



SITE MITIGATION PLAN

India Basin Shoreline Park Redevelopment
401 Hunters Point Boulevard
San Francisco, California 94124
SMED Case Number: 2219

August 12, 2024
Rev. 0

prepared for:

San Francisco Recreation and Park Department
49 South Van Ness Avenue, #1220
San Francisco, California 94103

San Francisco Public Works
Site Assessment and Remediation, Project Controls and Services
San Francisco, California 94103

prepared by:

CDIM Engineering, Inc.
45 Polk Street, 3rd Floor
San Francisco, California 94102



CDIM's work for the San Francisco Recreation and Park Department (RPD) and San Francisco Public Works (SFPW) was conducted under our supervision. To the best of our knowledge, the data contained herein are true and accurate, are based on what can be reasonably understood as a result of this project, and satisfy the scope of work prescribed by the client for this project. The data, findings, recommendations, specifications, or professional opinions were prepared solely for the use of RPD and the SFPW in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied, and are not responsible for the interpretation by others of the contents herein.

Kylie Cush

August 12, 2024

Kylie Cush, PG #9963
Project Geologist

Date



Scott Bourne

August 12, 2024

Scott Bourne, PE #C72817
Principal Engineer

Date



TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Site Description	1
1.2	Site History	1
1.3	Project Description	1
1.4	Geology	2
1.5	Environmental Investigations	2
	1.5.1 <i>Constituents of Concern</i>	3
	1.5.2 <i>Neighboring Environmental Site (900 Innes)</i>	4
1.6	Scope of this SMP	5
1.7	SMP Objectives	5
2	SITE ACTIVITIES	6
2.1	Park Reconstruction	6
2.2	Anticipated Future Park Maintenance	6
3	APPLICABLE ENVIRONMENTAL REGULATIONS	8
4	SITE MITIGATION MEASURES	10
4.1	Upland Durable Cover	10
4.2	Nearshore Gravel Cover	11
4.3	Soil Import Criteria	11
4.4	Contingency for Unexpected Conditions	12
4.5	Construction Site Security	12
4.6	Operation and Maintenance	12
	4.6.1 <i>Inspection and Maintenance Procedures</i>	13
	4.6.2 <i>Soil Testing and Management During Future Maintenance Excavations</i>	13
5	VULNERABILITY TO SEA LEVEL RISE	14
6	POST-CONSTRUCTION DOCUMENTATION	15
7	REFERENCES	16

FIGURES

- Figure 1 Site Location and Layout
- Figure 2 Rendering of Proposed Final Site Conditions
- Figure 3 Soil and Sediment Sample Locations and Proposed Site Plan
- Figure 4A Shoreline Soil and Sediment Samples Exceeding HHSLs and Proposed Site Plan
- Figure 4B Soil and Sediment Samples Exceeding EHSLs and Proposed Site Plan
- Figure 5 Upland Durable Cover and Nearshore Gravel Cover Plan

APPENDICES

- Appendix A Sample Results from 2017 Northgate Site Characterization Report
 - Tables 2 to 9B
- Appendix B Sea Level Rise Diagrams
- Appendix C Excerpts of Design Drawings from India Basin Shoreline Park Permit Set
 - Sheets C102.1 to C102.4. Demolition Plan – Sectors 1 to 4
 - Sheets C003.2 to C004.2. Earthwork – Above MHW and Below MHW
 - Sheets C201.2 to C204.2. Grading and Drainage Plan – Sectors 1 to 4
 - Sheets C301.2 to C303.2. Grading and Drainage Plan – Sectors 1 to 3
 - Sheets L110.2 to L580.2. Landscape Plans
 - Sheets CS100.2, CS201.2, CS202.2, SCS203.2, CS301.2 and CS302.2. Coastal Plans



ACRONYMS AND ABBREVIATIONS

ADMP	Asbestos Dust Mitigation Plan
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BaP-eq	benzo(a)pyrene equivalent
bgs	below ground surface
BCM SAR	Bureau of Construction Management, Site Assessment Remediation Division
BMPs	best management practices
Cal-OSHA	California Occupational Safety and Health Administration
CARB	California Air Resources Board
CCR	California Code of Regulations
CDIM	CDIM Engineering, Inc.
CFR	Code of Federal Regulations
COC	constituent of concern
CY	cubic yards
DCP	Dust Control Plan
DTSC	California Department of Toxic Substances Control
EHSL	Recommended Ecological Health Screening Levels
ESCP	Erosion and Sediment Control Plan
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
HHSL	Recommended Human Health-Based Screening Levels for On-Site Management
HAZWOPER	Hazardous Waste Operations and Emergency Response
HSP	health and safety plan
IBSP	India Basin Shoreline Park
Langan	Langan Treadwell Rollo
Maheer Ordinance	Article 22A of the San Francisco Health Code
mg/kg	milligram per kilogram
MHW	mean high water
NOA	naturally occurring asbestos
Northgate	Northgate Environmental Management, Inc.



OSHA	United States Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
RPD	San Francisco Recreation and Park Department
Regional Water Board	California Regional Water Quality Control Board, San Francisco Bay Region
SCR	Site Characterization Report
SFDPH	San Francisco Department of Public Health
SFPUC	San Francisco Public Utilities Commission Construction
SFPW	San Francisco Public Works
SMP	Site Mitigation Plan
TPH	total petroleum hydrocarbons
TPH-mo	total petroleum hydrocarbons as motor oil
UCL	upper confidence level
ug/kg	micrograms per kilogram
USEPA	United States Environmental Protection Agency
UST	underground storage tank

1 INTRODUCTION

CDIM Engineering, Inc. (CDIM) has prepared this Site Mitigation Plan (SMP) on behalf of San Francisco Public Works (SFPW) and San Francisco Recreation and Park Department (RPD) for the India Basin Redevelopment Project (Project) at India Basin Shoreline Park (IBSP; Site) located at 401 Hunters Point Boulevard, San Francisco, California 94124. The Site location and layout is shown in Figure 1. SFPW and RPD are collectively referred to herein as the “City”.

1.1 Site Description

The Site is an approximately 5.6-acre waterfront park consisting of an electric tower and gravel yard, the paved Hawes Street roadway, paved parking areas, paved walking paths, picnic facilities, basketball courts, playgrounds with paved surfacing, grassy and landscaped areas, and a shoreline reinforced with riprap (Figure 1). The Site is used for recreation. IBSP is a part of the larger India Basin Redevelopment Project.¹ The Site is bordered by Hunters Point Boulevard and a vacant property to the west, Hudson Avenue and the India Basin Redevelopment Project site at 900 Innes Avenue (990 Innes) to the south, the San Francisco Bay to the east, and a Pacific Gas and Electric Company (PG&E) substation to the north.

Topographically, the Site ground elevations range from approximately elevation +47 feet (NAVD88) at the northwestern corner of the site, to about elevation +2 feet adjacent to the waterline, and generally slopes northeast towards the waterline. Approximately half of the 900 Innes Avenue site is paved with asphalt in deteriorating condition. The shoreline itself includes rock riprap, concrete walls, an abandoned boat ramp, and mudflats (AGS, 2021).

1.2 Site History

Prior to 1938, most of the Site was a tidal mudflat. Between 1875 and 1936 it was the location of the Hunters Point Ship Graveyard, where, during the 1920s and continuing into the 1930s, it was used as a ship scavenging area where “obsolete vessels were towed to the east end of the basin, stripped of parts, and left to deteriorate in the mud” (SF Planning, 2017). Large areas of the Site were filled in the 1960s using material excavated during the construction of Candlestick Park and portions of Interstate 280. The current shape of India Basin Shoreline Park was in place by 1969, after which filling activities were curtailed. The area became India Basin Shoreline Park in the 1990s and has been improved for recreation and habitat restoration since that time.

1.3 Project Description

RPD will update the India Basin Shoreline Park through demolition of the existing structures and development of a revitalized park. The project will incorporate wetland restoration and connecting the San

¹ The Project includes three other properties, outside the scope of this SMP: 900 Innes Avenue, India Basin Open Space, and 700 Innes Avenue.

Francisco Bay Trail to the adjoining properties. New recreational features will consist of driveways and parking, various types of paths (e.g., paved, wood decking, grate), a cookout terrace, a basketball court, two playgrounds, fitness equipment, restrooms, a pergola, a boathouse and boat launch, and a ferry landing. Figure 2 is a rendering that shows the proposed final Site conditions. Paths will provide foot access throughout the Site, including to the shoreline. The boat launch and ferry landing will be on the northwestern shore. Parking is planned along the reconstructed Hawes Street at the northeastern portion of the Site. The basketball courts and playgrounds are proposed in the southern half of the Site. Utilities, irrigation, and lighting features are also proposed. Proposed shoreline and nearshore improvements include regrading of the existing hardened shoreline edge to a softer (wetlands/beach) edge, construction of a fixed pier, a floating pier with dock and gangway, and creating the lower portion of the Marine Way and gravel beach (Moffatt & Nichol, 2021).

1.4 Geology

Soils at the Site consist of fill overlying native marine sediments (generally dark olive brown poorly graded sand with some gravel and clay [fill] overlying dark gray to black clay [native marine sediments]) or native serpentinite² bedrock. Fill placed east of the historic San Francisco Bay shoreline between the 1940s and 1960s was found to be up to 35 feet thick in IBSP and thin towards the shoreline. Serpentinite bedrock was observed beneath the fill material in the northern center of IBSP, and fill contained serpentinite fragments in multiple borings advanced across the Site (Northgate, 2017b). Depth to groundwater encountered in soil borings ranges from 8.5 to 26 feet below ground surface (bgs) and is likely tidally influenced. Offshore sediments consist of very soft, dark gray clay with trace gravel and shell fragments (Northgate, 2017b). Several buried historic boats are assumed to be located at the Site at the fill and native marine layer interface.

1.5 Environmental Investigations

In June 2015, Langan Treadwell Rollo (Langan) prepared a Phase I Environmental Site Assessment (ESA; Langan, 2015), and in October 2016, AECOM prepared a Technical Memorandum describing data gaps at the Site (AECOM, 2016). Northgate performed sampling to characterize soil, sediment, groundwater, and surface water in 2017 and prepared the Site Characterization Report (SCR) to address data gaps identified by AECOM (Northgate, 2017b). Sample locations are shown in Figure 3, and boring coordinates are provided in Appendix A, Table 2. In general, the sampling strategy consisted of:

- Soil sampling to characterize existing historical fill, evaluate soil reuse, and assess soil quality underlying key future Site features that may require maintenance (e.g., walkways, play area);
- Sediment sampling to assess quality for recreational users at the shoreline and for tidal marsh creation;
- Groundwater sampling to determine baseline groundwater concentrations; and
- Surface water sampling to assess quality for recreational users and fish ingestion.

² Serpentinite is a metamorphic rock that contains naturally occurring asbestos (NOA).

The SCR concludes:

- Site soil and near-shore sediments are generally acceptable for recreational land use; however, some slightly elevated concentrations of lead, polycyclic aromatic hydrocarbons (PAHs), and naturally occurring asbestos (NOA) that exceed Recommended Human Health-Based Screening Levels for On-Site Management³ (HHSLs).
- Site sediment concentrations evaluated exceed Recommended Ecological Health Screening Levels⁴ (EHSLs) for Tidal Marsh Restoration (upper 2 feet) and may require mitigation for suitable marsh habitat.
- An SMP should be developed to describe mitigation measures for protecting construction workers and the surrounding community from potential exposure to constituents of concern (COCs) during park redevelopment and future park use.
- The presence of NOA in soils requires earth-moving construction activities to be subject to the California Air Resources Board (CARB) asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations in 17 California Code of Regulations (CCR) 93105, and California Occupational Safety and Health Administration (Cal-OSHA) asbestos regulations for construction (8 CCR 1529).
- Groundwater quality is typical of shallow, near-Bay conditions in an urban setting.
- Surface water quality does not meet applicable objectives but is likely reflective of ambient conditions at India Basin, and no mitigation of surface water is recommended.

In February 2017, Northgate prepared a DRAFT Site Mitigation Plan (Northgate, 2017a) for the India Basin Redevelopment Project that includes the IBSP, the adjacent 900 Innes property, and the India Basin Open Space. This SMP will supersede the DRAFT Site Mitigation Plan.

1.5.1 *Constituents of Concern*

For this SMP, Site COCs include those that exceed the HHSLs for soil and sediment and those that exceed the EHSLs for Tidal Marsh Restoration (upper 2 feet) for sediment; these screening levels were established in the SCR, and values along with summaries of analytical results are presented in Appendix A (Northgate, 2017b).

³ HHSLs were derived through comparative analysis of various screening levels for COCs and were selected as background (cobalt), TTLC (copper, nickel, BaP), construction worker ESL (lead) and cleanup or action levels established at other project (asbestos). See Northgate, 2017, Table 9A (Appendix A).

⁴ EHSLs were derived through comparative analysis of various screening levels for COCs and were selected as either a maximum allowable single value or a 95% UCL as SF Bay Background, NOAA Effects Range (ER)-Medium and Low (Long et al, 1995), or cleanup or action levels established at other projects. See Northgate, 2017 Table 9B (Appendix A).

Soil and sediment COCs present at the Site exceeding HHSLs are (Figure 4A):

- **Lead** with a maximum concentration of 460 milligrams per kilogram (mg/kg), exceeding HHSL of 160 mg/kg, at 2.5 feet bgs at IBSP-SB-22-2.5 (soil boring);
- **Benzo(a)pyrene equivalent (BaP-eq)⁵** with a maximum concentration of 2,066 micrograms per kilogram (ug/kg), exceeding the HHSL of 900 ug/kg, at 1-foot bgs at IBSP-SE-5 (sediment sample);
- **Asbestos** at a maximum of 1.75%, exceeding the HHSL of 0.25%, at 3 feet bgs at IBSP-SB-6 (soil boring).

Shoreline soil and sediment COCs present at the Site exceeding either the 95% upper confidence level (UCL) or the greater not to exceed single value EHSLs are (Figure 4B):

- **Copper** with a maximum concentration of 330 mg/kg exceeding the not to exceed single value EHSL of 270 mg/kg at IBSP-SB-4 at 0.5 feet bgs. The 95% UCL for copper results is 199.2 mg/kg, which also exceeded the 95% UCL EHSL of 89 mg/kg.
- **Lead** with a maximum concentration of 240 mg/kg exceeding the not to exceed single value EHSL of 218 mg/kg at IBSP-SB-2 at 0.5 feet bgs. The 95% UCL for lead results is 127.8 mg/kg, which also exceeded the 95% UCL EHSL of 46.7 mg/kg.
- **Nickel** with a 95% UCL of 143 mg/kg exceeding the 95% UCL EHSL of 132 mg/kg.
- **Total polychlorinated biphenyls (PCBs)** with a maximum concentration of 254 ug/kg exceeding the not to exceed single value EHSL of 180 ug/kg at IBSP-SE-8 at 1-foot bgs. The 95% UCL for total PCB results is 178.1 ug/kg, which also exceeded the 95% UCL EHSL of 90 ug/kg.
- **Total petroleum hydrocarbons as motor oil (TPH-mo)** with a 95% UCL of 287.3 mg/kg exceeding the 95% UCL EHSL of 144 mg/kg.
- **Total PAHs** with a 95% UCL of 11,454 ug/kg exceeding the 95% UCL EHSL of 4,022 ug/kg.

1.5.2 Neighboring Environmental Site (900 Innes)

Redevelopment is ongoing at the neighboring 900 Innes property. Environmental conditions at 900 Innes, including PCBs in soil, necessitated oversight by the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) and the United States Environmental Protection Agency (USEPA). Elevated concentrations of metals (lead up to 2,700 mg/kg in sediment and 12,320 mg/kg in soil), PAHs (BaP-eq up to 53,410 ug/kg in soil), and PCBs (up to 24,500 ug/kg in sediment) from past ship building and repair operations were found in sediment and soil, and the City completed a voluntary cleanup in 2021 and 2022 to

⁵ BaP-eq concentrations are calculated to assess risk by converting carcinogenic PAH concentrations using Potency Equivalency Factors.

remediate landside soils and impacted nearshore sediments. Generally, pre-remedial concentrations of lead and BaP-eq in soil at 900 Innes were about 25 times greater than concentrations in soil at IBSP, and pre-remedial concentrations of lead and PCBs in sediment were about 11 to 50 greater than concentrations in sediment at IBSP, respectively.

Following removal, the soil excavations were backfilled with imported clean cover, and sand cover was placed in localized offshore locations to be protective of human health and ecological beneficial uses. A minimum of 2 feet of soil was removed and replaced by clean cover across the whole site where landslide soils are present. Snow fencing was placed at the bottom of excavations completed above the mean high water (MHW) line to inform maintenance workers of the native soil interface during future construction. A Soil Management Plan (Anchor QEA, 2023) was developed to describe soil handling and management during and after park construction to protect human health and the environment and maintain the clean cover installed during remediation.

1.6 Scope of this SMP

Because the project will involve disturbance of greater than 50 cubic yards (CY) of soil and is in an area of fill or with historic industrial use, it is subject to protocols outlined in Article 22A of the San Francisco Health Code (Maher Ordinance) administered by the San Francisco Department of Public Health (SFDPH). An SMP is required to establish environmental mitigation measures to be implemented during Site redevelopment activities.

1.7 SMP Objectives

The site mitigation objectives detailed herein follow:

- Soil management practices for construction-related excavation, waste disposal, and addressing unknown conditions;
- Durable cover specifications for areas of the Site where existing shallow soils will remain beneath the sidewalk, landscaping, or other non-building areas;
- Nearshore cover specifications for areas of the site below the mean high-water line;
- Groundwater management practices for dewatering and discharge; and,
- Other measures necessary to protect the environment and health and safety of construction workers and future Site users.

2 SITE ACTIVITIES

2.1 Park Reconstruction

IBSP reconstruction activities are summarized below, and relevant design plans are in Appendix C.

- Demolition, tree removal, and grubbing: certain utilities will be protected in place, while others will be demolished along with existing recreation structures; tree removal and grubbing will occur across the Site.
- Grading: earthwork will include cutting the majority of the Site and filling portions along the shoreline, the northern portion of the property at the proposed boathouse, and the dense brush area inside the PG&E property⁶ (approximately total net cut of 22,660 CY above MHW and total net fill of 2,085 CY below MHW).
- Trenching: trenches will be excavated for new utilities.
- Structures: construction of various recreation structures (e.g., playgrounds, restrooms, boathouse, boat launch).
- Shoreline: regarding, restoration of the shoreline habitat, and placement of a resilient gravel shoreline.
- Landscaping: the majority of the IBSP redevelopment will consist of landscaped areas and paving.

2.2 Anticipated Future Park Maintenance

Following park development, plants, planted areas, and irrigations systems will be maintained, and potential maintenance activities include but are not limited to the following:

- Restoration of plant watering basins when needed;
- Resetting plants to proper grades or upright position as needed;
- Weed control;
- Tree staking;
- Dust removal;

⁶ The existing topographic low of the PG&E property will be filled with soils cut from the Site.

- Replacing ground cover as needed;
- Reseeding and resodding of lawn areas;
- Pest control; and
- Repairs to irrigation system.

Routine maintenance activities at the Site should be limited to inspections, maintenance and repairs of the irrigation and drainage system, replacement of shrubs, grass areas or trees due to mortality, and routine gardening of the landscape. None of these activities are expected to breach the clean cover. Tree replacement, if needed, will occur within the same hole where the original trees were planted and thus should not create a newly disturbed area. Replacement of shrub and grass areas will not require excavation deeper than one foot so should be within the clean cover layer. Likewise, irrigation system and shallow drainage pipe repairs are expected to occur within the upper one foot of the clean cover layer. In these instances, no special soil handling procedures are expected. If, however, the demarcation layer (e.g., orange snow fencing) is encountered during any of these activities, the detailed procedures outlined in Section 6 will be followed.

3 APPLICABLE ENVIRONMENTAL REGULATIONS

Mitigation measures for protecting the environment and health and safety of contractors working on the Site and the public are described in standard specifications maintained by the SFPW Bureau of Construction Management, Site Assessment Remediation Division (BCM SAR), which are applied to City projects. The City complies with environmental laws and has prepared the following Site-specific specifications for the IBSP project.

- 01 35 45 Health and Safety Criteria
- 01 35 49 Minimum Environmental Procedures
- 01 35 50 Additional Environmental Procedures
- 01 35 51 Additional Clean Construction
- 01 57 13 Temporary Erosion and Sediment Control
- 02 81 10 Management of Excavated Materials
- 31 23 19 Dewatering

The laws and regulations pertinent to the project work described below are addressed within the BCM SAR specifications listed above.

- Health and Safety Requirements—Site activities are subject to the requirements of CCR Title 8, Section 5192 and Occupational Safety and Health Administration (OSHA) requirements outlined in the Code of Federal Regulations (CFR) Title 29, Parts 1910 (general industry) and 1926 (construction). Due to the presence of hazardous substances in the Site subsurface, CFR Title 29, Part 1910.120 hazardous materials standards will be applied to the IBSP project, which describes requirements for a Site-specific health and safety plan (HSP), safety personnel, required Hazardous Waste Operations and Emergency Response (HAZWOPER) training, and safety procedures. If handling of contaminated soil is required, the City and its contractor shall establish Work Zones and implement appropriate decontamination procedures per the health and safety requirements.
- Soils Management—Soil management at the Site will be performed in compliance with applicable laws and regulations. To the extent feasible, soil disturbance will be minimized, and soil will remain onsite beneath a durable cover. For offsite disposal, soil will be tested, and based on test results, will be managed as Class II or Class I hazardous waste in accordance with Title 22 of the California Health and Safety Code and CFR Title 40 if it becomes waste. The BCM SAR specifications detail requirements for waste profiling, transportation, manifest, temporary stockpiling, import materials, and securing areas with exposed soil.
- Dust Control—Per the Maher Ordinance, the City shall submit a Dust Control Plan (DCP) to SFDPH for approval per Article 22B of the San Francisco Health Code at least 3 weeks prior to

the start of work and implement associated controls during the project construction. The presence of NOA in soils requires earth-moving construction activities to be subject to the CARB asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations in 17 CCR 93105 and Cal-OSHA asbestos regulations for construction (8 CCR 1529). An Asbestos Dust Mitigation Plan (ADMP) will be prepared for submittal to the Bay Area Air Quality Management District (BAAQMD) for approval.

- Erosion and Sediment Control—The IBSP project will disturb greater than 5,000 square feet; therefore, an Erosion and Sediment Control Plan (ESCP) and Project Application in accordance with San Francisco Public Utilities Commission Construction (SFPUC) Construction Site Runoff Ordinance of 2013 is required. The BCM SAR specifications will be applied to the IBSP project and describe permit, ESCP development and best management practices (BMPs) required for the project.
- Groundwater Management and Discharge—If dewatering is required as part of the construction excavation, the City and its contractor shall implement appropriate management and discharge of extracted groundwater, including obtaining a Batch Wastewater Discharge Permit from the SFPUC. The BCM SAR specifications detail dewatering requirements.

4 SITE MITIGATION MEASURES

This section describes mitigation measures for the Site. Mitigation measures are not proposed for Site groundwater or surface water.

4.1 Upland Durable Cover

This mitigation measure involves installation of a durable cover material across the entire Site to prevent exposure to soil by Site users. Figure 5 shows the areas where durable cover will be applied at the Site as part of the Site design. RPD staff will maintain the durable cover in perpetuity (see Operation and Maintenance section). For the purposes of this SMP, a clean cover consists of:

- **Permeable non-soil surfaces** (synthetic grass surfacing, safety surfacing, permeable paving) underlain by 18 inches of clean material (e.g., base rock, lightweight cellular concrete, or other materials);
- **Hardscapes**, generally concrete and asphalt paving, including new a building foundation (boathouse), asphalt basketball court surfacing, wood decking over concrete sub-slab, streets, sidewalks, and paved paths;
- **Clean soil cover** of not less than 1-foot thickness, with visible physical layer demarcating bottom of clean profile in the Marine Way Lawn (e.g., orange snow fencing); or
- **Vegetative cover** consisting of 1-foot clean soil beneath dense vegetation in the restoration areas, the bioretention areas, and the native garden areas.

A 1-foot layer is justified because:

- Most of the site is used for habitat restoration and park visitor use will be discouraged by steep slopes, dense vegetation and protective fencing and signage;
- In areas where park visitor use is encouraged, either hardscape (walkways, basketball courts, etc.) or grass over a foot clean soil over (Central Marine Way Lawn) with demarcation layer will be present;
- Periodic inspection of all visited areas will be performed by RPD or consultant staff to ensure continued integrity of the durable cover;
- Maintenance activities will only be conducted by RPD staff that will be familiar with site conditions and required protective measures;
- Soil concentrations showed exceedances of HHSLs and EHSLs that were generally the same order at the same order of the screening levels, and in the case of HHSLs, the soil concentrations 95% Upper Confidence Limit (n=98, calculated using EPA ProUCL statistical software) was less

than the HHSL for onsite management for all COCs, except NOA which exhibited a 95% Upper Confidence Limit below hazardous waste thresholds and which will be mitigated by soil cover and vegetation; and

- The site covers a large area and installing an additional foot of clean soil over the entirety of the park would add cost and attendance environmental impacts (additional truck trips, grading) with little added protectiveness.

4.2 Nearshore Gravel Cover

While work will occur primarily above the mean high water line (elevation 5.9 feet City and County of San Francisco 2013 NAVD88 Vertical Datum; Moffet & Nichol, 2024), some project work occurring below MHW (Figure 2). Figures 4A and 4B show areas where sediment concentrations exceed the human health or environmental screening levels identified in the SAR.

With the limit of work, the project includes three types of permanent shoreline protection measures that will act as a barrier for human exposure, substrate for habit development, and which will limit erosion and sediment transport from the area. For the purposes of this SMP, the nearshore gravel cover consists of:

- The **Central Marine Way Lawn Shoreline Transition** that involves excavation and upland dewatering of native sediment to establish site grades, which will then be cover by of soft-slope shoreline transition of an 18-inch layer of fine gravel ovetop a 9-inch layer of base rock. The Central Marin Way shoreline transition will run from an Elevation 0 to approximately Elevation +10, where it will abut the edge of landscape planting.
- The **South Shoreline Protection** consists of a combination of engineered mudflat in a tidepool area, and a revetment that consists of an 18-inch layer of facing class rock, underlain by a 6-inch layer of drain rock.
- The **North Shoreline Protection** consists of a 24-inch layer of light class rock over a 6-inch layer of drain rock.

Appendix C includes coastal engineering plans that show the nearshore gravel cover.

4.3 Soil Import Criteria

Soils imported onto the Site are subject to quality control measures and will be tested according to guidelines established by California Department of Toxic Substances Control (DTSC) Information Advisory Clean Imported Fill Material for both the frequency of samples⁷ and the required analysis (DTSC, 2001). Soil quality screening criteria for areas above MHW will be based on the Regional Water Board Direct Exposure Soil Environmental Screening Levels (ESLs) for residential land use (Regional Water Board, 2019a), or regional background concentrations for metals in soil. Imported soil with visual or olfactory signs of petroleum hydrocarbon

⁷ 12 samples for first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards.

impacts is prohibited. If the chemical properties of imported fill, such as engineered or virgin fill material, are known, sampling may not be required. It should be noted that in-situ soil exceeding these import criteria may exist on the Site and are allowed to remain in place beneath the proposed durable cover. All import fill placed below MHW (tidally influenced area) must meet San Francisco Bay ambient levels (Yee et al., 2015).

4.4 Contingency for Unexpected Conditions

Unknown historical subsurface features or unanticipated hazardous materials may be encountered during soil excavation at the Site. Unknown features or materials may include underground storage tanks (USTs) and associated product lines, sumps, vaults, former monitoring wells, and soil with significant chemical odors or stains. The City and its contractor shall adhere to the following procedures if unknown historical subsurface features or unanticipated hazardous materials are encountered:

- Stop work in the area where the material is encountered and cover the area with plastic sheeting.
- Notify SFPW so that a Site inspection can be arranged and/or appropriate follow-up actions can be discussed.
- If required based on soil testing results, the contractor shall establish an exclusion zone around the affected area. The exclusion zone shall be clearly marked with the use of placards, caution tape, and/or signs. Only workers possessing evidence of the required health and safety training will be permitted in the exclusion zone. A contamination reduction zone will be located adjacent to the exclusion zone for the decontamination of personnel and equipment. All personnel leaving the exclusion zone shall follow the decontamination procedures. All other areas of the Site that are not designated as an exclusion zone or contamination reduction zone shall be used as support zones.
- Review the HSP and revise, if necessary.
- Retain appropriately trained personnel to work with the affected materials at the Site, if necessary.

SFPW will notify and consult with SFDPH on appropriate action.

4.5 Construction Site Security

The Site will be secured by a locked fence outside of construction hours. To the extent feasible, soil stockpiles will be constructed in areas that are removed or protected from public access to limit potential exposure. Soil stockpiles and open excavations will be secured at the end of each working day to prevent unauthorized access to soil. Stockpile and open excavations will be managed in a way that limits fugitive dust emissions during nonworking hours.

4.6 Operation and Maintenance

After construction of the Project, the Site would be operated and maintained by RPD.

4.6.1 Inspection Procedures

Site inspections to verify that the durable cover has not be compromised will be conducted by the City or a contractor hired by the City to perform the surveys. Site inspections will consist of visual observations conducted once annually to ensure stability and effectiveness of the cover for all areas of the Site. The Site inspections will be coordinated with inspections to be performed at the adjacent 900 Innes Site (Anchor QEA, 2024).

4.6.2 Maintenance Procedures

RPD would incorporate the IBSP into its operations and maintenance plan, and would have permanent site presence at the new India Basin Maintenance Building. RPD gardeners would maintain landscaping and plantings through routine RPD maintenance protocols and requirements, and would also develop and implement planting and maintenance schedules after completing final design but prior to completing Project construction. RPD custodial staff would perform general site maintenance, including but not limited to parks and restroom custodial services and refuse pick up. RPD maintenance staff will monitor the upland durable covers for any evidence of failure (erosion, weathering, vandalism) that would remove the cover and expose underlying soil.

4.6.3 Soil Testing and Management During Future Maintenance Excavations

Chemical contaminants above screening levels will remain in place beneath the clean cover. Future Site development and maintenance activities must be performed in a way that assumes that potentially contaminated materials may still be present. RPD is establishing the following procedures for testing and material management if excavation is required for future construction activities or Site maintenance. The first step is to determine if the excavation will be only within the top foot of soil, or if it will extent deeper than one foot. Separate requirements apply depending on depth.

If excavations are planned only for the top one foot of soil, no testing is required, and all excavated materials must be returned to the excavation area upon completion of the work so that the one-foot layer of cover remains in place after the work.

For excavations that are planned to occur below the top one-foot of soil, soil shall be sampled to a depth that exceeds the planned excavation activity to determine if COCs (asbestos, copper, lead, nickel, PCBs, TPH-mo, and PAHs) are present above Regional Water Board direct exposure ESLs for construction worker or residential land use (Regional Water Board, 2019a) and to determine the appropriate landfill for disposal. Excavated soil above ESLs must be disposed offsite and clean import fill material must be brought to the site to backfill the hole with new snow fencing added at the bottom of the excavation area prior to backfilling.

If any excavation occurs in the Central Marine Way Lawn Area where the demarcation layer (orange snow fence) is present, the demarcation must be repaired and placed beneath the top one-foot layer of clean soil.

5 VULNERABILITY TO SEA LEVEL RISE

On behalf of RPD, Moffett & Nichol prepared a sea level rise vulnerability assessment (Moffatt & Nichol, 2024) and coastal engineering analysis (Moffatt & Nichol, 2021). The reports describe the project's environmental conditions, coastal processes, and vulnerability to future sea level rise, and summarize the basis of analysis for shoreline engineering and design for the project. The analysis relies on the best-available science summarized in the 2018 State of California Sea-Level Rise Guidance prepared by the California Ocean Protection Council. Project sea level estimation diagrams through 2100 are included in Appendix B.

Per guidance from CalEPA Department of Toxic Substances Control (DTSC, 2023), CDIM utilized the reports to evaluate the performance of the mitigation measures presented herein for the presented scenarios.

- In 2050, it is projected the 1.9 ft of sea level rise will occur so that the resulting MHW would be 7.8 ft NAVD88;
- In 2070, it is projected the 3.5 ft of sea level rise will occur so that the resulting MHW would be 11.3 ft NAVD88; and
- In 2100, it is projected the 6.9 ft of sea level rise will occur so that the resulting MHW would be 14.7 ft NAVD88.

Based on the Moffett and Nichol report, all building elevations have been set above king tide levels as projected for the year 2100 (projected elevation of +14.7). All the main park site features, including the San Francisco Bay Trail have been set above king tide levels as projected for the year 2070. The shoreline was designed to provide a natural edge that would be adaptive to sea level rise, provide relief during larger storm events minimizing impacts to park features, and provide transitions to promote diverse habitat that would transition as sea level rise.

The Site features have been designed considering future sea level rise. It is not expected that the majority of the upland durable cover will be impacted by future inundation before 2100 since most site elevations are above 14.7 ft NAVD88. The nearshore gravel cover will be increasingly exposed to San Francisco Bay water as sea level rises, however the erosion control in the tidal zone is designed for this occurrence. Consequently, it is not expected that the mitigation measure described herein will be detrimentally affected under the 2050, 2070 2100 inundation scenarios.



6 POST-CONSTRUCTION DOCUMENTATION

Upon the completion of the above-described scope and receipt of all the analytical and waste disposal documentation, SFPW or CDIM will prepare a Post Construction Documentation Report including a copy of the waste disposal summary, applicable permits, and completion inspection report. The report will be signed and stamped by the professional engineer overseeing the project and will be submitted to the SFDPH for review and approval.

The Post Construction Documentation Report will include an Operation and Maintenance Plan to formalize the operation and maintenance measures detailed herein.

7 REFERENCES

- AGS, 2021. Geotechnical Study Report, India Basin Shoreline Park, San Francisco, CA. November.
- AECOM, 2016. Technical Memorandum: Data Gaps for India Basin Shoreline Park. October 11.
- Anchor QEA, 2024. Soil Management Plan – Cap Operation and Maintenance Plan, India Basin – 900 Innes Avenue. January.
- CalEPA Department of Toxic Substance Control (DTSC), 2001. DTSC Information Advisory, Clean Imported Fill Material. October.
- _____, 2023. DRAFT Sea Level Rise Guidance to DTSC Project Managers for Cleanup Activities. February.
- Langan Treadwell Rollo (Langan), 2015. Phase I Environmental Site Assessment, India Basin Shoreline Park, San Francisco, California. June 30.
- Long et al, 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. *Environ. Manage.* 19(1):81-97.
- Moffatt & Nichol, 2021. 900 Innes Park and India Basin Shoreline Park – Coastal Engineering Analyses and Shoreline Improvements. October 21.
- _____, 2024. Sea Level Rise Risk Assessment and Adaptation Strategy, June 24.
- Northgate, 2017a. *DRAFT Site Mitigation Plan, India Basin Redevelopment Project, India Basin Shoreline Park, San Francisco, California.* February 28.
- _____, 2017b. *Site Characterization Report, India Basin Redevelopment Project, India Basin Shoreline Park, San Francisco, California.* May 31.
- Regional Water Board, 2019a. *Update to Environmental Screening Levels (ESLs).* July.
- SF Planning, 2017. Draft Environmental Impact Report, India Basin Mixed-Use Project, Planning Department Case No. 2014-002541ENV. SCH No. 2016062003. September 13.
- Yee, D., P. Trowbridge, and J. Sun, 2015. *Updated Ambient Concentrations of Toxic Chemicals in San Francisco Bay Sediments.* San Francisco Estuary Institute Contribution No. 749. Richmond, California: San Francisco Estuary Institute.



FIGURES

LEGEND

- - - - - SITE BOUNDARY
- EXISTING MHW LINE (5.9 FT)

ABBREVIATIONS

MHW = MEAN HIGH WATER

NOTES

1. FEATURES SHOWN ARE APPROXIMATE AND BASED ON INDIA BASIN SHORELINE PARK PERMIT SET DESIGN DRAWINGS DATED JULY 17, 2023 BY GGN, INC.



CDIM ENGINEERING, INC.
45 POLK STREET, THIRD FLOOR
SAN FRANCISCO, CA 94102
WWW.CDIMENGINEERING.COM
PH:(415)498-0535

SITE LOCATION AND LAYOUT
INDIA BASIN SHORELINE PARK REDEVELOPMENT
401 HUNTERS POINT BOULEVARD
SAN FRANCISCO, CALIFORNIA

FIGURE
1



NOTES

1. RENDERING SUPPLIED BY SAN FRANCISCO RECREATION AND PARK DEPARTMENT ON JUNE 5, 2024. FACING SOUTHWEST.



CDIM ENGINEERING, INC.
45 POLK STREET, THIRD FLOOR
SAN FRANCISCO, CA 94102
WWW.CDIMENGINEERING.COM
PH:(415)498-0535

PROPOSED SITE RENDERING
INDIA BASIN SHORELINE PARK REDEVELOPMENT
401 HUNTERS POINT BOULEVARD
SAN FRANCISCO, CALIFORNIA

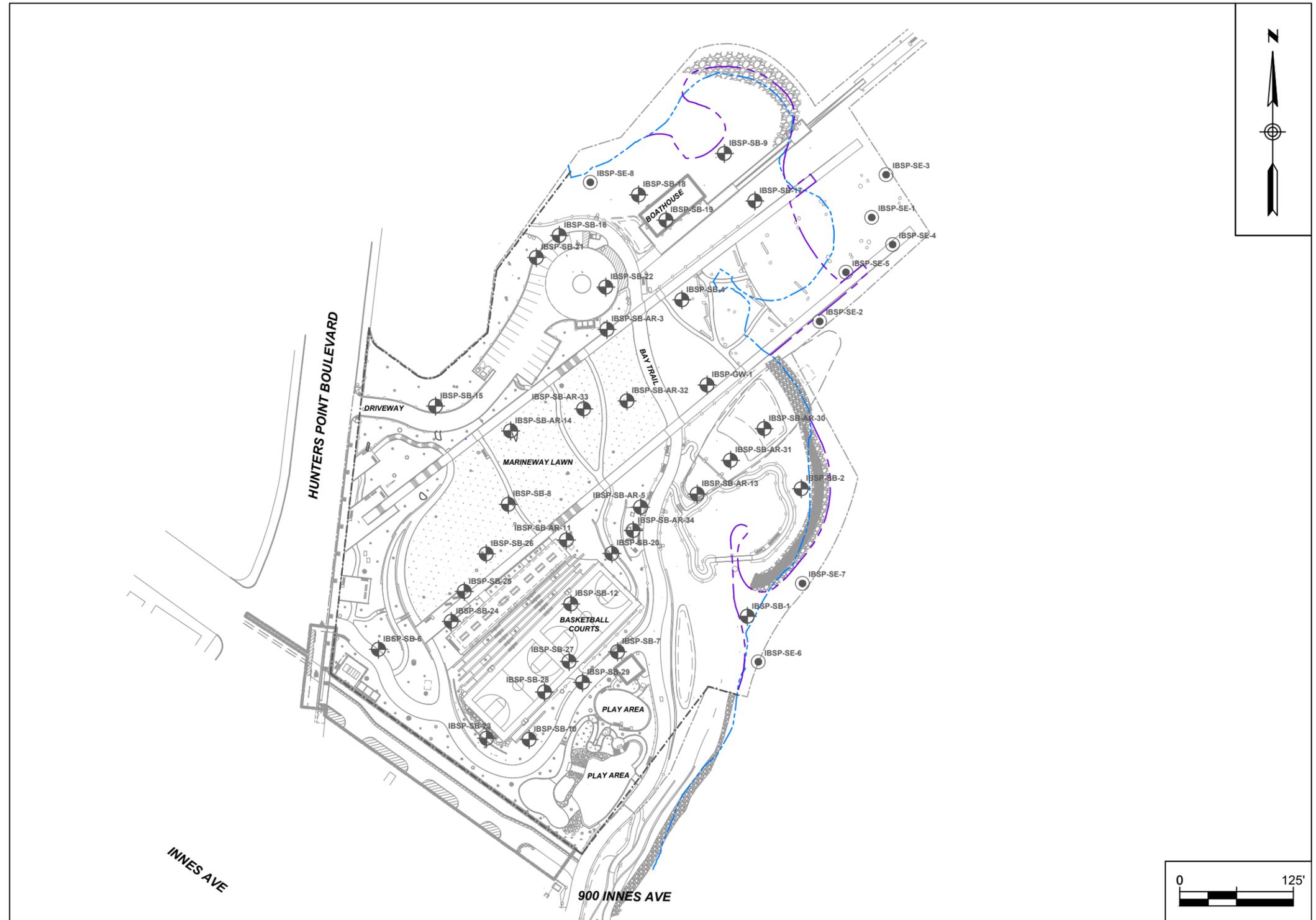
FIGURE
2

LEGEND

- SITE BOUNDARY
- EXISTING MHW LINE (5.9 FT)
- PROPOSED MHW LINE (5.9 FT)
- IBSP-SB-22 SOIL SAMPLE LOCATION (NORTHGATE, 2016-2017)
- IBSP-SE-3 SEDIMENT SAMPLE LOCATION (NORTHGATE, 2016-2017)

ABBREVIATIONS
MHW = MEAN HIGH WATER

- NOTES**
1. FEATURES SHOWN ARE APPROXIMATE AND BASED ON INDIA BASIN SHORELINE PARK PERMIT SET DESIGN DRAWINGS DATED JULY 17, 2023 BY GGN, INC. BASEMAP FROM PERMIT SET SOILS PLAN, SHEET L160.2 REVISED APRIL 26, 2024.
 2. SAMPLE LOCATIONS FROM NORTHGATE'S SITE CHARACTERIZATION REPORT FOR INDIA BASIN SHORELINE PARK DATED MAY 2017.



CDIM ENGINEERING, INC.
45 POLK STREET, THIRD FLOOR
SAN FRANCISCO, CA 94102
WWW.CDIMENGINEERING.COM
PH:(415)498-0535

SOIL AND SEDIMENT SAMPLE LOCATIONS AND PROPOSED SITE PLAN
INDIA BASIN SHORELINE PARK REDEVELOPMENT
401 HUNTERS POINT BOULEVARD
SAN FRANCISCO, CALIFORNIA

FIGURE
3

LEGEND

- SITE BOUNDARY
- PROPOSED MHW LINE (5.9 FT)
- IBSP-SB-22 SOIL SAMPLE LOCATION (NORTHGATE, 2016-2017)
- IBSP-SE-3 SEDIMENT SAMPLE LOCATION (NORTHGATE, 2016-2017)

HHSLS		
ANALYTE	UNITS	VALUE
LEAD	MG/KG	160
B(A)P EQ	µG/KG	900
ASBESTOS	%	0.25

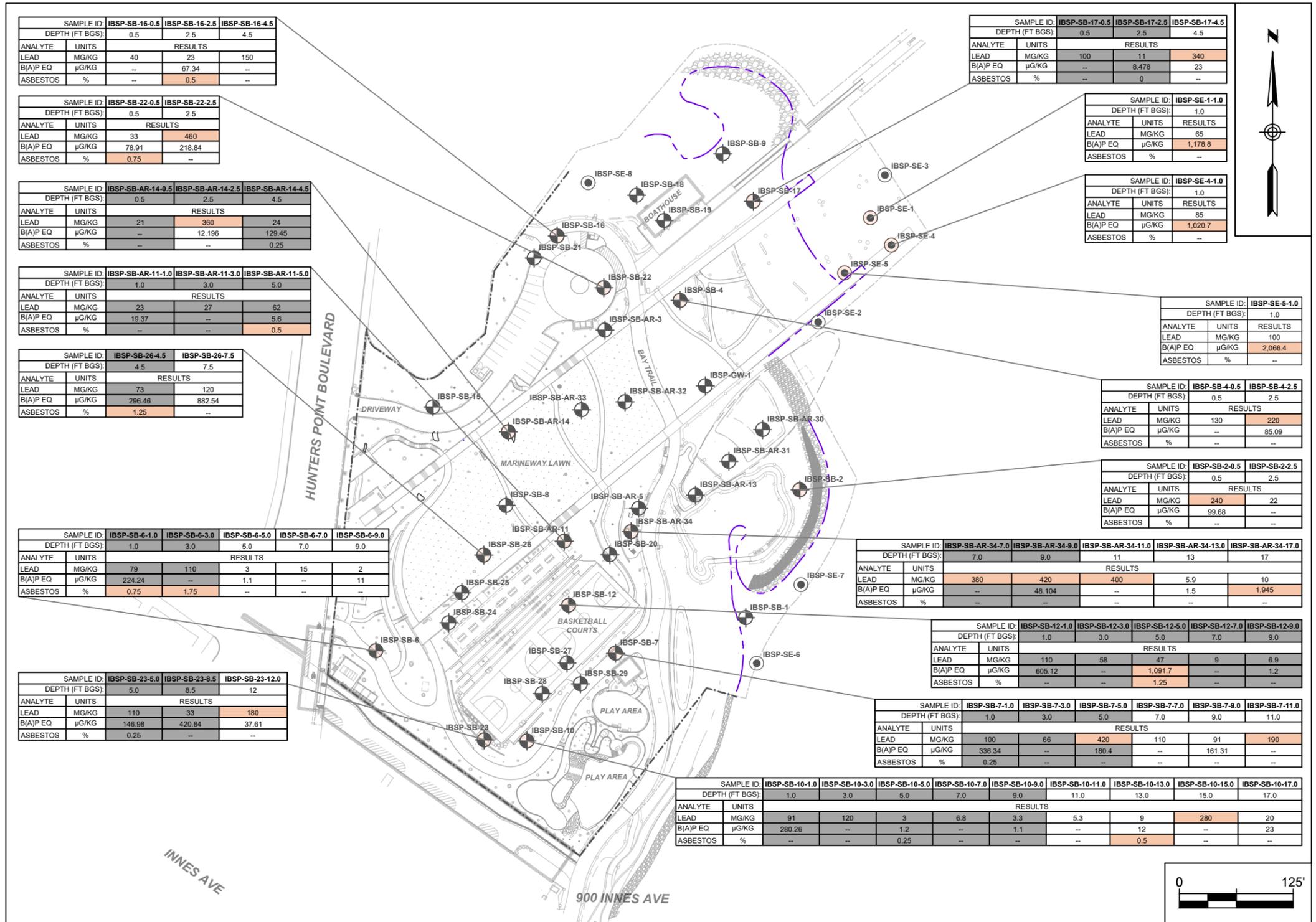
ABBREVIATIONS

HHSLS = RECOMMENDED HUMAN HEALTH-BASED SCREENING LEVEL FOR ON-SITE MANAGEMENT DEVELOPED IN NORTHGATE'S 2017 ENVIRONMENTAL SITE CHARACTERIZATION REPORT (TABLE 9A).

MG/KG = MILLIGRAMS PER KILOGRAM.
MHW = MEAN HIGH WATER
µG/KG = MICROGRAM PER KILOGRAM.

NOTES

1. FEATURES SHOWN ARE APPROXIMATE AND BASED ON INDIA BASIN SHORELINE PARK PERMIT SET DESIGN DRAWINGS DATED JULY 17, 2023 BY GGN, INC. BASEMAP FROM PERMIT SET SOILS PLAN, SHEET L160.2 REVISED APRIL 26, 2024.
2. SAMPLE LOCATIONS FROM NORTHGATE'S SITE CHARACTERIZATION REPORT FOR INDIA BASIN SHORELINE PARK DATED MAY 2017.
3. GREY SHADING INDICATES SAMPLE DEPTH MAY BE REMOVED OR RELOCATED DURING EARTHWORK BASED ON THE PERMIT SET SHEET C003.2 FOR EARTHWORK ABOVE MHW DATED JULY 17, 2023.
4. ORANGE SHADING INDICATES HHSL EXCEEDANCE.



CDIM ENGINEERING, INC.
45 POLK STREET, THIRD FLOOR
SAN FRANCISCO, CA 94102
WWW.CDIMENGINEERING.COM
PH:(415)498-0535

SOIL AND SEDIMENT SAMPLES EXCEEDING HHSLS
AND PROPOSED SITE PLAN
INDIA BASIN SHORELINE PARK REDEVELOPMENT
401 HUNTERS POINT BOULEVARD
SAN FRANCISCO, CALIFORNIA

FIGURE
4A

LEGEND

- SITE BOUNDARY
- PROPOSED MHW LINE (5.9 FT)
- IBSP-SB-22 SOIL SAMPLE LOCATION (NORTHGATE, 2016-2017)
- IBSP-SE-3 SEDIMENT SAMPLE LOCATION (NORTHGATE, 2016-2017)

EHSLS			
ANALYTE	UNITS	95% UCL VALUE	NOT TO EXCEED SINGLE VALUE
COPPER	MG/KG	89	270
LEAD	MG/KG	46.7	218
NICKEL	MG/KG	132	301
PCBS	µG/KG	90	180
TPH-MO	MG/KG	144	500
PAHS	µG/KG	4,022	44,792

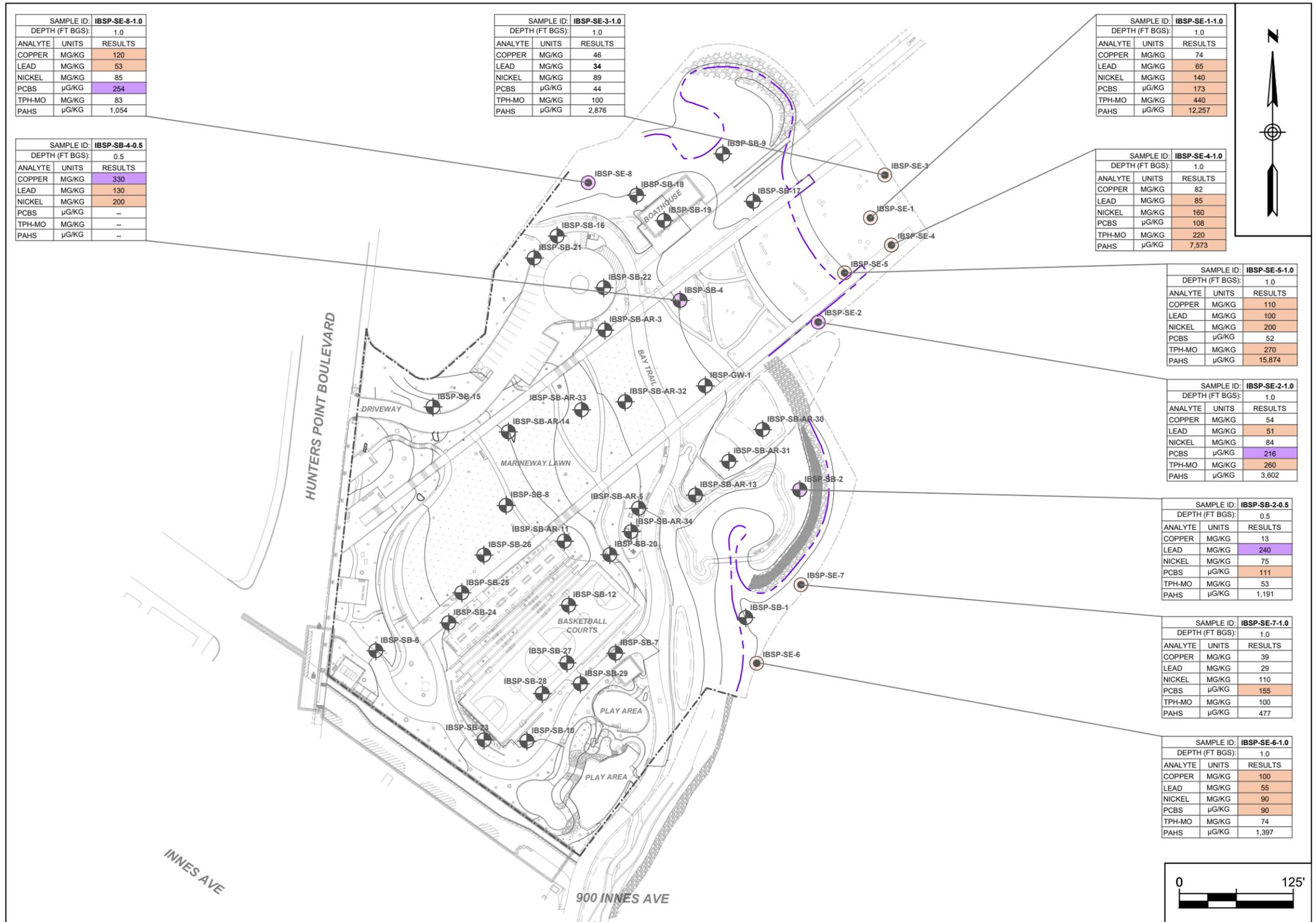
ABBREVIATIONS

EHSLS = RECOMMENDED ECOLOGICAL HEALTH-BASED SCREENING LEVEL FOR ON-SITE MANAGEMENT DEVELOPED IN NORTHGATE'S 2017 ENVIRONMENTAL SITE CHARACTERIZATION REPORT (TABLE 9B).

MG/KG = MILLIGRAMS PER KILOGRAM.
 MHW = MEAN HIGH WATER
 UCL = UPPER CONFIDENCE LIMIT
 µG/KG = MICROGRAM PER KILOGRAM.

NOTES

1. FEATURES SHOWN ARE APPROXIMATE AND BASED ON INDIA BASIN SHORELINE PARK PERMIT SET DESIGN DRAWINGS DATED JULY 17, 2023 BY GGN, INC. BASEMAP FROM PERMIT SET SOILS PLAN, SHEET L160.2 REVISED APRIL 26, 2024.
2. SAMPLE LOCATIONS FROM NORTHGATE'S SITE CHARACTERIZATION REPORT FOR INDIA BASIN SHORELINE PARK DATED MAY 2017.
3. ORANGE SHADING INDICATES 95% UPPER CONFIDENCE LIMIT (UCL) EHSL EXCEEDANCE.
4. PURPLE SHADING INDICATES NOT TO EXCEED SINGLE VALUE EHSL EXCEEDANCE.



SAMPLE ID: IBSP-SE-8-1.0		
ANALYTE	UNITS	RESULTS
DEPTH (FT BGS):		1.0
COPPER	MG/KG	120
LEAD	MG/KG	53
NICKEL	MG/KG	85
PCBS	µG/KG	254
TPH-MO	MG/KG	83
PAHS	µG/KG	1,054

SAMPLE ID: IBSP-SE-3-1.0		
ANALYTE	UNITS	RESULTS
DEPTH (FT BGS):		1.0
COPPER	MG/KG	46
LEAD	MG/KG	34
NICKEL	MG/KG	89
PCBS	µG/KG	44
TPH-MO	MG/KG	100
PAHS	µG/KG	2,876

SAMPLE ID: IBSP-SE-1-1.0		
ANALYTE	UNITS	RESULTS
DEPTH (FT BGS):		1.0
COPPER	MG/KG	74
LEAD	MG/KG	65
NICKEL	MG/KG	140
PCBS	µG/KG	173
TPH-MO	MG/KG	440
PAHS	µG/KG	12,257

SAMPLE ID: IBSP-SB-4-0.5		
ANALYTE	UNITS	RESULTS
DEPTH (FT BGS):		0.5
COPPER	MG/KG	330
LEAD	MG/KG	130
NICKEL	MG/KG	200
PCBS	µG/KG	--
TPH-MO	MG/KG	--
PAHS	µG/KG	--

SAMPLE ID: IBSP-SE-4-1.0		
ANALYTE	UNITS	RESULTS
DEPTH (FT BGS):		1.0
COPPER	MG/KG	82
LEAD	MG/KG	85
NICKEL	MG/KG	160
PCBS	µG/KG	108
TPH-MO	MG/KG	220
PAHS	µG/KG	7,573

SAMPLE ID: IBSP-SE-5-1.0		
ANALYTE	UNITS	RESULTS
DEPTH (FT BGS):		1.0
COPPER	MG/KG	110
LEAD	MG/KG	100
NICKEL	MG/KG	200
PCBS	µG/KG	52
TPH-MO	MG/KG	270
PAHS	µG/KG	15,874

SAMPLE ID: IBSP-SE-2-1.0		
ANALYTE	UNITS	RESULTS
DEPTH (FT BGS):		1.0
COPPER	MG/KG	54
LEAD	MG/KG	51
NICKEL	MG/KG	84
PCBS	µG/KG	216
TPH-MO	MG/KG	260
PAHS	µG/KG	3,602

SAMPLE ID: IBSP-SB-2-0.5		
ANALYTE	UNITS	RESULTS
DEPTH (FT BGS):		0.5
COPPER	MG/KG	13
LEAD	MG/KG	240
NICKEL	MG/KG	75
PCBS	µG/KG	111
TPH-MO	MG/KG	53
PAHS	µG/KG	1,191

SAMPLE ID: IBSP-SE-7-1.0		
ANALYTE	UNITS	RESULTS
DEPTH (FT BGS):		1.0
COPPER	MG/KG	39
LEAD	MG/KG	29
NICKEL	MG/KG	110
PCBS	µG/KG	155
TPH-MO	MG/KG	100
PAHS	µG/KG	477

SAMPLE ID: IBSP-SE-6-1.0		
ANALYTE	UNITS	RESULTS
DEPTH (FT BGS):		1.0
COPPER	MG/KG	100
LEAD	MG/KG	55
NICKEL	MG/KG	90
PCBS	µG/KG	90
TPH-MO	MG/KG	74
PAHS	µG/KG	1,397



CDIM ENGINEERING, INC.
 45 POLK STREET, THIRD FLOOR
 SAN FRANCISCO, CA 94102
 WWW.CDIMENGINEERING.COM
 PH:(415)498-0535

SHORELINE SOIL AND SEDIMENT SAMPLES EXCEEDING EHSLS
 AND PROPOSED SITE PLAN
 INDIA BASIN SHORELINE PARK REDEVELOPMENT
 401 HUNTERS POINT BOULEVARD
 SAN FRANCISCO, CALIFORNIA

FIGURE
 4B

LEGEND

- SITE BOUNDARY
- PROPOSED MHW LINE (5.9 FT)
- RESTORATION AREAS (12" CLEAN IMPORT TOPSOIL)
- BIORETENTION AREAS (12" CLEAN IMPORT TOPSOIL)
- NATIVE GARDENS (12" CLEAN IMPORT TOPSOIL)
- STREET TREE SOILS (NATIVE SOIL LEFT BETWEEN TREE/SHRUB ROOTBALLS)
- SODDED TURF SOIL (12" CLEAN IMPORT TOPSOIL OVER DEMARCATION LAYER)
- NEARSHORE GRAVEL COVER - NORTH SHORELINE PROTECTION
- NEARSHORE GRAVEL COVER - CENTRAL MARINE WAY LAWN SHORELINE TRANSITION
- NEARSHORE GRAVEL COVER - SOUTH SHORELINE PROTECTION

NOTES

1. THIS FIGURE SHOWS A SIMPLIFIED, APPROXIMATE DURABLE COVER PLAN BASED ON PERMIT SET SITE PLAN AND PAVING SCHEDULE (SHEET L110.2) AND THE SOILS PLAN (SHEET L160.2) REVISED APRIL 26, 2024. SEE LANDSCAPE DRAWINGS FOR FURTHER DETAIL.



CDIM ENGINEERING, INC.
 45 POLK STREET, THIRD FLOOR
 SAN FRANCISCO, CA 94102
 WWW.CDIMENGINEERING.COM
 PH:(415)498-0535

UPLAND DURABLE COVER PLAN AND NEARSHORE GRAVEL COVER
 INDIA BASIN SHORELINE PARK REDEVELOPMENT
 401 HUNTERS POINT BOULEVARD
 SAN FRANCISCO, CALIFORNIA

FIGURE
 5



APPENDIX A

Excerpts from 2017 Northgate Site Characterization Report

TABLE 2
Sample Location Coordinates

Sample Location Identification	Sample Type	GPS		Aerial Display		Existing Ground Surface (Z) Elevation (feet)
		X	Y	X	Y	
IBSP-GW-1	Groundwater	6019370.1	2095334.7	6019370.1	2095334.7	18.4
IBSP-GW-2		6019116.7	2095167.7	6019151.3	2095283.5	34.0
IBSP-SB-1	Soil Boring	6019430.8	2095077.3	6019415.3	2095077.3	6.6
IBSP-SB-2		6019511.8	2095222.1	6019475.5	2095219.0	5.9
IBSP-SB-AR-3		6019271.0	2095409.8	6019258.5	2095396.6	25.0
IBSP-SB-4		6019342.4	2095439.3	6019342.0	2095429.3	7.5
IBSP-SB-AR-5		6019309.7	2095204.3	6019296.2	2095199.1	27.5
IBSP-SB-6		6019018.8	2095053.8	6019003.9	2095042.5	42.7
IBSP-SB-7		6019282.1	2095044.0	6019270.0	2095039.8	34.6
IBSP-SB-8		6019097.8	2095168.0	6019148.4	2095203.6	36.5
IBSP-SB-9		6019390.9	2095607.7	6019389.4	2095594.1	12
IBSP-SB-10		6019183.6	2094947.5	6019171.8	2094942.4	41.0
IBSP-SB-AR-11		6019218.7	2095173.6	6019213.5	2095162.5	37.3
IBSP-SB-12		6019218.3	2095092.9	6019218.3	2095092.9	38.6
IBSP-SB-AR-13		6019361.8	2095227.6	6019359.3	2095213.4	26.0
IBSP-SB-AR-14		6019151.3	2095283.5	6019151.3	2095283.5	34.0
IBSP-SB-15		6019068.8	2095319.9	6019067.4	2095310.9	38.3
IBSP-SB-16		6019218.2	2095511.4	6019205.6	2095500.9	14.2
IBSP-SB-17		6019435.5	2095543.5	6019423.5	2095539.3	9.5
IBSP-SB-18		6019305.5	2095550.5	6019293.5	2095546.3	11.0
IBSP-SB-19		6019336.0	2095524.1	6019324.0	2095519.9	14.2
IBSP-SB-20		6019275.7	2095140.3	6019264.3	2095147.3	30.1
IBSP-SB-21		6019201.2	2095481.6	6019179.9	2095476.5	16.3
IBSP-SB-22		6019257.2	2095444.3	6019257.2	2095444.3	14.1
IBSP-SB-23		6019126.2	2094945.9	6019123.9	2094942.3	41
IBSP-SB-24		6019084.8	2095071.7	6019084.8	2095071.7	42.9
IBSP-SB-25		6019111.3	2095109.3	6019099.3	2095105.1	41.2
IBSP-SB-26		6019135.9	2095151.3	6019123.8	2095147.1	39.5
IBSP-SB-27		6019216.4	2095027.1	6019216.4	2095027.1	36.9
IBSP-SB-28		6019188.8	2094993.3	6019188.8	2094993.3	38.3
IBSP-SB-29		6019231.1	2095003.9	6019231.1	2095003.9	36.1
IBSP-SB-AR-30		6019430.3	2095282.6	6019433.7	2095285.9	13.7
IBSP-SB-AR-31		6019382.2	2095323.0	6019396.2	2095251.0	14.0
IBSP-SB-AR-32	6019334.1	2095358.3	6019281.0	2095317.0	24.5	
IBSP-SB-AR-33	6019232.7	2095314.5	6019232.4	2095308.0	25.9	
IBSP-SB-AR-34	6019236.7	2095234.1	6019287.8	2095173.1	28.1	

TABLE 2
Sample Location Coordinates

Sample Location Identification	Sample Type	GPS		Aerial Display		Existing Ground Surface (Z) Elevation (feet)
		X	Y	X	Y	
IBSP-SE-1	Sediment	6019492.4	2095103.5	6019553.5	2095520.9	--
IBSP-SE-2		6019495.4	2095405.4	6019495.4	2095405.4	--
IBSP-SE-3		6019569.4	2095568.4	6019569.4	2095568.4	--
IBSP-SE-4		6019576.8	2095490.7	6019576.8	2095490.7	--
IBSP-SE-5		6019524.9	2095460.2	6019524.9	2095460.2	--
IBSP-SE-6		6019427.2	2095026.6	6019427.2	2095026.6	--
IBSP-SE-7		6019476.5	2095113.9	6019476.5	2095113.9	--
IBSP-SE-8		6019239.7	2095560.1	6019239.7	2095560.1	--
IBSP-SW-1	Surface Water	6019799.9	2095721.4	6019799.9	2095721.4	--
IBSP-SW-2		6019715.4	2095716.6	6019715.4	2095716.6	--
IBSP-SW-3		6019526.4	2095551.0	6019526.4	2095551.0	--
IBSP-SW-4		6019576.8	2095490.7	6019576.8	2095490.7	--
IBSP-SW-5		6019734.4	2095801.1	6019734.4	2095801.1	--
IBSP-SW-6		6019825.7	2095792.6	6019825.7	2095792.6	--
IBSP-SW-7		6019476.5	2095113.9	6019476.5	2095113.9	--
IBSP-SW-8R		6019239.7	2095560.1	6019239.7	2095560.1	--

Notes and Abbreviations:

bgs = below ground surface

X = Longitude in feet (NAD 1983)

Y = Latitude in feet (NAD 1983)

Z = Elevation in feet (NAVD88), based on available topographical survey drawings

-- = Not estimated

TABLE 3
Sampling and Analysis Program

Sample Type	Sample Identification 1	Boring Location Identification	Depth From Existing Surface (feet bgs)	Method for Chemical Analyses														
				Cyanide	Hexavalent Chromium	Fluoride	pH	Asbestos	VOCs (EPA 8260B)	PAHs (EPA 8270C SIM)	CAM 17 Metals (EPA 6010B/6020A)	TPH-d /TPH-mo (EPA 8015B)	Organotins (PSEP GC/MS)	PCBs (EPA 8082)	Total Organic Carbon (Walkley-Black)	Moisture Content (ASTM D2216)	Pesticides (EPA 8081A)	
Groundwater																		
Site Groundwater	IBSP-GW-1	IBSP-GW-1	8 to 18							✓	✓	✓	✓					
	IBSP-GW-2	IBSP-GW-2	20 to 30							✓	✓	✓	✓					
Duplicates	IBSP-FD-GW-1	IBSP-GW-1	8 to 18							✓	✓	✓	✓					
Trip Blanks	TB-20161230	NA	NA							✓	✓	✓	✓					
Soil																		
Site Soil Construction-Based Soil Samples	IBSP-SB-1-0.5	IBSP-SB-1	0 to 0.5								✓	✓	✓			✓		
	IBSP-SB-1-2.5		2 to 3									✓	✓	✓			✓	
	IBSP-SB-2-0.5	IBSP-SB-2	0 to 0.5								✓	✓	✓			✓		
	IBSP-SB-2-2.5		2 to 3									✓	✓	✓			✓	
	IBSP-SB-AR-3-0.5	IBSP-SB-AR-3	0 to 0.5								✓	✓	✓			✓		
	IBSP-SB-AR-3-2.5		2 to 3									✓	✓	✓			✓	
	IBSP-SB-4-0.5	IBSP-SB-4	0 to 0.5									✓	✓	✓			✓	
	IBSP-SB-4-2.5		2 to 3									✓	✓	✓			✓	
	IBSP-SB-AR-5-0.5	IBSP-SB-AR-5	0 to 0.5									✓	✓	✓			✓	
	IBSP-SB-AR-5-2.5		2 to 3	✓	✓	✓	✓			✓	✓	✓	✓			✓	✓	
	IBSP-SB-6-1.0	IBSP-SB-6	0 to 2						✓			✓	✓	✓			✓	
	IBSP-SB-6-3.0		2 to 4						✓			✓	✓	✓			✓	
	IBSP-SB-6-5.0		4 to 6									✓	✓	✓		✓	✓	
	IBSP-SB-6-7.0		6 to 8									✓	✓	✓			✓	
	IBSP-SB-6-9.0		8 to 10									✓	✓	✓			✓	
	IBSP-SB-6-11.0		10 to 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-7-1.0	IBSP-SB-7	0 to 2						✓			✓	✓	✓			✓	
	IBSP-SB-7-3.0		2 to 4									✓	✓	✓			✓	
	IBSP-SB-7-5.0		4 to 6									✓	✓	✓		✓	✓	
	IBSP-SB-7-7.0		6 to 8									✓	✓	✓			✓	
	IBSP-SB-7-9.0		8 to 10									✓	✓	✓			✓	
	IBSP-SB-7-11.0		10 to 12										✓	✓	✓			✓
	IBSP-SB-8-1.0	IBSP-SB-8	0 to 2									✓	✓	✓			✓	
	IBSP-SB-8-2.5		2 to 4									✓	✓	✓			✓	
	IBSP-SB-8-3.0		2 to 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-8-5.0		4 to 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-8-7.0		6 to 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-8-9.0		8 to 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-8-11.0		10 to 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-9-1.0	IBSP-SB-9	0 to 2									✓	✓	✓			✓	
IBSP-SB-9-3.0	2 to 4										✓	✓	✓			✓		
IBSP-SB-9-5.0	4 to 6		✓	✓	✓	✓			✓	✓	✓	✓			✓	✓		
IBSP-SB-9-7.0	6 to 8										✓	✓	✓			✓		
IBSP-SB-9-9.0	8 to 10										✓	✓	✓			✓		
IBSP-SB-9-11.0	10 to 12											✓	✓	✓			✓	

TABLE 3
Sampling and Analysis Program

Sample Type	Sample Identification 1	Boring Location Identification	Depth From Existing Surface (feet bgs)	Method for Chemical Analyses															
				Cyanide	Hexavalent Chromium	Fluoride	pH	Asbestos	VOCs (EPA 8260B)	PAHs (EPA 8270C SIM)	CAM 17 Metals (EPA 6010B/6020A)	TPH-d /TPH-mo (EPA 8015B)	Organotins (PSEP GC/MS)	PCBs (EPA 8082)	Total Organic Carbon (Walkley-Black)	Moisture Content (ASTM D2216)	Pesticides (EPA 8081A)		
Site Soil Construction-Based Soil Samples (Continued)	IBSP-SB-10-1.0	IBSP-SB-10	0 to 2								✓	✓	✓				✓		
	IBSP-SB-10-3.0		2 to 4								✓	✓	✓				✓		
	IBSP-SB-10-5.0		4 to 6	✓	✓	✓	✓			✓	✓	✓	✓				✓	✓	
	IBSP-SB-10-7.0		6 to 8									✓	✓	✓				✓	
	IBSP-SB-10-9.0		8 to 10									✓	✓	✓				✓	✓
	IBSP-SB-10-11.0		10 to 12									✓	✓	✓				✓	
	IBSP-SB-10-13.0		12 to 14							✓		✓	✓	✓				✓	
	IBSP-SB-10-15.0		14 to 16									✓	✓	✓				✓	
	IBSP-SB-10-17.0		16 to 18									✓	✓	✓				✓	
	IBSP-SB-AR-11-1.0	IBSP-SB-AR-11	0 to 2									✓	✓	✓				✓	✓
	IBSP-SB-AR-11-3.0		2 to 4									✓	✓	✓				✓	
	IBSP-SB-AR-11-5.0		4 to 6	✓	✓	✓	✓			✓	✓	✓	✓	✓				✓	✓
	IBSP-SB-AR-11-7.0		6 to 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-AR-11-9.0		8 to 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-AR-11-11.0		10 to 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-AR-11-13.0		12 to 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-AR-11-15.0		14 to 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-AR-11-17.0		16 to 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-12-1.0	IBSP-SB-12	0 to 2									✓	✓	✓				✓	
	IBSP-SB-12-3.0		2 to 4									✓	✓	✓				✓	
	IBSP-SB-12-5.0		4 to 6	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓				✓	✓
	IBSP-SB-12-7.0		6 to 8									✓	✓	✓				✓	
	IBSP-SB-12-9.0		8 to 10									✓	✓	✓				✓	✓
	IBSP-SB-12-11.0		10 to 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-12-13.0		12 to 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-12-15.0		14 to 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-12-17.0		16 to 18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SB-AR-13-0.5	IBSP-SB-AR-13	0 to 0.5									✓	✓	✓				✓	
	IBSP-SB-AR-13-2.5		2 to 3									✓	✓	✓				✓	✓
	IBSP-SB-AR-13-4.5		4 to 5										✓	✓	✓			✓	
	IBSP-SB-AR-14-0.5	IBSP-SB-AR-14	0 to 0.5									✓	✓	✓				✓	
	IBSP-SB-AR-14-2.5		2 to 3	✓	✓	✓	✓			✓	✓	✓	✓	✓				✓	✓
	IBSP-SB-AR-14-4.5		4 to 5									✓	✓	✓				✓	
	IBSP-SB-15-0.5	IBSP-SB-15	0 to 0.5									✓	✓	✓				✓	
	IBSP-SB-15-2.5		2 to 3									✓	✓	✓				✓	
	IBSP-SB-15-4.5		4 to 5										✓	✓	✓			✓	
	IBSP-SB-16-0.5	IBSP-SB-16	0 to 0.5									✓	✓	✓				✓	
	IBSP-SB-16-2.5		2 to 3	✓	✓	✓	✓					✓	✓	✓				✓	✓
	IBSP-SB-16-4.5		4 to 5										✓	✓	✓			✓	
	IBSP-SB-17-0.5	IBSP-SB-17	0 to 0.5									✓	✓	✓				✓	
	IBSP-SB-17-2.5		2 to 3									✓	✓	✓				✓	✓
	IBSP-SB-17-4.5		4 to 5										✓	✓	✓			✓	

TABLE 3
Sampling and Analysis Program

Sample Type	Sample Identification ¹	Boring Location Identification	Depth From Existing Surface (feet bgs)	Method for Chemical Analyses																
				Cyanide	Hexavalent Chromium	Fluoride	pH	Asbestos	VOCs (EPA 8260B)	PAHs (EPA 8270C SIM)	CAM 17 Metals (EPA 6010B/6020A)	TPH-d /TPH-mo (EPA 8015B)	Organotins (PSEP GC/MS)	PCBs (EPA 8082)	Total Organic Carbon (Walkley-Black)	Moisture Content (ASTM D2216)	Pesticides (EPA 8081A)			
Site Soil Construction-Based Soil Samples (Continued)	IBSP-SB-29-9.5	IBSP-SB-29	9 to 10								✓	✓	✓		✓		✓	✓		
	IBSP-SB-29-11.0		10 to 12								✓	✓	✓		✓		✓	✓		
	IBSP-SB-29-13.0		12 to 14									✓	✓	✓		✓		✓	✓	
	IBSP-SB-29-15.0		14 to 16									✓	✓	✓		✓		✓	✓	
	IBSP-SB-29-17.0		16 to 18									✓	✓	✓		✓		✓	✓	
	IBSP-SB-AR-34-7.0	IBSP-SB-AR-34	6 to 8									✓	✓	✓		✓		✓	✓	
	IBSP-SB-AR-34-9.0		8 to 10									✓	✓	✓		✓		✓	✓	
	IBSP-SB-AR-34-11.0		10 to 12										✓	✓	✓		✓		✓	✓
	IBSP-SB-AR-34-13.0		12 to 14										✓	✓	✓		✓		✓	✓
	IBSP-SB-AR-34-15.0		14 to 16										✓	✓	✓		✓		✓	✓
IBSP-SB-AR-34-17.0	16 to 18										✓	✓	✓		✓		✓	✓		
Site Soil Risk-Based Soil Samples	IBSP-SB-18-0.5	IBSP-SB-18	0 to 0.5									✓	✓	✓		✓		✓	✓	
	IBSP-SB-18-2.5		0.5 to 3										✓	✓	✓		✓		✓	✓
	IBSP-SB-19-0.5	IBSP-SB-19	0 to 0.5									✓	✓	✓		✓		✓	✓	
	IBSP-SB-19-2.5		0.5 to 3										✓	✓	✓		✓		✓	✓
	IBSP-SB-20-0.5	IBSP-SB-20	0 to 0.5									✓	✓	✓		✓		✓	✓	
	IBSP-SB-20-2.5		0.5 to 3										✓	✓	✓		✓		✓	✓
	IBSP-SB-21-0.5	IBSP-SB-21	0 to 0.5									✓	✓	✓		✓		✓	✓	
	IBSP-SB-21-2.5		0.5 to 3										✓	✓	✓		✓		✓	✓
	IBSP-SB-22-0.5	IBSP-SB-22	0 to 0.5									✓	✓	✓		✓		✓	✓	
	IBSP-SB-22-2.5		0.5 to 3										✓	✓	✓		✓		✓	✓
	IBSP-SB-23-5.0	IBSP-SB-23	3 to 6									✓	✓	✓		✓		✓	✓	
	IBSP-SB-23-6.0		3 to 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	IBSP-SB-23-8.5		6 to 9										✓	✓	✓		✓		✓	✓
	IBSP-SB-23-9.0		6 to 9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	IBSP-SB-23-12.0	9 to 12										✓	✓	✓		✓		✓	✓	
	IBSP-SB-24-4.5	IBSP-SB-24	3 to 6									✓	✓	✓		✓		✓	✓	
	IBSP-SB-24-7.5		6 to 9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	IBSP-SB-24-10.5		9 to 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	IBSP-SB-25-4.5	IBSP-SB-25	3 to 6									✓	✓	✓		✓		✓	✓	
	IBSP-SB-25-7.5		6 to 9									✓	✓	✓		✓		✓	✓	
	IBSP-SB-25-10.5		9 to 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	IBSP-SB-26-4.5	IBSP-SB-26	3 to 6	✓		✓		✓				✓	✓	✓		✓		✓	✓	
	IBSP-SB-26-7.5		6 to 9									✓	✓	✓		✓		✓	✓	
	IBSP-SB-26-10.5		9 to 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	IBSP-SB-27-9.5	IBSP-SB-27	9 to 10																	
	IBSP-SB-27-11.0		10 to 12																	
	IBSP-SB-28-9.5	IBSP-SB-28	9 to 10																	
	IBSP-SB-28-10.0		9 to 10										✓	✓	✓		✓		✓	✓
IBSP-SB-28-11.0	10 to 12		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
IBSP-SB-29-9.5	IBSP-SB-29	9 to 10										✓	✓	✓		✓		✓	✓	
IBSP-SB-29-11.0		10 to 12										✓	✓	✓		✓		✓	✓	

TABLE 3
Sampling and Analysis Program

Sample Type	Sample Identification ¹	Boring Location Identification	Depth From Existing Surface (feet bgs)	Method for Chemical Analyses														
				Cyanide	Hexavalent Chromium	Fluoride	pH	Asbestos	VOCs (EPA 8260B)	PAHs (EPA 8270C SIM)	CAM 17 Metals (EPA 6010B/6020A)	TPH-d /TPH-mo (EPA 8015B)	Organotins (PSEP GC/MS)	PCBs (EPA 8082)	Total Organic Carbon (Walkley-Black)	Moisture Content (ASTM D2216)	Pesticides (EPA 8081A)	
Archaeological Samples	IBSP-SB-AR-30	IBSP-SB-AR-30	Variable															
	IBSP-SB-AR-31	IBSP-SB-AR-31																
	IBSP-SB-AR-32	IBSP-SB-AR-32																
	IBSP-SB-AR-33	IBSP-SB-AR-33																
	IBSP-SB-AR-34	IBSP-SB-AR-34																
Duplicates	IBSP-FD-SB-1	IBSP-SB-21-0.5	Variable															
	IBSP-FD-SB-2	IBSP-SB-9-11.0																
	IBSP-FD-SB-3	IBSP-SB-12-9.0																
	IBSP-FD-SB-4	IBSP-SB-7-1.0																
	IBSP-FD-SB-5	IBSP-SB-10-11.0																
	IBSP-FD-SB-6	IBSP-SB-8-1.0																
	IBSP-FD-SB-7	IBSP-SB-26-7.5																
	IBSP-FD-SB-8	IBSP-SB-AR-14-0.5																
	IBSP-FD-SB-9	IBSP-SB-AR-11-3.0																
	IBSP-FD-SB-10	IBSP-SB-AR-5-0.5																
Trip Blanks	TB-20161207	NA	NA															
	TB-20161230																	
Sediment																		
Site Sediment	IBSP-SE-1-1.0	IBSP-SE-1	0 to 1															
	IBSP-SE-1-2.0		1 to 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SE-2-1.0	IBSP-SE-2	0 to 1															
	IBSP-SE-2-2.0		1 to 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SE-3-1.0	IBSP-SE-3	0 to 1															
	IBSP-SE-3-2.0		1 to 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SE-4-1.0	IBSP-SE-4	0 to 1															
	IBSP-SE-4-2.0		1 to 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SE-5-1.0	IBSP-SE-5	0 to 1															
	IBSP-SE-5-2.0		1 to 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IBSP-SE-6-1.0	IBSP-SE-6	0 to 1															
	IBSP-SE-7-1.0	IBSP-SE-7	0 to 1															
IBSP-SE-8-1.0	IBSP-SE-8	0 to 1																
Duplicates	IBSP-FD-SE-1	IBSP-SE-3-1.0	0 to 1															
Surface Water																		
Surface Water	IBSP-SW-1	IBSP-SW-1	Sediment/water Interface															
	IBSP-SW-2	IBSP-SW-2																
	IBSP-SW-3	IBSP-SW-3																
	IBSP-SW-4	IBSP-SW-4																
	IBSP-SW-5	IBSP-SW-5																
	IBSP-SW-6	IBSP-SW-6																
	IBSP-SW-7	IBSP-SW-7																
	IBSP-SW-8R	IBSP-SW-8																
Duplicates	IBSP-FD-SW-1	IBSP-SE-7																

Notes and Abbreviations:
bgs = below ground surface
EPA = United States Environmental Protection Agency
NA = Not Applicable

PCBs = Polychlorinated Biphenyls
PAHs = Polyaromatic Hydrocarbons
TPH-d = Total Petroleum Hydrocarbons as diesel
- = Not Collected, due to obstruction at location or depth; alternative locations used, where possible

TPH-mo = Total Petroleum Hydrocarbons as motor oil
VOCs = Volatile Organic Compounds
Italics: Collect and Hold
H = Hold

¹ For primary soil and sediment samples, last number of sample identification indicates bottom of sample depth interval.

TABLE 4A
Analytical Methods, Reporting Limits, Sample Volume, Container,
and Hold Times - Soil

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container ²	Hold Time Extract/Hold ³
Metals (mg/kg) - Soil						
Antimony	EPA 6010B	2	0.46	10 g	brass liner or glass jar	180 days
Arsenic	EPA 6010B	2	0.17	10 g	brass liner or glass jar	180 days
Barium	EPA 6010B	20	0.09	10 g	brass liner or glass jar	180 days
Beryllium	EPA 6010B	1	0.01	10 g	brass liner or glass jar	180 days
Cadmium	EPA 6010B	1	0.031	10 g	brass liner or glass jar	180 days
Chromium	EPA 6010B	1	0.054	10 g	brass liner or glass jar	180 days
Cobalt	EPA 6010B	1	0.025	10 g	brass liner or glass jar	180 days
Copper	EPA 6010B	2.5	0.15	10 g	brass liner or glass jar	180 days
Hexavalent Chromium	EPA 7196A	0.01	0.001	30 g	brass liner or glass jar	14 days
Iron	EPA 6010B	20	0.76	10 g	brass liner or glass jar	180 days
Lead	EPA 6010B	2	0.14	10 g	brass liner or glass jar	180 days
Mercury	EPA 7471A	0.0420	0.0043	5 g	brass liner or glass jar	28 days
Molybdenum	EPA 6010B	2	0.04	10 g	brass liner or glass jar	180 days
Nickel	EPA 6010B	1	0.047	10 g	brass liner or glass jar	180 days
Selenium	EPA 7741	0.5	0.012	5 g	brass liner or glass jar	180 days
Silver	EPA 6020	0.25	0.006	5 g	brass liner or glass jar	180 days
Thallium	EPA 6010B	2	0.12	10 g	brass liner or glass jar	180 days
Vanadium	EPA 6010B	1	0.074	10 g	brass liner or glass jar	180 days
Zinc	EPA 6010B	2	0.22	10 g	brass liner or glass jar	180 days
Pesticides (µg/kg) - Soil						
Aldrin	EPA 8081A	1.7	0.4	30 g	brass liner or glass jar	14 days
alpha-BHC	EPA 8081A	1.7	0.38	30 g	brass liner or glass jar	14 days
beta-BHC	EPA 8081A	1.7	0.2	30 g	brass liner or glass jar	14 days
delta-BHC	EPA 8081A	1.7	0.23	30 g	brass liner or glass jar	14 days
gamma-BHC	EPA 8081A	1.7	0.27	30 g	brass liner or glass jar	14 days
Total Chlordane	EPA 8081A	33	3.4	30 g	brass liner or glass jar	14 days
4,4'-DDD	EPA 8081A	1.7	0.21	30 g	brass liner or glass jar	14 days
4,4'-DDE	EPA 8081A	1.7	0.22	30 g	brass liner or glass jar	14 days
4,4'-DDT	EPA 8081A	1.7	0.31	30 g	brass liner or glass jar	14 days
Dieldrin	EPA 8081A	1.7	0.23	30 g	brass liner or glass jar	14 days
Endosulfan I	EPA 8081A	1.7	0.22	30 g	brass liner or glass jar	14 days
Endosulfan II	EPA 8081A	1.7	0.39	30 g	brass liner or glass jar	14 days
Endosulfan sulfate	EPA 8081A	1.7	0.33	30 g	brass liner or glass jar	14 days
Endrin	EPA 8081A	1.7	0.2	30 g	brass liner or glass jar	14 days
Endrin Aldehyde	EPA 8081A	1.7	0.23	30 g	brass liner or glass jar	14 days
Heptachlor	EPA 8081A	1.7	0.49	30 g	brass liner or glass jar	14 days
Heptachlor epoxide	EPA 8081A	1.7	0.26	30 g	brass liner or glass jar	14 days
Methoxychlor	EPA 8081A	1.7	0.34	30 g	brass liner or glass jar	14 days
Toxaphene	EPA 8081A	33	9.2	30 g	brass liner or glass jar	14 days
PCBs (µg/kg) - Soil						
Aroclor 1016	EPA 8082	33	6.7	30 g	brass liner or glass jar	14 days
Aroclor 1221	EPA 8082	33	17	30 g	brass liner or glass jar	14 days
Aroclor 1232	EPA 8082	33	17	30 g	brass liner or glass jar	14 days
Aroclor 1242	EPA 8082	33	17	30 g	brass liner or glass jar	14 days
Aroclor 1248	EPA 8082	33	17	30 g	brass liner or glass jar	14 days
Aroclor 1254	EPA 8082	33	17	30 g	brass liner or glass jar	14 days
Aroclor 1260	EPA 8082	33	6.7	30 g	brass liner or glass jar	14 days

TABLE 4A
Analytical Methods, Reporting Limits, Sample Volume, Container,
and Hold Times - Soil

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container ²	Hold Time Extract/Hold ³
PAHs (µg/kg) - Soil						
Acenaphthene	EPA 8270C SIM	3.3	0.65	30 g	brass liner or glass jar	14 days
Acenaphthylene	EPA 8270C SIM	3.3	0.24	30 g	brass liner or glass jar	14 days
Anthracene	EPA 8270C SIM	17	0.7	30 g	brass liner or glass jar	14 days
Benzo(a)anthracene	EPA 8270C SIM	3.3	0.53	30 g	brass liner or glass jar	14 days
Benzo(a)pyrene	EPA 8270C SIM	3.3	0.98	30 g	brass liner or glass jar	14 days
Benzo(b)fluoranthene	EPA 8270C SIM	3.3	1.4	30 g	brass liner or glass jar	14 days
Benzo(g,h,i)perylene	EPA 8270C SIM	3.3	1.2	30 g	brass liner or glass jar	14 days
Benzo(k)fluoranthene	EPA 8270C SIM	3.3	1.7	30 g	brass liner or glass jar	14 days
Chrysene	EPA 8270C SIM	3.3	0.41	30 g	brass liner or glass jar	14 days
Dibenzo(a,h)anthracene	EPA 8270C SIM	3.3	0.86	30 g	brass liner or glass jar	14 days
Fluoranthene	EPA 8270C SIM	17	0.45	30 g	brass liner or glass jar	14 days
Fluorene	EPA 8270C SIM	3.3	0.4	30 g	brass liner or glass jar	14 days
Indeno(1,2,3-cd)pyrene	EPA 8270C SIM	3.3	1.9	30 g	brass liner or glass jar	14 days
1-Methylnaphthalene	EPA 8270C SIM	3.3	0.36	30 g	brass liner or glass jar	14 days
2-Methylnaphthalene	EPA 8270C SIM	3.3	3.3	30 g	brass liner or glass jar	14 days
Naphthalene	EPA 8270C SIM	3.3	0.46	30 g	brass liner or glass jar	14 days
Phenanthrene	EPA 8270C SIM	3.3	0.46	30 g	brass liner or glass jar	14 days
Pyrene	EPA 8270C SIM	3.3	0.62	30 g	brass liner or glass jar	14 days
TPHd / TPHmo (mg/kg) - Soil						
TPH-d	EPA 8015B	3.3	0.83	30 g	brass liner or glass jar	14 days / 40 days
TPH-mo	EPA 8015B	6.7	1.7	30 g	brass liner or glass jar	14 days / 40 days
Volatile Organic Compounds (µg/kg) - Soil						
Iodomethane	EPA 8260B	5	0.851	30 g	brass liner or glass jar	14 days
1,1,1,2-Tetrachloroethane	EPA 8260B	5	0.62	30 g	brass liner or glass jar	14 days
1,1,1-Trichloroethane	EPA 8260B	5	0.807	30 g	brass liner or glass jar	14 days
1,1,2,2-Tetrachloroethane	EPA 8260B	5	0.52	30 g	brass liner or glass jar	14 days
1,1,2-Trichloroethane	EPA 8260B	5	0.62	30 g	brass liner or glass jar	14 days
1,1-Dichloroethane	EPA 8260B	5	1.15	30 g	brass liner or glass jar	14 days
1,1-Dichloroethene	EPA 8260B	5	0.94	30 g	brass liner or glass jar	14 days
1,1-Dichloropropene	EPA 8260B	5	0.65	30 g	brass liner or glass jar	14 days
1,2,3-Trichlorobenzene	EPA 8260B	5	0.427	30 g	brass liner or glass jar	14 days
1,2,3-Trichloropropane	EPA 8260B	5	0.607	30 g	brass liner or glass jar	14 days
1,2,4-Trichlorobenzene	EPA 8260B	5	0.477	30 g	brass liner or glass jar	14 days
1,2,4-Trimethylbenzene	EPA 8260B	5	0.623	30 g	brass liner or glass jar	14 days
1,2-Dibromo-3-Chloropropane	EPA 8260B	5	1.02	30 g	brass liner or glass jar	14 days
1,2-Dibromoethane	EPA 8260B	5	0.65	30 g	brass liner or glass jar	14 days
1,2-Dichlorobenzene	EPA 8260B	5	0.53	30 g	brass liner or glass jar	14 days
1,2-Dichloroethane	EPA 8260B	5	0.926	30 g	brass liner or glass jar	14 days
1,2-Dichloropropane	EPA 8260B	5	0.776	30 g	brass liner or glass jar	14 days
1,3,5-Trimethylbenzene	EPA 8260B	5	0.649	30 g	brass liner or glass jar	14 days
1,3-Dichlorobenzene	EPA 8260B	5	0.527	30 g	brass liner or glass jar	14 days
1,3-Dichloropropane	EPA 8260B	5	0.845	30 g	brass liner or glass jar	14 days
1,4-Dichlorobenzene	EPA 8260B	5	0.54	30 g	brass liner or glass jar	14 days
1-Chlorohexane	EPA 8260B	5	1.23	30 g	brass liner or glass jar	14 days
2,2-Dichloropropane	EPA 8260B	5	1.08	30 g	brass liner or glass jar	14 days
2-Butanone	EPA 8260B	10	1.42	30 g	brass liner or glass jar	14 days
2-Chlorotoluene	EPA 8260B	5	0.687	30 g	brass liner or glass jar	14 days
2-Hexanone	EPA 8260B	10	1.11	30 g	brass liner or glass jar	14 days
4-Chlorotoluene	EPA 8260B	5	0.647	30 g	brass liner or glass jar	14 days

TABLE 4A
Analytical Methods, Reporting Limits, Sample Volume, Container,
and Hold Times - Soil

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container ²	Hold Time Extract/Hold ³
4-Methyl-2-Pentanone	EPA 8260B	10	1.02	30 g	brass liner or glass jar	14 days
Acetone	EPA 8260B	10	3.3	30 g	brass liner or glass jar	14 days
Benzene	EPA 8260B	5	0.902	30 g	brass liner or glass jar	14 days
Bromobenzene	EPA 8260B	5	0.531	30 g	brass liner or glass jar	14 days
Bromochloromethane	EPA 8260B	5	0.935	30 g	brass liner or glass jar	14 days
Bromodichloromethane	EPA 8260B	5	0.845	30 g	brass liner or glass jar	14 days
Bromoform	EPA 8260B	5	0.5	30 g	brass liner or glass jar	14 days
Bromomethane	EPA 8260B	5	1.17	30 g	brass liner or glass jar	14 days
Carbon Disulfide	EPA 8260B	5	0.871	30 g	brass liner or glass jar	14 days
Carbon Tetrachloride	EPA 8260B	5	0.595	30 g	brass liner or glass jar	14 days
Chlorobenzene	EPA 8260B	5	0.686	30 g	brass liner or glass jar	14 days
Chloroethane	EPA 8260B	5	0.75	30 g	brass liner or glass jar	14 days
Chloroform	EPA 8260B	5	1.27	30 g	brass liner or glass jar	14 days
Chloromethane	EPA 8260B	5	1.04	30 g	brass liner or glass jar	14 days
cis-1,2-Dichloroethene	EPA 8260B	5	0.87	30 g	brass liner or glass jar	14 days
cis-1,3-Dichloropropene	EPA 8260B	5	0.606	30 g	brass liner or glass jar	14 days
Dibromochloromethane	EPA 8260B	5	0.515	30 g	brass liner or glass jar	14 days
Dibromomethane	EPA 8260B	5	0.771	30 g	brass liner or glass jar	14 days
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	5	0.733	30 g	brass liner or glass jar	14 days
Ethylbenzene	EPA 8260B	5	0.713	30 g	brass liner or glass jar	14 days
Freon 113	EPA 8260B	5	0.522	30 g	brass liner or glass jar	14 days
Freon 12	EPA 8260B	5	0.642	30 g	brass liner or glass jar	14 days
Hexachlorobutadiene	EPA 8260B	5	0.66	30 g	brass liner or glass jar	14 days
Isopropanol	EPA 8260B	100	13	30 g	brass liner or glass jar	14 days
Isopropyl Ether (DIPE)	EPA 8260B	5	0.87	30 g	brass liner or glass jar	14 days
Isopropylbenzene	EPA 8260B	5	0.649	30 g	brass liner or glass jar	14 days
m,p-Xylenes	EPA 8260B	5	1.38	30 g	brass liner or glass jar	14 days
Methyl tert-Amyl Ether (TAME)	EPA 8260B	5	0.569	30 g	brass liner or glass jar	14 days
Methylene Chloride	EPA 8260B	10	1.11	30 g	brass liner or glass jar	14 days
MTBE	EPA 8260B	5	1	30 g	brass liner or glass jar	14 days
Naphthalene	EPA 8260B	5	1.06	30 g	brass liner or glass jar	14 days
n-Butylbenzene	EPA 8260B	5	0.591	30 g	brass liner or glass jar	14 days
n-Hexane	EPA 8260B	10	0.659	30 g	brass liner or glass jar	14 days
o-Xylene	EPA 8260B	5	0.626	30 g	brass liner or glass jar	14 days
para-Isopropyl Toluene	EPA 8260B	5	0.617	30 g	brass liner or glass jar	14 days
Propylbenzene	EPA 8260B	5	0.663	30 g	brass liner or glass jar	14 days
sec-Butylbenzene	EPA 8260B	5	0.611	30 g	brass liner or glass jar	14 days
Styrene	EPA 8260B	5	0.576	30 g	brass liner or glass jar	14 days
tert-Butyl Alcohol (TBA)	EPA 8260B	100	13.2	30 g	brass liner or glass jar	14 days
tert-Butylbenzene	EPA 8260B	5	0.702	30 g	brass liner or glass jar	14 days
Tetrachloroethene	EPA 8260B	5	0.638	30 g	brass liner or glass jar	14 days
Tetrahydrofuran	EPA 8260B	100	15.1	30 g	brass liner or glass jar	14 days
Tetramethyl THF	EPA 8260B	5	0.599	30 g	brass liner or glass jar	14 days
Toluene	EPA 8260B	5	0.764	30 g	brass liner or glass jar	14 days
trans-1,2-Dichloroethene	EPA 8260B	5	0.837	30 g	brass liner or glass jar	14 days
trans-1,3-Dichloropropene	EPA 8260B	5	0.649	30 g	brass liner or glass jar	14 days
Trichloroethene	EPA 8260B	5	0.835	30 g	brass liner or glass jar	14 days
Trichlorofluoromethane	EPA 8260B	5	0.696	30 g	brass liner or glass jar	14 days
Vinyl Acetate	EPA 8260B	10	0.74	30 g	brass liner or glass jar	14 days
Vinyl Chloride	EPA 8260B	5	0.933	30 g	brass liner or glass jar	14 days

TABLE 4A
Analytical Methods, Reporting Limits, Sample Volume, Container,
and Hold Times - Soil

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container ²	Hold Time Extract/Hold ³
Organotins (mg/kg) - Soil						
Dibutyltin	Krone et al	1.0	0.04	20 g	brass liner or glass jar	14 days / 40 days
Monobutyltin	Krone et al	1.0	0.07	21 g	brass liner or glass jar	14 days / 40 days
Tetrabutyltin	Krone et al	1.0	0.1	22 g	brass liner or glass jar	14 days / 40 days
Tributyltin	Krone et al	1.0	0.2	23 g	brass liner or glass jar	14 days / 40 days
Total Organic Carbon (mg/kg) - Soil						
Total Organic Carbon	Walkley-Black	0.01%	0.01%	50g	brass liner or glass jar	na
Other - Soil						
Cyanide (mg/kg)	SM4500CN-E	1.0	0.05	30 g	brass liner or glass jar	14 days
Fluoride (mg/kg)	EPA 300.0	1.0	0.162	30 g	brass liner or glass jar	28 days
pH	EPA 9040C	1-12	1-12	30 g	brass liner or glass jar	14 days
Asbestos	CARB 435	0.25%	0.25%	454 g	brass liner or glass jar	na
Percent Moisture (%) - Soil						
Percent Moisture	ASTM D2216	0.1%	0.1%	25g	brass liner or glass jar	na

Notes and Abbreviations:

EPA = United States Environmental Protection Agency
 PCB = Polychlorinated Biphenyls
 PAHs = Polyaromatic Hydrocarbons
 TPH-d = Total Petroleum Hydrocarbons as diesel
 TPH-mo = Total Petroleum Hydrocarbons as motor oil
 VOCs = Volatile organic compounds
 CARB = California Air Resources Board

mg/kg = milligrams per kilogram
 µg/kg = micrograms per kilogram
 g = grams
 / = per
 oz = ounce
 na = Not applicable

¹ Reporting limits (RLs) and method detection limits (MDLs) are wet weight limits. Dry weight limits will increase based on moisture content of the sample. Due to sample matrix interferences, laboratory method RLs may not meet the regulatory comparative values for select chemical compounds. Therefore, all analytical results with elevated RLs may be reported using the MDLs.

² One 16-oz glass jar is sufficient to cover all sample analyses. Sampling containers will be supplied by the laboratory.

³ Hold times given as a fraction x/y mean x days from collection to extraction and y days from extraction to analysis.

Table 4B
Analytical Methods, Reporting Limits, Sample Volume, Container, and Hold Times - Water

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container	Hold Time Extract/Hold ²
Metals (µg/L) - Water						
Antimony	EPA 6020A	1	0.249	500 mL	polyethylene bottle	180 days
Arsenic	EPA 6020A	1	0.25	500 mL	polyethylene bottle	180 days
Barium	EPA 6020A	1	0.246	500 mL	polyethylene bottle	180 days
Beryllium	EPA 6020A	1	0.151	500 mL	polyethylene bottle	180 days
Cadmium	EPA 6020A	1	0.243	500 mL	polyethylene bottle	180 days
Chromium	EPA 6020A	1	0.25	500 mL	polyethylene bottle	180 days
Cobalt	EPA 6020A	1	0.185	500 mL	polyethylene bottle	180 days
Copper	EPA 6020A	1.5	0.5	500 mL	polyethylene bottle	180 days
Hexavalent Chromium	EPA 7196A	0.01	0.001	500 mL	polyethylene bottle	1 day
Iron	EPA 6020A	133	44.4	500 mL	polyethylene bottle	180 days
Lead	EPA 6020A	1	0.235	500 mL	polyethylene bottle	180 days
Mercury	EPA 7470	0.2	0.04	500 mL	polyethylene bottle	28 days
Molybdenum	EPA 6020A	1.5	0.5	500 mL	polyethylene bottle	180 days
Nickel	EPA 6020A	1.5	0.5	500 mL	polyethylene bottle	180 days
Selenium	EPA 6020A	2.25	0.75	500 mL	polyethylene bottle	180 days
Silver	EPA 6020A	1	0.123	500 mL	polyethylene bottle	180 days
Thallium	EPA 6020A	1	0.1	500 mL	polyethylene bottle	180 days
Vanadium	EPA 6020A	1	0.321	500 mL	polyethylene bottle	180 days
Zinc	EPA 6020A	10	2.5	500 mL	polyethylene bottle	180 days
PCBs (µg/L) - Water						
Aroclor 1016	EPA 8082	0.5	0.161	2 L	2 1-L amber bottles	7 days
Aroclor 1221	EPA 8082	1	0.324	2 L	2 1-L amber bottles	7 days
Aroclor 1232	EPA 8082	0.5	0.142	2 L	2 1-L amber bottles	7 days
Aroclor 1242	EPA 8082	0.5	0.159	2 L	2 1-L amber bottles	7 days
Aroclor 1248	EPA 8082	0.5	0.16	2 L	2 1-L amber bottles	7 days
Aroclor 1254	EPA 8082	0.5	0.157	2 L	2 1-L amber bottles	7 days
Aroclor 1260	EPA 8082	0.5	0.134	2 L	2 1-L amber bottles	7 days
Aroclor-1262	EPA 8082	0.5	0.135	2 L	2 1-L amber bottles	7 days
Aroclor-1268	EPA 8082	0.5	0.143	2 L	2 1-L amber bottles	7 days

Table 4B
Analytical Methods, Reporting Limits, Sample Volume, Container, and Hold Times - Water

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container	Hold Time Extract/Hold ²
PAHs (µg/L) - Water						
Acenaphthene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Acenaphthylene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Anthracene	EPA 8270SIM	0.1	0.031	2 L	2 1-L amber bottles	7 days
Benzo(a)anthracene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Benzo(a)pyrene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Benzo(b)fluoranthene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Benzo(g,h,i)perylene	EPA 8270SIM	0.1	0.0253	2 L	2 1-L amber bottles	7 days
Benzo(k)fluoranthene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Chrysene	EPA 8270SIM	0.1	0.0273	2 L	2 1-L amber bottles	7 days
Dibenzo(a,h)anthracene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Fluoranthene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Fluorene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Indeno(1,2,3-cd)pyrene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Naphthalene	EPA 8270SIM	0.1	0.0222	2 L	2 1-L amber bottles	7 days
Phenanthrene	EPA 8270SIM	0.1	0.02	2 L	2 1-L amber bottles	7 days
Pyrene	EPA 8270SIM	0.1	0.024	2 L	2 1-L amber bottles	7 days
TPHd / TPHmo (µg/L) - Water						
TPH-d	EPA 8015B	50	16.5	1 L	2 500-mL amber bottles	14 days
TPH-mo	EPA 8015B	300	95.9	1 L	2 500-mL amber bottles	14 days
Volatile Organic Compounds (µg/L) - Water						
1,1,1,2-Tetrachloroethane	EPA 8260B	0.5	0.144	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,1,1-Trichloroethane	EPA 8260B	0.5	0.146	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,1,2,2-Tetrachloroethane	EPA 8260B	0.5	0.135	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,1,2-Trichloroethane	EPA 8260B	0.5	0.16	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,1-Dichloroethane	EPA 8260B	0.5	0.159	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,1-Dichloroethene	EPA 8260B	0.5	0.159	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,1-Dichloropropene	EPA 8260B	0.5	0.13	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,2,3-Trichlorobenzene	EPA 8260B	0.5	0.158	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,2,3-Trichloropropane	EPA 8260B	0.5	0.154	120 mL	3 40-mL VOA vial preserved with HCl	14 days

Table 4B
Analytical Methods, Reporting Limits, Sample Volume, Container, and Hold Times - Water

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container	Hold Time Extract/Hold ²
1,2,4-Trichlorobenzene	EPA 8260B	0.5	0.133	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,2,4-Trimethylbenzene	EPA 8260B	0.5	0.16	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,2-Dibromo-3-Chloropropane	EPA 8260B	2	0.326	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,2-Dibromoethane	EPA 8260B	0.5	0.149	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,2-Dichlorobenzene	EPA 8260B	0.5	0.122	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,2-Dichloroethane	EPA 8260B	0.5	0.15	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,2-Dichloropropane	EPA 8260B	0.5	0.15	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,3,5-Trimethylbenzene	EPA 8260B	0.5	0.131	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,3-Dichlorobenzene	EPA 8260B	0.5	0.15	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,3-Dichloropropane	EPA 8260B	0.5	0.149	120 mL	3 40-mL VOA vial preserved with HCl	14 days
1,4-Dichlorobenzene	EPA 8260B	0.5	0.12	120 mL	3 40-mL VOA vial preserved with HCl	14 days
2,2-Dichloropropane	EPA 8260B	0.5	0.155	120 mL	3 40-mL VOA vial preserved with HCl	14 days
2-Butanone	EPA 8260B	10	0.581	120 mL	3 40-mL VOA vial preserved with HCl	14 days
2-Chlorotoluene	EPA 8260B	0.5	0.152	120 mL	3 40-mL VOA vial preserved with HCl	14 days
2-Hexanone	EPA 8260B	10	0.5	120 mL	3 40-mL VOA vial preserved with HCl	14 days
4-Chlorotoluene	EPA 8260B	0.5	0.155	120 mL	3 40-mL VOA vial preserved with HCl	14 days
4-Methyl-2-Pentanone	EPA 8260B	10	0.654	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Acetone	EPA 8260B	10	3.3	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Benzene	EPA 8260B	0.5	0.149	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Bromobenzene	EPA 8260B	0.5	0.142	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Bromochloromethane	EPA 8260B	0.5	0.151	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Bromodichloromethane	EPA 8260B	0.5	0.121	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Bromoform	EPA 8260B	1	0.179	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Bromomethane	EPA 8260B	1	0.209	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Carbon Disulfide	EPA 8260B	0.5	0.12	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Carbon Tetrachloride	EPA 8260B	0.5	0.159	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Chlorobenzene	EPA 8260B	0.5	0.13	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Chloroethane	EPA 8260B	1	0.267	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Chloroform	EPA 8260B	0.5	0.117	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Chloromethane	EPA 8260B	1	0.272	120 mL	3 40-mL VOA vial preserved with HCl	14 days
cis-1,2-Dichloroethene	EPA 8260B	0.5	0.149	120 mL	3 40-mL VOA vial preserved with HCl	14 days
cis-1,3-Dichloropropene	EPA 8260B	0.5	0.119	120 mL	3 40-mL VOA vial preserved with HCl	14 days

Table 4B
Analytical Methods, Reporting Limits, Sample Volume, Container, and Hold Times - Water

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container	Hold Time Extract/Hold ²
Dibromochloromethane	EPA 8260B	0.5	0.158	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Dibromomethane	EPA 8260B	0.5	0.146	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Ethylbenzene	EPA 8260B	0.5	0.156	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Freon 113	EPA 8260B	2	0.173	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Freon 12	EPA 8260B	1	0.173	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Hexachlorobutadiene	EPA 8260B	2	0.25	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Isopropylbenzene	EPA 8260B	0.5	0.102	120 mL	3 40-mL VOA vial preserved with HCl	14 days
m,p-Xylenes	EPA 8260B	0.5	0.145	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Methylene Chloride	EPA 8260B	5	0.298	120 mL	3 40-mL VOA vial preserved with HCl	14 days
MTBE	EPA 8260B	0.5	0.119	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Naphthalene	EPA 8260B	2	0.225	120 mL	3 40-mL VOA vial preserved with HCl	14 days
n-Butylbenzene	EPA 8260B	0.5	0.124	120 mL	3 40-mL VOA vial preserved with HCl	14 days
o-Xylene	EPA 8260B	0.5	0.154	120 mL	3 40-mL VOA vial preserved with HCl	14 days
para-Isopropyl Toluene	EPA 8260B	0.5	0.101	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Propylbenzene	EPA 8260B	0.5	0.107	120 mL	3 40-mL VOA vial preserved with HCl	14 days
sec-Butylbenzene	EPA 8260B	0.5	0.11	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Styrene	EPA 8260B	0.5	0.147	120 mL	3 40-mL VOA vial preserved with HCl	14 days
tert-Butylbenzene	EPA 8260B	0.5	0.159	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Tetrachloroethene	EPA 8260B	0.5	0.156	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Toluene	EPA 8260B	0.5	0.115	120 mL	3 40-mL VOA vial preserved with HCl	14 days
trans-1,2-Dichloroethene	EPA 8260B	0.5	0.158	120 mL	3 40-mL VOA vial preserved with HCl	14 days
trans-1,3-Dichloropropene	EPA 8260B	0.5	0.139	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Trichloroethene	EPA 8260B	0.5	0.116	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Trichlorofluoromethane	EPA 8260B	1	0.228	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Vinyl Acetate	EPA 8260B	10	1.15	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Vinyl Chloride	EPA 8260B	0.5	0.154	120 mL	3 40-mL VOA vial preserved with HCl	14 days
Organotins (mg/L) - Water						
Dibutyltin	PSEP GC/MS	0.003	0.00074	500 mL	polyethylene bottle	7 days
Monobutyltin	PSEP GC/MS	0.003	0.00074	500 mL	polyethylene bottle	7 days
Tetrabutyltin	PSEP GC/MS	0.003	0.00074	500 mL	polyethylene bottle	7 days
Tributyltin	PSEP GC/MS	0.003	0.00074	500 mL	polyethylene bottle	7 days

Table 4B
Analytical Methods, Reporting Limits, Sample Volume, Container, and Hold Times - Water

Analyte	Method	Reporting Limit ¹	Method Detection Limit ¹	Minimum Sample Volume	Container	Hold Time Extract/Hold ²
Other - Water						
Cyanide (mg/L)	SM4500CN-E	0.01	0.009	500 mL	polyethylene bottle with NaOH preservative	14 days
Fluoride (mg/L)	EPA 300.0	0.1	0.0125	250 mL	polyethylene bottle	28 days
pH	EPA 9040C	1-12	1-12	250 mL	polyethylene bottle	14 days

Notes and Abbreviations:

EPA = United States Environmental Protection Agency
 PCB = Polychlorinated Biphenyls
 PAHs = Polyaromatic Hydrocarbons
 TPH-d = Total Petroleum Hydrocarbons as diesel
 TPH-mo = Total Petroleum Hydrocarbons as motor oil
 VOCs = Volatile organic compounds

mg/L = milligrams per liter
 µg/L = micrograms per Liter
 g = grams
 / = per
 mL = milliliters
 L = liters

HCl = Hydrochloric acid
 NaOH = Sodium Hydroxide
 VOA = Volatile organic analysis

¹ Reporting limits (RLs) and method detection limits (MDLs). Due to sample matrix interferences, laboratory method RLs may not meet the regulatory comparative values for select chemical compounds. Therefore, all analytical results with elevated RLs may be reported using the MDLs.

² Hold times given as a fraction x/y mean x days from collection to extraction and y days from extraction to analysis.

TABLE 5A
Soil and Sediment Sample Analytical Results for Metals

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte Units Laboratory Method Sample Date	Moisture, Percent %	Metals																	
						Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
						EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B/6020	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B
IBSP-SB-1-0.5	0 to 0.5	0.5	Soil	12/30/2016	43	< 0.27 ND	7.3	43	0.59 J	1.8	87	16	34	11	0.083	1.7	92	0.5 J	0.17 J	< 0.25 ND	76	86	
IBSP-SB-1-2.5	2 to 3	2.5	Soil	12/30/2016	36	< 0.23 ND	5.9	34	0.3 J	1.3	120	15	23	8.1	0.079	1.5	130	0.44 J	0.13 J	< 0.22 ND	65	71	
IBSP-SB-2-0.5	0 to 0.5	0.5	Soil	12/30/2016	16	< 0.19 ND	0.58	140	0.018 J	0.45	68	9.2	13	240	0.12	0.17 J	75	< 0.21 ND	< 0.052 ND	< 0.18 ND	40	87	
IBSP-SB-2-2.5	2 to 3	2.5	Soil	12/30/2016	24	< 0.22 ND	3.2	44	0.1 J	0.7	64	9.9	10	22	0.06	0.48	45	0.33 J	0.081 J	< 0.21 ND	51	54	
IBSP-SB-AR-3-0.5	0 to 0.5	0.5	Soil	1/4/2017	12	< 0.18 ND	1.1	62	0.058 J	0.51	71	9.8	10	22	0.049	0.27 J	81	< 0.19 ND	< 0.047 ND	< 0.17 ND	41	47	
IBSP-SB-AR-3-2.5	2 to 3	2.5	Soil	1/4/2017	10	< 0.16 ND	1	60	0.045 J	0.56	75	11	7.3	23	0.057	0.28	93	< 0.17 ND	< 0.043 ND	< 0.15 ND	45	39	
IBSP-SB-4-0.5	0 to 0.5	0.5	Soil	12/12/2016	22	0.54 J	0.23 J	140	0.063 J	1.1	110	20	330	130	0.2	0.79	200	0.47 J	0.13 J	< 0.18 ND	58	250	
IBSP-SB-4-2.5	2 to 3	2.5	Soil	12/12/2016	25	< 2.7 ND	1.8	30	0.032 J	0.43	120	8.3	290	220	0.098	0.18 J	130	< 0.22 ND	< 0.055 ND	< 0.2 ND	32	200	
IBSP-SB-AR-5-0.5	0 to 0.5	0.5	Soil	12/30/2016	9	< 0.17 ND	1.3	77	0.1 J	0.62	63	10	7.6	24	0.082	0.16 J	49	0.1 J	0.07 J	< 0.16 ND	53	44	
IBSP-SB-AR-5-2.5	2 to 3	2.5	Soil	12/30/2016	7	< 0.16 ND	< 0.078 ND	82	0.068 J	0.48	48	7.6	8.4	47	1.2	0.31	32	0.082 J	0.1 J	< 0.15 ND	48	47	
IBSP-SB-6-1.0	0 to 2	1.0	Soil	12/8/2016	13	< 0.16 ND	3.3	130	0.2 J	1	130	21	37	79	0.22	0.69	240	< 0.17 ND	< 0.044 ND	< 0.96	48	99	
IBSP-SB-6-3.0	2 to 4	3.0	Soil	12/8/2016	12	< 0.17 ND	1.8	140	0.17 J	1.2	180	30	39	110	0.18	2.3	370	< 0.18 ND	< 0.045 ND	< 0.16 ND	44	130	
IBSP-SB-6-5.0	4 to 6	5.0	Soil	12/8/2016	7	< 0.18 ND	0.31	60	0.02 J	0.51	25	5.9	18	3	< 0.02 ND	0.5	32	0.88 J	< 0.047 ND	1.1	20	32	
IBSP-SB-6-7.0	6 to 8	7.0	Soil	12/8/2016	20	< 0.2 ND	3	84	0.066 J	0.77	36	7	37	15	0.03	1.3	35	< 0.21 ND	< 0.054 ND	1.7	23	67	
IBSP-SB-6-9.0	8 to 10	9.0	Soil	12/8/2016	5	< 0.15 ND	0.12 J	56	0.016 J	1.7	25	5.4	12	2	0.03	0.34	38	0.79 J	< 0.039 ND	0.59	16	29	
IBSP-SB-7-1.0	0 to 2	1.0	Soil	12/8/2016	12	< 0.17 ND	2.4	140	0.067 J	1.5	550	44	50	100	0.25	0.41	840	< 0.18 ND	0.61	< 0.16 ND	39	230	
IBSP-SB-7-3.0	2 to 4	3.0	Soil	12/8/2016	10	< 0.18 ND	2.8	110	0.08 J	1.2	450	36	27	66	0.16	0.51	720	< 0.19 ND	0.38	< 0.17 ND	40	120	
IBSP-SB-7-5.0	4 to 6	5.0	Soil	12/8/2016	7	< 0.17 ND	4	260	0.24 J	1.3	150	19	74	420	0.1	0.71	220	< 0.18 ND	< 0.046 ND	< 0.16 ND	50	240	
IBSP-SB-7-7.0	6 to 8	7.0	Soil	12/8/2016	6	< 0.16 ND	2.6	150	0.11 J	1.2	170	25	42	110	0.17	0.75	320	< 0.18 ND	< 0.044 ND	< 0.15 ND	50	160	
IBSP-SB-7-9.0	8 to 10	9.0	Soil	12/8/2016	9	< 0.17 ND	3.6	150	0.12 J	1.2	140	24	71	91	0.23	9.5	260	< 0.18 ND	< 0.045 ND	< 0.16 ND	46	150	
IBSP-SB-7-11.0	10 to 12	11.0	Soil	12/8/2016	11	< 0.17 ND	2	150	0.046 J	1.2	140	26	41	190	0.25	0.99	300	< 0.18 ND	< 0.044 ND	0.18 J	64	140	
IBSP-SB-8-1.0	0 to 2	1.0	Soil	12/8/2016	9	< 0.18 ND	2.1	100	0.23 J	0.81	46	13	33	14	0.03	0.58	83	0.22 J	< 0.048 ND	< 0.17 ND	33	53	
IBSP-SB-8-2.5	2 to 4	2.5	Soil	12/8/2016	9	< 0.16 ND	2	86	0.1 J	0.68	41	9.2	24	26	0.15	0.48	47	< 0.17 ND	< 0.043 ND	< 0.15 ND	38	56	
IBSP-SB-9-1.0	0 to 2	1.0	Soil	12/7/2016	9	0.15 J	4 b	63	0.18 J	0.13 J	75	11	7.8	38	0.12	0.17 J	89	0.2 J	0.034 J	< 0.06 ND	47	46	
IBSP-SB-9-3.0	2 to 4	3.0	Soil	12/7/2016	10	0.2 J	5.3 b	84	0.33 J	< 0.033 ND	89	14	15	81	0.14	< 0.091 ND	110	0.086 J	0.13 J	< 0.06 ND	60	54	
IBSP-SB-9-5.0	4 to 6	5.0	Soil	12/7/2016	7	0.38 J	7.1 b	130	0.33 J	0.27	55	16	140	110	0.9	0.33	84	0.098 J	0.058 J	0.079 J	45	160	
IBSP-SB-9-7.0	6 to 8	7.0	Soil	12/7/2016	15	0.11 J	5.1 b	140	0.22 J	0.28 J	37	8.8	27	110	0.25	2	44	0.19 J	0.074 J	< 0.056 ND	36	70	
IBSP-SB-9-9.0	8 to 10	9.0	Soil	12/7/2016	16	0.35 J	4.9 b	49	0.17 J	0.58	39	6.1	27	89	0.24	0.67	41	< 0.081 ND	0.43	< 0.058 ND	30	83	
IBSP-SB-9-11.0	10 to 12	11.0	Soil	12/7/2016	21	0.7 J	12	93	0.21 J	0.51	140	22	82	150	0.17	3.1	310	< 0.42 J	0.26 J	< 0.058 ND	40	170	
IBSP-SB-10-1.0	0 to 2	1.0	Soil	12/8/2016	12	< 0.17 ND	3.2	140	0.13 J	1.1	170	25	58	91	0.19	0.8	310	< 0.18 ND	< 0.044 ND	< 0.32 J	45	120	
IBSP-SB-10-3.0	2 to 4	3.0	Soil	12/8/2016	10	< 0.17 ND	2.4	160	0.14 J	1.1	190	27	37	120	0.26	0.81	360	< 0.18 ND	< 0.045 ND	0.49 J	45	110	
IBSP-SB-10-5.0	4 to 6	5.0	Soil	12/8/2016	19	< 0.17 ND	< 0.084 ND	180	0.22 J	1.2	140	43	4.4	3	0.07	0.21 J	720	0.79 J	< 0.046 ND	< 0.16 ND	35	41	
IBSP-SB-10-7.0	6 to 8	7.0	Soil	12/8/2016	13	< 0.19 ND	2.2	81	0.076 J	0.72	29	5.6	15	6.8	< 0.02 ND	0.95	34	< 0.2 ND	< 0.05 ND	0.56 J	30	34	
IBSP-SB-10-9.0	8 to 10	9.0	Soil	12/8/2016	8	< 0.15 ND	3.2	55	< 0.013 ND	0.63	30	8.3	17	3.3	< 0.02 ND	0.86	54	< 0.16 ND	< 0.041 ND	0.19 J	27	43	
IBSP-SB-10-11.0	10 to 12	11.0	Soil	12/8/2016	16	< 0.16 ND	2.3	75	0.047 J	1	52	8.6	29	5.3	0.04	3.2	55	< 0.17 ND	< 0.043 ND	0.5 J	34	53	
IBSP-SB-10-13.0	12 to 14	13.0	Soil	12/8/2016	17	< 0.18 ND	3.3	150	0.13 J	1.3	370	47	24	9	< 0.02 ND	1.1	900	< 0.19 ND	< 0.049 ND	< 0.17 ND	38	51	
IBSP-SB-10-15.0	14 to 16	15.0	Soil	12/8/2016	12	< 0.16 ND	1.1	98	0.096 J	0.93	71	12	18	280	0.13	4.3	41	< 0.17 ND	< 0.042 ND	< 0.15 ND	60	71	
IBSP-SB-10-17.0	16 to 18	17.0	Soil	12/8/2016	16	< 0.19 ND	1.1	73	0.23 J	0.74	74	7	7.4	20	0.04	0.28 J	56	0.22 J	< 0.052 ND	0.68	50	35	
IBSP-SB-AR-11-1.0	0 to 2	1.0	Soil	12/30/2016	10	< 0.15 ND	5.2	170	0.36 J	0.92	64	15	38	23	0.13	0.75	110	0.23 J	0.78	< 0.14 ND	64	68	
IBSP-SB-AR-11-3.0	2 to 4	3.0	Soil	12/30/2016	17	< 0.18 ND	4.7	300	0.57 J	1	100	11	38	27	0.099	0.29 J	69	0.22 J	0.12 J	< 0.17 ND	110	60	
IBSP-SB-AR-11-5.0	4 to 6	5.0	Soil	12/30/2016	12	< 0.16 ND	1.5	170	0.019 J	0.72	42	7.7	29	62	0.031	0.92	59	0.094 J	0.11 J	< 0.15 ND	40	57	
IBSP-SB-12-1.0	0 to 2	1.0	Soil	12/7/2016	12	0.36 J	5.7 b	160	0.32 J	0.29	200	39	58	110	0.18	0.69	480	0.33 J	0.17 J	< 0.058 ND	48	160	
IBSP-SB-12-3.0	2 to 4	3.0	Soil	12/7/2016	7	0.28 J	3.8 b	150	0.25 J	0.27 J	200	43	34	58	0.18	0.65	630	0.21 J	0.16 J	< 0.056 ND	56	93	
IBSP-SB-12-5.0	4 to 6	5.0	Soil	12/7/2016	9	0.31 J	4.6 b	180	0.25 J	< 0.03 ND	240	48	35	47	0.25	1.3	900	< 0.077 ND	0.14 J	< 0.055 ND	59	86	
IBSP-SB-12-7.0	6 to 8	7.0	Soil	12/7/2016	8	0.15 J	4.8 b	110	0.19 J	0.084 J	35	9.6	24	9	0.04	0.68	79	0.18 J	0.071 J	< 0.057 ND	31	51	
IBSP-SB-12-9.0	8 to 10	9.0	Soil	12/7/2016	16	< 0.093 ND	4.2 b	120	0.16 J	0.22 J	43	8.6	26	6.9	0.03	3.5	61	0.13 J	0.095 J	< 0.063 ND	26	110	
IBSP-SB-AR-13-0.5	0 to 0.5	0.5	Soil	12/30/2016	15	< 0.19 ND	1.9	120	0.37 J	0.79	110	14	23	43	0.26	0.2 J	120	0.25 J	0.12 J	< 0.17 ND	64	74	
IBSP-SB-AR-13-2.5	2 to 3	2.5	Soil	12/30/2016	12	< 0.16 ND	2.1	76	0.23 J	0.72	76	14	9.7	15	0.072	0.33	100	< 0.087 ND	0.074 J	< 0.15 ND	59	38	
IBSP-SB-AR-13-4.5	4 to 5	4.5	Soil	12/30/2016	22	< 0.2 ND	2.3	86	0.37 J	0.8	69	14	11	6.6	0.075	0.41	51	0.27 J	0.063 J	< 0.19 ND	76	42	
IBSP-SB-AR-14-0.5	0 to 0.5	0.5	Soil	12/30/2016	11	< 0.17 ND	4.4	220	0.56 J	1	38	22	44	21	0.1	0.55	58	0.46 J	0.05 J	< 0.16 ND	38	100	
IBSP-SB-AR-14-2.5	2 to 3	2.5	Soil	12/30/2016	14	< 0.39 ND	0.19 J	160	0.26 J	0.79	66	14	29	360	0.1	0.99	49	< 0.18 ND	0.12 J	< 0.36 ND	57	100	
IBSP-SB-AR-14-4.5	4 to 5	4.5	Soil	12/30/2016	6	< 0.17 ND	2.2	64	0.2 J	0.69	240	17	8.7	24	0.066	0.35	240	0.14 J	0.052 J	< 0.16 ND	46	37	

TABLE 5A
Soil and Sediment Sample Analytical Results for Metals

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte Units Laboratory Method Sample Date	Moisture, Percent % ASTM D2216/CLP	Metals																	
						Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
						EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B/6020	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B
IBSP-SB-15-0.5	0 to 0.5	0.5	Soil	12/7/2016	9	0.43 J	4.4 b	68	0.24 J	0.15 J	70	12	17	46	0.11	0.61	100	< 0.08 ND	0.12 J	< 0.057 ND	45	74	
IBSP-SB-15-2.5	2 to 3	2.5	Soil	12/7/2016	10	0.2 J	4.9 b	75	0.3 J	0.23 J	100	17	23	30	0.11	0.17 J	120	< 0.083 ND	< 0.033 ND	< 0.059 ND	53	52	
IBSP-SB-15-4.5	4 to 5	4.5	Soil	12/7/2016	5	0.1 J	1.7 b	81	0.23 J	0.45	39	9.9	29	33	0.07	0.45	60	0.15 J	0.078 J	< 0.057 ND	50	50	
IBSP-SB-16-0.5	0 to 0.5	0.5	Soil	12/7/2016	17	0.17 J	3.5	67	0.2 J	0.13 J	75	14	16	40	0.08	< 0.087 ND	140	0.29 J	0.093 J	< 0.058 ND	35	95	
IBSP-SB-16-2.5	2 to 3	2.5	Soil	12/7/2016	11	0.11 J	< 0.092 ND	69	0.23 J	< 0.031 ND	79	14	8.4	23	0.09	< 0.084 ND	110	0.11 J	0.094 J	< 0.056 ND	40	40	
IBSP-SB-16-4.5	4 to 5	4.5	Soil	12/7/2016	8	0.22 J	5.4	77	0.16 J	0.23 J	39	8.9	26	150	0.24	0.16 J	52	< 0.075 ND	0.094 J	0.064 J	74	110	
IBSP-SB-17-0.5	0 to 0.5	0.5	Soil	12/7/2016	20	0.44 J	4.4	140	0.31 J	0.13 J	59	13	53	100	0.09	1.5	90	0.29 J	0.17 J	< 0.063 ND	32	240	
IBSP-SB-17-2.5	2 to 3	2.5	Soil	12/7/2016	11	0.13 J	< 0.093 ND	32	0.46 J	0.11 J	410	56	31	11	0.08	< 0.085 ND	760	< 0.079 ND	0.079 J	< 0.057 ND	47	63	
IBSP-SB-17-4.5	4 to 5	4.5	Soil	12/7/2016	13	2 J	7.7	280	0.33 J	2.4	150	25	110	340	0.34	6.2	330	0.53 J	0.29	0.17 J	13	820	
IBSP-SB-29-9.5	9 to 10	9.5	Soil	12/7/2016	17	0.17 J	7.2 b	150	0.18 J	0.033 J	31	6.8	56	10	< 0.02 ND	0.74	44	< 0.084 ND	0.053 J	< 0.06 ND	36	90	
IBSP-SB-29-11.0	10 to 12	1.0	Soil	12/7/2016	8	0.54 J	6.9 b	130	0.25 J	0.31	86	21	33	65	0.12	1.6	190	0.35 J	0.15 J	0.075 J	36	140	
IBSP-SB-29-13.0	12 to 14	3.0	Soil	12/7/2016	6	0.68 J	10	100	0.26 J	0.12 J	48	11	30	30	< 0.02 ND	0.55	75	0.13 J	0.082 J	< 0.055 ND	33	74	
IBSP-SB-29-15.0	14 to 16	5.0	Soil	12/7/2016	9	0.61 J	6 b	170	0.31 J	0.51	130	33	44	150	0.23	0.72	420	0.17 J	0.079 J	0.077 J	47	210	
IBSP-SB-29-17.0	16 to 18	7.0	Soil	12/7/2016	7	0.43 J	5.8 b	120	0.2 J	0.088 J	100	26	29	51	0.12	1.4	220	0.22 J	0.17 J	0.066 J	35	120	
IBSP-SB-AR-34-7.0	6 to 8	7.0	Soil	1/5/2017	13	< 0.16 ND	2.5	77	0.12 J	1.2	260	49	100	380	0.26	0.21 J	1000	< 0.17 ND	< 0.042 ND	< 0.15 ND	35	150	
IBSP-SB-AR-34-9.0	8 to 10	9.0	Soil	1/5/2017	13	< 0.18 ND	2	230	0.22 J	0.69	60	6.5	44	420	0.089	0.35	29	< 0.19 ND	< 0.047 ND	< 0.17 ND	45	280	
IBSP-SB-AR-34-11.0	10 to 12	1.0	Soil	1/5/2017	14	< 0.18 ND	1.7	170	0.27 J	0.95	73	7.3	16	400	0.24	0.31	32	< 0.19 ND	< 0.048 ND	< 0.17 ND	57	250	
IBSP-SB-AR-34-13.0	12 to 14	3.0	Soil	1/5/2017	32	< 0.2 ND	1.4	570	0.05 J	< 0.89	45	7.7	33	5.9	0.47	0.75	35	< 0.22 ND	< 0.054 ND	0.3 J	75	64	
IBSP-SB-AR-34-17.0	16 to 18	7.0	Soil	1/5/2017	22	< 0.17 ND	< 0.085 ND	200	0.054 J	0.63	56	8.6	19	10	0.029	0.37	62	< 0.19 ND	< 0.046 ND	< 0.16 ND	42	41	
IBSP-SB-18-0.5	0 to 0.5	0.5	Soil	12/5/2016	14	0.39 Jb	4.3 b	97	0.27 J	0.25 J	80	12	19	68	0.11	0.24 J	99	< 0.083 ND	0.066 J	< 0.059 ND	43	120	
IBSP-SB-18-2.5	0.5 to 3	2.5	Soil	12/5/2016	14	0.39 Jb	8.8	140	0.31 J	0.47 J	61	11	37	88	0.16	0.28 J	81	0.15 J	0.11 J	< 0.059 ND	39	130	
IBSP-SB-19-0.5	0 to 0.5	0.5	Soil	12/5/2016	10	0.23 Jb	4.3	67	0.25 J	0.14 J	74	11	13	140	0.15	0.12 J	87	< 0.08 ND	< 0.032 ND	< 0.057 ND	44	76	
IBSP-SB-19-2.5	0.5 to 3	2.5	Soil	12/5/2016	7	0.66 Jb	6.2	190	0.39 J	0.33 J	88	16	63	150	0.14	0.45	110	0.18 J	0.2 J	0.065 J	52	130	
IBSP-SB-20-0.5	0 to 0.5	0.5	Soil	12/6/2016	23	0.39 Jb	5.3	110	0.32 J	0.36 J	97	16	33	89	0.14	0.26 J	160	0.17 J	0.12 J	< 0.062 ND	42	120	
IBSP-SB-20-2.5	0.5 to 3	2.5	Soil	12/6/2016	10	0.15 Jb	4.8	57	0.17 J	0.042 J	82	20	16	40	0.05	< 0.084 ND	230	0.08 J	0.068 J	< 0.056 ND	30	61	
IBSP-SB-21-0.5	0 to 0.5	0.5	Soil	12/6/2016	12	0.15 Jb	3.9 b	53	0.23 J	0.14 J	99	12	6.8	25	0.06	< 0.079 ND	120	0.13 J	0.034 J	< 0.053 ND	41	37	
IBSP-SB-21-2.5	0.5 to 3	2.5	Soil	12/6/2016	16	0.28 Jb	3.2 b	76	0.2 J	0.28 J	220	38	21	89	0.18	< 0.089 ND	720	0.12 J	0.044 J	< 0.06 ND	40	110	
IBSP-SB-22-0.5	0 to 0.5	0.5	Soil	12/6/2016	12	0.25 Jb	11	72	0.34 J	0.26 J	180	22	13	33	0.08	0.11 J	220	0.19 J	< 0.031 ND	< 0.056 ND	76	72	
IBSP-SB-22-2.5	0.5 to 3	2.5	Soil	12/6/2016	12	1.6 J	6.6	180	0.29 J	< 0.12 ND	300	32	44	460	0.5	0.26 J	610	0.22 J	0.18 J	0.09 J	39	720	
IBSP-SB-23-5.0	3 to 6	5.0	Soil	12/8/2016	10	< 0.17 ND	3.9	140	0.2 J	1.4	190	34	46	110	0.3	0.62	410	< 0.19 ND	< 0.047 ND	< 0.16 ND	50	130	
IBSP-SB-23-8.5	6 to 9	8.5	Soil	12/8/2016	9	< 0.16 ND	4.3	100	0.1 J	1.2	250	33	28	33	0.24	0.42	810	< 0.17 ND	< 0.043 ND	< 0.15 ND	41	87	
IBSP-SB-23-12.0	9 to 12	12.0	Soil	12/8/2016	11	< 0.18 ND	20	290	0.26 J	1.3	62	22	28	180	0.1	0.66	60	< 0.2 ND	< 0.049 ND	< 0.17 ND	55	210	
IBSP-SB-24-4.5	3 to 6	4.5	Soil	12/8/2016	7	< 0.16 ND	< 0.079 ND	130	0.059 J	0.79	81	13	26	42	0.04	0.61	120	0.18 J	< 0.043 ND	< 0.15 ND	39	77	
IBSP-SB-25-4.5	3 to 6	4.5	Soil	12/8/2016	17	< 0.17 ND	1.2	93	0.17 J	1.1	130	33	26	46	0.16	0.65	480	< 0.18 ND	< 0.044 ND	< 0.16 ND	41	77	
IBSP-SB-25-7.5	6 to 9	7.5	Soil	12/8/2016	11	< 0.18 ND	5.2	330	0.35 J	1.8	110	40	58	120	0.33	1.1	360	0.63 J	< 0.047 ND	< 0.17 ND	77	180	
IBSP-SB-26-4.5	3 to 6	4.5	Soil	12/8/2016	9	< 0.17 ND	2.4	150	0.12 J	1.3	140	26	63	73	0.24	7.1	310	< 0.19 ND	< 0.047 ND	< 0.16 ND	64	110	
IBSP-SB-26-7.5	6 to 9	7.5	Soil	12/8/2016	9	< 0.18 ND	2.5	190	0.26 J	1.5	130	27	68	120	0.3	1.6	340	0.58 J	< 0.049 ND	0.17 J	61	180	
IBSP-SB-28-10.0	9 to 10	10.0	Soil	12/8/2016	18	< 0.2 ND	5.4	150	0.23 J	0.74	20	2.3	79	0.91	< 0.02 ND	1.5	10	< 0.21 ND	0.15 J	0.86	20	95	
IBSP-SB-29-9.5	9 to 10	9.5	Soil	12/7/2016	17	0.17 J	7.2 b	150	0.18 J	0.033 J	31	6.8	56	10	< 0.02 ND	0.74	44	< 0.084 ND	0.053 J	< 0.06 ND	36	90	
IBSP-SB-29-11.0	10 to 12	11.0	Soil	12/7/2016	8	0.54 J	6.9 b	130	0.25 J	0.31	86	21	33	65	0.12	1.6	190	0.35 J	0.15 J	0.075 J	36	140	
IBSP-SE-1-1.0	0 to 1	1.0	Sediment	3/14/2017	54	< 0.31 ND	5.2	70	0.58 J	0.85	120	15	74	65	0.44	0.45 J	140	< 0.54 ND	< 0.12 ND	< 0.36 ND	74	140	
IBSP-SE-2-1.0	0 to 1	1.0	Sediment	3/15/2017	39	< 0.23 ND	3.3	50	0.38 J	0.53	79	11	54	51	< 0.0076 ND	< 0.095 ND	84	< 0.39 ND	< 0.086 ND	< 0.26 ND	55	97	
IBSP-SE-3-1.0	0 to 1	1.0	Sediment	3/15/2017	46	< 0.23 ND	3.5	43	0.45 J	0.43 J	76	11	46	34	1.3	< 0.098 ND	89	< 0.4 ND	< 0.089 ND	< 0.27 ND	56	89	
IBSP-SE-4-1.0	0 to 1	1.0	Sediment	3/15/2017	44	< 0.24 ND	9.1	66	0.45 J	1	110	15	82	85	0.68	0.12 J	160	< 0.4 ND	< 0.089 ND	< 0.27 ND	59	150	
IBSP-SE-5-1.0	0 to 1	1.0	Sediment	3/15/2017	22	< 0.15 ND	14	64	0.36 J	1.1	120	16	110	100	0.38	0.69	200	0.44 J	< 0.059 ND	< 0.18 ND	49	140	
IBSP-SE-6-1.0	0 to 1	1.0	Sediment	3/14/2017	65	< 0.4 ND	2.2	61	0.77 J	0.6 J	100	14	100	55	0.59	< 0.17 ND	90	< 0.68 ND	< 0.15 ND	< 0.45 ND	92	160	
IBSP-SE-7-1.0	0 to 1	1.0	Sediment	3/14/2017	37	< 0.23 ND	6.3	30	0.37 J	0.44	98	12	39	29	0.17	0.2 J	110	< 0.39 ND	< 0.086 ND	< 0.26 ND	55	80	
IBSP-SE-8-1.0	0 to 1	1.0	Sediment	3/14/2017	60	< 0.34 ND	3.6	57	0.66 J	0.47 J	92	13	120	53	0.57	< 0.14 ND	85	< 0.59 ND	< 0.13 ND	< 0.39 ND	83	140	

TABLE 5A
Soil and Sediment Sample Analytical Results for Metals

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte	Moisture, Percent	Metals																	
						Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
						Units	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
						Laboratory Method	ASTM D2216/CLP	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 7471A	EPA 6010B	EPA 6010B	EPA 6010B/6020	EPA 6010B	EPA 6010B
Sample Date																							
Data Statistics																							
Sample Count		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100			
Frequency of Detection (%)		37%	94%	100%	99%	96%	100%	100%	100%	100%	100%	91%	89%	100%	49%	52%	23%	100%	100%				
Maximum		2.70	20	570	0.77	2.4	550	56	330	460	1.3	9.50	1000	0.88	0.78	1.7	110	820					
Minimum		< 0.09	< 0.08	30.00	< 0.01	< 0.03	20.00	2.30	< 4.40	0.91	< 0.01	< 0.08	10.00	< 0.08	< 0.031	< 0.053	13.00	29.00					
Mean (soil & sediment) ¹		0.22	3.98	121.27	0.23	0.70	112.09	18.22	42.74	86.51	0.18	0.92	210.44	0.19	0.088	0.149	47.35	115.59					
Mean (sediment only) ¹		0.13	5.90	55.13	0.50	0.68	99.38	13.38	78.13	59	0.52	0.21	119.8	0.27	0.05	0.15	65.38	124.50					
Human Health Comparative Values																							
SFRWQCB 2016 Residential Direct Exposure ESLs ²		31	0.067	15,000	150	39.0	120,000	23	3,100	80	6.3	390	820	390	390	0.78	140,000	23,000					
SFRWQCB 2016 Commercial Direct Exposure ESLs ²		470	0.31	220,000	2,200	580.0	1,800,000	350	47,000	320	82.0	5,800	11,000	5,800	5,800	12	5,800	350,000					
SFRWQCB 2016 Construction Worker Direct Exposure ESLs ²		140	0.98	3,000	42	43	530,000	28	14,000	160	19.0	1,800	86	1,700	1,800	3.5	470	110,000					
USEPA 2016 Residential RSLs ³		31	0.68	15,000	160	71.0	120,000	23	3,100	400	11.0	390	820	390	390	0.78	390	23,000					
LBNL Background Values ⁴		< 6	24	410	1.0	5.6	120	25	63	43	0.42	4.8	272	4.9	2.9	10	90	140					
Local Hunters Point Site Background (2009) ⁵		ne	ne	ne	ne	ne	464.24	84	ne	ne	ne	ne	1581.81	ne	ne	ne	ne	ne					
TTLC ⁶		500	500	10,000	75	100	2,500	8,000	2,500	1,000	20.0	3,500	2,000	100	500	700	2,400	5,000					
Ecological Habitat Comparative Values (Sediment Only)																							
San Francisco Bay Ambient 90 % UTL ⁷		ne	13.9	103	ne	0.33	141	20.1	53.9	25.1	0.33	0.75	98.3	0.36	0.32	ne	ne	136					
San Francisco Bay Ambient Average ⁸		ne	8.74	66.8	ne	0.21	98	14.7	39	19.5	0.33	0.50	78.5	0.23	0.19	ne	ne	103.8					
Effects Range - Low (ER-L) ⁹		ne	8.2	ne	ne	1.2	81	ne	34	46.7	0.15	ne	20.9	ne	1	ne	ne	150					
Effects Range - Median (ER-M) ¹⁰		ne	70	ne	ne	9.6	370	ne	270	218	0.71	ne	51.6	ne	3.7	ne	ne	410					

Notes and Abbreviations:

mg/kg = milligrams per kilogram
 bgs = Below ground surface
 % = Percent
 J = Estimated value
 ND = Not detected above the method detection limit (< MDL)
 ne = Not established

b = Lab case narrative notes a calibration bias for this result OR sample was prepared outside of hold time

Values are listed as dry weight unless otherwise noted.

¹ Mean calculated using half the detection limit value for non-detects

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Residential/Commercial/Construction Scenarios). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

³ United States Environmental Protection Agency (USEPA) Residential RSLs = Regional Screening Levels (Residential Exposure Scenario). May 2016.

⁴ Lawrence Berkeley National Laboratory (LBNL) Analysis of Background Distributions of Metals in Bay Area Regional Soils, Upper Estimate Values, 2009.

⁵ Final Remediation Investigation Report, Hunters Point Power Plant, San Francisco, CA, TRC, 2009

⁶ TTLC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24. TTLC values are listed as wet weight

⁷ A 90% Upper Threshold Limit (UTL) calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁸ Ambient for San Francisco Bay sediments, 2007-2012, Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁹ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

¹⁰ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds the 2016 Residential Direct Exposure ESL, or background concentration, whichever is greater.

Highlighted indicates an individual sample location result exceeds the 2016 Commercial Direct Exposure ESL, or the 2016 Construction Worker Direct Exposure ESL, whichever is lower.

Red Bolded indicates an individual sample location exceeds the TTLC where established.

Light stippling indicates value equals or exceeds the ER-L or S.F. Bay Ambient 90%UTL, whichever is higher.

Dark stippling indicates value equals or exceeds the ER-M or S.F. Bay Ambient 90%UTL, whichever is higher.

TABLE 5B
Soil and Sediment Sample Analytical Results for Polychlorinated Biphenyls (PCBs)

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte	Moisture, Percent	PCBs																						
						Units	ASTM D2216/CLP	Aroclor-1016		Aroclor-1221		Aroclor-1232		Aroclor-1242		Aroclor-1248		Aroclor-1254		Aroclor-1260		Total PCBs						
								µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg						
								EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		(sum of Aroclors)				
Laboratory Method	Sample Date																											
IBSP-SB-1-0.5	0 to 0.5	0.5	Soil	12/30/2016	43	<	2.1	ND	<	5.6	ND	<	2.7	ND	<	2.5	ND	<	2.7	ND	<	2.1	ND	1.4	ND	1.4		
IBSP-SB-2-0.5	0 to 0.5	0.5	Soil	12/30/2016	16	<	1.4	ND	<	3.8	ND	<	1.8	ND	<	1.7	ND	<	1.8	ND		1.4	ND	110		111.4		
IBSP-SB-6-5.0	4 to 6	5.0	Soil	12/8/2016	7	<	1.3	ND	<	3.4	ND	<	1.7	ND	<	1.5	ND	<	1.6	ND	<	1.3	ND	0.83	ND	0.83		
IBSP-SB-7-5.0	4 to 6	5.0	Soil	12/8/2016	7	<	1.3	ND	<	3.4	ND	<	1.7	ND	<	1.5	ND	<	1.6	ND		1.3	ND	7.2		8.5		
IBSP-SB-9-5.0	4 to 6	5.0	Soil	12/7/2016	7	<	1.3	ND	<	3.4	ND	<	1.7	ND	<	1.5	ND	<	1.6	ND	<	1.3	ND	0.83	ND	0.83		
IBSP-SB-9-9.0	8 to 10	9.0	Soil	12/7/2016	16	<	1.4	ND	<	3.8	ND	<	1.9	ND	<	1.7	ND	<	1.8	ND		1.5	ND	7		8.5		
IBSP-SB-10-5.0	4 to 6	5.0	Soil	12/8/2016	19	<	1.5	ND	<	4	ND	<	1.9	ND	<	1.8	ND	<	1.9	ND	<	1.5	ND	0.97	ND	0.97		
IBSP-SB-AR-11-5.0	4 to 6	5.0	Soil	12/30/2016	12	<	1.3	ND	<	3.6	ND	<	1.8	ND	<	1.6	ND	<	1.7	ND		1.4	ND	8.5		9.9		
IBSP-SB-12-5.0	4 to 6	5.0	Soil	12/7/2016	9	<	1.3	ND	<	3.5	ND	<	1.7	ND	<	1.6	ND		1.7	ND		32		34		67.7		
IBSP-SB-12-9.0	8 to 10	9.0	Soil	12/7/2016	16	<	1.4	ND	<	3.8	ND	<	1.8	ND	<	1.7	ND	<	1.8	ND	<	1.4	ND	0.91	ND	0.91		
IBSP-SB-AR-14-2.5	2 to 3	2.5	Soil	12/30/2016	14	<	1.4	ND	<	3.7	ND	<	1.8	ND	<	1.7	ND	<	1.8	ND	<	1.4	ND	<	0.9	ND	<	3.7
IBSP-SB-16-2.5	2 to 3	2.5	Soil	12/7/2016	11	<	1.3	ND	<	3.6	ND	<	1.7	ND	<	1.6	ND	<	1.7	ND		20		9.4		29.4		
IBSP-SB-29-9.5	9 to 10	9.5	Soil	12/7/2016	17	<	1.4	ND	<	3.8	ND	<	1.9	ND	<	1.7	ND	<	1.8	ND	<	1.5	ND	<	0.93	ND	<	3.8
IBSP-SB-29-11.0	10 to 12	1.0	Soil	12/7/2016	8	<	1.3	ND	<	3.4	ND	<	1.7	ND	<	1.5	ND	<	1.6	ND		22		18		40		
IBSP-SB-AR-34-9.0	8 to 10	9.0	Soil	1/5/2017	13	<	1.3	ND	<	3.6	ND	<	1.8	ND	<	1.6	ND	<	1.7	ND	<	1.4	ND	0.97	J	0.97		
IBSP-SB-18-0.5	0 to 0.5	0.5	Soil	12/5/2016	14	<	1.4	ND	<	3.7	ND	<	1.8	ND	<	1.7	ND	<	1.8	ND		17		15		32		
IBSP-SB-18-2.5	0.5 to 3	2.5	Soil	12/5/2016	14	<	1.4	ND	<	3.7	ND	<	1.8	ND	<	1.7	ND	<	1.8	ND		110		25		135		
IBSP-SB-19-0.5	0 to 0.5	0.5	Soil	12/5/2016	10	<	1.3	ND	<	3.6	ND	<	1.7	ND	<	1.6	ND	<	1.7	ND		52		24		76		
IBSP-SB-19-2.5	0.5 to 3	-2.5	Soil	12/5/2016	7	<	1.3	ND	<	3.5	ND	<	1.7	ND	<	1.6	ND	<	1.7	ND		28		17		45		
IBSP-SB-20-0.5	0 to 0.5	0.5	Soil	12/6/2016	23	<	1.6	ND	<	4.2	ND	<	2	ND	<	1.9	ND	<	2	ND		20		26		46		
IBSP-SB-20-2.5	0.5 to 3	2.5	Soil	12/6/2016	10	<	1.3	ND	<	11	ND ^b	<	1.7	ND	<	1.6	ND	<	1.7	ND		6.6	b	12		18.6		
IBSP-SB-21-0.5	0 to 0.5	-0.5	Soil	12/6/2016	12	<	1.3	ND	<	3.6	ND	<	1.8	ND	<	1.6	ND	<	1.7	ND	<	1.4	ND	2.4	J	2.4		
IBSP-SB-21-2.5	0.5 to 3	2.5	Soil	12/6/2016	16	<	1.4	ND	<	3.7	ND	<	1.8	ND	<	1.7	ND	<	1.8	ND		25		21		46		
IBSP-SB-22-0.5	0 to 0.5	0.5	Soil	12/6/2016	12	<	1.3	ND	<	3.6	ND	<	1.8	ND	<	1.6	ND	<	1.7	ND	<	1.4	ND	8.7		8.7		
IBSP-SB-22-2.5	0.5 to 3	-2.5	Soil	12/6/2016	12	<	1.3	ND	<	3.6	ND	<	1.8	ND	<	1.6	ND	<	1.7	ND	<	1.4	ND	<	0.87	ND	<	3.6
IBSP-SB-23-5.0	3 to 6	5.0	Soil	12/8/2016	10	<	1.3	ND	<	3.5	ND	<	1.7	ND	<	1.6	ND	<	1.7	ND		19	b	24		43		
IBSP-SB-23-8.5	6 to 9	-8.5	Soil	12/8/2016	9	<	1.3	ND	<	3.5	ND	<	1.7	ND	<	1.6	ND	<	1.7	ND		3.3	J ^b	27		30.3		
IBSP-SB-23-12.0	9 to 12	12.0	Soil	12/8/2016	11	<	1.3	ND	<	3.6	ND	<	1.7	ND	<	1.6	ND	<	1.7	ND		70	b	45		115		
IBSP-SB-24-4.5	3 to 6	4.5	Soil	12/8/2016	7	<	1.3	ND	<	3.5	ND	<	1.7	ND	<	1.6	ND	<	1.7	ND		300		200		500		
IBSP-SB-25-4.5	3 to 6	4.5	Soil	12/8/2016	17	<	1.4	ND	<	3.8	ND	<	1.9	ND	<	1.7	ND	<	1.8	ND	<	1.5	ND	5.4	J	5.4		
IBSP-SB-25-7.5	6 to 9	-7.5	Soil	12/8/2016	11	<	1.3	ND	<	3.6	ND	<	1.8	ND	<	1.6	ND	<	1.7	ND	<	1.4	ND	39		39		
IBSP-SB-26-4.5	3 to 6	-4.5	Soil	12/8/2016	9	<	1.3	ND	<	3.5	ND	<	1.7	ND	<	1.6	ND	<	1.7	ND	<	1.3	ND	110		110		
IBSP-SB-26-7.5	6 to 9	-7.5	Soil	12/8/2016	9	<	1.3	ND	<	3.5	ND	<	1.7	ND	<	1.6	ND	<	1.7	ND		27		51		78		
IBSP-SB-28-10.0	9 to 10	0.0	Soil	12/8/2016	18	<	1.5	ND	<	3.9	ND	<	1.9	ND	<	1.8	ND	<	1.9	ND	<	1.5	ND	<	0.95	ND	<	3.9
IBSP-SB-29-9.5	9 to 10	-9.5	Soil	12/7/2016	17	<	1.4	ND	<	3.8	ND	<	1.9	ND	<	1.7	ND	<	1.8	ND	<	1.5	ND	<	0.93	ND	<	3.8
IBSP-SB-29-11.0	10 to 12	11.0	Soil	12/7/2016	8	<	1.3	ND	<	3.4	ND	<	1.7	ND	<	1.5	ND	<	1.6	ND		22		18		40		
IBSP-SE-1-1.0	0 to 1	1.0	Sediment	3/14/2017	54	<	2.6	ND	<	6.9	ND	<	3.4	ND	<	3.1	ND	<	3.3	ND		53		120		173		
IBSP-SE-2-1.0	0 to 1	1.0	Sediment	3/15/2017	39	<	1.9	ND	<	5.2	ND	<	2.6	ND	<	2.4	ND	<	2.5	ND		96		120		216		
IBSP-SE-3-1.0	0 to 1	1.0	Sediment	3/15/2017	46	<	2.2	ND	<	5.9	ND	<	2.9	ND	<	2.6	ND	<	2.8	ND		17		27		44		
IBSP-SE-4-1.0	0 to 1	1.0	Sediment	3/15/2017	44	<	2.1	ND	<	5.7	ND	<	2.8	ND	<	2.6	ND	<	2.7	ND		39		69		108		
IBSP-SE-5-1.0	0 to 1	1.0	Sediment	3/15/2017	22	<	1.5	ND	<	4.1	ND	<	2	ND	<	1.8	ND	<	2	ND		18		34		52		

TABLE 5B
Soil and Sediment Sample Analytical Results for Polychlorinated Biphenyls (PCBs)

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte	Moisture, Percent	PCBs																						
						Units	Aroclor-1016		Aroclor-1221		Aroclor-1232		Aroclor-1242		Aroclor-1248		Aroclor-1254		Aroclor-1260		Total PCBs							
							μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg		μg/kg							
							EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		(sum of Aroclors)					
Laboratory Method	ASTM D2216/CLP		EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		EPA 8082		(sum of Aroclors)											
Sample Date																												
IBSP-SE-6-1.0	0 to 1	1.0	Sediment	3/14/2017	65	<	3.4	ND	<	9.1	ND	<	4.4	ND	<	4.1	ND	<	4.4	ND	<	3.5	ND	90	90			
IBSP-SE-7-1.0	0 to 1	1.0	Sediment	3/14/2017	37	<	9.3	ND	<	25	ND	<	12	ND	<	11	ND	<	12	ND		45	110	155				
IBSP-SE-8-1.0	0 to 1	1.0	Sediment	3/14/2017	60	<	2.9	ND	<	7.9	ND	<	3.8	ND	<	3.5	ND	<	3.8	ND		64	190	254				
Data Statistics																												
Sample Count							44		44		44		44		44		44		44		44		44		44			
Frequency of Detection (%)							0%		0%		0%		0%		2%		61%		89%		89%		89%		89%			
Maximum						<	9.3		<	25		<	12		<	11		<	12		300		200		500			
Minimum						<	1.3		<	3.4		<	1.7		<	1.5		<	1.6		<	1.3		<	0.83		<	0.83
Mean (soil and sediment) ¹							0.86		2.39		1.12		1.03		1.12		25.57		37.11		62.57		62.57		62.57			
Mean (sediment only) ¹							1.62		4.36		2.12		1.94		2.09		41.72		95.00		136.5		136.5		136.5			
Human Health Comparative Values																												
SFRWQCB 2016 Residential Direct Exposure ESLs ²							ne		ne		ne		ne		ne		ne		ne		ne		ne		250			
SFRWQCB 2016 Commercial Direct Exposure ESLs ²							ne		ne		ne		ne		ne		ne		ne		ne		ne		1,000			
SFRWQCB 2016 Construction Worker Direct Exposure ESLs ²							ne		ne		ne		ne		ne		ne		ne		ne		ne		5,600			
USEPA 2016 Residential RSLs ³							4,100		200		170		230		230		240		240		240		240		ne			
TTLC ⁴							ne		ne		ne		ne		ne		ne		ne		ne		ne		50,000			
Ecological Habitat Comparative Values (Sediment Only)																												
San Francisco Bay Ambient 90 % UTL ⁵							ne		ne		ne		ne		ne		ne		ne		ne		ne		18			
San Francisco Bay Ambient Average ⁶							ne		ne		ne		ne		ne		ne		ne		ne		ne		9			
Effects Range - Low (ER-L) ⁷							ne		ne		ne		ne		ne		ne		ne		ne		ne		22.7			
Effects Range - Median (ER-M) ⁸							ne		ne		ne		ne		ne		ne		ne		ne		ne		180			

Notes and Abbreviations:

bgs = Below ground surface
 μg/kg = micrograms per kilogram
 % = Percent

ND = Not detected above the method detection limit (< MDL)
 J = Estimated value
 ne = Not established

Values are listed as dry weight unless otherwise noted.

¹ Mean calculated using half the detection limit value for non-detects

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Residential/Commercial/Construction Scenarios). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

³ United States Environmental Protection Agency (USEPA) Residential RSLs = Regional Screening Levels (Residential Exposure Scenario). May 2016.

⁴ TTLC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24. TTLC values are listed as wet weight

⁵ A 90% Upper Threshold Limit (UTL) calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁶ Ambient for San Francisco Bay sediments, 2007-2012, Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁷ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

⁸ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds the 2016 Residential Direct Exposure ESL.

Highlighted indicates an individual sample location result exceeds the 2016 Commercial Direct Exposure ESL.

Red Bolded indicates an individual sample location exceeds the TTLC where established.

 Light stippling indicates value equals or exceeds the ER-L or S.F. Bay Ambient 90%UTL, whichever is higher.

 Dark stippling indicates value equals or exceeds the ER-M or S.F. Bay Ambient 90%UTL, whichever is higher.

TABLE 5C
Soil and Sediment Sample Analytical Results for Total Petroleum Hydrocarbons (TPH)

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte	Moisture, Percent	TPH						
				Units	%	Diesel C10-C24		Diesel C10-C24 (SGCU)		Motor Oil C24-C36		Motor Oil C24-C36 (SGCU)
				Laboratory Method	ASTM D2216/CLP	mg/kg		mg/kg		mg/kg		mg/kg
				Sample Date		EPA 8015		EPA 8015		EPA 8015		EPA 8015
IBSP-SB-1-0.5	0 to 0.5	0.5	Soil	12/30/2016	43	11	Y			36		
IBSP-SB-2-0.5	0 to 0.5	0.5	Soil	12/30/2016	16	13	Y			53		
IBSP-SB-AR-3-0.5	0 to 0.5	0.5	Soil	1/4/2017	12	34	Y			140		
IBSP-SB-4-2.5	2 to 3	2.5	Soil	12/12/2016	25	10	Y			72		
IBSP-SB-AR-5-2.5	2 to 3	2.5	Soil	12/30/2016	7	3.6	Y			7.1		
IBSP-SB-6-1.0	0 to 2	1.0	Soil	12/8/2016	13	23	Y			170		
IBSP-SB-6-5.0	4 to 6	5.0	Soil	12/8/2016	7	0.0036	J			0.025	J	
IBSP-SB-6-9.0	8 to 10	9.0	Soil	12/8/2016	5	1.6	Y			2.8	J	
IBSP-SB-7-1.0	0 to 2	1.0	Soil	12/8/2016	12	85	Y			480		
IBSP-SB-7-5.0	4 to 6	5.0	Soil	12/8/2016	7	55	Y			350		
IBSP-SB-7-9.0	8 to 10	9.0	Soil	12/8/2016	9	20	Y			280		
IBSP-SB-9-1.0	0 to 2	1.0	Soil	12/7/2016	9	6.3	Y			32		
IBSP-SB-9-5.0	4 to 6	5.0	Soil	12/7/2016	7	28	Y			210		
IBSP-SB-9-9.0	8 to 10	9.0	Soil	12/7/2016	16	110	Y	110	Y	2800	2000	
IBSP-SB-10-1.0	0 to 2	1.0	Soil	12/8/2016	12	32	Y			270		
IBSP-SB-10-5.0	4 to 6	5.0	Soil	12/8/2016	19	16	Y			260		
IBSP-SB-10-9.0	8 to 10	9.0	Soil	12/8/2016	8	6.7	Y			23		
IBSP-SB-10-13.0	12 to 14	13.0	Soil	12/8/2016	17	2.5	Y			2	J	
IBSP-SB-10-17.0	16 to 18	17.0	Soil	12/8/2016	16	45	Y	47	Y	620	620	
IBSP-SB-AR-11-1.0	0 to 2	1.0	Soil	12/30/2016	10	10	Y			130		
IBSP-SB-AR-11-5.0	4 to 6	5.0	Soil	12/30/2016	12	4.9	Y			36		
IBSP-SB-12-1.0	0 to 2	1.0	Soil	12/7/2016	12	20	Y			180		
IBSP-SB-12-5.0	4 to 6	5.0	Soil	12/7/2016	9	24	Y			120		
IBSP-SB-12-9.0	8 to 10	9.0	Soil	12/7/2016	16	0.98	JY		<	1.8	ND	
IBSP-SB-AR-13-2.5	2 to 3	2.5	Soil	12/30/2016	12	9.7	Y			150		
IBSP-SB-AR-13-4.5	4 to 5	4.5	Soil	12/30/2016	22	5.2	Y			9.4		
IBSP-SB-AR-14-2.5	2 to 3	2.5	Soil	12/30/2016	14	1.3	JY			5.6	JY	
IBSP-SB-AR-14-4.5	4 to 5	4.5	Soil	12/30/2016	6	5	Y			22		
IBSP-SB-15-2.5	2 to 3	2.5	Soil	12/7/2016	10	19	Y			320		
IBSP-SB-16-2.5	2 to 3	2.5	Soil	12/7/2016	11	3.4	Y			18		
IBSP-SB-17-2.5	2 to 3	2.5	Soil	12/7/2016	11	6.2	Y			65		
IBSP-SB-17-4.5	4 to 5	4.5	Soil	12/7/2016	13	24	Y			160		

TABLE 5C
Soil and Sediment Sample Analytical Results for Total Petroleum Hydrocarbons (TPH)

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte	Moisture, Percent	TPH				
				Units	%	Diesel C10-C24		Diesel C10-C24 (SGCU)	Motor Oil C24-C36	Motor Oil C24-C36 (SGCU)
				Laboratory Method	ASTM D2216/CLP	mg/kg		mg/kg	mg/kg	mg/kg
				Sample Date		EPA 8015	EPA 8015	EPA 8015	EPA 8015	
IBSP-SB-29-9.5	9 to 10	9.5	Soil	12/7/2016	17	17	Y		50	
IBSP-SB-29-11.0	10 to 12	1.0	Soil	12/7/2016	8	34	Y		470	
IBSP-SB-29-13.0	12 to 14	3.0	Soil	12/7/2016	6	17	Y		55	
IBSP-SB-29-17.0	16 to 18	7.0	Soil	12/7/2016	7	22	Y		700	
IBSP-SB-AR-34-9.0	8 to 10	9.0	Soil	1/5/2017	13	3.4	Y		29	
IBSP-SB-AR-34-13.0	12 to 14	3.0	Soil	1/5/2017	32	13	Y		44	
IBSP-SB-AR-34-17.0	16 to 18	7.0	Soil	1/5/2017	22	8.3	Y		22	
IBSP-SB-18-0.5	0 to 0.5	0.5	Soil	12/5/2016	14	< 18	ND		340	
IBSP-SB-18-2.5	0.5 to 3	2.5	Soil	12/5/2016	14	120	Y	150 Y	770	750
IBSP-SB-19-0.5	0 to 0.5	0.5	Soil	12/5/2016	10	37			130	
IBSP-SB-19-2.5	0.5 to 3	-2.5	Soil	12/5/2016	7	< 33	ND		420 JY	
IBSP-SB-20-0.5	0 to 0.5	0.5	Soil	12/6/2016	23	30	JY	31 Y	710	680
IBSP-SB-20-2.5	0.5 to 3	2.5	Soil	12/6/2016	10	8	JY		180	
IBSP-SB-21-0.5	0 to 0.5	-0.5	Soil	12/6/2016	12	5	Y		45	
IBSP-SB-21-2.5	0.5 to 3	2.5	Soil	12/6/2016	16	27	Y		170	
IBSP-SB-22-0.5	0 to 0.5	0.5	Soil	12/6/2016	12	23	Y		92	
IBSP-SB-22-2.5	0.5 to 3	-2.5	Soil	12/6/2016	12	15	Y		150	
IBSP-SB-23-5.0	3 to 6	5.0	Soil	12/8/2016	10	64	Y		360	
IBSP-SB-23-8.5	6 to 9	-8.5	Soil	12/8/2016	9	33	Y		340	
IBSP-SB-23-12.0	9 to 12	12.0	Soil	12/8/2016	11	16	Y		120	
IBSP-SB-24-4.5	3 to 6	4.5	Soil	12/8/2016	7	29	Y	27 Y	550	550
IBSP-SB-25-4.5	3 to 6	4.5	Soil	12/8/2016	17	8.4	Y		110	
IBSP-SB-25-7.5	6 to 9	-7.5	Soil	12/8/2016	11	30	Y		180	
IBSP-SB-26-4.5	3 to 6	-4.5	Soil	12/8/2016	9	16	Y		120	
IBSP-SB-26-7.5	6 to 9	-7.5	Soil	12/8/2016	9	29	Y		190	
IBSP-SB-28-10.0	9 to 10	0.0	Soil	12/8/2016	18	1.1	JY		2.6 J	
IBSP-SB-29-9.5	9 to 10	-9.5	Soil	12/7/2016	17	17	Y		50	
IBSP-SB-29-11.0	10 to 12	11.0	Soil	12/7/2016	8	34	Y		470	
IBSP-SE-1-1.0	0 to 1	-1.0	Sediment	3/14/2017	54	150	Y		440	
IBSP-SE-2-1.0	0 to 1	-1.0	Sediment	3/15/2017	39	110	Y		260	
IBSP-SE-3-1.0	0 to 1	-1.0	Sediment	3/15/2017	46	35	Y		100	
IBSP-SE-4-1.0	0 to 1	-1.0	Sediment	3/15/2017	44	85	Y		220	
IBSP-SE-5-1.0	0 to 1	-1.0	Sediment	3/15/2017	22	170	Y		270	
IBSP-SE-6-1.0	0 to 1	-1.0	Sediment	3/14/2017	65	28	Y		74	
IBSP-SE-7-1.0	0 to 1	-1.0	Sediment	3/14/2017	37	28	Y		100	
IBSP-SE-8-1.0	0 to 1	-1.0	Sediment	3/14/2017	60	30	Y		83	

TABLE 5C
Soil and Sediment Sample Analytical Results for Total Petroleum Hydrocarbons (TPH)

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte	Moisture, Percent	TPH				
				Units	%	Diesel C10-C24	Diesel C10-C24 (SGCU)	Motor Oil C24-C36	Motor Oil C24-C36 (SGCU)	
				Laboratory Method	ASTM D2216/CLP	mg/kg	mg/kg	mg/kg	mg/kg	
				Sample Date		EPA 8015	EPA 8015	EPA 8015	EPA 8015	
Data Statistics										
Sample Count					68	-	68	-		
Frequency of Detection					97%	-	99%	-		
Maximum					170	-	2800	-		
Minimum					0.0036	-	0.025	-		
Mean (soil & sediment) ¹					28.75	-	227.1	-		
Mean (sediment only) ¹					79.50	-	193.4	-		
Human Health Comparative Values										
SFRWQCB 2016 Residential Direct Exposure ESLs ²					230	230	11,000	11,000		
SFRWQCB 2016 Commercial Direct Exposure ESLs ²					1,100	1,100	140,000	140,000		
SFRWQCB 2016 Construction Worker Direct Exposure ESLs ²					880	880	32,000	32,000		
USEPA 2016 Residential RSLs ³					520	520	230,000	230,000		
TTLC ⁴					ne	ne	ne	ne		
Ecological Habitat Comparative Values (Sediment Only)										
San Francisco Bay Ambient 90 % UTL ⁵					ne	ne	ne	ne		
San Francisco Bay Ambient Average ⁶					ne	ne	ne	ne		
Effects Range - Low (ER-L) ⁷					ne	ne	ne	ne		
Effects Range - Median (ER-M) ⁸					ne	ne	ne	ne		

Notes and Abbreviations:

mg/kg = milligrams per kilogram
 bgs = Below ground surface
 % = Percent
 J = Estimated value
 b = Lab case narrative notes a calibration bias for this result OR sample was prepared outside of hold time
 Y = Sample exhibits chromatographic pattern which does not resemble standard.
 Values are listed as dry weight unless otherwise noted.

ND = Not detected above the method detection limit (< MDL)
 Y = Sample exhibits chromatographic pattern which does not resemble standard
 ne = Not established
 SGCU = Silica gel cleanup

¹ Mean calculated using half the detection limit value for non-detects

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Residential/Commercial/Construction Scenarios). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

³ United States Environmental Protection Agency (USEPA) Residential RSLs = Regional Screening Levels (Residential Exposure Scenario). May 2016.

⁴ TTLC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24. TTLC values are listed as wet weight.

⁵ A 90% Upper Threshold Limit (UTL) calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁶ Ambient for San Francisco Bay sediments, 2007-2012, Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁷ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

⁸ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds the 2016 Residential Direct Exposure ESL.

Highlighted indicates an individual sample location result exceeds the 2016 Construction Worker Direct Exposure ESL.

Red Bolded indicates an individual sample location exceeds the TTLC where established.

TABLE 5D
Soil and Sediment Sample Analytical Results for Polyaromatic Hydrocarbons (PAHs)

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte Units Laboratory Method Sample Date	Moisture, Percent % ASTM D2216/ CLP	PAHs																																			
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs	BaP Equivalent Value																		
						µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg																	
						EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	Sum	Sum																
IBSP-SB-1-0.5	0 to 0.5	0.5	Soil	12/30/2016	43	< 8.8	ND	< 8.8	ND	< 8.8	ND	< 8.8	ND	15	J	73	88	47	29	J	110	< 8.8	ND	< 8.8	ND	17	J	< 8.8	ND	9.5	J	< 11	ND	< 8.8	ND	71		141.5	17.55		
IBSP-SB-2-0.5	0 to 0.5	0.5	Soil	12/30/2016	16	< 14	J	< 19	J	< 22	J	< 59		59		73	88	47	29	J	110	< 8.8	ND	< 8.8	ND	17	J	< 8.8	ND	9.5	J	< 11	ND	< 8.8	ND	200		1191	99.68		
IBSP-SB-AR-3-0.5	0 to 0.5	0.5	Soil	1/4/2017	12	< 11	ND	< 12	J	< 12	J	< 52	J	52	J	62	68	48	19	J	62	< 11	ND	< 11	ND	33	J	< 11	ND	53	J	< 100		605		73.9					
IBSP-SB-4-2.5	2 to 3	2.5	Soil	12/12/2016	25	< 11	ND	< 14	J	< 11	ND	< 43	J	62		62	62	16	J	51	J	< 17	J	< 89		47	J	< 13	ND	63		170		710		85.09					
IBSP-SB-AR-5-2.5	2 to 3	2.5	Soil	12/30/2016	7	< 5.3	ND	< 5.3	ND	< 5.3	ND	< 12	J	12	J	13	J	9.4	J	< 5.3	ND	9.7	J	< 5.3	ND	12	J	< 0.7	ND	9.9	J	< 12	J	98.1		15.407					
IBSP-SB-6-1.0	0 to 2	1.0	Soil	12/8/2016	13	< 11	ND	< 44	J	< 37	J	< 110		170		170	170	41	J	130	< 26	J	< 310		< 11	ND	120		28	J	< 230		360		1946		224.24				
IBSP-SB-6-5.0	4 to 6	5.0	Soil	12/8/2016	7	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.3	< 1.1		
IBSP-SB-6-9.0	8 to 10	9.0	Soil	12/8/2016	5	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 13	< 11		
IBSP-SB-7-1.0	0 to 2	1.0	Soil	12/8/2016	12	< 38	ND	< 40	J	< 62	J	< 150	J	250		270	280	84	J	200	< 41	J	< 500		< 38	ND	200		38	ND	230		430		2737		336.34				
IBSP-SB-7-5.0	4 to 6	5.0	Soil	12/8/2016	7	< 36	ND	< 36	ND	< 50	J	< 90	J	140	J	140	J	59	J	150	J	< 36	ND	< 290		< 36	ND	100	J	< 36	ND	150	J	< 260		1599		180.4			
IBSP-SB-7-9.0	8 to 10	9.0	Soil	12/8/2016	9	< 18	ND	< 27	J	< 30	J	< 62	J	120		130	160	44	J	91	J	< 20	J	< 200		< 18	ND	100	J	< 18	ND	86	J	< 190		1260		161.31			
IBSP-SB-9-1.0	0 to 2	1.0	Soil	12/7/2016	9	< 1.3	J	< 7		8.5		26		24		25	13	9		24		5	J	< 42		< 1.1	ND	11		4.4	J	< 22		41		263.2		33.04			
IBSP-SB-9-5.0	4 to 6	5.0	Soil	12/7/2016	7	< 110	ND	< 110	ND	< 110	ND	< 190	J	260	J	200	J	190	J	130	J	< 240	J	< 110	ND	310	J	< 110	ND	130	J	< 1	ND	180	J	< 320	J	2150		327.4	
IBSP-SB-10-1.0	0 to 2	1.0	Soil	12/8/2016	12	< 19	ND	< 36	J	< 55	J	< 120		210		240	210	78	J	160	< 29	J	< 360		< 19	ND	150		39	J	< 160		340		2187		280.26				
IBSP-SB-10-5.0	4 to 6	5.0	Soil	12/8/2016	19	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	< 1.2
IBSP-SB-10-9.0	8 to 10	9.0	Soil	12/8/2016	8	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.1	ND	< 1.3	< 1.1		
IBSP-SB-10-13.0	12 to 14	13.0	Soil	12/8/2016	17	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 12	ND	< 15	< 12		
IBSP-SB-10-17.0	16 to 18	17.0	Soil	12/8/2016	16	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 35	< 23		
IBSP-SB-AR-11-1.0	0 to 2	1.0	Soil	12/30/2016	10	< 5.6	ND	< 5.6	ND	< 5.6	ND	< 18	J	15	J	16	J	12	J	< 5.6	ND	23	J	< 5.6	ND	30		< 5.6	ND	7.4	J	< 6.7	ND	29		29		179.4		19.37	
IBSP-SB-AR-11-5.0	4 to 6	5.0	Soil	12/30/2016	12	< 5.6	ND	< 5.6	ND	< 5.6	ND	< 5.6	ND	< 5.6	ND	< 5.6	ND	< 5.6	ND	< 5.6	ND	< 5.6	ND	< 5.6	ND	9.4	J	< 5.6	ND	< 5.6	ND	< 0.7	ND	< 5.6	ND	11	J	< 20.4	< 5.6		
IBSP-SB-12-1.0	0 to 2	1.0	Soil	12/7/2016	12	< 38	ND	< 89	J	< 78	J	< 240		460		470	470	130	J	330	< 73	J	< 850		< 38	ND	330		38	ND	1000		4880		605.12						
IBSP-SB-12-5.0	4 to 6	5.0	Soil	12/7/2016	9	< 18	ND	< 120		80	J	< 350		830		780	1100	310		530	< 110		< 1500		< 20	J	750		1	ND	650		1700		8830		1,091.7				
IBSP-SB-12-9.0	8 to 10	9.0	Soil	12/7/2016	16	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.2	< 1.2
IBSP-SB-AR-13-2.5	2 to 3	2.5	Soil	12/30/2016	12	< 5.7	ND	< 5.7	ND	< 12	J	< 38		29		31		11	J	< 6.2	J	< 44		< 5.7	ND	67		< 5.7	ND	9.3	J	< 6.9	ND	52		77		376.5		37.89	
IBSP-SB-AR-13-4.5	4 to 5	4.5	Soil	12/30/2016	22	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 11	ND	< 13	< 11		
IBSP-SB-AR-14-2.5	2 to 3	2.5	Soil	12/30/2016	14	< 5.7	ND	< 5.7	ND	< 5.7	ND	< 11	J	11	J	< 5.7	ND	< 5.7	ND	< 5.7	ND	< 5.7	ND	< 5.7	ND	15	J	< 5.7	ND	< 5.7	ND	< 0.8	ND	< 5.7	ND	15	J	< 61.6	< 12.96		
IBSP-SB-AR-14-4.5	4 to 5	4.5	Soil	12/30/2016	6	< 5.3	ND	< 36	J	< 13	J	< 51		100		76		170		67		12	J	< 170		< 5.3	ND	94		33		86		200		1134		129.45			
IBSP-SB-15-2.5	2 to 3	2.5	Soil	12/7/2016	10	< 11	ND	< 11	ND	< 11	ND	< 29	J	41	J	38	J	19	J	36	J	< 11	ND	< 57		< 11	ND	19	J	< 11	ND	26	J	< 62		362		51.86			
IBSP-SB-16-2.5	2 to 3	2.5	Soil	12/7/2016	11	< 2.1	J	< 11		16		48		50		54		21		16		9		76		2.8	J	20		1.9	J	39		77		491.8		67.34			
IBSP-SB-17-2.5	2 to 3	2.5	Soil	12/7/2016	11	< 1.1	ND	< 1.6	J	< 1.4	J	< 4.4	J	5.7		10		5.6		2.4	J	8.8		2	J	8.9		3.3	J	2.8	J	15		11		84.6		8.478			
IBSP-SB-17-4.5	4 to 5	4.5	Soil	12/7/2016	13	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 23	ND	< 28	< 23		
IBSP-SB-29-9.5	9 to 10	9.5	Soil	12/7/2016	17	< 1.2	ND	< 1.2	ND	< 1.2	ND	< 1.8	J	2.1	J	2.4	J	2.5	J	< 1.2	ND	2.4	J	< 1.2	ND	4.2	J	< 1.2	ND	1.3	J	< 1.5	J	7.6		4.3	J	< 30.1	< 2.674		
IBSP-SB-29-11.0	10 to 12	11.0	Soil	12/7/2016	8	< 22	ND	< 52	J	< 46	J	< 140		210		190		64	J	170		39	J	< 140		< 22	ND	140		22	ND	290		480		2471		280.36			
IBSP-SB-29-13.0	12 to 14	13.0	Soil	12/7/2016	6	< 4.2	ND	< 4.2	ND	< 4.2	ND	< 4.2	ND	< 4.2	ND	< 4.3	J	5.1	J	6.1	J	< 4.2	ND	< 4.2	ND	6.6	J	< 4.2	ND	< 4.2	ND	< 4.2	ND	5.3	J	6.7	J	39.4	< 4.863		
IBSP-SB-29-17.0	16 to 18	17.0	Soil	12/7/2016	7	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	ND	< 220	< 220
IBSP-SB-AR-34-9.0	8 to 10	9.0	Soil	1/5/2017	13	< 1.1	ND	< 12		12		38		35		45		20		8.7		43																			

TABLE 5D
Soil and Sediment Sample Analytical Results for Polyaromatic Hydrocarbons (PAHs)

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte	Moisture, Percent	PAHs															Total PAHs	BaP Equivalent Value		
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Benzo(a)pyrene	Benzo(b) fluoranthene	Benzo(g,h,i)perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene			Pyrene	
						Units	%	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			µg/kg	µg/kg
						Laboratory Method	ASTM D2216/ CLP	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM	EPA 8270C-SIM			EPA 8270C-SIM	EPA 8270C-SIM
Sample Date																								
Human Health Comparative Values																								
SFRWQCB 2016 Residential Direct Exposure ESLs ²						3,600,000	ne	18,000,000	160	16	160	ne	1,600	15,000	16	2,400,000	2,400,000	160	1,800	ne	1,800,000	ne	ne	
SFRWQCB 2016 Commercial Direct Exposure ESLs ²						45,000,000	ne	230,000,000	2,900	290	2,900	ne	29,000	260,000	290	30,000,000	30,000,000	2,900	14,000	ne	24,000,000	ne	ne	
SFRWQCB 2016 Construction Worker Direct Exposure ESLs ²						10,000,000	ne	50,000,000	16,000	1,600	16,000	ne	150,000	1,500,000	1,600	6,700,000	6,700,000	16,000	350,000	ne	5,000,000	ne	ne	
USEPA 2016 Residential RSLs ³						3,600,000	ne	1,800,000	160	16	160	ne	1,600	16,000	16	2,400,000	2,400,000	160	3,800	ne	1,799,999	ne	ne	
DTSC B(a)P Ambient Conditions for Northern California ⁴						ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	900	
TTLC ⁵						ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Ecological Habitat Comparative Values (Sediment Only)																								
San Francisco Bay Ambient 90% UTL ⁶						14	33	80	212	428	227	416	231	252	50	620	27.1	337	56	176	790	ne	ne	
San Francisco Bay Ambient Average ⁷						7	19	38	96	175	125	209	95	108	21	282	14	178	33	102	366	ne	ne	
Effects Range - Low (ER-L) ⁸						16	44	85.3	261	430	261	430	261	430	261	63.4	600	19	160	240	665	4022	ne	
Effects Range - Median (ER-M) ⁹						500	640	1100	1600	1600	1600	ne	ne	2800	260	5100	540	ne	2100	1500	2600	44792	ne	

Notes and Abbreviations:

bgs = below ground surface
µg/kg = micrograms per kilogram
% = Percent
ne = Not established
Values are listed as dry weight unless otherwise noted.

J = Estimated value
ND = Not detected above the method detection limit (< MDL)
b = Lab case narrative notes a calibration bias for this result OR sample was prepared outside of hold time
BaP = benzo(a)pyrene equivalent value

¹ Mean calculated using half the detection limit value for non-detects
² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Residential/Commercial/Construction Scenarios). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.
³ United States Environmental Protection Agency (USEPA) Residential RSLs = Regional Screening Levels (Residential Exposure Scenario). May 2016.
⁴ California Department of Toxic Substances Control (DTSC), Use of the Northern and Southern California PAH Studies in the MGP Site Cleanup Process, July 2009
⁵ TTLC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24. TTLC values are listed as wet weight
⁶ A 90% Upper Threshold Limit (UTL) calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (http://sfei.org/rmp).
⁷ Ambient for San Francisco Bay sediments, 2007-2012, Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (http://sfei.org/rmp).
⁸ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.
⁹ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds the 2016 Residential Direct Exposure ESL, or background concentration, whichever is greater.
Highlighted indicates an individual sample location result exceeds the 2016 Commercial Direct Exposure ESL, or the 2016 Construction Worker Direct Exposure ESL, whichever is lower. For B(a)P equivalent value, comparative value from DTSC Ambient Conditions for Northern California is used.
Red Bolded indicates an individual sample location exceeds the TTLC where established.
Light stippling indicates value equals or exceeds the ER-L or S.F. Bay Ambient 90%UTL, whichever is higher.
Dark stippling indicates value equals or exceeds the ER-M or S.F. Bay Ambient 90%UTL, whichever is higher.

TABLE 5E
Soil and Sediment Sample Analytical Results for Pesticides

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte	Moisture, Percent	4,4'-DDD		4,4'-DDE		4,4'-DDT		Total DDTs	alpha-Chlordane	gamma-Chlordane	Total Chlordanes	Endosulfan sulfate	Endrin aldehyde	Heptachlor epoxide	
				Units	%	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
				Laboratory Method	ASTM D2216/CLP	EPA 8081A	EPA 8081A	EPA 8081A	Sum	EPA 8081A	EPA 8081A	Sum	EPA 8081A	EPA 8081A	Sum	EPA 8081A	EPA 8081A	EPA 8081A	EPA 8081A
				Sample Date															
IBSP-SB-1-0.5	0 to 0.5	0.5	Soil	12/30/2016	43	< 4 ND	< 2.9 ND	< 2.8 ND	< 4	< 1.6 ND	< 1.5 ND	< 1.6	< 2.9 ND	< 4 ND	< 1.9 ND				
IBSP-SB-2-0.5	0 to 0.5	0.5	Soil	12/30/2016	16	< 5.4 ND	< 3.9 ND	< 3.8 ND	< 5.4	7 CJ	< 2.1 ND	7	29 CJ	< 5.4 ND	< 2.6 ND				
IBSP-SB-AR-5-2.5	2 to 3	2.5	Soil	12/30/2016	7	0.27 J	< 0.18 ND	< 0.17 ND	0.27	< 0.097 ND	< 0.094 ND	< 0.097	< 0.18 ND	< 0.25 ND	< 0.12 ND				
IBSP-SB-6-5.0	4 to 6	5.0	Soil	12/8/2016	7	< 0.49 ND	< 0.35 ND	< 0.34 ND	< 0.49	< 0.19 ND	< 0.19 ND	< 0.19	< 3.5 #ND	< 0.61 ND	< 0.23 ND				
IBSP-SB-7-5.0	4 to 6	5.0	Soil	12/8/2016	7	< 20 ND	< 16 ND	< 13 ND	< 20	< 5.5 ND	< 6.6 ND	< 6.6	< 14 ND	< 9 ND	< 5.9 ND				
IBSP-SB-8-1.0	0 to 2	1.0	Soil	12/8/2016	9	< 25 ND	< 18 ND	< 18 ND	< 25	< 9.9 ND	< 9.5 ND	< 9.9	< 180 #ND	< 31 ND	< 12 ND				
IBSP-SB-9-5.0	4 to 6	5.0	Soil	12/7/2016	7	< 2 ND	< 1.6 ND	< 1.3 ND	< 2	< 0.56 ND	< 0.66 ND	< 0.66	< 1.4 ND	< 0.91 ND	< 0.59 ND				
IBSP-SB-9-9.0	8 to 10	9.0	Soil	12/7/2016	16	< 8.7 ND	< 7 ND	< 5.7 ND	< 8.7	< 2.5 ND	< 2.9 ND	< 2.9	< 6.2 ND	< 4 ND	< 2.6 ND				
IBSP-SB-10-5.0	4 to 6	5.0	Soil	12/8/2016	19	< 0.89 ND	< 0.72 ND	< 0.58 ND	< 0.89	< 0.25 ND	< 0.3 ND	< 0.3	< 0.63 ND	< 0.41 ND	< 0.27 ND				
IBSP-SB-10-9.0	8 to 10	9.0	Soil	12/8/2016	8	< 0.54 ND	< 0.54 ND	< 0.38 ND	< 0.54	< 0.11 ND	< 0.079 ND	< 0.11	< 0.29 ND	< 0.46 ND	< 0.1 ND				
IBSP-SB-AR-11-1.0	0 to 2	1.0	Soil	12/30/2016	10	< 5.1 ND	< 3.7 ND	< 3.6 ND	< 5.1	< 2 ND	< 1.9 ND	< 2	< 3.7 ND	< 5.1 ND	< 2.4 ND				
IBSP-SB-AR-11-5.0	4 to 6	5.0	Soil	12/30/2016	12	< 1.3 ND	< 0.94 ND	< 0.91 ND	< 1.3	< 0.51 ND	< 0.49 ND	< 0.51	< 0.95 ND	< 1.3 ND	< 0.61 ND				
IBSP-SB-12-5.0	4 to 6	5.0	Soil	12/7/2016	9	< 2 ND	< 1.6 ND	< 1.3 ND	< 2	< 0.57 ND	< 0.68 ND	< 0.68	< 1.4 ND	< 0.94 ND	< 0.61 ND				
IBSP-SB-12-9.0	8 to 10	9.0	Soil	12/7/2016	16	< 0.43 ND	< 0.35 ND	< 0.28 ND	< 0.43	< 0.12 ND	< 0.14 ND	< 0.14	< 0.3 ND	< 0.2 ND	< 0.13 ND				
IBSP-SB-AR-13-2.5	2 to 3	2.5	Soil	12/30/2016	12	< 1.3 ND	< 0.93 ND	< 0.91 ND	< 1.3	< 0.51 ND	< 0.49 ND	< 0.51	< 0.94 ND	< 1.3 ND	< 0.61 ND				
IBSP-SB-AR-14-2.5	2 to 3	2.5	Soil	12/30/2016	14	< 5.3 ND	< 3.9 ND	< 3.7 ND	< 5.3	< 2.1 ND	< 2 ND	< 2.1	6.5 CJ	17 CJ	< 2.5 ND				
IBSP-SB-16-2.5	2 to 3	2.5	Soil	12/7/2016	11	< 4.1 ND	< 3.3 ND	< 2.6 ND	< 4.1	< 1.2 ND	< 1.4 ND	< 1.4	< 2.9 ND	< 1.9 ND	< 1.2 ND				
IBSP-SB-17-2.5	2 to 3	2.5	Soil	12/7/2016	11	< 8.3 ND	< 6.7 ND	< 5.4 ND	< 8.3	< 2.4 ND	< 2.8 ND	< 2.8	< 5.9 ND	< 3.8 ND	< 2.5 ND				
IBSP-SB-29-9.5	9 to 10	9.5	Soil	12/7/2016	17	< 0.44 ND	< 0.35 ND	< 0.28 ND	< 0.44	< 0.12 ND	0.52 CJ	0.52	< 0.31 ND	< 0.2 ND	< 0.13 ND				
IBSP-SB-29-11.0	10 to 12	1.0	Soil	12/7/2016	8	< 7.8 ND	< 6.3 ND	< 5.1 ND	< 7.8	3.9 J	2.8 J	6.7	< 5.5 ND	< 3.6 ND	< 2.4 ND				
IBSP-SB-AR-34-9.0	8 to 10	9.0	Soil	1/5/2017	13	< 1.1 ND	8.1 C	2.2 CJ	10.3	3.8	2.6 C	6.4	< 0.6 ND	< 0.97 ND	0.28 CJ				
IBSP-SB-18-0.5	0 to 0.5	0.5	Soil	12/5/2016	14	< 4.2 ND	< 3.4 ND	< 2.7 ND	< 4.2	< 1.2 ND	< 1.4 ND	< 1.4	< 3 ND	< 2 ND	< 1.3 ND				
IBSP-SB-18-2.5	0.5 to 3	2.5	Soil	12/5/2016	14	< 42 ND	< 34 ND	< 28 ND	< 42	< 12 ND	< 14 ND	< 14	< 30 ND	< 20 ND	< 13 ND				
IBSP-SB-19-0.5	0 to 0.5	0.5	Soil	12/5/2016	10	< 20 ND	< 16 ND	< 13 ND	< 20	< 5.7 ND	< 6.8 ND	< 6.8	< 14 ND	< 9.3 ND	< 6.1 ND				
IBSP-SB-19-2.5	0.5 to 3	2.5	Soil	12/5/2016	7	< 19 ND	< 16 ND	< 13 ND	< 19	< 5.5 ND	< 6.6 ND	< 6.6	< 14 ND	< 9 ND	< 5.9 ND				
IBSP-SB-20-0.5	0 to 0.5	0.5	Soil	12/6/2016	23	< 47 ND	< 38 ND	< 31 ND	< 47	< 13 ND	< 16 ND	< 16	< 33 ND	< 22 ND	< 14 ND				
IBSP-SB-21-0.5	0 to 0.5	0.5	Soil	12/6/2016	12	< 4.2 ND	< 3.4 ND	< 2.7 ND	< 4.2	< 1.2 ND	< 1.4 ND	< 1.4	< 3 ND	< 1.9 ND	< 1.3 ND				
IBSP-SB-22-0.5	0 to 0.5	0.5	Soil	12/6/2016	12	< 2.1 ND	< 1.7 ND	< 1.3 ND	< 2.1	< 0.59 ND	< 0.7 ND	< 0.7	< 1.5 ND	< 0.96 ND	< 0.63 ND				
IBSP-SB-23-5.0	3 to 6	5.0	Soil	12/8/2016	10	< 13 ND	< 9.1 ND	< 8.9 ND	< 13	< 5 ND	< 4.8 ND	< 5	< 91 #ND	< 16 ND	< 6 ND				
IBSP-SB-23-8.5	6 to 9	8.5	Soil	12/8/2016	9	< 5 ND	< 3.6 ND	< 3.5 ND	< 5	< 2 ND	< 1.9 ND	< 2	< 36 #ND	< 6.2 ND	< 2.4 ND				
IBSP-SB-23-12.0	9 to 12	12.0	Soil	12/8/2016	11	< 5.1 ND	< 3.7 ND	< 3.6 ND	< 5.1	< 2 ND	< 2 ND	< 2	< 37 #ND	< 6.4 ND	< 2.4 ND				
IBSP-SB-24-4.5	3 to 6	4.5	Soil	12/8/2016	7	< 24 ND	< 18 ND	< 17 ND	< 24	< 9.7 ND	< 9.3 ND	< 9.7	< 180 #ND	< 31 ND	< 12 ND				
IBSP-SB-25-4.5	3 to 6	4.5	Soil	12/8/2016	17	< 5.4 ND	< 4 ND	< 3.9 ND	< 5.4	< 2.2 ND	< 2.1 ND	< 2.2	< 40 #ND	< 6.9 ND	< 2.6 ND				
IBSP-SB-25-7.5	6 to 9	7.5	Soil	12/8/2016	11	< 5.1 ND	< 3.7 ND	< 3.6 ND	< 5.1	< 2 ND	< 1.9 ND	< 2	< 37 #ND	< 6.4 ND	< 2.4 ND				
IBSP-SB-26-4.5	3 to 6	4.5	Soil	12/8/2016	9	< 5 ND	4.8 J	7.9 CJ	12.7	< 2 ND	< 1.9 ND	< 2	< 36 #ND	< 6.3 ND	< 2.4 ND				
IBSP-SB-26-7.5	6 to 9	7.5	Soil	12/8/2016	9	< 5.2 ND	14 J	26 J	40	< 2.8 ND	< 4 ND	< 4	< 5.3 ND	< 4.4 ND	< 2.7 ND				
IBSP-SB-28-10.0	9 to 10	10.0	Soil	12/8/2016	18	< 0.44 ND	< 0.35 ND	< 0.28 ND	< 0.44	< 0.12 ND	< 0.15 ND	< 0.15	< 0.31 ND	< 0.2 ND	< 0.13 ND				
IBSP-SB-29-9.5	9 to 10	9.5	Soil	12/7/2016	17	< 0.44 ND	< 0.35 ND	< 0.28 ND	< 0.44	< 0.12 ND	0.52 CJ	0.52	< 0.31 ND	< 0.2 ND	< 0.13 ND				
IBSP-SB-29-11.0	10 to 12	11.0	Soil	12/7/2016	8	< 7.8 ND	< 6.3 ND	< 5.1 ND	< 7.8	3.9 J	2.8 J	6.7	< 5.5 ND	< 3.6 ND	< 2.4 ND				
IBSP-SB-25-4.5	3 to 6	4.5	Soil	12/8/2016	17	< 5.4 ND	< 4 ND	< 3.9 ND	< 5.4	< 2.2 ND	< 2.1 ND	< 2.2	< 40 #ND	< 6.9 ND	< 2.6 ND				

TABLE 5E
Soil and Sediment Sample Analytical Results for Pesticides

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Sample Type	Analyte	Moisture, Percent											
						Units	4,4'-DDD	4,4'-DDE	4,4'-DDT	Total DDTs	alpha-Chlordane	gamma-Chlordane	Total Chlordanes	Endosulfan sulfate	Endrin aldehyde	Heptachlor epoxide
						Laboratory Method	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
						Sample Date	EPA 8081A	EPA 8081A	EPA 8081A	Sum	EPA 8081A	EPA 8081A	Sum	EPA 8081A	EPA 8081A	EPA 8081A
IBSP-SE-1-1.0	0 to 1	1.0	Sediment	3/14/2017	54	< 7.9 ND	< 6.4 ND	< 7.7 ND	< 7.9	< 2.2 ND	< 2.7 ND	< 2.7	< 5.6 ND	< 3.6 ND	< 2.4 ND	
IBSP-SE-2-1.0	0 to 1	1.0	Sediment	3/15/2017	39	< 6 ND	< 4.8 ND	< 5.8 ND	< 6	< 1.7 ND	< 2 ND	< 2	< 4.2 ND	< 2.8 ND	< 1.8 ND	
IBSP-SE-3-1.0	0 to 1	1.0	Sediment	3/15/2017	46	< 3.3 ND	< 2.7 ND	< 3.3 ND	< 3.3	< 0.95 ND	< 1.1 ND	< 1.1	< 2.4 ND	< 1.6 ND	< 1 ND	
IBSP-SE-4-1.0	0 to 1	1.0	Sediment	3/15/2017	44	< 3.3 ND	< 2.6 ND	< 3.2 ND	< 3.3	< 0.92 ND	< 1.1 ND	< 1.1	< 2.3 ND	< 1.5 ND	< 0.98 ND	
IBSP-SE-5-1.0	0 to 1	1.0	Sediment	3/15/2017	22	< 4.7 ND	< 3.8 ND	< 21 #ND	< 21	< 1.3 ND	< 1.6 ND	< 1.6	< 3.3 ND	< 2.2 ND	< 1.4 ND	
IBSP-SE-6-1.0	0 to 1	1.0	Sediment	3/14/2017	65	< 5.2 ND	< 4.2 ND	< 5.1 ND	< 5.2	< 1.5 ND	< 1.8 ND	< 1.8	< 3.7 ND	< 2.4 ND	< 1.6 ND	
IBSP-SE-7-1.0	0 to 1	1.0	Sediment	3/14/2017	37	< 2.9 ND	< 2.3 ND	< 2.8 ND	< 2.9	< 0.81 ND	< 0.97 ND	< 0.97	< 2 ND	< 1.3 ND	< 0.87 ND	
IBSP-SE-8-1.0	0 to 1	1.0	Sediment	3/14/2017	60	< 4.5 ND	< 3.6 ND	< 20 #ND	< 20	< 1.3 ND	< 1.5 ND	< 1.5	< 3.2 ND	< 2.1 ND	< 1.4 ND	
Data Statistics																
Sample Count						48	48	48	48	48	48	48	48	48	48	48
Frequency of Detection (%)						2%	6%	6%	8%	8%	10%	13%	4%	2%	2%	
Maximum						< 47.0	< 38.0	< 31.0	< 47.0	< 13.0	< 16.0	< 16.0	< 180.0	< 31.0	< 14.0	
Minimum						< 0.3	< 0.2	< 0.2	< 0.3	< 0.1	< 0.1	< 0.1	< 0.2	< 0.2	< 0.1	
Mean (soil & sediment) ¹						3.8	3.4	3.7	5.3	1.5	1.5	1.9	9.8	3.0	1.4	
Mean (sediment only) ¹						2.36	1.9	4.306	4.4	0.7	0.8	0.8	1.7	1.1	0.7	
Human Health Comparative Values																
SFRWQCB 2016 Residential Direct Exposure ESLs ²						2,700	1,900	1,900	ne	ne	ne	ne	ne	ne	67	
SFRWQCB 2016 Commercial Direct Exposure ESLs ²						12,000	8,500	8,500	ne	ne	ne	ne	ne	ne	300	
SFRWQCB 2016 Construction Worker Direct Exposure ESLs ²						81,000	57,000	57,000	ne	ne	ne	ne	ne	ne	1,900	
USEPA 2016 Residential RSLs ³						2,300	2,000	1,900	ne	ne	ne	ne	ne	ne	70	
TTLC ⁴						1,000	1,000	1,000	ne	ne	ne	ne	ne	ne	ne	
Ecological Habitat Comparative Values (Sediment Only)																
San Francisco Bay Ambient 90 % UTL ⁵						1.98	1.98	0.27	4.68	ne	ne	0.34	ne	ne	ne	
San Francisco Bay Ambient Average ⁶						1.16	1.35	0.168	2.96829	0.069	ne	0.21917	ne	ne	0.0023	
Effects Range - Low (ER-L) ⁷						2	2.2	1	1.58	ne	ne	0.5	ne	ne	ne	
Effects Range - Median (ER-M) ⁸						20	27	7	46.1	ne	ne	6	ne	ne	ne	

Notes and Abbreviations:

µg/kg = micrograms per kilogram

% = Percent

bgs = Below ground surface

= Sample was diluted due to the color of the extract

Only detected constituents shown.

Values are listed as dry weight unless otherwise noted.

¹ Mean calculated using half the detection limit value for non-detects

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Residential/Commercial/Construction Scenarios). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

³ United States Environmental Protection Agency (USEPA) Residential RSLs = Regional Screening Levels (Residential Exposure Scenario). May 2016.

⁴ TTLC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24. TTLC values are listed as wet weight

⁵ A 90% Upper Threshold Limit (UTL) calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁶ Ambient for San Francisco Bay sediments, 2007-2012, Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁷ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

⁸ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds the 2016 Residential Direct Exposure ESL.

Highlighted indicates an individual sample location result exceeds the 2016 Commercial Direct Exposure ESL, or the 2016 Construction Worker Direct Exposure ESL, whichever is lower.

Red Bolded indicates an individual sample location exceeds the TTLC where established.

Light stippling indicates value equals or exceeds the ER-L or S.F. Bay Ambient 90%UTL, whichever is higher.

Dark stippling indicates value equals or exceeds the ER-M or S.F. Bay Ambient 90%UTL, whichever is higher.

TABLE 5F
Soil Sample Analytical Results for Volatile Organic Compounds (VOCs)

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Analyte	Moisture, Percent	VOCs						
			Units	%	Acetone		Tetrachloroethene		Other VOCs		
			Laboratory Method	ASTM D2216/CLP	µg/kg		µg/kg		µg/kg		
			Sample Date		EPA 8260B		EPA 8260B		EPA 8260B		
IBSP-SB-AR-5-2.5	2 to 3	2.5	12/30/2016	7	7.9	J	<	0.40	ND	ND	
IBSP-SB-9-5.0	4 to 6	5.0	12/7/2016	7	<	3.5	ND	<	0.70	ND	
IBSP-SB-10-5.0	4 to 6	5.0	12/8/2016	19	<	4.5	ND	0.70	J	ND	
IBSP-SB-AR-11-5.0	4 to 6	5.0	12/30/2016	12	<	4.1	ND	<	0.50	ND	
IBSP-SB-12-5.0	4 to 6	5.0	12/7/2016	9	<	3.4	ND	1.3	J	ND	
IBSP-SB-AR-14-2.5	2 to 3	2.5	12/30/2016	14	5.2	J	<	0.50	ND	ND	
Data Statistics											
Sample Count					6		6		-		
Frequency of Detection (%)					33%		33%		-		
Maximum					7.9		1.3		-		
Minimum					<	3.4		<	0.40		-
Mean					3.5		0.51		-		
Human Health Comparative Values											
SFRWQCB 2016 Residential Direct Exposure ESLs ¹					59,000,000		600		ne		
SFRWQCB 2016 Commercial Direct Exposure ESLs ¹					630,000,000		2,700		ne		
SFRWQCB 2016 Construction Worker Direct Exposure ESLs ¹					260,000,000		31,000		ne		
USEPA 2016 Residential RSLs ²					61,000,000		24,000		ne		
TTLC ³					ne		ne		ne		

Notes and Abbreviations:

µg/kg = micrograms per kilogram

J = Estimated value

bgs = Below ground surface

ND = Not detected above the method detection limit (< MDL)

% = Percent

ne = Not established

Only detected constituents shown.

Values are listed as dry weight unless otherwise noted.

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Residential/Commercial/Construction Scenarios). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

² United States Environmental Protection Agency (USEPA) Residential RSLs = Regional Screening Levels (Residential Exposure Scenario). May 2016.

³ TTLC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24. TTLC values are listed as wet weight.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds the 2016 Residential Direct Exposure ESL.

Highlighted indicates an individual sample location result exceeds the 2016 Commercial Direct Exposure ESL, or the 2016 Construction Worker Direct Exposure ESL, whichever is lower.

Red Bolded indicates an individual sample location exceeds the TTLC where established.

TABLE 5G
Soil Sample Analytical Results for Maher Ordinance Constituents
(Cyanide, Hexavalent Chromium, Fluoride, and pH) and Asbestos

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Analyte Units Laboratory Method Sample Date	Moisture, Percent % ASTM D2216/CLP	Maher Ordinance				Asbestos % CARB 435
					Cyanide	Hexavalent Chromium	Fluoride	pH	
					mg/kg	mg/kg	mg/kg	-	
					SM4500CN-E	EPA 7196A	EPA 300.0	EPA 9040C	
IBSP-SB-AR-5-2.5	2 to 3	2.5	12/30/2016	7	0.11 J	< 0.14 ND	1.6	8.0	--
IBSP-SB-6-1.0	0 to 2	1.0	12/8/2016	13	--	--	--	--	0.75
IBSP-SB-6-3.0	2 to 4	3.0	12/8/2016	12	--	--	--	--	1.75
IBSP-SB-7-1.0	0 to 2	1.0	12/8/2016	12	--	--	--	--	0.25
IBSP-SB-9-5.0	4 to 6	5.0	12/7/2016	7	0.12 J	0.24 J	1.3	8.7	0.25
IBSP-SB-10-5.0	4 to 6	5.0	12/8/2016	19	0.070 J	< 0.16 ND	0.43 J	7.7	0.25
IBSP-SB-10-13.0	12 to 14	13.0	12/8/2016	17	--	--	--	--	0.5
IBSP-SB-AR-11-5.0	4 to 6	5.0	12/30/2016	12	0.15 J	0.34 J	2.7	8.2	0.5
IBSP-SB-12-5.0	4 to 6	5.0	12/7/2016	9	0.06 J	< 0.14 ND	1.40	8.20	1.25
IBSP-SB-AR-13-0.5	0 to 0.5	0.5	12/30/2016	15	--	--	--	--	< 0.25 ND
IBSP-SB-AR-14-2.5	2 to 3	2.5	12/30/2016	14	0.20 J	0.23 J	4.5	8.4	< 0.25 ND
IBSP-SB-AR-14-4.5	4 to 5	4.5	12/30/2016	6	--	--	--	--	0.25
IBSP-SB-15-2.5	2 to 3	2.5	12/7/2016	10	--	--	--	--	< 0 ND
IBSP-SB-16-2.5	2 to 3	2.5	12/7/2016	11	< 0.06 ND	< 0.14 ND	2.3	8.1	0.5
IBSP-SB-17-2.5	2 to 3	2.5	12/7/2016	11	--	--	--	--	< 0 ND
IBSP-SB-22-0.5	0 to 0.5	0.5	12/6/2016	12	--	--	--	--	0.75
IBSP-SB-23-5.0	3 to 6	5.0	12/8/2016	10	--	--	--	--	0.25
IBSP-SB-26-4.5	3 to 6	4.5	12/8/2016	9	--	--	--	--	1.25
IBSP-SB-29-11.0	10 to 12	11.0	12/7/2016	8	--	--	--	--	0.25
Data Statistics									
Sample Count					7	7	7	7	18
Frequency of detection (%)					86%	43%	100%	100%	78%
Maximum					0.20	0.34	4.5	8.7	1.75
Minimum					< 0.06	< 0.14	0.43	7.7	< 0.0
Mean					0.11	0.16	2.0	8.2	0.50
Human Health Comparative Values									
SFRWQCB 2016 Residential Direct Exposure ESLs ¹					5.3	0.3	ne	ne	ne
SFRWQCB 2016 Commercial Direct Exposure ESLs ¹					24	6.2	ne	ne	ne
SFRWQCB 2016 Construction Worker Direct Exposure ESLs ¹					21	2.8	ne	ne	ne
USEPA 2016 Residential RSLs ²					23	0.3	3,000	ne	ne
California Asbestos ATCM ³					ne	ne	ne	ne	0.25
TTLC ⁴					ne	500	18,000	ne	1

Notes and Abbreviations:

mg/kg = milligrams per kilogram
bgs = Below ground surface
% = Percent

J = Estimated value
ND = Not detected above the method detection limit (< MDL)
ne = Not established
-- = Not analyzed

CARB = California Air Resources Board

Values are listed as dry weight unless otherwise noted.

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Residential/Commercial/Construction Scenarios). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

² United States Environmental Protection Agency (USEPA) Residential RSLs = Regional Screening Levels (Residential Exposure Scenario). May 2016.

³ Bay Area Air Quality Management District requirements for compliance with California Air Resources Board Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations

⁴ TTLC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24. TTLC values are listed as wet weight.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds the 2016 Residential Direct Exposure ESL.

Highlighted indicates an individual sample location result exceeds the 2016 Commercial Direct Exposure ESL.

Red Bolded indicates an individual sample location exceeds the TTLC where established.

TABLE 5H
Sediment Sample Analytical Results for Total Organic Carbon (TOC) and Organotins

Sample ID	Depth From Existing Surface (feet bgs)	Sample Depth (ft bgs)	Analyte	Moisture, Percent	Organotins												
			Units	%	Total Organic Carbon	Dibutyltin		Monobutyltin		Tetrabutyltin		Tributyltin (cation)					
			Laboratory Method	ASTM D2216/CLP	Walkley-Black	µg/kg		µg/kg		µg/kg		µg/kg					
			Sample Date			Krone et al.		Krone et al.		Krone et al.		Krone et al.					
IBSP-SE-1-1.0	0 to 1	1.0	3/14/2017	54	1.3	17	<	3	ND	<	1.6	ND	<	3.3	ND		
IBSP-SE-2-1.0	0 to 1	1.0	3/15/2017	39	1.3	<	1.2	ND	<	2.3	ND	<	1.2	ND	<	2.5	ND
IBSP-SE-3-1.0	0 to 1	1.0	3/15/2017	46	1.2	<	1.3	ND	<	2.6	ND	<	1.4	ND	<	2.8	ND
IBSP-SE-4-1.0	0 to 1	1.0	3/15/2017	44	1.2	21	<	2.5	ND	<	1.3	ND				7.1	
IBSP-SE-5-1.0	0 to 1	1.0	3/15/2017	22	0.88	<	0.92	ND	<	1.8	ND	<	0.95	ND	<	1.9	ND
IBSP-SE-6-1.0	0 to 1	1.0	3/14/2017	65	1.7	31	<	4	ND	<	2.1	ND	<	4.3	ND		
IBSP-SE-7-1.0	0 to 1	1.0	3/14/2017	37	0.82	<	1.2	ND	<	2.2	ND	<	1.2	ND	<	2.4	ND
IBSP-SE-8-1.0	0 to 1	1.0	3/14/2017	60	1.5	50	<	3.3	ND	<	1.8	ND	<	3.5	ND		
Data Statistics																	
Sample Count					8	8	8	8	8	8	8	8	8	8	8	8	
Frequency of Detection (%)					100%	50%	0%	0%	0%	0%	0%	0%	0%	0%	13%	13%	
Maximum					1.7	50	<	4	<	2.1	<	7.1	<	7.1	<	7.1	
Minimum					0.82	<	0.92	<	1.8	<	0.95	<	1.9	<	1.9	<	1.9
Mean ¹					1.2	15.2	1.4	1.4	0.7	0.7	0.7	2.2	2.2	2.2	2.2	2.2	
Human Health Comparative Values																	
SFRWQCB 2016 Residential Direct Exposure ESLs ²					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
SFRWQCB 2016 Commercial Direct Exposure ESLs ²					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
SFRWQCB 2016 Construction Worker Direct Exposure ESLs ²					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
USEPA 2016 Residential RSLs ³					ne	19,000	ne	ne	ne	ne	ne	19,000	ne	19,000	ne	19,000	
TTLC ⁴					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Ecological Habitat Comparative Values (Sediment Only)																	
San Francisco Bay Ambient 90 % UTL ⁵					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
San Francisco Bay Ambient Average ⁶					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Effects Range - Low (ER-L) ⁷					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Effects Range - Median (ER-M) ⁸					ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne

Notes and Abbreviations:

µg/kg = micrograms per kilogram
 bgs = Below ground surface
 % = Percent

ND = Not detected above the method detection limit (< MDL)
 ne = Not established

Values are listed as dry weight unless otherwise noted.

¹ Mean calculated using half the detection limit value for non-detects

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Residential/Commercial/Construction Scenarios). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

³ United States Environmental Protection Agency (USEPA) Residential RSLs = Regional Screening Levels (Residential Exposure Scenario). May 2016.

⁴ TTLC = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLC values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24. TTLC values are listed as wet weight

⁵ A 90% Upper Threshold Limit (UTL) calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁶ Ambient for San Francisco Bay sediments, 2007-2012, Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁷ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

⁸ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds the 2016 Residential Direct Exposure ESL.

Highlighted indicates an individual sample location result exceeds the 2016 Construction Worker Direct Exposure ESL.

Red Bolded indicates an individual sample location exceeds the TTLC where established.

TABLE 6A
Groundwater Sample Analytical Results for Metals

Sample ID	Depth From Existing Surface (feet bgs)	Analyte Units Laboratory Method Sample Date	Metals																	
			Antimony µg/L	Arsenic µg/L	Barium µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Cobalt µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Molybdenum µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Vanadium µg/L	Zinc µg/L	
			EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 7471A	EPA 6010B	EPA 6010B	EPA 6010B/6020	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B
IBSP-GW-1	8 to 18	12/30/2016	< 2 ND	< 1.3 ND	180.00	< 0.25 ND	< 0.6 ND	< 1 ND	1.60 J	3.90 J	< 1 ND	< 0.04 ND	4.80 J	14.00	6.20 J	< 1.1 ND	0.62 J	9.10	< 5 ND	
IBSP-GW-2	20 to 30	12/30/2016	< 2 ND	< 1.3 ND	57.00	< 0.25 ND	< 0.6 ND	1.10 J	1.70 J	< 1 ND	9.50	< 0.04 ND	3.40 J	26.00	0.42 J	0.22 J	0.067 J	1.80 J	< 5 ND	
Comparative Values																				
SFRWQCB 2016 Groundwater HH Dermal Contact Direct Exposure ESLs ¹			ne	1.5	ne	ne	ne	22,000	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
SFRWQCB 2016 Groundwater Aquatic Habitat Goals ²			500	36	ne	ne	9.3	180	ne	3.1	2.5	0.003	240	52	71	1.90	210	ne	81	
SFPUC 2012 Analytical Requirements for Batch Wastewater Discharges ³			ne	4,000	ne	ne	500	5,000	ne	4,000	1,500	50	ne	2,000	ne	600	ne	ne	7,000	

Notes and Abbreviations:

bgs = Below ground surface
µg/L = Micrograms per Liter
ne = Not established
J = Estimated Value
ND = Not detected above the method detection limit (< MDL)

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Dermal Contact). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table GW-1. February 2016.

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Aquatic Habitat Goals. San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table GW-2. February 2016.

³ San Francisco Public Utilities Commission (SFPUC) Batch Wastewater Discharge Permit Application. May 18, 2012. Appendices 1 and 2.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds SFRWQCB 2016 Groundwater Human Health Dermal Contact Direct Exposure ESL.

Highlighted indicates an individual sample location result exceeds SFRWQCB 2016 Groundwater Aquatic Habitat Goals

Red Bolded indicates an individual sample location result exceeds the SFPUC 2012 Analytical Requirements for Batch Wastewater Discharges

TABLE 6B
Groundwater Sample Analytical Results for Total Petroleum Hydrocarbons (TPH)

Sample ID	Depth From Existing Surface (feet bgs)	Analyte	TPH		
		Units	Diesel C10-C24	Motor Oil C24-C36	
		Laboratory Method	µg/L	µg/L	
		Sample Date	EPA 8015B	EPA 8015B	
IBSP-GW-1	8 to 18	12/30/2016	330 Y	510	
IBSP-GW-2	20 to 30	12/30/2016	270 Y	< 90	ND
Comparative Values					
SFRWQCB 2016 Groundwater HH Dermal Contact Direct Exposure ESLs ¹			ne	ne	
SFRWQCB 2016 Groundwater Aquatic Habitat Goals ²			640	ne	
SFPUC 2012 Analytical Requirements for Batch Wastewater Discharges ³			100,000	100,000	

Notes and Abbreviations:

bgs = Below ground surface

µg/L = micrograms per Liter

ND = Not detected above the method detection limit (< MDL)

Y = Sample exhibits chromatographic pattern which does not resemble standard

ne = Not established

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Dermal Contact). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table GW-1. February 2016.

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Aquatic Habitat Goals. San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table GW-2. February 2016.

³ San Francisco Public Utilities Commission (SFPUC) Batch Wastewater Discharge Permit Application. May 18, 2012. Appendices 1 and 2.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds SFRWQCB 2016 Groundwater Human Health Dermal Contact Direct Exposure ESL

Highlighted indicates an individual sample location result exceeds SFRWQCB 2016 Groundwater Aquatic Habitat Goals

Red Bolded indicates an individual sample location result exceeds the SFPUC 2012 Analytical Requirements for Batch Wastewater Discharges

TABLE 6C
Groundwater Sample Analytical Results for Polyaromatic Hydrocarbons (PAHs)

Sample ID	Depth From Existing Surface (feet bgs)	Analyte	PAHs						
			Anthracene	Fluoranthene	Naphthalene	Phenanthrene	Pyrene	Other PAHs	Total PAHs
		Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		Laboratory Method	EPA 8270C-SIM	Sum					
Sample Date									
IBSP-GW-1	8 to 18	12/30/2016	0.03 J	0.04 J	0.20 J	0.06 J	0.06 J	ND	0.39
IBSP-GW-2	20 to 30	12/30/2016	< 0.02 ND	0.02 J	< 0.1 ND	0.03 J	< 0.02 ND	ND	0.05
Comparative Values									
SFRWQCB 2016 Groundwater HH Dermal Contact Direct Exposure ESLs ¹			ne	ne	ne	ne	ne	ne	ne
SFRWQCB 2016 Groundwater Aquatic Habitat Goals ²			ne	8	24	6	ne	ne	ne
SFPUC 2012 Analytical Requirements for Batch Wastewater Discharges ³			ne	ne	ne	ne	ne	ne	ne

Notes and Abbreviations:

bgs = Below ground surface

µg/L = micrograms per Liter

J = Estimated Value

ND = Not detected above the method detection limit (< MDL)

ne = Not established

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Dermal Contact). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table GW-1. February 2016.

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Aquatic Habitat Goals. San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table GW-2. February 2016.

³ San Francisco Public Utilities Commission (SFPUC) Batch Wastewater Discharge Permit Application. May 18, 2012. Appendices 1 and 2.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds SFRWQCB 2016 Groundwater Human Health Dermal Contact Direct Exposure ESL

Highlighted indicates an individual sample location result exceeds SFRWQCB 2016 Groundwater Aquatic Habitat Goals

Red Bolded indicates an individual sample location result exceeds the SFPUC 2012 Analytical Requirements for Batch Wastewater Discharges

TABLE 6D
Groundwater Sample Analytical Results for Volatile Organic Compounds (VOCs)

Sample ID	Depth From Existing Surface (feet bgs)	Analyte	Carbon Disulfide	Chloroform	Ethylbenzene	Methylene Chloride	Naphthalene	Propylbenzene	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylenes	o-Xylene	Other VOCs	
			Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
		Laboratory Method	EPA 8260B	EPA 8260B	EPA 8260B	EPA 8260B	EPA 8260B	EPA 8260B	EPA 8260B	EPA 8260B	EPA 8260B	EPA 8260B	EPA 8260B	EPA 8260B	EPA 8260B
		Sample Date													
IBSP-GW-1	8 to 18	12/30/2016	0.2 J	< 0.1 ND	0.1 J	< 0.2 ND	0.2 J	0.2 J	< 0.1 ND	1.1	0.3 J	0.6	0.3 J	ND	
IBSP-GW-2	20 to 30	12/30/2016	0.2 J	0.2 J	< 0.1 ND	0.2 J	< 0.1 ND	< 0.1 ND	0.3 J	< 0.1 ND	< 0.1 ND	0.2 J	< 0.1 ND	ND	
Comparative Values															
SFRWQCB 2016 Groundwater HH Dermal Contact Direct Exposure ESLs ¹			ne	46	12	48	ne	ne	ne	ne	ne	ne	ne	ne	
SFRWQCB 2016 Groundwater Aquatic Habitat Goals ²			ne	3,200	43	3,200	240	ne	2,500	ne	ne	100	100	ne	
SFPUC 2012 Analytical Requirements for Batch Wastewater Discharges ³			ne	6,000	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	

Notes and Abbreviations:

bgs = Below ground surface

µg/L = micrograms per Liter

J = Estimated Value

ND = Not detected above the method detection limit (< MDL)

ne = Not established

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Dermal Contact). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater.

Table GW-1. February 2016.

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Aquatic Habitat Goals. San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table GW-2. February 2016.

³ San Francisco Public Utilities Commission (SFPUC) Batch Wastewater Discharge Permit Application. May 18, 2012. Appendices 1 and 2.

Comparative Value Formatting Key for Individual Samples:

Bold indicates an individual sample location result exceeds SFRWQCB 2016 Groundwater Human Health Dermal Contact Direct Exposure ESL

Highlighted indicates an individual sample location result exceeds SFRWQCB 2016 Groundwater Aquatic Habitat Goals

Red Bolded indicates an individual sample location result exceeds the SFPUC 2012 Analytical Requirements for Batch Wastewater Discharges

TABLE 7A
Surface Water Sample Analytical Results for Metals

Sample ID	Analyte	Metals																
		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	Laboratory Method Sample Date	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B	EPA 7471A	EPA 6010B	EPA 6010B	EPA 6010B/6020	EPA 6010B	EPA 6010B	EPA 6010B	EPA 6010B				
IBSP-SW-1	3/14/2017	< 2.8 ND	40	23	1.0 J	1.6 J	< 0.56 ND	< 1.0 ND	4.7 J	< 1.2 ND	< 0.040 ND	2.0 J	< 0.34 ND	< 2.8 ND	3.9 J	< 0.094 ND	25	< 4.7 ND
IBSP-SW-2	3/14/2017	< 2.8 ND	29	23	1.1 J	1.7 J	< 0.56 ND	< 1.0 ND	5.5	< 1.2 ND	< 0.040 ND	1.8 J	< 0.34 ND	< 2.8 ND	4.7 J	< 0.094 ND	23	< 4.7 ND
IBSP-SW-3	3/15/2017	< 2.8 ND	39	21	0.82 J	1.6 J	< 0.56 ND	< 1.0 ND	2.4 J	< 1.2 ND	< 0.040 ND	2.0 J	< 0.34 ND	4.1 J	2.5 J	17	18	< 4.7 ND
IBSP-SW-4	3/15/2017	< 2.8 ND	31	22	0.66 J	1.8 J	< 0.56 ND	< 1.0 ND	3.4 J	< 1.2 ND	< 0.040 ND	1.9 J	< 0.34 ND	3.2 J	2.0 J	22	20	< 4.7 ND
IBSP-SW-5	3/14/2017	< 2.8 ND	37	23	1.0 J	1.8 J	< 0.56 ND	< 1.0 ND	4.8 J	< 1.2 ND	< 0.040 ND	2.2 J	< 0.34 ND	< 2.8 ND	4.9 J	< 0.094 ND	24	< 4.7 ND
IBSP-SW-6	3/14/2017	< 2.8 ND	32	22	1.0 J	1.5 J	< 0.56 ND	< 1.0 ND	5.2	< 1.2 ND	< 0.040 ND	2.3 J	< 0.34 ND	< 2.8 ND	3.6 J	< 0.094 ND	27	< 4.7 ND
IBSP-SW-7	3/14/2017	< 2.8 ND	32	22	0.83 J	1.4 J	< 0.56 ND	< 1.0 ND	2.9 J	< 1.2 ND	< 0.040 ND	1.6 J	< 0.34 ND	< 2.8 ND	2.7 J	< 0.094 ND	21	< 4.7 ND
IBSP-SW-8R	3/15/2017	< 2.8 ND	31	23	0.72 J	1.8 J	< 0.56 ND	< 1.0 ND	2.5 J	< 1.2 ND	< 0.040 ND	2.3 J	0.36 J	< 2.8 ND	2.3 J	19	21	< 4.7 ND
Comparative Values																		
2015 SF Bay Basin Plan MWQOs for Surface Water ¹		ne	36	ne	ne	9.3	ne	ne	6.0	8.1	0.025	ne	8.2	ne	1.9 ^a	ne	ne	81
2015 Cal Ocean Plan MWQOs ²		ne	8.0	ne	ne	1.0	2.0	ne	3.0	2.0	0.04	ne	5.0	15	0.7	ne	ne	20

Notes and Abbreviations:

µg/L = Micrograms per liter

J = Estimated Value

ne = Not established

ND = Not detected above the method detection limit (< MDL)

^a = One-hour average

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) Plan for San Francisco Bay Basin. March 20, 2015. Table 3-3: Marine Water Quality Objectives for Toxic Pollutants for Surface Waters, 4-day Average.

² State Water Resources Control Board (SWRCB) California Environmental Protection Agency. 2015. California Ocean Plan, Objectives for Protection of Marine Aquatic Life, Table 1, 6-Month Median.

Comparative Value Formatting Key for Individual Samples:

Bolded indicates individual sample location result exceeds the SWRCB Cal Ocean Plan Marine Water Quality Objective.

Red bolded indicates an individual sample location result exceeds the SFRWQCB SF Bay Basin Plan Marine Water Quality Objective.

Red (not bolded) indicates the Mercury MDL exceeds the SFRWQCB SF Bay Basin Plan Marine Water Quality Objective.

TABLE 7B
Surface Water Sample Analytical Results for Polychlorinated Biphenyls (PCBs)

Sample ID	Analyte	PCBs								
	Units	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Total PCBs	
	Laboratory Method	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
	Sample Date	EPA 8082	EPA 8082	EPA 8082	EPA 8082	EPA 8082	EPA 8082	EPA 8082	(Sum of Aroclors)	
IBSP-SW-2	3/14/2017	< 0.061 ND	< 0.12 ND	< 0.054 ND	< 0.060 ND	< 0.061 ND	< 0.059 ND	< 0.051 ND	ND	
IBSP-SW-4	3/15/2017	< 0.061 ND	< 0.12 ND	< 0.054 ND	< 0.060 ND	< 0.061 ND	< 0.059 ND	< 0.051 ND	ND	
IBSP-SW-6	3/14/2017	< 0.064 ND	< 0.13 ND	< 0.057 ND	< 0.063 ND	< 0.064 ND	< 0.063 ND	< 0.054 ND	ND	
IBSP-SW-7	3/14/2017	< 0.064 ND	< 0.13 ND	< 0.057 ND	< 0.063 ND	< 0.064 ND	< 0.063 ND	< 0.054 ND	ND	
IBSP-SW-8R	3/15/2017	< 0.061 ND ^b	< 0.12 ND ^b	< 0.054 ND ^b	< 0.060 ND ^b	< 0.061 ND ^b	< 0.059 ND ^b	< 0.051 ND ^b	ND	
Comparative Values										
2015 SF Bay Basin Plan MWQOs for Surface Water ¹		ne	ne	ne	ne	ne	ne	ne	ne	ne
2015 Cal Ocean Plan MWQOs ²		ne	ne	ne	ne	ne	ne	ne	ne	ne

Notes and Abbreviations:

µg/L = Micrograms per liter

J = Estimated Value

ne = Not established

ND = Not detected above the method detection limit (< MDL)

b = High responses were observed for Aroclor-1016 and Aroclor-1260 in the continuing calibration verification analyzed; Sample IBSP-SW-8R was prepared outside of hold time.

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) Plan for San Francisco Bay Basin. March 20, 2015. Table 3-3: Marine Water Quality Objectives for Toxic Pollutants for Surface Waters, 4-day Average.

² State Water Resources Control Board (SWRCB) California Environmental Protection Agency. 2015. California Ocean Plan, Objectives for Protection of Marine Aquatic Life, Table 1, 6-Month Median.

Comparative Value Formatting Key for Individual Samples:

Bolded indicates individual sample location result exceeds the SWRCB Cal Ocean Plan Marine Water Quality Objective.

Red bolded indicates an individual sample location result exceeds the SFRWQCB SF Bay Basin Plan Marine Water Quality Objective

TABLE 7C
Surface Water Sample Analytical Results for Total Petroleum Hydrocarbons (TPH) and Organotins

Sample ID	Analyte	TPH				Organotins										
	Units	Diesel C10-C24		Motor Oil C24-C36		Dibutyltin		Monobutyltin		Tetrabutyltin		Tributyltin				
	Laboratory Method	µg/L		µg/L		ng/L		ng/L		ng/L		ng/L				
	Sample Date	EPA 8015		EPA 8015		Krone et al.		Krone et al.		Krone et al.		Krone et al.				
IBSP-SW-1	3/14/2017	22	JY	<	91	ND	na		na		na		na			
IBSP-SW-2	3/14/2017	35	JY	<	91	ND	<	6.0	ND	<	6.0	ND	<	6.0	ND	
IBSP-SW-3	3/15/2017	20	JY	<	90	ND	na		na		na		na			
IBSP-SW-4	3/15/2017	53	Y		92	J	<	6.0	ND	<	6.0	ND	<	6.0	ND	
IBSP-SW-5	3/14/2017	29	JY	<	91	ND	na		na		na		na			
IBSP-SW-6	3/14/2017	<	16	ND	<	91	ND	<	6.0	ND	<	6.0	ND	<	6.0	ND
IBSP-SW-7	3/14/2017	680	Y	<	91	ND	<	6.0	ND	<	6.0	ND	<	6.0	ND	
IBSP-SW-8R	3/15/2017	<	16	ND	<	90	ND	na		na		na		na		
Comparative Values																
2015 SF Bay Basin Plan MWQOs for Surface Water ¹		ne		ne		ne		ne		ne		ne				
2015 Cal Ocean Plan MWQOs ²		ne		ne		ne		ne		ne		ne				

Notes and Abbreviations:

µg/L = Micrograms per liter

ne = Not established

ng/L = Nanograms per liter

Y = Sample exhibits chromatographic pattern which does not resemble standard

J = Estimated Value

ND = Not detected above the method detection limit (< MDL)

na = Not analyzed

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) Plan for San Francisco Bay Basin. March 20, 2015. Table 3-3: Marine Water Quality Objectives for Toxic Pollutants for Surface Waters, 4-day Average.

² State Water Resources Control Board (SWRCB) California Environmental Protection Agency. 2015. California Ocean Plan, Objectives for Protection of Marine Aquatic Life, Table 1, 6-Month Median.

TABLE 7D
Surface Water Sample Analytical Results for Detected
Polyaromatic Hydrocarbons (PAHs)

Sample ID	Analyte	PAHs		
		Naphthalene		Total PAHs
	Units	µg/L		µg/L
	Laboratory Method	EPA 8270C-SIM		Sum of PAHs
Sample Date				
IBSP-SW-2	3/14/2017	0.07	J	0.07
IBSP-SW-4	3/15/2017	<	0.02 ND	ND
IBSP-SW-6	3/14/2017	0.05	J	0.05
IBSP-SW-7	3/14/2017	0.2		0.2
IBSP-SW-8R	3/15/2017	<	0.02 ND	ND
Comparative Values				
2015 SF Bay Basin Plan MWQOs for Surface Water ¹		ne		15 ^a
2015 Cal Ocean Plan MWQOs ²		ne		ne

Notes and Abbreviations:

µg/L = Micrograms per liter

J = Estimated Value

ne = Not established

ND = Not detected above the method detection limit (< MDL)

^a = 24-hour average

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) Plan for San Francisco Bay Basin. March 20, 2015. Table 3-3: Marine Water Quality Objectives for Toxic Pollutants for Surface Waters, 4-day Average.

² State Water Resources Control Board (SWRCB) California Environmental Protection Agency. 2015. California Ocean Plan, Objectives for Protection of Marine Aquatic Life, Table 1, 6-Month Median.

Comparative Value Formatting Key for Individual Samples:

Bolded indicates individual sample location result exceeds the SWRCB Cal Ocean Plan Marine Water Quality Objective.

Red bolded indicates an individual sample location result exceeds the SFRWQCB SF Bay Basin Plan Marine Water Quality Objective.

TABLE 8A
Comparative Human Health Screening Values - Soil Quality

Constituent	Published Human Health (HH) Screening Values ¹				Published Action Goals for Comparable San Francisco Bay Restoration Sites		Background/Ambient Regional Values			California Hazardous Waste Disposal Criteria
	SFRWQCB ²			USEPA ³	PG&E Hunters Point Site, Shoreline Area ⁴	Yosemite Slough Restoration Project Action Goals ⁵	LBNL ⁶	PG&E Hunters Point Site Background Locations ⁷	DTSC ⁸	DTSC
	2016 Residential HH Direct Exposure ESLs	2016 Commercial HH Direct Exposure ESLs	2016 Construction Worker HH Direct Exposure ESLs	2016 Residential Exposure RSLs	Shoreline Soil Remediation Goals	Recreational/Direct Exposure Site Specific Action Goals	Bay Area Background Metals in Soil, Upper Estimate	Local Background Metals in Soil, 95% UCL	BaP Ambient Conditions for Northern California	TTLIC ⁹
Metals (mg/kg)										
Antimony	31	470	140	31	ne	ne	<6	ne	ne	500
Arsenic	0.067	0.31	0.98	0.68	13	15	24	ne	ne	500
Barium	15,000	220,000	3,000	15,000	ne	ne	410	ne	ne	10,000
Beryllium	150	2,200	42	160	ne	170	1.0	ne	ne	75.0
Cadmium	39	580	43	71	ne	9.0	5.6	ne	ne	100
Chromium	120,000	1,800,000	530,000	120,000	ne	2,500	120	464.24	ne	2,500
Cobalt	23.0	350	28	23	ne	ne	25	84.11	ne	8,000
Copper	3,100	47,000	14,000	3,100	ne	2,500	63	ne	ne	2500
Hexavalent Chromium	0.3	6.2	2.8	0.30	ne	ne	ne	ne	ne	500
Lead	80	320	160	400	159	400	43	ne	ne	1,000
Mercury	6.3	82	19	11	ne	7.2	0.42	ne	ne	20.0
Molybdenum	390	5800	1800	390	ne	ne	4.8	ne	ne	3,500
Nickel	820	11,000	86	820	ne	1,600	272	1,581.81	ne	2,000
Selenium	390	5800	1700	390	ne	420	4.9	ne	ne	100
Silver	390	5800	1800	390	ne	420	2.9	ne	ne	500
Thallium	0.78	12	3.5	0.78	ne	ne	10	ne	ne	700
Vanadium	140,000	5,800	470	390	ne	ne	90	ne	ne	2,400
Zinc	23,000	350,000	110,000	23,000	ne	2,500	140	ne	ne	5,000
Polychlorinated Biphenyls (µg/kg)										
Aroclor-1016	ne	ne	ne	4,100	ne	ne	ne	ne	ne	ne
Aroclor-1221	ne	ne	ne	200	ne	ne	ne	ne	ne	ne
Aroclor-1232	ne	ne	ne	170	ne	ne	ne	ne	ne	ne
Aroclor-1242	ne	ne	ne	230	ne	ne	ne	ne	ne	ne
Aroclor-1248	ne	ne	ne	230	ne	ne	ne	ne	ne	ne
Aroclor-1254	ne	ne	ne	240	ne	ne	ne	ne	ne	ne
Aroclor-1260	ne	ne	ne	240	ne	ne	ne	ne	ne	ne
Total PCBs (sum of Aroclors)	250	1,000	5,600	ne	ne	1,200	ne	ne	ne	50,000
Total Petroleum Hydrocarbons (mg/kg)										
TPH as diesel	230	1,100	880	520	ne	580	ne	ne	ne	ne
TPH as motor oil	11,000	140,000	32,000	230,000	ne	2,000	ne	ne	ne	ne

**TABLE 8A
Comparative Human Health Screening Values - Soil Quality**

Constituent	Published Human Health (HH) Screening Values ¹				Published Action Goals for Comparable San Francisco Bay Restoration Sites		Background/Ambient Regional Values			California Hazardous Waste Disposal Criteria
	SFRWQCB ²			USEPA ³	PG&E Hunters Point Site, Shoreline Area ⁴	Yosemite Slough Restoration Project Action Goals ⁵	LBNL ⁶	PG&E Hunters Point Site Background Locations ⁷	DTSC ⁸	DTSC
	2016 Residential HH Direct Exposure ESLs	2016 Commercial HH Direct Exposure ESLs	2016 Construction Worker HH Direct Exposure ESLs	2016 Residential Exposure RSLs	Shoreline Soil Remediation Goals	Recreational/Direct Exposure Site Specific Action Goals	Bay Area Background Metals in Soil, Upper Estimate	Local Background Metals in Soil, 95% UCL	BaP Ambient Conditions for Northern California	TTLC ⁹
Polyaromatic Hydrocarbons (µg/kg)										
Acenaphthene	3,600,000	45,000,000	10,000,000	3,600,000	ne	2,700,000	ne	ne	ne	ne
Acenaphthylene	ne	ne	ne	ne	ne	1,800,000	ne	ne	ne	ne
Anthracene	18,000,000	230,000,000	50,000,000	1,800,000	ne	17,000,000	ne	ne	ne	ne
Benzo(a)anthracene	160	2,900	16,000	160	ne	2,000	ne	ne	ne	ne
Benzo(a)pyrene	16	290	1,600	16.0	ne	200	ne	ne	ne	ne
Benzo(b)fluoranthene	160	2,900	16,000	160.0	ne	2,000	ne	ne	ne	ne
Benzo(g,h,i)perylene	ne	ne	ne	ne	ne	1,800,000	ne	ne	ne	ne
Benzo(k)fluoranthene	1,600	29,000	150,000	1,600	ne	2,000	ne	ne	ne	ne
Chrysene	15,000	260,000	1,500,000	16,000	ne	330,000	ne	ne	ne	ne
Dibenz(a,h)anthracene	16	290	1,600	16	ne	330	ne	ne	ne	ne
Fluoranthene	2,400,000	30,000,000	6,700,000	2,400,000	ne	2,100,000	ne	ne	ne	ne
Fluorene	2,400,000	30,000,000	6,700,000	2,400,000	ne	2,500,000	ne	ne	ne	ne
Indeno(1,2,3-cd)pyrene	160	2,900	16,000	160	ne	3,300	ne	ne	ne	ne
Naphthalene	1,800	14,000	350,000	3,800	ne	7,000	ne	ne	ne	ne
Phenanthrene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Perylene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Pyrene	1,800,000	24,000,000	5,000,000	1,799,999	ne	3,700,000	ne	ne	ne	ne
BaP Equivalent Value	ne	ne	ne	ne	ne	ne	ne	ne	900	ne
Total PAHs	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Pesticides (µg/kg)										
4,4'-DDD	2,700	12,000	81,000	2,300	ne	ne	ne	ne	ne	1,000
4,4'-DDE	1,900	8,500	57,000	2,000	ne	ne	ne	ne	ne	1,000
4,4'-DDT	1,900	8,500	57,000	1,900	ne	ne	ne	ne	ne	1,000
Total DDTs	ne	ne	ne	ne	ne	9,200	ne	ne	ne	ne
Sum of DDTs	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aldrin	36	160	1,000	39	ne	ne	ne	ne	ne	1,400
alpha-BHC	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
beta-BHC	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
delta-BHC	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
gamma-BHC	550	2,500	16,000	ne	ne	ne	ne	ne	ne	4,000
Total BHCs	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne

TABLE 8A
Comparative Human Health Screening Values - Soil Quality

Constituent	Published Human Health (HH) Screening Values ¹				Published Action Goals for Comparable San Francisco Bay Restoration Sites		Background/Ambient Regional Values			California Hazardous Waste Disposal Criteria
	SFRWQCB ²			USEPA ³	PG&E Hunters Point Site, Shoreline Area ⁴	Yosemite Slough Restoration Project Action Goals ⁵	LBNL ⁶	PG&E Hunters Point Site Background Locations ⁷	DTSC ⁸	DTSC
	2016 Residential HH Direct Exposure ESLs	2016 Commercial HH Direct Exposure ESLs	2016 Construction Worker HH Direct Exposure ESLs	2016 Residential Exposure RSLs	Shoreline Soil Remediation Goals	Recreational/Direct Exposure Site Specific Action Goals	Bay Area Background Metals in Soil, Upper Estimate	Local Background Metals in Soil, 95% UCL	BaP Ambient Conditions for Northern California	TTLIC ⁹
alpha-Chlordane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
gamma-Chlordane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Chlordane	480	2,200	14,000	1,700	ne	ne	ne	ne	ne	2,500
Total Chlordanes	ne	ne	ne	ne	ne	2,300	ne	ne	ne	ne
Sum of Chlordanes	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Dieldrin	38	170	1,100	34	ne	180	ne	ne	ne	8,000
Endosulfan I	420,000	5,800,000	1,500,000	470,000	ne	ne	ne	ne	ne	ne
Endosulfan II	420,000	5,800,000	1,500,000	470,000	ne	ne	ne	ne	ne	ne
Endosulfan sulfate	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Endrin	21,000	290,000	74,000	19,000	ne	ne	ne	ne	ne	200
Endrin aldehyde	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Heptachlor	140	600	3,800	130	ne	ne	ne	ne	ne	4,700
Heptachlor epoxide	67.0	300	1,900	70	ne	61	ne	ne	ne	ne
Methoxychlor	350,000	4,800,000	1,200,000	320,000	ne	ne	ne	ne	ne	100,000
Toxaphene	510	2,200	14,000	490	ne	ne	ne	ne	ne	5,000
Volatile Organic Compounds (µg/kg)										
1,1,1,2-Tetrachloroethane	4,200	18,000	340,000	2,000	ne	ne	ne	ne	ne	ne
1,1,1-Trichloroethane	2,100,000	8,900,000	8,900,000	8,100,000	ne	ne	ne	ne	ne	ne
1,1,2,2-Tetrachloroethane	530	2,300	44,000	600	ne	ne	ne	ne	ne	ne
1,1,2-Trichloroethane	960	4,200	5,200	1,100	ne	ne	ne	ne	ne	ne
Toluene	970,000	4,600,000	28,000,000	4,900,000	ne	ne	ne	ne	ne	ne
1,1-Dichloroethane	3,800	17,000	37,000	3,600	ne	ne	ne	ne	ne	ne
1,1-Dichloroethene	94,000	400,000	390,000	230,000	ne	ne	ne	ne	ne	ne
1,1-Dichloropropene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,2,3-Trichlorobenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,2,3-Trichloropropane	ne	ne	ne	5.1	ne	ne	ne	ne	ne	ne
1,2,4-Trimethylbenzene	ne	ne	ne	24,000	ne	ne	ne	ne	ne	ne
1,2-Dibromo-3-Chloropropane	5.3	72	1,300	5.3	ne	ne	ne	ne	ne	ne
1,2-Dibromoethane	36	160	3,200	36	ne	ne	ne	ne	ne	ne
1,2-Dichlorobenzene	2,000,000	11,000,000	8,500,000	1,800,000	ne	ne	ne	ne	ne	ne
1,2-Dichloroethane	370	1,600	37,000	460	ne	ne	ne	ne	ne	ne
MTBE	42,000	180,000	3,700,000	47,000	ne	ne	ne	ne	ne	ne

TABLE 8A
Comparative Human Health Screening Values - Soil Quality

Constituent	Published Human Health (HH) Screening Values ¹				Published Action Goals for Comparable San Francisco Bay Restoration Sites		Background/Ambient Regional Values			California Hazardous Waste Disposal Criteria
	SFRWQCB ²			USEPA ³	PG&E Hunters Point Site, Shoreline Area ⁴	Yosemite Slough Restoration Project Action Goals ⁵	LBNL ⁶	PG&E Hunters Point Site Background Locations ⁷	DTSC ⁸	DTSC
	2016 Residential HH Direct Exposure ESLs	2016 Commercial HH Direct Exposure ESLs	2016 Construction Worker HH Direct Exposure ESLs	2016 Residential Exposure RSLs	Shoreline Soil Remediation Goals	Recreational/Direct Exposure Site Specific Action Goals	Bay Area Background Metals in Soil, Upper Estimate	Local Background Metals in Soil, 95% UCL	BaP Ambient Conditions for Northern California	TTL ⁹
1,2-Dichloropropane	880	3,900	58,000	ne	ne	ne	ne	ne	ne	ne
1,3,5-Trimethylbenzene	ne	ne	ne	780,000	ne	ne	ne	ne	ne	ne
1,3-Dichlorobenzene	ne	ne	ne	31,000	ne	ne	ne	ne	ne	ne
1,3-Dichloropropane	ne	ne	ne	1,600,000	ne	ne	ne	ne	ne	ne
1,4-Dichlorobenzene	3,000	13,000	310,000	2,600	ne	ne	ne	ne	ne	ne
1-Chlorohexane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
2,2-Dichloropropane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
2-Butanone	31,000,000	250,000,000	140,000,000	27,000,000	ne	ne	ne	ne	ne	ne
Bromochloromethane	ne	ne	ne	150,000	ne	ne	ne	ne	ne	ne
2-Chlorotoluene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
2-Hexanone	ne	ne	ne	20,000	ne	ne	ne	ne	ne	ne
4-Chlorotoluene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Acetone	59,000,000	630,000,000	260,000,000	61,000,000	ne	ne	ne	ne	ne	ne
Benzene	230	1,000	24,000	1,200	ne	ne	ne	ne	ne	ne
Bromobenzene	ne	ne	ne	290,000	ne	ne	ne	ne	ne	ne
Bromodichloromethane	520	2,300	47,000	290	ne	ne	ne	ne	ne	ne
4-Methyl-2-Pentanone	5,800,000	71,000,000	28,000,000	33,000,000	ne	ne	ne	ne	ne	ne
Bromoform	63,000	300,000	2,200,000	19,000	ne	ne	ne	ne	ne	ne
Bromomethane	8,000	36,000	34,000	6,800	ne	ne	ne	ne	ne	ne
Carbon Disulfide	ne	ne	ne	770,000	ne	ne	ne	ne	ne	ne
Carbon Tetrachloride	120	540	13,000	650	ne	ne	ne	ne	ne	ne
Chlorobenzene	250,000	1,200,000	1,100,000	280,000	ne	ne	ne	ne	ne	ne
Chloroethane	13,000,000	53,000,000	53,000,000	ne	ne	ne	ne	ne	ne	ne
Chloroform	300	1,300	32,000	320	ne	ne	ne	ne	ne	ne
Chloromethane	100,000	430,000	430,000	110,000	ne	ne	ne	ne	ne	ne
cis-1,2-Dichloroethene	19,000	19,000	82,000	160,000	ne	ne	ne	ne	ne	ne
cis-1,3-Dichloropropene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Ethylbenzene	5,100	22,000	480,000	5,800	ne	ne	ne	ne	ne	ne
Dibromochloromethane	8,300	39,000	290,000	8,300	ne	ne	ne	ne	ne	ne
Dibromomethane	ne	ne	ne	24,000	ne	ne	ne	ne	ne	ne
Ethyl tert-Butyl Ether (ETBE)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Freon 113	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne

**TABLE 8A
Comparative Human Health Screening Values - Soil Quality**

Constituent	Published Human Health (HH) Screening Values ¹				Published Action Goals for Comparable San Francisco Bay Restoration Sites		Background/Ambient Regional Values			California Hazardous Waste Disposal Criteria
	SFRWQCB ²			USEPA ³	PG&E Hunters Point Site, Shoreline Area ⁴	Yosemite Slough Restoration Project Action Goals ⁵	LBNL ⁶	PG&E Hunters Point Site Background Locations ⁷	DTSC ⁸	DTSC
	2016 Residential HH Direct Exposure ESLs	2016 Commercial HH Direct Exposure ESLs	2016 Construction Worker HH Direct Exposure ESLs	2016 Residential Exposure RSLs	Shoreline Soil Remediation Goals	Recreational/Direct Exposure Site Specific Action Goals	Bay Area Background Metals in Soil, Upper Estimate	Local Background Metals in Soil, 95% UCL	BaP Ambient Conditions for Northern California	TTL ⁹
Freon 12	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Hexachlorobutadiene	8,900	42,000	310,000	1,200	ne	ne	ne	ne	ne	ne
Iodomethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Isopropyl Ether (DIPE)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Isopropylbenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
m,p-Xylenes	560,000	2,400,000	2,400,000	550,000	ne	ne	ne	ne	ne	ne
Methyl tert-Amyl Ether (TAME)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Methylene Chloride	1,900	25,000	500,000	57,000	ne	ne	ne	ne	ne	ne
Naphthalene	1,800	14,000	350,000	3,800	ne	7,000	ne	ne	ne	ne
n-Butylbenzene	ne	ne	ne	3,900,000	ne	ne	ne	ne	ne	ne
n-Hexane	ne	ne	ne	610,000	ne	ne	ne	ne	ne	ne
o-Xylene	560,000	2,400,000	2,400,000	650,000	ne	ne	ne	ne	ne	ne
para-Isopropyl Toluene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Propylbenzene	ne	ne	ne	3,800,000	ne	ne	ne	ne	ne	ne
sec-Butylbenzene	ne	ne	ne	7,800,000	ne	ne	ne	ne	ne	ne
Styrene	6,600,000	40,000,000	29,000,000	6,000,000	ne	ne	ne	ne	ne	ne
tert-Butyl Alcohol (TBA)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,2,4-Trichlorobenzene	ne	ne	ne	24,000	ne	ne	ne	ne	ne	ne
tert-Butylbenzene	ne	ne	ne	7,800,000	ne	ne	ne	ne	ne	ne
Tetrachloroethene	600	2,700	31,000	24,000	ne	ne	ne	ne	ne	ne
Tetrahydrofuran	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Tetramethyl THF	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
trans-1,2-Dichloroethene	ne	ne	ne	1,600,000	ne	ne	ne	ne	ne	ne
trans-1,3-Dichloropropene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Trichloroethene	1,200	8,000	23,000	940	ne	ne	ne	ne	ne	5,000
Isopropanol	ne	ne	ne	5,600,000	ne	ne	ne	ne	ne	ne
Trichlorofluoromethane	ne	ne	ne	23,000,000	ne	ne	ne	ne	ne	ne
Vinyl Acetate	ne	ne	ne	910,000	ne	ne	ne	ne	ne	ne
Vinyl Chloride	8.2	150	3,400	590	ne	ne	ne	ne	ne	ne

**TABLE 8A
Comparative Human Health Screening Values - Soil Quality**

Constituent	Published Human Health (HH) Screening Values ¹				Published Action Goals for Comparable San Francisco Bay Restoration Sites		Background/Ambient Regional Values			California Hazardous Waste Disposal Criteria
	SFRWQCB ²			USEPA ³	PG&E Hunters Point Site, Shoreline Area ⁴	Yosemite Slough Restoration Project Action Goals ⁵	LBNL ⁶	PG&E Hunters Point Site Background Locations ⁷	DTSC ⁸	DTSC
	2016 Residential HH Direct Exposure ESLs	2016 Commercial HH Direct Exposure ESLs	2016 Construction Worker HH Direct Exposure ESLs	2016 Residential Exposure RSLs	Shoreline Soil Remediation Goals	Recreational/Direct Exposure Site Specific Action Goals	Bay Area Background Metals in Soil, Upper Estimate	Local Background Metals in Soil, 95% UCL	BaP Ambient Conditions for Northern California	TTLc ⁹
Organotins (µg/kg)										
Dibutyltin	ne	ne	ne	19,000	ne	ne	ne	ne	ne	ne
Monobutyltin	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Tetrabutyltin	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Tributyltin	ne	ne	ne	19,000	ne	ne	ne	ne	ne	ne
Other										
Cyanide (mg/kg)	5,300	24,000	21,000	ne	ne	ne	ne	ne	ne	ne
Flouride (mg/kg)	ne	ne	ne	3,100	ne	ne	ne	ne	ne	18,000
pH	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Asbestos (%)	ne	ne	ne	ne	0.25 ^a	0.25 ^a	ne	ne	ne	1 ^b

Notes and Abbreviations:

mg/kg = milligrams per kilogram TPH = Total Petroleum Hydrocarbon
µg/kg = micrograms per kilogram PCB = Polychlorinated Biphenyls
-- = not calculated PAH = Polyaromatic Hydrocarbons
ne = not established TTLc = Total Threshold Limit Concentration for defining a waste as a California hazardous waste. TTLc values are from CCR, Title 22, Chapter 11, Article 3, Section 66261.24.
BaP = Benzo(a)pyrene ND = Not Detected

¹ Values are listed as dry weight unless otherwise noted.

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Residential/Commercial/Construction Scenarios). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

³ United States Environmental Protection Agency (USEPA) Residential RSLs = Regional Screening Levels (Residential Exposure Scenario). May 2016.

⁴ Final Shoreline Area Feasibility Study and Remedial Action Plan, Jacobson James, March 16, 2016

⁵ Yosemite Slough Restoration Project Upland Cover (upper 2 feet) (Table 1: Proposed Action Goals for Soil Reuse Options). Northgate, 2009 Work Plan for WDRs, Yosemite Slough Wetland Restoration, San Francisco, September 21.

⁶ Lawrence Berkeley National Laboratory Analysis of Background Distributions of Metals in Bay Area Regional Soils, Upper Estimate Values, 2009.

⁷ Final Remediation Investigation Report, Hunters Point Power Plant, San Francisco, CA, TRC, 2009

⁸ California Department of Toxic Substances Control (DTSC), Use of the Northern and Southern California PAH Studies in the MGP Site Cleanup Process, July 2009

⁹ TTLc values are listed as wet weight

a) Bay Area Air Quality Management District requirements for compliance with California Air Resources Board Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations

b) TTLc value listed is for friable asbestos, and may not be applicable to naturally occurring asbestos found at the Site.

TABLE 8B
Comparative Ecological Screening Values - Sediment Quality

Constituent	Published Ecological Comparative Screening Values ¹							Published Action Goals for San Francisco Bay Restoration Sites ¹				
	San Francisco Estuary Institute						National Oceanic and Atmospheric Association		Hunter's Point Shipyard Restoration Project, Parcel F ⁷	Hamilton Army Air Field Action Goals ⁸	Yosemite Slough Restoration Project Action Goals ⁹	
	San Francisco Bay Ambient 90 % UTL ²	San Francisco Bay Ambient Average ³	San Francisco Bay Ambient Minimum ³	San Francisco Bay Ambient Maximum ³	Bioaccumulation Trigger ⁴	Total Maximum Daily Load Limit ⁴	Effects Range - Low (ER-L) ⁵	Effects Range - Median (ER-M) ⁶	Sediment Remediation Goals	Coastal Marsh Surface; 3-foot cover	Wetland Upper Cover (upper foot) Average Values	Wetland Lower Cover (lower 1 to 2.5 ft) Not to Exceed Values
Metals (mg/kg)												
Antimony	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Arsenic	13.9	8.7	0.77	33.3	ne	ne	8.2	70	ne	23	15.3	70
Barium	103 ^a	66.8	24.9	161	ne	ne	ne	ne	ne	188	ne	ne
Beryllium	ne	ne	ne	ne	ne	ne	ne	ne	ne	1.68	ne	ne
Cadmium	0.33	0.21	ND	0.73	ne	ne	1.2	9.6	ne	1.8	1.2	9.6
Chromium	141 ^b	98.0 ^c	38.2 ^c	238 ^c	ne	ne	81.0	370	ne	149	112	370
Cobalt	20.1 ^a	14.7	6.1	27.8	ne	ne	ne	ne	ne	26.7	ne	ne
Copper	53.9	39.0 ^d	5.1	2,970	ne	ne	34	270	271	88.7	68.1	270
Hexavalent Chromium	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Lead	25.1	19.5	2.9	87.1	ne	ne	46.7	218	ne	46.7	46.7	218
Mercury	0.33	0.33	ND	13.2	0.33	0.47	0.15	0.71	1.87	0.58	0.43	0.71
Molybdenum	0.75 ^a	0.50	ND	1.0	ne	ne	ne	ne	ne	ne	ne	ne
Nickel	98.3	78.5	9.3	301	ne	ne	20.9	51.6	ne	132	112	112.0
Selenium	0.36	0.23	ND	1.7	ne	ne	ne	ne	ne	ne	0.64 (1.4) ^e	ne
Silver	0.32	0.19	ND	0.70	ne	ne	1.0	3.7	ne	1	0.58	3.7
Thallium	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Vanadium	ne	ne	ne	ne	ne	ne	ne	ne	ne	136	ne	ne
Zinc	136	104	24.0	233	ne	ne	150	410	ne	169	158	410
Polychlorinated Biphenyls (µg/kg)												
Aroclor-1016	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1221	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1232	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1242	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1248	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1254	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Aroclor-1260	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Total PCBs (sum of Aroclors)	18.3	9.0	0.01	29.8	18.0	29.6	22.7	180	1,240	90	22.7	180.0
Total Petroleum Hydrocarbons (mg/kg)												
TPH as diesel	ne	ne	ne	ne	ne	ne	ne	ne	ne	144	144	500
TPH as motor oil	ne	ne	ne	ne	ne	ne	ne	ne	ne	144	144	500
Polyaromatic Hydrocarbons (µg/kg)												
Acenaphthene	13.5	7.29	ND	503	ne	ne	16.0	500	ne	ne	ne	ne
Acenaphthylene	32.6	18.9	ND	1,530	ne	ne	44.0	640	ne	ne	ne	ne
Anthracene	80.1	38.0	ND	2,260	ne	ne	85.3	1,100	ne	ne	ne	ne
Benzo(a)anthracene	212	95.7	ND	2,020	ne	ne	261	1,600	ne	ne	ne	ne
Benzo(a)pyrene	428	175	ND	2,720	ne	ne	430	1,600	ne	ne	ne	ne
Benzo(b)fluoranthene	227	125	ND	1,580	ne	ne	ne	ne	ne	ne	ne	ne
Benzo(g,h,i)perylene	416	209	ND	4,700	ne	ne	ne	ne	ne	ne	ne	ne
Benzo(k)fluoranthene	231	94.6	ND	1,590	ne	ne	ne	ne	ne	ne	ne	ne
Chrysene	252	108	ND	2,040	ne	ne	384	2,800	ne	ne	ne	ne
Dibenz(a,h)anthracene	49.9	20.8	ND	626	ne	ne	63.4	260	ne	ne	ne	ne
Fluoranthene	620	282	1.3	3,970	ne	ne	600	5,100	ne	ne	ne	ne
Fluorene	27.1	13.8	ND	551	ne	ne	19	540	ne	ne	ne	ne

TABLE 8B
Comparative Ecological Screening Values - Sediment Quality

Constituent	Published Ecological Comparative Screening Values ¹								Published Action Goals for San Francisco Bay Restoration Sites ¹			
	San Francisco Estuary Institute						National Oceanic and Atmospheric Association		Hunter's Point Shipyard Restoration Project, Parcel F ⁷	Hamilton Army Air Field Action Goals ⁸	Yosemite Slough Restoration Project Action Goals ⁹	
	San Francisco Bay Ambient 90 % UTL ²	San Francisco Bay Ambient Average ³	San Francisco Bay Ambient Minimum ³	San Francisco Bay Ambient Maximum ³	Bioaccumulation Trigger ⁴	Total Maximum Daily Load Limit ⁴	Effects Range - Low (ER-L) ⁵	Effects Range - Median (ER-M) ⁶	Sediment Remediation Goals	Coastal Marsh Surface; 3-foot cover	Wetland Upper Cover (upper foot) Average Values	Wetland Lower Cover (lower 1 to 2.5 ft) Not to Exceed Values
Indeno(1,2,3-cd)pyrene	337	178	ND	4,540	ne	ne	ne	ne	ne	ne	ne	ne
Naphthalene	56.4	33.2	2.3	694	ne	ne	160	2,100	ne	ne	ne	ne
Phenanthrene	176	102	0.99	2,570	ne	ne	240	1,500	ne	ne	ne	ne
Perylene	216	146	3.5	1,820	ne	ne	ne	ne	ne	ne	ne	ne
Pyrene	790	366	1.8	5,920	ne	ne	665	2,600	ne	ne	ne	ne
Total PAHs	ne	ne	ne	ne	ne	ne	4,022	44,792	ne	4,022	4,022	44,792
Pesticides (µg/kg)												
4,4'-DDD	2.0	1.2	ND	6.3	ne	ne	2.0	20.0	ne	ne	ne	ne
4,4'-DDE	2.0	1.4	ND	3.1	ne	ne	2.2	27.0	ne	ne	ne	ne
4,4'-DDT	0.27	0.17	ND	4.1	ne	ne	1.0	7.0	ne	ne	ne	ne
Total DDTs	4.7	3.0	ND	13.3	50.0	ne	1.6	46.1	ne	30.0	7	46
Aldrin	0.03	0.01	ND	0.10	ne	ne	ne	ne	ne	ne	ne	ne
alpha-BHC	ne	0.01	ND	0.06	ne	ne	ne	ne	ne	ne	ne	ne
beta-BHC	ne	0.01	ND	0.03	ne	ne	ne	ne	ne	ne	ne	ne
delta-BHC	ne	0.001	ND	0.15	ne	ne	ne	ne	ne	ne	ne	ne
gamma-BHC	ne	0.003	ND	0.02	ne	ne	ne	ne	ne	ne	ne	ne
Total BHCs	0.05	0.02	ND	0.10	ne	ne	ne	ne	ne	4.8	ne	ne
alpha-Chlordane	ne	0.07	ND	0.44	ne	ne	ne	ne	ne	ne	ne	ne
gamma-Chlordane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Chlordane	ne	ne	ne	ne	ne	ne	0.50	6.0	ne	ne	ne	ne
Total Chlordanes	0.34	0.22	ND	1.3	37.0	ne	0.50	6.0	ne	4.79	2.3	2.3
Dieldrin	0.16	0.08	ND	0.27	1.9	ne	0.02	8.0	ne	ne	0.72	0.72
Endosulfan I	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Endosulfan II	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Endosulfan sulfate	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Endrin	0.01	0.01	ND	0.79	ne	ne	ne	ne	ne	ne	ne	ne
Endrin aldehyde	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Heptachlor	ne	0.001	ND	0.04	ne	ne	ne	ne	ne	8.8	ne	ne
Heptachlor epoxide	ne	0.002	ND	0.02	ne	ne	ne	ne	ne	8.8	ne	ne
Methoxychlor	ne	ne	ne	ne	ne	ne	ne	ne	ne	90	ne	ne
Toxaphene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Volatile Organic Compounds (µg/kg)												
1,1,1,2-Tetrachloroethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,1,1-Trichloroethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,1,2,2-Tetrachloroethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,1,2-Trichloroethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,1-Dichloroethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,1-Dichloroethene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,1-Dichloropropene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,2,3-Trichlorobenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,2,3-Trichloropropane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,2,4-Trimethylbenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,2-Dibromo-3-Chloropropane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,2-Dibromoethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
1,2-Dichlorobenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne

TABLE 8B
Comparative Ecological Screening Values - Sediment Quality

Constituent	Published Ecological Comparative Screening Values ¹								Published Action Goals for San Francisco Bay Restoration Sites ¹			
	San Francisco Estuary Institute						National Oceanic and Atmospheric Association		Hunter's Point Shipyard Restoration Project, Parcel F ⁷	Hamilton Army Air Field Action Goals ⁸	Yosemite Slough Restoration Project Action Goals ⁹	
	San Francisco Bay Ambient 90 % UTL ²	San Francisco Bay Ambient Average ³	San Francisco Bay Ambient Minimum ³	San Francisco Bay Ambient Maximum ³	Bioaccumulation Trigger ⁴	Total Maximum Daily Load Limit ⁴	Effects Range - Low (ER-L) ⁵	Effects Range - Median (ER-M) ⁶	Sediment Remediation Goals	Coastal Marsh Surface; 3-foot cover	Wetland Upper Cover (upper foot) Average Values	Wetland Lower Cover (lower 1 to 2.5 ft) Not to Exceed Values
1,2-Dichloroethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
1,2-Dichloropropane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
1,3,5-Trimethylbenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
1,3-Dichlorobenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
1,3-Dichloropropane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
1,4-Dichlorobenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
1-Chlorohexane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
2,2-Dichloropropane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
2-Butanone	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
2-Chlorotoluene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
2-Hexanone	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
4-Chlorotoluene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Acetone	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Benzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Bromobenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Bromodichloromethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Bromoform	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Bromomethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Carbon Disulfide	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Carbon Tetrachloride	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Chlorobenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Chloroethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Chloroform	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Chloromethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
cis-1,2-Dichloroethene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
cis-1,3-Dichloropropene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Dibromochloromethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Dibromomethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Ethyl tert-Butyl Ether (ETBE)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Freon 113	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Freon 12	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Hexachlorobutadiene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Iodomethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Isopropyl Ether (DIPE)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Isopropylbenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
m,p-Xylenes	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Methyl tert-Amyl Ether (TAME)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Methylene Chloride	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Naphthalene	56.4	33.2	2.3	694	ne	ne	160	2,100	ne	ne	ne	
n-Butylbenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
n-Hexane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
o-Xylene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
para-Isopropyl Toluene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Propylbenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
sec-Butylbenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Styrene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	

TABLE 8B
Comparative Ecological Screening Values - Sediment Quality

Constituent	Published Ecological Comparative Screening Values ¹								Published Action Goals for San Francisco Bay Restoration Sites ¹			
	San Francisco Estuary Institute						National Oceanic and Atmospheric Association		Hunter's Point Shipyard Restoration Project, Parcel F ⁷	Hamilton Army Air Field Action Goals ⁸	Yosemite Slough Restoration Project Action Goals ⁹	
	San Francisco Bay Ambient 90 % UTL ²	San Francisco Bay Ambient Average ³	San Francisco Bay Ambient Minimum ³	San Francisco Bay Ambient Maximum ³	Bioaccumulation Trigger ⁴	Total Maximum Daily Load Limit ⁴	Effects Range - Low (ER-L) ⁵	Effects Range - Median (ER-M) ⁶	Sediment Remediation Goals	Coastal Marsh Surface; 3-foot cover	Wetland Upper Cover (upper foot) Average Values	Wetland Lower Cover (lower 1 to 2.5 ft) Not to Exceed Values
tert-Butyl Alcohol (TBA)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
tert-Butylbenzene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Tetrachloroethene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Tetrahydrofuran	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Tetramethyl THF	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
trans-1,2-Dichloroethene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
trans-1,3-Dichloropropene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Trichloroethene	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Trichlorofluoromethane	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Vinyl Acetate	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Vinyl Chloride	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Organotins (µg/kg)												
Dibutyltin	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Monobutyltin	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Tetrabutyltin	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Tributyltin	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Other												
Cyanide (mg/kg)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Flouride (mg/kg)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
pH	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne
Asbestos (%)	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne

Notes and Abbreviations:

mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram
-- = not calculated
ne = not established
UTL = Upper Tolerance Limit

TPH = Total Petroleum Hydrocarbon
PCB = Polychlorinated Biphenyls
PAH = Polyaromatic Hydrocarbons
ND = Not Detected

¹ Values are listed as dry weight unless otherwise noted.

² A 90% UTL calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

³ Ambient concentrations for San Francisco Bay Sediments 2007-2012. Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

⁴ San Francisco Estuary Institute (SFEI; <http://www.sfei.org/content/dmno-ambient-sediment-conditions>). The Bioaccumulation Trigger and Total Maximum Daily Load thresholds are effective through 2015.

⁵ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

⁶ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

⁷ Hunter's Point Sediment Remediation Goals, Feasibility Study Report for Parcel F, Hunters Point Shipyard, San Francisco, California, April 8, 2008

⁸ Hamilton Action Goals (Table 3: Environmental Action Goals). Site Cleanup Requirements in Order No. R2-2003-0076, 2003, California Regional Water Quality Control Board. Per Section 2.2 of the Hamilton ROD/RAP (RWQCB and DTSC, Record of Decision/Remedial Action Plan, August 2003).

⁹ Yosemite Slough Restoration Project Wetland Upper Cover (upper foot) Average Values (Table 1: Proposed Action Goals for Soil Reuse Options). Northgate Environmental Management, Inc.(Northgate) 2009 Work Plan for WDRs, Yosemite Slough Wetland Restoration, San Francisco, California, September 21.

a) A 90% UTL was calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>) as a San Francisco Bay 90% UTL has not been published.

b) A 90% UTL was calculated in ProUCL v5.0 using the 1993-2002 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>) as a San Francisco Bay 90% UTL has not been published.

c) Average, maximum, and minimum based on data ranging from years 1993-2002 due to lack of data collected in years 2003-2012.

d) SF Ambient Average value was recalculated to omit statistical outliers

e) Selenium action value was modified to be 1.4 mg/kg per May 4, 2012 "Request for Retroactive Approval of Imported Bay Mud" letter from Northgate to RWQCB.

Table 8C
Comparative Screening Values - Groundwater and Surface Water Quality

Constituent	Human Health (HH) Screening Values	Published Ecological Comparative Screening Values			Batch Wastewater Discharge
	SFRWQCB	SFRWQCB	SFRWQCB	SWRCB	SFPUC
	2016 Groundwater HH Dermal Contact Direct Exposure ESLs ¹	2016 Groundwater Aquatic Habitat Goals ²	2015 SF Bay Basin Plan Marine Water Quality Objectives for Surface Water ³	2015 Cal Ocean Plan Marine Water Quality Objectives ⁴	2012 Analytical Requirements for Batch Wastewater Discharges ⁵
Metals (µg/L)					
Antimony	ne	500	ne	ne	ne
Arsenic	1.5	36	36	8.0	4,000
Barium	ne	ne	ne	ne	ne
Beryllium	ne	ne	ne	ne	ne
Cadmium	ne	9.3	9.3	1.0	500
Chromium	22,000	180	ne	2.0	5,000
Cobalt	ne	ne	ne	ne	ne
Copper	ne	3.1	6.0	3.0	4,000
Hexavalent Chromium	0.11	50	50	ne ^a	ne
Lead	ne	2.5	8.1	2.0	1,500
Mercury	ne	0.003	0.025	0.04	50
Molybdenum	ne	240	ne	ne	ne
Nickel	ne	52	8.2	5.0	2,000
Selenium	ne	71	ne	15	ne
Silver	ne	1.9	1.9 ^b	0.7	600
Thallium	ne	210	ne	ne	ne
Vanadium	ne	ne	ne	ne	ne
Zinc	ne	81	81	20	7,000
Polychlorinated Biphenyls (µg/L)					
Aroclor-1016	ne	ne	ne	ne	ne
Aroclor-1221	ne	ne	ne	ne	ne
Aroclor-1232	ne	ne	ne	ne	ne
Aroclor-1242	ne	ne	ne	ne	ne
Aroclor-1248	ne	ne	ne	ne	ne
Aroclor-1254	ne	ne	ne	ne	ne
Aroclor-1260	ne	ne	ne	ne	ne
Total PCBs (sum of Aroclors)	0.0026	0.03	ne	ne	ne
Total Petroleum Hydrocarbons (µg/L)					
TPH as diesel	ne	640	ne	ne	100,000
TPH as motor oil	ne	ne ^c	ne	ne	100,000
Polyaromatic Hydrocarbons (µg/L)					
Acenaphthene	ne	40	ne	ne	ne
Acenaphthylene	ne	30	ne	ne	ne
Anthracene	ne	ne	ne	ne	ne
Benzo(a)anthracene	ne	ne	ne	ne	ne
Benzo(a)pyrene	ne	ne	ne	ne	ne
Benzo(b)fluoranthene	ne	ne	ne	ne	ne
Benzo(g,h,i)perylene	ne	ne	ne	ne	ne
Benzo(k)fluoranthene	ne	ne	ne	ne	ne
Chrysene	ne	ne	ne	ne	ne
Dibenz(a,h)anthracene	ne	ne	ne	ne	ne
Fluoranthene	ne	8	ne	ne	ne
Fluorene	ne	4	ne	ne	ne
Indeno(1,2,3-cd)pyrene	ne	ne	ne	ne	ne
Naphthalene	ne	24	ne	ne	ne
Phenanthrene	ne	6	ne	ne	ne
Perylene	ne	ne	ne	ne	ne

Table 8C
Comparative Screening Values - Groundwater and Surface Water Quality

Constituent	Human Health (HH) Screening Values	Published Ecological Comparative Screening Values			Batch Wastewater Discharge
	SFRWQCB	SFRWQCB	SFRWQCB	SWRCB	SFPUC
	2016 Groundwater HH Dermal Contact Direct Exposure ESLs ¹	2016 Groundwater Aquatic Habitat Goals ²	2015 SF Bay Basin Plan Marine Water Quality Objectives for Surface Water ³	2015 Cal Ocean Plan Marine Water Quality Objectives ⁴	2012 Analytical Requirements for Batch Wastewater Discharges ⁵
Pyrene	ne	ne	ne	ne	ne
Total PAHs	ne	ne	15 ^d	ne	ne
Pesticides (µg/L)					
4,4'-DDD	0.034	0.001	ne	ne	ne
4,4'-DDE	ne	0.001	ne	ne	ne
4,4'-DDT	ne	0.001	ne	ne	ne
Total DDTs	ne	ne	ne	ne	ne
Aldrin	ne	0.013	ne	ne	ne
alpha-BHC	ne	ne	ne	ne	ne
beta-BHC	ne	ne	ne	ne	ne
delta-BHC	ne	ne	ne	ne	ne
gamma-BHC	0.096	0.08	ne	ne	400
Total BHCs	ne	ne	ne	0.004	ne
alpha-Chlordane	ne	ne	ne	ne	ne
gamma-Chlordane	ne	ne	ne	ne	ne
Chlordane	ne	0.004	ne	ne	ne
Total Chlordanes	ne	ne	ne	ne	ne
Dieldrin	0.00260	0.0019	ne	ne	ne
Endosulfan I	ne	0.056	ne	0.009	ne
Endosulfan II	ne	0.056	ne	0.009	ne
Endosulfan sulfate	ne	ne	ne	ne	ne
Endrin	ne	0.036	ne	0.002	20
Endrin aldehyde	ne	ne	ne	ne	ne
Heptachlor	0.0022	0.0038	ne	ne	8
Heptachlor epoxide	0.0068	0.0038	ne	ne	8
Methoxychlor	ne	0.019	ne	ne	ne
Toxaphene	ne	0.0002	ne	ne	ne
Volatile Organic Compounds (µg/L)					
1,1,1,2-Tetrachloroethane	10	ne	ne	ne	ne
1,1,1-Trichloroethane	ne	3,100	ne	ne	ne
1,1,2,2-Tetrachloroethane	3.1	900	ne	ne	ne
1,1,2-Trichloroethane	19	ne	ne	ne	ne
1,1-Dichloroethane	ne	ne	ne	ne	ne
1,1-Dichloroethene	ne	22,000	ne	ne	700
1,1-Dichloropropene	ne	ne	ne	ne	ne
1,2,3-Trichlorobenzene	ne	ne	ne	ne	ne
1,2,3-Trichloropropane	ne	ne	ne	ne	ne
1,2,4-Trichlorobenzene	1.9	65	ne	ne	ne
1,2,4-Trimethylbenzene	ne	ne	ne	ne	ne
1,2-Dibromo-3-Chloropropane	ne	ne	ne	ne	ne
1,2-Dibromoethane	ne	ne	ne	ne	ne
1,2-Dichlorobenzene	ne	65	ne	ne	ne
1,2-Dichloroethane	18	11,000	ne	ne	500
1,2-Dichloropropane	23	1,500	ne	ne	ne
1,3,5-Trimethylbenzene	ne	ne	ne	ne	ne
1,3-Dichlorobenzene	ne	65	ne	ne	ne
1,3-Dichloropropane	ne	79	ne	ne	ne
1,4-Dichlorobenzene	ne	65	ne	ne	7,500

Table 8C
Comparative Screening Values - Groundwater and Surface Water Quality

Constituent	Human Health (HH) Screening Values	Published Ecological Comparative Screening Values			Batch Wastewater Discharge
	SFRWQCB	SFRWQCB	SFRWQCB	SWRCB	SFPUC
	2016 Groundwater HH Dermal Contact Direct Exposure ESLs ¹	2016 Groundwater Aquatic Habitat Goals ²	2015 SF Bay Basin Plan Marine Water Quality Objectives for Surface Water ³	2015 Cal Ocean Plan Marine Water Quality Objectives ⁴	2012 Analytical Requirements for Batch Wastewater Discharges ⁵
2,2-Dichloropropane	ne	ne	ne	ne	ne
2-Butanone	ne	ne	ne	ne	ne
2-Chlorotoluene	ne	ne	ne	ne	ne
2-Hexanone	ne	ne	ne	ne	ne
4-Chlorotoluene	ne	ne	ne	ne	ne
4-Methyl-2-Pentanone	ne	ne	ne	ne	ne
Acetone	ne	ne	ne	ne	ne
Benzene	5.2	350	ne	ne	500
Bromobenzene	ne	ne	ne	ne	ne
Bromochloromethane	ne	ne	ne	ne	ne
Bromodichloromethane	8.5	3,200	ne	ne	ne
Bromoform	97	3,200	ne	ne	ne
Bromomethane	ne	3,200	ne	ne	ne
Carbon Disulfide	ne	ne	ne	ne	ne
Carbon Tetrachloride	1.9	3,200	ne	ne	500
Chlorobenzene	ne	65	ne	ne	100,000
Chloroethane	ne	ne	ne	ne	ne
Chloroform	46	3,200	ne	ne	6,000
Chloromethane	ne	3,200	ne	ne	ne
cis-1,2-Dichloroethene	ne	ne	ne	ne	ne
cis-1,3-Dichloropropene	ne	ne	ne	ne	ne
Dibromochloromethane	14	3,200	ne	ne	ne
Dibromomethane	ne	ne	ne	ne	ne
Ethylbenzene	12	43	ne	ne	ne
Freon 113	ne	ne	ne	ne	ne
Freon 12	ne	ne	ne	ne	ne
Hexachlorobutadiene	0.42	3.2	ne	ne	ne
Isopropylbenzene	ne	ne	ne	ne	ne
m,p-Xylenes	ne	100	ne	ne	ne
Methylene Chloride	48	3,200	ne	ne	ne
MTBE	1,900	8,000	ne	ne	ne
Naphthalene	ne	240	ne	ne	ne
n-Butylbenzene	ne	ne	ne	ne	ne
o-Xylene	ne	100	ne	ne	ne
para-Isopropyl Toluene	ne	ne	ne	ne	ne
Propylbenzene	ne	ne	ne	ne	ne
sec-Butylbenzene	ne	ne	ne	ne	ne
Styrene	ne	ne	ne	ne	ne
tert-Butylbenzene	ne	ne	ne	ne	ne
Tetrachloroethene	0.24	230	ne	ne	ne
Toluene	ne	2,500	ne	ne	ne
trans-1,2-Dichloroethene	ne	ne	ne	ne	ne
trans-1,3-Dichloropropene	ne	ne	ne	ne	ne
Trichloroethene	7.2	200	ne	ne	500
Trichlorofluoromethane	ne	ne	ne	ne	ne

Table 8C
Comparative Screening Values - Groundwater and Surface Water Quality

Constituent	Human Health (HH) Screening Values	Published Ecological Comparative Screening Values			Batch Wastewater Discharge
	SFRWQCB	SFRWQCB	SFRWQCB	SWRCB	SFPUC
	2016 Groundwater HH Dermal Contact Direct Exposure ESLs ¹	2016 Groundwater Aquatic Habitat Goals ²	2015 SF Bay Basin Plan Marine Water Quality Objectives for Surface Water ³	2015 Cal Ocean Plan Marine Water Quality Objectives ⁴	2012 Analytical Requirements for Batch Wastewater Discharges ⁵
Vinyl Acetate	ne	ne	ne	ne	ne
Vinyl Chloride	0.27	ne	ne	ne	200
Organotins (µg/L)					
Dibutyltin	ne	ne	ne	ne	ne
Monobutyltin	ne	ne	ne	ne	ne
Tetrabutyltin	ne	ne	ne	ne	ne
Tributyltin	ne	ne	ne	ne	ne
Other					
Cyanide (µg/L)	ne	1.0	2.9	1.0	1,000
Flouride (µg/L)	ne	ne	ne	ne	ne
pH	ne	ne	ne	ne	6.0 ≤ pH ≤ 9.5

Notes and Abbreviations:

µg/L = micrograms per liter

-- = not calculated

ne = not established

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Dermal Contact). San Francisco Regional Water Quality Control Board, Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table GW-1. February 2016.

² San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Aquatic Habitat Goals. Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table GW-2. February 2016.

³ SFRWQCB Water Quality Control Board Plan for San Francisco Bay Basin. March 20, 2015. Table 3-3: Marine Water Quality Objectives for Toxic Pollutants for Surface Waters, 4-day Average.

⁴ State Water Resources Control Board (SWRCB) California Environmental Protection Agency. 2015. California Ocean Plan, Objectives for Protection of Marine Aquatic Life. Table 1, 6-Month Median.

⁵ San Francisco Public Utilities Commission (SFPUC) Batch Wastewater Discharge Permit Application. May 18, 2012. Appendices 1 and 2.

a) As described in the 2015 SWRCB California Ocean Plan, Table 1 Notes: a) Dischargers may at their option meet this objective as a total chromium objective.

b) SWRCB Basin Plan 1-hr Average, as 4-day Average has not been established

c) As described in Table GW-2 Notes: TPH motor oil is not soluble. TPH motor oil detections in water most likely are petroleum degradates or less likely NAPL. If the detections are degradates, add TPH motor oil and TPH diesel results and compare to TPH diesel criterion. See User's Guide Chapter 9 for further information.

d) SWRCB Basin Plan 24-hr Average, as 4-day Average has not been established

TABLE 9A
Summary of Results - Recreational Use - Soil and Sediment Quality

Constituent of Potential Concern (COPC)	Statistical Summary of COPC						Regulatory Screening Value	Published Action Goals for Comparable San Francisco Bay Restoration Sites		Background/Ambient Regional Values	California Hazardous Waste Disposal Criteria	Recommended Human Health-Based Screening Level for On-Site Management
	Data 2016/2017 (Northgate)						SFRWQCB ¹	PG&E Hunters Point Site, Shoreline Area ²	Yosemite Slough Restoration Project Action Goals ³	Highest Value of Regional (LBNL ⁴) Local (PG&E HPS ⁵), and DTSC (BaP only ⁶)	DTSC	
	Sample Count	Frequency of Detection (%)	Minimum	Maximum	Average	95% UCL	2016 Commercial or Construction Worker HH Direct Exposure ESLs (Lowest Value Selected)	Shoreline Soil Remediation Goals	Recreational/Direct Exposure Site Specific Action Goals		TTLC ⁷	
Metals (mg/kg)												
Cobalt	98	100	2.3	56.0	18.3	20.7	28	ne	ne	84	8,000	84
Copper	98	100	4.4	330	42.7	49.6	14,000	ne	2,500	63	2,500	2,500
Lead	98	100	0.91	460	87.5	106	160	159	400	43	1,000	160
Nickel	98	100	10.0	1,000	212	316	86	ne	1,600	1,582	2,000	1,582
Polyaromatic Hydrocarbons (µg/kg)												
Benzo(a)pyrene	65	79	<1.1	1,600	189	277	290	ne	200	ne	ne	ne
BaP Equivalent Value	65	79	<1.1	2,066	247	361	ne	900	ne	900	ne	900
Other												
Naturally Occurring Asbestos (%)	18	78	0	1.75	0.49	1	ne	0.25 ^a	0.25 ^a	ne	1 ^b	0.25

Notes and Abbreviations:

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

ne = not established

95% UCL = 95% Upper Confidence Limit, calculated using EPA ProUCL statistical software, Version 5.1 using the most appropriate fit of statistical method, as determined by the ProUCL program

Averages calculated from ProUCL statistical software.

BaP = benzo(a)pyrene equivalent value

Values are listed as dry weight unless otherwise noted.

¹ San Francisco Regional Water Quality Control Board (SFRWQCB) 2016 Direct Exposure ESLs = Environmental Screening Level for Direct Exposure (Residential/Commercial/Construction Scenarios). Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater. Table S-1. February 2016.

² Final Shoreline Area Feasibility Study and Remedial Action Plan, Jacobson James, March 16, 2016

³ Yosemite Slough Restoration Project Upland Cover (upper 2 feet) (Table 1: Proposed Action Goals for Soil Reuse Options). Northgate, 2009 Work Plan for WDRs, Yosemite Slough Wetland Restoration, San Francisco, September 21.

⁴ Lawrence Berkeley National Laboratory Analysis of Background Distributions of Metals in Bay Area Regional Soils, Upper Estimate Values, 2009.

⁵ Final Remediation Investigation Report, Hunters Point Power Plant, San Francisco, CA, TRC, 2009

⁶ California Department of Toxic Substances Control (DTSC), Use of the Northern and Southern California PAH Studies in the MGP Site Cleanup Process, July 2009

⁷ TTLC values are listed as wet weight

a) Bay Area Air Quality Management District requirements for compliance with California Air Resources Board Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations

b) TTLC value listed is for friable asbestos, and may not be applicable to naturally occurring asbestos found at the Site.

Highlight indicates that the 95% UCL of the constituent exceeds value

TABLE 9B
Summary of Results -Ecological Habitat - Sediment Quality

Constituent of Potential Concern (COPC)	Statistical Summary of COPC						Selected Ecological Comparative Screening Values				Published Action Goals for San Francisco Bay Restoration Sites				Recommended Ecological Health Screening Levels (EHSL) for Tidal Marsh Restoration (upper 2 feet)	
	2016-2017 (Northgate)						San Francisco Estuary Institute		National Oceanic and Atmospheric Association		Hunter's Point Shipyard Restoration Project, Parcel F ⁵	Hamilton Army Air Field Action Goals ⁶	Yosemite Slough Restoration Project Action Goals ⁷			
	Sample Count	Frequency of Detection (%)	Minimum	Maximum	Average	95% UCL	San Francisco Bay Ambient 90% UTL ¹	San Francisco Bay Ambient Maximum ²	Effects Range - Low (ER-L) ³	Effects Range - Median (ER-M) ⁴	Sediment Remediation Goals	Coastal Marsh Surface; 3-foot cover	Wetland Upper Cover (upper foot) Average Values	Wetland Lower Cover (lower 1 to 2.5 ft) Not to Exceed Values	EHSL, 95% UCL	EHSL, Not to Exceed Single Value
Metals (mg/kg)															Metals (mg/kg)	
Arsenic	12	100	0.23	14	4.42	8.3	13.9	33.3	8.2	70	ne	23	15.3	70	23	33.3
Chromium	12	100	64	120	96.4	107.1	141 ^a	238 ^b	81.0	370	ne	149	112	370	149	370
Copper	12	100	10	330	105.7	199.2	53.9	2,970	34	270	271	88.7	68.1	270	89	270
Lead	12	100	22	240	90.3	127.8	25.1	87.1	46.7	218	ne	46.7	46.7	218	46.7	218
Mercury	12	91	<0.0076	1.3	0.385	0.58	0.33	13.2	0.15	0.71	1.87	0.58	0.43	0.71	0.58	1.87
Nickel	12	100	45	200	117.3	143	98.3	301	20.9	51.6	ne	132	112	112.0	132	301
Zinc	12	100	54	250	132	161	136	233	150	410	ne	169	158	410	169	410
Polychlorinated Biphenyls (µg/kg)															Total PCBs (µg/kg)	
Total PCBs (sum of Aroclors)	9	100	44	254	133.7	178.1	18.3	29.8	22.7	180	1,240	90	22.7	180.0	90	180
Total Petroleum Hydrocarbons (mg/kg)															TPH (mg/kg)	
TPH as motor oil	10	100	53	440	167.2	287.3	ne	ne	ne	ne	ne	144	144	500	144	500
Polyaromatic Hydrocarbons (µg/kg)															Total PAHs (µg/kg)	
Total PAHs	10	100	477	15,874	4,701	11,454	ne	ne	4,022	44,792	ne	4,022	4,022	44,792	4,022	44,792

Notes and Abbreviations:

mg/kg = milligrams per kilogram

µg/kg = micrograms per kilogram

ne = not established

UTL = Upper Tolerance Limit

95% UCL = 95% Upper Confidence Limit, calculated using EPA ProUCL statistical software, Version 5.1 using the most appropriate fit of statistical method, as determined by the ProUCL program

Averages calculated from ProUCL statistical software.

Soil sample data from borings IBSP-SB-2 and IBSP-SB-4 were included with sediment data for purposes of sediment quality evaluation for ecological habitat.

Values are listed as dry weight unless otherwise noted.

¹ A 90% UTL calculated in ProUCL v5.0 using the 2003-2012 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

² Ambient concentrations for San Francisco Bay Sediments 2007-2012. Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>).

³ ER-L = Effects Range Low. Long, E.R., D.D. MacDonald, S. L. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

⁴ ER-M = Effects Range-Median. Long, E. R., D. D. MacDonald, S. L. Smith, and F. D. Calder. 1995. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environ. Manage. 19(1):81-97.

⁵ Hunter's Point Sediment Remediation Goals, Feasibility Study Report for Parcel F, Hunters Point Shipyard, San Francisco, California, April 8, 2008

⁶ Hamilton Action Goals (Table 3: Environmental Action Goals). Site Cleanup Requirements in Order No. R2-2003-0076, 2003, California Regional Water Quality Control Board. Per Section 2.2 of the Hamilton ROD/RAP (RWQCB and DTSC, Record of Decision/Remedial Action Plan, August 2003).

⁷ Yosemite Slough Restoration Project Wetland Upper Cover (upper foot) Average Values (Table 1: Proposed Action Goals for Soil Reuse Options). Northgate, 2009 Work Plan for WDRs, Yosemite Slough Wetland Restoration, San Francisco, September 21.

a) A 90% UTL was calculated in ProUCL v5.0 using the 1993-2002 data provided in the Regional Monitoring Program (RMP) for Water Quality in San Francisco Bay (<http://sfei.org/rmp>) as a San Francisco Bay 90% UTL has not been published.

b) Average, maximum, and minimum based on data ranging from years 1993-2002 due to lack of data collected in years 2003-2012.

Highlight indicates that the 95% UCL of the constituent exceeds value

Highlight indicates a constituent for which an individual sample concentration is greater than the recommended EHSL single value



APPENDIX B

Sea Level Rise Inundation Diagrams

Inundation Extents - 2020

Tidal Datums with Sea Level Rise Projection OPC Medium-High Risk (NAVD88)

Time Period	SLR Projection	MHHW	King Tide	BFE
2020	0'	+5.9	+7.8	+9.9
2050	1.9'	+7.8	+9.7	+11.8
2070	3.5'	+9.4	+11.3	+13.4
2100	6.9'	+12.8	+14.7	+16.8



Inundation Extents - 2050

Tidal Datums with Sea Level Rise Projection OPC Medium-High Risk (NAVD88)

Time Period	SLR Projection	MHHW	King Tide	BFE
2020	0'	+5.9	+7.8	+9.9
2050	1.9'	+7.8	+9.7	+11.8
2070	3.5'	+9.4	+11.3	+13.4
2100	6.9'	+12.8	+14.7	+16.8



Inundation Extents - 2070

Tidal Datums with Sea Level Rise Projection OPC Medium-High Risk (NAVD88)

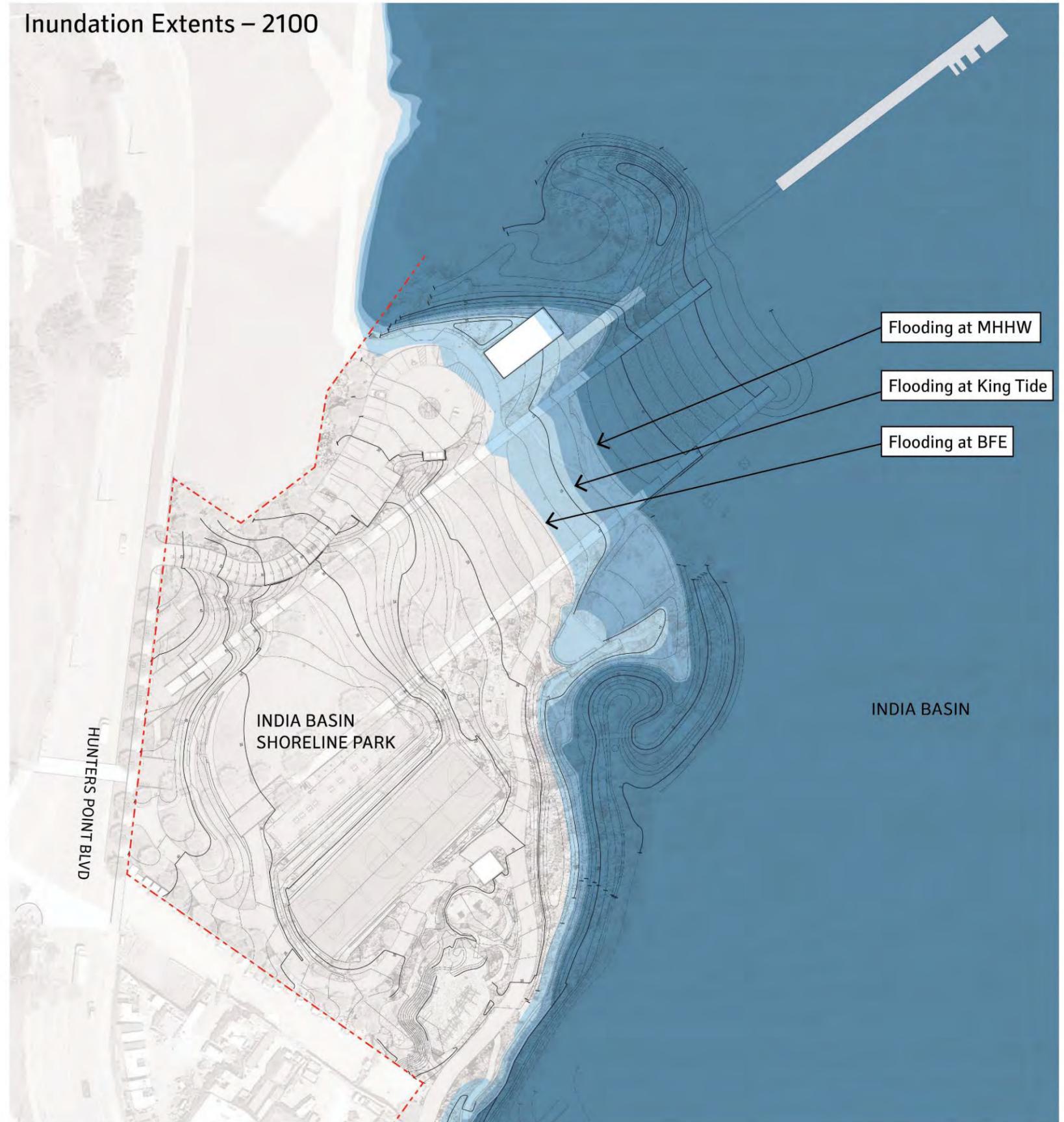
Time Period	SLR Projection	MHHW	King Tide	BFE
2020	0'	+5.9	+7.8	+9.9
2050	1.9'	+7.8	+9.7	+11.8
2070	3.5'	+9.4	+11.3	+13.4
2100	6.9'	+12.8	+14.7	+16.8



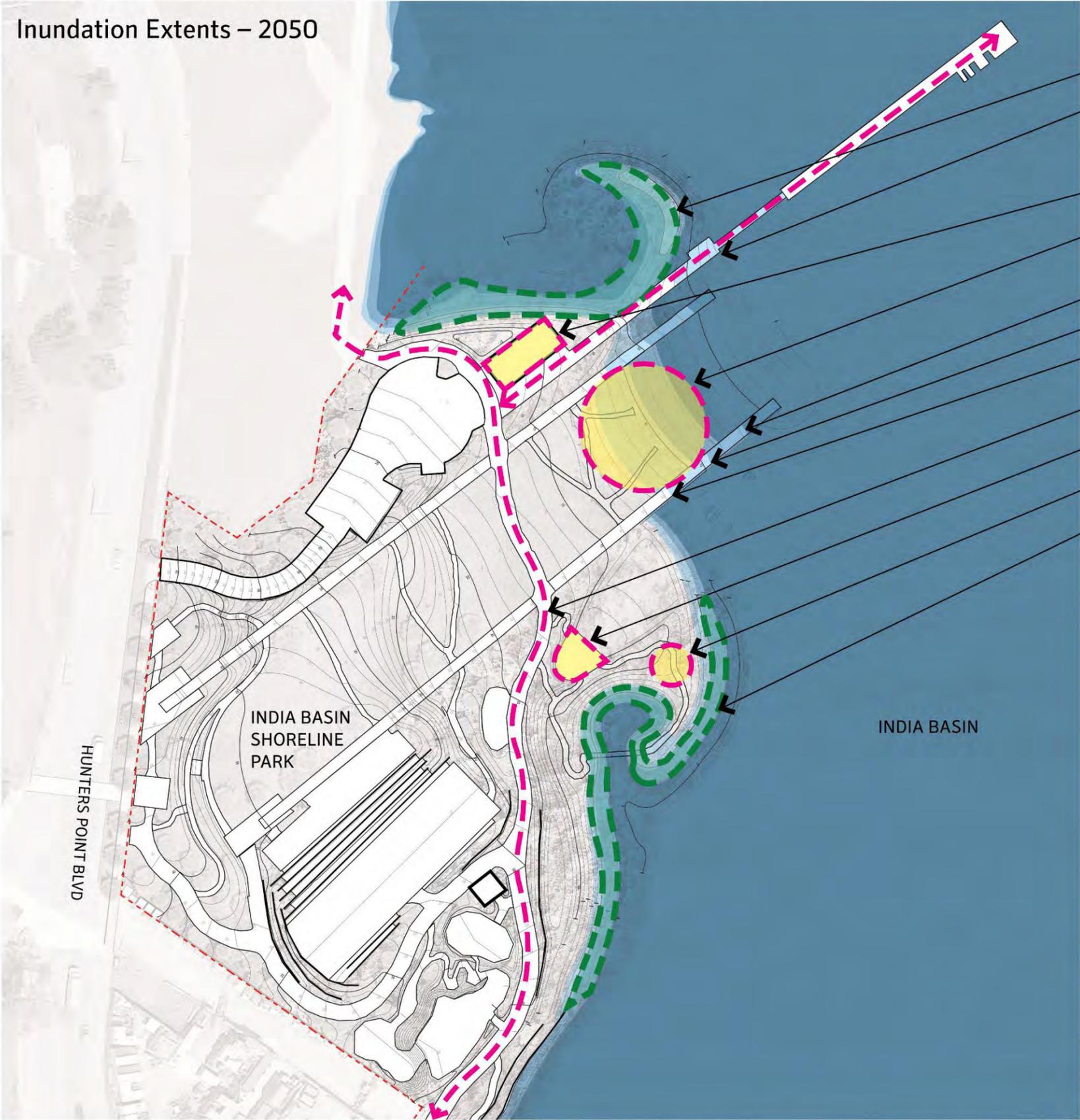
Inundation Extents - 2100

Tidal Datums with Sea Level Rise Projection OPC Medium-High Risk (NAVD88)

Time Period	SLR Projection	MHHW	King Tide	BFE
2020	0'	+5.9	+7.8	+9.9
2050	1.9'	+7.8	+9.7	+11.8
2070	3.5'	+9.4	+11.3	+13.4
2100	6.9'	+12.8	+14.7	+16.8



Inundation Extents - Current Plan 2050



- Tidal Marsh Shift Upland
- Floating Dock Accessible During King Tide 9.7'. Accessible during 100 year flood level post adaptive center platform and gangway adjustments
- Boat House & Public Restroom
- Gravel Beach Adaptation
- Flooding at MHHW
- Flooding at King Tide
- Flooding at BFE
- Bay Trail- Blue/Greenway
- Bay City Ferry Deck
- Nature Paths
- Tidal Marsh Shift Upland

- At Mid Century, 2050, Bay Trail and all program elements are held above 100 year flood level, BFE 11.8'
- Tidal Marshes and Transition Zones shift upland.



APPENDIX C

Excerpts of Design Drawings from India Basin Shoreline Park Permit Set dated
July 17, 2023

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650
ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-866-2232

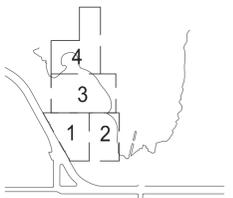
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

PERMIT SET

DRAWN BY CV/WV	CHECKED BY AF
DATE 7/17/2023	GGN PROJECT # 1608

DEMOLITION PLAN SECTOR 1

C101.2

SHEET 6 OF 26

DEMOLITION NOTES

- FOR TREE REMOVAL, PROTECTION, AND MATERIAL SALVAGE SEE LANDSCAPE ARCHITECT PLANS.
- WHERE EXISTING UTILITIES ARE DESIGNATED FOR REMOVAL ON THE PLANS, REMOVE THE ENTIRE EXTENT OF EACH UTILITY WITHIN THE LIMIT OF WORK, INCLUDING SEGMENTS THAT MAY NOT BE IDENTIFIED ON THE TOPOGRAPHIC SURVEY.
- CONTRACTOR SHALL FIELD LOCATE ALL EXISTING CONDITIONS INCLUDING UNDERGROUND UTILITIES IN THE AREA OF WORK, REGARDLESS OF WHETHER OR NOT THEY ARE INDICATED ON THE PLANS OR OTHER RECORD DRAWINGS. SHOULD UNCHARTED OR INCORRECTLY CHARTED EXISTING UTILITIES BE IDENTIFIED, CONTRACTOR SHALL CONTACT THE ENGINEER AND DESIGN TEAM PRIOR TO DEMOLITION FOR INSTRUCTIONS.
- CONTRACTOR SHALL COORDINATE WITH THE OWNER REPRESENTATIVE TO SHUT OFF OR DISCONNECT EXISTING UTILITIES SERVING THE PROJECT SITE PRIOR TO DEMOLITION. CONTRACTOR SHALL COMPLY WITH ALL ASSOCIATED PROJECT SPECIFICATIONS. DISCONNECTIONS OR CAPPING OF ANY EXISTING UTILITY LINES SHALL BE COMPLETED TO THE SATISFACTION OF OWNER REPRESENTATIVE.
- CONTRACTOR SHALL PROTECT ALL ADJACENT BUILDINGS, FOUNDATIONS, SIDEWALKS, ROADWAYS, TREES, OVERHEAD WIRES, UTILITIES, OR OTHER INFRASTRUCTURE DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO AND/OR REPLACEMENT OF ANY DAMAGE RELATED TO DEMOLITION ACTIVITIES.
- ALL HAZARDOUS WASTES, TRANSFORMERS, AND WIRING SHALL BE PROPERLY DISPOSED OF AND COORDINATED WITH RPD.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING SITE DEBRIS SUCH AS FOOTINGS, CURBS, AND PAVEMENTS FOR CONSTRUCTION OF NEW SIDEWALK, WALLS, AND STRUCTURES AS APPLICABLE.
- ALL EXISTING AC AND CONCRETE PAVEMENT, AND VERTICAL CURB & GUTTER TO BE REMOVED SHALL BE NEATLY SAW-CUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS TO SEPARATE IT FROM MATERIAL TO REMAIN IN PLACE. THE SAW-CUT EDGES SHALL BE PROTECTED THROUGHOUT THE COURSE OF CONSTRUCTION SO AS TO PERMIT A NEAT LINE OF CONFORMANCE WITH THE ADJACENT SURFACE OR CURB. REMOVE ANY BASE MATERIAL, GRAVEL, AND/OR ANY NON-NATIVE SOIL.
- DEMOLITION OF EXISTING BUILDINGS INCLUDES A COMPLETE REMOVAL OF ALL FOUNDATION AND SUPPORT ELEMENTS.
- REMOVE EXISTING CONDUCTORS AND/OR CABLES BACK TO THE CLOSEST JUNCTION BOX OR VAULT OUTSIDE THE LIMITS OF DEMOLITION FOR ALL ELECTRIC & TELECOM CONDUITS TO BE REMOVED OR ABANDONED.
- ALL EXISTING STRUCTURES AND UTILITIES ARE SHOWN TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL PROTECT SAID UTILITIES IN PLACE AND ADJUST VAULT/LID TO FINISHED GRADES AS NEEDED.
- ALL VALVE/BOXES TO BE REMOVED AT UTILITY LINES MARKED FOR REMOVAL UNLESS NOTED OTHERWISE.
- EXISTING WATER LINE AND HYDRANTS SHALL REMAIN IN SERVICE AND ACCESSIBLE TO THE FIRE DEPARTMENT UNTIL PROPOSED WATER LINE AND HYDRANTS ARE INSTALLED, TESTED, DISINFECTED, AND ACTIVATED PER PROJECT SPECIFICATIONS.
- THE DEMOLITION OF POWER AND ELECTRICAL, AND COMMUNICATIONS SHOWN ON THESE PLANS MAY VARY FROM THE JOINT TRENCH, ELECTRICAL, AND COMMUNICATIONS PLANS. IN THE EVENT OF A CONFLICT, THE JOINT TRENCH, ELECTRICAL AND COMMUNICATIONS PLANS TAKE PRECEDENT.
- SALVAGE ANY EXISTING GRANITE CURB.

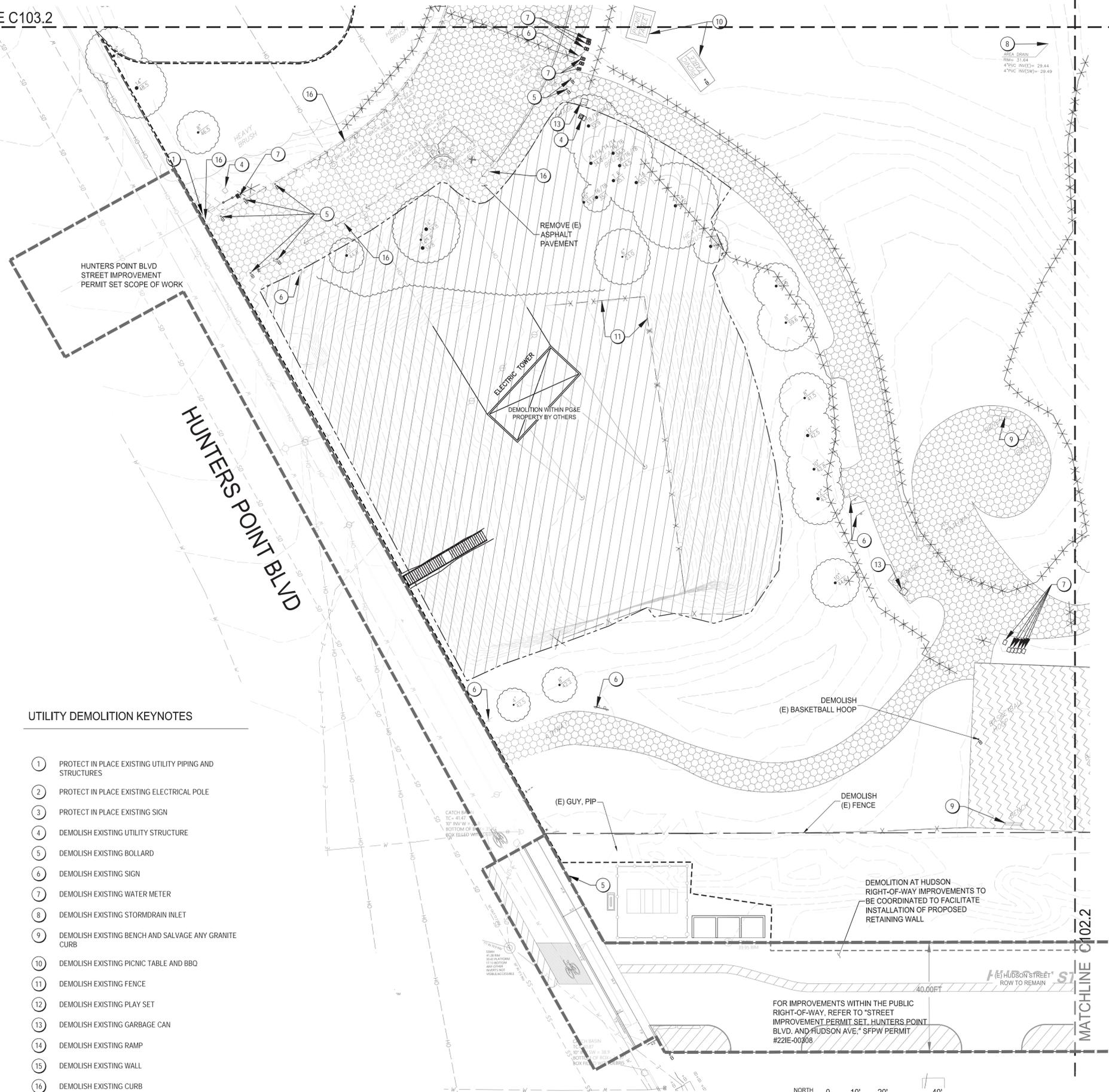
LEGEND

PROPERTY LINE	---
LIMIT OF DEMOLITION WORK	- - - - -
ASPHALT REMOVAL	
CONCRETE REMOVAL	
RUBBER SURFACE REMOVAL	
SAW-CUT PAVEMENT	
DEMOLISH UTILITY LINE	XXXXXXXXXX
EXISTING CONCRETE TO REMAIN	
EXISTING WATER LINE	- - - - - W - - - - -
EXISTING STORM DRAIN PIPE	- - - - - SD - - - - -
EXISTING FENCE	- - X - - - - X - - - -
EXISTING GAS LINE	- - - - - G - - - - -
EXISTING ELECTRIC LINE	- - - - - E - - - - -
EXISTING SANITARY SEWER LINE	- - - - - SS - - - - -
EXISTING POWER LINE	- - - - - P - - - - -
EXISTING TREE	
NOTE: TREE PROTECTION AND REMOVAL PER LANDSCAPE PLANS.	

UTILITY DEMOLITION KEYNOTES

- PROTECT IN PLACE EXISTING UTILITY PIPING AND STRUCTURES
- PROTECT IN PLACE EXISTING ELECTRICAL POLE
- PROTECT IN PLACE EXISTING SIGN
- DEMOLISH EXISTING UTILITY STRUCTURE
- DEMOLISH EXISTING BOLLARD
- DEMOLISH EXISTING SIGN
- DEMOLISH EXISTING WATER METER
- DEMOLISH EXISTING STORMDRAIN INLET
- DEMOLISH EXISTING BENCH AND SALVAGE ANY GRANITE CURB
- DEMOLISH EXISTING PICNIC TABLE AND BBQ
- DEMOLISH EXISTING FENCE
- DEMOLISH EXISTING PLAY SET
- DEMOLISH EXISTING GARBAGE CAN
- DEMOLISH EXISTING RAMP
- DEMOLISH EXISTING WALL
- DEMOLISH EXISTING CURB

MATCHLINE C103.2



FOR IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY, REFER TO "STREET IMPROVEMENT PERMIT SET, HUNTERS POINT BLVD. AND HUDSON AVE." SFPW PERMIT #22IE-00308



7/17/2023 ANS/A (8.0) x 11.0 (vertical) P:\2023\23\Shoreline\Design\Shoreline\CD\101\26\101.2\101.2-DEMOLITION PLAN SECTOR 1.dwg (User: jgibson) 7/17/2023 5:59:35 PM ANS/A (8.0) x 11.0 (vertical) 12:58:49

1 DEMOLITION PLAN, SECTOR 1
SCALE: 1" = 20'

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014



PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

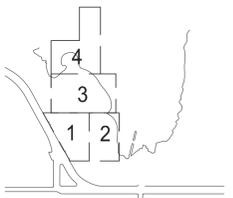
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

PERMIT SET

DRAWN BY CV/WV	CHECKED BY AF
DATE 7/17/2023	GGN PROJECT # 1608

DEMOLITION PLAN SECTOR 2

C102.2

SHEET 7 OF 26

DEMOLITION NOTES

- FOR TREE REMOVAL, PROTECTION, AND MATERIAL SALVAGE SEE LANDSCAPE ARCHITECT PLANS.
- WHERE EXISTING UTILITIES ARE DESIGNATED FOR REMOVAL ON THE PLANS, REMOVE THE ENTIRE EXTENT OF EACH UTILITY WITHIN THE LIMIT OF WORK, INCLUDING SEGMENTS THAT MAY NOT BE IDENTIFIED ON THE TOPOGRAPHIC SURVEY.
- CONTRACTOR SHALL FIELD LOCATE ALL EXISTING CONDITIONS INCLUDING UNDERGROUND UTILITIES IN THE AREA OF WORK, REGARDLESS OF WHETHER OR NOT THEY ARE INDICATED ON THE PLANS OR OTHER RECORD DRAWINGS. SHOULD UNCHARTED OR INCORRECTLY CHARTED EXISTING UTILITIES BE IDENTIFIED, CONTRACTOR SHALL CONTACT THE ENGINEER AND DESIGN TEAM PRIOR TO DEMOLITION FOR INSTRUCTIONS.
- CONTRACTOR SHALL COORDINATE WITH THE OWNER REPRESENTATIVE TO SHUT OFF OR DISCONNECT EXISTING UTILITIES SERVING THE PROJECT SITE PRIOR TO DEMOLITION. CONTRACTOR SHALL COMPLY WITH ALL ASSOCIATED PROJECT SPECIFICATIONS. DISCONNECTIONS OR CAPPING OF ANY EXISTING UTILITY LINES SHALL BE COMPLETED TO THE SATISFACTION OF OWNER REPRESENTATIVE.
- CONTRACTOR SHALL PROTECT ALL ADJACENT BUILDINGS, FOUNDATIONS, SIDEWALKS, ROADWAYS, TREES, OVERHEAD WIRES, UTILITIES, OR OTHER INFRASTRUCTURE DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO AND/OR REPLACEMENT OF ANY DAMAGE RELATED TO DEMOLITION ACTIVITIES.
- ALL HAZARDOUS WASTES, TRANSFORMERS, AND WIRING SHALL BE PROPERLY DISPOSED OF AND COORDINATED WITH SFSU.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING SITE DEBRIS SUCH AS FOOTINGS, CURBS, AND PAVEMENTS FOR CONSTRUCTION OF NEW SIDEWALK, WALLS, AND STRUCTURES AS APPLICABLE.
- ALL EXISTING AC AND CONCRETE PAVEMENT, AND VERTICAL CURB & GUTTER TO BE REMOVED SHALL BE NEATLY SAW-CUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS TO SEPARATE IT FROM MATERIAL TO REMAIN IN PLACE. THE SAW-CUT EDGES SHALL BE PROTECTED THROUGHOUT THE COURSE OF CONSTRUCTION SO AS TO PERMIT A NEAT LINE OF CONFORMANCE WITH THE ADJACENT SURFACE OR CURB. REMOVE ANY BASE MATERIAL, GRAVEL, AND/OR ANY NON-NATIVE SOIL.
- DEMOLITION OF EXISTING BUILDINGS INCLUDES A COMPLETE REMOVAL OF ALL FOUNDATION AND SUPPORT ELEMENTS.
- REMOVE EXISTING CONDUCTORS AND/OR CABLES BACK TO THE CLOSEST JUNCTION BOX OR VAULT OUTSIDE THE LIMITS OF DEMOLITION FOR ALL ELECTRIC & TELECOM CONDUITS TO BE REMOVED OR ABANDONED.
- ALL EXISTING STRUCTURES AND UTILITIES ARE SHOWN TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL PROTECT SAID UTILITIES IN PLACE AND ADJUST VAULT/LID TO FINISHED GRADES AS NEEDED.
- ALL VALVE/BOXES TO BE REMOVED AT UTILITY LINES MARKED FOR REMOVAL UNLESS NOTED OTHERWISE.
- EXISTING WATER LINE AND HYDRANTS SHALL REMAIN IN SERVICE AND ACCESSIBLE TO THE FIRE DEPARTMENT UNTIL PROPOSED WATER LINE AND HYDRANTS ARE INSTALLED, TESTED, DISINFECTED, AND ACTIVATED PER PROJECT SPECIFICATIONS.
- THE DEMOLITION OF POWER AND ELECTRICAL, AND COMMUNICATIONS SHOWN ON THESE PLANS MAY VARY FROM THE JOINT TRENCH, ELECTRICAL, AND COMMUNICATIONS PLANS. IN THE EVENT OF A CONFLICT, THE JOINT TRENCH, ELECTRICAL AND COMMUNICATIONS PLANS TAKE PRECEDENT.
- SALVAGE ANY EXISTING GRANITE CURB.

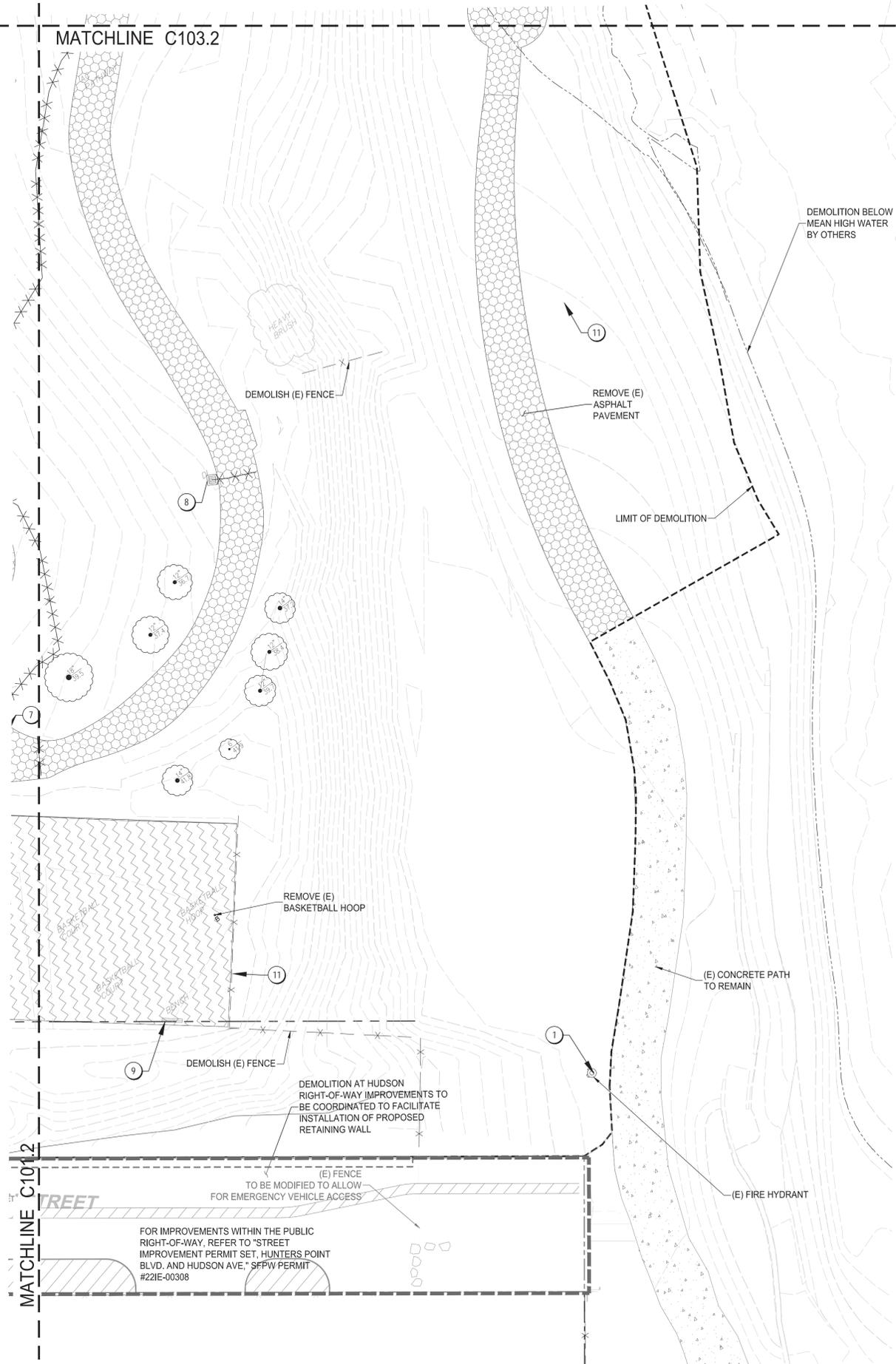
LEGEND

PROPERTY LINE	---
LIMIT OF DEMOLITION WORK	---
ASPHALT REMOVAL	
CONCRETE REMOVAL	
RUBBER SURFACE REMOVAL	
SAW-CUT PAVEMENT	///
DEMOLISH UTILITY LINE	XXXXXXX
EXISTING CONCRETE TO REMAIN	
EXISTING WATER LINE	---W---
EXISTING STORM DRAIN PIPE	---SD---
EXISTING FENCE	---X---
EXISTING GAS LINE	---G---
EXISTING ELECTRIC LINE	---E---
EXISTING SANITARY SEWER LINE	---SS---
EXISTING POWER LINE	---P---
EXISTING TREE	

NOTE: TREE PROTECTION AND REMOVAL PER LANDSCAPE PLANS.

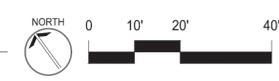
UTILITY DEMOLITION KEYNOTES

- PROTECT IN PLACE EXISTING UTILITY PIPING AND STRUCTURES
- PROTECT IN PLACE EXISTING ELECTRICAL POLE
- PROTECT IN PLACE EXISTING SIGN
- DEMOLISH EXISTING UTILITY STRUCTURE
- DEMOLISH EXISTING BOLLARD
- DEMOLISH EXISTING SIGN
- DEMOLISH EXISTING WATER METER
- DEMOLISH EXISTING STORMDRAIN INLET
- DEMOLISH EXISTING BENCH AND SALVAGE ANY GRANITE CURB
- DEMOLISH EXISTING PICNIC TABLE AND BBQ
- DEMOLISH EXISTING FENCE
- DEMOLISH EXISTING PLAY SET
- DEMOLISH EXISTING GARBAGE CAN
- DEMOLISH EXISTING RAMP
- DEMOLISH EXISTING WALL
- DEMOLISH EXISTING CURB



1 DEMOLITION PLAN, SECTOR 2

SCALE: 1" = 20'



7/17/2023 ANS/A 08:00 x 11.00 (vertical) P:\2023\2303\Shoreline\Design\Sheet\C102.2\DEMOLITION PLAN SECTOR 2\CONTRACTOR\PLANS\A\08.00 x 11.00 (vertical).12.5949

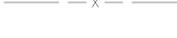
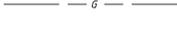
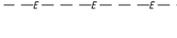
DEMOLITION NOTES

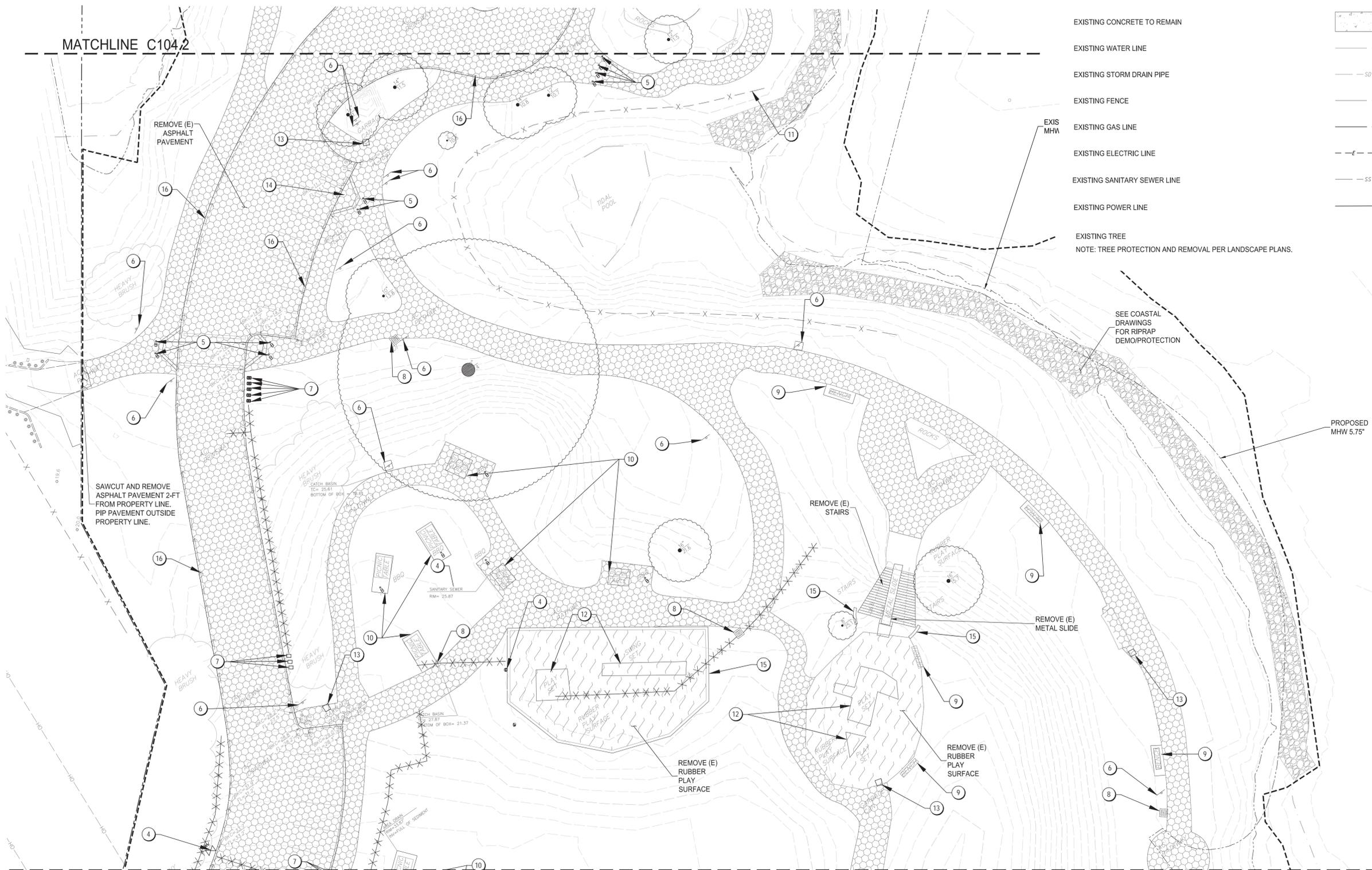
- FOR TREE REMOVAL, PROTECTION, AND MATERIAL SALVAGE SEE LANDSCAPE ARCHITECT PLANS.
- WHERE EXISTING UTILITIES ARE DESIGNATED FOR REMOVAL ON THE PLANS, REMOVE THE ENTIRE EXTENT OF EACH UTILITY WITHIN THE LIMIT OF WORK, INCLUDING SEGMENTS THAT MAY NOT BE IDENTIFIED ON THE TOPOGRAPHIC SURVEY.
- CONTRACTOR SHALL FIELD LOCATE ALL EXISTING CONDITIONS INCLUDING UNDERGROUND UTILITIES IN THE AREA OF WORK, REGARDLESS OF WHETHER OR NOT THEY ARE INDICATED ON THE PLANS OR OTHER RECORD DRAWINGS. SHOULD UNCHARTED OR INCORRECTLY CHARTED EXISTING UTILITIES BE IDENTIFIED, CONTRACTOR SHALL CONTACT THE ENGINEER AND DESIGN TEAM PRIOR TO DEMOLITION FOR INSTRUCTIONS.
- CONTRACTOR SHALL COORDINATE WITH THE OWNER REPRESENTATIVE TO SHUT OFF OR DISCONNECT EXISTING UTILITIES SERVICING THE PROJECT SITE PRIOR TO DEMOLITION. CONTRACTOR SHALL COMPLY WITH ALL ASSOCIATED PROJECT SPECIFICATIONS. DISCONNECTIONS OR CAPPING OF ANY EXISTING UTILITY LINES SHALL BE COMPLETED TO THE SATISFACTION OF OWNER REPRESENTATIVE.
- CONTRACTOR SHALL PROTECT ALL ADJACENT BUILDINGS, FOUNDATIONS, SIDEWALKS, ROADWAYS, TREES, OVERHEAD WIRES, UTILITIES, OR OTHER INFRASTRUCTURE DURING CONSTRUCTION.

- CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO AND/OR REPLACEMENT OF ANY DAMAGE RELATED TO DEMOLITION ACTIVITIES.
- ALL HAZARDOUS WASTES, TRANSFORMERS, AND WIRING SHALL BE PROPERLY DISPOSED OF AND COORDINATED WITH SFSU.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING SITE DEBRIS SUCH AS FOOTINGS, CURBS, AND PAVEMENTS FOR CONSTRUCTION OF NEW SIDEWALK, WALLS, AND STRUCTURES AS APPLICABLE.
- ALL EXISTING AC AND CONCRETE PAVEMENT, AND VERTICAL CURB & GUTTER TO BE REMOVED SHALL BE NEATLY SAW-CUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS TO SEPARATE IT FROM MATERIAL TO REMAIN IN PLACE. THE SAW-CUT EDGES SHALL BE PROTECTED THROUGHOUT THE COURSE OF CONSTRUCTION SO AS TO PERMIT A NEAT LINE OF CONFORMANCE WITH THE ADJACENT SURFACE OR CURB. REMOVE ANY BASE MATERIAL, GRAVEL, AND/OR ANY NON-NATIVE SOIL.
- DEMOLITION OF EXISTING BUILDINGS INCLUDES A COMPLETE REMOVAL OF ALL FOUNDATION AND SUPPORT ELEMENTS.
- REMOVE EXISTING CONDUCTORS AND/OR CABLES BACK TO THE CLOSEST JUNCTION BOX OR VAULT

- OUTSIDE THE LIMITS OF DEMOLITION FOR ALL ELECTRIC & TELECOM CONDUITS TO BE REMOVED OR ABANDONED.
- ALL EXISTING STRUCTURES AND UTILITIES ARE SHOWN TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL PROTECT SAID UTILITIES IN PLACE AND ADJUST VAULT/ID TO FINISHED GRADES AS NEEDED.
- ALL VALVE/BOXES TO BE REMOVED AT UTILITY LINES MARKED FOR REMOVAL UNLESS NOTED OTHERWISE.
- EXISTING WATER LINE AND HYDRANTS SHALL REMAIN IN SERVICE AND ACCESSIBLE TO THE FIRE DEPARTMENT UNTIL PROPOSED WATER LINE AND HYDRANTS ARE INSTALLED, TESTED, DISINFECTED, AND ACTIVATED PER PROJECT SPECIFICATIONS.
- THE DEMOLITION OF POWER AND ELECTRICAL, AND COMMUNICATIONS SHOWN ON THESE PLANS MAY VARY FROM THE JOINT TRENCH, ELECTRICAL, AND COMMUNICATIONS PLANS. IN THE EVENT OF A CONFLICT, THE JOINT TRENCH, ELECTRICAL AND COMMUNICATIONS PLANS TAKE PRECEDENT.
- SALVAGE ANY EXISTING GRANITE CURB.

LEGEND

- PROPERTY LINE 
 - LIMIT OF DEMOLITION WORK 
 - ASPHALT REMOVAL 
 - CONCRETE REMOVAL 
 - RUBBER SURFACE REMOVAL 
 - SAW-CUT PAVEMENT 
 - DEMOLISH UTILITY LINE 
 - EXISTING CONCRETE TO REMAIN 
 - EXISTING WATER LINE 
 - EXISTING STORM DRAIN PIPE 
 - EXISTING FENCE 
 - EXISTING GAS LINE 
 - EXISTING ELECTRIC LINE 
 - EXISTING SANITARY SEWER LINE 
 - EXISTING POWER LINE 
 - EXISTING TREE 
- NOTE: TREE PROTECTION AND REMOVAL PER LANDSCAPE PLANS.



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

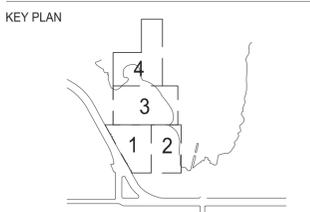
LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE PERMIT SET

DRAWN BY CV/WV	CHECKED BY AF
DATE 7/17/2023	GGN PROJECT # 1608

DEMOLITION PLAN SECTOR 3

C103.2
SHEET 8 OF 26

7/17/2023 ANS/A (6/10) x 11.00 (horizontal)
 P:\2018\2023 Shoreline Design\Shoreline\CD\Demolition\Sheet\CD_103.2_DEMO_CD.dwg DEMOLITION PLAN SECTOR 3 (Contains) Vba: 7/17/2023 5:59:59 PM ANS/A (6/10) x 11.00 (horizontal), 12:59:59

MATCHLINE C104.2
MATCHLINE C101.2
DEMOLITION PLAN, SECTOR 3
SCALE: 1" = 20'



LEGEND

PROPERTY LINE	---
LIMIT OF DEMOLITION WORK	--- ---
ASPHALT REMOVAL	
CONCRETE REMOVAL	
RUBBER SURFACE REMOVAL	
SAW-CUT PAVEMENT	
DEMOLISH UTILITY LINE	-X-X-X-X-X-X-X-
EXISTING CONCRETE TO REMAIN	
EXISTING WATER LINE	---W---
EXISTING STORM DRAIN PIPE	---SD---
EXISTING FENCE	---X---
EXISTING GAS LINE	---G---
EXISTING ELECTRIC LINE	---E---
EXISTING SANITARY SEWER LINE	---SS---
EXISTING POWER LINE	---P---
EXISTING TREE	

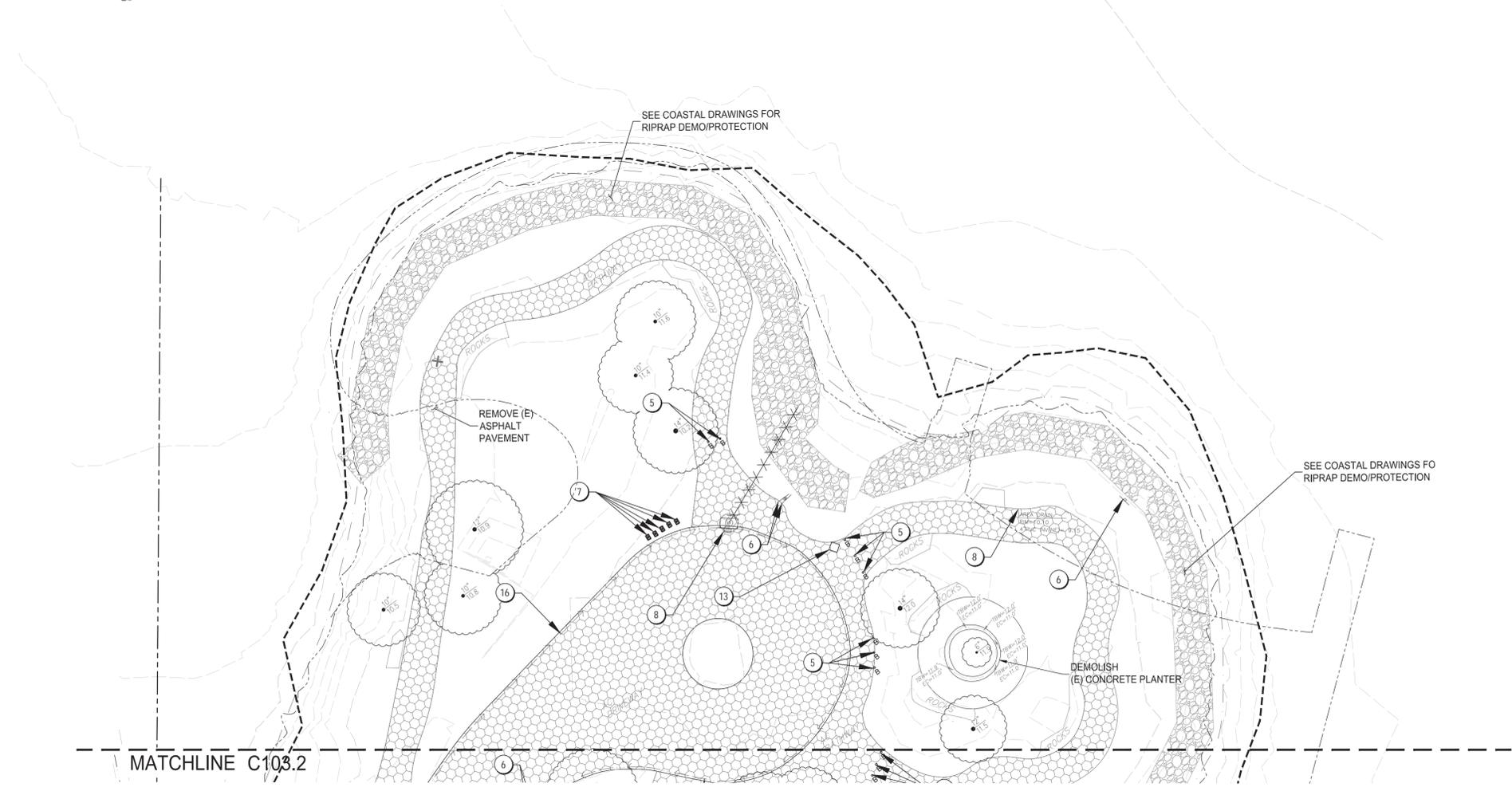
NOTE: TREE PROTECTION AND REMOVAL PER LANDSCAPE PLANS.

DEMOLITION NOTES

- FOR TREE REMOVAL, PROTECTION, AND MATERIAL SALVAGE SEE LANDSCAPE ARCHITECT PLANS.
- WHERE EXISTING UTILITIES ARE DESIGNATED FOR REMOVAL ON THE PLANS, REMOVE THE ENTIRE EXTENT OF EACH UTILITY WITHIN THE LIMIT OF WORK, INCLUDING SEGMENTS THAT MAY NOT BE IDENTIFIED ON THE TOPOGRAPHIC SURVEY.
- CONTRACTOR SHALL FIELD LOCATE ALL EXISTING CONDITIONS INCLUDING UNDERGROUND UTILITIES IN THE AREA OF WORK, REGARDLESS OF WHETHER OR NOT THEY ARE INDICATED ON THE PLANS OR OTHER RECORD DRAWINGS. SHOULD UNCHARTED OR INCORRECTLY CHARTED EXISTING UTILITIES BE IDENTIFIED, CONTRACTOR SHALL CONTACT THE ENGINEER AND DESIGN TEAM PRIOR TO DEMOLITION FOR INSTRUCTIONS.
- CONTRACTOR SHALL COORDINATE WITH THE OWNER REPRESENTATIVE TO SHUT OFF OR DISCONNECT EXISTING UTILITIES SERVICING THE PROJECT SITE PRIOR TO DEMOLITION. CONTRACTOR SHALL COMPLY WITH ALL ASSOCIATED PROJECT SPECIFICATIONS. DISCONNECTIONS OR CAPPING OF ANY EXISTING UTILITY LINES SHALL BE COMPLETED TO THE SATISFACTION OF OWNER REPRESENTATIVE.
- CONTRACTOR SHALL PROTECT ALL ADJACENT BUILDINGS, FOUNDATIONS, SIDEWALKS, ROADWAYS, TREES, OVERHEAD WIRES, UTILITIES, OR OTHER INFRASTRUCTURE DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO AND/OR REPLACEMENT OF ANY DAMAGE RELATED TO DEMOLITION ACTIVITIES.
- ALL HAZARDOUS WASTES, TRANSFORMERS, AND WIRING SHALL BE PROPERLY DISPOSED OF AND COORDINATED WITH SFSU.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING SITE DEBRIS SUCH AS FOOTINGS, CURBS, AND PAVEMENTS FOR CONSTRUCTION OF NEW SIDEWALK, WALLS, AND STRUCTURES AS APPLICABLE.
- ALL EXISTING AC AND CONCRETE PAVEMENT, AND VERTICAL CURB & GUTTER TO BE REMOVED SHALL BE NEATLY SAW-CUT IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS TO SEPARATE IT FROM MATERIAL TO REMAIN IN PLACE. THE SAW-CUT EDGES SHALL BE PROTECTED THROUGHOUT THE COURSE OF CONSTRUCTION SO AS TO PERMIT A NEAT LINE OF CONFORMANCE WITH THE ADJACENT SURFACE OR CURB. REMOVE ANY BASE MATERIAL, GRAVEL, AND/OR ANY NON-NATIVE SOIL.
- DEMOLITION OF EXISTING BUILDINGS INCLUDES A COMPLETE REMOVAL OF ALL FOUNDATION AND SUPPORT ELEMENTS.
- REMOVE EXISTING CONDUCTORS AND/OR CABLES BACK TO THE CLOSEST JUNCTION BOX OR VAULT OUTSIDE THE LIMITS OF DEMOLITION FOR ALL ELECTRIC & TELECOM CONDUITS TO BE REMOVED OR ABANDONED.
- ALL EXISTING STRUCTURES AND UTILITIES ARE SHOWN TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL PROTECT SAID UTILITIES IN PLACE AND ADJUST VAULT/LID TO FINISHED GRADES AS NEEDED.
- ALL VALVE/BOXES TO BE REMOVED AT UTILITY LINES MARKED FOR REMOVAL UNLESS NOTED OTHERWISE.
- EXISTING WATER LINE AND HYDRANTS SHALL REMAIN IN SERVICE AND ACCESSIBLE TO THE FIRE DEPARTMENT UNTIL PROPOSED WATER LINE AND HYDRANTS ARE INSTALLED, TESTED, DISINFECTED, AND ACTIVATED PER PROJECT SPECIFICATIONS.
- THE DEMOLITION OF POWER AND ELECTRICAL, AND COMMUNICATIONS SHOWN ON THESE PLANS MAY VARY FROM THE JOINT TRENCH, ELECTRICAL, AND COMMUNICATIONS PLANS. IN THE EVENT OF A CONFLICT, THE JOINT TRENCH, ELECTRICAL AND COMMUNICATIONS PLANS TAKE PRECEDENT.
- SALVAGE ANY EXISTING GRANITE CURB.

UTILITY DEMOLITION KEYNOTES

- PROTECT IN PLACE EXISTING UTILITY PIPING AND STRUCTURES
- PROTECT IN PLACE EXISTING ELECTRICAL POLE
- PROTECT IN PLACE EXISTING SIGN
- DEMOLISH EXISTING UTILITY STRUCTURE
- DEMOLISH EXISTING BOLLARD
- DEMOLISH EXISTING SIGN
- DEMOLISH EXISTING WATER METER
- DEMOLISH EXISTING STORMDRAIN INLET
- DEMOLISH EXISTING BENCH AND SALVAGE ANY GRANITE CURB
- DEMOLISH EXISTING PICNIC TABLE AND BBQ
- DEMOLISH EXISTING FENCE
- DEMOLISH EXISTING PLAY SET
- DEMOLISH EXISTING GARBAGE CAN
- DEMOLISH EXISTING RAMP
- DEMOLISH EXISTING WALL
- DEMOLISH EXISTING CURB



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-0414

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

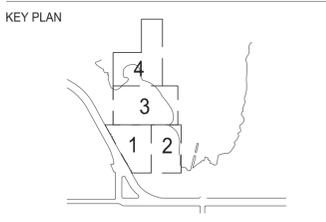
LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

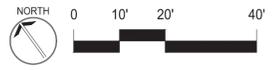
PERMIT SET	
DRAWN BY CV/WV	CHECKED BY AF
DATE 7/17/2023	GGN PROJECT # 1608

DEMOLITION PLAN
SECTOR 4

C104.2

SHEET 9 OF 26

7/17/2023 ANS/A 06:00 x 11.00 (inches) P:\2018\2023\Shoreline\Design\SheetSet\C104\Demolition\SheetSet\C104.2-DEMOLITION PLAN SECTOR 4-Coverlay.dwg 7/17/2023 8:00 AM PLAN 8.00 x 11.00 (inches) 12.5849



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGM
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 851-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

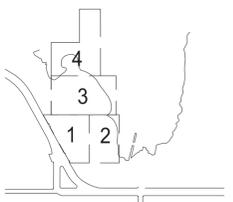
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

PERMIT SET

DRAWN BY CV/WV	CHECKED BY AF
DATE 7/17/2023	GGM PROJECT # 1608

GRADING AND DRAINAGE PLAN SECTOR 1

C201.2

SHEET 11 OF 26

NOTES

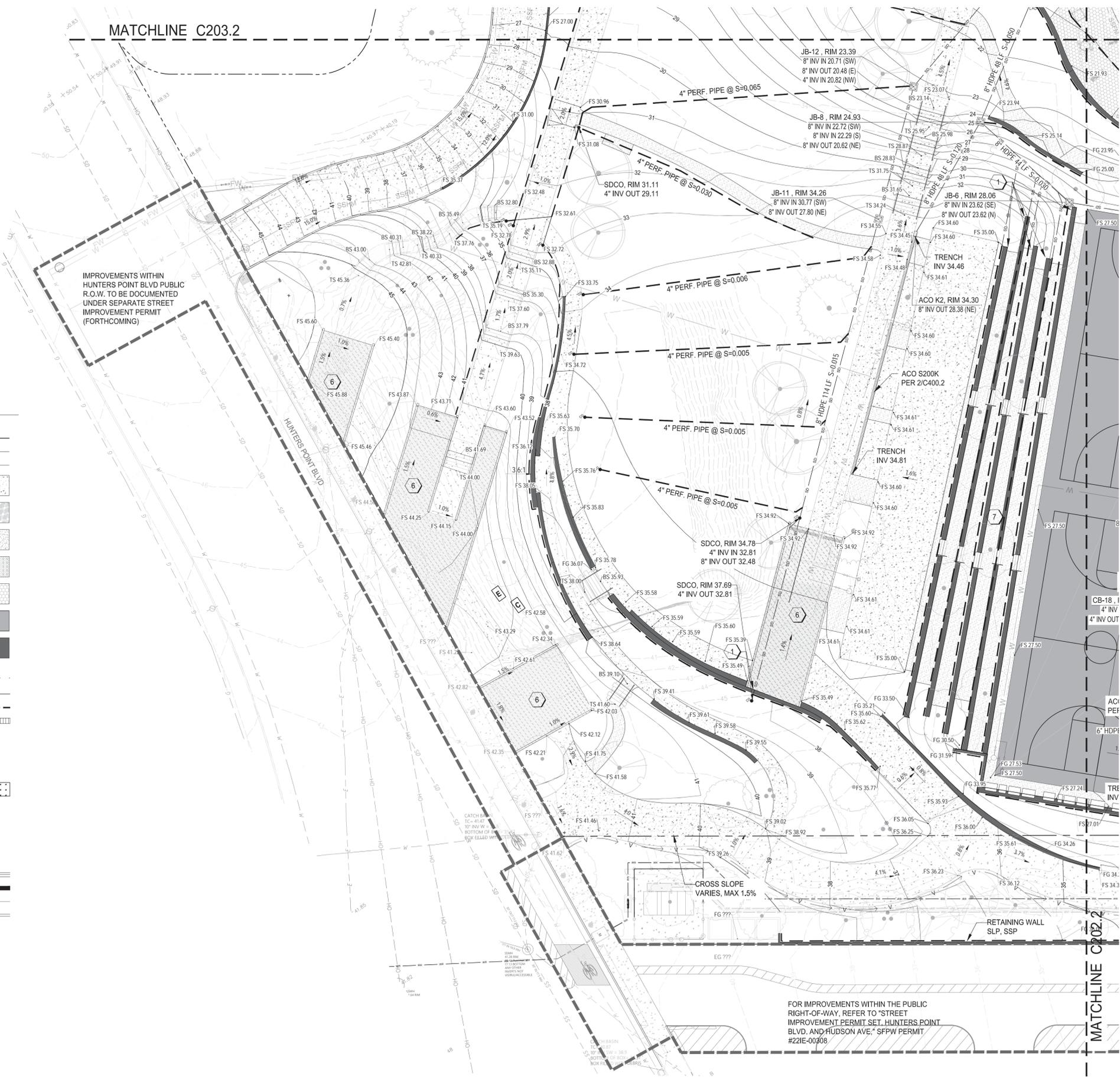
- SEE LANDSCAPE PLANS FOR WALL DETAIL AND TOP OF WALL ELEVATIONS.

KEY NOTES

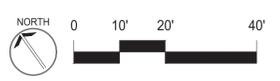
- CONNECT TO WALL UNDERDRAIN (SLP)
- RETAINING WALL WITH WEEP HOLES (SLP)
- CONNECT TO BUILDING FOUNDATION SUB-DRAINAGE (PERF PIPE)
- CONNECT TO BUILDING FOUNDATION BACK-DRAINAGE (SOLID PIPE)
- CONNECT TO WALL FOUNDATION GEOFOAM DRAINAGE (SOLID PIPE)
- SLP FOR GRADING BELOW DECK
- SLP FOR GRADING IN TERRACED STONE SEATWALL

LEGEND

PROPERTY LINE	---
MAJOR CONTOUR	XX
MINOR CONTOUR	---
CIP CONCRETE SURFACING (PER 3 & 4/C403.2) VARIABLE FINISH (SLP)	[Pattern]
METAL GRATING (SLP)	[Pattern]
GRAVEL OR DG SURFACING (STABILIZED) (SLP)	[Pattern]
WOOD DECKING (SLP)	[Pattern]
ARTIFICIAL TURF (SLP)	[Pattern]
ASPHALT (PER 2/C403.2)	[Pattern]
SITE WALL (SLP)	[Pattern]
GRADE BREAK	---
STORM DRAIN LINE	---
UNDERDRAIN (PER 4/C401.2)	---
TRENCH DRAIN (PER 2/C400.2)	---
CATCH BASIN/OVERFLOW STRUCTURE (PER 4/C400.2 - PER 5/C401.2)	[Symbol]
JUNCTION BOX (PER 4/C400.2)	[Symbol]
COBBLE REVETMENT AT BIORETENTION OUTFALL	[Symbol]
CLEANOUT (PER 1/C402.2)	[Symbol]
BIORETENTION (PER 1/C401.2)	[Symbol]
LANDSCAPE/HARDSCAPE AREA DRAIN (PER 2/C402.2)	[Symbol]
DOWNSPOUT	[Symbol]
SS/SD POC (SPP)	[Symbol]
TREE (SLP)	[Symbol]
VALLEY GUTTER (PER 6/C400.2)	---
CURB CUT (PER 1/C403.2)	---
EXISTING STORM DRAIN LINE	---
HAND RAIL	---



FOR IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY, REFER TO "STREET IMPROVEMENT PERMIT SET, HUNTERS POINT BLVD. AND HUDSON AVE." SFPW PERMIT #22IE-00308



7/17/2023 ANS/A (8.5) x 11.0 (Inches) P:\2018\2023\Shoreline\Design\Shoreline\2023\Grading and Drainage Plan Sector 1\Grading and Drainage Plan Sector 1.dwg 11:00 (Inches) 12.5849

LEGEND

- PROPERTY LINE
- MAJOR CONTOUR
- MINOR CONTOUR
- CIP CONCRETE SURFACING (PER 3 & 4/C403.2)
VARIABLE FINISH (SLP)
- METAL GRATING (SLP)
- GRAVEL OR DG SURFACING (STABILIZED) (SLP)
- WOOD DECKING (SLP)
- ARTIFICIAL TURF (SLP)
- ASPHALT (PER 2/C403.2)
- SITE WALL (SLP)
- VALLEY GUTTER (PER 6/C400.2)
- CURB CUT (PER 1/C403.2)
- EXISTING STORM DRAIN LINE
- GRADE BREAK

- STORM DRAIN LINE
- UNDERDRAIN (PER 4/C401.2)
- TRENCH DRAIN (PER 2/C400.2)
- CATCH BASIN/OVERFLOW STRUCTURE (PER 4/C400.2 - PER 5/C401.2)
- JUNCTION BOX (PER 4/C400.2)
- COBBLE REVETMENT AT BIORETENTION OUTFALL
- CLEANOUT (PER 1/C402.2)
- BIORETENTION (PER 1/C401.2)
- LANDSCAPE/HARDSCAPE AREA DRAIN (PER 2/C402.2)
- DOWNSPOUT

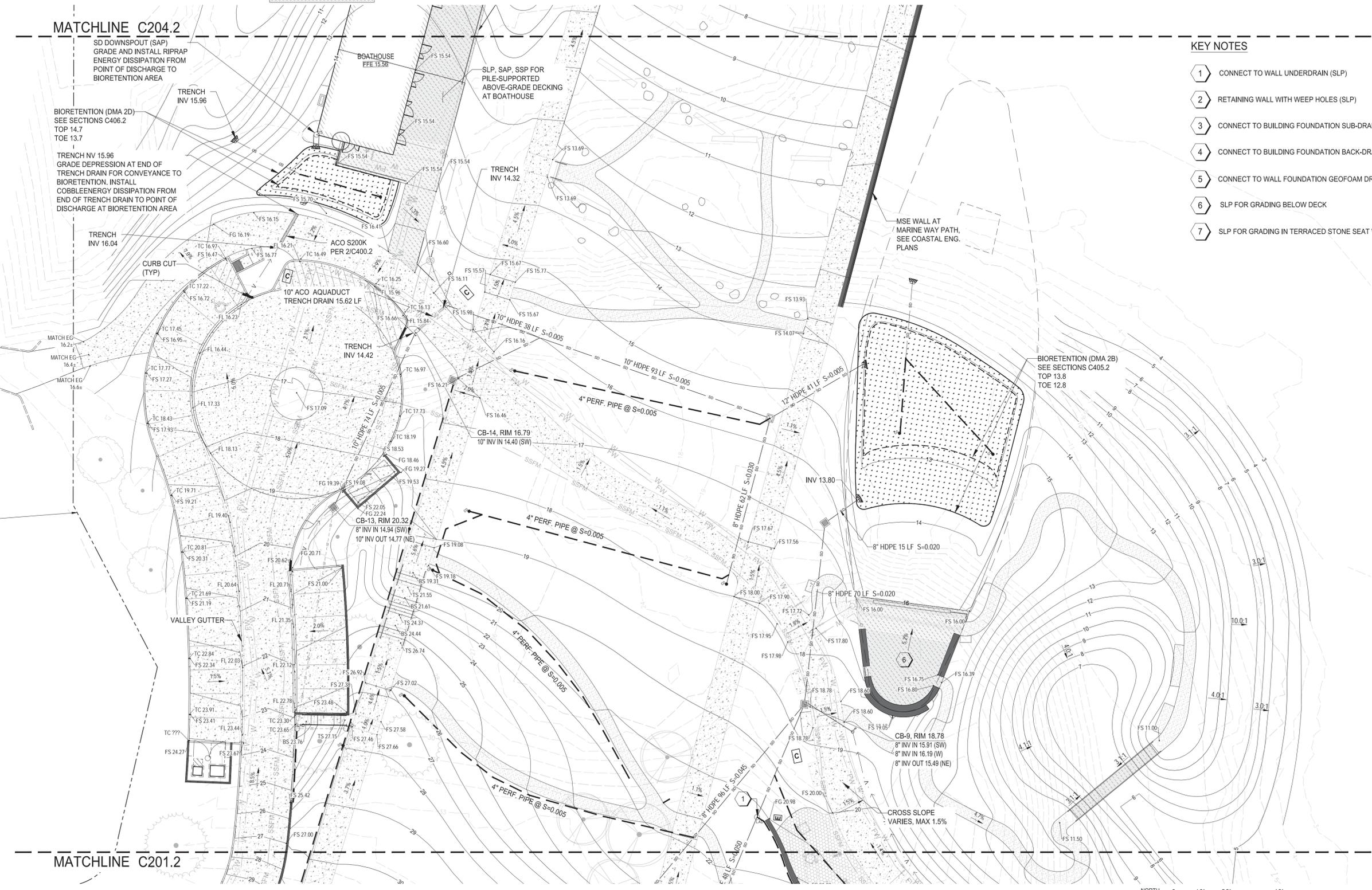
- VALLEY GUTTER (PER 6/C400.2)
- CURB CUT (PER 1/C403.2)
- EXISTING STORM DRAIN LINE
- HAND RAIL
- VEGETATED SWALE

NOTES

1. SEE LANDSCAPE PLANS FOR WALL DETAILS AND TOP OF WALL ELEVATIONS.

KEY NOTES

- 1 CONNECT TO WALL UNDERDRAIN (SLP)
- 2 RETAINING WALL WITH WEEP HOLES (SLP)
- 3 CONNECT TO BUILDING FOUNDATION SUB-DRAINAGE (PERF PIPE)
- 4 CONNECT TO BUILDING FOUNDATION BACK-DRAINAGE (SOLID PIPE)
- 5 CONNECT TO WALL FOUNDATION GEOFOAM DRAINAGE (SOLID PIPE)
- 6 SLP FOR GRADING BELOW DECK
- 7 SLP FOR GRADING IN TERRACED STONE SEAT WALL



MATCHLINE C204.2

SD DOWNSPOUT (SAP)
GRADE AND INSTALL RIPRAP
ENERGY DISSIPATION FROM
POINT OF DISCHARGE TO
BIORETENTION AREA

BIORETENTION (DMA 2D)
SEE SECTIONS C406.2
TOP 14.7
TOE 13.7

TRENCH INV 15.96
GRADE DEPRESSION AT END OF
TRENCH DRAIN FOR CONVEYANCE TO
BIORETENTION. INSTALL
COBBLE ENERGY DISSIPATION FROM
END OF TRENCH DRAIN TO POINT OF
DISCHARGE AT BIORETENTION AREA

TRENCH INV 16.04

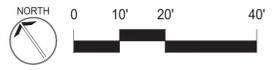
MATCH EG 16.21

MATCH EG 16.41

MATCH EG 16.61

MATCHLINE C201.2

1 GRADING AND DRAINAGE PLAN, SECTOR 3
SCALE: 1" = 20'



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

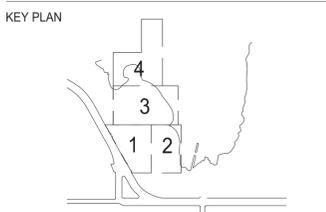
LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE PERMIT SET

DRAWN BY CV/WV	CHECKED BY AF
DATE 7/17/2023	GGN PROJECT # 1608

GRADING AND DRAINAGE PLAN SECTOR 3

C303.2
SHEET 13 OF 26

7/17/2023 ANS/A (0.5/1.1/1.00) (continued)
 P:\2018\2023\Shoreline\Design\Drawings\2023\Grading and Drainage Plan Sector 3\Drawings\Sheet C303.2_Grading and Drainage Plan Sector 3.dwg, 13: GRADING AND DRAINAGE PLAN SECTOR 3, Jordan Shirk, 7/17/2023, 14:19 PM, ANS/A (0.5/1.1/1.00) (continued), 12:59:49

LEGEND

PROPERTY LINE	
MAJOR CONTOUR	
MINOR CONTOUR	
CIP CONCRETE SURFACING (PER 3 & 4/C403.2) VARIABLE FINISH (SLP)	
METAL GRATING (SLP)	
GRAVEL OR DG SURFACING (STABILIZED) (SLP)	
WOOD DECKING (SLP)	
ARTIFICIAL TURF (SLP)	
ASPHALT (PER 2/C403.2)	
SITE WALL (SLP)	
GRADE BREAK	

NOTES

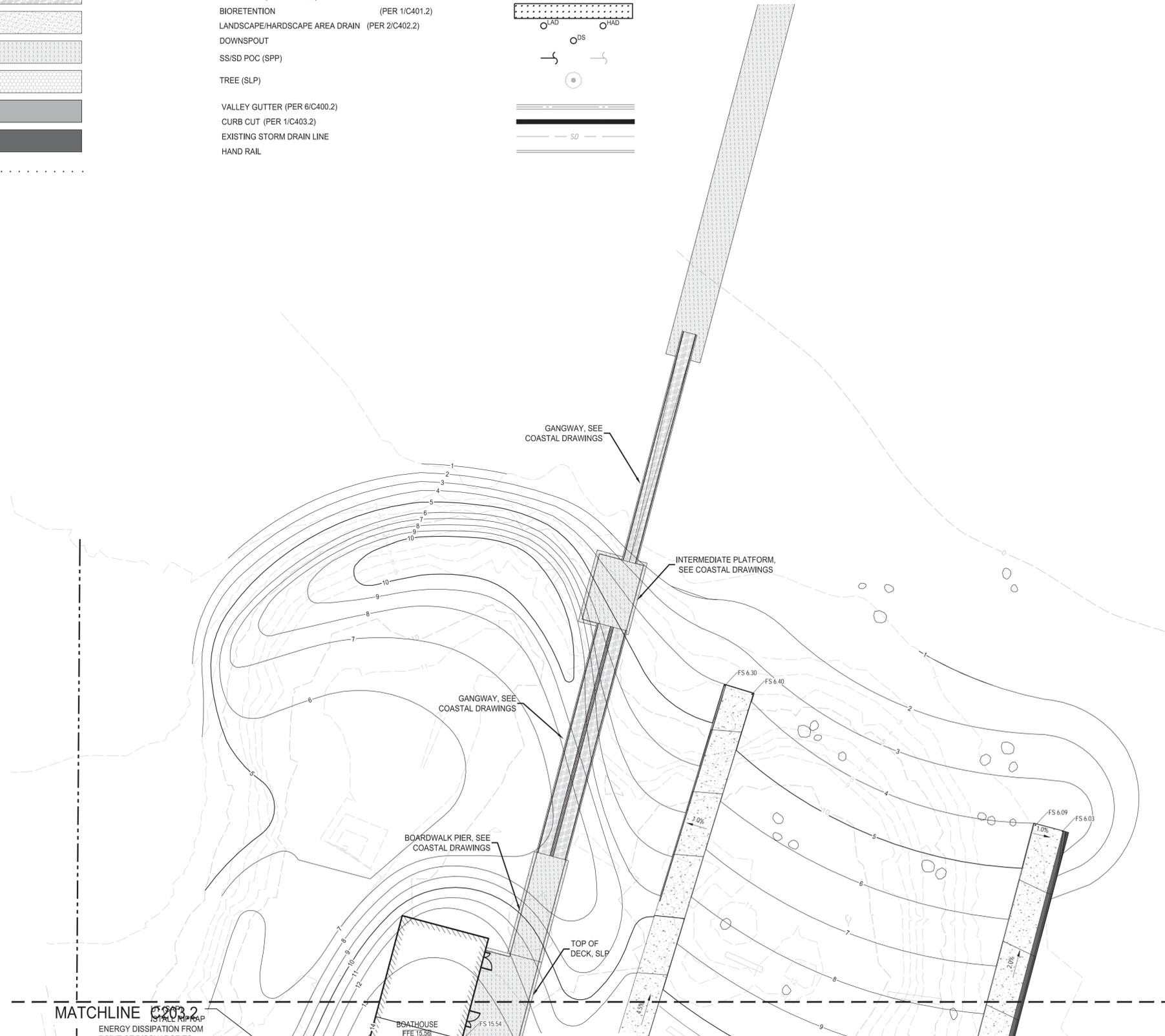
- SEE LANDSCAPE PLANS FOR WALL DETAILS AND TOP OF WALL ELEVATIONS.

KEY NOTES

- CONNECT TO WALL UNDERDRAIN (SLP)
- RETAINING WALL WITH WEEP HOLES (SLP)
- CONNECT TO BUILDING FOUNDATION SUB-DRAINAGE (PERF PIPE)
- CONNECT TO BUILDING FOUNDATION BACK-DRAINAGE (SOLID PIPE)
- CONNECT TO WALL FOUNDATION GEOFOAM DRAINAGE (SOLID PIPE)
- SLP FOR GRADING BELOW DECK
- SLP FOR GRADING IN TERRACED STONE SEAT WALL

LEGEND

STORM DRAIN LINE	
UNDERDRAIN (PER 4/C401.2)	
TRENCH DRAIN (PER 2/C400.2)	
CATCH BASIN/OVERFLOW STRUCTURE (PER 4/C400.2 - PER 5/C401.2)	
JUNCTION BOX (PER 4/C400.2)	
COBBLE REVETMENT AT BIORETENTION OUTFALL	
CLEANOUT (PER 1/C402.2)	
BIORETENTION (PER 1/C401.2)	
LANDSCAPE/HARDSCAPE AREA DRAIN (PER 2/C402.2)	
DOWNSPOUT	
SS/SD POC (SPP)	
TREE (SLP)	
VALLEY GUTTER (PER 6/C400.2)	
CURB CUT (PER 1/C403.2)	
EXISTING STORM DRAIN LINE	
HAND RAIL	



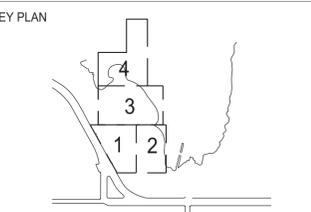
INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

- PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802
- CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650
- ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650
- ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820
- STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494
- COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411
- LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232
- MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240
- GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240
- SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE



REVISIONS:

NO.	DATE	DESCRIPTION

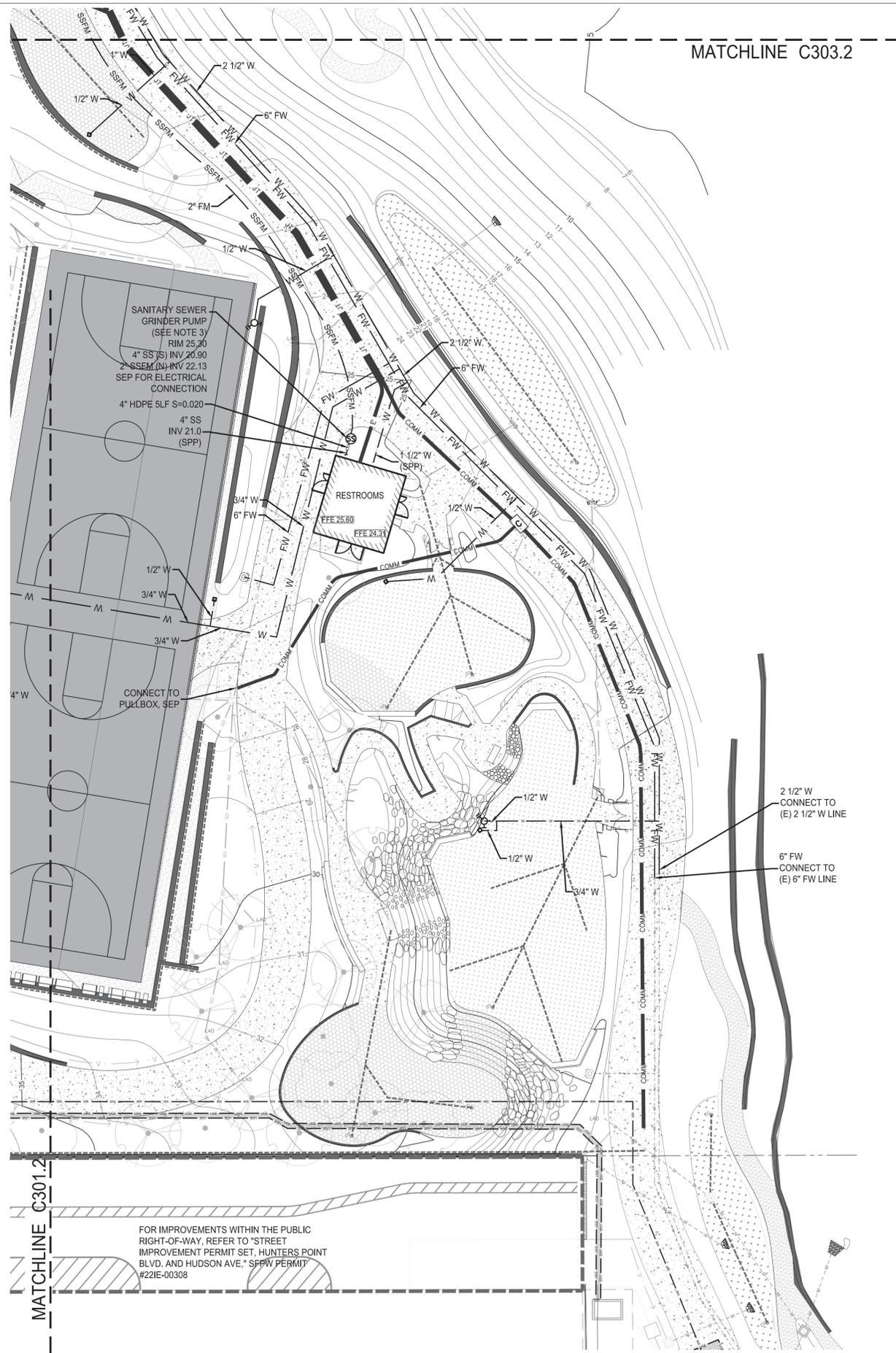
ISSUANCE PERMIT SET

DRAWN BY CV/WV	CHECKED BY AF
DATE 7/17/2023	GGN PROJECT # 1608

GRADING AND DRAINAGE PLAN SECTOR 4

C204.2

7/17/2023 ANS/A (8.0) x 11.0 (Inches) P:\2018\2023\Shoreline\Design\Sheet\C204.2\Grading and Drainage Plan Sector 4\India Basin (8.0) x 11.0 (Inches) 12.899



MATCHLINE C303.2

MATCHLINE C301.2

SANITARY SEWER GRINDER PUMP (SEE NOTE 3)
RIM 25.30
4" SS (S) INV 20.90
2" SSEM (D) INV 22.13
SEP FOR ELECTRICAL CONNECTION
4" HDPE 5LF S=0.020
4" SS INV 21.0 (SPP)

RESTROOMS
FFE 25.80
FFE 24.31

CONNECT TO PUBL. BOX, SEP

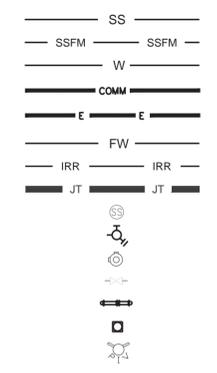
2 1/2" W CONNECT TO (E) 2 1/2" W LINE
6" FW CONNECT TO (E) 6" FW LINE

FOR IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY, REFER TO "STREET IMPROVEMENT PERMIT SET, HUNTERS POINT BLVD. AND HUDSON AVE." SFPW PERMIT #221E-00308

1 UTILITY PLAN, SECTOR 2
SCALE: 1" = 20'

LEGEND

- SANITARY SEWER LINE
- SANITARY SEWER FORCE MAIN
- WATER LINE
- COMMUNICATIONS DUCTBANK (SEP)
- ELECTRIC S DUCTBANK (SEP)
- FIRE WATER LINE
- IRRIGATION WATER LINE (PER 3/C402.2)
- JOINT TRENCH (SEP)
- SANITARY SEWER MANHOLE
- HOSE BIB (SLP)
- FIRE HYDRANT (PER SFPUC STANDARDS)
- GATE VALVE
- BACKFLOW PREVENTER (PER 2/C402.2)
- WATER FOUNTAIN (SLP)
- POST INDICATOR VALVE



INDIA BASIN SHORELINE PARK

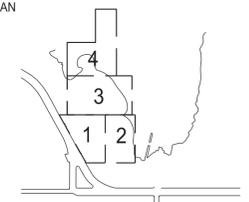
CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

- PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802
- CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650
- ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650
- ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820
- STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494
- COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411
- LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232
- MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240
- GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240
- SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



NOTES

- ELECTRICAL AND TELECOM ROUTING PER CIVIL UTILITY PLAN. FOR TRENCH SECTIONS, VAULT DETAILS AND CLEARANCE REQUIREMENTS, SEE ELECTRICAL PLANS.
- UNLESS OTHERWISE NOTED, AT WATER AND JOINT TRENCH CROSSINGS, INSTALL WATER ABOVE JOINT TRENCH WITH 1-FT CLEAR. WATER SHALL HAVE 3-FT (MIN) COVER.
- DUPLEX SANITARY SEWER GRINDER PUMP (RESTROOM):
 - PUMPS (2); SUBMERSIBLE GRINDER PUMP WITH CAPACITY 15.5 GPM AT 46-FT TDH WITH 2" OUTLET. 208 VOLT/3 PHASE. FLYGT PROGRESSING CAVITY GRINDER PUMP (M-3068, 175 PC) OR APPROVED EQUAL.
 - HOUSING: FIBERGLASS HOUSING COMPATIBLE WITH FLYGT PUMP MODEL NOTED ABOVE, OR APPROVED EQUAL.
 - LEVEL SENSORS: MULTIRODE OR APPROVED EQUAL. RODS SHALL BE SET AT THE FOLLOWING ELEVATIONS: ALARMLAG PUMP ON (3-FT ABOVE INSIDE BOTTOM OF STRUCTURE), LEAD PUMP ON/LAG PUMP OFF (2-FT ABOVE INSIDE BOTTOM OF STRUCTURE), LEAD PUMP OFF (1-FT ABOVE INSIDE BOTTOM OF STRUCTURE).
 - CONTROL PANEL: SHALL INCLUDE A CONTROLLER WITH A VISUAL DISPLAY THAT IS CAPABLE OF MONITORING AND CONTROLLING LIFT STATION OPERATIONS VIA BMS THAT OPERATES ON BACNET TECHNOLOGY AND TRIDIUM SOFTWARE, WHICH IS COMPATIBLE WITH THE SPECIFIED PUMPS. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND CUTSHEETS FOR REVIEW AND APPROVAL. BMS SYSTEM BY CONTRACTOR. CONTRACTOR TO NETWORK AND INTEGRATE THE MECHANICAL SYSTEMS INTO THE RPD MONITORING SYSTEM. SPECIALTY CONTROLS, NETWORK DESIGN AND PROGRAMING IS PART OF CONTRACTOR SCOPE OF WORK. DELEGATED DESIGN.
 - EMERGENCY STORAGE VOLUME IS CONTAINED IN LIFT STATION STRUCTURE.



REVISIONS:

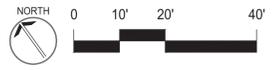
NO.	DATE	DESCRIPTION

ISSUANCE

PERMIT SET	
DRAWN BY CV/WV	CHECKED BY AF
DATE 7/17/2023	GGN PROJECT # 1608

UTILITY PLAN SECTOR 2

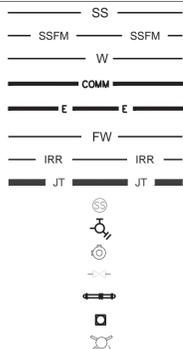
C302.2
SHEET 16 OF 26



7/17/2023 ANS/A 08:50 x 11.00 (Inches)
 P:\2018\2023\Shoreline\Design\Sheet\C302.2\Utility Plan Sector 2\Drawings\Sheet\C302.2\Utility Plan Sector 2\Drawings\Sheet\C302.2.dwg, 11/01/2023 2:27:40 PM, ANS/A (8:50 x 11.00 Inches), 1:2, 500

LEGEND

- SANITARY SEWER LINE
- SANITARY SEWER FORCE MAIN
- WATER LINE
- COMMUNICATIONS DUCTBANK (SEP)
- ELECTRIC DUCTBANK (SEP)
- FIRE WATER LINE
- IRRIGATION WATER LINE (PER 3/C402.2)
- JOINT TRENCH (SEP)
- SANITARY SEWER MANHOLE
- HOSE BIB (SLP)
- FIRE HYDRANT (PER SFPUC STANDARDS)
- GATE VALVE
- BACKFLOW PREVENTER (PER 2/C402.2)
- WATER FOUNTAIN (SLP)
- POST INDICATOR VALVE



NOTES

1. ELECTRICAL AND TELECOM ROUTING PER CIVIL UTILITY PLANS. FOR TRENCH SECTIONS, VAULT DETAILS, AND CLEARANCES, SEE ELECTRICAL PLANS.
2. UNLESS OTHERWISE NOTED, AT WATER AND JOINT TRENCH CROSSINGS, INSTALL WATER ABOVE JOINT TRENCH WITH 1-FT CLEAR. WATER SHALL HAVE 3-FT (MIN) COVER.
3. DUPLEX SANITARY SEWER GRINDER PUMP (BOATHOUSE):
 - PUMPS (2): SUBMERSIBLE GRINDER PUMP WITH CAPACITY 15.5 GPM AT 48-FT TDH WITH 2" OUTLET. 208 VOLT/3 PHASE. FLYGT PROGRESSING CAVITY GRINDER PUMP (M-3068.175 PC) OR APPROVED EQUAL.
 - HOUSING: FIBERGLASS HOUSING COMPATIBLE WITH FLYGT PUMP MODEL NOTED ABOVE, OR APPROVED EQUAL.
 - LEVEL SENSORS: MULTIRODE OR APPROVED EQUAL. RODS SHALL BE SET AT THE FOLLOWING ELEVATIONS: ALARMLAG PUMP ON (3-FT ABOVE INSIDE BOTTOM OF STRUCTURE), LEAD PUMP ON/LAG PUMP OFF (2-FT ABOVE INSIDE BOTTOM OF STRUCTURE), LEAD PUMP OFF (1-FT ABOVE INSIDE BOTTOM OF STRUCTURE).
 - CONTROL PANEL: SHALL INCLUDE A CONTROLLER WITH A VISUAL DISPLAY THAT IS CAPABLE OF MONITORING AND CONTROLLING LIFT STATION OPERATIONS VIA BMS THAT OPERATES ON BACNET TECHNOLOGY AND TRIDIUM SOFTWARE, WHICH IS COMPATIBLE WITH THE SPECIFIED PUMPS. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND CUTSHEETS FOR REVIEW AND APPROVAL. BMS SYSTEM BY CONTRACTOR. CONTRACTOR TO NETWORK AND INTEGRATE THE MECHANICAL SYSTEMS INTO THE RPD MONITORING SYSTEM. SPECIALTY CONTROLS, NETWORK DESIGN AND PROGRAMING IS PART OF CONTRACTOR SCOPE OF WORK. DELEGATED DESIGN.
 - EMERGENCY STORAGE VOLUME IS CONTAINED IN LIFT STATION STRUCTURE.

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

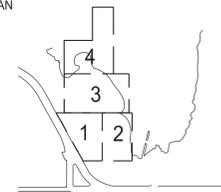
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

PERMIT SET

DRAWN BY CV/WV	CHECKED BY AF
DATE 7/17/2023	GGN PROJECT # 1608

UTILITY PLAN
SECTOR 3

C303.2

SHEET 17 OF 26

7/17/2023 ANS/A (6/10 x 11.00 inches) P:\2018\2023\Shoreline\Design\Sheet\C303.2\UTIL_P42.dwg 11:00 AM 7/17/2023 2:28:07 PM ANS/A (6/10 x 11.00 inches) 12:59:09

1 UTILITY PLAN, SECTOR 3
SCALE: 1" = 20'



INDIA BASIN SHORELINE PARK [CITYWIDE PLAN]

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

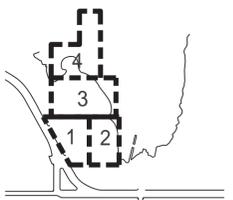
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

BID SET

DRAWN BY	AC/PH	CHECKED BY	CD
DATE	4/26/2024	GGN PROJECT #	1608

SITE PLAN - SHORELINE

CS100.2



NORTH SHORELINE PROTECTION CS203.2

EG MHW

FG MHW

EG HTL

FG HTL

CENTRAL MARINE WAY CS202.2

VESSEL OUTLINE AS APPEARING ON 1938 AERIAL. VESSEL TO REMAIN

SOUTH SHORELINE PROTECTION CS201.2

VESSEL OUTLINE AS APPEARING ON 1938 AERIAL. VESSEL TO REMAIN

LIMIT OF WORK

MATCH (E) SHORELINE PROTECTION ELEVATION AT TRANSITION

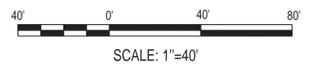
APPROX (E) SHORELINE PROTECTION AS PART OF 900 INNES PROJECT

HUP

1 IBSP SITE PLAN SHORELINE
SCALE: 1" = 40'

LEGEND:

- EXISTING GRADE - MINOR CONTOUR
- EXISTING GRADE - MAJOR CONTOUR
- FINISH GRADE - MINOR CONTOUR
- FINISH GRADE - MAJOR CONTOUR
- EXISTING GRADE - HTL
- EXISTING GRADE - MHW
- FINISH GRADE - HTL
- FINISH GRADE - MHW



INDIA BASIN SHORELINE PARK [CITYWIDE PLA]

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

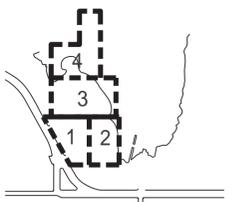
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

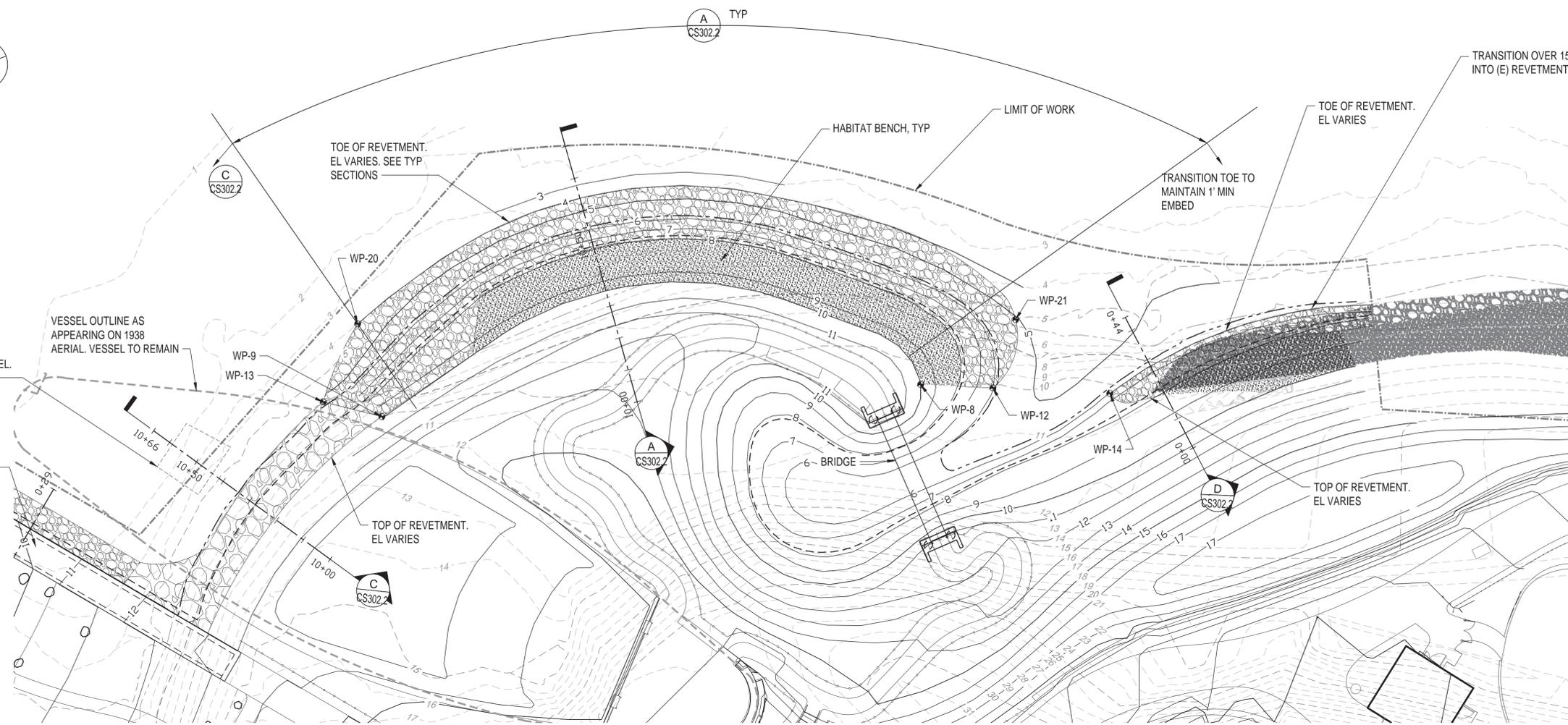
ISSUANCE

BID SET

DRAWN BY	AC/PH	CHECKED BY	CD
DATE	4/26/2024	GGN PROJECT #	1608

SOUTH SHORELINE PROTECTION

CS201.2



1 SOUTH SHORELINE PROTECTION
SCALE: 1" = 20'

CS100.2

NOTES:

- 1. SEE CS002.2 FOR WP TABLE.

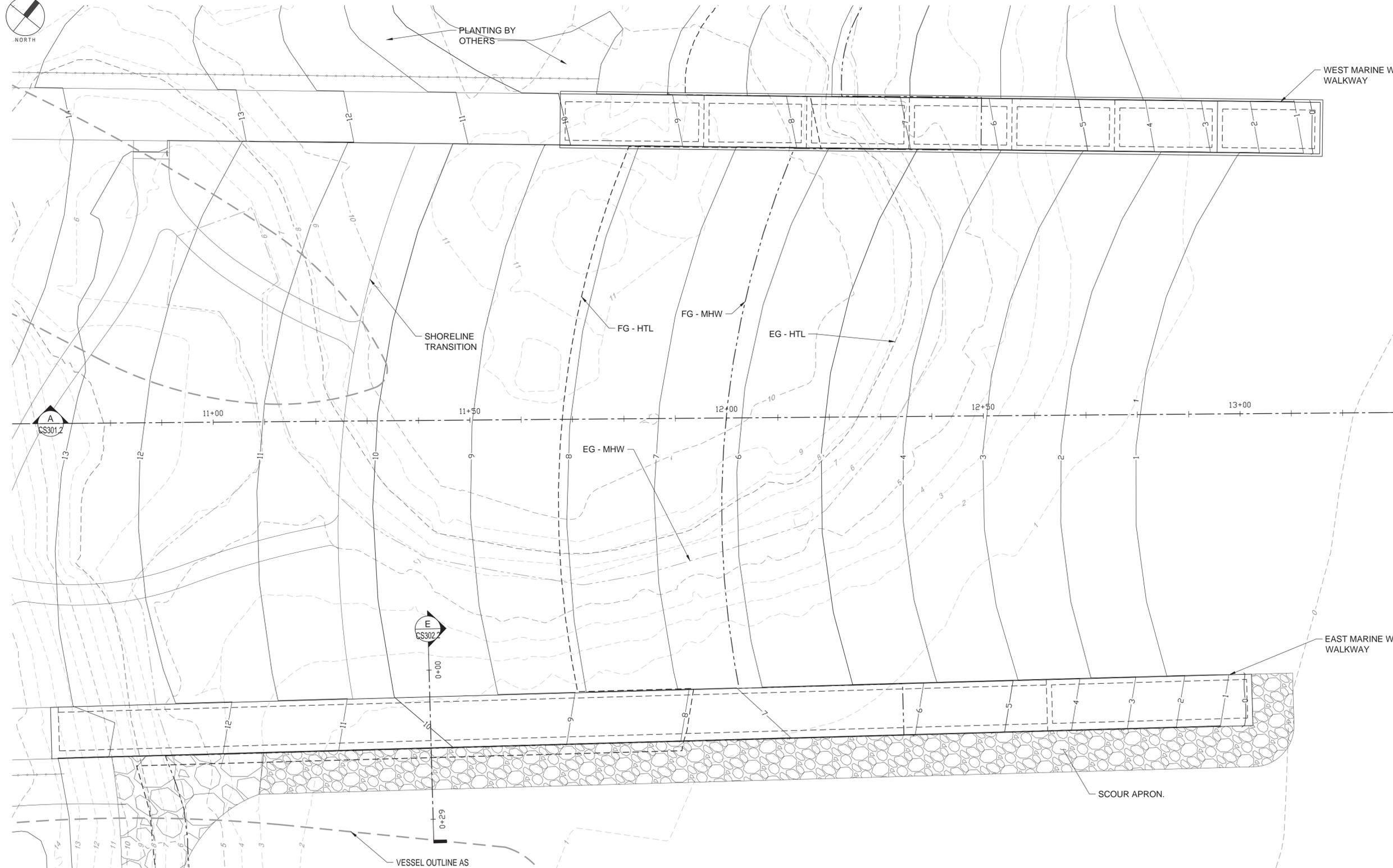
LEGEND:

- EXISTING GRADE - MINOR CONTOUR
- EXISTING GRADE - MAJOR CONTOUR
- FINISH GRADE - MINOR CONTOUR
- FINISH GRADE - MAJOR CONTOUR
- EXISTING GRADE - HTL
- EXISTING GRADE - MHW
- FINISH GRADE - HTL
- FINISH GRADE - MHW





NORTH



1 CENTRAL MARINE WAY

SCALE: 1" = 10'

NOTES:

- SEE CS002.2 FOR WP TABLE.
- LANDSCAPING ELEMENTS NOT SHOWN FOR CLARITY

LEGEND:

-----	EXISTING GRADE - MINOR CONTOUR	-----	EXISTING GRADE - HTL
-----	EXISTING GRADE - MAJOR CONTOUR	-----	EXISTING GRADE - MHW
-----	FINISH GRADE - MINOR CONTOUR	-----	FINISH GRADE - HTL
-----	FINISH GRADE - MAJOR CONTOUR	-----	FINISH GRADE - MHW



SCALE: 1"=10'

INDIA BASIN SHORELINE PARK [CITYWIDE PLAN]

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700



THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014



PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

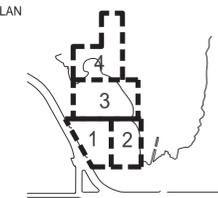
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

BID SET

DRAWN BY	AC/PH	CHECKED BY	CD
DATE	4/26/2024	GGN PROJECT #	1608

CENTRAL MARINE WAY

CS202.2



INDIA BASIN SHORELINE PARK [CITYWIDE PLA]

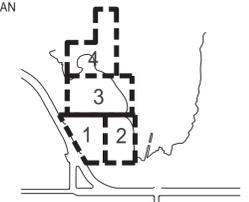
CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

- PRIME CONSULTANT / LANDSCAPE ARCHITECT
G.N.
PH. 206-903-6802
- CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650
- ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650
- ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820
- STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494
- COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411
- LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232
- MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240
- GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240
- SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



NOTES:

1. SEE CS002.2 FOR WP TABLE.

LEGEND:

- - - - - EXISTING GRADE - MINOR CONTOUR
- - - - - EXISTING GRADE - MAJOR CONTOUR
- FINISH GRADE - MINOR CONTOUR
- FINISH GRADE - MAJOR CONTOUR
- - - - - EXISTING GRADE - HTL
- - - - - EXISTING GRADE - MHW
- - - - - FINISH GRADE - HTL
- - - - - FINISH GRADE - MHW

REVISIONS:

NO.	DATE	DESCRIPTION

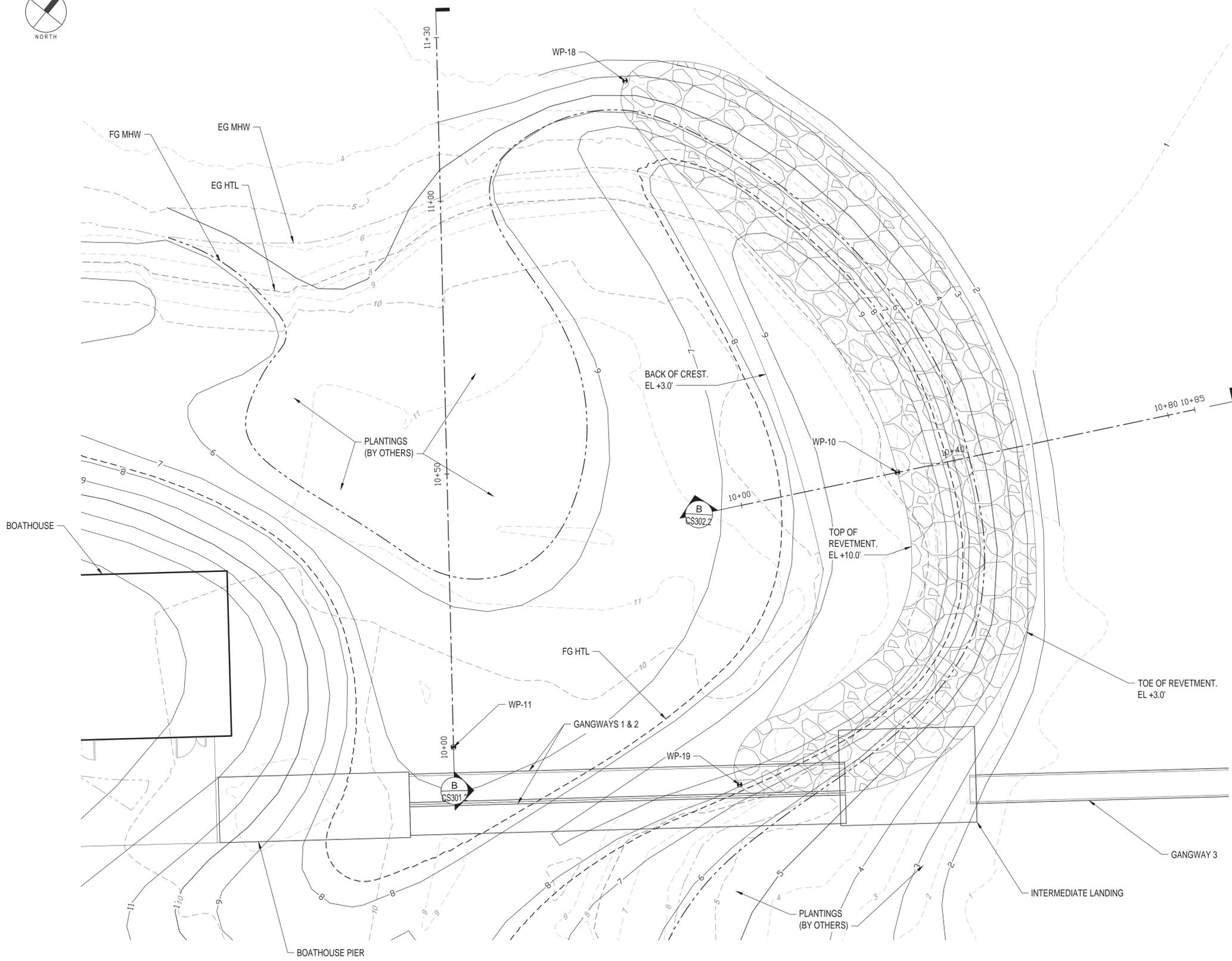
ISSUANCE

BID SET

DRAWN BY AC/PH	CHECKED BY CD
DATE 4/26/2024	GGN PROJECT # 1608

NORTH SHORELINE PROTECTION

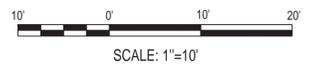
CS203.2



1 NORTH SHORELINE PROTECTION

SCALE: 1" = 10'

CS100.2



SCALE: 1"=10'

INDIA BASIN SHORELINE PARK [CITYWIDE PLA]

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRINCIPAL CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

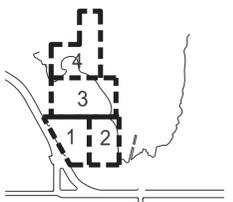
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

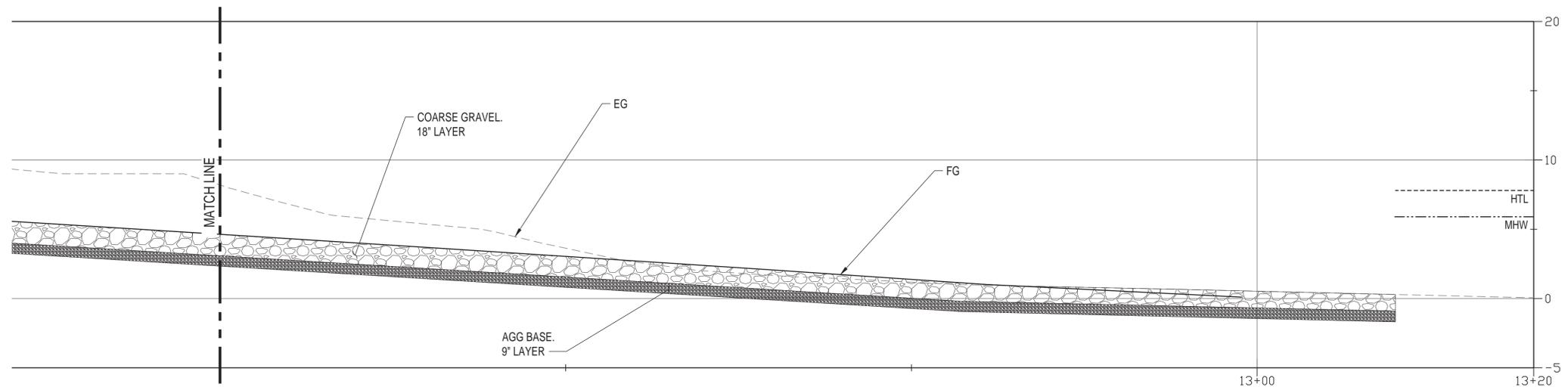
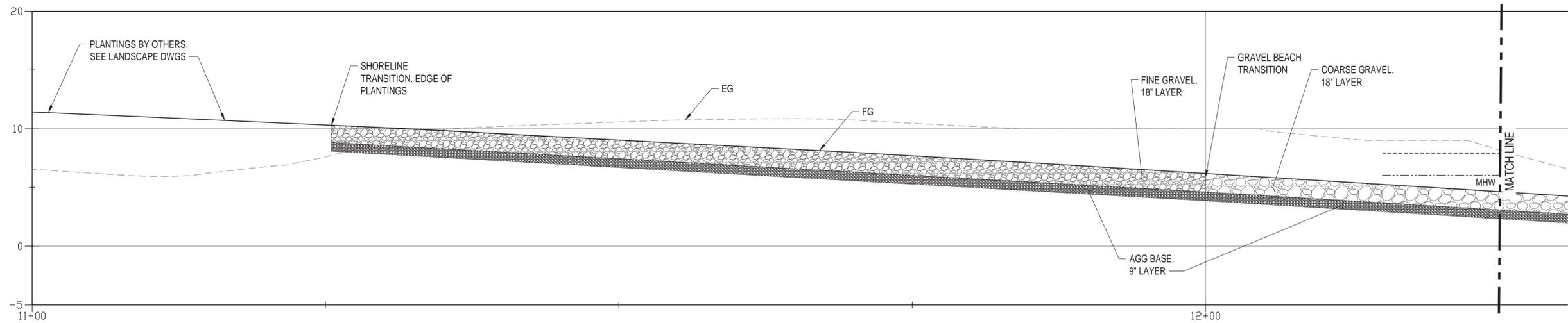
ISSUANCE

BID SET

DRAWN BY AC/PH	CHECKED BY CD
DATE 4/26/2024	GGN PROJECT # 1608

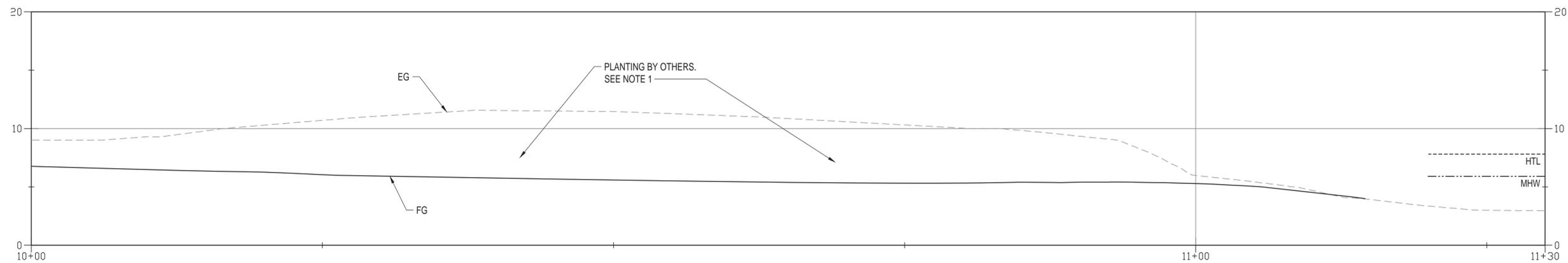
SHORELINE
SECTIONS 1 OF 2

CS301.2



A SECTION - CENTRAL MARINE WAY
SCALE: 1" = 5'

CS202.2



B SECTION - NORTH SHORE BACKLANDS
SCALE: 1" = 5'

CS203.2

NOTES:

1. PLANTING & LANDSCAPE ELEMENTS NOT SHOWN FOR CLARITY, SEE LANDSCAPE DWGS.



INDIA BASIN SHORELINE PARK [CITYWIDE PLA]

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

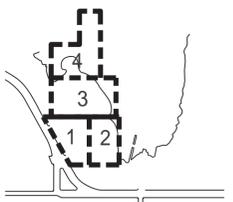
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

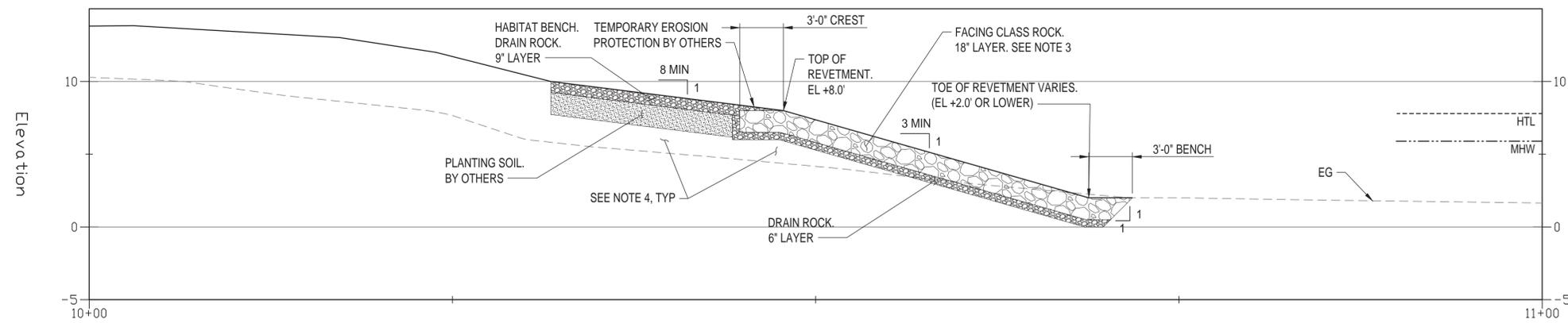
ISSUANCE

BID SET

DRAWN BY	AC/PH	CHECKED BY	CD
DATE	4/26/2024	GGN PROJECT #	1608

SHORELINE SECTIONS 2 OF 2

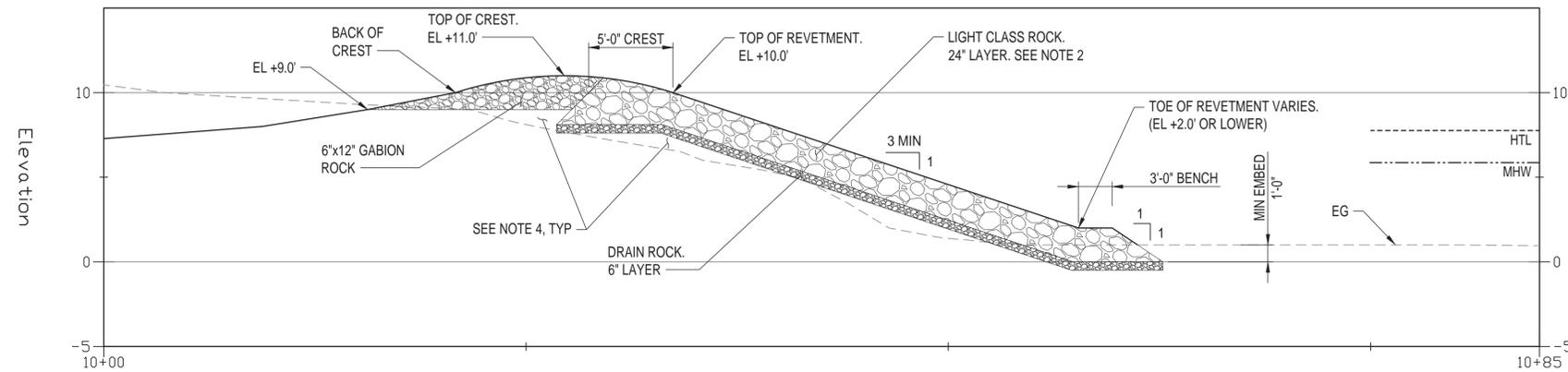
CS302.2



A TYPICAL SECTION

SCALE: 1" = 5'

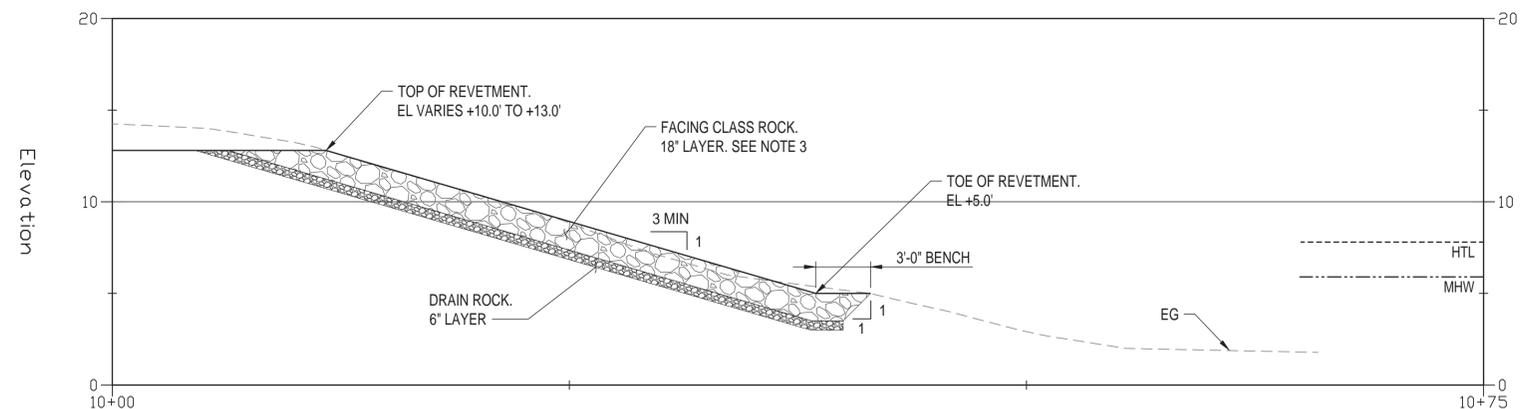
CS201.2



B TYPICAL SECTION

SCALE: 1" = 5'

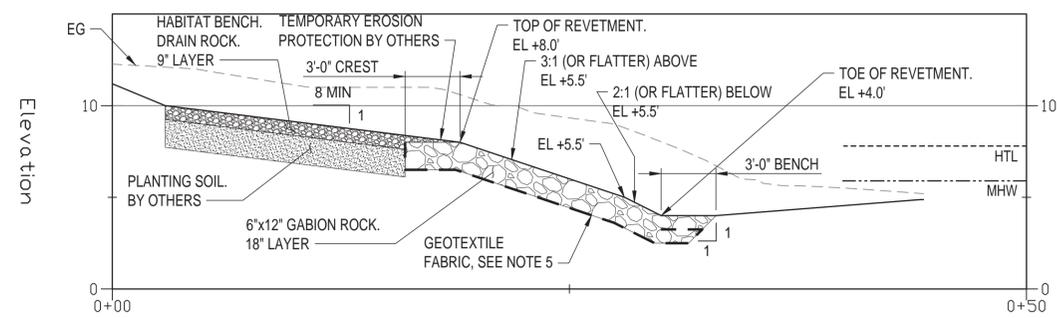
CS203.2



C TYPICAL SECTION

SCALE: 1" = 5'

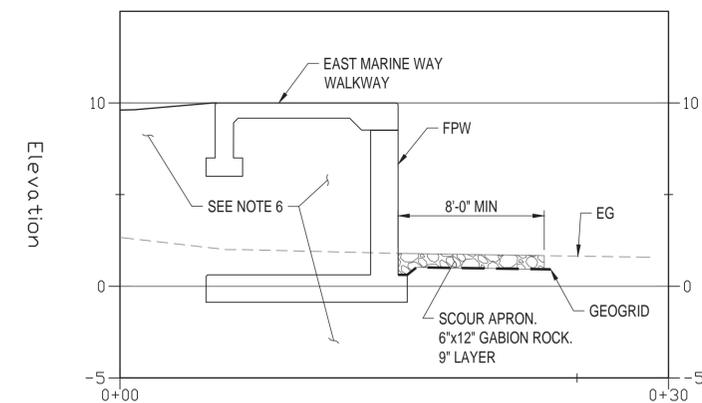
CS201.2



D TYPICAL SECTION

SCALE: 1" = 5'

CS201.2



E TYPICAL SECTION

SCALE: 1" = 5'

CS202.2

NOTES:

1. PLANTING NOT SHOWN FOR CLARITY. SEE LANDSCAPE DRAWINGS.
2. EXISTING ROCK THAT MEETS OR EXCEEDS LIGHT ROCK GRADATION CAN BE SALVAGED FOR REUSE.
3. EXISTING ROCK THAT MEETS OR EXCEEDS FACING CLASS GRADATION CAN BE SALVAGED FOR REUSE.
4. EXTEND DRAIN ROCK OR ENGINEERED FILL AS REQUIRED.
5. EXTEND THE GEOTEXTILE FABRIC AS CLOSE TO THE REVETMENT SURFACE AS POSSIBLE WHILE STILL PROVIDING COVERAGE OVER FABRIC.
6. DSM, MSE & BEACH FILL NOT SHOWN FOR CLARITY

LEGEND:

- EXISTING GRADE (EG)
- FINISH GRADE (FG)



SCALE: 1" = 5'

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

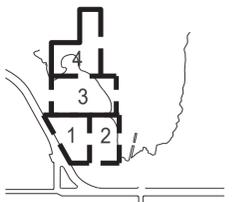
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION
	07-17-2023	PERMIT SUBMITTAL
1	04-26-2024	PERMIT RESPONSE

ISSUANCE

PERMIT SET

DRAWN BY	CHECKED BY
DATE	GGN PROJECT #
7/17/2023	1608

SITE PLAN OVERALL & NOTES

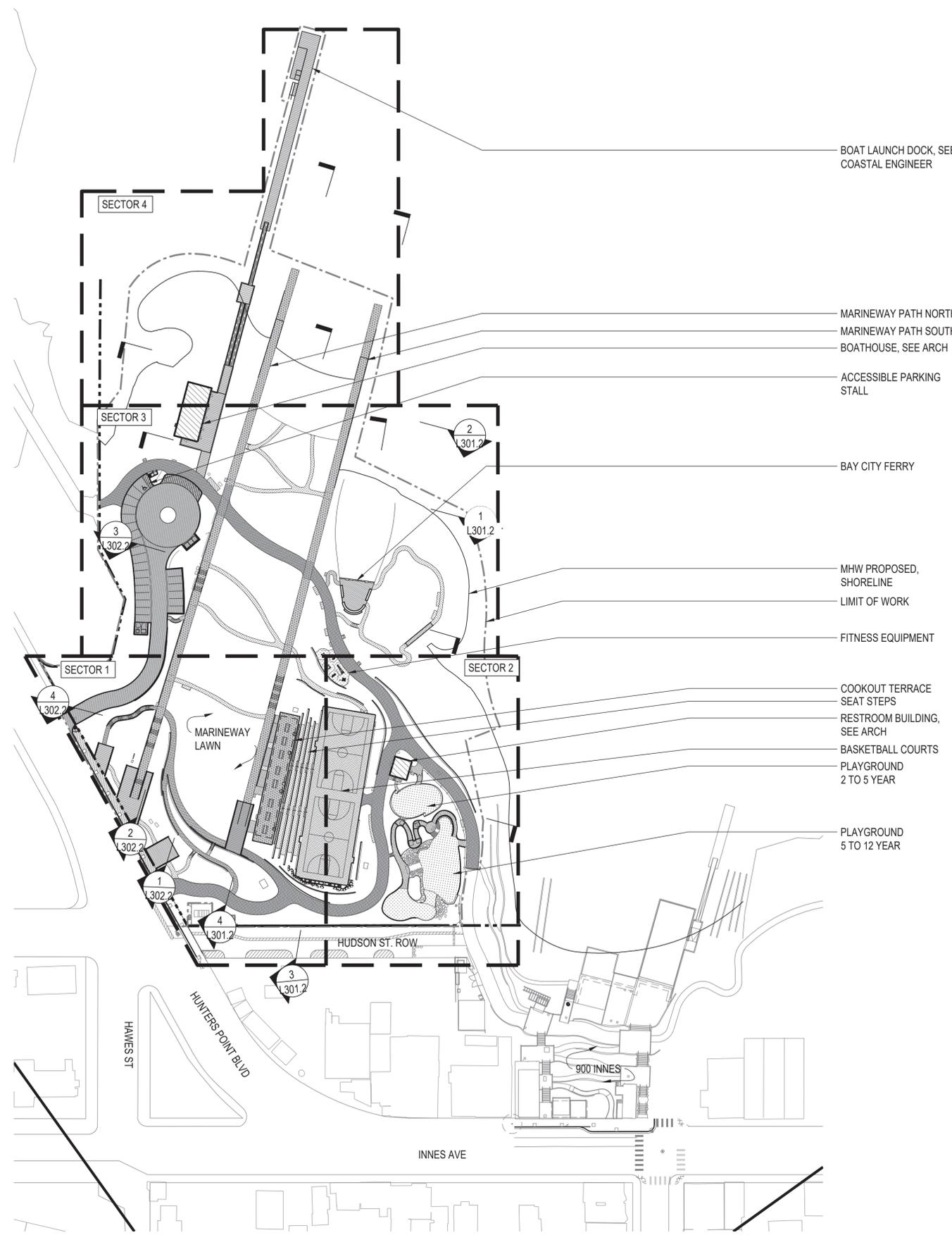
L110.2

GENERAL NOTES

- THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. FIELD VERIFY ALL CONDITIONS, QUANTITIES, AND MATERIALS. REPORT DISCREPANCIES TO LANDSCAPE ARCHITECT FOR CLARIFICATION. DO NOT SCALE DRAWINGS. FOLLOW DIMENSIONS SHOWN ON DRAWINGS AND ACTUAL FIELD MEASUREMENTS.
- ALL DIMENSIONS ARE TO FINISH FACE OF CONCRETE AND MASONRY, FACE OF FRAMING OR CENTERLINE OF COLUMNS, UNLESS NOTED OTHERWISE.
- FOLLOW MANUFACTURER INSTRUCTIONS, EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE INDICATED OR REQUIRED BY CODE.
- DRAWINGS AND SPECIFICATIONS: EXAMINE AND BRING DISCREPANCIES BETWEEN IN THE WORK TO THE ATTENTION OF THE LANDSCAPE ARCHITECT BY WRITTEN NOTICE FOR CLARIFICATION. WORK INSTALLED IN CONFLICT WITH CONSTRUCTION DOCUMENTS WILL BE CONSIDERED IN NON-COMFORMANCE AND CORRECTED AT CONTRACTOR'S TIME AND EXPENSE AND AT NO EXPENSE TO OWNER OR PROJECT ARCHITECT.
- THE LOCATION OF ALL SURFACE AND UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR AT THE BEGINNING OF SITE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING STRUCTURES AND UTILITIES TO REMAIN FROM DAMAGE AS REQUIRED DURING CONSTRUCTION AND TO REPAIR ANY DAMAGE WHICH SHOULD OCCUR TO THE SATISFACTION OF THE CLIENT OR DAMAGED PARTY.
- QUANTITIES PROVIDED ARE FOR CONTRACTOR CONVENIENCE ONLY. VERIFY AREAS AND QUANTITIES BASED ON AS-BUILT CONDITIONS.
- ELECTRICAL ITEMS ARE NOTED ON LANDSCAPE DRAWINGS FOR COORDINATION ONLY, EXCEPT WHERE LAYOUT INFORMATION IS PROVIDED ON LANDSCAPE DRAWINGS. SEE RELATED DRAWINGS FOR REQUIRED WORK.
- THE PROJECT SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS, RULES AND REGULATION REGARDING ARCHEOLOGY.

LEGEND

- PROPERTY LINE
- - - - - LIMIT OF WORK
- MEAN HIGH WATER LINE (MHW LINE) -
- PA PLANTING AREA
- ○ RECLAIMED BOULDERS
- RECLAIMED LOGS



WALL SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
W1	CIP CONCRETE RETAINING WALL WITH EMBEDDED OBJECTS	1 L501.2	033713
W2	CIP CONCRETE RETAINING WALL AT DRIVEWAY AND PLAYGROUND; LESS THAN 30"H	1 L502.2	033000
W3	CIP CONCRETE SEAT WALL AT BASKETBALL COURT	5 L515.2	
W5	CIP CONCRETE RETAINING WALL WITH FENCE AT PARKING		
W6	CIP CONCRETE RETAINING WALL AT HUDSON ST., LESS THAN 6-0"H	2 L503.2	
W7	CIP CONCRETE WALL WITH IMPRINT HOLES AT PLAYGROUND	2 L409.2	
W8	CIP CONCRETE WALL - EXPOSED AGGREGATE WITH INTEGRAL COLOR		

RAIL SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
R1	HANDRAIL AT STAIRS	1 L540.2	057300
R2	GUARDRAIL	4 L541.2	057300
R4	MARINEWAY WALL GUARDRAIL	1 L541.2	057300
R5	CANE RAIL	6 L541.2	057300
R6	DRINK RAIL AT COOKOUT TERRACE		057300

FENCE SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
F1	30" H WOOD STANCHION W/ ROPE	1 L550.2	323113
F2	SPORTS FENCE BASKETBALL COURT	5 L550.2	323113
F3	FENCE AT PLAYGROUND	3 L550.2	323113
F4	42" H FENCE AT WALL		

PAVING SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
P1	CONCRETE PAVING - VEHICULAR (WITH CUSTOM FINISH OF TROWELED TEXTURES OVER 100% OF SURFACE). SEE LAYOUT PLAN FOR TROWEL PATTERNS	SEE CIVIL	32 13 16
P2	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE)	SEE CIVIL	32 13 16
P2-V	CONCRETE PAVING - VEHICULAR (EXPOSED AGGREGATE)	SEE CIVIL	32 13 16
P2-D	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE - WITH INTEGRAL COLOR)	SEE CIVIL	32 13 16
P3	CONCRETE PAVING - PEDESTRIAN (STANDARD FINISH)	SEE CIVIL	32 13 13
P3-V	CONCRETE PAVING - VEHICULAR (STANDARD FINISH)	SEE CIVIL	32 13 13
P4	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE - WITH INTEGRAL COLOR)		32 13 16
P5-A	WOOD DECKING - PEDESTRIAN	1 L510.2	06 20 13
P5-B	WOOD DECKING - PEDESTRIAN	1 L705.2, 6 L708.2	06 20 13
P5-V	WOOD DECKING - VEHICULAR	1 L511.2	06 20 13
P5-P	WOOD DECKING ON PIER	01 L514.2	06 20 13
P5-D	WOOD DECKING ON FLOATING DOCK		06 20 13
P8	CRUSHED STONE (STABILIZED)	03 L514.2	32 15 40
P9	ASPHALT PAVING - VEHICULAR	SEE CIVIL	32 12 16
P10	DRAINAGE GRAVEL	08 L514.2	32 15 40
P11	SYNTHETIC GRASS SURFACING	05 L514.2	32 18 16
P13	GRATE		12 93 00

4/12/2024 ANS/A (8.50 X 11.00 INCHES)

1 SITE PLAN - OVERALL
SCALE: 1" = 80'-0"



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

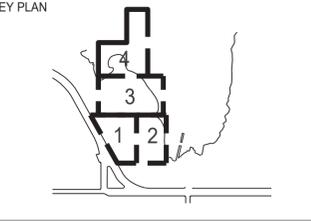
LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC.
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE



REVISIONS:

NO.	DATE	DESCRIPTION
07-17-2023	07-17-2023	PERMIT SUBMITTAL
1	04-26-2024	PERMIT RESPONSE

ISSUANCE

DATE	DESCRIPTION
7/17/2023	PERMIT SET

DRAWN BY	CHECKED BY

DATE	GGN PROJECT #
7/17/2023	1608

SITE PLAN - SECTOR 1

L111.2

PAVING SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
(P1)	CONCRETE PAVING - VEHICULAR (WITH CUSTOM FINISH OF TROWELED TEXTURES OVER 100% OF SURFACE). SEE LAYOUT PLAN FOR TROWEL PATTERNS	SEE CIVIL	32 13 16
(P2)	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE)	SEE CIVIL	32 13 16
(P2-V)	CONCRETE PAVING - VEHICULAR (EXPOSED AGGREGATE)	SEE CIVIL	32 13 16
(P2-D)	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE- WITH INTEGRAL COLOR)	SEE CIVIL	32 13 16
(P3)	CONCRETE PAVING - PEDESTRIAN (STANDARD FINISH)	SEE CIVIL	32 13 13
(P3-V)	CONCRETE PAVING - VEHICULAR (STANDARD FINISH)	SEE CIVIL	32 13 13
(P4)	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE- WITH INTEGRAL COLOR)		32 13 16
(P5-A)	WOOD DECKING - PEDESTRIAN	(1) L510.2	06 20 13
(P5-B)	WOOD DECKING - PEDESTRIAN	(1) L705.2 (6) L708.2	06 20 13
(P5-V)	WOOD DECKING - VEHICULAR	(1) L511.2	06 20 13
(P5-P)	WOOD DECKING ON PIER	(01) L514.2	06 20 13
(P5-D)	WOOD DECKING ON FLOATING DOCK		06 20 13
(P8)	CRUSHED STONE (STABILIZED)	(03) L514.2	32 15 40
(P9)	ASPHALT PAVING - VEHICULAR	SEE CIVIL	32 12 16
(P10)	DRAINAGE GRAVEL	(08) L514.2	32 15 40
(P11)	SYNTHETIC GRASS SURFACING	(05) L514.2	32 18 16
(P13)	GRATE		12 93 00

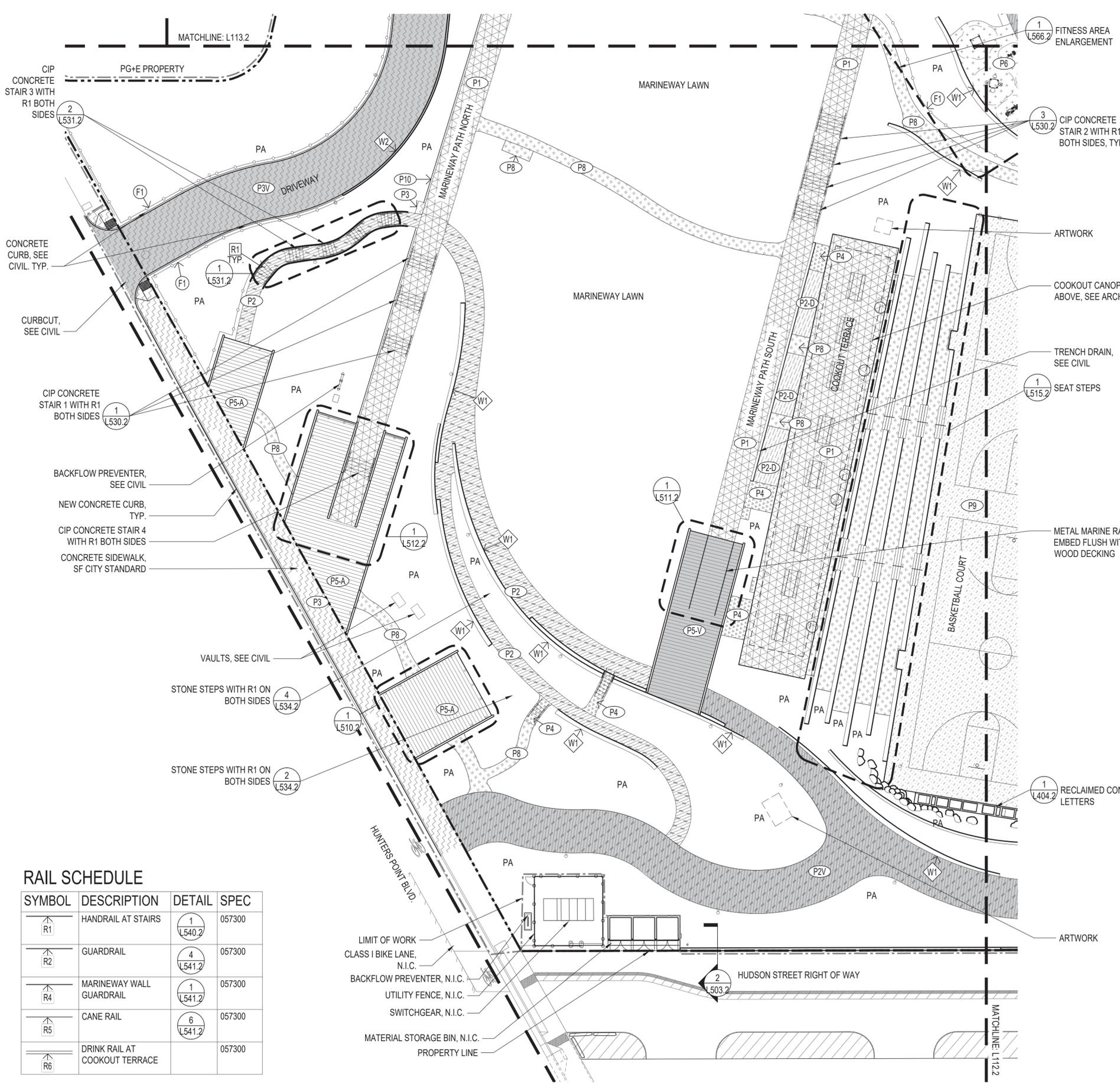
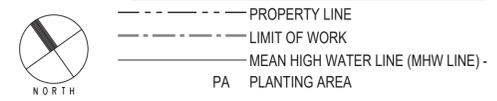
WALL SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
(W1)	CIP CONCRETE RETAINING WALL WITH EMBEDDED OBJECTS	(1) L501.2	033713
(W2)	CIP CONCRETE RETAINING WALL AT DRIVEWAY AND PLAYGROUND; LESS THAN 30"H	(1) L502.2	033000
(W3)	CIP CONCRETE SEAT WALL AT BASKETBALL COURT	(5) L515.2	
(W5)	CIP CONCRETE RETAINING WALL WITH FENCE AT PARKING		
(W6)	CIP CONCRETE RETAINING WALL AT HUDSON ST., LESS THAN 6'-0"H	(2) L503.2	
(W7)	CIP CONCRETE WALL WITH IMPRINT HOLES AT PLAYGROUND	(2) L409.2	
(W8)	CIP CONCRETE WALL - EXPOSED AGGREGATE WITH INTEGRAL COLOR		

FENCE SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
(F1)	30" H WOOD STANCHION W/ ROPE	(1) L550.2	323113
(F2)	SPORTS FENCE BASKETBALL COURT	(5) L550.2	323113
(F3)	FENCE AT PLAYGROUND	(3) L550.2	323113
(F4)	42" H FENCE AT WALL		

LEGEND



RAIL SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
(R1)	HANDRAIL AT STAIRS	(1) L540.2	057300
(R2)	GUARDRAIL	(4) L541.2	057300
(R4)	MARINEWAY WALL GUARDRAIL	(1) L541.2	057300
(R5)	CANE RAIL	(6) L541.2	057300
(R6)	DRINK RAIL AT COOKOUT TERRACE		057300

1 SITE PLAN - SECTOR 1
SCALE: 1" = 20'-0"

4/12/2024 ANSI A (8.50" X 11.00" IMPRINT)

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 851-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

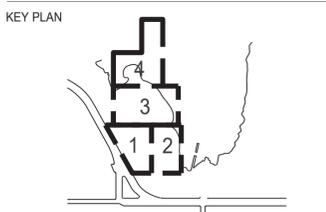
LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE



REVISIONS:

NO.	DATE	DESCRIPTION
07-17-2023	PERMIT SUBMITTAL	
1	04-26-2024	PERMIT RESPONSE

ISSUANCE

PERMIT SET

DRAWN BY	CHECKED BY
DATE	GGN PROJECT #
7/17/2023	1608

SITE PLAN - SECTOR 2

L112.2

PAVING SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
P1	CONCRETE PAVING - VEHICULAR (WITH CUSTOM FINISH OF TROVELED TEXTURES OVER 100% OF SURFACE). SEE LAYOUT PLAN FOR TROWEL PATTERNS	SEE CIVIL	32 13 16
P2	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE)	SEE CIVIL	32 13 16
P2-V	CONCRETE PAVING - VEHICULAR (EXPOSED AGGREGATE)	SEE CIVIL	32 13 16
P2-D	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE- WITH INTEGRAL COLOR)	SEE CIVIL	32 13 16
P3	CONCRETE PAVING - PEDESTRIAN (STANDARD FINISH)	SEE CIVIL	32 13 13
P3-V	CONCRETE PAVING - VEHICULAR (STANDARD FINISH)	SEE CIVIL	32 13 13
P4	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE- WITH INTEGRAL COLOR)		32 13 16
P5-A	WOOD DECKING - PEDESTRIAN	1 L510.2	06 20 13
P5-B	WOOD DECKING - PEDESTRIAN	1 L705.2 6 L708.2	06 20 13
P5-V	WOOD DECKING - VEHICULAR	1 L511.2	06 20 13
P5-P	WOOD DECKING ON PIER	01 L514.2	06 20 13
P5-D	WOOD DECKING ON FLOATING DOCK		06 20 13
P8	CRUSHED STONE (STABILIZED)	03 L514.2	32 15 40
P9	ASPHALT PAVING - VEHICULAR	SEE CIVIL	32 12 16
P10	DRAINAGE GRAVEL	08 L514.2	32 15 40
P11	SYNTHETIC GRASS SURFACING	05 L514.2	32 18 16
P13	GRATE		12 93 00

WALL SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
W1	CIP CONCRETE RETAINING WALL WITH EMBEDDED OBJECTS	1 L501.2	033713
W2	CIP CONCRETE RETAINING WALL AT DRIVEWAY AND PLAYGROUND, LESS THAN 30"H	1 L502.2	033000
W3	CIP CONCRETE SEAT WALL AT BASKETBALL COURT	5 L515.2	
W5	CIP CONCRETE RETAINING WALL WITH FENCE AT PARKING		
W6	CIP CONCRETE RETAINING WALL AT HUDSON ST., LESS THAN 6-0"H	2 L503.2	
W7	CIP CONCRETE WALL WITH IMPRINT HOLES AT PLAYGROUND	2 L409.2	
W8	CIP CONCRETE WALL - EXPOSED AGGREGATE WITH INTEGRAL COLOR		

RAIL SCHEDULE

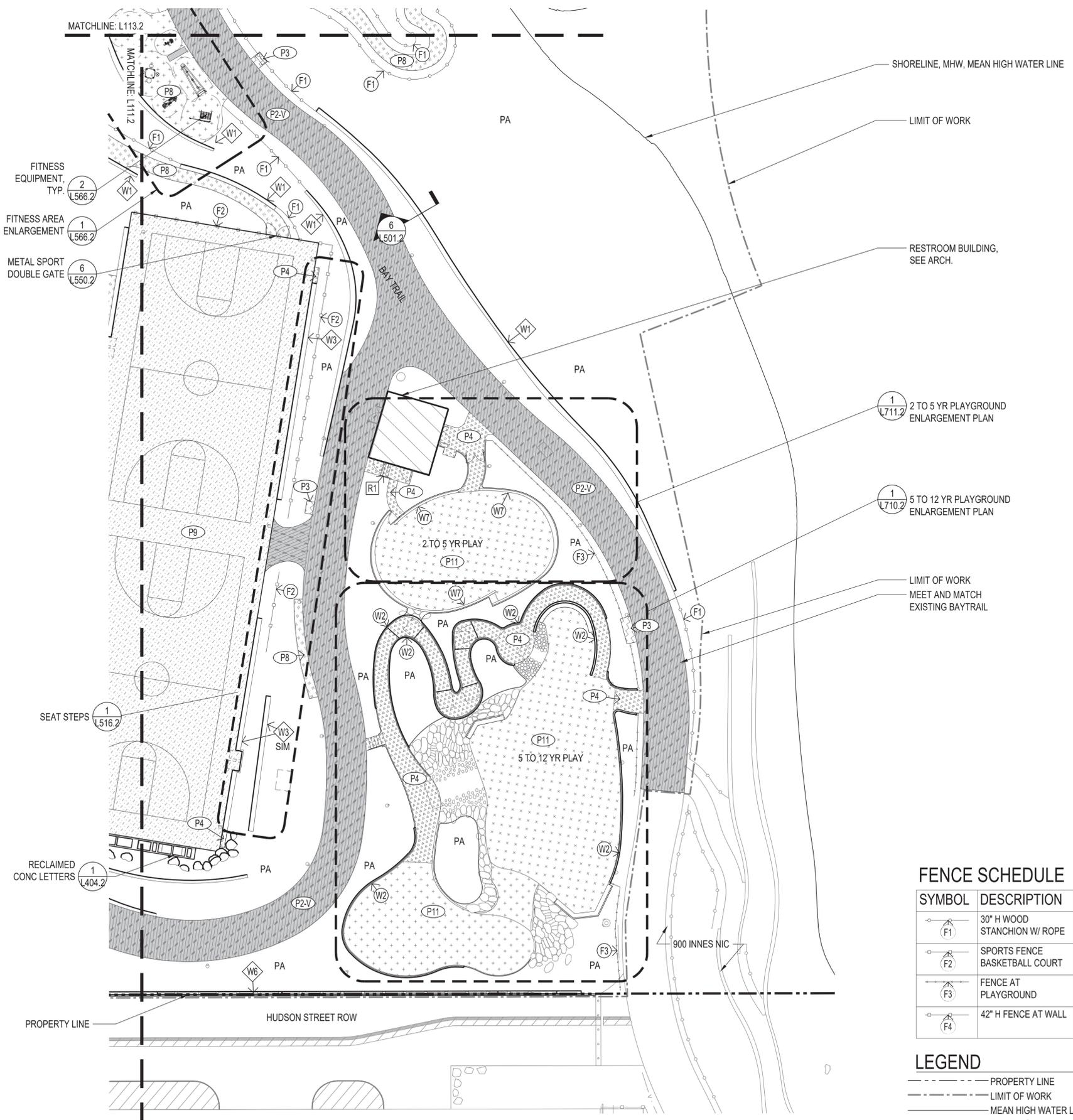
SYMBOL	DESCRIPTION	DETAIL	SPEC
R1	HANDRAIL AT STAIRS	1 L540.2	057300
R2	GUARDRAIL	4 L541.2	057300
R4	MARINEWAY WALL GUARDRAIL	1 L541.2	057300
R5	CANE RAIL	6 L541.2	057300
R6	DRINK RAIL AT COOKOUT TERRACE		057300

FENCE SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
F1	30" H WOOD STANCHION W/ ROPE	1 L550.2	323113
F2	SPORTS FENCE BASKETBALL COURT	5 L550.2	323113
F3	FENCE AT PLAYGROUND	3 L550.2	323113
F4	42" H FENCE AT WALL		

LEGEND

- PROPERTY LINE
- LIMIT OF WORK
- MEAN HIGH WATER LINE (MHW LINE) -
- PA PLANTING AREA



1 SITE PLAN - SECTOR 2
SCALE: 1" = 20'-0"



4/12/2024 ANS/A (8.50 x 11.00 inches)

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GGN
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

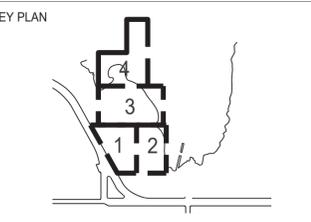
LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE



REVISIONS:

NO.	DATE	DESCRIPTION
07-17-2023	PERMIT SUBMITTAL	
1	04-26-2024	PERMIT RESPONSE

ISSUANCE

PERMIT SET

DRAWN BY	CHECKED BY

DATE	GGN PROJECT #
7/17/2023	1608

SITE PLAN - SECTOR 4

L114.2

PAVING SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
P1	CONCRETE PAVING - VEHICULAR (WITH CUSTOM FINISH OF TROWELED TEXTURES OVER 100% OF SURFACE). SEE LAYOUT PLAN FOR TROWEL PATTERNS	SEE CIVIL	32 13 16
P2	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE)	SEE CIVIL	32 13 16
P2-V	CONCRETE PAVING - VEHICULAR (EXPOSED AGGREGATE)	SEE CIVIL	32 13 16
P2-D	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE - WITH INTEGRAL COLOR)	SEE CIVIL	32 13 16
P3	CONCRETE PAVING - PEDESTRIAN (STANDARD FINISH)	SEE CIVIL	32 13 13
P3-V	CONCRETE PAVING - VEHICULAR (STANDARD FINISH)	SEE CIVIL	32 13 13
P4	CONCRETE PAVING - PEDESTRIAN (EXPOSED AGGREGATE - WITH INTEGRAL COLOR)		32 13 16
P5-A	WOOD DECKING - PEDESTRIAN	1 L510.2	06 20 13
P5-B	WOOD DECKING - PEDESTRIAN	1 L705.2 6 L708.2	06 20 13
P5-V	WOOD DECKING - VEHICULAR	1 L511.2	06 20 13
P5-P	WOOD DECKING ON PIER	01 L514.2	06 20 13
P5-D	WOOD DECKING ON FLOATING DOCK		06 20 13
P8	CRUSHED STONE (STABILIZED)	03 L514.2	32 15 40
P9	ASPHALT PAVING - VEHICULAR	SEE CIVIL	32 12 16
P10	DRAINAGE GRAVEL	08 L514.2	32 15 40
P11	SYNTHETIC GRASS SURFACING	05 L514.2	32 18 16
P13	GRATE		12 93 00

LEGEND

- PROPERTY LINE
- - - LIMIT OF WORK
- MEAN HIGH WATER LINE (MHW LINE) -
- PA PLANTING AREA
- RECLAIMED BOULDERS
- RECLAIMED LOGS

FENCE SCHEDULE

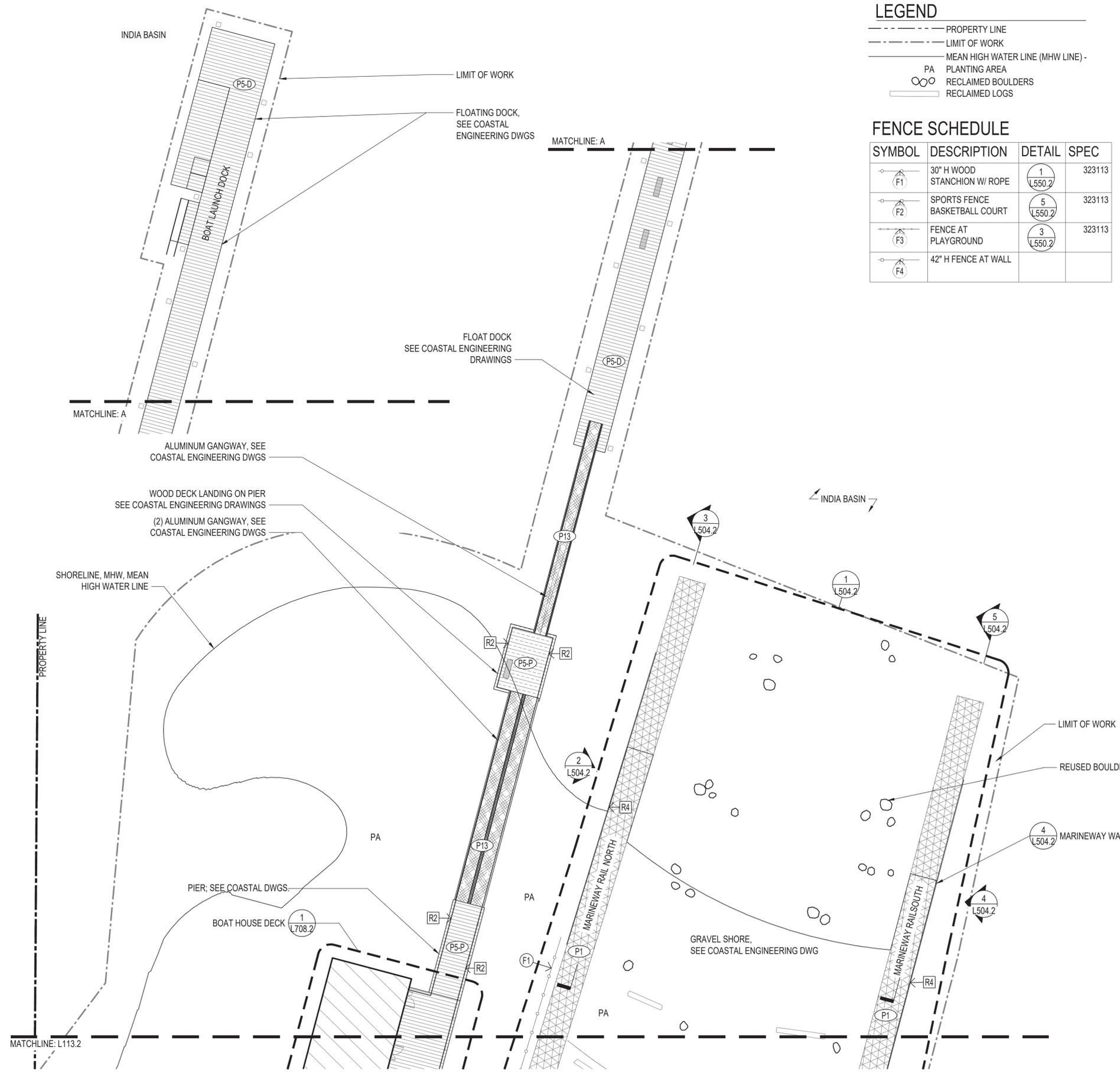
SYMBOL	DESCRIPTION	DETAIL	SPEC
F1	30" H WOOD STANCHION W/ ROPE	1 L550.2	323113
F2	SPORTS FENCE BASKETBALL COURT	5 L550.2	323113
F3	FENCE AT PLAYGROUND	3 L550.2	323113
F4	42" H FENCE AT WALL		

WALL SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
W1	CIP CONCRETE RETAINING WALL WITH EMBEDDED OBJECTS	1 L501.2	033713
W2	CIP CONCRETE RETAINING WALL AT DRIVEWAY AND PLAYGROUND; LESS THAN 30"H	1 L502.2	033000
W3	CIP CONCRETE SEAT WALL AT BASKETBALL COURT	5 L515.2	
W5	CIP CONCRETE RETAINING WALL WITH FENCE AT PARKING		
W6	CIP CONCRETE RETAINING WALL AT HUDSON ST., LESS THAN 6-0"H	2 L503.2	
W7	CIP CONCRETE WALL WITH IMPRINT HOLES AT PLAYGROUND	2 L409.2	
W8	CIP CONCRETE WALL - EXPOSED AGGREGATE WITH INTEGRAL COLOR		

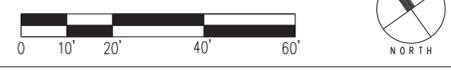
RAIL SCHEDULE

SYMBOL	DESCRIPTION	DETAIL	SPEC
R1	HANDRAIL AT STAIRS	1 L540.2	057300
R2	GUARDRAIL	4 L541.2	057300
R4	MARINEWAY WALL GUARDRAIL	1 L541.2	057300
R5	CANE RAIL	6 L541.2	057300
R6	DRINK RAIL AT COOKOUT TERRACE		057300



1 SITE PLAN - SECTOR 4

SCALE: 1" = 20'-0"



4/12/2024 ANBA A (8.50 x 11.00 inches)

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700



THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014



PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-866-2232

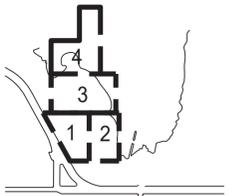
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

BID SET

DRAWN BY	AD	CHECKED BY	MY
DATE	04/26/2024	GGN PROJECT #	1608

SOILS-OVERALL

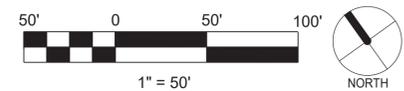
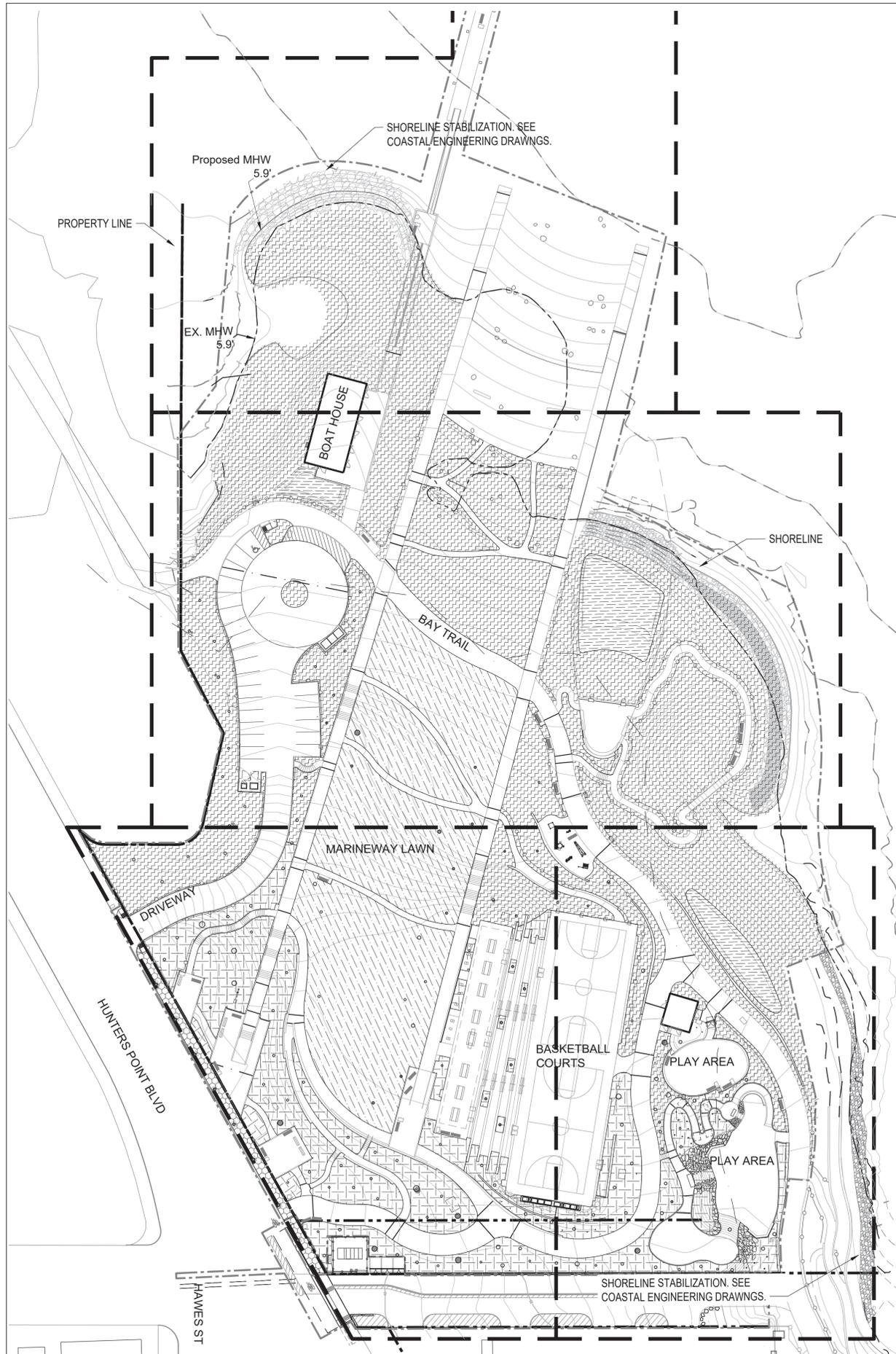
L160.2

SOIL PREPARATION LEGEND

SYMBOL	DESCRIPTION	AREA (SF)
	SOIL PREP ZONE 1: RESTORATION AREAS. INFILL WITH 12" OF CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL. IMPORTED OR AMENDED SOIL, SEE SPECIFICATION SECTION 329113. PREFER TO 1/L581.2 FOR SOIL PREPARATION AND 2/L581.2 FOR TREE PLANTING.	98,782 SF
	SOIL PREP ZONE 2: BIORETENTION AREAS. SEE CIVIL DRAWINGS. TOP 12" SHALL BE CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL.	6,702 SF
	SOIL PREP ZONE 3: NATIVE GARDENS. INFILL WITH 12" OF CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL. IMPORTED OR AMENDED SOIL, SEE SPECIFICATION SECTION 329113. PREFER TO 1/L581.2 FOR SOIL PREPARATION AND 2/L581.2 FOR TREE PLANTING.	30,867 SF
	SOIL PREP ZONE 4: STREET TREE SOILS. REFER TO 1/L580.2.	2,294 SF
	SOIL PREP ZONE 5: SODDED TURF SOIL. TOP 12" SHALL BE CLEAN IMPORTED TOPSOIL WITH COMPOST AND SAND MIX PER SPECIFICATIONS. PROVIDE DEMARCATION LAYER AT 12" BELOW FINISH GRADE.	36,180 SF

SOIL PREPARATION NOTES

- REFER TO SPECIFICATION SECTION 329113 - PLANTING SOIL PREPARATION FOR DETAILED REQUIREMENTS.
- PLANTING BACKFILL MIX - REFER TO SPECIFICATION SECTION 329113.2.3
- REFER TO SPECIFICATION SECTION 329113.2.3 - PLANTING SOIL PREPARATION FOR DETAILED REQUIREMENTS.
- REFER TO GRADING PLAN AND SPECIFICATIONS FOR ASSUMED SOIL SETTLING RATE AND DEPTH OF GRADING BELOW PLANTING AREA FINISH GRADE.
- REFER TO CIVIL DRAWINGS AND SPECIFICATIONS FOR SOIL PREPARATION AT STAIRCASES, PATHWAYS AND OTHER HARDSCAPE AREAS.
- REFER TO COASTAL ENGINEERING DRAWINGS FOR MATERIAL PLACEMENT BELOW ELEVATION 10.0' NAVD88.
- REFER TO SOIL PREP, PLANTING DETAILS, AND SPECIFICATIONS FOR TREE AND SHRUB PLANTINGS DEEPER THAN INDICATED IN LEGEND.



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700



THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014



PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-866-2232

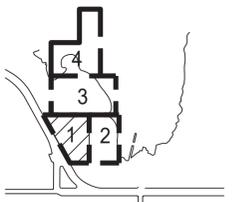
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

BID SET

DRAWN BY	AD	CHECKED BY	
DATE	04/26/2024	GGN PROJECT #	1608

SOILS-SECTOR 1

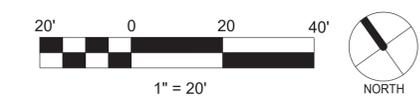
L161.2

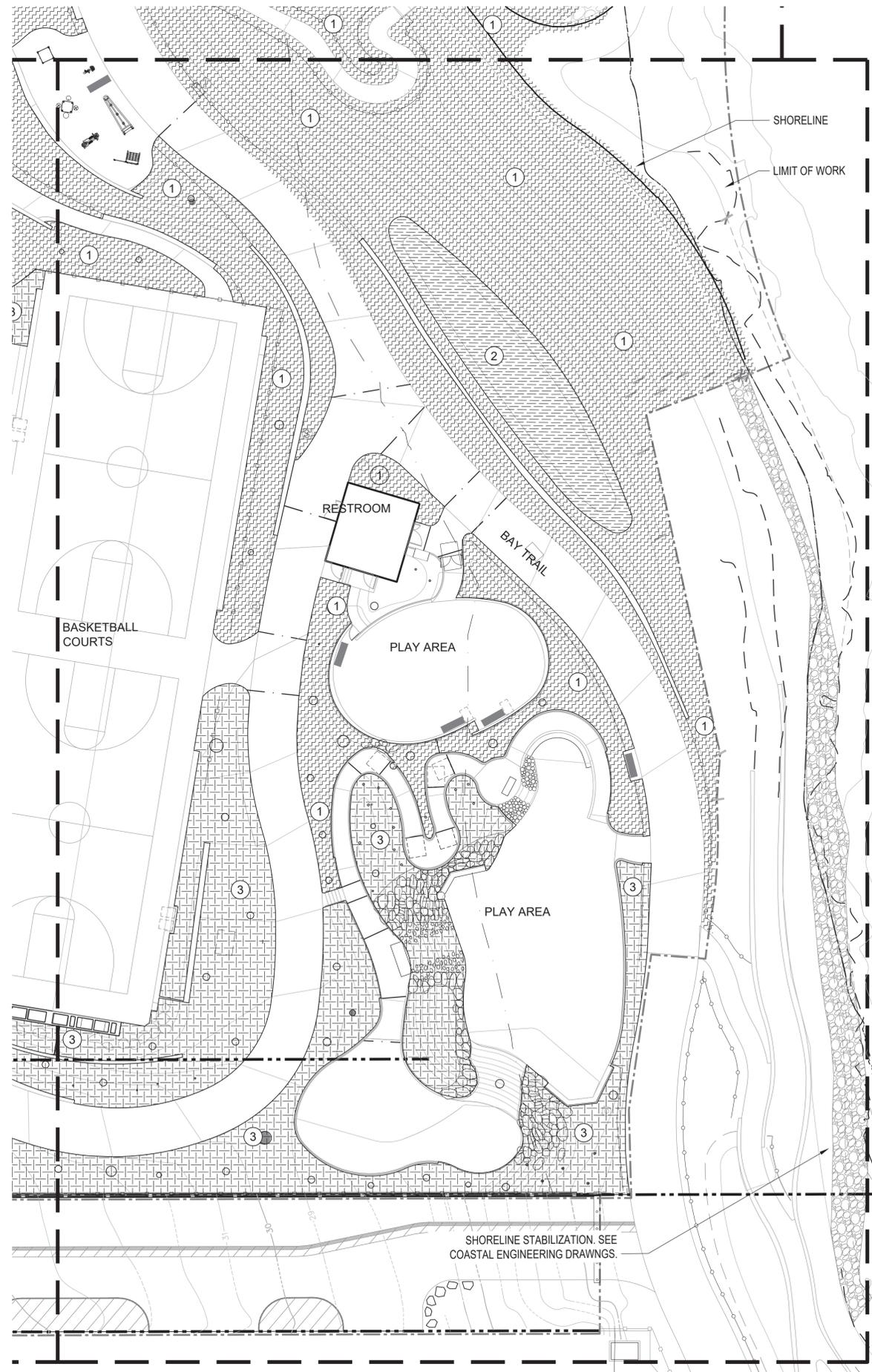
SOIL PREPARATION LEGEND

SYMBOL	DESCRIPTION	AREA (SF)
①	SOIL PREP ZONE 1: RESTORATION AREAS, INFILL WITH 12" OF CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL. IMPORTED OR AMENDED SOIL, SEE SPECIFICATION SECTION 329113. PREFER TO 1/L581.2 FOR SOIL PREPARATION AND 2/L581.2 FOR TREE PLANTING.	98,782 SF
②	SOIL PREP ZONE 2: BIORETENTION AREAS, SEE CIVIL DRAWINGS. TOP 12" SHALL BE CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL.	6,702 SF
③	SOIL PREP ZONE 3: NATIVE GARDENS. INFILL WITH 12" OF CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL. IMPORTED OR AMENDED SOIL, SEE SPECIFICATION SECTION 329113. PREFER TO 1/L581.2 FOR SOIL PREPARATION AND 2/L581.2 FOR TREE PLANTING.	30,867 SF
④	SOIL PREP ZONE 4: STREET TREE SOILS. REFER TO 1/L580.2.	2,294 SF
⑤	SOIL PREP ZONE 5: SODDED TURF SOIL. TOP 12" SHALL BE CLEAN IMPORTED TOPSOIL WITH COMPOST AND SAND MIX PER SPECIFICATIONS. PROVIDE DEMARCATION LAYER AT 12" BELOW FINISH GRADE.	36,180 SF

SOIL PREPARATION NOTES

- REFER TO SPECIFICATION SECTION 329113 - PLANTING SOIL PREPARATION FOR DETAILED REQUIREMENTS.
- PLANTING BACKFILL MIX - REFER TO SPECIFICATION SECTION 329113.2.3
- REFER TO SPECIFICATION SECTION 329113.2.3 - PLANTING SOIL PREPARATION FOR DETAILED REQUIREMENTS.
- REFER TO GRADING PLAN AND SPECIFICATIONS FOR ASSUMED SOIL SETTLING RATE AND DEPTH OF GRADING BELOW PLANTING AREA FINISH GRADE.
- REFER TO CIVIL DRAWINGS AND SPECIFICATIONS FOR SOIL PREPARATION AT STAIRCASES, PATHWAYS AND OTHER HARDSCAPE AREAS.
- REFER TO COASTAL ENGINEERING DRAWINGS FOR MATERIAL PLACEMENT BELOW ELEVATION 10.0' NAVD88.
- REFER TO SOIL PREP, PLANTING DETAILS, AND SPECIFICATIONS FOR TREE AND SHRUB PLANTINGS DEEPER THAN INDICATED IN LEGEND.





SOIL PREPARATION LEGEND

SYMBOL	DESCRIPTION	AREA (SF)
	SOIL PREP ZONE 1: RESTORATION AREAS, INFILL WITH 12" OF CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL. IMPORTED OR AMENDED SOIL, SEE SPECIFICATION SECTION 329113. PREFER TO 1/L581.2 FOR SOIL PREPARATION AND 2/L581.2 FOR TREE PLANTING.	98,782 SF
	SOIL PREP ZONE 2: BIORETENTION AREAS. SEE CIVIL DRAWINGS. TOP 12" SHALL BE CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL.	6,702 SF
	SOIL PREP ZONE 3: NATIVE GARDENS. INFILL WITH 12" OF CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL. IMPORTED OR AMENDED SOIL, SEE SPECIFICATION SECTION 329113. PREFER TO 1/L581.2 FOR SOIL PREPARATION AND 2/L581.2 FOR TREE PLANTING.	30,867 SF
	SOIL PREP ZONE 4: STREET TREE SOILS. REFER TO 1/L580.2.	2,294 SF
	SOIL PREP ZONE 5: SODDED TURF SOIL. TOP 12" SHALL BE CLEAN IMPORTED TOPSOIL WITH COMPOST AND SAND MIX PER SPECIFICATIONS. PROVIDE DEMARCATION LAYER AT 12" BELOW FINISH GRADE.	36,180 SF

SOIL PREPARATION NOTES

- REFER TO SPECIFICATION SECTION 329113 - PLANTING SOIL PREPARATION FOR DETAILED REQUIREMENTS.
- PLANTING BACKFILL MIX - REFER TO SPECIFICATION SECTION 329113.2.3
- REFER TO SPECIFICATION SECTION 329113.2.3 - PLANTING SOIL PREPARATION FOR DETAILED REQUIREMENTS.
- REFER TO GRADING PLAN AND SPECIFICATIONS FOR ASSUMED SOIL SETTLING RATE AND DEPTH OF GRADING BELOW PLANTING AREA FINISH GRADE.
- REFER TO CIVIL DRAWINGS AND SPECIFICATIONS FOR SOIL PREPARATION AT STAIRCASES, PATHWAYS AND OTHER HARDSCAPE AREAS.
- REFER TO COASTAL ENGINEERING DRAWINGS FOR MATERIAL PLACEMENT BELOW ELEVATION 10.0' NAVD88.
- REFER TO SOIL PREP, PLANTING DETAILS, AND SPECIFICATIONS FOR TREE AND SHRUB PLANTINGS DEEPER THAN INDICATED IN LEGEND.

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-866-2232

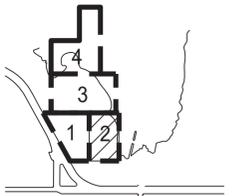
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

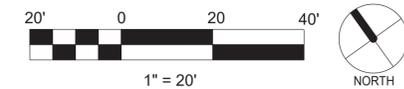
ISSUANCE

BID SET

DRAWN BY	BA	CHECKED BY	
DATE	04/26/2024	GGN PROJECT #	1608

SOILS-SECTOR 2

L162.2



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

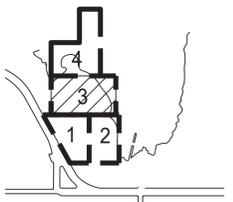
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC.
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

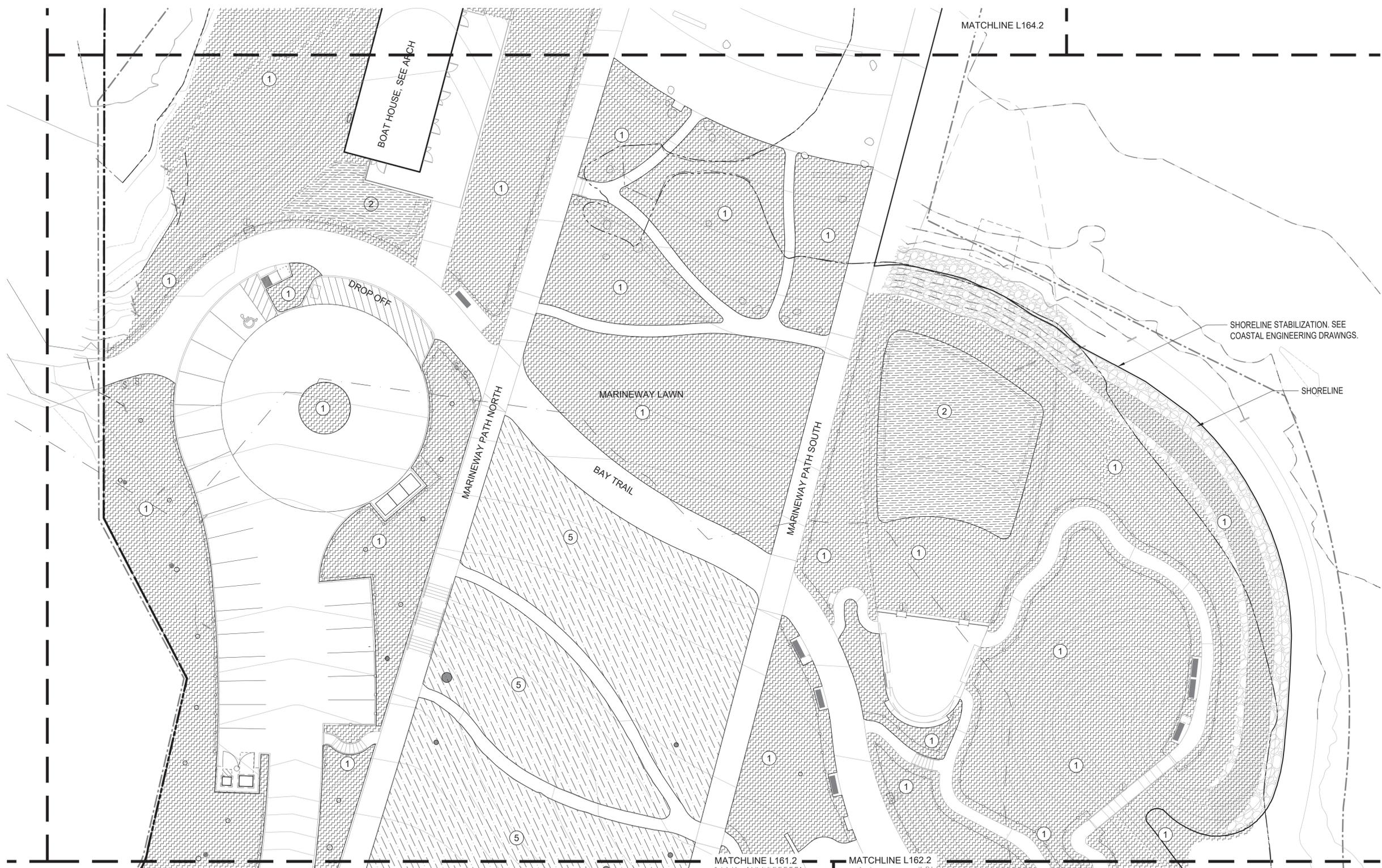
ISSUANCE

BID SET

DRAWN BY	AD	CHECKED BY	
DATE	04/26/2024	GGN PROJECT #	1608

SOILS-SECTOR 3

L163.2



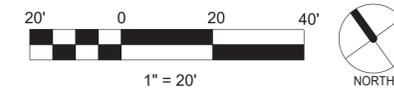
SOIL PREPARATION LEGEND

SYMBOL	DESCRIPTION	AREA (SF)
	SOIL PREP ZONE 1: RESTORATION AREAS. INFILL WITH 12" OF CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL. IMPORTED OR AMENDED SOIL, SEE SPECIFICATION SECTION 329113. PREFER TO 1/L581.2 FOR SOIL PREPARATION AND 2/L581.2 FOR TREE PLANTING.	99,212 SF
	SOIL PREP ZONE 2: BIORETENTION AREAS. SEE CIVIL DRAWINGS. TOP 12" SHALL BE CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL.	6,704 SF
	SOIL PREP ZONE 3: NATIVE GARDENS. INFILL WITH 12" OF CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL. IMPORTED OR AMENDED SOIL, SEE SPECIFICATION SECTION 329113. PREFER TO 1/L581.2 FOR SOIL PREPARATION AND 2/L581.2 FOR TREE PLANTING.	29,137 SF

SYMBOL	DESCRIPTION	AREA (SF)
	SOIL PREP ZONE 4: STREET TREE SOILS. REFER TO 1/L580.2.	2,294 SF
	SOIL PREP ZONE 5: SODDED TURF SOIL. TOP 12" SHALL BE CLEAN IMPORTED TOPSOIL WITH COMPOST AND SAND MIX PER SPECIFICATIONS. PROVIDE DEMARCATION LAYER AT 12" BELOW FINISH GRADE.	36,901 SF

SOIL PREPARATION NOTES

- REFER TO SPECIFICATION SECTION 329113 - PLANTING SOIL PREPARATION FOR DETAILED REQUIREMENTS.
- PLANTING BACKFILL MIX - REFER TO SPECIFICATION SECTION 329113.2.3
- REFER TO SPECIFICATION SECTION 329113.2.3 - PLANTING SOIL PREPARATION FOR DETAILED REQUIREMENTS.
- REFER TO GRADING PLAN AND SPECIFICATIONS FOR ASSUMED SOIL SETTLING RATE AND DEPTH OF GRADING BELOW PLANTING AREA FINISH GRADE.
- REFER TO CIVIL DRAWINGS AND SPECIFICATIONS FOR SOIL PREPARATION AT STAIRCASES, PATHWAYS AND OTHER HARDSCAPE AREAS.
- REFER TO COASTAL ENGINEERING DRAWINGS FOR MATERIAL PLACEMENT BELOW ELEVATION 10.0' NAVD88.
- REFER TO SOIL PREP, PLANTING DETAILS, AND SPECIFICATIONS FOR TREE AND SHRUB PLANTINGS DEEPER THAN INDICATED IN LEGEND.



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700



THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014



PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-866-2232

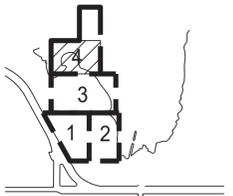
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

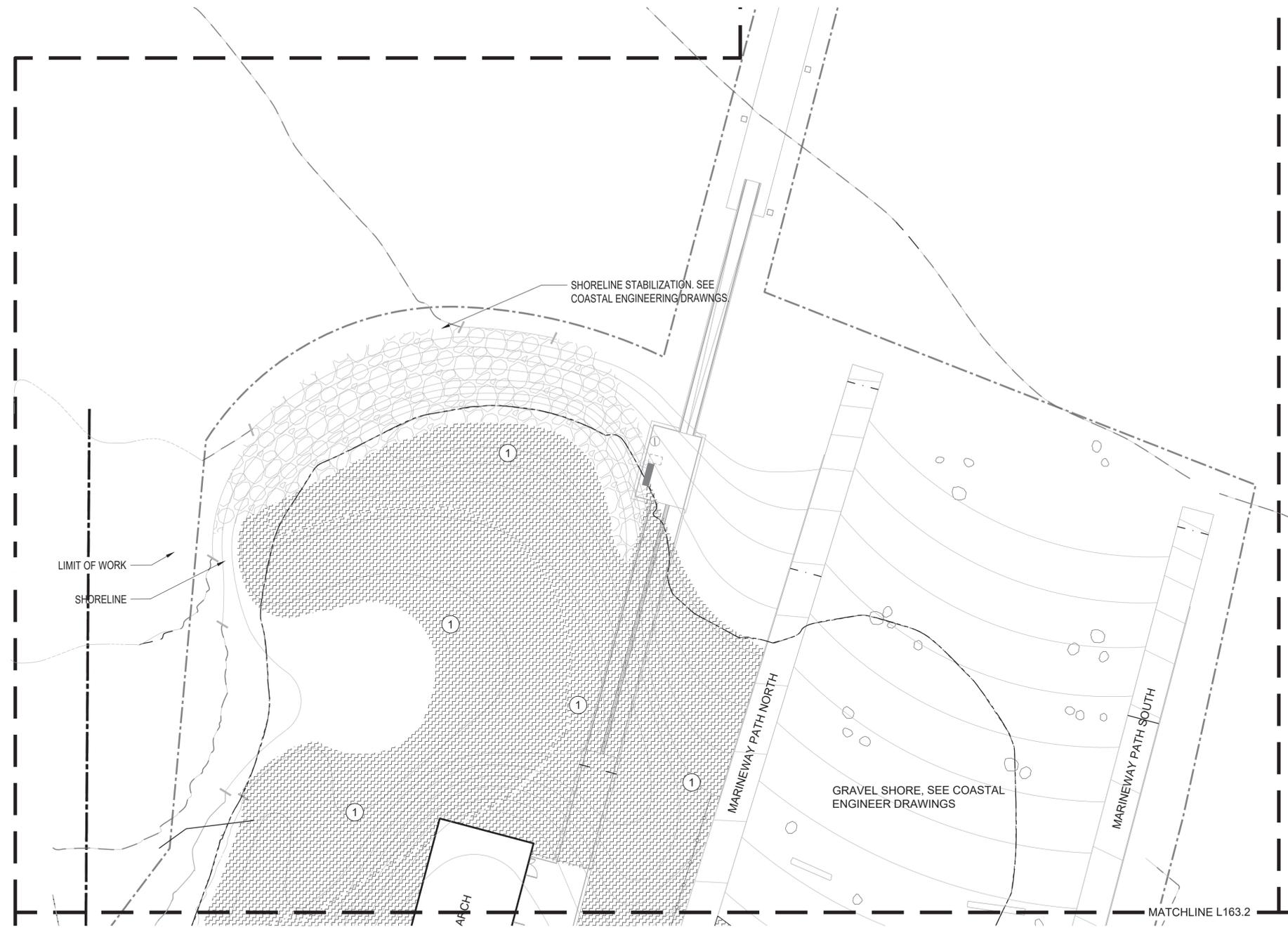
ISSUANCE

BID SET

DRAWN BY	AD	CHECKED BY	
DATE	04/26/2024	GGN PROJECT #	1608

SOILS-SECTOR 4

L164.2



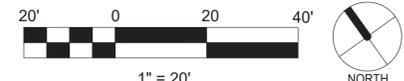
SOIL PREPARATION LEGEND

SYMBOL	DESCRIPTION	AREA (SF)
	SOIL PREP ZONE 1: RESTORATION AREAS. INFILL WITH 12" OF CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL. IMPORTED OR AMENDED SOIL. SEE SPECIFICATION SECTION 329113. REFER TO 1/L581.2 FOR SOIL PREPARATION AND 2/L581.2 FOR TREE PLANTING.	98,782 SF
	SOIL PREP ZONE 2: BIORETENTION AREAS. SEE CIVIL DRAWINGS. TOP 12" SHALL BE CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL.	6,702 SF
	SOIL PREP ZONE 3: NATIVE GARDENS. INFILL WITH 12" OF CLEAN IMPORTED TOPSOIL. 12" AND BELOW CAN BE REUSED/AMENDED TOPSOIL. IMPORTED OR AMENDED SOIL. SEE SPECIFICATION SECTION 329113. REFER TO 1/L581.2 FOR SOIL PREPARATION AND 2/L581.2 FOR TREE PLANTING.	30,867 SF
	SOIL PREP ZONE 4: STREET TREE SOILS. REFER TO 1/L580.2.	2,294 SF

	SOIL PREP ZONE 5: SODDED TURF SOIL. TOP 12" SHALL BE CLEAN IMPORTED TOPSOIL WITH COMPOST AND SAND MIX PER SPECIFICATIONS. PROVIDE DEMARCATION LAYER AT 12" BELOW FINISH GRADE.	36,180 SF
--	--	-----------

SOIL PREPARATION NOTES

- REFER TO SPECIFICATION SECTION 329113 - PLANTING SOIL PREPARATION FOR DETAILED REQUIREMENTS.
- PLANTING BACKFILL MIX - REFER TO SPECIFICATION SECTION 329113.2.3
- REFER TO SPECIFICATION SECTION 329113.2.3 - PLANTING SOIL PREPARATION FOR DETAILED REQUIREMENTS.
- REFER TO GRADING PLAN AND SPECIFICATIONS FOR ASSUMED SOIL SETTLING RATE AND DEPTH OF GRADING BELOW PLANTING AREA FINISH GRADE.
- REFER TO CIVIL DRAWINGS AND SPECIFICATIONS FOR SOIL PREPARATION AT STAIRCASES, PATHWAYS AND OTHER HARDSCAPE AREAS.
- REFER TO COASTAL ENGINEERING DRAWINGS FOR MATERIAL PLACEMENT BELOW ELEVATION 10.0' NAVD88.
- REFER TO SOIL PREP, PLANTING DETAILS, AND SPECIFICATIONS FOR TREE AND SHRUB PLANTINGS DEEPER THAN INDICATED IN LEGEND.



PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	CALIPER	QTY
TREES					
	AES CAL	AESCULUS CALIFORNICA / CALIFORNIA BUCKEYE STANDARD	24"BOX	2"	15
	ALN RHO	ALNUS RHOMBIFOLIA / WHITE ALDER	36"BOX	3"	9
	ARB MEN	ARBUTUS MENZIESII / PACIFIC MADRONE	5 GAL	1"	19
	ARC GLA	ARCTOSTAPHYLOS GLAUCA / BIGBERRY MANZANITA	24"BOX		2
	ARC HUR	ARCTOSTAPHYLOS MANZANITA 'DR. HURD' / DR. HURD MANZANITA	24"BOX	1"	25
	ARC HU2	ARCTOSTAPHYLOS MANZANITA 'DR. HURD' / DR. HURD MANZANITA	36"BOX	1.5"	6
	CEA HAR	CEANOTHUS X 'RAY HARTMAN' / CALIFORNIA LILAC	24"BOX	1"	3
	CUP MAC	CUPRESSUS MACROCARPA / MONTEREY CYPRESS STANDARD	48"BOX	4"	7
	PIN RAD	PINUS RADIATA / MONTEREY PINE	36"BOX	3"	11
	PIN TO2	PINUS TORREYANA / TORREY PINE	36"BOX	3"	7
	PLA RA2	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE STANDARD	48"BOX	3"	9
	PLA RA3	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE MULTI-TRUNK	48"BOX	3"	1
	PLA RAC	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE	72"BOX	6"	6
	QUE AG1	QUERCUS AGRIFOLIA / COAST LIVE OAK	24"BOX	2"	46
	QUE AG2	QUERCUS AGRIFOLIA / COAST LIVE OAK MULTI-TRUNK	36"BOX	3"	13
	QUE AG3	QUERCUS AGRIFOLIA / COAST LIVE OAK	48"BOX	3"	10
	QUE AGR	QUERCUS AGRIFOLIA / COAST LIVE OAK	72"BOX	4"	1

ROOT BARRIER

RESTORATION AND GRASSLAND AREAS

SYMBOL	CODE	ZONE NAME	DETAIL	POST-PLANTING TREATMENT	QTY
	R1	MID + HIGH MARSH	1/L185.2	NONE	11,488 SF
	R2	MARSH TRANSITION	2/L185.2	NONE	6,415 SF
	R3	UPLAND BASE	5/L185.2	HYDROSEED PER SPECS	57,328 SF
	R4	UPLAND GRASSLAND	3/L185.2	HYDROSEED PER SPECS	2,739 SF
	R5	BIORETENTION	S.C.D.	ROCK MULCH PER CIVIL	6,695 SF
	R7	SANDY INTERTIDAL	4/L185.2	HAND SEED PER DETAIL	1,386 SF

NOTES:

- APPLY HYDROSEED TO ALL UPLAND BASE RESTORATION AREA (R3) AND UPLAND GRASSLAND RESTORATION AREA (R4) AFTER PLANT INSTALLATION. REFER TO SPEC SECTION 32 92 13.
- DO NOT APPLY HYDROSEED OR MULCH TO MID + HIGH MARSH RESTORATION AREA (R1), MARSH TRANSITION RESTORATION AREA (R2), OR SANDY INTERTIDAL (R7).
- APPLY ROCK MULCH TO ALL BIORETENTION AREAS (R5). ROCK MULCH SHALL BE ANGULAR QUARRYSTONE ROCK - CALTRANS BACKING NO. 2, SIZE 3-5. REFER TO CIVIL PLANS.

GROUND COVERS

GROUND COVERS	CODE	BOTANICAL / COMMON NAME	CONT	ORIGIN	SPACING	QTY
	CAR PRA	CAREX PRAEGRACILIS / CALIFORNIA FIELD SEDGE	4"POT	BAY	12" o.c.	6,553
	CAR TU5	CAREX TUMULICOLA / FOOTHILL SEDGE	1 GAL	BAY	18" o.c.	320
	LEY LA6	LEYMUS TRITICOIDES 'LAGUNITA' / WILD RYE	PLUG	CA	6" o.c.	640
	SIS BE3	SISYRINCHIUM BELLUM / BLUE EYED GRASS	4"POT	BAY	12" o.c.	295
	SIS YEL	SISYRINCHIUM CALIFORNICUM / YELLOW EYED GRASS	4"POT	BAY	12" o.c.	548
	L1	TURF SOD / SEE SPECIFICATIONS	SOD	CA		43,246

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650
ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

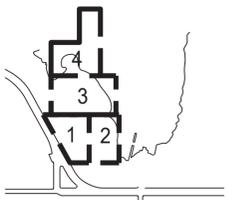
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

BID SET

DRAWN BY BA	CHECKED BY MY
DATE 04/26/2024	GGN PROJECT # 1608

PLANTING LEGEND AND SCHEDULE

L180A.2

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT	ORIGIN	SPACING	QTY	SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT	ORIGIN	SPACING	QTY
	AES CA3	AESCULUS CALIFORNICA / CALIFORNIA BUCKEYE	15 GAL	BAY	96" o.c.	25	•	CYN GRA	CYNOGLOSSUM GRANDE / HOUND'S TONGUE	1 GAL	BAY	12" o.c.	49
	ARC SEN	ARCTOSTAPHYLOS DENSIFLORA 'SENTINEL' / SENTINEL VINE HILL MANZANITA	15 GAL		60" o.c.	22	•	DES CES	DESCHAMPSIA CESPITOSA HOLCIFORMIS / CALIFORNIA HAIR GRASS	STUBBY	CA	12" o.c.	1,346
	ARC SAN	ARCTOSTAPHYLOS UVA-URSI 'SAN BRUNO MOUNTAIN' / SAN BRUNO MOUNTAIN KINNIKINNICK	1 GAL	BAY	36" o.c.	66	•	ERI BEA	ERIGERON GLAUCUS / BEACH DAISY	1 GAL	BAY	18" o.c.	321
	ARC VIM	ARCTOSTAPHYLOS VISCIDA MARIPOSA / MARIPOSA MANZANITA	15 GAL	CA	60" o.c.	26	•	ERI ARB	ERIOGONUM ARBORESCENS / SANTA CRUZ ISLAND BUCKWHEAT	1 GAL	BAY	24" o.c.	22
	ARC MIS	ARCTOSTAPHYLOS X 'PACIFIC MIST' / PACIFIC MIST MANZANITA	5 GAL	CA	48" o.c.	23	•	ERI FOL	ERIOGONUM FASCICULATUM FOLIOLOSUM / CALIFORNIA BUCKWHEAT	1 GAL	BAY	24" o.c.	34
	ARC SUN	ARCTOSTAPHYLOS X 'SUNSET' / SUNSET MANZANITA	5 GAL	CA	48" o.c.	73	•	ERI GIG	ERIOGONUM GIGANTEUM / ST. CATHERINE'S LACE	5 GAL	CA	48" o.c.	22
	ARI CAL	ARISTOLOCHIA CALIFORNICA / CALIFORNIA DUTCHMAN'S PIPE	1 GAL	CA	72" o.c.	3	•	ERI LAT	ERIOGONUM LATIFOLIUM / COAST BUCKWHEAT	1 GAL	CA	24" o.c.	93
	ART CAL	ARTEMISIA CALIFORNICA / CALIFORNIA SAGEBRUSH	5 GAL	BAY	36" o.c.	96	•	ERI STA	ERIOPHYLLUM STAECHADIFOLIUM / LIZARD-TAIL	1 GAL	CA	24" o.c.	25
	ART CAM	ARTEMISIA CALIFORNICA 'MONTARA' / MONTARA CALIFORNIA SAGEBRUSH	5 GAL	BAY	36" o.c.	5	•	FRA CH3	FRAGARIA CHILOENSIS / BEACH STRAWBERRY	4" POT	BAY	12" o.c.	15
	ART CAC	ARTEMISIA CALIFORNICA 'CANYON GREY' / PROSTRATE CALIFORNIA SAGEBRUSH	5 GAL	CA	36" o.c.	162	•	GAR ELL	GARRYA ELLIPTICA / COAST SILKTASSEL	15 GAL	BAY	72" o.c.	57
	ART DOU	ARTEMISIA DOUGLASIANA / MUGWORT	1 GAL	BAY	24" o.c.	87	•	GRI HGP	GRINDELIA STRICTA ANGUSTIFOLIA / MARSH GUMPLANT	1 GAL		24" o.c.	307
	ART PCN	ARTEMISIA PYCNOCEPHALA / BEACH SAGEWORT	1 GAL	BAY	24" o.c.	282	•	GRI PLA	GRINDELIA STRICTA PLATYPHYLLA / SPREADING GRINDELIA	1 GAL	CA	24" o.c.	264
	BAC PIL	BACCHARIS PILULARIS / DWARF COYOTE BRUSH	5 GAL	CA	48" o.c.	316	•	HES WHI	HESPERUYUCCA WHIPPLEI / CHAPARRAL YUCCA	5 GAL	BAY	36" o.c.	19
	BAC CON	BACCHARIS PILULARIS CONSANGUINEA / COYOTE BRUSH	5 GAL	BAY	48" o.c.	14	•	HET ARB	HETEROMELES ARBUTIFOLIA / TOYON	15 GAL	CA	72" o.c.	68
	BAC PTP	BACCHARIS PILULARIS 'TWIN PEAKS' / TWIN PEAKS COYOTE BRUSH	5 GAL	BAY	48" o.c.	190	•	HOR BR4	HORDEUM BRACHYANTHERUM / MEADOW BARLEY	1 GAL	CA	24" o.c.	138
	BER ACM	BERBERIS AQUIFOLIUM 'COMPACTA' / COMPACT OREGON GRAPE	5 GAL	CA	24" o.c.	77	•	IRI DOU	IRIS DOUGLASIANA / DOUGLAS IRIS	1 GAL	BAY	24" o.c.	98
	BOL MR2	BOLBOSCHOENUS MARITIMUS / ALKALI BULRUSH	TP-4	BAY	36" o.c.	49	•	IRI CA2	IRIS DOUGLASIANA PCH 'CANYON SNOW' / CANYON SNOW IRIS	1 GAL		24" o.c.	54
	CAL FOL	CALAMAGROSTIS FOLIOSA / REED GRASS	1 GAL	CA	24" o.c.	21	•	IRI LON	IRIS LONGIPETALA / LONG PETALED IRIS	1 GAL	CA	24" o.c.	109
	CAL NUT	CALAMAGROSTIS NUTKAENSIS / PACIFIC REED GRASS	5 GAL	BAY	36" o.c.	172	•	JUN EFF	JUNCUS EFFUSUS / SOFT RUSH	D-16	CA	36" o.c.	151
	CAL CYC	CALYSTEGIA MACROSTEGIA CYCLOSTEGIA / COAST MORNING GLORY	5 GAL	BAY	48" o.c.	10	•	JUN PAT	JUNCUS PATENS / CALIFORNIA GRAY RUSH	D-16	BAY	24" o.c.	697
	CAR CAL	CARPENTERIA CALIFORNICA / BUSH ANEMONE	15 GAL	CA	48" o.c.	20	•	LEP ELT	LEPECHINIA FRAGRANS 'EL TIGRE' / ISLAND PITCHERSAGE	5 GAL	BAY	36" o.c.	37
	CEA AN2	CEANOTHUS GLORIOSUS 'ANCHOR BAY' / ANCHOR BAY LILAC	5 GAL	CA	48" o.c.	11	•	LEY CAN	LEYMUS CONDENSATUS 'CANYON PRINCE' / CANYON PRINCE GIANT WILD RYE	5 GAL	BAY	36" o.c.	124
	CEA YAN	CEANOTHUS GRISEUS HORIZONTALIS 'YANKEE POINT' / YANKEE POINT CARMEL CREEPER	5 GAL	CA	48" o.c.	65	•	LEY WIL	LEYMUS TRITICOIDES / WILD RYE	D-16	CA	14" o.c.	203
	CEA JUL	CEANOTHUS X 'JULIA PHELPS' / JULIA PHELPS WILD LILAC	15 GAL	CA	72" o.c.	4	•	LUP AR2	LUPINUS ARBOREUS / YELLOW TREE LUPINE	1 GAL	CA	36" o.c.	6
	CEA JOY	CEANOTHUS X 'JOYCE COULTER' / JOYCE COULTER WILD LILAC	15 GAL	CA	48" o.c.	99	•	LUP CHA	LUPINUS CHAMISSONIS / BUSH LUPINE	5 GAL	BAY	36" o.c.	22
	CHO TE2	CHOISYA TERNATA / MEXICAN ORANGE	15 GAL		72" o.c.	1	•	MIM AUR	MIMULUS AURANTIACUS / STICKY MONKEY FLOWER	1 GAL	BAY	24" o.c.	140
	CLI DO2	CLINOPODIUM DOUGLASII / YERBA BUENA	1 GAL	BAY	24" o.c.	56	•	MON VI2	MONARDELLA VILLOSA / COYOTE MINT	1 GAL	BAY	24" o.c.	75
	COR FIL	CORETHROGYNE FILAGINIFOLIA 'SILVER CARPET' / CALIFORNIA ASTER	1 GAL	CA	24" o.c.	137	•	MUH RIG	MUHLENBERGIA RIGENS / DEER GRASS	5 GAL	BAY	36" o.c.	88
	CYN GRA	CYNOGLOSSUM GRANDE / HOUND'S TONGUE	1 GAL	BAY	12" o.c.	49	•	MYR CAL	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE	15 GAL	BAY	48" o.c.	63
	DES CES	DESCHAMPSIA CESPITOSA HOLCIFORMIS / CALIFORNIA HAIR GRASS	STUBBYBAY		12" o.c.	1,346	•	PHI WI2	PHILADELPHUS LEWISII / WILD MOCKORANGE	15 GAL	CA	60" o.c.	4

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700



THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014



PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-8802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

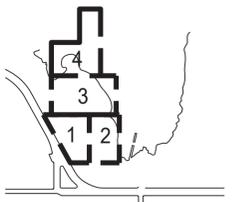
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

BID SET

DRAWN BY BA	CHECKED BY MY
DATE 04/26/2024	GGN PROJECT # 1608

PLANTING LEGEND AND SCHEDULE

L180B.2

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700



THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014



PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-8802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

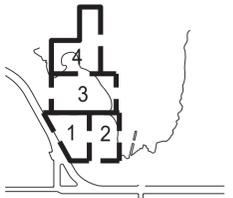
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

BID SET

DRAWN BY	CHECKED BY
BA	MY
DATE	GGN PROJECT #
04/26/2024	1608

PLANTING LEGEND AND SCHEDULE

L180C.2

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT	ORIGIN	SPACING	QTY
⊕	PHI WI2	PHILADELPHUS LEWISII / WILD MOCKORANGE	15 GAL	CA	60" o.c.	4
⊕	RHA CAL	RHAMNUS CALIFORNICA 'MOUND SAN BRUNO' / CALIFORNIA COFFEEBERRY	15 GAL	BAY	60" o.c.	94
⊕	RIB FLO	RIBES SANGUINEUM GLUTINOSUM 'CLAREMONT' / FLOWERING CURRANT	5 GAL	CA	48" o.c.	89
⊕	RIB VIB	RIBES VIBURNIFOLIUM / EVERGREEN CURRANT	5 GAL	CA	48" o.c.	40
⊕	ROS CA2	ROSA CALIFORNICA / CALIFORNIA WILD ROSE	5 GAL	BAY	36" o.c.	26
⊕	SAL POI	SALVIA LEUCOPHYLLA 'POINT SAL' / POINT SAL PURPLE SAGE	5 GAL	CA	48" o.c.	109
⊕	SAL MEL	SALVIA MELLIFERA / BLACK SAGE	5 GAL	BAY	48" o.c.	45
⊕	SAL TER	SALVIA MELLIFERA 'TERRA SECA' / TERRA SECA BLACK SAGE	5 GAL	CA	48" o.c.	14
⊕	SAL SPA	SALVIA SPATHACEA / HUMMINGBIRD SAGE	1 GAL	CA	24" o.c.	174
⊕	SAL ALL	SALVIA X 'ALLEN CHICKERING' / ALLEN CHICKERING SAGE	5 GAL	CA	36" o.c.	7
⊕	SAL DAR	SALVIA X 'DARA'S CHOICE' / DARA'S CHOICE SAGE	1 GAL	CA	36" o.c.	29
⊕	SAL BEE	SALVIA X 'BEE'S BLISS' / BEE'S BLISS SAGE	1 GAL	CA	36" o.c.	165
⊕	STA BUL	STACHYS BULLATA / HEDGE NETTLE	1 GAL	BAY	24" o.c.	185
⊕	SYM CHI	SYMPHYOTRICHUM CHILENSE / PACIFIC ASTER	1 GAL	BAY	24" o.c.	141
⊕	SYM PSG	SYMPHYOTRICHUM CHILENSE 'POINT ST. GEORGE' / POINT ST. GEORGE PACIFIC ASTER	1 GAL	CA	24" o.c.	366
⊕	TRI WOO	TRICHOSTEMA LANATUM / WOOLLY BLUE CURLS	1 GAL	CA	36" o.c.	46
⊕	WYE AN3	WYETHIA ANGUSTIFOLIA / MULE'S EARS	1 GAL		36" o.c.	48
⊕	WYE ANG	WYETHIA ANGUSTIFOLIA / MULE'S EARS	1 GAL	BAY	24" o.c.	17

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-8802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

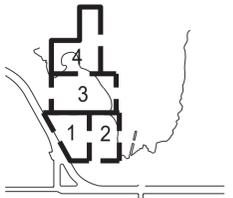
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

BID SET

DRAWN BY JS	CHECKED BY
DATE 04/26/2024	GGN PROJECT # 1608

PLANTING-OVERALL

L180D.2

RESTORATION AND GRASSLAND AREAS

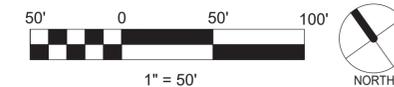
SYMBOL	CODE	ZONE NAME	DETAIL	POST-PLANTING TREATMENT	QTY	NOTES
	R1	MID + HIGH MARSH	1/L185.2	NONE	11,488 SF	SHEET MULCH
	R2	MARSH TRANSITION	2/L185.2	NONE	6,415 SF	SHEET MULCH
	R3	UPLAND BASE	5/L185.2	HYDROSEED PER SPECS	57,328 SF	NO SHEET MULCH
	R4	UPLAND GRASSLAND	3/L185.2	HYDROSEED PER SPECS	2,739 SF	NO SHEET MULCH
	R5	BIORETENTION	S.C.D.	ROCK MULCH PER CIVIL	6,695 SF	NO SHEET MULCH
	R7	SANDY INTERTIDAL	4/L185.2	HAND SEED PER DETAIL	1,386 SF	NO SHEET MULCH

NOTES:

- APPLY HYDROSEED TO ALL UPLAND BASE RESTORATION AREA (R3) AND UPLAND GRASSLAND RESTORATION AREA (R4) AFTER PLANT INSTALLATION. REFER TO SPEC SECTION 32 92 13.
- DO NOT APPLY HYDROSEED OR MULCH TO MID + HIGH MARSH RESTORATION AREA (R1), MARSH TRANSITION RESTORATION AREA (R2), OR SANDY INTERTIDAL (R7).
- APPLY ROCK MULCH TO ALL BIORETENTION AREAS (R5). ROCK MULCH SHALL BE ANGULAR QUARRYSTONE ROCK - CALTRANS BACKING NO. 2, SIZE 3-5. REFER TO CIVIL PLANS.

LANDSCAPE TREES

TREES	CODE	BOTANICAL / COMMON NAME	SIZE	ORIGIN	CALIPER
	ACE MAC	ACER MACROPHYLLUM / BIG LEAF MAPLE	36"BOX	BAY	3"
	AES CAL	AESCULUS CALIFORNICA / CALIFORNIA BUCKEYE STANDARD	24"BOX	BAY	2"
	ARB MEN	ARBUTUS MENZIESII / PACIFIC MADRONA	5 GAL	BAY	1"
	ARC GLA	ARCTOSTAPHYLOS GLAUCA / BIGBERRY MANZANITA	24"BOX		
	ARC HUR	ARCTOSTAPHYLOS MANZANITA 'DR. HURD' / DR. HURD MANZANITA	24"BOX	CA	1"
	ARC HU2	ARCTOSTAPHYLOS MANZANITA 'DR. HURD' / DR. HURD MANZANITA	36"BOX	CA	1.5"
	CEA HAR	CEANOTHUS X 'RAY HARTMAN' / CALIFORNIA LILAC	24"BOX	CA	1"
	CUP MAC	CUPRESSUS MACROCARPA / MONTEREY CYPRESS STANDARD	48"BOX	CA	4"
	PIN RAD	PINUS RADIATA / MONTEREY PINE	36"BOX	CA	3"
	PIN TO2	PINUS TORREYANA / TORREY PINE	36"BOX	CA	3"
	PLA RA2	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE STANDARD	48"BOX	CA	3"
	PLA RAC	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE	72"BOX	CA	6"
	QUE AG1	QUERCUS AGRIFOLIA / COAST LIVE OAK	24"BOX	CA	2"
	QUE AG2	QUERCUS AGRIFOLIA / COAST LIVE OAK MULTI-TRUNK	36"BOX	CA	3"
	QUE AG3	QUERCUS AGRIFOLIA / COAST LIVE OAK	48"BOX	CA	3"
		ROOT BARRIER			





SYMBOL	CODE	BOTANICAL / COMMON NAME
TREES		
	AES CAL	AESCULUS CALIFORNICA / CALIFORNIA BUCKEYE STANDARD
	ALN RHO	ALNUS RHOMBIFOLIA / WHITE ALDER
	ARB MEN	ARBUTUS MENZIESII / PACIFIC MADRONE
	ARC HUR	ARCTOSTAPHYLOS MANZANITA 'DR. HURD' / DR. HURD MANZANITA
	CUP MAC	CUPRESSUS MACROCARPA / MONTEREY CYPRESS STANDARD
	PIN RAD	PINUS RADIATA / MONTEREY PINE
	PIN TO2	PINUS TORREYANA / TORREY PINE
	PLA RA2	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE STANDARD
	PLA RA3	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE MULTI-TRUNK
	PLA RAC	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE
	QUE AG1	QUERCUS AGRIFOLIA / COAST LIVE OAK
	QUE AG2	QUERCUS AGRIFOLIA / COAST LIVE OAK MULTI-TRUNK
	QUE AG3	QUERCUS AGRIFOLIA / COAST LIVE OAK

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-8802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

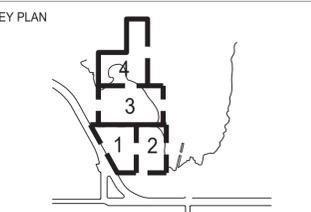
LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE



REVISIONS:

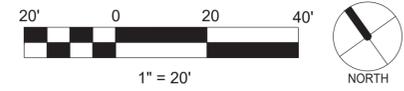
NO.	DATE	DESCRIPTION

ISSUANCE

DRAWN BY		CHECKED BY	
BA			
DATE		GGN PROJECT #	
04/26/2024		1608	

TREE PLANTING-SECTOR 1

L181T.2



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-8802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

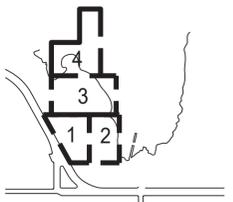
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE

BID SET

DRAWN BY	CHECKED BY
JS	
DATE	GGN PROJECT #
04/26/2024	1608

GROUND COVER PLANTING-SECTOR 2

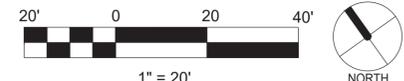
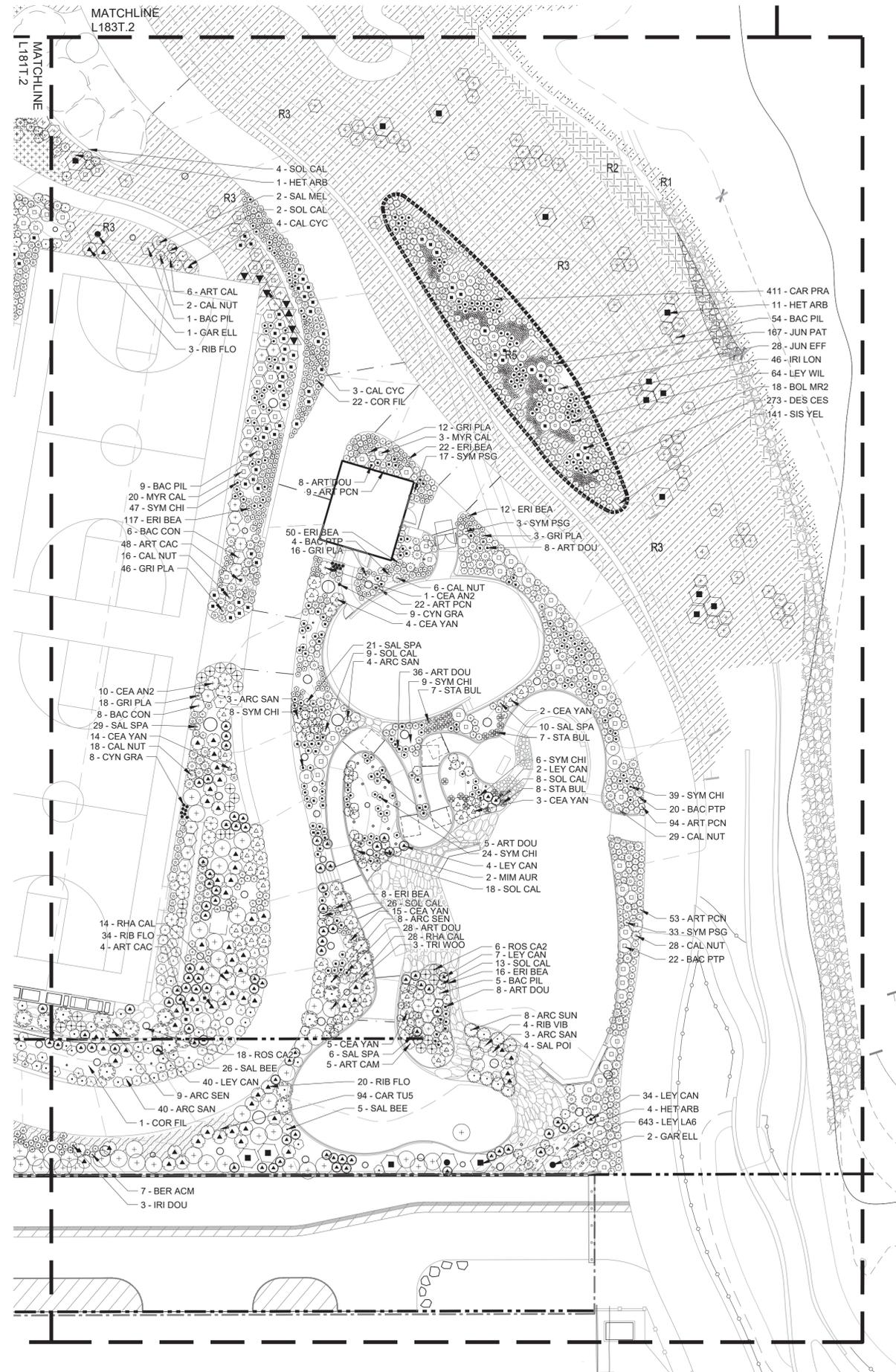
L182G.2

RESTORATION AND GRASSLAND AREAS

SYMBOL	CODE	ZONE NAME	DETAIL	POST-PLANTING TREATMENT
	R1	MID + HIGH MARSH	1/L185.2	NONE
	R2	MARSH TRANSITION	2/L185.2	NONE
	R3	UPLAND BASE	5/L185.2	HYDROSEED PER SPECS
	R4	UPLAND GRASSLAND	3/L185.2	HYDROSEED PER SPECS
	R5	BIORETENTION	S.C.D.	ROCK MULCH PER CIVIL
	R7	SANDY INTERTIDAL	4/L185.2	HAND SEED PER DETAIL

NOTES:

- APPLY HYDROSEED TO ALL UPLAND BASE RESTORATION AREA (R3) AND UPLAND GRASSLAND RESTORATION AREA (R4) AFTER PLANT INSTALLATION. REFER TO SPEC SECTION 32 92 13.
- DO NOT APPLY HYDROSEED OR MULCH TO MID + HIGH MARSH RESTORATION AREA (R1), MARSH TRANSITION RESTORATION AREA (R2), OR SANDY INTERTIDAL (R7).
- APPLY ROCK MULCH TO ALL BIORETENTION AREAS (R5). ROCK MULCH SHALL BE ANGULAR QUARRYSTONE ROCK - CALTRANS BACKING NO. 2, SIZE 3-5. REFER TO CIVIL PLANS.
- APPLY SHEET MULCH PER 6/L185.2 AND PLANTING MATERIALS SPEC SECTION 32 93 00 TO ALL OTHER PLANTING AREAS.





SYMBOL	CODE	BOTANICAL / COMMON NAME
TREES		
	AES CAL	AESCULUS CALIFORNICA / CALIFORNIA BUCKEYE STANDARD
	ALN RHO	ALNUS RHOMBIFOLIA / WHITE ALDER
	ARB MEN	ARBUTUS MENZIESII / PACIFIC MADRONE
	ARC GLA	ARCTOSTAPHYLOS GLAUCA / BIGBERRY MANZANITA
	ARC HUR	ARCTOSTAPHYLOS MANZANITA 'DR. HURD' / DR. HURD MANZANITA
	ARC HU2	ARCTOSTAPHYLOS MANZANITA 'DR. HURD' / DR. HURD MANZANITA
	CEA HAR	CEANOTHUS X 'RAY HARTMAN' / CALIFORNIA LILAC
	PIN RAD	PINUS RADIATA / MONTEREY PINE
	PIN TO2	PINUS TORREYANA / TORREY PINE
	PLA RA2	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE STANDARD
	PLA RAC	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE
	QUE AG1	QUERCUS AGRIFOLIA / COAST LIVE OAK
	QUE AG2	QUERCUS AGRIFOLIA / COAST LIVE OAK MULTI-TRUNK
	QUE AGR	QUERCUS AGRIFOLIA / COAST LIVE OAK

INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-8802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

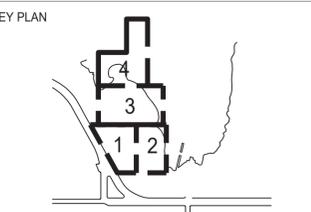
LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE



REVISIONS:

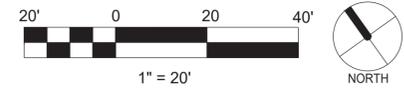
NO.	DATE	DESCRIPTION

ISSUANCE

DRAWN BY		CHECKED BY	
BA			
DATE		GGN PROJECT #	
04/26/2024		1608	

TREE PLANTING-SECTOR 2

L182T.2



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-8802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

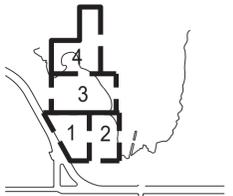
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

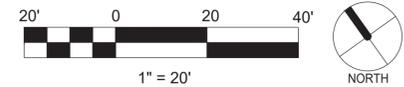
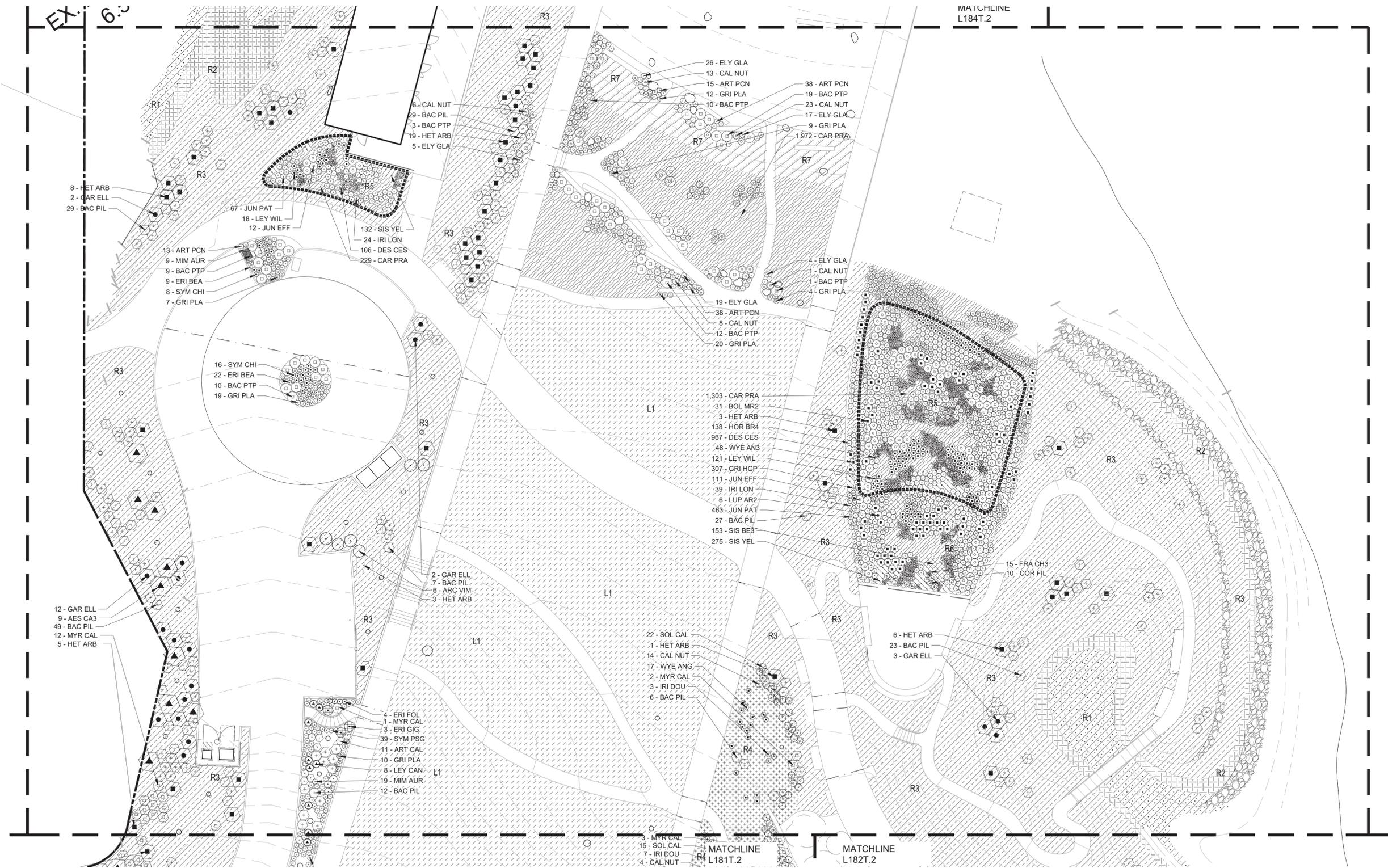
ISSUANCE

BID SET

DRAWN BY JS	CHECKED BY
DATE 04/26/2024	GGN PROJECT # 1608

GROUND COVER
PLANTING-SECTOR 3

L183G.2



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700



THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014



PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-8802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-666-2232

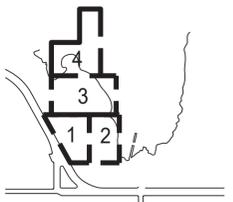
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



REVISIONS:

NO.	DATE	DESCRIPTION

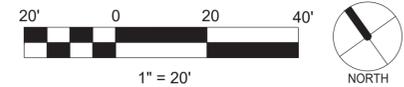
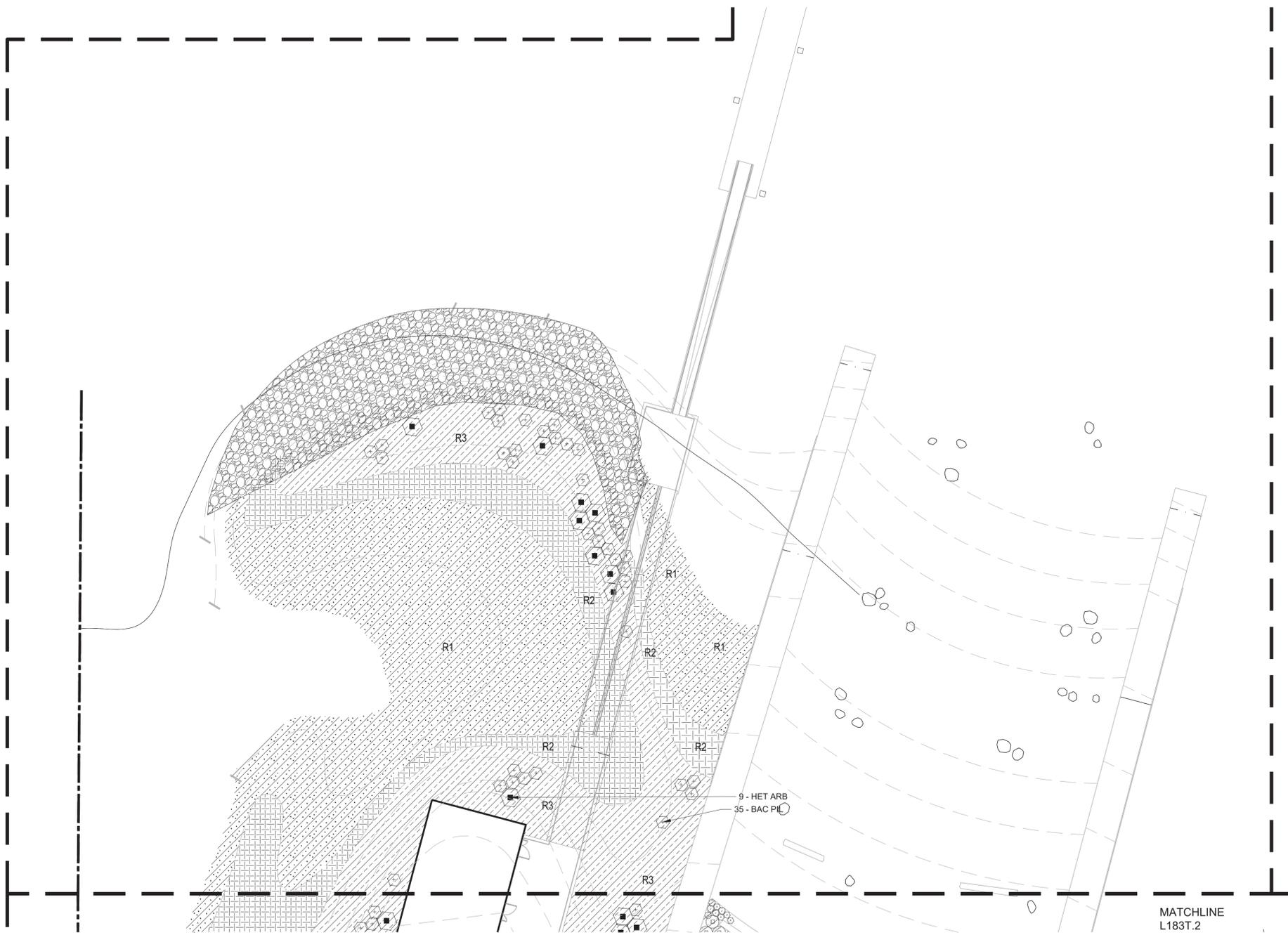
ISSUANCE

BID SET

DRAWN BY BA	CHECKED BY
DATE 04/26/2024	GGN PROJECT # 1608

GROUND COVER
PLANTING-SECTOR 4

L184G.2



INDIA BASIN SHORELINE PARK

CITY AND COUNTY OF SAN FRANCISCO
RECREATION AND PARKS DEPARTMENT
49 SOUTH VAN NESS AVENUE, SUITE 1220
SAN FRANCISCO, CA 94102
PH. 415-831-2700

THE TRUST FOR PUBLIC LAND
101 MONTGOMERY STREET
SUITE 900
SAN FRANCISCO, CA 94104
PH. 415-495-4014

PRIME CONSULTANT / LANDSCAPE ARCHITECT
GUSTAFSON GUTHRIE NICHOL
PH. 206-903-6802

CIVIL ENGINEER
SHERWOOD DESIGN ENGINEERS
PH. 415-348-9650

ARCHITECT
JENSEN ARCHITECTS
PH. 415-348-9650

ECOLOGICAL RESTORATION
RANA CREEK
PH. 831-659-3820

STRUCTURAL ENGINEER
JON BRODY STRUCTURAL ENGINEERS
PH. 415-296-9494

COASTAL ENGINEER
MOFFATT AND NICHOL
PH. 925-944-5411

LIGHTING
NITEO CALIFORNIA
PH. 415-866-2232

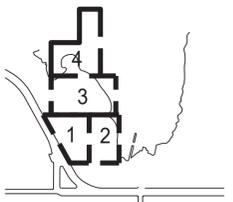
MEP & IT
INTERFACE ENGINEERING
PH. 415-489-7240

GEOTECHNICAL ENGINEER
AGS, INC
PH. 415-957-9240

SECURITY CONSULTANT
ZBETA CONSULTING
PH. 415-259-0422

FOR OFFICIAL USE

KEY PLAN



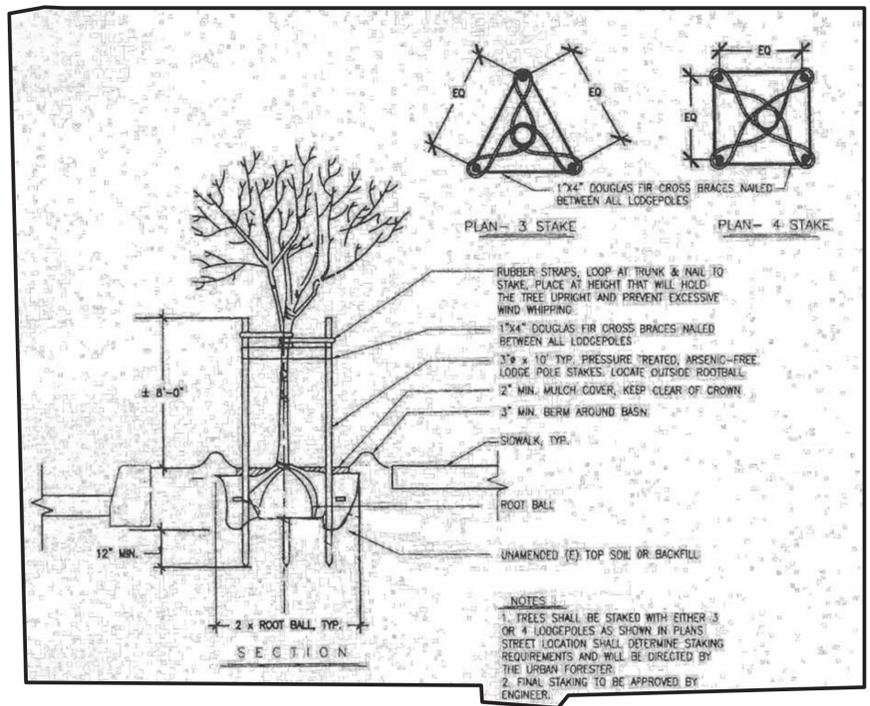
REVISIONS:

NO.	DATE	DESCRIPTION

ISSUANCE		BID SET	
DRAWN BY	BA	CHECKED BY	
DATE	04/26/2024	GGN PROJECT #	1608

PLANTING DETAILS

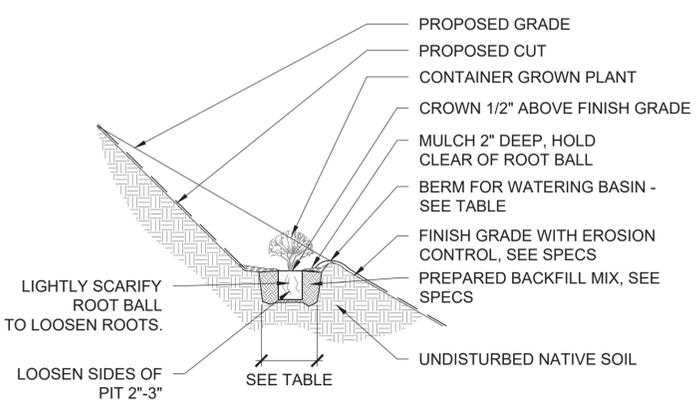
L580.2



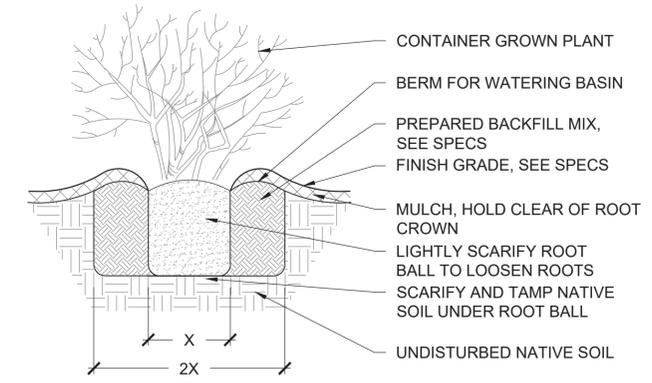
1 SF DEPT. FORESTRY STREET TREE
SCALE: NTS

PLANT PIT SIZE TABLE

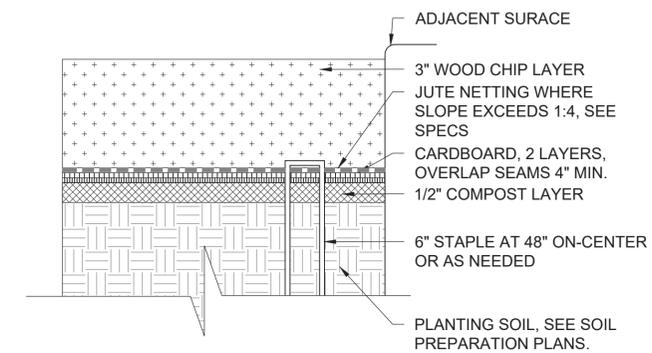
PLANT SIZE	PIT SIZE - ROOTBALL PLUS	BERM HEIGHT
4" POT	3" ALL AROUND	1"
1 GALLON	6" ALL AROUND	2"
5 GALLON	8" ALL AROUND	4"
15 GALLON	10" ALL AROUND	4"



4 SHRUB PLANTING ON SLOPES +25%
SCALE: 1/2" = 1'

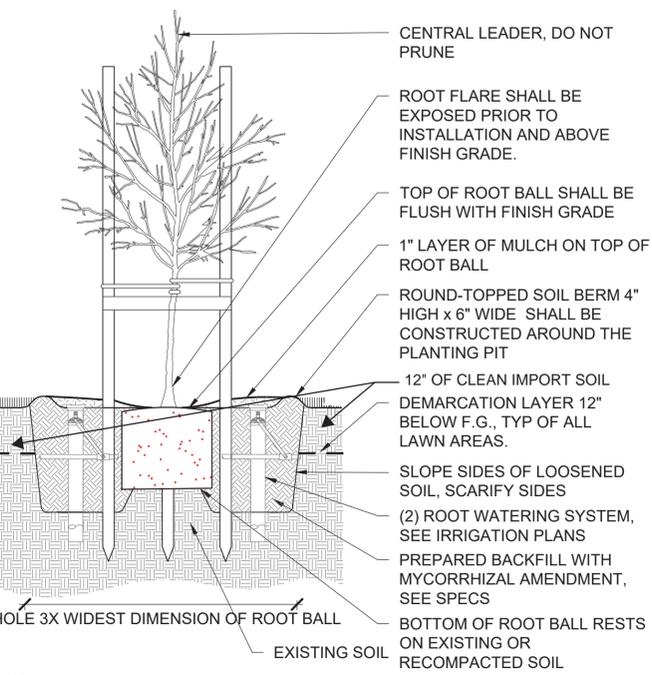


5 SHRUB AND PERENNIAL PLANTING
SCALE: 1/2" = 1'

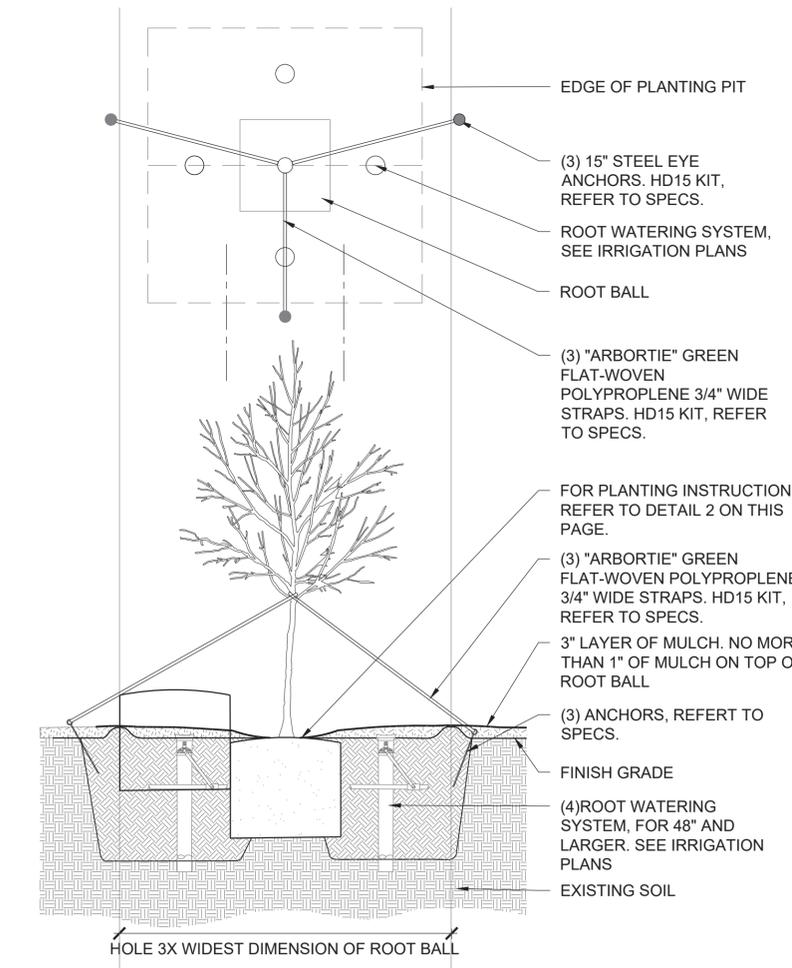


6 SHEET MULCH
SCALE: NTS

NOTE: ALL 15 GALLON AND 24" BOX TREES SHALL BE SECURED WITH STAKES. ALL 36" BOX TREES AND LARGER SHALL BE SECURED WITH GUYING.

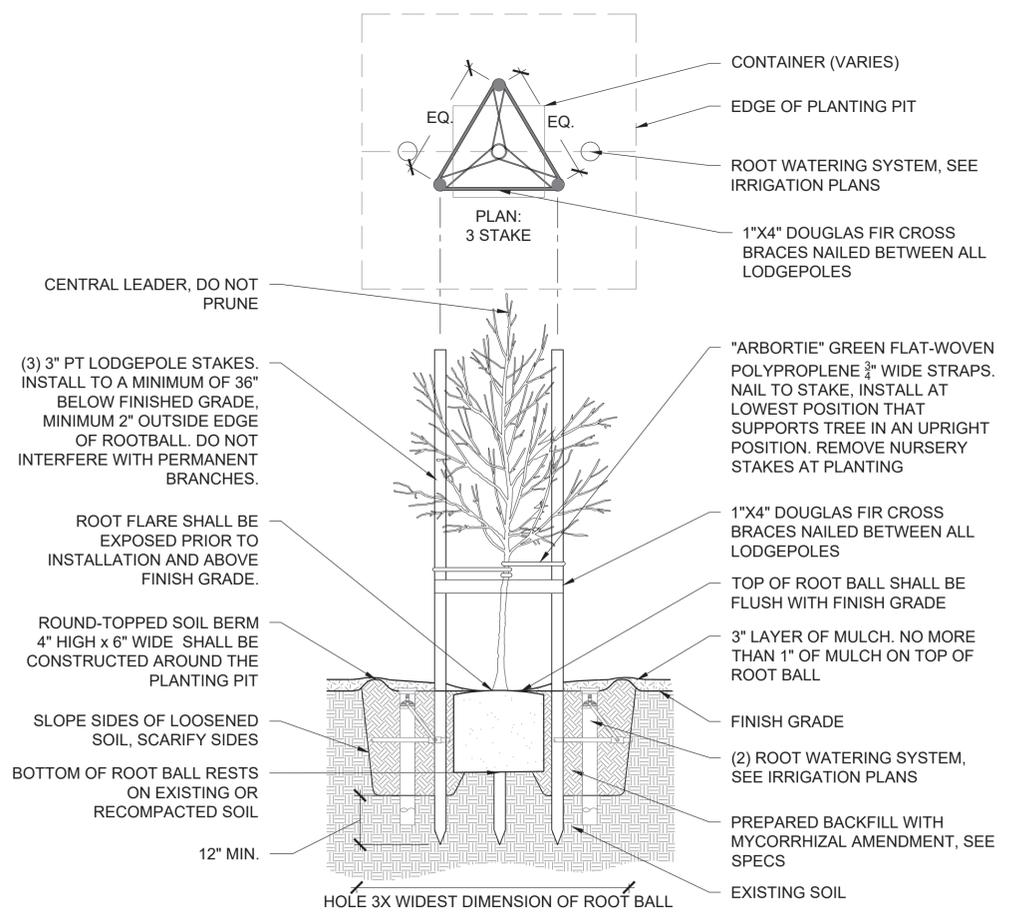


7 TREE PLANTING IN LAWN
SCALE: 1/2" = 1'-0"



NOTE: ALL 36" BOX AND LARGER TREES SHALL BE SECURED WITH GUYING.

3 TREE PLANTING DETAIL WITH GUYING
SCALE: 1/2" = 1'



NOTE: ALL 15 GALLON AND 24" BOX TREES SHALL BE SECURED WITH STAKES.

2 TREE PLANTING DETAIL WITH STAKING
SCALE: 1/2" = 1'