WATER QUALITY MANAGEMENT PLAN

California Polytechnic University
San Luis Obispo

2024

CALIFORNIA POLYTECHNIC UNIVERISTY SAN LUIS OBISPO

WDR: R3-2003-035

WATER QUALITY MANAGEMENT PLAN

UPDATED: August 22nd, 2024

NEXT UPDATE DUE: April 1st, 2028

SUMMARY: California Polytechnic State University, San Luis Obispo (Cal Poly), is a comprehensive, polytechnic, teaching institution. It is located on the central coast of California midway between Los Angeles and San Francisco. The campus is composed of the Main Campus and six ranches. Various habitats exist on the campus and include urban (instructional core), agriculture, range, riparian, wetland, and aquatic. Water resources include streams, reservoirs, springs, ponds, wetlands, wells, and storage tank facilities. Maintenance and enhancement of water resources and associated habitats is part of the University in carrying out its educational mission.

In July 2003, the Regional Water Quality Control Board approved WDR Order No R3-2003-035, Waste Discharge Requirements (WDR) for the University which adopted the Cal Poly Water Quality Management Plan hereafter referred to as WQMP. The WQMP represents a voluntary and cooperative implementation approach between Cal Poly and the Central Coast Regional Water Quality Control Board (Board) to address water quality management issues and permit requirements.

The WQMP directs the use of Best Management Practices (BMPs) to protect and manage water resources as campus conditions change to meet academic program needs. The term BMP is synonymous with "management measures" and "management practices" and does not imply that the practices listed are the "best" or that other practices are inferior. Water quality management issues are addressed in Point, Nonpoint, and Stormwater Pollution Prevention Programs of the WQMP. To ensure that water quality objectives are being implemented, the WQMP calls for monitoring BMPs, identifying any problems associated with implementation, solving implementation problems, and reporting results to the Regional Board. As such, the WQMP is considered a "living document" and will be evaluated annually and updated every 5 years, or as determined necessary through monitoring and assessment processes.

This WQMP revision focuses on the campus animal unit facilities, compost production, and related agricultural operations, which are regulated under R3-2003-035. Since the issuance of the WDR, campus instructional core water quality management has transitioned to Cal Poly's Phase II nontraditional MS4 permit, and construction water quality has transitioned to the State General permit. Both are under the State Water Board's oversight and no longer regulated under the WDR order, as referenced in sections 14 and 15 of the order. The WQMP is exempt from CEQA under CA Water Code Section 13389 and is subject to review and approval by the Regional Board.

The WQMP is organized into three parts. Part I introduces the project setting and the context for the implementation of the WQMP. Part II delineates the campus point and nonpoint pollution sources, pollution prevention programs and unit specific best management practices (BMPs). Part III addresses reporting, training, and planning. The Appendix includes a copy of WDR-R3-2003-065, the Monitoring Reporting Program, and a list of definitions and acronyms.

WATER QUALITY MANAGEMENT PLAN CERTIFICATIONS

Certification of WQMP:

"I certify under penalty of law that this document and all attachments were prepared under my direction of supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature: _____

Date: _____

Mike McCormick
AVP, Administration and Finance Division
California Polytechnic State University,
San Luis Obispo

Signature: _____

Date: _____

Bill Hendricks
Interim Dean, College of Agriculture, Food and Environmental Sciences
California Polytechnic State University,
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PART I

1 INTRODUCTION

California Polytechnic State University (Cal Poly) is a comprehensive, polytechnic teaching institution situated on the central coast of California between Los Angeles and San Francisco. In carrying out its educational functions, university activities involve interactions with various water resources on campus and in the surrounding area. The campus is home to a range of natural and man-made water features, including streams, reservoirs, springs, ponds, wetlands, wells, and domestic water storage tank facilities. The University recognizes the vital importance of these water resources and associated habitats and is committed to their protection and preservation as an integral part of its educational mission.

The Water Quality Management Plan (WQMP) represents a cooperative approach between Cal Poly and the Central Coast Regional Water Quality Control Board (Board) to address water quality management and permitting requirements as Cal Poly fulfills its educational objectives. In July 2003, the Regional Board adopted a new Waste Discharge Requirement (WDR) that includes language binding the implementation of the WQMP as part of the WDR order. The WQMP addresses water quality concerns, current operations, regulations, and associated Best Management Practices (BMPs). As a regulatory document, the WQMP is subject to review and approval by the Regional Board.

1.1 WQMP Scope

The campus encompasses approximately 6,000 acres, including the Main Campus and six ranches (Figure 1). The campus features a diverse array of habitats, such as urban (Campus Instructional Core), agriculture, range, riparian, wetland, and aquatic, which support Cal Poly's undergraduate and graduate teaching programs and its "Learn-by-Doing" philosophy.

Since the issuance of the Waste Discharge Requirements (WDR), the urban campus instructional core water quality management has transitioned to Cal Poly's Phase II nontraditional MS4 permit, and construction water quality has transitioned to the State General permit. Both are under the State Water Board's oversight (MS4 boundary presented in Figure 1) and no longer regulated under the WDR order, as referenced in sections 14 and 15 of the WDR; consequently, the updated WQMP includes these programs only to a limited extent.

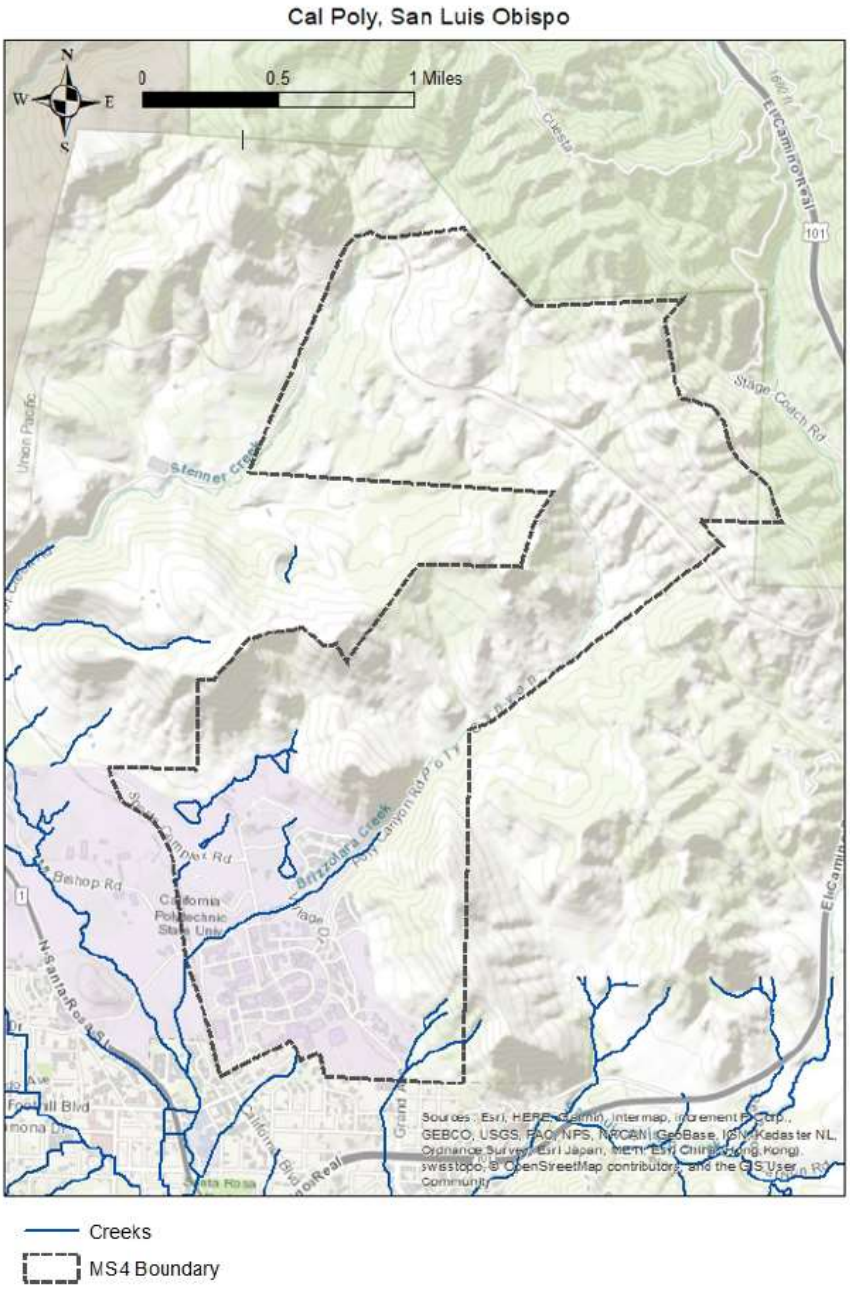
This WQMP revision focuses on the campus animal unit facilities, compost production, and agricultural operations, which are regulated under R3-2003-035. The WQMP is exempt from CEQA under CA Water Code Section 13389 and is subject to review and approval by the Regional Board.

1.1.1 Areas and Activities Covered by the Statewide Municipal Stormwater Permit (MS4)

Cal Poly San Luis Obispo's campus includes areas regulated under the Non-Traditional Small MS4 General Permit (Order No. 2013-0001-DWQ), as depicted in Figure 1, the MS4 boundary map. These areas encompass the main academic campus, including classroom buildings, laboratories, administrative offices, student housing areas, and core facilities such as the library, student union, and recreation center. Additionally, parking lots, structures, and main campus roadways and walkways associated with these areas fall under this permit's jurisdiction.

Activities covered by the MS4 permit in these areas include management of stormwater runoff from impervious surfaces, maintenance of storm drain systems, street and parking lot cleaning, and landscape maintenance with irrigation runoff control. The permit also regulates construction site runoff control for projects within the permit area, post-construction stormwater management for new development and redevelopment, illicit discharge detection and elimination, and pollution prevention and good housekeeping practices for campus operations. These measures collectively aim to minimize the impact of campus activities on stormwater quality within the regulated MS4 areas.

Figure 1: California Polytechnic State University, San Luis Obispo: San Luis Obispo MS4 Boundary



1.1.2 Areas and Activities Covered by THIS Water Quality Management Plan

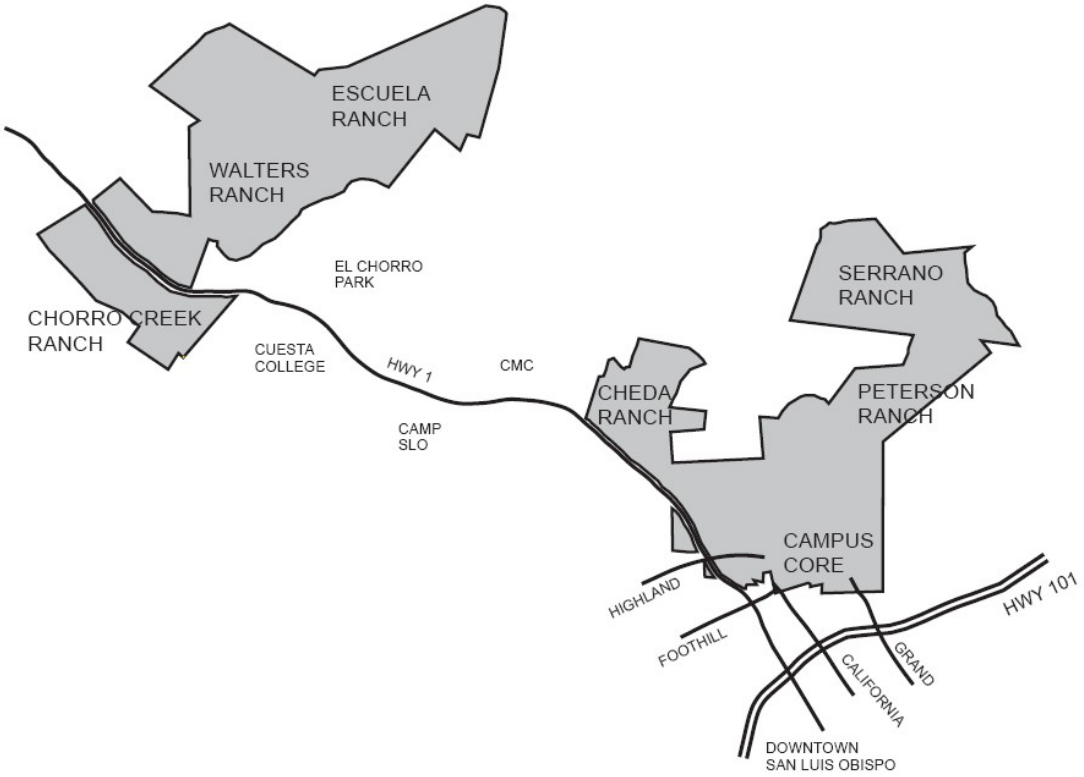
The WQMP covers areas and activities on the Cal Poly San Luis Obispo campus that are not regulated under the Non-Traditional Small MS4 General Permit. These include:

- Agricultural teaching and research facilities
- Outlying ranch lands and grazing areas
- Crop fields and orchards
- Animal facilities (e.g., dairy, swine units, equine center)
- Open spaces and undeveloped lands

Activities in these areas that fall under the WQMP include:

- Agricultural operations and associated runoff management
- Livestock waste management
- Erosion control in agricultural and undeveloped areas
- Pesticide and fertilizer application management
- Irrigation practices in agricultural areas
- Stream and riparian habitat protection
- Management of runoff from non-MS4 regulated roads and trails
- Water quality monitoring in campus creeks and other water bodies
- Best Management Practices (BMPs) for animal facilities
- Manure storage and disposal practices

Figure 2: California Polytechnic State University, San Luis Obispo: San Luis Obispo Creek and Chorro Creek Watersheds



1.2 Purpose & Objectives

The purpose of this Water Quality Management Plan (WQMP) is to establish comprehensive guidelines and best practices for managing water quality impacts from animal units and associated agricultural operations and extended campus activities at Cal Poly.

The key objectives of this plan are:

1. Protect surface water resources such as Stenner Creek and its tributaries, as well as groundwater aquifers, from potential contamination.
2. Ensure compliance with applicable federal, state, and local regulations, including Cal Poly's Waste Discharge Requirements (WDR) permit, and water quality standards.
3. Implement sustainable management practices to minimize water pollution risks associated with agricultural operations, including the dairy, horse stables, swine unit, composting facility, and rodeo grounds.
4. Establish a comprehensive framework for ongoing monitoring, recordkeeping, reporting, and corrective actions to maintain and improve water quality.

1.3 WQMP Updates

The WQMP is considered a "living document" and will be **evaluated annually** to assess its effectiveness and identify areas for improvement. **The WQMP will be updated and resubmitted to the RWQCB at least every 4 years (by April 1st)**, or as determined necessary through the monitoring, assessment, and reporting process. The descriptions of campus facilities herein are based on the best available information and are consistent with the terminology used in the Cal Poly Master Plan/EIR.

The Water Quality Management Plan must be uploaded to GeoTracker every four years, even if no updates have been made. The Water Quality Management Plan must include a description of changes made to the document relative to the most recent version.

1.3.1 Major Changes

The Regional Board must review and approve any significant modifications, including the addition of new facilities or alterations to discharge patterns, irrespective of the timing of the mandatory 4-year review.

1.3.2 Minor Changes

Minor changes, such as technical updates of cited BMPs, will not require a plan resubmission; however, such changes will be reported in biannual or annual reports to the RWQCB.

1.4 Plan Limitations

The WQMP does not authorize the discharge of fill or excavated material regulated by the U.S. Army Corps of Engineers under CWA Section 404 and does not constitute a waiver of water quality certification under CWA Section 401.

Some construction activities on the Cal Poly campus may require permits which are independent of the WQMP. Projects disturbing an area of one acre or larger must prepare, retain, and implement a Stormwater Pollution Prevention Plan (SWPPP) at the construction site. These SWPPPs must be submitted to the State Waterboard and are available to the public and the Regional Board, via SMARTS (Stormwater Multiple Application and Report Tracking System). The Environmental Health & Safety office provides guidance to the

Facilities Planning Department, Project Managers regarding implementing the Construction Stormwater Pollution Prevention Program and filing a Notice of Intent (NOI) for all activities associated with clearing and grading that are greater than one (1) acre. Cal Poly intends to comply with Regional Board general requirements for projects not requiring an NOI. This WQMP does not reduce any obligations under current or future Statewide Construction Permit Requirements.

Cal Poly will implement the BMPs in land use activities on campus as described in the WQMP. However, state resources may not always be available to implement BMPs in the necessary or intended timeframe, and BMP technology itself is expected to evolve. Therefore, reasonable adjustments to the WQMP implementation must be anticipated.

1.5 Plan Organization

The WQMP is organized into three parts. Part I introduces university settings and the context for the implementation of the WQMP. Part II describes the campus pollution sources, pollution prevention programs and unit specific best management practices (BMPs). Part III addresses reporting, training, and planning. The Appendices include a copy of WDR-R3-2003-065, the Monitoring Reporting Program, a list of definitions and acronyms, and recordkeeping form examples.

1.6 WQMP Roles & Responsibilities

1.6.1 General

The Vice President of Administration and Finance is responsible for the overall administration the Water Quality Management Plan.

1.6.2 Environmental Health & Safety Department (EH&S)

- Oversees the implementation of the Water Quality Management Plan (WQMP).
- Responsible for submitting compliance reports to the Regional Board as outlined in the Revised Monitoring and Reporting Plan (RMRP) included in **Attachment C**.
- Serves as the central repository for all permit required documentation related to the WQMP.
- In collaboration with the College of Agriculture, Food and Environmental Science (CAFES), EH&S reviews the Plan annually and updates it at least every 4 years.
- Coordinates the development and distribution of related documents and inspection forms.
- Acts as the primary point of contact for regulatory agencies on campus.
- Facilitates the implementation and supports Best Management Practices (BMPs) associated with point and nonpoint sources of pollution on campus.
- Supports the campus compliance with regulations for waste and wastewater management.
- Participates as a member of the WDR Committee.

1.6.3 The Facility Services Department

- Is responsible for the operations and maintenance of instructional buildings, landscaping and nonagricultural irrigation, and campus roads.
- Is responsible for design and construction activities.
- Conduct annual inspections of gutters and downspouts, repair as needed.

1.6.4 College of Agriculture, Food and Environmental Science (CAFES)

- Agricultural Operations ("AG OPS"), a department within CAFES maintains agricultural facilities to prevent clean storm water from entering regulated wastewater ponds and lagoons.
- Ensures wastewater irrigation is conducted in compliance with the WDR and recorded as required by the RMRP.
- Ensures Dairy, Swine, and Beef unit (BCEC) facilities (Each individually a "Unit") operate in compliance with Waste Discharge Requirements (WDR).
- Responsible (through Designee) for compiling agriculture and unit-specific information and submitting it to the Environmental Health & Safety (EH&S) office for inclusion in the Monitoring and Reporting Plan (RMRP) reports.
- Ensures each Ag Unit develops, maintains, and implements, as appropriate, Unit specific water quality protection BMPs.
- Delegates responsibility to individual Unit Mangers, under the oversite of the Department Heads and Agricultural Operations Staff to train students, staff and faculty working in their respective units on the current unit specific BMPs.
- Provides training documentation to the EH&S Department for inclusion in the Annual Report submitted to the Regional Water Quality Control Board.
- Assigns the Director of Agricultural Operations (or designee) to act as Chair of the WDR Committee.
- Ensures participation by others within CAFES, Unit Managers and/or Operations personnel as determined by the Chair of the WDR Committee.
- Maintains a contract with a 3rd party environmental engineering firm to conduct the required WDR/RMRP water quality sampling and analysis.
- Develops, implements, and updates the Nutrient Management and Manure Management Plans as applicable.

The organizational structure for WQMP implementation at Cal Poly San Luis Obispo is shown in **Attachment E**. This chart outlines key roles and responsibilities within the university. It is reviewed and updated annually, with the latest version included in each annual report to the Regional Water Quality Control Board.

1.7 Non-Compliance Penalty Clause

The following statement is intended to prevent conflict with the University and to enable the various departments to work proactively with the regulatory agencies through the Environmental Health & Safety Department.

> It is the responsibility of Deans, Division Heads, Department Chairs and Department Heads to develop and maintain procedures to ensure effective compliance with the Water Quality Management Plan (WQMP) as they relate to operations under their control. Any enforcement action by a regulating agency (Regional Water Quality Control Board, Army Corps of Engineers, etc.), as a result of deviating from the WQMP, will be assessed to the department responsible for the transgression. Enforcement actions include but are not limited to fines, performance of mitigation measures, and/or both direct and indirect costs of mitigation measures. The Environmental Health & Safety Department will consult with the regulating agency regarding any enforcement actions.

2 Inventory of Campus Lands

Cal Poly campus consists of the Main Campus, the San Luis Obispo Creek Watershed Ranches (approximately 3,000 acres), and the Chorro Creek Watershed Ranches (approximately 3,000 acres). The Main Campus is made up of the Campus Instructional Core and Extended Campus (Figure 2a). The Cheda, Peterson, and Serrano Ranches are contiguous to the Main Campus in the San Luis Obispo Creek watershed, they are collectively referred to as the San Luis Obispo Creek Watershed Ranches. The Chorro Creek, Walters, and Escuela Ranches are in the Chorro Creek watershed (Figure 2b), these areas are collectively referred to as the Chorro Creek Watershed Ranches. This terminology is consistent with the Campus Master Planning activities on campus.

2.1 Main Campus

Established in 1901, the Campus Instructional Core serves as the academic and administrative center of Cal Poly (Figure 2a). This area, covering approximately 155 acres, is bounded by the property line on the edge of the City of San Luis Obispo (Slack and Campus Way) to the south, the Union Pacific Railroad tracks to the west, Highland Drive, and its easterly extension to a point due north of Building 70 to the north, and a portion of Perimeter Road and Grand Avenue to the east. (Note: the northeast boundary is based on the realignment of Highland Drive). The Campus Instructional Core is a built environment, featuring landscaping and facilities for instructional infrastructure. Water tanks located on P-hill supply the University with domestic water. No streams run through the Campus Instructional Core. The Campus Instructional Core falls under the jurisdiction of the campus phase II non-traditional MS4 permit, administered by the State Water Quality Control Board.

2.2 Extended Campus

In addition to the Main Campus, three ranches are in the San Luis Obispo Creek watershed (Figure 3a). Two of these, Peterson, and Serrano, are adjacent to the Campus Instructional Core. Cheda Ranch is primarily located in this watershed, although a small portion of the ranch extends into the Chorro Creek watershed. This is called the Extended Campus. Animal Units in the Extended Campus include the Dairy Unit, Swine Unit, Beef Cattle Evaluation Center, Sheep Unit, Equine Center, Beef Unit, and the Poultry Unit.

2.2.1 Peterson Ranch

Peterson Ranch, established in 1950, is situated one mile northeast of the Grand Avenue campus entrance. The 426-acre ranch is bordered by the Union Pacific Railroad and Serrano Ranch to the north, the Campus Instructional Core to the south, the Miossi property to the east, and the Kirschner property to the west. The ranch consists of 22 paddocks/pastures, totaling 406 acres, with the remaining 16.5 acres occupied by the Poly Canyon Architecture & Environmental Design Experimental Construction Laboratory, established in 1965. Along with Serrano Ranch, Peterson Ranch supports Cal Poly's purebred cattle herd. The natural habitats on the ranch include grassland, oak woodland, riparian, chaparral, coastal sage scrub, and rock outcrops.

Brizzolara Creek runs along the eastern side of the ranch. Water is stored in three 5,000-gallon tanks fed by developed springs in the upper watershed and distributed throughout the ranch via polyethylene pipe to cement water troughs. Two storage tanks supply domestic water to the Architectural Village and the ranch residence.

The property features two residences, an enclosed barn measuring approximately 1,643 square feet, and one corral located directly behind the barn. Approximately 3.5 miles of unimproved roads run the length of the ranch. The primary purpose of Peterson Ranch is to support the University's beef cattle grazing program, which is essential for meeting educational requirements and research efforts.

2.2.2 Serrano Ranch

Serrano Ranch was established with the purchase of 544 acres in 1950. Additional land purchases brought the ranch to approximately 745 acres. The property is located at the end of Stenner Creek. The Los Padres National Forest borders the northern section of the property. The Union Pacific Railroad and California Men's Colony determine the western border. West Cuesta Ridge Road lies to the east and the Peterson Ranch to the south. Surrounding properties include the Glick property to the west, Kirschner to the south, and the Miossi lease to the west. The topography is rugged with steep slopes and gullies. The natural habitat consists mainly of grassland. Oak woodland, riparian, chaparral, coastal sage scrub, and rock outcrops can also be found. During the Highway 41 fire in August 1994, 520 acres of the ranch were burned. The ranch is comprised of 16 separate field areas (646.5 acres) that support cattle grazing.

The Stenner Creek headwaters are located on the Serrano Ranch. There are 6 developed springs and 10 seeps. Two springs supply water to five troughs and one water storage tank. The tank is the domestic water supply for ranch housing. Six of the seeps drain to tributaries of Stenner Creek. Some tributaries that supply water to Brizzolara Creek begin on Serrano Ranch and flow through the Peterson Ranch.

Serrano Ranch has four small unimproved roads: (1) a 0.5-mile Department of Water Resources access road in S13, (2) a 0.3-mile road that connects S3 and S5, (3) a 0.3-mile access road that connects S3 and S6, and (4) a 1.3-mile dirt access road that goes through S15 and S16.

2.2.3 Cheda Ranch

The 443-acre Cheda Ranch was established in 1951 and is located 2 miles north of San Luis Obispo off Highway 1. It is bordered to the north by the California Men's Colony, to the south by a residential area of San Luis Obispo, to the west by Highway 1, and to the east by the Union Pacific Railroad, Tartaglia property, and Extended Campus. The ranch is comprised of 18 fields used primarily for row crops and grazing. There are 18 acres of vineyards and 40+ acres of avocados.

Cheda Ranch is located within two watersheds. A small section (approximately 70 acres) of the west side is in the Chorro Creek watershed, while the rest drains into Stenner Creek and the San Luis Obispo Creek watershed. A small amount of riparian water is diverted to Middlecamp Reservoir, which feeds Nelson Reservoir. The small man-made Ketcham Frog Pond (Figure 2a) retains drainage from the avocados and also feeds a tributary to Nelson Reservoir.

There are approximately 1.4 miles of unimproved roads. The paved Stenner Creek Road provides the main access.

2.3 Chorro Creek Watershed Ranches

The Chorro Creek, Walters, and Escuela Ranches are in the Chorro Creek watershed (Figure 3b). The Chorro Creek, Escuela, and Walters Ranch units were once portions of a private5000-acre holding that was grazed prior to 1942, when the U.S. Government took over the land for army infantry training until the end of World War II. Ranch Water Quality Management Plans have been developed for these ranches and portions have been incorporated into this WQMP.

2.3.1 Chorro Creek Ranch

Established in 1965, Chorro Creek Ranch is located 6 miles northwest of the City of San Luis Obispo along Highway 1 and about 4 miles southeast of the City of Morro Bay. Chorro Creek Ranch is bordered to the north and east by Highway 1 and the Hammons property, to the south by Cuesta College and the California Men's Colony sewage treatment plant, and to the west by the Madonna and Tomassini properties. The ranch is comprised of 534.5 acres in 21 fields. Fields 1-16 and 19 are owned and operated by Cal Poly, fields 17 and 18 are co-owned by Cuesta College and Cal Poly and managed by Cal Poly. Fields 20 and 21 are owned by the California National Guard and managed by Cal Poly.

Chorro Creek Ranch is bisected by Chorro Creek. Walters Creek and a mapped unnamed tributary from Walters Ranch flow into Chorro Creek on the western end of the ranch. A spring, a 2,000-gallon water storage tank, and three reservoirs (Gibson, Johnson, and Tyler) are located at this ranch, as well as two developed stream crossings. Riparian areas have been fenced to control cattle access. The eastern border of the ranch has been contoured to prevent runoff and siltation from accumulating in Chorro Creek. There are approximately 6.4 miles of unimproved roads.

2.3.2 Walters Ranch

The Walters Ranch was established in 1982. The ranch is bordered on the north by the Escuela Ranch, to the west by California Department of Fish and Game wildlife area, to the south by Highway 1, and to the east by San Luis Obispo County school district offices and Cuesta College property. The entire ranch contains 713 acres. Natural habitats consist primarily of grassland with some riparian areas, as well as many rock outcrops. Archaeological site #544 established in 1971 is located on the south portion of the Walters Ranch along Highway 1.

Walters and Chumash creeks run through portions of the ranch. There are three dry reservoirs (Fox, Gary's and John's) on the ranch. Water is stored in the upper watershed in six 5,000-gallon tanks that are fed by developed springs and horizontal wells in the upper watershed of Walters and Pennington Creeks. This water is distributed throughout the ranch by polyethylene pipe to cement water troughs. Electric fences control cattle activity within the riparian areas.

The ranch is divided into approximately 30-acre paddocks where the cattle are rotated throughout the paddocks in a rest/rotation grazing program. There are approximately 2.5 miles of unimproved roads.

2.3.3 Escuela Ranch

The 1796-acre Escuela Ranch was established in 1968. It is approximately six miles north of San Luis Obispo off Highway 1. The southern border is shared with Camp San Luis Obispo National Guard Reservation and El Chorro Regional Park. To the north, the USFS Los Padres National Forest and the Vollmer property border the ranch. The National Forest borders the eastern portion as well. Walters Ranch, the Rancho El Chorro Outdoor School, and a portion of the Turri property occupy the western border. A biological sciences preserve was established on the ranch and occupies approximately 211 acres. The Beef Center (formerly Beef Unit) was constructed in 2006 for the purpose of providing hands on experience and for performance testing of bulls and a breeding facility for cows and heifers, and includes a laboratory building, seven feeding pens, eight lay-up pens, one horse pen, and a working chute complex.

Pennington, Chumash, and portions of Walters Creeks pass through the ranch. There are approximately five developed springs that provide water to troughs. A water tank supplies water to the corral. Riparian

areas have been fenced to control cattle access. Two wells near Pennington Creek installed in 2006 provide water to four water storage tanks, two 5.200-gallon stock water tanks, one 5,200-gallon potable water tanks and one 55,000-gallon tank for use in fire protection.

3 Inventory of Campus Waters

The campus waters encompass various sources, including reservoirs, wastewater ponds/lagoons, streams, groundwater, and irrigation wells. Tables 3-1 and 3-2 offer an overview of the basic information pertaining to each water source. Within the San Luis Obispo Creek watershed, there are 7 reservoirs, while the Chorro Creek watershed contains 6 reservoirs (as shown in Figures 3a and 3b). The Main Campus and San Luis Creek watershed ranches are home to 2 wastewater lagoons and 3 wastewater ponds (and two emergency backup storage ponds). Stenner and Brizzolara Creeks flow through the San Luis Obispo Creek watershed, whereas Chorro, Pennington, Walters, and Chumash Creeks are situated within the Chorro Creek watershed. The campus also features 5 irrigation wells.

Figure 3a: Main Campus and San Luis Obispo Creek Watershed Ranches & Waters

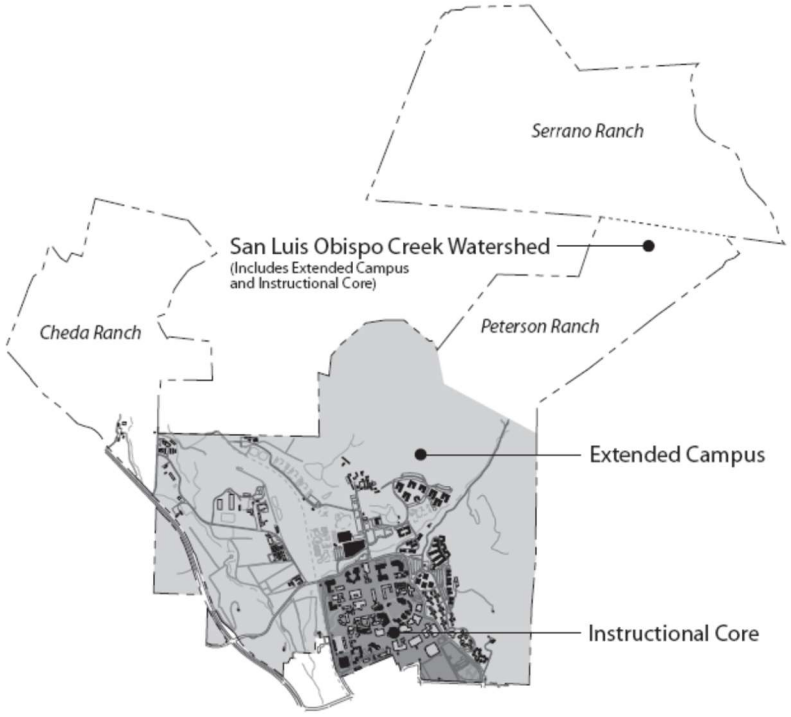
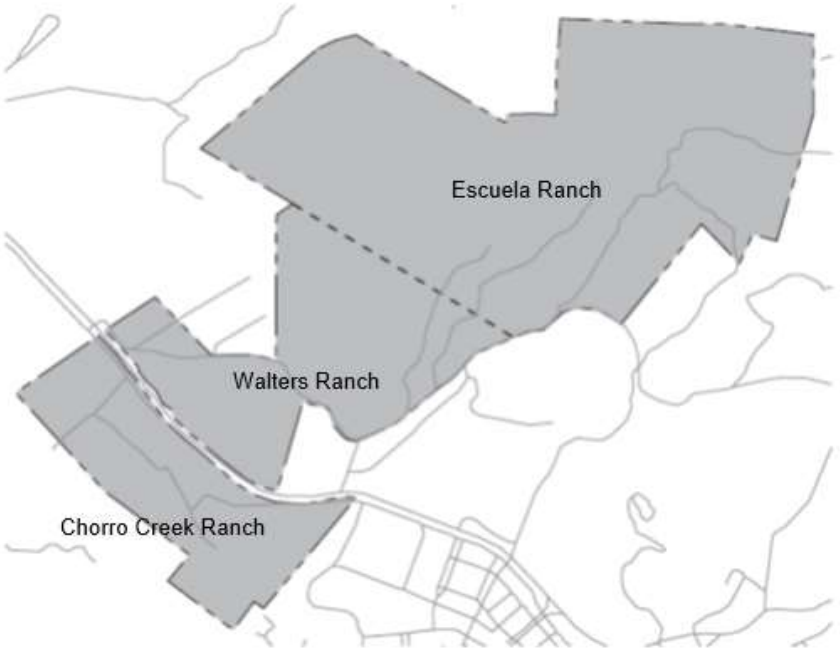


Figure 3b: Chorro Creek Watershed Ranches & Waters



3.1 Reservoir Systems

3.1.1 Whale Rock

In 1966, Cal Poly obtained rights to 1,200 acre-feet of water from Whale Rock Reservoir. Annually, about 320[1] acre-feet are used for agricultural purposes and the remainder is allocated for domestic use.

3.1.2 Middlecamp, Indonesia & Nelson

Water is pumped from Whale Rock Reservoir to Middlecamp Reservoir, and then to Nelson, then Indonesian Reservoir for distribution to the campus agriculture reservoir system for irrigation of crops and animal production. Excess water is allowed to flow via a drainage canal to Nelson Reservoir where it provides for recharge of the Stenner Creek aquifer. In addition, Cal Poly riparian water rights on Stenner Creek allow for gravity flow diversion to Middlecamp and Nelson Reservoirs with overflow to Stenner Creek.

At the discretion of the City of San Luis Obispo (City), water may be added to Middlecamp Reservoir from Salinas Reservoir instead of Whale Rock Reservoir. Additionally, the City may add water to Middlecamp Reservoir via the city water treatment plant backflushing process (approximately 60 acre feet annually).

3.1.3 Shepard & Smith

Surface runoff from Horse Canyon flows into Indonesian and Shepherd Reservoirs. Smith Reservoir is part of the system, but its water is not directly controlled through the campus reservoir system. It receives overflow from Shepard Reservoir from the northwest and drainage from a northerly riparian area adjacent to the Horse Unit.

[1] Reduced in 2018 from 449

3.1.4 Drumm

Drumm Reservoir water is used primarily for irrigation, research at the Irrigation Training and Research Center (ITRC), and nonpoint source pollution abatement at constructed wetlands in James Creek which flow into Drumm Reservoir.

3.1.5 Active Chorro Creek Watershed Reservoirs

Six reservoirs are located within the Chorro Creek watershed, **three** of which **are active**. **Gibson, Johnson and Tyler. Tyler Reservoir** is located west of Gibson all captures surface flow or can be filled via domestic well. Water is used for cattle only.

3.1.6 Inactive Chorro Creek Watershed Reservoirs

Due to concerns about fish migrating in the Chorro Creek watershed, the California Department of Fish and Game requires the other three reservoirs (**Fox**, **Gary's** and **John's**) to remain opened to allow surface water to flow through; these reservoirs are unlikely to be used in the near future.

3.1.7 Table 3-1: San Luis Watershed Reservoir Data

Reservoir System San Luis Obispo Creek Watershed	Date of Construction	Surface Area (ft^2)	Surface Area (ac)	Capacity (ac-ft)
Middlecamp	1965	59677	1.4	11.0
Indonesian	1956/57	111949	2.6	20.6
Ketcham Frog Pond	1950	25000	0.6	1/8 shallow
Nelson	1950	182952	4.2	33.6
Drumm	1908-1913	67200	1.5	12.0
Shepard	1947	130000	3.0	34.0
Smith	1949	32670	0.8	6.00

3.1.8 Table 3-2: Chorro Creek Watershed Reservoir Data

Reservoir System Chorro Creek Watershed	Date of Construction	Surface Area (ft^2)	Surface Area (ac)	Capacity (ac-ft)
Gibson	1968	265716	6.1	49.0
Tyler	1974	43560	1.0	1.0
Johnson	1971	74240	4.0	50.0
Fox [dry]	1984	14520	0.3	<.05
Johns [dry]	1984	8712	0.2	<.05
Garys [dry]	1984	8712	0.2	<.05

3.2 Stream/Creek Systems

3.2.1 San Luis Obispo Creek General Description

The San Luis Obispo Creek watershed is largely characterized by agricultural land uses, such as ranches and open spaces. The urban center of the City of San Luis Obispo is situated at the convergence of several tributaries with the main stem of the creek, which originates in the upper reaches of the watershed and traverses the city. Avila Beach, an unincorporated community, is located adjacent to the point where San Luis Obispo Creek meets the Pacific Ocean. The watershed also encompasses various other land uses, including the California Polytechnic State University, rural residential areas, a regional airport, and two wastewater treatment facilities.

3.2.1.1 Stenner Creek (Campus Portion)

Stenner Creek is the main creek that flows through parts of the Serrano and Cheda Ranches. As the creek flows from Serrano Ranch, it meets the Tartaglia property and then re-enters Cal Poly at Cheda Ranch.

3.2.1.2 Brizzolara Creek (Campus Portion)

Brizzolara Creek forms in the Poly Canyon area and flows through the Peterson and Serrano Ranches as well as the Main Campus. The creek flows from headwaters near the Union Pacific Railroad right-of-way. A small portion flows into the Miossi property along Poly Canyon Road, but most is contained within Cal Poly property.

3.2.1.3 Campus Flow to San Luis Creek

Brizzolara Creek joins Stenner Creek just north of the intersection of Foothill Boulevard and California Boulevard. Stenner Creek then flows into San Luis Obispo Creek. San Luis Obispo Creek is included on the State's 303(d) List, which is updated biennially by the State and Regional Water Boards. The list identifies water bodies and pollutants that exceed protective water quality standards based on an assessment of surface water quality monitoring data. San Luis Obispo Creek has been placed on the list due to elevated levels of nutrients and pathogens. As an entity within the watershed, Cal Poly is subject to and must comply with the pollutant load allocations and water quality targets set by the Total Maximum Daily Load (TMDL) for San Luis Obispo Creek. TMDLs are regulatory requirements established under the Clean Water Act. Cal Poly's TMDL testing requirements are included in the RMRP (Attachment C).

3.2.2 Chorro Creek General Description

Chorro Creek is the main tributary of Morro Bay Estuary, one of the largest and least altered coastal wetlands in central and southern California. The estuary provides critical habitat for diverse marine life, including 16 threatened and endangered species, and supports the third largest eelgrass beds in Southern California. The bay is a working harbor, tourist destination, and home to 25,000 people. It supports fishing, boating, shellfish growing, and habitats for threatened steelhead. The bay and its watershed cover about 75 square miles.

3.2.2.1 Chorro Creek (Campus Portion)

The campus portion of this creek flows from the California Men's Colony wastewater treatment plant along the boundary of Chorro Creek Ranch west to the Domenghini property.

3.2.2.2 Pennington Creek (Campus Portion)

The campus portion of this creek flows from headwaters in the northern portion of Escuela Ranch, across county property, and into Chorro Creek southeast of the Chorro Creek Ranch.

3.2.2.3 Walters Creek (Campus Portion)

This intermittent stream is located within Chorro Creek and Walters and Escuela Ranches. It has a limited water supply and connects with Chorro Creek just west of Chorro Creek Ranch boundary.

3.2.2.4 Chumash Creek (Campus Portion)

This intermittent stream is located within both Escuela Ranch and Walters Ranch. It connects to Pennington Creek on the east side of the ranches.

3.3 Groundwater

3.3.1 San Luis Obispo Creek Basin

The San Luis Obispo Creek Groundwater Basin is eighteen square miles and is drained by San Luis Obispo Creek. It extends from the northern limits of the City of San Luis Obispo, southerly along the alignment of the creek to the Pacific Ocean at Avila Beach. Near the southern portion of the city in the Edna Valley area, the basin extends approximately four miles east of the Pismo Basin. In the Los Osos Valley area, the basin extends approximately four miles west to the Los Osos Basin near Baywood Park.

According to the Department of Water Resources (DWR) Bulletin #18, the water-bearing formations extend to a depth of 160 feet and have a total storage capacity of 67,000 acre-feet. The basin has a usable storage above sea level of 22,000 acre-feet with an estimated maximum safe annual yield of 5,900 acre-feet. The San Luis Obispo County Master Water Plan Update currently estimates the production of this basin at 6,000 acre-feet per year.

The groundwater quality for irrigation use is generally considered Class 1 or Class 2, and occasionally Class 3, as established by the Agriculture Department, University of California, Davis. The groundwater basin is hard and high in chlorides, sulfates, iron, manganese, magnesium, nitrates, and total dissolved solids. These concentrations occasionally exceed EPA Drinking Water Standards.

Cal Poly occupies much of the Stenner Sub-basin within the above-described San Luis Obispo Creek Basin. The Stenner Sub-basin serves as an important ground water recharge area for the San Luis Obispo Creek Basin, as noted in the Master Water Plan Update. Surface water quality in this area is especially important, as it will have an impact on groundwater quality as well.

3.3.2 Chorro Creek Basin

Chorro Creek flows through the Chorro Creek Ranch near the California Men's Colony. The Chorro Basin is approximately 1.1 square miles in size and, although no measure of safe annual yield has yet been established, annual production is estimated at 1,833 acre-feet.

3.4 Irrigation Wells

Withdrawals by Cal Poly from the above listed ground water basins are limited to the following irrigation wells.

Table 3-3

Well #	Description	Meter Number	Watershed
Well #1	Located on Field 25, Parker Barn, South End (Irrigation). Pump HP: 40 HP Output: Measured GPM 6/96 by PG&E 613 gpm; 349.1 kWh/af Output: Measured 12/09 by ITRC: 320 gpm at 100 psi, 380 gmp at 60 psi	6M9630	San Luis Obispo Creek
Well #2	Located field C28, at the Crop Science Orchard packing shed. Pump HP: 3.4 HP Output: Measured GPM 6/96 by PG&E 51 gpm; 266.2 kWh/af Output: Measured 12/09 by ITRC: 160 gpm at 100 psi, 200 gpm at 60 psi Static water level – 20 feet on 12/09 Note: 100 psi will pump the water to Indonesian Reservoir	4743T7	San Luis Obispo Creek
Well #3	Located South of the shooting range on Highway 1 (Walter's Ranch). Pump HP: 5 HP Output: Measured GPM 6/96 by PG&E 18 gpm; 482 kWh/af	1042N8	Chorro Creek
Well #4	Located adjacent to Chorro Creek (North Well Pump) Pump HP: 7.5 HP Output: Measured GPM 6/96 by PG&E 107gpm; 426.4 kWh/af	R30500	Chorro Creek

	Output: Measured 12/09 by ITRC: 50 gpm		
Well #5	Located adjacent to Chorro Creek (South Well Pump) Pump HP: 3 HP Output: Measured GPM 6/96 by PG&E 107gpm; 243.6 kWh/af Output: Measured 12/09 by ITRC: 5 gpm	5P3683	Chorro Creek
Well #6	Located adjacent to Beef Unit Shop – Pennington Creek Road Pump HP: 1 HP Output: Measured GPM 5/06 by Miller Drilling Co; 7 gpm – Troughs	67P240	Chorro Creek
Well #7	Located adjacent to Beef Unit Shop – Pennington Creek Road Pump HP: 1HP Output: Measured GPM 5/06 by Miller Drilling Co; 15 gpm	67P240	Chorro Creek

3.5 Cal Poly's Waste Ponds/Lagoons

Of the 7 wastewater ponds and lagoons located within the San Luis Obispo Creek watershed, two are associated with the Swine Unit, two with the Dairy Unit, one with the BCEC, and two are backup storage ponds (Rodeo).

3.5.1 Pond/ Lagoon Irrigation

Utilizing wastewater from confined animal waste lagoons to irrigate forage crops at Cal Poly is an environmentally beneficial practice. This nutrient-rich water acts as a natural fertilizer, reducing the need for synthetic fertilizers while recycling waste and conserving water resources.

All pond/lagoon water has the potential to be used for spray irrigation. Specifics relating to spray irrigation can be found in the Point Source Pollution Prevention section under Wastewater Disposal Fields.

3.5.2 Wastewater Ponds/Lagoons Data

Wastewater Ponds/Lagoons San Luis Obispo Creek Watershed	**Date of Construction**	**Surface Area (ft^2)**	**Surface Area (ac)**	**Capacity (ac-ft)**
Swine Lower	1970	43249	1.0	5.2
Swine Upper	1970	38104	1.0	5.2
Dairy East	1998	65340	1.5	12.3
Dairy West	1994	87120	2.0	10.0
Overflow (Upper Rodeo)	1972	38880	0.7	4
Overflow (Lower Rodeo)	1972	38880	0.7	4
BCEC	1994	26780	0.5	1.5

PART II

4 Potential Pollutant Sources & Best Management Practices

The WQMP is intended to provide long-range planning and technical support directives addressing both point source and non-point source pollution, providing an overview of potential water quality impacts within the scope of our Waste Discharge Requirements (WDR). Both types of pollution sources have the potential to impact water quality and aquatic habitats.

Point source pollution, originating from identifiable and discrete locations, includes potential discharges from our animal units, agricultural wastewater irrigation fields, and dredged solids from wastewater pond disposal. These sources are more readily measurable and manageable through targeted interventions.

Non-point source pollution, conversely, stems from diffuse sources across broader areas, primarily associated with our agricultural activities such as cultivation and grazing, as well rural and unimproved roads. This type of pollution introduces various contaminants including sediment, nutrients, animal wastes, salts, and pesticides into our water systems.

The following subsections will detail the specific pollutant sources present in Cal Poly operations, their potential environmental impacts, and set the stage for the subsequent Best Management Practices (BMPs) tailored to each identified source.

4.1 Dairy Operations

Cal Poly San Luis Obispo has a renowned dairy science program that provides students with hands-on experience in dairy production and processing. The Dairy maintains approximately 200 lactating cows, as well as replacement heifers and calves. The dairy utilizes a waste flush system that collects and stores manure and wastewater in a treatment lagoon. CAFES is actively evaluating options for the modernization of its flush system equipment and wastewater workflow which will significantly reduce the volume of fresh water used and support more effective management of lagoon levels. Students actively participate in daily operations including milking, feeding, and animal health and welfare management. The dairy science curriculum includes all aspects of the dairy industry including nutrition, reproduction, genetics, animal health care and dairy products technology. The program emphasizes practical learning experiences, preparing graduates for careers in the dairy industry.

The university also hosts the annual Cal Poly Dairy Symposium, which brings together industry professionals, researchers, and students to discuss the latest advancements and challenges in the dairy industry.

4.1.1 Operational Details

Unit Primary Contact

Name	Hank Devries
Title	Dairy Operations Manager
Email	hdevries@calpoly.edu

Average Animal Counts ON PASTURE

Fall	Winter	Spring	Summer
30	30	30	30-60

Average Animal Counts CONFINED

Fall	Winter	Spring	Summer
280	200	200	200

4.1.2 Dairy Operation Primary Contaminants

- Nutrients (nitrogen and phosphorus): These nutrients come from dairy cow manure and urine. When present in high concentrations, they can lead to excessive algal growth and eutrophication in surface water bodies, depleting oxygen levels and harming aquatic life.
- Excessive application of dairy wastewater can lead to nitrogen oversaturation in soil which can migrate to groundwater, potentially leading to elevated nitrate levels that may exceed the maximum contaminant level (MCL) for drinking water.
- Pathogens: Dairy cow manure can contain bacteria such as E. coli, Salmonella, and Listeria, as well as viruses and protozoa like Cryptosporidium and Giardia. These pathogens can pose health risks to humans and animals if they contaminate drinking water sources.
- Organic matter: Milk residues, cleaning agents, and sanitizers used in dairy operations, along with decomposing manure and bedding materials, can release organic matter into water bodies. This can lead to increased oxygen demand and potential harm to aquatic life.
- Sediment: Stormwater runoff from unvegetated or poorly vegetated areas around dairy facilities can carry sediment, which can clog waterways, smother aquatic habitats, and transport other pollutants.
- Chemicals: disinfectants (chlorine and iodine), pesticides, and herbicides used in dairy production can contaminate stormwater runoff if not properly managed.

4.1.3 Best Management Practices (BMPs) for Dairy Areas:

Manure management:

- Maintain the flush system to effectively remove manure from barns while minimizing water usage.
- Regularly inspect and maintain the flush system to ensure proper functioning.
- Regularly maintain and clean the separation equipment to ensure optimal performance.
- Properly manage and dispose of the separated solids to prevent contamination of water sources.
- Implement rotational grazing where possible to prevent overgrazing and soil erosion.
- Operate lagoons to maintain designed storm volume for storing runoff from confined animal manure areas.
- Draw down water levels when site conditions allow for safe removal and appropriate use of wastewater and solids.
- Lower wastewater levels before the rainy season begins to maximize available storage space.
- Quickly remove solids from separation basin before storm events.
- Orient gutters and downspouts to direct water flow away from confined animal manure areas.

- Redirect clean stormwater away from confined animal areas and maintain area grading and diversions (except direct rainfall into lagoons) maximize available space.
- Periodically reshape diversions around manure areas to maintain proper grade, remove sediment buildup, and prevent water from breaching the bank.
- Keep diversions and channels free of sediment, debris, and brush growth to maximize capacity.
- Conduct annual inspections of gutters and downspouts, repair as needed.

Stormwater Management:

- Maintain proper drainage around dairy facilities to prevent the accumulation of standing water and reduce the risk of pollutant transport.
- Collect and redirect clean stormwater away from the flush system to reduce the volume of wastewater.
- Implement vegetative buffer strips or filter strips along primary drainage paths and water bodies to filter runoff.
- Implement erosion control measures in bare or disturbed areas.
- Properly store and handle chemicals, fuel, and other hazardous materials.
- Any stormwater that mixes with animal waste or other wastewater will be treated as wastewater and routed to appropriate wastewater holding ponds.

Education and Training:

- See section 5.6

Pond Maintenance:

- Maintain appropriate freeboard levels in the lagoon to accommodate precipitation and prevent overtopping.
- Remove solids as appropriate to ensure adequate capacity.

Inspections:

- Annual inspection of manure separation and flush system.
- Visual inspections of fields for signs of overgrazing or bare spots, when rotating animals.
- Annually inspect the road and land grading surrounding dairy barns to ensure clean stormwater diversion.
- Inspections will be summarized in the annual report.

4.2 Swine Unit

The Cal Poly San Luis Obispo Swine Unit provides students with hands-on experience in pig production and management. Students in the Animal Science program learn about various aspects of swine production, including breeding, farrowing, nursery and finisher management, nutrition, and health care.

Pigs raised at the Cal Poly Swine Unit are marketed through various channels, including live animal sales and the Cal Poly Meat Processing Center, where students learn about pork processing and quality control.

4.2.1 Swine Operational Details

Unit Primary Contact

Name	Brian Larson
Title	Swine Unit Manager/ Animal Nutrition Center Manager
Email	blarso07@calpoly.edu

Average Animal Counts OUTSIDE

Fall	Winter	Spring	Summer
225	225	225	225

Average Animal Counts INSIDE

Fall	Winter	Spring	Summer
175	175	175	175

4.2.2 Swine Unit Primary Contaminants

- Nutrients (nitrogen and phosphorus): These nutrients come from swine manure and urine. When present in high concentrations, they can lead to excessive algal growth and eutrophication in surface water bodies, depleting oxygen levels and harming aquatic life.
- Excessive application of swine wastewater can lead to nitrogen oversaturation in soil which can migrate to groundwater, potentially leading to elevated nitrate levels that may exceed the maximum contaminant level (MCL) for drinking water.
- Pathogens: swine manure can contain harmful bacteria, viruses, and parasites. These pathogens can pose health risks to humans and animals if they contaminate drinking water sources.
- Sediment: Stormwater runoff from unvegetated or poorly vegetated areas around swine pens can carry sediment, which can clog waterways, smother aquatic habitats, and transport other pollutants.
- Organic matter: Decomposing manure and bedding materials can release organic matter into water bodies, leading to increased oxygen demand and potential harm to aquatic life.
- Chemicals: Chemicals such as pesticides, antibiotics, and hormones used in swine production can contaminate stormwater runoff if not properly managed.

4.2.3 Best Management Practices (BMPs) for Swine Areas:

Manure management:

- Swine manure from the fallowing barn is collected in the “Swine Ponds” which are managed and monitored per Cal Poly’s WDR Monitoring and Reporting Program under the oversight of the Regional Water Quality Control Board.
- Implement vegetative buffer strips or filter strips along primary drainage paths and water bodies to filter runoff.

Stormwater Management:

- Implement erosion control measures in bare or disturbed areas.
- Properly store and handle chemicals, gasoline, and other hazardous materials.
- Any stormwater that mixes with animal waste or other wastewater will be treated as wastewater and routed to appropriate wastewater holding ponds.

Education and Training:

- See section 5.6

Pond Maintenance:

- Maintain appropriate freeboard levels in the ponds to accommodate precipitation and prevent overtopping.
- Remove solids as appropriate to ensure adequate capacity.

Inspections:

- Annually inspect the road and land grading surrounding swine ponds to ensure clean stormwater diversion.
- Inspections will be summarized in the annual report.

4.3 Beef Cattle Evaluation Center (BCEC)

The Cal Poly San Luis Obispo Beef Cattle Unit is a comprehensive facility dedicated to the study and production of beef cattle. Students in the Animal Science program gain hands-on experience in various aspects of beef cattle production, including breeding, calving, nutrition, health management, and marketing. The unit also conducts research on beef cattle genetics, nutrition, and sustainable grazing practices, contributing to the advancement of the beef industry.

Cattle raised at the Cal Poly Beef Cattle Unit are marketed through various channels, including live animal sales, private sales, and the Cal Poly Meat Processing Center, where students learn about beef processing and quality control. The unit also hosts a bull test sale annually, showcasing the genetic quality of the herd's bulls to the beef industry.

4.3.1 BCEC Operational Details

Unit Primary Contact

Name	Aaron Lazanoff
Title	Beef Operations Manager
Email	alazanof@calpoly.edu

Average Animal Counts in the BCEC (do not include animals moved out on pasture or on another Cal Poly property)

Fall	Winter	Spring	Summer
100	25	100	25

4.3.2 Swine Unit Primary Contaminants

- Nutrients (nitrogen and phosphorus): Animal manure is rich in nutrients, which can be washed into water bodies during rainfall events, leading to eutrophication (excessive algal growth) and depletion of dissolved oxygen.
- Pathogens: Beef Cattle manure can contain harmful bacteria, viruses, and parasites. These pathogens can pose health risks to humans and animals if they contaminate drinking water sources.
- Sediment: Stormwater runoff from unvegetated or poorly vegetated areas around swine pens can carry sediment, which can clog waterways, smother aquatic habitats, and transport other pollutants.
- Organic matter: Decomposing manure and bedding materials can release organic matter into water bodies, leading to increased oxygen demand and potential harm to aquatic life.
- Chemicals: Chemicals such as pesticides, antibiotics, and hormones used in animal production can contaminate stormwater runoff if not properly managed.

4.3.3 Best Management Practices (BMPs) for BCEC Area:

Manure management:

- Pens are cleaned at least twice per year. Material is taken to compost for processing.
- Implement vegetative buffer strips or filter strips along primary drainage paths and water bodies to filter runoff.

Stormwater management:

- BCEC storm runoff that flows through pen areas are collected in the "Beef Pond" detention basin which is managed and monitored per Cal Poly's WDR Monitoring and Reporting Program under the oversight of the Regional Water Quality Control Board.
- Implement erosion control measures, such as mulching, in bare or disturbed areas.
- Properly store and handle chemicals, gasoline, and other hazardous materials.
- Any stormwater that mixes with animal waste or other wastewater will be treated as wastewater and routed to appropriate wastewater holding ponds.

Education and training:

- See section 5.6

Pond Maintenance:

- Maintain appropriate freeboard levels in the ponds to accommodate precipitation and prevent overtopping.
- Remove solids as appropriate to ensure adequate capacity.

Inspections:

- Annually inspect road and land grading surrounding BCEC pond to ensure clean stormwater diversion.
- Inspections will be summarized in the annual report.

4.4 Equine Center

The Cal Poly San Luis Obispo Equine Center is a comprehensive facility dedicated to the study and care of horses. The center is home to approximately 100 horses of various breeds. These horses are used for teaching, research, and breeding purposes.

The equine unit offers students hands-on experience in horse management, training, reproduction, and health care. The facility includes multiple barns, indoor and outdoor arenas, a breeding facility, and a veterinary clinic. Students in the Animal Science program can specialize in equine science, preparing them for careers in the horse industry, such as training, breeding, and stable management.

Cal Poly's horse stables can contribute various contaminants to stormwater runoff, which can potentially impact surface and groundwater quality.

4.4.1 Equine Center Operational Details

Unit Primary Contact

Name	Irini Pateras
Title	Oppenheimer Family Equine Ctr Manager
Email	ipateras@calpoly.edu

Average Animal Counts

Fall	Winter	Spring	Summer
100	100	120	90

4.4.2 Equine Unit Primary Contaminants

- Nutrients (nitrogen and phosphorus): Animal manure is rich in nutrients, which can be washed into water bodies during rainfall events, leading to eutrophication (excessive algal growth) and depletion of dissolved oxygen.
- Pathogens: Horse manure can contain harmful bacteria, viruses, and parasites, such as E. coli, Salmonella, and Cryptosporidium. These pathogens can pose health risks to humans and animals if they contaminate drinking water sources.
- Sediment: Stormwater runoff from unvegetated or poorly vegetated areas around stables can carry sediment, which can clog waterways, smother aquatic habitats, and transport other pollutants.
- Organic matter: Decomposing manure and bedding materials can release organic matter into water bodies, leading to increased oxygen demand and potential harm to aquatic life.
- Chemicals: Equine areas may use chemicals for arena grooming, pest control, or animal health treatments, which can contaminate stormwater runoff if not properly managed.

4.4.3 Best Management Practices (BMPs) for Equine Areas:

Manure management:

- Regularly collect and properly store manure in cement bunkers away from water sources.
- Divert stormwater clean runoff away from manure storage areas.
- Equine manure is used in Cal Poly's composting operation to reduce nutrient and pathogen levels.

Pasture management:

- Rotate grazing areas to prevent overgrazing and soil erosion.
- Implement vegetative buffer strips or filter strips along primary drainage paths and water bodies to filter runoff.

Stormwater management:

- The Equine Center maintains a detention basin to manage stormwater runoff from the west pastures.
- Divert clean stormwater away from stable areas to minimize the volume of contaminated runoff.

Stable area management:

- Use vegetation in high-traffic areas to reduce runoff.
- Implement erosion control measures in bare or disturbed areas.
- Properly store and handle chemicals, gasoline, and other hazardous materials.

Education and training:

- See section 5.6

Inspections:

- Quarterly inspect manure bunkers to ensure proper containment of material and routine removal to compost area.
- Inspections will be summarized in the annual report.

4.5 Rodeo

The Cal Poly San Luis Obispo Rodeo program is one of the most successful collegiate rodeo programs in the nation. The rodeo unit includes an arena, practice facilities, and a team of highly skilled student-athletes who compete in various rodeo events, such as bull riding, barrel racing, team roping, and steer wrestling. The unit hosts a variety of events throughout the year, including the annual Poly Royal Rodeo, which attracts thousands of spectators and showcases the skills of Cal Poly's student-athletes.

4.5.1 Rodeo Operational Details

Unit Primary Contact

Name	Ben Londo
Title	Coaching Specialist
Email	blondo@calpoly.edu

Average Animal Counts

Fall	Winter	Spring	Summer
160	160	160	60

4.5.2 Rodeo Unit Potential Contaminants

- Nutrients (nitrogen and phosphorus): Animal manure is rich in nutrients, which can be washed into water bodies during rainfall events, leading to eutrophication (excessive algal growth) and depletion of dissolved oxygen.
- Pathogens: Animal manure can contain harmful bacteria, viruses, and parasites, such as E. coli, Salmonella, and Cryptosporidium, posing health risks if they contaminate drinking water sources.
- Sediment: Stormwater runoff from unvegetated or disturbed areas can carry sediment, which can clog waterways, smother aquatic habitats, and transport other pollutants.
- Organic matter: Decomposing manure, bedding materials, and other organic matter can release organic compounds into water bodies, increasing oxygen demand and potentially harming aquatic life.
- Chemicals: Rodeo areas may use chemicals for arena grooming, pest control, or animal health treatments, which can contaminate stormwater runoff if not properly managed.

4.5.3 Best Management Practices (BMPs) for Rodeo Areas and Stables:

Manure management:

- Regularly collect and properly store or compost manure away from water sources.
- Divert stormwater runoff away from manure storage areas.
- Rodeo manure is used in Cal Poly’s composting operation to reduce nutrient and pathogen levels.

Arena and stable area management:

- Implement erosion control measures in bare or disturbed areas.
- Properly store and handle chemicals, gasoline, and other hazardous materials.

Stormwater management:

- Runoff from the hay barn is directed to retention basins whose overflow drains to the Rodeo Ponds.

Chemical and waste management:

- Properly store and dispose of chemicals, animal health products, and other wastes.

Buffer zones and vegetation:

- Cal Poly maintains vegetative swales and buffers to the south of the stables to filter runoff.

Education and training:

- See section 5.6

Pond Maintenance:

- Maintain appropriate freeboard levels in the ponds to accommodate precipitation and prevent overtopping.

Inspections:

- Quarterly inspect manure bunkers to ensure proper containment of material and routine removal to compost area.
- Annual inspections of road and land grading surrounding swine ponds to ensure clean stormwater diversion.
- Quarterly inspect the railroad crossing area to ensure drainage does not enter haybarn area.
- Inspections will be summarized in the annual report.

4.6 Beef Cattle Grazing (Open Land)

The Cal Poly San Luis Obispo Beef Cattle Grazing program is an integral part of the university's rangeland management and animal science curriculum. The program utilizes the university's extensive rangeland resources, which span across several properties in San Luis Obispo County.

Students in the Animal Science and Rangeland Resources Management programs gain hands-on experience in sustainable grazing practices, livestock management, and ecosystem conservation. The beef cattle grazing program focuses on rotational grazing, a management strategy that involves moving cattle through a series of pastures to optimize forage utilization and maintain rangeland health.

Students learn to monitor rangeland conditions, assess forage quality and quantity, and make management decisions based on scientific data.

The beef cattle used in the grazing program are primarily sourced from the Cal Poly Beef Cattle Unit, which allows for the integration of genetic selection, animal health, and nutrition with rangeland management.

The program also collaborates with local ranchers and conservation organizations to provide students with diverse learning opportunities and to address real-world challenges in sustainable rangeland management.

Open land beef cattle grazing can contribute to various storm water contaminants that can impact surface and ground water quality.

4.6.1 Beef Unit Operational Details

Unit Primary Contact

Name	Aaron Lazanoff
Title	Beef Operations Manager
Email	alazanof@calpoly.edu

Average Animal Counts

Fall	Winter	Spring	Summer
250	250	250	250

4.6.2 Beef Grazing Potential Contaminants

- Sediment: Erosion from overgrazed pastures can lead to increased sediment loads in water bodies, which can smother aquatic habitats, reduce water clarity, and transport other pollutants.
- Nutrients (nitrogen and phosphorus): Cattle manure is rich in nutrients, which can be washed into water bodies during rainfall events, leading to eutrophication (excessive algal growth) and depletion of dissolved oxygen.
- Pathogens: Manure can contain harmful bacteria, viruses, and protozoa, such as E. coli, Salmonella, and Cryptosporidium, which can pose risks to human health and aquatic life.
- Organic matter: Decomposing manure and plant material can increase the biological oxygen demand (BOD) in water bodies, reducing dissolved oxygen levels and affecting aquatic life.

- Pesticides and veterinary pharmaceuticals: Residues from pesticides used for pasture management and veterinary drugs administered to cattle can contaminate water sources.

4.6.3 Best Management Practices (BMPs) for Cattle Grazing:

- Riparian buffer zones: Maintaining vegetated buffers along streams to filter runoff and trap sediment and nutrients.
- Rotational grazing: Rotating cattle between areas to prevent overgrazing and allow for regrowth of vegetation, reducing erosion and nutrient losses.
- Alternative water sources: Providing clean, off-stream water sources for cattle to reduce their need to access natural water bodies.
- Erosion control practices: Implementing grassed waterways to minimize soil erosion.

Education and Training:

- See section 5.6

4.7 Compost Production

The Cal Poly San Luis Obispo Compost Unit is a facility managed under the direction of Ag Operations by a US Composting Council Certified Compost Operations Manager (CCOM) and plays a critical role in the university's commitment to sustainability and waste reduction. The unit processes organic waste generated by the campus community, including green waste and animal manure from the various agricultural units.

The Composting program provides students from various disciplines, including Animal Science, Plant Sciences, Natural Resources Management & Environmental Science, Wine and Viticulture, BioResource Research, Agricultural Systems Management, Dairy Science, Forestry, and Soil Science, with a critical opportunity to learn about the science behind composting, including microbial activity, temperature control, and nutrient balance.

The compost produced from the operations is used in various ways across the campus. It is applied to the university's agricultural fields and landscaped areas to improve soil health and fertility. It is used as bedding for dairy and in research projects that study the benefits of organic soil amendments on plant growth and pest management, and carbon sequestration.

Cal Poly's primary compost production stage occurs on an elevated site with leachate collection. The site is on what once was C43, where new manure and green waste are combined. The material is formed into windrows and allowed to decompose properly before undergoing testing. Once testing confirms that the compost has reached the correct temperature, pathogenic bacteria are no longer present, and is nearing completion, it is transferred to the finishing site for screening and final processing.

Cal Poly's compost production can contribute to storm water contaminants that can impact surface and ground water quality if not managed properly.

4.7.1 Compost Operational Details

Unit Primary Contact

Name	Michael Bridgeman
Title	Farm Maintenance Mechanic/ Compost Operations Manager
Email	mbridgma@calpoly.edu

Average Compost Produced

Fall	Winter	Spring	Summer
1500 wet tones of finished compost		1500 wet tons of finished compost	

4.7.2 Compost Unit Potential Contaminants

- Nutrients (nitrogen and phosphorus): Compost leachate is rich in nutrients, which can be washed into water bodies during rainfall events, leading to eutrophication (excessive algal growth) and depletion of dissolved oxygen.

- Pathogens: Compost piles may contain harmful bacteria, viruses, and protozoa from animal manures or other organic materials, posing risks to human health and aquatic life if they enter water sources.
- Organic matter: Leachate from compost piles can increase the biological oxygen demand (BOD) in water bodies, reducing dissolved oxygen levels and affecting aquatic life.
- Sediment: Erosion from improperly managed compost sites can contribute to increased sediment loads in water bodies, smothering aquatic habitats and reducing water clarity.

4.7.3 Best Management Practices (BMPS) during Compost Production include:

Leachate control and runoff management:

- Cal Poly's primary staged compost site directs all leachate/runoff to a collection basin at the north end.
- The fill level of this basin is regularly checked by Agriculture Operations staff and Cal Poly EH&S Staff during the wet season.
- EHS staff observations are documented in campus "WDR Inspections".
- The basin can be drained to the campus wastewater ponds when needed, i.e. ahead of significant storm events to ensure adequate volume to collect both leachate and storm water runoff.

Runoff management:

- Installing berms, swales, or retention ponds to control and treat runoff from compost sites.

Aeration and moisture control:

- Maintaining proper aeration and moisture levels in compost piles to minimize leachate generation and potential odor issues.

Curing and stabilization:

- Ensuring proper curing and stabilization of compost to reduce nutrient levels and pathogen loads before land application or distribution.

Vegetative buffers:

- Establishing vegetated buffer zones around compost facilities to filter runoff and trap sediment and nutrients.

Composting pad maintenance:

- Maintaining adequate slopes to ensure proper drainage of contaminants into containment pond.

Education and training:

- See section 5.6

Inspections:

- Quarterly inspect the primary compost site for evidence of leachate runoff and address immediately.
- Weekly monitor the leachate drainage basin, during the wet season, and drain as needed.
- Quarterly inspect and maintain the 12ft vegetated buffer between the finishing pad and C46 (a permitted spray field).
- Inspections will be summarized in the annual report.

4.8 Poultry Unit

The Cal Poly San Luis Obispo Poultry Unit is a comprehensive facility that provides students with hands-on experience in poultry production and management. Students in the Animal Science program learn about various aspects of poultry production, including breeding, incubation, brooding, nutrition, and health management. The facility includes a hatchery, brooder houses, hen houses, and meat bird production areas. The Poultry Center has 2 production barns. The layer barn houses 1500 laying hens year-round. The broiler barn houses 5000 broiler birds. Three separate flocks are placed in the barn each year.

Eggs and meat produced at the Cal Poly Poultry Unit are marketed through various channels, including direct sales to the campus community and local farmers' markets. The unit also collaborates with the Cal Poly Meat Processing Center, where students learn about poultry processing and food safety.

While Cal Poly's poultry operations are primarily indoors, it can contribute various contaminants to stormwater runoff, which can potentially impact surface and groundwater quality.

4.8.1 Poultry Unit Operational Details

Unit Primary Contact

Name	Steve Soderstrom
Title	Poultry Technician
Email	ssoderst@calpoly.edu

Average Animal Counts

Fall	Winter	Spring	Summer
6500	6500	6500	1500

4.8.2 Poultry Unit Potential Contaminants

- Nutrients (nitrogen and phosphorus): Poultry manure is rich in nutrients, which can be washed into water bodies during rainfall events, leading to eutrophication (excessive algal growth) and depletion of dissolved oxygen.
- Pathogens: poultry manure can contain harmful bacteria, viruses, and parasites. These pathogens can pose health risks to humans and animals if they contaminate drinking water sources.
- Sediment: Stormwater runoff from unvegetated or poorly vegetated areas around poultry houses can carry sediment, which can clog waterways, smother aquatic habitats, and transport other pollutants.
- Organic matter: Decomposing manure and bedding materials can release organic matter into water bodies, leading to increased oxygen demand and potential harm to aquatic life.
- Chemicals: Chemicals such as pesticides, antibiotics, and hormones used in poultry production can contaminate stormwater runoff if not properly managed.

4.8.3 Best Management Practices (BMPs) for Poultry Areas:

Manure management:

- Regularly collect and properly store manure away from water sources in concrete bunker and emptied prior to rain events.
- Divert stormwater runoff away from manure storage areas.
- Poultry manure is used in Cal Poly's composting operation to reduce nutrient and pathogen levels.

Stormwater management:

- Implement erosion control measures in bare or disturbed areas.
- Properly store and handle chemicals, gasoline, and other hazardous materials.

Education and training:

- See section 5.6

Inspections:

- Quarterly inspect manure concrete bunker.
- Inspections will be summarized in the annual report.

4.9 Nutrient Management

Confined animal waste lagoon/pond water serves as a valuable resource for forage crop cultivation when applied judiciously. By monitoring soil conditions, crop requirements, and seasonal factors, Cal Poly can optimize the timing and volume of lagoon water applications, while minimizing potential impacts on underlying groundwater and nearby surface waters.

4.9.1 Crop-Dependent Loading Rates

Cal Poly San Luis Obispo's approach includes consideration of loading rates that are crop specific, so that where possible, nutrient application aligns with crop needs and environmental protection:

1. Crop Planning: Before each growing season, we determine the crops to be planted in each field or area.
2. Nutrient Requirements: Based on the selected crops, we evaluate the nutrient requirements for optimal growth.
3. Soil Testing: Bi-Annual soil tests are conducted to determine existing nutrient levels, pH, and organic matter content in each field.

4.9.1.1 Water Testing

Bi-Annually, water tests are conducted to determine nutrient levels of waste present within lagoon/pond water.

4.9.1.2 Calculation of Application Rates

Based on the crop nutrient requirements, and the soil and irrigation wastewater test results, application rates are calculated to inform optimal application rates that aim to balance sustainable agricultural practices with environmental stewardship.

1. Nutrient Matching: Application rates are calculated in consideration of crop nutrient uptake, together with the nutrient content of the soil and wastewater.
2. TDS Consideration: The TDS content of the wastewater is factored into calculations to prevent soil salinization and protect groundwater quality.
3. Water Budget: Application rates aim to align effective management of lagoon/pond water levels with the water requirements of the crops to prevent instances of lagoon/pond overflow and over-irrigation.
4. Safety Factors: Where possible, safety factors are applied in calculations to account for variability in nutrient uptake and environmental conditions.

Application rates are calculated and reported per the Monitoring and Reporting Plan attached to this WQMP. Detailed records are kept of each application, including date, field, crop, wastewater characteristics, and calculated application rate.

4.9.2 Herd Size & Forage Crop Acreage

The connection between the total land acreage available for wastewater application and the size of the herd contributing to the nutrient load is a critical factor in ensuring the protection of underlying

groundwater and adjacent surface waters. CAFES carefully considers the balance between the volume of wastewater generated by the confined animal facilities and the land area required for sustainable application. The nutrient load in the lagoon/pond water directly correlates with the size of the herd; larger herds produce more waste, resulting in higher concentrations of nutrients. To prevent overapplication and potential water contamination, the available land acreage must be sufficient to accommodate the agronomic application rates based on crop requirements and soil conditions. This means that the land area should be proportional to the herd size, allowing for proper distribution and absorption of nutrients without exceeding the soil's capacity. By maintaining an appropriate ratio between herd size, land acreage, and crop planning, Cal Poly can ensure that the application of confined animal waste lagoon/pond water remains sustainable and minimizes the risk of groundwater and surface water pollution.

4.9.2.1 Permitted Spray Fields

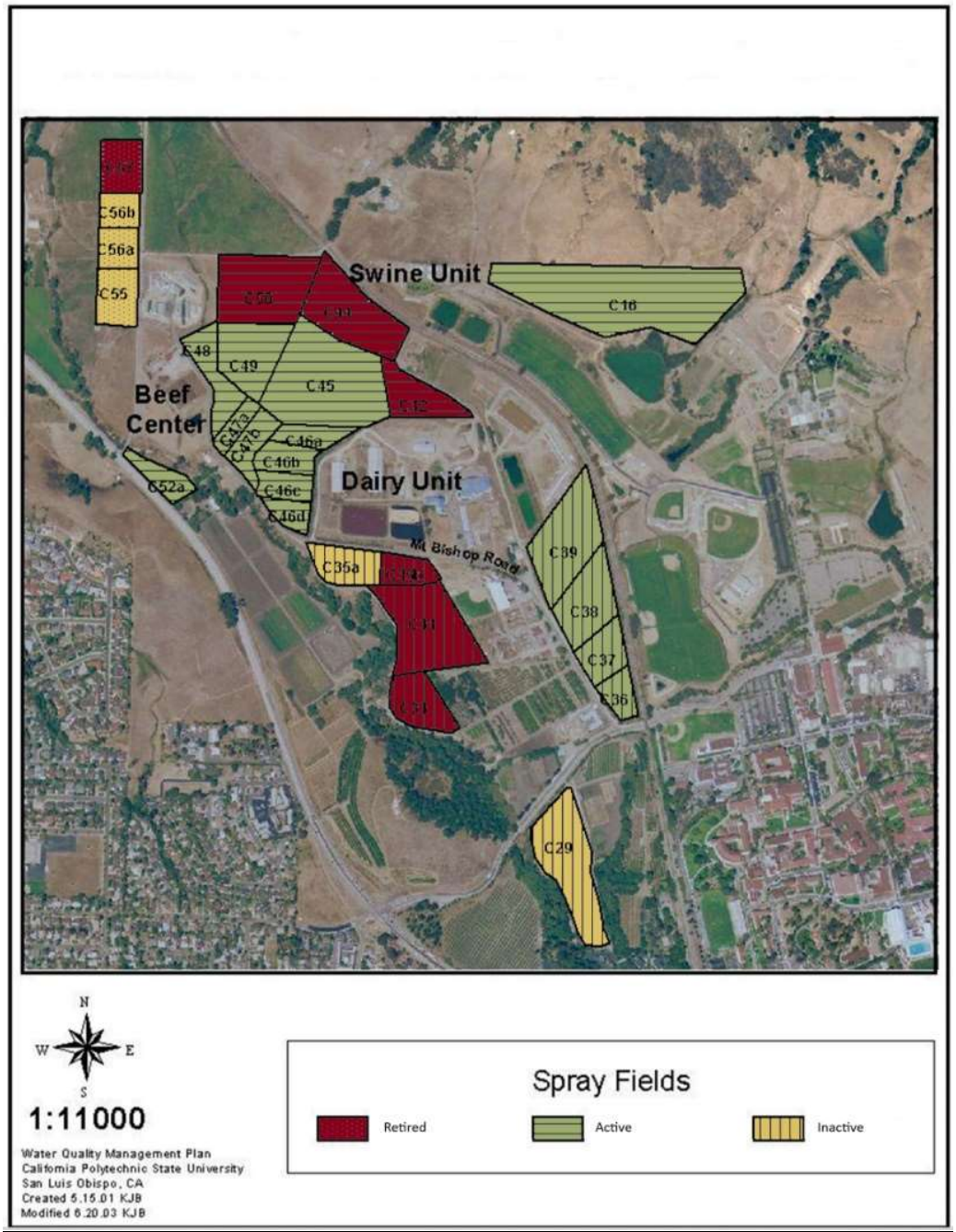
Wastewater from the Dairy Unit, Swine Unit, and BCEC (Beef Cattle Evaluation Center) ponds/lagoons is managed through spray irrigation on nearby pasturelands. This practice maintains appropriate freeboard in the ponds/lagoons, provides nutrient rich water for non-human consumable crops, and reduces the need for commercial fertilizer.

The spray fields consist of active, retired, and inactive areas. The locations of these fields are depicted in **Figure 5**.

Inactive fields may be returned to service at the discretion of the campus as academic needs change (e.g., fields no longer needed for human consumption crop programs). The Regional Water Quality Control Board (RWQCB) will be notified of such changes in the next Monitoring and Reporting Program (MRP) report submission. Retired fields cannot be returned to service without prior approval from the RWQCB.

Existing Spray Fields:
Active: C16, C36, C37, C38, C39, C46a, C46b, C46c, C46d, C47a, C47b, C48, C49, C52a.
Inactive: C 29, C35a, C55, C56a, C56b.
Retired: C33, C34, C35b, C42, C44, C50, C57.

Figure 5: Existing Spray Fields



4.10 Pesticide Use

Pesticide management on campus follows the rules and regulations of the California Department of Pesticide Regulation (DPR) and the San Luis Obispo County Agriculture Department. Large droplet size nozzles and low application rates are used, when possible, to reduce the contamination of surface and/or ground water. Cal Poly holds multiple restricted material permits registered with the San Luis Obispo County Agricultural Commissioner. Pesticides are stored, handled, and disposed of in compliance with all State and Federal regulations to ensure the safety of the environment and the campus community.

Proper pesticide management, application, storage, and disposal are essential to minimize the potential negative impacts on water resources and the surrounding ecosystem. By adhering to best practices and regulations, Cal Poly demonstrates its commitment to environmental stewardship and the protection of water quality on and around its campus.

4.11 Grazing

Properly planned grazing, which utilizes both grazing and animal impact, can lead to numerous benefits for the environment and livestock. When implemented correctly, this approach results in soil surfaces that absorb water rapidly, capture solar energy, cycle nutrients efficiently, and stimulate the complexity of life forms. These processes create stable and productive soils, better shading of waters, more wildlife habitat, and improved livestock health.

However, overgrazing, and low-impact animal impact over long periods can have detrimental effects. These practices can result in bare, compacted soils that shed water, shallow-rooted plants that cannot stabilize stream banks, suppressed biotic communities, and reduced energy capture by plants. These negative impacts can harm soil health, water quality, and the overall ecosystem.

To ensure successful grazing management and maintain environmental health, it is essential to implement properly planned grazing practices that balance the needs of the ecosystem with those of livestock production.

4.11.1 Minimum BMPs for Animal Grazing

The Best Management Practices (BMPs) outlined below concentrate on the boundary between aquatic environments, including reservoirs, streams, and wetlands, and the adjacent riparian zone. These BMPs aim to prevent erosion originating from range, pasture, and other grazing lands located above the riparian area. By adopting these practices, land managers can minimize physical disturbances to ecologically sensitive regions and curb the release of sediment, animal waste, nutrients, and chemicals into nearby surface waters.

- Implement rotational grazing: Dividing pastures and moving animals periodically to allow for adequate plant recovery, improve forage quality, and minimize overgrazing.
- Deferred or Planned Grazing: Temporarily suspending grazing to reduce sediment yield, improve soil characteristics, and increase infiltration rates in areas with minimal ground cover. This practice also reduces adverse runoff effects by minimizing animal waste during the deferral period.
- Livestock Riparian Access: To protect water quality, livestock access to sensitive areas like waterways will be limited through short-duration grazing. Restricting livestock from these zones will minimize manure accumulation, soil compaction, vegetation loss, and undergrowth damage while facilitating fire control of invasive plant species.

4.12 Irrigation (non-wastewater)

Over irrigation can contribute excessive amounts of sediment and agricultural pesticides to local water systems. To address these issues, Best Management Practices (BMPs) focus on adjusting watering schedules to account for soil conditions and specific water needs. Implementing BMPs for irrigation helps to conserve water resources, reduce soil erosion, minimize sediment and pesticide runoff, and improve plant health.

4.12.1 Minimum BMPs for Irrigation

- Irrigation Scheduling: Use soil moisture sensors where available, ET data, or crop water use models to optimize irrigation timing and amount, reducing water waste and erosion.
- Terracing: Where appropriate and possible, create level steps or benches across steep slopes to reduce runoff speed, minimize erosion, and improve water retention.

4.13 Wetland/Riparian Area Management

The wetland and riparian areas of the Cal Poly campus serve as a valuable living laboratory for students and faculty, offering opportunities to study a variety of biological, ecological, and physical systems through observation and research. These areas are an integral part of the campus learning environment. However, if not properly managed, these areas may contribute to nonpoint source pollution levels through erosion and sedimentation. On the other hand, with appropriate management practices in place, wetland and riparian areas can act as natural buffers, protecting watercourses from surrounding pollution sources. Striking a balance between utilizing these areas for educational purposes and implementing effective management strategies is crucial to minimize their potential negative impact on water quality while maximizing their role in mitigating pollution from adjacent sources.

4.13.1 Minimum Wetland/Riparian Area Management BMPs

- Maintain channel vegetation: Planting native willow and sycamore stabilizes channel banks and surrounding areas, reducing erosion and sedimentation. Revegetating channels with native species maintain or improve environmental quality for fish and wildlife while enhancing visual appeal.
- Stream Channel Stabilization: Through excavation, silt fencing, boulders, downed trees, or other methods, eroding or damaged stream banks shall be stabilized against further degradation. This also creates a stable streambed favorable to fish, wildlife, and riparian vegetation.

4.14 Landfill & Quarry

A decommissioned landfill and a decommissioned quarry are located in Poly Canyon, adjacent to Stenner Creek. The Environmental Health & Safety Department, The County Public Health Department, and the State Health Services periodically conduct visual inspections of this area to ensure that no obvious problems exist and that the areas remain decommissioned.

4.15 Unimproved Road Maintenance

This Water Quality Management Plan (WQMP) hereby adopts the standards described in the *Updated Handbook for Forest, Ranch and Rural Roads* (Rural Roads Handbook), produced by Pacific Watersheds Associates in partnership with the Mendocino County Resource Conservation District and funded by the State Water Resources Control Board. For detailed guidance on best practices for road construction,

maintenance, and management, please refer to the Rural Roads Handbook, available at https://www.pacificwatershed.com/roadshandbook.

4.15.1 Responsible Department

CAFES AG Operations primarily responsible for the maintenance of unimproved roads on campus. responsible for the maintenance of unimproved roads on campus. This department has been made aware of this WQMP and its contents, particularly the sections pertaining to road maintenance and water quality protection.

For repairs of greater significance, the CAFES Agricultural Operations Department may require support from the Facilities Management and Development Department. In some cases, a formal project may need to be opened and funded to address more extensive repair needs.

4.15.2 Evaluation Schedule and Reporting

CAFES AG Operations will conduct evaluations of unimproved road conditions according to the following schedule:

1. Annual comprehensive evaluations (Spring)
2. Additional evaluations following significant weather events or reported issues

These evaluations will assess road conditions, identify areas of concern, and determine necessary maintenance actions. A summary of these evaluations and any subsequent maintenance activities will be included in the annual report submitted to the regional water quality control board.

4.15.3 Maintenance Criteria

To minimize sediment discharge to watercourses, the following criteria will be used to determine when an unimproved road should be maintained:

1. Visible erosion or gullying exceeding 3 inches in depth
2. Significant rutting (>3 inches deep) in the road surface
3. Blocked or damaged drainage structures (culverts, water bars, etc.)
4. Accumulation of sediment in drainage ditches exceeding 50% of the ditch depth
5. Encroachment of vegetation impeding proper drainage
6. Signs of slope instability adjacent to the road
7. Identified condition that poses an immediate threat to water quality or road safety

If any of these conditions are observed during regular evaluations or reported at any time, maintenance actions will be assessed and prioritized.

4.15.4 Implementation and Funding Considerations

While the CAFES Agricultural Operations Department will strive to address maintenance needs promptly, it's important to note that the timing of repairs may depend on several factors:

1. Severity and urgency of the required repairs
2. Available funding and resources
3. Need for additional support from the Facilities Management and Development Department

4. Requirement for a formal project to be opened and funded for more significant repairs
   Routine maintenance will be carried out as part of the department's regular operations. However, more extensive repairs or improvements may need to be scheduled and budgeted as part of the university's broader facilities management process. The CAFES Agricultural Operations Department will work closely with the Facilities Management and Development Department to prioritize and plan for these larger projects.

In all cases, temporary measures will be implemented as needed to prevent immediate threats to water quality while longer-term solutions are developed and funded.

4.16 Culvert Cleaning / Repair

Any work involving the removal of sediment or debris from stream culverts likely requires permits from multiple agencies to ensure compliance with local, state, and federal regulations. Before doing any work within a stream, creek, ephemeral drainage, or culvert associated with any drainage that is connected to any of the above, contact the EH&S Department for guidance. The specific permits required will depend on the location, scope, and potential environmental impacts of the project. Emergency work requiring immediate action can be initiated but also requires that EH&S be notified as soon as practical.

Typical permits required for work in San Luis Obispo:

- County of San Luis Obispo Public Works Department - Encroachment Permit: This permit is only required for any work within the County's right-of-way, including culverts under County-maintained roads.
- California Department of Fish and Wildlife (CDFW) - Lake and Streambed Alteration Agreement (LSAA): This agreement is needed when a project may substantially divert or obstruct the natural flow of any river, stream, or lake, or use material from a streambed.
- Regional Water Quality Control Board (RWQCB) - Section 401 Water Quality Certification: This certification is required for any activity that may result in a discharge into waters of the United States, including wetlands.
- U.S. Army Corps of Engineers (USACE) - Section 404 Permit: This permit is needed for any work involving the discharge of dredged or fill material into waters of the United States, including wetlands.

4.17 Total Maximum Daily Load (TMDL)

A Total Maximum Daily Load (TMDL) is the maximum amount of a pollutant that a waterbody can receive while still meeting water quality standards. Approved by regional, state, and federal agencies, a TMDL establishes pollutant limits, allocates responsibility for control, sets water quality indicators, and outlines implementation plans. Once approved, TMDLs are typically incorporated into regional water quality management plans. The San Luis Obispo Creek has established TMDL allocations for both nutrients and pathogens to improve water quality. These TMDLs specifically include Cal Poly San Luis Obispo, the City of San Luis Obispo, and the County of San Luis Obispo having responsibility for control.

For nutrients, the TMDL aims to reduce nitrogen and phosphorus levels, while the pathogen TMDL focuses on reducing fecal coliform concentrations. Cal Poly's Water Quality Management Plan (WQMP) directly supports these TMDL goals by implementing best management practices for potential sources. These practices include optimizing fertilizer use, managing animal waste, improving stormwater runoff systems,

and protecting riparian buffers along waterways. By reducing nutrient runoff and potential pathogen sources, the WQMP helps Cal Poly meet its allocated load reductions, working in conjunction with city and county efforts to contribute to the overall improvement of water quality in San Luis Obispo Creek.

Part III

5 Monitoring and Reporting

California Polytechnic State University, San Luis Obispo must not implement any changes to the monitoring and reporting program (MRP) unless and until a revised monitoring and reporting program is issued by the Central Coast Regional Water Quality Control Board (Central Coast Water Board).

5.1 General Inspections

Cal Poly will conduct inspections to verify proper implementation and construction of site management (point source, nonpoint source, and stormwater), soil stabilization, and erosion control practices.

5.1.1 General Inspection Documentation

WDR General Inspections (formerly the "General Site Inspection"). Cal Poly EHS will use this format (**Appendix D**, Form 1), or equivalent to document inspections. Cal Poly may modify this form as campus conditions change.

5.1.2 General Inspection Frequency & Responsibility

The Environmental Health & Safety Department will perform or delegate quarterly site inspections before, during, and after the rainy season. Site inspectors will be trained on the WQMP, its implementation, BMPs, and the development and submission of reports (forms). The training will emphasize site inspections, field observations, recommendations, and adjusting BMPs or other land management activities.

5.2 WDR Committee

The Waste Discharge Requirements (WDR) Committee is a newly formed committee tasked with reviewing and addressing the primary water quality pollutant sources associated with the agricultural and animal units on the Cal Poly San Luis Obispo Campus. The committee's primary objective is to identify, assess, and develop strategies to mitigate the impact of these pollutant sources on the campus's water quality. By establishing the WDR Committee, Cal Poly San Luis Obispo demonstrates its commitment to maintaining a clean and sustainable campus environment, while also supporting the educational and research activities of its agricultural and animal units.

5.2.1 WDR Committee Membership

The WDR Committee will be chaired by the Director of Agriculture Operations (or designee). The committee's membership will include representatives from the Environmental Health and Safety (EHS) department, the College of Agriculture, Food, and Environmental Sciences (CAFES) management, and other relevant stakeholders. The composition of the committee may change over time to reflect changes in personnel and campus conditions, but the minimum membership will always include representatives from EH&S, the Director of Agricultural Operations, and CAFES management.

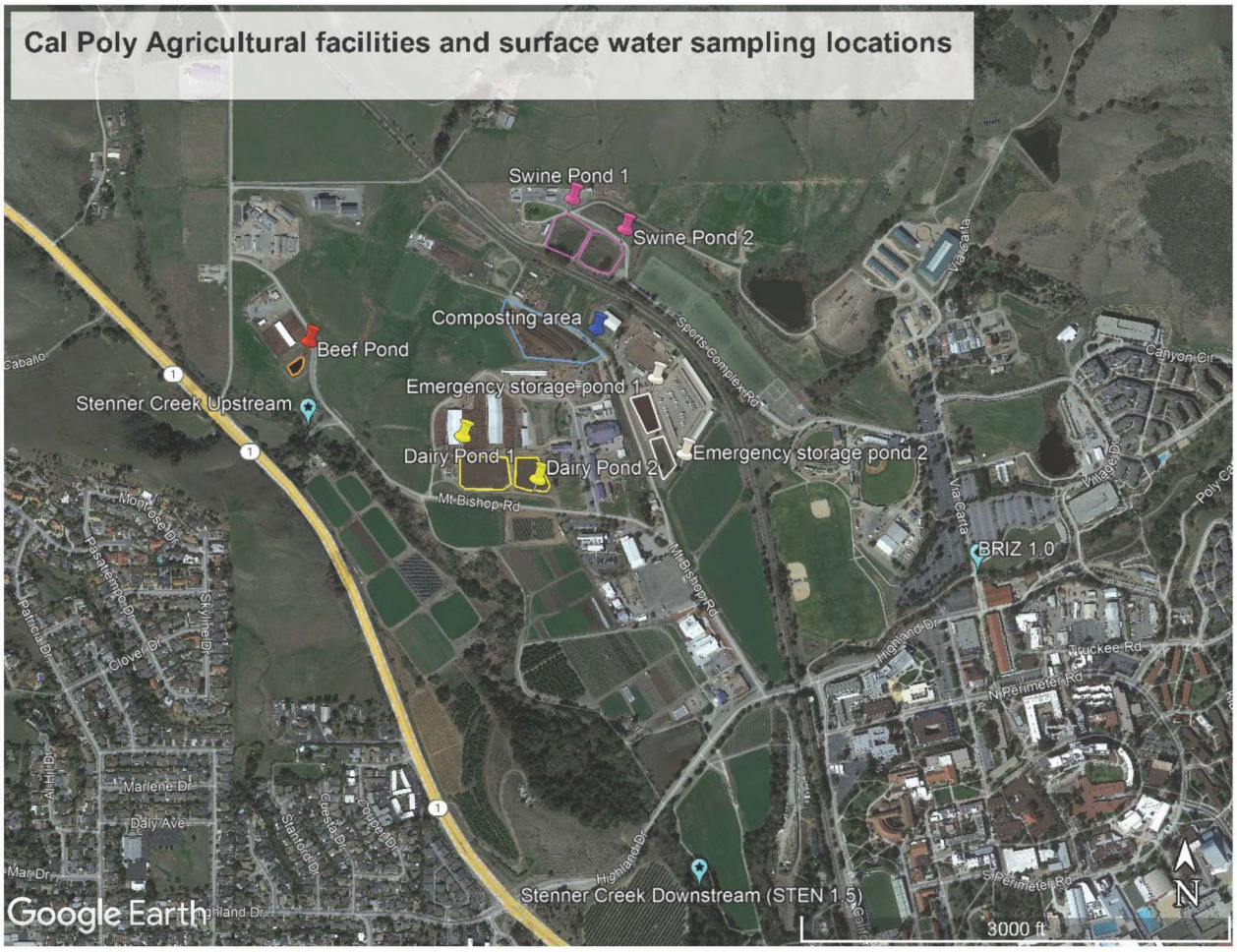
5.2.2 WDR Committee Responsibilities

1. Reviewing new agricultural operations to ensure that their implementation does not present a water quality management issue.
2. Reviewing WDR General Inspection findings.
3. Reviewing and approving any major changes to the Water Quality Management Plan (WQMP).

4. Reviewing any anticipated herd size modifications and assessing their potential impact on water quality.
5. Reviewing groundwater monitoring results and trends to identify any potential issues and develop appropriate mitigation strategies.

5.3 Water Quality Monitoring Plan

Figure 7a. Map of dairy, beef, and swine facility wastewater ponds, manure and composting area, emergency overflow storage ponds for the dairy, and Stenner Creek and Brizzolara surface water sampling locations.



5.3.1 Surface Waters

Sampling at Stenner Creek and Brizzolara Creeks, upstream and downstream of campus facilities.

Parameter	Units	Type of Sample	Sampling/Monitoring frequency	Sample Location	Data Source
Fecal coliform	MPN/100 ml	Grab	Quarterly (Jan, Apr, Jul, Oct)	Stenner Creek Upstream, Downstream 1.5, BRIZ 1.0[1]	Quarterly 3rd Party Sampling Report
Total Nitrogen	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Stenner Creek Upstream, Downstream 1.5	Quarterly 3rd Party Sampling Report
Nitrate + Nitrite	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Stenner Creek Upstream, Downstream 1.5	Quarterly 3rd Party Sampling Report
Total Dissolved Solids	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Stenner Creek Upstream, Downstream 1.5	Quarterly 3rd Party Sampling Report
Total Phosphorus	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Stenner Creek Upstream, Downstream 1.5	Quarterly 3rd Party Sampling Report

[1] BRIZ 1.0 only required to be sampled two quarters, during January and April.

5.3.2 Wastewater Pond Samples

All wastewater ponds must be monitored in accordance with Table 5 of the RMRP (**Attachment B**). Samples must be collected from 1 foot below pond surface.

Parameter/ Constituent	Units	Sample Type	Sampling/Monitoring Frequency	Data Source
Freeboard	0.1 feet	Measured	Weekly	AG Operations
Volume Discharged	Gallons	Recorded	Each Discharge	AG Operations
Discharge Locations [1]	NA	Recorded	Each Discharge	AG Operations
Sludge Depth [2]	0.1 feet	Measured	Annually (October)	AG Operations
Vegetation in and surrounding ponds	Not Applicable	Observation	Monthly Observation	AG Operations
Berm condition	Not Applicable	Observation	Monthly Observation	AG Operations
Precipitation	inches/day and date	Measured [3]	Each precipitation event [4]	EH&S Department ITRC Tracking

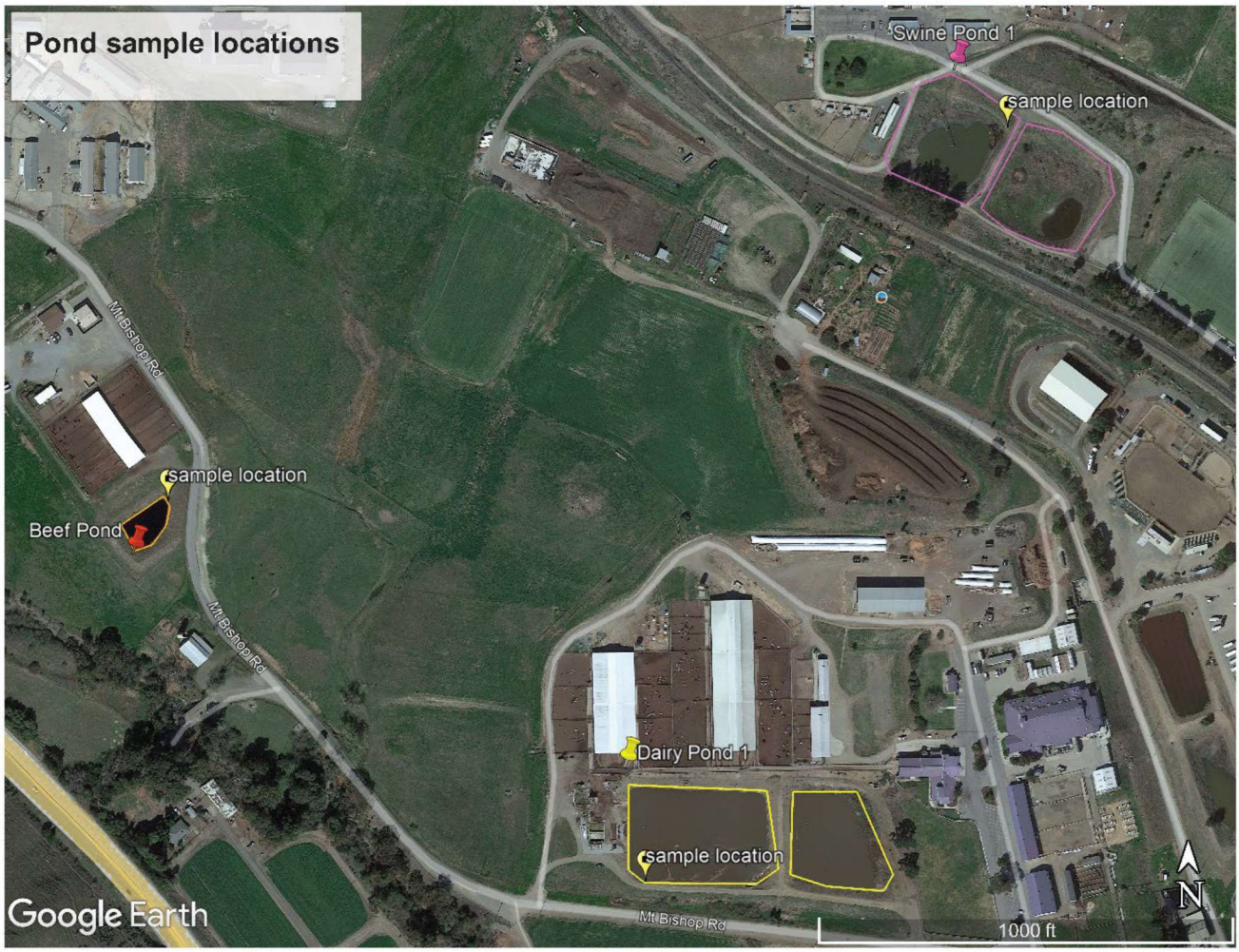
[1] Describe generally where wastewater was discharged to, such as to spray irrigation, to emergency storage ponds, or other.
[2] The sludge depth measurement frequency may be reduced if it can be demonstrated to the satisfaction of the Central Coast Water Board that the rate of sludge accumulation does not warrant an annual survey.
[3] California Polytechnic State University, San Luis Obispo may use a rain gauge or use a National Oceanic and Atmospheric Administration, United States Geological Survey, or California Irrigation Management Information System weather station, such as http://scacis.rcc-acis.org/.
[4] A precipitation event is one producing precipitation of ½ inch or more.

Sample types that are shown as "observation" do not need to be reported unless a violation, significant change, or treatment issue is observed. Photos of the pond(s) verifying the observations must be collected annually and included in the annual reports, with the date and location of the photo clearly marked. Observations must be noted in a logbook or database and made available to the Central Coast Water Board upon request. Any problems must be promptly corrected and recorded.

5.3.3 Wastewater Sample Locations

A third-party environmental engineering firm collects samples from each wastewater pond or lagoon on a quarterly basis. The collected water quality data is utilized to calculate the daily application rates of nutrients and salts per acre, which varies depending on the specific wastewater source being used for irrigation at any given time.

Figure 7b. Sampling locations for the wastewater ponds (ES-1 at Dairy Pond, ES-2 at Swine Pond, and ES-3 at Beef Pond).



5.3.4 Wastewater (Disposal Application) Sampling

California Polytechnic State University, San Luis Obispo must report on the volume, location, and quality of wastewater applied to land, in accordance with Table 6. Each monitoring report must include a map and description of the wastewater application areas.

Parameter/ Constituent	**Units**	**Sample Type**	**Sampling/Monitoring Frequency**	**Data Source**
Irrigation Location	NA [1]	Recorded	Each irrigation event	AG Operations
Irrigation Volume	Gallons	Metered/ Estimated	Each Irrigation Event	AG Operations
Irrigation Area	Acres	Recorded	Each Irrigation Event	AG Operations
Ammonia (as N)	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Total Nitrogen	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Total Phosphorus	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Total Dissolved Solids	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Chloride	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Sodium	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Precipitation	inches/day and date	Measured [1]	Each precipitation event [2]	EH&S Department ITRC Tracking
Total Nitrogen Applied	lbs/acre/day	Calculated	Each Irrigation Event	AG Operations
Total Phosphorus Applied	lbs/acre/day	Calculated	Each Irrigation Event	AG Operations
Total Salts Applied	lbs/acre/day	Calculated	Each Irrigation Event	AG Operations

[1] Irrigation location to be identified on a map for each irrigation event.

[2] The total nitrogen, salts, and phosphorus applied loading rates must be calculated from wastewater application volumes, applied acreage, and concentrations measured in most recent wastewater application analytical testing. The calculation must be performed as follows:

$$\text{Total Nitrogen/Salts/Phosphorus Applied (pounds/acre/ day)} = \frac{X\ [\text{mg/L}] \times 3.78541\ [\text{L/gallon}] \times Q\ [\text{gallons/day}] \times 2.20462 \times 10^{-6}\ [\text{lbs/mg}]}{\text{Acreage Applied}}$$

Where X = Total nitrogen, total phosphorus, or salts concentration
Where Q = Irrigation volume

5.3.5 Irrigation Documentation

A summary of Water Quality Management Plan Form 3, Wastewater Irrigation Rotation Form, or its equivalent, will be included with each semiannual report.

If wastewater is not discharged to land during a reporting period, sampling is not required. However, the monitoring report must still be submitted and indicate that there was no discharge during the reporting period.

5.3.6 Disposal Area Inspections (Spray Fields) Inspections

Cal Poly Agricultural Operations must inspect the spray disposal area daily (when wastewater irrigation/disposal is occurring) to assure appropriate management practices are in place and functioning and that runoff and/or ponding do not occur. Particular attention will be paid to any liquids flowing from spray disposal fields, retention ponds, waste storage sites, etc. to verify that spray wastewater irrigation is limited to those sites identified for wastewater disposal and to ensure wastewater is infiltrating as designed and soils are not saturated.

5.3.6.1 Disposal Area Daily Inspection Documentation

Daily inspections are required **only when wastewater irrigation water is being applied**. Inspections are conducted by AG Operations staff and must include the following:

- Equipment - All pump controllers and automatic distribution valves must be inspected for proper operation as recommended by the manufacturer.
- Nuisance Odor Condition(s) – Odors which are beyond what is typical and expected in the animal unit(s)
- Saturated Soil Condition(s) – Once soil is saturated, wastewater irrigation must cease.

A log[2] of these inspections must be maintained onsite by AG Operations and made available to the Central Coast Water Board upon inspection. **Any problems must be promptly corrected and recorded**. Cal Poly must submit a summary of violations found during the inspections with each subsequent monitoring report, or a note that there were no violations.

5.3.7 Compost & Manure Monitoring

Manure from animal areas is combined with other campus green waste (e.g., grass clippings, tree trimming, etc.) and recycled into compost. Finished compost is either utilized on uncultivated fields, animal pens, landscaping, or sold for public use. Pursuant to Permit section D provisions, item 10, all manure and compost disposal and reuse must be consistent with a Central Coast Water Board Executive Officer approved plan for its disposal and reuse. Compost and manure monitoring is required to ensure that nutrients aren't being over applied to land and discharged to groundwater or surface water.

Compost and manure monitoring must be conducted in accordance with Table 8 and Table 9 of the WDR RMRP (included in Attachment D) and have been summarized in this section.

[2] Operational logs may be maintained in either paper or electronic format, provided that the information can be effectively stored and readily retrieved when needed or requested. It is essential to ensure that the storage of this information complies with the records retention policy and that it can be accessed by other members of the AG Operations department as necessary.

5.3.7.1 Manure

The RMRP requires that the manure quantity in storage in the composting area be documented quarterly. This is documented by AG Operation and reported to EH&S for inclusion in the reports submitted to the RWQCB. Twice yearly (in April and October), the moisture content of manure stored in the composting area must be tested and reported.

5.3.7.2 Compost

Parameter/ Constituent	**Units**	**Sample Type**	**Sampling/Monitoring Frequency**	**Data Source**
Quantity produced	Tons	Measured	Quarterly (Jan, Apr, Jul, Oct)	AG Operations
Quantity applied [3]	Tons	Measured	Each application to land	AG Operations
Application Location [3]	NA	Recorded	Each application to land	AG Operations
Moisture Content	%	Grab	Semiannually (Apr & Oct)	Quarterly 3rd Party Sampling Report
Export Quantity [2]	Tons	Measured	Annually (October)	AG Operations
Total Nitrogen	mg/kg	Grab	Semiannually (Apr & Oct)	Quarterly 3rd Party Sampling Report
Total Phosphorus	mg/kg	Grab	Semiannually (Apr & Oct)	Quarterly 3rd Party Sampling Report
Total Dissolved Solids	mg/L	Grab	Semiannually (Apr & Oct)	Quarterly 3rd Party Sampling Report
Total Nitrogen Applied [3],[4]	lbs/acre/day	Calculated	Each application to land	AG Operations
Total Phosphorus Applied [3],[4]	lbs/acre/day	Calculated	Each application to land	AG Operations
Total Salts Applied [3],[5]	lbs/acre/day	Calculated	Each application to land	AG Operations

[1] A map must depict the application locations.
[2] Report the total amount of manure and compost that is exported off of the California Polytechnic State University, San Luis Obispo campus.
[3] Only monitor compost applied to wastewater irrigation fields.
[4] The total nitrogen and phosphorus applied loading rates must be calculated from compost mass, applied acreage, and concentrations measured in most recent compost application analytical testing. The calculation must be performed as follows:

$$\text{Total Nitrogen/Phosphorus Applied (lbs/acre/day)} = \frac{X\ [\text{mg/kg}] \times Q\ [\text{kg/day}] \times 2.20462 \times 10^{-6}\ [\text{lbs/mg}]}{\text{Acreage Applied}}$$

Where X = Total nitrogen, total phosphorus
Q = mass of compost applied

[5] The total salts applied loading rates must be calculated from compost mass, applied acreage, and concentrations measured in most recent compost application analytical testing. This is a two-step process. The calculation must be performed as follows:

Step 1: Compost Salt Concentration (mg/kg) =

$$\frac{X\ [mg/L] \times Q\ [L] \times Z\ [kg]}{}$$

Where X = Total dissolved solids measured in the soil sample;
Q = the volume of water that the laboratory sample was dissolved into;
Z is the mass of the compost sample analyzed by the laboratory

Step 2: Total Salts Applied (lbs/acre/day) =

$$\frac{X\ [mg/kg] \times Q\ [kg/day] \times 2.20462*10^{-6}\ [lbs/mg]}{\text{Acreage Applied}}$$

Where X = Compost salt concentration
Q = mass of compost applied

5.3.8 Sludge Depth Monitoring

Sludge buildup in animal wastewater ponds occurs gradually over time as solid particles and organic matter from manure, urine, bedding materials, and other sources settle to the bottom of the pond. Microorganisms break down some of the organic matter, contributing to the accumulation of sludge. As sludge builds up, it reduces the effective volume of the pond available for wastewater storage and treatment, leading to decreased retention times and reduced treatment efficiency. The rate of sludge buildup depends on factors such as the size of the dairy/animal operation, wastewater management practices, and pond design.

Per the RMRP, Cal Poly is required to annually monitor sludge levels (0.1 feet), every October, and remove accumulated sludge through dredging or pumping when necessary.

Cal Poly's indicators that sludge requires removal include:

- The sludge level significantly reduces the pond's holding capacity.
- Treatment efficiency declines, resulting in lower quality treated wastewater or increased odors.
- Operational experience suggests that sludge removal is necessary based on the pond's characteristics and performance.

5.3.9 Sludge Disposal Monitoring

Disposal ponds sludge is reportedly removed from the large wastewater ponds and applied wet to land approximately every 10-15 years. Sludge from the smaller ponds is dried and the solids are incorporated into the compost operations. Sludge incorporated into the compost operations must be monitored in accordance with the manure and compost monitoring requirements. Sludge wet-applied to land must be monitored in accordance with Table 10 in the RMRP. Table 10 requirements are summarized in this section.

If sludge is not applied to land during a reporting period, the monitoring report must still be submitted and indicate that there was no discharge during the reporting period.

Parameter/ Constituent	Units	Sample Type	Sampling/Monitoring Frequency	Data Source
Volume	gallons	Measured	Each application to land	AG Operations
Total Solids	%, grams	Grab	Each application to land	
Application Location [1]	NA	Recorded	Each application to land	AG Operations
Total Nitrogen	mg/L	Grab	Each application to land	Sample Collection at the time of sludge removal – Coordinate with EHS
Total Phosphorus	mg/L	Grab	Each application to land	Sample Collection at the time of sludge removal – Coordinate with EHS
Total Dissolved Solids	mg/L	Grab	Each application to land	Sample Collection at the time of sludge removal – Coordinate with EHS
Total Nitrogen Applied [2]	lbs/acre/day	Calculated	Each application to land	AG Operations
Total Phosphorus Applied [2]	lbs/acre/day	Calculated	Each application to land	AG Operations
Total Salts Applied [2]	lbs/acre/day	Calculated	Each application to land	AG Operations

[1] A map must depict the application locations.
[2] Must be calculated in the same manner as wastewater application monitoring.

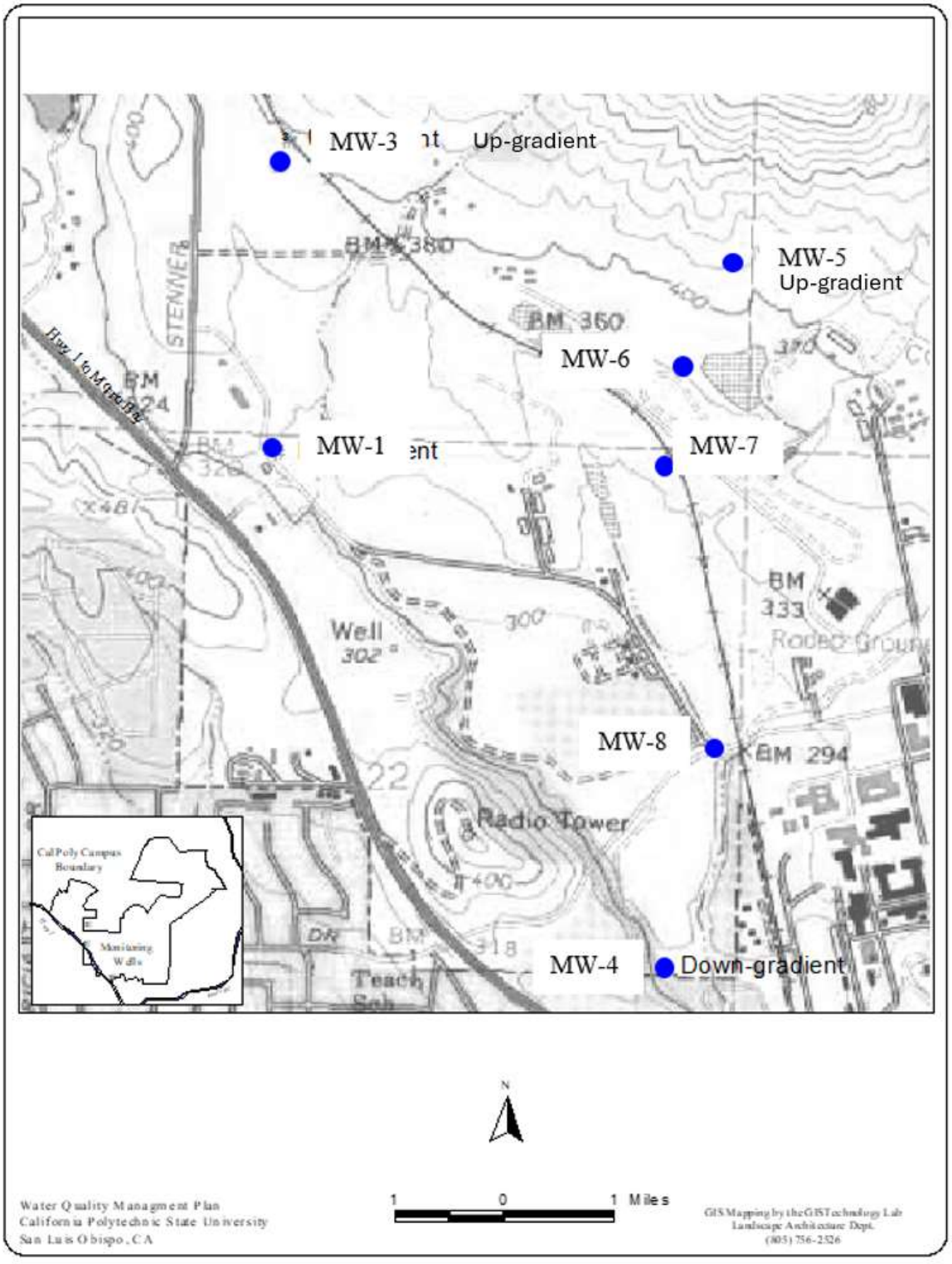
5.3.10 Campus Groundwater Monitoring Wells

Groundwater samples must be collected from monitoring wells according to Table 13 of the RMRP, sampling the first available groundwater. Depth to groundwater measurements must be used to determine groundwater flow direction at each active spray disposal area and presented graphically in monitoring reports.

Before sampling, measure the depth to groundwater and purge wells of at least three well volumes until pH, temperature, dissolved oxygen, electrical conductivity, and turbidity stabilize (within 10 percent). Alternative sampling techniques require pre-approval by the Central Coast Water Board and must be described in an approved sampling and analysis plan.

Once groundwater levels recover sufficiently, a qualified and trained individual must collect samples using approved USEPA methods. Laboratories analyzing samples must be accredited by the State Water Board Environmental Laboratory Accreditation Program (California Water Code section 13176) and include quality assurance/quality control data in their reports.

Figure 6: Cal Poly Monitoring Well Locations



5.3.11 Groundwater Monitoring Requirements

Parameter	Units	Type of Sample	Sampling/Monitoring frequency	Data Source
Depth to Groundwater	feet	Measured	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Groundwater Elevation	0.01 ft msl	Calculated	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Gradient	feet/feet	Calculated	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Groundwater Flow Direction	degrees	Calculated	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
pH	pH units	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Total Dissolved Solids	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Sodium	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Chloride	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report
Nitrate (as N)	mg/L	Grab	Quarterly (Jan, Apr, Jul, Oct)	Quarterly 3rd Party Sampling Report

5.4 Recordkeeping and Reporting Requirements

1. Operational Records: Operational records will be maintained for all agricultural operations, including manure and waste handling, treatment system operation and maintenance, land application of waste materials, and any other relevant activities that may impact water quality.
2. Monitoring Data and Reports: All water quality monitoring data will be compiled and submitted to the appropriate regulatory agencies in the form of quarterly or annual monitoring reports, as required by Cal Poly's WDR permit and RMRP.
3. Compliance Reports and Notifications: Any incidents of non-compliance, such as permit violations or water quality exceedances, will be reported to the relevant agencies within the required timeframes. Corrective action plans will be submitted as necessary.

5.5 Corrective Action Procedures

1. Identifying and Addressing Non-Compliance Issues: In the event of water quality monitoring results exceeding established limits or other non-compliance issues, Cal Poly will promptly investigate the cause and implement corrective measures to address the problem.
2. Implementing Corrective Measures: Corrective measures may include operational adjustments, infrastructure improvements, or other actions as necessary to resolve the issue and prevent future occurrences.
3. Reporting and Follow-up Actions: All non-compliance incidents, corrective actions taken, and follow-up monitoring results will be documented and reported to the appropriate regulatory agencies as required by Cal Poly's permits and applicable regulations.

5.6 Training and Education

5.6.1 Training Programs

Cal Poly will implement a collaborative training program for employees involved in activities related to water quality management and the Water Quality Management Plan (WQMP). This program will be structured as follows:

Core WQMP Training:

- Content: Overview of the WQMP, general water quality principles, regulatory requirements, and campus-wide best practices.
- Responsibility: Environmental Health & Safety (EH&S) Department will develop and deliver this training.
- Frequency: Annually

Unit-Specific Training:

- Content: Detailed procedures, SOPs, and BMPs specific to each animal unit or operational area.
- Responsibility: Animal Unit Managers will develop and deliver training specific to their areas.
- Frequency: Annually, and as needed for new procedures or significant changes.

Specialized Training:

- Content: Topics such as spill prevention and response, advanced water quality management techniques, or new regulatory requirements.
- Responsibility: EH&S, in collaboration with relevant department heads, will coordinate these trainings, potentially bringing in external experts as needed.
- Frequency: As required, based on regulatory changes or identified needs.

Training Program Details:

- Required Attendees: All staff and student employees directly involved in agricultural operations, animal units, or activities covered by the WQMP.

Documentation:

- Animal Unit Managers are required to document all unit-specific training, including dates, attendees, and topics covered.
- Animal Unit Managers must provide this training documentation to the Environmental Health & Safety (EH&S) Department annually, no later than January 15th for the previous calendar year.
- EH&S will maintain records of core WQMP training.
- EH&S will compile all training records, including both core WQMP training and unit-specific training, into a comprehensive training summary.
- This comprehensive training summary will be included by EH&S in the annual report submitted to the Regional Water Quality Control Board.

5.6.2 Public Education and Outreach

- Campus Sustainability Programs: Cal Poly will incorporate water quality management initiatives into its broader campus sustainability programs, promoting awareness and engagement among students, faculty, and staff.
- Community Outreach: The university will explore opportunities for community outreach and engagement, such as hosting facility tours, participating in local events, or collaborating with local organizations to promote water quality protection efforts.
- Academic Programs and Research: Water quality management principles and practices will be integrated into relevant academic programs and research projects, providing hands-on learning opportunities for students, and contributing to the advancement of sustainable agricultural practices.

5.7 Reporting

The Environmental Health & Safety Department will report any minor changes to the WQMP content in the annual report submitted to the Regional Board. Significant changes will be formally submitted in writing to the Regional Board for review and approval before being incorporated into the WQMP as needed.

5.7.1 Semi-Annual Reports

Semi-annual reports will be submitted by the Environmental Health & Safety Department to the Executive Officer of Regional Board and will include, at minimum, those items detailed in Section 13 – 1 of the Revised Monitoring and Reporting Program (included as Attachment C).

5.7.2 Annual Reporting

Annual reports will be submitted by the Environmental Health & Safety Department to the Executive Officer of the Regional Board and will include, at minimum, those items detailed in Section 13 – 2 of the Revised Monitoring and Reporting Program (included as Attachment C).

5.7.3 Annual Salt & Nutrient Application Summary

Cal Poly must report on the annual total and daily average amount of salts and nutrients applied from spray wastewater irrigation, compost application, and sludge disposal to each of the spray irrigation fields. The following parameters must be included in the annual report:

- Total nitrogen applied (lbs/acre/year) and average daily nitrogen applied (lbs/acre/day).
- Total phosphorus applied (lbs/acre/year) and average daily phosphorus applied (lbs/acre/day).
- Total salts applied (lbs/acre/year) and average daily salts applied (lbs/acre/day).

The average daily application rate is the total annual application rate in lbs/acre/year divided by 365 days.

5.8 Report Due Dates

Report	Monitoring Period	Report Due Date
First Semiannual Report	January 1 to June 30	September 1
Second Semiannual Report	July 1 to December 31	March 1
Annual Report	January 1 to December 31	March 1

5.9 Report & Record Retention

The Environmental Health & Safety Department at Cal Poly will retain records for a period of at least three years from the dates of submission.

Records will include all monitoring data and forms, copies of required quarterly/semi-annual/annual reports, inspections, compliance certifications and noncompliance reporting. Records shall be maintained for a minimum of three years.

5.9.1 Report Availability

The Environmental Health & Safety Department at Cal Poly maintains reports that are accessible for review by the Regional Water Quality Control Board and all interested parties during normal business hours, upon request.

6 Planned Improvements

In 2022, Coastal San Luis Resource Conservation District (CSLRCD) received a grant from the California Department of Conservation (DOC) for restoration and enhancement of riparian corridor along approximately 16 miles of stream channel, and the surrounding 2,000 acres of actively grazed ranchland commonly known as the headwater's region of the Stenner Creek Watershed area. In July 2024, Cal Poly, in collaboration with the Coastal San Luis Resource Conservation District began work on mitigating the most critical erosion areas identified in the report.

Significant renovations at the Cal Poly Dairy are underway. Utilization of state-of-the-art manure handling and flush systems to minimize environmental impact are underway. Additional concepts related to barn flooring and incorporation of vermifiltration systems are being considered.

The latest proposal for the WRF system provides additional opportunity to enhance control of freshwater water runoff, water utilization and manure management at the swine unit.

7 Change Log

The Water Quality Management Plan is considered a "living document" and is evaluated annually and updated every four years, or as determined necessary through monitoring assessment and reporting process. The Water Quality Management Plan must be uploaded to GeoTracker every four years, even if no updates have been made. The Water Quality Management Plan must include a description of changes made to the document relative to the most recent version.

Revision	Date	Description of Changes	Reviewed By
2	6/14/2024	Entire document rewrite, all sections. Incorporation of unit specific BMPs, revised MRP requirements.	E. Winett, W. Marchese, D. Chesini, G. Gallagher
3	8/22/2024	Updates to address comments from RWQCB.	E. Winett, W. Marchese, D. Chesini, G. Gallagher

Appendix A

Definitions

Definitions

Brizzolara: family name for which Brizzolara Creek was named, synonymous with USGS Topographic Map name "Brizziolari".

Confined Animal Areas: areas where cattle, calves, swine, horses, mules, goats, fowl, or other domestic animals are penned (or otherwise enclosed or held), and fed by means other than grazing.

Cultivated Land: land (soil) that is primarily prepared for raising crops.

Dry Season: April 1 to October 14. The **Rainy Season** is October 15 to March 31.

Facility wastewater: all wastewater, from whatever source, produced at a confined animal facility.

"Freeboard": the vertical distance between the lowest point along the top of a dike, dam, or similar feature, and the surface of the wastewater retained by the feature.

Lagoon: used to retain wastewater or surface drainage from manure storage areas until proper disposal on land or other suitable disposal means can be accomplished, where solids are actively removed from effluent prior to entering the lagoon.

"Manure": accumulated moist animal excrement that does not undergo decomposition or drying as would occur on open grazing land or natural habitat. This definition includes feces and urine which may be mixed with bedding materials, spilled feed, and soil.

Manure areas: include manure storage areas and "confined animal areas."

Manure storage: areas include corrals, feedyards, retention ponds, manure collection areas of any kind and areas used for storage, composting, and/or drying of animal wastes.

Nonpoint Source Pollution: generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrologic modification.

Point Source Pollution: any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged.

Rainy Season: October 15 to March 31. The **Dry Season** is April 1 to October 14.

Retention pond (or "Pond"): a pond used to retain wastewater or surface drainage from manure storage areas until proper disposal on land or other suitable disposal means can be accomplished. Solids are not actively removed from effluent entering ponds, as opposed to lagoons.

"Runoff": any precipitation, leachate, or other liquid that drains from any part of the facility.

Stormwater: the sum of channel interception, surface, and subsurface flow.

Undisturbed: land that is not cultivated and maintains a vegetation cover.

"Usable ground water": first encountered ground water beneath the site which will sustain a residence year-round (i.e., 300 gallons-per-day).

Appendix B

WDR-R3-2003-065

cc: Kit
Shelton
Ketcham
Hunter

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906

WASTE DISCHARGE REQUIREMENTS ORDER NO. R3-2003-035

Proposed for Consideration at the July 11, 2003 Meeting

For

CALIFORNIA POLYTECHNIC STATE UNIVERSITY, SAN LUIS OBISPO COUNTY

The California Regional Water Quality Control Board, Central Coast Region, (hereafter Board) finds that:

SITE OWNER AND LOCATION

1. California Polytechnic State University, San Luis Obispo, (hereafter "Discharger") operates a 6,000 acre university campus in San Luis Obispo (Attachment A).

PURPOSE OF ORDER

2. The primary objectives of this Order are to: 1) consolidate and streamline water quality requirements to cover the entire spectrum of campus activities, 2) update existing requirements for discharge of treated wastewater to land, 3) update the monitoring and reporting program to comprehensively monitor potential water quality impacts and, 4) to assume compliance with the Basin Plan and applicable laws and regulations pertaining to nonpoint source discharges campus-wide.

SITE/FACILITY DESCRIPTION

3. The campus is composed of the main campus and six ranches. Various habitats exist on the campus and include, urban (instructional core), agriculture, range, riparian, wetland, and aquatic. Water resources include streams, reservoirs, springs, ponds, wetlands, wells, and storage tank facilities. As well as the standard storm water runoff from the hardened surfaces of the campus core, a variety of animal holding and processing facilities, agricultural fields, landscaping, and various construction and maintenance operations throughout the campus present a significant potential threat to water quality in both the ground water and the creeks (Brizzolara, Stenner, and tributaries of Chorro) running through the campus.

SITE/FACILITY DESCRIPTION

4. **Geology:** The surface soils below the land disposal sites are generally Salinas silty clay loam with 0-2% slopes. Permeability of the soil is moderately slow (0-29" drains between 0.2-0.6 in/hr. and between 29-72" it drains 0.2-0.6 in/hr.) allowing more time for nutrient uptake.

5. **Ground water:** Depth to ground water at the land irrigation (disposal) sites varies from greater than 20 feet to less than 6 feet in fields bordering campus creeks. Ground water movement within the disposal area is generally towards Stenner Creek, to the south-southwest on the main campus and to the southwest in the Chorro watershed.

6. **Surface water:** Stenner Creek, a tributary to San Luis Obispo Creek flows through the western ranch portions of the main campus. It is the most affected by the known point source discharges (Findings 8 through 11). Brizzolara Creek skirts the instructional core of the campus after descending through Poly Canyon and

receives the greatest influence of stormwater runoff from hardened surfaces. In the Chorro Creek Watershed, Pennington, Chumash, and Walters are all tributaries of Chorro Creek, which eventually leads to the Morro Bay Estuary (Attachment C). Ranching practices on these lands, most notably excessive erosion from over grazing, has the greatest potential for impact on water quality in these creeks.

MAIN FACILITY DISCHARGES

8. The **Dairy Unit** (DU) is located one mile northwest of the main campus in San Luis Obispo, California. The DU includes barns, milking facilities, milk storage, laboratories and classrooms. The DU is permitted for 375 Animal Units* (AU) of cattle (Design). The DU facilities are in the San Luis Obispo Quad, Section 22, T30S, R12E, as shown on Attachments A and B of this Order. This treatment and disposal facilities consists of solids removal and initial settling in a 13 acre-foot retention pond located on approximately 1.5 acres at the southeast corner for the facility. Waste is then transferred (via gravity) to a 15.7 acre-foot retention pond. Additional emergency wet weather storage is available through two retention ponds at the abandoned State Dairy facility (adjacent to the DU). Each of these ponds has a capacity of approximately 8.9 acre-feet. These ponds are used as backup holding capacity for emergencies, (i.e. excessive storms) and retention pond maintenance activities. The DU has been regulated since 1994 by Order No. 94-01.

9. The discharger also operates a **Beef Unit** (BC) located two miles northwest of the main campus in San Luis Obispo, California. The BC includes 16 feeding pens with each pen having a maximum capacity of 15 head. The facility has a maximum capacity of 240 head of test cattle (Design). The BC facilities are in the San Luis Obispo Quad, Section 15, T30S, R12E, as shown on Attachment A of this Order. This treatment and disposal facility consists of a 1.7 acre-feet retention pond located on approximately 0.5 acres southeast of the livestock facility. The facility is equipped with a 6 inch lipped concrete pad adjacent to the pens that directs runoff on the east side to a pipe leading to the retention pond. A similar structure on the west side leads wastewater to an overland drain to the pond. The BC has been regulated since 1991 by Order No. 91-44.

10. The discharger also operates a **Swine Unit** (SU) located 0.8 mile northwest of the main campus in San Luis Obispo, California. The SU can contain approximately 600 animals (Design). The facilities are in the SE 1/4 of Section 15, T30S, R12E, MD B&M, as shown on Attachment A of this order. This treatment and disposal facility consists of two retention ponds (upper and lower). Each pond has the capacity to hold approximately 5.2 acre-feet of wastewater each. The retention ponds are located on 3.8 acres approximately 400 feet southwest of the livestock facility. The SU has been operated since 1986 by Order No. 86-74.

11. The university operates a composting facility on parcel C42 and C45 (attachment D) for the processing and reuse of organic waste material. Produced compost is used to augment soils throughout the campus.

DISPOSAL

12. Treated wastewater accumulated from the DU, BC, and SU is disposed of by spray irrigation on adjacent pasturelands to maintain appropriate freeboard in ponds. Sludge and dredge material from the treatment ponds is placed on adjacent fields.

13. Though documentation shows that all retention ponds are underlain by significant percentages of clay to prevent percolation, groundwater impacts from the ponds have not been evaluated. For this reason, the following values represent volumes discharged to the ponds, rather than actually spray irrigated on adjacent fields. For regulatory purposes, the point of compliance

* One thousand pounds of live weight of any given livestock species or any combination of livestock species.

is groundwater underlying the disposal/irrigation fields.

a. DU – up to 46,000 gallons per day of wastewater is discharged to the pond at this facility. Within this unit, accumulated wastewater is recirculated for washdown of the facility.

b. BC – up to 1.7 acre-feet of stormwater runoff is discharged by this facility at any given time.

c. SU - up to 6,000 gallons per day of cleanup water, wastewater and stormwater runoff is discharged at this facility.

14. **General Storm water:** Storm water that comes into contact with the treatment process or animal containment units is collected and treated. Each point discharge site is protected from flooding or washout from a 100-year flood event. Individual construction and maintenance projects before this proposed campus-wide Order have operated under individual stormwater permits. The **Storm Water Pollution Prevention Program** included in the WQMP provides storm water management for the developed and rural portions of the Main Campus. The program addresses issues associated with runoff, service, and construction. In addition, equipment storage and cleaning, as well as maintenance areas and pollutants are described. This program proposes BMPs for construction activities and road maintenance, and discusses storm water monitoring. These practices have been incorporated into the Cal Poly Construction Specifications. The program identified here addresses urban runoff on the Main Campus. It will be in effect until Cal Poly completes the requirement for the NPDES Phase II storm- water program (expected by April, 2004) for the Main Campus. The existing Stormwater Management Plan contained within the Water Quality Management Plan is expected to require little modification to achieve the goals of the Phase II program, once it is adopted for the campus.

15. **Construction Stormwater:** The State Water Resources Control Board (SWRCB) adopted a statewide General Storm Water Permit for Construction Activities. The permit is reissued every 5 years. The last reissuance was in 1999 when the SWRCB adopted Order 99-08-DWQ. The permit requires all land disturbances of 5 acres or more to file a Notice of Intent and to this office and implement Best Management Practices (BMPs) to prevent the discharge of sediment-laden water off site. These BMPs are detailed in a Stormwater Pollution Prevention Plan (SWPPP) specific to each new construction project. A copy of the SWPPP will be maintained at the site of construction.

MONITORING & REPORTING PROGRAM

16. The requirements for monitoring and reporting are contained in the attached Monitoring and Reporting Program No. R3-2003-035. The Discharger is required to monitor standard parameters (salts, TDS, and nitrogen) in effluent as well as ground water up and down gradient of the discharge(s). Monitoring of all treatment and disposal sites will occur on a regular basis and be submitted with quarterly reports.

BASIN PLAN

17. The Water Quality Control Plan, Central Coast Basin (Basin Plan) was adopted by the Board on November 19, 1989 and approved by the State Board on August 16, 1990. The Board approved amendments to the Basin Plan on February 11, 1994 and September 8, 1994. The Basin Plan incorporates statewide plans and policies by reference and contains a strategy for protecting beneficial uses of State waters.

18. Present and anticipated beneficial uses of ground water in the vicinity of the discharge include:

a. Municipal and Domestic Supply, and

b. Agricultural Supply; and,
c. Industrial Supply.

19. Present and anticipated beneficial uses of Stenner and Brizziolara Creek (tributaries of San Luis Obispo Creek) and tributaries of Chorro Creek passing through the eastern portions of the campus include:

a. Domestic and municipal supply,
b. Agricultural supply,
c. Ground water recharge,
d. Non-contact water recreation,
e. Water-contact recreation,
f. Wildlife habitat,
g. Cold freshwater habitat,
h. Warm freshwater habitat,
i. Fish migration,
j. Fish spawning, and
k. Freshwater replenishment,
l. Preservation of Biological Habitats of Special Significance,
m. Rare, threatened or endangered species; and
n. Commercial and sport fishing

20. Surface water quality objectives will be further developed through the ongoing Total Maximum Daily Load (TMDL) process. Preliminary objectives have not been included in this order since the Order specifically forbids any direct surface water discharge.

21. Median ground water objectives listed in the Basin Plan for this Sub-basin are:

Constituent	Groundwater Objective mg/l
TDS	900
Sodium	50
Chloride	200
Total N	5

Actual groundwater data from existing monitoring wells upgradient and down gradient of disposal operations reveals the following average values:

Constituent	Up-gradient MW-3 (mg/l)	Mid-gradient MW-1 (mg/l)	*Down-gradient MW-4 (mg/l)
TDS	468	940	700
Sodium	93.2	91.4	49.8
Chloride	40.6	148	46
Nitrate (as N)	1.1	18	6.4
Total Nitrogen	1.2	20.0	9.25

*Note actual well locations relative to disposal sites on Figure B. Provision D.7 is included to improve the effectiveness of this system.

22. Average effluent values of the same constituents for each disposal unit are as follows:

Constituent	Concentration (mg/l)		
	DU	BC	SU
TDS	1035	2250	501
Sodium	67.1	295.4	48
Chloride	73.8	686	43.3
Total Nitrogen	450	9.0	35

CEQA

23. Waste discharge requirements for the existing discharge are exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21100, et seq.) in accordance with section 13389 of the California Water Code.

EXISTING ORDERS AND GENERAL FINDINGS

24. Discharges from Cal Poly have been subject to Waste Discharge Requirements contained in Orders No. 94-1 (DU), 91-44 (BC), and 86-74 (SU), project specific 401 certifications, stormwater permits, and correspondence from the Regional Board containing requirements and recommendations.

25. The Discharger has developed a Water Quality Management Plan (WQMP) to protect water quality on campus and in surrounding areas influenced by campus activities. The WQMP is the product of a cooperative implementation approach to address water quality issues and is included by reference in

this Order. Since the WQMP will be improved and updated on a regular basis to include the most up to date water management practices for the University, it has not been included as an attachment to these waste discharge requirements. Copies of the most recent version of the WQMP can be attained from the University, this office, or are available at the Regional Board web site for electronic review (http://www.swrcb.ca.gov/~rwqcb3/)

26. Development and implementation of the WQMP is essential for coordinating campus-wide use of water resources, as well as management of facilities and construction activities. The WQMP also guides implementation of BMPs for the Point and Nonpoint Source Pollution Prevention Programs, and Storm Water Pollution Prevention Programs and construction of facilities. The WQMP also requires comprehensive training of all necessary staff in the use of best management practices of both land and facilities.

27. To assure that water quality objectives are being implemented, the This Order specifies monitoring of potentially impacted waters, problem assessment, corrective action and reporting to the Regional Board of any operational changes implemented to counter impacts.

28. Discharge of waste is a privilege, not a right, and authorization to discharge is conditional upon the discharge complying with provisions of Division 7 of the California Water Code and any more stringent effluent limitations necessary to implement water quality control plans, to protect beneficial uses, and to prevent nuisance. Compliance with this Order should assure this and mitigate any potential adverse changes in water quality due to the discharge.

29. On **April 28, 2003**, the Board notified the Discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and have provided them with a copy of the proposed Order and an opportunity to submit written views and comments.

30. After considering all comments pertaining to this discharge during a public hearing on **July 11, 2003,** this Order was found consistent with the above findings.

IT IS HEREBY ORDERED, pursuant to authority in Sections 13263 and 13267 of the California Water Code, Cal Poly State University, its agents, successors, and assigns, may discharge waste at the afore-described facility providing compliance is maintained with the following:

All technical and monitoring reports submitted pursuant to this Order are required pursuant to Section 13267 of the California Water Code. Failure to submit reports in accordance with schedules established by this Order, attachments to this Order, or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer, may subject the discharger to enforcement action pursuant to Section 13268 of the California Water Code. The Regional Board will base all enforcement actions on the date of Order adoption.

(Note: other prohibitions and conditions, definitions, and the method of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated January 1984. Applicable paragraphs are referenced in paragraph D.2. of this Order.)

Throughout these requirements footnotes are listed to indicate the source of requirements specified. Requirements footnotes are as follows:

BP	Basin Plan
Design	Facility design specification

Requirements not referenced are based on staff's best professional judgment.

A. PROHIBITIONS

1. Discharge of animal wastes to any areas other than the animal unit disposal ponds and spray

fields as shown in Attachment B, is prohibited.

2. Discharger of any wastes including overflow bypass, seepage and over-spray from transport, treatment or disposal system to any surface water, including but not limited to Stenner Creek, Brizzolara Creek, Chorro Creek and its tributaries and adjacent drainageways, is prohibited.

3. Discharge of wastes to ponds other than animal waste and associated wash water is prohibited.

4. Discharge of solids (pond dredging) or compost products shall fully comply with the WQMP and the solids use/reuse plan described in Provision D. 10. Solids placement will be done in such a way to prevent runoff to surface waters and maximize plant uptake.

5. Disposal of treated wastewater anywhere but the designated spray/disposal fields as specified on Attachment D is prohibited.

B. DISCHARGE SPECIFICATIONS

General Specifications

1. Neither the treatment nor the discharge of waste shall create a nuisance, as defined by Section 13050 of the California Water Code (CWC). (H & S.C. Section 5411, CWC Section 13263).

2. Waste shall not be disposed of in any manner or location where it can be carried from the disposal site and discharged into waters of the State or United States.

3. Discharge of uncontaminated storm waters to the animal waste treatment facilities is prohibited unless adequate capacity is available.

4. Bypass of any treatment facility and discharge of untreated or partially treated waste to the disposal site is prohibited.

5. Animal wastewater discharged to treatment ponds shall not exceed the amount of waste generated by 375 AU of cattle (DU), 240 head of test cattle[(Design)] (BC) and 600 swine (SU), associated washwater and contaminated runoff[(Design)].

C. GROUND WATER LIMITATIONS

1. The discharge shall not cause nitrate concentrations in the ground water downgradient of the disposal area to significantly increase (relative to concentrations in upgradient wells) or to exceed 10 mg/l (as N)[BP].

2. The discharge shall not cause a significant increase of mineral constituent concentrations in underlying ground waters, as determined by comparison samples collected from wells located upgradient and downgradient of the disposal area. The determination of significance of the increase will require ongoing evaluation of groundwater monitoring data.

3. The discharge shall not cause concentrations of chemicals and radionuclides in ground water to exceed limits set forth in Title 22, Chapter 15, Article 4 and 5 of the California Code of Regulations.

System Operation

1. Freeboard shall exceed 12 inches, or the specified design freeboard, if greater, in the retention ponds.

2. Discharge shall not cause the formation of vector habitat within treatment or disposal areas.

3. The public shall not have contact with inadequately treated wastewater as a result of treatment or disposal

4. The discharge shall not contain substances in concentrations, which are toxic to human, animal, aquatic or plant life operations.

D. PROVISIONS

1. The Discharger will implement the WQMP in its entirety.

2. The Water Quality Management plan is not included as an attachment to this Order, but is included by reference and will thereby be recognized and enforced in the same manner as the Standard provisions or the Monitoring and Reporting Program. It will serve as an extension of these waste discharge requirements.

3. The WQMP will be considered a "living document" and is evaluated annually and updated every 4 years, or as determined necessary through monitoring, assessment and reporting process. All changes to the WQMP will be submitted to the Regional Board's Executive Officer for review/approval. If changes are deemed significant, they will be presented to the Regional Board for incorporation into, these Waste Discharge Requirements.

4. Major adjustments, such as inclusion of additional facilities or changes in discharge patterns will be subject to Board review and approval. Minor changes, such as technical updates of cited BMPs, will not require such approval; however the executive officer will be notified in writing of any changes prior to their implementation.

5. All accumulated sludge, salts, or solid residues (including compost) shall be disposed of in a manner consistent with this Order or other method specifically approved by the Executive Officer.

6. Any actions which could affect water quality (such as construction, stream channel maintenance, stream crossing maintenance, etc...) that are not specifically included in this Order will be presented in writing to the Regional Board 30 days prior to commencement of the operation.

7. In order to accurately determine the impacts of both liquid and solid waste disposal on ground waters underlying the campus disposal fields, the University will submit plans which establishes or identifies a representative groundwater monitoring network **September 30, 2004.** Adequate monitoring networks must establish the true groundwater gradient and allow for representative samples of groundwater to be compared from wells upgradient and downgradient of all disposal sites. Wells for this new monitoring network will be installed by **January 1, 2005.** Once established, this network will be used to evaluate true groundwater impacts of the treatment and disposal operations covered by this order.

8. By **April 1, 2005**, initial conclusions of the newly established monitoring system and recommendations for action shall be submitted for Executive officer approval. The recommendations should consider more aggressive treatment, lined ponds, and alternative disposal methods in order to minimize groundwater impacts. This submittal will contain a detailed time schedule with which the university will comply to improve treatment and disposal practices and meet Basin Plan requirements.

9. On or before **November 30, 2003** the discharger shall submit engineering reports, calculations and/or other documentation confirming the capacity of all animal containment and waste processing facilities covered by this permit.

10. On or before **January 30, 2004**, the discharger shall submit for Executive officer approval a comprehensive plan for the effective use/reuse of all solids on campus (specifically pond bottom solids and compost). The plan shall include an evaluation (using available upgradient and downgradient groundwater comparisons) of the existing disposal practices and identify methods that will be used to minimize water quality impacts associated with the waste disposal on campus. The plan should also specify that all placement of solids and liquids will be according to a prescribed schedule or after explicit executive officer approval. Any disposal/reuse should be based on soil needs, future crop uptake forecasts, and seasonal weather patterns (to avoid runoff and unnecessary nutrient flow-through and/or runoff).

11. Waste Discharge Requirements Order No. 94-01, California Polytechnic State University Dairy Sciences Instructional Center, adopted by the Board March 11, 1994, are hereby rescinded.

12. Order No. 91-44 Waste Discharge Requirements for California Polytechnic State University, San Luis Obispo Swine Unit, adopted by the Board October 11, 1991, are hereby rescinded.

13. Waste Discharge Requirements for California Polytechnic State University, San Luis Obispo Beef Center, Order No. 86-74, adopted by the Board April, 11 1986, are hereby rescinded.

14. The Discharger shall comply with "Monitoring and Reporting Program No. R3-2003-035", as specified by the Executive Officer and incorporated as part of this Order.

15. The Discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated January 1984.

16. The Discharger shall submit a written report by **July 7, 2006**, acceptable to the Executive Officer, addressing:

    a. Whether there will be changes in the continuity, character, location, or volume of the discharges; and,

    b. Whether, in their opinion, there is any portion of the Order that is incorrect, obsolete, or otherwise in need of revision.

    c. A summary of all violations of Waste Discharge Requirements, Order No. R3-2003-035, which occurred since adoption of the order along with a description of the nature and corrective action used or planned for their control.

I, Roger W. Briggs, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on July 11, 2003.

Roger W. Briggs,
Executive Officer

S:\WB\Coastal Watershed\Staff\-Scott-\Calpoly\Poly WDR.doc

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

MONITORING AND REPORTING PROGRAM NO. R3-2003-035

For

CALIFORNIA POLYTECHNIC STATE UNIVERSITY, SAN LUIS OBISPO COUNTY

OBJECTIVE AND PURPOSE OF MONITORING

This Monitoring and Reporting Program is designed to evaluate compliance with the requirements specified by Order No. R3-2003-035 and the California Polytechnic State University, San Luis Obispo, Water Quality Management Plan for Cal Poly Land in the San Luis Obispo and Chorro Creek Watersheds (WQMP).

ANIMAL FACILITIES MONITORING

Animal population shall be monitored according to Table A below:

Table A

Constituent/Parameter	Units	Type of Sample	Minimum Sampling and Analysis Frequency
Animal Population in Confined Area	Head/AU	Count	Monthly

ANIMAL FACILITY EFFLUENT MONITORING

Representative samples of the effluent discharged to each disposal field shall be collected and analyzed for constituents in Table B below:

Table B

Constituent/Parameter	Units	Type of Sample	Minimum Sampling and Analysis Frequency
Freeboard	ft	Measure	Weekly
pH	pH units	Grab	Monthly

All samples will be accompanied by a detailed description of sampling and discharge location.

GROUND WATER MONITORING

Samples of ground water shall be collected from representative wells located upgradient and downgradient of the discharge location(s), drawing water from the first available groundwater and analyzed for the specified constituents.

Table C

Parameter	Units	Type of Sample	Minimum Sampling and Analysis Frequency
Depth to Groundwater	ft.	Measured	Semi-Annual/ Quarterly *
pH	pH units	Grab	Semi-Annual/ Quarterly *
Total Dissolved Solids	mg/l	Grab	Semi-Annual/Quarterly*
Sodium	mg/l	Grab	Semi-Annual/ Quarterly *
Chloride	mg/l	Grab	Semi-Annual/ Quarterly *
Nitrate (as N)	mg/l	Grab	Semi-Annual/ Quarterly *

*Once a representative monitoring network has been identified (January 1, 2004), monitoring of these constituents will increase to Quarterly.

Table D
Existing Groundwater Wells

Well No.	Cal Poly Designation	Location Description (Refer to Attachment B)
1	Mid-gradient Well	Southern part of field C 47B adjacent to Mount Bishop Road.
3	Up-gradient Well	Adjacent property near railroad tracks, westside.
4	Down-gradient Well	Developed in 1999. Southwest corner of field C 29 near Stenner and Brizzolara Creek.

-By Sept 30, 2004, a more representative well network will be established to accurately assess the impacts of campus waste disposal practices.

DISPOSAL AREA MONITORING

The spray disposal area will be inspected Daily (when irrigation/disposal is occurring) to assure BMPs are in place and functioning and that runoff and/or ponding do not occur. Particular attention will be paid to any liquids flowing from disposal spray fields, retention ponds, waste storage sites, etc., and to verify that spray irrigation is limited to those sites identified for wastewater disposal.

A log must be kept indicating spray area conditions, observations, problems noted, and corrective actions taken.

A summary of WQMP Form 3 Wastewater Irrigation Rotation Form will be included with each quarterly monitoring report, which will summarize the log.

POND SOLIDS AND COMPOST MONITORING

All solids disposal and reuse shall be consistent with an Executive Officer approved plan for its disposal and reuse. At a minimum, the following information shall be submitted with the Annual Report:

1) Annual sludge production in dry tons and percent solids.

2) Annual compost production in dry tons.

3) Map detailing the location(s) of any solids placed throughout the monitoring period.

Table E
Solids Constituent Analysis

Constituent/Parameter	Units	Type of Sample	Minimum Sampling and Analysis Frequency
Quantity	Tons or yds^3	Measured	Measured during removal
Moisture Content	%	Grab	Quarterly
Total Kjeldahl Nitrogen	mg/kg	Grab	Quarterly
Ammonia (as N)	mg/kg	Grab	Quarterly
Nitrate (as N)	mg/l	Grab	Quarterly
Total Phosphorous	mg/l	Grab	Quarterly

* Total sample (including all solids and any liquid portion) to be analyzed and results reported as mg/kg or µg/kg, as appropriate, based on the dry weight of the sample.

SURFACE WATER MONITORING

Surface water Monitoring for fecal coliform shall be carried out quarterly* according to the following time schedule:

1. January 1 to March 30th
2. April 1 to May 30th,
3. June 1 to September 30th, and
4. October 1 to December 30th.

*Brizzolara and Stenner Creeks may be dry during one of the time intervals, thereby reducing the number of monitoring opportunities to three times annually.

The designated monitoring sites are as follows:

BRIZ1.0: in Brizzolara Creek at its intersection with Via Carta Drive, and
STEN1.5: in Stenner Creek at its intersection with Highland Drive

*These locations are clearly identified on Attachment B of this order.

GENERAL REPORTING

Monitoring reports shall include:

1. All data required by this monitoring program for the preceding monitoring period.

2. A discussion of any non-compliance issues and corrective actions taken. All reports required in this monitoring and reporting program are required pursuant to Water Code § 13267.

3. Results of site inspections carried out during the reporting period. At a minimum this should include:

a. Observations of the major creeks and tributaries throughout campus
b. Results of any projects (construction, maintenance, earth moving, etc...) which could influence water quality.
c. Status of or activity in the quarry.
d. Results from inspecting on campus sewage collection and associated lift stations and pumps, including any problems or upsets encountered.
e. Any violations of the BMPs required by the WQMP.

REPORTING FREQUENCY

Quarterly monitoring reports will be submitted by the 30th day of April, July, October and January and shall include all monitoring results from the preceding three-month period.

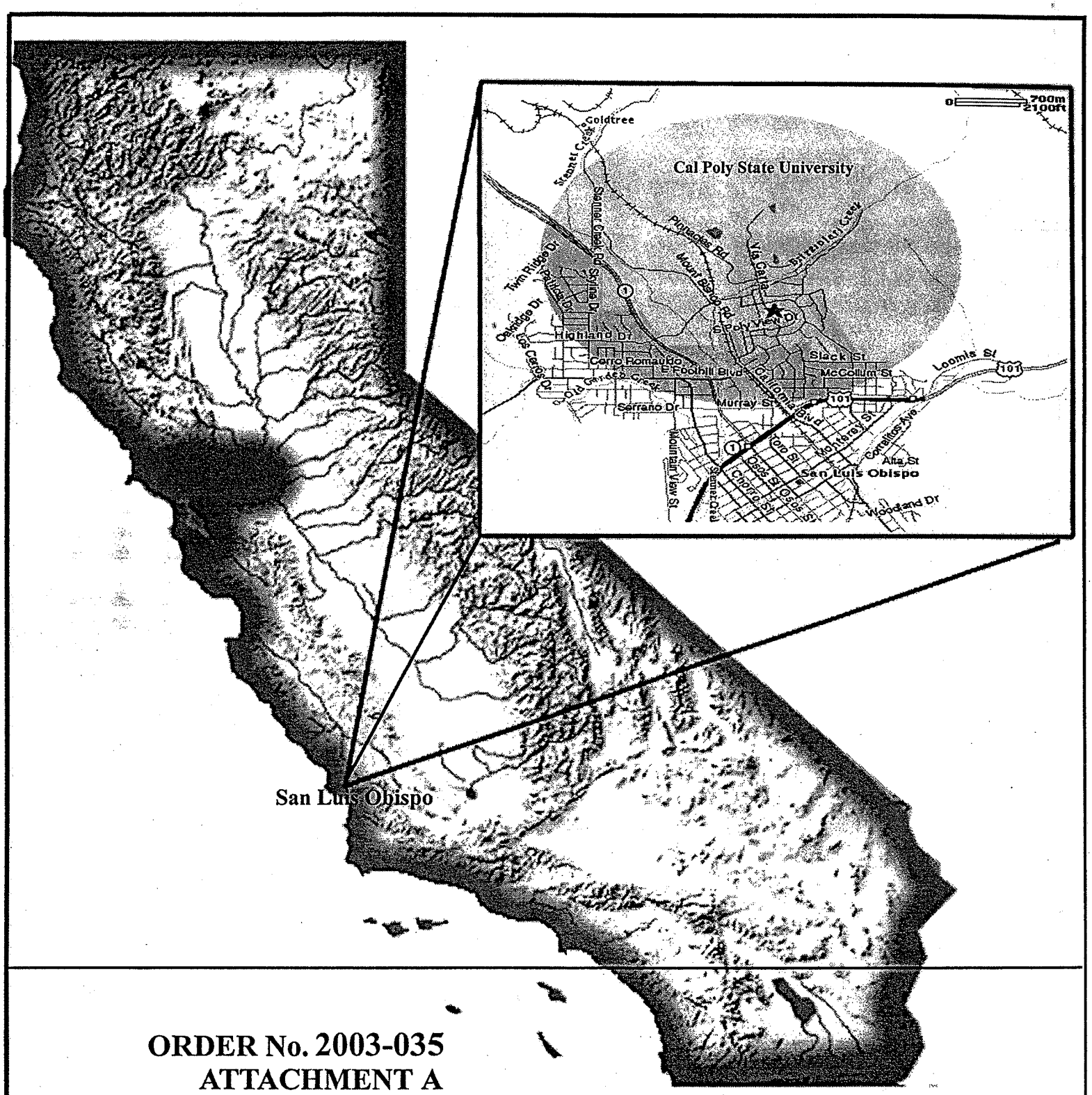
Annual report shall be submitted by January 30th of each year and summarize activities pursuant to the WQMP, including personnel training, BMP effectiveness evaluation, and any proposed revisions to the Plan. Evaluation/discussion of the WQMP in its effectiveness at reducing and controlling impacts to water quality from campus activities should include, but not be limited to:

a. Problem identification
b. Potential resolutions
c. Proposed WQMP updates
d. Proposed WDR updates to be considered during next Regional Board renewal

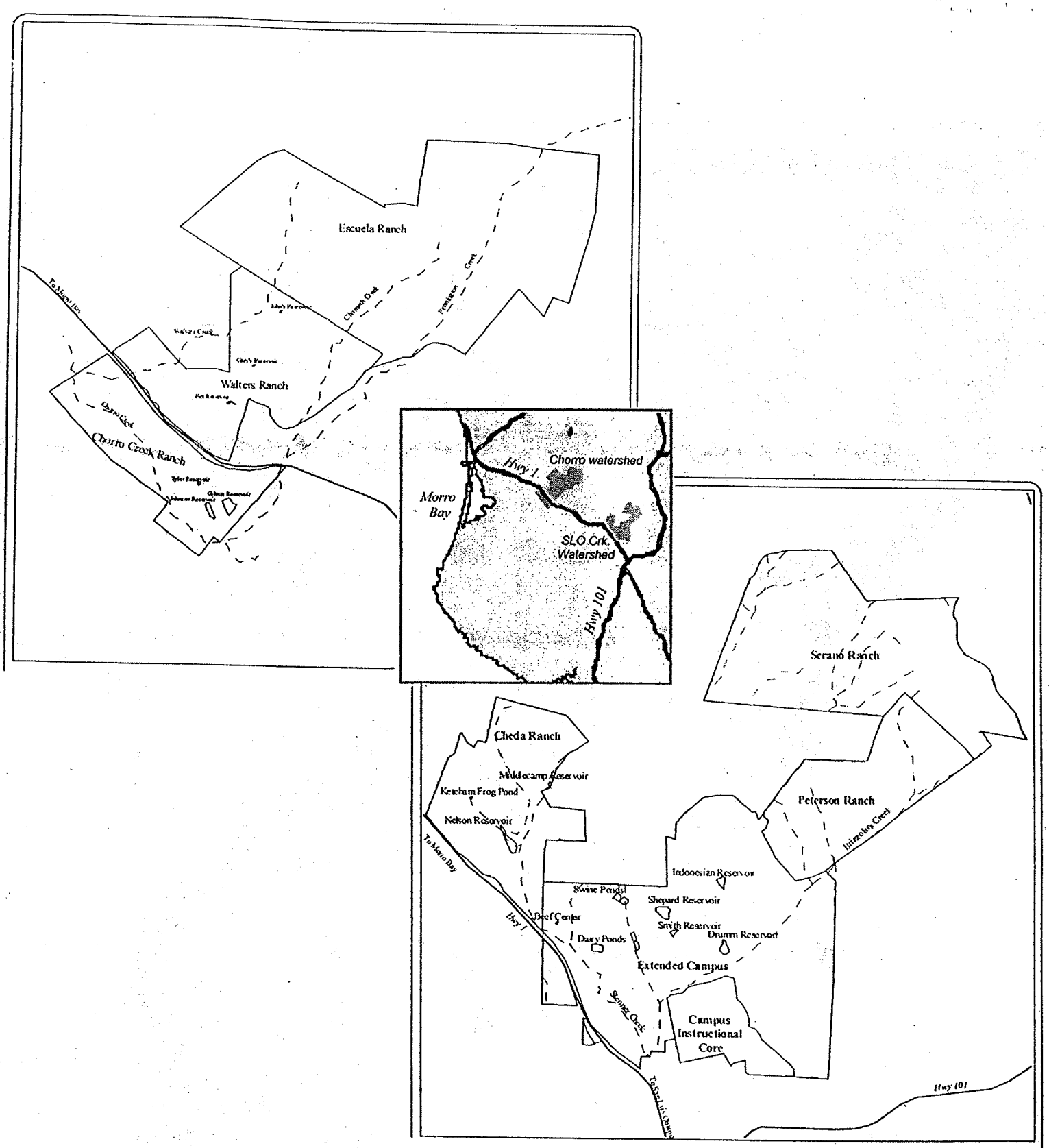
This Monitoring and Reporting Program may be revised at any time during the life of the associated Waste Discharge Requirements, as necessary, under the authority of the Executive Officer.

Ordered By _____

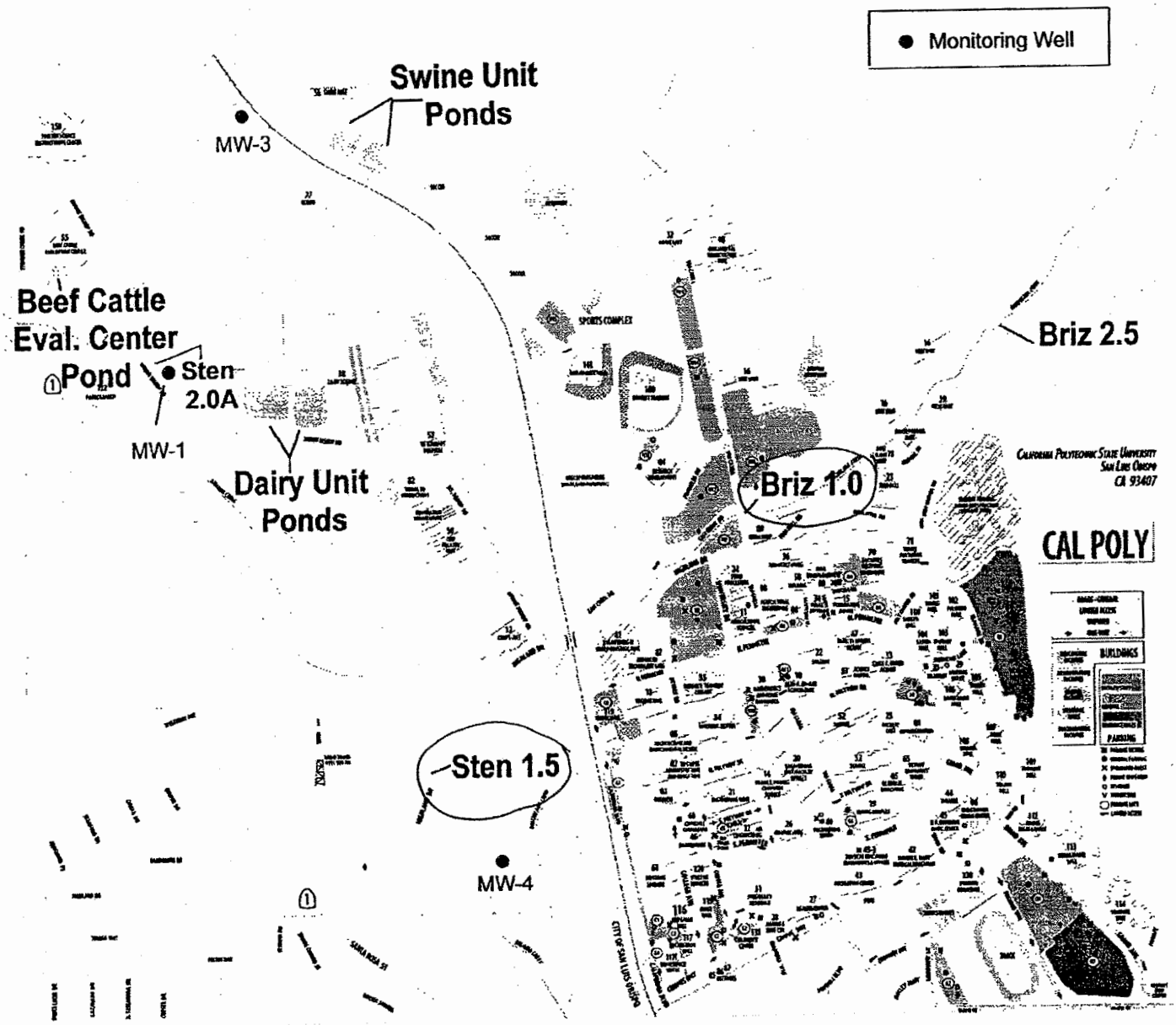
7-15-03
Date



ORDER No. 2003-035
ATTACHMENT A
CAL POLY STATE UNIVERSITY
AREA MAP

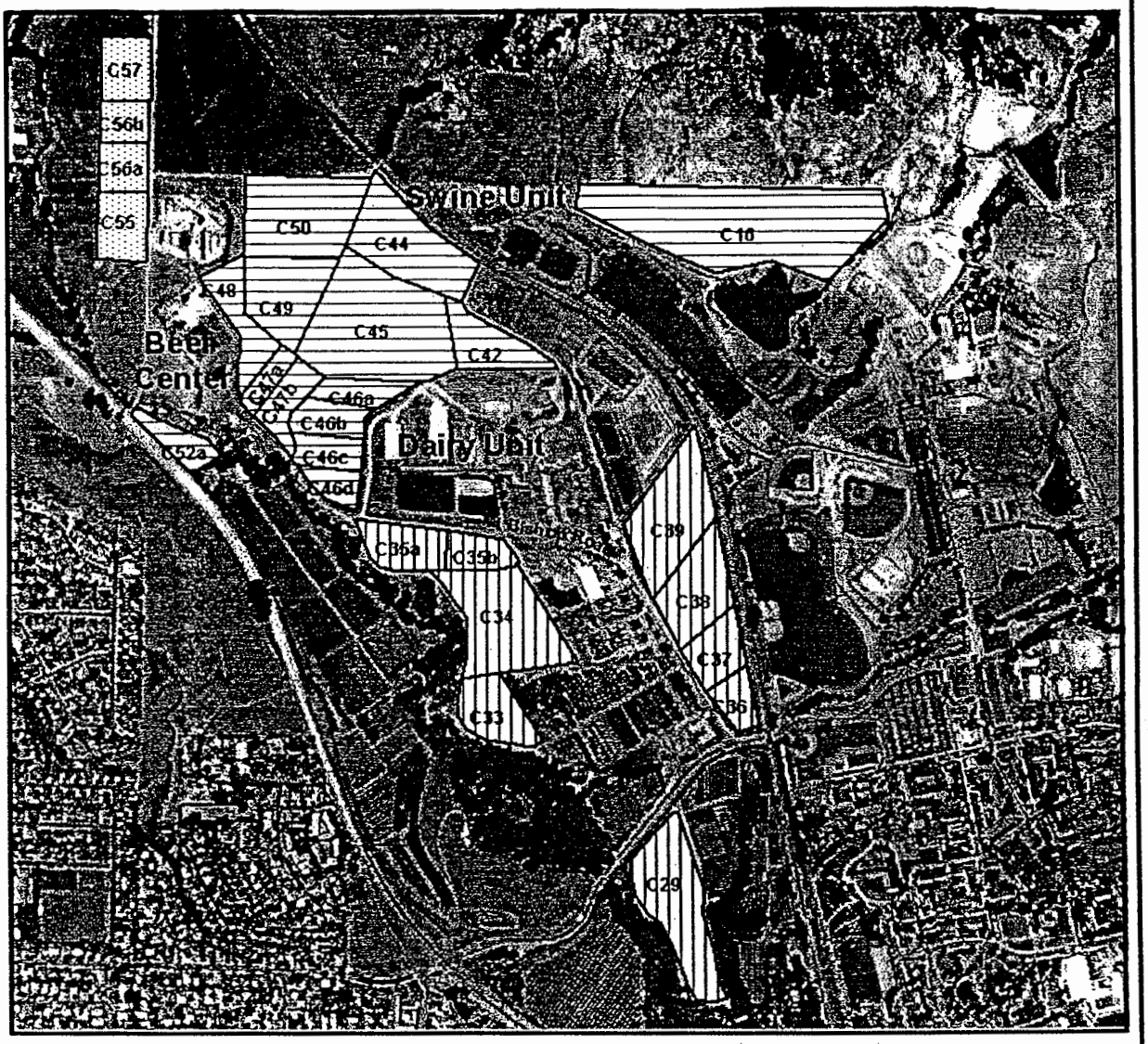


ORDER No. 2003-035
ATTACHMENT C
CAL POLY STATE UNIVERSITY
Watershed Map



ORDER No. R3-2003-035
ATTACHMENT B
CAL POLY STATE UNIVERSITY
VICINITY MAP

Wastewater Disposal Spray Fields



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Water Quality Management Plan
California Polytechnic State University
San Luis Obispo, CA
Created 5.15.01 KJB
Modified 6.20.03 KJB

Spray Fields

Retired Existing Proposed

ORDER No. R3-2003-035
ATTACHMENT D
CAL POLY STATE UNIVERSITY
Disposal Sites

Appendix C

Revised Monitoring and Reporting Program

Central Coast Regional Water Quality Control Board

February 8, 2024

Sent Via Electronic Mail

David Korpan
Environmental Health and Safety Director
California Polytechnic State University
San Luis Obispo, CA 93405
Email: dkorpan@calpoly.edu

Dear David Korpan:

CALIFORNIA POLYTECHNIC STATE UNIVERSITY, SAN LUIS OBISPO, TRANSMITTAL OF REVISED MONITORING AND REPORTING PROGRAM NO. R3-2003-0035

Please find attached **revised** monitoring and reporting program R3-2003-035 (Attachment 1). The revised monitoring and reporting program applies to the monitoring and reporting requirements for California Polytechnic State University, San Luis Obispo which is regulated by Order No. R3-2003-0035, *Waste Discharge Requirements for California Polytechnic State University, San Luis Obispo County*.

This monitoring and reporting program will also be available electronically on our GeoTracker website:
https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=WDR100035521

If you have questions regarding revised monitoring and reporting program R3-2003-0035, please contact James Bishop at (805) 542-4628 or james.bishop@waterboards.ca.gov or Jennifer Epp at (805) 594-6181 or jennifer.epp@waterboards.ca.gov.

Sincerely,

for Ryan E. Lodge
Executive Officer

Attachment:
1. Revised Monitoring and Reporting Program R3-2003-035

cc:
Erin Winett, Environmental Protection Program Specialist, egwinett@calpoly.edu
James Bishop, james.bishop@waterboards.ca.gov
Jennifer Epp, Jennifer.Epp@Waterboards.ca.gov
Jesse Woodard, Jesse.Woodard@Waterboards.ca.gov
WDR Program, RB3-WDR@Waterboards.ca.gov

ECM/CIWQS = CW-213019
GeoTracker No. = GT-WDR100038383
Rev 6/7/23
ECM Subject Name = California Polytechnic State University, San Luis Obispo Revised MRP Transmittal Letter
\\ca.epa.local\RB\RB3\Shared\WDR\WDR Facilities\San Luis Obispo Co\Cal Poly\Cal Poly Ag facilities and WQMP\1- Permit\WDR_MRP\Revised MRP Dec 2023\Transmittal Ltr Revised MRP Feb 2024.docx

CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD

MONITORING AND REPORTING PROGRAM R3-2003-0035

REVISED ON FEBRUARY 8, 2024

FOR

CALIFORNIA POLYTECHNIC STATE UNIVERSITY,
SAN LUIS OBISPO

This **revised** monitoring and reporting program describes requirements comprehensive, campus-wide monitoring to evaluate water quality impacts from the entire spectrum of activities at the California Polytechnic State University, San Luis Obispo campus. Additionally, this monitoring and reporting program includes targeted monitoring for wastewater discharges from California Polytechnic State University, San Luis Obispo campus confined animal feeding operations located at 1 Grand Avenue in San Luis Obispo, California.

California Polytechnic State University, San Luis Obispo owns and operates Dairy, Beef, and Swine Units that are subject to coverage under *Order R3-2003-035, Waste Discharge Requirements for California Polytechnic State University* (Permit). California Polytechnic State University, San Luis Obispo must not implement any changes to this monitoring and reporting program unless and until a revised monitoring and reporting program is issued by the Central Coast Regional Water Quality Control Board (Central Coast Water Board).

The Permit requires California Polytechnic State University, San Luis Obispo to develop a water quality management plan to manage and monitor water quality from all campus activities and minimize salt and nutrient discharges to groundwater and surface water. California Polytechnic State University, San Luis Obispo submitted a water quality management plan to the Central Coast Water Board in 2005. This monitoring and reporting program requires that California Polytechnic State University, San Luis Obispo report on the implementation of the water quality management plan.

The State Water Resources Control Board (State Water Board) and Regional Water Quality Control Boards are transitioning to the use of the publicly accessible State Water Board's GeoTracker database for the tracking of environmental and regulatory data for sites that operate under waste discharge requirements. The monitoring and reporting program directs California Polytechnic State University, San Luis Obispo to submit reports (both technical and monitoring reports) and analytical data electronically to the State Water Board's GeoTracker database (see monitoring and reporting program section 15).

1. SAMPLING AND ANALYSIS

All samples must be representative of the volume and nature of the discharge or matrix of materials sampled. The name of the sampler, sample type (grab or composite), time, date, location, bottle type, and any preservative used for each sample must be recorded on the sample chain of custody form. The chain of custody form must also contain all

custody information including date, time, and to whom the samples were relinquished. If composite samples are collected, the basis for sampling (time or flow weighted) must be approved by the Central Coast Water Board. Unless otherwise specified below, sampling must be performed as shown in Table 1.

Table 1. Sampling and Monitoring Schedule

Monitoring Period	Sample Collection Months
Annually	October
Semiannually	April and October
Quarterly	January, April, July, and October
Monthly	Each month of the year

Field test instruments (such as those to test pH, dissolved oxygen, and electrical conductivity) may be used provided that they are used by a State Water Resources Control Board (State Water Board) California Environmental Laboratory Accreditation Program certified laboratory, or:

A. The user is trained in proper use and maintenance of the instruments;
B. The instruments are field calibrated prior to monitoring events at the frequency recommended by the manufacturer;
C. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
D. Field calibration reports are maintained and available for at least three years.

2. MONITORING LOCATIONS

Monitoring location information, including nomenclature that must be used when reporting data to the GeoTracker database and in reports (described below), is shown in Table 2. The field point code and latitude and longitude of all monitoring locations, except supply wells, must be loaded to GeoTracker once (see Section 15, Electronic Submittal, below). A map of agricultural wastewater facilities is shown in Figure 1. Wastewater pond sampling locations are shown in Figure 2. Groundwater and surface water monitoring locations are shown in Figure 3.

Table 2. Monitoring Locations

Sample Title	GeoTracker Field Point Code (Sample ID)	Sample Description
Dairy Pond 1	ES-1	Dairy Pond 1, western pond, southwest corner
Swine Pond 1	ES-2	Swine Pond 1, western pond, northeast corner
Beef Pond	ES-3	Beef Pond, northeast corner
BRIZ 1.0[1]	STR-1	In Brizzolara Creek at its intersection with Via Carta Drive
Stenner Creek Upstream	STR-1	In Stenner Creek, southeast of the intersection with Highland Drive (latitude 35.298712, longitude -120.669367, WGS84).
Stenner Creek Downstream (STEN 1.5)[1]	STR-2	In Stenner Creek, southeast of the intersection with Highland Drive (latitude 35.298712, longitude -120.669367, WGS84).
Monitoring Well – 1	MW-1	Mid-gradient well, South of Field C47B
Monitoring Well – 3	MW-3	Up-gradient well, Tartaglia Property, near railroad tracks
Monitoring Well - 4	MW-4	Down-gradient well, SW of Field C29
Monitoring Well - 5	MW-5	Up-gradient well, North of Field C16, Swine Unit
Monitoring Well - 6	MW-6	Down-gradient well, South of Field C16, Swine Unit
Monitoring Well - 7	MW-7	Up-gradient well, North of Field C39, East of Dairy Unit
Monitoring Well - 8	MW-8	Down-gradient well, South of Field C36, SE of Dairy Unit

[1] Note that these sampling locations are used to determine if California Polytechnic State University, San Luis Obispo is achieving the pathogen waste load or load allocations as described in Central Coast Water Board Resolution R3-2004-0142, which establishes a pathogen total maximum daily load (TMDL) for San Luis Obispo Creek. The TMDL for San Luis Obispo Creek includes the Stenner and Brizzolara Creek reaches within the California Polytechnic State University, San Luis Obispo campus. STEN 1.5 and BRIZ 1.0 reflect the nomenclature used in the TMDL resolution for these sample locations. The resolution can be found at the following link:
https://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/san_luis_obsipo/pathogen/slo_path_tmdl_resoln_2004_0142.pdf

[2] Water supply sample data should be included in the semiannual report but does not need to be uploaded to GeoTracker if the Central Coast Water Board approves submittal of a Well Identification Number pursuant to the Water Supply Monitoring section below.

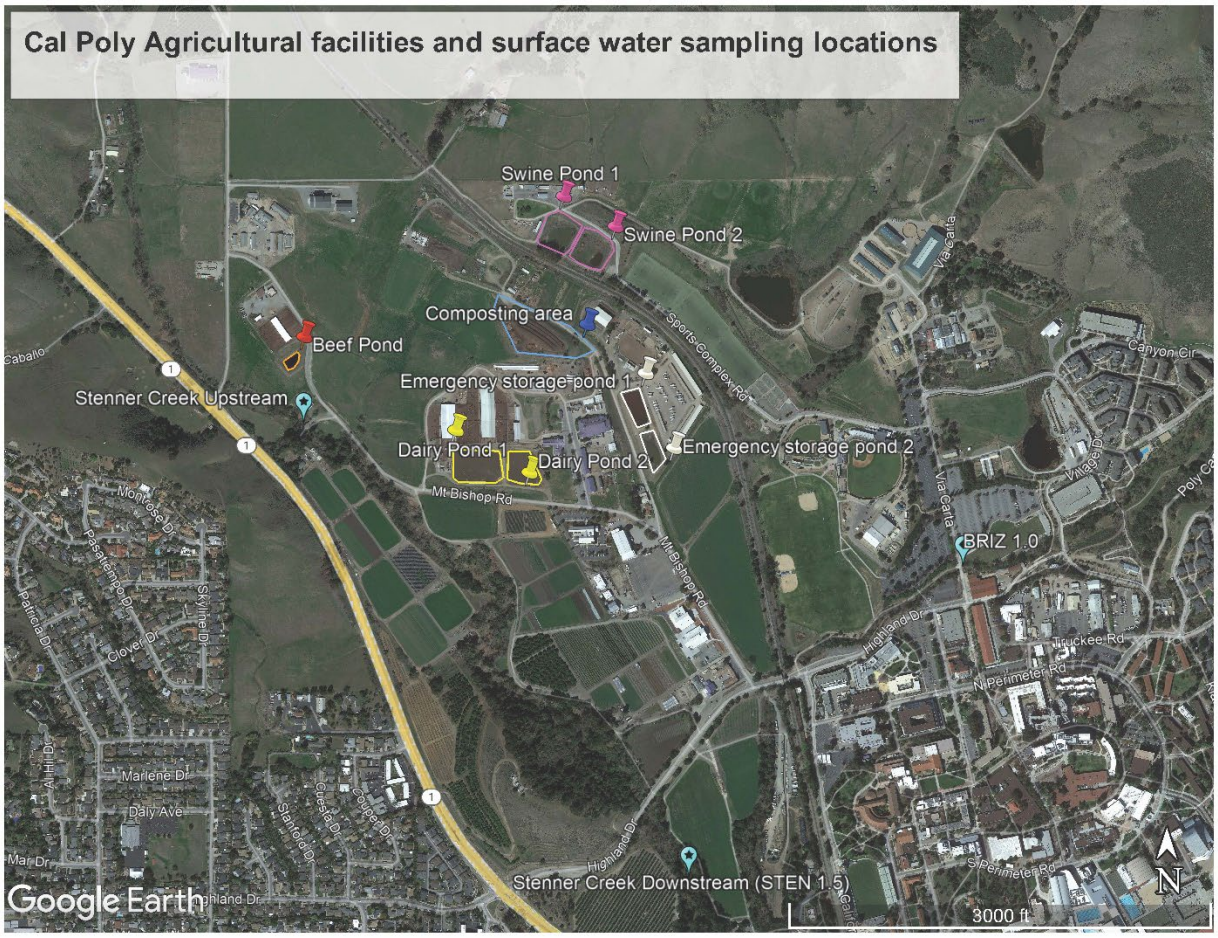

Figure 1. Map of dairy, beef, and swine facility wastewater ponds, manure and composting area, emergency overflow storage ponds for the dairy, and Stenner Creek surface water sampling locations.

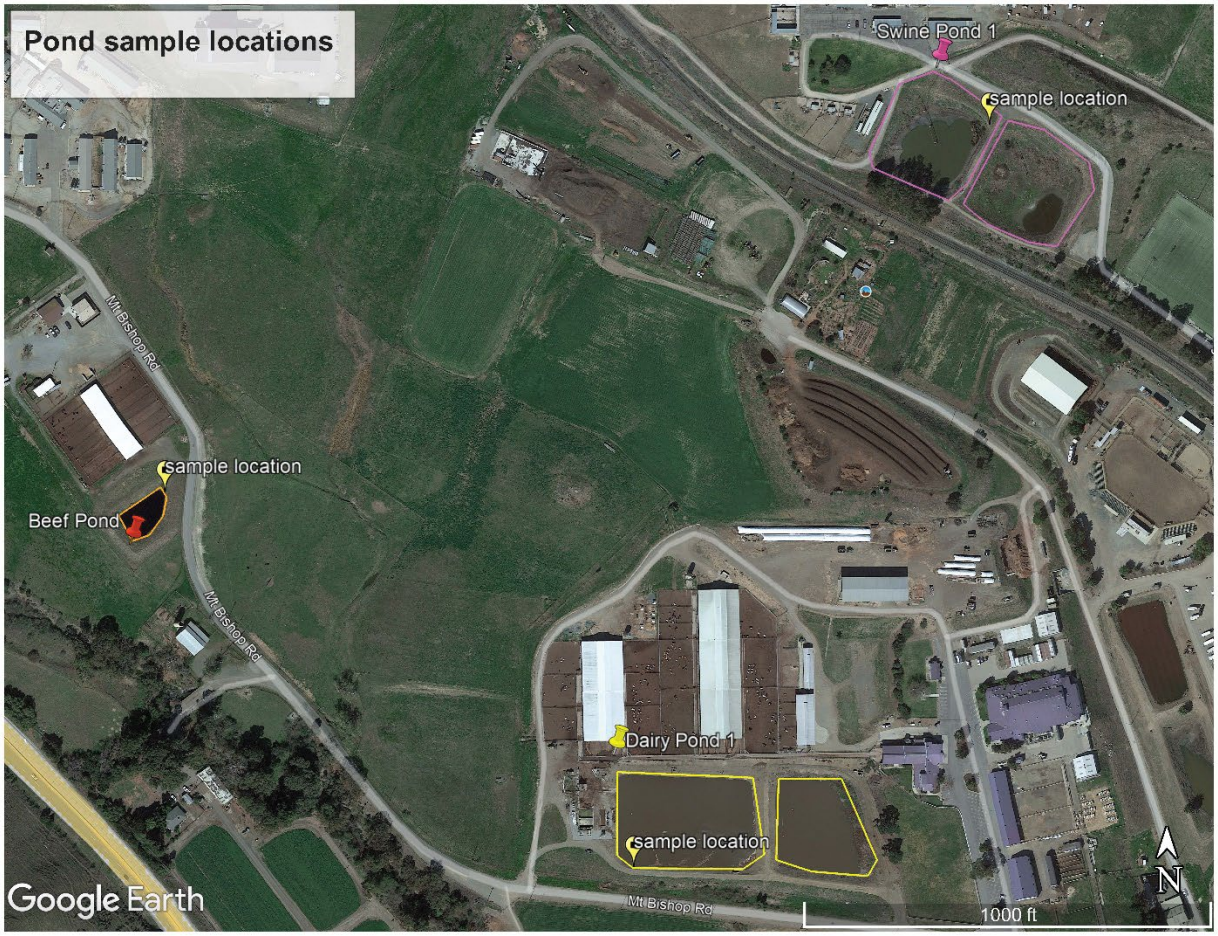

Figure 2. Sampling locations for the wastewater ponds (ES-1 at Dairy Pond, ES-2 at Swine Pond, and ES-3 at Beef Pond).

Figure 3. Map of groundwater water monitoring locations. Note that the two surface water sampling locations identified on the map (Sten 1.5 and Brizz 1.0) no longer apply. Surface water sampling locations required by this monitoring and reporting program are shown in figure 1 and described in table 2.

3. WATER SUPPLY MONITORING

Representative samples of the water supply must be collected and analyzed as shown in Table 3.

In lieu of the required water supply sampling, California Polytechnic State University, San Luis Obispo may request approval to submit the reporting year's consumer confidence report (annual water quality report or drinking water quality report) for the water system that supplies water to campus. California Polytechnic State University, San Luis Obispo must also report detectable concentrations (above the reporting limit) for any other constituent that has a published maximum contaminant level (MCL).

Table 3. Water Supply Monitoring

Parameter	Units	Type of Sample	Sampling Frequency
Total Dissolved Solids	mg/L	Grab	Annually
Nitrate and Nitrite (as N)	mg/L	Grab	Annually

mg/L denotes milligrams per liter

4. ANIMAL FACILITIES MONITORING

Animal populations must be monitored in accordance with Table 4.

Table 4. Animal Facilities Monitoring

Constituent/Parameter	Units	Type of Sample	Minimum Sampling and Analysis Frequency
Dairy Facility Total Animal Population	Heads and Animal Units (AU)[1]	Count	Monthly
Dairy Facility Milking Animal Population	Heads and Animal Units (AU)	Count	Monthly
Beef Facility Animal Population	Heads and Animal Units (AU)	Count	Monthly
Swine Facility Total Animal Population	Heads and Animal Units (AU)	Count	Monthly
Swine Facility Adult Pig Population	Heads and Animal Units (AU)	Count	Monthly

[1] One animal unit is one thousand pounds of live weight of any given livestock species or any combination of species

5. WASTEWATER POND MONITORING

All wastewater ponds must be monitored in accordance with in Table 5. Samples must be collected from 1 foot below pond surface.

Sample types that are shown in Table 5 as “observation” do not need to be reported in the semiannual reports unless a violation, significant change, or treatment issue is observed. Photos of the pond(s) verifying the observations must be collected annually and included in the annual reports, with the date and location of the photo clearly marked. Observations must be noted in a logbook or database and made available to the Central Coast Water Board upon request. Any problems must be promptly corrected and recorded.

Table 5. Wastewater Pond Monitoring

Parameter/ Constituent	Units	Sample Type	Sampling/Monitoring Frequency
Pond Name	-	Recorded	Each sampling/observation event
Freeboard	0.1 feet	Measured	Weekly
Volume Discharged	Gallons	Recorded	Annually
Discharge Locations [1]	NA	Recorded	Annually
Ammonia (as N)	mg/L	Grab	Annually
Total Nitrogen	mg/L	Grab	Annually
Total Phosphorus	mg/L	Grab	Annually
Total Dissolved Solids	mg/L	Grab	Annually
Chloride	mg/L	Grab	Annually
Sodium	mg/L	Grab	Annually
Sludge Depth [2]	0.1 feet	Measured	Annually
Vegetation in and surrounding ponds	Not Applicable	Observation	Monthly
Berm condition	Not Applicable	Observation	Monthly
Precipitation	inches/day and date	Measured [3]	Each precipitation event [4]

[1] Describe generally where wastewater was discharged to, such as to spray irrigation, to emergency storage ponds, or other.

[2] The sludge depth measurement frequency may be reduced if it can be demonstrated to the satisfaction of the Central Coast Water Board that the rate of sludge accumulation does not warrant an annual survey.

[3] California Polytechnic State University, San Luis Obispo may use a rain gauge or use a National Oceanic and Atmospheric Administration, United States Geological Survey, or California Irrigation Management Information System weather station, such as http://scacis.rcc-acis.org/.

[4] A precipitation event is one producing precipitation of ½ inch or more.

6. WASTEWATER APPLICATION MONITORING

California Polytechnic State University, San Luis Obispo must report on the volume, location, and quality of wastewater applied to land, in accordance with Table 6. Each monitoring report must include a map and description of the wastewater application areas. Monitoring reports must describe which fields are anticipated to be used during the next year. Potential wastewater application areas identified by California Polytechnic State University, San Luis Obispo are shown in Figure 4. **A summary of Water Quality Management Plan Form 3, Wastewater Irrigation Rotation Form, will be included with each semiannual report.**

If wastewater is not discharged to land during a reporting period, sampling is not required. However, the monitoring report must still be submitted and indicate that there was no discharge during the reporting period.

Table 6. Wastewater Application Monitoring Requirements

Parameter/ Constituent	Units	Sample Type	Sampling/Monitoring Frequency
Irrigation Location	NA [1]	Recorded	Each irrigation event
Irrigation Volume	Gallons	Metered/Estimated	Each Irrigation Event
Irrigation Area	Acres	Recorded	Each Irrigation Event
Ammonia (as N)	mg/L	Grab	Quarterly
Total Nitrogen	mg/L	Grab	Quarterly
Total Phosphorus	mg/L	Grab	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly
Chloride	mg/L	Grab	Quarterly
Sodium	mg/L	Grab	Quarterly
Precipitation	inches/day and date	Measured [1]	Each precipitation event [2]
Total Nitrogen Applied	lbs/acre/day	Calculated	Each Irrigation Event
Total Phosphorus Applied	lbs/acre/day	Calculated	Each Irrigation Event
Total Salts Applied	lbs/acre/day	Calculated	Each Irrigation Event

[1] Irrigation location to be identified on a map for each irrigation event.

[2] The total nitrogen, salts, and phosphorus applied loading rates must be calculated from wastewater application volumes, applied acreage, and concentrations measured

in most recent wastewater application analytical testing. The calculation must be performed as follows:

$$\text{Total Nitrogen/Salts/Phosphorus Applied (pounds/acre/ day)} = \frac{X\ [\text{mg/L}] \times 3.78541\ [\text{L/gallon}] \times Q\ [\text{gallons/day}] \times 2.20462*10^{-6}\ [\text{lbs/mg}]}{\text{Acreage Applied}}$$

Where X = Total nitrogen, total phosphorus, or salts concentration
Where Q = Irrigation volume

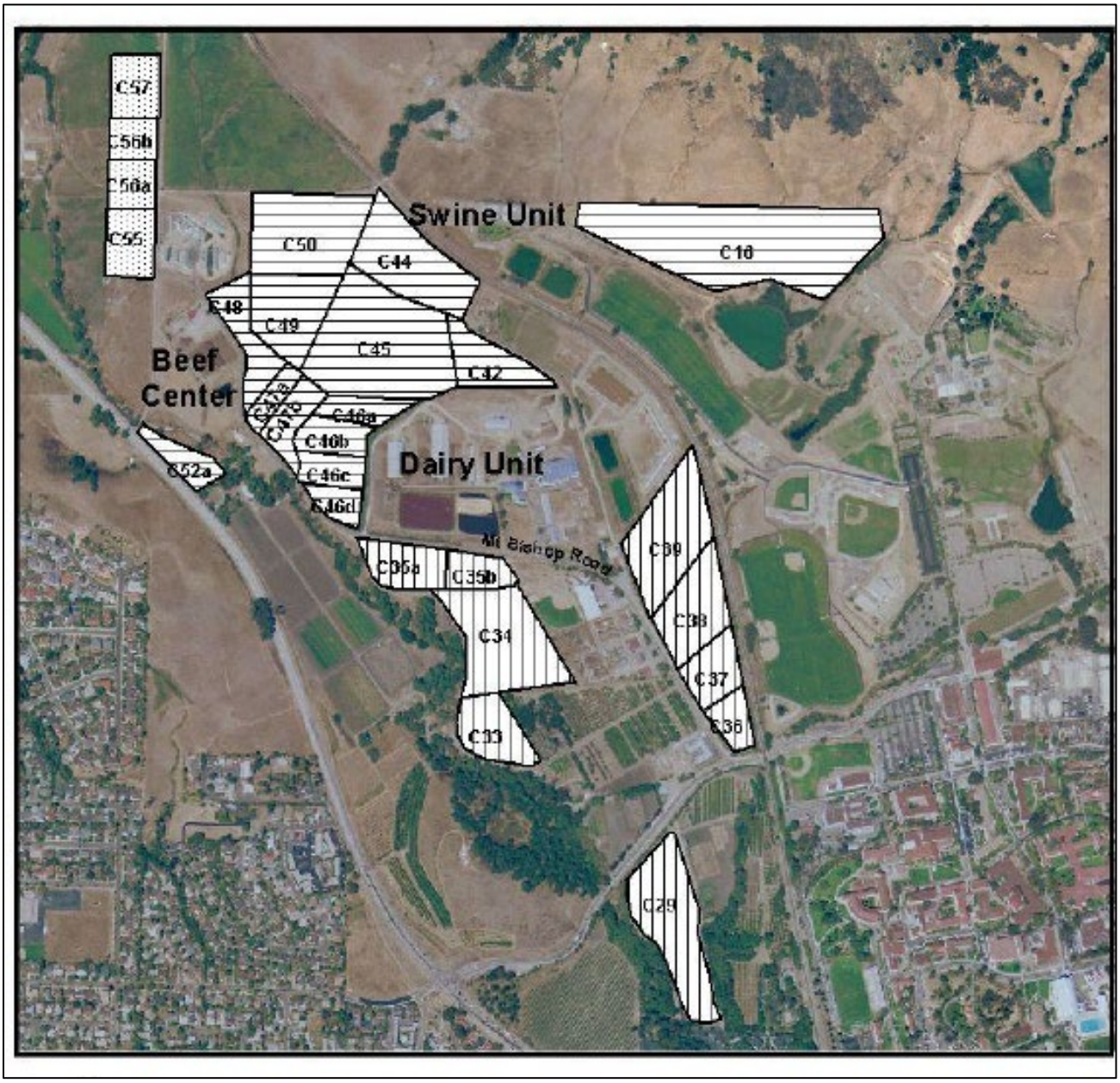

Figure 4. Map of potential wastewater irrigation areas. From the 2005 water quality management plan. Note that fields 55-57 are no longer used the spray fields and a building has been constructed at this location.

7. DISPOSAL AREA INSPECTIONS

California Polytechnic State University, San Luis Obispo must inspect the spray disposal area daily (when wastewater irrigation/disposal is occurring) to assure appropriate management practices are in place and functioning and that runoff and/or ponding do not occur. Particular attention will be paid to any liquids flowing from spray disposal fields, retention ponds, waste storage sites, etc. to verify that spray wastewater

irrigation is limited to those sites identified for wastewater disposal. Disposal area monitoring must occur in accordance with Table 7.

All pump controllers and automatic distribution valves must be inspected for proper operation as recommended by the manufacturer. Disposal areas must be inspected to ensure they are allowing wastewater to infiltrate as designed and soils are not saturated.

Table 7. Disposal Area Monitoring

Parameter	Inspection Frequency	Reporting Frequency
Pump controllers, automatic valves, etc.	Weekly	Semiannually
Nuisance Odor Condition	Daily[1]	Semiannually
Saturated Soil Condition	Daily[1]	Semiannually
Disposal Area Condition	Daily[1]	Semiannually

[1] Daily inspections are required only when wastewater irrigation water is being applied.

A log of these inspections must be maintained onsite and made available to the Central Coast Water Board upon inspection. Any problems must be promptly corrected and recorded. California Polytechnic State University, San Luis Obispo must submit a summary of violations found during the inspections with each subsequent monitoring report, or a note that there were no violations.

8. COMPOST AND MANURE MONITORING

Manure from animal areas is combined with other campus organic waste (e.g., grass clippings, tree trimming, etc.) and recycled into compost. Finished compost is either utilized on uncultivated fields, animal pens, landscaping, or sold for public use. Pursuant to Permit section D provisions, item 10, all manure and compost disposal and reuse must be consistent with a Central Coast Water Board Executive Officer approved plan for its disposal and reuse[1]. Compost and manure monitoring is required to ensure that nutrients aren't being over applied to land and discharged to groundwater or surface water. Compost and manure monitoring must be conducted in accordance with Table 8 and Table 9.

If compost and/or manure is not applied to land during a reporting period, the monitoring report must still be submitted and indicate that there was no application during the reporting period.

[1] See monitoring and reporting program section 15 for the required update of this plan.

Table 8. Manure Monitoring

Parameter/ Constituent	Units	Sample Type	Sampling/Monitoring Frequency
Quantity stored in composting area	Tons	Measured	Quarterly
Moisture Content	%	Grab	Semiannually

Table 9. Compost Monitoring

Parameter/ Constituent	Units	Sample Type	Sampling/Monitoring Frequency
Quantity produced	Tons	Measured	Quarterly
Quantity applied [3]	Tons	Measured	Each application to land
Application Location [3]	NA	Recorded	Each application to land
Moisture Content	%	Grab	Semiannually
Export Quantity [2]	Tons	Measured	Annually
Total Nitrogen	mg/kg	Grab	Semiannually
Total Phosphorus	mg/kg	Grab	Semiannually
Total Dissolved Solids	mg/L	Grab	Semiannually
Total Nitrogen Applied [3],[4]	lbs/acre/day	Calculated	Each application to land
Total Phosphorus Applied [3],[4]	lbs/acre/day	Calculated	Each application to land
Total Salts Applied [3],[5]	lbs/acre/day	Calculated	Each application to land

[1] A map must depict the application locations.
[2] Report the total amount of manure and compost that is exported off of the California Polytechnic State University, San Luis Obispo campus.
[3] Only monitor compost applied to wastewater irrigation fields shown in Figure 4.
[4] The total nitrogen and phosphorus applied loading rates must be calculated from compost mass, applied acreage, and concentrations measured in most recent compost application analytical testing. The calculation must be performed as follows:

$$\text{Total Nitrogen/Phosphorus Applied (lbs/acre/day)} = \frac{X\ [\text{mg/kg}] \times Q\ [\text{kg/day}] \times 2.20462 \times 10^{-6}\ [\text{lbs/mg}]}{\text{Acreage Applied}}$$

Where X = Total nitrogen, total phosphorus
Q = mass of compost applied

[5] The total salts applied loading rates must be calculated from compost mass, applied acreage, and concentrations measured in most recent compost application analytical testing. This is a two-step process. The calculation must be performed as follows:

Step 1: Compost Salt Concentration (mg/kg) =

$$\frac{X\ [mg/L] \times Q\ [L] \times Z\ [kg]}{}$$

Where X = Total dissolved solids measured in the soil sample;
Q = the volume of water that the laboratory sample was dissolved into;
Z is the mass of the compost sample analyzed by the laboratory

Step 2: Total Salts Applied (lbs/acre/day) =

$$\frac{X\ [mg/kg] \times Q\ [kg/day] \times 2.20462*10^{-6}\ [lbs/mg]}{\text{Acreage Applied}}$$

Where X = Compost salt concentration
Q = mass of compost applied

9. SLUDGE DISPOSAL MONITORING

Disposal ponds sludge is reportedly removed from the large wastewater ponds and applied wet to land approximately every 10-15 years. Sludge from the smaller ponds is dried and the solids are incorporated into the compost operations. Sludge incorporated into the compost operations must be monitored in accordance with the manure and compost monitoring requirements. Sludge wet-applied to land must be monitored in accordance with Table 10.

If sludge is not applied to land during a reporting period, the monitoring report must still be submitted and indicate that there was no discharge during the reporting period.

Table 10. Sludge Disposal Monitoring

Parameter/ Constituent	Units	Sample Type	Sampling/Monitoring Frequency
Volume	gallons	Measured	Each application to land
Total Solids	%, grams	Grab	Each application to land
Application Location [1]	NA	Recorded	Each application to land
Total Nitrogen	mg/L	Grab	Each application to land
Total Phosphorus	mg/L	Grab	Each application to land
Total Dissolved Solids	mg/L	Grab	Each application to land
Total Nitrogen Applied [2]	lbs/acre/day	Calculated	Each application to land
Total Phosphorus Applied [2]	lbs/acre/day	Calculated	Each application to land
Total Salts Applied [2]	lbs/acre/day	Calculated	Each application to land

[1] A map must depict the application locations
[2] Must be calculated in the same manner as wastewater application monitoring

10. ANNUAL SALT AND NUTRIENT APPLICATION SUMMARY

California Polytechnic State University, San Luis Obispo must report on the annual total and daily average amount of salts and nutrients applied from spray wastewater irrigation, compost application, and sludge disposal to each of the spray irrigation fields shown in Figure 4. Salt and nutrient application reporting must be in accordance with Table 11.

Table 11. Salt and Nutrient Application Reporting

Parameter/ Constituent	Units	Sample Type	Reporting Frequency
Total Nitrogen Applied	lbs/acre/year	Calculated	Annually
Total Phosphorus Applied	lbs/acre/year	Calculated	Annually
Total Salts Applied	lbs/acre/year	Calculated	Annually
Average Daily Nitrogen Applied [1]	lbs/acre/day	Calculated	Annually
Average Daily Phosphorus Applied [1]	lbs/acre/day	Calculated	Annually
Average Daily Salts Applied [1]	lbs/acre/day	Calculated	Annually

[1] The average daily application rate is the total annual application rate in lbs/acre/year divided by 365 days.

11. SURFACE WATER MONITORING

Surface water monitoring must be carried out quarterly in accordance with Table 12.

Table 12. Surface Water Monitoring Requirements

Parameter	Units	Type of Sample	Sampling/Monitoring frequency	Sample Location
Fecal coliform	MPN/100 ml	Grab	Quarterly	Stenner Creek Upstream, Downstream 1.5, BRIZ 1.0[1]
Total Nitrogen	mg/L	Grab	Quarterly	Stenner Creek Upstream, Downstream 1.5
Nitrate + Nitrite	mg/L	Grab	Quarterly	Stenner Creek Upstream, Downstream 1.5
Total Dissolved Solids	mg/L	Grab	Quarterly	Stenner Creek Upstream, Downstream 1.5
Total Phosphorus	mg/L	Grab	Quarterly	Stenner Creek Upstream, Downstream 1.5

MPN/100 ml denotes most probable number per 100 milliliters

[1] BRIZ 1.0 only required to be sampled two quarters, during January and April.

12. GROUNDWATER MONITORING

Samples of first available groundwater must be collected from the monitoring wells in accordance with Table 13. Depth to groundwater must be used to determine groundwater flow direction at each active spray disposal area. Groundwater flow direction must be presented graphically in each monitoring report.

Prior to sampling, depth to groundwater must be measured. Prior to sampling, the monitoring wells must be purged of at least three well volumes and until measurements of the following parameters have stabilized (i.e., are reproducible within 10 percent): pH,

temperature, dissolved oxygen, electrical conductivity, and turbidity. No-purge, low-flow, or other sampling techniques are acceptable only if they are approved in advance by the Central Coast Water Board and described in an approved sampling and analysis plan. Once the groundwater level in each of the wells has recovered sufficiently to ensure the collection of representative groundwater samples, a qualified individual (e.g., consultant, technician) trained in using proper sampling methods must recover samples using approved USEPA methods. Laboratories analyzing groundwater samples must be accredited by the State Water Board Environmental Laboratory Accreditation Program, in accordance with California Water Code section 13176, and must include quality assurance/quality control data with their reports.

Table 13. Groundwater Monitoring Requirements

Parameter	Units	Type of Sample	Sampling/Monitoring frequency
Depth to Groundwater	feet	Measured	Quarterly
Groundwater Elevation	0.01 ft msl	Calculated	Quarterly
Gradient	feet/feet	Calculated	Quarterly
Groundwater Flow Direction	degrees	Calculated	Quarterly
pH	pH units	Grab	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly
Sodium	mg/L	Grab	Quarterly
Chloride	mg/L	Grab	Quarterly
Nitrate (as N)	mg/L	Grab	Quarterly

ft msl denotes elevation feet relative to the mean sea level elevation datum

13. REPORTING REQUIREMENTS

The semiannual and annual reports are due as described in Table 14.

Table 14. Monitoring Reports

Report	Monitoring Period	Report Due Date
First Semiannual Report	January 1 to June 30	September 1
Second Semiannual Report	July 1 to December 31	March 1
Annual Report	January 1 to December 31	March 1

1. **Semiannual Reporting** – At a minimum, the semiannual reports must include:

i. Results of all required monitoring in tabular format.

ii. The results of any pollutant or parameter monitored more frequently than is required by this monitoring program. Values obtained through additional monitoring must be used in calculations as appropriate.

iii. The number of animals present in each animal boarding facility as specified in Table 4.

iv. A comparison of monitoring data to the discharge specifications, applicable effluent limitations, disclosure of any violations of the permit, and an explanation of any violation of those requirements.

v. Copies of laboratory analytical report(s) and chain of custody form(s).

vi. Copies of groundwater monitoring well field sheets with purge methods and data.

vii. A summary of Water Quality Management Plan Form 3, Wastewater Irrigation Rotation Form.

2. **Annual Reporting** – Annual reports must include data collected over the previous year. At a minimum, the annual reports must include:

i. **Facility Information and Description -** Briefly describe your facility, treatment process, and disposal process with references to figures.

ii. **Compliance and Performance Discussion -**

a. Disclosure of any noncompliance (violations) with of the permit requirements, including a description, its cause, the exact date(s) and time(s), and the steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance.

b. An evaluation (graphs included) of groundwater (Table 13), surface (Table 12) water, and pond wastewater (Table 5) quality over time. Graphs must include at least the previous 24 months of data, except for groundwater monitoring which must include at least the previous 5 years.

c. A discussion of any data gaps and potential deficiencies in the monitoring system or reporting program.

iii. **Water Quality Management Plan -** Summarize activities pursuant to the Water Quality Management Plan, including personnel training, management practice effectiveness evaluation, and any proposed revisions to the Water Quality Management Plan. Evaluation/discussion of the Water Quality Management Plan and its effectiveness at reducing and controlling impacts to water quality from campus activities should include, but not limited to:

a. Problem identification

b. Potential resolutions

c. Proposed water quality management plan updates

d. Proposed permit updates to be considered during next Central Coast Water Board renewal

e. The Water Quality Management Plan includes program recommendations for preserving, enhancing, and ensuring water quality. Report on the status of program recommendations (e.g., describe which recommendations have been implemented and which have not).

iv. **Agricultural Facility Stormwater Inspection and Maintenance -** Report on inspections of stormwater management at agricultural facilities. Describe any improvements or maintenance that are needed or were implemented to prevent excess stormwater from flowing into wastewater storage ponds.

v. **Water Supply Monitoring** – Report the results of the water supply monitoring described in Table 3.

vi. **Animal Facilities Monitoring** – Report the results of the animal facilities monitoring described in Table 4.

vii. **Disposal Area Inspection -** Report the results of the disposal area inspections described in Table 7.

viii. **Wastewater Pond Monitoring** – Report the results of and include photos of the observations identified in Table 5.

ix. **Wastewater Irrigation -** Report the results of the wastewater application monitoring described in Table 6. Briefly describe wastewater irrigation practices including associated application and nutrient loading rates. Describe all the fields that received wastewater during the previous reporting year.

x. **Solids Disposal -** Report the results of the compost and manure monitoring described in Table 8 and Table 9. Briefly describe manure, compost, and sludge disposal and associated application and nutrient loading rates. Describe the date of the last sludge disposal and anticipated date for next sludge disposal. Describe the locations of compost application during the previous reporting year.

xi. **Sludge Disposal** - Report the results of the sludge disposal monitoring described in Table 10.

xii. **Salt and Nutrient Application** – Report the results of the salt and nutrient application summary described in Table 11.

xiii. **Surface Water Monitoring** – Report the results of the surface water monitoring described in Table 12.

xiv. **Freeboard Evaluation -** A summary in tabular format of the maximum and average freeboard in each pond for each month.

xv. **Inspections –** The Water Quality Management Plan says that retention ponds, confined animal manure areas, and spray fields will be inspected three times per year to ensure that appropriate management practices are implemented and

working properly. Include the date of these inspections, describe the results, and attach the completed General Site Inspection forms to the report.

xvi. **Figures -** A wastewater treatment process flow diagram with a label for the monitoring locations and a scaled facility map showing the treatment system, discharge points, wells (supply and groundwater), and surface water monitoring locations.

xvii. **Groundwater Sampling -** Report the results of the groundwater monitoring described in Table 13. Include maps depicting the groundwater flow direction during each sampling event.

xviii. **Responsible Party Contact Information-** Include the contact information of California Polytechnic State University, San Luis Obispo staff that are responsible for implementing the various components of the Water Quality Management Plan. Describe each staff member's role in implementing the plan. Responsible parties should be identified for the following areas:

a. Agricultural land management, including but not limited to confined animal feeding operations, wastewater irrigation, manure and compost, pesticide management, and grazing.

b. Campus-wide Storm Water Pollution Prevention Program

c. Landfill and quarry

d. On-site wastewater treatment systems

xix. **Training Workshops –** The Water Quality Management Plan states that a training workshop will be held for site maintenance and inspection personnel that are responsible for implementing the Water Quality Management Plan. Report on the date, duration, and attendees for these trainings and briefly summarize the training content.

14. TECHNICAL REPORTS

The technical reports are due as described in Table 15.

Table 15. Technical Report Submittal Due Dates

Report	Report Due Date
Water Quality Management Plan	April 1, 2024 and every four years thereafter
Manure and Compost Solids Use/Reuse Plan	July 1, 2024 and updated as needed

As described in Order R3-2003-035, the Water Quality Management Plan is recognized and enforced in the same manner as the standard provisions or the monitoring and reporting program. The Water Quality Management Plan serves as an extension of the waste discharge requirements.

The Water Quality Management Plan is considered a "living document" and is evaluated annually and updated every four years, or as determined necessary through monitoring assessment and reporting process. The Water Quality Management Plan must be uploaded to GeoTracker every four years, even if no updates have been made. The Water Quality Management Plan must include a description of changes made to the document relative to the most recent version.

Permit section D provisions, item 10 required submittal of a solids use/reuse plan for compost and manure by January 30, 2004 for Central Coast Water Board approval. An updated plan is due as specified by Table 15.

15. ELECTRONIC SUBMITTAL

All monitoring reports must be provided electronically in a searchable PDF format, with the Central Coast Water Board's current transmittal sheet found at the link below as the cover page. The transmittal sheet must be signed.

https://www.waterboards.ca.gov/centralcoast/water_issues/programs/wastewater_permitting/docs/transmittal_sheet.pdf

California Polytechnic State University, San Luis Obispo must submit all reports/documents and laboratory analytical data (influent, effluent, groundwater data) to the State Water Board's GeoTracker[2,3] database consistent with applicable Electronic Submittal of Information (ESI) requirements under a wastewater system-specific global identification number **WDR100038383** at:

https://geotracker.waterboards.ca.gov/esi/login

Table 16 summarizes the GeoTracker electronic reporting requirements. For general questions, please contact the GeoTracker Help Desk: Geotracker@waterboards.ca.gov.

[2] Information for first-time GeoTracker users is available at:
https://www.waterboards.ca.gov/ust/electronic_submittal/docs/beginnerguide2.pdf
[3] Additional information available at:
https://geotracker.waterboards.ca.gov/

Table 16. GeoTracker Electronic Submittal Information (ESI) Data Requirements

Electronic Submittal	Description of Action	Action	Frequency
Reports and Documents	Complete copy of all documents including monitoring reports (in searchable PDF format) and any other documents related to the Wastewater System.	Upload directly to GeoTracker all monitoring reports (in searchable PDF format) and any other associated documents.	On or before the due dates required by this monitoring and reporting program and for other documents when required by the Central Coast Water Board.
Laboratory Data	All analytical data (including geochemical data) in electronic deliverable format (EDF). This includes all water quality samples from the laboratory, field monitoring not required.	Upload, or direct your State Certified Laboratory staff to upload, all laboratory data directly to GeoTracker.	On or before the due date of the required monitoring report
Depth to Groundwater	Monitoring wells must have the depth-to-water information reported. Report data only for wells defined as permanent sampling points.	Upload depth-to-water information to the GeoTracker GEO_WELL file.	On or before the due date of the required monitoring report
Location data (Geo XY)	Name, classify, and identify the location (latitude and longitude) of all sampling points (excluding supply wells). Monitoring wells must be surveyed, influent and effluent sample locations must be identified on the GeoTracker mapping tool under “non-surveyed data.”	Upload the location data (surveyed and non-surveyed) to the GeoTracker Geo_XY file.	These data points are required prior to laboratory data uploads. Must be added every time a permanent monitoring point is established.

Electronic Submittal	Description of Action	Action	Frequency
Elevation Data (Geo Z)	Mark the elevation at the top of groundwater well casings for all permanent groundwater wells. These points are required prior to depth-to-water data uploads.	Upload the survey data to the GeoTracker GEO_Z File.	One-time, for all groundwater monitoring wells.
Geo Map	Site layout, map of facilities, wastewater treatment system, and disposal area(s).	Upload the Site layout PDF to the GeoTracker site plan file.	One time, or when the facility is modified.

16. LEGAL REQUIREMENTS

The Central Coast Water Board's requirements that California Polytechnic State University, San Luis Obispo submit the technical and monitoring reports described in this monitoring and reporting program are made pursuant to section 13267 of the California Water Code. Failure to submit reports in accordance with schedules established by the Permit and this monitoring and reporting program or failure to submit a report of sufficient technical quality to be acceptable to the Central Coast Water Board may subject California Polytechnic State University, San Luis Obispo to enforcement action pursuant to section 13268 of the California Water Code.

The Central Coast Water Board needs the required information to ensure compliance with the Permit. California Polytechnic State University, San Luis Obispo is required to submit this information because it is subject to the Permit and is responsible for the discharge.

The burden, including costs, of the reports bears a reasonable relationship to their need and the benefits to be obtained. The requirement for the reports is necessary to ensure compliance with the Permit and monitoring and reporting program to protect water quality.

California Polytechnic State University, San Luis Obispo must implement the above monitoring program on February 8, 2024. The Central Coast Water Board may rescind or modify the monitoring and reporting program at any time. California Polytechnic State University, San Luis Obispo must not implement any changes to this monitoring and reporting program unless and until a revised monitoring and reporting program is issued by the Central Coast Water Board.

Ordered by:

for Ryan E. Lodge
Executive Officer

Appendix D

Monitoring and Reporting Form Examples

WDR Inspection Form

EXAMPLE

	Flagged items	Actions	0

Conducted on	13.12.2023 11:05 PST
Prepared by	EXAMPLE
Location	N Perimeter Rd San Luis Obispo CA 93410 United States (35.302812163882116, -120.65960593541874)

Inspection	
Confined Animal Areas	
Dairy Animal Area	
Is the manure contained on the cement slab?	Good
Solids Separator- Does the screen appear to be free of debris and/or waste?	Good
Is there a buildup of waste in the penned areas?	Good
Is the manure in the confined animal areas removed from pens and corrals?	Good
Is the manure in the confined animal areas protected from washout?	Yes
Does the manure on the concrete slab need to be moved to the compost site?	Good
Dairy Lagoons	
Are drainage areas maintained and kept free of debris and/or other material that would prohibit the movement of wastewater to the pond system?	Yes
Does the freeboard exceed 12 inches?	Yes
	
Is there any evidence that domestic wastewater is being released into the retention ponds?	No Evidence
Is there any evidence that cleaning agents, solvents, or other constituents are being released into the retention ponds?	No Evidence
BCEC Animal Area	
Is the manure contained on the cement slab?	Yes

Is there a buildup of waste in the penned areas?	Good
Is the manure in the confined animal areas removed from pens and corrals?	Good
Is the manure in the confined animal areas protected from washout?	Yes
Does the manure on the concrete slab need to be moved to the compost site?	N/A
BCEC Pond	
Are drainage areas maintained and kept free of debris and/or other material that would prohibit the movement of wastewater to the pond system?	Good
Does the freeboard exceed 12 inches?	Yes

Is there any evidence that domestic wastewater is being released into the retention ponds?	No Evidence
Is there any evidence that cleaning agents, solvents, or other constituents are being released into the retention ponds?	No Evidence
Wet Season Grazing/Husbandry	
Is it the Wet Season? (October - April)	Yes
Rodeo pond area free of animals	Yes
Dairy nursery free of calves	Yes
Dairy Run-on	

Is the hay barn area graded to eliminate run-on	Good
Is the road to the rear of the long barns graded to reduce run-on	Good
Do the dairy barn gutters require maintenance	No
Do the rodeo check dams require maintenance	Good

Wastewater Retention Ponds

Swine Ponds

Are drainage areas maintained and kept free of debris and/or other material that would prohibit the movement of wastewater to the pond system?	Good
Does the freeboard exceed 12 inches?	Yes

Is there any evidence that domestic wastewater is being released into the retention ponds?	No Evidence
Is there any evidence that cleaning agents, solvents, or other constituents are being released into the retention ponds?	No Evidence

Back-up Overflow (Rodeo) Ponds

Are drainage areas maintained and kept free of debris and/or other material that would prohibit the movement of wastewater to the pond system?	Good

Does the freeboard exceed 12 inches?	Yes

Is there any evidence that domestic wastewater is being released into the retention ponds?	No Evidence
Is there any evidence that cleaning agents, solvents, or other constituents are being released into the retention ponds?	No Evidence
Compost Unit	
Are the windrows located in an approved location?	Yes
Is there evidence of manure running offsite?	No
Does the collection basin need to be pumped?	No

Is run-on being diverted to avoid windrows?	N/A
Riparian/Reservoir Areas	
Stenner	
Is there any evidence that stream banks are unstable?	No
Are culverts clear of debris?	Yes
Brizolara	
Is there any evidence that stream banks are unstable?	No
Are culverts clear of debris?	Yes

Project Construction Sites

Are sediment control BMPs installed downslope of all disturbed areas of the site?



Are sediment control BMPs in proper repaid and free of excessive sediment buildup?	Good
Are site entrance and exit points free of tracked sediment?	Good

Facility Name:	CP-SLO	Facility Address:	1 Grand Avenue San Luis Obispo, CA 93405

Daily when process wastewater is being applied- inspect the land application area and note any conditions or changes that could result in discharges to surface water and/or from property under control of the Discharger. Record date, mark appropriate column and provide notes as needed.

Spray Field:							**Quarter:**						
DATE	Conditions of land application area visual inspection (check whether the conditions listed are ABSENT (A) or PRESENT (P) during the inspection)												Note any conditions or changes that could result in discharges to surface water and/or from property under control of the Discharger. Provide/attach notes on actions taken.
	Excessive Rodent holes	**Field berm in Poor Condition**	**Presence of Field Saturation**	**Ponding**	**Erosion**	**Tailwater Discharges From the End of Fields**	**Discharges From Pipes or Other Conveyances**	**Nuisance conditions**	**Conditions of vegetated buffer(s) is poor (if yes, describe in notes)**	**pH Reading of Irrigation Water (6.5 - 8.4)**	**Hours of Irrigation**	**Initials**	

NOTE: This record must be maintained on-site for a period of five years after it is created.

Appendix E

WQMP Roles and Responsibilities – Organizational Chart

WQMP Organiztional Chart