# Sewer System Management Plan
## California State University
## San Marcos

February 2024

Prepared for:

California State San Marcos
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and

WEST COAST CIVIL

# Leading Response Officer Certification:

I certify under penalty of law that this Sewer System Management Plan, and the subparts contained herein, comply with the requirements set forth in the General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, Order No. 2006-0003 within the time frames identified in the schedule provided in WDRs and as amended by a Memorandum of Agreement executed on June 27, 2006 between the Executive Director of the SWRCB and the California Water Environment Association. I further certify that this document and all attachments were prepared under the California State University San Marcos' direction and supervision in accordance with its policies and procedures to assure that qualified personnel properly provided, evaluated, and incorporated the information reflected in this document, that the information included in this document is, to the best of my knowledge and belief, true, accurate, and complete, and that this document has been duly presented to and approved by:
The Board of Trustees of the California State University on the day of:

*Floyd Dudley II*
Floyd Dudley II (Feb 5, 2024 08:32 PST)

2-5-2024

Floyd Dudley II
Director of Facility Services
California State University of San Marcos

Date:

# Acknowledgements

The California State University of San Marcos would like to acknowledge the following individuals for their outstanding efforts and contributions, which resulted in the creation of this document. The comprehensive plans included herein reflect California State University of San Marcos' on-going commitment to the effective and efficient operation, maintenance and management of its wastewater collection system and achieving the defined goals and objectives.

## California State University San Marcos Key Personnel

| | |
|---|---|
| Dr. Ellen Neufeldt | President |
| Leon Wyden | Vice President Finance & Administrative Services |
| Mark Norita | Associate Vice President, Facilities Development & Management |
| Brittani Brown | Assistant Vice President, Finance & Administrative Services |
| Rayanne Weber | Director, Planning, Design, and Construction |
| Floyd Dudley, II | Director, Facility Services & Legal Responsible Official |
| Regina Frasca | Director, Safety, Health & Sustainability |

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# Acronyms

AVP.....Assistant Vice President

BMP .....Best Management Practice
BSE.....Building Supervising Engineer

CAL-OSHA .....California Occupational Safety and Health
CCTV .....Closed Circuit Television
CIP.....Capital Improvement Program
CIWQS.....California Integrated Water Quality System
CMMS .....Computer Maintenance Management System
CSU .....California State University
CSUSM .....California State University San Marcos
CWA .....Clean Water Act
CWEA .....California Water Environment Association

d/D .....Depth-to-diameter
DEH .....Department of Environmental Health (San Diego County)

EMUS..... Energy Management and Utility Services

EPA.....Environmental Protection Agency

FAS .....Financial Administrative Services
FDM .....Facilities Development and Management
FOG .....Fats, Oils, and Grease
fps .....feet per second
FSE.....Food Service Establishment

GIS.....Geographic Information System
GPD .....Gallons per Day
Greenbook ..... Standard Specifications for Public Works Construction (American Public Works Association)

HFML .....High Frequency Maintenance Locations

I/I.....Inflow and Infiltration
IC .....Incident Commander
IRM ..... Integrated Risk Management

LRO .....Legally Responsible Official

MRP.....Monitoring and Reporting Program

NPDES .....National Pollutant Discharge Elimination System

O&M.....Operations and Maintenance
OES .....Office of Emergency Services (State)

PD&C.....Planning, Design, and Construction
POC.....point of connection
PVC .....Polyvinyl Chloride

SH&S ..... Safety, Health, & Sustainability
SDRWQCB .....San Diego Regional Water Quality Control Board
SPPWC.....Standard Plans for Public Works Construction
SSMP.....Sewer System Management Plan
SSO .....Sanitary Sewer Overflow
SSOERP .....Sanitary Sewer Overflow Emergency Response Procedures
SWRCB.....State Water Resources Control Board

UPC .....Uniform Plumbing Code

VCP .....Vitrified Clay Pipe
VWD .....Vallecitos Water District

WASC .....Western Association of Schools and Colleges
WDR .....Waste Discharge Requirements

# Chapter 1
# Introduction

This Sewer System Management Plan (SSMP) has been prepared in compliance with the requirements of the State Water Resources Control Board (SWRCB), Order 2006-0003 DWQ, Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems. This chapter includes a brief overview of California State University San Marcos' (CSUSM) sanitary sewer system, a summary of the regulations that serve as the impetus for the development of this SSMP, and the purpose and organization of this SSMP.

## 1.1 CSUSM's Sanitary Sewer System

CSUSM is one of twenty-three (23) CSU campuses governed by the Chancellor of the California State University System and is an internationally recognized public teaching and research institution. The CSUSM main campus is situated in San Marcos, California, Northern San Diego County. The facility is generally bounded by Barham Drive to the North, the Coronado Hills in the South, La Moree Road on the East and South Twin Oaks Valley Road along the West. Figure 1-1 illustrates the CSUSM Service Area.

The campus sewer system is composed of a network of Polyvinyl Chloride (PVC) pipe of various sizes. The individual building service connections tie into several of the campus' private mains that ultimately tie into the Vallecitos Water District's (VWD) sanitary sewer system mains which are located in the streets surrounding the campus. Due to the topography of the campus site, wastewater flows generated from different parts of the campus are collected by separate networks of sewer mains.

Appendix A includes figures included in the California State University, San Marcos Utility Infrastructure Master Plan that was prepared in January 2010. The figures illustrate the existing wastewater collection system. Generally, the campus wastewater collection system divided into two (2) major areas and three (3) networks.

**Network No. 1:** Flows from campus facilities located in the southern portion of campus are conveyed in a westerly direction (page 2-10). The network consists of 4- and 6-inch pipelines that discharge to an 8-inch main in Palm Canyon Drive, then to a 10-inch PVC main in Craven Drive, and ultimately to the existing Vallecitos Water District 15-inch vitrified clay pipe (VCP) in Twin Oaks Valley Road.

**Network No. 2:** Flows from buildings located in the central and northern parts of the campus are conveyed in a northerly direction (page 2-9). The network consists of 6- and 8-inch pipelines that discharge to an 8-inch main located in Campus Way which ultimately discharges into an existing 15-inch VCP main in Barham Drive.

**Network No. 3:** Flows generated from the facilities located along the eastern edge of the campus are conveyed to the 12-inch Vallecitos Water District main located in La Moree Road.

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| | | |
|---|---|---|
| D2 | 1 | The QUAD |
| D2 | 2 | The QUAD |
| E2 | 3 | University Village Apartments |
| F2 | 4 | Lot K |
| G2 | 5 | Barham Road Bus Stop |
| G2 | 6 | Public Safety and Parking Services Building |
| G2 | 7 | Sprinter Station |
| G2 | 8 | Lot J |
| D3 | 9 | Sports Center |
| D3 | 10 | Lot L - 2 hour max. |
| D3 | 11 | M. Gordon Clarke Fieldhouse |
| E3 | 12 | Lot O |
| E3 | 13 | University Village Apartments |
| E3 | 14 | Parking Structure 1 |
| E3 | 15 | Parking Structure 1 |
| F3 | 16 | Lot N |
| F3 | 17 | Disabled Parking - North Side of Campus |
| G3 | 18 | Lot M - Reserved Parking |
| G3 | 19 | Center for Children & Families |
| B4 | 20 | Lot Z |
| C4 | 21 | Lot W - Disabled Parking |
| E4 | 22 | Student Health & Counseling Services Building |
| E4 | 23 | University Student Union |
| E4 | 24 | Science Hall 2 |
| E4 | 25 | Arts Building |
| E4 | 26 | Social & Behavioral Sciences Building |
| B5 | 27 | Lot Y |
| B5 | 28 | Lot X |
| C5 | 29 | Bus Stops |
| C5 | 30 | McMahan House |
| D5 | 31 | Permit Machines |
| D5 | 32 | Kellogg Library |
| D5 | 33 | Disabled Passenger Loading Zone |
| D5 | 34 | Craven Hall |
| D5 | 35 | Lot D - Reserved Parking |
| E5 | 36 | University Hall |
| E5 | 37 | Academic Hall |
| E5 | 38 | Science Hall 1 |
| E5 | 39 | Markstein Hall |
| E5 | 40 | Veterans Center |
| E5 | 41 | Lot H - Faculty/Staff Parking |
| C6 | 42 | Lot B |
| D6 | 43 | Disabled Parking - South Side of Campus |
| D6 | 44 | Lot C |
| D6 | 45 | University Commons |
| E6 | 46 | Lot G - Service Vehicles Only |
| E6 | 47 | Foundation Classroom Buildings |
| E6 | 48 | Lot E - Faculty/Staff Parking |
| E6 | 49 | Lot F |

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- • • - CSUSM Property Boundary

CSUSM Sewer System Management Plan
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## 1.2 Waste Discharge Requirements

On May 2, 2006, the SWRCB adopted Order 2006-0003 DWQ, the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, which requires all federal and state agencies, municipalities, counties, districts, cities, and other public entities that own or operate a sanitary sewer system greater than one mile in length to comply with the elements of the WDRs. The WDRs serve to provide a unified statewide approach for reporting and tracking SSOs, establishing consistent and uniform requirements for SSMP development and implementation, establishing consistency in reporting, and facilitating consistent enforcement for violations.

On June 27, 2006, the Executive Director of the SWRCB executed a memorandum of agreement with the California Water Environment Association (CWEA), outlining a strategy and time schedule for CWEA to provide training on the (1) adoption of the program, (2) SSO database electronic reporting, and (3) SSMP development. This agreement also extended the completion dates for most tasks by six (6) months from the dates shown in the adopted WDRs.

The WDRs include directives for owners and operators of sanitary sewer systems to demonstrate adequate and efficient management, operation, and maintenance of the sanitary sewer system. Generally, the WDRs require that:

a. In the event of an SSO, all feasible steps be taken to control the released volume and prevent untreated wastewater from entering storm drains, the bay and ocean, etc.
b. If an SSO occurs, it must be reported to the SWRCB using California Integrated Water Quality System (CIWQS), the online reporting system developed by the SWRCB. CSUSM completed its enrollment into the program and the demographic questionnaire, and electronic reporting commenced in November 2006.
c. An SSMP with all mandatory elements be developed and approved by the governing body that owns or is responsible for the operation of the sanitary sewer system. The SSMP must include provisions to provide proper and efficient management, operation, and maintenance of the sanitary sewer system.

This document includes information pertaining the CSUSM's Operation and Maintenance Program; Fats, Oils, and Grease Control Program; Sanitary Sewer Overflow Response Procedures; and a System Evaluation and Capacity Assurance Plan as well as the remaining components which comprise a comprehensive SSMP. The completion dates for each mandatory element are determined according to the size of population served by the federal and state agencies, municipalities, counties, districts, cities, and other public entities that own or operate a sanitary sewer system. Based on an estimated population of approximately 16,367customers, CSUSM must comply with the schedule provided for agencies that serve a population between 10,000 and 100,000.

## 1.3 Purpose

CSUSM recognizes the importance of preventing sewage spills not only to safeguard public health and safety, but to protect our surrounding waters and the overall environment. This SSMP is designed to ensure continuous improvement in system performance, response, monitoring, data recording, and documentation for future system assessments. CSUSM considers the completeness and practicality of the SSMP a critical component for its long-range plans to comply with all applicable regional, State, and Federal requirements under the Clean Water Act (CWA), the San Diego Regional Water Quality Control Board, and the WDRs.

This document provides a summary of the action plan implemented by CSUSM to comply with the sanitary sewer system requirements imposed by the WDRs and other governing agencies. It also includes information of the activities and procedures that CSUSM staff follows to implement the various programs encompassed in its overall efforts to efficiently manage, operate, and maintain its sanitary sewer system and reduce the potential of SSOs.

## 1.4 SSMP Elements and Organization

This SSMP includes information demonstrating CSUSM's efforts to comply with each of the mandatory and applicable elements required for the SSMP. The organization of this document is consistent with the SWRCB guidelines and includes the following eleven (11) mandatory WDR elements:

I. Goals
II. Organization
III. Legal Authority
IV. Operation and Maintenance Program
V. Design and Performance Provisions
VI. Overflow Emergency Response Plan
VII. Fats, Oils, and Grease Control Program
VIII. System Evaluation and Capacity Assurance Plan
IX. Monitoring, Measurement and Plan Modifications
X. SSMP Program Audits
XI. Communication Program

Supporting information is presented in the following chapters.

# Chapter 2
# Goals and Objectives

The following includes a summary of CSUSM's goals that reflect its commitment to continue its effort towards ensuring the effective and efficient management and operation and maintenance of the sanitary sewer system.

## 2.1 Regulatory Requirements for Goals Element

Establishing goals to properly manage, operate, and maintain all parts of its sanitary sewer system allows CSUSM to achieve its goal of reducing and preventing SSOs and to properly mitigate any SSO that may occur. To achieve the goals established by CSUSM, it becomes imperative for CSUSM staff consistently maintains quality working procedures and continue efforts towards identifying and implementing improvements in managing the sanitary sewer system.

The WDRs require that CSUSM, at a minimum, develop goals that incorporate and achieve the following:

- Proper management, operation, and maintenance of all parts of the wastewater collection system;
- Provide adequate capacity to convey peak flows;
- Minimize frequency and volume of SSOs;
- Mitigate the impacts of SSOs if they occur;
- Inform and educate the public on programs, projects, and issues related to the sanitary sewer system; and
- Proper implementation of regulatory notification and reporting requirements.

## 2.2 Goals for CSUSM System Maintenance and Management

This first element of the SSMP requires that CSUSM institute goals to properly manage, operate, and maintain all parts of the sanitary sewer system. Establishing goals allows CSUSM staff to manage its sanitary sewer system to achieve its ultimate goal of reducing and preventing SSOs and to properly mitigate any SSOs that may occur.

CSUSM's goals include operating and maintaining all portions of the wastewater collection system, to minimize the potential for SSOs and to quickly and effectively mitigate the impacts associated with an SSO if it were to occur so as to protect life, environment, and property while adhering to regulatory requirements.

CSUSM's Facility Services Department is responsible for ensuring the proper operation and maintenance of the wastewater collection system. Its mission statement is:

> *To provide quality facility maintenance, operations, and support services that foster a university of first choice while enhancing our learning environment.*

Building on this mission statement, the goal is to provide safe, effective, and efficient operation of the wastewater collection system and conveyance system through:

- Proper management, operation, and maintenance of all parts of the system
- Reduction in occurrence of and potential for SSOs
- An effective Fats, Oils, and Grease (FOG) Control Program
- Assurance of adequate capacity to convey peak wastewater flows
- Maintenance of a current long-range planning and improvement plan
- Compliance with all regulatory requirements
- Protection of the public's health and safety
- Effective public information and education efforts

For CSUSM to achieve the goals established, it is imperative for CSUSM staff to consistently maintain quality working procedures and to continue efforts towards identifying and implementing improvements in managing the wastewater collection system.

# Chapter 3
# Staff Organization & Communication Plan

An organizational chart illustrating CSUSM's departments serves to identify the administrative, maintenance, and management positions responsible for implementing, managing, and updating the overall measures in the SSMP. This chapter identifies CSUSM's staff that is responsible for implementing the plans and procedures included in the SSMP, responding to SSO events, and meeting the SSO reporting requirements.

The communication plan that accompanies the organizational chart serves to define the role of each position to ensure that all elements of CSUSM's SSMP are addressed on a regular basis and that all appropriate staff is properly informed.

## 3.1 Regulatory Requirements for the Organization and Communication Element

It is required that CSUSM's SSMP clearly identify the staff responsible for implementing measures outlined in the SSMP. The WDRs required that CSUSM identify the following:

a. The name of the responsible or authorized representative;

b. The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures of the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and

c. The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the persons responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, and/or State Office of Emergency Services).

## 3.2 Discussion on Organizational Structure

CSUSM's organizational structure for implementing and overseeing the SSMP program, is described in the following sections. Additionally, the general responsibilities of the personnel and chain of communication is included.

### 3.2.1 Governance

CSUSM's governing body is composed of an Executive Council consisting of a senior management team of the university. The purpose of the Executive Council is to provide overall leadership and advise the University President on key decisions affecting the university; receive, review, and approve campus procedures; conduct and implement university business; and review budget recommendations. In addition to the President, the Executive Council includes the following:

- Provost & Vice President for Academic Affairs
- CFO and Vice President for Finance & Administrative Services
- Vice President for University Advancement
- Chief Community Engagement Officer
- Chief Communication Officer
- Chief Diversity Officer
- Vice President for Student Affairs
- Chief of Staff

Under policy direction of the President, the Vice President of Finance and Administrative Services oversees two (2) divisions which include several departments that contribute towards the efforts necessary for compliance of WDR components. The two divisions include:

- Facilities Development and Management; and
- FAS Administration

The Facility Services and Planning, Design and Construction Department reports directly to the Associate Vice President of Facilities Development & Management while SH&S reports directly to the Associate Vice President of Administration.

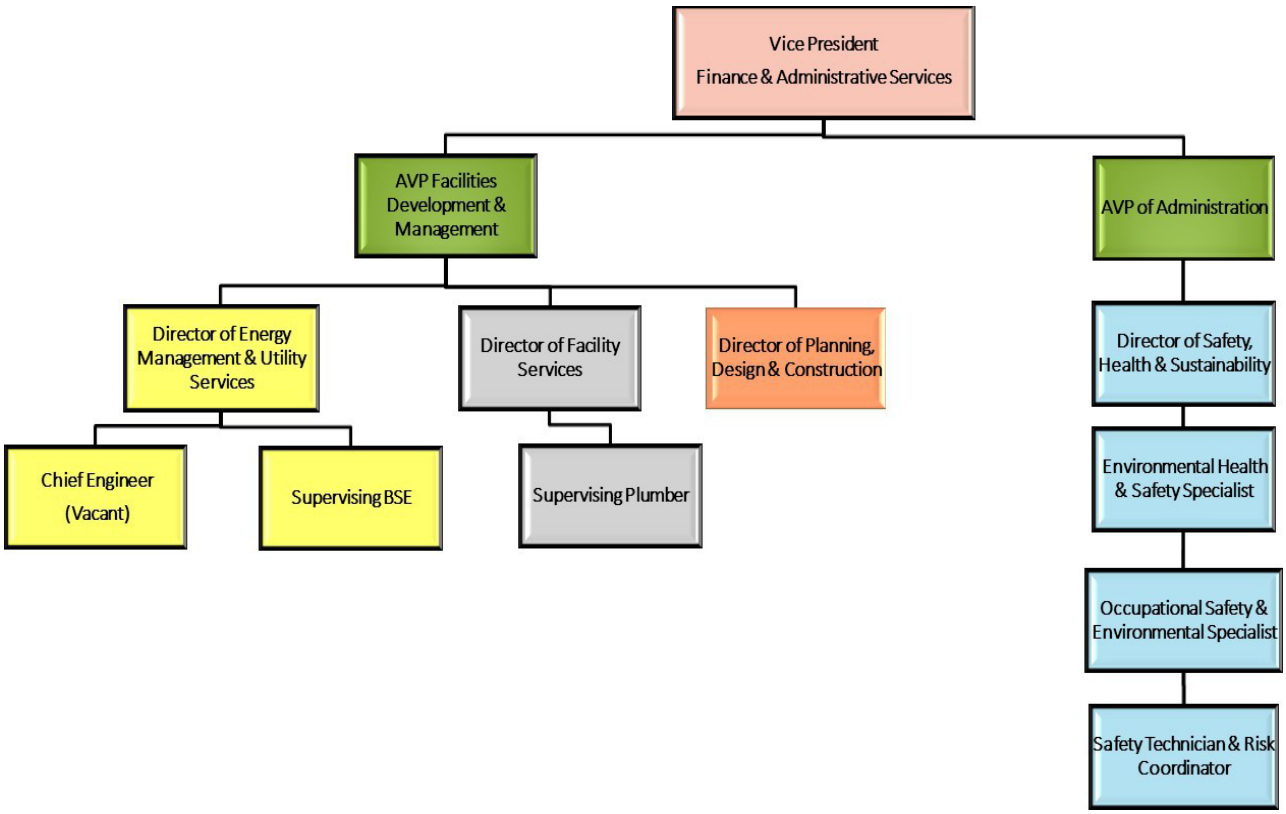
### 3.2.2 Wastewater System Maintenance Organization

The organizational chart presented in Figure 3-1 illustrates the departments within Facilities Development & Management (FDM) and Administration Divisions and the positions that are, or may be, responsible for concurrently implementing and managing various components of plans and procedures required to satisfy the elements of the SSMP.

The operation, maintenance, and management for the CSUSM sanitary sewer system is primarily conducted by staff within the Facility Services Department. The staff positions within the section specifically assigned for performing the necessary work for the wastewater collection system include the following:

- Director of Facility Services
- Chief Engineer
- Supervising Building Service Engineer (1)
- Lead Plumber (1)

**Figure 3-1 Organizational Chart of Positions Supporting the Wastewater Collection System**




The FAS Administration Subdivision supports the campus' strategic priorities through providing financial and regulatory guidance, infrastructure development and management of the campus community, and is comprised of the SH&S Department and Integrated Risk Management (IRM) that is responsible for supporting the campus' efforts in the following programs:

- Risk Management,
- Occupational Safety,
- Sustainability,
- Hazardous Materials & Hazardous Waste Management, and
- Environmental and Regulatory Compliance

The operational unit illustrated in dashed lines in Figure 3-1 identifies the department that may occasionally provide some support of the sanitary sewer system but is primarily dedicated to other unrelated duties.

The organizational chart will be revised as necessary to reflect changes and/or updates of key staff positions, responsibilities between the departments and/or sections that support the operation and maintenance activities, changes in the restructuring of chains-of-command made

to better align responsibilities and the ability of staff to comply with the WDRs, and to include changes and/or additions to positions for activities needed to successfully implement the various elements of the SSMP.

### 3.2.3 Description of General Responsibilities

The following information provides a brief summary of the roles and responsibilities for CSUSM staff supporting the sanitary sewer system as illustrated in Figure 3-1.

#### Vice President of Finance & Administrative Services

The Vice President of Finance & Administrative Services is generally responsible for the overall long-term planning and oversight of campus maintenance, minor and major capital improvements and construction related as they relate to the SSMP.

#### Assistant Vice President of Administration

The Assistant Vice President (AVP) provides direction, research, analysis, training, and facilitation in support of the university's strategic planning program, Western Association of Schools and Colleges (WASC) accreditation process, and FAS Division's Balanced Scorecard Program. The AVP assumes the role as Chief of Staff for the VP and oversees the management of the daily operations of the Office of the Vice President for FAS. The AVP also provides direction, coordination, and facilitation of the FAS division's strategic planning efforts and provides direction and oversight of the Risk Management and Safety Department.

#### Associate Vice President for Facilities Development and Management

The Deputy Building Official responsibilities are assigned to the Associate Vice President of Facilities Development and Management. Acting on behalf of the Trustees, and under the authority of the Chancellor and the President, the Deputy Building Official develops and enforces the campus' building permit process.

## Director of Facility Services

The Director of Facility Services manages, plans, coordinates the activities and operations of the Facility Services Department. The Director coordinates staffing and operational activities, work plans, implements improved service delivery methods, manages program budget, develops, and implements goals, policies and procedures, reviews capital improvement plans and supervises the preparation of time, material, and equipment records. Additionally, the Director coordinates work with outside service contractors and vendors for routine and emergency maintenance and repairs, administers training programs, maintenance contracts, and capital projects. The Director develops a plan for maintenance projects and monitors the National Pollutant Discharge Elimination System (NPDES), and Best Management Practices (BMPs) for section compliance.

## Assistant to the Director

Under general direction of the Director of Facility Services, the Assistant to the Director provides a wide-range of clerical and administrative support to the Director and managers in the Facility Services Department to include preparing correspondence, standard reports and spreadsheets. The assistant coordinates meetings, trainings and travel arrangements for the Director and managers. The assistant maintains the Director's calendar, filing systems and databases and coordinates department special events and tracks, monitors, maintains, and reconciles Facility Services Department budgets, department pro-card, and petty cash budget. Additionally, the assistant performs receptionist functions and provides lead direction for the work of the front desk student assistants.

## Chief Engineer

Under general direction of the Director of EMUS, the Chief Engineer oversees the effective management and daily maintenance of campus utilities and heating and cooling systems. The Chief Engineer supervises, coordinates, assigns, and directs the activities of staff and contracted personnel engaged in activities related to operation, maintenance, and repair of HVAC systems, electrical, and all utilities and other mechanical systems. As well, the Chief Engineer assists in the formulation, development, interpretation, implementation, and development of policies, procedures, standards, and programs related to functional area, optimizes safety compliance, ensures implementation of compatible utility infrastructure and equipment for expansion and facilities improvement and represents the University on a variety of committees as appropriate.

## Supervising Building Service Engineer

Under general supervision primarily is responsible for supervising and working with one or more small groups or crews of skilled and semi-skilled workers involved in the installation, operation, maintenance, and repair of mechanical systems including heating, ventilating, refrigeration, air conditioning, power, water and sewer systems and equipment as related to HVAC and/or mechanical systems throughout a campus.

## Plumber

Under general supervision, the position has responsibility for performing the full range of skilled plumbing work including the installation, maintenance, inspection, modification, remodel and repair of mechanical plumbing equipment and fixtures for water, gas, oil, steam, sewage, fire sprinkler/prevention, and refrigeration related plumbing systems, including automated plumbing systems. The position is also responsible for independently performing a variety of skilled preventive and general maintenance, repair, construction, and renovation work on facilities and systems as needed.

## Director of Planning, Design and Construction

The Director of Planning, Design & Construction is responsible for the development of university facilities by determining the capital needs necessary to support the needs of the university and secure funding for future projects, managing all new building designs through the development and implementation of the CSUSM Campus Master Plan, and managing and monitoring all construction efforts in a timely and efficient manner.

## Director, Safety, Health & Sustainability

The Director of SH&S reports to the Assistant Vice President of Administration. The Director is responsible for advising and making recommendations to the AVP relative to, occupational safety, occupational health, sustainability program, and environmental operations. The Director implements the overall University objectives, policies, and plans wherever SH&S matters are involved.

The Director administers and implements a comprehensive environmental, health, safety, and sustainability program The Director provides technical, written and operational guidance related to environmental control, occupational safety, food safety, industrial hygiene, hazardous materials safety, radiation safety, biological safety, construction safety, hazardous waste management, hazardous materials spill control response and other pertinent or related areas. The Director represents the University to federal, state and local regulatory agencies, as required, to protect the University's interest in matters of legal, occupational, safety, health and environmental protection.

## Environmental Health & Occupational Safety Specialist

The Environmental Health and Safety Specialist is responsible for assisting the Director with planning, developing, implementing, and maintaining the various programs necessary to: ensure a safe and healthy environment for faculty, staff, students, and the general public; protect the University against losses; and ensure that University operations are in compliance with University policies and standards, California Occupational Safety & Health Act (CAL-OSHA) and other applicable environmental and health rules, regulations, and laws. Responsibilities include liaison with State and federal regulatory personnel to assure compliance with current legislation and regulations, as well as assuring compliance with nationally recognized standards of best practices.

The Environmental Health and Safety Specialist is responsible for providing guidance toward the campus' comprehensive environmental, health and safety program. The program supports the teaching, service and research mission of the campus community, and its facilities. The position provides direct services and consultation to manage hazardous materials and hazardous waste, environmental compliance, industrial hygiene, occupational, fire and life safety.

The primary responsibilities of this position entail the coordination, implementation and administration of the Environmental Compliance, Hazardous Materials and Hazardous Waste program.

## Occupational Safety and Environmental Specialist

The Occupational Safety and Environmental Specialist is responsible for assisting the Director with planning, developing, implementing, and maintaining the various programs necessary to: ensure a safe and healthy environment for faculty, staff, students, and the general public; protect the University against losses; and ensure that University operations are in compliance with University policies and standards, CAL-OSHA and other applicable environmental and health rules, regulations, and laws. Responsibilities include liaison with State and federal regulatory personnel to assure compliance with current legislation and regulations, as well as assuring compliance with nationally recognized standards of best practices.

The Occupational Safety and Environmental Specialist is responsible for providing guidance toward the campus' comprehensive environmental, health and safety program. The program supports the teaching, service and research mission of the campus community, and its facilities. The position provides direct services and consultation to manage industrial hygiene, occupational, fire and life safety programs, hazardous materials, hazardous waste, and environmental compliance.

The primary responsibilities of this position entail the coordination, implementation, and administration of the industrial hygiene, occupational, fire and life safety programs.

Director of Integrated Risk Mangement:
Get verbiage from Erin about what she does. Does she want to add to this?
The Director oversees the following programs that are managed by the campus Risk Manager: proactive risk reduction, loss mitigation and control, claims management, legal mitigation, and workers compensation.

### 3.2.4 Authorized Representative

The Director of Facility Servicesis currently CSUSM's Legally Responsible Official (LRO) and authorized representative registered with the state of California to officially sign and certify SSO reports submitted via CIWQS. As well, the LRO is responsible for certifying the SSMP milestones.

## 3.3 Communication Structure for Collection System Issues

Communication of activities is important in order to keep managerial staff informed of successes and potential problems. Additionally, implementation of the various elements of the SSMP will require constant coordination between the various sections identified in the organizational chart. Therefore, clearly identifying the specific positions and staff as well as establishing communication protocols is necessary to ensure the appropriate personnel are properly informed to respond to sanitary sewer system related issues in the most effective and efficient manner.

### 3.3.1 SSMP Communication Structure

Continual communication among the Facility Services staff as well as along the levels of hierarchy facilitates and supports activities that allow the Facility Services Department to inform the appropriate staff about the operation and management of the collection system.

Generally the communication plan will follow the chain of command identified in the organizational chart. Specific levels of authority will be required to facilitate implementation and enforcement of the plans and procedures developed for the SSMP. As plans and procedures are implemented, an assessment as to the effectiveness of the plans will best be determined by the labor force that executes and evaluates the immediate impacts of the plans and procedures. Efficient and timely responses will be essential to ensure that the adopted plans and procedures are effective for the management and operation of the wastewater system. Figure 3-3 shows the communication protocol that CSUSM should implement for the SSMP. Figure 3-3 also provides a summary of general responsibilities among the staff as it affects the management, operation, and maintenance of the sanitary sewer system. The responsibilities listed are to illustrate the overall importance of continual communication among the organization regarding wastewater related issues.

### 3.3.2 SSO Response and Communication Structure

A communication structure related specifically to SSO responding and reporting is discussed in Chapter 7 of this SSMP.

## 3.4 Summary and Continuing Efforts

When CSUSM updates its plans and procedures, and/or revises the SSMP, the SSMP should be updated as necessary to include the specific responsibilities associated with each position. To maintain compliance with the WDRs, CSUSM's organizational chart must include the administrative, maintenance, and management positions responsible for implementing, managing, and updating the overall measures contained in this SSMP.

**Figure 3-3 Communication Plan and SSMP Responsibilities**

| Position | Office of the President |
|---|---|
| Responsibilities | Review & adopt policies & procedures<br>Review & implement University business |

| Position | Vice President of Finance and Administrative Services |
|---|---|
| Responsibilities | Ensure policies are appropriate, Certify the SSMP<br>Ensure policies can be implemented<br>Ensure regulatory compliance<br>Approve additional resources |

| Position | AVP of Facilities Development & Management / AVP of Administration |
|---|---|
| Responsibilities | Coordinate activities among all departments<br>Monitor and manage development and implementation of programs<br>Monitor and manage administration of policies and procedures<br>Assist with preparation of budgets<br>Approve CIP contracts |

| Position | Director of Facility Services / Director of Planning, Design, and Construction |
|---|---|
| Responsibilities | Manage policies, procedures, and resources for SSMP activity implementation (FS)<br>Manage large wastewater improvement projects (PD&C)<br>Manage large special projects (PD&C)<br>Manage resources for SSMP implementation (FS)<br>Coordinate support with AVP of Facilities Development & Management<br>Manage and monitor SSOMP implementation and effectiveness (FS)<br>Provide updates on policy and SSOMP effectiveness (FS)<br>Initiate SSMP updates (FS)<br>Primary Legally Responsible Officer for CIWQS certification (FS) |

| Position | Chief Engineer / Lead BSE |
|---|---|
| Responsibilities | Implement and measure effectiveness of SSMP<br>Coordinate and schedule field activities to include training/safety practices<br>Monitor and manage field operations<br>Communicate SSMP effectiveness to Director of Facility Services<br>Recommend improvements to SSMP procedures<br>Monitor SSMP plans and procedures<br>Work directly with data-submitter |

| Position | Plumber |
|---|---|
| Responsibilities | Perform daily activities<br>Execute plans and procedures<br>Assess SSMP plans and procedures<br>Communicate SSMP effectiveness to Supervising BSE<br>Ensure safety procedures are implemented |

**AVP** Assistant or Associate Vice President
**PD&C** Planning, Design, and Construction
**FS** Facility Services
**BSE** Building Services Engineer

# Chapter 4
# Legal Authority

To prevent SSOs to the maximum extent possible, and meet state and federal requirements, each governing agency must ensure that its existing codes and policies and procedures include the necessary requirements to implement and fulfill the specific needs of the agency and to protect the health and safety of people, property, and environment.

## 4.1 Regulatory Requirements for Legal Authority Provisions

The WDRs require that CSUSM show, through ordinances, service agreements, or other legally binding procedures, that the CSUSM possesses the legal authority to:

a. Prevent illicit discharges into its sanitary sewer system including, but not limited to, inflow and infiltration, storm water, chemical dumping, unauthorized debris, and cut roots, etc.;
b. Require that sewers and connections be properly designed and constructed;
c. Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by CSUSM;
d. Limit the discharge of fats, oils, grease, and other debris that may cause blockages; and
e. Enforce any violation of its sewer ordinances.

## 4.2 Background for Legal Authority

The California Education Code, California Water Code of the California Code of Regulations, the Federal Clean Water Act of the United States Code, and the California Waste Discharge Requirements, grant CSUSM the authority to establish codes, agreements, policies, and procedures for the construction, operation, and maintenance of a wastewater collection system, and the ability to enforce the necessary requirements. Below is a discussion of the relevant sections granting this authority.

### California Education Code

Section 66606 of the California Code of Education, grants the powers, duties, and functions with respect to the management, administration, and control of the state colleges onto the Board of Trustees of the California State University. The Board of Trustees of the California State University are also granted full power and responsibility in the construction and development of any state university campus, and any buildings or other facilities or improvements connected with the California State University.

### California Water Code Section 13271, California Code of Regulations

Section 13271 of the California Water Code, Title 23 of the California Code of Regulations, prohibits the discharge of sewage and hazardous material into the waters of the State and requires the proper notification of authorized agencies in the event of an SSO. Entities which do not properly follow the requirements of this section may be found guilty of a misdemeanor and punished by fine, imprisonment, or both.

### Clean Water Act, Section 1251 of Chapter 33 of the United States Code

In 1972, the Federal Congress enacted the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA). The CWA prohibits the discharge of pollutants, including sewage, into public waters of the United States. The federal government has the authority to enforce compliance with the CWA via specific permits, such as National Pollutant Discharge Elimination System (NPDES) permits, as well as court action such as administrative orders and consent decrees.

### Code of Federal Regulations, Title 40, Protection of the Environment

The Environmental Protection Agency (EPA), in its general pretreatment regulations (40 CFR Part 403) prohibits any user from discharging solid or viscous pollutants, such as fats, oils, and grease (FOG) wastes, in amounts which will cause obstructions (blockages) to the flow in the wastewater system and interfere with the operation of the wastewater system.

### California Waste Discharge Requirements

On May 2, 2006, the SWRCB adopted the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Order No. 2006-0003. The WDRs are applicable to all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to publicly owned treatment facilities in the state of California. Specifically, the WDRs require all affected agencies, municipalities, counties, districts, and other public entities to take a proactive approach to ensure a system-wide operation, maintenance, and management plan is established to effectively reduce the potential, quantity, and frequency of SSOs that may occur and impact surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

## 4.3 Summary of CSUSM's Existing Legal Authority

California State University San Marcos derives its authority from the powers granted by the California Code of Regulations and are codified in the California Education Code. Additionally, Executive Order No. 847-Policy Statement on Facility Maintenance, delegates to each president of a California State University or his/her designee, implementation of the Board of Trustees' Facility Maintenance Policy. The executive order refines the standards in which campuses maintain CSU facilities and provides clear definitions of Operations and Maintenance, Deferred Maintenance, and Capital Renewal and the reporting/auditing requirements to assure efficient and effective use of available maintenance funding.

In addition, CSUSM requires compliance with current Building Standards used as the basis for which all campus buildings and facilities are designed and constructed. The standards are used in conjunction with direction and approval from the Planning, Design and Construction Department. CSUSM polices include adherence to the following codes and standards which are applicable to any related procedures and apply to all areas and members of the campus community, including all contractors/agents who do business with the university:

- California Health and Safety Code, Sections 13143, 18901-18949.6
- California Code of Regulations, Title 24 (California Building Standards Code);
- California Code of Regulations, Title 19 (Safety Code), Section 3.28 (b);
- Government Code, Section 4450 et seq.;
- Standing Orders of the California State University Board of Trustees; and
- State University Administrative Manual
- Standard Specification for Public Works Construction (Greenbook),
- Standard Plans for Public Works Construction (SPPWC)

Under the authority, CSUSM has legal authority to:

- Prevent illicit or illegal discharges into its system
- Require sewers and connections to be properly designed and constructed
- Ensure access for maintenance, inspection, or repairs for portions of the lateral owned and maintained by CSUSM
- Limit the discharge of FOG and other debris that may cause blockages, and
- Enforce violations of its sewer maintenance and operation policies

Policies and procedures pertaining to the various components of the SSMP are jointly developed and enforced by the following CSUSM's departments:

- Facility Services Departments
- Planning, Design, and Construction, and
- Safety, Health & Sustainability

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# Chapter 5
# Operation and Maintenance Program

To reduce and prevent SSOs the SSMP establishes measures and activities to facilitate the proper management, operation, and maintenance of all parts of the sanitary sewer system. Measures and activities include maintaining system maps, scheduling routine maintenance, identifying, and addressing system deficiencies, providing public education, and describing fiscal resources and training.

## 5.1 Regulatory Requirements for Operations and Maintenance Program

The WDRs require that the SSMP contain descriptive measures of CSUSM's Operations and Maintenance (O&M) Program that are implemented by campus staff to facilitate proper and efficient management and maintenance of the sanitary sewer system and the affected appurtenances. The WDRs require that the SSMP include a description of each of the following components as they apply to CSUSM's sanitary sewer system:

a. Maintenance of up-to-date sanitary sewer system map showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;

b. Routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventive Maintenance Program should have a system to document scheduled and conducted activities, such as work orders;

c. Development of a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;

d. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and repair contractors to be appropriately trained; and

e. Development of equipment and replacement part inventories, including identification of critical replacement parts.

## 5.2 Discussion of Regulatory O&M Components

To address the components listed in Section 5.1 and as required by the WDRs, the following subsections provide a summary of the applicable O&M procedures currently implemented.

### 5.2.1 Sanitary Sewer System Mapping

The location of CSUMSs' wastewater collection system pipes and associated appurtenances are maintained by CSUSM are maintained by the Planning, Design, and Construction Department and documented in AutoCAD. The information contained in the AutoCAD files includes pipeline location and sizes and manhole and cleanout locations. Additionally, pipe material and length, and manhole and cleanout identification numbers, and lateral locations and length are also documented. The Planning, Design, and Construction Department also maintains all as-built drawings.

### 5.2.2 CSUSM's Preventative Maintenance Program

Generally, the operation and maintenance activities pertaining to the campus' wastewater collection system is the responsibility of the Facility Services Department. The preventative maintenance program primarily includes scheduled maintenance of sewer mains, high frequency maintenance locations (HFMLs), and the inspection of wastewater facilities as required. All preventative work, as well as repair work is documented via electronic work orders on Facility Services computer maintenance management software (CMMS), Asset Works.

#### System Cleaning

Generally, the sewer mains are cleaned as determined necessary by the Facility Services staff. HFMLs are cleaned using a hydro jet or snake in selected targeted areas based on staff's general knowledge of the system. Additionally, the discharge lines originating at grease interceptors are jet cleaned annually.

#### Root Control

CSUSM has not had any root related issues and currently conducts treatment only on an as-needed basis. However, in the event that more extensive root treatment is required, Facility Services has the authority to execute a contract with a contractor for performance of specific related services.

### 5.2.3 Inspection and Condition Assessment Program

Regular and systematic inspection and assessment of sanitary sewer system facilities provides a means to monitor the condition of the facilities, the effectiveness of the maintenance operations, and a basis for identifying and scheduling capital improvements. As well, the overall assessment can be used to determine the funding required to repair, rehabilitate, and replace an aging collection system and to prioritize the allocation of funds and optimize the expenditure and efforts to operate a sewer system. The following is a summary of CSUSM's current inspection efforts of the campus wastewater collection system.

**Pipelines:** Facility Services staff does not currently perform the routine inspection of the sewer system mains. However, the Facility Services Department maintains an open Purchase Order to facilitate retaining contractor services in the event the inspection of specific pipelines is required. Currently, the Facility Services Department is in the process of obtaining estimates from contractors to perform the CCTV inspection of the campus wastewater collection system.

**Manholes:** Facility Services staff currently conducts the random visual inspection of the sewer system manholes or as required by the Planning, Design, and Construction Department in preparation for an upcoming and/or potential project.

The routine inspection and assessment process helps in prioritizing projects as the condition of the pipe is typically the primary factor. Therefore, Facility Services is considering developing and implementing a video inspection program that is performed on a regular basis and that is appropriate for the size of the system to ensure proper system operation and identify potential maintenance problems such as root intrusion, inflow and infiltration, breaks, and/or joint displacement.

### 5.2.4 Repair & Rehabilitation Program

It is imperative that CSUSM maintain a sewer replacement and rehabilitation program in order to sustain adequate service to its stakeholders and maintain the condition and performance of the wastewater collection system.

Repair and rehabilitation work performed by Facility Services crews may include localized repairs at service interfaces and removing obstructions in the sewer mains that hinder cleaning or operational performance. Repairs that require resources beyond those available within the Facility Services Department, including staff and equipment are coordinated and contracted with outside services. Additionally, as required, the Facility Services Department retains outside services for work that must be completed quickly, is excessively deep, and/or that are located in areas with extensive utilities.

Major capital improvements and/or repairs that are identified are systematically planned and prioritized for implementation through the Planning, Design, and Construction Department.

### 5.2.5 Capital Improvement Program (CIP) Development Planning

A well planned short and long range program for the wastewater collection system allows CSUSM to plan, design, and construct sewer infrastructure projects in an organized manner that best serves its stakeholders. In January 2010, CSUSM completed the University Facilities Master Plan to evaluate the existing utilities currently serving the existing CSUSM campus and evaluate various alternatives for improvements. The evaluation revealed that the wastewater collection system is generally adequate in size to support the present needs of the campus. Additionally, the existing system possesses significant available capacity and should be able to accommodate planned future expansion.

### CSUSM Short Term Planning

CSUSM continues to manage and maintain the existing infrastructure. CSUSM's short-range plan includes responding to the immediate needs of the wastewater collection system on an as-needed basis. As improvements are identified, the Facility Services Department initiates a project which includes developing a scope and implementing the necessary actions to address the repair, rehabilitation, and/or replacement of the facilities.

### CSUSM Long Term Planning

Several factors determine the priority of projects identified during the assessment process, including condition, goals to prevent sanitary sewer overflows, providing sufficient system capacity, reducing infiltration and inflow in pipes located below the water table, or reducing maintenance efforts by improving the pipe condition. Other considerations include coordinating surface and utility improvements that may be impacted by improvements. Integrating the results of the inspection and assessment efforts, with capacity related efforts, CSUSM will ensure a proactive and comprehensive long-range planning effort.

Prioritizing projects for its wastewater collection system relies on several factors including:

- Severity and extent of the conditional defects
- Estimated remaining useful life of the facilities
- Maintenance records (condition findings) and SSO occurrences
- Identified, major expansions and/or improvements

Using this data, CSUSM can include condition related projects onto its current CIP and include projected costs and dates for the start and end of construction.

As projects are identified, Facility Services staff should develop and track a list of projects and review the list on a regular basis to revise the priorities and update estimated costs based on new and updated information. This would ensure the necessary projects are completed in a timely manner, thereby reducing the potential occurrence of an SSO.

## 5.2.6 Training

Typically, training programs specify and include the curriculum required prior to permitting an employee to undertake specific work assignments or tasks and are developed to ensure that personnel are well-trained to implement all applicable and necessary components of established programs and successfully achieve established strategic goals.

Training for staff in the Facility Services Department is conducted by both Facility Services and Safety, Health, & Sustainability staff on the existence and the provisions of the operations, maintenance, and safety policies and procedures. CSUSM retains the services of contractors that are appropriately certified and with approved and applicable licenses. Additionally, information necessary for the contractor to perform the required work is provided prior to permitting the contract to commence any work on campus facilities.

Additionally, “on-the-job” training for use of equipment is performed. Weekly “tail-gate” meetings are held and include discussion of safety, system operation, and personnel protection and equipment related issues. All appropriate staff participates in the regularly scheduled meetings to ensure awareness of their responsibilities and in executing their duties. The Director of Facility Services or his designee attends the weekly “tail-gate” meetings and is responsible for ensuring staff competencies. All necessary and appropriate safety equipment is provided to staff by CSUSM.

While CSUSM requires that certain staff possess certifications commensurate with the required job responsibilities, CSUSM also encourages staff to participate in trainings. As specific certifications are required and approved, CSUSM will reimburse its staff for the associated fees upon the successful completion of the training and receipt of certification. As necessary and determined by appropriate managerial staff, training programs may also include supplemental technical training required to efficiently and safely perform specific job related duties.

Additional instructional material should include CSUSM’s approved SSMP and Sanitary Sewer Overflow Emergency Response Procedures (SSOERP). This will serve as a mode of instructing applicable staff on the SSMP, SSOERP, and all the required documentation. Training and event participation should be documented and maintained by either the Director of Facility Services and/or the Director of Safety, Health, & Sustainability.

### 5.2.7 Equipment and Replacement Part Inventories

The Facility Services Department maintains an inventory of regularly used replacement parts and equipment on site. For implementation of repairs that extend beyond Facility Services’ internal resource capabilities, the department maintains an open purchase order with several local companies that maintain a supply of the necessary items they stock.

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# Chapter 6
# Design and Performance Provisions

This chapter of the SSMP discusses CSUSM's design and construction standards and serves to fulfill the Design and Performance provisions required by the WDRs.

## 6.1 Regulatory Requirements for Design and Performance Element

The WDRs require that the SSMP address the following:

a. Design and construction standards and specifications for the installation of new sanitary sewer system, pump stations, and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and

b. Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

## 6.2 Discussion on Design and Performance Provisions

CSUSM's Building Standards codify the campuses current design and performance criteria for the wastewater collection system. The standards used by CSUSM are established by the Planning, Design and Construction Department. The primary sections of the Building Standards are summarized below.

- Section 02000 Site Work
- Section 03000 Concrete
- Section 04000 Unit masonry
- Section 05000 Metals
- Section 06000 Woodwork
- Section 07000 Thermal & Moisture Protection
- Section 08000 Doors and Windows
- Section 09000 Finishes
- Section 10000 Specialties
- Section 11000 Equipment
- Section 12000 Furnishings
- Section 13000 Fire Protection
- Section 14000 Vertical Transportation
- Section 15000 Mechanical
- Section 16000 Electrical

CSUSM Building Standards are supplemented with the appropriate provisions of the adopted Standard Specification for Public Works Construction (Greenbook), Standard Plans for Public

Works Construction (SPPWC) which specify detailed design, inspection and installation criteria for sanitary sewer design and construction.

To address the components listed in Section 6.1 and as required by the WDRs, the following subsections provide a summary of the application provisions currently being implemented by CSUSM.

### 6.2.1 Design and Construction Standards

Criteria for the design and construction of new, rehabilitated, and replaced sewer system facilities, including mains, tie-ins, service laterals, cleanouts, manholes, and other system appurtenances are necessary to ensure the proper operation of the wastewater collection system.

The sewer system constructed on the CSUSM campus was constructed according to the CSUSM Building Standards. Specifically, Section 2700, Sewer & Drainage, includes the minimum design standards for sewer mains, sewer manholes, sewer laterals, and general guidelines for performing the hydraulic analysis. Additionally, various Standards Plans are also referenced. Additionally, the Building Standards are supplemented with the appropriate provisions included in the adopted Greenbook.

Design of wastewater facilities that CSUSM considers non-standard, such as pump or lift stations, force mains, and siphons, are not included in the building standards and would require prior approval from the appropriate CSUSM staff before design can begin.

### 6.2.2 Inspecting and Testing

Inspection and testing of new or rehabilitated facilities ensures that the established standards are being implemented in the field. Compliance with CSUSM's Building Standards requires the contractor performing work on the sewer facilities to be responsible for conducting the inspection and testing for all new and rehabilitated sanitary sewer systems and other related appurtenances. Specifically, Subsection 3.13, Field Quality Control, of Section 2700 of the Building Standards, includes inspection and testing criteria for the campus's wastewater piping facilities. Additionally, the Building Standards are supplemented with the appropriate provisions included in the adopted Greenbook.

# Chapter 7
# Overflow Emergency Response Procedures

Sanitary Sewer Overflow Emergency Response Procedures (SSOERP) were documented and included in the CSUSM's SSMP. The purpose of the SSOERP is to document the guidelines and measures to protect public health and the environment in the event of an SSO occurrence.

## 7.1 Regulatory Requirements for Overflow Emergency Response Plan

The WDRs require that CSUSM develop and implement an overflow emergency response plan which identifies measures to protect public health and the environment. At a minimum, the plan must include the following:

a. Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;

b. A program to ensure an appropriate response to all overflows;

c. Procedures to ensure prompt notification to appropriate regulatory agencies and other potential affected entities (e.g., health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with these MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;

d. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;

e. Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and

f. A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring and may be necessary to determine the nature and impact of the discharge.

SSOs are caused by a blockage or a restriction in the wastewater collection system, pipe failures, flows exceeding the capacity of the system, and other natural or man-made causes. In the event of an SSO, CSUSM Facility Services staff must respond and be prepared to:

- Contain the SSO
- Control the overflow;
- Mitigate and clean up the contaminated area; and
- Notify the appropriate authorities

## 7.2 Objective and Purpose

The SSOERP is prepared as part of the CSUSM SSMP. The purpose of the SSOERP is to document guidelines and measures to protect public health and the environment in case of an accidental overflow.

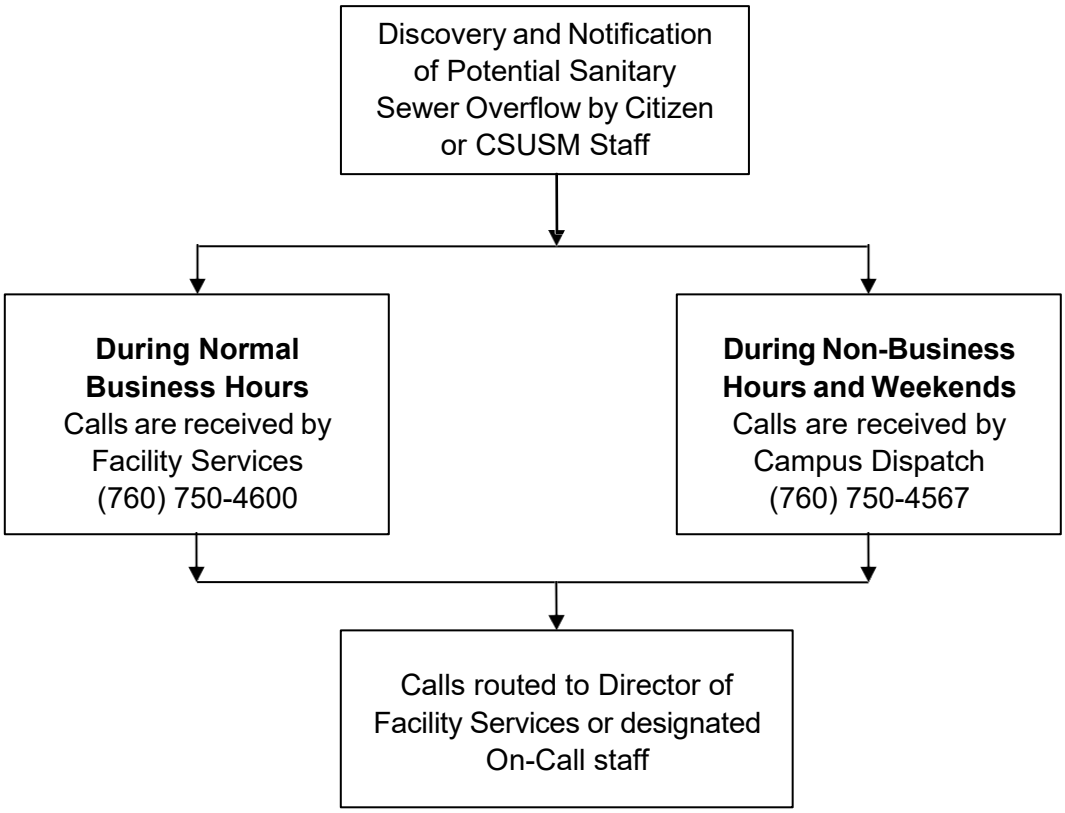
CSUSM recognizes the importance of protecting the health and safety of the public as well as the environment by preventing sewer flows from reaching surface and ground waters and waters of the United States. CSUSM also understands the necessity to implement procedures to comply with the requirements of state regulations. The primary goal in establishing this SSOERP is to ensure that staff CSUSM staff response appropriately and efficiently to all know SSOs immediately.

## 7.3 Receipt of Information of Possible SSO

Suspicious circumstances, such as foul odors, backed up plumbing, unusual flooding, may indicate the possibility of an actual or impending SSO. In the event of an SSO that may affect CSUSM system operation and/or may become a public health issue, personnel from Facility Services and Risk Safety, Health, & Sustainability staff is utilized.

Illustrated in Figure 7-1, is the notification process of a potential SSO that will be reported directly to the Facility Services Department, during normal business hours. During non- business hours, weekends, and designated CSUSM holidays, calls will be received by CSUSM's dispatch center and forwarded to the Director of Facility Services or Safety, Health, & Sustainability or the designated back-up.

**Figure 7-1 Process for Alerting Staff of a Possible Sanitary Sewer Overflow**




Upon receipt of a notification of a potential SSO, the dispatch personnel will obtain all relevant information available regarding the possible overflow including:

- Time and date the call/SSO report was received;
- Specific location of actual or impending SSO;
- Description of the problem,
- Time the possible SSO was noticed by the caller;
- Caller's name and telephone number
- Observations by the caller (e.g. odor, duration)
- Other relevant information that will enable the responding staff to locate, assess, contain, and relieve the SSO

Campus dispatch immediately notifies the Director of Facility Services and/or Safety, Health, & Sustainability or designated back-up, also referred to as the Incident Commander (IC) for SSOs. Response time to an SSO will be less than an hour after the initial call.

### Facility Services Personnel Notifications of Possible SSOs

Possible and actual SSOs detected by maintenance personnel in the course of their normal duties are reported immediately to the Director of Facility Services or designated back-up staff member. For incidents that occur during normal business hours, staff closest to the location of the incident will be dispatched to the reported SSO location. Personnel on-site observing the SSO should begin efforts to contain and minimize the effects of the SSO if properly trained and have appropriate spill response materials.

## 7.4 Incident Commander Responsibilities

Based on the information provided during the initial notification of a possible SSO, personnel will contact the Director Facility Services or the designated back up. The Director of Facility Services or the designated back up shall proceed to the SSO location to assess the cause and extent of the SSO. The Director Facility Services or the designated back up to arrive first at the location is considered the IC. The IC will determine whether to direct additional maintenance crews and/or other approved contractors to the SSO location of the SSO cannot be fully contained or recovered or if it has reached public waters. The IC will:

1. Determine and assess the cause of the SSO, e.g. sewer line blockage, pipeline break, failure of equipment, etc;
2. Identify and request, if necessary, additional personnel, materials, and equipment necessary to minimize, contain, or isolate the impact of the SSO;
3. Control public access to affected area;
4. Use appropriate protective equipment and safety precautionary measures, and implement Lockout/Tag-Out protocol as applicable;
5. Obtain necessary equipment and implement measures to respond to spill; and
6. Coordinate with hazardous materials response teams if a suspicious substance (e.g. oil sheen, foam) or odor (e.g. gas) is present.

## 7.5 Overflow Containment, Correction, and Clean-up

CSUSM shall respond with its staff, equipment, and/or contractors and, under most circumstances, perform the tasks necessary to properly and effectively correct, contain, and clean up SSOs. Facility Services staff has the skills and experience to respond rapidly and in the most appropriate manner without producing a problem elsewhere in the system. In responding to an SSO, Facility Services staff shall:

- Protect public health, the environment, and property from SSOs and restore the surrounding area back to its original condition;
- Contain the sewage discharged to the maximum extent possible and prevent the discharge of sewage into surface waters;
- Control traffic and crowds to limit public access;

- When appropriate, promptly notify regulatory agencies of preliminary SSO information and potential impacts; and
- Minimize CSUSM's exposure to any regulatory agency penalties and fines

### 7.5.1 Containment Measures

The following are specific actions to be performed by the response crews in the event of an SSO:

- Determine the immediate destination of the overflow (e.g. street curb gutter, storm drain, drainage channel, creek bed, body of water, etc.)
- Take immediate steps to contain and recover the overflow (e.g. block storm drain, recover sewage with available equipment, dig or construct a containment pond, divert flow into a downstream manhole
- Identify and request, as necessary, assistance or additional CSUSM or Contractor resources (material and equipment) to contain or isolate the overflow;
- As necessary, secure the affected area and post warning signs;
- Clean and sanitize the affected area(s);
- Finalize incident documentation;
- Review overall response with responding parties; and
- Sample as necessary. Any sampling performed will be managed by

## 7.6 Notification Requirements

The volume, impact, and location of an SSO determine the level of notifications required to comply with regulatory requirements. Table 7-1 provides a summary of the agencies that should be notified and when they are to be notified based on the type and volume of the SSO, without impeding containment or other emergency response measures.

Additionally, CSUSM is required to, as soon as possible, but no later than twenty-four (24) hours after becoming aware of a discharge to a drainage channel or surface water, submit to the SDRWQCB a certification that the state OES and the local health officer or directors of environmental health with jurisdiction over the affected water bodies have been notified of the discharge.

**Table 7-1**
**SSO Notification Requirements for Regulatory Agencies**

| Agency/Official | Reasons to Notify | When to Notify |
|---|---|---|
| Governor's Office of Emergency Services | Category 1 SSO conditions | Within 2 hours of notification of SSO |
| | A sewage discharge to a drainage channel and/or surface water, or a discharge to a storm drain pipe that is not fully recovered | Within 2 hours of becoming aware of discharge |
| County of San Diego Department of Environmental Health | A sewage discharge to a drainage channel and/or surface water, or a discharge to a storm drain pipe that is not fully recovered | Within 2 hours of becoming aware of discharge |
| San Diego Regional Water Quality Control Board | Category 1 or Category 2 SSO Conditions | Within 24 hours of notification of SSO |
| | A sewage discharge to a drainage channel and/or surface water, or a discharge to a storm drain pipe that is not fully recovered | Within 2 hours of becoming aware of discharge |
| San Diego County Flood Control District | A sewage discharge to a drainage channel and/or surface water, or a discharge to a storm drain pipe that is not fully recovered | As soon as practicable |
| University Police Department, Emergency Services | Public Safety concerns, such as assistance with traffic control | Immediately |
| California Department of Fish and Game-South Coast Region | A sewage discharge to a drainage channel and/or surface water, or a discharge to a storm drain pipe that is not fully recovered | As soon as practicable |

After the appropriate parties on the SSO notification list (Table 7-1) have been contacted, Safety, Health, & Sustainability staff will contact all other regulatory agencies as required. Contact information is provided in Table 7-2.

**Table 7-2**
**Regulatory Agency SSO Notification List**

| Contact List | Telephone No. | Non-Business Hours |
|---|---|---|
| San Diego Regional Water Quality Control Board (RWQCB) | 858-637-5581 | 858-822-8344 |
| The Governor's Office of Emergency Services Warning Center (OES) | 916-845-8991 | 800-852-7550 |
| San Diego County Flood Control District | 858-565-5262 | 858-565-5262 |
| California Department of Fish and Game-South Coast Region | 858-467-4201 | - |
| San Diego County Storm Water Management Program | 888-846-0800 | 888-846-0800 |

## 7.7 Monitoring and Mitigation

The Incident Commander who confirmed the SSO must ensure that the provisions of the SSOERP and other directives are met. CSUSM staff shall conduct an assessment of the impacts following an SSO and appropriately mitigate and monitor the site for potential future SSOs and to prevent SSOs from re-occurring. The SDRWQCB in conjunction with the Risk Management & Safety Department will determine the extent of the water quality testing that is required to be conducted based on the volume and location of the SSO. The types and frequency of the testing to be performed is generally based on the estimated volume of the SSO and the affected or potentially affected body of water. For SSOs that reach surface waters, monitoring and testing activities may include:

- Obtaining water quality samples.
- Gathering samples upstream and downstream of any location where SSO reached surface water.
- Logging the sample location, time, and water temperature on the chain of custody form.
- Creating a map of the sample locations so that follow-up testing can be performed.
- Collecting samples at the location where the SSO entered the water. When taking the sample, submerge the bottle below the surface of the water with the cap on. Once the bottle is under the surface, remove the cap and fill the bottle. Gloves should be worn while sampling to avoid infecting any open wounds.
- Analyzing the sample for at least the following constituents:
  - Ammonia Nitrogen;

- Biochemical Oxygen Demand (BOD);
- Dissolved Oxygen (DO);
- Total Fecal Coliform;
- Total Suspended Solids (TSS); and
- Additional sampling requirements as imposed by the SDRWQCB.

## 7.8 SSO Documentation

Documenting SSOs and the causes provides information for:

- Management for performance measurement and decision-making;
- Regulators to meet established reporting requirements
- Planning future maintenance and repair activities
- Engineering determinations regarding capacity, rehabilitation, or replacement; and
- Reference for historical performance or claims

It is the responsibility of the Director of Facility Services Manager and Safety, Health, & Sustainability to ensure that the SSO is properly investigated, documented, and recorded. The minimum information required from the investigation is:

- Cause of SSO;
- Volume of SSO including volume released and volume recovered;
- Location of point of discharge;
- Ultimate destination of the SSO;
- Impact and extent of impact;
- Estimated start time of SSO;
- Time CSUSM received notification of SSO;
- Arrival time of crew(s) and time to correct the SSO;
- End time of SSO;
- Water body impacted and results of bacteriological monitoring, if applicable;
- Actions taken to mitigate the SSO; and
- Notifications to regulators and others.

## 7.9 Training Requirements

Appropriate staff will participate in regularly scheduled training sessions to assist response crews in awareness of their responsibilities while executing their duties. These training sessions will be organized based on the latest emergency response procedures as well as other applicable reference materials.

An overview of the SSMP and SSOERP should be provided to CSUSM staff annually and new employees for which the documents are pertinent. This will serve as a mode of instructing staff

on the SSMP, SSOs, and required documentation. Field demonstrations can be performed to test equipment, response time, training effectiveness, resources and manpower capabilities.

## 7.10 SSOERP Availability

As policies change and response procedures are refined, the SSO response procedures will be reviewed and modified to reflect all necessary changes. Therefore, the SSOERP will be reviewed annually to ensure that all information is updated. The amended procedures will be distributed to the appropriate staff and made available to the public for review. Staff shall ensure that the procedures are readily available to personnel, and that said personnel are familiar with the plan and comply with it at all times.

## 7.11 Review and Update the SSOERP

CSUSM staff shall maintain the SSOERP and amend or update it as necessary with the addition of new facilities, or changes in the operation or maintenance of the wastewater collection system that may materially affect the potential for SSOs. At a minimum, the procedures will be reviewed annually. The annual review of the procedures will also ensure all provisions are being met and implemented. CSUSM staff shall also review and amend the SSOERP as appropriate after any SSO occurrence. SSOERP deficiencies and updates will be addressed and modified accordingly. The plan performance will be routinely evaluated, reviewed and updated.

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# Chapter 8
# Fats, Oils, and Grease Control Program

This chapter of the SSMP discusses CSUSM's efforts to address FOG related issues.

## 8.1 Regulatory Requirements

To comply with the WDRs, CSUSM is required to evaluate its service area to determine whether a FOG Control program is necessary. If deemed necessary, CSUSM is required to develop and implement a FOG Control program to effectively control the quantity of FOG that is discharged into the sanitary sewer system. The FOG Control Program shall include the following as appropriate:

a. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
b. A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
c. The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
d. Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, best management practices (BMP) requirements, record keeping and reporting requirements;
e. Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;
f. An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and
g. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.

## 8.2 Purpose of FOG Control Program

CSUSM is committed to complying with the mandates set forth under the WDRs. To comply with an element of the WDRs, CSUSM is to either prepare a FOG Control Program, or demonstrate its existing preventative maintenance program effectively reduces the quantity and/or the effects of FOG and other debris discharged to the wastewater collection system that may cause sewerage collection system blockages or SSOs.

To determine whether a comprehensive FOG Control Program and implementation of control mechanisms were required, CSUSM staff reviewed and assessed its existing campus facilities

to identify the sources and nature of FOG in its wastewater collection system. As well, the locations of HFMLs were reviewed.

## 8.3 Sources of FOG

Residual FOG is primarily a by-product from food preparation in residential buildings and, more commonly, Food Service Establishments (FSEs). Typically, FOG enters a facility's plumbing system from ware washing, floor cleaning, and equipment sanitation. Wastewater collection systems are neither designed nor equipped to handle the FOG that can accumulate on the interior of the sewer collection system pipes from improper discharges. The accumulations restrict flow in pipes and can eventually result in SSOs. The unintentional overflow of untreated sewage creates a health risk to the public, damages property, and pollutes our environment.

Development and proper implementation of best management practices (BMPs) facilitates the maximum beneficial use of the wastewater collection system by preventing blockages of sewer lines and reducing the adverse effects on sewage treatment operations resulting from discharges of FOG.

## 8.4 Background

FSE may contribute FOG to the wastewater collection system. Additionally, residential housing has very limited cooking facilities and therefore contributes minimal FOG to the sewer system.

The FSE is equipped with a grease trap and/or a grease interceptor. Sizing and installation requirements for grease interceptors is determined by the Planning, Design & Construction Department and are required to comply with the specific sections of the adopted California Plumbing Code. CSUSM requires FSEs to be solely responsible for the proper operation, maintenance, and repair of the approved pretreatment device(s). Cleaning and removal of accumulated grease is conducted regularly and required by an approved and licensed contractor/waste hauler. The licensed contractor/waste hauler cleans the grease interceptors on average once or twice per year or as deemed necessary by the manager of the FSE. The list of grease removal equipment is updated as new FSEs are placed into service and regular service implemented. Attachment B includes the list of FSEs with grease removal equipment. The list is updated on a regular basis.

FSE staff is regularly trained as the employees largely consist of students and therefore contributes to a high turnover rate in staff. The primary focus of the FSE has been on source control with concentrated effort in educating staff on the negative impacts of putting FOG into the wastewater collection system.

The FSE implements BMPs to prevent the introduction of grease and fats into the wastewater collection system. Staff at each FSE is informed and trained to properly implement the BMPs. BMPs may include, but are not limited to, the following:

- Management and disposal of bulk grease.
- Management and disposal of grease contained in pans

- Proper cleaning and maintenance of grease traps
- Notifications in the event of a potential or actual SSO
- Proper record keeping

To date, efforts to educate FSE staff has been effective in attaining the desired results for the FSEs.

## 8.5 Special Maintenance Sites

CSUSM does not currently have wastewater collection system mains that require additional maintenance due to excess FOG being discharged into the system.

## 8.6 Conclusions

CSUSM's effort for addressing potential FOG related issues has been its proactive preventative maintenance program and the routinely scheduled maintenance of the grease interceptor and/or grease trap at the FSE.

Overall the data indicates that FOG has not contributed to deficiencies in the wastewater collection system. To date, CSUSM has not had FOG related blockages nor has experienced any SSOs due to excessive FOG within the wastewater collection system.

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# Chapter 9
# System Evaluation and Capacity Assurance Plan

Identified as an element of the SSMP, the WDRs require each agency to prepare a System Evaluation and Capacity Assurance Plan. This chapter of the SSMP discusses CSUSM's capacity management measures to address the current and future capacity requirements of it's collection system and the recommended capacity improvement projects.

## 9.1 Regulatory Requirements for System Evaluation and Capacity Assurance Plan

The WDRs require that CSUSM prepare and implement a CIP that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm and wet weather event. At a minimum, the plan must include:

a. **Evaluation:** Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates for the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;

b. **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria;

c. **Capacity Enhancement Measures**: The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding; and

d. **Schedule:** The Enrollee shall develop a schedule of completion dates for all portions for the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D.14 of the WDRs.

## 9.2 Discussion on System Evaluation and Capacity Assurance Plan

CSUSM's most recent efforts in performing an evaluation of its sanitary sewer system are documented in the California State University, San Marcos Utility Infrastructure Master Plan. The Master Plan was prepared in June 2010 and includes an evaluation of the utilities currently

servicing the existing CSUSM campus and evaluates specific recommended alternatives for improvements necessary to the infrastructure to support proposed new buildings, major renovations, and building replacements that are included in the University Facilities Master Plan.

The following subsections provide a brief summary of the modeled system, flow estimates, and evaluation criteria used in CSUSM's sewer system capacity evaluation to address the components listed in Section 8.1 and as required by the WDRs.

### 9.2.1 Evaluation

The capacity assessment completed as part of the Utility Infrastructure Master Plan was based on estimating sewage generation and flows in the wastewater lines. Due to the varying topography, the wastewater collection system was divided into three (3) separate networks. For each network, flows were determined based on the developed land use. The hydraulic capacity of each network and major facilities was determined based on sewer flow rate readings provided by CSUSM for a 2-year period. CSUSM service mains ultimately discharge into the Vallecitos Water District (VWD) sanitary sewer system at three (3) points of connection (POCs). The POCs are located in Twin Oaks Valley Road, Barham Drive, and La Moree Road.

The system evaluation was performed to identify improvements necessary to adequately convey existing wastewater discharges and support proposed future developments and the projected flows. The Master Plan adequately addresses the dry weather capacity issues and includes a summary of the proposed improvement projects and planned sewer facilities to accommodate the projects and improve hydraulic capacity.

To date, CSUSM has not experienced any SSOs due to hydraulic deficiencies in the sewer system. As the identified improvements are implemented, this will aid in maintaining this record. Additionally, updating the hydraulic model to include significant system improvements and additions as they occur will help identify potential capacity problems in the wastewater collection system.

### 9.2.2 Design Criteria

CSUSM established hydraulic design criteria used in preparing the Master Plan. The following paragraphs summarize the process and the results.

#### Hydraulic Conditions

To establish existing hydraulic conditions, the flow rate for each network was determined to be the total flow rate measured at each meter located at the POCs and was based on the square footage of the respective buildings within the network. Methods of estimating sewage generation and modeling flows in sewer lines were established based on the general understanding of local requirements. Sewer flow rate readings were provided by CSUSM for a 2-year period for all three points of connection.

The flow rate for each building was determined to be a percentage of the total flow rate at each meter based on the square footage of each building. The sewer generation calculations for

each network and for the entire campus are included in Table 2-2 of the Utilities Infrastructure Master Plan. Additionally, calculations of velocities and flow depths of the existing sewer system at peak flow rates are included in the appendix of the Master Plan. A peaking factor of 2 was used to convert the Average Daily Flow to Peak Daily Flow. A multiplier of 4.0 was applied to the University Village Apartments as it was established that residential buildings have a larger percentage of flow. Where pipe data was not available, the assumptions used were noted.

### 9.2.3 Capacity Enhancement Measures

Chapter 3, Analysis of Future Needs, of the Utility Infrastructure Master Plan includes a summary of the anticipated future flows based on the planned improvements and expansions.

Calculations were performed to determine the present volume of flow and capacity in the existing campus sanitary sewer system. Calculations were also performed to determine the effect of the proposed campus expansions on the sewer system. Based on student population and existing and proposed building square footages, flow rates were calculated for the affected pipes.

Using criteria from the County of San Diego and the Vallecitos Water District, flow rates were calculated based on the existing and anticipated student population and square footages of proposed buildings to determine whether the capacity of the existing sewer system was sufficient to accommodate potential future flows. Standard design criteria for new sewers limit the flow depth to one-half the pipe diameter (i.e. d/D =< 0.50), and require a minimum velocity of 2 feet per second (fps) to ensure sufficient scouring velocities to prevent deposition of solids in the pipes. In some cases, where minimal flow was generated, minimum pipe slopes required by the UPC or local sewer district superseded velocity requirements.

According to the evaluation of the existing sewer system that is included in the Master Plan, the existing sewer system is adequate in size to support the present needs of the campus and will be able to accommodate proposed future expansion.

### 9.2.4 Schedule

CSUSM's Utility Infrastructure Master Plan identifies the wastewater collection system projects necessary to address projected demands. The projects identified in the Master Plan address capacity limitations for dry weather flow conditions for both existing and build-out conditions. Included in Chapter 5 of the Master Plan are recommended improvements and completion dates for modifications to the existing sewer system.

Chapter 6 includes an overview of the estimated costs to modify/upgrade the existing utilities to supports the future planned wastewater system at the campus. However, the costs provided do not include soft costs or unit price escalation.

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# Chapter 10
# Monitoring, Measurement, and Program Modifications

This chapter of the SSMP discusses the parameters that CSUSM will utilize to track and monitor the progress of implementing elements of the SSMP, the effectiveness of the SSMP, and how CSUSM intends to update and revise the SSMP to keep it current.

## 10.1 Regulatory Requirements for Monitoring, Measurement, and Program Modifications

The WDRs require CSUSM to:

a. Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;

b. Monitor and implement and, where appropriate, measure the effectiveness of each element of the SSMP;

c. Assess the success of the Preventive Maintenance Program;

d. Update program elements, as appropriate, based on monitoring or performance evaluations; and

e. Identify and illustrate SSO trends, including: frequency, location, and volume.

## 10.2 Discussion of Monitoring, Measurement, and Program Modifications

To date, CSUSM has effectively managed and maintained information pertaining to the wastewater infrastructure by recording preventive maintenance activities using the computer maintenance management system (CMMS), AssetWorks. Reoccurring work orders are automatically generated based on a predetermined and assigned frequency which facilitates the scheduling of staff and equipment for performing the routine maintenance activities and documenting the materials used and/or expenditures made. The information is recorded and used for tracking and reporting of staff time and system expenditures.

CSUSM tracks performance measures with the use of AssetWorks including, but not limited to, the pipelines cleaned, cause(s) and location of stoppages, and the scheduled maintenance of high frequency maintenance locations (HFMLs). CSUSM will continue to monitor the performance measures it currently tracks.

To address the components listed in Section 10.1 and as required by the WDRs, the following subsections provide a summary of the procedures to be implemented to properly monitor program progress and implement necessary modifications.

### 10.2.1 Maintain Information Pertaining to SSMP Activities

CSUSM has designated the Director of Safety, Health, & Sustainability as the individual responsible for continually monitoring the SSMP provisions and the Director of Facility Services ensures that the system is maintained in conformance with the document. As improvements or modifications are identified, CSUSM will implement the necessary adjustments to the program at the earliest practical time.

### 10.2.2 Monitor and Measure SSMP Elements

As the SSMP elements are implemented and evolve, and the collection system is rehabilitated and/or expanded due to implementation of CIP projects, CSUSM staff will modify the elements. The Director of Facility Services should identify and recommend updates to this SSMP as part of CSUSM's regular performance measurement assessments.

The following performance parameters may be utilized as performance indicators to evaluate CSUSM's system:

1. Pipe age
2. O&M cost/year
3. O&M staff required
4. Percent of system maintained, repaired, and/or replaced each year
5. System cleaning cycle frequency
6. I&I monitoring
7. Planning goals status

### 10.2.3 Assessment of Preventive Maintenance Program

On a regular basis, at least once every two (2) years, CSUSM will evaluate the effectiveness of its preventative maintenance program elements and staffing levels. Recommendations for appropriate adjustments should be developed. Implementation of any changes should be based on the urgency of the need, coordination with other program elements, and management approvals.

### 10.2.4 Update Program Elements

SH&S must review this SSMP on a regular basis and update the document with any significant changes. The SSMP must be reviewed, updated, and re-certified by the governing board at least once every five (5) years. CSUSM's process should include distributing the SSMP to appropriate staff for review, to ensure the most current legal authority, response plans, organizational charts, equipment lists, and contact/notification information are included. Once the operational, maintenance, management, and administrative changes are implemented, CSUSM may consider distributing the SSMP for a peer review of the document. Once recommendations are incorporated into the document, the SSMP will be ready for recertification by its Board of Trustees. Additionally, CSUSM is responsible for maintaining

the SSMP program as required by the San Diego Regional Water Quality Control Board (SDRWQCB) and will make the SSMP accessible to the public.

### 10.2.5 Identify and Illustrate SSO Trends

CSUSM's Facility Services maintains information as to the emergency calls received reporting potential and/or actual SSOs. The information is documented and contained within the CMMS, AssetWorks.

CSUSM also submits SSO information on the CIWQS website, which is accessible to the public. CSUSM will continue to document SSO trends. Additional information to be included in the documentation process is the frequency and approximate volume of the SSO. Overall, CSUSM is efficiently and effectively implementing the measures to properly document and report any SSOs as required by the WDRs.

## 10.3 SSMP Modifications

The Safety, Health, & Sustainability Departmentwill ensure that the SSMP is updated periodically to include current information, and modify the programs as necessary to ensure program effectiveness and continual compliance with the WDRs. As modifications to elements of this SSMP are deemed necessary, CSUSM staff will implement them at the earliest practical time. However, changes will be officially made to this SSMP during the annual or bi-annual update to the document. A comprehensive SSMP update and recertification will occur every five (5) years or as necessary and will include any significant program changes. The LRO will be responsible for certifying the SSMP via CIWQS.

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# Chapter 11
# SSPM Program Audits

This chapter of the SSMP discusses CSUSM's Auditing Program.

## 11.1 Regulatory Requirements for SSMP Program Audits

The WDRs require that the agency conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two (2) years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the agency's compliance with the SSMP requirements identified, including identification of any deficiencies in the SSMP and the steps taken to correct them.

## 11.2 Discussion of SSMP Program Audits

CSUSM must complete bi-annual audits of its SSMP. Any modifications identified while monitoring the implementation of this SSMP will be officially noted during the SSMP bi-annual audit to ensure this SSMP is up-to-date. The audit may be completed internally, and CSUSM has the option of having the audit performed by an appropriate third party auditor or a neighboring and similar campus. The audit may include, but not be limited to:

- Reviewing the progress made on the development of the SSMP elements
- Reviewing the status of the SSMP programs implemented
- Identifying the improvements necessary to various SSMP programs
- Describing system improvements within the two (2) year audit period
- Describing system improvements planned for the upcoming two (2) years
- Reviewing data related to SSO occurrences

Upon completion of the audit, CSUSM must memorialize the process and results in a written document. CSUSM must retain the audit report on file or include it in the SSMP in compliance with the WDRs.

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# Chapter 12
# Communication Program

The primary objective of the Communication Program is to increase public awareness of sanitary sewer system issues, to promote a sense of stewardship for the campus' system and facilitate its efforts towards the effective and efficient management, operation, and maintenance of the sanitary sewer system. This chapter of the SSMP discusses CSUSM's efforts to educate and inform the staff and stakeholders regarding the proper use of the sanitary sewer system.

## 12.1 Regulatory Requirements for Public Education and Outreach

The WDRs require CSUSM to communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the campus' as the program is developed and implemented.

## 12.2 Discussion of the Communication Program

The Facility Services Department will communicate with the campus community regarding the development, implementation, and performance of the SSMP. The plan will be posted on the CSUSM website for the campus community to review and comment. Additionally, the department will provide interested parties with status updates on the implementation of the components of the SSMP and will also consider comments made by interested parties.

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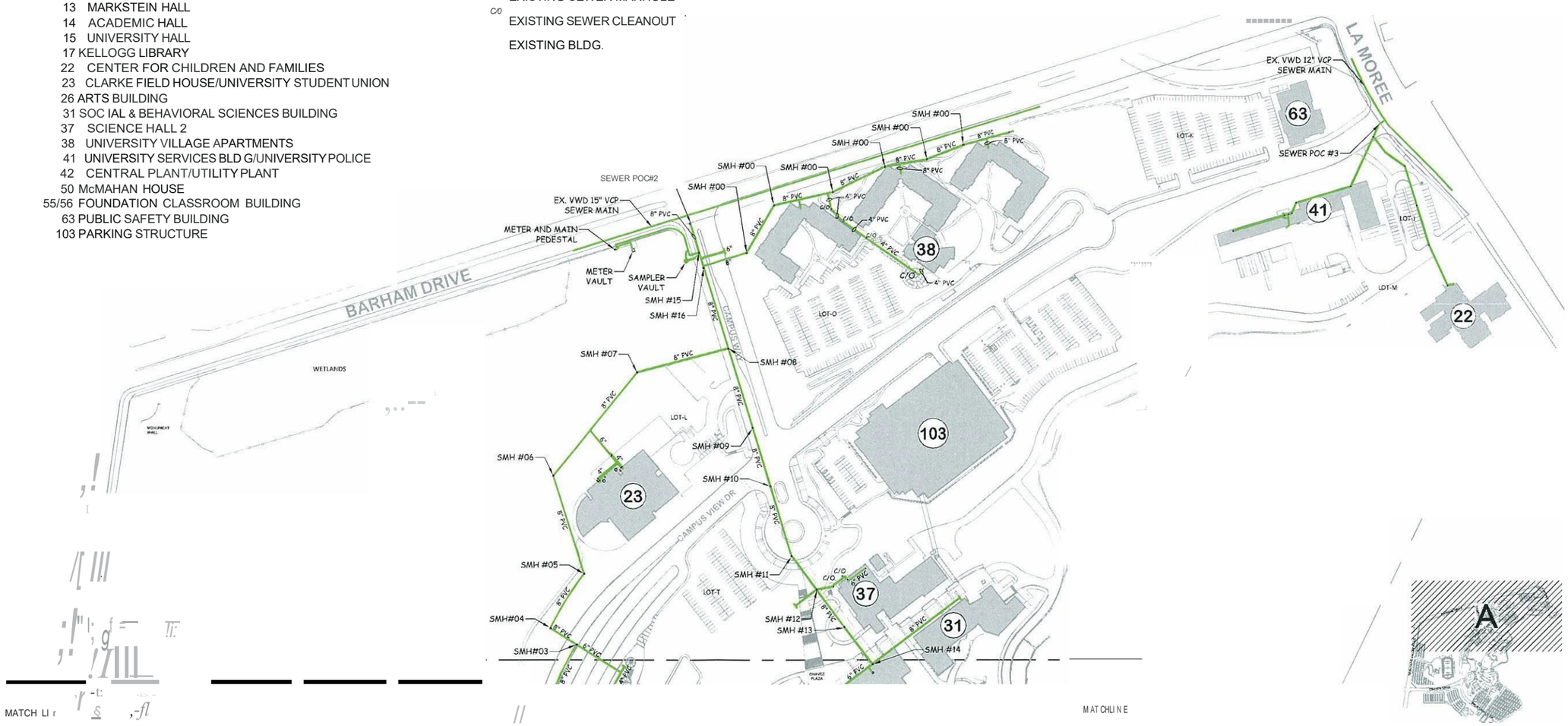
# APPENDIX A

## EXISTING BUILDING IDENTIFICATION

01 CRAVEN HALL
02 UNIVERSITY COMMENS/DOME
03 SCIENCE HALL
13 MARKSTEIN HALL
14 ACADEMIC HALL
15 UNIVERSITY HALL
17 KELLOGG LIBRARY
22 CENTER FOR CHILDREN AND FAMILIES
23 CLARKE FIELD HOUSE/UNIVERSITY STUDENT UNION
26 ARTS BUILDING
31 SOC IAL & BEHAVIORAL SCIENCES BUILDING
37 SCIENCE HALL 2
38 UNIVERSITY VILLAGE APARTMENTS
41 UNIVERSITY SERVICES BLD G/UNIVERSITY POLICE
42 CENTRAL PLANT/UTILITY PLANT
50 McMAHAN HOUSE
55/56 FOUNDATION CLASSROOM BUILDING
63 PUBLIC SAFETY BUILDING
103 PARKING STRUCTURE

## LEGEND

EXISTING SAN ITA RY SEWER
EXISTING SEWER MANHOLE
C/O EXISTING SEWER CLEANOUT
EXISTING BLDG.




O' 125' 250'

EXISTING SANITARY SEWER A

**KEYPLAN**
N.T .S.


## EXISTING BUILDING IDENTIFICATION

01 CRAVEN HALL
03 SCIENCE HALL
UNIVERSITY COMMONS DOME
14 ACADEMIC HALL
MARKSTEIN HALL
15 UNIVERSITY HALL
17 KELLOGG LIBRARY
22 CENTER FOR CHILDREN AND FAMILIES
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42 CENTRAL PLANT/UTILITY PLANT
50 McMAHAN HOUSE
55/56 FOUNDATION CLASSROOM BUILDING
63 PUBLIC SAFETY BUILDING
103 PARKING STRUCTURE

## LEGEND

EXISTING SANITARY SEWER
SMH EXISTING SEWER MANHOLE
EXISTING SEWER CLEANOUT
EXISTING BLDG.
1201 JUNCTION/NODE NUMBER

# APPENDIX B

GREASE REMOVAL EQUIPMENT INVENTORY

| *Facility* | *Location* |
|---|---|
| University Commons | Commons or Dome kitchen |
| University Village Housing and Dinning | Dinning kitchen |
| University Student Union | University Student Union kitchen |
| | |