

Procurement Sensitive

APPENDIX B

Statement of Work for Management, Operations, and Maintenance Services

Statement of Work
for Management,
Operations, and
Maintenance
Services

FINAL

October 27, 2006



City of San Diego
Metropolitan Wastewater Department

Procurement Sensitive

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STATEMENT OF WORK
for
Management, Operations, and Maintenance Services
San Diego Metropolitan Wastewater Department (MWWD)

1. INTRODUCTION

The City of San Diego has determined that it is in the best interest of the City and its customers and users to undertake a Bid-to-Goal Reengineering process for providing the most efficient and effective wastewater services possible. In furtherance of this objective the City is developing this Statement of Work (SOW) for the implementation of the following scope of services:

Management, operation, and maintenance of the wastewater system (collectively, the “System”) including without limitation collection and treatment of wastewater, production of reclaimed water, transportation and disposal of sludge, implementation of industrial pretreatment programs, conducting an ocean monitoring and reporting program, and the support of certain capital repairs and replacements.

In developing this SOW, the City is seeking to accomplish certain financial and management objectives and to improve the overall efficiency and safe operation of the System. The City’s key objectives are as follows:

- Create a more efficient, less costly system while providing excellent service quality.
- Continue to provide high-quality, uninterrupted service to all System users.
- Manage, maintain, and operate the System in a safe and efficient manner in accordance with all applicable laws and regulations and in conformance with good industry practice.
- Preserve and protect the System.
- Promote System reliability and efficiency through state of the art predictive, preventive, and corrective maintenance practices.

This SOW covering the Management, Operations, and Maintenance Services provided by MWWD has been prepared to facilitate a Bid-to-Goal Reengineering process undertaken by MWWD and the City. The SOW will serve as the basis for preparation of a Private Market Proposal and, subsequently, Employee Group Bids as part of the reengineering process. This SOW applies to the existing system; future changes such as conversion to secondary treatment at Point Loma Wastewater Treatment Plant would require changes to the SOW.

The body of this SOW outlines the scope of services, the key aspects of the system, and the performance objectives and thresholds. Appendix A – Core Services identifies the level of service that historically has been provided by MWWD. Appendix B – Authorizing Documents List identifies the applicable law for the MWWD system. The Private Market Proposal and the Employee Bid have been developed to perform the SOW in accordance with applicable law and to meet the historical level of service that the City has received from MWWD.

1.1 SCOPE OF SERVICES

- A. Metropolitan Wastewater Department.** MWWD manages all of the resources needed to operate and maintain the City of San Diego's Municipal Sewerage System and the Metropolitan Sewerage System. The mission of MWWD is to "provide the public with a safe, efficient, and cost-effective regional sewer system as well as manage urban runoff to protect the environment, supplement our limited water supply, and meet regulatory standards." The Municipal Sewerage System is specific to the City and consists of all elements required for the collection and conveyance of wastewater generated within the City of San Diego. The Metropolitan Sewerage System treats the wastewater generated by the City of San Diego and 15 other cities and districts within a 450 square mile area with a population of more than 2 million. On a daily basis, MWWD treats approximately 180 million gallons of wastewater.
- B. Included Organizational Divisions.** For the purpose of this Statement of Work (SOW), the following MWWD Divisions are within the scope of services provided by the MWWD Business Process Reengineering (BPR) Team:
- (1) Operations and Maintenance Division;
 - (2) Wastewater Collection Division;
 - (3) Environmental Monitoring and Technical Services Division;
 - (4) Engineering and Program Management Division;
 - (5) Services and Contracts Division;
 - (6) Information and Organizational Support Division; and
 - (7) Department Administration and Management Division
- C. Excluded Organizational Divisions.** For the purpose of this SOW, the following MWWD Division is outside the scope of services provided by the MWWD BPR Team:
- (1) Storm Water Pollution Prevention Division.
- This division will be included in the Department-wide reengineering process, and its statement of work is being developed as a separate document. However, the Storm Water Pollution Prevention Division will not be included in the Bid-to-Goal process, so its statement of work is not included in this document. For reference only, the core services of the Storm Water Pollution Prevention Division are included in Appendix C.

2. DEFINITIONS

For purposes of this MOU, the following words and phrases shall have the following respective interpretations and meanings:

“Applicable Law(s)” means any federal, State, or local statute, law, municipal charter provision, regulation, ordinance, rule, mandate, judgment, order, decree, permit, code or license requirement or other governmental requirement, standard or restriction, or any interpretation or administration of any of the foregoing by any governmental authority, which applies to the services or obligations of either Party under this MOU, whether now or hereafter in effect.

“Asset Repair(s) or Replacement(s)” means a repair or replacement to the System that extends the life of the asset and is of a long-term character or effect, including a repair or replacement of

- (a) existing Equipment, collection and transmission assets, buildings, treatment and disposal facilities, reclaimed water treatment and distribution facilities, and residual solids treatment and disposal facilities on the System as of the Commencement Date,
- (b) new Equipment, collection and transmission assets, buildings, treatment and disposal facilities, reclaimed water treatment and distribution facilities, and residual solids treatment and disposal facilities that have been installed to the System as part of a Capital Project and have been accepted by the City, after the Commencement Date,
- (c) any Equipment, collection and transmission assets, buildings, treatment and disposal facilities, reclaimed water treatment and distribution facilities, and residual solids treatment and disposal facilities that have been repaired or replaced during the term of this MOU,

and any street, sidewalk, driveway, or other property damaged as a consequence or in connection with performance under (a), (b) or (c) above. However, an Asset Repair or Replacement shall not include

- (a) maintenance, of any character or form, to Equipment, distribution and transmission assets, buildings, and facilities,
- (b) repair or replacement of a privately-owned sewer lateral in the public right-of-way,
- (c) any Asset Repair or Replacement on System assets, including Equipment that is out-of-service due to the need for a Asset Repair or Replacement, until each asset (including each item of Equipment), on an item-by-item basis, is repaired or replaced and is returned to service,
- (d) any Asset Repair or Replacement
 - (1) undertaken or
 - (2) to be undertaken,

in either case, from the commencement of construction through completion of construction, that is by a Person other than MWWB BPR Team, pursuant to an existing and executed contract between such Person and the City for the then current term of such contract as of the Commencement Date, or

- (e) any separate and distinct Asset Repair or Replacement, from the commencement of construction through completion of such construction, undertaken by or through the City

pursuant to the Consent Decree. To the extent that an Asset Repair or Replacement may include or constitute an improvement or upgrade to the System as part and parcel of a Asset Repair and Replacement, any such improvement or upgrade shall be included within the definition of a Asset Repair or Replacement, unless such Asset Repair or Replacement arises solely as a result of a Change in Law. Asset Repairs and Replacements shall be an expense for purposes of the budget calculation unless they constitute a Capital Asset Repair or Replacement, or

- (f) any Catastrophic Breakdown, which is defined as an equipment or system failure, and consequential damage, that occurs in the event where the MWWD BPR Team has provided all required routine, preventive, predictive and corrective Maintenance, and the cost of the repair or replacement exceeds \$50,000, and any one of the following also occurs:
- (1) An entire system fails such that component replacement is impractical, or ineffective;
 - (2) Third party liability is involved;
 - (3) Any responsible agent outside the MWWD BPR Team requires a modification to enhance or improve safety;
 - (4) The failure occurs significantly earlier than the agreed upon useful life of the equipment;
 - (5) Like replacement is not practical due to unavailability, or obsolescence of the equipment;
 - (6) Funding for replacements is available from sources outside of MWWD or the City; or
 - (7) The failure is due to an Uncontrollable Circumstance.

“Budget” shall have the meaning specified in the MOU.

“Capital Asset Repair(s) or Replacement(s)” means an Asset Repair or Replacement, the cost of which is paid for by the Capital Improvement Program in accordance with this SOW and City Policy. Additionally, for purposes of this definition and calculation of the cost of any Asset Repair or Replacement, the criteria set forth in this definition shall be applied to any Asset Repair or Replacement which clearly and identifiably constitutes a single and discrete Asset Repair or Replacement and such Asset Repair or Replacement shall be treated as a distinct and separate Asset Repair or Replacement for purposes hereof, and there shall be no combining or aggregating of discrete Asset Repairs or Replacements for purposes of calculating such cost for purposes of this definition.

“Capital Project(s)” means a capital addition to the System which is of a long-term character or effect, such as land, buildings, collection and transmission system assets, treatment and disposal facilities such as secondary treatment facilities or an extended outfall at the Point Loma Wastewater Treatment Plant, reclaimed water treatment and distribution facilities, residual solids treatment and disposal facilities, and Equipment. A Capital Project shall not include

- (a) maintenance, of any character or form to or on the System,
- (b) Asset Repair(s) or Replacement(s), other than one occurring due to a Change in Law, and

- (c) any of the services provided by the MWWD BPR Team, except for the in-house design, management of design projects, construction administration, management of construction management contracts, and inspection services charged directly to a Capital Project.

“Change in Law” means the enactment, adoption, promulgation, modification, repeal, or change after the Contract Date of any Applicable Law which

- (a) necessitates or makes advisable a Capital Project,
- (b) modifies the MWWD BPR Team's guarantees under this MOU,
- (c) entitles the MWWD BPR Team to a potential increase in the Budget by establishing new requirements with respect to the operation or maintenance of the System, or
- (d) otherwise impacts the MWWD BPR Team or the City's ability to perform their obligations under this MOU which, in the case of (a), (b), (c) or (d), are more burdensome than the most stringent requirements:
 - (1) in effect on the Contract Date,
 - (2) agreed to by the City as of the Contract Date in
 - (A) any applications for official permits, licenses or approvals or
 - (B) the Consent Decree,relative to the System, other than any requirements set forth in said applications to comply with Applicable Laws, or
 - (3) in the SOW.

For purposes of this definition, no enactment, adoption, promulgation or modification of Applicable Laws shall be considered a Change in Law if, as of the Contract Date, such Applicable Law would have directly affected the performance of services, including the management, operation, and maintenance of the System by the City after the Contract Date if the City were performing the services, including the management, operation, and maintenance of the System, in the absence of this MOU and either such Applicable Law was

- (a) officially proposed by the responsible agency and promulgated in final form in the Federal Register or equivalent federal, State, or local publication and thereafter becomes effective without further action or
- (b) enacted into law or promulgated by the appropriate federal, State, or local body before the Contract Date, and
 - (1) the comment period with respect to which expired on or before the Contract Date and
 - (2) any required hearings concluded on or before the Contract Date in accordance with applicable administrative procedures and which thereafter becomes effective without further action.

In no event shall a change in any federal, State, or local tax law be considered a Change in Law. However, increases in sales taxes shall not be an expense for purposes of the Budget.

“City” means the City of San Diego, California, as governed and administered by the Mayor and City Council, and all of its relevant administrative, contracting, and regulatory agencies and offices.

“Commencement Date” means the date established as the initial date for services in accordance with this MOU.

“Consent Decree” means the Consent Decree entered into by the United States District Court, the City, and the State for alleged violations of the Clean Water Act and Clean Air Act.

“Contract Date” means the date of the execution of this MOU.

“EPA” means the United States Environmental Protection Agency and any successor.

“Equipment” means equipment, including operating and processing equipment, tools, computers, communication devices and assets, facsimile equipment and Rolling Stock, owned or leased by the City and in use as of the Commencement Date, or procured or provided on or after the Commencement Date by the MWWD BPR Team or the City pursuant to this MOU for use at or associated with the System.

“Maintenance Plan” means the document prepared annually by the MWWD BPR Team, and approved by the City, to establish the priority criteria, scheduling, service call response time, and maintenance frequencies for preventive maintenance, predictive maintenance, and corrective maintenance activities for providing System maintenance services by the MWWD BPR Team.

“MOU” means this Memorandum of Understanding between the MWWD BPR Team and the City governing the Management, Operation, and Maintenance Services provided by the MWWD BPR Team for the System.

“MWWD BPR Team” means the separate accounting entity of MWWD comprised of certain City employees.

“Operations and Maintenance Manuals” means the

- (a) City-supplied and
- (b) equipment-, supplier-, or vendor-supplied, operations and maintenance manuals.

“Person(s)” means any natural or artificial entity including an individual, corporation, limited liability company, partnership, joint venture, association, joint stock company, trust, unincorporated organization, or government or any agency or political subdivision thereof.

“QA/QC” means quality assurance and quality control.

“Residual Sludge(s)” means sludge resulting from the treatment of System wastewater or reclaimed water.

“Rolling Stock” means fleet Equipment made available for use by the MWWD BPR team.

“RWQCB” means the Regional Water Quality Control Board having jurisdiction over the System and any successor.

“State” means the State of California and all of its relevant administrative, contracting and regulatory agencies and offices.

“System” shall mean the complete set of assets owned by the City for the purpose of collecting, transporting, treating, and discharging wastewater, treating and supplying reclaimed water, and disposing of Residual Sludges, and all of the appurtenances. The limits of the System are defined in the Quantitative System Description.

“Uncontrollable Circumstance(s)” means any act, event, or condition that (a) prevents the MWWD BPR Team or the City from meeting or (b) materially increases the cost of performing, its obligations

under this MOU, if such act, event or condition is beyond the reasonable control of the Party asserting an Uncontrollable Circumstance as justification for not meeting or performing such obligations; provided, however, with respect to the MWWD BPR Team's obligations, such act, event or condition is not the result of the MWWD BPR Team's failure to operate and maintain the System in accordance with the terms and conditions of this MOU.

- (a) Subject to the immediately preceding paragraph of this definition, the following acts, events, or conditions may qualify as an Uncontrollable Circumstance:
- (1) an Act of God (except normal weather conditions for the geographic area of the City), Qualifying Flood, hurricane, tornado, epidemic, severe earthquake, catastrophic fire or explosion, act of a public enemy, war, blockade, insurrection, riot, general unrest, restraint of government and people, civil disturbance, sabotage, or similar occurrence;
 - (2) the order, injunction, or judgment of any federal, State, or local court, administrative agency, or governmental body or office with jurisdiction over the City or of the City acting in its governmental capacity, including any exercise of the power of eminent domain, police power, condemnation, or other taking by or on behalf of any public, quasi-public, or private entity; provided, however, that such order, injunction, or judgment did not arise in connection with or is related to the negligent or wrongful action or inaction of the Party relying thereon and that neither the contesting in good faith of any such order, injunction, or judgment nor the reasonable failure to so contest shall constitute or be construed as a wrongful or negligent action or inaction of such Party;
 - (3) the suspension, termination, interruption, denial, failure to issue, modification, or failure of renewal of any permit, license, consent, authorization, or approval necessary to the operation and maintenance (including sludge disposal) of the System, provided that such act or event did not arise in connection with or is not related to the negligent or willful action or inaction of the Party asserting an Uncontrollable Circumstance, provided, however, that neither the contesting in good faith of any such order nor the reasonable failure to so contest shall be construed as a negligent or willful action or inaction of such Party;
 - (4) a Change in Law;
 - (5) the loss or inability to obtain any and all utility services, necessary for the operation and maintenance of the System directly resulting in a partial or total curtailment of operations at the System for reasons other than the negligent, willful, or wrongful action or inaction of the MWWD BPR Team; and
 - (6) the failure of any subcontractor or supplier to furnish services, materials, chemicals, utility services, or Equipment on the dates agreed to; provided
 - (A) such failure is the result of a Force Majeure,
 - (B) such failure materially and adversely affects the MWWD BPR Team's ability to perform its obligations, and
 - (C) the MWWD BPR Team is not able reasonably to obtain substitute services, material, chemicals, utility services, or Equipment on the agreed upon dates.
- (b) An Uncontrollable Circumstance shall not include:

- (1) any act, event, or condition which is caused by the negligence, error, omission, or intentional action of the MWWD BPR Team, any of its subcontractors or suppliers, any of their affiliates, or any other Person relative to the management, operation, or maintenance of the System or the performance of any obligation under this MOU, or the City, its subcontractors, agents, and employees;
- (2) any event, reasonably foreseeable on the Contract Date, which a diligent Party could reasonably have been expected to
 - (A) take into account on the Contract Date, and
 - (B) prevent or adequately protect against using commercially reasonable efforts;
- (3) economic infeasibility, general economic conditions, interests or inflation rates, or currency fluctuations or exchange rates;
- (4) any labor strike, work stoppage, or work slowdown on the part of the MWWD BPR Team's employees, unless the MWWD BPR Team demonstrates that such action was due to the action of persons or organizations outside MWWD;
- (5) changes in the financial condition of the City, the MWWD BPR Team, or any subcontractor or supplier to the MWWD BPR Team affecting the ability to perform their respective obligations;
- (7) union or labor work rules, requirements, or demands which have the effect of increasing the number of employees employed or otherwise increasing the cost to the MWWD BPR Team of managing, operating, and maintaining the System;
- (7) Equipment failure except when due to acts or events specifically enumerated herein as an Uncontrollable Circumstance;
- (8) Non-Standard Equipment failure except when due to
 - (A) acts or events specifically enumerated herein as Uncontrollable Circumstances, or
 - (B) acts or omissions of the City relative to its failure to meet its obligations;
- (9) any impact of prevailing wage or similar law, customs, or practices on the MWWD BPR Team's management, operation, maintenance, and Asset Repair or Replacement costs;
- (10) any act, event, circumstance, or Change in Law occurring outside of the United States; and
- (11) any Change in Law regarding the quality, condition, or disposal of treated water, wastewater, or sludge, the terms and conditions of which do not impose more stringent or burdensome requirements on the System or the MWWD BPR Team than are imposed on the System or the MWWD BPR Team by this MOU at the time of such asserted Change in Law.

“Wastewater Base Demand Range” means the volume of wastewater treated as described in the Quantitative System Definition.

3. MANAGEMENT, OPERATIONS, AND MAINTENANCE SERVICES

3.1 OVERALL RESPONSIBILITIES

A. The MWWD BPR Team through the term of the Memorandum of Understanding (“MOU”) except as otherwise expressly stated herein will:

- (1) in a cost-effective, safe, and business-like manner, provide uninterrupted management, operation, and maintenance of the System in accordance with this SOW;
- (2) provide qualified management personnel and supervision of personnel operating the System in accordance with this SOW;
- (3) plan, design or cause to be designed, procure, and manage Capital Projects and Asset Repairs or Replacements, except as provided by the City;
- (4) procure and manage all necessary materials, supplies, chemicals, fuel, equipment, and utility services, except as provided by the City;
- (5) collect, treat, process, and dispose of wastewater; treat, process, and dispose of residual sludges; and treat and supply reclaimed water; all in compliance with the more stringent of
 - (A) all Applicable Laws; or
 - (B) the standards, procedures or guarantees set forth in this SOW;

provided, however, the MWWD BPR Team shall be relieved from such requirements to the extent that

 - (C)
 - (i) it exercises all reasonable management, operation, and maintenance efforts, within the confines of the treatment and operational capability of the System, to meet the requirements of this paragraph (5), and
 - (ii) a necessary Capital Asset Repair or Replacement, not due to MWWD BPR Team fault, must be procured, installed, and made operational to provide the MWWD BPR Team with treatment and operational capability; or
 - (D)
 - (i) an Uncontrollable Circumstance, inclusive of an emergency if it otherwise qualifies as an Uncontrollable Circumstance, occurs preventing the MWWD BPR Team from meeting the requirements of this paragraph (5), and
 - (ii) the MWWD BPR Team complies with its obligations specified for dealing with an Uncontrollable Circumstance;
- (6) in an amount up to and including
 - (A) the current capacity of the System; or
 - (B) that capacity of the System as modified by the completion of planned Capital Projects,

- (i) treat, process, and supply such volume of reclaimed water; treat and dispose of such volume of wastewater, and treat, process, transport, and dispose of such volume of Residual Sludge; all in accordance with this SOW, and in a manner as will meet the demands of the City's customers. The MWWD BPR Team shall, at all times, implement and optimize the ability of the System to reduce wastewater effluent pollution discharges and shall not, at any time, intentionally reduce the level of wastewater treatment through bypasses of any portion of the System or reduce the level of wastewater treatment;
 - (ii) manage, operate, and maintain the System at all times in a manner to reduce odors to the maximum design removal efficiency through operation of odor reduction Equipment, in conformance with Applicable Law or other requirements;
 - (iii) to the extent practical, minimize noise levels and any other adverse impact on communities contiguous to any component of the System;
- (7) generate, file, store, provide, and deliver in a timely manner to all governmental regulatory and permitting agencies having appropriate jurisdiction over the System, all information, notices and reports, as may be required of the MWWD BPR Team pursuant to Applicable Laws and this SOW;
- (8) generate, file, provide, and deliver to the City, in form and substance consistent with all Applicable Laws and this SOW, all information, notices, and reports, including sampling and testing results, as the City may be required to generate, file, store, and provide to all governmental regulatory, enforcement, and permitting agencies having appropriate jurisdiction over the operation and maintenance of the System,
 - (A) by Applicable Laws,
 - (B) by the City,
 - (C) by any court having appropriate jurisdiction,
 - (D) by this SOW and
 - (E) by the MWWD BPR Team;in each case, as expeditiously as possible after the requisite information is made or could be made available to the MWWD BPR Team, but in no event later than the earlier to occur of
 - (F) the date specified in this SOW or
 - (G) that which may be necessary or reasonably required by the City under the circumstances to enable the City to make all appropriate filings, deliver all appropriate reports, or give all appropriate notices in a timely manner in conformance with Applicable Law or other requirement;
- (9) provide meter reading, repair, and replacement services for participating agencies;
- (10) provide customer billing and collection services for participating agencies;

- (11) manage, operate, and maintain System laboratories and maintain State water quality laboratory certifications, so certified as of the MOU Date, and perform laboratory testing, sampling, and other analytical procedures as required by the more stringent of Applicable Laws or this SOW;
- (12) manage, operate, and maintain a program to sample, monitor, test, and document any water quality impact caused by the treated wastewater effluent into the ocean from the South Bay Ocean Outfall and the Point Loma Ocean Outfall, in conformance with Applicable Law or other requirement;
- (13) manage, operate, and maintain a biosolids testing and monitoring program, in conformance with Applicable Law or other requirement;
- (14) manage, operate, and maintain a tertiary treatment program and coordinate production of recycled water with the City Water Department, in conformance with Applicable Law or other requirement;
- (15) administer all MWWD contracts in force at the signing of this MOU and as necessary to comply with this SOW;
- (16) apply for, secure, and maintain all permits and licenses applicable to the MWWD BPR Team as manager and operator of the System, including all necessary or appropriate authorizations or approvals to perform such obligations, under this SOW;
- (17) in the case of any activity, problem, event, or circumstance concerning the System that threatens or may threaten the public health, safety, or welfare (such as a sewer overflow or major equipment failure),
 - (A) immediately, but in no event later than the earlier to occur of
 - (i) the applicable requirements of this SOW,
 - (ii) the current City emergency plan requirements,
 - (iii) two (2) hours after the occurrence of such event or circumstance, or
 - (iv) the expiration of the period required by Applicable Law,notify the City and, to the extent required by Applicable Law, the RWQCB, the EPA, and any other agency having appropriate jurisdiction over the matter, of the occurrence or existence of such event or circumstance and provide the City all information regarding such matter as it becomes available and
 - (B) immediately, but in no event later than that period of time prescribed,
 - (i) take all necessary and appropriate corrective and mitigative actions required by Applicable Law,
 - (ii) implement the current City emergency plan, to the extent it is applicable to the situation,
 - (iii) respond and implement the activities required by this SOW, to the extent applicable to the situation, and

- (iv) implement Asset Repairs or Replacements, Capital Asset Repairs or Replacements or emergency repairs;
- (18) provide information to the City for preparation of annual audited financial statements of the MWWD BPR Team's costs and revenues under this SOW after the end of each Fiscal Year and allow the City to audit such statements at any time and fully cooperate with the City regarding such audits;
- (19) operate the System in such a manner so as to reduce, to the maximum extent reasonably possible, the cost to the System relative to the use and demand for energy and the transportation and distribution of energy;
- (20) assist the City in responding to and, upon the request of the City, respond to, various external requests, including:
 - (A) Regional, State and Federal grant audits and information requests;
 - (B) State and local government audits;
 - (C) audits by independent public accountants;
 - (D) information requests by users or groups of users of the System;
 - (E) information requests from communities or groups of communities serviced by the System;
 - (F) information required for the annual financial audit of the City and financial representation letter;
 - (G) State open records law requests; and
 - (H) performance of annual audit of Exhibit E;
- (21) provide support to the City in connection with its long and short term planning and implementation of Capital Projects. The MWWD BPR Team, upon the City's request and subject to the limitations specified in (I) below, shall provide the following services:
 - (A) inspect and report on the condition of existing City facilities;
 - (B) plan, coordinate, and recommend projects for the City's Capital Project program for the System;
 - (C) design, or cause to be designed, conduct procurement processes, coordinate and recommend contract award, and conduct construction administration and inspection for City's Capital Project program.

NOTE: As part of the City-wide reorganization of engineering services, the MWWD BPR Team may participate in design review for capital projects.
 - (D) make available to the City members of the MWWD BPR Team's QA/QC team and technical support group;
 - (E) suggest, where applicable, solutions which may avoid the need for Capital Projects;
 - (F) implement operational improvements that optimize the economy of the City's operations;

- (G) make available to the City the full expertise and capabilities of the MWWD BPR Team regarding wastewater collection, treatment, and disposal; reclaimed water treatment and supply; and the treatment, processing, transportation, and disposal of Residual Sludge relative to the system;
- (H) perform business case evaluations for new projects; and
- (I) the services listed in (A) through (G) above can be offered within the reasonable capabilities of the MWWD BPR Team's staff and will be provided to the City at or below the cost stipulated by the MOU. The cost for outside design consultants, or in-house design, construction administration, and inspection services, shall be considered a Capital Asset Repair or Replacement, or Capital Project for Budget calculation purposes.

NOTE: The City-wide BPR program is currently evaluating Capital Project planning and delivery; this process may affect the services required in this SOW.

- (22) in accordance with such protocols as may be established by the City in consultation with the MWWD BPR Team,
 - (A) conduct field activities, including engineering support, as necessary for the management, operation, and maintenance of the System, maintenance and upgrading of maps of the System to show valves, pipes, manholes, meters, and other facilities of the System and to reflect deviations noted in the field,
 - (B) provide engineering, surveying, mapping, and drafting services necessary to support
 - (i) operations,
 - (ii) operational troubleshooting,
 - (iii) maintenance, and
 - (iv) Asset Repairs or Replacements and Capital Projects implemented by the MWWD BPR Team pursuant to and in accordance with this Agreement,
 - (C) prepare and provide the City with a copy of record (as-built) drawings for new Equipment, Asset Repairs or Replacements and Capital Projects installed;
 - (D) provide engineering support services as reasonably necessary to coordinate the operation and maintenance of the System with Capital Asset Repairs or Replacements and Capital Projects performed by or through the City; and
 - (E) participate in value engineering and all pre-construction meetings and monthly coordination meetings with the City's staff, consultants, or contractors involved in Capital Projects;

- (23) maintain ISO 14001 certification for the programs currently certified (wastewater collection, operation and maintenance of treatment facilities, and environmental monitoring and technical services);
- (24) in accordance with such protocols as may be established by the City in consultation with the MWW D BPR Team,
 - (A) establish and implement an effective QA/QC program with respect to the System designed to assure accuracy and precision of wastewater and reclaimed water sampling, laboratory testing, treatment, and disposal, which program shall include the use of RWQCB, EPA, or other approved protocols,
 - (B) participate in the performance evaluation surveys of the RWQCB, EPA, or applicable governmental agencies, and
 - (C) furnish to the City a copy of such QA/QC program, and promptly forward to the City any amendment thereto;
- (25) assist the City in obtaining and maintaining all applicable federal, State, and local certifications, licenses, and permits as may be required of the City for the operation and maintenance of the System, including
 - (A) collection and presentation of operational data to support information needs,
 - (B) maintenance and continuance of historical record-keeping activities required to establish and document the impact of existing operational activities,
 - (C) attendance at such meetings and hearings as may be reasonably requested by the City,
 - (D) timely preparation, as a matter of routine and prudent business practice, of written analyses and recommendations (with copies thereof to the City) regarding
 - (i) proposed legislation and regulations which may impact the costs of operating and maintaining the System or maintaining continued regulatory compliance, and
 - (ii) pre-proposed and proposed draft federal, State, and local regulatory initiatives otherwise affecting the System,
 - (E) preparation of analyses and projections of the capability of unit processes to meet projected production rates,
 - (F) sharing such information and insight on compliance and regulatory issues addressed by other projects and communities as may become available to the MWW D BPR Team in the normal course of its activities,
 - (G) written evaluation and suggestions regarding existing policies of the City to enhance operation and maintenance and environmental compliance,
 - (H) input into regulatory review processes,
 - (I) assistance to the City with respect to changes and modifications to legislation or regulations, and

- (J) maintenance of a continual inventory of Real Estate and ensure it is put to economic use;
- provided, however, the MWWD BPR Team shall not influence, attempt to influence or cause any other Person to influence any legislative or administrative actions, relating directly or indirectly to this SOW or the System, without the prior written approval of the City;
- (26) in accordance with such protocols as may be established by the City in consultation with the MWWD BPR Team,
- (A) establish, actively pursue, and maintain business-like, responsible, and responsive working relationships with the officials and representatives of the City and all other appropriate governmental regulatory, enforcement, and permitting agencies with whom the City and the MWWD BPR Team have dealings regarding the System or this SOW;
- (B) prior to initiating any contact and pursuing dialog with appropriate governmental, regulatory, enforcement, and permitting agencies regarding any Consent Decree, meet with and coordinate such activities with the City and, in conjunction with the City, develop protocols for MWWD BPR Team contact, meetings, and dialog with such agencies as may be established and directed by the City;
- (C) at least once each month, cause appropriate representatives of the MWWD BPR Team to meet with the City's Authorized Representative, City staff, and consultants to review operations, reports, ongoing cost information, and other data and information relating to the obligations of the MWWD BPR Team under this SOW; and
- (D) coordinate and conduct meetings with City staff and consultants and neighboring jurisdictions, as reasonably directed by the City;
- (27) maintain on behalf of the City all manufacturer's warranties on new Equipment purchased pursuant to this SOW, and fully cooperate and assist the City to enforce existing and future Equipment warranties and guarantees regarding any aspect of the System;
- (28) use all reasonable efforts to minimize service disruptions, neighborhood impacts, and other inconveniences due to the management, operation, maintenance, repair, and replacement activities;
- (29) promptly provide System location information and data concerning the same as may be required by the City and the City's construction contractors and subcontractors from time to time;
- (30) manage, administer, and monitor in accordance with requirements of Applicable Laws, the MWWD pretreatment program and all indirect discharge permits and authorizations relative to the System;
- (31) coordinate with participating agencies to provide information so they can enforce the MWWD pretreatment program in their service areas;
- (32) manage, operate, and maintain the MWWD Fats, Oils, and Grease (FOG) control program; and

- (33) perform such obligations and provide such services relative to the System as otherwise set forth in this SOW.

B. City. During the term of this MOU, the City shall:

- (1) procure, provide, and implement, or cause to be procured, provided, and implemented, in any event, in accordance with Applicable Law, such Capital Projects and Capital Asset Repairs or Replacements, except as otherwise provided in this Agreement, as the City, in its sole discretion, deems necessary or appropriate;
- (2) provide for MWWD BPR Team access to and use of the System;
- (3) with the cooperation and assistance of the MWWD BPR Team, maintain and keep in force all warranties, easements, licenses, and permits applicable to the City as the owner of the System or otherwise required of the City for the MWWD BPR Team to perform its obligations under this Agreement including licenses for vehicles and other applicable Rolling Stock for which licenses are required. The MWWD BPR Team shall maintain the operational level of said Rolling Stock and Replacement Rolling Stock such that applicable State and local vehicle inspection requirements will be met and continually attained, except to the extent any such vehicle is under manufacturer's or dealer's warranty requiring such manufacturer or dealer to so maintain;
- (4) make available to the MWWD BPR Team all historical information relating to the System in possession of the City, including, without limitation, Equipment warranty information, engineering drawings, calculations, maintenance manuals, operational records, logs, reports, submittals, repair records, audits, and water and wastewater treatment and biosolids treatment and disposal information which may be in the City's possession, relating to the design, condition, management, operation, or maintenance of the System;
- (5) make available for use and consumption all Equipment, chemicals, materials, supplies, spare parts and other items in inventory relative to the System;
- (6) be solely responsible for real property acquisitions relative to the System;
- (7) enforce the MWWD pretreatment program and all indirect discharge permits and authorizations relative to the System for municipal customers within the City; and
- (8) continue to retain those responsibilities and obligations expressly specified in this Agreement.

3.2 SAFETY AND SECURITY OF PERSONS AND PROPERTY

A. The MWWD BPR Team shall manage, operate, and maintain the System to:

- (1) take all reasonable precautions, including security measures which meet or exceed the current security practices of the City, to prevent damage, injury, or loss to the System and property adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, Equipment, structures, and utilities;
- (2) establish and maintain safety procedures for the System for the protection of employees and all other Persons, including invitees and permittees to the System,

at a level consistent with Applicable Law and in accordance with good management and operating and maintenance standards, procedures, and practices for municipal systems;

- (3) comply with all Applicable Laws that relate to the safety of Persons or property with respect to the System and its/their protection from damage, injury, or loss;
- (4) designate a qualified and responsible representative of the MWWD BPR Team whose duties shall include safety and the prevention of fires and accidents and to coordinate such activities as shall be necessary with federal, State, City, and other local officials;
- (5) develop and implement a safety program that, among other things, provides for the identification of all hazardous conditions in the System; and
- (6) develop a site-specific multipoint safety program including the development and implementation of a health and safety manual, the preparation and posting of signs, banners, and posters in the workplace, the conduct of appropriate employee training and the formation of a safety committee to encourage employee interest and involvement in safety matters, the development of appropriate safety forms and checklists for use by employees, and, where appropriate, the implementation of changes in procedures and the recommendation of safety-related Capital Projects.

- B. The MWWD BPR Team's safety and security obligations under this SOW shall not extend to the areas within the sites of the System to the extent the City has contracted such services and obligations to a Person other than the MWWD BPR Team. The MWWD BPR Team shall manage, operate, and maintain safety and security over the remainder of the System.

3.3 EQUIPMENT, CHEMICALS, MATERIALS AND SUPPLIES

- A. The MWWD BPR Team shall operate and maintain the Equipment in accordance with this SOW.
- B. The MWWD BPR Team understands and agrees that its obligations under this SOW are based on, among other factors, its management, operation, and maintenance of the System on an "as is" basis, including the current state of repair and maintenance of the System.
- C. In regards to equipment,
- (1) The MWWD BPR Team shall not use Equipment, spare parts, materials, supplies, and chemicals other than for the System.
 - (2) Equipment that is replaced by the MWWD BPR Team or is no longer used and useful under this SOW shall be disposed of in accordance with City procedures.
 - (3) The MWWD BPR Team shall manage, operate, and maintain the inventory of equipment, chemicals, materials, and supplies so that at all times the System maintains or has immediate access to an inventory of spare parts adequate to complete provisional emergency repairs of breakdowns or failures of the System.

3.4 OPERATIONS

- A. The MWWD BPR Team shall manage, operate, and maintain the System in compliance with this SOW.
- B. To facilitate and clarify operating procedures and techniques with respect to the System, the MWWD BPR Team shall maintain and, as necessary, revise from time to time operation and maintenance manuals and written standard operating and maintenance procedures to clarify, refine, or supplement procedures provided in such operation and maintenance manuals, or to describe operational practices which do not conform with such manuals.
- C. If the MWWD BPR Team fails to meet its management, operation, and maintenance obligations specified in this SOW, but meets or demonstrates compliance with any of the qualifications for relief specified in this SOW, fines or civil penalties imposed by any federal, State, or local court or governmental regulatory, enforcement, or permitting agency having competent jurisdiction shall not be treated as an expense for purposes of the Budget calculation; provided, however, if the failure to meet such requirements is due to
- (1) an operation or maintenance negligent act or omission by the MWWD BPR Team,
 - (2) willful or wrongful action or inaction by the MWWD BPR Team, or
 - (3) the MWWD BPR Team's failure to meet or demonstrate its compliance with the proviso above,
- the Budget calculation shall included as an expense any such fine, civil penalty, or damage as a consequence of such failure.
- D. If the City procures, provides, or implements a Capital Asset Repair or Replacement, the MWWD BPR Team shall fully cooperate with the City, its employees, agents, consultants, and contractors to facilitate and to give required notices in a timely and efficient manner. The Parties recognize and agree that they must coordinate their activities such that the activities can be accomplished in an efficient and timely manner while permitting the MWWD BPR Team the ability to comply with its obligations under this SOW.
- E. All Asset Repairs or Replacements and any Capital Project shall be managed, operated, and maintained, in accordance with industry and City standards and this SOW. The MWWD BPR Team shall not use land, buildings, and facilities on the System other than for the System, unless the City gives its prior written approval for other use.
- F. With respect to the laboratory requirements, the MWWD BPR Team shall perform testing, sampling, and other analytical procedures consistent with all Applicable Laws relative to the System. The MWWD BPR Team shall perform collection of samples pursuant to this SOW, and testing shall be performed at the laboratories on the System. If the laboratories on the System cannot perform a test, the test shall be performed by a legally certified laboratory. The City may perform any testing, sampling, and analytical procedure activities relative to the System it deems necessary and the costs shall not be an expense for purposes of the Budget calculation. The MWWD BPR Team shall manage, operate, and maintain the laboratories on the System and the performance of

tests as necessary and provide the City with the data from such tests in accordance with the requirements of this SOW.

- G. The MWWD BPR Team shall manage, operate, and maintain and use the System's Metro Biosolids Center for the treatment of Residual Sludge and load onto vehicles, transport, and dispose of Residual Sludge from such facility. The MWWD BPR Team shall insure adequate sites for use of the System for disposal of Residual Sludge.

3.5 SYSTEM MAINTENANCE

- A. The MWWD BPR Team shall, in accordance with this SOW:

- (1) except for the City's responsibility for

- (A) Capital Projects, and
- (B) Capital Asset Repairs and Replacements,

provide all corrective, preventive, and routine maintenance and repair or replacement of the System, including any street, sidewalk, driveway, or other property damaged or otherwise adversely impacted as a result of the act, event, or condition giving rise to or in connection with the System operations, such that the equipment shall be maintained in accordance with Applicable Law and at a level adequate for the efficient, long-term reliability and preservation of the capital investment, including maintaining all transport, collection, and delivery systems and meter systems in a serviceable condition maximizing their life and functional purpose.

- (2) provide all preventive, corrective, and routine maintenance and repair relative to the System, including particularly the Equipment in accordance with the most stringent of Applicable Laws, Operations and Maintenance Manuals, and generally accepted or recommended industry maintenance practices, procedures, and standards for municipal wastewater, Residual Sludge treatment and disposal, and reclaimed water treatment and supply. The MWWD BPR Team shall maintain up-to-date Operation and Maintenance Manuals and written standard operating and maintenance procedures for the System (including such updating as may be required in order to clarify, refine, or supplement procedures provided in such Operation and Maintenance Manuals); The MWWD BPR Team shall promptly revise the Operation and Maintenance Manuals (including standard operating and maintenance procedures)

- (A) to update such Operation and Maintenance Manuals as new data or information necessitates such updates, or
- (B) to reflect the MWWD BPR Team's approach or method of managing the System;

The MWWD BPR Team shall manage, operate, and maintain a level of service to assure existing redundant Equipment be maintained to remain available for operation at all times;

- (3) maintain all manufacturer's warranties on new Equipment purchased pursuant to this SOW, and fully cooperate and assist the City to enforce existing Equipment warranties and guaranties relative to the System; and

- (4) comply with reasonable testing requirements issued by the City from time to time regarding maintenance.
- B. Computerized Maintenance Management Systems:
 - (1) The MWWD BPR Team shall use and employ the computerized maintenance management systems currently used and employed. The MWWD BPR Team shall be capable of and shall perform, in a timely fashion, the following functions with respect to the System:
 - (A) track, record, and describe maintenance and repairs performed and all Capital Repairs and Replacements implemented;
 - (B) establish and schedule a preventive and routine maintenance program;
 - (C) establish a program to monitor for maintenance needs and to schedule corrective maintenance;
 - (D) maintain and continuously update a spare parts inventory;
 - (E) establish, maintain, and update schedules prioritizing necessary and appropriate repairs;
 - (F) provide adequate information for System operational and budget planning;
 - (G) provide status reports in order to efficiently permit the City to monitor compliance by the MWWD BPR Team with this SOW;
 - (H) provide the City access at a reasonable number of access points or work stations in the offices of the City and at any time to the computerized operation and maintenance management program and the system and data supporting the same, if requested; and
 - (I) update record (as-built) drawings on the System with information relative to repairs and replacements on the System;
 - (2) All costs of computer hardware and software and license fees for computer hardware and software provided by the MWWD BPR Team and license fees on City-provided items utilized by the MWWD BPR Team shall not be an expense for purposes of the Budget calculation. Costs for system upgrades and data migration to new systems shall not be an expense for purposes of the Budget calculation.

3.6 CAPITAL PROJECTS, REPAIRS, AND REPLACEMENTS

Subject to results of City-wide Business Process Reengineering Process

- A. The MWWD BPR Team shall perform engineering analysis, procurement, implementation, inspection, construction management, and testing, in accordance with City requirements regarding Capital Asset Repairs, and Replacements and Capital Projects. The MWWD BPR Team shall provide the City with written notice of any proposed Capital Asset Repair or Replacement or any Capital Project as soon as possible under the circumstances after becoming aware of the need for such repair or replacement. Said notice shall include, at a minimum, a detailed description of

- (1) the materials, parts, and supplies that would be involved in the implementation of said project, repair, or replacement and the MWWD BPR Team's best good faith estimate of the cost thereof, and
 - (2) the type and proposed source of any labor that would be involved in the implementation of said project, repair, or replacement, the method that would be used to charge for same, and the estimated cost thereof.
- B. The MWWD BPR Team, in the case of an emergency, such as a force main break or similar circumstance regarding the System, and despite the fact that the Asset Repair or Replacement of the same may be determined at the time of the emergency or thereafter to be a Capital Asset Repair or Replacement shall respond to such emergency within the timeframe required under this SOW and with all due dispatch on an uninterrupted basis correct and cure such situation until such time as
- (1) the situation is corrected, cured, and completed, or
 - (2) the City directs that the situation be addressed in an alternative manner, by the MWWD BPR Team, the City or other third Person, as determined by the City in its sole discretion.
- C. In any such case, the cost of such Capital Asset Repair or Replacement paid to consultants, Equipment vendors, or construction contractors shall not be an expense for purposes of the Budget calculation.

3.7 OUT-OF-SYSTEM SERVICES; PHYSICAL CHANGES TO SYSTEM

- A. The MWWD BPR Team shall manage, operate, and maintain the System to:
- (1) not intake, receive, accept, treat, process, supply, distribute, transmit, sell, transfer, dispose of, or otherwise deal in any manner with any wastewater or sludge generated outside of the sources described as part of the System, unless otherwise directed by the City in accordance with paragraph (2) below;
 - (2) intake, receive, accept, treat, process, supply, distribute, transmit, and dispose of treated reclaimed water and/or wastewater and sludge referenced in paragraph (1) above up to the design capacity of the System, unless and to the extent the MWWD BPR Team reasonably demonstrates that due to the chemical characteristics of, as applicable, such reclaimed water, wastewater, and sludge, will
 - (A) materially adversely affect the operations and maintenance of the System or
 - (B) the System will be prevented from meeting the applicable requirements this SOW; and
 - (3) not intake, receive, accept, treat, process, supply, sell, transfer, distribute, transmit, dispose of, or otherwise deal with reclaimed water, wastewater, Residual Sludge, or sludge on the System or any component thereof, for any purpose except as expressly
 - (A) recognized under this Agreement or
 - (B) authorized by the City in its sole discretion.

- B. The Parties understand and agree that there will be Asset Repairs or Replacements and Capital Projects to the System. When each Asset Repair or Replacement or Capital Project, as applicable, is substantially complete or demonstrates its capability to function or operate in accordance with its intended purpose (e.g., demonstrated compliance with Applicable Laws in terms of treatment), each such Asset Repair or Replacement or Capital Project shall, thereafter,
- (1) be part of the System and
 - (2) the MWWD BPR Team shall be obligated to manage, operate, and maintain the same in accordance with the requirements of this SOW.

3.8 UNCONTROLLABLE CIRCUMSTANCE; MWWD BPR TEAM FAULT

- A. If either Party claims the occurrence of an Uncontrollable Circumstance as a basis for not performing its obligations under this SOW, then the Party making such claim shall
- (1) provide prompt notice to the other Party of the occurrence of the Uncontrollable Circumstance;
 - (2) provide an estimate of its expected duration;
 - (3) describe its probable effect on the performance of its obligations hereunder;
 - (4) exercise all reasonable efforts to continue to perform its obligations hereunder;
 - (5) in accordance with this SOW, expeditiously take action to correct or cure the Uncontrollable Circumstance, including, as applicable, the prompt undertaking of a Asset Repair or Replacement;
 - (6) exercise all feasible efforts to mitigate or limit damages to the other Party; and
 - (7) provide prompt notice to the other Party of the cessation of the Uncontrollable Circumstance which gave rise to its inability to perform.
- B. Any Asset Repair or Replacement and/or the correction and cure of any damage to the System that
- (1) arises due to the negligence or other fault of the MWWD BPR Team contractor or subcontractor at any tier to the MWWD BPR Team who has performed, is performing, or is contracted to perform management, operation, and maintenance services relative to the System or
 - (2) results from an act, omission, event, or circumstance the occurrence of which is due to MWWD BPR Team fault shall be an expense for purposes of calculating the Budget pursuant to this SOW.

4. QUANTIFIABLE SYSTEM DEFINITION

4.1 ASSUMED INFLUENT CONDITIONS

The wastewater characteristics used as the basis for the Budget proposal for the MWWD BPR Team are documented in the following reports. Changes in these wastewater characteristics impacting the costs for providing the services are grounds for renegotiation of the Budget for providing the services in accordance with this MOU.

- (1) *Annual Receiving Waters Monitoring Report for the Point Loma Ocean Outfall, 2005*
- (2) *Annual Receiving Waters Monitoring Report for the South Bay Ocean Outfall (South Bay Water Reclamation Plant), 2005*
- (3) *Annual Receiving Waters Monitoring Report for the South Bay Ocean Outfall (International Wastewater Treatment Plant), 2005*
- (4) *North City Water Reclamation Plant Influent Monitoring Data*

4.2 SYSTEM DEFINITION

The Quantifiable System Definition on the following table lists key aspects of the System for which the services provided in accordance with this SOW are to be provided. This table does not fully define the components of the System in detail. The actual “as-built” records on the Commencement Date are the authoritative definition of the System. The Projections section of the table presents the projections used to develop the Budgets for the services of the MWWD BPR Team in conjunction to the System. Changes in these projections are grounds for renegotiation of the Budget for providing the services in accordance with this MOU.

Statement of Work

Quantifiable System Definition										
System Component	Notes	Unit	Actual		Projection					
			FY 2005	FY 2006	FY2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Member Agencies (including City of San Diego)	9	Each	16	16	16	16	16	16	16	16
Municipal Customers (City of San Diego population served)	9	Each	1,263,950 (est.)	1,278,193 (est.)	1,287,623	1,297,028	1,306,412	1,315,838	1,327,837	1,342,375
Total Customers (Metro Population)		Each	2,075,571 (est.)	2,103,075 (est.)	2,125,205	2,147,334	2,169,464	2,191,593	2,214,320	2,237,643
Point Loma WWTP (Advanced Primary) (a, b, c)	12									
Capacity	1	mgd	240	240	240	240	240	240	240	240
Average Annual Flow (d)	2	mgd	185.2	172.9	183.4	185.2	187.3	188.3	189.4	190.5
Point Loma Gas Utilization Facility										
Electrical Production Capacity	10	kW	7,120	7,120	7,120	5,920	5,920	5,920	5,920	5,920
Annual Electrical Production	11	kWh	37,597,086	37,300,389	37,250,000	36,959,500	36,669,500	36,378,500	36,088,000	35,797,500
Digester Gas Engines		2	2	2	2	2	2	2	2	2
Energy Generator Peak Generator Unit		1	1	1	1	0.5	0	0	0	0
Hydro Unit		1	1	1	1	1	1	1	1	1
North City WRP (a, c)										
Capacity	1	mgd	30	30	30	30	30	30	30	30
Average Annual Influent Flow	2	mgd	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Average Annual Reclaimed Water Supplied		mgd	2.2	3.6	5.9	6.2	6.1	7.1	7.4	8.3
EDR System (1.1 mgd)		unit	5	5	5	5	5	5	5	5
Privatized landfill gas facility	10	kW	3,800	3,800	3,800	4,750	4,750	4,750	4,750	4,750
South Bay WRP (a, b, c)										
Capacity	1	mgd	15	15	15	15	15	15	15	15
Average Annual Influent Flow (e)	2	mgd	4.7	4.5	9.0	9.0	9.0	9.0	9.0	9.0
Average Annual Reclaimed Water Supplied (e)		mgd	0	0	7.0	7.1	7.2	7.3	7.4	7.4
Metro Biosolids Center (a, b, c)										
Digestion Capacity	1	mgd	9	9	9	9	9	9	9	9
Dewatering Capacity	4	TPD	158	158	158	158	158	158	158	158

Statement of Work

Quantifiable System Definition										
System Component	Notes	Unit	Actual		Projection					
			FY 2005	FY 2006	FY2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Digestion Influent Flow (e)	2	mgd	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173
Dewatering Production	5	wet TPD	317.8	317.8	317.8	317.8	317.8	317.8	317.8	317.8
Privatized cogeneration facility	10	kW	6,400	6,400	6,400	6,400	6,400	6,400	6,400	6,400
Pumping Station No. 2 (a, b, c)										
Capacity	6	MG	432	432	432	432	432	432	432	432
Average Annual Flow (d)	2	mgd	185.2	172.9	183.4	185.2	187.3	188.3	189.4	190.5
Force Main	7	miles	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
Natural Gas Engine Pump Sets		each	2	2	2	2	2	2	2	2
Emergency Generator		each	1	1	1	1	1	1	1	1
Pumps		each	8	8	8	8	8	8	8	8
Pumping Station No. 1 (a, c)										
Capacity	6	mgd	153	153	153	153	153	153	153	153
Average Annual Flow (d)	2	mgd	65.6	60.5	69.4	70.5	71.5	72.6	73.1	74.1
Force Main	7	miles	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Pumping Station No. 64 (a, c)										
Capacity	6	mgd	60	60	60	60	60	60	60	60
Average Annual Flow (d)	2	mgd	24.6	23.2	24.9	25.2	25.4	25.7	26.1	26.4
Force Main	7	miles	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Pumping Station No. 65										
Capacity	6	mgd	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
Average Annual Flow (d)	2	mgd	8.2	7.5	7.1	7.3	7.4	7.6	7.9	8.1
Force Main	7	miles	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76
Pump Station 77A&B (a, e)										
Capacity		mgd	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
Average Annual Flow (d)		mgd	no data	3.8	4.7	4.7	4.7	4.7	4.7	4.7
Emergency Generators		each	2	2	2	2	2	2	2	2
Force Main		miles	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Pumping Station, East Mission Gorge (c)										
Capacity	6	mgd	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5

Statement of Work

Quantifiable System Definition										
System Component	Notes	Unit	Actual		Projection					
			FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Average Annual Flow (operates during wet weather only)	2	mgd	flows are varied, average about 5 - 7 mgd of average daily flow on the rainy days							
Force Main	7	miles	8	8	8	8	8	8	8	8
Pumping Station, Penasquitos (a, c)										
Capacity	6	mgd	24	24	24	24	24	24	24	24
Average Annual Flow	2	mgd	6.9	5.2	9.4	9.5	9.6	9.6	9.7	9.7
Force Main	7	miles	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01
Pumping Station, Otay River (b)										
Capacity (Wet well 1 only, 9A=Muni)	6	mgd	12	12	12	12	12	12	12	12
Average Annual Flow (g)	2	mgd	3.5	2.7	5.1	5.3	5.5	5.7	5.9	6.0
Emergency Generator		each	1	1	1	1	1	1	1	1
Force Main	7	miles	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Pumping Station, Grove Avenue (a, b, c)										
Capacity	6	mgd	18	18	18	18	18	18	18	18
Average Annual Flow (driven by reclaimed water demand/permits)	2	mgd	4.7	4.5	9.0	9.0	9.0	9.0	9.0	9.0
Emergency Generator		each	1	1	1	1	1	1	1	1
Force Main	7	miles	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48
Siphons		Barrels	19	19	19	19	19	19	19	19
Diversion Structures (f)		each	68	69	70	71	72	73	74	75
Gravity Sewer Mains (f)			2,879	2,899	2,919	2,939	2,959	2,979	2,999	3,019
In ROW, Less than or equal to 24" (f)	7	miles	2,475	2,495	2,515	2,535	2,555	2,575	2,595	2,615
Outside ROW, Less than or equal to 24" (f)	7	miles	107	107	107	107	107	107	107	107
In ROW, Greater than 24" (f)	7	miles	213	213	213	213	213	213	213	213

Statement of Work

Quantifiable System Definition										
System Component	Notes	Unit	Actual		Projection					
			FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Outside ROW, Greater than 24" (f)	7	miles	84	84	84	84	84	84	84	84
Collection System Pumping Stations (f)			82	83	84	85	86	87	88	89
Wet Pit, Dry Pit (17 wet, 4 dry) (f)	9	Each	21	21	21	21	21	21	21	21
Submersible (f)	9	Each	34	34	34	34	34	34	34	34
Engine Generator Sets, Fixed (f)	9	Each	74	75	76	77	78	79	80	81
Engine Generator Sets, Mobile (f)	9	Each	2	2	2	2	2	2	2	2
Odor Control Systems, Activated Carbon (f)	9	Each	17	18	19	20	21	22	23	24
Force Mains (f)	7	miles	112	112	112	112	112	112	112	112
Maintenance Access Paths in Environmentally Sensitive Areas (f)	7	miles	187	197	207	217	227	237	247	257
Number of Lower Laterals (f)	9	Each	260,000	262,000	264,000	266,000	268,000	270,000	272,000	274,000
Miles of Lower Laterals (g)	9	Miles	1,370	1,370	1,370	1,370	1,370	1,370	1,370	1,370
Air/Vacuum Relief Valves (g)	9	Each	218	218	218	218	218	218	218	218
Permitted Food Service Establishments	9	Each	4,556	4,556	4,556	4,556	4,556	4,556	4,556	4,556
Stormwater Interceptor Stations	9	Each	16	17	18	19	20	21	22	23
Flow Measuring Stations, Permanent	9	Each	138	146	146	146	146	146	146	146
Flow Measuring Stations, Temporary	9	Each		20	20	20	20	20	20	20
Industrial Wastewater Control Program	14									
Permitted Significant Industrial Users	9	Each	82	80	80	80	80	80	80	80
Permitted SIU Discharge Points	9	Each	185	185	185	185	185	185	185	185
Zero Discharge Categorical Permits	9	Each	37	37	37	37	37	37	37	37
Additional Control Mechanisms	9	Each	1,601	1,601	1,601	1,601	1,601	1,601	1,601	1,601
Large User Surcharge Meters	9	Each	213	217	222	226	230	235	240	245
Ocean Monitoring Program	13									
Spatial Extent		sq. mi	375	375	375	375	375	375	375	375
Sampling Stations	9	Each	210	210	210	210	210	210	210	210
Total Annual Samples Analyzed	9	Each	26,250	26,250	26,250	26,250	26,250	26,250	26,250	26,250

Statement of Work

Quantifiable System Definition										
System Component	Notes	Unit	Actual		Projection					
			FY 2005	FY 2006	FY2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Collection System Main Replacement Program										
Main rehabilitation (g)	7	miles	0	0	20	35	35	20	20	20
Less than or equal to 15" (g)	7	miles	0	0	9.92	0	8.57	25	22.8	23.88
Greater than 15" (g)	7	miles	0	0	0	10.24	1.43	0	2.2	1.12
Capital Improvement Program										
Construction Value Managed, Plants (\$M)	8	\$ Active	4.21	1.28	5.47	7.78	19.05	30.80	36.75	33.06
Construction Value Managed, Pump Stations (\$M)	8	\$ Active	13.56	2.87	5.33	8.99	7.37	12.36	7.26	5.18
Construction Value Managed, Main Replacement (\$M)	8	\$ Active	64.13	29.85	36.23	109.06	78.53	119	136.27	109.62
Construction Value Managed, Rehab Mains (\$M)	8	\$ Active	0	1.0	14.3	31.1	32.34	19.6	20.38	21.19
Construction Value Managed, Ancillary Facilities (\$M)	8	\$ Active	3.63	0.23	0	0	0.83	0.66	0.75	0.78
Land controlled by MWWD		acres	595.7	595.7	595.7	595.7	595.7	595.7	595.7	595.7
Buildings controlled by MWWD										
Alvarado Laboratory		each	1	1	1	1	1	1	1	1
Naval Training Center Laboratory		each	1	1	1	1	1	1	1	1
Metropolitan Operations Center (all buildings)		each	1	1	1	1	1	1	1	1
Mitigation and Restoration Land or Sites (g)		acres	-	-	183	-	-	-	-	-

Notes:

- 1 - Permitted Capacity in million gallons per day
- 2 - Average Annual Flow (into facility or system) in million gallons per day
- 3 - Average Annual Influent Concentration in milligrams per liter
- 4 - Permitted Capacity in dry tons per day
- 5 - Average Annual Dewatering Production in dry tons per day
- 6 - Firm Rated Capacity in million gallons per day
- 7 - Length in miles
- 8 - Total Dollars in active design and construction projects
- 9 - Total number in system inventory as of August 1, 2006
- 10 - Total Electrical Generation Capacity in Kilowatts
- 11- Total Annual Electricity Production in Kilowatt-hours
- 12- Operates under the provisions of a Clean Water Act Section 310 (h) modified permit as amended by the Ocean Pollution Reduction Act (OPRA) of 1994.
- 13- Modified by the results of a review by Scripps Institution of Oceanography.
- 14- Program Modified by requirements of the PLWWTP CWA section 301(h) modified permit.
 - a - Distributed Control System
 - b - Engine Generator Sets, Ancillary Facilities
 - c - Screens
 - d - Flows were projected in terms 10-year return. Projected reclaimed water demands were incorporated in this projection. If reclaimed water demand decreases, flow will increase
 - e – Estimated by O&M staff
 - f – Estimated by WWC staff
 - g – Estimated by E&PM staff

5. PERFORMANCE OBJECTIVES AND THRESHOLDS

Service requirements for Output and Outcomes are summarized into Performance Objectives that relate directly to the essential items for the Core Services in Appendix A. The Performance Threshold describes the minimum acceptable level of service required for each Performance Objective. These thresholds are critical to MOU conformance.

5.1 OPERATION AND MAINTENANCE OF WASTEWATER TREATMENT FACILITIES

The Service Delivery Output/Outcome Summary for Operations and Maintenance of Wastewater Treatment Facilities is presented below.

PERFORMANCE OBJECTIVE	PERFORMANCE THRESHOLD
Point Loma WWTP, South Bay WRP, North City WRP, MBC, and major pumping stations are operated to comply with all Federal, state, and local regulatory requirements. Continuous availability of wastewater transmission and treatment service is maintained.	100% of the time
South Bay WRP and North City WRP are operated to provide reclaimed water in quality and quantity to meet reclaimed customer needs.	100% of the time
Maintenance activities to comply with preventive maintenance program requirements and schedules.	No more than 3 deficiencies per month
Respond to maintenance service calls and perform corrective maintenance within time frames specified in the maintenance program.	No more than 1 deficiency per 10 tasks
Adhere to ISO 14001 EMS Continual Improvement Program to identify problems and prevent defects in Environmental Management.	Maintain external certification

5.2 OPERATION AND MAINTENANCE OF WASTEWATER COLLECTION SYSTEM

The Service Delivery Output/Outcome Summary for Operation and Maintenance of Wastewater Collection System is presented below.

PERFORMANCE OBJECTIVE	PERFORMANCE THRESHOLD
Operate and maintain the wastewater collection system to comply with all federal, state, and local regulatory requirements.	100% of the time
Reduce the frequency and volume of SSOs.	4 City SSOs per year per 100 miles of collection system operated and maintained
Maintenance activities to comply with preventive maintenance program requirements and schedules.	No more than 1 deficiency per 10 tasks
Respond to maintenance service calls and perform corrective maintenance within time frames specified in the maintenance program.	No more than 1 deficiency per 10 tasks
Adhere to ISO 14001 EMS Continual Improvement Program to identify problems and prevent defects in Environmental Management.	Maintain external certification

5.3 ENVIRONMENTAL MONITORING AND TECHNICAL SERVICES

The Service Delivery Output/Outcome Summary for Environmental Monitoring and Technical Services is presented below.

PERFORMANCE OBJECTIVE	PERFORMANCE THRESHOLD
Provide MWWD laboratory services such that all required samples are properly analyzed.	All analyses are accurate 100% of the time
Conduct an ocean monitoring program in conformance with all regulatory and legal requirements.	100% of the time
Manage MWWD regulatory permits, negotiate and submit renewals and all required reports.	All reports are complete, accurate, and submitted on time 100% of the time.
Provide process control support, technical support, and special project support to MWWD (including response to spills and other unanticipated emergencies).	Meet MWWD needs 100% of the time.
Regulate industrial discharges to the sewer system to meet legal requirements, protect the treatment processes, promote worker safety, and ensure treatment plant compliance.	100% of the time.
Adhere to ISO 14001 EMS Continual Improvement Program to identify problems and prevent defects in Environmental Management.	Maintain external certification

5.4 ENGINEERING SERVICES AND CAPITAL EXPENDITURE PROGRAM MANAGEMENT

The Service Delivery Output/Outcome Summary for Engineering Services and Capital Expenditure Program Management is presented below.

PERFORMANCE OBJECTIVE	PERFORMANCE THRESHOLD
Manage Capital Projects and Capital Repair and Replacements projects such that the System has the capability to comply with all federal, state, and local regulatory requirements, and has the capacity to meet the demands for System.	100% of the time
Manage, evaluate, and monitor the condition and capacity of the System to plan and forecast operational and Capital needs to comply with all federal, state, and local regulatory requirements.	100% of the time
Manage and process real estate developer and private utility plans submitted for engineering review against applicable City standards.	100% of the time

5.5 ADMINISTRATIVE SERVICES

The Service Delivery Output/Outcome Summary for Administrative Services is presented below.

PERFORMANCE OBJECTIVE	PERFORMANCE THRESHOLD
Prepare accurate Revenue and Expenses Statements at the close of each accounting period within 10 business days of the information being available.	100% of the time
Prepare and disseminate accurate SLA Budget to Expense spreadsheets at the end of each accounting period within 5 business days of receiving the information from Auditors.	100% of the time
Prepare accurate project spreadsheets detailing grant, loan, bond, and sewer funding determinations within five (5) business days of receipt of contractor invoices from the Accounting Section.	100% of the time.
Promote a safe working environment; exceed safety standards for the industry.	Conduct regular, ongoing safety inspections of worksites to minimize recordable injuries; maintain the incidence rate at less than or equal to the most recently published, relevant State of California Average. Ensure that all recommendations resulting from inspections are considered and either implemented or rejected with rationale.

Statement of Work

PERFORMANCE OBJECTIVE	PERFORMANCE THRESHOLD
Optimize employee productivity and job satisfaction and empower employees to gain knowledge and skills.	<ol style="list-style-type: none"> 1. Evaluate each employee's performance annually and provide feedback and coaching. 2. Make tailored career development opportunities available for all employees. 3. Ensure that knowledge management and succession planning are implemented in targeted areas of the organization which are deemed most vulnerable to high turnover or sudden loss of institutional knowledge (i.e., impending retirements). 4. Conduct regular employee opinion survey so that the work environment is assessed and continually improved. 5. Ensure training is provided in order to maintain compliance with federal, state, regulatory, and industry requirements (i.e., maintain certifications necessary for performance of certain jobs).
Demonstrate industry leadership by meeting business goals.	<ol style="list-style-type: none"> 1. Produce an updated Strategic Business Plan annually. 2. Monitor indicators of department performance and report out to Management monthly. 3. Participate in benchmark clearinghouses (i.e. QualServe). 4. Re-benchmark performance levels regularly to refresh goals/performance thresholds.
Manage and maintain IT systems for MWWD to ensure business goals and operational requirements are met.	Provide and support IT systems that ensure business applications are available at least 98% of the time.
Manage and maintain process controls automation at MWWD facilities to enable and facilitate regulatory compliance.	Implement and support distributed control systems (DCS) and related systems (e.g. SCADA) within COMNET to ensure automated plant processes meet regulatory requirements 100% of the time.

Procurement Sensitive

APPENDIX A
Core Services

Procurement Sensitive

Appendix A - Core Services

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1. Operation and Maintenance of Wastewater Treatment Facilities

A. Background and Scope

Operate and maintain all treatment facilities, including the Point Loma Wastewater Treatment Plant, two water reclamation plants, one ocean outfall from Point Loma, South Bay Ocean Outfall (40% of the capacity), a biosolids (residual sludge) processing facility, and eight large pump stations. Treat a combined total of roughly 180 million gallons of sewage each day. The treatment process has the capacity to produce 45 million gallons of reclaimed water and over 300 wet tons of biosolids each day. Maintain ISO 14001 certification for the environmental management system to ensure MWWD’s commitment to regulatory compliance, pollution prevention, and continual improvement.

B. Explanation of Core Services, Functions, and Basic Service Requirements

MWWD is divided into a number of divisions that provide services to customers and stakeholders. Six of these divisions are part of the MWWD BPR team: Operations and Maintenance, Information and Organizational Support, Engineering and Program Management, Environmental Monitoring and Technical Services, Services and Contracts, and Wastewater Collection. Each of these divisions is considered to represent a “core service” of MWWD.

Within each division there are typically six to eight sections that focus on certain functions. Each section is considered to represent a “core function.” Within each section there may be specific programs or groups that perform certain tasks. Each program or group is considered a “basic service requirement group.” The tasks that these groups complete are referred to as “basic service requirements.”

This hierarchy is summarized in the table below.

NAME	MWWD ORGANIZATION	EXAMPLE
Core Service	Division	Information and Organizational Support
Core Function	Section or Activity Group	Information Technology Management
Basic Service Requirement Group	Program or Activity	IT Governance
Basic Service Requirement	Task	Implement IT policies and procedures

The tables in this document describe the basic service requirements for the Operations and Maintenance Division. Separate tables have been prepared for each core function.

In the tables, each basic service requirements is assigned one or more purposes or drivers. The purpose is intended to represent MWWD’s most compelling reason to perform the task. The purpose may be assigned a 1, 2, 3, 4, or 5. These purpose designations are explained in the table below.

PURPOSE CODE	CATEGORY NAME	CATEGORY DEFINITION	EXAMPLES
1	Legal Requirement	A legally required service based upon a law, permit, ordinance or similar Authorizing Document	California law; NPDES permit; OSHA regulations; Intergovernmental Agreement adopted by ordinance; City ordinance.
2	Stakeholder Requirement	A service required by an entity or customer outside of the MWWD Division (within or outside of the City) performing the work	Clearing of blocked sewers; annual MWWD budget submittal; Service Level Agreement; other Intergovernmental Agreements
3	Industry Standard or Benchmark	A service or function commonly performed by U.S. wastewater utilities	WEF Manual of Practice documents
4	Internal City Requirement	A service required by a City, Department or Division policy	City recruiting policy
5	Other	A service that does not fall into one of the above four categories.	

C. Operations and Maintenance of Wastewater Treatment Facilities Core Functions

i. Point Loma Wastewater Treatment Plant Management, Operations, and Maintenance Services

The Point Loma Wastewater Treatment Plant (PLWWTP) treats all flow directed into it (up to 200 mgd) to advanced primary treatment standards. The plant stabilizes the primary sludge and pumps the sludge to the MBC. Digester gas is used for co-generation at the Gas Utilization facility (GUF). PLWWTP discharges treated effluent through the Point Loma Ocean Outfall.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Treat all flow and operate and maintain facility in accordance with all regulatory requirements	1	Continuous
2. Utilize DCS as a tool to enhance proper operation of the plant	3, 4	Continuous
3. Coordinate operation with other inter-connected facilities	1, 4	Continuous
4. Coordinate with Central Support for the proper disposal of solid waste residuals, such as screenings and grit	1	Continuous
5. Prepare and submit required reports	1	Continuous
6. Perform preventive, routine, and emergency maintenance	1	Continuous
7. Utilize Computerized Maintenance Management System (CMMS) for work flow planning and asset management	1, 3	Continuous
8. Coordinate major maintenance with Central Support	4	Continuous
9. Coordinate with Central Support for building maintenance, janitorial services, and grounds maintenance	4	Continuous
10. Maintain site safety	1	Continuous

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
11. Provide technical support and operational data upon request	1, 2, 3, 4, 5	Continuous
12. Conduct public and professional facility tours	5	Continuous
13. Provide space for contractors and construction management staff	4	Continuous
14. Provide negotiated operational and technical support for pilot studies	4	As Needed
15. Implement and monitor ISO 14001 process	4	Continuous
16. Pump stabilized sludge to MBC	1	Continuous
17. Supply digester gas to GUF	4	Continuous
18. Purchase wastewater treatment chemicals for Pump Stations 1 and 2, and Point Loma	1	Continuous
19. Operate and maintain cogeneration/hydroelectric generation facility	4	Continuous
20. Operate and maintain all Divisional generators/large engines	1	Continuous
21. Provide inspection/repair of FIRP	1	Continuous
22. Provide operations engineering support	5	Continuous
23. Maintain storm drain system along Gatchell Road	5	Continuous
24. Maintain water storage tanks and pumps for Park Service	5	Continuous

ii. *Pump Station 2, Pump Station 1, Grove Avenue Pump Station, Otoy River Pump Station, Pump Station 64, Pump Station 65, East Mission Gorge Pump Station, and Peñasquitos Pump Station Management, Operations, and Maintenance Services*

These pump stations are part of the core service for Operations and Maintenance of Wastewater Treatment Facilities because they serve as the influent pump stations for the various treatment facilities. Pump Stations 1 and 2 and East Mission Gorge Pump Station serve the Point Loma Wastewater Treatment Plant. Pump Stations 64 and 65 and Peñasquitos Pump Station serve the North City Water Reclamation Plant. The South Bay Water Reclamation Plant is served by Grove Avenue Pump Station and the Otoy River Pump Station.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Pump all wastewater in accordance with all regulatory requirements	1	Continuous
2. Coordinate with Central Support for the proper disposal of solid wastes and screenings	1, 2	Continuous
3. Prepare and submit required reports	1	Continuous
4. Perform preventive, routine, and emergency maintenance	1	Continuous, as necessary
5. Utilize Computerized Maintenance Management System (CMMS) for work flow planning and asset management	1, 3	Continuous
6. Coordinate major maintenance with Central Support	4	Continuous

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
7. Coordinate with Central Support for building maintenance, janitorial services, and grounds maintenance	4	Continuous
8. Maintain site safety	1	Continuous
9. Utilize DCS as a tool to enhance proper operation of the pump stations	3, 4	Continuous
10. Provide technical support and operational data upon request	1, 2, 3, 4, 5	As needed
11. Coordinate operation with other inter-connected facilities	1, 4	Continuous
12. Conduct public and professional facility tours	5	As needed
13. Coordinate facility access for liquid waste haulers (PS 1 only)	4	As necessary
14. Provide space for contractors and construction management staff	2, 4	As needed
15. Provide negotiated operational and technical support for pilot studies	4	As needed
16. Implement and monitor ISO 14001 process	4	Continuous
17. Provide operations engineering support	5	Continuous

iii. *North City Water Reclamation Plant Management, Operations, and Maintenance Services*

The North City Water Reclamation Plant treats all flow directed into it (currently 23 mgd) to at least secondary treatment standards. The plant provides reclaimed water to the reclaimed water distribution system in volumes sufficient to meet current projections from the City of San Diego Water Department, and at the quality required by the Waste Discharge and Water Recycling Requirements and by contractual agreements with reclaimed water customers, including the requirement that the reclaimed water's TDS not exceed 1,000 mg/l. Wastewater treated to secondary standards, but not used as reclaimed water, is discharged to the sewer system for subsequent discharge through the Point Loma Ocean Outfall.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Treat 23 mgd of flow and operate and maintain facility in accordance with all regulatory requirements	1	Continuous
2. Utilize DCS as a tool to enhance proper operation of the plant	3, 4	Continuous
3. Coordinate operation with other inter-connected facilities	1, 4	Continuous
4. Coordinate with Central Support for the proper disposal of solid waste residuals, such as screenings and grit	1	Continuous
5. Prepare and submit required reports	1	As necessary
6. Perform preventive, routine, and emergency maintenance	1	Continuous
7. Utilize Computerized Maintenance Management System (CMMS) for work flow planning and asset management	1, 3	Continuous
8. Coordinate major maintenance with Central Support	4	Continuous

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
9. Coordinate with Central Support for building maintenance, janitorial services, and grounds maintenance	4	Continuous
10. Maintain site safety	1	Continuous
11. Provide technical support and operational data upon request	1, 2, 3, 4, 5	Continuous
12. Conduct public and professional facility tours	5	As needed
13. Provide space for contractors and construction management staff		Continuous
14. Provide negotiated operational and technical support for pilot studies	4	As needed
15. Implement and monitor ISO 14001 process	4	Continuous
16. Coordinate with Minnesota Methane for feed lines for cogeneration supply	2	Continuous
17. Purchase wastewater treatment chemicals for Pump Stations 64 and 65 and Peñasquitos Pump Station	4	Continuous
18. Provide operations engineering support	5	Continuous
19. Provide landscape maintenance for I-805 adjacent to plant	5	Continuous

iv. *South Bay Water Reclamation Plant Management, Operations, and Maintenance Services*

The South Bay Water Reclamation Plant treats all flow directed into it (up to 18 mgd) to secondary treatment standards. The plant provides reclaimed water to the reclaimed water distribution system in volumes sufficient to meet current projections from the City of San Diego Water Department, and at the quality required by the Waste Discharge and Water Recycling Requirements and by contractual agreements with reclaimed water customers, including the requirement that the reclaimed water's TDS not exceed 1,000 mg/l. Wastewater treated to secondary standards, but not used as reclaimed water, is discharged through the South Bay Ocean Outfall. All sludge and scum produced by the plant are discharged to the Point Loma Wastewater Treatment Plant via the South Metro Interceptor.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Treat all flow and operate and maintain facility in accordance with all regulatory requirements	1	Continuous
2. Utilize DCS as a tool to enhance proper operation of the plant	3, 4	Continuous
3. Coordinate operation with other inter-connected facilities	1, 4	Continuous
4. Coordinate with Central Support for the proper disposal of solid waste residuals, such as screenings and grit	1	Continuous
5. Prepare and submit required reports	1	Continuous
6. Perform preventive, routine, and emergency maintenance	1	Continuous
7. Utilize Computerized Maintenance Management System (CMMS) for work flow planning and asset management	1, 3	Continuous

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
8. Coordinate major maintenance with Central Support	4	Continuous
9. Coordinate with Central Support for building maintenance, janitorial services, and grounds maintenance	4	Continuous
10. Maintain site safety	1	Continuous
11. Provide technical support and operational data upon request	1, 2, 3, 4, 5	Continuous
12. Conduct public and professional facility tours	5	As needed
13. Provide space for contractors and construction management staff	4	Continuous
14. Provide negotiated operational and technical support for pilot studies	4	As needed
15. Implement and monitor ISO 14001 process	4	Continuous
16. Purchase wastewater treatment chemicals for Grove Avenue Pump Station and Otay River Pump Station	4	Continuous
17. Provide operations engineering support	5	Continuous

v. *Metro Biosolids Center Management, Operations, and Maintenance Services*

The Metro Biosolids Center (MBC) is a complex residual sludge thickening, digestion, dewatering, and dewatered cake handling system. MBC receives digested sludge that is pumped 17 miles from the Point Loma WWTP for storage, dewatering and cake handling; in addition, raw sludge is pumped from North City WRP for digestion, dewatering and cake handling. MBC provides biosolids treatment and disposal in conformance with CFR 503 and other regulatory requirements. MBC also supplies digester gas to Minnesota Methane for cogeneration of electricity in return for reduced energy rates. This relationship is directed through a contractual agreement.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Treat all biosolids and operate and maintain facility in accordance with all regulatory requirements	1	Continuous
2. Utilize DCS as a tool to enhance proper operation of the plant	3, 4	Continuous
3. Coordinate operation with other inter-connected facilities	1, 4	Continuous
4. Coordinate with Central Support for the proper disposal of solid waste residuals, such as screenings and grit	1	Continuous
5. Prepare and submit required reports	1	Continuous
6. Perform preventive, routine, and emergency maintenance	1	Continuous
7. Utilize Computerized Maintenance Management System (CMMS) for work flow planning and asset management	1, 3	Continuous
8. Coordinate major maintenance with Central Support	4	Continuous

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
9. Coordinate with Central Support for building maintenance, janitorial services, and grounds maintenance	4	Continuous
10. Maintain site safety	1	Continuous
11. Provide technical support and operational data upon request	1, 2, 3, 4, 5	Continuous
12. Conduct public and professional facility tours	5	As needed
13. Provide space for contractors and construction management staff	4	Continuous
14. Provide negotiated operational and technical support for pilot studies	4	As needed
15. Implement and monitor ISO 14001 process	4	Continuous
16. Coordinate with Minnesota Methane for feed lines for cogeneration supply	2	Continuous
17. Coordinate the biosolids loading and hauling operation and oversee contract for biosolids disposal.	4	Continuous
18. Provide operations engineering support	5	Continuous
19. Maintain access road from plant entrance to Convoy Street	5	Continuous

vi. *Centralized Management, Operations, and Maintenance Support Services*

Provide services to support operations and maintenance for the wastewater treatment assets including maintenance, operational monitoring, planning, scheduling, performing preventative and predictive maintenance, coordinating capital repairs or replacements, warehousing and inventory management, and numerous other centrally managed services listed below.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Continually monitor process and system operations through COMC	1	Continuous
2. Conduct heavy maintenance and repairs, intermittent large-scale maintenance, electric motor repair, painting, fabrication, and welding	1	Continuous
3. Perform predictive maintenance for all O&M assets that are included in the Predictive Maintenance Program	3	Continuous
4. Coordinate maintenance planning and asset management (Central Planning)	3	Continuous
5. Manage warehousing and inventory control (Central Planning)	4	Continuous
6. Utilize Computerized Maintenance Management System (CMMS) for work flow planning and asset management	1, 3	Continuous

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
7. Coordinate maintenance and manage mechanisms to track, schedule, perform, and charge for work performed at a level to achieve a high degree of customer satisfaction based on meeting task completion objectives and smooth coordination with plant staff	4	Continuous
8. Provide for the pick up and disposal of residuals (screenings and grit)	1	Continuous
9. Provide for corrosion control systems maintenance	3	Continuous
10. Provide MWWD security and emergency services	1, 4	Continuous
11. Provide building maintenance for all MWWD buildings	4	Continuous
12. Develop technical resources and provide technical aids for the Division	1, 2, 3, 4, 5	Continuous
13. Oversee contracts for custodial, grounds maintenance and security services	4	Continuous
14. Implement and monitor ISO 14001 process	4	Continuous
15. Maintain 47 carbon canisters along pipelines	5	Continuous
16. Maintain Metropolitan diversion structures at Pacific Highway, Sweetwater River, San Diego River, and Otay River Pump Station	4	Continuous
17. Maintain MOC facilities: generator, photo voltaic, PCTS, COMC	4	Continuous
18. Maintain fiber optic, CCTV, fire alarm, and 800 MHZ radio systems	4	Continuous

vii. Automated Monitoring and Control (COMNET) System Coordination Services

Provide coordination services between operations and maintenance activities and Distributed Control System (DCS) developers.

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BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Conduct CIP project COMNET system design review	3	Continuous
2. Provide support for EMPAC, EDORS, LIMS, CSTools, PSTools and other specialized departmental software	4	Continuous
3. Coordinate vendor support for automated systems	4	Continuous
4. Perform COMNET system software support and maintenance	3	Continuous
5. Maintain capability to provide off site, remote monitoring and operation, on an as needed basis, for the purpose of emergency response and notification.	3,4	As Needed

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
6. Provide technical support for all aspects of the DCS systems at all O&M facilities including software and hardware installation, maintenance, modifications, and support	4	Continuous

viii. *Administrative Services for Management, Operations, and Maintenance Services*

Provide management, monitoring, and administrative control functions to support and direct the delivery of operations and maintenance services for the wastewater treatment activities.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Manage and coordinate O&M Team	1, 4	Continuous
2. Allocate contingency fund	4	As needed
3. Coordinate with other Divisions, MWWD, and City Departments	2, 4	Continuous
4. Represent and advocate for Division needs and requirements at MWWD/City Level	1, 2, 3, 4, 5	Continuous
5. Administer and coordinate all Division-wide programs and committees, to include ERC, Safety Committee, Service Awards, non-facility specific "all hands" meetings, etc. Coordinate between Plant and other administrative entities inventories, specialized administrative training, including Diversity, Citywide suggestion program, notification of changes in MWWD or City policy or regulation	4, 5	Continuous
6. As approved and required by the Labor Relations Manager and Personnel Director, administer and coordinate "meet and confer" to advance facility goals, process hiring, promotion, transfer, disciplinary, grievance, and other related personnel actions per established procedure	1, 4	Continuous
7. Track and allocate costs for Bid-to-Goal and Pay for Performance budgets		
8. Manage replacement fund	4	Continuous
9. Address regulatory compliance issues	3, 4	Continuous
10. Respond to audits by City, State, Federal government, and Participating Agencies	1, 2	As needed
11. Administer and manage ISO 14001 conformance	4	Continuous

ix. *Financial Support Services for Management, Operations, and Maintenance Services*

Provide financial services to support activities for operations and maintenance for the wastewater treatment facilities.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Prepare Budgets (5-year plan, Rate Case for O&M Division, Performance Measures, Service Efforts & Accomplishments)	3, 4	Quarterly
2. Manage Accounts Payable (All O&M Purchase Orders, Citywide purchase orders, Direct Payments, Sole Source Memo's, Administering and projecting Energy accounts.	3, 4	Daily
3. Maintain capability to develop and implement reporting, tracking, and accounting protocols consistent with the provisions and intent of the Bid to Goal program	1, 3, 4	Weekly
4. Provide job order numbers	4	Weekly
5. Provide clear, current, and accurate routine reports of budgetary and financial status reporting	1, 3, 4	Monthly/Quarterly
6. Administer payroll functions	3, 4	Daily
7. Track distribution of communication devices including cell phones, pagers, and radios for Division fleet	4	Weekly
8. Track and allocate all costs for out of scope services	1, 4	Weekly
9. Administer human resource functions	3, 4	Daily
10. Administer information technology functions	3, 4	As needed
11. Administer costs for O&M Service Level Agreement with Facilities Maintenance.	4	Monthly
12. Provide back up information for Variance Reports and on-going Audits.	4	As needed
13. Fleet Management of all O&M Vehicles	4	Daily

x. *San Pasqual Water Reclamation Plant Asset Security Services*

The San Pasqual Water Reclamation Plant is a small research facility that is no longer in service for the MWWD. Provide services to secure the site and provide periodic grounds keeping services to maintain the property.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Provide minor maintenance and security of unused facility	2	Continuous

2. Operation and Maintenance of Wastewater Collection System

A. Background and Scope

The City is responsible for the operation and maintenance of the City’s municipal wastewater collection system that consists of approximately 3,000 miles of sewers, 74 pump stations, and dry weather stormwater diversion systems. Additionally, the City is responsible for permitting, inspecting, and enforcing ordinances on over 4,500 food service establishments to control the introduction of grease into the collection system. The City is responsible for providing the following core functions with respect to operations and maintenance of the wastewater collection system:

- Sewer Main Cleaning and Maintenance
- Sewer Inspection and Repair
- Sewer Pump Station and Stormwater Interceptor System Operations and Maintenance
- Maintenance Coordination and Scheduling
- Flow Monitoring and CIP CCTV Data Collection and Assessment
- Operations Technical Support
- Food Establishment Waste Discharge Ordinance Enforcement
- Management and Administration

Each of these core functions is described in more detail below.

B. Explanation of Core Services, Functions, and Basic Service Requirement

MWWD is divided into a number of divisions that provide services to customers and stakeholders. Six of these divisions are part of the MWWD BPR team: Operations and Maintenance, Information and Organizational Support, Engineering and Program Management, Environmental Monitoring and Technical Services, Services and Contracts, and Wastewater Collection. Each of these divisions is considered to represent a “core service” of MWWD.

Within each division there are typically six to eight sections that focus on certain functions. Each section is considered to represent a “core function.” Within each section there may be specific programs or groups that perform certain tasks. Each program or group is considered a “basic service requirement group.” The tasks that these groups complete are referred to as “basic service requirements.”

This hierarchy is summarized in the table below.

NAME	MWWD ORGANIZATION	EXAMPLE
Core Service	Division	Information and Organizational Support
Core Function	Section or Activity Group	Information Technology Management
Basic Service Requirement Group	Program or Activity	IT Governance
Basic Service Requirement	Task	Implement IT policies and procedures

The tables in this document describe the basic service requirements for the Wastewater Collection Division. Separate tables have been prepared for each core function.

In the tables, each basic service requirements is assigned one or more purposes or drivers. The purpose is intended to represent MWWD’s most compelling reason to perform the task. The purpose may be assigned a 1, 2, 3, 4, or 5. These purpose designations are explained in the table below.

PURPOSE CODE	CATEGORY NAME	CATEGORY DEFINITION	EXAMPLES
1	Legal Requirement	A legally required service based upon a law, permit, ordinance or similar Authorizing Document	California law; NPDES permit; OSHA regulations; Intergovernmental Agreement adopted by ordinance; City ordinance.
2	Stakeholder Requirement	A service required by an entity or customer outside of the MWWD Division (within or outside of the City) performing the work	Clearing of blocked sewers; annual MWWD budget submittal; Service Level Agreement; other Intergovernmental Agreements
3	Industry Standard or Benchmark	A service or function commonly performed by U.S. wastewater utilities	WEF Manual of Practice documents
4	Internal City Requirement	A service required by a City, Department or Division policy	City recruiting policy
5	Other	A service that does not fall into one of the above four categories.	

C. Operation and Maintenance of Wastewater Collection System Core Functions

i. Sewer Main Cleaning and Maintenance

The sewer main cleaning and maintenance function is responsible for ensuring that the City’s sewers remain operational and comply with all applicable legal requirements. The primary service provided by this function is sewer main cleaning for all City-owned sewer mains in both the City right-of-way and non-right-of-way areas. The City currently uses many of the standard industry methods for sewer cleaning including hydroflushing, rodding, bucketing, and hand-rodding. The City also uses kiting/sailing in certain situations where it is not feasible to use other equipment.

A significant effort is focused on the cleaning of City-owned sewers in non-right-of-way areas. The City has over 100 miles of sewers in canyon areas that are difficult to access and in almost all cases require coordination with stakeholders, several City departments, environmental permitting, and erosion and sediment control on access paths. This sewer main cleaning and maintenance function is responsible for identifying maintenance needs, creating access to sewer main assets requiring maintenance, and maintaining access paths. This function is also responsible for performing visual inspections of all non-right-of-way sewer manholes annually and a subset of these manholes after Significant Rain Events (greater than 0.5 inches of rainfall during a 24-hour period).

This function also includes chemical root control services. This includes the application of root control chemicals into the sewer system as well as the mechanical sewer cleaning that is necessary to prepare the sewer mains for chemical application.

This function also includes responding to customer calls that are sewer related such as sewer blockages, sewer overflows, nuisance odors, or alarms identified by the flow monitoring alarm system. In the case of sewer overflows, this function is responsible for relieving the blockage, minimizing the volume of the sewage released to the environment, site cleanup, and sewer overflow reporting.

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Main Cleaning & Maintenance Supervision		
1. Hiring and Interviews	3	As Needed
2. Performance Reviews	3	As Needed
3. Staff Meetings	3	As Needed
4. Training	3	As Needed
5. Quality Control	3	As Needed
6. Contractor Procurement	3	As Needed
7. Program Implementation, Management, and Optimization	3	As Needed
8. Coordination between other Operating Sections within WWCD	4	As Needed
9. Best Practices Research	3	As Needed
Main Cleaning		
1. ROW Cleaning – Consent Decree requirements	1	1,500 miles per year
2. ROW Cleaning – Additional identified by algorithm	3, 4	632.4 miles per year
3. NROW Cleaning – Consent Decree requirements	1	
4. NROW Cleaning – Additional identified by staff	3, 4	95.6 miles per year
5. Large diameter cleaning	1	56.2 miles per year
Root Inhibitor Program	1	150 miles per year
1. ROW	1, 4	As Needed
2. NROW	1, 4	As Needed
NROW Access Creation and Maintenance		
1. Permitting – As Required by Partial Consent Decree	1	42 Canyons
2. Access Maintenance – As Required by Partial Consent Decree	1	All manholes within 42 Canyons
3. Sediment and Erosion Control/Hydroseeding – As Required by Partial Consent Decree	1	All 42 Canyons
4. Permitting – Remaining Canyons	3	As Needed
5. Access Maintenance – Remaining Canyons	3	As Needed
6. Sediment and Erosion Control/Hydroseeding – Remaining Canyons	3	As Needed
Manhole Inspection		
1. Canyon Annuals	1	2117
2. Significant Rain Event	1	Varies (589 total SRE manholes)
3. Manhole Securing	1	600 per year
4. ROW	1	All manholes once every 5 years
Emergency Response		
1. Odor Investigation	3, 4	694 per year

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
2. Flow Meter Investigation	1, 3, 4	2,220 per year
3. Stoppage/SSO	1	All SSOs (1,000 per year)
4. Other	3, 4	As Needed

ii. *Sewer Inspection and Repair*

The sewer inspection and repair function is primarily responsible for performing operations inspections and repairs to sewer mains and manholes with a priority on fixing urgent system problems. Operations inspections are accomplished using CCTV and are primarily performed at the request of other operating functions to support sewer cleaning or repair activities. In addition, the City has a policy to perform installations and repairs on the portion of the sewer lateral in the City's right-of-way (from the lateral owner's property line to the sewer main). In some cases, the City will replace or install an entire manhole or an entire sewer from manhole to manhole. This function also provides support to other operating functions. Support includes activities requiring confined space entry, locating buried manholes and cleaning large debris from manholes.

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Supervision		
1. Hiring and Interviews	3	As Needed
2. Performance Reviews	3	As Needed
3. Staff Meetings	3	As Needed
4. Training	3	As Needed
5. Quality Control	3	As Needed
6. Contractor Procurement	3	As Needed
7. Program Implementation, Management, and Optimization	3	As Needed
8. Coordination between other Operating Sections within WWCD	4	As Needed
9. Best Practices Research	3	As Needed
Lateral Repair and Maintenance		
1. Lateral Repairs	4	477 per year
2. Lateral Renewals	4	70 per year
Lateral Stoppage Removal		
1. Emergency Response Investigations - CCTV, Hand Rod, Investigation	3	As Needed
Lateral Installation		
1. Lateral Installation	3	87 per year
2. Token Installation	3	3 per year
Main Televising		
1. Construction Follow-Up	3	13.4 miles per year
2. Cleaning Follow-Up	3, 4	30.7 miles per year
3. Storm Drain Inspections	4	As needed
4. SSO Follow-Up	1	Within 1 week of SSO (17.0 miles)

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
5. New Construction	3, 4	As Needed
6. Request from other entities	4	56.1 miles per year
Main Repair and Replacement		
1. Sewer Main Repair (Gravity and Force Main)	3	608 repairs per year
2. Main Repairs Billable To Private Contractor	3	8 repairs per year
3. Sewer Main Replacement	3	4,263 lf (14 job sites)
4. Main Installation Or Extension/Non-CIP	3	70 lf (2 job sites)
5. Erosion Control	3	6 job sites
Manhole Investigation		
1. Locating, Testing & Inspecting Sewer Manholes	3	420 per year
2. Assist Cleaning with Securing Manholes	1	306 per year
3. Manhole Cleaning	3	293 per year
4. Manhole Locating To Assist Engineering & CIP	3	10 per year
Manhole Repair and Replacement		
1. Manhole Repair and Replacement	3	148 per year
2. Manhole Raising and Lowering	3	84 per year
Street Trench Repair Service		
1. Support from Engineering and Capital Projects Field Division	4	As Needed
2. Asphalt	4	32,354 square feet per year
3. Concrete	4	31,152 square feet per year

iii. Maintenance Coordination and Scheduling

The Maintenance Coordination and Scheduling (MCS) function is responsible for supporting the planning and scheduling activities for Sewer Main Cleaning and Maintenance, Sewer Inspection and Repair, and Pump Station and Stormwater Interceptor Operations and Maintenance. The MCS function is also responsible for maintaining data in the computer maintenance management system for future use in analysis, reporting, and coordination activities with other entities.

For Sewer Main Cleaning and Maintenance support, the MCS function is responsible for identifying all pipes that are included in the System-Wide Cleaning Program, the Accelerated Cleaning Program, the Canyon Area Cleaning Program, and the Root Inhibitor Program. The MCS function is also responsible for scheduling and dispatching all planned maintenance-related work, ensuring that data collected in the field is stored for future use, using crew feedback to optimize maintenance frequencies, and coordinating work between operating functions to best deal with maintenance related issues.

For Sewer Main Inspection and Repair support, the MCS function is responsible for tracking all incoming work, prioritizing work activities, preparing project reference documentation, performing field planning for repair work, data entry, and coordination of activities with other operating functions.

For Pump Station and Stormwater Interceptor Operations and Maintenance support, the MCS function is responsible for tracking and issuing Work Orders for the ongoing operations and maintenance of the sewer pump stations and interceptors.

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Supervision		
1. Hiring and Interviews	3	As Needed
2. Performance Reviews	3	As Needed
3. Staff Meetings	3	As Needed
4. Training	3	As Needed
5. Quality Control	3	As Needed
6. Contractor Procurement	3	As Needed
7. Program Implementation, Management, and Optimization	3	As Needed
8. Coordination between other Operating Sections within WWCD	4	As Needed
9. Best Practices Research	3	As Needed
Cleaning Planning and Scheduling		
1. Create, Dispatch, and Track Computerized Maintenance Management System Work Orders	3	1,890 per year
2. Maintenance Frequency/Type Optimization	1	Continuous (30,268 per year)
3. Work Order and Daily Report Data Entry	1	As Needed
4. Data Analysis and Reporting	1, 3, 4	As Needed
5. Coordination with Main Cleaning Maintenance	4	As Needed
CCTV Planning and Scheduling		
1. Create, Dispatch, and Track Computerized Maintenance Management System Work Orders	1	945 per year
2. Prioritizing Work Load	3	As Needed
3. Daily Report Data Entry	3	As Needed
4. Data Analysis and Reporting	1, 3, 4	As Needed
5. Review of Cleaning Follow CCTV Investigations	3	As Needed
6. Cleaning QA/QC – CCTV Inspection Review	3	As Needed
7. Cleaning Frequency Adjustments	3	370 per year
8. Special Projects (Canyon Access) Preparation	1, 3	As Needed
Construction Planning and Scheduling		
1. Create, Dispatch, and Track Computerized Maintenance Management System Work Orders	3	2,854 per year
2. Prioritizing Work Load	3	Daily
3. Prepare Project Reference Documentation	3	313 per year
4. Data Entry of Daily Reports	3, 4	As Needed
5. Data Analysis and Reporting	1, 3, 4	As Needed
6. Coordinating with CIP group and Maps & Records	3	Continuously
7. Field Pre-Planning	3	As Needed
Pump Stations/ Interceptors Planning and Scheduling		

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Creation, Dispatch, Tracking and Data Entry of Computerized Maintenance Management System Work Orders	3	14,859 per year
2. Prioritizing and Balancing Work Load	3	Daily
3. Data Analysis and Reporting	1, 3, 4	As Needed
4. Gather Equipment Data in the field	3	As Needed
5. Develop Standard Maintenance Procedures	3	As Needed
Other Services		
1. Regulatory Compliance Reporting Support	1	As Needed
2. EMS Support	3	As Needed
3. Ad-hoc Analysis and Reporting	3	As Needed
4. Sewer Overflow Response Tracking	1	As Needed

iv. Operations Engineering Support

The Operations Engineering Support function is responsible for providing a variety of engineering services in support of the wastewater collection system operations. The main duty of the Engineering Section is to provide support for the operational and maintenance crews. Other major engineering services include capital improvements program project support, regulatory compliance and permitting support, and in-house engineering support. In-house engineering support includes evaluating operational problems and working out effective solutions. Services include temporary flow monitoring installation and data collection, maps and records research, infiltration and inflow studies, pump station annual testing, odor complaint investigations and odor control support, surveying, plan checks, and Engineering Data Manual preparation.

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Supervision		
1. Hiring and Interviews	3	As Needed
2. Performance Reviews	3	As Needed
3. Staff Meetings	3	As Needed
4. Training	3	As Needed
5. Quality Control	3	As Needed
6. Contractor Procurement	3	As Needed
7. Program Implementation, Management, and Optimization	3	As Needed
8. Coordination between other Operating Sections within WWCD	4	As Needed
9. Best Practices Research	3	As Needed
CIP Project Support		
1. Plan Checks (30, 75, 90, 100% Reviews) – Pump Stations, Mains, and City wide	1, 4	Up to 30 miles per year Every private sewer related project >= 18" and all public sewers

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
2. Wastewater Metering—Engineering (charged to projects)	3	Ad-hoe
3. Acceptance Testing	4	Periodic
4. Warranty Inspections—Mains and Pump Stations	4	Periodic
5. Construction support including RFIs, Shop Drawings, By Pass plans, change orders, etc	4	Periodic
Regulatory Compliance and Permitting		
1. EMS Support	2	Periodic
2. EPA Reporting	1	Periodic
3. Notice of Violations Response Support	1	Ad-hoe
4. RWQCB Quarterly Erosion Control Reporting	1	Periodic
5. Environmental Permitting/Restoration	1	Periodic
6. Erosion Control Design and Inspections	1, 2, 4	Periodic
7. Permit Renewal	1	Periodic
a. NROW Permits	1	Periodic
b. APCD Permits	1	Ad-hoe
c. Caltrans Permits	1	Ad-hoe
Engineering Support (In-House)		
1. Flow Monitor Data Collection	1	120 stations
a. Permanent (inc. install and uninstall)	1	Approx. 40
b. Temporary	1	Approx. 80
2. General Engineering Support	2	150-200 referrals per year
a. Supervision in field	2	As Needed
b. Pump Stations	2	As Needed
c. Gravity Sewer Repair, Rehabilitation, Replacement	2	As Needed
3. Maps & Records Research	4	Daily
4. Sewer Infiltration & Inflow Studies	2	Ad-hoe
5. Pump Station Monitoring and Annual Testing	1, 2, 4	Daily
6. Odor Complaint Investigations By Engineering Personnel	2, 3, 4	Ad-hoe
7. Odor Control	4	Daily
a. Contract Management	4	Daily
b. Monitoring and Optimization	1	Daily
8. Engineering Survey Services	2	Daily
9. Report Preparation—Pump Stations	2	Ad-hoe
10. Inspections Pump Stations (Excludes Testing, Monitoring)	4	Periodic
11. Vactor Cleanings Disposal Site	2, 4	Ad-hoe
12. MBSIS and Low Flow Diversion—Plan Check and Operational Support	1, 4	Periodic
13. Batch Discharge Authorization for Industrial Waste Section	1	Periodic
14. Data Manual Updates	4	Every 2 years

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Engineering Support (Other Departments)		
1. Engineering and Capital Projects Department Engineering Support	3	Periodic
2. MWWWD Engineering and Program Management Division Engineering Support	3	Periodic

v. *Food Establishment Waste Discharge Ordinance Enforcement*

The Food Establishment Waste Discharge Ordinance Enforcement function is responsible for enforcing the City's grease ordinance. This function is responsible for tracking the City's food service establishments (FSEs), issuing permits, and performing compliance monitoring of FSEs to control and minimize the discharge of fats, oils, and grease into the wastewater collection system. The program also conducts investigations to determine sources of grease-related sewer main blockages and Sanitary Sewer Overflows (SSOs). This function also supports the stormwater management by performing annual visual inspections of each FSE to identify stormwater violations.

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Section Management		
1. Direct Supervision	3	For 19 Staff
2. Program Optimization	3	821 hours
3. Staff Meetings	3	6 per year for senior staff, 24 per year all staff
4. Training	3	190 hours
5. Quality Control	3	4,570 hours
6. Performance Reviews	3	For 19 staff annually
FEWD Permitting Program		4,566 permitted FEWD establishments
1. New Restaurant Research and DEH Coordination	3	20 hours
2. Plan Checks	1, 3, 4	507 per year
3. Inspection Preparation	3	2,285
a. Phone Calls	3	230 per year
b. Scheduling	3	2,470 hours
4. Inspections	1, 3	See Below
a. Permit Inspections	1	1,897 per year
b. Routine Inspections (Spot Checks - 1 year)	1	2,393 per year
c. Routine Inspections (Spot Checks - 6 months)	3	607 per year
d. Routine Inspections (Spot Checks - 3 months)	1	1,010 per year
e. Follow-up Inspections	3	2,527 per year
5. Post Inspection Activities	1, 3	See Below
a. Data Entry	3	4,570 hours

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
b. Inspection Frequency Optimization	1	1,003 per year
6. Compliance Assurance	1	See Below
a. Issuance of Notice of Violations	1	231 per year
b. FEWD Violations Hearings	1	17 per year
Non-Permitted Inspections		
1. Non-FOG Producer Verification (X-Status)	5	325 per year
2. In-Active FSE Verification (I-Status)	3, 5	245 per year
Special Investigations		
1. Grease SSO/Blockage Investigations	1	71 per year
Storm Water Inspections		
1. Storm drain and general maintenance inspections	2	4,481 per year
Other Services		
1. EMS Support	4	249 hours per year
2. EPA Support	1	20 hours per year
3. Response To Council Requests Or Inquiries	4	10 hours per year
4. FEWD Public Information Campaign	1	25 hours per year

vi. *Sewer Pump Station and Stormwater Interceptor System Operations and Maintenance*

The Sewer Pump Station and Stormwater Interceptor System Operations and Maintenance function is responsible for operations and maintenance of 74 pump stations, 16 stormwater interceptor pump stations, and 37 stormwater diversion valves located throughout the City. The pump stations were constructed as long ago as 1917 with most having been constructed in the past 50 years. This function is responsible for all operations and maintenance activities occurring within the fence line of the pump station including responsibility for the pumps, motors, valves, piping, instrumentation and control systems, odor control systems, emergency generators, wet wells, and the pump station building. In addition, this function includes the operations and maintenance of the stormwater interceptor system which intercepts dry weather flow from the stormwater system and conveys it into the sanitary sewer system. The stormwater interceptor system also includes diversion valves that divert dry weather stormwater system flows into the sanitary sewer system. This function is also responsible for emergency response activities occurring within the fence line of the pump station that are typically related to response to pump station sewer overflows.

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Supervision		
1. Hiring and Interviews	3	As Needed
2. Performance Reviews	3	As Needed
3. Staff Meetings	3	As Needed
4. Training	3	As Needed
5. Quality Control	3	As Needed

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
6. Contractor Procurement	3	As Needed
7. Program Implementation, Management, and Optimization	3	As Needed
8. Coordination between other Operating Sections within WWCD	4	As Needed
9. Best Practices Research	3	As Needed
Sewer Pump Stations		
1. Operations	3	As Needed
2. Preventive, Corrective, and Emergency Maintenance	3	As Needed
3. Patrol	3, 4	As Needed
4. Building / Ground Maintenance	3, 4	As Needed
5. Coordinate operations with other inter-connected facilities	3, 4	As Needed
Central Operations Building		
1. Preventive, Corrective, and Emergency Maintenance	3	As Needed
2. Building / Ground Maintenance	3, 4	As Needed
3. Coordinate operations with other inter-connected facilities	3, 4	As Needed
Storm Interceptor Pump Stations		
1. Operations	3	As Needed
2. Preventive, Corrective, and Emergency Maintenance	3	As Needed
3. Building / Ground Maintenance	3, 4	As Needed
4. Patrol	3, 4	As Needed
5. Coordinate operations with other inter-connected facilities	3, 4	As Needed
Diversion Valves		
1. Operations	3	As Needed
2. Preventive, Corrective, and Emergency Maintenance	3	As Needed
3. Patrol	3, 4	As Needed
4. Coordinate operations with other inter-connected facilities	3, 4	As Needed
Support Equipment (Mobile Equipment and COM-C)		
1. Preventive, Corrective, and Emergency Maintenance	3	As Needed
2. Patrol	3, 4	As Needed
3. Coordinate operations with other inter-connected facilities	3, 4	As Needed

vii. *Flow Monitoring and CIP CCTV Data Collection and Assessment*

The Flow Monitoring and Contract CCTV Data Collection and Assessment function is responsible for managing the permanent flow monitoring contractor, CCTV contracts, and assessment of contract CCTV data. This function is also responsible for monitoring sewer alarms and dispatch, during normal work hours, of emergency response crews to investigate the alarms.

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Supervision		
1. Hiring and Interviews	3	As Needed
2. Performance Reviews	3	As Needed
3. Staff Meetings	3	As Needed

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
4. Training	3	As Needed
5. Quality Control	3	As Needed
6. Contractor Procurement	3	As Needed
7. Program Implementation, Management, and Optimization	3	As Needed
8. Coordination between other Operating Sections within WWCD	4	As Needed
Sewer Flow Monitoring and Alarm	1	Monitor more than 90% of the flow weighted length
1. Meter site acceptance	4	Annually
2. Monitor meter alarms and operational status	1	Daily
3. Monitor maintenance activities	4	Daily
4. Review meter data	4	Daily
5. Review and record COMC dispatches	3	Daily
6. Coordinate meter removals	3	Daily
7. Notify meter contractor of PS shutdowns	3	Daily
8. Meter site inspections	3	Weekly

viii. Administration

The Administration function provides support to all wastewater collection system operations and maintenance functions. Administration activities include general management, management reporting, human resources, payroll, purchasing, budget management, Pay for Performance monitoring, equipment coordination, and other administrative services.

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Management and Supervision		
1. Hiring and Interviews	3	As Needed
2. Performance Reviews	3	As Needed
3. Staff Meetings	3	As Needed
4. Training	3	As Needed
5. Quality Control	3	As Needed
6. Coordination between other Operating Sections within WWCD	4	As Needed
7. Management Reporting	3, 4	As Needed
8. Budget Management	3	As Needed
Administrative Support		
1. Administrative Support	4	As Needed
2. Budget Coordination	4	As Needed
3. Fleet Management	4	As Needed
4. Human Resources	4	As Needed
5. Inventory Coordination	4	As Needed
6. Payroll Services	4	As Needed
7. Accounts Payable Services	4	As Needed

BASIC SERVICE REQUIREMENTS	PURPOSE	PERFORMANCE LEVEL OF SERVICE
8. Competition Program Staff/Consultant Expense	5	As Needed
9. Environmental Management System Support	5	As Needed
10. Regulatory Support and Reporting	1	As Needed
Field Support and Facility Maintenance		
1. Information Systems Data Management	4	As Needed
2. Facility Leasing & Maintenance	4	As Needed
3. Claims	1	As Needed
4. Traffic Control	2	As Needed
5. Equipment & Yard Maintenance	4	As Needed
6. Emergency Response Dispatch (Station 38)	5	As Needed
General Department and City Expense		
1. General Dept and City Expense	4	As Needed
2. General Expense	4	As Needed
Operating Fees and Assessments		
1. Operating Fees and Assessments	3	As Needed
Assurance Program Reserve		
1. B2G	5	As Needed
General Government Services 154		
1. Overhead from City (legal, insurance, etc.)	4	As Needed

3. Environmental Monitoring and Technical Services

A. Background and Scope

The Environmental Monitoring and Technical Services (EM&TS) Division of the Metropolitan Wastewater Department (MWWD) provides technical support to the Department and oversees several significant programs, including controlling industrial discharges to the sewer through the industrial source control program; providing chemical and biological analysis of raw and treated wastewater and residuals including process control testing to assure proper operation of the treatment facilities; conducting a comprehensive ocean monitoring program to assess the impact of wastewater discharge in the ocean environment; managing all regulatory permits; preparing and submitting all required technical reports including the modified permit for the Point Loma Wastewater Treatment Plant. The division was awarded ISO 14001 Certification in June 2002, the first publicly-owned laboratory in the nation to receive such certification. All of the division’s laboratories are accredited by the State of California under the Environmental Laboratory Accreditation Program (ELAP).

<http://www.sandiego.gov/mwwd/general/divisions.shtml>

The following core functions are provided:

- Administration
- Business Support
- Wastewater Chemistry
- Marine Biology and Ocean Operations
- Marine Microbiology and Vector Management
- Permits and Compliance
- Industrial Wastewater Control Program
- Industrial Waste Laboratory

Each of these core functions is described in more detail below.

B. Explanation of Core Services, Functions, and Basic Service Requirement

MWWD is divided into a number of divisions that provide services to customers and stakeholders. Six of these divisions are part of the MWWD BPR team: Operations and Maintenance, Information and Organizational Support, Engineering and Program Management, Environmental Monitoring and Technical Services, Services and Contracts, and Wastewater Collection. Each of these divisions is considered to represent a “core service” of MWWD.

Within each division there are typically six to eight sections that focus on certain functions. Each section is considered to represent a “core function.” Within each section there may be specific programs or groups that perform certain tasks. Each program or group is considered a “basic service requirement group.” The tasks that these groups complete are referred to as “basic service requirements.”

This hierarchy is summarized in the table below.

NAME	MWWD ORGANIZATION	EXAMPLE
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NAME	MWWD ORGANIZATION	EXAMPLE
Core Service	Division	Information and Organizational Support
Core Function	Section or Activity Group	Information Technology Management
Basic Service Requirement Group	Program or Activity	IT Governance
Basic Service Requirement	Task	Implement IT policies and procedures

The tables in this document describe the basic service requirements for the Environmental Monitoring and Technical Services Division. Separate tables have been prepared for each core function.

In the tables, each basic service requirements is assigned one or more purposes or drivers. The purpose is intended to represent MWWD's most compelling reason to perform the task. The purpose may be assigned a 1, 2, 3, 4, or 5. These purpose designations are explained in the table below.

PURPOSE CODE	CATEGORY NAME	CATEGORY DEFINITION	EXAMPLES
1	Legal Requirement	A legally required service based upon a law, permit, ordinance or similar Authorizing Document	California law; NPDES permit; OSHA regulations; Intergovernmental Agreement adopted by ordinance; City ordinance.
2	Stakeholder Requirement	A service required by an entity or customer outside of the MWWD Division (within or outside of the City) performing the work	Clearing of blocked sewers; annual MWWD budget submittal; Service Level Agreement; other Intergovernmental Agreements
3	Industry Standard or Benchmark	A service or function commonly performed by U.S. wastewater utilities	WEF Manual of Practice documents
4	Internal City Requirement	A service required by a City, Department or Division policy	City recruiting policy
5	Other	A service that does not fall into one of the above four categories.	

C. Environmental Monitoring and Technical Services Core Functions

Note: Strikethrough items are not expected to remain in the MWWD BPR Team scope of work.

i. Administration

The Administration function provides overall management, leadership, and direction to the Environmental Monitoring & Technical Services Division.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. General Supervision: Review and approve the hiring of all staff and associated documents; provide oversight of all discipline issues including appeals; provide advice and direction to supervisors regarding employee issues; address technical issues; Provide review and approval of all purchases and related documents; Payroll approval and related personnel matters; Conduct staff performance reviews; resolve issues with the employee unions as they arise and meet and confer as needed; coordinate operations with other divisions and city departments; address regulatory compliance issues; represent and advocate for division needs and requirements at MWWD/ City level; coordinate the agreements involving services provided by division staff; coordinate the implementation of agreements with outside entities including Federal, State and Local; oversee and ensure the implementation of Department and Citywide regulations, policies and procedures throughout the division; manage conformance and facilitate the activities of staff and outside auditor to ensure the retention of the division's ISO 14001 certification.	1, 4	Daily
2. Budget Review: Budget Development and Approval	4	Daily
3. Financial Analysis: Budget Monitoring and Control; conduct review and analysis of financial status reports; forecast for future needs.	4	Daily
4. Administration: Coordination of Division activities; Support to Department and Citywide functions; Implementation/ coordination of Citywide, Department and Divisional initiatives; QA/QC of reports correspondence and related documents; Manage building systems contractors to ensure efficient operations. Coordinate with staff and contractors to resolve building issues. Oversee the resolution of issues which arise in those facilities shared with the Water department. Perform strategic planning.	4	Daily
5. Special Projects: Provide support to department and citywide projects including both technical and non technical. Oversee and coordinate the design of projects and studies involving division staff.	1, 4	Daily
6. Meetings: Represent the Division in meetings at various levels and with various constituents including: department and citywide management staff; technical, regulatory and environmental groups; citizen and community stakeholders; City Council and Council Committees.	1, 4	Daily

ii. *Business Support*

The Business Support function provides the necessary business services for all Sections and Laboratories in the EM&TS Division. These services include budgeting, payroll, cost

accounting, invoicing, purchasing, asset inventory audits, training, petty cash maintenance, operation of the reception desk, reporting, and record keeping.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. Administrative Support	3, 4	Daily: reception and clerical duties, including schedule conference room, arrange for meetings; type, mail, FAX, and file correspondence; complete Direct Payment and Daily Cash Receipt forms, order supplies, organize and maintain office supply room; manage petty cash.
2. Human Resources	3, 4	Daily: general personnel-related duties in support of 156 positions, including hiring, promotions, transfers, resignations, terminations, retirements; schedules annual employee performance evaluations; maintains knowledge of MOUs, ARs, and Civil Service rules; maintains Division organization chart.
3. Payroll	3, 4	Daily: general payroll duties in support of 156 positions, including processing and filing time cards, leave slips, furlough requests, long-term disability; input to the City CAPPs program; processing W-2 and W-4 forms; coordinates flexible benefit program; providing Division input to the MWWD Performance Indicator Reports.
4. Financial Analyses / Services	3, 4	Daily: duties include development of Division's \$20 million annual budget, budget monitoring, expenditure tracking and forecasting; interface with Financial Management Dept. and City Auditor; determination of funding options for capital equipment; conducting financial projects; resolving financial issues.
5. Business Management	2, 4	Daily: duties include supervising Section staff of seven positions; annually computing full cost of services for each of the 156 labor classification and for each of 460 analyses conducted by the laboratories in the Division; preparing all financial information in response to RFPs from state and federal agencies and for grant applications; preparing 1472 forms for City Council action on proposed contracts and 1544 forms for Mayoral approval of agreements; forecasting future costs and negotiating with federal and state agencies for multi-year projects; preparing and sending invoices for services rendered by the Division laboratories; preparing Service Level Agreements for work provided to other City Departments; representing the Division and attends meetings on MWWD process optimization teams.
6. Purchasing Services and Equipment	3, 4	Daily: purchasing and accounts payable duties including opening 20 new POs, renewing 300 POs, and modifying 50 POs per year; closing completed POs; preparing correspondence and negotiating with vendors; paying 1,500 vendor invoices per year; preparing expenditure reports for the Division's Budget Analyst; verifying PO and invoice payment information on the City Auditors mainframe files.
7. Building Management	3, 4	Monthly: duties include providing assistance in resolution of building maintenance and renovation issues. Annually: negotiating with lessors for commercial space.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
8. Administration Assistance	3, 4	Daily: duties include providing assistance to the Business Manager in accounting for full costs of services provided by the Division; assisting all Division employees in preparing plans for required training; scheduling training events; Division (“all-hands”) business meetings. Monthly: updating the Division’s \$6 million asset inventory lists; conducting unannounced inventory audits and petty cash audits.

iii. *Wastewater Chemistry Section*

The Wastewater Chemistry function includes a full service environmental chemistry laboratory that provides a broad range of support to the Metropolitan Wastewater Department as well as additional value-added services in support of the MWWD mission. Core functions include sampling and chemical analysis to meet the NPDES permit requirements for the various wastewater treatment plants, chemistry analysis in support of the ocean monitoring programs for the two ocean outfalls, process control analysis and technical support for the treatment plants, department-wide technical consultation and support on wastewater issues, chemical analysis and consultation in support of wastewater research projects and special studies and environmental projects as required. In addition, WCL coordinates with the Operations and Maintenance Division to produce all NPDES and other regulatory required reports. WCL staff is co-located with Water Department laboratory staff in a central laboratory facility at the Alvarado Water Filtration Plant and in satellite laboratories at the individual wastewater treatment plants.

The Wastewater Chemistry Laboratory also provides contract services to other agencies on a full cost reimbursable basis. WCL maintains ISO 14001 Environmental Certification and is also certified by the State of California Environmental Laboratory Accreditation Program (ELAP). It has participated in the Southern California Coastal Water Research Project (SCCWRP) inter-calibration studies and is a full participant in the required SCCWPP studies and surveys.

The following are some of the major customers and projects directly served by the Wastewater Chemistry Laboratory.

Metropolitan Wastewater System:

- Permit monitoring, process control, special studies, and support services for each WWTP (Pt. Loma WWTP, Metro Biosolids Center, North City Water Reclamation Plant, and South Bay Water Reclamation Plant.
- Ocean outfall monitoring for the PLWWTP, SBWRP, and the International Wastewater Treatment Plant.
- Facility storm water M&R (SWPPP) for Metro facilities such as: PLWWTP, SBWRP, NCWRP, Grove Ave Pump Station (PS), MBC, Pump Station 1, Pump Station 2, PS-64, PS-64, and EMG-PS.

Other City Agencies/Departments:

- City Storm Water Program (Dry Weather Monitoring)
- City Storm Water Program, e.g. ASBS.
- San Diego Convention Center NPDES permit monitoring and special studies.
- Environmental Services Department, greens recycling program.

Contracted-in:

- Ramona Municipal Water District (RMWD), permit and process control monitoring.
- International Boundary and Water Commission, International Wastewater Treatment Plant Ocean monitoring program.
- Cabrillo Mussel project, U.S. Department of the Interior, Parks Service.
- City of Tijuana joint project, analytical work.
- Special studies for Scripps Institute of Oceanography.

Special Projects and Studies:

- Wastewater Treatment Plants or Permit related studies -
 - BAF (Biological Aerated Filters) technology evaluation.
 - MBR (Membrane Biological Reactors) technology evaluation.
 - Octopus Pilot Study.
 - Deep benthics study.
 - Sediment Mapping study.
 - Southern California Bight Regional Monitoring studies.
 - TJ Wells monitoring and reporting program.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Sampling & Sample Handling		
1. Physical sampling system design	1, 2, 3, 4	Daily (7 days per week, 365 days per year); at 4-treatment plants, and other sites in the service area & county. Processed 36,357 samples in 2005. Additional staff time chargeable in each of the following service areas. Varies from plant to plant and customer to customer. PLWWTP requiring the all of the services (i.e. 1.-11.) while the other plants generally deliver samples to the on-site lab. taking care of 2. & 3. themselves.
2. Functional sampling system design.	1, 2, 3, 4	
3. Setup and maintain sampling equipment.	1, 2, 3, 4	
4. Design, setup and maintain sampling equipment.	1, 2, 3, 4	
5. Select, procure, and prepare appropriate sampling equip. (e.g. containers, cleaning protocols, tubing, etc.)	1, 2, 3, 4	
6. Take samples and document process (i.e. field sampling, C-of-C, sample log, exception reports, down-load and report sampler data logger data, etc.)	1	
7. Transport, preserve, and store samples.	1, 2, 3, 4	
8. Receive samples	1	

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
distribute, and schedule work.		
9. Dispose of samples properly.	1	
10. On-call response	1, 4	Averages over 15 per year call backs for plant emergencies for all facilities. Consequence of not responding will increase incidence of non-compliance and NOV's.
11. Logistics support, i.e. pass-through sample handling for outside labs. or projects.	1, 2, 4	e.g. contracted out analyses (radiations, chelated metals, etc.) and special projects.
Analytical Services		
1. Standard Chemical/physical determinations of samples.	1, 2, 3, 4, 5	Laboratory performs 114 different types of analyses in-house; 5-are contracted out to other city or commercial labs. Daily analyses (7 days per week, 365 per year). Over 70,644 analyses in 2005 (287,608 analytes determined). Average of 295,857 analytes/year over last 6-years (2000-2005). Some have same-day (i.e. by 1400) reporting requirements. The tables in Section 5 list those done in CY 2005. Some analyses (e.g. pH, temperature, etc.) have no holding time. Must be taken and analyzed on-site; on every occasion/daily.
2. Additional analytes	1, 2, 5	Many analyses include parameters or analytes not within the normal analyte list for the method. Most of the organic analyses we do include a number of analytes outside of the commonly available commercially. Includes such things as endocrine disruptors, special indicator compounds, and volatile compounds of interest to APCD, etc. List of specific analytes available.
Quality Assurance/Quality Control		
1. Quality Assurance (QA)	1, 2	<ul style="list-style-type: none"> ▪ Develop, maintain and follow a comprehensive Quality Assurance plan for normal laboratory operations. And develop project QA Plans and data quality objectives as required. ▪ Provide comprehensive Annual QC report for all QA activities, QC metrics and performance testing each year. (~300 pages). Including contractor performance.
2. Competency training and professional development.	1, 3, 4	Develop and maintain a systematic training program for each analysis and other laboratory procedures. Ensure that each analyst completes such training and demonstrates proficiency with the analysis. Depending on the complexity of specific analysis, training can take 8-hours. to several months/analysis/analyst.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
3. ISO 14001 certification	4	Value-added activities associated with the environmental aspects and impacts of the business activities of the laboratory/Division, such as waste minimization programs, enhanced recycling, document control, etc.
4. ELAP Certifications (Environmental Laboratory Accreditation Program)	1	5-separate laboratories maintain certification (one at each plant and main lab.). Includes bi-annual on-site audits, annual fees, and several Performance Testing (PT) studies each year for each of the 5-laboratories for both wastewater and solid waste fields.
5. Inter-calibration studies	1	Infrequent, but significant investment in time and resources when done. (see special studies)
6. Quality Control (QC) & Data validation	1	<p>Permits require additional QC measures exceeding the standards in 40CFR136 and other approved methods or the stipulations of the Laboratory Accreditation Additional QC samples (e.g. blanks, LCS, MS, Dups., etc.) add approximately 52% additional sample load. I.e. 109,595 samples of the 209,007 total samples in the laboratory in 2005 were QC samples. Without the additional requirements, the loading would be about half that.</p> <p>The documentation of the laboratory data must be able to stand alone in its completeness. The end product of the analytical must include the following documentation: Chain of custody; all refrigerator, freezer, oven, etc.. temperature logs for the days that sample was in custody; all certification sheets for any standards, checks, spikes, etc...used in the analysis; copies of extraction logs, standards preparation logs, cleanup logs, instrument maintenance logs; all calibration data, raw sample data, quality control data; QC summary page for all data quality objectives; analyst narrative; signature page including analyst, supervisor, data entry, 2nd data entry; electronic copy of all above mentioned items.</p>
7. Additional qualitative measures in analytic performance	1, 5	<p>Perform additional confirmation (e.g. GC-MS for chlorinated pesticides) when compounds are identified in the primary method. This helps to ensure false positives do not cause a NOV and fines for the City. These are done each time there is a "hit" (i.e. tentative identification of an analyte of concern) identified that can be subjected to further qualitative or quantitative procedures. Occurred 39 times in 2005, for pesticides and PCB analyses alone, and in each case provided the foundation to avoid an NOV/fine.</p>
8. Additional Analytical performance measures and enhanced procedures.	1, 2, 3	Several methods have additional performance procedures and criteria designed to meet State mandated MLs and/or add enhanced confidence and lower false-positives for the M&R programs. Avoids unnecessary NOV/fines.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
		<p>Performance procedures incorporate provisions of SW-846, CLP, GLP, etc. in routine work. Conformance with provisions of DOE, US Army COE, and other QA programs as required.</p> <p>Must provide "meet or exceed" MDLs and MLs in Metro specific matrices (e.g. sewage effluent, biosolids, sediments, fish tissue, etc.) as well as "clean matrix" MDLs/MLs/PQLs, etc.</p> <p>Quality Control (e.g. MS, MSD, etc.) are determined in and using representative samples of the permitted matrix (i.e. effluent).</p>
<p>9. Novel methods/applications/method development</p>	<p>1, 2</p>	<p>We have developed and perform a number of novel methods, outside of the 40CFR136 or ELAP lists, including the following. Specific protocols and procedures required to ensure comparability of monitoring data over time and compliance with local approvals and Regional Monitoring programs required.</p> <ul style="list-style-type: none"> ▪ Laser-scattering particle size distribution analyses for sediment grain size determinations. We also do this method for all of the participants in Bight Regional Monitoring projects (every 5-years or so) on as in-kind basis. ▪ Lipids determinations in tissues. ▪ Selenium in fish tissues. ▪ Weak-acid dissociated cyanides. ▪ Sulfides in sediments ▪ Chlorinated pesticides & PCB congeners in tissues ▪ Organophosphorus pesticides in stormwater & tissue ▪ Organo tins (tributyl tin) in sediments and tissues.
<p>10. DMR-QA: Annual performance on U.S. EPA DMR-QA program Performance Testing studies. Four of the five labs. must participate for analytes routinely monitored.</p>	<p>1</p>	<p>5-labs. participate annually for 2-NPDES permits requiring the program.</p>
<p>11. Reference Laboratory</p>	<p>1, 5</p>	<p>As an outgrowth of necessary method development work in Bight Regional monitoring projects, we have developed the expertise, proficiency and have been recognized by the National Research Council of Canada (NRCC), equivalent to U.S. NIST, in developing and as a reference laboratory for Certified Reference Materials, fish tissue.</p>
<p>Process Control</p>		
<p>1. Routine process control sampling & testing.</p>	<p>1, 2, 3</p>	<p>Daily sampling and analyses: 15,297 samples per year, 32,740 analyses per year for 4-WWTPs. Most analyses have same-day (i.e. by 1400 hours) reporting requirements.</p> <p>Includes both permit required and additional samples and</p>

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
		<p>analyses. Additional work includes plant-site microscopic examination of activated sludge, special nutrient determinations, etc. (this section entirely based on 2005 metrics)</p> <p>Typical performance metrics:</p> <ul style="list-style-type: none"> ▪ PLWWTP: 7-days per week, 365 per year. ▪ SBWRP: 6-days per week, 312 per year. ▪ NCWRP: 7-days per week, 365 per year. ▪ MBC: 5-days per week, 260-days per year. ▪ NCWRP & MBC process control is not distinguishable absolutely in our data system, however MBC is 99% process control and NCWRP is, conservatively, 85% process control work. Estimates are: <ul style="list-style-type: none"> ▪ MBC process control = 8,410 analyses on 4,384 samples per year. ▪ NCWRP process control= 11,240 analyses per year. ▪ 3,949 samples and 7,729 analyses for PL process control ▪ 5,362-analyses on 1,434-samples for SBWRP Process control.
2. Process trouble-shooting	1, 2, 3	as requested
3. Process consulting	1, 2, 3	as requested
Compliance Monitoring, Review, Assessments, and Reporting		
1. Compile, edit, write and publish regulatory and customer reports.	1	<ul style="list-style-type: none"> ▪ Over 1,219 Reports per year (>6,782- pages per year) produced in 2005; with additional printing, binding and distribution. ▪ Reports must be delivered to appropriate regulatory agency and/or customer by stipulated schedules. Typically, monthly reports are due NLT (not later than) the 30th /last business day of the month following the month reported on (e.g. June's report is due NLT last business day of July). Annual reports have varying due dates, from Jan 30th to June 30th. Other reporting requirements specific to program or project exist. ▪ Over 40,000 monitoring metrics are evaluated for compliance and performance each year.
2. Bench review	1, 2, 3	Required 24 hour notice of a violation, compels assessment by the bench chemists, data chemists, supervisory chemists, and laboratory manager. 5-NPDES permits and specific customer requirements (e.g. Storm Water Program).
3. Validate data collection and measurement systems' processes and outputs.	1	Take and document all necessary records that show the state and condition of all aspects of the sampling, sample storage and preservation, measurement processes. Provide such records on demand. Evaluate all

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
		monitoring data (laboratory and operational, such as flows) and relate to operational changes and conditions, environmental conditions or impacts, and other aspects of wastewater conveyance, treatment, and disposal. Develop, maintain and document data integrity systems and processes, including security for electronic systems.
<i>Most of the Core Services described below are not typically a function of laboratory per se. Typically, the utility/POTW will have a separate unit on staff or hire a consulting engineering firm to provide these services (wholly or in part)</i>		
1. Collect, compile all required monitoring data[5] (lab. and operational, etc.) for NPDES and other discharge permits.	1, 2	Corresponds to each reporting period required in permit and/or episodic notifications required.
2. Perform & report required statistical analyses of monitoring data.	1	Corresponds to each reporting period required in permit and/or episodic notifications required.
3. Develop, evaluate, and report graphical presentations and analyses of the monitoring data.	1	esp. annual reports
4. Review each compliance point (i.e. limit) and each metric produced (i.e. Monitoring data) and evaluate compliance.	1	Corresponds to each reporting period required in permit and/or episodic notifications required.
5. Report all occurrences of out-of-compliance situations, whether based on direct or calculated metrics or other situations in processes or plant operations, ensuring full disclosure of the facts and circumstances.	1	Corresponds to each reporting period required in permit and/or episodic notifications required.
6. Help develop corrective action for each out-of-compliance occurrence and ensure full documentation of the plan.	1	Corresponds to each reporting period required in permit and/or episodic notifications required.
7. Edit and publish comprehensive M&R program reports for	1	Over 1,134 regulatory required reports per year (>6,500-pages per year) produced in 2005; with additional printing, binding and distribution. Exclusive of other

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
each permit and submit within regulatory due date.		listed reports.
8. Produce sufficient copies of all M&R reports to fulfill regulatory requirements, internal and public distribution. Expand/modify distribution lists as requested.	1, 3	Distribution lists are maintained for each report published. Copies are made and mailed to each recipient within 15-days of regulatory submission. Lists are modified as needed/on request.
9. Assist with State/County inspections and coordinate comprehensive response to identified issues/exceptions.	1, 3	Typically 1-State and 1-County Inspection per year; approx. 16-hours staff time per plant, exclusive of split samples/analyses.
10. Develop and maintain a comprehensive computer database of operational, laboratory and other monitoring data. Maintain interface with O&M data systems (EDORS). Maintain data integrity policy and procedures.	2, 3	Maintain non-expiring (i.e. cumulative data) database. Current records include 415,462-samples(growth ~37,000 annually), 3,644,967 (growth ~290,000 annually), 13,048 historical records, and 47,343 operations records (multi-data points, growth ~2,920. Data entry of all information (samples, geographical, operational, etc.) - daily (365 per year). Data exchange with O&M data systems - daily (365 per year).
11. Submit or provide data electronically.	1, 2, 3	Ad-hoc requests are frequent and come from a variety of sources, e.g. regulatory agencies, MWW management, Reclaimed water marketing staff in Water Dept., reclaimed water customers or potential customers, SCCWRP and other agencies and stakeholders. Is required by U.S. EPA and SDRWQCB as part of permit application/renewals process.
12. Complete, review, and submit DMR forms.	1	12-monthly and 1-annual report. 386-pages annually.
13. Collect, compile all required monitoring data (lab. and operational, etc.) for beneficial reuse/ land application of Biosolids.	1	Monthly and annual certification and reports on biosolids.
14. Collect, compile all required monitoring data for evaluating and certifying biosolids for	1 <i>(Includes multi-state compliance)</i>	Monthly and annual certification and reports on biosolids.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
landfill disposal.	<i>regulations.)</i>	
15. Evaluate biosolids and other waste treatment by-products for hazardous waste characterization and potential for certification.	1	At least monthly and an annually comprehensive review. Annual biosolids reuse and disposal report (over 500 pages). Include land applicators' certification statements and disposition records, and other external information relative to full disclosure and understanding of disposition and processes for biosolids and treatment by-products/wastes.
16. Maintain comprehensive records of regulatory reports and respond to request for copies or information.	1, 2	Records of monitoring data go back to 1962. Records maintained of each submitted report (as produced by this section) and underlying processed data. Develop and maintain records retention policy necessary to comply with regulatory requirements and protect the City's interest.
<p>Special Studies & Technical Support: Special studies are a regular part of the service delivery expectation. Special studies may be requested by MWWWD management/staff, other City Departments, regulatory agencies, Metro member agencies, State or Federal agencies, and others. These can serve a variety of public interests and may be mandated specifically or indirectly or simply directed by the customer.</p>		
1. Treatment process special studies, e.g. BAF (Biological Aerated Filters) technology evaluation, MBR (Membrane Biological Reactors) technology evaluation, Octopus Pilot Study. Other examples include Deep benthics study, Sediment Mapping study, and Southern California Bight Regional Monitoring studies	1, 2, 4	In 2005 approx. 2,921-samples and 5,382[6]-analyses performed on special studies. In the 6-years (2000-05) special studies were up to 4,000 samples and over 9,000 analyses per year. Average was 2,453 and 4,790, samples and analyses respectively.
2. Extraordinary event response.	1, 2, 4	Outside of above services, technical staff time spent on special projects (e.g. odor/corrosion control, technical advising/assists (e.g. Geotivity lawsuit issues, treatment plant trouble-shooting, chemical release issues, etc.), and similar exceed 2,100 hours per year. e.g. major sewage spills, chemical releases, etc. Testing of treatment process bulk chemicals for bid testing, quality control, etc. has low # of analyses and samples, but takes extraordinary staff time for data generated. Add 100-200-hours per year
3. Pollutant source identification	1, 2, 4	
4. Contract/SLA administration.	1, 2, 3, 4	
5. Special disposal issues	1, 2, 4	e.g. Hazardous waste evaluations
<p>Regulatory Analysis, Representation and Advocacy</p>		
1. Permit & Waiver renewals and review.	1	Major permits are reviewed every 5-years, along with 301h waiver application for the PLWWTP. Periodic

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Review and recommend changes to Permits/Orders		amendments and TCOs. Staff hours highly variable; can run as high as >4,000 per year to less 500.
2. ELAP[1] /ELTAC[2] /INELA Liaison	5 <i>(inherently governmental function due to the nature of the gubernatorial appointment.)</i>	Represent public utilities on State Laboratory Certification committee. Develop/evaluate/propose changes to ELAP processes and procedures. Develop recommendations on technical questions and issues relating to laboratory accreditation. Work collaboratively on joint committees and working groups to develop standards. Research, evaluate, & report on pending rule-making processes as needed. 120-hours per year
3. RWQCB[3] Liaison.	1, 3	Research, evaluate, & report on pending rule-making processes as needed. Review and evaluate pending applications and permits, respond to special requests for information, etc. Approx. 30-hours per year.
4. SCCWRP Liaison., (Southern California Coastal Water Research Project)	1, 4	Highly variable; 48-800-hours per year. Review SCCWRP project plans, draft study reports, etc. The tasking for SCCWRP is cyclical due to the Southern California POTW-wide collaborative study schedule. Due to the NPDES permit requirement that we participate in special studies and with 2 years in-between, we regularly participate a regional monitoring event that includes up to 10 POTW monitoring laboratories in So. Cal and an EPA Region IX representative and normally brings about 1,000 samples into the laboratory over a one year period. The duties for this large project include: monitoring program design, Quality Assurance manual composition, sample logistics and consulting, inter-calibration studies amongst participating laboratories and the NIST, full suites of testing for virtually all metals and organics and several physical parameters such as particle size, full peer review of submitted data, data management procedures, and final report composition.
5. FACDQ[4] Liaison.	5	Ad-hoc, 20-hours per year
6. Other State and Federal rule-making processes. Research, evaluate, & report on pending rule-making processes.	1, 2, 3	As needed; typically 100-hours per year.
Customer/Stakeholder Relations		
1. Project Management	1, 3	~5,000 hours staff time developing and coordinating projects and advising customers on projects.
2. Biosolids, Reclaimed water and other reuse issues.	1, 3, 5	

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
<p>3. Community/customer outreach and education; Make presentations to community groups, professional associations, educational institutions, etc. on various aspects of wastewater treatment, environmental assessments and conditions, etc. Perform research, write and publish papers and topical articles in peer-reviewed journals, trade journals, and other publications. Develop and hold workshops and poster sessions. Answer inquiries.</p>	<p>1, 3</p>	<p>Varies.</p>
<p>Administration / Training / Professional Development</p>		
<p>1. Solicit and recruit applicants, interview and evaluate potential employees, and make hiring recommendations</p>	<p>1, 4</p>	<p>Varies considerably on turnover and positions, but a conservative est. is ~310 hours per year; can be >600-hours per year Currently have 6-vacancies. Typically will hire 2-staff members per year. Recruitment-hiring process takes</p>
<p>2. Labor relations activities, e.g. Employee work on or attendance at boards, commissions, etc. (e.g. pension plan or 401K governance, etc.) ~288-hours per year. Labor relations activities, employee recognition, safety committees, etc. ~600-hours per year.</p>	<p>1, 4</p>	<p>~580-hours per year</p>
<p>3. Payroll processing: Recording, compiling and completing time cards, mileage, etc</p>	<p>1, 4</p>	<p>~2,782-hours per year (<i>Lab. staff time only.</i>)</p>

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
4. Employee Performance: Develop and present performance plans and reports and staff time on discipline/corrective action processes. Does not include routine supervisory tasks such as daily monitoring and direction.	1, 4	~1,300-hours per year
5. City Procurement Systems: Developing contract and bid specifications, vendor evaluation, 2610 forms processing,	1, 4	~750-hours per year Not including ordinary ordering materials and supplies or maintaining internal stocks.
6. Budget systems: Developing, writing, formatting budget documents for the City. Monitoring budget progress,	1, 4	~190-hour per year Monitoring: ~40-hours per year (<i>should be more; tools not available.</i>)
7. Mandated Training, e.g. Hazardous Materials, Emergency procedures, etc.	1, 3, 4	~360-hours per year (~8-hours per employee per year)
8. Continuing Education & Professional Development	1, 3, 4	~ <200-hours in 2005, should be 1,568-hours per year (i.e. 32-hours per staff per year).
9. Employer Directed training, e.g. ISO training, misc. safety classes (not mandated by law), etc.	3, 4	~640-hours per year (~10-hours per employee per year, plus ~32-hours per supervisor per year)

Footnotes:

[1] ELAP (Environmental Laboratory Accreditation Program, State of Calif.).

[2] ELTAC (Environmental Laboratory Technical Advisory Committee, State of Calif., Senior Chemist is appointed member).

[3] RWQCB (Regional Water Quality Control Board. San Diego and other RWQCBs).

[4] FACDQ (Federal Advisory Committee on Detection and Quantitation Limits).

[5] required data includes information about operations, staff, procedures, etc. will beyond simple tabulations of data.

[6] includes unassigned samples and analyses for Special Studies in 2005. Not all samples were logged with a designate special project; generally included as "process control".

Comments:

- Most metrics (e.g. samples per year, analyses per year, etc.) are based on actual counts of 2005 work, as taken from LIMS computer system. If based on other periods, it is indicated.

iv. Marine Biology/Ocean Operations

The Marine Biology and Ocean Operations function (Marine Biology Lab) of EMTS includes conducting ocean waters and effluent monitoring as required by the regulatory permits governing wastewater discharge via the Point Loma and South Bay ocean outfalls. The principal role of the Marine Biology Lab is to conduct all receiving waters monitoring for these two regions, which collectively comprise one of the most comprehensive ocean monitoring programs in the world. Additional field and analytical support services for these efforts are provided by two other EMTS functions, the Marine Microbiology Laboratory and Wastewater Chemistry Laboratory.

The ocean monitoring program for Point Loma is the keystone to the City's 301(h) waiver from secondary treatment for the PLWWTP, and its thoroughness and quality of performance are critical to insuring that the waiver can be renewed. The program was so successful that it was praised in federal court as a "premier program" where its data underwent intense scrutiny, and its overall credibility and quality were significant factors in the City's victory. Consequently, the program served as a model for the South Bay region. Both programs have been designed and modified over the years through cooperative efforts involving federal (USEPA), state (RWQCB) and City scientists. Because of the City's expertise in conducting such work, the federal government contracts with MWWD to carry out the South Bay monitoring program. This contract work brings in nearly \$750,000 a year.

Significant changes have recently occurred that affect the general design, direction and scope of the above programs, including redesign of the Point Loma ocean monitoring program into core monitoring, regional monitoring, and special study components. Similar revisions are presently underway for South Bay. The first major special study conducted was a thorough scientific review of the City's ocean monitoring program by the Scripps Institution of Oceanography, the Point Loma Outfall Project (PLOP). The final PLOP report included recommendations for enhanced environmental monitoring of the San Diego region. As a result, the program is continually evolving to accommodate these recommendations and provide targeted research to improve the scientific understanding of local oceanic conditions and the effects of wastewater discharge on the marine environment.

The Marine Biology Lab is divided into several functional work groups or areas of specialty, although there is significant crossover between groups. These main groups include Data Management and Reporting, IT/GIS Systems, Ocean Operations, Taxonomy, and Toxicology. Utilizing MWWD's two ocean monitoring vessels (*Oceanus* and *Monitor III*), more than 200 sampling days are typically conducted each year to collect samples of seawater, sediments and marine species. Each vessel is fully capable of performing all field operations. The combined study area encompasses approximately 340 square miles of coastal waters ranging from Del Mar south into northern Baja California waters, and extending from the shoreline to 10 miles seaward and to depths of approximately 200m. Additional sampling may be conducted in other areas as required for special projects, including local bays or estuaries and in deeper waters further offshore.

All aspects of the ocean environment are studied. Marine biologists use specialized oceanographic instrumentation (e.g., CTD, carousel water sampler, Van Dorn bottles, current meters, thermistors), standard benthic and epibenthic sampling gear (e.g., Van Veen grabs, otter

trawls, hook and line), a remote operated vehicle (ROV), and dive surveys to collect the wide array of information necessary to define the ecological health of the ocean environment, identify potential health concerns associated with the recreational use of San Diego's coastal waters, and evaluate the structural integrity of the outfall pipes. Specific sites are monitored to assess water quality conditions (e.g., bacterial concentrations, physical and chemical water column parameters), sediment quality (e.g., grain size distribution, chemical contaminant concentrations), the health and status of marine invertebrate and fish communities living on or near the seafloor, and the accumulation of contaminants in marine fishes.

Additionally, the Toxicology Laboratory is ELAP certified by the State of California and is responsible for conducting various types of acute and chronic bioassays in support of the above Point Loma and South Bay programs. The lab also conducts acute and chronic bioassays on samples from the San Diego Convention Center and as needed for additional special projects or contractual agreements (e.g., BAF, Tijuana).

In addition to the above core monitoring activities, the Marine Biology Lab works collaboratively with other discharge agencies, academic institutions, regulators, local environmental organizations and other interested parties on numerous special projects of both local and broader regional concern. Such enhanced monitoring efforts may involve staff scientists serving as project leads, managers or liaisons with other agencies, or providing in-kind services or various levels of support functions. Major multi-year special studies or regional projects that are currently underway or being implemented in which the Marine Biology Lab has a significant role include the: a) San Diego Sediment Mapping Study, b) Deep Benthic Pilot Study, c) Original Outfall Benthic Surveys, d) Moored Observation System Pilot Study, e) Endocrine Disruption in Southern California Flatfish Project, and f) Bight'03 Regional Monitoring Project. Finally, lab scientists are also involved in overseeing or managing the following major contractual projects: a) Remote Sensing of the San Diego/Tijuana Coastal Region, b) Aerial Kelp Bed Surveys of the San Diego Region, and c) Evaluating Anthropogenic Impacts on San Diego Coastal Ecosystems.

City scientists analyze and interpret all data generated by the ocean monitoring program and various special projects and report the results to City managers, regulatory agencies, and the public. Overall, the Marine Biology Lab produces more than 75 receiving waters monitoring reports each year as per regulatory requirements.

Marine Biology Lab staff includes professional marine biologists, information system analysts, toxicologists, laboratory technicians, licensed marine vessel operators, and clerical personnel.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Core Receiving Waters Monitoring Programs		
1. Point Loma Outfall Ocean Monitoring Program – PLWWTP NPDES Permit	1	Weekly, quarterly, semiannual, annual sampling; ~3,386 discrete “ocean” samples of multiple types collected and ~13,360 samples/sub-samples analyzed per year; QA Plan [see Section D for details]
a. Project management & administrative support	1	Program development, oversight, scheduling, QA Plan administration & management

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
b. Water quality - shore	1	Weekly sampling (8 stations): data analysis & reporting of seawater samples [collected and analyzed for bacteria by MMVM section]
c. Water quality - kelp beds Bacteriology Physical/chemical ocean parameters	1	5 times per month sampling (8 stations): collection of seawater samples & CTD profiles; complete analysis & reporting [bacteria analyses by MMVM section]
d. Water quality - kelp (special) Bacteriology Physical/chemical ocean parameters	5	5 times per month sampling (3 stations): collection of seawater samples & CTD profiles; complete analysis & reporting [bacteria analyses by MMVM section]
e. Water quality – offshore Bacteriology Physical/chemical ocean parameters	1	Quarterly sampling (36 stations): collection of seawater samples & CTD profiles; complete analysis & reporting [bacteria analyses by MMVM section]
f. Sediment quality Grain size Sediment chemistry	1	Semiannual sampling (22 stations): 1 grab per site; complete analysis & reporting [chemistry by WCL section]
g. Benthic macrofauna Species-level identifications Community assessment	1	Semiannual sampling (22 stations): 2 grabs per site = 44 replicate grabs, 10% re-IDs/ re-sorts; complete analysis & reporting
h. Demersal fishes & invertebrates Species-level identifications Community assessment	1	Semiannual sampling (6 stations): field fish & megafauna identifications; complete analysis & reporting
i. Bioaccumulation in fish tissues Trawling (liver) Rig Fishing (muscle)	1	Annual sampling (6 trawl stations/4 zones, 2 rig fishing stations): complete analysis & reporting [chemistry by WCL section]
j. IT/data management support	1	Data management, data archiving, data QA/QC, data modeling, web programming for all program components
k. Compliance tracking, GIS mapping, data analysis, statistics, interpretation & reporting	1	Regulatory reports per year: a) 12 monthly data/compliance water quality reports, b) 1 annual receiving waters monitoring report (e.g., comprehensive analytical report), c) QA report
2. South Bay Outfall Ocean Monitoring Program – NPDES Permits for SBWRP & IWTP (contractual)	1	Weekly, monthly, quarterly, semiannual, annual sampling; ~4,344 discrete “ocean” samples of multiple types collected and ~12,890 samples/ sub-samples analyzed per year; QA Plan. [see Section D for details]
a. Project management & administrative support	1	Strategic planning, program development, supervision, scheduling, QA Plan administration & management

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
b. Water quality - shore	1	Weekly sampling (11 stations): analysis & reporting of seawater samples [collected and analyzed by MMVM section]
c. Water quality - kelp beds Bacteriology Physical/chemical ocean parameters	1	5 times per month sampling (3 stations): collection of seawater samples & CTD profiles; complete analysis & reporting [bacteria analyses by MMVM section]
d. Water quality – offshore Bacteriology Physical/chemical ocean parameters	1	Monthly sampling (40 stations): collection of seawater samples & CTD profiles; complete analysis & reporting [bacteria analyses by MMVM section]
e. Sediment quality Grain size Sediment chemistry	1	Semiannual sampling (27 stations): 1 grab per site; complete analysis & reporting [chemistry by WCL section]
f. Benthic macrofauna Species-level identifications Community assessment	1	Semiannual sampling (27 stations): 2 grabs per site = 54 replicate grabs, 10% re-IDs/ re-sorts; complete analysis & reporting
g. Demersal fishes & invertebrates Species-level identifications Community assessment	1	Quarterly sampling (7 stations): field fish & megafauna identifications; complete analysis & reporting
h. Bioaccumulation in fish tissues Trawling (liver) Rig Fishing (muscle)	1	Semi-annual field sampling (7 trawl and 2 rig fishing stations)
i. Regional (random array) benthic survey – sediment quality Grain size Sediment chemistry	1	Annual sampling (40 stations): 1 grab per site; complete analysis & reporting [chemistry by WCL section]
j. Regional (random array) benthic survey – macrofauna Species-level identifications Community assessment	1	Annual sampling (40 stations): 2 grabs per site = 80 replicate grabs, 10% re-IDs/ re-sorts; complete analysis & reporting
k. IT/data management support	1	Data management, data archiving, data QA/QC, data modeling, web programming for all program components
l. Compliance tracking, GIS mapping, data analysis, statistics, interpretation & reporting	1, 2	Regulatory reports per year for each SBWRP & IWTP permit (40 total): a) 12 monthly data/compliance water quality reports, b) 4 quarterly trawl reports, c) 2 semiannual benthic reports, d) 1 annual receiving waters monitoring report (e.g., comprehensive analytical report), e) 1 QA report; client compliance reporting (10 times per month)
Toxicology Laboratory		

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
1. PLWWTP Toxicity Testing	1	Monthly and semiannual bioassays; 14 regulatory reports per year; QA Plan (See Section D for details)
a. Project management & administration support	1	Program development, oversight, scheduling, QA Plan administration & management
b. Acute bioassays	1	Semiannual
c. Chronic bioassays	1	Monthly
d. Data management, compliance tracking, data analysis, interpretation & reporting	1	Regulatory reports per year: a) 12 monthly toxicity compliance summary reports, b) 1 annual toxicity report, c) QA report
2. SBWRP Toxicity Testing	1	Monthly and quarterly bioassays; 14 regulatory reports per year; QA Plan (See Section D for details)
a. Project management & administration support	1	Program development, oversight, scheduling, QA Plan administration & management
b. Acute bioassays	1	Monthly, quarterly; for both SBWRP and combined SBWRP/IWTP effluent
c. Chronic bioassays	1	Monthly, quarterly; for both SBWRP and combined SBWRP/IWTP effluent
d. Data management, compliance tracking, data analysis, interpretation & reporting	1	Regulatory reports per year: a) 12 monthly toxicity compliance summary reports, b) 1 annual toxicity report, c) QA report
3. Convention Center Toxicity Testing	2	
a. Project management & administration support	2	Program oversight, scheduling, QA management
b. Chronic bioassays	2	Monthly
c. Data management & reporting	2	12 monthly toxicity summary reports
4. T.I.E / T.R.E. Analysis	1	As needed
5. BAF Pilot Study	1, 2	Inactive
6. City of Tijuana Sewage	2	1 sample every 8 days per year
7. DMR QA Testing	1	Annual; 1 regulatory report
ROV Operations & Outfall Inspections		
1. Point Loma Ocean Outfall Inspection	1	Annual inspection (~5 field days); 1 regulatory report per year (includes video processing)
2. South Bay Ocean Outfall Inspection	3	As needed (~annually) (includes video processing)
3. Convention Center Outfall Inspection	3	As needed (including video processing)
4. Inter-departmental Support Services	4, 5	As needed
5. Special Projects Support	4, 5	As needed

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Diving Program		
1. Administration	1, 2, 3	As per Cal/OSHA requirements
2. Toxicity Support (kelp dives)	1	Monthly (~1 field day); additional dives as needed
3. Point Loma Ocean Outfall Inspection	1	Annual inspection (~1–2 field days); 1 regulatory report per year (see above)
4. Outfall Buoy Maintenance	2	Quarterly (~2 days) (U.S. Coast Guard required)
5. Outfall Valve Maintenance	3	Monthly (~1 field day); additional dives as needed
Regional Monitoring		
1. Bight'03 Regional Monitoring Project	1	5-year (2003–2008), multi-agency collaborative project; main sampling in 2003 with subsequent laboratory sample processing and analysis (e.g., in fauna), and ongoing collaborative meetings and efforts regarding data analysis, interpretation and reporting.
a. Program management, planning, & collaborative meetings	1	Marine Biology staff serve on multiple committees (Steering, Planning and Technical), each which meets at frequencies that vary throughout the different project phases.
b. Coastal ecology component	1	Includes sediment quality, macrobenthic community, demersal fish & megabenthic community, sediment toxicity, sediment bioassay, and voucher collections (per Workplan)
c. Water quality component	1	Includes physical, chemical, stormwater sampling/analyses (per Workplan)
d. Marine microbiology component	1	Water column quality (per Workplan)
e. Information management	1	Data entry, data management, data archiving, data QA/QC, and data extraction for each program component; GIS mapping, data analysis, interpretation & reporting support
2. Bight '08 Regional Monitoring Project	1	5-year (2008–2013), multi-agency collaborative project; scheduled to begin in 2007
a. Program management, planning, & collaborative meetings	1	Marine Biology staff serve on multiple committees (Steering, Planning and Technical), each which meets at frequencies that vary throughout the different project phases.

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
Enhanced Ocean Monitoring & Special Studies		
1. General Administration, Design, and Implementation Special Strategic Process Studies	1, 2, 4	Annual as per NPDES permit requirements (and as needed); category of tasks generally included for all or most special projects listed below, although details and level of effort are project specific
a. Project planning & approval meetings	1, 2, 4	Multiple meetings per year with total number and frequency TBD annually; meetings with regulators (e.g., RWQCB, USEPA), academic institutions (e.g., SIO), research agencies (e.g., SCCWRP), NGOs (e.g., Bay Council), and other stakeholders
b. Project development & design	1, 2, 4	TBD (with collaborators)
c. Project implementation, field work, and laboratory analysis	1, 2, 4	TBD (project specific)
d. Project IT/data management support	1, 2, 4	TBD (project specific)
e. Project data analysis & reporting	1, 2, 4	TBD (project specific)
f. Miscellaneous project needs	1, 2, 4	TBD
2. San Diego Sediment Mapping Study	1	Multi-year, 2-phase collaborative project with SCCWRP and CSU (2004–2008) (See workplan for details, available upon request)
a. Sediment quality	1	Phase 1 = 219 sediment samples, grain size and sediment chemistry; complete analysis & reporting [chemistry by WCL section] Phase 2 TBD
b. Benthic macrofauna	1	Phase 1 = 231 macrofauna samples, species identification and community assessment; 10% re-IDs/ re-sorts; complete analysis & reporting; Phase 2 TBD
3. Original Point Loma Outfall Benthic Surveys	1	Annual survey (8 stations); City only project
a. Sediment quality	1	Grain size and sediment chemistry: 1 grab per site; complete analysis & reporting [chemistry by WCL section]
b. Benthic macrofauna	1	Species identification and community assessment: 2 grabs per site = 16 replicate grabs, 10% re-IDs/ re-sorts; complete analysis & reporting

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
4. Deep Benthic Pilot Study	1	18-month collaborative project with SIO, FY 2006-07 (See workplan for details, available upon request)
a. Oceanographic consultant support: project design, analysis & reporting		~350 hours provided by SIO for FY 2006-07
b. Sediment quality	1	Grain size and sediment chemistry: 16 stations, 1 grab per site (n=16 samples); complete analysis & reporting [chemistry by WCL section]
c. Benthic macrofauna	1	Species identification and community assessment: 16 stations, 1 grab per site (n=16 samples), 10% re-IDs/ re-sorts; complete analysis & reporting
d. Benthic meiofauna	1	Species identification and community assessment: 16 stations, 1 grab per site (n=16 samples), 10% re-IDs/ re-sorts; complete analysis & reporting
5. San Diego Deep-Water Habitat Mapping Project	1	TBD (pending): Proposed cooperative project between USGS Coastal & Marine Geology Program and City of San Diego Ocean Monitoring Program; negotiations and planning scheduled for FY 2007
6. Long-Term Benthic Assessment Studies	1	Multiple projects regarding long-term assessments of benthic conditions near: a) the original Pt Loma outfall, b) the present deepwater Pt Loma outfall, c) the South Bay outfall; project planning and implementation to begin in FY 2007 in collaboration with SIO
7. Moored Observation System Pilot Study	1	~2-year collaborative project with SIO (See workplan for details, available upon request)
a. Project design, field, oceanographic & modeling support	1	994 hours provided by SIO for FY 2006-07
b. Current meter deployment and monitoring	1	2 ADCPs, approx. 90 day deployment/retrieval cycle
c. Thermistor array deployment and monitoring		4 thermistor arrays, approx. 90 day deployment/retrieval cycle
8. Point Loma Outfall Plume Tracking Study	1	TBD collaborative project with SIO: Planning to begin in FY 2007 based on preliminary results of MOSPS in collaboration with SIO; expected to involve Tow-yo samplers and/or other types of AUVs

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
9. Permanent Moored Observation System	1	TBD collaborative project with SIO: Dependent upon MOSPS and subsequent modeling; planning expected to begin in FY 2007-08 in collaboration with SIO
10. Endocrine Disruption in Southern California Flatfish	1	Multi-agency collaborative project [See workplan for details, available upon request]
a. In-kind services	1	TBD (trawling, seawater sampling, CTD profiles, SPME deployment retrieval)
b. Contract lab funding	1	~\$74,000
11. Ocean Outfall Bacteria Survival/Dispersion Study	1	13 stations sampled 2 times per day; project originally targeted for 2005, but deferred to 2006-07 due to unacceptable weather conditions; study focused on South Bay Ocean Outfall, but relevant to other wastewater discharges; collaborative project with Ocean Imaging
Contractual Projects		
1. Coastal Remote Sensing of the San Diego/Tijuana Region	1	Project management and oversight (~20 hours per year); annually-renewed contract conducted by Ocean Imaging, Inc.; jointly funded by City and IBWC
2. San Diego Region 9 Aerial Kelp Survey	1	Project management and review (~20 hours per year); project renewed annually and jointly funded by Region Nine Kelp Consortium (RNKC) member agencies; conducted by MBC Applied Environmental Sciences
3. Evaluation of Anthropogenic Impacts on the San Diego Coastal Ecosystem <ul style="list-style-type: none"> • Kelp habitats • Sea urchin populations • Predator populations • Physical measurements of kelp beds • Factors structuring the outer edge of the kelp forest • Sediment traps and loading 	1	4-year project (2006–2010), conducted by Scripps Institution of Oceanography; funded by City
a. Project management and oversight	1	~30 hours per year
b. Collaborative services	1	TBD
4. Point Loma Kelp Forest Monitoring Project	1	Project management and oversight of 4-year project (2002–2006), conducted by Scripps Institution of Oceanography; funded by City [completed]

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
5. South Bay Outfall Ocean Monitoring Program – NPDES Permits for IWTP	1	Details and requirements same as described above for combined SBWRP and IWTP monitoring under "Core Receiving Waters Monitoring Programs"
6. ASBS Monitoring	2	TBD support for Storm Water Division; current project management and planning meetings ~20 hours per year
Local and Regional Regulatory Activities, Committees, and Support Functions		
1. 301(h) Waiver Application Support for PLWWTP NPDES Permit	1	TBD (FY 2007-08); staff to provide data analysis, interpretation, and preparation of reports for various components of application
2. NPDES Permit Negotiations and Renewals	1	Details TBD, vary by permit; SBWRP permit (and IWTP permit) scheduled for renewal in FY 2007 – involving negotiations between City, RWQCB, and EPA
3. SWRCB and RWQCB Meetings	1	Details TBD; includes attendance and participation in meetings on state and regional monitoring issues including State Ocean Plan changes, implementation of ASBS monitoring, etc
4. Commissioner's Technical Advisory Group (CTAG) of the Southern California Coastal Water Research Project (SCCWRP)	1	Represent City MWW/EMTS at CTAG, ~4 meetings per year (~32 hrs) plus associated review and support activities
IT & Data Support – Internal and External (e.g., Other Sections/Divisions)		
1. Miscellaneous Internal IT/Data Management Support	1, 2, 3, 4	As needed: includes data management, data archiving, data QA/QC, data modeling, and web programming
2. Application Development & Maintenance	1, 2, 3, 4	As needed
3. Business Assessment & System Planning	4	Annual and as needed
4. External IT/GIS Support	4	As needed
5. Providing Ocean Monitoring Data to SDCOOS & Ocean Imaging		Monthly
6. Participation in CIWQS	1	TBD -- required by State Water Resources Control Board
7. Dry Weather Monitoring	4	As needed support to Microbiology
8. Storm Drain Monitoring	4	Monthly
9. Storm Water Division Support	4	Monthly
10. Mission Bay Water Quality Survey (SEP)	4	Inactive

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
11. PB Point	4	Inactive
12. Spill Monitoring/Investigation	4	As needed
13. General IT-GIS support to Microbiology	4	As needed
14. General IT-GIS support to Vector Management	4	As needed
Quality Assurance Program & Certifications		
1. QA Plans	1	Ongoing
2. ISO 14001 Certification	4	150 hours per year
3. ELAP Certification	1	100 hours per year
4. Invertebrate & Fish Voucher Collection	1, 3	Includes maintenance of specimen collection, digital imagery, and image catalog
5. Scientific Reference Library	3	Maintenance of scientific literature, including data entry & database support
Training, Meetings & Professional Development (staff = 28)		
1. City/Department/Division Meetings	1, 5	~1,500 hours per year (includes section and workgroup meetings)
2. Required City Training	1	~340 hours per year (e.g., hazardous materials, safety, ISO 14001, etc.)
3. Technical Training	1	~1,200 hours per year (e.g., taxonomy, software, programming, instrumentation, procedures/methods, etc.)
4. SCAMIT Meetings	1, 2	~300 hours per year; includes taxonomic training, workshops, interagency collaboration and standardization
5. Literature & Technical Report review	3	~1,000 hours per year; maintenance of scientific competency; peer review; varies by staff member & assignment (40–150 hours per year per person)
6. Scientific Conferences & Seminars	3	~250 hours per year; includes presentations and participation
Business Support		
1. Building Maintenance & Security	5	~110 hours per year
2. Laboratory Safety	1	~50 hours per year
3. Inventory, Ordering, Purchasing, & Stocking	1	Staff time variable by project; includes procurement and preparation of appropriate sampling equipment, purchase order review
4. Permit Review & Renewals (e.g., NPDES, Hazardous Materials, Health, etc.)	1	~40 hours per year

BASIC SERVICE REQUIREMENT	PURPOSE	PERFORMANCE LEVEL OF SERVICE
5. Motive Equipment Maintenance (1 Vehicle, 2 Monitoring Vessels)	1	~1,480 hours per year
6. Driscoll's Boat Yard Contract & Associated Costs	3	
7. Capital outlay	4	
8. General expense		
Administration/Human Resources		
1. Performance Reviews	4	135 hours per year
2. General Supervision	1	2,560 hours per year
3. Time Cards	4	590 hours per year
4. Hiring of Personnel & Interviews	1	
Others		
1. Public Interfacing & Tours	5	40 hours per year
2. Recycling	5	~50 hours per year

v. *Marine Microbiology and Vector Management*

Marine Microbiology

The marine microbiology function includes the Marine Microbiology Lab which is certified by the California Department of Health Services, Environmental Laboratory Accreditation Program (ELAP). The lab is responsible for sample collection, identification, and quantification of bacteria and viruses. Microbiological tests are conducted on environmental samples that are collected from the ocean, bay, estuary, watershed, and storm drains. In addition, tests are run on various types of matrices such as wastewater, reclaimed water, treated water, biosolids, and membrane bioreactors. The laboratory is involved with planning, designing, prioritizing, and implementing, microbiological studies and programs. The lab interfaces with public health regulators and other similar agencies regarding microbiological data to identify potential solutions to common monitoring and technical problems. New microbiological procedures and rapid diagnostic tests are also evaluated by the lab. Service level agreements, service contracts, cost estimates, and invoices for services are developed and reviewed on a routine basis.

The Marine Microbiology Laboratory is responsible for complying with the bacteriological monitoring and reporting requirements of the Point Loma Ocean Outfall (PLOO) and the South Bay Ocean Outfall (SBOO) National Pollution Discharge Elimination System (NPDES) discharge permits. PLOO and SBOO offshore and shoreline samples are collected from US and Mexican waters and analyzed to determine bacterial densities. The purpose of bacterial sampling is to track the wastewater plume, evaluate recreational standards in the kelp beds, and to address beach water quality issues at shoreline stations. Test results are reported to the Regional Water Quality Control Board 9 (RWQCB9) as required by permit. Results are also reported to the San Diego County Department of Environmental Health (DEH) to fulfill the sampling and reporting requirements mandated by AB411 recreational body contact standards. Bacterial exceedences of the California Ocean Plan or AB411 standards require re-sampling until compliance criteria are met. Recent changes to the PLOO permit require that, in addition to the core monitoring mentioned above, the lab participates in regional monitoring activities that are coordinated by Southern California Coastal Water Research Project (SCCWRP). Additionally, Marine

Microbiology personnel are on-call seven days a week, 24 hours a day, working closely with DEH to monitor waters in order to post and un-post beaches impacted by sewer spills.

The lab provides microbiological services and technical consulting for the following Metropolitan Wastewater Department (MWWD) Divisional programs and elements, other City departments and external entities:

- Stormwater Division NPDES permit
 - Coastal Storm-Drain Outfall and Receiving Water Monitoring Program
 - Dry Weather Field Testing Program
 - Investigation of Illegal Connections/Illicit Discharges (IC/ID)
 - Additional studies or projects
 - A Lab Tech position funded by the Stormwater Division is supervised by the Marine Microbiology, Biologist III supervisor, which oversees the immediate work and function of the Marine Microbiology Group. The work assignments of this Lab Tech do not differ from that of other Lab Techs assigned to the group. The EMTS-Stormwater Service Level Agreement (SLA) has established providing EMTS Microbiology and Chemistry lab services as well as EMTS lab space for Stormwater staff in exchange for the work provided by the assigned Stormwater funded lab tech.
- Collection Division
 - Storm drains
 - Investigation of potential sewage system infrastructure seepage or spills
- Operations & Maintenance Division NPDES permit
 - Assistance in meeting NPDES bacteriological compliance requirements
 - Treatment plant process control
 - Analysis of treatment plant and pump station stormwater run-off
 - Special studies and projects through contract work
- Environmental Services Department (ESD) NPDES permit
 - Analysis of Miramar landfill biosolids and sediments
 - Analysis of Miramar landfill stormwater run-off
- International Border and Water Commission NPDES permit
 - Sampling and analysis of receiving water
 - Analysis of offshore waters
 - Technical assistance
- The University of California, San Diego, Scripps Institute of Oceanography (UCSD-SIO) NPDES permit
 - Ocean shoreline testing
 - Outfall discharge testing
 - Dry and wet weather special studies.

Vector Management

“A vector is an insect, arthropod, rodent or other animal of public health significance that can cause human discomfort, injury or is capable of harboring or transmitting causative agents of human diseases.”