5. UTILITIES

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CONSISTENCY WITH ENTITLEMENT DOCUMENTS

The Utility systems included as part of this Sub-Phase Application 1 are consistent with previous entitlement documents and the Treasure Island/Yerba Buena Island Master Utility Plans, which are currently being reviewed by applicable City Agencies. The Utilities section of this Sub-Phase Application 1 includes 50% Construction Documents for all Utilities on Yerba Buena Island. Further information regarding phasing and interim utility improvements will be provided as part of subsequent improvement plan submittals. It is not anticipated that there will be Transferable Infrastructure in YBI Sub-Phase 1YA and 1YB.
5.1 STORMWATER TREATMENT

All watershed areas will include centralized treatment areas where a single treatment feature treats storm water from the entire watershed including private parcels, city rights-of-way and TICD controlled property. Private vertical development and TIDA controlled property will not be required to implement any storm water treatment measures on their parcels because the storm water treatment is provided in designated off-parcel centralized treatment areas as approved by the SFPUC.

On Yerba Buena Island, treatment flows will be diverted from the storm drain systems via gravity into the treatment areas. Any treatment flow downstream of the treatment areas will be pumped into the treatment areas. Centralized storm water treatment areas shown are conceptual only and will be further documented in the Project’s Preliminary and Final Storm Water Control Plans. The Preliminary Stormwater Control Plan is included in this application as Appendix G.

The centralized treatment facilities will consist of a “treatment train” strategy in an urban park setting. The treatment train will consist of a swirl separator, a forebay, a vegetated swale, extended detention, and dispersed biotreatment areas. Landscaping will be selected for stormwater treatment, biological habitat benefits and aesthetics, while providing screening of the structural elements (primarily, the pump discharge location and the bioretention outlet structure).
5.2 STORM DRAIN

The proposed storm drain mains will be located in the street right-of-way except for the storm drain outfalls that pass through the parks and open spaces.

Existing storm drain mains will be demolished and removed as needed with Sub-Phases 1YA and 1YB. New outfalls will be constructed for the storm drain system for Sub-Phases 1YA and 1YB. Existing outfalls will be reconstructed as part of the shoreline protection.

On Yerba Buena Island hillside areas 1Y and 2Y will drain towards a new outfall (Outfall B) on the east side of Macalla Road towards North Gate Road. Macalla Road and west of hillside will drain towards Treasure Island Road and to a new Outfall at Clipper Cove and Palm Drive (Outfall A).

No treatment pump stations will be provided on Yerba Buena Island.

Treatment pump stations (Outfall A) at Clipper Cove and Palm Drive will be constructed as part of Sub-Phase 1YA and 1YB of the Treasure Island Redevelopment. Centralized treatment areas are located in the open space area and are shown for reference only.

The following location will require an easement:

- Water Tanks towards the northwest side of the development parcel to Macalla Road. This is to provide public potable water from the water tanks to Macalla Road to service Treasure Island
- New outfall at North Gate Road (Outfall B)
- West end of Treasure Island Road and the Ferry Plaza toward the outfall (Outfall A)

Proposed Changes to the 2011 Infrastructure Plan

- Section 12.3.2 – Yerba Buena Island Stormwater Treatment Areas
  - The stormwater treatment areas have been updated per the Master Utility Plans.

- Figure 12.1, 4 – Proposed Stormwater Collection System
  - The system layout and stormwater treatment areas have been updated per the Master Utility Plans.
STORM DRAIN

FIGURE 5.2  SUB-PHASE STORM DRAIN

LEGEND

Centralized Treatment Site
Existing Storm Drain
Proposed Storm Drain
Connection Point
Sub-phase Boundary

SUB-PHASE APPLICATION 1: SUB-PHASES 1YA & 1YB

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5.3 SANITARY SEWER

The proposed sanitary sewer (SS) system will serve the sewer demands for the development. The existing SS mains and laterals within Sub-Phases 1YA and 1YB will be demolished.

The proposed SS system will allow for connection of select existing sewer facilities at the connection to existing Coast Guard main in North Gate Road on Yerba Buena Island.

Proposed pump stations will be located at the following locations:

- In proposed North Gate Road approximately 120 feet from the Coast Guard lands
- In proposed North Gate Road near the SQHD parcel
- In proposed Macalla Road near the proposed 4Y parcel

Proposed Changes to the 2011 Infrastructure Plan

- Section 10.2.2
  o The pump/lift station layouts have been adjusted based on conversations with the SFPUC.
- Section 10.2.2.2 – Wastewater System Design Criteria
  o The design criteria has been updated based on requests from the SFPUC
    - Velocity: Wastewater system velocity will be 2 feet per second during average dry weather flows.
    - Minimum Depth of Cover: Minimum depth of cover shall be 5 feet.
- Section 10.5
  o The proposed Sub-Phase development will not utilize the existing Navy sewer system. A new interim force main will be constructed out the existing waste water treatment plant that will serve the proposed development.
  o The SFPUC will not be responsible for the existing Navy sanitary sewer mains that will remain after this Sub-Phase. TICD will coordinate with TIDA to determine what studies, if any, are required for the existing condition assessment of the existing sanitary sewer mains.

- Section 10.3 – Wastewater Treatment Wetlands
  o There are currently no plans to utilize wastewater treatment wetlands.
- Figure 10.1 – Proposed Wastewater Collection Systems
  o Based on continued conversations with SFPUC, the sanitary sewer system and pump station layouts have been updated per the Master Utility Plans.
5.4 LOW PRESSURE WATER

The proposed low pressure water (LPW) system will serve the potable water demands and the fire flow demands for the development. LPW includes water tanks on YBI for service and fire protection on TI & YBI, and pumping facilities to serve YBI. The existing LPW mains within Sub-Phases 1YA and 1YB will be demolished.

LPW facilities will be located within public right-of-way to allow for access and maintenance of facilities unless an alternative design is approved by SFPUC under the Subdivision Regulations for Treasure Island and Yerba Buena Island. In every location where a SFPUC low pressure water main is located outside the public right-of-way, an easement will be dedicated for that low pressure water main. The SFPUC will only consent to such water main easement if the SFPUC determines that the proposed alignment and easement area appropriate based on the SFPUC policy.

The following locations will require an easement:

• Water Tanks towards the northwest side of the development parcel to Macalla Road. This is to provide public potable water from the water tanks to Macalla Road to service Treasure Island.
• South of Yerba Buena Road within the proposed open space towards the Coast Guard property. This is to provide continued potable water service for the Coast Guard area.
• Through the Senior Officer Quarters Headquarters District (SOQHD) parcel to provide continued potable water service for the Coast Guard.

The proposed LPW system will allow for the connection of the existing LPW system at the following locations:

• Connect to the existing main at the proposed viaduct
• Connect to three existing mains from the U.S. Coast Guard
• Connect to one existing main at the ramp
• Connect to one existing main along North Gate Road.

Connection of existing water system to the new LPW system will include meters and backflow devices.

Proposed Changes to the 2011 Infrastructure Plan

• Section 9.2.2.2 – Emergency Water Supply
  o The PUC had determined they do not need an emergency water supply from EBMUD and has removed the secondary line from the project.

• Section 9.2.3 – Proposed Potable Water Storage
  o The locations and configuration of the water storage tanks have been modified in coordination with the SFPUC due to seismic concerns at the existing water tank location on Macalla Road and separating the larger tank into two tanks for maintenance purposes.

• Section 9.5 – Phases for Potable Water System Construction
  o The current plan is to build the new development water storage tanks before Sub-Phases 1YA and 1YB development is complete.

o The SFPUC will not be responsible for the existing Navy water mains that will remain after Sub-Phases 1YA and 1YB. TICD will coordinate with TIDA to determine what studies, if any, are required for the existing condition assessment of the existing water mains.

o Figure 9.1 - The potable water distribution system has been updated per the Master Utility Plans
5.5 JOINT TRENCH

A joint utility trench system is planned for the project and will include the following dry utilities: electric, gas, telephone, cable TV and other ancillary communication facilities required by SFPUC.

Joint utilities on site shall be placed in a common trench located in the franchised area, under the sidewalk for mechanical protection and will be installed to maintain utility standard clearances from wet utilities and other improvements. Vaults, boxes, manholes and enclosures housing equipment will be installed in the franchised area as well; their locations will be coordinated with wet utilities, other civil and architectural improvements and street lights.

The joint trench exhibit illustrates the general location of proposed joint trench facilities, an overhead line relocation and new switch gear at the eastern shore and identifies other joint utility source locations. General system elements for each dry utility are described briefly below.

Treasure Island is served by existing submarine cable from Oakland. These lines connect to existing switchgear in existing Building 3. This switchgear then feeds distribution on Treasure Island and a submarine cable to feed distribution facilities on Yerba Buena Island. As part of these Sub-Phases, 1YA and 1YB, new 15kV switchgear will be provided on the east side of the island to feed the new 12kV, 600 and 200 amp distribution system in the new development. This new switchgear will be fed from the existing submarine cable from Oakland. This new switchgear will remain until the next Sub-Phase can be reviewed.

Electric facilities provided by either PG&E or SFPUC will include conduits, boxes, vaults, cables and devices including, but not limited to, switches, transformers, capacitor banks and metering. The electric distribution system will consist of 600 and 200 amp 12 kV underground primary distribution circuits throughout the project. Transformers placed in strategic locations will supply residential, commercial and support facilities with secondary voltage below 600V.

Where feasible, equipment will be placed subsurface. In some areas, subsurface transformers may not be allowed due to water table and soil characteristics. This will be determined by the electric utility on a case by case basis. Transformers supplying electricity to residential and commercial customers may be located either in the franchise area or on private property assuming that adequate operating clearance and access is provided. In areas where subsurface transformers are not feasible pad mounted equipment may be necessary.

Existing natural gas service comes to Treasure Island through an existing 10-inch submarine gas pipeline from Oakland. This line terminates at a large PG&E meter and service lines radiate out from this meter to serve existing uses on TI and YBI. New gas distribution will be provided to serve the proposed development. Gas facilities provided by PG&E will consist of steel or plastic gas pipe, fittings, appurtenances and metering equipment.

Telephone and cable TV facilities provided by AT&T and Comcast will consist of conduits, boxes, vaults and amplifiers to facilitate the installation and operation of copper and fiber optic cables as proposed by the communication providers.

Joint Trench will be provided in all streets and will be adjacent to proposed pump station locations. It is assumed that each pump station will connect to power available in joint trench and will have its own service point with a meter. Communication facilities will also be available adjacent to pump stations to allow for connection to the Internet.

Street lighting systems will consist of steel conduits, boxes, wiring and lighting units. A lighting unit will consist of a foundation, pole, mast arm, luminaire(s) and photocell. The street lighting system will utilize LED type lighting and provide photometric and lighting characteristics that are defined in the Treasure Island & Yerba Buena Island Streetscape Master Plan.
FIGURE 5.5 SUB-PHASE JOINT TRENCH

LEGEND
- Existing Submarine Cable
- Proposed Joint Trench
- Temporary Overhead Electrical
- Switch Gear
- Connect to new Joint Trench
- Sub-phase Boundary

SUB-PHASE APPLICATION 1: SUB-PHASES 1YA & 1YB