

City and County of San Francisco
2030 Sewer System Master Plan

TASK 700
TECHNICAL MEMORANDUM NO. 704
REGULATORY IMPLICATIONS OF NEW
OUTFALLS

FINAL DRAFT
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**CITY AND COUNTY OF SAN FRANCISCO
2030 SEWER SYSTEM MASTER PLAN**

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REGULATORY IMPLICATIONS OF NEW OUTFALLS

1.0 PURPOSE

The purpose of this Technical Memorandum (TM) is to understand the regulatory implications and permitting processes involved with conducting activities to maintain, upgrade, and change locations of Bayside outfalls (i.e. the Southeast Plant deep-water outfall at Pier 80 and the North Point dual outfalls). These activities may include, but are not limited to, constructing, dredging, excavating, and filling areas within the San Francisco Bay (i.e. sediment, water column, shoreline, navigable channels, etc.). The following three options are considered:

1. Replace the existing outfall with a new pipeline in the same location.
2. Build a larger outfall pipeline in the same location as the existing pipeline, increasing the capacity of the discharge.
3. Build a new outfall pipeline in a new location, increasing the capacity of the discharge and changing the discharge location.

Additionally, this TM evaluates the environmental impact assessment related to increasing the volume of decant discharged from the Southwest Ocean Outfall (SWOO).

2.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The California Environmental Quality Act (CEQA) was established to identify the environmental effects of the actions taken by California's public agencies, and to avoid and mitigate these actions where feasible. Under CEQA, a "project" is an activity which has the potential to have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits, and the approval of tentative subdivision maps (CEQA, 2005).

A lead agency must complete the environmental review process required by CEQA. The most basic steps of the environmental review process are (1) to determine if the activity is a "project", and if so, if the project is "exempt" from CEQA, and (2) to perform an Initial Study to identify the environmental impacts of the project and determine whether the identified impacts are "significant". Based on its findings of "significance", the lead agency prepares one of the following environmental review documents:

- a) Negative Declaration if it finds no "significant" impacts;
- b) Mitigated Negative Declaration if it finds "significant" impacts but revises the project to avoid or mitigate those significant impacts;

c) Environmental Impact Report (EIR) if it finds "significant" impacts.

While there is no ironclad definition of "significance", the State CEQA Guidelines provide criteria to lead agencies in determining whether a project may have significant effects (CEQA, 2005).

The purpose of an EIR is to provide State and local agencies and the general public with detailed information on the potentially significant environmental effects that a proposed project is likely to have, and to list ways that the significant environmental effects may be minimized and indicate alternatives to the project.

The CEQA demands will be greater for the option to build an outfall pipeline in a new location (Option 3) than for the option to replace the outfall pipeline in the same location with a larger pipeline (Option 2), because the potential environmental impacts are greater. Similarly, completing the CEQA process for the option to replace the outfall with the same size pipe in the existing location (Option 1) will be easier than completing the process for the other options because the environmental impacts are assumed to be less.

3.0 FEDERAL SECTION 404 PERMIT AND SECTION 10 PERMIT

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged, excavated, or fill material in wetlands, streams, rivers, and other U.S. waters. The U.S. Army Corps of Engineers is the federal agency authorized to issue Section 404 Permits. In order for San Francisco to conduct any of the three options described above, a 404 Permit is required.

The Army Corp of Engineers will require that location maps, drawings such as a plan view or cross sectional diagram, and an application all be submitted. Because San Francisco Bay is a habitat for critical species such as the Chinook salmon and steelhead, the National Marine Fisheries Service (NMFS) will be invited to comment on the project. In order for the construction of the project to not interfere with fish migration or spawning runs, NMFS may require that the project be conducted during certain periods of time or seasons.

Additionally, if the project crosses any refuge or other sensitive habitats, the US Fish and Wildlife Service will be invited to comment as well. The length of time to obtain the 404 permit depends on the complexity of the project. At a minimum it will take 3 months for the Army Corp of Engineers to review the application.

The Army Corp of Engineers has developed Nationwide Permits to cover classes of activities rather than having site-specific permits for each individual project. Activities of one project may fall under more than one Nationwide Permit class. For each option, either Nationwide Permit #7, "Outfall Structures and Maintenance" or Nationwide Permit #12, "Utility Line Activities" may be used. The specific text for coverage under these Nationwide Permits is included in the Appendix.

Section 10 of the CWA establishes a program to regulate activities affecting navigation in United States waters. The Army Corp of Engineers is also the federal agency authorized to issue Section 10 Permits. A Section 10 Permit is often submitted, reviewed, and approved in parallel with the 404 Permit.

4.0 STATE 401 WATER QUALITY CERTIFICATION

Section 401 of the CWA authorizes states to certify that an activity also meets state standards with regards to the discharge of dredged, excavated, or fill material in wetlands, streams, rivers, and other waters. A 401 Water Quality Certification Application will need to be filled out and submitted for review by the San Francisco Bay Regional Water Quality Control Board (RWQCB). A fee will be required, the amount of which depends on the size of the project. CEQA documents will need to be provided prior to final approval of the Certification.

The 401 Water Quality Certification Application may be submitted and reviewed in parallel with the 404 permit, although a 404 Permit is not valid until the 401 Water Quality Certification has first been approved. The 401 Water Quality Certification will take at least several months for approval and can even take longer depending on the complexity of the project. As impacts from the pipeline construction and placement increase, permitting also becomes more complex. Therefore, the time necessary to obtain the permits will likely increase as the complexity of the project increases (i.e. from Option 1 to Option 2 to Option 3).

5.0 STORMWATER CONSTRUCTION PERMIT

During construction, if the staging area on land for the construction of the pipeline is greater than 1 acre, a stormwater construction permit will be required. A staging area greater than one acre will most likely be needed for the construction of a new or larger pipeline.

A General Construction Permit will require the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map showing the construction site perimeter, lots, roadways, storm water collection and discharge points, and general topography. The SWPPP will need to list Best Management Practices (BMPs) the discharger will use to protect receiving waters from storm water runoff, the placement of those BMPs, and a monitoring program.

6.0 BAY CONSERVATION AND DEVELOPMENT COMMISSION (BCDC)

In 1965, state legislation was passed (McAteer-Petris Act) establishing the San Francisco Bay Conservation and Development Commission (BCDC) as a temporary state agency to maintain the Bay's resources, characteristics, and attributes. The BCDC developed the San

Francisco Bay Plan, which outlines the allowable use of the Bay resources, including the development of ports, public access ways, and transportation on the Bay. The Bay Plan includes policies which regulate these activities and also contains maps of the entire Bay which designate shoreline areas that should be reserved for water-related purposes like ports, industry, public recreation, airports, and wildlife refuges. In August 1969, the McAteer-Petris Act was amended to establish BCDC as a permanent agency and to incorporate the policies of the Bay Plan into state law.

BCDC has authority to review any project that involves new fill, extraction of material, or substantial use changes within the Bay. An application with BCDC will need to be completed for any of the three pipeline options. CEQA documents are necessary for the BCDC review process. Depending on the complexity of the project, public review may also be required. In the past, the construction of the existing North Point outfall required that the application process include public review. Therefore, it can be expected that construction of an outfall in a new location (Option 3) and possibly construction of a new outfall in the same location (Option 1 and Option 2) will require that the application go through the public review process.

The BCDC is focused on choosing the pipeline alternative that has the least amount of impacts to the Bay (e.g. disturbance of eel grass beds). This also includes evaluating the timing of construction so as not to disturb anadromous fish runs. It may be argued that there will be a net environmental benefit with an outfall project since near shore discharges will be minimized and there will be an overall improvement in the water quality discharged to the Bay. BCDC is required to take action on an application (i.e. approve or deny) within 90 days of submittal.

7.0 UNITED STATES COAST GUARD

The U.S. Coast Guard may have interest in the project if the construction or final pipeline location interferes with navigable waters. It is advisable to check with the U.S. Coast Guard in case they have input on the time of construction, the location and depth of the final pipeline, or other aspects to the project that may disrupt navigable waters.

8.0 OCEANSIDE DECANT ENVIRONMENTAL ASSESSMENT

Currently during wet weather events when the Oceanside treatment plant is at capacity, combined stormwater and wastewater flows are stored in the storage/transport system until the storm has subsided. In large storm events when the storage capacity is exceeded, combined flows are "decanted" over a baffle system, receiving equivalent to wet weather primary treatment, and discharged through the Southwest Ocean Outfall (SWOO). When the decant pumping capacity is exceeded (> 175 MGD), the combined flows are discharged through any of seven shoreline overflow structures.

In an effort to minimize shoreline discharges, San Francisco may consider increasing the pumping capacity up to the full existing capacity of the SWOO, 590 mgd. An environmental impact assessment would need to be made to determine the impacts from increased decant from the SWOO. The 1974 San Francisco Master Plan Final Environmental Report and Statement (EIR/EIS) does evaluate aquatic and biological impacts from SWOO discharges.

The EIR/EIS refers to a two-year study focused on field and ecological data conducted by Brown & Caldwell for San Francisco in 1969. According to the EIR/EIS, this study found that “primary effluent from the City of San Francisco, discharged at appropriate points through properly designed submarine diffusers, would not adversely affect the marine environment of the Central Bay or the Gulf of the Farallones.” A supplemental study was conducted in 1971 that was focused on Dungeness crab populations. The study concluded that “tests performed on adults, juveniles, larvae, and eggs of several species of crabs showed no statistically significant effect due to wastewater effluents at dilutions ranging from 1:400 to 1:20.”

The relevance of these studies to the existing system and potential changes to the system (i.e. increased SWOO discharges) needs to be confirmed. For example, it is unclear which, if any of the design flows identified in the EIR/EIS (average dry weather flow of 125 mgd, a peak dry weather flow of 340 mgd, and a peak wet weather flow of 1000 mgd) were used in the 1969 study. A mass balance and a review of biological monitoring data would also be useful to understand the flows and water quality from increased decant discharges to the SWOO.

The Monterey Bay National Marine Sanctuary was established in 1969. Although, San Francisco discharges into an area excluded from the Sanctuary (“Exclusion Zone”), an increase in discharge from the SWOO may be problematic.

9.0 SUMMARY

In summary, construction of a new outfall pipeline in the existing location (Option 1), construction of a new larger pipeline at the existing location (Option 2), and construction of a new pipeline in a new location (Option 3), will all require that CEQA action be taken, a State 401 Water Quality Certification be granted, Federal 404 and Section 10 Permits be granted, and BCDC approval of the project. As the complexity of the project increases, the amount of information and time needed to obtain approval will also increase. For instance, building a Southeast Plant outfall pipe in a new location (Option 3) will require greater investigation of the environmental impacts to eel grass beds, sediments, etc., in the new location than would building a new pipeline at the existing location (Option 1). Therefore, the ease and time to obtain approval for construction of the project is dependent on the complexity of the project.

A review of the 1974 EIR/EIS suggests that increased decant discharges from the SWOO may have been assessed as not having an environmental impact, yet an updated study is necessary to verify that the increased decant flows would not have a negative environmental impact and that those flows will not be challenged by the National Oceanic and Atmospheric Association (NOAA) National Marine Sanctuaries Program.

APPENDIX - ARMY CORP OF ENGINEERS NATIONWIDE PERMITS

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3. Maintenance. Activities related to: (i) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable, structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area including those due to changes in materials, construction techniques, or current construction codes or safety standards which are necessary to make repair, rehabilitation, or replacement are permitted, provided the adverse environmental effects resulting from such repair, rehabilitation, or replacement are minimal. Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction. This NWP authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the District Engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(ii) Discharges of dredged or fill material, including excavation, into all waters of the US to remove accumulated sediments and debris in the vicinity of, and within, existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and the placement of new or additional riprap to protect the structure, provided the permittee notifies the District Engineer in accordance with General Condition 13. The removal of sediment is limited to the minimum necessary to restore the waterway in the immediate vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend further than 200 feet in any direction from the structure. The placement of rip rap must be the minimum necessary to protect the structure or to ensure the safety of the structure. All excavated materials must be deposited and retained in an upland area unless otherwise specifically approved by the District Engineer under separate authorization. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the District Engineer.

(iii) Discharges of dredged or fill material, including excavation, into all waters of the US for activities associated with the restoration of upland areas damaged by a storm, flood, or other discrete event, including the construction, placement, or installation of upland protection structures and minor dredging to remove obstructions in a water of the US. (Uplands lost as a result of a storm, flood, or other discrete event can be replaced without a Section 404 permit provided the uplands are restored to their original pre-event location. This NWP is for the activities in waters of the US associated with the replacement of the uplands.) The permittee must notify the District Engineer, in accordance with General Condition 13, within 12-months of

the date of the damage and the work must commence, or be under contract to commence, within two years of the date of the damage. The permittee should provide evidence, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration. The restoration of the damaged areas cannot exceed the contours, or ordinary high water mark, that existed before the damage. The District Engineer retains the right to determine the extent of the pre-existing conditions and the extent of any restoration work authorized by this permit. Minor dredging to remove obstructions from the adjacent waterbody is limited to 50 cubic yards below the plane of the ordinary high water mark, and is limited to the amount necessary to restore the pre-existing bottom contours of the waterbody. The dredging may not be done primarily to obtain fill for any restoration activities. The discharge of dredged or fill material and all related work needed to restore the upland must be part of a single and complete project. This permit cannot be used in conjunction with NWP 18 or NWP 19 to restore damaged upland areas. This permit cannot be used to reclaim historic lands lost, over an extended period, to normal erosion processes.

This permit does not authorize maintenance dredging for the primary purpose of navigation and beach restoration. This permit does not authorize new stream channelization or stream relocation projects. Any work authorized by this permit must not cause more than minimal degradation of water quality, more than minimal changes to the flow characteristics of the stream, or increase flooding (See General Conditions 9 and 21). (Sections 10 and 404)

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Section 404(f) exemption for maintenance.

7. Outfall Structures and Maintenance. Activities related to: (i) Construction of outfall structures and associated intake structures where the effluent from the outfall is authorized, conditionally authorized, or specifically exempted, or are otherwise in compliance with regulations issued under the National Pollutant Discharge Elimination System Program (Section 402 of the CWA), and (ii) Maintenance excavation, including dredging, to remove accumulated sediments blocking or restricting outfall and intake structures, accumulated sediments from small impoundments associated with outfall and intake structures, and accumulated sediments from canals associated with outfall and intake structures, provided that the activity meets all of the following criteria:

- a. The permittee notifies the District Engineer in accordance with General Condition 13;
- b. The amount of excavated or dredged material must be the minimum necessary to restore the outfalls, intakes, small impoundments, and canals to original design capacities and design configurations (i.e., depth and width);
- c. The excavated or dredged material is deposited and retained at an upland site, unless otherwise approved by the District Engineer under separate authorization; and
- d. Proper soil erosion and sediment control measures are used to minimize reentry of sediments into waters of the US.

The construction of intake structures is not authorized by this NWP, unless they are directly associated with an authorized outfall structure. For maintenance excavation and dredging to remove accumulated sediments, the notification must include information regarding the original design capacities and configurations of the facility and the presence of special aquatic sites (e.g., vegetated shallows) in the vicinity of the proposed work. (Sections 10 and 404)

12. Utility Line Activities. Activities required for the construction, maintenance and repair of utility lines and associated facilities in waters of the US as follows:

(i) Utility lines: The construction, maintenance, or repair of utility lines, including outfall and intake structures and the associated excavation, backfill, or bedding for the utility lines, in all waters of the US, provided there is no change in preconstruction contours. A “utility line” is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication (see Note 1, below). Material resulting from trench excavation may be temporarily sidecast (up to three months) into waters of the US, provided that the material is not placed in such a manner that it is dispersed by currents or other forces. The District Engineer may extend the period of temporary side casting not to exceed a total of 180 days, where appropriate. In wetlands, the top 6" to 12" of the trench should normally be backfilled with topsoil from the trench. Furthermore, the trench cannot be constructed in such a manner as to drain waters of the US (e.g., backfilling with extensive gravel layers, creating a french drain effect). For example, utility line trenches can be backfilled with clay blocks to ensure that the trench does not drain the waters of the US through which the utility line is installed. Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

(ii) Utility line substations: The construction, maintenance, or expansion of a substation facility associated with a power line or utility line in non-tidal waters of the US, excluding non-tidal wetlands adjacent to tidal waters, provided the activity does not result in the loss of greater than 1/2-acre of non-tidal waters of the US.

(iii) Foundations for overhead utility line towers, poles, and anchors: The construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the US, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

(iv) Access roads: The construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the US, excluding non-tidal wetlands adjacent to tidal waters, provided the discharges do not cause the loss of greater than 1/2-acre of non-tidal waters of the US. Access roads shall be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes the adverse effects on waters of the US and as near as possible to preconstruction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above preconstruction contours and elevations in waters of the US must be properly bridged or culverted to maintain surface flows.

The term “utility line” does not include activities which drain a water of the US, such as drainage tile, or french drains; however, it does apply to pipes conveying drainage from another area. For the purposes of this NWP, the loss of waters of the US includes the filled area plus waters of the US that are adversely affected by flooding, excavation, or drainage as a result of

the project. Activities authorized by paragraphs (i) through (iv) may not exceed a total of 1/2-acre loss of waters of the US. Waters of the US temporarily affected by filling, flooding, excavation, or drainage, where the project area is restored to preconstruction

contours and elevation, is not included in the calculation of permanent loss of waters of the US. This includes temporary construction mats (e.g., timber, steel, geotextile) used during construction and removed upon completion of the work. Where certain functions and values of waters of the US are permanently adversely affected, such as the conversion of a forested wetland to a herbaceous wetland in the permanently maintained utility line right-of-way, mitigation will be required to reduce the adverse effects of the project to the minimal level.

Mechanized land clearing necessary for the construction, maintenance, or repair of utility lines and the construction, maintenance and expansion of utility line substations, foundations for overhead utility lines, and access roads is authorized, provided the cleared area is kept to the minimum necessary and preconstruction contours are maintained as near as possible. The area of waters of the US that is filled, excavated, or flooded must be limited to the minimum necessary to construct the utility line, substations, foundations, and access roads. Excess material must be removed to upland areas immediately upon completion of construction. This NWP may authorize utility lines in or affecting navigable waters of the US even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322).

Notification: The permittee must notify the District Engineer in accordance with General Condition 13, if any of the following criteria are met:

- (a) Mechanized land clearing in a forested wetland for the utility line right-of-way;
- (b) A Section 10 permit is required;
- (c) The utility line in waters of the US, excluding overhead lines, exceeds 500 feet;
- (d) The utility line is placed within a jurisdictional area (i.e., water of the US), and it runs parallel to a stream bed that is within that jurisdictional area;
- (e) Discharges associated with the construction of utility line substations that result in the loss of greater than 1/10-acre of waters of the US;
- (f) Permanent access roads constructed above grade in waters of the US for a distance of more than 500 feet; or
- (g) Permanent access roads constructed in waters of the US with impervious materials. (Sections 10 and 404)

Note 1: Overhead utility lines constructed over Section 10 waters and utility lines that are routed in or under Section 10 waters without a discharge of dredged or fill material require a Section 10 permit; except for pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the US, which are considered to be bridges, not utility lines, and may require a permit from the USCG pursuant to section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material associated with such pipelines will require a Corps permit under Section 404.

Note 2: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work and the area restored to preconstruction contours, elevations, and wetland conditions. Temporary access roads for construction may be authorized by NWP 33.

Note 3: Where the proposed utility line is constructed or installed in navigable waters of the US (i.e., Section 10 waters), copies of the PCN and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.