WEST BAY SANITARY DISTRICT

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Procedures Manual for On-Site Reuse Discharge Permitting

WEST BAY
SANITARY DISTRICT

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List of Acronyms and Abbreviations

µS/cm	MicroSiemens per Centimeter
ADWF	Average Dry Weather Flow
Applicant	ORTP Discharger Permit Applicant
AWWF	Average Wet Weather Flow
BOD	Biological Oxygen Demand
CCTV	Closed Circuit Television
DDW	State Division of Drinking Water
District	West Bay Sanitary District
EC	Electrical Conductivity
fps	Feet per Second
gpm	Gallons per Minute
JPA	Joint Powers Authority
lb	Pounds
Manual	Procedures Manual for Permitting On-Site reuse Treatment Plants
MBR	Membrane Bioreactor
mg/L	Milligrams per Liter
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
ORTPs	On-Site Reuse Treatment Plants
Regional Board	Regional Water Quality Control Board
Regional Board No. 2	San Francisco Bay Regional Water Quality Control Board
RO	Reverse Osmosis
SB	Senate Bill
SVCW	Silicon Valley Clean Water
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
WBSD	West Bay Sanitary District
WWTP	Wastewater Treatment Plant

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Chapter 1. Introduction

This Procedures Manual for Permitting On-Site Reuse Treatment Plants (Manual) has been prepared to provide guidance to staff of the West Bay Sanitary District (WBSD) in reviewing permit applications for waste stream discharges from On-Site Reuse Treatment Plants (ORTPs).

For purposes of this manual, an ORTP is defined as a treatment system that treats commercial blackwater to meet the State's recycled water quality requirements for indoor non-potable applications and for landscape irrigation, and domestic blackwater includes wastewater from commercial buildings such as offices, retail stores and some restaurants, and residents.

ORTP discharge is different from typical wastewater the WBSD receives from its other connections. The ORTP has two outputs: recycled water and a waste stream consisting of a concentration of the pollutants that were in the wastewater. The wastestream, must be either discharged to the sewer or hauled off site. The effluent from ORTPs has the potential to impact the integrity of the local public sewer system, operations of the downstream regional wastewater treatment plant (WWTP) – Silicon Valley Clean Water (SVCW), and the quality of recycled water produced at SVCW, and WBSD's planned recycled water treatment plant, Bayfront Recycled Water Facilities. Salinity is of particular concern to downstream recycled water treatment facilities where this can negatively impact the quality of the recycled water and can become concentrated in ORTP waste discharge streams. As such, to protect the quality of wastewater as a resource for downstream regional recycled water supplies, WBSD's review of ORTP discharge permit applications will require a more extensive review than that of typical discharge applications.

This Procedures Manual has been developed to guide WBSD staff in review of ORTP waste discharge permit applications and issuance of corresponding permits. The Manual includes forms and checklists for the reviewer's use during review of the application, provides mitigation measure alternatives to assist in developing permit conditions, and provides guidance on issuance of an interim discharge use permit and final permit.

1.1 Overview of Waste Discharge from an ORTP

ORTPs typically consist of biological wastewater treatment systems (such as a membrane bioreactor, also referred to as MBR) that treat wastewater generated in buildings for reuse on-site. Reverse osmosis (RO) may also be included in the treatment train to reduce salinity for landscape irrigation and to remove color to improve aesthetics for toilet and urinal flushing applications. Typical routine discharges that may occur from the ORTP are:

- Screenings
- Biological waste sludge
- Brine stream (RO reject)
- Discharges from periodic cleaning of treatment units, such as ultrafiltration and RO membranes

Non-routine discharges that may occur include:

- Raw wastewater when the ORTP is non-operational
- Recycled water that does not meet the State's discharge quality requirements (referred to as "off-spec" water)
- Raw wastewater that exceeds the capacity of the ORTP

1.2 Permit Classification

All sewer connections to the WBSD sanitary sewer system must be permitted by WBSD. WBSD has five classes of permits as outlined in Table 1-1. All ORTPs will be permitted as a Class 5. Additionally, a Class 2 permit may be required if this is a new sewer lateral connection and a Class 3 permit may be required if the Applicant is constructing a new sewer main, pump station, or other wastewater facilities.

Table 1-1. Permit Classifications

Permit Classification	Description of Classification
Class 1	Residential
Class 2	Non-Residential
Class 3	Sewer Mains, Pumping Station, Other
Class 4	Sewer Disconnection
Class 5	On-Site Reuse Treatment Plants

1.3 ORTP Waste Discharge Permit Application Review Process Overview

WBSD's review of an ORTP application begins with receipt of the ORTP Waste Discharge Permit Application package. Applicants will contact WBSD to request the application package and can obtain the package in person or by email. The application package includes a detailed instruction sheet, list of attachments, and identifies the data that WBSD staff will need to perform a thorough review of the permit application. A copy of the application package is included with this manual as Appendix A.

WBSD's application review process involves review of detailed project information, a sewer system condition assessment, salinity discharge evaluation, sewer system hydraulic assessment, comparison of pollutant discharge concentrations to local limits, and inspection of the ORTP site and metering and sampling locations during construction.

1.4 Content of this Manual

This Manual includes the following chapters:

- Chapter 1: Introduction
- Chapter 2: Roles and Responsibilities
- Chapter 3: How to Review and Evaluate Applications
- Chapter 4: Issuing a Permit

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Chapter 2. Roles and Responsibilities

This chapter describes the roles and responsibilities of WBSD, the Applicant, and other State and local agencies involved with ORTP permitting. WBSD has the authority to permit the ORTP discharge to the public sanitary sewer. Permitting of the ORTP facilities and operation and use of recycled water is by the Regional Water Quality Control Board (Regional Board) with input from other State agencies. The County Health Department, local water agencies, and local municipalities also have a role in the permitting of the on-site reuse program.

2.1 West Bay Sanitary District

WBSD provides wastewater collection and conveyance services to the City of Menlo Park, Town of Atherton, Town of Portola Valley, and areas in the City of East Palo Alto, Town of Woodside and unincorporated areas of San Mateo and Santa Clara counties. WBSD conveys raw wastewater to SVCW for treatment and discharge to the San Francisco Bay.

WBSD is responsible for issuing a permit for discharge of waste streams from on-site reuse treatment plants to the public sewer. WBSD receives and reviews wastewater connection permit applications. Permit applications for ORTP waste dischargers will also be reviewed by SVCW. WBSD and SVCW will jointly issue ORTP permits.

WBSD is not responsible for approving the ORTP's engineering reports, building plans, and operations plans. These documents will be reviewed by the appropriate regulatory agencies for compliance with water reuse regulations, public health regulations, and local building codes. WBSD will review the documents to gain understanding of the ORTP, and for information needed to evaluate connection and discharge impacts to the public sewer system.

2.2 ORTP Discharger - Applicant

The ORTP discharger permit applicant (Applicant) is responsible for completing and submitting an ORTP discharge permit application package to WBSD, and for obtaining all required treatment and operating permits and approvals from the Regional Board. The Applicant is responsible for operation of the on-site treatment facility and distribution of its recycled water in accordance with its Regional Board permit and complying with any conditions listed in the WBSD discharge permit.

To begin the permit process, WBSD provides the facility owner (or appointed designee) "Instructions to Applicant and On-Site Reuse Treatment Plant Waste Discharge Permit Application" (see Appendix A) and asks the facility owner to complete WBSD's application process.

2.3 Regional Water Quality Control Board

The Regional Board is a State of California agency responsible for protecting and improving the quality of natural water resources within its region. The Regional Board is responsible for issuing and enforcing permits that regulate wastewater discharge to waters of the State. The San Francisco Bay Regional Water Quality Control Board (also referred to as Regional Board No. 2) oversees

most of the Bay Area counties, including the WBSD service area. The discharge of WBSD's wastewater is to the SVCW's system. Regional Board No. 2 issues SVCW a National Pollutant Discharge Elimination System (NPDES) permit to discharge to the San Francisco Bay.

Currently, the Regional Board is responsible for permitting ORTPs[1]. The Regional Board's permit will include specification of ORTP water quality requirements, State reporting and monitoring requirements, and other requirements. The Regional Board will consult with the State Division of Drinking Water prior to issuing a permit for ORTP and recycled water use.

2.4 State Division of Drinking Water

The State Division of Drinking Water (DDW) regulates public drinking water systems, issues state-wide regulations for water recycling projects, permits water treatment devices, supports and promotes water system security, and performs a variety of other functions related to protection of public drinking water systems. DDW is primarily focused on protecting public health, as compared to the Regional Board which is focused on protecting the environment and waters of the state.

A "public water system" is defined in Section 116275 of the California Safe Drinking Water Act (contained in Part 12, Chapter 4 of the California Health and Safety Code) as: "…a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year…"

At sites where there is a public water system as defined by the Drinking Water Act, on-site reuse systems will be reviewed by DDW. Applicants must submit an Engineering Report, Operations Plan, cross-connection test plan, building plans, and operational testing results to the Regional Board who coordinates with DDW for review and approval. DDW will review the documents, visit the site, and review test results. DDW also reviews the building plans and cross connection tests for compliance with Title 22 dual plumbing requirements, and Title 17 backflow and cross connection requirements. DDW will make recommendations to the Regional Board on permitting of the system.

At sites with an ORTP system where the water system has fewer than 15 service connections, or the water system serves fewer than 25 individuals daily, review of ORTPs may fall under the jurisdiction of the County Health Department.

[1] Legislation passed in September 2018 may change the responsibility of permitting the ORTP to the County Health Departments in the future.

2.5 Silicon Valley Clean Water

All wastewater collected within the WBSD service area is treated and disposed of by SVCW. SVCW is a Joint Powers Authority (JPA) that owns and operates the regional SVCW wastewater treatment plant, located at the eastern end of Redwood Shores in Redwood City, and related wastewater pumping and transmission facilities. The JPA is governed by member agencies WBSD, City of Redwood City, City of San Carlos and City of Belmont.

WBSD and the other JPA members own and operate the sanitary sewer collection systems within their own respective jurisdictions. SVCW owns and operates the wastewater treatment plant and the sanitary sewer force main and pump stations that convey sewage to the treatment plant. SVCW treats and discharges treated wastewater effluent to a shallow water outfall into the San Francisco Bay.

SVCW has established a Source Control, or Pretreatment Program through which it works with its member agencies to enforce State and Federal pretreatment regulations, and local sewer-use regulations. The Pretreatment Program controls the discharge of substances to the sanitary sewer that otherwise could potentially upset treatment processes at the WWTP, damage sanitary sewers, or impact the quality of the final effluent. SVCW prepares and submits semi-annual and annual Pretreatment Reports to the Regional Board in accordance with its NPDES permit.

WBSD will keep SVCW informed of planned and existing on-site reuse facilities and will jointly issue permits for ORTP waste discharges to the sewer.

2.6 County of San Mateo

The County of San Mateo's Department of Environmental Health does not issue permits or review plans for ORTPs that treat blackwater. Such permits and plan review are currently completed by the Regional Board. This could change in the future as the result of Senate Bill (SB) 966, which was passed in September 2018. SB 966 requires the State to develop risk-based water quality regulations for on-site reuse systems by 2022 and develop corresponding building standards by 2023. With the development of these regulations and building standards, the permitting and plan review of ORTPs could come under the purview of the County.

The County's Health System's Environmental Health Services administers a cross-connection control program that conforms to the requirements of the State Water Resources Control Board, Drinking Water Division, Title 17 of the California Code of Regulations, and the State Health and Safety Code, and protects the public drinking water supply in San Mateo County. The County contracts with several water purveyors within the County to provide cross-connection control services. Services include conducting surveys and site inspections, ensuring the installation of backflow prevention assemblies and verifying annual maintenance/testing of these assemblies, certifying backflow prevention assembly testers, checking plans, and training personnel.

On-site reuse systems constructed on sites located in unincorporated areas of San Mateo County should coordinate directly with the County for review of building plans.

2.7 Cities and Towns Within WBSD's Jurisdiction

WBSD's jurisdictional boundaries for wastewater collection and conveyance services span five cities within San Mateo County – the City of Menlo Park, Town of Atherton, Town of Portola Valley, Town of Woodside, and areas of the City of East Palo Alto, and unincorporated areas of San Mateo and Santa Clara Counties.

Building departments within cities and towns are responsible for reviewing all building plans. The role of each building department will vary between municipality, but in general, regarding on-site reuse systems, building departments will at a minimum review plumbing plans for conformance with the California Plumbing Code. Site inspections during construction may be performed by the Building Department, another department within the municipality, such as engineering or public works, or possibly by an outside consultant.

Cities and towns reviewing building plans that include on-site reuse systems should notify WBSD and San Mateo County Health of on-site reuse systems proposed within their jurisdiction.

2.7.1 Water Purveyors

Water purveyors are responsible for performing cross connection and backflow device testing. Cross connection tests are necessary to ensure that there are no connections between potable water pipelines and recycled water. The State DDW requires that a cross connection test be successfully performed before it will recommend that the Regional Board issue the final permit for operation and distribution of water from the ORTP. Once an ORTP is in operation, cross connection tests must continue at the frequency specified in the Regional Board permit. Backflow device testing is required to ensure that recycled water does not enter the public water system.

A list of the water purveyors within WBSD's service area is provided in Table 2-1.

Table 2-1. Water Purveyors in WBSD Service Area

Water Purveyor
City of East Palo Alto
City of East Palo Alto Municipal Water System
O'Connor Tract Water Cooperative
Palo Alto Park Mutual Water Company
City of Menlo Park
California Water Service
Menlo Park Municipal Water District
O'Connor Tract Cooperative Water District
Town of Atherton
California Water Service
Town of Portola Valley
California Water Service
Town of Woodside
California Water Service

2.8 Summary of Submittals and Permitting Authority

The Applicant is responsible for preparing and submitting the required reports and permit applications to the various regulatory agencies involved in permitting of the project. Table 2-2 summarizes the various submittals and the agency(ies) responsible for reviewing and approving them. Note that this list is provided for informational purposes only and is intended to present a broad overview of the regulatory and permitting submittals and authorities that may be involved in approval of operation of the project. The list may not be all inclusive and is subject to change over time or depending on the local jurisdiction of the project. It is the Applicant's responsibility to confer with the appropriate permitting and regulating agencies.

Table 2-2. Summary of Submittals and Permitting Authority[(a)]

Submittal	Approving/Permitting Authority
On-Site Reuse Permit Application	West Bay Sanitary District
Wastewater Discharge Report	West Bay Sanitary District
Title 22 Engineering Report	SWRCB Division of Drinking Water
Notice of Intent	Regional Water Quality Control Board
Building Plans (including internal dual-plumbing)	Local Building Department; also reviewed by DDW
Cross-Connection Test Plan and Results	City, San Mateo County, DDW

(a) This list is provided for informational purposes and may not be all inclusive. It is the Applicant's responsibility to confer with the appropriate regulatory and permitting agencies.

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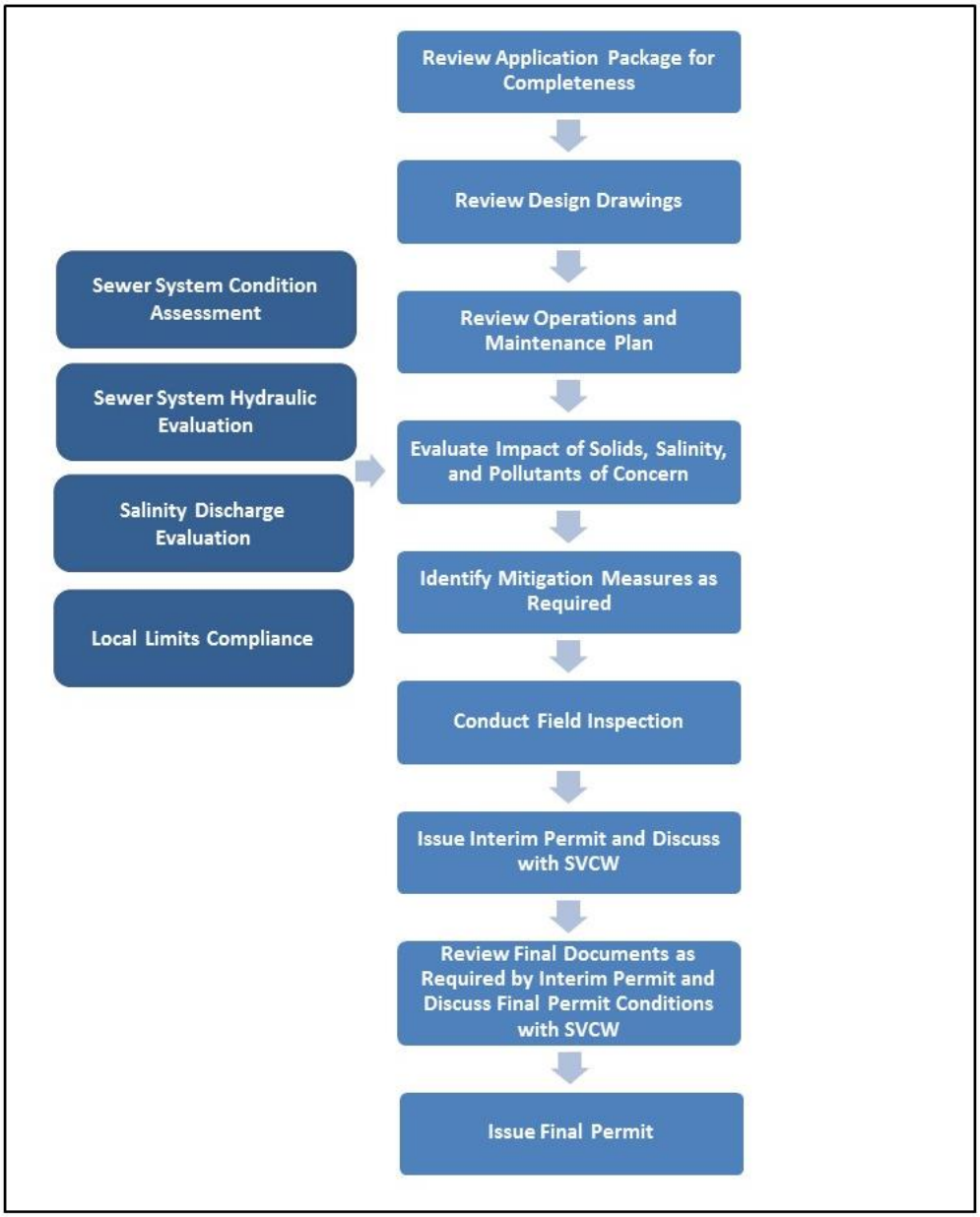
Chapter 3. How to Review and Evaluate Applications

This chapter provides detailed guidance on how to review an ORTP application and provides procedures for evaluating ORTP data.

The application review process is shown in Figure 3-1.

Figure 3-1. Flow Chart for Application Review and Permitting of ORTP Waste Discharge



3.1 Application Review Forms

Appendix B of this Manual includes the forms WBSD staff is to complete when reviewing the application package and conducting the assessments. The forms should be completed following the guidance provided in this Manual. The completed forms will document the project application review process and document the rationale for any permit conditions that are required. Table 3-1 lists the forms to be completed.

Table 3-1. WBSD ORTP Application Review and Assessment Forms

Form No.	Form Name	Form Description
RL	Reviewer's Log	A 3-part form that provides a quick overview of review status
A	Application Package Review	Checklist to verify that all required information was submitted
B	Sewer System Condition Assessment	For documentation of existing sewer conditions
C	Salinity Discharge Evaluation	For documentation of estimating salinity
D	Sewer System Hydraulic Evaluation	For documentation of hydraulic modeling per Section 4.6.2 of this Manual
E	Local Limits Compliance	For documentation of comparison of estimated pollutant concentrations to adopted local limits
F	ORTP Site Inspection Checklist	For documentation of site inspection

3.2 Check Application for Completeness

The reviewer should check the application to verify that the application is complete and that all items listed in the application have been submitted. An Application Package Review Form is provided as Form A in Appendix B.

3.3 Review Wastewater Discharge Report

The Applicant is to prepare a Wastewater Discharge Report in accordance with the Code of General Regulations of the West Bay Sanitary District (WBSD Code) Article VII, Section 706, "Wastewater Discharge Report". The follow paragraphs outline the requirements of the WBSD Code as well as additional requirements that should be included in the report.

WBSD Code requires that the following information be included in the Wastewater Discharge Report:

- A description of the activities, facilities, and plant processes conducted on the premises, including, but not limited to, all materials fabricated or processed and the type of materials which are or could be discharged into the wastewater facilities.
- The type and quantity of each product produced, fabricated or manufactured on the premises.
- Site plans, floor plans, mechanical and plumbing plans in detail necessary or appropriate to show and to describe all sewers and appurtenances by size, location and elevation.

- The number and classifications for work categories of employees, and the hours of work or operation on the premises.
- Wastewater constituents and characteristics, the presence and amount of which shall be determined by a laboratory competent to test and describe such constituents and characteristics, as approved by the WBSD Manager.
- Average volumes and 30-minute peak flow rate of fresh water, non-wastewater, and wastewater proposed to be discharged, including daily, monthly, and seasonal variations, if any.
- Time and duration of the proposed wastewater discharge.

In addition to the information above, the Wastewater Discharge Report should include the following:

- Identify on the site plan the location and size of waste holding tanks on the site.
- Identify on the site plan any fencing or other physical security measures to protect the facilities from public access. Include a description in the report of the proposed security measures.
- Description of containing and/or mitigating odor that may be generated from the ORTP in compliance with Bay Area Air Quality Management District regulations.
- Site drawings that shows specific locations of flow meters and sampling equipment.
- Description of proposed method of reporting flows. Applicant can either establish a communication link with web-accessible real-time display that is accessible to WBSD, SVCW and the Applicant, or submit a monthly flow report. If using a web-based system, Applicant should describe the communication link and discuss any reliability features for monitoring and reporting in the event that the communication link is interrupted.
- Projected ORTP waste stream discharge water quality, specifically the average and peak maximum value of the following:
  - Total Suspended Solids (TSS) Daily Mass, pounds (lb) per day
  - TSS Hourly Mass, lb per hour
  - TSS Concentration, milligrams per liter (mg/L)
  - Total Dissolved Solids (TDS) Concentration, mg/L
  - Electrical Conductivity (EC), microSiemens per centimeter (µS/cm)
  - Biological Oxygen Demand (BOD), mg/L
- Flow schematic identifying the flow of the above parameters in both the influent and effluent of the ORTP.
- Estimated discharge concentrations of constituents listed in WBSD's local limits (see Table 3-3 of this Manual).

- Pump discharge flowrate. Include catalog cut sheets with system curves and operating points for discharge pumps as an attachment to the report.
- Type and location of flow meters.
- Type and location of sampling equipment. Drawings should identify an accessible location of an adequate power source, as needed, for sampling equipment.

3.4 Review of Design Drawings and Operations and Maintenance Plan

The Applicant should include a copy of the design drawings and proposed Operations and Maintenance (O&M) Plan for the ORTP. Specific items of importance to WBSD that should be included in these documents are listed in the following sections.

3.4.1 Design Requirements

WBSD will review engineering design plans to verify that they are in accordance with the standard specifications and policies of WBSD.

The following should be clearly indicated on ORTP design drawings:

- Location and capacity of treatment facilities
- Location, size, and material of all sewer discharge lines
- Discharge points for all discharges to the sewer, including wastewater bypasses
- Flow meters on all waste discharge lines to the sewer, including wastewater bypasses
- Proposed location of sample ports on waste discharge and bypass lines. Ensure that there is sufficient space for installation of an automated composite sampler, if needed, and a nearby electrical power outlet
- Location and size of waste holding tanks on the site
- Catalog cut sheets with system curves and operating points for discharge pumps

As part of the WBSD's review of the design drawings, WBSD will review and approve the location of all flow meters and sampling stations.

3.4.2 Operations and Maintenance Plan

Applicants must provide a copy of their draft and final O&M Plan to WBSD. The O&M plan will be prepared to comply with State's Title 22 requirements. For WBSD review, the O&M should include:

- Description of typical operation
- Schedule for when standard discharges to the public sewer will occur
- Schedule for when non-typical discharges to the public sewer will occur
- Description of emergency controls

- List of contacts for routine and emergency situations. Include contact information for staff at the following agencies: WBSD, SVCW, permit holder, and ORTP operator
- Maintenance and Inspection schedule
- Final O&M Plan should identify any mitigation measures that are required by WBSD's ORTP permit

3.5 Evaluating the Potential Impacts of Solids, Salinity, and Pollutants of Concern

The connection of an ORTP to WBSD's sewer system has the potential to impact the water quality of the WBSD wastewater, municipal sewer system and downstream treatment processes at the SVCW WWTP. The concerns related to an ORTP connection are 1) the accumulation of solids in the sewer resulting from the discharge of biological waste solids and screenings from the treatment system; 2) the increase of salinity in the effluent discharged to the sewer; and 3) compliance of ORTP discharge with local limits. This section discusses these concerns and factors that should be considered when evaluating an ORTP permit application.

The following sections describe the general approach to conducting these assessments:

- Sewer System Condition Assessment
- Salinity Discharge Evaluation
- Sewer System Hydraulic Evaluation
- Local Limits Compliance

Note that the following assessments are provided for guidance. Additional evaluations may be needed on a case by case basis.

3.5.1 Sewer System Condition Assessment

Solids discharged to a sanitary sewer can have negative impacts on the collection system if solids are allowed to settle and accumulate in the sewers and are not properly conveyed to the Menlo Park Pump Station. This can occur when there is insufficient self-cleansing velocities in the sewer line or when there are sags, low spots or obstructions where solids can deposit and accumulate. Solids deposition can occur even from normal domestic wastewater discharges but becomes more of a concern when solids are concentrated, such as in the case of an ORTP discharge. When solids are allowed to accumulate in sewers or structures, anaerobic conditions can be created where the solids become septic causing odors, corrosion, and in the worst case plugging and sewer overflows.

Generally, a good rule of thumb to avoid solids accumulation is to have adequate self-cleansing velocities with a minimum velocity of 2 feet per second (fps) in the downstream sewers for at least 12 hours per day, and no low spots or obstructions in the sewer where solids could accumulate. Additionally, restricting the solids discharge concentration to a maximum of 10,000 ppm (1.0 percent) for sewers that are in good condition and have adequate flow velocities

is good practice for maintaining the integrity of sewers. Solids discharges from ORTPs into sewers at these concentrations has not created problems in other locations such as New York City and Pacific Grove, California, where satellite recycled water facilities that discharge concentrated biological solids to the sewer have been operating successfully.

3.5.1.1 Assessing Sewer Conditions

As part of the permit application review process, District staff should establish the baseline condition of the existing sewer line that the new ORTP discharge line will connect to. This assessment should be documented on Form B of Appendix B.

To establish the baseline condition, the following information should be reviewed and considered:

1. Review maintenance records of the sewer downstream of the proposed ORTP discharge connection from the last five years.
   a. Determine the frequency of cleaning of the sewer line over the last five years.
   b. Determine if there has been an increase in the frequency of maintenance over the five-year period being reviewed.
   c. Document the results of the review of the cleaning frequency historical records.

2. Review closed circuit television video (CCTV) inspection of the affected sewer line. Video inspection should not be more than three years old. If video inspection is more than three years old, perform a new CCTV inspection.
   a. Identify any sags in the pipeline.
   b. Document location of any joint offsets.
   c. Look for any indication of corrosion within the sewer line and document.

3.5.1.2 Conclusions of Sewer Assessment

If the frequency of cleaning the sewer line has increased over the five-year period, then the sewer line is potentially a problematic line that could be adversely affected by solids discharged from an ORTP connection. The frequency of inspecting and cleaning the line may need to be increased.

Sags in the pipeline and joint offsets could increase the potential for solids accumulation. Issues with existing corrosion prior to connection of an ORTP to a sewer line could increase the corrosion within that line. If any of these conditions exist, WBSD may want to consider repairing or replacing the line, increasing the frequency of condition assessments to at least annually, or both.

3.5.2 Salinity Discharge Impact Evaluation

Salinity can be measured either as TDS or EC. The salinity levels in the ORTP discharge has the potential to increase salinity in WBSD's sewer collection system. As discussed earlier, increased salinity in the collection system poses three potential issues: 1) reduce the quality of recycled water produce by the future WBSD Bayfront RWF; 2) impact to wastewater treatment processes at SVCW; and 3) reduce the quality of recycled water that SVCW currently produces.

This assessment should be documented on Form C of Appendix B.

3.5.2.1 Procedures for Salinity Discharge Impact Evaluation

Verify the estimated salinity concentration in the waste discharge stream. Verify, review and confirm Applicant's calculations of salinity concentrations in the discharge.

Compare proposed average and maximum waste discharge salinity concentrations (measured as EC) to the local limit identified in WBSD Code.

3.5.2.2 Conclusions to Salinity Discharge Impact Evaluation

If discharge exceeds WBSD limits, then consider mitigation options:

- The Applicant may modify its ORTP process to reduce salinity to comply with WBSD's local limit. The process modification will be selected by the Applicant for WBSD review and approval. Example options include: substitution of RO process for alternative on-site desalting equipment that does not discharge brine or has a lower salinity discharge concentration, or adding a brine concentrator and hauling off-site instead of discharging to sewer.
- WBSD could require a time-of-day limited discharge option that would limit ORTP waste discharge to a specific time of the day as an alternative to low salinity discharge. Factors that would influence the need for a time of day discharge are the number of ORTPs connected within the WBSD service area and whether or not the Bayfront RWF has been constructed. If there are only one or two ORTPs connected and the Bayfront RWF have not been constructed, a time of day discharge may not be warranted at the time of ORTP permit issuance, but may need to be revisited in the future if conditions change. Refer to Section 3.5.3.1. for additional discussion on time-of-day limited discharge.

3.5.3 Sewer System Hydraulic Evaluation

To assess whether the minimum required velocity flow rate will be achieved, a hydraulic model of the downstream sewer should be run under different flow scenarios. Table 3-2 identifies three different modeling scenarios that should be completed. At a minimum, each scenario should be modeled at both the average dry weather flow (ADWF) and average wet weather flow (AWWF) conditions.

Table 3-2. Hydraulic Modeling Scenarios

Hydraulic Model Scenario for ADWF and AWWF Conditions	Raw Wastewater Bypass Flow, gpm	ORTP Waste Discharge Flow, gpm
Scenario 1: ORTP out of service; All Wastewater by-pass ORTP	From Applicant[(a)]	0
Scenario 2: ORTP in operation and wastewater flows exceed ORTP capacity; excess wastewater discharging to sewer	From Applicant	From Applicant
Scenario 3: ORTP in operation and wastewater flow below ORTP capacity; no wastewater discharging to sewer	0	From Applicant

(a) This flow should include discharge from all connections at the point being modeled.

This assessment should be documented on Form D of Appendix B.

3.5.3.1 Limited Time-of-Day Discharge Options

WBSD may consider offering the Applicant a time-of-day limited discharge as an alternative to low salinity discharge limits. This approach has been applied to a non-standard discharge upstream of the new Sharon Heights satellite recycled water plant to mitigate salinity impacts on that recycled water facility.

The time-of-day restriction should be designed to balance the future Bayfront RWF needs and the impacts to the WWTP. If the ORTP is installed before the Bayfront RWF are constructed, and there are only one or two other ORTPs connected, WBSD may decide that a time-of-day restriction is not needed at time of permit issuance. When the Bayfront RWF is constructed in the future, WBSD should revisit the RWF needs and impacts of the permitted ORTPs.

When the Bayfront RWF are constructed, WBSD plans to direct wastewater to the Bayfront RWF during peak flows, which occur during the daytime and early evenings. To minimize impacts to the WWTP, the ORTP discharge should be timed to reach the WWTP during SVCW's above average flow periods. SVCW staff reports that the average detention time between the Menlo Park Pump Station and the WWTP is just over 10 hours during average flow.

If it is determined that a time-of-day discharge limit is needed, the following should be considered:

- The allowable discharge time-of-day should be designed for the ORTP to reach the SVCW WWTP during SVCW's above average influent flow period.
- Consider the timing and impact of other upstream and downstream ORTP and recycled water dischargers that may also be discharging water with high salinity.
- Consider when it would be acceptable for the Bayfront RWF to have zero influent.

- Based on typical diurnal flow conditions at the WWTP provided by SVCW staff, high influent flows at the SVCW typically peak at two periods on weekdays, first between 9 AM and 11 AM and then again from 9 PM to 11 PM. SVCW staff reports that the average detention time between the Menlo Park Pump Station and the WWTP is just over 10 hours during dry weather. The detention time may change after the new SVCW conveyance system is completed.
- The ORTP site needs to have adequate on-site storage capacity to store the waste stream between discharge window.

To conduct the hydraulic evaluation the reviewer will need to develop a start and end time for a limited time-of-day discharge that matches the above objectives.

3.5.3.2 Procedure for Sewer System Hydraulic Evaluation

From each of the dry weather flow modeling scenarios, and for both continuous and limited discharge permit conditions determine the following:

- Minimum and maximum flow velocities at ORTP discharge location(s)
- Amount of time each day that the 2 fps minimum self-cleansing velocity is achieved
- Determine if the projected flow meets the minimum flow velocity required to adequately flush the solids
- Confirm if there is adequate hydraulic capacity in the existing lines to handle the additional wastewater flows and solids discharges

From each of the wet weather flow modeling scenarios, and for both continuous and limited discharge permit conditions determine the following:

- Minimum and maximum flow velocities
- Confirm if there is adequate hydraulic capacity in the existing lines to handle the additional wastewater flows and solids discharges during wet weather events
- Note if the sewer capacity is insufficient under the limited time-of-day discharge permit condition during wet weather, the ORTP discharger window may need to be expanded during wet weather conditions. If that is the case, the hydraulic model should consider increased durations, such as 4- to 12-hour discharge windows, or adjusting the time of day discharge.

3.5.3.3 Conclusions of Sewer System Hydraulic Evaluation

If the velocity is less than 3 feet per second for over 12 hours a day in dry weather, additional analysis and development of appropriate site-specific mitigation measures should be developed. Example mitigation measures include WBSD replacing the sewer line to improve the flushing velocity at that location or require Applicant to reimburse WBSD for any additional sewer maintenance costs determined to be related to the addition of the Applicant's ORTP discharges.

The impacts to the sewer under both dry and wet weather flow conditions should be determined for the limited time-of-day discharge rates.

3.5.4 Local Limits Compliance Evaluation

WBSD and SVCW have separate local limits established for a variety of pollutants to protect the integrity of the collection system and WWTP, and health of operations and maintenance staff for these systems. These are shown in Table 3-3.

This assessment should be documented on Form E of Appendix B.

Table 3-3. WBSD and SVCW Local Limits

Pollutant	Local Limits[a,b]	
	Discharge of 10,000 gallons per day or greater, mg/L	Discharge of Less than 10,000 gallons per day, kg/day
Arsenic	0.1	0.0038
Cadmium	0.2	0.0076
Copper	2.0	0.076
Cyanide	1.0	0.038
Lead	1.0	0.038
Mercury	0.01	0.00038
Nickel	1.0	0.038
Silver	4.0	0.15
Total Chromium	0.5	0.019
Zinc	3.0	0.11
Dissolved Sulfides	0.1	0.0038
EC[c]	pending	pending
Total Dissolved Solids (TDS)[c]	pending	pending
Total Suspended Solids (TSS)[c]	pending	pending
Temperature	150° F	150° F
Oil and Grease (animal or vegetable)	300	300
Oil and Grease (petroleum or mineral)	100	100
pH	6.0 or greater	6.0 or greater
Phenolic Compounds	1.0	1.0
Fluoride Compounds	20.0	20.0

(a) Limits listed with numerical values reflect limits identified in the West Bay Sanitary District Code of Regulations, July 1, 2017.
(b) "South Bayside System Authority Pretreatment Program Local Limits Report," February 28, 1989.
(c) Limits to be established.

3.5.4.1 Procedure for Local Limits Compliance Evaluation

WBSD should compare the estimated discharge concentrations for each of the pollutants listed in Table 3-3 with the local limit established by WBSD and SVCW. The table identifies the established local limits as of the time of writing of this Manual. Current WBSD and SVCW local limits should be re-confirmed at the time of review of an ORTP application. SVCW is planning

to revise their local limits in 2019. Table 3-3 should be updated after either SVCW or WBSD adopt new local limits.

3.5.4.2 Conclusions to Local Limits Compliance Evaluation

During the ORTP testing phase, the actual discharge concentration of each pollutant should be measured and compared to the local limit.

If the estimated concentration is well below the local limit, then no mitigation is required.

If the estimated discharge concentration of any of the identified pollutants exceeds or appears to be approaching the local limit, a mitigation measure should be identified for additional monitoring of the pollutant.

- If compliance with local limits is a concern, possible mitigation measures are:
  - No solids be discharged to the sewer.
  - Requiring Applicant install and operate treatment equipment to reduce the concentrations to within regulated limits.

3.6 Summary of Possible Mitigation Measures for Problematic or Non-Compliant Conditions

Table 3-4 summarizes possible mitigation measures for inclusion in an ORTP discharge permit that were presented in this chapter.

Table 3-4. Summary of Mitigating Conditions and Possible Mitigation Measures

No.	Mitigating Condition	Possible Mitigation Measure(s)
1.	ORTP will discharge to a sewer line that has been identified as problematic.	• WBSD conducts a Condition Assessment of the problematic sewer line annually. • Repair or replace line prior to issuing interim permit. • Applicant to pay for increased sewer maintenance and cleaning costs above current levels.
2.	Flow velocity in the downstream sewer does not meet minimum required flushing velocity.	• Applicant to pay for increased sewer maintenance and cleaning costs above current levels. • Replace sewer line to provide needed flushing velocity.
3.	TDS and/or EC concentration in ORTP waste discharge exceeds WBSD's local limit.	• Modify treatment process to reduce salt concentration • Require a time of day discharge. • Prohibit the discharge of brine to the sewer.
4.	The waste discharge includes a concentrated amount of pollutants that approach or exceed the WBSD and/or SVCW local limit.	• Require monitoring during testing phase to confirm if compliance with local limits is a concern. • If compliance with local limits is a concern, possible mitigation measures are: – No solids be discharged to the sewer. – Install treatment equipment to reduce concentrations to below discharge limits

3.7 ORTP Site Inspection during Construction

WBSD should plan to inspect the site at least once when the ORTP and connecting sewer are in construction. The purpose of this inspection is to verify that construction of the ORTP facility is consistent with the submitted plans. If there are any deviations from the plans that were submitted and approved by WBSD, then WBSD should require the Applicant to update and resubmit plans. All ORTP discharge sampling locations are approved by WBSD. During the inspection, the sampling equipment and location should be verified in the field.

The inspector should take a generous number of photos during the site visit to adequately cover the ORTP. Photos should be attached to WBSD Permitting Checklist file and filed electronically in the project file. At a minimum, the following items should be photographed:

- Pumps and nameplates
- Treatment equipment and nameplates
- Electrical and instrumentation control panels
- Sewer line, as visible from grade level
- Security fencing around treatment equipment
- Flow meters, locations, and electrical power sources
- Connection to WBSD sewer

WBSD is not required to inspect the treatment components of the ORTP or the internal plumbing as these are within regulatory and permitting jurisdiction of other local and state agencies as discussed in Chapter 2 of this manual. A District field inspection checklist (Form F) is provided with Appendix B.

Chapter 4. Issuing an ORTP Discharge Permit

4.1 ORTP Discharge Permit Issuance

WBSD's ORTP discharge permit process includes an Interim Conditional Use Permit (Interim Permit) and a Final Permit. The interim permit will allow the permittee to begin ORTP discharge to the sewer to facilitate commission of the equipment and complete required testing for obtaining the final ORTP operation and use permit from the Regional Board. WBSD can issue the final ORTP discharge permit after 1) WBSD has confirmed the actual discharge is in compliance with WBSD's requirements by reviewing the required information provided by the Applicant and 2) the State has permitted the ORTP.

4.2 Issuing an Interim Use Permit

An interim permit will allow the Applicant to connect to the sewer while completing testing of the ORTP and initiating ORTP operation.

4.2.1 Activities Prior to Interim Permit Issuance

Chapter 3 provides the details on the steps leading to the permitting of an ORTP. These required activities are summarized below and organized by the party responsible for their completion.

4.2.1.1 Applicant Activities

The Applicant is to complete the Application Package, including all requested attachments, and submit to WBSD. The Applicant is to provide WBSD revised drawings or reports reflecting any changes to the project that have been made after the application has been submitted and prior to permitting.

4.2.1.2 WBSD Activities

The following items must be complete by WBSD after receipt and review of a complete Application Package and prior to issuance of an Interim Permit. The review process is provided in Chapter 3 and the review forms in Appendix B.

- WBSD review of the Application Package for completeness
- Completion of a Sewer Condition Assessment
- Comparison of the estimated salinity concentration to WBSD's limit
- Completion of a Sewer System Hydraulic Evaluation
- Completion of a local limits evaluation for other regulated constituents
- Inspection of ORTP site during construction
- Develop site specific permit conditions

4.2.2 Interim Permit Conditions

The conditions listed in the interim permit are expected to be the basis of the final permit conditions. The following conditions should be included in the Interim Permit:

Compliance with Ordinances:

- Comply with all requirements of WBSD's Local Limits Ordinance and Sewer Use Ordinance including payment of permit fees.

Monitoring and Reporting:

- Flow monitoring locations:
  - Permittee must install a minimum of two flow meters (such as a magmeter): one on the ORTP wastestream discharge and the other on the ORTP bypass sewer line.
  - All flow meter locations must be specified on drawings and shall be approved by WBSD in writing during design review.
  - Monitoring locations in a confined space entry will not be permitted.

- Sampling locations:
  - One sampling location shall be specified on the ORTP wastestream discharge line to isolate the ORTP wastestream discharge. This sampling location is to be downstream of all the ORTP wastestreams, and upstream of connecting to any other sewer system.
  - Sampling location must be specified on drawings and shall be approved by WBSD in writing during design review. All metering locations shall be approved by WBSD.
  - Sampling locations in a confined space entry will not be permitted.

- Flow monitoring reporting:
  - A communication link must be established to provide continuous real-time display of flowrates to a website accessible to WBSD, SVCW and Permittee for each of the flowmeters installed at the locations approved by WBSD.
  - If a continuous website display is not feasible, Permittee shall provide a monthly flow report to WBSD within one week of the month's end. The report shall indicate, with a time stamp, when the ORTP is in discharge versus bypass mode.

- Quarterly waste discharge reporting:
  - Continuously measured discharge flowrates from the ORTP wastestream discharge – report monthly average, daily average, and peak daily discharge flows in gpm.
  - Continuously measured discharge flowrates from the ORTP bypass line – report monthly average, daily average, and peak daily discharge flows in gpm.

- — Results from quarterly 24-hour composite sampling, including supporting analytical laboratory reports, for the following parameters:
  - TSS (mg/L)
  - BOD (mg/L)
  - TDS (mg/L)
  - EC (µS/cm)
  - Dissolved Sulfides (mg/L)
  - Heavy metals and other pollutants in existing WBSD and/or SVCW Local Limits
- — Quarterly reporting is to begin upon RWQCB permitting of the ORTP reuse system.
- — Quarterly reports shall be submitted to WBSD within one month of the last day of the sampling quarter.

- First month of operation of full State permitted reuse operations:
  - — Conduct weekly 24-hour composite sampling for the conventional water quality parameters listed above (TSS, BOD, TDS, EC, and dissolved sulfides) to confirm predicted values are correct and submit the results, including supporting analytical laboratory reports, to WBSD by the end of the second month of operation.
- Monthly reporting:
  - — Continuously measure EC from the approved sampling location. Submit data monthly – report monthly average, daily average, and peak daily values in µS/cm.
- If after the first four quarters of monitoring it is demonstrated that the local limit pollutants in the ORTP discharge are consistently below respective Local Limit values and continued monitoring of such pollutants may be discontinued or the monitoring frequency reduced upon written approval from WBSD and SVCW. Commissioning and Start Up Reports:
  - — Copies of reports submitted to the State's Regional Water Quality Control Board and the Division of Drinking Water that are prepared during ORTP commissioning and start up shall be submitted to WBSD and SVCW.

ORTP Discharge Conditions:

- The maximum flow rates of discharge allowed to the WBSD system from the ORTP associated with <site specific: *WBSD to insert name(s) of subject buildings or facilities generating the ORPT influent*> are as follows:
  - — During start-up and testing, prior to full State permitted reuse operations, and during times that the ORTP effluent does not meet State standards for reuse, the maximum discharge flow is <site specific: WBSD to insert number> gpd for both ORTP wastestream discharge and treated effluent combined.
  - — During full State permitted reuse operations, the maximum wastestream discharge from the ORTP is < site specific: *WBSD to insert number*> gpd.

- ORTP discharges shall comply with a maximum daily limit for EC of 1,050 µS/cm.
- ORTP discharge shall be limited to a maximum daily TSS local limit of 10,000 mg/L.
- ORTP discharge shall have a maximum BOD limit of 1,000 mg/L.
- ORTP discharge shall comply at all times with WBSD and SVCW Local Limits.
- If applicable, depending on the treatment process, a limit on solids and or screenings can be added.

Fees:

- ORTP permit holders are subject to the fees, rates, and charges as adopted annually by WBSD. Adopted fees, rates and charges can be found in Article IX, "Fees Rates and Charges," of the WBSD Code.
- WBSD shall require a deposit to be paid with submittal of the ORTP Discharge Application. The deposit shall include, but is not limited to:
  - Estimated fee for WBSD staff time to review the application package and conduct the necessary analysis.
  - A new CCTV inspection if video inspection of the affected sewer line is more than three years old.
  - Cost of conducting a condition assessment of the sewer line after the ORTP has been in full operation for at least three months. This is to verify that solids are not accumulating or creating other issues of concern in the sewer and is in addition to the condition assessment completed by WBSD prior to permit issuance.
- Permittee shall reimburse WBSD for any additional sewer maintenance costs determined to be related to the addition of the ORTP discharges.
- Permittee shall pay TSS and BOD charges based on measured strength of discharge in accordance with WBSD code of general regulations. Permittee shall reimburse WBSD any additional strength fees paid by WBSD to SVCW that are determined to be related to addition of the ORTP discharges.
- WBSD is in the process of developing fees related to salinity (EC or TDS) concentrations in non-domestic discharges to cover anticipated capital and operating costs of reducing salinity as part of the Bayfront recycled water facility. The ORTP permittee shall pay salinity charges based on the rates adopted by WBSD.
- Any fines or penalties due to a WBSD sewer system overflow or violation to SVCW's NPDES discharge permit that are the result of the Permittee's discharge will be paid by Permittee.

Notifications:

- Permittee must notify WBSD if there are changes to the ORTP process or flows, discharge piping, sampling or flow monitor equipment or location. The permit may be amended as a result of the ORTP changes.

If applicable, based on proposed ORTP treatment process:

- Permittee must provide 24 hours notice to WBSD prior to discharging the membrane cleaning streams. Permittee to provide schedule of anticipated membrane cleaning frequency.
- A special sampling event is to take place within the first six months of operations during a membrane cleaning. A composite sample of the ejector pit effluent shall be collected that represents the ORTP discharge during membrane cleaning. Sample shall be analyzed for constituents being sampled quarterly and submitted to WBSD within 30 days of sampling. Further sampling of membrane cleaning events will be determined based on the results of the first sample.
- Permittee must provide notice by phone (650) 321-0384, to WBSD of any potential process upset that produces or is anticipated to produce a non-routine discharge from the ORTP prior to discharge or within one (1) hour of discharge in the event of an emergency.

Right of Entry:

- Permittee shall allow access of WBSD staff to the ORTP discharge flow monitoring and water quality monitoring locations and equipment, per Code of General Regulations Article VII, Section 707 paragraphs (07-08).

Odor Control:

- Permittee is responsible for all odor generated on their property and must comply with all Bay Area Air Quality Management District regulations.

Restricted Public Access:

- The ORTP shall be secured from general public access. This could include, but is not limited to, fencing and other security measures to protect the facilities from public access.

Permit Review and Amendments:

- This permit can be reviewed and amended at any time conditions require as determined by the WBSD District Manager (WBSD District Code Article VII, Section 707 paragraph (05)) or by the SVCW Manager.

Permit Limitations:

- This permit is limited to the wastewater flow that is generated at the <site specific: *WBSD to insert Permittee Name and Building Name(s)*> and their respective ORTP discharge. No other discharges will be permitted without approval by WBSD.
- Failure to comply with the above conditions could result in an ORTP discharge cease and desist order.

District Activities during the Interim Permit Period:

After the interim permit is issued, and before the final permit is issued WBSD is to complete the following:

- WBSD will conduct a condition assessment of the downstream sewer line three months after the ORTP has been in operation after commissioning and acceptance. This assessment will include, but not limited to:
  - Review maintenance records of the downstream sewer line from first three months of operation
  - Conduct a video inspection of the sewer line and compare to the baseline conditions
  - Document any changes in sewer line
- Review the water quality data submitted during the interim permit period. Compare the data to the estimates submitted in the permit application and to local limits. Determine if water quality permit conditions need to be modified in the final permit.
- Review the flow monitoring data submitted during the interim permit period and compare to estimate submitted in the permit application. Determine if any modification to final permit conditions are needed due to actual flow data.
- Conduct a site visit and inspect monitoring and sampling equipment; verify that the facilities match the information provided by the Applicant to WBSD.

4.3 Issuing a Final Permit

The final permit should be issued only after the following have been received and reviewed:

- Applicant submits results of testing of the water quality parameters listed in the interim permit.
- WBSD reviews results of estimated and interim permit period local limit pollutants testing.
- WBSD compares the flows, water quality, solids discharge, and timing of discharge to local limits and interim permit limits.
- Confirm that all WBSD conditions requested in the interim permit have been achieved.
- Receipt of the final O&M Plan, with all the WBSD required contact information listed.
- Receipt of copy of final State permit for ORTP operation. WBSD will not issue a final ORTP discharge permit unless the ORTP receives a final permit from the State.
- Completion of any corrections identified in the Interim Permit.
- Receipt of SVCW's approval of the final permit conditions.

4.4 Final Permit Conditions

The final permit will include conditions based on the interim permit and the information collected during the interim period. WBSD should evaluate each interim permit condition and adjust conditions, or consider adding conditions, based on the performance of the ORTP, the reporting history of the Applicant and general level of Applicant's permit compliance. WBSD should prepare written documentation for the file explaining the reasons for any changes to the conditions between the interim and final permit. WBSD should review the State issued recycled water permit and incorporate any applicable requirements or mitigation measures into WBSD's final permit.

4.5 Changes to Issued Permits

WBSD and SVCW may modify the terms and conditions of the permit, by addendum, at any time to maintain compliance with WBSD's Code and SVCW's regulations, or for other just cause. WBSD should prepare written documentation for the file explaining the reasons for any changes to the conditions. Examples of some other reasons for permit changes are described below.

4.5.1 Change in ORTP Process

The permittee is required to notify WBSD of any changes to the ORTP process or flows. When a change in the ORTP process is proposed, WBSD should do the following:

- Conduct evaluations as described in Chapter 3 as necessary
- Review the proposed changes with SVCW
- Amend the ORTP discharge permit as needed

4.5.2 Permit Renewal

ORTP waste discharge permits will be in effect for one year. The permit can be automatically renewed once per year for a total of five years. After five years, the permittee must submit an updated application.

4.5.3 Change in Ownership

The permittee is required to notify WBSD of a change in ownership of the facility at least 90 days prior to leaving the facility. WBSD should contact the existing permit holder and confirm the last day of occupancy. WBSD should terminate the permit as of the date of the last day of occupancy. WBSD will issue a letter in writing to the permit holder indicating the last day of permit coverage.

The new owner is responsible for contacting WBSD and applying for a permit prior to taking occupancy of the site. Determination of the assessment needed prior to permitting a new owner should be determined on a case by case basis. WBSD may wave the Condition Assessment and Hydraulic Evaluation if sufficient documentation on the sewer was collected under the prior permit.

4.6 Fees

The Applicant is required to pay all permit fees. Additional fees specific to ORTP will be specified in the permit.

APPENDIX A

WBSD On-Site Reuse Discharge Permit Application Packet

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West Bay Sanitary District

Discharge Permit Application Package for

On-Site Reuse Treatment Facilities

Application Package Contents:

- Instructions to Applicant
- Application Form (includes list of attachments to be submitted with application)
- Wastewater Discharge Report Requirements for an On-Site Reuse Discharge Permit
- Standard Permit Conditions

Return Completed Application by mail or in person to:
West Bay Sanitary District
500 Laurel Street, Menlo Park, CA 94025

Submit one hard copy and one electronic copy (CD or thumb drive) of the completed application form and all attachments.

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Instructions to Applicant

By completing this application package for On-Site Reuse Treatment Plant (ORTP) waste discharge the Applicant will provide West Bay Sanitary District (WBSD) staff with the information needed to thoroughly review and assess the potential ORTP wastewater discharge and to establish permit conditions. This application package includes an application form (includes list of required attachments), Wastewater Discharge Report Requirements for an On-Site Reuse Discharge Permit, and Standard Permit Conditions. Standard Permit Conditions are included for reference only and are subject to change.

All ORTPs will be permitted as a Class 5 permit. Additionally, an Applicant will need to apply separately for a Class 2 permit if a new sewer lateral connection is planned and apply for a Class 3 permit if constructing a new sewer, pump station, or other wastewater facilities.

For purposes of the WBSD ORTP discharge permit, an ORTP is defined as a treatment system that treats domestic blackwater to meet the State's recycled water quality requirements for indoor non-potable applications and for landscape irrigation. For the purpose of the permit, domestic blackwater includes wastewater from commercial buildings such as offices, retail stores and some restaurants, and residents.

In the WBSD service area, operation of the ORTP and the on-site use of recycled water produced from the ORTP are under the permitting authority of the San Francisco Bay Regional Water Quality Control Board (Regional Board). Reports that will be prepared by the Applicant as part of the Regional Board permitting process are requested to be submitted as part of the WBSD On-Site Reuse Discharge Permit Application as they contain information relevant to WBSD review. An Applicant must obtain a permit for operation of its ORTP from the Regional Board before WBSD will issue the final On-Site Reuse Discharger Permit.

In addition to the Regional Board reports, WBSD requires the Applicant to prepare a Wastewater Discharge Report. The Wastewater Discharge Report provides additional information about the ORTP facility and the estimated pollutant concentrations that could be in the effluent discharged to the sewer. "Wastewater Discharge Report Requirements" are included at the end of this application package. Table 1 lists the attachments to be included in the permit application package.

Table 1. Completed On-Site Reuse Discharge Permit Application Package Contents

No.	Description
1.	Completed Application Form
2.	Title 22 Engineering Report
3.	Operations and Maintenance Plan
4.	Map or Figure showing location(s) of discharge point(s) to sewer, flow meters, and sampling locations[(a)]
5.	West Bay Sanitary District Wastewater Discharge Report
6.	Permit Application Fee and Deposit for Application Review

(a) WBSD reserves the right to change the Applicant's proposed sampling location(s).

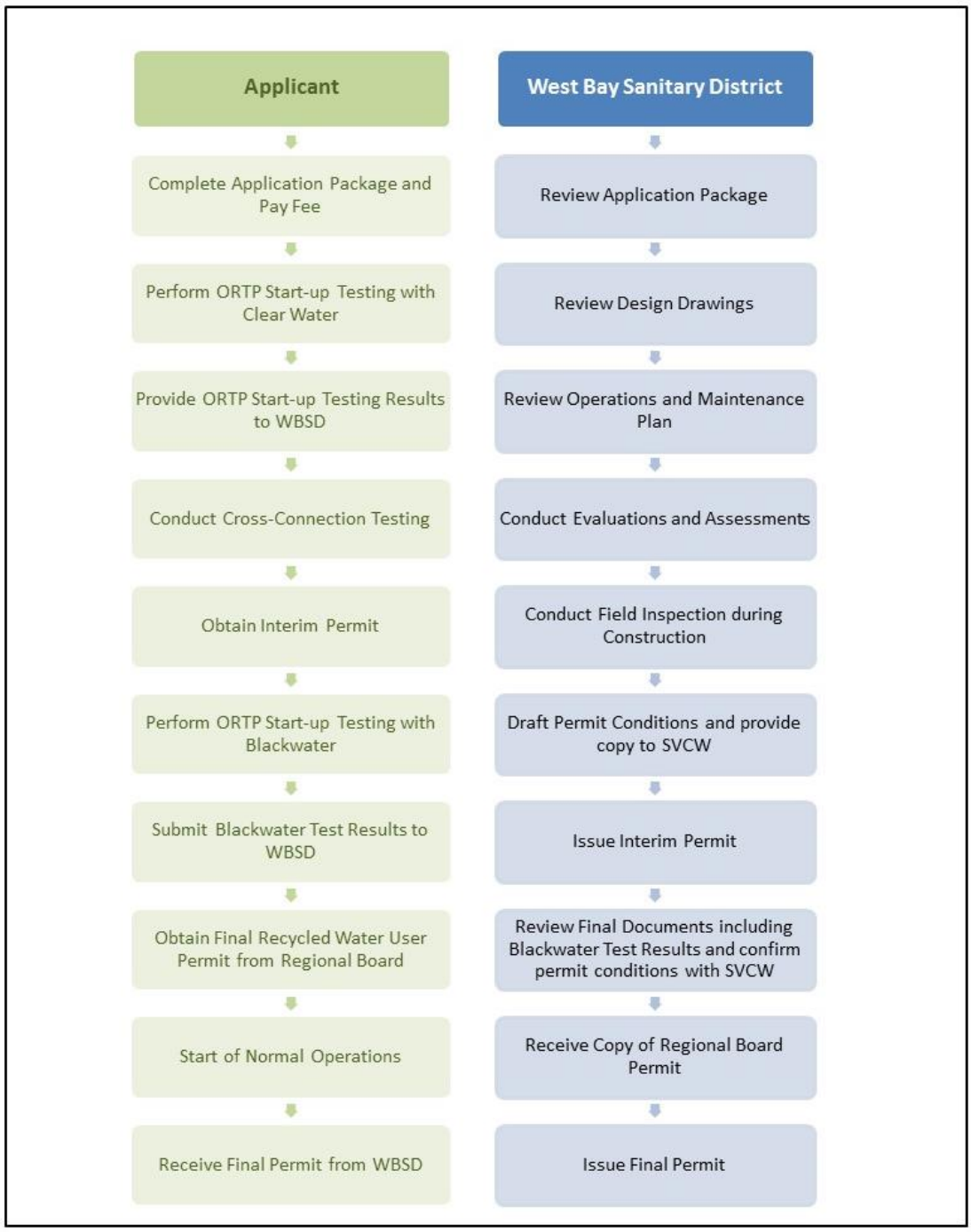
Applicants should submit one hard copy and one electronic copy (CD or thumb drive) of the completed application form and all attachments.

Return Completed Application Package by mail or in person to:
West Bay Sanitary District
500 Laurel Street, Menlo Park, CA 94025

Upon receipt of an application package, WBSD will initiate review of the application form and attachments. Concurrent with WBSD's review, it is anticipated that the Applicant will continue to work with the Regional Board on approval of its ORTP, including testing of the ORTP facility and cross connection testing. As part of its permit application review, WBSD will conduct its own assessment of the estimated pollutants in the effluent discharge as well as conduct a sewer system condition assessment and sewer system hydraulic evaluation.

WBSD will initially issue an Interim Permit so that the Applicant can conduct testing of the ORTP and discharge to the sewer. The Applicant will be required to provide copies of testing results for WBSD review. WBSD will issue a Final Permit after the testing results have been reviewed and after any mitigation measures imposed in the interim permit have been resolved. Figure 1 provides an overview of the permitting process and the responsibilities of both the Applicant and WBSD.

Figure 1. Permitting Flowchart – Applicant and WBSD Responsibilities



For questions in completing this application, please contact:

West Bay Sanitary District Engineering

Phone: (650) 321-0384

Email: info@westbaysanitary.org

500 Laurel Street ■ Menlo Park, CA 94025 ■ 650.321.0384 telephone ■ 650.321.4265 fax

Section A: General Information

Property Name			
Property Address			
Applicant *Legal Company Name*			
APN			
BUILDING OWNER CONTACT INFORMATION			
Name		Title	
Address			
Phone		Mobile	
Email			
CONTACT FOR PERMIT APPLICATION RELATED QUESTIONS			
Name		Title	
Address			
Phone		Mobile	
Email			
DAY TO DAY CONTACT DURING OPERATION			
Name		Title	
Address			
Phone		Mobile	
Email			

Section B: Facility Information

Type of Business			
Treatment System Designer			
Contractor			
How Many Buildings on the Site?		Total Square Footage	
How many buildings will the treatment system serve?		How many people will occupy the buildings?	

TABLE 1. ANTICIPATED SCHEDULE

Please complete Table 1 below:

Description of Activity	Start Date	End Date
Design		
Construction		
Permitting:		
– Title 22 Engineering Report Submitted		
Operations:		
– Cross Connection Testing (City/County)		
– Title 22 Performance Testing		
– Recycled Water Permit Issued by RWQCB		
– Start of Normal Operations		

Section C: On-Site Reuse Treatment Plant Information

Treatment Process	☐ MBR/UV	☐ Other (Please describe)	
Mode of Production	☐ Batch	☐ Continuous	
Current Design Capacity			
Proposed Incremental Use Capacity			
Proposed Total Use Capacity			
Where/how will recycled water be used? *Please list all uses*			
Who will be operating the treatment system?			
Name		Title	
Address			
Phone		Mobile	
Email			

Section D: Discharge Information

Please complete Tables 2 and 3. *Add additional pages if needed.*

TABLE 2. FLOW RATES OF DISTINCT ORTP DISCHARGE STREAMS

Please complete the table and provide a figure identifying the location of the influent stream and the location of each effluent stream from the ORTP to the sewer, such as the by-pass line and effluent streams from each ORTP process. Identify the average and maximum flow from each stream on the figure.

Stream	Average Flow (gpd)	Maximum Flow (gpd)
Raw Wastewater (influent to ORTP[a])		
Raw Wastewater (not treated at ORTP[a])		
[a] ORTP stands for On-Site Reuse Treatment Plant		

TABLE 3. CHARACTERISTICS OF DISCHARGE STREAM

Please attach a separate table for each discharge stream (e.g. screenings, waste sludge, reverse osmosis (RO) reject, treated water that does not meet water quality ("out of spec")):

Discharge Stream Name:_____		
Constituent or Property (units)	**Average**	**Maximum**
BOD (mg/L)		
TDS (mg/L)		
EC (µS/cm)		
TSS (mg/L)		
Volume of Screenings (mg/L)		

For each discharge stream, report the following regarding frequency and duration of discharge:

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY

Hours of discharge (*i.e.* 9:00 am to 5:00 pm):

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY

Section E: Treatment System Operations Information

Name of Company Providing Treatment System Operations			
Contact Name		Title	
Mailing Address			
Phone		Email	

Section F: Attachments

Please provide the following attachments in both hard copy and electronic format:

F.1 Title 22 Engineering Report

F.2 Operations and Maintenance Plan (submit draft with application; final to be submitted following WBSD ORTP permit issuance) – *The O&M Plan shall be prepared to comply with the State's Title 22 requirements. For WBSD review, the O&M should include:*

- *Description of typical operation*
- *Schedule for when standard discharges to the public sewer will occur*
- *Schedule for when non-typical discharges to the public sewer will occur*
- *Description of emergency controls*
- *List of contacts for routine and emergency situations. Include contact information for staff at the following agencies: WBSD, SVCW, permit holder and ORTP operator.*
- *Maintenance and inspection schedule*
- *Final O&M should identify any mitigation measures that are required by WBSD's ORTP permit.*

F.3 Map or figure showing location(s) of discharge point(s) to sewer, flow meters and sampling locations. *(See WBSD's Wastewater Discharge Report Requirements for an On-Site Reuse Discharge Permit for additional information to be included on maps and figures.)*

F.4 West Bay Sanitary District Wastewater Discharge Report *(See WBSD's Wastewater Discharge Report Requirements for an On-Site Reuse Discharge Permit for information to be included in the report.)*

Section G: Other Permits

List other permits required for operation of the ORTP (e.g. air permit from Bay Area Air Quality Management District):

Section H: Signature

Name of Applicant (printed)			
Signature of Applicant			
Title of Applicant		Date	

Return Completed Application by mail or in person to:
West Bay Sanitary District
500 Laurel Street, Menlo Park, CA 94025

Submit one hard copy and one electronic copy (CD or thumb drive) of the completed application form and all attachments.

West Bay Sanitary District

Wastewater Discharge Report Requirements

for an On-Site Reuse Discharge Permit

July 2019

All on-site reuse treatment plant (ORTP) dischargers within the West Bay Sanitary District (WBSD) service area are required to prepare and submit a Wastewater Discharge Report pursuant to Section 706 of the WBSD Code of General Regulations.

Information provided in the Wastewater Discharge Report for an ORTP discharge will be reviewed along with other related reports submitted with the application to issue an Interim Conditional Use Permit (Interim Permit). A template of standard conditions is provided at the end of this document.

The Wastewater Discharge Report for an ORTP discharge shall include the following information:

- A description of the activities, facilities, and plant processes conducted on the premises, including, but not limited to, all materials fabricated or processed and the type of materials which are or could be discharged into the wastewater facilities.
- The type and quantity of each product produced, fabricated or manufactured on the premises.
- Site plans, floor plans, mechanical and plumbing plans in detail necessary or appropriate to show and to describe all sewers and appurtenances by size, location and elevation. Identify location and size of waste holding tanks on the site. Site plan should include identification of any fencing or other physical security measures to protect the facilities from public access.
- Description of fencing and other security measures that will protect the ORTP facilities from public access.
- Description of containing and/or mitigating odor that may be generated from the ORTP in compliance with Bay Area Air Quality Management District regulations.
- Site drawing that show specific locations of flow meters and sampling. A minimum of two flow meters (such as a magmeter) must be installed. At least one flow meter must be on the ORTP wastestream and the other on the ORTP bypass sewer line. One sampling location shall be on the ORTP wastestream discharge line downstream of all the ORTP wastestreams and upstream of connecting to any other sewer system. Sampling locations in a confined space entry will not be permitted.

- Description of Applicant's proposed method of reporting flows. The Applicant can either establish a communication link with web-accessible real-time display, or submit a monthly flow report. If using a web-accessible display, describe the communication link and the process for making data accessible to WBSD, Silicon Valley Clean Water (SVCW), and the Permittee for each of the flowmeters installed at the locations approved by WBSD. Include in the description any reliability features for monitoring and reporting in the event that the communication link is interrupted. If a continuous website display is not feasible, discuss the monthly flow report that will be submitted to WBSD.
- The number and classifications for work categories of employees, and the hours of work or operation on the premises.
- Wastewater ORTP influent constituents and characteristics the presence and amount of which shall be determined by a laboratory competent to test and describe such constituents and characteristics, as approved by the WBSD Manager.
- Average volumes and 30-minute peak flow rate of fresh water, non-wastewater, and wastewater proposed to be discharged, including daily, monthly, and seasonal variations, if any.
- Time and duration of the proposed wastewater discharge.
- Projected ORTP waste stream discharge water quality, specifically the average and peak maximum value of the following:
  - Total Suspended Solids (TSS) Daily Mass, pounds (lb) per day
  - TSS Hourly Mass, lb per hour
  - TSS Concentration, mg/L
  - Total Dissolved Solids (TDS) Concentration, mg/L
  - Electroconductivity (EC), µS/cm
  - Biological Oxygen Demand (BOD), mg/L
- Discuss approach for complying with WBSD's salinity requirements. To comply, the ORTP discharge must either meet WBSD's low salinity discharge limits or limit discharge to occur within the time-of-day window established by WBSD during the permitting process.
- Flow schematic identifying the flow of the above parameters in both the influent and effluent of the ORTP.
- Estimate discharge concentrations of pollutants listed in WBSD's local limits. Table 1 identifies the established local limits as of the date of this form.
- Pump discharge flowrate. Include catalog cut sheets with system curves and operating points for discharge pumps as an attachment to the report.
- Type and location of flow meters.
- Type and location of sampling equipment. Confirm that adequate power supply is accessible for any sampling equipment requiring a power source. Ensure that there is sufficient space for installation of the sampling equipment.

Table 1. Discharge Effluent Pollutant Concentrations to be Estimated in Wastewater Discharge Report

West Bay Sanitary District Local Limits[a]		
Pollutant	Discharge of 10,000 gallons per day or greater, mg/L	Discharge of Less than 10,000 gallons per day, kg/day
Arsenic	0.1	0.0038
Cadmium	0.2	0.0076
Copper	2.0	0.076
Cyanide	1.0	0.038
Lead	1.0	0.038
Mercury	0.01	0.00038
Nickel	1.0	0.038
Silver	4.0	0.15
Total Chromium	0.5	0.019
Zinc	3.0	0.11
Dissolved Sulfides	0.1	0.0038
EC[b]	pending	pending
Total Dissolved Solids (TDS)[b]	pending	pending
Total Suspended Solids (TSS)[b]	pending	pending
Temperature	150° F	150° F
Oil and Grease (animal or vegetable)	300	300
Oil and Grease (petroleum or mineral)	100	100
pH	6.0 or greater	6.0 or greater
Phenolic Compounds	1.0	1.0
Fluoride Compounds	20.0	20.0

(a) Limits listed with numerical values reflect limits identified in the West Bay Sanitary District Code of Regulations, July 1, 2017.
(b) Limits to be established.

Standard Permit Conditions[1]

Compliance with Ordinances:

- Comply with all requirements of WBSD's Local Limits Ordinance and Sewer Use Ordinance including payment of permit fees.

Monitoring and Reporting:

- Flow monitoring locations:
  - Permittee must install a minimum of two flow meters (such as a magmeter): one on the ORTP wastestream discharge and the other on the ORTP bypass sewer line.
  - All flow meter locations must be specified on drawings and shall be approved by WBSD in writing during design review.
  - Monitoring locations in a confined space entry will not be permitted.
- Sampling locations:
  - One sampling location shall be specified on the ORTP wastestream discharge line to isolate the ORTP wastestream discharge. This sampling location is to be downstream of all the ORTP wastestreams, and upstream of connecting to any other sewer system.
  - Sampling location must be specified on drawings and shall be approved by WBSD in writing during design review. All metering locations shall be approved by WBSD.
  - Sampling locations in a confined space entry will not be permitted.
- Flow monitoring reporting:
  - A communication link must be established to provide continuous real-time display of flowrates to a website accessible to WBSD, SVCW and Permittee for each of the flowmeters installed at the locations approved by WBSD.
  - If a continuous website display is not feasible, Permittee shall provide a monthly flow report to WBSD within one week of the month's end. The report shall indicate, with a time stamp, when the ORTP is in discharge versus bypass mode.
- Quarterly waste discharge reporting:
  - Continuously measured discharge flowrates from the ORTP wastestream discharge – report monthly average, daily average, and peak daily discharge flows in gpm.
  - Continuously measured discharge flowrates from the ORTP bypass line – report monthly average, daily average, and peak daily discharge flows in gpm.

[1] Note: These conditions are subject to change and will be as established in the final ORTP discharge permit.

  - Results from quarterly 24-hour composite sampling, including supporting analytical laboratory reports, for the following parameters:
    - TSS (mg/L)
    - BOD (mg/L)
    - TDS (mg/L)
    - EC (µS/cm)
    - Dissolved Sulfides (mg/L)
    - Heavy metals and other pollutants in existing WBSD and/or SVCW Local Limits
  - Quarterly reporting is to begin upon RWQCB permitting of the ORTP reuse system.
  - Quarterly reports shall be submitted to WBSD within one month of the last day of the sampling quarter.

- First month of operation of full State permitted reuse operations:
  - Conduct weekly 24-hour composite sampling for the conventional water quality parameters listed above (TSS, BOD, TDS, EC, and dissolved sulfides) to confirm predicted values are correct and submit the results, including supporting analytical laboratory reports, to WBSD by the end of the second month of operation.
- Monthly reporting:
  - Continuously measure EC from the approved sampling location. Submit data monthly – report monthly average, daily average, and peak daily values in µS/cm.
- If after the first four quarters of monitoring it is demonstrated that the local limit pollutants in the ORTP discharge are consistently below respective Local Limit values and continued monitoring of such pollutants may be discontinued or the monitoring frequency reduced upon written approval from WBSD and SVCW. Commissioning and Start Up Reports:
  - Copies of reports submitted to the State's Regional Water Quality Control Board and the Division of Drinking Water that are prepared during ORTP commissioning and start up shall be submitted to WBSD and SVCW.

ORTP Discharge Conditions:

- The maximum flow rates of discharge allowed to the WBSD system from the ORTP associated with <site specific: *WBSD to insert name(s) of subject buildings or facilities generating the ORPT influent*> are as follows:
  - During start-up and testing, prior to full State permitted reuse operations, and during times that the ORTP effluent does not meet State standards for reuse, the maximum discharge flow is <site specific: WBSD to insert number> gpd for both ORTP wastestream discharge and treated effluent combined.
  - During full State permitted reuse operations, the maximum wastestream discharge from the ORTP is < site specific: *WBSD to insert number*> gpd.

- ORTP discharges shall comply with a maximum daily limit for EC of 1,050 µS/cm.
- ORTP discharge shall be limited to a maximum daily TSS local limit of 10,000 mg/L.
- ORTP discharge shall have a maximum BOD limit of 1,000 mg/L.
- ORTP discharge shall comply at all times with WBSD and SVCW Local Limits.
- If applicable, depending on the treatment process, a limit on solids and or screenings can be added.

Fees:

- ORTP permit holders are subject to the fees, rates, and charges as adopted annually by WBSD. Adopted fees, rates and charges can be found in Article IX, "Fees Rates and Charges," of the WBSD Code.
- WBSD shall require a deposit to be paid with submittal of the ORTP Discharge Application. The deposit shall include, but is not limited to:
  - Estimated fee for WBSD staff time to review the application package and conduct the necessary analysis.
  - A new CCTV inspection if video inspection of the affected sewer line is more than three years old.
  - Cost of conducting a condition assessment of the sewer line after the ORTP has been in full operation for at least three months. This is to verify that solids are not accumulating or creating other issues of concern in the sewer and is in addition to the condition assessment completed by WBSD prior to permit issuance.
- Permittee shall reimburse WBSD for any additional sewer maintenance costs determined to be related to the addition of the ORTP discharges.
- Permittee shall pay TSS and BOD charges based on measured strength of discharge in accordance with WBSD code of general regulations. Permittee shall reimburse WBSD any additional strength fees paid by WBSD to SVCW that are determined to be related to addition of the ORTP discharges.
- WBSD is in the process of developing fees related to salinity (EC or TDS) concentrations in non-domestic discharges to cover anticipated capital and operating costs of reducing salinity as part of the Bayfront recycled water facility. The ORTP permittee shall pay salinity charges based on the rates adopted by WBSD.
- Any fines or penalties due to a WBSD sewer system overflow or violation to SVCW's NPDES discharge permit that are the result of the Permittee's discharge will be paid by Permittee.

Notifications:

- Permittee must notify WBSD if there are changes to the ORTP process or flows, discharge piping, sampling or flow monitor equipment or location. The permit may be amended as a result of the ORTP changes.

  If applicable, based on proposed ORTP treatment process:

- Permittee must provide 24 hours notice to WBSD prior to discharging the membrane cleaning streams. Permittee to provide schedule of anticipated membrane cleaning frequency.
- A special sampling event is to take place within the first six months of operations during a membrane cleaning. A composite sample of the ejector pit effluent shall be collected that represents the ORTP discharge during membrane cleaning. Sample shall be analyzed for constituents being sampled quarterly and submitted to WBSD within 30 days of sampling. Further sampling of membrane cleaning events will be determined based on the results of the first sample.
- Permittee must provide notice by phone (650) 321-0384, to WBSD of any potential process upset that produces or is anticipated to produce a non-routine discharge from the ORTP prior to discharge or within one (1) hour of discharge in the event of an emergency.

Right of Entry:

- Permittee shall allow access of WBSD staff to the ORTP discharge flow monitoring and water quality monitoring locations and equipment, per Code of General Regulations Article VII, Section 707 paragraphs (07-08).

Odor Control:

- Permittee is responsible for all odor generated on their property and must comply with all Bay Area Air Quality Management District regulations.

Restricted Public Access:

- The ORTP shall be secured from general public access. This could include, but is not limited to, fencing and other security measures to protect the facilities from public access.

Permit Review and Amendments:

- This permit can be reviewed and amended at any time conditions require as determined by the WBSD District Manager (WBSD District Code Article VII, Section 707 paragraph (05)) or by the SVCW Manager.

Permit Limitations:

- This permit is limited to the wastewater flow that is generated at the <site specific: *WBSD to insert Permittee Name and Building Name(s)*> and their respective ORTP discharge. No other discharges will be permitted without approval by WBSD.
- Failure to comply with the above conditions could result in an ORTP discharge cease and desist order.

APPENDIX B

WBSD Internal Review Forms for ORTP Discharge Permit Applications

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West Bay Sanitary District

Procedures Manual for On-Site Reuse Discharge Permitting

Appendix B: West Bay Sanitary District ORTP

Application Review and Assessment Forms for Permit Issuance

Table of Contents

Form RL: ORTP Discharge Permitting Checklist

West Bay Sanitary District
On-Site Reuse Treatment Plant
Discharge Permitting Checklist
WBSD Reviewer's Log

PART 1. APPLICANT INFORMATION	
Applicant Name:	Facility Name:
Facility Address:	
Checklist Completed By:	Interim Permit Issued Date:
Checklist Completion Date:	Final Permit Issued Date:
Application Approved By:	
Application Approved Date:	

PART 2. LOG OF WBSD APPLICATION REVIEW AND PERMITTING ACTIVITIES

Review Item No.	Section/ Form No.	Description	Complete? Y/N	Notes
Application Review And Interim Permit Issuance				
1.	3.2 Form A	Review Application Package for completeness		
2.	3.2, 3.3, 3.4 Form A	Were all of the required attachments submitted? Title 22 Engineering Report Operations and Maintenance Plan Map or figure showing location(s) of discharge point(s) to the sewer, flow meters, and sampling locations Wastewater Discharge Report		
3.		Application Fee Paid?		
4.	3.5 Form B	Complete Sewer Condition Assessment		
5.	3.5 Form C	Comparison of the estimated salinity concentration to WBSD's limit		
6.	3.5 Form D	Sewer System Hydraulic Evaluation		
7.	3.5 Form E	Completion of a local limits evaluation for other regulated constituents		
8.	3.7 Form F	Inspection of ORTP site during construction		
9.	3.6, 4.2.2	Develop site specific permit conditions		
10.	4.2.2	WBSD Issues Interim Permit		
Final Permit Issuance				
11.	4.3	Receive results of testing of the water quality parameters listed in the interim permit.		
12.	4.3 Forms C, E	Review results of estimated and interim permit period salinity and local limit pollutants testing.		
13.	4.4	Compare flows, water quality, solids discharge, and timing of discharge to local limits and interim permit limits.		
14.	4.4	Confirm that all WBSD conditions requested in the interim permit have been achieved.		
15.	4.4	Receipt of Final Copy of Operations and Maintenance Plan with all required WBSD contact information listed.		
16.	4.4	Receipt of copy of final State permit for ORTP operation.		
17.	4.4	Confirm any corrections identified in the Interim Permit were completed.		
18.	4.5	Review the State issued recycled water permit and incorporate any applicable requirements or mitigation measures into the final WBSD permit.		
19.	4.5	Obtain SVCW approval of Final Permit conditions.		
20.	4.5	Issue Final Permit		

Application Package Review

Review Form

Facility Name: _____

REVIEWER INFORMATION	
Name:	
Date:	

No.	Application Item	Submitted? Yes	Submitted? No	Notes
1.	Permit application with all sections completed			
2.	Title 22 Engineering Report			
3.	Operations and Maintenance Plan Items to be included: • Description of typical operation • Schedule for when standard discharges to the public sewer will occur • Schedule for when non-typical discharges to the public sewer will occur • Description of emergency controls • List of contacts for routine and emergency situations. Include contact information for staff at the following agencies: WBSD, SVCW, permit holder, and ORTP operator • Maintenance and inspection schedule • Final O&M Plan to be submitted after permit issuance. Final O&M Plan should identify any mitigation measures that are required by the WBSD's ORTP permit			

4.	Maps or figure showing location(s) of discharge point(s) to the sewer, flow meters, and sampling locations. Specifically, the following items should be identified: • Location and capacity of treatment facility • Location, size, and material of all sewer discharge lines • Discharge points for all discharges to the sewer, including wastewater bypasses • Flow meters on all waste discharge lines to the sewer, including wastewater bypasses • Location of all sampling ports and equipment. Drawing should note location of power source for sampling equipment (if needed) and show available space for installing equipment. • Location and size of waste holding tanks on the site • Identify location of fencing or other physical security measures to protect the facilities from public access. Proposed location of sample ports on waste discharge and bypass lines.			
5.	Wastewater Discharge Report For a list of items to be included in this report, refer to WBSD's "*Wastewater Discharge Report Requirements for an On-Site Reuse Discharge Permit*" included in Appendix A to the WBSD "Procedures Manual for On-Site Discharge Permitting"			

Sewer System Condition Assessment

Review Form

Facility Name: _____

Reviewer Information	
Name:	
Date:	

Maintenance Record Review	
Date of Maintenance Records Reviewed:	
Provide a brief summary of the observations made of the maintenance records reviewed.	
Has the frequency of maintenance on this line increased over the last 5 years?	___ Yes ____ No

If yes, please provide a brief explanation.	
Closed Circuit Television Video Inspection	
Date of CCTV Inspection:	
Date of CCCTV Video Review:	
Provide a general description of the condition of the sewer from observations during review of the video inspection.	
Is there indication of any sags in the pipeline?	___ Yes ____ No

If yes, describe the location of the sags and general observations.	
Is there any indication of joint offsets?	___ Yes ____ No
If yes, describe the location of the joint offsets and general observations.	
Is there any indication of corrosion?	___ Yes ____ No
If yes, describe the location of corrosion and general observations.	

Conclusion of Sewer System Condition Assessment Review	
Does the sewer line appear to be a problematic line?	___ Yes ____ No
Provide a brief explanation.	

Salinity Discharge Evaluation

Review Form

Facility Name: _____

Reviewer Information	
Name:	
Date:	

WBSD Local Limit (mg/L)	Applicant's Estimated TDS Discharge Concentration (mg/L)	Applicant's Estimated EC Discharge Concentration (µs/cm)

Does the Applicant's estimated TDS exceed WBSD's local limit?

_____Yes _____No _____ Approaching

Does the Applicant's estimated EC exceed WBSD's local limit?

_____Yes _____No _____ Approaching

Sewer System Hydraulic Evaluation

Review Form

Facility Name: _____

Reviewer Information	
Name:	
Date:	

Assumptions

Assumed start and end time for daily limited discharge permit option: From:_____To:_____

Hydraulic Modeling Review (performed at both ADWF and AWWF conditions)
Scenario 1: ORTP out of service; All wastewater by-pass ORTP
1. Provide a general description of the flow scenario model. List the key criteria used in the model.

2. Was minimum velocity flow rate achieved	ADWF: ___ Yes ____ No AWWF: ___ Yes ____ No
Please provide a brief explanation.	
3. Is there sufficient capacity to handle discharge during wet weather events?	___ Yes ____ No
Please provide a brief explanation.	

Scenario 2: ORTP in operation and wastewater flows exceed ORTP capacity; excess wastewater discharging to sewer

1. Provide a general description of the flow scenario model for dry and wet weather flows. List the key criteria used in each model.
   a. Dry Weather Conditions
      i. Continuous discharge
         1. Maximum flowrate: _____ gpm
         2. Minimum velocity flowrate of 2 feet per second achieved? _____
         3. What was the duration of the minimum 2 feet per second flowrate? _____ hours

      ii. Limited time-of-day discharge
         1. Maximum flowrate: _____ gpm
         2. Minimum velocity flowrate of 2 feet per second achieved? _____
         3. What was the duration of the minimum 2 feet per second flowrate? _____ hours

   b. Wet Weather Conditions
      i. Continuous discharge
         1. Maximum flowrate: _____ gpm
         2. Minimum velocity flowrate of 2 feet per second achieved? _____
         3. What was the duration of the minimum 2 feet per second flowrate? _____ hours

      ii. Limited time-of-day discharge
         1. Maximum flowrate: _____ gpm
         2. Minimum velocity flowrate of 2 feet per second achieved? _____
         3. What was the duration of the minimum 2 feet per second flowrate? _____ hours

2. Wet Weather Conditions a. Is there a time of day discharge window during which there is sufficient capacity to handle ORTP discharge during wet weather events?	___ Yes ____ No
b. If so, at what maximum flowrate?	_____ gpm
c. What is the limited time discharge window?	From: _____ To: _____

Please provide a brief explanation.

Scenario 3: ORTP in operation and wastewater flow below ORTP capacity; no wastewater discharging to sewer

1. Provide a general description of the flow scenario model for dry and wet weather flows. List the key criteria used in each model.
   a. Dry Weather Conditions
      i. Continuous discharge
         1. Maximum flowrate: _____ gpm
         2. Minimum velocity flowrate of 2 feet per second achieved? _____
         3. What was the duration of the minimum 2 feet per second flowrate? _____ hours

      ii. Limited time-of-day discharge
         1. Maximum flowrate: _____ gpm
         2. Minimum velocity flowrate of 2 feet per second achieved? _____
         3. What was the duration of the minimum 2 feet per second flowrate? _____ hours

   b. Wet Weather Conditions
      i. Continuous discharge
         1. Maximum flowrate: _____ gpm
         2. Minimum velocity flowrate of 2 feet per second achieved? _____
         3. What was the duration of the minimum 2 feet per second flowrate? _____ hours

      ii. Limited time-of-day discharge
         1. Maximum flowrate: _____ gpm
         2. Minimum velocity flowrate of 2 feet per second achieved? _____
         3. What was the duration of the low flow period? _____ hours

2. Wet Weather Conditions a. Is there a time of day discharge window during which there is sufficient capacity to handle ORTP discharge during wet weather events?	___ Yes ____ No
b. If so, at what maximum flowrate?	_____ gpm
c. What is the limited time discharge window?	From: _____ To: _____

Please provide a brief explanation.

Attach a copy of the hydraulic model input and results.

Local Limits Compliance

Review Form

Facility Name: _____

Reviewer Information	
Name:	
Date:	

Comparison of Local Limits to Applicant's Estimated Discharge Concentrations[(a)]

Pollutant	Discharge of 10,000 gallons per day or greater, mg/L	Discharge of Less than 10,000 gallons per day, kg/day	Applicant's Estimated Discharge Concentration (mg/L)	Is the Applicant's Estimate Approaching or Exceeding a Local Limit?	Sampling Date
Arsenic	0.1	0.0038			
Cadmium	0.2	0.0076			
Copper	2.0	0.076			
Cyanide	1.0	0.038			
Lead	1.0	0.038			
Mercury	0.01	0.00038			
Nickel	1.0	0.038			
Silver	4.0	0.15			
Total Chromium	0.5	0.019			
Zinc	3.0	0.11			
Dissolved Sulfides	0.1	0.0038			
EC	pending	pending			
Total Dissolved Solids (TDS)	pending	pending			
Total Suspended Solids (TSS)	pending	pending			
BOD	?	?			
Temperature	150° F	150° F			
Oil and Grease (animal or vegetable)	300	300			
Oil and Grease (petroleum or mineral)	100	100			
pH	6.0 or greater	6.0 or greater			
Phenolic Compounds	1.0	1.0			

(a) This list reflects limits established in the West Bay Code of General Regulations, July 1, 2017. At time of review, confirm that this list represents current limits.

West Bay Sanitary District
On-Site Reuse Treatment Plant
Site Inspection Checklist

Facility Information	
Facility Name:	
Address:	
Date of Visit	
Facility Representative Present for Inspection	
Name:	Title:
Company:	
Phone Number:	Email Address:
Others Present during Inspection:	
Name:	Company:

During the site inspection, note the following information. Attach to this inspection form site photographs, figures, maps and other information that will be useful during review of the project.

1. Does the location of sewer connection(s) match what is shown on the design drawings?

   _____

2. Identify if flowmeters are installed on the waste discharge pipe and wastewater bypass pipe? Note the location and type of meter(s).

   _____

3. Identify if sampling ports are located on waste discharge pipe? Note whether locations are consistent with WBSD's approved locations, easily accessible and allow installation of a composite sampler and have an electrical outlet.

   _____

4. Are there potential uncontained sources of odors that could travel offsite?

   _____

5. Is the ORTP site (including treatment equipment, sampling ports, electrical and instrumentation control panels) secure from access by the general public? Describe.

   _____
   _____
   _____

6. Photograph key components of the ORTP to be maintained in the project file. Take a generous amount of photos to adequately cover the ORTP. At a minimum, the following should be photographed:
   - Pumps and nameplates
   - Treatment equipment and nameplates
   - Electrical and instrumentation control panels
   - Sewer line, as visible from grade level
   - Security fencing around treatment equipment
   - Flow meter, general location, and electrical power supply
   - Connection to WBSD sewer

WEST BAY

SANITARY DISTRICT

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