coordinator is to coordinate with Industrial Pretreatment and lab for sampling
23. The Collections Section Manager is responsible for ensuring non-field Activities such as notifications, reporting, etc. are conducted as set out in the County SSO Response Documents. The Response Coordinator is responsible for ensuring all appropriate data and measurements are collected during the repair for accurate reporting and evaluation.

Spill on Force Main Pipe Due to Rupture or Cut

1. First Responder investigates report of possible overflow.
2. Upon arriving at the site, set up work zone according to safety procedures (Safety Manual located in DWR Library).
3. Investigator walks line and locates evidence of ruptured pipe.
4. Investigator contacts Coordinator and Dispatch and informs of condition.
5. Investigator follows the path of the overflow and determines:
    a. Where the flow stops moving. If it is still progressing, estimate the continuing path.
    b. If sewage has reached a storm water drain.
    c. If sewage has reached a Water-of-the-State.
    d. Potential containment areas
6. Reference the Force Main Contingency Plan if one exists for the damaged main.
7. Coordinator assigns Response Team:
    a. GCDWR Response Crew.
    b. Emergency Repair Crew (Internal or Contract).
    c. Initiate contact with Pump Stations Manager.
        i. Identify the location of the rupture and
        ii. The force main impacted.
8. Repair Crew goes to the location of the reported problem.
9. Crew secures site and implements additional safety measures as needed.
10. Response crew sets up any practical measures to minimize or prevent the overflowing sewage from reaching waters-of-the-state, storm drains, or private properties. Measures include building dikes or berms, excavating

trenches, using pump truck, collecting flows in road-side ditches or other natural swales. Care is to be used to minimize exposure of public or crews to wastewater.

11. Repair Coordinator contacts Pump Station Coordinator, Dispatch and Central Facility to:
    a. arrange potential shut down of Pump Station,
    b. determine length of time pump station can be out of operation,
    c. Identify critical observation point,
        i. The first location an overflow will occur after pump station shuts down may not be at the station.
    d. Arrange pump-truck support as appropriate, and
    e. Identify receiving manhole for Pump Truck unloading or By-Pass pumping that does not return flow to the pump station.
    f. Repair Coordinator calls in an emergency Utility Locate via Dispatch. However, do not delay excavation while waiting for utility locate. Use extreme caution during the excavation process
12. Repair Crew excavates down to main at the location of the surfacing discharge
13. Crew continues to expose pipe until the apparent length of impacted pipe is exposed
14. Coordinator determines if a Temporary Point Repair is appropriate depending on type of damage identified and the conditions surrounding the repair.
    a. Install temporary repair, secure the site, restore flow in the force main, and return to site when full repair can be performed under controlled conditions.
15. Crew performs repair as set out in SOP-07 using appropriate methods and equipment
16. Coordinator documents the times at which:
    a. Containment of flows in the field is achieved, and
    b. The force main is returned to service.
17. Coordinator or Pump Station crew estimates the time that the pump was running after rupture occurred.
18. From pump run times, Repair Coordinator estimates volume of flow released from the force main that was not successfully contained. Contact OTS or Section Manager to assist in calculations as needed.
    a. Begin with pumped volume during the time the force main was damaged
    b. Reduce volume of the release by the volume managed / contained by the field crews
    c. Reduce volume of the release by the volume delivered to the treatment plant by the force main during the time the force main was damaged
19. If a spill reaches a waters-of-the-State,
    a. The Response Coordinator shall have spill signs posted and return to remove the Spill Signs after 7-days.
    b. Samples must be collected by a properly trained person.
        i. If a major spill occurs during weekend or holiday, Coordinator collects Spill Samples
        ii. Response Coordinator is to complete Chain-of-Custody form and sample labels and deliver samples to the testing facility
        iii. During other times – Response Coordinator is to coordinate with Industrial Pretreatment and lab for sampling
20. Response crew cleans site to remove all solids deposited, rakes area, spreads lime to disinfect as appropriate. Standing fluids are to be removed by pump truck if possible, and wet soil is to be removed and hauled to landfill. Impervious areas are to be washed down using a jet truck or similar equipment and disinfects as appropriate.
21. Response Crew completes the Work Order and submits to the Coordinator for review and approval.
22. Crew remains on site to assist in clean-up and other activities until dismissed by the Response Coordinator.

23. The Collections Manager is responsible for ensuring non-field Activities such as notifications, reporting, etc. are conducted as set out in the County SSO Response Documents. The Response Coordinator is responsible for ensuring all appropriate data and measurements are collected during the repair for accurate reporting and evaluation. **The Repair Coordinator must complete and return the Notification of Spill form to Dispatch for processing prior to leaving work at the end of the shift.**

Attachments

Attachment 1: Reportable Reportable SSO Notification Action Plan

Attachment 1

FIELD OPERATIONS DIVISION

Reportable Spill Notification Action Plan

SANITARY SEWER OVERFLOWS

Revised October 2018

A "Spill" (also referred to as reportable spill) is any discharge of raw sewage by a Publicly Owned Treatment Works (POTW) to the waters of the state.

A "Major Spill" is any discharge of raw sewage that 1) greater or equal to 10,000 gallons or 2) results in water quality violations in the water of the state.

Waters of the State means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, springs, wells, wetlands, and all other bodies of water that are actively flowing to any of the above at the time of the spill, which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation.

This procedure was developed based on the requirements set forth in O.C.G.A 391-3-6-.05 and NPDES Permit No. GA0026433 for Crooked Creek WRF/F Wayne Hill WRC.

NOTIFICATION REQUIREMENTS

Within 24 hours of notification of the reportable spill:

- Notification of the reportable spill or major reportable spill must be sent to EPD. The notification must be within 24 hours of the spill and include:
    - Date of the spill or major spill
    - Location and cause of the spill or major spill
    - Estimated volume discharged and name of receiving waters; and
    - Corrective action taken to mitigate or reduce the adverse effects of the spill or major spill. Examples of corrective actions include:
        - Capturing the overflowing wastewater at the site to the extent possible cleaning the area at and downslope of the spill
        - Spreading lime
        - Collecting any standing water at the spill location and disposing into the sewer system
        - Posting warning signs at the location of the spill and impacted waterway
- The spill or major spill must be reported to the local health department including the information above within 24 hours of spill via the Water Reclamation Program Coordinator.
- The spill or major spill must be reported to the local media (television, radio and print media) including the information above.
- A notice must be posted as close as possible to where the spill or major spill occurred and where the spill or major spill entered State waters. The notice shall include at a minimum the same information required above. The intent of this requirement is to notify citizens, who may come into contact with the affected water, that the spill or major spill has occurred. Post additional notices of the spill or major spill along the portions of the waterway affected by

the incident (i.e. at bridge crossings, trails, boat ramps, recreational areas, and other points of public access to the affected waterway). These notices shall remain in place for a minimum of seven days after the spill or major spill has ceased.

- For major spills only:
    - A monitoring program must be established for any major spill and include monitoring the receiving stream for: dissolved oxygen, fecal coliform bacteria, pH and temperature. The program must include sufficient upstream and downstream sampling points to accurately characterize the impact of the major spill. The results of the monitoring must be reported to EPD and all downstream public agencies using the affected waters as a source of a public water supply within 20 miles.
    - Provide notice to every county, municipality or other public agency whose public water supply is within 20 miles downstream and to any others which could potentially be affected by the major spill.

Within 5 days of notification of the spill:

- A written report must be submitted to EPD including the information in the first bullet above.

Within 7 days of a <u>major</u> spill:

- A notice of the major spill must be published in the legal organ of the County (Gwinnett Daily Post) including the information in the first bullet above.

PROCEDURE

This procedure applies to spills and major spills. Dispatch must be notified of all spills immediately so they can begin the EPD notification process.

Within 24 hours of notification of the spill:

- As soon as possible, **Coordinator or Investigator** notifies Dispatch that this will be a reportable spill and to start the Spill Notification process.
- **Dispatch** starts the Spill Notification form and saves to SharePoint in the Reportable Spill Notifications Library and emails Contact List 1 that the form is available and the name of the file. This allows necessary staff to know the 24-hour window for completing the notification process.
- If there is evidence of a fish kill or the spill is greater or equal to 10,000 gallons, the **Coordinator** notifies **Dispatch** to call the EPD Emergency Hotline at 800-241-4113 to report the spill. If there is a fish kill, the spill , regardless of size, will be treated as a Major Spill.
- For Major Spills only – **Coordinator** notifies Industrial Pretreatment to begin water and stream sampling. If a weekend, Coordinator takes sample and notifies DWR Environmental Lab.
- **Coordinator** completes the form and emails that it is ready for review to Contact List 1.
- The **Section Manager or Deputy Director** reviews the form and emails Contact List 1 that it is ready to be sent to EPD.
- **Dispatch** e-mails page 1 of the Spill Notification to EPD at 404-656-2453. A copy of the Spill Notification is saved on SharePoint. Dispatch scans page 1 and emails to Spill Notification Contacts. Dispatch completes page three with all contacts notified.
- For Major Spills only – **Dispatch** notifies downstream municipalities, agencies, or affected entities (citizens,

homeowners groups, etc.) by telephone as soon as possible. Lists of downstream contacts, within 20 miles of the spill, may be found in Dispatch. Dispatch notes all downstream contacts that were contacted on page 3 of the Spill Notification form.

- **Section Manager or Deputy Director** works with the **DWR Public Information Officer** to prepare and distribute the media notice to print, radio and TV news media and the Health Department.
- **Coordinator** works with crews to post signs at the spill site, the location where the sewage entered State waters and any public access areas downstream of spill within a reasonable distance based on the magnitude of the spill.

Within 5 days of notification of the spill:

- The **PA Group** prepares a final report which is reviewed and signed by a **Section Manager or Deputy Director**. The **PA Group** e-mails the final report to EPD.
- For major spills only - the **PA Group** prepares a notice of the major spill which is approved by the **DWR Public Information Officer** and a **Section Manager or Deputy Director**. The **PA Group** submits the notice to be published as a legal ad in the Gwinnett Daily Post. The legal ad must run within 7 days of the major spill.

For at least one year after a major spill:

- **Industrial Pretreatment** completes the water monitoring program of the area affected by the spill according to the guidelines set forth by the Rules and Regulations for Water Quality Control, Chapter 391-3-6. The results of the monitoring must be reported to EPD and all downstream public agencies using the affected waters as a source of a public water supply.

EMPLOYEE RESPONSIBILITIES

Employee Receiving Initial Notification of Overflow

- Contact Dispatch IMMEDIATELY with pertinent information including time and date, name and telephone number of person calling, location of overflow, and names of employees responding to call.

Coordinator

- Use DWR's Sanitary Sewer Flow Rates for Spill Determinations chart or the calculator in the Spill Notification form to calculate estimated spill amount. For gravity sewer spills:
    1. Measure the flow to depth of the first downgrade manhole of the spill immediately upon arrival on site.
    2. Make necessary corrections to allow the flow to restore to a normal flow.
    3. Measure depth of normal flow in same downgrade manhole. Subtract the two numbers.
    4. Calculate the spill.
        a. Using the chart, the difference in inches of the two measurements under the pipe size in inches is a factor (number). Multiply this number by the time in minutes the spill occurred. This will give an estimated number of gallons overflowed. These directions are listed on the bottom of the chart.
        b. Using the calculator, enter the before and after depth and time in minutes and the form will calculate the spill volume.

  For force main overflows, use calculator in the Spill Notification form. For pump station spills, use pump station data to determine volume.
- Coordinator completes the Spill Notification form including response information, spill information, waterways and spill volume and emails that it is ready for review to Contact List 1.
- For Major Spills only – Coordinator notifies Industrial Pretreatment to begin water and stream sampling. If a weekend, Coordinator takes sample and notifies DWR Environmental Lab.

- Coordinator determines where signs must be posted. Coordinator works with crews to post signs at the spill site, the location where the sewage entered State waters and any public access areas downstream of spill within a reasonable distance based on the magnitude of the spill. Blank sign forms are in Dispatch and Coordinator's office.

Dispatch

- Dispatch starts the Spill Notification form and saves to SharePoint in the Spill Notifications Library and emails Contact List 1 that the form is available and the name of the file. This allows necessary staff to know the 24-hour window for completing the notification process.
- If there is evidence of a fish kill or the spill is over 10,000 gallons, **Dispatch** calls the EPD Emergency Hotline at 800-241-4113 to report the spill. If there is a fish kill, the spill, regardless of size, will be treated as a Major Spill.
- Upon receiving approved form from Section Manager or Deputy Director, dispatch e-mails page 1 of the Spill Notification form to EPD at 404-656-2453. A copy of Spill Notification is saved to SharePoint. Dispatch scans page 1 and emails to Spill Notification Contacts. Dispatch completes page three with all contacts notified.
- For Major Spills only – Dispatch notifies downstream municipalities, agencies, or affected entities (citizens, homeowners groups, etc.) by telephone as soon as possible. Lists of downstream contacts, within 20 miles of the spill, may be found in Dispatch. Dispatch notes all downstream contacts that were contacted on page 3 of the Spill Notification form.

PA Group

- Within 5 days of the spill the PA Group prepares a final report which is reviewed and signed by a Section Manager or Deputy Director. The PA Group e-mails the final report to EPD.
- For major spills only, the PA Group prepares a notice of the major spill which is approved by the DWR Public Information Officer and a Section Manager or Deputy Director. The PA Group submits the notice to be published as a legal ad in the Gwinnett Daily Post. The legal ad must run within 7 days of the major spill. The PA Group emails a copy of the public notice to Cindy Keel.
- The PA Group emails the final report to the Spill Notification Contacts on page 3 of the Spill Notification form.
- Maintain permanent file of **ALL** spills.

Contact List 1

Position	DWR Division
Assistant Director	Department of Water Resources
Deputy Director	Field Operations
Division Director	Environmental Compliance and Permitting
Section Manager	Field Operations- Corrective Maintenance
Section Manager	Field Operations- Preventive Maintenance
Section Manager	Field Operations- Contracts and Support
Section Manager	Field Operations- Warehouse
Section Manager	Facility Operations- Pump Stations
Trades Coordinator	Field Operations- Sewer Corrective Maintenance
Trades Coordinator	Field Operations- Sewer Preventive Maintenance
Water Quality Supervisor	Field Operations- FOG Preventive Maintenance
Trades Supervisor	Field Operations- Sewer Corrective Maintenance

Program Analyst III	Field Operations- Preventive Maintenance
Program Analyst II	Field Operations- Preventive Maintenance
Construction Manager II	Field Operations- Contracts and Support
Water Resources PIO	Environmental Compliance and Permitting
Water Resources Program Director	Environmental Compliance and Permitting
Resources Marketing Specialist	Environmental Compliance and Permitting
Water Quality Associate II	Field Operations- FOG Preventive Maintenance
Program Analyst I	Field Operations- Preventive Maintenance
DWR Dispatch e-mail group	Field Operations- Contracts and Support

Contact List 2

Position	**DWR Division**
Department Director	Department of Water Resources
Assistant to Director	Department of Water Resources
Assistant Director	Department of Water Resources
Deputy Director	Field Operations
Assistant to Deputy Director	Field Operations
Deputy Director	Engineering
Division Director	Environmental Compliance and Permitting
Section Manager	Field Operations- Corrective Maintenance
Section Manager	Field Operations- Preventive Maintenance
Section Manager	Field Operations- Contracts and Support
Section Manager	Field Operations- Warehouse
Section Manager	Facility Operations- Pump Stations
Engineer V	Engineering
Panning Manager	Environmental Compliance and Permitting
Water Quality Coordinator	Environmental Compliance and Permitting
Trades Coordinator	Field Operations- Sewer Corrective Maintenance
Trades Coordinator	Field Operations- Sewer Preventive Maintenance
Water Quality Supervisor	Environmental Compliance and Permitting
Water Quality Supervisor	Field Operations- FOG Preventive Maintenance
Program Analyst III	Field Operations- Preventive Maintenance
Program Analyst II	Field Operations- Preventive Maintenance
Construction Manager II	Field Operations- Contracts and Support
Water Resources PIO	Environmental Compliance and Permitting

Water Resources Program Director	Environmental Compliance and Permitting
Resources Marketing Specialist	Environmental Compliance and Permitting
Water Quality Associate II	Field Operations- FOG Preventive Maintenance
Program Analyst I	Field Operations- Preventive Maintenance
DWR Dispatch e-mail group	Field Operations- Contracts and Support
EMA- Homeland Security	N/A

Contact List 3

Position	**DWR Division**
Deputy Director	Field Operations
Assistant to Director	Department of Water Resources
Section Manager	Field Operations- Corrective Maintenance
Section Manager	Field Operations- Preventive Maintenance
Section Manager	Field Operations- Contracts and Support
Section Manager	Field Operations- Warehouse
Water Quality Supervisor	Field Operations- FOG Preventive Maintenance
Program Analyst III	Field Operations- Preventive Maintenance
Program Analyst II	Field Operations- Preventive Maintenance
Water Resources PIO	Environmental Compliance and Permitting
Water Resources Program Director	Environmental Compliance and Permitting
Resources Marketing Specialist	Environmental Compliance and Permitting
Water Quality Associate II	Field Operations- FOG Preventive Maintenance
Program Analyst I	Field Operations- Preventive Maintenance

Exhibit D-2

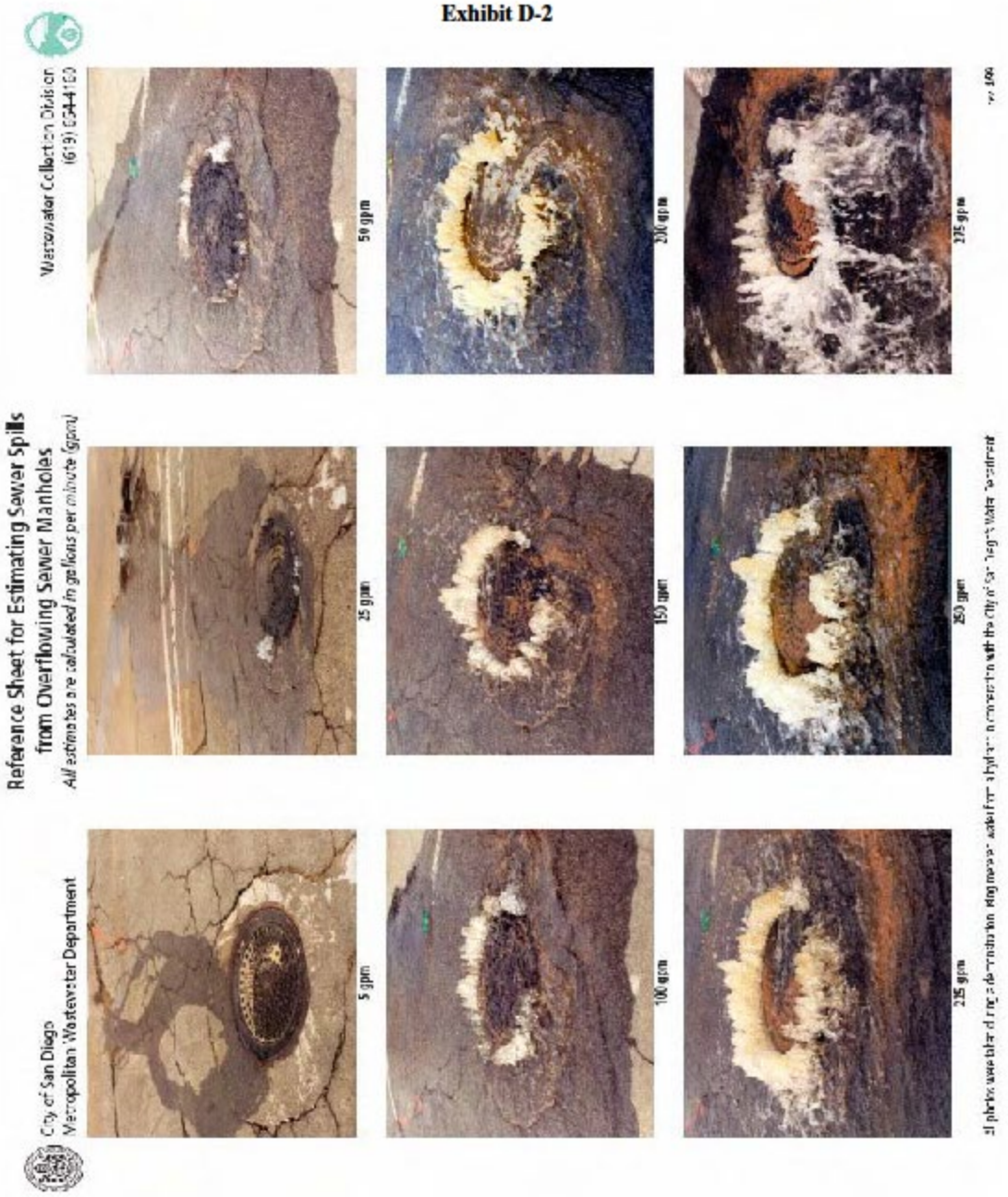


Figure 1 - Appendix E - Example Documentation for Determining Spill Amount

Gwinnett County Department of Public Utilities
Collection

Sanitary Sewer Flow Rates for Spill Determinations

Gallons per minute @ V= 2.0 fps & n= 0.013

Depth of Flow (inches) — Pipe Size - Inches

	8	10	12	15	18	21	24
1	20	25	30	35	40	45	50
2	60	70	80	85	95	105	125
3	110	125	135	150	175	185	210
4	160	180	200	235	260	285	320
5	190	240	280	315	360	380	445
6	260	310	355	415	455	500	555
7	290	370	425	495	570	620	695
8	320	430	500	600	680	760	815
9		465	575	690	800	890	965
10		490	625	775	905	1005	1120
11			685	870	1020	1135	1275
12			715	935	1130	1260	1410
13				1020	1240	1415	1580
14				1070	1345	1520	1690
15				1105	1425	1650	1850
16					1495	1760	1990
17					1550	1880	2110
18					1595	1980	2285
19						2050	2410
20						2115	2530
21						2160	2630
22							2700
23							2765
24							2820

SPILL CALCULATION PROCEDURES

1. Determine the time Public Utilities was initially notified of a potential SSO..
2. Measure the flow, if any, in inches in the manhole immediately downstream of the blockage and determine the flow rate at this point from the table above.
3. Clear blockage as needed, note time, allow flow to stabalize to a normal flow rate.
4. After flow reaches normal flow rate, measure the flow in the same location as in step # 2 and determine the normal flow rate from table above.
5. Subtract the flow rate in step # 2, in any, from the normal flow rate taken after the blockage was cleared in step #4 and multiply this number by the length of time from notification until the spill was corrected. (blockage cleared & no overflow)
6. Report amount spilled as required per SOP Spill Reporting Procedure.

Figure 2 - Appendix E - Spill Calculation Table

Estimating Water Loss
Force Mains

If losses exceeds 50% - contact Central to get confirmation.

Flow Lost from a Force Main Beam-Break

			Multiply Pump Station Flow to get Flow Lost Through the Crack																
Pipe Diam	Pipe Area	circumference	(1/16)	Width of Crack (Inch)															
(Inch)	sf	Inch	0.0625	0.1	0.2	0.3	0.4	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	4	5	6
2	0.02	6	0.111	0.167	0.286	0.375	0.444	0.500											
4	0.09	13	0.059	0.091	0.167	0.231	0.286	0.333	0.429	0.500									
6	0.20	19	0.040	0.063	0.118	0.167	0.211	0.250	0.333	0.400	0.455	0.500							
8	0.35	25	0.030	0.048	0.091	0.130	0.167	0.200	0.273	0.333	0.385	0.429	0.467	0.500					
10	0.55	31	0.024	0.038	0.074	0.107	0.138	0.167	0.231	0.286	0.333	0.375	0.412	0.444	0.500				
12	0.79	38	0.020	0.032	0.063	0.091	0.118	0.143	0.200	0.250	0.294	0.333	0.368	0.400	0.455	0.500			
15	1.23	47	0.016	0.026	0.051	0.074	0.096	0.118	0.167	0.211	0.250	0.286	0.318	0.348	0.400	0.444			
18	1.40	50	0.015	0.024	0.048	0.070	0.091	0.111	0.158	0.200	0.238	0.273	0.304	0.333	0.385	0.429	0.500		
18	1.77	57	0.014	0.022	0.043	0.063	0.082	0.100	0.143	0.182	0.217	0.250	0.280	0.308	0.357	0.400	0.471		
20	2.18	63	0.012	0.020	0.038	0.057	0.074	0.091	0.130	0.167	0.200	0.231	0.259	0.286	0.333	0.375	0.444	0.500	
21	2.41	66	0.012	0.019	0.037	0.054	0.071	0.087	0.125	0.160	0.192	0.222	0.250	0.276	0.323	0.364	0.432	0.488	
24	3.14	75	0.010	0.016	0.032	0.048	0.063	0.077	0.111	0.143	0.172	0.200	0.226	0.250	0.294	0.333	0.400	0.455	0.500
28	4.28	88	0.009	0.014	0.028	0.041	0.054	0.067	0.097	0.125	0.153	0.176	0.200	0.222	0.263	0.300	0.364	0.417	0.462
30	4.91	94	0.008	0.013	0.026	0.038	0.051	0.063	0.091	0.118	0.143	0.167	0.189	0.211	0.250	0.286	0.348	0.400	0.444
36	7.07	113	0.007	0.011	0.022	0.032	0.043	0.053	0.077	0.100	0.122	0.143	0.162	0.182	0.217	0.250	0.308	0.357	0.400
42	9.62	132	0.006	0.009	0.019	0.028	0.037	0.045	0.067	0.087	0.106	0.125	0.143	0.160	0.192	0.222	0.276	0.323	0.364
48	12.57	151	0.005	0.008	0.016	0.024	0.032	0.040	0.059	0.077	0.094	0.111	0.127	0.143	0.172	0.200	0.250	0.294	0.333

If NOT a Beam-Break Insert data into each green field below.

Pipe Diam		Inch		
Length of Hole		Inch		
Width of Hole		Inch		
Pump Flow		gallons		gpm
Run Time				minutes

Pipe Area	#N/A	sf		#N/A	sq-inch
Percent Lost	#N/A				
Total Lost	#N/A	Gallons	#N/A		gallon

Figure 3 - Appendix E - Spill Calculation Table for Force Main Spills

Appendix F – Capital Improvement Plan

(Changes Monthly)

CIP Tracking Monthly Report

Gwinnett Water Resources

Project: M-0745												Pump Station Rehab
Status	**Project**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**	**YTD Spent**	**Est. Spend (Yr)**	**Owner and Comments**
Substantially Complete	**M-0745-71** NCI Pump Station Rehabilitation	$4,140,156							**$4,140,156**	$2,461,492	$3,104,792	**Tanksley; Tyler** - Construction is substantially complete. Punchlist and change order in process. 09-27-2019
Pending	**M-0745-88** PS-OCPS19-06 Fairmont PS Rehab		$344,931						**$344,931**	$0	$0	**Hampton; Rich** - NTP issued 5/8/2019.
Design	**M-0745-89** Sagamore Hills and Hunters Creek PS Modifications	$62,273	$1,238,141						**$1,300,414**	$32,453	$126,414	**Bihalli; Rudresh - RB - 10/01/2019**: This project is handed over from Charles Horner. During the meeting on May 20, 2019, it was decided to stick to the scope of decommissioning Hunters Creek PS and upgrade Sagamore Hill PS to meet the current and future flows. **Woods, LLC submitted geotechnical report. There is no rock but encountered groundwater table between 7 to 10 feet below grade. ESI to submit 60% design in October 2019.**
Completed	**M-0745-93** Lower Big Haynes Pump Station Improvements	$613,980							**$613,980**	$576,889	$599,686	**Bihalli; Rudresh - RB - 10/01/19:** Will have CO.1 for $26,132; CO.2 for $702; CO.3 for $750; and CO. 4 for $5,550 and Multiplex has requested for time extension of 140 days due to weather, delay in fabrication and galvonizing of steel structures for canopy. **The project was substantially complete is on 8/14/19. Contractor to address punch list items and working on project closeout.**
	M-0745-95 PS Odor Control System - Grease Filters and Access Ports	$19,411							**$19,411**	$18,546	$17,619	**Bihalli; Rudresh - RB-4/4/19:** Contractor has completed installation of Grease Filters and Access Doors at various PS per Contract. Following substantial completion, project walk thru was completed on 12/19/2018. Contractor addressed punch list items and reached Final completion on 1/14/19. **Change Order # 1 Final for $1,210 was approved by Purchasing Director. Final pay application was processed on 3/11/19. Asset report was completed and the project is closed out.**
	Total	**$4,835,820**	**$1,583,072**						**$6,418,892**	**$3,089,379**	**$3,848,511**	

Project: M-0746												Pump Station Rehab
Status	**Project**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**	**YTD Spent**	**Est. Spend (Yr)**	**Owner and Comments**
	M-0746- BL012-19 Coatings Projects for Pump Stations 2019	$500,000							**$500,000**	$0	$0	**Hampton; Rich** -
Pending	**M-0746-85** PS-OCPS19-10 Wellington Walk PS Rehab	$10,365	$399,803						**$410,168**	$10,365	$330,000	**Hampton; Rich** - Work to begin 1st quarter 2020.
	M-0746-65 PS-OCPS19-13 Pinecrest PS Rehab	$60,000							**$60,000**	$0	$60,000	**Hampton; Rich** - Work to begin after Wellington Walk, fall 2019

CIP Tracking Monthly Report

Gwinnett Water Resources

Project: M-0746												Pump Station Rehab
Status	**Project**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**	**YTD Spent**	**Est. Spend (Yr)**	**Owner and Comments**
Planning	**M-0746-** PS-OCPS19-14 Parker Woods North PS Rehab		$20,000						**$20,000**	$0	$0	**Hampton; Rich** - ESI is working on Procurement documents for pump purchases. Install 2020.
	M-0746-67 PS-OCPS19-15 Evergreen Lakes PS Rehab		$20,000						**$20,000**	$0	$0	**Hampton; Rich** - ESI is working on Procurement documents for pump purchases Install 2020
Substantially Complete	**M-0746-23** On Call Coatings Technical Support Services	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000		**$300,000**	$49,824	$50,000	**Gonce; Nancy** - 09.03.19 Coatings inspections and reports performed at NCI Pump Station for the wetwell, grinder, diversion chamber, and miscellaneous metals. Final invoice submitted on 08/16/19. Project will be closed. Remaining work at NCI Pump Station to be issued under a separate work authorization.
	M-0746-82 PS-IWQ1-573003 NBC Flow Meter	$18,189							**$18,189**	$0	$0	**Hampton; Rich** - 5/29/19 Flow meter was delivered on 5.13.19 but we never recieved the submittals. John Fleck with ESI has reached out to the vendor to get the submittals to make sure what wereceived meets the spec required.
	M-0746-86 PS-OCPS19-08 Old Thompson Mill PS Rehab	$174,793							**$174,793**	$174,793	$0	**Hampton; Rich** - start up 8/2. Awaiting final invoice.
	M-0746-56 PS-OCPS19-17 Duluth Village PS Rehab	$309,165							**$309,165**	$309,165	$398,402	**Hampton; Rich** - 7-8-19 waiting on close out docs .
	M-0746-59 PS-OCPS19-18 Marathon Valve Mod	$97,044							**$97,044**	$91,451	$5,594	**Hampton; Rich** - Closing construction WO. Will finish work once easement issue settled..
	M-0746-81 PS-OCPS19-22 Hog Mountain 2 PS Rehab	$601,522							**$601,522**	$527,641	$374,637	**Hampton; Rich** - Processing final pay app
	M-0746-73 PS-OCPS19-26 Bermuda PS Gate Repair	$44,477							**$44,477**	$44,477	$57,802	**Hampton; Rich** - Waiting on close out docs.
	M-0746-77 PS-OS016-17-JWC Enviromental-Grinder repair Lower Big Haynes PS	$30,318							**$30,318**	$30,318	$30,318	**Hampton; Rich** -
	M-0746-12 County-wide Pump Station Condition Assessment Update	$112,804							**$112,804**	$108,598	$0	**Suttles; Jennifer** - ESI has delivered geodatabase. Will be presented and reviewed 8/16/19.
	M-0746-89 PS-OCPS19-36 BL016-18 NFPC PS HVAC Replacement	$37,974							**$37,974**	$18,519	$37,974	**Suttles; Jennifer** - Received final invoice from United 6/21/19.
Bid	**M-0746-71** PS-IWQ 1-565072 Lower Big Haynes Check Valve Procurement	$59,487							**$59,487**	$0	$0	**Hampton; Rich** - Procurement only. DWR will install.
	M-0746-72 PS-IWQ 1-565190 PS CM Shop Generator	$51,928							**$51,928**	$0	$0	**Hampton; Rich** - PO canceled. Will re-bid. Never received submittals from vendor.
	M-0746-51 Hidden Meadows PS Improvements	$10,103							**$10,103**	$0	$10,102	**Joiner; Matthew** -

CIP Tracking Monthly Report

Gwinnett Water Resources

Project: M-0746												Pump Station Rehab
Status	**Project**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**	**YTD Spent**	**Est. Spend (Yr)**	**Owner and Comments**
Contract Execution	**M-0746-61** PS-OCPS19-19 NFPC Rehab	$966,591							**$966,591**	$50,995	$955,000	**Hampton; Rich** - Sent to On-Call committee 8/6.
	M-0746-92 PS-OCPS19-32 The Oaks rehab	$13,880							**$13,880**	$0	$14,000	**Hampton; Rich** - Doghouse manhole to be installed 10/2019. Rehab work in 2020
	M-0746-93 PS-OCPS19-33 Rivercliff rehab	$7,190							**$7,190**	$0	$8,000	**Hampton; Rich** - Doghouse manhole to be installed 10/2019. Rehab in 2020.
	M-0746-77 PS-OS012-15 Xylem-Prospect Rd Replacement Pumps	$22,749							**$22,749**	$22,749	$22,749	**Johnson; Jerimy** -
Design	**M-0746-69** Brooks Road Pump Station Improvements	$483,897	$5,723,194	$3,720,658					**$9,927,748**	$389,457	$491,338	**Bihalli; Rudresh** - RB - **10/01/19:** Progress meeting was held on 8/13/19 to discuss on PER, Hydraulic and surge analyses as well as Pump Selection reports. Review commnets on 60% design drawings and Specifications have been provided to Tetra Tech on 9/11/2019. Expectiong 90% design submittal on 10/22/19.
	M-0746-24 Peachtree MHP Pump Station Imprvements	$42,842	$1,645,422						**$1,688,264**	$25,647	$26,675	**Bihalli; Rudresh** - RB-**10/01/19:** PS upgrade, FM relocation and water main installation will be advertised in Phase 1. Review comments on bid ready documents provided to ESI on 7/23/19. Final review on Bid Ready documents is in progress. Will be submitted o Purchasing on 10/10.2019.
	M-0746-32 Engineering Support Services for Pump Station	$1,050,000	$1,050,000	$1,050,000	$1,050,000	$1,050,000	$1,050,000		**$6,300,000**	$0	$0	**Joiner; Matthew** - This project is only for engineering support.
	M-0746-55 Sherwood Pump Station - Rock Quarry PS Rehabilitation Project	$373,796	$3,698,533						**$4,072,329**	$180,679	$216,651	**Weaver; Edward** - 9/4/19: Current Est. Cost: $3,718,000. 60% received on 3/11. On-site geotech work and hazmat testing done on 3/18, 60% Review done 3/26. 90% submittal rec'd 6/12. 90% Review meeting held 6/28. P&D Comments rec'd 9/3/19.
Construction	**M-0746-77** PS - 2019 Equipment Purchases	$606,698							**$606,698**	$334,721	$607,361	**Hampton; Rich** -
	M-0746-74 PS-OCPS19-03 Brooks Road PS Rehab	$1,224,293							**$1,224,293**	$639,336	$264,539	**Hampton; Rich** - Construction begun. Anticpate completion10/2
	M-0746-80 PS-OCPS19-23 Alcovy FM ARV Rpair & Diversion Valve Actuator Replacement	$135,270							**$135,270**	$42,220	$169,986	**Hampton; Rich** - Site Eng to begin work in mid-October.
	M-0746-97 PS-OCPS19-27 Patterson Surge Tank Rehab	$374,560							**$374,560**	$83,701	$0	**Hampton; Rich** - 7-8-19 Received and reviewed revised submittal for surge system equipment and access platform. Wait on delivery of equipment.
	M-0746-98 PS-OCPS19-28 Ivy Creek Wet Well Coating	$658,006							**$658,006**	$16,517	$657,446	**Hampton; Rich** - Work ongoing. Scaffolding set up, NACE inspection, coating removal during June/July
	M-0746-90 PS-OCPS19-29 Tanglewood PS rehab	$508,982							**$508,982**	$114,839	$499,249	**Hampton; Rich** - Work to begin 8/12

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Gwinnett Water Resources

Project: M-0746												Pump Station Rehab
Status	**Project**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**	**YTD Spent**	**Est. Spend (Yr)**	**Owner and Comments**
Construction	**M-0746-58** PS-OCPS19-47 Brooks Booster Surge Tank and Compressor	$24,123							**$24,123**	$24,123	$0	**Hampton; Rich** - Tank and compressor received. Determining how to install.
	M-0746-77 PS-OS012-15 Xylem-East Park Place PS Pump Replacement	$101,196							**$101,196**	$101,196	$0	**Johnson; Jerimy** - .
	M-0746-77 PS-OS012-15 Xylem-Northfork Pump Replacements	$305,784							**$305,784**	$305,784	$305,784	**Johnson; Jerimy** - .
	M-0746-77 PS-OS012-15 Xylem-Ozora Rd Replacement Pumps	$22,675							**$22,675**	$22,675	$0	**Johnson; Jerimy** - waiting on parts .
Pre-Design	**M-0746-83** Category A1 - Arcadis on-call Professional Services support	$100,000							**$100,000**	$0	$280,000	**Moon; Thomasa** - DS19016; currently no active tasks 2020 funds deleted as this WA will be close at end of 2019
	M-0746-84 Category A1 - Tetra Tech Inc on-call Professional Services support	$100,000							**$100,000**	$0	$300,000	**Moon; Thomasa** - DS19020; currently no active tasks 2020 dollars deleted as this WA will be closed at the end of 2019.
Completed	**M-0746-96** PS - BL016-18 LBH PS HVAC Replacement	$49,861							**$49,861**	$33,409	$49,861	**Hampton; Rich** - complete.
	M-0746-77 PS - BL021-17 APD Door Replacement-Brooks Rd Booster	$12,741							**$12,741**	$12,741	$0	**Hampton; Rich** - Settlement sent 9.4.19
	M-0746-34 PS - OS012-15-Xylem-Spare Pump Replacement	$9,468							**$9,468**	$9,468	$6,226	**Hampton; Rich** - Settlement sent 7/2/19
	M-0746-46 PS-IWQ 1-545937 HOG MOUNTAIN ROAD 1 & 2 PS RTU PANEL	$45,865							**$45,865**	$45,865	$0	**Hampton; Rich** - Received.
	M-0746-56 PS-IWQ 1-551934 Duluth Village package pump systems	$54,535							**$54,535**	$54,535	$0	**Hampton; Rich** - Waiting on settlement
	M-0746-61 PS-IWQ NFPC RTU PANEL	$38,532							**$38,532**	$38,532	$0	**Hampton; Rich** -
	M-0746-34 PS - Franklin Miller - Jacks Cr grinder replacement	$37,305							**$37,305**	$37,305	$37,305	**Johnson; Jerimy** - Recieved and invoiced 2-8-19 RCF recieved 4-8-19.
	M-0746-76 PS-BL081-18-Chapman Fence- carrington Gate PS	$7,800							**$7,800**	$7,800	$7,800	**Johnson; Jerimy** - Ivoiced 3-15-19
	M-0746-70 PS-OCPS18-02 Brookwood HS PS Site Rehab	$763,643							**$763,643**	$763,643	$96,815	**Johnson; Jerimy** - complete
	M-0746-68 PS-OCPS18-28 Farmers Court PS Rehab	$30,243							**$30,243**	$30,243	$0	**Johnson; Jerimy** - complete

CIP Tracking Monthly Report

Gwinnett Water Resources

Project: M-0746												Pump Station Rehab
Status	**Project**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**	**YTD Spent**	**Est. Spend (Yr)**	**Owner and Comments**
Completed	**M-0746-78** PS-OCPS19-20 Dominion Walk PS Bypass Connection	$6,133							**$6,133**	$6,133	$0	**Johnson; Jerimy** - Work was completed. Invoiced on 1-30-19.
	M-0746-77 PS-OS012-15 Xylem-Bailey Farms-Replacement pumps	$22,615							**$22,615**	$22,615	$0	**Johnson; Jerimy** - Parts recieved. Invoiced 2-8-19.
	M-0746-77 PS-OS012-15 Xylem-Dominion Walk Replacement pumps	$24,557							**$24,557**	$24,557	$24,557	**Johnson; Jerimy** - Pumps recieved and invoiced 4-18-19
	M-0746-34 PS-OS012-16-Watson Marlow- Eco-Tech- NBC Bredel Pumps replacement	$9,926							**$9,926**	$9,926	$0	**Johnson; Jerimy** - Parts received and invoiced 12-19- 18
	M-0746-77 PS-OS016-17-JWC Enviromental- 2nd Grinder Repair for Beaver Ruin PS	$34,622							**$34,622**	$34,622	$0	**Johnson; Jerimy** - Completed and invoiced on 3-27-19 RCF recieved on 4-4-19
	M-0746-34 PS-OS016-17-JWC Enviromental- Grinder Repair	$8,131							**$8,131**	$8,131	$0	**Johnson; Jerimy** - .
	M-0746-77 PS-OS016-17-JWC Enviromental-Grinder repair for Beaver Ruin PS	$45,782							**$45,782**	$45,782	$0	**Johnson; Jerimy** - Completed and invoiced on 3-27-19 RCF recieved on 4-4-19
	M-0746-88 PS - BL016-18 Level Creek PS HVAC Replacement	$26,360							**$26,360**	$25,653	$26,360	**Suttles; Jennifer** - Completed
	M-0746-79 PS-OCPS19-21 BL016-18 Patterson PS HVAC Replacement	$45,396							**$45,396**	$41,963	$45,395	**Suttles; Jennifer** - Completed
	Total	**$10,564,217**	**$12,606,952**	**$4,820,658**	**$1,100,000**	**$1,100,000**	**$1,100,000**		**$31,291,827**	**$4,972,715**	**$6,467,926**	

Project: M-0750												Sanitary Sewer Collection Sys Ren
Status	**Project**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**	**YTD Spent**	**Est. Spend (Yr)**	**Owner and Comments**
Bid	**M-0750-43** Gold Creek Way - Sugar Hill Sewer Rehab	$711,742							**$711,742**	$533,494	$554,419	**Horner; Charles -** Substantially complete. Performed final punchlist walk-through on 9.26.2019. Developing change order. 10.1.2019 CH
	M-0750-58 Lake Colony Drive Sewer	$12,241	$756,250						**$768,491**	$3,199	$13,357	**Weber; Emily -** 03.25.19 - Final easement documentation under Law review. 04.18.19 - Preparing bid documents. 07.08.19 - Awaiting revised bid documents. 09.03.19 - Onsite pre-bid meeting scheduled for 09.05.19, Bid opening postponed 09.27.19, 10.1.19 awaiting revisions to plans and supp. conditions
Design	**M-0750-67** Ambercrest Sewer Extension Project	$97,411	$279,364	$1,600,000					**$1,976,775**	$13,429	$43,460	**Bhimani; Manoj -** As per direction, removing forceman portion from this project. PPI is working on that.

Status	Project	2019	2020	2021	2022	2023	2024	2025	Total	YTD Spent	Est. Spend (Yr)	Owner and Comments
	M-0750-60 Lake Lanier Low Pressure Sewer					$3,437,000	$1,813,319		**$5,250,319**	$0	$0	**Bhimani; Manoj -** 1/28/2019 Project is On Hold BY UPPER MANAGEMENT. * Design Consultant - Brown and Caldwell - - Low Pressure , working on tech specification - 8 inch Gravity - - DWR submit 17 easements plates to DoSSs on 09/27/2018 for 8' Gravity Line - submit 180 homes info to DoSS for to prepare a right of entry forms. - Low Pressure sewer standards is complete on April 2018 * United Consulting - - additional bore and SUE A @ Buford Dam rd
Design	**M-0750-80** Category I - CDM Fire Station 19 on-call Professional Services support	$43,161							**$43,161**	$4,428	$43,131	**Farrell; Kevin -** DS19061; BOC approved UEM and CAMMP; execution of UEM in process; implementation of CAMMP started
	M-0750-63 Dual ARV Separation Project	$125,391	$506,696						**$632,087**	$2,729	$128,139	**Horner; Charles -** Atkins developing plats. 90% review identifed some errors in bid specs which are being revised. Hazen & Sawyer performing field investigations with help of Opperations. 10.1.2019 CH
	M-0750-75 Level Creek Interceptor Upsizing	$189,425	$1,509,948	$1,500,000					**$3,199,372**	$38,616	$203,771	**Price; Mary -** working with Century Development to install dry sewer on property. Tentative field meeting 10.4.2019. Gas main potholed, alignment validated. Discussing temp. easemnt alignment. construction monies moved to 2020-2021. Project being transfered to Mary Catherine Price. 10.1.2019 CH
On Hold	**M-0750-69** Northforke Plantation PS Decommissioning	$1	$1	$1					**$3**	$0	$0	**Weber; Emily -** 03.25.19 - JC requested this project be placed on-hold until further notice [as of 7.31.18].
	M-0750-78 Category B - PPI on-Call Professional Support Services - CM work	$600,000							**$600,000**	$5,973	$1,200,000	**Bokey; Curtis -** DS19048; Rosemoore Lake On-call: M-0777-18-2-02 ; Staff is working with PPI to create job specific WA's so this can be deleted.
	M-0750-72 Category B - PPI on-Call Professional Services Support	$103,860							**$103,860**	$78,594	$0	**Moon; Thomasa -** DS18081; NTP dated 4/24/18; Active projects - Pharr Woodberry Peter Coker; WIC Curtis Bokey; Mountain Park, Dacula Gravity and Parkview/Pinecrest Stream Chad Horner. This WA has been closed and settlement to DWR Finance 6.20.19
Pre-Design	**M-0750-76** Category B - The Constantine Group on-call Professional Services support	$258,994							**$258,994**	$105,349	$0	**Moon; Thomasa -** DS18163; Current Active Projects - OFS Sewer Lisa Willis; Ross Road PS BCE Ray Williams; SR20 Grayson Michael Efeyini; Duluth Booster PS Demo Chad Horner
	M-0750-68 North Fork Peachtree Force Main Replacement	$452,488	$399,715	$8,738,962	$680,902				**$10,272,067**	$132,157	$437,518	**Murphy; Daniel -** 9/30/2019 - Preliminary Design in progress. Meeting was held between Gwinnett County and Engineer to discuss route options from draft route analysis report submittal. Engineer recently submitted the technical memorandum (evaluation of existing PS, ARVs, sizing of new force main and gravity sewer, route anaylsis, cost estimate, etc.). Technical memorandum is currently under review.
Construction	**M-0750-73** Mountain Park ES New Gravity Sewer	$1,557,054							**$1,557,054**	$1,486,579	$1,464,614	**Horner; Charles -** Constrution Substantally complete. punchlist items remaining. 9.4.2019CH

CIP Tracking Monthly Report

Gwinnett Water Resources

Project: F-0541												DWR Building Rehab/Upgrades
Status	**Project**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**	**YTD Spent**	**Est. Spend (Yr)**	**Owner and Comments**
Completed	**F-0541-03** BL053-17 Advantage - DWR Central Parking Lot Repairs	$25,437							**$25,437**	$25,437	$24,411	**Duncan; Jason H.** - 7/5/19 - Project completed, final invoice paid. Project closed out.
	F-0541-26 CF - OCCF19-01 DWR Central Facility Restrooms and Misc Renovations	$99,386							**$99,386**	$56,080	$99,386	**Duncan; Jason H.** - 7/30/19- Renovations are complete. Final invoice recieved.
	F-0541-32 Norcross Tank & Booster Fence Repair	$14,521							**$14,521**	$14,521	$14,521	**Duncan; Jason H.** - 7/25/19 - Project completed
	F-0541-19 CF - BL016-18 DWR Central HVAC Replacement	$374,659							**$374,659**	$374,659	$0	**Hampton; Rich** - complete.
Design	**F-0541-33** SCADA Central room - Construction	$500,000							**$500,000**	$0	$500,000	**Paul; Sam** -
	F-0541-11 GCDWR Central Assessment and Master Plan	$298,167	$11,043						**$309,210**	$39,933	$0	**Semerjian; Jonathan** - DWR Assessment being finalized for delivery. Programming and Staffing Projections also being finalized.
On Hold	**F-0541-12** DWR Central Buildouts and Enhancements - Remaining project Lobby Renovation	$78,352	$350,000	$75,000					**$503,352**	$0	$0	**Coker; Peter - 10/2/2019 The project is still on hold.**
	F-0541-10 F Wayne Hill Operations Building Expansion			$108,818	$2,770,228	$2,421,868	$17,714		**$5,318,628**	$0	$0	**Gonce; Nancy - 05/09/2019**- construction cost numbers modified to reflect spend shown in ML 4/26/19 email. Project on Hold pending results of FWH Master Plan (expected May 2018). Schedule based upon proposal which will need to be re-evaluated once master plan results are complete. **Project was in Pending phase prior to hold being administered, could probably be completely removed and rebooted when needed.**
Study	**F-0541-23** PS Maintenance Building Upgrades		$621,970						**$621,970**	$0	$0	**Joiner; Matthew** -
Contract Execution	**F-0541-24** Central - Intech Systems - FIRE Alarm Upgrade	$43,363							**$43,363**	$0	$43,363	**Duncan; Jason H.** - 10-2-2019 – After new design areas were identified that would not meet code. Requested for quote to be provided for any additional needs. Will request to increase PO once that is received.
	F-0541-Pending DWR Central West Traffic Arm Replacement	$11,278							**$11,278**	$0	$0	**Duncan; Jason H.** - 7/30/19 - Project complete but funded from operating. Needs to be removed for CIP Tracker.
Construction	**F-0541-25** Category I - DWR Central Signage - PPI DS19099	$123,581							**$123,581**	$2,449	$128,934	**Duncan; Jason H.** - 10-2-2019 Project was re-visited with contractor to point out areas that were incomplete along with areas that were left out. Asked that an additional quote be submitted to include additional signage needs. Once received will request to increase PO.

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Gwinnett Water Resources

Project: F-0541												DWR Building Rehab/Upgrades
Status	**Project**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Total**	**YTD Spent**	**Est. Spend (Yr)**	**Owner and Comments**
Construction	**F-0541-14** CF - BL018-19 Lighting LED Interior Upgrades for Central Facility	$109,816							**$109,816**	$0	$76,736	**Duncan; Jason H.** - 9-5-2019 Project underway. Some fixtures are not available from vendor even though they were quoted. Replacement fixtures are at an additional cost which will require increase in PO.
	F-0541-17 CF - OCCF18-02 DWR Central Misc Support for Building Renovations and Repairs	$68,554							**$68,554**	$38,452	$0	**Duncan; Jason H.** - 10/2/19 - Invoice payments are up to date. Last paid invoices was for scanning the walls.
	F-0541-28 CF - BL016-18 DWR Central Facility Chiller Replacement project	$406,474							**$406,474**	$0	$399,774	**Hampton; Rich** - Construction scheduled to be complete 10/8/19.
	F-0541-27 CF - BL097-16 Central Facility Electrical System Replacements	$247,960							**$247,960**	$169,297	$247,960	**Hampton; Rich** - Received all materials necessary for construction on 8/9. Installation will require outages as follows: Saturday October 19th, Saturday October 26th , Saturday-Sunday November 2-3.
	F-0541-09 DWR Central Vehicle Wash	$915,703							**$915,703**	$443,267	$900,775	**Lovell; Anne** - 2019.09.03-DWR has requested an updated schedule to completion. The current schedule shows completion on 9/25. This date will not be met.
Planning	**F-0541-XX** Monument Construction	$31,098							**$31,098**	$0	$0	**Butts; Varessa** - 8/1 - added per Rebecca.
	F-0541-31 DWR Central Facility Building Modifications and Construction (placeholder)	$250,000	$725,000	$1,000,000	$3,000,000	$3,000,000			**$7,975,000**	$0	$0	**Roberts; Charlie** - 1/24/19 - meeting with Tyler took place. She would like to use on-call services to address the public bathrooms on a seperate project. For the major upgrade project, Tyler would like to utilize demand services to get PPI to do a buildingwide assessment of everyones needs and then create a phased approach to implementation. Jason will meet with Rich this week so a PM can be assigned to this project to run the assessment and the project bid and construction.
Pending	**F-0541-31** DWR Central Facility Repairs and Maintenance (Placeholder)	$250,000	$500,000	$500,000	$1,000,000	$1,500,000	$1,000,000	$1,000,000	**$5,750,000**	$0	$0	**Duncan; Jason H.** - New owner: Jason Duncan.
	F-0541- Water Resources Lab Expansion							$1,895,219	**$1,920,000**	$0	$0	**Funk; Denise** - May 1, 2019 - Project start date pushed to 2025.
	Total	**$3,848,348**	**$2,208,013**	**$1,683,818**	**$6,770,228**	**$6,921,868**	**$1,017,714**	**$2,895,219**	**$25,369,989**	**$1,164,094**	**$2,435,859**	