

**MEMORANDUM OF UNDERSTANDING  
REGARDING INTERAGENCY COOPERATION**

**BETWEEN**

**THE CITY AND COUNTY OF SAN FRANCISCO, ACTING BY AND THROUGH THE  
MAYOR, THE BOARD OF SUPERVISORS AND CERTAIN OTHER OFFICERS AND  
AGENCIES OF THE CITY AND COUNTY**

**AND**

**THE CITY AND COUNTY OF SAN FRANCISCO, ACTING BY AND THROUGH THE  
SAN FRANCISCO PORT COMMISSION**

**For Development of the Mission Rock Project at Seawall Lot 337 and Pier 48**

**Reference Date: August 15, 2018**

[Page intentionally left blank.]

TABLE OF CONTENTS

	<u>Page</u>
1. PURPOSE AND INTENT .....	2
1.1. Priority Project .....	2
1.2. Findings.....	2
1.3. Benefit.....	2
1.4. Intent .....	2
2. EFFECTIVE DATE; TERM.....	3
2.1. Effective Date .....	3
2.2. Term .....	3
3. COOPERATION .....	3
3.1. Agreement to Cooperate .....	3
3.2. City Approval.....	3
3.3. Consenting City Agencies.....	3
3.4. Cooperation to Obtain Permits for Regulatory Agencies Other than City Agencies .....	4
3.5. Other City Actions .....	4
3.6. Cost Recovery.....	5
3.7. No Harbor Fund or General Fund Commitment.....	6
3.8. Procedures Required Under Applicable Laws .....	6
4. REVIEW PROCEDURES FOR IMPROVEMENT PLANS, INSPECTIONS AND ACCEPTANCE .....	6
4.1. Expeditious Processing .....	6
4.2. Intentionally Omitted .....	7
4.3. Project Street Designs .....	7
4.4. Phase Submittal Review .....	8
4.5. Improvement Plans for Horizontal Improvements-Generally .....	8
4.6. Processing of Improvement Plans and Issuance of Construction Permits .....	8
4.7. Inspections .....	14
4.8. Vertical Development- Consistency Review .....	15
4.9. Other Assistance .....	15

4.10.	Moratorium Streets .....	15
4.11.	SFMTA Matters .....	16
4.12.	SFPUC Matters .....	16
4.13.	Role of SFFD .....	17
5.	PROCESS FOR REVIEW AND APPROVAL OF SUBDIVISION MAPS .....	18
5.1.	Subdivision Process .....	18
6.	OTHER COORDINATION.....	18
6.1.	Intentionally Omitted .....	18
6.2.	Role of Horizontal Improvements Project Coordinator.....	18
7.	ACCESS TO CITY PROPERTY .....	18
7.1.	Master Lease/Vertical DDA .....	18
7.2.	Access to Other City Property .....	18
8.	DEFAULTS AND REMEDIES .....	19
8.1.	Meet and Confer .....	19
8.2.	Notice of Default.....	19
8.3.	Cure.....	19
8.4.	Consequences of Default .....	19
8.5.	No Monetary Damages .....	19
8.6.	Attorneys' Fees .....	19
8.7.	Developer Breach.....	20
9.	GENERAL PROVISIONS .....	20
9.1.	Notices .....	20
9.2.	Amendments to ICA, Infrastructure Plan and Transportation Plan.....	22
9.3.	Invalidity.....	23
9.4.	Successors and Assigns; Third Party Beneficiary .....	23
9.5.	Further Assurances.....	23
9.6.	Attachments .....	23

APPENDIX

CONSENTS:

Consent of Developer Seawall Lot 337 Associates, LLC  
Consent of San Francisco Municipal Transportation Agency

Consent of San Francisco Public Utilities Commission  
Consent of San Francisco Fire Department

**EXHIBITS:**

ICA Exhibit A:	Infrastructure Plan
ICA Exhibit B:	Intentionally Omitted
ICA Exhibit C:	Proposal for Non-Standard Infrastructure (For Discussion Purposes Only)
ICA Exhibit D:	Proposal for Deferred Infrastructure (For Discussion Purposes Only)
ICA Exhibit E:	Basis of Design Report

**MEMORANDUM OF UNDERSTANDING  
REGARDING INTERAGENCY COOPERATION  
(Mission Rock Project at Seawall Lot 337 and Pier 48)**

This **MEMORANDUM OF UNDERSTANDING REGARDING INTERAGENCY COOPERATION** (Seawall Lot 337 and Pier 48), referred to in the Transaction Documents as the Interagency Cooperation Agreement (“**ICA**”) and dated for reference purposes only as of August 15, 2018 (the “**Reference Date**”) is between the **CITY AND COUNTY OF SAN FRANCISCO**, a municipal corporation (the “**City**”), acting by and through the Mayor, the Board of Supervisors, the Controller, the City Administrator, the Director of Public Works, the San Francisco Municipal Transportation Agency, the San Francisco Fire Department and the San Francisco Public Utilities Commission (the “**Other City Parties**”), and the City, acting by and through the **SAN FRANCISCO PORT COMMISSION** (the “**Port**” or the “**Port Commission**”) (the Other City Parties and the Port, each a “**Party**”).

This ICA is one of the Transaction Documents relating to the Project described in the Disposition and Development Agreement (“**DDA**”) between the Port and Seawall Lot 337 Associates, LLC (“**Developer**”), relating to the development of the Project on the Project Site. The Project Site is Port property generally known as Mission Rock, and located at Seawall Lot 337, Pier 48, and adjacent streets and open space areas.

Initially capitalized and other terms not defined herein are defined in the attached Appendix or in other Transaction Documents as specified in the Appendix. The Appendix also includes standard provisions and rules of interpretation, which are applicable to and incorporated in all Transaction Documents.

**RECITALS**

**A.** This ICA specifies the roles and procedures that will apply to the Parties and consenting City Agencies assisting the Port in implementing the development of the Project on the Project Site in accordance with the Project Requirements, including without limitation, with respect to:

1. Subdivision of the Project Site;
2. Construction of Horizontal Improvements for the Project, as described in the Infrastructure Plan (**ICA Exhibit A**); and
3. Implementation of Project mitigation measures.

**B.** Developer, and its Transferees or Vertical Developers under the DDA, will develop the Horizontal Improvements and Vertical Improvements in Phases as more particularly described in the DDA. Developer will have the flexibility to determine the number and size of Phases to respond to market conditions within the framework, and subject to the requirements, described in the DDA and Development Agreement.

**C.** Planning Code section 249.80 established the Mission Rock Special Use District (“**SUD**”) and, together with the Design Controls included in Section 249.80, specifies permitted land uses and other land use restrictions applicable to the Project Site. The Design Controls and the Infrastructure Plan incorporated into the DDA and the Development Agreement (and also

attached hereto as **ICA Exhibit A**), as each may be amended from time to time, provide additional standards and guidelines for vertical development and horizontal development. The procedures for design review and approval for Vertical Improvements and vertical development within the Project Site, including Pier 48, are described in Section 249.80.

**D.** This ICA establishes a process for the Port, Other City Parties, and consenting Other City Agencies to cooperate in undertaking, administering, performing and expediting review of all applications pertaining to Horizontal Development of the Project Site, including its subdivision, review and approval of Phase Applications, Master Utility Plans, design review of Public Spaces and Public ROW streetscape improvements, the review of Improvement Plans and the review, acceptance and approval of Horizontal Improvements for the Project that will be acquired by the Port or Other City Agencies, as Acquiring Agencies under the Acquisition Agreement.

## **AGREEMENT**

### **1. PURPOSE AND INTENT.**

**1.1. Priority Project.** In Board Resolution No. 44-18, based on Project benefits to the City as set forth in the DDA and the Development Agreement, the City determined in accordance with Campaign and Governmental Conduct Code Section 3.400 that a public policy basis exists for this Project to receive priority processing. The City and the Port both found a compelling public policy in expedited review and permitting processes, which will minimize the negative financial impacts on the Port's rent revenues and Public Financing Sources that will be used to pay for the Horizontal Improvements.

**1.2. Findings.** Development of the Project in accordance with the Project Requirements, including DDA, Development Agreement, other and subsequent Project Approvals:

- (a) is in the best interests of the City and County and the health, safety, and welfare of its residents;
- (b) furthers the public purposes of applicable Project Requirements; and
- (c) is a priority for which they will act as expeditiously as is feasible to review and facilitate the processing of applications and implementation of Project development as described in this ICA.

**1.3. Benefit.** This ICA is:

- (a) for the Parties' mutual benefit;
- (b) an agreement for ongoing interdepartmental transfers of funds under Charter section B7.320, terminable only by the expiration of this ICA or by the Parties' agreement with Board of Supervisors approval by resolution and the Mayor's concurrence; and
- (c) for the express benefit of and enforceable by Developer and Developer Parties, Transferees and Vertical Developers, as the third party beneficiaries to the extent of their rights and obligations hereunder, under the Development Agreement and the DDA, subject to the limitations in Developer's Consent, and further provided that neither the Port nor any Other City Agencies will be liable to Developer for damages.

**1.4. Intent.** The Parties intend for this ICA to provide the framework for cooperation between and among the Port and Other City Agencies with respect to review and approval of applications to the Port and Other City Agencies related to the Horizontal Improvements for the Project, including Subdivision Maps, Improvement Plans and associated design criteria and requirements, the issuance of applicable permits, approvals, agreements and entitlements at each applicable stage of design and permitting, and the inspection, review, approval and acceptance of Horizontal Improvements at each applicable stage of construction. Accordingly, the Port and

Other City Agencies agree to proceed expeditiously and to use commercially reasonable efforts to comply with this ICA.

## **2. EFFECTIVE DATE; TERM.**

**2.1. Effective Date.** This ICA will become effective as of the Reference Date.

### **2.2. Term.**

(a) Effect of DDA Termination. The term of this ICA will end on the date that the DDA Term expires including any extension of the DDA Term and any periods of Excusable Delay under the DDA or Development Agreement. Partial termination of the DDA as to any Phase or other portion of the Project Site will terminate this ICA and City Agencies' obligations under this ICA for the terminated portion of the Project Site. Notwithstanding the foregoing, if the DDA is terminated as to a Development Parcel and a Vertical DDA executed for said Development Parcel, the ICA term will expire or terminate as to all City Agencies' obligations associated with the development of said Development Parcel and its associated obligations, with the Vertical DDA.

(b) Ongoing Port Authority under ICA. In accordance with Charter Section B7.320, the Port's authority to disburse funds under **Section 3.6(f)** (Distribution of Reimbursements) will continue until the Board of Supervisors passes and the Mayor approves a resolution terminating the Port's authority to make disbursements under Board of Supervisors Resolution No. 44-18.

## **3. COOPERATION.**

**3.1. Agreement to Cooperate.** The Other City Parties and the Port will aid each other, and the Other City Parties and the Port will cooperate with and amongst all City Agencies, to expeditiously and with due diligence implement the Project in accordance with the DDA and Development Agreement, Project Approvals and the Project Requirements, and undertake and complete all actions or proceedings reasonably necessary or appropriate to implement the Project. Except as otherwise provided in the Transaction Documents, Regulatory Approvals and Regulatory Requirements, nothing in this ICA with regard to such cooperation obligates the City or the Port to spend any money or incur any costs except Other City Costs or Port Costs that Developer will, to the extent provided herein, reimburse under the DDA or administrative costs that Developer or Vertical Developers are obligated to reimburse through Administrative Fees.

**3.2. City Approval.** The City's approval and adoption of this ICA will be evidenced by the signatures of the Mayor, the Clerk of the Board of Supervisors, the Controller, the City Administrator, the Port, and the Director of Public Works.

### **3.3. Consenting City Agencies.**

(a) Written Consents. Based upon the City's approval and adoption of this ICA, as described in **Section 3.2**, each City Agency under the jurisdiction of the City Administrator, and each City Agency that consents to this ICA, will comply with this ICA, and will be entitled to reimbursement of costs under the DDA and **Section 3.6** (Cost Recovery).

(b) Specific Agencies. The following City Agencies have, as of the Reference Date, signed this ICA, a Consent or separate Transaction Document to implement the relevant portions of this ICA: (i) the Mayor's Office, including OEWD, MOHCD, and MOD; (ii) the General Services Agency, including San Francisco Public Works; (iii) the Port Commission; (iv) the San Francisco Municipal Transportation Agency; (v) the San Francisco Public Utilities Commission; (vi) the San Francisco Fire Department; (vii) the Planning Commission (through the Development Agreement); and (viii) the Controller and Treasurer-Tax Collector (through the Tax Allocation MOU).

(c) Additional Agencies. During the course of the Project, the City and the Port, in consultation with Developer, may obtain the Consents of additional Other City Agencies



not listed above. Each additional Consent will be substantially similar in form to the currently attached Other City Agency Consents and will be deemed to be attached to this ICA and effective when the additional Other City Agency delivers its executed Consent to the Port, with copies to Public Works and Developer. Thereafter, Developer will be obligated to pay the Other City Costs of any additional consenting Other City Agencies.

**3.4. Cooperation to Obtain Permits for Regulatory Agencies Other than City Agencies.** Subject to this ICA and the MMRP, the Other City Agencies will cooperate with the Port, with each other and with reasonable requests by Developer to obtain Regulatory Approvals from any Regulatory Agency other than a City Agency that are necessary or desirable to effectuate and implement development of the Project in accordance with the Project Requirements. The City's commitment under this ICA is subject to the conditions listed below:

(a) Coordination. Developer consults and coordinates with applicable City Agencies with jurisdiction in Developer's efforts to obtain the Regulatory Approval.

(b) Continuing City or Port Obligations. If Regulatory Approvals include conditions that entail maintenance by, or other obligations of, the permittee or co-permittees that continue after the City (including the Port) accepts the completed Horizontal Improvements, then when the City (including the Port) accepts any Horizontal Improvements that have continuing obligations under a Regulatory Approval, the City (including the Port) will take reasonably necessary steps at Developer's request to remove Developer as the named permittee or co-permittee from the Regulatory Approval if either: (i) the continuing obligations are designated solely as the City's (or Port's) responsibility under this ICA, the Transaction Documents, or related Project Approvals; or (ii) the City (or Port) in its sole discretion has agreed to accept sole responsibility for the obligations.

**3.5. Other City Actions.** The Mayor, Port and the Other City Agencies will take actions and engage in proceedings subject to this ICA on behalf of the City, including those listed below.

(a) Phase Review. Preliminary (or Pre-Phase Application) phase reviews and Phase Submittal reviews and Phase Approvals in accordance with the DDA.

(b) Design Review. Schematic design review of Horizontal Improvements for Public Space and Public ROWs and schematic design of Vertical Improvements, as described in the SUD.

(c) Subdivision. Coordinating review and approval of proposed Tentative Maps and Final Maps, (including and phased Final Maps), Improvement Plans and Subdivision Improvement Agreements, and permits for Horizontal Improvements.

(d) Public Spaces and Public ROWs. Instituting and completing actions or proceedings for opening, closing, vacating, widening, or changing the grades of Public ROWs or Public Spaces and for other necessary modifications of Public ROWs (including streets, street layouts and other public rights of way) or Public Spaces in the Project Site, including any requirement to issue permits to abandon, remove, and relocate public utilities (as allowed under a City franchise and, when applicable, City utilities) within Public ROWs or Public Spaces as necessary to carry out the Project in accordance the Project Requirements and this ICA, except where City lacks such authority or required property rights.

(e) Construction Documents Review. Coordinating expeditious review of Improvement Plans and issuance of construction and access permits for all stages of Horizontal Improvements within the time frames of this ICA and consistent with the standards set forth in the Project Requirements.

(f) Acceptance. Coordinating inspections and reviews and expeditiously taking timely actions to make construction completeness determinations or to notify Developer of deficiencies, to release security and, where applicable, seek Port Commission or Board of

Supervisors approval to accept Horizontal Improvements from Developer in accordance with the DDA, this ICA, the Subdivision Code and Subdivision Regulations, subject to any exceptions that may be authorized by the Public Works Director under the Subdivision Code. Without limiting the foregoing, the Port and Other City Parties acknowledge that the Infrastructure Plan sets forth standards for certain street segments and other Horizontal Improvements that will require Developer to request exceptions under the Subdivision Code and the Subdivision Regulations and that the City retains discretion to grant such exceptions. As of the Reference Date, the Director of Public Works has not authorized any such exceptions.

(g) State and Federal Assistance. Assisting the Port in pursuing, and reasonably considering requests from Developer to pursue, state and federal grants on behalf of the Project, below-market-rate loans, and other financial assistance or funding to assist in paying for Horizontal Improvements, Site Preparation, Associated Public Benefits or other community benefits. The City will allocate any state and federal assistance that the City receives for the Project to the Port for use in accordance with the DDA, subject to a Board of Supervisors resolution to accept and expend such funds.

(h) Environmental Review. Complying with and implementing Mitigation Measures, including without limitation, Transportation-Related Mitigation Measures, for which the City is responsible, and assisting with evaluating and performing any subsequent environmental review to the extent required under CEQA Guidelines section 15162.

(i) Affordable Housing. Using its good faith efforts to assist Vertical Developers of mixed-income residential development with funding applications.

(j) Historic Tax Credits. Using its good faith efforts to assist Developer Parties in pursuing Historic Tax Credits and other incentives available to encourage the rehabilitation of Pier 48 in accordance with the Secretary's Standards.

(k) Transportation Infrastructure. Evaluating Transportation Infrastructure.

### **3.6. Cost Recovery.**

(a) Other City Agency Costs. In consideration of the benefits Developer will receive under this ICA, Developer will reimburse the Other City Agencies for Other City Costs and Port for Port Costs incurred to comply with this ICA as and to the extent provided in the Financing Plan § 9.2 (Port Accounting and Budget), DA § 4.3 (Payment of Planning Costs), and this Section. With respect to reimbursement of Port Costs and Other City Costs as described in this Section, the Financing Plan will control over any conflict with the Development Agreement and this ICA, and this ICA will control over any conflict with the Development Agreement regarding reimbursements of Other City Costs.

(b) Port and Other City Costs under ICA. The Parties agree that the City will incur all of the following to implement this ICA after the Reference Date: (i) costs of a Project Coordinator if contracted for by an Other City Agency; (ii) costs of Other City Agencies that sign this ICA or an attached Consent; (iii) costs of additional Other City Agencies that later submit Consents that Developer countersigned; and (iv) costs of any third party engineers retained pursuant to **Section 4.3** (Project Street Designs). Developer will have no other obligation to reimburse costs incurred by any Other City Agency unless specifically provided for in another Transaction Document or required as part of an Administrative Fee.

(c) Annual Port Budget. Under Financing Plan § 9.2 (Port Accounting and Budget), the Port will collaborate with Developer annually to prepare an Annual Cost Budget that includes estimates of Port Costs and Other City Costs. One purpose of preparing the Annual Cost Budget is to confirm the Port's and Developer's expectations that Project Payment Sources expected to be available will be sufficient to reimburse Developer's Horizontal Development Costs, Port Costs, and Other City Costs. Each Other City Agency will cooperate with the Port in its preparation of its Annual Cost Budget for the Project.

(d) Compiled Other City Costs Statements. The Port will collect quarterly statements from Other City Agencies for costs incurred under this ICA, including work by Port staff and consultants. The Port will prepare and deliver to Developer a single combined Port Quarterly Report that shows the amount of Other City Costs and Port Costs billed by each City Agency. Each Other City Agency agrees to make reasonably diligent efforts to include all Other City Costs incurred within the prior quarter in each quarterly statement.

(e) Port Quarterly Reports.

(i) Under Financing Plan § 9.2 (Port Accounting and Budget), the Port will deliver Port Quarterly Reports of Other City Costs and Port Costs to Developer within 90 days after the end of each calendar quarter. Other City Agencies agree to make reasonably diligent efforts to include all of their Project-related costs incurred. The Port will compile, but report separately, each Other City Agency's Other City Costs in each Port Quarterly Report. The Port and Developer will be entitled to assume, without any duty of inquiry, that each Other City Agency's statement of Other City Costs is complete and complies with this Section.

(ii) If an Other City Agency fails to submit or to include any of its Project related costs incurred in an Other City Agency quarterly statement provided to the Port, the Other City Agency will have a limited grace period, which it may exercise once within any 12-month period, to have the omitted Other City Cost added to a Port Quarterly Report.

(iii) No City Agency will have the right to recover any Other City Cost or Port Cost that is not included in a Port Quarterly Report within 12 months after the cost was incurred, if the grace period is exercised, or within six (6) months otherwise.

(f) Distribution of Reimbursements.

(i) Developer will reimburse Other City Costs and Port Costs by payments to the Port in accordance with Financing Plan § 9.2(e) (Reimbursement). The Port will be responsible for disbursing payments to the Other City Agencies.

(ii) The DDA requires Developer and the Port to meet and confer in good faith to attempt to resolve any payment dispute. The Port will invite the affected Other City Agency to any meeting involving a dispute over its Other City Costs.

(iii) The Port will have no obligation to pay any Other City Agency for Other City Costs that Developer withholds from payment or that the Other City Agency did not timely submit for payment under **Subsection 3.6(e)** (Port Quarterly Reports) above.

**3.7. No Harbor Fund or General Fund Commitment.** This ICA is not intended to, and does not, create any commitment of the Port's Harbor Fund or the City's General Fund in any manner that would violate the debt limitations under Article XVI, Section 18 of the California Constitution, or of the City Charter, including Section 3.105 (Controller responsibility for General Fund), Section 8A.105 (Municipal Transportation Fund), Section 8B.121 (SFPUC financial assets), and Section B6.406 (Port Harbor Fund).

**3.8. Procedures Required Under Applicable Laws.** All City actions under this ICA will be taken subject to the limitations in the Development Agreement.

#### **4. REVIEW PROCEDURES FOR IMPROVEMENT PLANS, INSPECTIONS AND ACCEPTANCE.**

**4.1. Expeditious Processing.** City Agencies will process expeditiously and with due diligence all submissions, applications and requests by Developer for Later Approvals, including all permits, approvals, agreements, plans, and other actions that are necessary to implement the Project, including without limitation, all Phase Submittals, schematic design reviews, Tentative Maps, phased Final Maps, (including Final Maps), Improvement Plan Submittals, construction documents, construction permits, construction inspections, and finally complete determinations, releases of security, acceptances and acquisition of Horizontal Improvements.

**4.2. Intentionally Omitted.**

**4.3. Project Street Designs.**

**(a) Development of Design Criteria.**

**(i) Prior to the Reference Date:**

**(A)** The Port, in consultation with Other City Agencies, will have retained a qualified independent third party engineer(s) to assist in reviewing Developer's submissions related to the proposed Structured Street Superstructure, and associated Structured Street Drainage, Flexible Utility Connections and Flexible Street Improvements, each as defined in **ICA Exhibit C** and collectively referred to as the "Structured Street System", as more specifically described in the Infrastructure Plan;

**(B)** Developer will have provided to Port, the Port's independent third party engineer(s), and Other City Agencies, Developer's existing preliminary geotechnical, structural and civil engineer data and information, and any other directions, assumptions, and design approach used to form the basis for the Structured Street System, as described in the Infrastructure Plan; and

**(C)** Developer, Port, the Port's independent third party engineer(s) and Other City Agencies will have met to review such data and information.

**(ii)** Developer, in coordination and consultation with the Port, the Port's independent third party engineer(s), and Other City Agencies, will develop and establish design criteria for the Structured Street System or any alternative proposal (the "Project Street Design Criteria"), and they will endeavor, working together with consistent due diligence, to complete the Project Street Design Criteria within 90 days of the Reference Date, subject to such reasonable adjustments as may under the circumstances be necessary. The Project Street Design Criteria will establish the foundation for Developer to prepare the Basis of Design Report and Improvement Plan Submittals.

**(b) Basis of Design.** Because of the unique nature of the geologic conditions at the Project Site, Port (and Other City Agencies) will establish a plan for periodic check-ins, consultation and coordination with Developer, in connection with Developer's preparation of the Basis of Design. Developer, the Port and Other City Agencies currently anticipate that the Basis of Design will reflect approximately 50% level of Improvement Plan development. As provided in Section 4.6(b)(iv) below, the Basis of Design will include a description of proposed requests for exceptions or design modifications under the Subdivision Code or Subdivision Regulations. It is currently anticipated that the Basis of Design would be prepared and submitted within 180 days from completion of the Project Street Design Criteria. Developer and City may, as necessary or appropriate agree to modify the Basis of Design submittals as described in **Exhibit E**.

**(c) Independent Third Party Engineer.** Nothing herein limits the discretion or authority of the Port, and Other City Agencies to retain or utilize a qualified independent third party engineer, or other qualified consultants, to provide engineering assessments or peer review of any plans.

#### **4.4. Phase Submittal Review.**

(a) Phase Submittals. Phase Submittals and the Phase Approval process are described in Section 3 of the DDA. They are intended to provide a comprehensive review of the proposed horizontal development and vertical development for the applicable phase, estimated Horizontal Improvements costs, and identification of Project Payment Sources. Each Phase Submittal will include sufficient information, as described in DDA Section 3.2 (Phase Submittal), to determine that the Phase Submittal is consistent with the applicable provisions of the Transaction Documents.

(b) Acquiring Agencies' Review.

(i) The Port will advise applicable Acquiring Agencies of an application for a Phase Approval and provide a copy of Developer's Phase Submittal to afford such Other City Agencies an opportunity to consult with and to provide comments to Port.

(ii) All such applicable Other City Agencies will provide the Port Director with their comments on the Phase Submittal as soon as reasonably possible but no later than twenty-one (21) days after the Port makes its completeness determination, and ten (10) days after Developer submits any amended Phase Submittal. Each Acquiring Agency will include therein any initial comments or concerns regarding the costs to operate and maintain (where applicable) Phase Improvements that it will acquire and/or maintain under the Acquisition Agreement, provided, however, that nothing herein and no such comments will require Developer to construct or provide Phase Improvements except as provided in the Infrastructure Plan, Design Controls or other Regulatory Approval.

(c) Port Consent. The Port's granting of a Phase Approval will be evidence of Port's approval, as property owner, to the processing of a Subdivision Map and all other Regulatory Approvals based thereon or consistent therewith.

#### **4.5. Improvement Plans for Horizontal Improvements-Generally.**

(a) Coordination of Plan Reviews. Consistent with Port Commission approval of Schematic Design Applications for Public Spaces (as described in DDA § 12.5 (Schematic Design Review of Public Spaces)), the Port and the City will allocate responsibility for subsequent review of final construction documents for Horizontal Improvements for consistency with the Project Requirements and other Regulatory Requirements and Regulatory Approvals, provided that:

(i) For Public Spaces, Port will be the Permitting Agency and will coordinate reviews by any Other City Agency, as applicable, and approval of Improvement Plans for Horizontal Improvements in Public Spaces;

(ii) For the proposed Structured Street Superstructure or alternative proposal, Port, in consultation with the City Engineer, will be the Permitting Agency and will coordinate reviews by any Other City Agency, as applicable;

(iii) For Public ROWs (excluding the proposed Structured Street Superstructure or alternative proposal), Public Works will be the Permitting Agency and the Port will assist the Permitting Agency with coordinating reviews by Other City Agencies for all other Horizontal Improvements (including review and approval of Master Utility Plans); and

(iv) Improvement Plans for Horizontal Improvements generally will be reviewed as part of the subdivision process.

(b) Port Review. Except to the extent incorporated into the Port Building Code, the Port will not review any Improvement Plans for compliance with any state or federal laws.

#### **4.6. Processing of Improvement Plans and Issuance of Construction Permits.**

(a) Consistency with Project Approvals. The Project Approvals include an Infrastructure Plan attached hereto as **Exhibit A** that has been reviewed and conditionally approved by Public Works, SFPUC, SFFD, Port, and SFMTA, subject to any modifications following the independent third-party review pursuant to **Section 4.3** (Project Street Designs). The SFPUC will review and approve final Master Utilities Plans prior to approval of the Improvement Plans. Accordingly, the applicable Permitting Agency will issue Construction Permits for the applicable Horizontal Improvements if the Permitting Agency and reviewing Other City Agencies find that the Improvement Plans are consistent with the Project Requirements and other applicable Regulatory Requirements and Regulatory Approvals, including the Infrastructure Plan, Master Utilities Plans, Tentative Map Conditions of Approval and the City's technical specifications related to engineering documents under the Subdivision Regulations, subject to any exceptions that may be authorized by the Public Works Director under the Subdivision Code.

(b) Design Standards, Exceptions and Design Modifications.

(i) Developer has proposed in the Infrastructure Plan certain non-standard Horizontal Improvements including the Structured Street Superstructure, interfaces with existing perimeter streets, shared public ways, and the use of high-density polyethylene pipe ("**HDPE**") throughout the Project Site (collectively, "**Non-Standard Infrastructure**") that would require exceptions and design modifications from the standards set forth under the Subdivision Regulations. A description of the Developer's proposal for principal components of Non-Standard Infrastructure, as described in the Infrastructure Plan, is attached as **ICA Exhibit C** for discussion purposes only.

(ii) Within 120 days following Developer's submittal of a Basis of Design Report, Public Works, SFMTA, SFPUC and the Port will in good faith attempt to agree on a conceptual framework for the Infrastructure Acceptance & Maintenance MOA, as described below. Within 120 days following the Developer's submittal of a First Submittal, Public Works, SFMTA, SFPUC and the Port will negotiate in good faith to reach agreement on a memorandum of agreement ("**Infrastructure Acceptance & Maintenance MOA**") relating to Developer's proposal for both City-standard and Non-Standard Infrastructure, such as but not limited to the proposed Structured Street System, as referenced in the Infrastructure Plan as it may be modified pursuant to this ICA. The Infrastructure Acceptance & Maintenance MOA will identify the applicable Acquiring Agencies, the entities responsible for maintenance and liability, the maintenance funding sources, the anticipated exceptions and design modifications to the Subdivision Code or Subdivision Regulations known to Developer upon submittal of the Basis of Design, and any special inspection and training procedures required by the City. The City and the Port retain full discretion to negotiate the terms of the Infrastructure Acceptance & Maintenance MOA and to approve, conditionally approve, or reject Developer's proposal for Non-Standard Infrastructure pursuant to the applicable Municipal Code at the time of Developer's proposal. The Parties agree the Infrastructure Acceptance & Maintenance MOA may be finally executed by the Directors of the applicable City Agencies, unless otherwise required by the City Charter or other City law. The following principles will guide the development of the Infrastructure Acceptance & Maintenance MOA:

A. The acceptance procedures will provide for diligent and expeditious processing of acceptance requests.

B. Permitting Agencies will introduce complete acceptance packages to the Board of Supervisors with a goal of final approval within 6 months after the date of the Developer's submission of a complete request.

C. City or Port acceptance of Horizontal Improvements, as applicable, will include the obligation of the Developer to maintain the accepted Horizontal Improvements and all facilities and components therein, excepting only portions of the full Public ROW that are ready for their intended use and purpose and are accepted by the City, or of improvements that are to be maintained in accordance with the standard terms of an encroachment permit (which may include Developer maintenance obligations), as provided in the Project Requirements, and except as may be otherwise provided in the Infrastructure Acceptance & Maintenance MOA.

D. The Port and Other City Agencies are entitled to seek additional information from the Developer. The additional information may extend the time frame required to finally execute the Infrastructure Acceptance & Maintenance MOA or amendments to the Infrastructure Acceptance & Maintenance MOA as described below.

E. The Infrastructure Acceptance & Maintenance MOA shall provide for provision of additional Project design development information, as necessary to address matters covered under the Infrastructure Acceptance & Maintenance MOA, including procedures for amendment of the Infrastructure Acceptance & Maintenance MOA as necessary to address exceptions or design modifications to the Subdivision Code or Subdivision Regulations relating to Improvement Plans for subsequent Phases.

**(iii)** Without limiting the foregoing, in connection with its review of Improvement Plans to be attached to Public Improvement Agreements, Public Works (and the Port, if required), in consultation with Other City Agencies, will consider requests for exceptions and design modifications from the standards set forth under the Subdivision Regulations, and will work together with Developer in good faith regarding such requests.

**(iv)** Developer will identify in its Basis of Design Report (or subsequently in an Improvement Plan Submittal if the need for an exception not previously requested arises during the review of Improvement Plan Submittals or in response to City Agency comments) the type, geographic location, and rationale for all exceptions that it intends to request. Developer will provide Public Works and the Port the names of persons in all affected City Agencies that Developer has asked to consider any such requests for exceptions. Within 90 days from the submittal of the Basis of Design Report or Improvement Plan Submittal, as applicable, the Public Works Director will provide Developer with a written response on the proposed exceptions, identifying (i) exceptions that Developer may submit for approval as identified in the Basis of Design Report; (ii) modifications to proposed exceptions that Developer should make before a formal submittal of the exception request; (iii) preliminary conditions or criteria that proposed exceptions would be subject to; (iv) additional items that may require an exception not listed in the Basis of Design Report; and (v) exceptions that the Public Works Director is unlikely to recommend for approval. The City may request additional information as it reasonably determines is necessary to make these determinations. The additional information may extend the time required to provide the written responses on the exceptions.

**(v)** Public Works (and the Port, if required), in consultation with applicable Other City Agencies, may approve minor deviations in a particular design from the

standards in the Infrastructure Plan, and Subdivision Regulations, in accordance with **Section 9.2(e)** (Minor Deviations).

(c) Deferred Infrastructure. Developer has proposed to submit applications for Horizontal Improvements that will include requests for Deferred Infrastructure. Developer's current concept for Deferred Infrastructure is described in **Exhibit D** attached for discussion purposes only. Certain aspects of the proposed Deferred Infrastructure concept in **Exhibit D** would require an amendment to the current Subdivision Code and Subdivision Regulations or an exception granted by the Public Works Director under Subdivision Code Section 1312. It is also contemplated that the Board of Supervisors and the Public Works Director may consider amending the Subdivision Code and the Subdivision Regulations in a manner that would address requests for Deferred Infrastructure described in **Exhibit D**. The Port and Other City Parties will work in good faith to explore the proposed approach to Deferred Infrastructure subject to the understanding that nothing in this ICA obligates an Acquiring Agency to accept Deferred Infrastructure.

(d) Plan Submittals. The DDA contemplates that the Project will be implemented in Phases. The Developer under each Phase (which may include Vertical Developers with respect to Deferred Infrastructure) will submit a set of Improvement Plans for each Component of Horizontal Improvements for review by Other City Agencies and Port (each, an "**Improvement Plan Submittal**"), as more particularly described in this Section. Each Improvement Plan Submittal shall be reviewed and approved by all applicable City Agencies and the Permitting Agency. Issuance of a construction permit will be in accordance with this Article. The Improvement Plan Submittals shall be submitted for each Phase as one or more of the following:

(i) Demolition and Utility Relocation Plans, Mass Grading Plans, and Ground Improvement Plans (collectively, "**Site Preparation Plans**") will be submitted as separate permit applications or may be submitted in a combined permit application, as deemed appropriate by Developer.

(ii) Horizontal Improvement Plans will be submitted as follows:

A. Basis of Design Report, including, as applicable the documents and information described in **ICA Exhibit E**; and

B. Improvement Plan Submittals consisting of a: 1) First Submittal; 2) Second Submittal; and 3) Permit Set, which will comprise the final Improvement Plans to be attached to the Public Improvement Agreement. Each Improvement Plan Submittal will incorporate any agreed upon comments and revisions required by the reviewing City Agencies. Each Improvement Plan Submittal may also incorporate Demolition, Utility Relocation, and Mass Grading Plans as appropriate.

(iii) Public Space Plans will be submitted as a single permit application for each park or may be combined with other Public Space areas, as appropriate (the "**Public Space Plans**"). Procedures for Port Commission prior review and approval of Schematic Design Applications for Public Spaces is provided in Section 12.5 (Schematic Design Review of Public Spaces) of the DDA.

(e) Pre-Submittal Conference for Basis of Design Report and Improvement Plans. Developer will request and participate in a pre-submittal conference with the Port (and the Permitting Agency, if not the Port) for the Basis of Design Report submittal at least fifteen (15) days prior to submittal. The Permitting Agency, Port and Developer may hold a pre-



submittal conference for each subsequent Improvement Plan Submittal as mutually agreed. The Permitting Agency will advise any affected Other City Agencies of, and invite them to participate in, any such pre-submittal conference. The Permitting Agency will require Developer to provide the Port and any Other City Agencies choosing to participate with copies of materials to be discussed at any pre-submittal conference. At the pre-submittal conference, Developer shall provide a schedule of anticipated milestones and activities, including: (i) Subdivision Map processing, (ii) infrastructure engineering and permitting, (iii) construction, and (iv) acceptance. Developer shall regularly (at least quarterly) update this schedule.

(f) Submittal of Improvement Plans for City Review. Prior to submittal of each Improvement Plan Submittal, Developer will provide fourteen (14) days' notice to the Permitting Agency. Within three (3) business days after receipt, the Permitting Agency (or Developer, upon Permitting Agency authorization), will deliver such notice, and upon submittal of the applicable Improvement Plan Submittal will deliver the Improvement Plan Submittal to all other applicable City Agencies. If Developer has concurrently submitted to the Port preliminary Acquisition Prices for Phase Improvements in the form of AA Exh B (Cost Estimates of Components by Phase) or Acquisition Cost Updates thereto, the Port will deliver copies of any price information affecting an Other Acquiring Agency's Horizontal Improvements along with the applicable Improvement Plan Submittal.

(g) Review of Improvement Plans. The Permitting Agency and each City Agency as applicable will review each Improvement Plan Submittal for consistency with the Project Requirements, other Regulatory Requirements, Regulatory Approvals and Improvement Plans previously approved. Each Other City Agency will provide comments to the Permitting Agency within thirty (30) days of the Other City Agency's receipt of the Improvement Plan Submittal. Any Other City Agency that will be an Acquiring Agency for the applicable Phase Improvements or Deferred Infrastructure will also have the opportunity to state its concerns regarding the costs to operate and maintain Phase Improvements that it will acquire. If the Permitting Agency and an Other City Agency (or the Port if it is not the Permitting Agency) disagree on their comments, then they shall work to resolve any differences in accordance with **Section 4.6(i)** (Consultation). Notwithstanding the foregoing, if Developer submits the Site Preparation Plans as a combined set of two or more plan sets, the time for review will be extended by an additional thirty (30) days.

(h) Delivery of Compiled Comments. Within three (3) business days after receipt of review comments from all Other City Agencies commenting on the applicable Improvement Plan Submittal (the "**Consolidated Response Date**"), the Permitting Agency will deliver all comments in a compiled format to Developer for response and revision as appropriate. Notwithstanding the foregoing, if the consultation process under **Section 4.6(i)** (Consultation) delays the Permitting Agency's delivery of comments beyond the thirty (30) day review period, then Developer may invoke Administrative Delay under the DDA as described in **Section 4.6(p)** (Excusable Delay).

(i) Consultation. The Permitting Agency and Other City Agencies agree to meet and attempt to resolve any differences over their respective comments within the following timeframes after delivery of comments to the Permitting Agency (City or Port) as applicable: (i) within 30 days for Basis of Design Report and the First Submittal, and (ii) within 21 days for any other Improvement Plan Submittal.

(j) Proposed Revisions.

(i) City Agencies may propose changes to the applicable Improvement Plan Submittal that do not conflict with Project Requirements or previously approved Improvement Plans. If the City Agencies propose changes to the applicable Improvement Plan Submittal, then upon request by Developer, the applicable City Agencies and Developer will promptly meet and confer in good faith to attempt to reach agreement on any such changes proposed for a period of not more than 30 days for the Basis of Design Report and

First Submittal, and not more than 21 days for the Second Submittal and Permit Set, as any of the foregoing times may be extended by mutual agreement. Coming out of this meet and confer process, Developer will incorporate revisions to the Site Preparation Plans and resubmit; incorporate revisions to Basis of Design Report into the First Submittal; incorporate revisions to the First Submittal into the Second Submittal; and incorporate revisions to the Second Submittal into the Permit Set. If Developer submits a revised Improvement Plan Submittal for any other type of Improvement Plan Submittal, then Port and all applicable Other City Agencies will have an additional 30 days for review after Developer resubmits the Improvement Plan Submittal with revisions.

(ii) Prior to each other subsequent resubmittal Developer will provide at least fourteen (14) days advance notice of the resubmittal date. Each resubmitted Improvement Plan Submittal will identify design revisions by clouding the changes and annotating the clouded areas with a plan revisions delta indicative of the sequential resubmittal number identifying all changes to the applicable Improvement Plan Submittal and a table of all comments and all responses to comments addressed in the applicable Improvement Plans Submittal or resubmittal (unless not required to be addressed, in which case the response will address the reasons for such conclusion). If the Improvement Plan Submittal or resubmittal is incomplete, inconsistent or fails to include such identifying clouds and table, then the reviewing City Agencies will have forty-five (45) days to review the applicable Improvement Plan Submittal or resubmittal.

(k) Approval of Improvement Plans. Subject to the foregoing process and notwithstanding Government Code Section 66456.2(a), the Permitting Agency will approve, conditionally approve or disapprove the Permit Set for Improvement Plans and each Improvement Plan Submittal as described above within thirty (30) days after the later of the applicable Improvement Plan Submittal or submittal of revisions thereto in accordance with **Section 4.6(j)** (Proposed Revisions). All time periods for review and approval shall be subject to the Permit Streamlining Act (Cal. Gov't Code §§ 65920 et seq.), to the extent not inconsistent with the approval procedures set forth in this ICA, recognizing and acknowledging that time periods for review and approvals hereunder may be shorter than those provided under the Permit Streamlining Act. Notwithstanding the reference to the time periods described in the Permit Streamlining Act, under no circumstances will any Improvement Plan Submittals be deemed approved.

(l) Resubmittal Upon Disapproval. If the Permitting Agency disapproves a Permit Set or any other Improvement Plan Submittals, and Developer subsequently resubmits, the Permitting Agency will have an additional thirty (30) days for review from receipt of the resubmittal (which period will include consultation with other City Agencies to the extent requested by the Permitting Agency). This procedure will continue (except with respect to the Basis of Design Report) until the Permitting Agency approves the amended Improvement Plan Submittal.

(m) Review Standards. Unless otherwise approved by Developer in its sole discretion, neither the Permitting Agency nor any other City Agency will disapprove any Permit Set or Improvement Plan Submittal on the basis of any element that conforms to and is consistent and in compliance with the Project Requirements (including the Infrastructure Plan and Master Utilities Plans), other Regulatory Approvals or Regulatory Requirements, and the Permitting Agency's or City Agency's prior approvals, or impose new conditions that conflict with the Project Requirements (including the Infrastructure Plan and Master Utilities Plans) other Regulatory Approvals or Regulatory Requirements, or prior approvals (provided, however, that the Parties acknowledge the City has discretion to impose conditions consistent with Regulatory Approvals or Regulatory Requirements). Any Permitting Agency denial, or recommendation of denial to the Permitting Agency by any City Agency, of an approval shall include a statement of the reasons for such denial or recommendation of denial to the Permitting Agency. The Permitting Agency will immediately notify Developer of any disapproval.

(n) Extension of Review Periods. All Improvement Plan Submittals will include detailed information, and the turnaround time for the Permitting Agency and other City Agencies', and City staff for review will depend in part on the amount of new information in and the quality of a submittal, including Developer compliance with the resubmittal requirements in **Section 4.6(f)** (Submittal of Improvement Plans for City Review). The Permitting Agency will, after consultation with Developer, have the right to grant reasonable extensions of time for City Agencies to review submittals and provide comments.

(o) Failure to Provide Timely Responses. Any City Agency that fails to deliver its comments on an Improvement Plan Submittal within the comment periods under this ICA, unless extended under **Subsection 4.6(n)** (Extension of Review Periods), will at Developer's request take all reasonable measures necessary to ensure that the applicable Improvement Plan Submittal will be reviewed within a period of thirty (30) days from Developer's request.

(p) Excusable Delay. The Permitting Agency or any other City Agency's failure to act upon an Improvement Plan Submittal within the time frames specified in this Section, subject to extension under **Subsection 4.6(n)** (Extension of Review Periods) shall be a basis for Administrative Delay under DDA Article 4 (Excusable Delay). In such case, Developer may claim Administrative Delay on a day-for-day basis from the required time for approval until the date of actual approval. For example, if the Outside Date in the Schedule of Performance for Commencement of Construction for Phase 1 is January 1, 2026 but the Port takes 60 days to approve the applicable Improvement Plan Submittal instead of the required 30 days, then the Outside Date for Commencement of Construction will be extended by an additional 30 days to January 31, 2026. In addition, delay in the time that the Permitting Agency actually delivers its comments to the Developer (whether caused by City Agency consultation or otherwise) will also be a basis for Administrative Delay under DDA Article 4 (Excusable Delay) on a day-for-day basis until delivery of comments.

#### **4.7. Inspections.**

(a) Inspection Procedures. Before construction begins at the Project Site, each Acquiring Agency will be responsible for providing Developer with written procedures for inspection of Horizontal Improvements or Components that the Acquiring Agency will acquire. Inspection procedures must be consistent with the Project Requirements.

(b) Inspection Request. Developer may initiate an inspection to determine whether Horizontal Improvements or Components are complete, ready for their intended use and have been completed substantially in conformity with the applicable Permit Set and applicable Regulatory Requirements by delivering to the respective Permitting Agency, an Inspection Request. The Chief Harbor Engineer or City Engineer, as applicable, for the applicable Permitting Agency, will forward copies of the Inspection Request to any applicable Acquiring Agency within three (3) business days after receiving the Inspection Request and promptly coordinate inspections.

(c) Inspection. Each Acquiring Agency will be responsible for conducting a requested inspection with due diligence and in a reasonable time given the scope of the inspection but not to exceed twenty-one (21) days after the City Engineer (or Chief Harbor Engineer, as applicable) has transmitted Developer's Inspection Request. Within five business days after conducting an inspection, each Acquiring Agency will provide notice to the Permitting Agency that the Horizontal Improvement or Component has been approved as inspected or deliver the Other Acquiring Agency's punch list of items to be corrected. The City Engineer (or Chief Harbor Engineer, as applicable) will compile punch lists and deliver them to the Developer within thirty (30) days after the City Engineer (or Chief Harbor Engineer) delivered the Inspection Request.

(d) Notice to Developer. The Permitting Agency will compile any approvals and punch lists for the Horizontal Improvements and Components inspected and provide them to Developer within three (3) business days after the Permitting Agencies receives inspection results from the Other Acquiring Agencies.

(e) Standards and Procedures for Acceptance.

(i) Any acceptance of streets and other Horizontal Improvements will occur according to the Subdivision Code and Subdivision Regulations, subject to any exceptions that may be authorized by the Public Works Director under the Subdivision Code, and as may be informed by the Infrastructure Acceptance & Maintenance MOA. The Acquiring Agency will accept full, complete, and functional Phase Improvements and Components thereof as designed in conformance with the Subdivision Regulations and utility standards, and constructed in accordance with the Permit Set, subject to any exceptions that may be authorized by the Public Works Director under the Subdivision Code.

(ii) From and after the Reference Date, the City Agencies, in consultation with Developer, will diligently meet and confer to consider other standards and procedures for acceptance of Horizontal Improvements, including individual utility systems that are subject to the Developer's potential post-acceptance maintenance, repair, and liability until the completion of all surface and subsurface Improvements in the Public ROWs in which the individual utility system is installed, and the City's acceptance of such Improvements and Public ROWs, as will be addressed in the Infrastructure Acceptance & Maintenance MOA.

(f) SOP Compliance of Phase Improvements under the DDA. Section 14.6 (SOP Compliance) of the DDA sets forth a process for the Chief Harbor Engineer to issue a SOP Compliance Determination when he finds that Developer has satisfied its construction obligations under the DDA, including the Schedule of Performance, for the construction of Phase Improvements. The Chief Harbor Engineer shall consult with Other City Agencies prior to issuing an SOP Compliance Determination, and each Other City Agency will respond within 30 days after request with any comments. After a 14-day cure period, if an Other City Agency fails to respond, the Chief Harbor Engineer, in his or her reasonable discretion, may issue the SOP Compliance Determination under the DDA.

**4.8. Vertical Development- Consistency Review.** City Agencies will, as necessary and appropriate, coordinate reviews of Improvement Plans for Horizontal Improvements with Improvement Plans for Vertical Improvements (to the extent not included and previously addressed in Improvement Plans for Deferred Infrastructure), including Deferred Infrastructure, utility laterals and associated facilities serving the Vertical Improvements and connection to Horizontal Improvements, to ensure consistency, avoid development delays, safeguard public safety, and protect existing infrastructure.

**4.9. Other Assistance.** Public Works will provide additional engineering and construction management services for the Project if requested by the Port. Public Works agrees that the Port may establish work orders to obtain Public Works staff review of Improvement Plans on behalf of the Port under the Port Director's direction. If it does so, Public Works staff will be obligated to provide comments to the Port in time to permit timely transmittal to Developer.

**4.10. Moratorium Streets.** Section 2.4.21 of the Public Works Code provides that "Public Works shall not issue any permit to excavate in any moratorium street; provided, however, that the Director of Public Works, in his or her discretion, may grant a waiver for good cause." A moratorium street is defined as any block that has been reconstructed, repaved, or resurfaced in the preceding 5-year period. Public Works acknowledges that the Project will involve the construction of Public ROWs before adjacent Vertical Improvements are built, and that those Vertical Improvements may require street excavation for Deferred Infrastructure and to connect Deferred Infrastructure to previously-built Horizontal Improvements in the Public

ROW. Public Works agrees that, to the extent that Public Works Code Section 2.4.21 is applicable and construction of Vertical Improvements will require excavation within adjoining City accepted public streets within the 5-year moratorium period, the Director of Public Works will consider granting a requested waiver, subject to reasonable conditions to protect public health, safety, and welfare, appropriate restoration requirements (which may be required under future amendments to the San Francisco Municipal Code or applicable regulations), and recovery of its actual costs incurred, on a time and materials basis.

#### **4.11. SFMTA Matters.**

(a) Prior SFMTA Review. The Permitting Agency will not issue any Construction Permit for Horizontal Improvements that include or should include Transportation Infrastructure or Transportation-Related Mitigation Measures unless SFMTA has previously reviewed and approved applicable Improvement Plans for compliance with SFMTA requirements, consistent with the Project Requirements and in accordance with the procedures governing Improvement Plans in this **Article**, and has determined compliance with all applicable Transportation Related Mitigation Measures consistent with the MMRP.

(b) Cooperation. The Permitting Agency and Developer, and Vertical Developers, as applicable, will work collaboratively with SFMTA to ensure that Transportation Infrastructure and Transportation-Related Mitigation Measures are discussed as early in the review process as possible and that the Port, Public Works, and SFMTA act in concert with respect to these matters.

(c) Public ROWs.

(i) The Parties will work with Developer to prepare and thereafter adopt the Mission Rock On-Site Event Management Plan to manage on-site event related travel and ensure street safety. The implementation of the Transportation Plan (and the Mission Rock On-Site Event Management Plan) will include Later Approvals, such as street closures of the Shared Public Way and a portion of Exposition Street to vehicular traffic in connection with identified events.

(ii) Developer and Vertical Developers may submit one or more annual street closure permit applications to the City for any set of street closures involving consistent uses and event management strategies. Street closure permit applications will be processed using the City's existing event permitting process (commonly referred to as ISCOTT) that includes review by appropriate departments, including SFMTA, Public Works, SFFD and SFPD.

(iii) Developer acknowledges that:

(1) the right to use Public ROWs is not exclusive and that the City or Port may issue permits to other persons for use and occupancy, including events, with or without the consent of Developer; and

(2) the Port and City will require licensees to cover the costs of maintenance and operation attributable to any use or occupancy as a condition to issuing use permits.

**4.12. SFPUC Matters.** The following will apply to SFPUC Utility Infrastructure and Utility-Related Mitigation Measures:

(a) Master Utilities Plans. Developer must submit final Master Utility Plans prior to submitting a Basis of Design Report. Before Port or any City Agency is required to review any Improvement Plan Submittal, SFPUC (through its General Manager) must review and approve, conditionally approve or reject the Master Utilities Plans submitted by Developer.

SFPUC shall diligently and expeditiously review the Master Utilities Plans (or any subsequent revisions).

(b) AWSS. Developer will submit with each Basis of Design Report its AWSS Plan for the associated Horizontal Improvements. SFPUC will diligently and timely perform modeling required to support the proposed AWSS design.

(c) SFPUC Review of Improvement Plans. The Permitting Agency will not issue any construction permit for Horizontal Improvements that include SFPUC Utility Infrastructure or Utility-Related Mitigation Measures unless SFPUC has reviewed and approved applicable Improvement Plans for compliance with SFPUC requirements consistent with the Project Requirements, including the Infrastructure Plan and Master Utility Plans, in accordance with procedures governing Improvement Plans in this Article.

(d) Public Power. In accordance with Chapter 99 of the San Francisco Administrative Code, the SFPUC has performed a feasibility study and has determined that it will be able to provide electric power to the project. SFPUC agrees that electrical service will be reasonably available to meet the Project's needs and Developer's schedule, and that the projected price for electrical service and electric utility infrastructure cost allocations will be comparable to rates in San Francisco for comparable service. SFPUC will work with the Developer to provide temporary construction and permanent electric services pursuant to its Rules and Regulations for Electric Service.

Developer understands and agrees that all electricity for the Project Site (the “**applicable service**”) will be provided by SFPUC Power under the terms of an Electric Service Agreement (“**ESA**”) to be completed between SFPUC Power and Developer. Among other things, the ESA, in addition to the ESA's standard terms and conditions, will address some or all of the following: (a) development schedules and milestones for electric service; (b) termination rights and costs; (c) offsite infrastructure requirements, development, costs, and any cost allocation; (d) onsite infrastructure requirements, development, costs and cost allocations; and (e) Developer-provided space for SFPUC electric facilities. The Parties agree to act in good faith to finalize the ESA within 180 days from the Reference Date. If the Parties' good faith efforts do not result in a final ESA within 180 days, the Parties will agree to a reasonable extension of time to complete the ESA. If the Parties' diligent good faith negotiations to enter into an ESA as set forth above are unsuccessful, Developer may elect to pursue alternative service arrangements.

(e) Cooperation. The Permitting Agency, Developer, and Vertical Developers, as applicable, will work collaboratively with each Other City Agency to ensure that SFPUC Utility Infrastructure and Utility-Related Mitigation Measures are discussed as early in the review process as possible and that the Port, Public Works, and the SFPUC act in concert with respect to these matters.

**4.13. Role of SFFD.** The following shall apply to Fire Safety Infrastructure.

(a) Prior SFFD Review. The Permitting Agency will not issue any Construction Permit for Horizontal Improvements that include or should include future Fire Safety Infrastructure unless the SFFD has previously reviewed and approved applicable Improvement Plans for compliance with SFFD requirements in accordance with procedures governing Improvement Plans in this Article. Neither the Port nor Public Works shall approve any Improvement Plans that include plans and specifications for Fire Safety Infrastructure without the SFFD Fire Chief's, or Chief's designee's, prior approval.

(b) Cooperation. The Permitting Agency, Developer, and Vertical Developers, as applicable, will work collaboratively with SFFD to ensure that Fire Safety

Infrastructure is discussed as early in the review process as possible and that Public Works, the Port, and SFFD act in concert with respect to these matters.

## **5. PROCESS FOR REVIEW AND APPROVAL OF SUBDIVISION MAPS.**

**5.1. Subdivision Process.** The Subdivision Map Act, the Subdivision Code and the Subdivision Regulations will govern the Subdivision Map process.

## **6. OTHER COORDINATION.**

### **6.1. Intentionally Omitted.**

**6.2. Role of Horizontal Improvements Project Coordinator.** Developer and the Port may agree to utilize a third-party professional (the “**Project Coordinator**”) to coordinate with Developer, the City and the Port to fulfill efficiently, expeditiously and with due diligence their respective obligations under this ICA. The Project Coordinator’s scope of work includes, but is not limited to, facilitating permit applications, including plan reviews and revisions, providing recommendations for acceptance of parks and open space, providing recommendations on the Port’s issuance of an SOP Compliance Determination in accordance with the DDA and Schedule of Performance, and facilitating acquisition and reimbursement under the Acquisition Agreement. The Port shall contract with the Project Coordinator, and may include associated actual costs incurred as part of Port Costs, on the conditions listed below.

(a) Annual Review. At least 60 days before retaining or renewing the contract of any Project Coordinator, the Port, and Developer will meet and confer about the identity, cost, duration, and scope of work of the third-party professional to ensure that contracted services are used in an efficient manner and avoid redundancies.

(b) Contract Terms. Contracts with the Project Coordinator: (i) will, unless agreed otherwise by the Port with Developer Consent, specify a maximum annual fee for the scope of work, subject to modification if work on Developer submittals exceeds the anticipated scope of work; (ii) may be for any term to which the Port and the Project Coordinator agree; (iii) must provide for an annual review of contracted services; and (iv) must be terminable upon notice.

(c) Termination. Developer or the Port may request the termination of the Project Coordinator’s contract by delivering a written statement of the basis for its request to the other Party. Before the Port will be obligated to terminate the contract, Developer and the Port must meet and confer on whether a revised scope of work would address the issues adequately and, if not, whether implementing procedures for securing a contract with a satisfactory replacement Project Coordinator is appropriate. If the contract is terminated, Developer and the Port will meet and confer to revise the timelines for Port and Other City Agencies’ review and processing of Developer submittals under this ICA in light of available staffing.

## **7. ACCESS TO CITY PROPERTY.**

**7.1. Master Lease/Vertical DDA.** Developer will have possession and control of the applicable portions of the Project Site under the Master Lease. Development Parcels will be released from the Master Lease immediately prior to execution of the Parcel Lease for the Development Parcel. Each Vertical Developer’s access rights for Deferred Infrastructure will be specified in a Vertical DDA. After termination of the Master Lease, access for construction, maintenance or warranty work for Horizontal Improvements will be provided by license, permit to enter or encroachment permit, as applicable, and on conditions to be specified in the DDA.

**7.2. Access to Other City Property.** If necessary for the Project, each Other City Agency agrees to license temporarily any property under its jurisdiction to Developer on City standard and commercially reasonable terms. Developer access will be deemed necessary if it authorizes Developer to investigate adjacent environmental conditions, undertake environmental response programs, undertake Mitigation Measures, construct Horizontal Improvements upon, or

otherwise use the property to implement the Regulatory Requirements. Licenses will include indemnification and security provisions in keeping with the City's standard.

## **8. DEFAULTS AND REMEDIES.**

**8.1. Meet and Confer.** Before a City Agency delivers a notice under **Section 8.2** (Notice of Default), the concerned City Agencies (including the Port) will provide notice of the alleged default and the steps needed to resolve it. The concerned City Agencies must attempt to resolve the dispute within ten (10) days of the date of such initial notice.

**8.2. Notice of Default.** Any concerned City Agency may deliver a notice to any Other City Agency alleging a default under this ICA if not resolved within the ten (10) day period under **Section 8.1** (Meet and Confer). The notice of default must state with reasonable specificity the nature of the alleged ICA default, each provision under which the ICA default is claimed to arise, and the manner in which the ICA default may be cured.

**8.3. Cure.** The defaulting City Agency must cure the default within thirty (30) days after notice is delivered.

### **8.4. Consequences of Default.**

(a) No Cost Recovery. A defaulting City Party will not be entitled to recover any of its costs from the date the notice under **Section 8.2** (Notice of Default) is delivered until the default is cured.

(b) Developer Action. The affected Developer Party may file an action to obtain a remedy for the default, including specific performance by the City Agency. Nothing in this Section requires an affected Developer Party to postpone instituting an injunctive proceeding if it believes in good faith that postponement will cause it irreparable harm.

(c) ICA Remains in Effect. The Parties acknowledge that termination is not a remedy under this ICA.

### **8.5. No Monetary Damages.**

(a) No Interagency Damages. Except with respect to **Section 3.6** (Cost Recovery), the Parties have determined that monetary damages are inappropriate and that it would be extremely difficult and impractical to fix or determine the actual damages to a Party as a result of any default and that equitable remedies, including specific performance but not damages, are the appropriate remedies for enforcement of all other provisions of this ICA. The Parties would not have entered into this ICA if it created liability to any other Party for damages under or with respect to implementing this ICA.

(b) Covenant and Waiver. The Parties have agreed that no City Agency will be liable in damages to any other City Agency, and each City Agency covenants not to sue for or claim any damages against any other City Agency and expressly waives its right to do so: (i) for any default; or (ii) arising from or connected with any dispute, controversy, or issue regarding the application, interpretation, or effect of this ICA. Developer's corresponding covenant and waiver are in Developer's Consent to this ICA.

(c) Developer's Statutory Rights. Nothing in this ICA limits a Developer Party's rights or remedies under any applicable Regulatory Requirements governing the application, review, processing, or permitting of Improvements, including the Permit Streamlining Act (Cal. Gov't Code §§ 65920 et seq.).

**8.6. Attorneys' Fees.** In the event of any dispute or any legal action or other dispute resolution mechanism to enforce or interpret any provision of this ICA, each Party and/or the Developer will bear its own attorneys' fees and costs, whether or not there is a prevailing party(ies).



**8.7. Developer Breach.** If a Developer Party commits an Event of Default or is in Material Breach of its obligations under the DDA or other Transaction Document, including failure to pay Other City Costs or Port Costs (following expiration of any notice and cure periods), any City and Port obligations under this ICA with respect to the defaulting Developer Party will be suspended and will not be reinstated until the Developer Party cures the applicable Event of Default or Material Breach. But an Event of Default or a Material Breach by a Developer Party under the DDA will not relieve the City or the Port of any obligation under this ICA that arose before the Event of Default or Material Breach (except with respect to terminated portions of the DDA), or that relates to the Developer Party's obligations under the DDA or to any other Developer Party. This Section does not limit any other Port rights or remedies under the DDA, or any other City rights or remedies under the Development Agreement or applicable Regulatory Requirements.

**9. GENERAL PROVISIONS.**

The following apply to this ICA in addition to the provisions in the Appendix (Part A).

**9.1. Notices.** Notices given under this ICA are governed by App ¶ A.5 (Notices).

(a) Addresses for Notice. Addresses for notices given under this ICA are listed below and in the Consents. Developer and any City Agency may change its notice address by giving notice of the change in the manner provided above at least 10 days before the effective date of the change.

Address for City: Office of Economic and Workforce Development  
City and County of San Francisco  
City Hall, Room 448  
1 Dr. Carlton B. Goodlett Place  
San Francisco, CA 94102  
Attn: Implementation Director  
  
Telephone No.: (415) 554-5395  
Facsimile No.: (415) 554-4565  
Email: Robin.Havens@sfgov.org

With a copy to: San Francisco Public Works  
City Hall Room 348  
San Francisco, California 94102  
Attn: Director  
  
Telephone No.: (415) 554-6940  
Facsimile No.:  
Email: dpw@sfdpw.org

Address for Port: Port of San Francisco  
Pier 1  
San Francisco, CA 94111

Attn: Chief Harbor Engineer

Telephone No.: (415) 274-0570  
Facsimile No.: (415) 544-1770  
Email: Rod.Iwashita@sfport.com

With a copy to (for matters affecting Transportation Infrastructure or Transportation-related Mitigation Measures only):

San Francisco Municipal Transportation Agency  
One South Van Ness Avenue  
7th Floor  
San Francisco, California 94103

Attn: Director

Telephone No.: (415) 701-4720  
Facsimile No.: (415) 701-4339  
Email: Ed.Reiskin@sfmta.com

With a copy to (for matters affecting Utility Infrastructure or Utility-related Mitigation Measures only):

San Francisco Public Utilities Commission  
525 Golden Gate Avenue  
San Francisco, California 94102

Attn: General Manager

Telephone No.: (415) 554-1600  
Facsimile No.: (415) 554-3161

With a copy to:

Office of the City Attorney  
Port of San Francisco  
Pier 1  
San Francisco, CA 94111

Attn: Port General Counsel

Telephone No.: (415) 274-0486  
Facsimile No.: (415) 274-0494  
Email: Eileen.malley@sfcityatty.org

Office of the City Attorney  
City Hall, Room 234  
1 Dr. Carlton B. Goodlett Place  
San Francisco, CA 94102

Attn: Public Works General Counsel

Telephone No.: (415) 554-6761  
Facsimile No.: (415) 554-4763  
Email: Austin.yang@sfcityatty.org

(b) Courtesy Copies. Until the Port has issued a SOP Compliance Determination for all Horizontal Improvements for the Project, the Parties agree to provide courtesy copies to Developer on behalf of all Developer Parties of any notices that any City Agency gives to any other City Agency under **Section 8.2** (Notice of Default) or **Section 9.2(c)** (Material Amendments) at the same time and in the same manner as provided above, at the addresses listed below. Failure to give Developer a copy of any notice given under this Section will not affect the validity or effective date of the notice.

**9.2. Amendments to ICA, Infrastructure Plan and Transportation Plan.**

(a) Writing Required. This ICA may be amended only by an instrument executed by the Other City Parties and the Port, with the consent of an authorized representative of Developer, which may not be unreasonably withheld, conditioned, or delayed.

(b) Non-material Amendment. The Mayor and the Port Director are authorized, consistent with a Developer request, or if not a Developer requested amendment subject to obtaining the Developer's prior written consent, to consent to any non-material amendment to this ICA, after consultation with the directors or general managers of any affected City Agencies, subject to the following:

(i) The Mayor and the Port Director must obtain the consent of any City Agency that is a signatory or consenting party to this ICA to the extent that such change materially affects the applicable City Agency's obligations or property. Subject to the required consents listed below in this Subsection, the determination as to whether any proposed amendment is material will be made in accordance with **Subsection 9.2(c)** (Material Amendments). More specifically:

(ii) Public Works must give its prior approval to any substantive ICA amendment affecting Public ROWs or the processing of Subdivision Maps.

(iii) SFMTA must give its prior approval to any substantive ICA amendment affecting Transportation Infrastructure or Transportation-Related Mitigation Measures. For the avoidance of doubt, SFMTA must give its prior approval to any material amendments to the Infrastructure Plan that affect Transportation Infrastructure and any material amendments to the Transportation Plan.

(iv) SFPUC must give its prior approval to any ICA amendment affecting SFPUC Utility Infrastructure or Utility-Related Mitigation Measures.

(v) SFFD must give its prior approval to any substantive ICA amendment affecting Fire Safety Infrastructure.

(c) Material Amendments. Any ICA change that would materially:  
(i) increase the risk of a negative impact on the City's General Fund, as determined on behalf of

the Mayor by the Controller; (ii) materially increase a City Agency's obligations, or materially lessen the primary benefits to the City, as determined by the Mayor; or (iii) have a negative impact on City property, as determined by the City Engineer, will be deemed a material amendment and will require approval by the Port Commission, the Mayor and the affected Other City Agencies consenting to this ICA as to matters within their respective exclusive jurisdiction.

(d) Infrastructure Plan and Transportation Plan. Amendments to the Infrastructure Plan and Transportation Plan will be processed and approved in accordance with **Subsections 9.2(a), (b) and (c).**

(e) Minor Deviations.

(i) Improvement Plans. Minor deviations in a set of Improvement Plans from the Project Requirements, including the Infrastructure Plan, and Master Utility Plans may be approved by the Permitting Agency with exclusive jurisdiction over the affected plan, with the consent of any affected Other City Agency, provided the deviation will not affect the overall system, its configuration and performance, is otherwise compatible with the intent of the Infrastructure Plan, and does not otherwise qualify for treatment as a material plan amendment under **Subsection 9.2(c)** (Material Amendments).

(ii) Review Schedule. Requests for approval of minor deviations will be reviewed as part of and within the same review time frames as the applicable Improvement Plan Submittal.

### **9.3. Invalidity.**

(a) Invalid Provision. If a final court order finds any provision of this ICA invalid or inapplicable to any person or circumstance, then the invalid or inapplicable provision will not affect any other provision of this ICA or its application to any other person or circumstance, and the remaining portions of this ICA will continue in full force and effect.

(b) Countervailing Law. If any applicable state or federal law prevents or precludes compliance with any material provision of this ICA, the Parties agree to modify, amend, or suspend this ICA to the extent necessary to comply with law in a manner that preserves to the greatest extent possible the intended benefits of this ICA to each of the Parties and to Developer.

(c) Right to Terminate. A Party may terminate this ICA on notice to the other Parties if this ICA as amended or suspended under **Subsection 9.3(a)** (Invalid Provision) or **(b)** (Countervailing Law) would: (i) be unreasonable or grossly inequitable under all of the circumstances or would frustrate this ICA's fundamental purposes; or (ii) deprive the City or the Port of the substantial benefits derived from this ICA or make performance unreasonably difficult or expensive. Following termination, the Parties, Developer and Developer Parties will not have any further rights or obligations under this ICA.

**9.4. Successors and Assigns; Third Party Beneficiary.** This ICA is for the benefit of and binds the City's and the Port's respective successors and assigns. Developer and Developer Parties are intended third-party beneficiaries of this ICA. Except for Developer and Developer Parties, this ICA is for the exclusive benefit of the Parties and not for the benefit of any other person and may not be deemed to have conferred any rights, express or implied, upon any other person.

**9.5. Further Assurances.** The Port and the City each agree to take all actions and do all things, and execute, with acknowledgment or affidavit if required, any and all documents necessary or appropriate to achieve the purposes of this ICA.

**9.6. Attachments.** The attachments and exhibits listed below are incorporated into and are a part of this ICA.

Appendix

Consent of Seawall Lot 337 Associates, LLC

Consent of San Francisco Municipal Transportation Agency

Consent of San Francisco Public Utilities Commission

Consent of San Francisco Fire Department

ICA Exhibit A: Infrastructure Plan

ICA Exhibit B: Intentionally Omitted

ICA Exhibit C: Proposal for Non-Standard Infrastructure (For Discussion Purposes Only)

ICA Exhibit D: Proposal for Deferred Infrastructure (For Discussion Purposes Only)

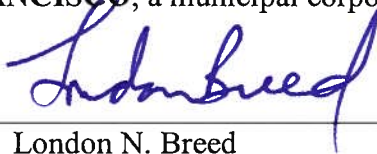
ICA Exhibit E: Basis of Design Report

[Remainder of page intentionally left blank.]

This ICA was executed and delivered as of the last date set forth below.

**CITY:**

**CITY AND COUNTY OF SAN FRANCISCO**, a municipal corporation

By: 

London N. Breed  
Mayor

Date: 8-10-18

By: \_\_\_\_\_

Ben Rosenfield  
Controller

Date: \_\_\_\_\_

Authorized by Board Resolution No. 44-18

By: 

Angela Calvillo  
Clerk of the Board

Date: 8/17/18

By: \_\_\_\_\_

Naomi Kelly  
City Administrator

Date: \_\_\_\_\_

By: \_\_\_\_\_

Mohammed Nuru  
Director of Public Works

Date: \_\_\_\_\_

**APPROVED AS TO FORM:**

DENNIS J. HERRERA  
City Attorney

By: 

Name: Austin Yang  
Deputy City Attorney

This ICA was executed and delivered as of the last date set forth below.

**CITY:**

**CITY AND COUNTY OF SAN FRANCISCO**, a municipal corporation

By: \_\_\_\_\_  
London N. Breed  
Mayor

Date: \_\_\_\_\_

By:  \_\_\_\_\_  
Ben Rosenfield  
Controller

Date: 7.27.18

Authorized by Board Resolution No. 44-18

By: \_\_\_\_\_  
Angela Calvillo  
Clerk of the Board

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Naomi Kelly  
City Administrator

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Mohammed Nuru  
Director of Public Works

Date: \_\_\_\_\_

**APPROVED AS TO FORM:**  
**DENNIS J. HERRERA**  
City Attorney

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Deputy City Attorney

This ICA was executed and delivered as of the last date set forth below.

**CITY:**

**CITY AND COUNTY OF SAN FRANCISCO**, a municipal corporation

By: \_\_\_\_\_  
London N. Breed  
Mayor

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Ben Rosenfield  
Controller

Date: \_\_\_\_\_

Authorized by Board Resolution No. 44-18

By:   
Naomi Kelly  
City Administrator

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Angela Calvillo  
Clerk of the Board

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Mohammed Nuru  
Director of Public Works

Date: \_\_\_\_\_

**APPROVED AS TO FORM:**  
DENNIS J. HERRERA  
City Attorney

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Deputy City Attorney



This ICA was executed and delivered as of the last date set forth below.

**CITY:**

**CITY AND COUNTY OF SAN FRANCISCO**, a municipal corporation

By: \_\_\_\_\_  
London N. Breed  
Mayor

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Ben Rosenfield  
Controller

Date: \_\_\_\_\_

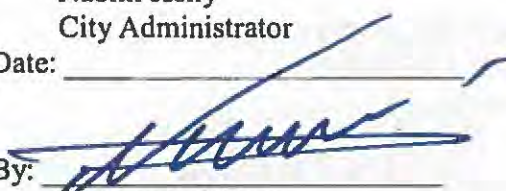
Authorized by Board Resolution No. 44-18

By: \_\_\_\_\_  
Angela Calvillo  
Clerk of the Board

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Naomi Kelly  
City Administrator

Date: \_\_\_\_\_

By: \_\_\_\_\_  
  
Mohammed Nuru  
Director of Public Works

Date: \_\_\_\_\_

**APPROVED AS TO FORM:**  
DENNIS J. HERRERA  
City Attorney

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Deputy City Attorney

**PORT:**

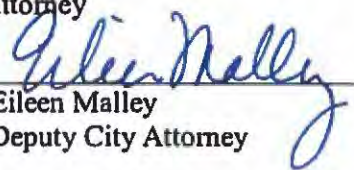
**CITY AND COUNTY OF SAN FRANCISCO,**  
a municipal corporation, operating by and through  
the San Francisco Port Commission

By:   
Elaine Forbes  
Executive Director

Date: July 18, 2018

Authorized by Port Resolution No. 18-07.

**APPROVED AS TO FORM:**  
**DENNIS J. HERRERA**  
City Attorney

By:   
Eileen Malley  
Deputy City Attorney

[Page Intentionally Left Blank]

**MEMORANDUM OF UNDERSTANDING  
REGARDING INTERAGENCY COOPERATION**

**Appendix**

[Page Intentionally Left Blank]



**CITY AND COUNTY OF SAN FRANCISCO  
LONDON N. BREED, MAYOR**

---

**APPENDIX TO TRANSACTION DOCUMENTS**

**FOR THE**

**MISSION ROCK PROJECT**

---

**ELAINE FORBES  
EXECUTIVE DIRECTOR**

**SAN FRANCISCO PORT COMMISSION**

**KIMBERLY BRANDON, PRESIDENT  
WILLIE ADAMS, VICE PRESIDENT  
GAIL GILMAN, COMMISSIONER  
VICTOR MAKRAS, COMMISSIONER  
DOREEN WOO HO, COMMISSIONER**

**AUGUST 15, 2018**

[Page intentionally left blank.]

## TABLE OF CONTENTS

	<u>Page</u>
1. TRANSACTION DOCUMENTS.....	1
1.1. Entire Agreement .....	1
1.2. Counterparts .....	1
1.3. Exhibits and Schedules.....	1
1.4. Advance Writings Required.....	1
1.5. Technical Changes .....	1
1.6. Other Necessary Acts.....	2
1.7. Enforceability.....	2
1.8. No Gift or Dedication .....	2
2. PARTIES AND PERFORMANCE.....	2
2.1. Joint and Several Liability .....	2
2.2. Performance Generally .....	2
2.3. Successors.....	3
2.4. Third Party Beneficiaries.....	3
2.5. No Limitation on Unrelated Rights.....	3
2.6. No Joint Venture or Partnership .....	4
2.7. Survival .....	4
3. GOVERNING LAW .....	4
3.1. Construction of Transaction Documents .....	4
3.2. Countervailing Law .....	4
3.3. Good Faith and Fair Dealing .....	4
4. ACTIONS.....	4
4.1. Attorneys' Fees.....	4
4.2. Jurisdiction and Venue .....	5
4.3. Severability.....	5
4.4. Limitations on Liability of the Parties.....	5
5. NOTICES.....	6
5.1. Manner of Delivery .....	6
5.2. Required Information .....	6



5.3.	Effective Date.....	6
5.4.	Interested Persons .....	6
5.5.	Change of Address .....	6
5.6.	Convenience Copies.....	6
6.	PAYMENT DEMANDS .....	6
6.1.	Application .....	6
6.2.	Demand .....	7
6.3.	Time for Payment.....	7
7.	USAGE GUIDELINES FOR DEFINED TERMS .....	7
7.1.	Definitions in Glossary.....	7
7.2.	Capitalization.....	7
7.3.	Correlating Terms Included .....	7
7.4.	Definitional Context.....	7
8.	INCONSISTENT PROVISIONS.....	7
8.1.	General Rule .....	7
8.2.	Examples .....	7
9.	HEADINGS AND REFERENCES.....	8
9.1.	Headings.....	8
9.2.	References Generally .....	8
9.3.	Within Transaction Documents .....	8
9.4.	To Other Documents .....	8
10.	ATTRIBUTED AND DELEGATED ACTS AND OBLIGATIONS.....	8
10.1.	Delegated Actions .....	8
10.2.	Transferred Obligations.....	8
10.3.	Successor Public Bodies .....	8
10.4.	Successor Public Officials .....	8
11.	TRANSFERRED RIGHTS .....	9
12.	RECITALS .....	9
13.	WORDS OF INCLUSION.....	9
14.	GENDER AND NUMBER .....	9
15.	NUMERALS .....	9
16.	TIME PERIODS .....	9

16.1.	Calendar Periods.....	9
16.2.	Business Days .....	9
17.	STATUTORY REFERENCES.....	9
18.	NO PARTY DRAFTER .....	9

## PART A: STANDARD PROVISIONS AND RULES OF INTERPRETATION

This Appendix consists of **Part A** (standard provisions and rules of interpretation) and **Part B** (glossary of defined terms). **Part A** is an integral part of the DDA and other Transaction Documents for the Mission Rock Project. **Part B** provides defined terms for the DDA and certain other Transaction Documents.

### 1. TRANSACTION DOCUMENTS.

**1.1. Entire Agreement.** The Transaction Documents collectively (including this Appendix and all preamble paragraphs, recitals, exhibits, schedules, other attachments, and Consents) contain all of the representations and warranties and the entire agreement, and supersede all prior correspondence, memoranda, agreements, warranties, and representations, between the Parties with respect to the matters they address. No prior drafts of any Transaction Document or changes from those drafts to the executed versions may be introduced as evidence in any litigation or other dispute resolution proceeding by any person, and no court or other body may consider those drafts in interpreting any Transaction Document.

**1.2. Counterparts.** The Transaction Documents may be executed in multiple counterparts, each of which will be deemed to be an original and that together will be one instrument. Parties may deliver their counterparts by electronic mail or other electronic means of transmission.

**1.3. Exhibits and Schedules.** This Appendix and each exhibit are a part of the Transaction Document to which they are attached or into which they are expressly incorporated by reference. Each schedule attached to a Transaction Document is provided for reference when implementing the Project. The Parties agree that this Appendix and all attachments may be revised from time to time by agreement based on changed circumstances and experience in the course of the Project. Each Party (including any applicable affected Transferee) will confirm its agreement by signing the revised document in counterparts, which will be deemed to be attached to each counterpart of the revised document and will supersede the document being revised.

#### 1.4. Advance Writings Required.

**(a) Amendments and Waivers.** Any amendment or waiver of any provision of any Transaction Document must be in writing and signed on behalf of each Party by a person authorized to do so. Material modifications to Transaction Documents may require the approval of either or both the Port Commission and the Board of Supervisors, each of which may give or withhold approval in its sole discretion unless explicitly stated otherwise.

**(b) Approvals and Waivers.** Whenever a Party's approval or waiver is required: (i) the approval or waiver must be obtained in advance and in writing; and (ii) except as specified otherwise, the Party whose approval or waiver is sought must not unreasonably withhold, condition, or delay its approval or waiver, as applicable.

**(c) Specific Application.** A Party's waiver or consent in reference to another Party's performance of or any condition to its obligations under a Transaction Document will not be a waiver of or consent to any other performance or condition.

**1.5. Technical Changes.** The applicable Parties may correct any inadvertent error in any Transaction Document that is contrary to their mutual intention in the identification or characterization of or any reference to any title exception, legal description, boundaries of any parcel, map or drawing, or the text, or otherwise agree to minor changes that do not affect the delivery of Associated Public Benefits. Any agreed change will be effected by a signed memorandum or initialed replacement pages, neither of which will be deemed an amendment of a Transaction Document as long as any adjustments are relatively minor and do not result in a material change as determined by the Port in consultation with counsel. A change memorandum or replacement pages will become a part of the affected Transaction Document when fully executed or initialed.

**1.6. Other Necessary Acts.** Each Party will execute, acknowledge, and deliver to the other all other documents and take other actions that are reasonably necessary to implement, and provide each Party with all of its rights under, any Transaction Document.

**1.7. Enforceability.** Developer and the Port each represents and warrants to the other that its execution and delivery of, and the performance of its obligations under the Transaction Documents have been duly authorized by all necessary action, and will not conflict with, result in any violation of, or be a default under, any provision of any agreement or other instrument binding on or applicable to it, or any present law or court decree. If Developer signs as a corporation, limited liability company, or a partnership, each of the persons executing the Transaction Documents on behalf of Developer represents and warrants that Developer is a duly authorized and existing entity, that Developer has and is qualified to do business in California, that Developer has full right and authority to enter into the Transaction Documents, and that each of the persons signing on Developer's behalf is authorized to do so. At the Port's request, Developer must provide the Port with evidence satisfactory to the Port confirming these representations and warranties.

**1.8. No Gift or Dedication.** Unless explicitly stated otherwise, no Transaction Document will be deemed to be a gift or dedication of any portion of the Project Site to the general public, for the general public, or for any public use or purpose. Developer has the right to prevent or prohibit the use of any portion of the Project Site it owns or controls, including common areas and buildings and improvements, by any persons for any purpose inimical to the operation of a private, integrated mixed-use project as contemplated by the Transaction Documents.

## **2. PARTIES AND PERFORMANCE.**

**2.1. Joint and Several Liability.** If Developer consists of more than one person, then the obligations of each under any Transaction Document to which it is a Party will be joint and several, but in no event will any Developer be jointly and severally liable with any other Developer under any Transaction Document.

### **2.2. Performance Generally.**

**(a) Time.**

**(i)** Time is of the essence in the performance of all of the terms and conditions of each Transaction Document.

**(ii)** Subject to this Paragraph, all required performance dates including cure deadlines, expire at 5:00 p.m. Pacific Standard or Daylight Savings Time, as applicable, on the stated date, unless extended under the Transaction Document under which performance is due. Any reference to a week, quarter, or month without reference to a specific day will mean the last day in the period.

**(iii)** If a Party must give notice or take any other action within a specified minimum number of days that would not fall on a business day, then the Party must take the action on the preceding business day. For example, if a Party is required to give at least five days' prior notice of an action and the fifth day before the desired action falls on a Sunday, the Party must give notice by the preceding business day.

**(iv)** In all other cases, if the last day of any period to take an action occurs on a day that is not a business day, then the last day for undertaking the action is extended to the next business day. For example, if a Party has 30 days to cure an Event of Default, and the 30<sup>th</sup> day is a Saturday, the Party would have until the next business day to effect the cure.

**(b) Extensions of Time.**

**(i)** Each Party to a Transaction Document, acting in its sole discretion, may agree to extend the date for the other Party's performance of any term, covenant, or condition, or the other Party's exercise of any rights under the Transaction Document,

without executing an amendment. A Party may impose reasonable conditions on an extension of the other Party's time to cure a default. No extension of time will release any of the obligations subject to the extension or waive the granting Party's rights in relation to any other term, covenant, or condition of or any other default in the performance or breach of the Transaction Document under which the extension is granted.

(ii) Any extension of time requiring Port Commission approval must be made by a resolution adopted at a noticed public meeting. All other extensions will be made by a countersigned writing.

(c) No Deemed Approval or Consent Without Notice. Unless expressly and unequivocally stated in any Transaction Document or other agreement between the Parties, deemed approval or consent will only occur on the following conditions.

(i) The Party seeking consent must send notice by electronic mail, addressed to one or more line staff responsible for the specific matter for which consent is sought at least five, but no more than seven, business days before the response period has ended, stating in the subject line, "*Immediate Action Required To Avoid Deemed Consent*" or words to the same effect.

(ii) If the electronic mail notice under **clause (i)** is not delivered timely, the responding Party will not be deemed to have consented until the sixth business day after the notice is delivered. The response may be delivered by the addressee or other person authorized to act on the responding Party's behalf.

(d) Waivers. Unless otherwise specified in a Transaction Document, none of the following circumstances will waive an Aggrieved Party's rights or remedies with respect to an Event of Default or Material Breach, including its right to prosecute any actions it deems necessary to enforce its rights or remedies.

(i) Party's failure to give notice or delay in giving notice or asserting any of its rights or remedies as to an Event of Default or Material Breach will not waive or delay the date on which the Event of Default or Material Breach occurs.

(ii) A Party's waiver as to a specific Event of Default, Material Breach, right, or remedy will not be a waiver of any other Event of Default, Material Breach, right, or remedy.

(e) Responsibility for Costs. The Party on which any obligation is imposed in any Transaction Document will be solely responsible for paying all costs incurred in performing the obligation, unless specifically provided otherwise.

**2.3. Successors.** The Parties are entering into the Transaction Documents only for the protection and benefit of the Parties and their successors, subject to **DDA art. 6** (Transfers), **DDA art. 17** (Lender Rights), **DA art. 11** (Transfers, Conveyances, and Encumbrances), and correlating provisions in any other Transaction Documents.

**2.4. Third Party Beneficiaries.** Developer is an explicitly recognized third-party beneficiary under the ICA and the Tax Allocation MOU. Transferees and Vertical Developers are third-party beneficiaries to the extent that they acquire development rights under the DDA. Interested Persons have rights as specified in the Applicable Lender Protections. No other persons have third-party rights under any Transaction Document.

**2.5. No Limitation on Unrelated Rights.** The rights and remedies under the Transaction Documents do not supersede or preclude any Party's exercise of its rights and remedies under other agreements and documents, or of the City, the Port, or any other Regulatory Agency to require compliance with any Regulatory Approval or other entitlement granted for the Project.

**2.6. No Joint Venture or Partnership.** Nothing in any Transaction Document to which Developer is a Party, or in any document Developer executes in connection with the Transaction Documents, will create a joint venture or partnership between the City and Developer or between the Port and Developer. Developer is not acting as the agent of the City or the Port, nor is the City or the Port acting as the agent of Developer or any Vertical Developer in any respect under any Transaction Document. Developer is not a state or governmental actor with respect to any of its activities under the Transaction Documents.

**2.7. Survival.** Except as provided otherwise, termination or expiration of the DDA or any other Transaction Document will not affect: (a) any obligation to indemnify under any Transaction Document; (b) any provision of any Transaction Document that expressly survives expiration or termination; (c) rights and obligations as to Adequate Security for an obligation arising before termination or expiration; or (d) rights and obligations under the Financing Plan or the Acquisition Agreement to the extent related to an obligation arising before termination or expiration of the DDA.

### **3. GOVERNING LAW.**

**3.1. Construction of Transaction Documents.** The Transaction Documents are governed by and must be construed under the laws of the State of California and the Charter. All references in the Transaction Documents to local, regional, state, or federal laws means those laws as amended from time to time, except as limited by the Development Agreement or to the extent explicitly stated otherwise.

**3.2. Countervailing Law.** If any applicable state or federal law prevents or precludes compliance with any material provision of a Transaction Document, **App ¶ A.4.3** (Severability) will apply. Alternatively, the Parties may agree to modify, amend, or suspend the affected Transaction Document to the extent necessary to comply with law in a manner that preserves to the greatest extent possible the intended benefits to the City, the Port, and Developer.

**3.3. Good Faith and Fair Dealing.** In all situations arising under the Transaction Documents, each Party must attempt to avoid and minimize the damages resulting from the other's conduct and take all reasonably necessary measures to implement the Transaction Documents. The Transaction Documents are subject to the covenant of good faith and fair dealing applicable to contracts under California law. Accordingly, Developer and the Port each covenants, on behalf of itself and its successors, to take all actions and to execute, with acknowledgment or affidavit if required, all documents necessary to achieve the objectives of the Transaction Documents to the extent consistent with applicable law.

### **4. ACTIONS.**

#### **4.1. Attorneys' Fees.**

**(a) Prevailing Party.**

**(i)** Should any Party file an action permitted or required under any Transaction Document, the prevailing Party will be entitled to recover its reasonable costs, including attorneys' fees, plus interest at the maximum amount allowed under law, from the losing Party.

**(ii)** The ICA and the Tax Allocation MOU are specifically excepted from this prevailing party provision.

**(b) Fee Schedules.** For attorneys in the Office of the City Attorney, attorney fee rates will be based on the fees regularly charged by private attorneys with an equivalent number of years of professional experience (calculated by reference to earliest year of admission to the bar of any state) who practice in San Francisco in law firms with approximately the same number of attorneys as employed by the Office of the City Attorney. For in-house counsel, attorney fee rates will be based on the same criteria, with amounts based on law firm rates where the office of in-house counsel is located.

**4.2. Jurisdiction and Venue.** All obligations under each Transaction Agreement are to be performed in the City and County of San Francisco. Each Party, by executing a Transaction Document, agrees that venue is proper in and consents to the jurisdiction of the Superior Court for the City and County of San Francisco.

**4.3. Severability.** Unless specifically provided otherwise, a final judgment invalidating any provision of any Transaction Document, or its application to any person, will not affect any other provision of the Transaction Document or its application to any other person or circumstance. All other provisions of the Transaction Document will continue in full force and effect, except to the extent that enforcement of the Transaction Document as affected by the final judgment would be unreasonable or grossly inequitable under all the circumstances or would frustrate a fundamental purpose of the Transaction Documents.

**4.4. Limitations on Liability of the Parties.**

**(a) No Personal Liability of City Parties.** Under no circumstances will any individual board member, director, commissioner, officer, employee, official, or agent of the City or the Port be personally liable to Developer for any Event of Default by a City Party or for any amount payable to a Developer Party under any Transaction Document.

**(b) No Personal Liability of Developer Parties.** Under no circumstances will any individual board member, director, officer, employee, official, partner, employee, or agent of Developer or any Affiliate of Developer be personally liable to any City Party for any Event of Default by a Developer Party or for any amount payable to a City Party under any Transaction Document. DA Successors are specifically recognized as Developer Parties for the purpose of this provision.

**(c) No Consequential, Punitive, or Special Damages.** Developer, the Port, and the City would not have entered into the Transaction Documents to which they are Parties if they could be liable for indirect or consequential, punitive, or special damages. Accordingly, Developer, the Port, and the City each waives any Claims against, and covenants not to sue, the other Party to any Transaction Document for indirect, consequential, punitive, or special damages, including loss of profit, loss of business opportunity, or damage to goodwill.

**(d) No Effect on Other Rights.** This Paragraph will not affect any Party's right to recover actual damages and attorneys' fees awarded by an Arbiter's decision or a court's final judgment for a Claim arising from a Breaching Party's failure to: (i) pay any sum when due under any Transaction Document; or (ii) satisfy an indemnity under any Transaction Document. The right to enforce a final decision or judgment will not be limited by **subparagraph (e)** of this Paragraph.

**(e) Project Payment Sources.** Except as otherwise provided in any Transaction Document, Developer agrees that its rights to payment in the implementation of the Project are limited as follows.

**(i)** All obligations of the Port or the City arising out of or related to each Transaction Document are special and limited obligations of the Port and the City, as applicable. The Port's and the City's respective obligations to make payments to implement any Transaction Document are restricted strictly to Project Payment Sources described in the Financing Plan, and only to the extent those sources are available.

**(ii)** More specifically, in no event may Developer compel: (1) the City to use funds in or obligate the City's General Fund; or (2) the Port to use funds in or obligate the Port Harbor Fund except as described in the Financing Plan, in either case to reimburse Developer's Horizontal Development Costs, pay any other costs associated with the Project, or satisfy any Developer Claim under any Transaction Document.

**(f) Liability of Others.** Unless specifically provided otherwise, the Parties agree that no Agents of the Port or of the City or of their successors or assigns will be personally liable to Developer or any Vertical Developer, and no Agents of Developer or any Vertical Developer or of

their successors or assigns will be personally liable to the Port or the City, for any default or breach or for any payment or performance that becomes due under any Transaction Document. This Subsection does not release or waive the obligations of any person with a direct legal obligation under applicable law, such as the general partner of a limited partnership or any Obligor providing Adequate Security for a specified obligation.

## 5. NOTICES.

**5.1. Manner of Delivery.** Unless otherwise specified in a Transaction Document, any notices (including notice of approval or disapproval, demands, waivers, and responses to any of them) required or permitted under any Transaction Document must be delivered by: (a) hand delivery; (b) first class United States mail, postage prepaid, return receipt requested; or (c) overnight delivery by a nationally recognized delivery service or the United States Postal Service, delivery charges prepaid.

**5.2. Required Information.** To be effective, a notice must be in writing or be accompanied by a cover letter that, to the extent applicable:

- (a) cites the section of the Transaction Document under which the notice is given;
- (b) indicates whether a response or other action is required and, if so, the period of time within which the recipient must respond or otherwise act;
- (c) for a Prospective Default or Prospective Breach, is prominently marked "*Notice of Default*" or "*Notice of Material Breach*" and specifies the cure period;
- (d) is clearly marked "*Request for Approval*" if approval is being requested;
- (e) if denying or objecting to a request for approval, states with particularity the reasons for the disapproval or objection; and
- (f) if explicitly permitted under the Transaction Document, states that failure to respond to the notice within the stated time period will be deemed to be the recipient's approval of the subject matter of the notice.

**5.3. Effective Date.** Subject to **App ¶ A.2.2(a)** (Time), a notice will be deemed to be delivered and effective:

- (a) on the date personal delivery actually occurs;
  - (b) on the business day after the business day it is deposited for overnight delivery;
- or
- (c) on the date of actual delivery or on which delivery is refused as shown on the return receipt if mailed.

**5.4. Interested Persons.** Interested Persons may request copies of notices that the Port or the City delivers to Developer by providing notice to the Port or the City. Developer will have the sole responsibility for providing information to any Interested Person desiring notice. Neither the Port nor the City will incur liability for failure to provide notice to any Interested Person.

**5.5. Change of Address.** Notices must be delivered to the addresses for notice as specified in the Transaction Documents, unless superseded by a notice of a change in address for notices that is delivered in accordance with **App ¶ A.5.1** (Manner of Delivery).

**5.6. Convenience Copies.** Except as explicitly permitted under specific circumstances, a Party must not give notice by facsimile or electronic mail, but any Party may deliver a copy of a notice by facsimile or electronic mail as a courtesy or for convenience. The effective date of a notice will not be affected by delivery of a convenience copy by facsimile or electronic mail.

## 6. PAYMENT DEMANDS.

**6.1. Application.** The following procedures will apply to any demand from one Party to the other Party for payment whenever payment procedures are not specified in the Transaction Document



under which demand is made. These procedures do not apply to Payment Requests made under the Acquisition Agreement.

**6.2. Demand.** The Party seeking payment must deliver its demand for payment to the other Party together with proof of payment. The Party obligated to pay will have the right to engage a CPA to review the other Party's claimed costs, and the Party seeking payment must cooperate in providing information necessary for the review. The Party conducting the review will bear its own costs unless the review reveals that the other Party's costs are overstated by 5% or more, in which case, the amount of the reimbursement will be reduced by the amount of the review costs.

**6.3. Time for Payment.** Except when other procedures are specified in a Transaction Document, or during any period of review or dispute resolution, the Party obligated to make payment must satisfy the payment demand within 30 days after receipt of the demand for payment.

## **7. USAGE GUIDELINES FOR DEFINED TERMS.**

**7.1. Definitions in Glossary.** The glossary in **Appendix Part B** contains definitions for terms used in the primary Transaction Documents, or specifies the Transaction Document where terms are defined.

**7.2. Capitalization.** Defined terms that are not capitalized in this Appendix are not capitalized when used in the Transaction Documents.

**7.3. Correlating Terms Included.** Each defined term must be interpreted to encompass all correlating plural and singular nouns, verb tenses and forms, adjectives, adverbs, and other forms of the term. The following examples of the application of definitions to correlating terms are illustrative only and are not intended to limit the application of the examples used or the meaning of this Paragraph.

- "Assign" applies to "Assignment," "Assignee," "Assignor," and "Assigned."
- "Begin construction" applies to "began to construct," "beginning construction," and "has begun to construct."
- "Indemnify" applies to "indemnity," "indemnification," and "indemnitor."
- "substantial completion" applies to "Substantially Complete."
- "Third party" applies to "third-party" and "third parties."
- "Waive" applies to "waiver," "waivers," "waived," and "waiving."

**7.4. Definitional Context.** In some instances, defined terms apply only to certain circumstances or may have different meanings in different contexts. In those instances, the definition will be identified as specific to a situation. The following examples are illustrative only and are not intended to limit the application of the examples used or the meaning of this Paragraph.

- "final completion" and "substantial completion" as used in reference to Horizontal Improvements and Vertical Improvements incorporate conditions specific to each type of Improvement.
- The "Parties" to one Transaction Document may be different from the "Parties" to another Transaction Document.

## **8. INCONSISTENT PROVISIONS.**

**8.1. General Rule.** Developer and the City Parties intend for any Transaction Document addressing specific rights and obligations to prevail over any inconsistent provisions in any other any Transaction Document for the Project. This general rule will apply to the primary Transaction Document as amended from time to time, whether or not the amendment is reflected in the Appendix.

**8.2. Examples.** The following examples are illustrative only and are not intended to limit the application of the examples used or the meaning of this Paragraph.

- Financing provisions in the Financing Plan will prevail over conflicting provisions regarding Project Payment Sources in any other Transaction Document that is not specific to a Project Payment Source.

- The RMA will prevail over conflicting provisions in any other Transaction Document, including the Financing Plan, with respect to rates and methods of assessing Mello-Roos Taxes.
- An RMA amendment revising the definition of “Tax-Exempt Parcel” will prevail over an inconsistent definition in this Appendix as applied to the levy of Mello-Roos Taxes.
- Review periods for Improvement Plans in the ICA will prevail over conflicting review periods in any other Transaction Document.

## **9. HEADINGS AND REFERENCES.**

**9.1. Headings.** The headings preceding the articles, sections, and other parts of each Transaction Document and in the applicable table of contents have been inserted for convenience of reference only and must be disregarded in the construction and interpretation of the Transaction Documents.

**9.2. References Generally.** Any reference to a provision “in the [Transaction Document],” “herein,” “hereof,” or similar terms will be deemed to refer to any reasonably related provisions of the Transaction Document in which the reference appears in the context of the reference, unless the reference refers solely to a specific provision of the Transaction Document.

### **9.3. Within Transaction Documents.**

**(a)** Unless otherwise specified, whenever a Transaction Document, including all exhibits, schedules, and attachments, refers to the table of contents or any article, section, exhibit, attachment, or defined term, the reference is deemed to refer to the article, section, exhibit, attachment, or defined term of the Transaction Document or the referenced exhibit or attachment and all of the subsections, subparagraphs, clauses, exhibits, and attachments.

**(b)** The word “this” when used to refer to any document, article, section, paragraph, clause, or other distinct provision in a document means the referenced document or provision. For example, “this Paragraph” means **App ¶ A.9.3**, and “this subparagraph” means **App ¶ A.9.3(b)**.

**9.4. To Other Documents.** Unless otherwise specified, all references to a Transaction Document or a specific exhibit, attachment, schedule, supplement, Consent, addendum, or other document attached or deemed attached to a Transaction Document means the entire document as amended, replaced, supplemented, clarified, corrected, or superseded at any time while any obligations under the Transaction Document are outstanding.

## **10. ATTRIBUTED AND DELEGATED ACTS AND OBLIGATIONS.**

**10.1. Delegated Actions.** References in any Transaction Document to a Party’s acts or omissions mean acts or omissions by the Party and its Agents unless the context requires or specifically stated otherwise.

**10.2. Transferred Obligations.** References in any Transaction Document to a Party’s obligations also mean the Party’s obligation to ensure that its successors, Agents, and Transferees comply with all applicable obligations.

**10.3. Successor Public Bodies.** References to any public body acting in its regulatory or proprietary capacity also mean the named body or any successor public body designated by or under law to act in the same capacity.

**10.4. Successor Public Officials.** References to elected and appointed officials of public bodies also mean their duly appointed or elected, as applicable, successors to the extent authorized to act in the same capacity, and designees to the extent authorized to take specific actions on behalf of the named officials.

## **11. TRANSFERRED RIGHTS.**

All references to Developer in a Transaction Document pertaining to any right under that Transaction Document also mean a Transferee to the extent set forth in an Assignment and Assumption Agreement in form and content consistent with **DDA art. 6** (Transfers).

## **12. RECITALS.**

Recitals are included to provide context for the Parties' agreement as set forth in the Transaction Document in which they appear and are not binding with respect to the Parties' rights and obligations. If the recitals conflict with other provisions of the Transaction Document, the other provisions will prevail.

## **13. WORDS OF INCLUSION.**

The words "including," "such as," or similar terms when following any general term must not be construed to limit the term to the specific terms that follow, whether or not followed by language of non-limitation, such as "without limitation," "including, but not limited to," or similar words, but will be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of the term and to be followed by the phrase "without limitation" or "but not limited to."

## **14. GENDER AND NUMBER.**

Wherever the context requires, gender-specific and gender-neutral references are deemed to include the masculine, feminine, and gender-neutral, and references to the singular are deemed to include the plural and vice versa.

## **15. NUMERALS.**

For purposes of calculations under any Transaction Document, fractions will not be rounded up or down. A numeral will prevail over any conflicting spelled out number.

## **16. TIME PERIODS.**

**16.1. Calendar Periods.** References to days, months, quarters, and years mean calendar days, months, quarters, and years unless otherwise specified.

**16.2. Business Days.** References to a business day means a day other than a Saturday, Sunday, or a holiday recognized by the City. A business day begins at 8 a.m. and ends at 5 p.m., Pacific Standard Time or Pacific Daylight Savings Time, whichever is in effect on the date in question.

## **17. STATUTORY REFERENCES.**

References to specific code sections mean San Francisco Municipal Ordinances unless otherwise specified or required by context. References to any law mean the law as in effect on the Reference Date and as amended at the time in question, unless specifically stated otherwise.

## **18. NO PARTY DRAFTER.**

The Transaction Documents have been negotiated at arm's length between persons sophisticated and knowledgeable in the matters addressed. In addition, each Party has been represented by experienced and knowledgeable legal counsel, or has had the opportunity to consult with counsel. Accordingly, the provisions of the Transaction Documents must be construed as a whole according to their common meaning to achieve the Parties' intent and purpose, without any presumption (under Cal. Civ. Code §§ 1649, 1654, or otherwise) against the Party responsible for drafting any part of any Transaction Document.

[Remainder of page intentionally left blank.]

## PART B: GLOSSARY OF DEFINED TERMS

The following terms have the meanings given to them below. Defined terms that are not capitalized below are not capitalized when used in Transaction Documents.

**"100-year flood"** means a flood having a 1% chance of occurrence in a given year.

**"AA"** is an acronym for the Acquisition Agreement.

**"AA Allocation"** means the allocation of Horizontal Development Costs paid under a Payment Request to specific Horizontal Improvements or Components.

**"AB 2797"** means Assembly Bill 2797 (stats. 2016, ch. 529), which amended SB 815.

**"Acceptance and Maintenance Memorandum of Agreement"** is defined in **ICA § 4.7(g)** (Standard and Procedures for Acceptance) and means an agreement that City Agencies will enter into specifying the extent of each City Agency's responsibility for maintenance and liability and related matters.

**"Acquiring Agency"** means the City Agency (the Port, SFPUC, or Public Works) that will acquire Horizontal Improvements under the Acquisition Agreement.

**"Acquisition Agreement"** means the Acquisition and Reimbursement Agreement between Developer and the Port in the form of **FP Exh A** that lists Horizontal Improvements that Acquiring Agencies will purchase from Developer, establishes the Acquisition Prices of Horizontal Improvements, and provides forms and procedures for Developer to request inspection of and payment for Horizontal Improvements.

**"Acquisition Price"** means the amount that the Port will pay Developer on behalf of Acquiring Agencies to purchase Horizontal Improvements under the Acquisition Agreement, which will be the sum of the Horizontal Development Costs incurred and accrued Developer Return to the date of payment.

**"Acquisition Cost Update"** means one or more updates to the Phase Improvements, Components, and the preliminary Horizontal Development Cost estimates in **AA Exh B** that Developer submits to the Port.

**"action"** when used in reference to any Claim or Loss means any administrative, judicial, quasi-judicial, or nonjudicial proceeding, including any alternative dispute resolution proceeding, and includes any complaint, cross-complaint, counterclaim, bankruptcy case, adversary proceeding, and appeal.

**"active use"** means a use that by its nature does not:

- (i) require non-transparent walls facing a public street; or
- (ii) involve the storage of goods or vehicles.

**"actual damages"** means the exact amount of any sum due and owing, together with interest until paid and all costs of collection.

**"ADA"** is an acronym for the Americans with Disabilities Act and all other applicable federal, state, and local disability rights laws.

**"Additional Developer Return"** means the portion of Developer Return that exceeds the Interest Cost Limitation.

**"Additional Port Return"** means the portion of Port Return that exceeds the Interest Cost Limitation.

**"Additional Return"** means Additional Developer Return or Additional Port Return or both, as applicable.

**“Adequate Security”** means all Phase Security and Loss Security that Developer provides to the Port under the DDA:

- (i) to secure the faithful performance or payment, or both, of Developer Construction Obligations and Developer Reimbursement Obligations under **DDA art. 16** (Security for Project Activities);
- (ii) issued by a person that meets the Obligor Net Worth Requirement and is approved by the Port Director;
- (iii) that includes the Port’s costs of enforcement in the Obligor’s liability; and
- (iv) that is in form and substance proposed by Developer and approved by the Port Director, such as guaranties, bonds, letters of credit, certificates of deposit.

**“Adequate Security Requirements”** means Developer’s obligations under **DDA art. 16** (Security for Project Activities).

**“Adequate Security Requirements” exclude security required by the Subdivision Code.**

**“Adjacent Parcel”** means:

- (i) Parcel D1 in reference to the Parcel D2 Garage; and
- (ii) Mission Rock Square and Parcels B, C, E, F, I, and J in reference to the Mission Rock Square Garage.

**“Adjusted Gross Income”** means Gross Income less Adjustments.

**“Adjustments”** when used in reference to Adjusted Gross Income means:

- (i) all Impositions (as defined in the Parcel Lease) paid by Tenant, allocated on a straight-line basis during the Lease Year in which the Imposition was paid;
- (ii) utility charges paid by Tenant, including water, gas, oil, sanitary and storm sewer, and electricity; and
- (iii) insurance premiums for insuring the Improvements in compliance with the Master Lease, allocated on a straight-line basis during the Lease Year in which the insurance premium was paid.

**“Administrative Delay”** means an Excusable Delay caused when:

- (i) a Regulatory Agency fails to act on a Developer request or application within the time specified in the ICA, the Development Agreement, or the DDA, or, if no time is specified, within a reasonable time under the agency’s standard practices;
- (ii) an appeal body or court determines that a Regulatory Agency’s act or failure to act on an application was improper following a challenge by Developer or a Vertical Developer Affiliate; or
- (iii) for any matter that requires the execution and delivery of a Vertical DDA or Parcel Lease, a Vertical Developer has delivered the partially executed agreement to the Port, but the Port has failed to execute and deliver the fully executed agreement to the Vertical Developer.

**“Administrative Delay” excludes any delay caused by Developer’s failure to meet any Outside Date or to submit timely all required and requested information supporting a request or application.**

**“Administrative Fee”** means:

- (i) a fee imposed citywide (or portwide, for Port fees) in effect and payable when a developer submits an application for any permit or approval, intended to cover

only the estimated actual costs to the City or the Port of processing the application, addressing any related hearings or other actions, and inspecting work under the permit or approval; and

- (ii) amounts that Developer or a Vertical Developer must pay to the City or the Port under any Transaction Document to reimburse the City or the Port for its administrative costs in processing applications for any permits or approvals required under the Project Requirements.

**“Administrative Fee”** *excludes any Impact Fee or Exaction.*

**“ad valorem tax”** means an ad valorem tax levied on a taxable real property interest under article XIII A of the California Constitution.

**“Advance”** means a loan of a Parcel DRP or Port Capital that the Port makes to the Mission Rock CFD under **FP art. 7** (Port Advances).

**“Affiliate”** means:

- (i) in general, any person that directly or indirectly controls, is controlled by, or is under common control with, another person or a partner or managing or other member of the other person; and
- (ii) in reference to Developer, a Transferee Affiliate and a Vertical Developer Affiliate.

**“Affordability Covenant”** means the agreement of each Vertical Developer of a Residential Parcel to meet permanent affordable housing requirements applicable to the parcel, which will be documented in a recorded Declaration of Restrictions.

**“affordable housing”** means Residential Units at the Project Site that will be affordable to households with income ranges specified in the Housing Plan.

**“Affordable Housing Cost”** means a monthly rental charge, including the Utility Allowance, for a Residential Unit that does not exceed 30% of the maximum Area Median Income permitted for the applicable type of Residential Unit, based upon Household Size.

**“Affordable Housing Fund”** means the segregated account in the Special Fund Trust Account to hold Jobs/Housing Equivalency Fees that will be used to provide Affordable Housing Subsidies to Residential Developers in compliance with the Housing Plan.

**“Affordable Housing Overage”** means the amount by which available Jobs/Housing Equivalency Fees exceeds the Affordable Housing Subsidy allocated to Residential Developers in a Phase.

**“Affordable Housing Shortfall”** means the amount by which the Affordable Housing Subsidy allocated to Residential Developers in a Phase exceeds available Jobs/Housing Equivalency Fees.

**“Affordable Housing Subsidy”** means the amount of Jobs/Housing Equivalency Fees allocated to Residential Developers through the Phase Approval process.

**“Affordable Housing Subsidy Plan”** means the methodology for allocating Affordable Housing Subsidies to Residential Developers approved in the Phase Approval process for Phase 1.

**“AGI”** is an acronym for Adjusted Gross Income.

**“Agent”** means any officer, director, employee, legal or other authorized representative, attorney, or contractor of any person and any of their respective Agents.

“agree” means an accord, mutual consent, or binding decision reached by two or more persons.

“agree” *excludes* any unilateral decision.

“Aggrieved Party” means the Party alleging that a Breaching Party has committed an Event of Default or is in Material Breach under the DDA, the DA, or other Transaction Document.

“alcoholic beverage” is defined in California Business and Professions Code section 23004.

“all-gender toilet facility” means a toilet that is not restricted to use by persons of a specific sex or gender identity by means of signage, design, or the installation of fixtures.

“Allocated Tax Increment” means the portion of Gross Tax Increment from Project Area I that the City has agreed to allocate to the IFD for use in Project Area I by approving Appendix I.

“Allocation Period” means the period ending on October 17 each year for Prop M purposes.

“allonge” means a document that is affixed to and is a part of a negotiable instrument.

“Allowed Developer Return” means the portion of Developer Return that accrues at a rate equal to the Interest Cost Limitation.

“Allowed Port Return” means the portion of Port Return that accrues at a rate equal to the Interest Cost Limitation.

“Allowed Return” means Allowed Developer Return or Allowed Port Return or both, as applicable.

“ALTA” is an acronym for the American Land Title Association.

“Alternative Developer Return” means the portion of Developer Return accruing at the Alternative Return Rate.

“Alternative Port Return” means the portion of Port Return accruing at the Alternative Return Rate.

“Alternative Return” means Alternative Developer Return or Alternative Port Return or both, as applicable.

“Alternative Return Balance” means the sum of unreimbursed Alternative Return Costs and accrued Alternative Return owing to Developer or the Port or both, as applicable, on the date of determination.

“Alternative Return Cost” means a cost that is to bear Alternative Return under any Transaction Document, consisting on the Reference Date of:

- (i) the amount of any Phase 1 Overage funded by a Port Capital Advance under **clause (i) of FP § 2.7(c)** (Port Election);
- (ii) up to \$10 million of any Phase 1 Overage funded by Developer Capital under **clause (ii) of FP § 2.7(c)** (Port Election);
- (iii) the amount of any Affordable Housing Shortfall funded by Developer Capital under **clause (ii)** or a Port Capital Advance under **clause (iii) of FP § 2.8(f)** (Affordable Housing Shortfall); and
- (iv) the amount of any Affordable Housing Subsidy funded by Developer Capital or a Port Capital Advance under **FP § 2.8(g)** (Affordable Housing Fund Delays).

**“Alternative Return Rate”** means the lesser of:

- (i) LIBOR published on the date that an Alternative Return Cost is paid, plus 400 basis points; and
- (ii) the annual rate of 9 %.

**“Alternative Return Rent Credits”** means rent credits provided to Master Lease Tenant under **FP § 2.6(c)** (Alternative Treatment of Costs).

**“Amendment Action”** means a discretionary action to approve a termination by agreement or an amendment, supplement, or addition to any of the Transaction Documents or Project Requirements.

**“AMI”** is an acronym for Area Median Income.

**“AMI Percentage”** means the percentage multiple of AMI applicable to an Inclusionary Unit.

**“Annual Allocated Tax Increment”** means the Allocated Tax Increment that the Port receives, as IFD Agent, in a City Fiscal Year.

**“Annual Cost Budget”** means the amount of Port Costs and Other City Costs that the Port and Developer agree will be payable by Project Payment Sources in each City Fiscal Year during the DDA Term.

**“Annual Ground Rent”** means ground rent for an Option Parcel that is payable to the Port in annual installments over the Parcel Lease term.

**“Annual Review”** means the periodic review of whether Developer has complied in good faith with the Development Agreement required under section 65865.1 of the Development Agreement Statute and Administrative Code section 56.17.

**“Annual Review Date”** means the date established by Administrative Code section 56.17 by which the Annual Review must begin, as amended by **DA § 8.1(c)** (Planning Director’s Discretion).

**“App”** is a term used in the Transaction Documents to refer to this Appendix.

**“Appendix I”** means the Project-specific infrastructure financing plan for Project Area I that the Board of Supervisors approved by Ordinance No. 34-18, which is attached as Appendix I to the IFD Financing Plan.

**“Applicable Lender Protections”** means provisions under **DDA art. 17** (Lender Rights), **Vertical DDA art. 16** (Financing; Rights of Lenders), and **PL art. 40** (Mortgages) that protect the rights of Lenders making loans to Borrowers to finance Improvements at the Project Site.

**“Applicable New Law”** means, individually or collectively:

- (i) a Change in City Law amending the Construction Codes;
- (ii) a Change in City Law adding or amending any other Existing City Law to protect the public health and safety; and
- (iii) changes in federal or state law that apply to the Project as described in **DA art. 5** (Vesting and City Obligations).

**“Applicable Port Laws”** means the Burton Act, as amended by SB 815, and Charter Appendix B.

**“applicable service”** means electric service that SFPUC Power will provide to the Project Site under one or more Electric Service Agreements.

**“Appraisal Instructions”** means directions to Qualified Appraisers substantially in the form of **DDA Exh D4** for Option Parcels to be developed for residential use or **DDA Exh D5** for Option Parcels to be developed for commercial-office.



**“Appraisal Notice”** means a notice from Developer to the Port initiating the appraisal process for an Option Parcel under **DDA § 7.3** (Parcel Put).

**“Approved Arbiters Pool”** means **DDA Sch 1**, as revised under **DDA § 9.1** (Arbiters).

**“Approved Payment”** means, individually or collectively as appropriate in the context, the final Entitlement Cost Statement, an Approved Payment Request, or an Approved Requisition.

**“Approved Payment Request”** means a Payment Request in the form of **AA Exh C** for Horizontal Development Costs of Horizontal Improvements that the Chief Harbor Engineer has approved or is deemed to have approved, in either case under **AA § 4.2** (Processing Payment Requests).

**“Approved Requisition”** means a Requisition in the form of **FP Exh E** for costs that the Port Director has approved under **FP § 2.2(c)** (Entitlement Sum Statement and Requisitions).

**“Approved Phase”** means a Phase of the Project that the Port has approved.

**“Arbiter”** means an arbitrator who will preside over any arbitration proceeding.

**“Arbitration Notice”** means the notice that one Party delivers to the other Party to initiate a proceeding under **DDA art. 9** (Resolution of Certain Disputes).

**“Arbitration Start Date”** means the date on which a selected Arbiter confirms in writing to the Parties that the Arbiter is available and willing to serve.

**“Architect”** means the licensed architect of record for any Improvements.

**“Architect’s Certificate”** means a certificate signed by the Architect in the form of **Vertical DDA Exh P** verifying that a Vertical Developer has completed the specified Vertical Improvement under the Improvement Plans.

**“Area Median Income”** means, for the Inclusionary Units, unadjusted median income for the San Francisco area as published from time to time by HUD, adjusted solely for Household Size.

**“Army Corps”** means the Army Corps of Engineers.

**“As-Built Drawings”** means design and Improvement Plans and specifications in their final form and as-built field documents prepared during the course of construction.

**“Assessed Parcel”** means a Taxable Parcel that meets all of the following conditions:

- (i) one or more buildings have been constructed or rehabilitated on the Taxable Parcel for which the Port has issued a TCO;
- (ii) the buildings have been finally assessed;
- (iii) the Assessor has levied ad valorem taxes on the Taxable Parcel covering a full City Fiscal Year.

**“Assessed Parcel Credit Report”** means a report that the CFD Administrator will prepare for the Treasurer-Tax-Collector that specifies the amount of the Development Special Tax Credit to be applied to Assessed Parcels.

**“Assessment Shortfall”** means, on the date of determination, any amount by which Allocated Tax Increment generated by the levy of the ad valorem tax on a Taxable Parcel’s Baseline Assessed Value (if paid in full), as escalated by any annual increases or reassessments following a change in ownership or later Improvements, exceeds Allocated Tax Increment generated by the levy of the ad valorem tax on the Taxable Parcel (if paid in full) after a Value Reduction.

**“Assessor”** and **“Assessor-Recorder”** mean the Assessor-Recorder of the City and County of San Francisco.

**“Assignment and Assumption Agreement”** means an agreement in the form of **DDA Exh D4** and otherwise consistent with **DDA art. 6** (Transfers).

**“Associated Public Benefits”** means public benefits that the Project will provide, including:

- (i) Horizontal Improvements such as shoreline improvements, Public ROWs, new and expanded Public Spaces, and other public facilities to serve the Project Site;
- (ii) Inclusionary Units required under the Housing Plan, and an activated ground-floor environment with space for shops, restaurants, cafes, neighborhood-serving retail, and community activities serving the public trust; and
- (iii) benefits associated with development, such construction and permanent jobs, contracting opportunities for local businesses, and public art installations.

**“Associated Public Benefits”** *excludes* public facilities provided by any City Agency.

**“attorneys’ fees”** means reasonable attorneys’ fees and related costs incurred in an action or as otherwise indicated in the DDA, including all costs of litigation, such as fees and related costs of attorneys, consultants, testing, and experts, litigation costs of the action, and costs for document copying, exhibit preparation, carriers, postage, and communications.

**“audited financial statements”** means financial statements prepared by an independent CPA that include the CPA’s opinion that the financial statements are fairly stated in all material respects.

**“Available Tax Increment”** means the amount of Allocated Tax Increment that the City has allocated to the IFD and is available on the date of calculation.

**“AWSS”** is an acronym for the City’s auxiliary water supply system.

**“AWSS Plan”** means Developer’s proposed AWSS design for associated Horizontal Improvements.

**“Backbone Infrastructure”** means all Horizontal Improvements except Deferred Infrastructure.

**“Ballpark”** means the stadium and related facilities currently known as AT&T Park, located at 24 Willie Mays Plaza, San Francisco, California.

**“Barrier Removal Funds”** means the portion of the CBO Funds that will be used to fund community-based organizations that provide services to reduce barriers to employment for individuals within at-risk populations.

**“base flood”** is a term used to describe a 100-year flood.

**“Baseline Assessed Value”** means:

- (i) while any First Tranche Bonds are outstanding and before Second Tranche Bonds are issued, the greater of (1) the initial assessed value of a Taxable Parcel in Project Area I in the first City Fiscal Year in which the assessed value reflects the full cash value of the initial Improvements constructed on the Taxable Parcel for which the Port has issued a TCO, after all rights to appeal have expired or been exhausted, as escalated by annual increases or (2) the initial assessed value of a Taxable Parcel in Project Area I in the first City Fiscal Year in which the assessed value reflects any change in ownership or later Improvements, after all rights to appeal have expired or been exhausted, as escalated by annual increases; and
- (ii) after all First Tranche Bonds are defeased and Second Tranche Bonds are issued, the assessed value of a Taxable Parcel in the first City Fiscal Year in which the assessed value reflects any change in ownership or later Improvements, after all rights to appeal have expired or been exhausted.

**“Baseline Revenue”** means the average annual revenue that the Port received from Seawall Lot 337 between January 1, 2003, and December 31, 2007, adjusted for inflation.

**“Base Rent”** is defined in the Master Lease.

**“Base Value”** means, on the date of determination, the sum of the following to the extent Transferred directly or indirectly by a Triggering Event:

- (i) the Developer Balance;
- (ii) any remaining Unrecovered Rent Credits under the Master Lease; and
- (iii) if the Participation Threshold has been met on the date of the Triggering Event, the net present value, calculated at a discount rate of 8.5%, of the then-projected Developer Participation from any Parcel Leases under the Participation Agreement.

**“Basis of Design”** means the documents described in **ICA Exh E** (Mission Rock Basis of Design).

**“BCDC”** is an acronym for the San Francisco Bay Conservation and Development Commission.

**“begin construction”** means to start the physical improvement of a site as part of a sustained and continuous building plan.

**“Board of Supervisors”** means the legislative branch of the City and County of San Francisco with all powers and authority granted under the Charter and state law.

**“Bond”** means any bond or other form of indebtedness secured by Mello-Roos Taxes or Tax Increment or both issued on behalf of the Mission Rock CFD or Project Area I to implement the Financing Documents.

**“Books and Records”** means books and records that Developer and the Port will prepare and maintain under **FP § 9.5** (Books and Records).

**“Borrower”** means:

- (i) Developer, a Vertical Developer, or a Transferee with rights and obligations under the DDA directly or through a Parcel Lease or an Assignment and Assumption Agreement when used in reference to a Deed of Trust; and
- (ii) a person with a direct or indirect controlling interest in Developer, a Vertical Developer, or a Transferee with rights and obligations under the DDA directly or through a Parcel Lease or an Assignment and Assumption Agreement when used in reference to a Security Interest.

**“Breaching Party”** means a Party alleged to have committed an Event of Default or to be in Material Breach under the DDA, the Development Agreement, or other Transaction Document.

**“Broadcast Services”** means the electronic capture or live transmission on-site of video, digital, or audio content for Commercial Purposes through the use of a remote production or satellite truck on-site by individuals that may include a technical director, video controller, assistant director, and stage manager, as well as individuals engaged in the following functions: audio; camera; capture and playback; graphics; and utility.

**“Budget Guidelines”** means the guidelines applicable to each Phase Budget, which are listed in **DDA § 3.3(a)** (Budget Guidelines).

**“Burton Act”** means Assembly Bill 190 (stats. 1968, ch. 1333), authorizing the State to grant tidelands and submerged lands comprising San Francisco Harbor to San Francisco under the management and control of the Port Commission.

**“Capital Cost”** means, as applicable:

- (i) a Horizontal Development Cost funded by Developer Capital or Port Capital or both;
- (ii) any other cost funded by Developer Capital or Port Capital or both that is reimbursable under the Financing Plan;
- (iii) Horizontal Development Costs funded by Developer Pass-Throughs;
- (iv) accrued Developer Return or accrued Port Return or both; and
- (v) Minimum Phase Return and Minimum Developer Return as applicable.

**“cash”** means United States currency delivered in legal tender or other forms of immediately available funds.

**“CBO Funds”** means one-half of the Workforce Job Readiness and Training Funds, which will be used as Barrier Removal Funds and Job Readiness Training Funds.

**“Central Plant”** means a central water treatment plan or a central energy plant, each as described in the Sustainability Strategy.

**“Central Plant Feasibility Studies”** means studies that Developer will submit under **DDA § 3.2(b)** (Phase 1 Submittal) examining the feasibility of the construction and operation of Central Plants.

**“CEQA”** is an acronym for the California Environmental Quality Act (Cal. Pub. Res. Code §§ 21000-21189.3).

**“CEQA Findings”** means findings adopted by the Planning Commission, the Port Commission, and the Board of Supervisors under CEQA, the CEQA Guidelines, and the CEQA procedures.

**“CEQA Guidelines”** means the California Guidelines for Implementation of CEQA (Cal. Admin. Code §§ 15000-15387).

**“CEQA law”** means CEQA, the CEQA Guidelines, and the CEQA procedures.

**“CEQA procedures”** means Administrative Code chapter 31.

**“Certificate of Compliance”** means certificate signed by the Director of Public Works that is affixed to a Final Map to indicate that a subdivider has met all conditions of approval to the Final Map in accordance with the Subdivision Code.

**“CFD”** is an acronym for City and County of San Francisco Special Tax District No. [TBD] (Mission Rock), which will consist of a Facilities CFD and a Services CFD, that the Port will ask the Board to establish by CFD Formation Proceedings.

**“CFD Administrative Costs”** means the reasonable costs that the Port, as CFD Agent, actually incurs and pays for:

- (i) services of any Indenture Trustee (including its counsel) for any Bonds that the City issues for the Mission Rock CFD;
- (ii) marketing or remarketing Bonds; and
- (iii) all other administrative services provided by the Port, the CFD Administrator, the City, the Special Fund Trustee, and any other third-party professionals necessary for the Port to perform its duties under the DDA, Tax Allocation MOU, Special Fund Administration Agreement, and the RMA.

- “CFD Administrator”** means the Port’s special tax consultant or any other person that the Port Director designates to administer Mello-Roos Taxes from the Mission Rock CFD according to the RMA.
- “CFD Agent”** means the Port, acting on behalf of the Mission Rock CFD, which the Port will ask the Board to authorize in the CFD Formation Proceedings.
- “CFD Formation Proceedings”** means the Board of Supervisors resolution by which the Board of Supervisors will establish the Mission Rock CFD.
- “CFD Goals”** means the *Local Goals and Policies for Community Facilities Districts*, approved by Board of Supervisors Resolution No. 387-09 on October 6, 2009, as amended from time to time solely to the extent required under CFD Law or other controlling state or federal law.
- “CFD Law”** means the San Francisco Special Tax Financing Law (Admin. Code ch. 43, art. X), which incorporates the Mello-Roos Community Facilities Act of 1982 (Cal. Gov’t Code §§ 53311-53368).
- “CFD Report”** means the annual report that the Mission Rock CFD must file with the Treasurer-Tax Collector under CFD Law.
- “Change in City Law”** means a change to an Existing City Law, or a new law, plan, or policy, adopted by the City or the Port or by voter initiative after the DA Ordinance Effective Date that would conflict with the Project Approvals, the Transaction Documents, or Applicable Port Laws as specified in **DA § 5.3** (Change in City Law).
- “Change in City Law” excludes regulations, plans, and policies that change only procedural requirements of an Existing City Law.*
- “Change in Law”** means a Change in City Law or a new or amended federal or state law that materially and adversely affects the feasibility of the Project or the delivery of the Associated Public Benefits.
- “Change Negotiating Period”** means a period of nine months during which specified Outside Dates will be tolled to allow the Parties to negotiate possible changes to Developer Construction Obligations or other elements of the Project to address changed circumstances under the DDA.
- “Chapter 12T”** means Administrative Code chapter 12T (Criminal History In Hiring And Employment Decisions).
- “Chapter 56”** means Administrative Code chapter 56, which the Board of Supervisors adopted under the Development Agreement Statute, as amended by the DA Ordinance.
- “Chapter 82”** means the Local Hiring Policy for Construction (Admin. Code ch. 82).
- “Chapter 83”** means the First Source Hiring Program (Admin. Code ch. 83).
- “Charter”** means the Charter of the City and County of San Francisco adopted on November 7, 1995, as amended and in effect on the Reference Date.
- “Chief Harbor Engineer”** means the Port’s Deputy Director, Engineering.
- “Child Care Equivalency Fee”** means the Impact Fee payable under **clause (iv) of DA § 5.4(b)** (Impact Fees and Exactions) in lieu of the Child Care Fee.
- “Child Care Fee”** means the Impact Fee payable under Planning Code sections 414.1-414.15 and sections 414 A.1–414 A.8.
- “City”** means the City and County of San Francisco, a charter city and municipal corporation, subject to **DA § 2.6(d)** (City and Port).

**“City Agency”** means any public body or an individual authorized to act on behalf of the City in its municipal capacity, including the Board of Supervisors or any City commission, department, bureau, division, office, or other subdivision, and officials and staff to whom authority is delegated, on matters within the City Agency’s jurisdiction.

**“City Delay Notice”** means a notice given under **DDA Exh A4** (Provisions for Office Development) from Planning to the Port that the City has reasonably determined that delaying office development in the Project Site is necessary to allow the City to balance its planning objectives for Pending Projects elsewhere in the City.

**“City Engineer”** means the Public Works employee responsible for infrastructure matters on City property.

**“City Fiscal Year”** means the period beginning on July 1 of any year and ending on the following June 30.

**“City General Fund”** means San Francisco’s general operating fund, into which taxes are deposited, excluding dedicated revenue sources for certain municipal services, capital projects, and debt service.

**“City Law”** means any City ordinance or Port code provision and implementing regulations and policies governing zoning, subdivisions and subdivision design, land use, rate of development, density, building size, public improvements and dedications, construction standards, new construction and use, design standards, permit restrictions, development impacts, terms and conditions of occupancy, and environmental guidelines or review at the Project Site, including, as applicable:

- (i) the Waterfront Plan and the Design Controls;
- (ii) the Construction Codes, applicable provisions of the Planning Code, including the SUD and the Zoning Maps, the Subdivision Code, the General Plan;
- (iii) local Environmental Laws and the Health Code; and
- (iv) the Other City Requirements.

**“City Party”** means the Port, the City, City Agencies, and their respective Agents.

**“City Req”** refers to the Other City Requirements (**DDA Exh A11**).

**“City-standard”** means a public facility meeting the specifications of an Other City Agency.

**“citywide”** means all real property within the territorial limits of San Francisco, not including any property owned or controlled by the United States or the State that is exempt from City Laws.

**“Claim”** means a demand made in an action or in anticipation of an action for money, mandamus, or any other relief available at law or in equity for a Loss arising directly or indirectly from acts or omissions occurring in relation to the Project or at the Project Site during the DDA Term.

**“Claim” excludes** any demand made to an insurer under an insurance policy or to an Obligor of Adequate Security.

**“Close of Escrow,” “Close Escrow,” and “Closing”** mean that all conditions to a Port conveyance of a Development Parcel have been satisfied or waived and actions required to effect the conveyance are complete.

**“Closing Date”** means the date on which a Port conveyance of a Development Parcel becomes effective by execution and delivery of a Parcel Lease.

**“Closing Deadline”** means the date by which a Vertical Developer must Close Escrow on a Parcel Lease or as otherwise specified in a Public Offering document, as extended under the applicable document.

**“CLTA”** is an acronym for the California Land Title Association.

**“CMD”** is an acronym for the Contract Monitoring Division of the City’s General Services Agency.

**“CM-GC”** is an acronym for construction manager-general contractor in a GMP contract.

**“Commencement of Construction”** is defined in **DA § 4.2(a)** (Obligation to Provide).

**“Commercial Parcel”** means:

- (i) a Development Parcel that is designated in Section 249.80 for primarily Commercial Mixed Use; and
- (ii) a Flex Parcel that is designated in a Phase Approval for primarily Commercial Mixed Use.

**“Commercial Purposes”** for purposes of Administrative Code section 21C.9 means an operation of Broadcast Services for profit.

**“Commercial Purposes” excludes** *instances where the capture and transmission of video, digital, or audio content is performed by or on behalf of a governmental entity.*

**Commercial Tenant”** means a tenant under a lease or other occupancy contract for commercial space at a Vertical Improvement in the Project Site.

**“Commercial Vehicle”** means a vehicle that:

- (i) is used or maintained primarily for the transportation of materials, goods, or products;
- (ii) has six wheels or more; and
- (iii) displays or is required to display a California Department of Motor Vehicles weight decal under the Commercial Vehicle Registration Act (Cal. Veh. Code §§ 9400 et seq.)

**“Commercial Vehicle” excludes** *a vehicle used exclusively for food catering purposes, meaning its exclusive purpose on a particular trip is for the transport of food and beverages to be served at a Show or Special Event, the transport of equipment for the preparation and service of food and beverages at a Show or Special Event, or both.*

**“common control”** means that:

- (i) a person directly or indirectly controls another person; or
- (ii) one or more persons are controlled by the same third person.

**“Component”** as defined in the CFD Law means:

- (i) for a Horizontal Improvement with an estimated cost of over \$1 million, a discrete portion or phase that may be financed whether or not the Component is capable of serviceable use; or
- (ii) for a Horizontal Improvement with an estimated cost of \$1 million or less, a discrete portion or phase that may be financed when the Component is capable of serviceable use.

**“Conditions of Approval”** means specified conditions to approval of a final Subdivision Map.

**“Conditions to Commencement”** means the conditions to beginning construction of Horizontal Improvements specified in **DDA art. 14** (Horizontal Development).

**“conflict”** means any circumstance described in **DA § 5.3(b)** (Circumstances Causing Conflict).

**“Consent”** means Developer’s or a City Agency’s executed approval of its agreement with the Transaction Document to which the Consent is attached.

**“Consistency Determination”** means the Port’s finding that Developer’s proposed submittal to a City Agency complies and is consistent with prior approvals and Project Requirements.

**“Consolidated Response Date”** means three business days after the Chief Harbor Engineer or Public Works receives review comments on an Improvement Plan Submittal from all Other City Agencies for purposes of **ICA § 4.6(h)** (Delivery of Compiled Comments).

**“Construction Codes”** means the Port Building Code and all Municipal Codes regulating construction of new Improvements and alteration or rehabilitation of existing Improvements, including the International Building Code and the California Building Code to the extent incorporated and as modified by the Port Commission or the Board of Supervisors.

**“construction permit”** means any permit that Developer and each Vertical Developer must obtain from the Port or any Other City Agency before beginning any physical work at the Project Site, including demolition, excavation, grading, site, and building/site permits and addenda.

**“Construction Training Resources”** means any portion of the OEWD Funds that OEWD chooses to use to support programs that train disadvantaged workers and local residents in the field of construction work.

**“contractor”** means a general contractor, including a CM-GC, or subcontractor, as appropriate in the context, licensed by the Contractors State License Board.

**“control”** means that a person has one or more of the following:

- (i) direct or indirect ownership of more than 50% of the profits or capital of another person;
- (ii) the right to dictate the controlled person’s major decisions, subject to the rights of other owners;
- (iii) the right to appoint 50% or more of the controlled person’s managers or directors.

**“Controller”** means the Controller of the City and County of San Francisco.

**“controlling interest”** means the interest that a controlling person holds in the controlled person.

**“Convention”** means an organized association of persons with a common interest, including a professional, commercial, political, social, cultural, vocational, recreational, or fraternal interest, most of whom are from outside of San Francisco, who meet in a hotel, convention center, or other building to discuss or act on matters affecting their common interest or to participate in activities related to their common interest.

**“convey”** means to transfer an interest in real property by Parcel Lease, deed, or other instrument.

**“Coordination Agreement”** means a contract between Developer and Vertical Developers that addresses matters necessary to coordinate horizontal and vertical construction in an orderly manner.



**“Core Benefits”** is defined in Administrative Code section 12B.1(b).

**“Cost Allocation Proposal”** means Developer’s proposed allocation of Horizontal Development Costs under **AA § 4.1(d)** (Cost Allocation).

**“Costa-Hawkins Act”** means the Costa-Hawkins Rental Housing Act (Cal. Civ. Code §§ 1954.50-1954.535).

**“costs”** means actual and reasonable expenses, fees, and other charges directly arising from or relating to the matter giving rise to a right to payment.

**“County Surveyor”** means the Office of the City and County of San Francisco Surveyor.

**“CPA”** is an acronym for an independent certified public accounting firm approved by the Port and Developer.

**“CPI”** is an acronym for the Consumer Price Index for All Urban Consumers in the San Francisco-Oakland-San Jose region (base period 1982-1984=100) that the United States Department of Labor, Bureau of Labor Statistics, publishes in February, April, June, August, October, and December of each year. If the index is changed after the Reference Date to use a different base year, CPI will be calculated using the published conversion factor. If publication is discontinued and not replaced, the Parties will confer to reach agreement on a substitute measure.

**“Credit Bid”** means a Vertical Developer Affiliate’s deemed Development Rights Payment to the Port, subject to the limitations and conditions of **FP § 3.5** (Right to Credit Bid), and the act of making the deemed payment when used as a verb.

**“Credit Bid Determination Date”** means the 30<sup>th</sup> day after a Final Appraisal is issued under **DDA art. 7** (Parcel Leases).

**“Cumulative IRR”** means Developer’s cumulative internal rate of return in a Current Phase and any Prior Phase, calculated through the date of determination, excluding Developer Capital spent on any Later Phase.

**“Current Assessed Value”** means a Taxable Parcel’s Baseline Assessed Value, as escalated or reassessed by the Assessor under applicable law, on the date of determination.

**“Current Phase”** means the Phase of the Project during which an event or determination occurs.

**“Current Parcel”** means an Assessed Parcel in the Mission Rock CFD that is identified in the Payment Report as being current on payment of ad valorem taxes.

**“DA”** is an acronym for the Development Agreement between the City and Developer specifying the entitlement rights that the City agreed to vest in Developer for development of the Project Site by adoption of the DA Ordinance.

**“DA Assignment”** is defined in **DA § 11.1** (DA Successors’ Rights).

**“DA Default”** is defined in **DA § 9.2(a)** (Specific Events).

**“DA Ordinance”** means Ordinance No. 033-18 approving the Development Agreement, incorporating by reference the General Plan Consistency Findings, authorizing the Planning Director and other City officials to execute the Development Agreement on behalf of the City, and waiving the application of certain Municipal Code provisions to aspects of the Project.

**“DA Ordinance Effective Date”** is defined in **DA § 2.1** (Effective Dates).

**“DA Requirements”** is defined in **DA § 5.2(a)** (Agreement to Follow Existing Policy).

**“DA Statute”** means California Government Code sections 65864-65869.5.

**“DA Successor”** is defined in **DA § 12.1** (DA Successors’ Rights).

“**DA Term**” is defined **DA § 2.2** (DA Term).

“**DA Waivers**” means, collectively, all Municipal Code waivers in the DA Ordinance.

“**DDA**” is an acronym for the Disposition and Development Agreement between the Port and Developer specifying the terms and conditions for Developer’s master development of the Project Site.

“**DDA Term**” means the period beginning on the Reference Date and ending when the DDA expires by its own terms or by early termination.

“**debt**” means, when required by the context, financial obligations as defined in section 53395.1 and section 53395.8(c)(4) of the IFD Law.

“**debt service**” means the principal and interest payable on Bonds under an Indenture.

*“debt service” excludes capitalized interest, funding requirements (such as coverage), and any other amounts that are funded from gross Bond proceeds under an Indenture before net Bond proceeds are available for disbursement.*

“**Declaration of Restrictions**” means a document in the form attached to the Housing Plan to be recorded against a Development Parcel developed for rental residential use requiring that designated Inclusionary Units remain affordable in accordance with the Housing Plan.

“**Deed of Trust**” means a mortgage, deed of trust, or other security instrument encumbering a Development Parcel or a leasehold interest in a Development Parcel or a Security Interest to secure a Borrower’s repayment obligation to a Lender.

“**defend**” when used in reference to a Claim means the defense, compromise, or other resolution of the Claim in or outside of an action.

“**Deferred Infrastructure,**” subject to further discussion and the City Agencies’ prior agreement as described in **ICA Exh D**, means Improvements that would be Horizontal Improvements built or installed by Developer but for the Port’s agreement through a Phase Approval to require Vertical Developers to construct one or more of the following:

- (i) Utility Infrastructure;
- (ii) Public ROW Improvements; and
- (iii) fixtures installed between right-of-way curbs and the boundaries of a Development Parcel, such as sidewalks and curb cuts, lighting, street furnishings, landscaping, and utility boxes and laterals serving the parcel.

*“Deferred Infrastructure” excludes utility Improvements and fixtures customarily installed as part of a Vertical Improvement.*

“**Deferred Infrastructure Zone,**” subject to further discussion and agreement as described in **ICA Exh D**, means one or more of the following:

- (i) the area between back-of-curb and the adjacent Development Parcel boundary or the adjacent Public Space, as applicable;
- (ii) bands up to 40 feet along the outer boundaries of Public Spaces adjacent to Development Parcels; and
- (iii) the area adjacent to Development Parcels for the installation of service infrastructure, including laterals, traps, air vents, clean-outs, meter boxes, irrigation facilities and associated pedestals, pull boxes, and secondary conduits.

“**Delay Event**” means the event causing a claimed Excusable Delay.

“**Delay Event Date**” means the date on which the Delay Event occurred or the date on which the Party claiming Excusable Delay discovered the Delay Event.

**“Demolition and Utility Relocation Plan”** means one of a Permit Set of Improvement Plans for Site Preparation.

**“Design Advisory Committee”** means a body of qualified design professionals designated by the Port Director in consultation with the Planning Director to make design recommendations regarding public realm Improvements to the Port Commission.

**“Design Controls”** means the Mission Rock Design Controls that the Port Commission and the Planning Commission approved.

**“Developer”** means Seawall Lot 337 Associates, LLC, and its successors under **App ¶ A.2.3** (Successors) and **App ¶ A.11** (Transferred Rights).

**“Developer Audit”** means a financial review performed by a CPA on behalf of Developer under **FP § 9.4(b)** (Developer Audit).

**“Developer Balance”** means, as shown on the Developer Capital Schedule on the date of determination, the sum of:

- (i) Developer’s unreimbursed Horizontal Development Costs;
- (ii) Developer’s unreimbursed Alternative Return Costs;
- (iii) accrued and unpaid Developer Return; and
- (iv) if applicable, the amount required for Developer to receive Minimum Phase Return under **clause (ii)** or Minimum Developer Return under **clause (iii)** of **FP § 2.5(c)** (Developer Return).

*“Developer Balance” excludes any part of vertical development costs and sums arising in any Later Phase before the applicable Phase Approval.*

**“Developer Capital”** means funds available to Developer that are not subject to restrictions or limitations under the Financing Plan.

**“Developer Capital Schedule”** means an accounting schedule that Developer maintains to record the Developer Balance for all Phases of the Project individually and in the aggregate.

**“Developer Construction Obligations”** means Developer’s duty under the DDA to perform or provide, in accordance with applicable Project Requirements, for:

- (i) construction of the Horizontal Improvements for each Phase of the Project;
- (ii) Developer Mitigation Measures associated with horizontal development; and
- (iii) Associated Public Benefits associated with horizontal development.

*“Developer Construction Obligations” excludes any Deferred Infrastructure that Vertical Developers will construct.*

**“Developer Contingency”** means the separate allowances to cover additional Soft Costs and Hard Costs in a Phase Budget.

**“Developer Market Rate Return”** means return on Developer Capital accruing at the annual rate of 18%, compounded quarterly, on unreimbursed Horizontal Development Costs (excluding Alternative Return Costs), as adjusted under **clause (ii)** and **clause (iii)** of **FP § 2.5(c)** (Developer Return).

**“Developer Marketing Costs”** means costs associated with marketing the Project, including interim activation, events associated with openings of public improvements and other activities that benefit Project land and user absorption, overall Project branding and recognition, subject to a maximum for each Phase in the amount of \$325,000 for Phase 1 and \$250,000 for each subsequent Phase; provided, however, that:

- (i) the maximum dollar amounts referenced above are stated in 2018 dollars, and are subject to adjustment on each anniversary of the Reference Date by the percentage change in the CPI, subject to a floor of no change and a maximum increase of 4.5%; and
- (ii) the maximum dollar amounts referenced above may be subject to further increase if the Developer demonstrates to the Port's reasonable satisfaction that such increase is appropriate and expected to generate a net benefit to the Port.

*“Developer Marketing Costs” exclude expenditure of funds received from the Master Marketing Fee.*

**“Developer Mitigation Measure”** means any Mitigation Measure in the MMRP (**DDA Exh A5**) that is to be performed by Developer in connection with horizontal development.

**“Developer Participation”** means the amount of Annual Participation Revenue payable to Developer under the Participation Agreement.

**“Developer Party”** means Developer and its direct and indirect partners, members, shareholders, officers, Affiliates (including Vertical Developer Affiliates), individually or collectively.

**“Developer pass-through”** means a Horizontal Development Cost that a Payment Agent is authorized by an Approved Payment to disburse to one or more of Developer's contractors, consultants, or suppliers.

**“Developer Reimbursement Obligations”** means Developer's duty under the DDA to indemnify the City Parties and pay Port Costs and Other City Costs.

*“Developer Reimbursement Obligations” excludes Developer's use of Developer Capital to finance Horizontal Improvements.*

**“Developer Return”** means any combination of Additional Developer Return, Allowed Developer Return, Developer Market Rate Return, Alternative Developer Return, and Reduced Return payable to Developer under the Financing Plan.

**“Development Account”** means the segregated account within the Special Tax Fund that the Port establishes with the Special Fund Trustee to receive, administer, and disburse Development Special Taxes.

**“Development Agreement”** means the agreement that the City entered into with Developer under Administrative Code chapter 56 and the Development Agreement Statute.

**“Development Agreement Statute”** means California Government Code sections 65864-65869.5.

**“Development Opportunity”** means Developer's development rights under the DDA that the Port terminates under **DDA § 11.7** (Effects of Termination on Development Rights).

**“Development Parcel”** means any parcel in Seawall Lot 337 designated for vertical development.

**“Development Rights Payment”** means a lump sum payment to the Port at the Closing of a Parcel Lease in the amount of:

- (i) Fair Market Value if the Option Parcel is conveyed by a Prepaid Lease; or
- (ii) an agreed portion of Fair Market Value, with the balance of Fair Market Value paid as Annual Ground Rent under a Parcel Lease, calculated by multiplying the

difference between Fair Market Value and the Parcel DRP by the Rent Conversion Factor.

**“Development Special Tax Credit”** means the amount by which the Potential Development Special Tax Levy for a Current Parcel in the Mission Rock CFD will be reduced by the application of Allocated Tax Increment under **FP § 6.6** (Tax Increment Credit).

**“Development Special Taxes”** means the portion of Facilities Special Taxes that the City levies in a City Fiscal Year on Taxable Parcels in the Mission Rock CFD to finance Horizontal Improvements and for other eligible purposes, subject to Port Commission and Board of Supervisors approval, an amount per square foot intended to be equivalent to 0.65% of the parcel’s Baseline Assessed Value as projected for the CFD Formation Proceedings.

**“Director of Public Finance”** means the director of the Public Finance Division of the Controller’s Office.

**“Director of Public Works”** means the Director of San Francisco Public Works.

**“Director of Transportation”** means the Director of San Francisco Municipal Transportation Agency.

**“Disputed Value”** means a challenged Fair Market Value or Rent Conversion Factor in an appraisal that is subject to arbitration under **DDA § 7.5** (Appraisal Disputes).

**“Disputing Party”** means a person affected by a dispute that is subject to **DDA art. 9** (Resolution of Certain Disputes).

**“Down Market”** means a period of economic and other conditions meeting one or more criteria under **DDA § 4.4(b)** (Existence of Down Market).

**“Down Market Delay”** means an Excusable Delay meeting one or more criteria under **DDA § 4.4(b)** (Existence of Down Market).

**“Down Market Test”** means the procedures in **DDA § 4.4** (Down Market Delay Procedures) by which the Parties have agreed to determine whether a Down Market exists.

**“Down Market Test Budget”** means a hypothetical Phase Budget that Developer submits under **DDA § 4.4(a)** (Timing) as part of a Down Market Test.

**“Down Market Test Date”** means the date that the existence of a Down Market is established under the DDA.

**“DRP”** is an acronym for a Development Rights Payment.

**“DRP Advance”** means a loan of a Parcel DRP that the Port makes to the Mission Rock CFD under **FP art. 7** (Port Advances).

**“DRP Advance Proceeds Account”** means the segregated accounts within the Mello-Roos Fund and the Tax Increment Fund that the Port establishes with the Special Fund Trustee to receive, administer, and disburse Allocated Tax Increment and Development Special Taxes to pay the Mission Rock CFD’s obligations under the Promissory Note.

**“DRP Fund”** means the segregated account within the Special Fund Trust Account described in **FP § 4.3** (Special Fund for Special Taxes), which will hold Development Rights Payments for future use under the Financing Plan.

**“DTSC”** is an acronym for the California Department of Toxic Substances Control.

**“Early Mello-Roos Bonds”** means Mello-Roos Bonds that the City issues on behalf of the Mission Rock CFD to finance Phase Improvements at the Port’s request early in a Phase.

**“Electrical Service Agreement”** means the agreement between SFPUC Power and a customer specifying the terms on which SFPUC Power will provide applicable SFPUC service.

**“eligible”** when used in reference to Horizontal Development Costs or Horizontal Improvements means Hard Costs and Soft Costs for which the use of special tax financing or tax increment financing is authorized under Governing Law and Policy.

**“Eligible Occupant”** means, for any Inclusionary Unit, a household with a Gross Annual Income that does not exceed the result of the following:

- (i) identify the applicable AMI, adjusted for Household Size;
- (ii) multiply the AMI from **clause (i)** by the AMI Percentage applicable to that Inclusionary Unit; and
- (iii) add 5% to the product of **clause (ii)**.

**“ENA”** is an acronym for the Exclusive Negotiation Agreement dated as of May 25, 2010, effective as of September 15, 2010, as amended and restated as of the Reference Date.

**“Encumbered Property”** means, as applicable:

- (i) the real property interest in a Development Parcel and any other assets that are the collateral under a permitted Deed of Trust; or
- (ii) the personal property interest in Borrower and any other assets that are the collateral under a permitted Security Interest.

**“Encumbrance”** means a Deed of Trust or Security Interest.

**“Engineer”** means the engineer of record for Horizontal Improvements, who must be licensed by the California Board for Professional Engineers, Land Surveyors, and Geologists.

**“Entitlement Cost Statement”** means Developer’s report on Entitlement Costs, prepared by a third party or subject to third-party review, under **FP § 2.4(a)** (Preliminary Entitlement Cost Statement).

**“Entitlement Costs”** are Soft Costs that the Parties incurred between May 25, 2010, and June 30, 2018, to entitle the Project, including:

- (i) preliminary planning and design work;
- (ii) environmental review under CEQA;
- (iii) negotiating the financial and other terms of the Transaction Documents; and
- (iv) obtaining Project Approvals.

**“Entitlement Costs” exclude costs of planning and design work specifically related to the Phase Submittal for Phase 1 incurred after April 19, 2018, which shall be considered Soft Costs of Phase 1 rather than Entitlement Costs.**

**“Entitlement Date”** means the date on which all of the following are final:

- (i) BCDC approval of a major permit for the development of the Project Site (excluding Pier 48), which was issued on June 29, 2018;
- (ii) State Lands approvals required under SB 815, which were granted on April 19, 2018; and
- (iii) DTSC’s approval of a variance to, modification of, or substitute for the existing Environmental Covenants.

**“Entitlement Sum”** means the sum of Entitlement Costs plus accrued Developer Return up to the Reference Date.

**“Environmental Covenants”** means recorded deed restrictions, as may be in effect from time to time, which impose conditions under which certain land uses will be permitted at designated portions of the Project Site.

**“Environmental Delay”** means an Excusable Delay caused when:

- (i) the Port or the City is required to conduct additional environmental review or prepare additional environmental documents after the Reference Date;
- (ii) a third party files an action challenging the certification or sufficiency of the Final EIR or any other additional environmental review, even if development activities are not stayed, enjoined, or otherwise prohibited;
- (iii) the unanticipated need to investigate, remediate, or otherwise correct environmental or geotechnical conditions on or affecting any portion of the Project Site, but only if the conditions or the need to investigate, remediate, or otherwise correct were not reasonably foreseeable in light of Developer’s due diligence before the Reference Date, including its knowledge of the Pre-Existing Hazardous Materials; or
- (iv) the unanticipated need to comply with any Mitigation Measures adopted for the Project for conditions on or affecting any portion of the Project Site, but only if the conditions were not reasonably discoverable before the Reference Date and by their nature require a delay or work stoppage for investigation, remediation, or related activities, as long as the Party claiming delay is proceeding in a diligent manner to resolve the unforeseen issues.

**“Environmental Law”** means any law pertaining to handling, release, or remediation of Hazardous Materials, conditions in the environment, including structures, soil, air, bay water, and groundwater, the protection of the environment, natural resources, wildlife, and human health and safety, industrial hygiene and employee safety, and community right-to-know requirements, including CEQA, the Mitigation Measures, and the Environmental Covenants, applicable to the Project Site or related to the work being performed under the DDA or any Parcel Lease.

**“Environmental Regulatory Action”** means any inquiry, investigation, enforcement, remediation, agreement, order, consent decree, compromise, or other action that is threatened, instituted, filed, or completed by an Environmental Regulatory Agency in relation to a release of Hazardous Materials.

**“Environmental Regulatory Agency”** means the United States Environmental Protection Agency, the United States Occupational Safety and Health Administration, the United States Department of Labor, any California Environmental Protection Agency board, department, or office, including DTSC and the Water Board, the California Division of Occupational Safety & Health, Department of Industrial Relations, the Bay Area Air Quality Management District, the San Francisco Department of Public Health, SFFD, SFPUC, the Port, and any other Regulatory Agency now or later authorized to regulate Hazardous Materials.

**“Environmental Regulatory Approval”** means any approval, license, registration, permit, or other Regulatory Approval required or issued by any Environmental Regulatory Agency, including any hazardous waste generator identification numbers relating to operations at any portion of the Project Site and any closure permit.

**“ESA”** is an acronym for Electrical Service Agreement.

**“Escrow”** and **“Escrow Account”** mean an account established with an Escrow Agent for the delivery, recordation, and distribution as applicable of title documents, funds, and any other items necessary to Close a conveyance of a real property interest.

**“Escrow Agent”** means a local branch of a title company on the approved list maintained by the Real Estate Division of the San Francisco General Services Agency selected to handle a conveyance under the DDA.

**“Escrow Closing Costs”** means the Escrow costs customarily assigned to the buyer or ground lessee, such as escrow and associated fees, title insurance premiums and endorsement charges, transfer taxes, ad valorem taxes and assessments, if any, prorated as of the applicable Closing Date.

**“Estimated Construction Duration”** means Developer’s projected construction periods for Components of Phase Improvements in each Phase Submittal.

**“Estimated Construction Schedule”** means Developer’s projected schedule for pre-construction and construction of Phase Improvements in each Phase Submittal, which will be based on the Estimated Construction Duration.

**“Event Day”** means a calendar day during which an event is held in a Public Space, excluding time allowed for setup and breakdown of the event in the event permit.

**“Event Management Plan”** means **TP Sch 4 to DDA Exh B7** (Transportation Exhibit), which includes an anticipated approach to managing pedestrian activity, vehicle flows, and bicycle parking in and near the Project before, during, and after events at the Ballpark, event venues in the Project Site, and other nearby event venues, such as Chase Center, where the event promoter has a parking agreement with the Garage operator to provide parking for patrons of the event.

**“Event of Default”** means a Breaching Party’s failure to cure a noticed breach within any cure period specified in **DDA §§ 10.2** (Events of Default by Developer) or **10.3** (Events of Default by the Port), **DA § 9.2** (DA Defaults), or as otherwise specified in any Transaction Document, including all incorporated implementation plans and documents.

**“Exacerbate”** when used in reference to Hazardous Materials means any act or omission that increases the quantity or concentration or potential for human exposure of Hazardous Materials in the affected area, causes the increased migration of a plume of Hazardous Materials in soil, groundwater, or bay water, causes a Release of Hazardous Materials that had been contained until the act or omission, or otherwise requires investigation or remediation that would not have been required but for the act or omission, it being understood that the mere discovery of Hazardous Materials does not cause **“Exacerbation”**. **“Exacerbate”** also includes the disturbance, removal or generation of Hazardous Materials in the course of Developer’s operations, Investigations, maintenance, repair, and construction of Horizontal Improvements. **“Exacerbate”** also means failure to comply with the Soil Management Plan or Environmental Covenants. **“Exacerbation”** has a correlative meaning.

**“Exaction”** means any requirement to provide services or Improvements that the City imposes as a condition of approval to mitigate the impacts of increased demand for public services, facilities, or housing caused by a development project, which may or may not be an impact fee governed by the Mitigation Fee Act, including a fee paid in lieu of complying with a City requirement.

***“Exaction” excludes Mitigation Measures and any federal, state, or regional impositions.***

**“Excluded Transfer”** means any of the following:

- (i) any Lender’s exercise of remedies;
- (ii) the removal of a general partner or managing member by the exercise of remedies under any form of operating agreement;



- (iii) the sale, transfer, or issuance of stock listed on a national or internationally recognized stock exchange; or
- (iv) a change resulting from death or legal incapacity of an individual.

**“Excusable Delay”** means an allowed delay in performance, or an extension of an Outside Date, as a result of the occurrence of an event of Force Majeure.

**“Excusable Delay” excludes:**

- (1) *Developer’s lack of Developer Capital needed for a Phase;*
- (2) *Developer’s Insolvency; and*
- (3) *an Administrative Delay or Environmental Delay if the Party claiming delay fails to take required actions or make good faith efforts to resolve the issues causing delay in a timely manner.*

**“Exempt Parcel”** means, depending on the context:

- (i) any assessor’s parcel of a real property interest that is exempt either in whole or in part from property taxation under California law; and
- (ii) any assessor’s parcel of a real property interest that is exempt from Mello-Roos Taxes under an RMA.

**“Exempt Parcel” excludes any parcel that:**

- (1) *the Port or any other Regulatory Agency acquires by gift, devise, negotiated transaction, or foreclosure;*
- (2) *the Port acquires under the DDA; or*
- (3) *is in private use for taxable purposes.*

**“Exhibit, Display, or Trade Show Work”** means the on-site installation, set-up, assembly, and dismantling of temporary exhibits, displays, booths, modular systems, signage, drapery, specialty furniture, floor coverings, or decorative materials in connection with or related to a Special Event.

**“Existing City Law”** means any City Law in effect on the DA Ordinance Effective Date, including Planning Code section 291, which was added by Proposition D.

**“Existing Geotechnical Condition”** means the physical, geotechnical condition of the Project Site, including soils and groundwater conditions, before Developer or its Affiliate first took possession of the Project Site.

**“Existing Geotechnical Condition” excludes the Existing Hazardous Material Condition of the Project Site.**

**“Existing Hazardous Material Condition”** means the presence or release of Hazardous Materials in, on, or about any portion of the Project Site that occurred before Developer or its Affiliate first took possession of the Project Site.

**“Experience Requirement”** means the Port’s requirement that a proposed Transferee have substantial experience (in the Port’s reasonable judgment), either directly or through any of its Affiliates or its project team, as a developer of mixed-use projects comparable to the Project.

**“Exposition”** means a large-scale public exhibition with a primary though not necessarily exclusive purpose of promoting one or more products, services, or businesses.

**“extensive renovation”** means any renovation where the construction cost exceeds 50% of the cost of providing all-gender toilet facilities.

**“Facilities CFD”** means the part of the Mission Rock CFD to be formed to finance Horizontal Improvements, Shoreline Adaptation Studies, Shoreline Protection Facilities, and other public facilities as approved by the Port Commission and the Board of Supervisors.

**“Facilities CFD Administrative Costs”** means CFD Administrative Costs payable from Facilities Special Taxes.

**“Facilities Special Taxes”** means one or more of Development Special Taxes, Office Special Taxes, and Shoreline Special Taxes.

**“Fair Market Value”** means the value conclusion for a Development Parcel in the Project Site reached according to procedures described in the DDA, expressed as the price that a prospective buyer with reasonable knowledge of the relevant facts would be willing to pay on the open market for the leasehold interest.

**“FAR”** is an acronym for floor area ratio.

**“Federal or State Law Exception”** is defined in **DA § 5.6(a)** (City’s Exceptions).

**“FEHA”** is an acronym for the Fair Employment and Housing Act (Cal. Gov’t Code §§ 12900-12996).

**“FEMA”** is an acronym for the Federal Emergency Management Agency.

**“final”** when used to refer to any Project Approval or Later Approval means that:

- (i) no administrative or judicial appeal has been filed by the applicable deadline;
- (i) if an administrative or judicial appeal has been timely filed, the Project Approval or Later Approval has been upheld by a final decision; or
- (ii) the Board of Supervisors has certified the results of an election under the Elections Code at which a referendum petition regarding a Project Approval is rejected.

**“Final Appraisal”** means the appraisal report that will be used for the conveyance of any Option Parcel, which can be either the Joint Appraisal as provided in **DDA § 7.4(g)** (Joint Appraisal) or the result of a dispute resolution process under **DDA § 7.5** (Appraisal Disputes).

**“Final Audit”** means Developer’s final financial report for the Project as described in **FP § 9.3(b)** (Final Audit).

**“Final Audit Date”** means the due date for the Final Audit under **FP § 9.3(b)** (Final Audit).

**“Final Certificate of Occupancy”** means a certificate of occupancy and completion that the Chief Harbor Engineer issues in the form of **Vertical DDA Exh Q** after accepting an Architect’s Certificate verifying that a Vertical Developer has finally completed a Vertical Improvement.

**“final completion”** means that Developer has completed all aspects of a Horizontal Improvement for which City Agency approval is required in compliance with the approved Improvement Plans and the Project Requirements by the Outside Date in the applicable Schedule of Performance in accordance with **DDA § 14.6** (SOP Compliance).

**“Final EIR”** means the environmental impact report for the Project that the Planning Department certified by Motion No. 20018 on October 5, 2017.

**“final judgment”** means an order, judgment, award, settlement, consent decree, stipulated judgment, or other partial or complete termination of an action with respect to a Claim or a Loss issued by an administrative, judicial, quasi-judicial, or nonjudicial body that is effective and binding after any appeal is finally adjudicated and all rights to appeal have been exhausted, or the time to appeal has expired.

- “Final Map”** means a final Subdivision Map meeting the requirements of the Subdivision Code and the Map Act, subject to amendments made by the DA Ordinance, which map has been approved by the Board of Supervisors.
- “Final Phase”** means the last Phase of development of Seawall Lot 337.
- “Final Port Report”** means the Port’s final financial report for the Project as described in **FP § 9.2(d)** (Reporting).
- “Final Value”** means the Fair Market Value or Rent Conversion Factor conclusion that is in a Joint Appraisal or reached by the appraisal dispute resolution procedures in **DDA § 7.5** (Appraisal Disputes).
- “Financing Document”** means one or more of the Financing Plan, the Acquisition Agreement, the Special Fund Administration Agreement, the Participation Agreement, Appendix I, the RMA, the Tax Allocation MOU, the CFD Formation Proceedings, the IFD Formation Proceedings, and all related ordinances and resolutions that the Board of Supervisors adopt in connection with the formation of Project Area I and the Mission Rock CFD.
- “Financing Plan”** means **DDA Exh C1**, the part of the DDA that will govern the application of Project Payment Sources to meet the Project Payment Obligation and other matters relating to financing the Project and revenue-sharing.
- “Fire Safety Infrastructure”** means Improvements that will be under SFFD jurisdiction when accepted.
- “First Scheduled Closing Date”** shall mean the originally scheduled Closing Date set forth in the Vertical DDA in effect for the first Development Parcel anticipated to be conveyed in a Phase, as such Closing Date may be extended under **DDA § 7.7(d)** (Final Map).
- “First Source Hiring Agreement”** means **WDP Att A**.
- “First Submittal”** means the set of Improvement Plans submitted before the Second Submittal under **ICA § 4.6(c)** (Plans Submittals).
- “First Tranche Bonds”** means Bonds that are payable from Allocated Tax Increment, the proceeds of which are used to finance the Project Payment Obligation.
- “Flex Parcel”** means Development Parcels designated as Flex, for which either Commercial or Residential Mixed Use is permitted as the primary land use under Section 249.80.
- “Flexible Street Improvements”** means Public ROWs that are not supported by Structured Street Superstructure.
- “Flexible Utility Connections”** means utility connections that are flexible to accommodate differential settlement where structured streets interface with Flexible Street Improvements.
- “Floodplain Management Plan”** means the document described in Port Building Code §§ 104A.2.1.1-104A.2.1.2.
- “Floodplain Ordinance”** means the law (Admin. Code art. XX) regulating construction in flood-prone areas of San Francisco and authorizing the City’s participation in the National Flood Insurance Program.
- “Force Majeure”** means an Administrative Delay, Environmental Delay or Down Market Delay or any other event that is not caused by and is outside the reasonable control of the Party claiming an Excusable Delay and includes:
- (i) domestic or international events disrupting civil activities, such as war, acts of terrorism, insurrection, acts of the public enemy, and riots;

- (ii) acts of nature, including floods, earthquakes, unusually severe weather, and resulting fires and casualties;
- (iii) epidemics and other public health crises affecting the workforce by actions such as quarantine restrictions;
- (iv) inability to secure necessary labor, materials, or tools (but only if the Party claiming delay has taken reasonable action to obtain them on a timely basis) due to any of the above events, freight embargoes, lack of transportation, or failure or delay in delivery of utilities serving the Project Site;
- (v) government action or inaction after the Reference Date that precludes or substantially increases Developer's cost to perform or comply with any provision of the DDA;
- (vi) delays in any Closing under a Vertical DDA as a result of the Port's acts or omissions;
- (vii) any Vertical Developer's failure to perform an obligation on or before the time specified for performance; and
- (viii) litigation or written threat of litigation.

**"Foreclosure Purchaser"** means a person, including a Lender, that acquires a property interest by a Foreclosure Sale or that person's successor.

**"Foreclosure Sale"** means a Lender or its nominee taking title to Encumbered Property under its Deed of Trust or Security Interest through a foreclosure proceeding, a conveyance or other action in lieu of foreclosure, or its exercise of any other power of sale or other remedy.

**"FP"** is an acronym for **DDA Exh C1**, the Financing Plan.

**"Free Public Event"** means an event in a Public Space that:

- (i) is open to the general public; and
- (ii) does not require the purchase of a ticket for entry to the event, but may require a ticket or registration to manage the number of attendees.

**"Funding Goals"** means the Parties' financial objectives under **FP § 1.2** (Funding Goals).

**"FY"** is an acronym for "fiscal year" in reference to a City Fiscal Year.

**"FYE"** is an acronym for "fiscal year end," which occurs on June 30 of each City Fiscal Year.

**"GAAP"** means generally accepted accounting principles consistently applied.

**"Garage"** means a parking structure that Developer builds on the Project Site as permitted under the SUD and the DDA.

**"Garage Parcel"** means a Development Parcel designated for construction of a Garage, consisting of Parcel D2, the Mission Rock Square Garage Parcel, or both, as required in the context.

**"Garage Phase"** means an optional Phase between Phase 1 and Phase 2 (or possibly later, under **DDA § 2.5(a)** (Garage Phasing)) during which Developer may construct a Garage and associated Horizontal Improvements.

**"Garage Put Notice"** means a notice that the Port will deliver if it elects to exercise its rights under **DDA § 7.3** (Parcel Put) with respect to Parcel D2.

**“Garage REA”** means the reciprocal easement agreement that the Vertical Developer of any Garage Parcel must enter into with the Vertical Developer of any Adjacent Parcel under **DDA § 2.5(f)** (Garage REA).

**“Garage Recommendations”** means the written recommendations that the Director of Planning or the Director of Transportation, or both, provide to Developer regarding the development and operation of a Garage and possible refinements to the parking management plan under **DDA § 2.5(c)** (Garage Recommendations).

**“Garage Report”** means the report that Developer must prepare and submit to specified City Agencies for any proposed Garage under **DDA § 2.5(b)** (Garage Report).

**“Garage Space”** means a parking space in a Garage.

**“General Plan”** means goals, policies, and programs for the future physical development of the City, as adopted by the Planning Commission and approved by the Board of Supervisors, taking into consideration social, economic, and environmental factors.

**“General Plan Consistency Findings”** means findings made by the Planning Commission by Motion No. 20019 that the Project as a whole and in its entirety is consistent with the objectives, policies, general land uses, and programs specified in the General Plan and the planning principles in Planning Code section 101.1.

**“Giants”** means the holder of the San Francisco Giants National League franchise.

**“Giants Affiliate”** means a person controlling, controlled by, or under common control with the Giants on the Reference Date or the effective date of a Transfer.

**“GMP contract”** means a guaranteed maximum price contract or negotiated contract described in **DDA § 13.4(c)** (Guaranteed Maximum Price Contract).

**“Governing Law and Policy”** when referring to Public Financing Sources collectively or individually as applicable, means the CFD Law, the IFD Law, the Tax Code, the CFD Goals, and the Port IFD Guidelines.

**“graffiti”** means any inscription, word, figure, marking, or design that is affixed, marked, etched, scratched, drawn, or painted on any building, structure, fixture, or other improvement, whether permanent or temporary, including signs, banners, billboards, and fencing surrounding construction sites, whether public or private, without the consent of the owner of the property or the owner’s authorized agent, and that is visible from the public right-of-way.

**“Gross Annual Income”** means pre-tax money earned annually by a household, including overtime pay, commissions, dividends, and any other source of income.

**“Gross Income”** means Master Lease Tenant’s revenues under the Master Lease, as defined in greater detail in the Master Lease.

**“Gross Tax Increment”** means 100% of the property and possessory interest taxes that the City actually receives in a City Fiscal Year by application of the 1% ad valorem tax against the increase in assessed value of Taxable Parcels in Project Area I above their values in the base year of Project Area I.

**“Ground Improvement Plan”** means a Permit Set of Improvement Plans for Site Preparation.

**“gsf”** is an acronym for gross square feet in any structure, as measured under applicable provisions of the Planning Code.

**“handle”** when used in reference to Hazardous Materials means to use, generate, process, manufacture, produce, package, treat, transport, store, emit, discharge, or dispose of a Hazardous Material.

**“Hard Cost”** means any cost incurred after the Reference Date, including, without duplication:

- (i) construction labor and materials for Horizontal Improvements;
- (ii) Port permit fees;
- (iii) fees for Adequate Security; and
- (iv) any other amount specifically identified in a Transaction Document as a Hard Cost or a category of Hard Costs.

**“Hard Costs” excludes:**

- (1) *Soft Costs; and*
- (2) *costs incurred before the Reference Date.*

**“Hazardous Material”** means any material, waste, chemical, compound, substance, mixture, or byproduct that is identified, defined, designated, listed, restricted, or otherwise regulated under Environmental Laws as a “hazardous constituent,” “Hazardous Material,” “hazardous waste constituent,” “infectious waste,” “medical waste,” “biohazardous waste,” “extremely hazardous waste,” “pollutant,” “toxic pollutant,” or “contaminant,” or any other designation intended to classify substances by properties deleterious to the environment, natural resources, wildlife, or human health or safety, including:

- (i) ignitability, infectiousness, corrosiveness, radioactivity, carcinogenicity, toxicity, and reproductive toxicity;
- (ii) any form of natural gas or petroleum products;
- (iii) asbestos, asbestos-containing materials, and presumed asbestos-containing materials;
- (iv) PCBs, PCB-containing materials; and
- (v) any other substance that, due to its characteristics or interaction with one or more other materials, wastes, chemicals, compounds, substances, mixtures, or byproducts, damages or threatens to damage the environment, natural resources, wildlife, or human health or safety.

**“Hazardous Material Claim”** means any Environmental Regulatory Action or any Claim made or threatened by any third party against the Indemnified Parties, the State Lands Indemnified Parties, or the Premises relating to contribution, cost recovery compensation, Losses resulting from the Release or Exacerbation of any Hazardous Materials, including Losses based in common law. Hazardous Material Claims include Investigation and Remediation costs, fines, natural resource damages, damages for decrease in value of the Master Lease Premises or other Port property, the loss or restriction of the use or any amenity of the Premises or other Port property, Attorneys’ Fees and Costs and fees and costs of consultants and experts.

**“Hazardous Material Condition”** means the Release or Exacerbation, or threatened Release or Exacerbation, of Hazardous Materials in, on, or under the Master Lease Premises or emanating from the Master Lease Premises, or from off-site conditions or events affecting receptors or the environmental condition in, on, over, or under, the Master Lease Premises, or from any vehicles Tenant, or its Agents and Invitees use in, on, or under the Master Lease Premises during the Master Lease Term or the DDA Term.

**“HCAO”** means the Health Care Accountability Ordinance (Administrative Code chapter 12Q).

**“HDPE”** means high-density polyethylene pipe.

**“Historic Tax Credits”** means tax credits available under the Historic Preservation Tax Incentives Program jointly administered by the National Park Service and the State Historic Preservation Offices, codified at Tax Code section 47.

**“horizontal development”** means the Horizontal Improvements and Associated Public Benefits that Developer is obligated to provide under the DDA.

**“Horizontal Development Costs”** means Hard Costs and Soft Costs.

**“Horizontal Development Costs” excludes:**

- (1) *any claimed costs that are not verified by proof of payment;*
- (2) *the portion of any cost that is commercially unreasonable as of the date incurred;*
- (3) *costs that are not eligible for reimbursement under the Financing Plan;*
- (4) *costs that would be Horizontal Development Costs but for exclusions under a Transaction Document, such as costs described in **DDA § 2.6(c)(iii)** (Second Garage Adjustments); and*
- (5) *costs of Vertical Improvements built by Vertical Developers except an Affordable Housing Shortfall or an Affordable Housing Subsidy funded by Developer Capital or a Port Capital Advance.*

**“Horizontal Improvements”** means public capital facilities and infrastructure built or installed at or near the Project Site, including Site Preparation, Shoreline Improvements, Public Space, Public ROWs, Utility Infrastructure, Deferred Infrastructure to the extent permitted, and work in Third Street to comply with Developer Mitigation Measure M-TR-6.

**“Horizontal Improvements” excludes** *Vertical Improvements.*

**“household”** means one or more related or unrelated individuals who live together in a Residential Unit as their primary dwelling.

**“Household Size”** means the total number of bedrooms in a Residential Unit plus one, used solely for the purpose of establishing rents and not for limiting occupancy.

**“Housing Data Table”** means a table that Developer submits in the report with detailed information about Developer’s progress toward meeting inclusionary housing requirements for the Project.

**“Housing Plan”** means **DDA Exh B5**, which sets forth certain requirements for Residential Parcels, including inclusionary housing requirements.

**“HP”** is an acronym for the Housing Plan.

**“HSH”** is an acronym for the Department of Homelessness and Supportive Housing.

**“HUD”** is an acronym for the United States Department of Housing and Urban Development.

**“ICA”** is an acronym for “interagency cooperation agreement” that is used to refer to the Memorandum of Understanding regarding Interagency Cooperation.

**“IFD”** is an acronym for Infrastructure Financing District No. 2 (Port of San Francisco), formed by Ordinance No. 27-16.

**“IFD Administrative Costs”** means the reasonable costs that the Port, as IFD Agent, actually incurs and pays for:

- (i) services of any Indenture Trustee (including its counsel) for any Bonds that the IFD issues;
- (ii) marketing or remarketing Bonds; and

- (iii) all other administrative services provided by the Port, the IFD Administrator, the City, the Special Fund Trustee, and third-party professionals necessary for the Port to perform its duties under the DDA, Tax Allocation MOU, Special Fund Administration Agreement, and Appendix I, including the City's costs under section 53369.5 of the IFD Law.

**"IFD Administrator"** means the Port's tax increment consultant or any other person that the Port Director designates to administer Tax Increment from Project Area I in accordance with Appendix I.

**"IFD Agent"** means the Port, acting on behalf of the IFD with respect to Project Area I, as authorized by Board of Supervisors Resolution No. 45-18.

**"IFD Financing Plan"** means the infrastructure financing plan for the IFD, including all appendices implementing project-specific infrastructure financing plans for project areas.

**"IFD Formation Proceedings"** means Ordinance No. 34-18 and Board of Supervisors Resolution No. 45-18.

**"IFD Law"** means California law governing infrastructure financing districts, beginning at Government Code section 53395.

**"IFD Termination Date"** means, for each Sub-Project Area in Project Area I, date on which all allocations to the IFD of Tax Increment from that Sub-Project Area, and the IFD's authority to repay indebtedness with Tax Increment from that Sub-Project Area end under Appendix I in accordance with IFD Law, which is no later than 45 years after the IFD actually receives \$100,000 in Tax Increment from that Sub-Project Area.

**"Impact Fee"** means any fee that the City imposes as a condition of approval to mitigate the impacts of increased demand for public services, facilities, or housing caused by the development project that may or may not be an impact fee governed by the Mitigation Fee Act, including a fee paid in lieu of complying with an Exaction.

*"Impact Fee" excludes any Administrative Fee, school district fee, or federal, state, or regional fee, or tax, special tax, or assessment.*

**"Implementing Manuals"** is defined in the Housing Plan.

**"Improvement Bonds"** means bonds that Developer will be required to provide to Public Works in connection with the subdivision of the Project Site.

**"Improvement Plan Submittal"** means each packet of Improvement Plans submitted for review and approval under the DDA or **ICA § 4.6(d)** (Plan Submittals).

**"Improvement Plans"** means design and engineering plans for the Infrastructure Plan and MUPs, usually consisting principally of the Basis of Design Report, the First Submittal, the Second Submittal, and the Permit Set, submitted for Horizontal Improvements for purposes of the DDA or **ICA § 4.6** (Processing Improvement Plans and Issuance of Construction Permits).

**"Improvements"** means all physical changes required or permitted to be made to the Project Site under the DDA, including Horizontal Improvements and Vertical Improvements.

**"Inclusionary Milestone"** means the Inclusionary Obligation under each approved Phase Application allowing for the development of Residential Units in compliance with **HP § 3.1** (Inclusionary Housing Requirements).

**"Inclusionary Obligation"** means Developer's obligation to deliver 40% of all Residential Units as Inclusionary Units in compliance with **HP § 3.1** (Inclusionary Housing Requirements).

**"Inclusionary Unit"** means a Residential Unit, which may be a TAY Unit, that is available to and occupied by households with incomes between 45% and 150% of AMI and rented at an



Affordable Housing Cost to the eligible household in accordance with **HP § 3.1** (Inclusionary Housing Requirements).

**"Income Certification"** means the form that a potential tenant must submit to determine income eligibility for an Inclusionary Unit under the Housing Plan.

**"Income Recertification"** means the form that an existing tenant must submit to determine continuing income eligibility for an Inclusionary Unit under the Housing Plan.

**"incomplete"** when used in reference to a Phase means that the Phase Improvements are not substantially complete.

**"Indemnified Party"** means, as applicable, a City Party, a Developer Party, or a Vertical Developer Party with the right to indemnification by an Indemnitor under the specific Transaction Document in which the term is used.

**"indemnify"** means reimburse, indemnify, defend, and hold harmless.

**"Indemnitor"** means, as applicable, a City Party, a Developer Party, or a Vertical Developer Party with an indemnification obligation under the specific Transaction Document in which the term is used.

**"Indenture"** means one or more indentures, trust agreements, fiscal agent agreements, financing agreements, or other documents containing the terms of any Bonds secured by a pledge of and to be paid by any combination of Mello-Roos Taxes and Allocated Tax Increment.

**"Indenture Trustee"** means the fiscal agent or trustee under an Indenture.

**"Index"** means the Construction Cost Index, San Francisco, published monthly by *Engineering News-Record* or a replacement index as agreed by the Parties.

**"Indexed"** means the product of a cost estimate or actual cost that Developer or a Vertical Developer established for any Component of Utility Infrastructure or Deferred Infrastructure in a Prior Phase, multiplied by the percentage of any increase between the Index published in the month in which the earlier actual cost or cost estimate was established and the Index published in the month in which Developer or Vertical Developer claims a Material Cost Increase.

**"individual"** when referring to a person means a human.

**"Infrastructure Acceptance & Maintenance MOA"** means a memorandum of understanding that Public Works, SFMTA, SFPUC, and the Port will negotiate in accordance with **clause (ii) of ICA § 4.6(b)** (Design Standards, Exceptions and Design Modifications) to identify the applicable Acquiring Agencies and other entities that will be responsible for maintenance of and liability for completed Horizontal Improvements, maintenance funding sources, anticipated exceptions and design modifications to the Subdivision Code, and any special inspection and training procedures required for City-standard and Non-Standard Infrastructure.

**"Infrastructure Plan"** means **DDA Exh B1**, which contains descriptions and Improvement Plans for Horizontal Improvements proposed to be built or installed at or to serve the Project Site, and each Master Utility Plan when approved by the applicable City Agency.

**"Initial Benchmarks"** means the following:

- (i) the Port's issuance of an SOP Compliance Determination for Phase 1 and a TCO for the Parcel D2 Garage; and
- (ii) the Port's determination, in consultation with the Director of Public Works, that the Shared Public Way is substantially complete.

**"Initial Transfer"** means a Transfer meeting the requirements of **DDA § 6.2(b)** (Initial Transfer).

**“Initial Transferee”** means the Transferee in an Initial Transfer under **DDA § 6.2(b)** (Initial Transfer).

**“Initial Transferee Affiliate”** means an Affiliate of the Initial Transferee.

**“Insolvency”** means a person’s financial condition that results in any of the following:

- (i) a receiver is appointed for some or all of the person’s assets;
- (ii) the person files a petition for bankruptcy or makes a general assignment for the benefit of its creditors;
- (iii) a court issues a writ of execution or attachment or any similar process is issued or levied against any of the person’s property or assets; or
- (iv) any other action is taken by or against the person under any bankruptcy, reorganization, moratorium or other debtor relief law.

**“Inspection Request”** means Developer’s written request that the Chief Harbor Engineer arrange for the applicable Acquiring Agency to inspect Horizontal Improvements or Components for compliance with Project Requirements and City Laws.

**“Insurance Requirements”** means the obligations of Developer to obtain and maintain insurance coverage in accordance with **ML art. 20** (Insurance), which is incorporated into **DDA art. 15** (Insurance) and **PL art. 20** (Insurance).

**“Interest Cost Limitation”** means the statutory limit on the amount of interest that an infrastructure financing district is authorized to pay to acquire infrastructure under IFD Law section 53395.2, specifically, “a rate of interest not to exceed the bond buyer index rate on the day that the agreement to repay is entered into.”

**“Interest on DRP Advances”** means annual rate of 4.48%, compounded quarterly until paid, the rate at which interest accrues on the principal amount of Promissory Note.

**“Interest Rate”** means an annual rate equal to the greater of:

- (i) ten %; and
- (ii) the Prime Rate in effect on the date payment is due, plus 5%.

**“Interested Person”** means a person that acquires a property interest or security interest in any portion of the Project Site by Parcel Lease, Assignment and Assumption Agreement, or Encumbrance.

**“Interested Pier 48 User”** means a creditworthy person with a demonstrated interest in a long-term lease of a significant portion of a rehabilitated Pier 48, identified under **DDA § 7.10** (Pier 48).

**“investigate”** when used with reference to Hazardous Materials means any activity undertaken to determine and characterize the nature and extent of Hazardous Materials that have been, are being, or are threatened to be released in, on, under, or about any portion of the Project Site, other Port property, or the environment, including:

- (i) preparation and publication of site history;
- (ii) sampling, and monitoring reports;
- (iii) performing equipment and facility testing such as testing the integrity of secondary containment and above and underground tanks; and
- (iv) sampling and analysis of environmental conditions before, during, and after remediation begins and continuing until the appropriate Environmental

Regulatory Agency has issued a no further action letter, lifted a clean-up order, or taken similar action.

**"Invitee"** means a person's clients, customers, invitees, patrons, guests, members, licensees, permittees, concessionaires, vendors, suppliers, assignees, tenants and subtenants, any other person whose rights arise through them, and members of the general public present on any property under the person's possession and control.

**"IPM Ordinance"** means Environment Code chapter 3.

**"IPM Plan"** means the Port's integrated pest management plan.

**"IPM Policy"** means the policy described in Environment Code chapter 3.

**"IRS"** is an acronym for the Internal Revenue Service.

**"ISCOTT"** is an acronym for the Interdepartmental Staff Committee on Traffic and Transportation.

**"issue"** when used in reference to any form of indebtedness in the Financing Plan means to complete all actions required to obtain the proceeds for authorized uses under the Financing Plan.

**"Janitorial Services"** means maintenance and cleaning services on property owned or leased by the City.

**"JHEF"** is an acronym for Jobs/Housing Equivalency Fee.

**"Job Readiness Training Funds"** means the portion of the CBO Funds that will be used to fund community-based organizations that provide services to provide job-readiness training for individuals within at-risk populations.

**"Jobs/Housing Equivalency Fee"** mean the Impact Fee payable under **DA § 5.4(b)** (Impact Fees and Exactions) in lieu of the Jobs/Housing Linkage Fee.

**"Jobs/Housing Linkage Fee"** means the Impact Fee due under Planning Code sections 413.1-413.11.

**"Joint Appraisal"** means the appraisal report that a Qualified Appraiser delivers to both Parties under **DDA § 7.4(g)** (Joint Appraisal).

**"Land Use Plan"** means **DDA Exh A3**, which consists of a map showing Developer's proposed land uses and intensity of vertical development at the Project Site.

**"Land Use Table"** means the chart in **DDA § 1.5** (Land Use Table) with principal land uses for Development Parcels, as anticipated on the Reference Date.

**"Land Value Indicator"** means dollar value per usable square foot within the building envelope assumed in the Final EIR for each Option Parcel for its proposed use, initially based on the Land Use Plan attached to the DDA and the residual land values in the Summary Proforma attached to the Financing Plan on the Reference Date, which will be used solely for a Down Market Test under **DDA art. 4** (Excusable Delay).

**"Large Event"** means an event occupying at least 30%, but no more than 70%, of the footprint of a Public Space.

**"Later Approval"** means any Regulatory Approval required after the Reference Date to implement the Project or to begin Site Preparation or construction of Improvements.

**"Later Phase"** means the Phase following a Current Phase.

**“law”** means any of the following validly in effect as of the Reference Date and as later amended, supplemented, clarified, corrected, or replaced during the DDA Term, whether or not within the present contemplation of the Parties:

- (i) federal, state, regional, or local constitution, charter, law, statute, ordinance, code, rule of common law, resolution, rule, regulation, standard, directive, requirement, proclamation, order, decree, and policy (including the Waterfront Plan and Port and City construction requirements);
- (ii) judicial order, injunction, writ, or other decision interpreting any law;
- (iii) requirement or condition of any Regulatory Approval of a Regulatory Agency affecting any portion of the Project Site; and
- (iv) recorded covenants, conditions, or restrictions affecting any portion of the Project Site.

**“LBE”** is an acronym for a local business enterprise as defined in Administrative Code chapter 14B.

**“Lead Parcel”** means any Option Parcel in Phase 1 that will be subject to a Prepaid Lease under **DDA § 7.1(c)** (Lead Parcels).

**“Lease Year”** is defined in the Master Lease.

**“Leasing Costs”** means customary and usual costs incurred by a landlord with respect to leased property, such as costs associated with tenant defaults, costs of collection, vacancies, assignments and subleases, estoppel certificates, nondisturbance agreements, and Insolvency.

**“Legislature”** means the legislative branch of the State.

**“Lender”** means:

- (i) a financial institution that makes a loan to a Borrower to finance Project-related costs, secured by a real property interest in the Project Site; and
- (ii) an entity that makes a loan to a Borrower to finance Project-related costs, secured by a Security Interest.

**“LIBOR”** means the London Interbank Offered Rate, based on a 365-day year, for interbank loans of U.S. dollars with one-year maturities, published as daily rates for USD ICE LIBOR by the Intercontinental Exchange Administration Limited, or a replacement rate for short-term lending mutually acceptable to the Parties.

**“Local Hiring Agreement”** means **WDP Att B**.

**“Local Hiring Policy for Construction”** means the hiring policies for San Francisco described in Administrative Code chapter 82.

**“LOSP”** means the San Francisco Local Operating Subsidy Program, which is an anticipated source of funding for operating TAY Units.

**“Loss”** when used in reference to a Claim means any personal injury, property damage, or other loss, liability, actual damages, compensation, contribution, cost recovery, lien, obligation, interest, injury, penalty, fine, action, judgment, award, or costs (including reasonable attorneys’ fees), or reasonable costs to satisfy a final judgment of any kind, known or unknown, contingent or otherwise, except to the extent specified in the DDA.

**“Loss Security”** means Adequate Security that Developer is required to provide to secure the Developer Reimbursement Obligations for each Phase.

**“Loss Security End Date”** means the date that is the earliest to occur of the following:

- (i) issuance of a SOP Compliance Determination for all Phase Improvements within a Phase;
- (ii) the expiration or termination of the DDA with respect to Developer; or
- (iii) the expiration or termination of all of Developer’s rights to develop or submit Phase Submittal applications to develop any portion of the Project Site.

**“Maintained Facilities”** means Port- or City-owned Horizontal Improvements, Outfall Infrastructure, and Relocated Outfall Infrastructure in or serving the Mission Rock CFD that will be listed in the RMA.

**“Maintenance and Repair Security”** means Adequate Security that the Port may require under **DDA § 14.9 (e)** (Maintenance as Soft Costs).

**“Management Control”** means that a person has major decision rights regarding the Phase Submittal and Phase Budget for a Phase under an operating or similar agreement.

**“Map Act”** means the Subdivision Map Act of California (Cal. Gov’t Code §§ 66410-66499.37).

**“Marketing and Operations Plan”** means, for the Inclusionary Units in a Residential Project, the Vertical Developer’s MOHCD-approved:

- (i) marketing plan, including any preferences under Administrative Code chapter 47;
- (ii) rental charges conforming to the Housing Plan; and
- (iii) eligibility and income qualifications of renters, together with any supplemental information required under the Implementing Manuals.

**“Market-Rate Unit”** means a Residential Unit in a Residential Parcel that is not subject to any affordability requirements under the Housing Plan.

**“Mass Grading Plan”** means a Permit Set of Improvement Plans for Site Preparation.

**“Mass Participation Sports Event”** mean a participatory sporting event such as a marathon, running race, or bicycle race or tour with anticipated participation by 150 or more participants.

**“Master Association”** means the entity that Developer will form to administer the Master CC&Rs.

**“Master CC&Rs”** means conditions, covenants, and restrictions relating to Ongoing Maintenance Obligations to be recorded against all Taxable Parcels in the Project Site.

**“Master Lease”** means an interim lease for a portion of the Project Site in the form of **DDA Exh B10** that allows Developer to take possession of the Master Lease Premises and construct Horizontal Improvements approved under the DDA and to conduct other uses as provided therein.

**“Master Lease Premises”** means the area subject to the Master Lease at the time in question.

**“Master Lease Tenant”** means the tenant under the Master Lease at the time in question.

**“Master Marketing Fee”** means a private fee collected from each Vertical Developer in the amount and in accordance with the terms set forth in **Vertical DDA § 12.16** (Master Marketing Fee).

**“Master Utilities Plan”** means a set of plans and detailed specifications for the following Utility Infrastructure, which will be deemed incorporated into the Infrastructure Plan when approved:

- (i) low-pressure water system;

- (ii) non-potable water system;
- (iii) auxiliary water supply system;
- (iv) grading, sanitary sewer, and separate stormwater systems;
- (v) dry utilities joint trench; and
- (vi) electrical system.

**“Material Breach”** means the occurrence of any of the events described in **DDA art. 11** (Material Breaches and Termination).

**“Material Change”** means any circumstance that would create a conflict between a Change in City Law and the Project Approvals that is described in **DA § 5.3(b)** (Circumstances Causing Conflict).

**“Material Cost Increase”** means a material increase in the hard costs or soft costs of any Horizontal Improvement or Vertical Improvement, as applicable.

**“Material Modification”** means an amendment to a Transaction Document that would materially increase an Acquiring Agency’s costs of ownership or impair the operations of Horizontal Improvements, or that would materially decrease the benefits to the Port or the City, as determined by the Port Director under **DDA § 3.8(c)** (Amendments).

**“Maximum Special Tax Rate”** means the highest rate at which any category of Mello-Roos Taxes is authorized to be levied on a Taxable Parcel under the RMA.

**“McEnerney Act”** means the Destroyed Land Records Relief Law (Cal. Code of Civ. Proc. §§ 751.01-751.28).

**“McEnerney action”** means a lawsuit under the McEnerney Act.

**“meal”** means “prepared food” as defined in Environment Code section 1602(l).

**“Medium Event”** means an event occupying more than 10,000 square feet, but less than 30% of the footprint of a Public Space.

**“Medium Event Day”** means an Event Day during which a Medium Event is held.

**“Mello-Roos Bond Proceeds”** means proceeds of Mello-Roos Bonds, including Early Mello-Roos Bonds and Mello-Roos-only Bonds if appropriate in the context, issued under CFD Law that are available for disbursement after funding the costs of issuance, capitalized interest, reserves, and any other amounts specified in the applicable Indenture.

**“Mello-Roos Bonds”** means one or more series of taxable or tax-exempt bonds, including refunding bonds, or any other debt (as defined in CFD Law) that the City issues for the Facilities CFD, secured by a pledge of Development Special Taxes or Allocated Tax Increment, or both, for any purpose authorized under Governing Law and Policy.

**“Mello-Roos Bonds Debt Service Requirement”** means the debt service due on Mello-Roos Bonds in any City Fiscal Year before the next expected Receipt Date of Mello-Roos Taxes.

**“Mello-Roos Improvement Fund”** means the funds or accounts, however denominated, that an Indenture Trustee establishes to hold, administer, and disburse Mello-Roos Bond Proceeds to be used to finance Horizontal Development Costs, Shoreline Protection Facilities, or for any other purpose authorized under the Indenture.

**“Mello-Roos-only Bonds”** means one or more series of taxable or tax-exempt bonds, including refunding bonds, or any other debt (as defined in CFD Law) that the City issues for the Facilities CFD, secured solely by a pledge of Development Special Taxes for any purpose authorized under Governing Law and Policy.

**“Mello-Roos Taxes”** means special taxes that the City levies in a City Fiscal Year on Taxable Parcels in the Mission Rock CFD in accordance with the RMA, including delinquent special taxes collected at any time by payment or through foreclosure.

**“Memorandum of Understanding (Levy and Allocation of Taxes)”** means an interagency agreement between the City, through the Controller and the Treasurer-Tax Collector, and the Port, establishing procedures for levying Mello-Roos Taxes, allocating Mello-Roos Taxes to the Mission Rock CFD, and allocating Tax Increment to the IFD, and related matters, as authorized by Port Commission Resolution No. 18-09 and the MOU Resolution under Charter section B7.340.

**“Memorandum of Understanding regarding Interagency Cooperation”** means an interagency agreement between the City, through the Mayor, the Controller, the City Administrator, and the Director of Public Works, with the Consents of SFMTA and SFPUC, and the Port, establishing procedures for interagency cooperation in City Agency review of Improvement Plans, inspection of Horizontal Improvements, and related matters, as authorized by Port Commission Resolution No. 18-07 and the MOU Resolution and Board of Supervisors Resolution No. 44-18 under Charter section B7.340.

**“Minimum Affordable Percentage”** is defined in **HP § 2.1** (Development Program).

**“Minimum Developer Return”** means the sum of \$40.5 million payable to Developer under the conditions specified in **FP § 2.5(c)** (Developer Return).

**“Minimum JHEF”** means the amount of the Jobs/Housing Equivalency Fee assigned to each Development Parcel under **FP § 2.8** (Jobs/Housing Equivalency Fee), which the Parties may agree to adjust through the Phase Budget approval process.

**“Minimum Phase Return”** means the minimum amount of Developer Return that the Port is obligated to pay to Developer under the conditions specified in **FP § 2.5(c)** (Developer Return).

**“Minimum Price”** means the minimum price that the Port will accept in a Public Offering for an Option Parcel under **DDA § 7.8** (Public Offering Procedures).

**“Mission Rock”** means the master-planned portion of the Project and the Project Site that will encompass SWL 337 and the expansion of China Basin Park.

**“Mission Rock CFD”** is a term used to refer to the CFD for the Project, if and when formed.

**“Mission Rock On-Site Event Management Plan”** means the plan required under **ICA § 4.11(c)**.

**“Mission Rock Parks Plan”** means Port regulations and policies to govern the management, programming, and operations of Public Spaces in the Project Site.

**“Mission Rock Square Garage”** means the underground parking garage that the Parties may agree to include in the Project under **DDA § 2.6** (Mission Rock Square Garage).

**“Mission Rock Square Garage Parcel”** means the underground air parcel that will be created under Mission Rock Square on conditions described in **DDA § 2.6** (Mission Rock Square Garage).

**“Mitigation Fee Act”** means California Government Code sections 66000-66025.

**“Mitigation Measure”** means any measure identified in the MMRP required to minimize or eliminate material adverse environmental impacts of the Project and any additional measures necessary to mitigate adverse environmental impacts that are identified through the CEQA process for any Later Approval.

**“MMRP”** is an acronym for the Mitigation Monitoring and Reporting Program adopted for the Project.

“**MOD**” is an acronym for the Mayor’s Office of Disability.

“**MOHCD**” is an acronym for the Mayor’s Office of Housing and Community Development.

“**MOU Resolution**” is a term used to refer to Board of Supervisors Resolution No. 45-18, approving under Charter section B7.340 the Tax Allocation MOU and the Port’s designation as the City’s agent for the term of the Tax Allocation MOU for:

- (i) the Mission Rock CFD;
- (i) Project Area I;
- (ii) the administration of Mello-Roos Taxes and any proceeds of Bonds secured by Mello-Roos Taxes; and
- (iii) the administration of Allocated Tax Increment and any proceeds of Bonds secured by Tax Increment.

“**MUNI**” means the municipal public transit systems operated by SFMTA.

“**Municipal Code**” means, collectively, the Charter and ordinances adopted by the Board of Supervisors and by San Francisco voters through initiatives.

“**MUP**” is an acronym for Master Utilities Plan.

“**Net Consideration**” means the consideration that a Selling Member receives for the Transfer of its interests in Developer after deducting the appropriate transaction costs associated with the Transfer, subject to confirmation by the Port.

“**net present value**” means the difference between the present value of the future cash flows from an investment, calculated by discounting the future cash flows at the required rate of return, and the amount of investment.

“**Net Proceeds**” means a Vertical Developer’s proceeds from a transfer of any part of its interest in an Option Parcel or from refinancing any indebtedness associated with its acquisition or construction costs after deducting the costs of acquisition, financing, development, and capital improvement for the parcel.

*“**Net Proceeds**” excludes any loan proceeds that are designated for additional investment and actually are invested in capital improvement of an Option Parcel.*

“**Net Transfer Proceeds**” means the proceeds of a Vertical Developer’s transfer of its rights under a Vertical DDA as described in **Vertical DDA § 19.1** (Before Close of Escrow).

“**Net Worth**” when used in reference to a Transfer means the equity of an entity’s owners (e.g., equity interest of shareholders of a corporation or members of a limited liability company) calculated in accordance with GAAP or the income tax basis of accounting consistently applied.

“**Net Worth Requirement**” when used in reference to a Transfer means, for each Transfer of one or more Transferred Phases in which Phase Improvements are not complete, either:

- (i) a Net Worth of at least \$27.5 million, increased automatically by 10% on each fifth anniversary of the Reference Date for the remainder of the DDA Term, unless otherwise approved by the Port Director; or
- (ii) written evidence satisfactory to the Port Director that a person directly or indirectly holding Significant Ownership in Developer after the Transfer would have a legally binding obligation to fund Developer’s anticipated Developer Capital requirements in amounts sufficient to satisfy the Developer Construction Obligations for the Phase.



- “Neutral Appraisal”** means any appraisal report that the Parties jointly obtain under **DDA § 7.5(b)** (Dispute Resolution Procedures).
- “New Hazardous Material”** means a Hazardous Material that is not a Pre-existing Hazardous Material.
- “Non-Standard Infrastructure”** means, collectively, Horizontal Improvements that are not built to City standard specifications, and includes the Structured Street Superstructure, interfaces with existing perimeter streets, Shared Public Ways, and the use of HDPE throughout the Project Site.
- “nontrust revenues”** means the Port’s revenues from Development Parcels from which the public trust use restrictions have been lifted temporarily under SB 815 and Project-based revenues outside of the Port Harbor Fund that are available for the Project, such as Mello-Roos Taxes, Tax Increment, and proceeds of Bonds secured by either or both, credits that may be applied to offset any portion of Impact Fees or Exactions that would otherwise be due, and proceeds of general obligation bonds.
- “notice”** means a written notification, demand, request for information or consent, or response to a request delivered in accordance with **App ¶ A.5** (Notices) and any other requirements specified in a Transaction Document.
- “Noticed Party”** means the Party receiving a notice.
- “Noticing Party”** means the Party delivering a notice to the Noticed Party.
- “Nutritional Standards Requirements”** means the food and beverage nutritional standards and calorie labeling requirements set forth in Administrative Code section 4.9-1(c).
- “Obligor”** means the person contractually obligated to perform under any form of Adequate Security provided under **DDA art. 16** (Security for Project Activities).
- “Obligor Net Worth”** when used in reference to Adequate Security means the issuer’s net worth (shareholder equity for a corporation or member equity for a limited liability company), calculated in accordance with GAAP or the income tax basis of accounting consistently applied.
- “Obligor Net Worth Requirement”** when used in reference to Adequate Security means an Obligor with a Net Worth greater than the Secured Amount, and in no event less than \$27.5 million, subject to an automatic increase of 10% on the fifth anniversary of the Reference Date and every succeeding fifth year during the DDA Term or as otherwise approved by the Port Director.
- “OEWD”** is an acronym for the Office of Economic and Workforce Development.
- “OEWD Funds”** means the portion of the Workforce Job Readiness and Training Funds that will be used to fund OEWD programs that train economically disadvantaged adults, workers, and local residents in the fields of construction, end use operations, and hospitality.
- “Office Account”** means the segregated account within the Special Tax Fund that the Port establishes with the Special Fund Trustee to receive, administer, and disburse Office Special Taxes.
- “Office Development Authorization”** means Planning Commission approval of an application for a large office allocation.
- “Office Special Taxes”** means Facilities Special Taxes that the City levies in a City Fiscal Year, in addition to Development Special Taxes, on Taxable Parcels in Commercial Parcels in the Mission Rock CFD under the RMA, in an amount per square foot intended to be equivalent to 0.25% of the parcel’s Baseline Assessed Value as projected for the CFD Formation Proceedings.

**“Official Records”** means the documents and maps that the recorder’s office function of the Assessor-Recorder’s Office records and maintains.

**“OLSE”** is an acronym for the Office of Labor Standards Enforcement of the San Francisco Department of Administrative Services.

**“Ongoing Maintenance Costs”** means maintenance and capital repair costs of Maintained Facilities that will be paid by Services Special Taxes, Master Association fees, or Developer Capital (under **DDA § 14.9(e)** (Maintenance as Soft Costs) until Services Special Taxes are available), including:

- (i) landscaping and irrigation systems and other equipment directly related to maintaining and replacing landscaped areas and water features;
- (ii) maintenance and replacement as needed of parks, public access areas, and streets, right-of-ways, shared public ways, and sidewalks (including street cleaning and paving);
- (iii) lighting, rest rooms, trash receptacles, park benches, planting containers, picnic tables, and other furniture and fixtures;
- (iv) insurance;
- (v) replacement reserves; and
- (vi) Port and City personnel, administrative, and overhead costs related to maintenance or to contracting for and managing third-party maintenance.

**“On-site”** for purposes of Administrative Code chapter 21C means the site of a Special Event, which may occur in enclosed space or open space or both, and includes:

- (i) open space within 150 feet of primary site if the primary site is enclosed space; and
- (ii) public right-of-ways, including a street or sidewalk, as to which a City permit (ISCOTT or Port) has been issued in connection with the Special Event.

**“Operations Training Resources Funds”** means any portion of the OEWD Funds that OEWD chooses to use to support programs that provide end-use-operations job-training programs for economically disadvantaged adults, including individuals designated as a targeted population by the San Francisco Workforce Development Board, as an individual who is, or is at risk of, relying upon, or returning to, public assistance, including unemployment benefits, formerly incarcerated, homeless, veterans, out-of-school youth, pregnant or parenting teens, youth in the juvenile justice or foster care systems, people with disabilities, limited English populations, dislocated workers, or residents of public housing.

**“Option”** means development rights granted to Developer for Option Parcels under the DDA.

**“Option Notice”** means Developer’s notice to the Port, delivered in accordance with **App ¶ A.5** (Notices) and **DDA § 18.1** (Notices), that Developer will exercise its Option for an Option Parcel at its Fair Market Value.

**“Option Parcel”** means a Development Parcel that is subject to the appraisal process for Option Parcels under **DDA art. 7** (Parcel Leases), including Lead Parcels.

**“Optioned Parcel”** means an Option Parcel for which Developer has exercised its Option under **DDA § 7.1** (Developer Option).

**“Other Acquiring Agency”** means an Acquiring Agency other than the Port.

**“Other City Agency”** means a City Agency other than the Port.

**“Other City Costs”** means costs that Other City Agencies incur to perform their obligations under the ICA, the Development Agreement, and the Tax Allocation MOU to implement or defend actions arising from the Project, including staff costs determined on a time and materials basis, third-party consultant fees, attorneys’ fees, and costs to administer the Mission Rock CFD and the IFD to the extent not paid by Public Financing Sources.

**“Other City Costs” excludes** *Port Costs, Administrative Fees, Impact Fees, and Exactions.*

**“Other City Parties”** means the City, acting by and through the Mayor, the Board of Supervisors, the Controller, the City Administrator, the Director of Public Works, the San Francisco Municipal Transportation Agency, the San Francisco Fire Department, and the San Francisco Public Utilities Commission.

**“Other City Requirements”** means ordinances and policies described in **DDA Exh A6** and **DA Exh E** and approved plans to implement City and Port ordinances and policies, including those attached to the DDA at **DDA Exh Tab E**.

**“Other Regulatory Approval”** means a Regulatory Approval given by a Regulatory Agency that is not a City Agency.

**“Outfall Infrastructure”** means 30-inch and 12-inch outfalls and related Improvements for stormwater drainage existing on the Project Site on the Reference Date.

**“Outside Date”** means the last date by which Developer must perform identified obligations for the Project, as specified in the Schedule of Performance, or for a Phase, as specified in the Phase Schedule.

**“ownership change”** means any change in the direct or indirect ownership of Developer.

**“paid for in whole or part out of public funds”** is defined in and subject to exclusions and further conditions under California Labor Code sections 1720-1720.6.

**“Parcel D2 Garage”** means the Garage on Parcel D2 Garage that is shown in Developer’s Phasing Plan on the Reference Date.

**“Parcel DRP”** means the amount of the Development Rights Payment that is paid for a specific Option Parcel.

**“Parcel Increment Amount”** means the amount of Tax Increment collected in the current City Fiscal Year from an Assessed Parcel in the Mission Rock CFD, as shown in the Payment Report.

**“Parcel Lease”** means a contract in the form of **DDA Exh D2** by which the Port will convey a leasehold interest in an Option Parcel to a Vertical Developer.

**“Parcel Lease Option”** means the Port’s right to elect to convey an Option Parcel in a Current Phase by a Prepaid Lease under **FP § 3.7** (Parcel Leases).

**“Parcel Lease Quitclaim Deed”** means a deed in the form attached as an exhibit to each Parcel Lease by which the applicable Vertical Developer disavows any right or interest in an Option Parcel subject to a Parcel lease, which the Port may record in the Official Records after the Parcel Lease expires or is terminated.

**“Parks Plan”** means a plan for managing events at Public Spaces consistent with **DDA § 12.5(a)** (Approval of Parks Plan) and **DA § 5.9** (Parks Plan) that the Port Commission will adopt before or in conjunction with its consideration of the Schematic Design Application for Public Spaces in Phase 1 of the Project.

**“Participating Parcel”** means a Development Parcel on which a Vertical Developer has Closed Escrow on a Parcel Lease either:

- (i) before the Participating Parcel Termination Date; or
- (ii) after the Participating Parcel Termination Date, but only if the parcel was subject to a Vertical DDA before the Participating Parcel Termination Date.

**“Participating Parcel Termination Date”** means the Termination Date as to any part of the DDA as a result of the Port’s election to terminate following a Material Breach by either:

- (i) Developer under **DDA art. 11** (Material Breaches and Termination); or
- (ii) a Transferee under **DDA art. 11** (Material Breaches and Termination) if Developer has failed to exercise its cure rights under **DDA § 6.8(d)** (Developer’s Cure Rights).

**“Participation Agreement”** means the agreement in **FP Exh D** under which the Port and Developer will share Participation Revenue or any replacement agreement executed under **FP § 1.8(b)** (Separate Agreement by Request).

**“Participation Period”** means the period beginning with the City Fiscal Year immediately after Participation Revenue exceeds the Participation Threshold for two consecutive City Fiscal Years and continuing until the earliest of:

- (i) 75 years; or
- (ii) when the last Parcel Lease at the Project Site expires; or
- (iii) the occurrence of the Participating Parcel Termination Date for all Parcel Leases.

**“Participation Revenue”** means the portion of Annual Ground Rent equal to the sum of:

- (i) Annual Ground Rent and Percentage Rent paid to the Port from all Participating Parcels; and
- (ii) Shoreline Taxes collected in a City Fiscal Year from all Participating Parcels outside of Zone 1.

*“Participation Revenue” excludes the Port’s revenues from capital events described in PL Exh D, § 3.6 (Port Participation in Sale Proceeds) and § 3.7 (Port Participation in Refinancing Proceeds).*

**“Participation Threshold”** means \$2.5 million, unescalated.

**“Party”** means the private or public persons named in the preamble to a Transaction Document.

**“Party Appraisal”** means a Developer Appraisal or a Port Appraisal that either Party obtains under **DDA § 7.5(b)** (Dispute Resolution Procedures).

**“Payment Agent”** means an Escrow Agent, an Indenture Trustee, or the Special Fund Trustee that will disburse funds for Approved Payments as directed by the Port Finance Director.

**“Payment Report”** means a report prepared by the Treasurer-Tax Collector in each City Fiscal Year that:

- (i) specifies the Parcel Increment Amount for each Assessed Parcel; and
- (ii) identifies each Current Parcel in the Mission Rock CFD.

**“Payment Request”** means Developer’s written request to the Port in the form of **AA Exh C** for payment under the Acquisition Agreement.

**“PBC”** is an acronym for the Port Building Code.

**“PCBs”** is an acronym for polychlorinated biphenyls.

“**PCO**” is an acronym for a parking control officer, generally an employee of SFMTA who directs traffic.

“**Peak Developer Equity**” means the highest balance of Developer Capital outstanding over the course of a Phase.

“**Pending Project**” means any of the following:

- (i) an office development project for which a large office allocation application (50,000 gsf or more) has been submitted to the Planning Department that has not received an Office Development Authorization by the end of the Allocation Period;
- (ii) additional office space located in a structure owned or otherwise under the jurisdiction of the State, the United States, or any state, federal, or regional Regulatory Agency that is exempt from Planning Code section 321 or section 322; and
- (iii) a new office development project for 50,000 gsf or more on Port land outside of the Project Site for which the Port has entered into a vertical disposition and development agreement, ground lease, or purchase and sale agreement, but has not issued a building permit by the end of the Allocation Period.

“**Percentage Rent**” means additional rent that will be payable under Parcel Leases, determined as specified in **DDA § 7.6(b)** (Percentage Rent) or through a Public Offering process.

“**per diem wages**” is defined in California Labor Code section 1773.1.

“**Permit Set**” is a subset of Improvement Plans described in **ICA § 4.6(c)** (Plan Submittals).

“**Permitted Change**” means any of the following:

- (i) a Transfer, including an Initial Transfer, that occurs before Developer achieves the Initial Benchmarks, if a Giants Affiliate holds Significant Ownership and Management Control of all Phases of the Project after the Transfer closes; and
- (ii) a Transfer that occurs after Developer achieves the Initial Benchmarks, if a Giants Affiliate or an Initial Transferee Affiliate holds Significant Ownership and Management Control of the Current Phase and Later Phases after the Transfer closes.

“**Permitted Exceptions**” means exceptions to title with respect to any Option Parcel that Developer accepts under **ML §1.2(a)** (Permitted Encumbrances).

“**Permitting Agency**” means the Chief Harbor Engineer or the Director of Public Works, as applicable, in relation to either’s role in issuing construction permits and determining whether Improvements are complete in compliance with applicable Project Requirements and City Laws.

“**person**” means any individual, corporation (including any business trust), limited liability entity, partnership, trust, joint venture, or any other entity or association, or governmental or other political subdivision or agency.

“**personal injury**” means any physical or emotional trauma or injury to or death of any individual.

“**Phase**” means one of the integrated stages of horizontal and vertical development for the Project Site as shown in the Phasing Plan.

“**Phase 1**” means the first Phase of development under the Phasing Plan.

“**Phase 1 Overage**” means the amount by which the Horizontal Development Costs of Phase 1 exceed the amounts provided therefor, (including contingency), in the Phase Budget in effect at Commencement of Construction.

- “Phase Account”** means a bookkeeping account for any Phase as described in **FP § 9.1(a)** (Phase Accounts).
- “Phase Approval”** means the Port Director’s approval of a Phase Submittal and the Port Commission’s approval of a Phase Budget.
- “Phase Approval Date”** means the date of the public hearing at which the Port Commission adopts a resolution approving a Phase Submittal.
- “Phase Area”** means the Development Parcels and other land in the Project Site that are to be developed in a Phase.
- “Phase Audit”** means Developer’s final financial report for a Phase as described in **FP § 9.3(a)** (Phase Audit).
- “Phase Audit Date”** means the due date for each Phase Audit under **FP § 9.3(a)** (Phase Audit).
- “Phase Budget”** means the proforma for a Phase, based on the Summary Proforma attached to the Financing Plan and included in each Phase Submittal under **DDA art. 3** (Phase Approval), as approved by the Port Commission. An inserted number will mean the Phase Budget for the Phase given the inserted number (e.g., “Phase 1 Budget”).
- “Phase Closing Date”** means the date on which the Port accepts a Phase Audit under **FP § 9.3(a)** (Phase Audit).
- “Phase Completion Certificate”** means a document that the Port Executive Director will deliver to Developer after all Phase Improvements have been completed that, when recorded, will release the Phase Area from the lien of the DDA.
- “Phase Construction Schedule”** means Developer’s projected schedule for construction of Phase Improvements and related spending in any Phase Budget.
- “Phase Final Map”** means a Final Map for a Phase Area.
- “Phase Improvements”** means Horizontal Improvements that are to be constructed in a Phase and includes Site Preparation and any Deferred Infrastructure that Vertical Developers will build in accordance with the DDA.
- “Phase Proforma”** means the Proforma that was included in a Phase Submittal, as approved and updated under **DDA art. 3** (Phase Approval).
- “Phase Quarterly Report”** means a quarterly financial report on a Current Phase as described in **FP § 9.1(b)** (Phase Quarterly Reports).
- “Phase Quitclaim Deed”** means a deed in the form attached as an exhibit to the Master Lease by which Developer disavows any real property interest in any part of a Phase Area under the Master Lease, which the Port will be entitled to record in the Official Records after issuing an SOP Compliance Determination for the Phase.
- “Phase Schedule”** means the schedule of performance for a Phase established in the Phase Approval process, including the Estimated Construction Duration and Estimated Construction Schedule.
- “Phase Security”** means Adequate Security for any specific Phase that meets the requirements of **DDA art. 16** (Security for Project Activities).
- “Phase Submittal”** means Developer’s application for Port Commission approval of a proposed Phase under **DDA art. 3** (Phase Approval).
- “Phase Transferee”** means a person to which Developer Transfers its Developer Construction Obligations and related rights for a Phase in accordance with **DDA art. 6** (Transfers).

**“Phasing Goals”** means measures and objectives described in **DDA § 2.4** (Phasing Goals) to which the Parties have agreed to achieve their mutual goal of an economically feasible project that balances competing policy interests.

**“Phasing Plan”** means **DDA Exh B1**, which shows the order of development of the Phases and the Development Parcels in each Phase Area, subject to revision under **DDA art. 3** (Phase Approval).

**“PIA”** is an acronym for any Public Improvement Agreement that Developer is required to execute under the Subdivision Code.

**“Pier 48”** means a 212,500 square-foot facility located in the Embarcadero Historic District with two main pier sheds, Shed A and Shed B, connected by a connector shed, Shed C, at the east end of the pier, containing collectively 181,200 square feet of enclosed warehouse space and a 31,300 square-foot valley between the Shed A and Shed B.

**“Pier 48 Development Lease”** means a long-term lease of Pier 48 that would implement a Pier 48 Rehabilitation Plan.

**“Pier 48 Lease”** means the interim lease for Pier 48 as authorized by Port Commission Resolution No. 18-10 and Board of Supervisors Resolution No. 43-18.

**“Pier 48 Negotiation Notice”** means a Party’s notice to the other Party that the Noticing Party seeks to enter into exclusive negotiations based on a proposed Pier 48 Rehabilitation Plan.

**“Pier 48 Rehabilitation Plan”** means a plan for the historic rehabilitation of Pier 48 in accordance with the Secretary’s Standards under a long-term ground lease, developed under **DDA § 7.10** (Pier 48)

**“Pier 48 Solicitation”** means a request for proposals or similar public solicitation of proposals for the rehabilitation of Pier 48 in accordance with a Pier 48 Rehabilitation Plan under a Pier 48 Development Lease.

**“Pile Driver Training Funds”** means any portion of the OEWD Funds that OEWD chooses to use to support the development and implementation of a pile-driving training program for disadvantaged workers and local residents, including individuals who have formerly been incarcerated or are experiencing homelessness.

**“PIT Threshold”** means the amount of possessory interest taxes levied against the Master Lease Premises that are deemed to be attributable to the use of the the Master Lease Premises for parking and Special Events, as determined under **FP § 8.1(b)** (PIT Threshold). Possessory interest taxes levied against the Master Lease Premises in excess of the PIT Threshold are considered Soft Costs.

**“PL”** is an acronym for the form of Parcel Lease.

**“Planning”** means the San Francisco Planning Commission, acting by motion or resolution or by delegation of its authority to the Planning Department and the Planning Director.

**“Planning Commission”** means the San Francisco Planning Commission.

**“Planning Department”** means staff of the City’s Planning Department.

**“Planning Director”** means the City’s Director of Planning.

**“Pledge Agreement”** means a pledge of Allocated Tax Increment to Mello-Roos Bonds under a pledge agreement between the Port, as IFD Agent, CFD Agent, or both, and the Indenture Trustee for the Mello-Roos Bonds.

**“Pledged Tax Increment”** means Allocated Tax Increment that is actually pledged as security for an issue of Mello-Roos Bonds.

**“Port”** means the San Francisco Port Commission, acting by resolution or by delegation of its authority to the Port Director and other Port staff.

**“Port Application”** means a Port request for Planning assistance in the Port’s review of any submittal under the Design Controls or schematic design application under Section 249.80.

**“Port Audit”** means a financial review performed by a CPA on behalf of the Port under **FP § 9.4(a)** (Port Audit).

**“Port Balance”** means, on the date of determination, the sum of any unreimbursed Port Capital Advances for Horizontal Development Costs and related accrued and unpaid Port Return.

**“Port Balance” excludes any DRP Advances and related Interest on DRP Advances.**

**“Port Capital”** means Port funds and other assets that are not subject to restrictions or limitations under the Financing Plan.

**“Port Capital Advance”** means a Port loan of Port Capital to the Mission Rock CFD to pay for Horizontal Development Costs.

**“Port Capital Plan”** means the Port’s most recent 10-year capital plan as adopted or amended by the Board of Supervisors under Administrative Code sections 3.20-3.21.

**“Port Capital Schedule”** means an accounting schedule that the Port maintains that shows the inflows and outflows for all Phases of the Project individually and in the aggregate for the Port Balance.

**“Port Consent”** means the Consent to Development Agreement signed by the Port Director as authorized by Port Commission Resolution No. 18-06.

**“Port Costs”** means costs that the Port incurs to perform its obligations to Developer and otherwise implement the DDA and the Master Lease, including:

- (i) staff costs on a time and materials basis;
- (ii) costs paid to the Port’s attorneys, consultants, and other professionals; and
- (iii) costs to administer the Mission Rock CFD and the IFD to the extent not paid by Public Financing Sources.

**“Port Costs” excludes Other City Costs, DRP Advances, and Port Capital Advances.**

**“Port Director”** means the Port Director of the Port.

**“Port Facilities”** means Public Spaces and other Horizontal Improvements that the Port will own when accepted.

**“Port Finance Director”** means the Port’s Deputy Director, Finance and Administration.

**“Port FY Budget”** means the City Fiscal Year budget that the Port will submit to the Board of Supervisors annually for approval specifying the amount of Public Financing Sources, DRP Payments, and Port Capital that the Port expects to use to satisfy the Port’s payment obligations to Developer under the Financing Plan.

**“Port Harbor Fund”** means the harbor trust fund that the Port must maintain in compliance with section 4 of the Burton Act, SB 815, the Agreement Regarding the Transfer of the Port of San Francisco from the State of California to the City and County of San Francisco, and Charter section B6.406.

**“Port IFD Guidelines”** means the *Guidelines for the Establishment and Use of an Infrastructure Financing District with Project Areas on Land under the Jurisdiction of the San Francisco*



*Port Commission*, adopted April 23, 2013, by Board of Supervisors Resolution No. 123-13.

**“Port Market Rate Return”** means Port Return accruing at the annual rate of 10%, compounded quarterly, on unreimbursed Port Capital Advances for Horizontal Development Costs (excluding Alternative Return Costs).

**“Port Master Indenture”** means the Indenture of Trust dated as of February 1, 2010, as supplemented by a First Supplement to Indenture of Trust, dated as of February 1, 2010, a Second Supplement to Indenture of Trust, dated as of May 1, 2014, and as further supplemented from time to time.

**“Port Quarterly Report”** means any of the Port’s periodic reports to Developer on Port Costs, Other City Costs, and Project Payment Sources under **FP § 9.2(d)** (Reporting).

**“Port Return”** means one or more of Additional Port Return, Allowed Port Return, Port Market Rate Return, and Alternative Port Return, as applicable.

**“Port Revenue Bonds”** means Port Commission of the City and County of San Francisco Revenue Bonds Series 2010A (Non-AMT Tax-Exempt), Series 2010B (Taxable), Series 2014A (Non-AMT Tax-Exempt), and Series 2014B (Taxable).

**“Port Share”** means 10% of the Sale Profit from any Triggering Event.

**“Port Title Covenant”** means the Port’s agreement not to create or consent to any new exceptions to title with respect to any Option Parcel other than the Permitted Exceptions.

**“portwide”** means any matter relating to all real property under the jurisdiction of the Port Commission.

**“Potential Development Special Tax Levy”** means the amount of the Development Special Tax levy on each Assessed Parcel:

- (i) after applying capitalized interest, delinquency collections, and other sources in the RMA; and
- (ii) before applying the Development Special Tax Credit.

**“Pre-existing Hazardous Materials”** means any Hazardous Material existing in, on, or under the Master Lease Premises on the Reference Date and identified in Master Lease Exhibit Q (List of Pre-Existing Hazardous Materials) documents or the Environmental Covenants.

**“pre-filing conference”** means one or more optional meetings under Subdivision Code section 1320 between the County Surveyor and a person proposing to subdivide land in San Francisco to discuss preliminary Subdivision Maps and other subdivision matters before the subdivider formally submits a Subdivision Map application.

**“Preliminary Entitlement Cost Statement”** means Developer’s preliminary estimate of Entitlement Costs through December 31, 2017, attached as **FP Sch 2**.

**“Premises”** means the area subject to a Parcel Lease.

**“Prepaid Lease”** means a Parcel Lease under which a Vertical Developer makes a Parcel DRP in the amount of an Option Parcel’s Fair Market Value to the Port at the Close of Escrow.

**“prepared food”** as defined in Environment Code section 1602(l) means food or beverages prepared within San Francisco for individual customers or consumers in a form commonly understood to be a breakfast, lunch, or dinner.

**“pre-Phase conference”** means one or more meetings between Developer and the Port under **DDA § 3.1** (Presubmittal Activities) to discuss Phase Improvements before Developer submits a Phase Submittal.

**“preservative-treated wood containing arsenic”** means wood treated with a preservative that contains arsenic, elemental arsenic, or an arsenic copper combination, including chromated copper arsenate preservative, ammoniac copper zinc arsenate preservative, or ammoniacal copper arsenate preservative.

**“Prevailing Rate of Wages”** and **“Prevailing Wage”** mean:

- (i) the highest general prevailing rate of wage plus per diem wages and wages paid for overtime and holiday work paid in private employment in the City for the various crafts and kinds of labor employed in the construction of Improvements; or
- (ii) the rate of compensation determined under Administrative Code chapter 21C.7 for the categories of employment specified in Administrative Code chapter 21C.

**“Prime Rate”** means the base rate on corporate loans posted by at least 75% of the nation’s 30 largest banks, as published by the *Wall Street Journal*, or if no longer published, a mutually acceptable third-party rate and publication.

**“Principal Payment Date”** means:

- (i) before Bonds are issued, September 1 of each year; and
- (ii) after Bonds are issued, the date on which principal or sinking fund payments are due in each year until the Bonds are defeased.

**“Prior Phase”** means the Phase for which Developer obtained Phase Approval before any Current Phase.

**“Priority Facilities CFD Administrative Costs”** means Facilities CFD Administrative Costs permitted to be paid first from Facilities Special Taxes under the Financing Plan.

**“Priority Services CFD Administrative Costs”** means Services CFD Administrative Costs permitted to be paid first from Services CFD Special Taxes under the Financing Plan.

**“Private Event”** means an event in a Public Space that is not open to the general public and may or may not require the purchase of a ticket for entry.

**“Product Type”** when used in reference to a Development Parcel to be developed for residential use means a building with a typical unit count and building typology that allows for general assumptions regarding construction costs, which may differ between Residential Units for rent and for sale. Examples of Product Types are townhomes, low-rise (heights to 70 feet), and mid-rise (71- to 90-foot heights).

**“Proforma”** means the Parties’ financial projections for Horizontal Improvements.

**“Project”** means the horizontal and vertical development of the Project Site in accordance with the Project Requirements and the Port’s interim lease of Pier 48 to Developer.

**“Project Approval”** means a Regulatory Approval that is necessary to entitle the Project and grant Developer a vested right to begin Site Preparation and construction of Horizontal Improvements, including:

- (i) Regulatory Approvals listed in **DA Exh C** granted by City Agencies and any Transaction Documents approved by those Regulatory Approvals;
- (ii) Regulatory Approvals by BCDC, State Lands, and DTSC by the Entitlement Date; and
- (iii) Later Approvals.

**“Project Area I”** means the area within the IFD covering the Project Site formed by Ordinance No. 34-18.

**“Project Assignment”** means a contractual assignment of all of Developer’s rights under a consulting contract with a Project Consultant, including any rights to use the Project Consultant’s work product.

**“Project Consultant”** means any architect, engineer, or other consultant that provided Project Materials for the Project.

**“Project Coordinator”** means a third-party consultant that the City may engage to assist in the implementation of the ICA under **ICA § 6.2** (Role of Horizontal Improvements Project Coordinator).

**“Project Materials”** means all public, final, and material studies, applications, reports, permits, plans, drawings, and similar work product, including Structural Materials, prepared by Developer’s Project Consultants.

**“Project Office Allowance”** means the amount of office use allowed in each Phase of the Project under **DDA Exh A4**.

**“Project Payment Obligation”** means the Port’s contractual obligation on terms described in the Financing Plan to pay each Party’s Capital Costs.

**“Project Payment Sources”** means separately or collectively, DRP Advances, Public Financing Sources, and Port Capital Advances, each applied as specified in the Financing Plan.

**“Project Requirements”** means all of the following:

- (i) Developer’s obligations for the Project under the DDA, the Development Agreement, and the other Transaction Documents, including the Developer Construction Obligations and the Developer Reimbursement Obligations;
- (ii) Vertical Developers’ obligations for the Project under their respective Parcel Leases;
- (iii) construction of all Improvements in a competent manner, without material defects, in strict accordance with approved Improvement Plans and all Regulatory Requirements; and
- (iv) diligent compliance with the Outside Dates specified in the Schedule of Performance, each Phase Schedule, or each Parcel Lease as applicable.

**“Project Site”** means the area consisting of SWL 337, 3.53 acres of Terry A. Francois Boulevard from Third Street to Mission Rock Street, and ½ acre to the east of Terry A. Francois Boulevard between Pier 48 and Pier 50, as more particularly described in **DDA Exh A1**.

**“Project Street Design Criteria”** means design criteria for the Structured Street System or any alternative proposal to be developed in accordance with **clause (ii) of ICA § 4.3(a)** (Development of Design Criteria).

**“Project Tax Revenues”** means Mello-Roos Taxes and Allocated Tax Increment that are deposited in the Special Tax Fund and the Tax Increment Fund of the Special Fund Trust Account in accordance with the Financing Plan.

**“Projected AGI”** means Adjusted Gross Income projected in a proforma for a Vertical Improvement in the year in which building rents are projected to reach stabilization and used to establish Percentage Rent under **DDA § 7.6(b)** (Percentage Rent).

**“Promissory Note”** means a promissory note in the form of **FP Exh B**, under which the Mission Rock CFD promises to repay DRP Advances to the Port with Interest on DRP Advances, as described in **FP § 7.2(b)** (Promissory Note).

**“Promotional Activation”** means an activity in a Public Space that draws attention to one or more particular products that are not being sold onsite as part of the activation.

**“proof of payment”** means a cancelled check, a wire confirmation demonstrating delivery of a direct transfer of funds, an executed and acknowledged unconditional lien release, statements or invoices marked “paid” by the billing person, or other reasonably satisfactory evidence verifying that the person seeking payment actually incurred the claimed costs.

**“property contracts”** is defined in Administrative Code sections 12B.2 and 12C.2.

**“property damage”** means any injury to or impairment or destruction of any property or other pecuniary interest of any person, including goodwill, intellectual property, and business and leasing opportunities.

**“Prop M Constraint”** means that the total square footage available for Pending Projects exceeds the then-current total square footage available for large office allocation projects at the end of an Allocation Period.

**“Prop M Draw Down”** means the amount of office space on the Project Site to be applied against the City’s annual maximum limit under Planning Code section 321(a)(1), based on approved building drawings, which the Port will report to Planning when the Port issues a site or building permit for an office development project in the Project Site.

**“Proposition D”** and **“Prop D”** mean the *Mission Rock Affordable Housing, Parks, Jobs, and Historic Preservation Initiative*, which San Francisco voters approved on November 3, 2015.

**“Proposition M”** and **“Prop M”** mean, for purposes of the DDA, Planning Code sections 320-325, approved by voters as the *Planning Initiative* in November 1986.

**“proprietary public offering”** means a public solicitation for offers to enter into a Parcel Lease with the Port for any Development Parcel that is not subject to the procedures in **DDA § 7.8** (Public Offering Procedures).

**“pro rata”** means the proportion that each part of a sum bears to the sum.

**“Prospective Breach”** means an event that with notice and the passage of time would be a Material Breach if not timely cured.

**“Prospective Default”** means an event that with notice and the passage of time would be an Event of Default if not timely cured.

**“PTR Package”** is a term used to refer to a preliminary title report, together with copies of all documents relating to title exceptions shown in the preliminary title report.

**“Public Art”** means installations at the Project Site under **Design Controls § 2.11**.

**“Public Benefit Cost”** means the following:

- (i) funds paid to SFMTA for specified transit costs in compliance with Mitigation Measures M-TR-4.1 and M-TR-4.4; and
- (ii) Developer’s contribution to the City’s system-wide AWSS improvements proposed in the vicinity of the Project Site, as set forth in **clause (iii) of DA § 5.4(c)** (AWSS).

**“Public Benefit Cost”** *excludes* any cost incurred by a Vertical Developer.

**“Public Financing Sources”** means, separately or collectively, any source of financing for the Project under CFD Law and IFD Law, including Mello-Roos Taxes, Allocated Tax Increment, and net proceeds of Bonds.

**“Public Health and Safety Exception”** is defined in **DA § 5.6(a)** (City’s Exceptions).

**“public improvement”** when used in reference to the requirement to pay prevailing wages means:

- (i) a public work or improvement as defined in Administrative Code section 6.1, including:
  - (1) construction work performed on real property that the City leases to another person or that the City sells for a project that includes the construction, expansion, or rehabilitation of three or more residential units; and
  - (2) all projects for “public works” as defined in California Labor Code section 1720 for which prevailing wages must be paid under section 1782, as required under Administrative Code section 6.22(e) and section 23.61(b); and
- (ii) all contracts described in Administrative Code chapter 21C.

**“Public Improvement Agreement”** means an agreement between the City and Developer with respect to requirements under the Subdivision Code.

**“Public Offering”** means a public solicitation for offers for the right to enter into a Parcel Lease with the Port for an Option Parcel, using procedures described in **DDA § 7.8** (Public Offering Procedures).

**“Public Off-Street Parking Lot, Garage, or Automobile Storage Facility”** means any off-street parking lot, garage, or automobile storage facility that is operated on property owned or leased by the City.

**“Public ROWs”** means Horizontal Improvements consisting of public streets, sidewalks, shared public ways, bicycle lanes, and other paths of travel, associated landscaping and furnishings, and related amenities.

**“Public Space”** means any Horizontal Improvement for public enjoyment, such as a public park, public recreational facility, public access, open space, and other similar public amenities, which may be a rooftop facility.

**“Public Space Parcel”** means any parcel designated in the Land Use Plan and Infrastructure Plan for Public Space.

**“Public Space Plans”** means a Permit Set of Improvement Plans for one or more Public Spaces.

**“public trust”** means, collectively, the common law public trust for commerce, navigation, and fisheries and the statutory trust created by the Burton Act.

**“Public Trust Study”** means the study determining land uses and the location of those uses within Seawall Lot 337 and Piers 48 and 50, analyzing the need to retain public trust uses within Seawall Lot 337, and reserving areas along the northern and eastern sides of Seawall Lot 337 to accommodate needed public trust uses, which the Port Commission approved by Resolution No. and forwarded to State Lands for its approval of the conclusions of the study in compliance with Section 6(b) of SB 815.

**“public work”** is defined in and subject to exclusions and further conditions under California Labor Code sections 1720-1720.6.

**“Public Works”** means the San Francisco Public Works Department.

**“Put Exercise Period”** means the period ending 15 days after the Port delivers a Put Notice to Developer under **DDA § 7.3** (Parcel Put).

**“Put Notice”** means a notice that the Port delivers to Developer under **DDA § 7.2** (Phase 1 Put Option) or **DDA § 7.3** (Parcel Put) in accordance with **App ¶ A.5** (Notices).

**“Put Option”** means the Port’s rights under **DDA § 7.2** (Phase 1 Put Option) and **DDA § 7.3** (Parcel Put).

**“Put Parcel”** means any Option Parcel that is subject to the Port’s Put Notice.

**“Qualified Appraiser”** means an appraiser who meets the qualifications of **DDA § 7.4(c)** (Appraiser Qualifications).

**“Qualified Appraiser Pool”** means the list of Qualified Appraisers attached as **DDA Sch 2** and as revised from time to time under **DDA § 7.4(d)** (Qualified Appraiser Pool).

**“Qualified Bidder”** means a bidder at a Public Offering that meets the qualifications of **DDA § 7.8(c)** (Bidder Prequalification).

**“Qualified Broker”** means a licensed real estate broker with at least five years’ experience in the San Francisco Bay Area market for commercial or multifamily residential sales and leasing, or both.

**“Qualified Broker Pool”** means the list of Qualified Brokers attached as **DDA Sch 3** and as revised from time to time under **DDA § 7.8(a)** (Broker-Managed Offerings).

**“Rate and Method of Apportionment”** means a Financing Document that the Board of Supervisors will adopt by the CFD Formation Proceedings that prescribes how and at what rates the City will levy and collect Mello-Roos Taxes from taxpayers in the Mission Rock CFD.

**“RCRA”** is an acronym for the Resource Conservation and Recovery Act (42 U.S.C. §§ 6901 et seq.).

**“Reassessment”** means a proceeding that a taxpayer initiates under the California Revenue and Taxation Code that results in a Value Reduction of a Taxable Parcel in the Project Site.

**“Receipt Date”** means each date that the Port, as agent of the IFD, the Facilities CFD, or the Services CFD, receives Allocated Tax Increment or Mello-Roos Taxes from the City by the deposit of funds into the Special Fund Trust Account.

**“Reduced Return”** means interest at the annual rate of 12%, compounded quarterly.

**“Reduced Value Parcel”** means a Taxable Parcel that Developer or a Vertical Developer Affiliate holds by Parcel Lease on which the assessed value is lowered through a Value Reduction.

**“Reference Date”** means the date as of which the DDA, the Financing Plan, and the Master Lease are fully executed, as set forth on the cover sheet of the DDA.

**“Regulatory Action”** means any inquiry, investigation, enforcement, agreement, order, consent decree, compromise, or other administrative or judicial action that is threatened, instituted, filed, or completed by a Regulatory Agency in relation to any alleged failure to comply with or direct violation of any Regulatory Approval or any laws, including those relating to access.

**“Regulatory Agency”** means a City Agency or federal, state, or regional body, administrative agency, commission, court, or other governmental or quasi-governmental organization with jurisdiction over any aspect of the Project or the Project Site.

**“Regulatory Approval”** means any motion, resolution, ordinance, permit, approval, license, registration, permit, utility services agreement, Final Map, or other action, agreement, or entitlement required or issued by any Regulatory Agency with jurisdiction over any portion of the Project Site, as finally approved.

**“Regulatory Requirement”** means an obligation imposed by law or policy on development, occupancy, and use of the Project Site, subject to the Port’s authority as trustee under the Burton Act as amended by SB 815, including:

- (i) the conditions of Project Approvals and other Regulatory Approvals;
- (ii) Existing City Laws applied to the Project by the Development Agreement and Project Approvals;
- (iii) Changes in Law to the extent permitted under the DDA and the Development Agreement;
- (iv) current Impact Fees and Exactions and any new or changed Impact Fees and Exactions to the extent permitted under the Development Agreement; and
- (v) Environmental Laws, the SUD, the Design Controls, the Waterfront Plan, and the Other City Requirements.

**“related”** when used to refer to an event in a Public Space that is subject to the Event Management Plan means an installation that has a relationship to other installations for the event, such as a concert event with a stage and areas for seating, concessions, and merchandise.

**“Related Third Party”** means any Agent of Developer or Master Lease Tenant.

**“Release”** when used in reference to Hazardous Materials means any accidental, actual, imminent or intentional spilling, introduction, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the air, soil gas, land, surface water, groundwater, or environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any Hazardous Material).

**“Relocated Outfall Infrastructure”** means the Outfall Infrastructure from the date that Developer begins work to modify any portion of the Outfall Infrastructure until the modified Outfall Infrastructure is accepted by the Acquiring Agency.

**“remediate”** when used in reference to Hazardous Materials means to clean up, abate, contain, treat, stabilize, monitor, remediate, remedy, remove, or otherwise control Hazardous Materials, or to restore the affected area to the standard required by the applicable Environmental Regulatory Agency under applicable Environmental Laws and any additional Port requirements.

**“Rent”** means Annual Ground Rent, Percentage Rent, and other amounts Master Lease Tenant must pay to the Port under the Master Lease.

**“Rent Conversion Factor”** means the formula specified in a Final Appraisal that is used to convert Fair Market Value to Annual Ground Rent.

**“Rental Market-Rate Unit”** means a Residential Unit that is not subject to affordability requirements under the Housing Plan.

**“Requested Change Notice”** means Developer’s notice to the Port requesting changes to the Phasing Plan under **DDA § 3.8** (Changes to Project).

**“Required Element”** means a substantial and material element of any Improvement Plans requiring Port approval under **DDA art. 12** (Improvement Plans).

**“Requisition”** means a payment request for Horizontal Development Costs (other than for Horizontal Improvements) and Developer Return in the form of **FP Exh E** that Developer submits to the Port for payment under **FP § 2.2(c)** (Entitlement Sum Statement and Requisitions).

**“Reserve Rent”** means a minimum of \$3.5 million in Annual Ground Rent.

**“Reserve Rent Allocation”** means the portion of Reserve Rent allocated to each Option Parcel, as determined in the Phase 1 approval process.

**“Residential Developer”** means a Vertical Developer of Residential Parcel identified through the Phase Approval process.

**“Residential Parcel”** means:

- (i) a Development Parcel that is designated in Section 249.80 primarily for Residential Mixed Use; or
- (ii) a Flex Parcel designated for primarily Residential Mixed Use in a Phase Approval.

**“Residential Project”** means a Development Parcel that is developed for residential use.

**“Residential Unit”** means a dwelling on a developed Residential Parcel that is designed for residential occupancy for 32 consecutive days or more and includes any apartment unit, condominium or cooperative unit, senior unit, assisted living unit, hotel or motel room, or other structure containing toilet facilities that is designed and available under applicable law for use and occupancy as a residence by one household.

**“restaurant”** is defined in Health Code section 451(s) and includes any coffee shop, cocktail lounge, sandwich stand, public school cafeteria, in-plant or employee eating establishment, and any other eating establishment that gives or offers for sale food that requires no further preparation to the public, guests, patrons, or employees for consumption on or off the premises.

**“Retail Program”** means Developer’s plans to develop and retain a ground-floor mix that activates the Project Site and includes a full menu of public trust uses for the area, including public parks, walkways, roadways, restaurants, hotels, maritime training, sales and rentals, waterfront visitor serving retail services, and other trust uses.

**“RMA”** is an acronym for the Rate and Method of Apportionment.

**“Sale Profit”** means any amount by which the Net Consideration received by the Selling Member exceeds the Selling Member’s Share.

**“saltwater immersion”** means a pressure-treated wood that is used for construction purposes or facilities that are partially or totally immersed in saltwater.

**“San Francisco Bay Area”** means the area consisting of the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.

**“SB 815”** means Senate Bill 815 (stats. 2007, ch. 660), as amended by AB 2797.

**“SB 815 Baseline Revenue”** means the average annual revenues that the Port received from Seawall Lot 337 during the period between January 1, 2003, and December 31, 2007, adjusted for inflation.

**“Schedule of Performance”** means **DDA Exh B2**, which specifies certain performance time frames for the Project, including dates by which Developer is required to submit a Phase Submittal for each Phase and to begin construction of Phase Improvements, as supplemented by dates for completion of Phase Improvements established in the Phase Approval process.

**“Schematic Design Application”** means a complete set of Improvement Plans for a Public Space Parcel that includes the following information:

- (i) a written narrative describing the overall conceptual design, including the park program, design elements, and facilities provided for each Public Space Parcel;



- (ii) an illustrative site plan to scale showing: (1) conceptual circulation systems (vehicular, bicycle and pedestrian), including parking; (2) conceptual grading and drainage; (3) generalized locations of active and passive recreational areas, park elements, and facilities; (4) generalized locations and conceptual layout for landscaping and hardscape areas, including tree plantings and any stormwater treatment areas; and (5) generalized locations for furnishings, lighting, public art, signage, comfort facilities, stairs, ramps, and railings;
- (iii) illustrative sections and perspectives representative of the overall conceptual design, including key relationships between programmatic areas, design elements, and defining park features and facilities;
- (iv) image boards showing proposed concepts, detailed studies, and precedents for site furnishings, paving materials, site architectural elements, lighting, public art, signage, comfort facilities, stairs, ramps, and railings, tree species and alternate species, and species palette concepts for major landscaping areas; and
- (v) A public realm signage program, if not previously approved, setting forth signage standards and guidelines for Public Spaces and along public realm streets and rights-of-way identified in **Design Controls, Chapters 2 through 4**.

**“Second Garage Adjustments”** means adjustments to the Transaction Documents and ancillary documents that will be required if the Parties agree that Developer will build both the Parcel D2 Garage and the Mission Rock Square Garage under **DDA § 2.6** (Mission Rock Square Garage).

**“Second Garage Notice”** means Developer’s notice of its proposal to include the development of the Mission Rock Square Garage as part of the Project under **DDA § 2.6** (Mission Rock Square Garage).

**“Second Submittal”** means the packet of Improvement Plans submitted for review and approval after the First Submittal and before the Permit Set.

**“Second Tranche Bonds”** means Bonds that are payable from Allocated Tax Increment, the proceeds of which are used to finance the Shoreline Protection Project.

**“Secretary’s Standards”** means the *Secretary of the Interior’s Standards for the Treatment of Historic Properties*, as supplemented by the *Port of San Francisco Historic Preservation Review Guidelines for Pier and Bulkhead Wharf Substructures*.

**“Section 1.126”** means Campaign and Governmental Conduct Code section 1.126.

**“Section 169”** means Planning Code sections 169-169.6 describing the City’s TDM Program.

**“Section 249.80”** means Planning Code section 249.80, including Table 249.80-MR1 and Figure 249.80-MR1, and related zoning maps, which established the Mission Rock Special Use District and provide zoning and other land use limitations for the Project Site and procedures for design review of Vertical Improvements.

**“Section 291”** means Planning Code section 291, which establishes height limits and parcel boundaries for the Project Site and procedures for their modification.

**“Section 409”** means Planning Code section 409, which establishes citywide reporting requirements, timing, and mechanisms for annual adjustments to Impact Fees.

**“Section 415”** means Planning Code section 415.

**“Secured Amount”** means, unless specified otherwise in the DDA, the sum of the following amounts for each Phase:

- (i) 100% of a secured obligation to pay money; and

- (ii) 100% of the estimated cost to complete any secured Horizontal Improvements as evidenced by Developer's construction contracts or estimates, subject to both the Port Director's and Developer's prior approval, less the face amount of security for the same obligations provided to the City under Subdivision Code section 1370.

**"Security Interest"** means a security instrument encumbering a personal property interest in or held by a Borrower to secure the Borrower's repayment obligation to a Lender.

**"self-perform"** means a contractor's use of its own labor force, instead of subcontractors, to perform certain areas of construction.

**"Selling Member"** means:

- (i) any Giants Affiliate that holds a direct or indirect interest in Developer on the Reference Date;
- (ii) any Giants Affiliate that holds a direct or indirect interest in Developer before a Transfer that occurs before Developer has achieved the Initial Benchmarks; and
- (iii) any of the above in which a Significant Change has occurred.

**"Selling Member's Share"** means the portion of Base Value that is attributable to the interest being Transferred by the Selling Member.

**"Services Account"** means a segregated account that the Port will establish with the Special Fund Trustee to receive, hold, and administer Services Special Taxes.

**"Services CFD"** means the part of the Mission Rock CFD formed to finance Ongoing Maintenance.

**"Services CFD Administrative Costs"** means CFD Administrative Costs payable from Services Special Taxes.

**"Services Special Taxes"** means Mello-Roos Taxes that the City levies in a City Fiscal Year on Taxable Parcels in the Mission Rock CFD to fund Ongoing Maintenance Costs.

**"SFFD"** is an acronym for the San Francisco Fire Department.

**"SFMTA"** is an acronym for the San Francisco Municipal Transportation Agency.

**"SFMTA Consent"** means either:

- (i) the Consent of the San Francisco Municipal Transportation Agency that is attached to and incorporated in the DA; or
- (ii) the Consent of the San Francisco Municipal Transportation Agency that is attached to and incorporated in the ICA.

**"SFPD"** is an acronym for the San Francisco Police Department.

**"SFPUC"** is an acronym for the San Francisco Public Utilities Commission.

**"SFPUC Consent"** means either:

- (i) the Consent of the Public Utilities Commission of the City and County of San Francisco that is attached to and incorporated in the DA; or
- (ii) the Consent of the Public Utilities Commission of the City and County of San Francisco that is attached to and incorporated in the ICA.

**"SFPUC Utility Infrastructure"** means Utility Infrastructure that will be under SFPUC jurisdiction after City acceptance.

- “SFPUC Power”** means the SFPUC operating division that provides electrical service to ratepayers in accordance with the Charter.
- “SFPUC Wastewater Capacity Charge”** means the wastewater capacity charge and connection charge imposed by the SFPUC.
- “SFPUC Water Capacity Charge”** means the water capacity charge and connection charge imposed by the SFPUC.
- “Shared Public Street”** generally means a curbless Public ROW that emphasizes pedestrian traffic over vehicular traffic, as described in the City’s Better Streets Plan and, for the Project, in the Infrastructure Plan and Design Controls.
- “Shared Public Way”** means the curbless street described in **Design Controls § 4.2** to be constructed as part of the Project.
- “Shoreline Adaption Studies”** means analysis and planning to characterize the preferred and Shoreline Protection Project and alternatives, including pre-entitlement planning and design work, environmental review, negotiation, and Regulatory Approvals related to the Shoreline Protection Facilities.
- “Shoreline Improvements”** means Horizontal Improvements such as stone columns, pilings, secant walls, other structures to stabilize the seawall or shoreline, and all other permitted uses of the Waterfront Set-Aside.
- “Shoreline Protection Account”** means the segregated account in the Special Tax Fund that the Port will establish with the Special Fund Trustee to receive, hold, and administer Zone 2 Shoreline Special Taxes under the Special Fund Administration Agreement.
- “Shoreline Protection Facilities”** means future Improvements to protect the San Francisco Bay shoreline from perils associated with seismic events and climate change, including sea level rise and floods, and other public improvements approved by the Port Commission and the Board of Supervisors.
- “Shoreline Protection Project”** means planning, design, and construction of Shoreline Protection Facilities.
- “Shoreline Special Taxes”** means the portion of Facilities Special Taxes that the City levies in a City Fiscal Year to fund Horizontal Development Costs (Zone 1 only), Shoreline Adaption Studies, the Shoreline Protection Project after environmental review is complete, and other authorized costs, an amount per square foot intended to be equivalent to 0.10% of the parcel’s initial Baseline Assessed Value as projected for the CFD Formation Proceedings.
- “Show”** means any live act, play, review, pantomime, scene, music, song, dance act, song and dance act, or poetry recitation provided in front of a live audience or recorded for the purpose of later presentation.
- “Show” excludes an event where a person solely plays pre-recorded music or pre-recorded performances so long as no other live performance is provided.*
- “Significant Adverse Change”** means that Developer or a Transferee no longer meets the Net Worth Requirement.
- “Significant Change”** means any change in the ownership of Developer that is not a Permitted Change.
- “Significant Change” excludes any Excluded Transfer.*
- “Significant Change to Obligor”** means that an Obligor no longer meets the Obligor Net Worth Requirement.

**“significant environmental impact”** means a significant effect on the environment as defined in CEQA section 21068 and CEQA Guidelines section 15382.

**“Significant Ownership”** means that a person holds a direct or indirect ownership interest (i) of 10% or more of the membership interests in Developer or (ii) which entitles such person to 10% or more of Developer's profits or capital.

**“Site Preparation”** means physical work to prepare and secure the Project Site for installation and construction of Horizontal Improvements, such as demolition of existing structures, excavation and removal of contaminated soils, fill, grading, soil compaction, and construction fencing and other security measures, and temporary Improvements for interim uses before vertical development begins.

**“Site Preparation Plans”** means Improvement Plans for Site Preparation.

**“Small Event”** means a single event or related events occupying less than 10,000 square feet in the footprint of a Public Space.

**“Soft Costs”** means any costs incurred in connection with Horizontal Improvements or implementation of Developer's obligations under the DDA that are not Hard Costs, including, without duplication:

- (i) architectural, engineering, consultant, attorney, and other professional fees, including the cost of any Qualified Appraiser and the costs of consultants related to public financing to the extent not reimbursed by Public Financing Sources;
- (ii) property insurance (including general liability, automobile liability, worker's compensation, personal property, flood, pollution legal liability, comprehensive personal liability, watercraft liability, marine general liability, vessel pollution liability, builder's risk, and professional services insurance);
- (iii) construction management fees, project management costs, and asset management costs paid to or by Developer, a Transferee, or their respective Affiliates, limited in the aggregate to 15% of Hard Costs, subject to Developer's right to request reimbursement above this threshold, which the Port will not unreasonably disapprove if Developer demonstrates that the additional costs are commercially reasonable;
- (iv) regulatory fees other than building and site permit fees;
- (v) Developer Mitigation Measures and any additional environmental review required for horizontal development;
- (vi) Impact Fees associated with Horizontal Improvements;
- (vii) Port Costs and Other City Costs;
- (viii) possessory interest taxes payable for the Master Lease Premises above the PIT Threshold determined as set forth in **FP § 8.1(b)** (PIT Threshold);
- (ix) costs to use sources other than the Project Payment Sources to the extent not otherwise reimbursed;
- (x) Facilities Special Taxes and any other taxes, assessments, or fees levied by the City and paid by Developer as Tenant under the Master Lease, excluding any penalties or interest assessed due to Developer's failure to make payment before delinquency;
- (xi) security required under the DDA or otherwise in connection with the Horizontal Improvements, including any Adequate Security;
- (xii) safety and security measures;

- (xiii) community outreach associated with the Project Site;
- (xiv) maintenance of parks, streets, and public areas to the extent not paid by Services Special Taxes;
- (xv) third-party costs to prepare and store Phase Quarterly Reports, Phase Audits, Final Audits, and Developer's Books and Records;
- (xvi) Alternative Return Costs, Developer Marketing Costs, and Public Benefit Costs;
- (xvii) the Entitlement Sum;
- (xviii) costs incurred after June 30, 2018 up until the Reference Date that would have been considered Entitlement Costs if incurred prior to June 30, 2018; and
- (xix) any other amount specifically identified in a Transaction Document as a Soft Cost or a category of Soft Costs.

**"Soft Costs" excludes:**

- (1) *Hard Costs;*
- (2) *Losses that Developer pays to any third party to the extent recovered from insurance proceeds or other third parties;*
- (3) *Developer's (or any Affiliate's) corporate office, personnel, and overhead costs, subject to **clause (iii)** in the definition of Soft Costs;*
- (4) *costs incurred to lobby for the Project or for any political campaign, including costs related to any ballot measure affecting the Project;*
- (5) *construction financing costs (loan fees and interest) for Horizontal Improvements;*
- (6) *costs of vertical development, including Deferred Infrastructure if not paid by Developer; and*
- (7) *any other amount specifically excluded from Soft Costs in a Transaction Document.*

**"Soil Management Plan"** means that certain Soil Management Plan for the Project Site, approved by Port, DPH, and DTSC. The Soil Management Plan has not yet been approved as of the Reference Date.

**"SOP Compliance Determination"** means a recordable certificate that the Chief Harbor Engineer issues when granting Developer's SOP Compliance Request confirming that Developer has completed Phase Improvements by the applicable Outside Date in the Schedule of Performance.

**"SOP Compliance Request"** means a request made under **DDA § 3.6** (Phase Completion) or **DDA § 14.6** (SOP Compliance) for an SOP Compliance Determination.

**"Special Debt Service"** means the portion of the debt service on, or replenishment of reserve funds for, CFD Bonds secured by Development Special Taxes in the Mission Rock CFD that is equal to the Development Special Taxes levied on Taxable Parcels in the CFD.

**"Special Event"** means:

- (i) any Trade Show, Convention, Exposition, or other Temporary Event with the characteristics of a Trade Show, Convention, or Exposition, that involves Exhibit, Display, or Trade Show Work; and
- (ii) any Mass Participation Sports Event.

**“Special Facility”** means the Project Site and any other Port facility designated as such under the Port Master Indenture.

**“Special Facility Revenue”** means revenue that the Port earns from or with respect to any Special Facility designated in the Port Master Indenture.

**“Special Facility Revenue Bonds”** means Bonds issued by or on behalf of the Mission Rock CFD or the IFD that are secured by a pledge of Special Facility Revenue.

**“Special Fund Administration Agreement”** means an agreement between the Port in its proprietary capacity, as CFD Agent, and as IFD Agent, and the Special Fund Trustee authorizing the trustee to receive, administer, and disburse funds in the Special Fund Trust Account to implement the Financing Plan.

**“Special Fund Trust Account”** means, collectively, the DRP Fund, the Special Tax Fund, and the Tax Increment Fund, including segregated accounts within each fund.

**“Special Fund Trustee”** means a bank, national banking association, or a trust company having a combined capital (exclusive of borrowed capital) and surplus of at least \$50 million, and that is subject to supervision or examination by federal or state authority.

**“Special Tax Fund”** means the segregated accounts within the Special Fund Trust Account; including the Facilities Account, the Shoreline Reserve Account, the Shoreline Protection Account, and the Services Account, that the Port, as CFD Agent, establishes with the Special Fund Trustee to receive, administer, and disburse Mello-Roos Taxes on behalf of the Mission Rock CFD through the Special Fund Administration Agreement as described in **FP § 2.3(b)** (Disbursements from Special Fund Trust Account).

**“Special Tax Requirement”** means the amount that Facilities Taxes and Services Special Taxes, as applicable, must fund in any City Fiscal Year, as established by approved Phase Budgets.

**“State”** means the State of California.

**“State Lands”** means the California State Lands Commission.

**“Statement of Indebtedness”** means the annual report that the IFD must file with the Treasurer-Tax Collector under IFD Law and the Port IFD Guidelines.

**“Street Segment”** means any portion of a street described as such in the Schedule of Performance.

**“Structural Consultant”** means any Project Consultant who prepared Structural Materials.

**“Structural Materials”** means Project Materials relating to structural strengthening, maintenance, and repair of the substructure and superstructure of piers and wharves, Horizontal Improvements for, and subsurface stabilization of, any part of the Project Site.

**“Structured Street”** means a Public ROW that is pile-supported.

**“Structured Street Criteria”** means design criteria for the Structured Street System to be developed by Developer, in coordination and consultation with the Port, the Port’s independent third party engineer, and Other City Agencies.

**“Structured Street Drainage”** means the drainage system for Structured Streets, which may include sump pumps.

**“Structured Street Superstructure”** means pile-supported U-shaped corridors and associated subdrains that support the Structured Streets that the Port or the City will acquire.

**“Structured Street System”** means Structured Street Superstructure and associated Structured Street Drainage, Flexible Utility Connections, and Flexible Street Improvements, as more specifically described in the Infrastructure Plan.

**“subcontracts to contracts”** is defined in Administrative Code sections 12B.2 and 12C.2.

**“Subdivision Code”** means the San Francisco Subdivision Code, as amended by the DA Ordinance, and Subdivision Regulations adopted by Public Works.

**“Subdivision Map”** means any map that Developer submits for the Project Site under the Map Act and the Subdivision Code.

**“Sub-Project Area”** means a sub-project area that the Board of Supervisors established in Project Area I.

**“Subsequent Assessed Value”** means the assessed value of a Taxable Parcel in any City Fiscal Year after the most recent Baseline Assessed Value was established.

**“Subsequent VDDA Closing Date”** shall mean the originally scheduled Closing Date set forth in a Vertical DDA in effect for any Development Parcel in a Phase other than the Vertical DDA that establishes the First Scheduled Closing Date as such Closing Date may be extended under **DDA § 7.7(d)** Final Map.

**“substantial completion”** means:

- (i) when used in reference to Horizontal Improvements, that the Chief Harbor Engineer has determined, or is deemed to have determined, that the Horizontal Improvements meet the conditions in **DDA § 14.6** (SOP Compliance); and
- (ii) when used in reference to Vertical Improvements, that the Vertical Improvements have been Completed (as such term is defined in the Vertical DDA).

**“SUD”** is an acronym for the area subject to Section 249.80 and related zoning maps, which established the Mission Rock Special Use District and zoning and other land use limitations for the Project Site.

**“SUD Amendments”** means, collectively, Section 249.80 and related amendments to the Planning Code and zoning maps adopted by Ordinance No. 31-18.

**“Summary Proforma”** means the detailed document that Developer prepared to provide an accurate summary of the Proforma, a copy of which is attached to the Financing Plan as **FP Sch 1**, and any superseding or revised summaries prepared from time to time in accordance with the DDA.

**“Sustainability Strategy”** means **DDA Exh B8**, which contains:

- (i) strategies to develop the Project Site to balance San Francisco’s plans for future growth within the context of the State’s requirements to reduce greenhouse gas emissions and the City’s goals to reduce water consumption, reduce waste, and enhance community-scale energy resources; and
- (ii) targets that Developer will track and report on to Planning regularly throughout the Project’s development.

**“SWL 337”** is a term used to refer the Port property located south of Mission Creek/China Basin Channel, bordered by Third Street on the west, Mission Rock Street on the south, and Terry A. Francois Boulevard on the east, as reconfigured in accordance with AB 2797.

**“Task Force”** means a team of third-party professionals and Public Works staff that Public Works is authorized to assemble to assist the City and the Port in implementing the ICA.

**“Tax Allocation Bonds”** means Bonds issued on behalf of the IFD with respect to Project Area I, including obligations incurred under a Pledge Agreement, secured by a pledge of or otherwise payable from Allocated Tax Increment.

**“Tax Allocation Bonds”** *excludes any Mello-Roos Bonds.*

**“Tax Allocation MOU”** is a term used to refer to the Memorandum of Understanding (Levy and Allocation of Taxes).

**“Tax Code”** means the Internal Revenue Code of 1986, as amended, together with applicable temporary and final regulations promulgated, and applicable official public guidance published, under the United States Internal Revenue Code.

**“Tax Increment”** refers to Allocated Tax Increment or Gross Tax Increment, as appropriate in the context.

**“Tax Increment Fund”** means the segregated accounts within the Special Fund Trust Account that the Port, as IFD Agent, establishes with the Special Fund Trustee to receive, administer, and disburse Annual Allocated Tax Increment on behalf of the IFD through the Special Fund Administration Agreement.

**“Tax Increment Limit”** means the maximum dollar amount of Tax Increment that the City agreed to allocate to the IFD for each Sub-Project Area in Project Area I under Appendix I.

**“Taxable Commercial Parcel”** means a Taxable Parcel that is not residential.

**“Taxable Parcel”** means an assessor’s parcel of real property or other real estate interest created by each Phase Final Map that is not an Exempt Parcel, which may include leased space occupied for private use in an Exempt Parcel.

**“Taxable Residential Unit”** means a Taxable Parcel that is a residential condominium unit.

**“TAY”** is an acronym for Transition Age Youth.

**“TAY Unit”** means an Inclusionary Units set aside to house an individual transitioning out of a public system such as the foster care system.

**“TAY Unit Occupancy Plan”** means an HSH-approved plan for lease-up and occupancy of the TAY Units that the Vertical Developer will submit to the Port at least 120 days before the Vertical Developer expects to begin marketing for Market-Rate Units in a Residential Project that includes TAY Units.

**“TDM”** is an acronym for Transportation Demand Management.

**“TDM Measures”** means the measures to implement the TDM Plan.

**“TDM Plan”** means the Transportation Demand Management Plan that is included in **TP Sch 2 to DDA Exh B7** (Transportation Exhibit) and prepared in compliance with EIR Mitigation Measure M-AQ-2.3 (**TP Sch 3 to DDA Exh B7** (Transportation Exhibit)), except as specified in the Transportation Exhibit.

**“TDM Program”** means the City’s Transportation Demand Management Program, which is described in Section 169.

**“Temporary Certificate of Occupancy”** means a certificate of occupancy that the Chief Harbor Engineer issues under the Port Building Code allowing a discrete portion of a building to be occupied or conditional occupancy of a building, generally for no longer than 90 days.

**“Temporary Event”** means an event lasting no more than six months.

**“Temporary Use”** as defined in Planning Code section 249.80(f)(4) means a single or recurring use at the Project Site that is allowed under any Port lease or license for a period not to exceed 90 days, subject to extension by the Port Director. Examples include booths for charitable, patriotic, or welfare purposes; markets; exhibitions, festivals, circuses, musical and theatrical performances, and other forms of live entertainment including setup/load-in and demobilization/load-out; athletic events; open-air sales of agriculturally-produced seasonal decorations such as Christmas trees and Halloween pumpkins; meeting rooms



and event staging; mobile food and temporary retail establishments; and automobile and truck parking and loading associated with any authorized temporary use.

**“Tenant”** means the named tenant and any permitted successor under a Parcel Lease.

**“Tentative Map”** means a Tentative Transfer Map, Vesting Tentative Transfer Map, Tentative Map, or Vesting Tentative Map as defined in the Subdivision Code.

**“Terminated Phase”** means a Phase that is terminated under **DDA art. 11** (Material Breaches and Termination).

**“Termination Date”** means the date on which a termination under **DDA art. 11** (Material Breaches and Termination) becomes effective.

**“Termination Notice”** means a notice given under **DDA § 11.6** (Termination Procedures).

**“Test Parcel”** means an Option Parcel that will be subject to a Down Market Test against the applicable Land Value Indicator under **DDA art. 4** (Excusable Delay).

**“third party”** means a person that is not Developer, the Port, the City, or any of their Agents or Affiliates.

**“Third-Party Challenge”** means an action challenging the validity of any provision of the DDA or DA, the Project, any Project Approval or Later Approval, the adoption or certification of the Final EIR, other actions taken under CEQA, or any other Project Approval.

**“Ticketed Public Event”** means an event in a Public Space that is open to the general public and requires the purchase of a ticket for entry.

**“Time-Sensitive Matter”** means a Party’s obligations that are due at a specific time under the DDA, in particular under the Schedule of Performance, any Phase Schedule, and the Financing Plan, but excluding obligations to process Payment Requests under the Acquisition Agreement or Requisitions under the Financing Plan.

**“tobacco product”** is defined Health Code section 1010(b).

**“Total Fee Amount”** means Transportation Fees paid for each development project on the Project Site.

**“Trade Show”** means a gathering in which:

- (i) one or more businesses or association of businesses in one or more industries or professions show their products or services to possible customers or patrons; or
- (ii) there are exhibits, displays, or demonstrations of specific products or services or that highlight all or part of an industry or profession.

**“Transaction Document”** means any of the following, individually or collectively:

- (i) the DDA, including the Financing Plan, the Participation Agreement, this Appendix, and all attached exhibits, schedules, and implementing agreements and plans;
- (ii) the DA and the ICA;
- (iii) each Assignment and Assumption Agreement governing a Transferee’s obligations for the Project;
- (iv) the Master Lease;
- (v) each fully executed Vertical DDA and Parcel Lease; and
- (vi) any other agreement governing the Parties’ respective rights and obligations with respect to the development or operation of any portion of the Project Site.

**“Transfer”** means an assignment of any portion of Developer’s horizontal development rights and obligations under the DDA under an Assignment and Assumption Agreement or through a Significant Change or an Initial Transfer.

**“Transfer” excludes:**

- (1) *a Deed of Trust or Security Interest given to a Lender;*
- (2) *an agreement under which a Vertical Developer is required to build Deferred Infrastructure; and*
- (3) *an Excluded Transfer.*

**“Transferee”** means any person to which Developer’s rights and corresponding obligations relating to any portion of a Phase are Transferred under **DDA art. 6** (Transfers).

**“Transferee” excludes the transferee in an Excluded Transfer.**

**“Transferee Affiliate”** means a Transferee that is:

- (i) an Affiliate of Developer;
- (ii) as to any Transfer occurring before Developer has achieved the Initial Benchmarks, a person in which a Giants Affiliate holds Significant Ownership and Management Control of all Phases of the Project; or
- (iii) as to any Transfer occurring after Developer has achieved the Initial Benchmarks, a person in which a Giants Affiliate or an Initial Transferee Affiliate holds Significant Ownership and Management Control of the Current Phase and each Later Phase of the Project.

**“Transit Mitigation Agreement”** means a future agreement between Developer and SFMTA that will obligate Developer to make a fair share contribution to the cost of providing additional bus service or otherwise improving service in accordance with Mitigation Measure M-TR-4.1 and Mitigation Measure M-TR-4.4.

**“Transition Age Youth”** means young adults, ages 18–24, who are transitioning from public systems like foster care or are at risk of not making a successful transition to adulthood.

**“Transportation Exhibit”** means **DDA Exh B7**, which includes the TDM Plan and the Transportation Exhibit, among other things.

**“Transportation Fee”** means the Impact Fee that each Vertical Developer will pay to SFMTA under the **DA § 5.4(b)** (Impact Fees and Exactions) for uses described in the Transportation Exhibit.

**“Transportation Infrastructure”** means Improvements and technology necessary for transportation and public transit services on or serving the Project Site, including traffic control devices (traffic signs, roadway and curb paint, traffic signals, signal communication conduits or network devices, message signs, traffic video cameras); transit-related infrastructure (shelters, bathrooms, signs and mountings), overhead lines, power, and related conduits and ducts, transit signs and signals), parking infrastructure (public parking garages, lots, and related communications devices), parking and traffic enforcement infrastructure, bicycle parking and sharing facilities, protected bikeways, pedestrian facilities, bus boarding islands and bus bulbs, street striping and curb demarcations, lighting supports, wayside control and communications systems and devices, and electrical substations, junction boxes, underground conduit, and duct banks.

**“Transportation Plan”** refers to the Mission Rock Transportation Plan attached as **TP Sch 1** to the Transportation Exhibit, which contains strategies that Developer is required to implement to address movement in and around the Project Site.

**“Transportation-Related Mitigation Measure”** means any Mitigation Measure that SFMTA is responsible for implementing or monitoring.

**“Treasurer-Tax Collector”** means the Treasurer and Tax Collector of the City and County of San Francisco.

**“Triggering Event”** means any Transfer that is not a Permitted Change or an Excluded Transfer.

**“unbundled”** when used in reference to a Garage Space in a Residential Project means that the space is available for rent separately from the applicable Residential Units.

**“Unrecovered Rent Credits”** means Alternative Return Rent Credits against Base Rent under the Master Lease that Master Lease Tenant has not exhausted as of the effective date of the applicable Triggering Event, documented by Developer to the Port’s reasonable satisfaction.

**“Unrelated Transferee”** means a Transferee that is not an Affiliate of Developer, a Transferee Affiliate, or any of their respective Affiliates.

**“Utility Allowance”** means the dollar amount established periodically by the San Francisco Housing Authority based on HUD standards for cost of basic utilities for Households.

**“Utility Infrastructure”** means Horizontal Improvements for utilities serving the Project Site, such as electricity, gas, water, sanitary sewer, and storm drainage.

**“Utility Infrastructure”** *excludes telecommunications infrastructure.*

**“Utility-Related Mitigation Measure”** means any Mitigation Measure that SFPUC is responsible for implementing or monitoring.

**“Value Reduction”** means a reduction in assessed value of a Taxable Parcel obtained through a proceeding that the pertinent taxpayer initiates under the California Revenue & Taxation Code.

**“VDDA Notice”** means the Port’s notice to Planning that the Port is prepared to enter into a Vertical DDA with a Vertical Developer that will have the right to build an office development project on an Option Parcel in the Project Site.

**“vending machine”** is defined in Administrative Code section 4.2(a) and means an automated machine dispensing products or services, including food, beverages, tobacco products, newspapers, and periodicals.

**“Vertical Application”** means the design documents that are required to begin the entitlement process for vertical improvements under the SUD.

**“Vertical Coordination Agreement”** means an agreement between Developer and Vertical Developer as generally described in **DDA § 7.9** (Vertical Cooperation Agreement).

**“Vertical DDA”** means a disposition and development agreement that the Port will enter into with each Vertical Developer in accordance with the DDA.

**“Vertical Developer”** means a party to a Parcel Lease and a Vertical DDA providing for construction of Vertical Improvements on a Development Parcel.

**“Vertical Developer Affiliate”** means a Vertical Developer in which Developer, or any person with a direct or indirect ownership in Developer, directly or indirectly holds any ownership interests or rights to capital or profits.

**“Vertical Developer Party”** means any Vertical Developer, its Affiliates, their Agents, and Invitees to the Project Site, individually or collectively.

**“vertical development”** means planning, design, and construction or rehabilitation of buildings and other structures on legal parcels.

**“Vertical Improvement”** means a new building that is built at the Project Site.

**“Vested Element”** means a specific component of the land use entitlements granted to Developer by the Project Approvals, including the locations and numbers of buildings, permitted land uses, height and bulk limits, and parking, as described in **DA § 5.1(b)** (Vested Elements).

**“Water Board”** means the San Francisco Bay Regional Water Quality Control Board of the California Water Resources Control Board.

**“Waterfront Plan”** means the Port’s Waterfront Land Use Plan, including its Waterfront Design and Access Element, as amended by Port Commission Resolution No. 18-05 to incorporate the Design Controls.

**“Waterfront Set-Aside”** means a minimum of 20% of Annual Allocated Tax Increment from Project Area I, which the IFD must spend “solely on shoreline restoration, removal of bay fill, or waterfront public access to or environmental remediation of the San Francisco waterfront” to comply with IFD Law.

**“WDP”** is an acronym for the Workforce Development Plan.

**“Workforce Development Plan”** means **DDA Exh B6**.

**“Workforce Job Readiness and Training Funds”** means \$1 million that Vertical Developers at the Project Site will contribute to OEWD to support workforce job readiness and training through OEWD’s CityBuild and First Source Hiring programs and qualified local community-based organizations in accordance with the Workforce Development Plan.

**“Zone”** as described in **ICA Exh D** means, subject to further discussion and agreement in accordance with the ICA, a Deferred Infrastructure Zone.

**“Zone 1”** means the Taxable Parcels in the Phase 1 Area of the Project Site.

**“Zone 1 Shoreline Special Taxes”** means the Shoreline Special Taxes levied on and actually collected from Zone 1.

**“Zone 2”** means the Taxable Parcels in the Mission Rock CFD outside of the Phase 1 Area.

**“Zone 2 Shoreline Special Taxes”** means the Shoreline Special Taxes levied on and actually collected from Zone 2.

[Page Intentionally Left Blank]

## CONSENT OF SEAWALL LOT 337 ASSOCIATES, LLC

1. Consent and Agreement. By signing below, Developer's representative, on behalf of Developer and Developer Parties: (a) consents to the ICA, understanding that the City and the Port have entered into it for the express collective benefit of the City, the Port, Developer and Developer Parties; (b) agrees that the ICA and this Developer Consent will be binding on the Developer Parties and each Transferee and Vertical Developer and further agrees to cause each Transferee and Vertical Developer to accept the ICA and this Developer's Consent as provided in the DDA; and (c) represents that execution of this Consent is authorized and that the person signing this Consent is authorized to sign this consent on behalf of Developer.

2. Acknowledgements. Developer acknowledges the following.

(a) Developer is an intended third-party beneficiary of the ICA.

(b) On recordation, the ICA and this Developer's Consent will apply to, and burden and benefit, the City, the Port, Developer, and each Transferee and Vertical Developer whether or not this ICA or Developer's Consent is specifically referenced in any Assignment Agreement or conveyance agreement.

(c) City and Port will conduct their review in accordance with the ICA and City and Port review will be limited to compliance with Project Requirements, and be in accordance with the Development Agreement.

(d) Developer will be solely responsible for its compliance with applicable state and federal laws. The ICA does not eliminate or alter the process or approval requirements under applicable provisions of state or federal law or the regulations of other Regulatory Agencies with respect to any development at the Project Site.

(e) Developer will bear all costs associated with applying for and obtaining any Regulatory Approval. Developer, at no cost to the City that is not a City Cost or a Port Cost, will be solely responsible for complying with any conditions or restrictions imposed on the construction of Improvements under a Regulatory Approval, except those imposed on construction of Vertical Improvements. Developer will have the right to appeal or contest any condition imposed under a Regulatory Approval in any manner permitted by law, but only with the prior consent of the affected City Agency if the City is a co-applicant or co-permittee. If Developer can demonstrate to the City's reasonable satisfaction that an appeal would not affect the City's responsibility or liability for any conditions that are or could be the responsibility of any City Agency, the City will not unreasonably withhold or delay its consent. In all other cases, an affected City Agency will have the right to give or withhold its consent in its sole discretion. Developer must pay or otherwise discharge any fines, penalties, or corrective actions imposed as a result of Developer's failure to comply with any Regulatory Approval.

(f) The Port Director may require Developer to provide the Port Commission, the Planning Commission, the Board of Supervisors, and any other Regulatory Agency with periodic updates on the Project.

(g) Developer acknowledges that for City Agencies to meet the time periods under the ICA, for review of Improvement Plans, inspections, for making completion determinations, for acceptance of Horizontal Improvements (and portions or components thereof), for release of security, in accordance with the ICA, Developer will, as described in the ICA, (i) provide advance notices of Improvement Plan Submittals (including advance notice of any requests for exceptions or deviations from Subdivision Regulations, Infrastructure Plans or any other Regulatory Requirements) and advance notice of requests for inspections; (ii) provide with each Improvement Plans resubmittal a clouded copy showing portions of the Improvement Plans that have been revised, and a chart identifying each comment, the response to that comment, and where it is shown on the Improvement Plans; (iii) ensure that each Improvement Plan Submittal is complete and internally consistent; (iv) provide a complete package of project completion and/or acceptance requirements; (v) provide the schedule required in Section 4.6(e) of the ICA; and (vi) participate in regularly (at least quarterly) status and coordination meetings with the Permitting Agency (and other affected City Agencies, as applicable).

3. No Authority to Bind City. Developer understands that it must not agree to conditions or restrictions to any Regulatory Approval from a Regulatory Agency that could create: (a) any obligations on the part of any City Agency that is required to be a co-applicant or co-permittee, unless the obligation is specifically the City's responsibility under this ICA, the Transaction Documents, or the Regulatory Requirements; or (b) any restrictions on City property, unless in each instance the affected City Agency in its reasonable discretion has previously approved the conditions or restrictions in accordance with this Section.

4. Reimbursement of Other City Costs. In consideration of Developer's benefits under the ICA, Developer agrees to reimburse Other City Costs incurred for each consenting City Agency's performance under the ICA under and subject to *FP § 9.2 (Port Accounting and Budget)*, *DA § 4.3 (Payment of Planning Costs)*, and ICA Section 3.6 (Cost Recovery).

5. Indemnity. Developer acknowledges that Developer has an obligation to indemnify the City, the Port, and Other City Agencies as Indemnified Parties under *DDA art. 8 (Property Condition and Indemnities)*, *Master Lease art. 19*, and *DA § 4.4 (Indemnification of City)*.

6. Limitations on Liability.

(a) Generally. Developer, on behalf of itself and the other Developer Parties, understands and agrees that no commissioners, members, officers, agents, or employees of the City, the Port, or any Other City Agency (or any of their successors or assigns) will be personally liable to the other or to any other person, nor will any officers, directors, shareholders, agents, partners, members, or employees of any Developer Party (or of its successors or assigns) be personally liable to the City, the Port, or any Other City Agency, or any other person in the event of any default or breach of the ICA by the City, the Port, or any Other City Agency or of this Developer's Consent or for any amount that may become due or any obligations under the ICA or this Developer's Consent.

(b) No Release of Existing Liability. This provision will not release obligations of a person that is otherwise liable, such as the general partner of a partnership that is liable for the obligation or the guarantor of an obligation.

(c) No Municipal Liability for Damages. Neither the Port nor any Other City Agency will be liable to any Developer Party for damages under the ICA for any reason. Developer covenants not to sue for or claim any damages against any City Agency and expressly waives its right to do so.

**DEVELOPER:**

**SEAWALL LOT 337 ASSOCIATES, LLC,**  
a Delaware limited liability company

By: Giants Development Services, LLC  
Its: Member

By: Laurence M. Baer  
Laurence M. Baer  
Chief Executive Officer

Date: July 30, 2018

Addresses for courtesy copies of notices:

Developer:

Seawall Lot 337 Associates, LLC  
c/o San Francisco Giants  
24 Willie Mays Plaza  
San Francisco, CA 94107  
Attention: Jack Bair, General Counsel  
Telephone: (415) 972-1755  
Facsimile: (415) 972-2317  
Email: jbaire@sfgiants.com



[Page Intentionally Left Blank]

## CONSENT OF

### SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY

1. Execution. By executing this Consent, the persons named below confirm the following.

(a) The SFMTA Board of Directors consented to the matters listed below after considering at a duly noticed public hearing the Infrastructure Plan, Transportation Plan, and the CEQA Findings, including the Statement of Overriding Considerations, and the Mitigation Monitoring and Reporting Program, for the Project.

(b) SFMTA does not intend to limit, waive, or delegate in any way its exclusive authority under Article VIII A of the Charter.

2. Matters Covered. SFMTA agrees to the following.

(a) The Project Approvals, including the Infrastructure Plan and street widths, the Design Controls, and the Transportation Plan and the MMRP will govern matters under SFMTA jurisdiction, including, without limitation, Transportation Infrastructure described in the Infrastructure Plan, Design Controls, and Transportation-Related Mitigation Measures. SFMTA staff will:

(i) participate in pre-submittal conferences and meet-and-confer meetings to facilitate the Project;

(ii) review and comment on Improvement Plans relating to matters under its exclusive authority under the Charter and provide comments in accordance with the ICA; and

(iii) inspect Transportation Infrastructure within twenty-one (21) days after receiving a copy of an Inspection Notice from the Director of Public Works and to provide its approval and acceptance or a punch list of items to be corrected within five (5) days after performing its inspection in accordance with the ICA.

(b) SFMTA will review and approve the Transportation Infrastructure described in the Infrastructure Plan (e.g., traffic control devices (primarily signs, traffic signals, striping in the Public ROW), bike racks, transit bulbs and shelters, and meters in City-accepted Public ROWS, subject to Developer satisfying SFMTA requirements and Transportation Related Mitigation Measures, as applicable, for safety, design, construction, testing, performance, training, documentation, warranties, and guarantees that are consistent with applicable Regulatory Requirements.

(c) SFMTA's approvals will be consistent with the DDA, the Infrastructure Plan, the Design Controls, the Transportation Plan, Regulatory Requirements, and its prior approvals. SFMTA will not withhold its consent unreasonably to proposed changes for Transportation Infrastructure, including the Infrastructure Plan, the Design Controls or the Transportation Plan if the changes meet the requirements of this Consent.

(d) SFMTA will procure, accept, operate, and maintain transit systems described in the Infrastructure Plan and the Transportation Related Mitigation Measures, subject to identification of resources, appropriation of funds, and other fiscal and operational considerations, including the level of Municipal Railway service provided citywide.

(e) SFMTA will satisfy the construction requirements that are assigned to SFMTA in the Transportation Plan, Infrastructure Plan and Transportation-Related Mitigation Measures, as applicable, subject to identification of resources, appropriation of funds, and other fiscal and operational considerations, including the level of MUNI service provided citywide.

(f) SFMTA will cooperate with Developer in phasing any required SFMTA construction to the extent practicable given fiscal and operational considerations.

(g) SFMTA will license temporarily any property under its jurisdiction to Developer on commercially reasonable terms, including indemnification and security provisions in keeping with the City's standards. Developer access will be deemed necessary if it authorizes Developer to investigate adjacent environmental conditions, undertake environmental response programs, undertake Mitigation Measures, construct Horizontal Improvements upon, or otherwise use the property to implement Regulatory Requirements.

**3. Cost Recovery.** SFMTA acknowledges that Developer has agreed to reimburse Other City Costs, including SFMTA's costs, to implement the matters described above, including reimbursement for review of Improvement Plans, on the following conditions.

(a) SFMTA must deliver to the Port a quarterly statement of SFMTA costs in time to allow the Port to prepare a combined quarterly statement of Other City Costs within six (6) months after the date the costs are incurred.

(b) SFMTA will have no right to recover any SFMTA cost that is not included in a quarterly statement within twelve (12) months after it was incurred.

(c) Developer will make aggregate reimbursement payments directly to the Port, which will be responsible for disbursing the funds to SFMTA without incurring liability for paying SFMTA amounts owing that Developer withholds.

4. Notice Address. SFMTA's address for notices given under the ICA is:

San Francisco Municipal Transportation Agency One  
South Van Ness Avenue 7th Floor  
San Francisco, California 94103

Attn: Director of Transportation

Telephone No.: 415-701-4281

Email: directoroftransportation@sfmta.com

**CITY AND COUNTY OF SAN FRANCISCO,**  
a municipal corporation, acting by and through the  
San Francisco Municipal Transportation Agency

By: 

EDWARD D. REISKIN,  
Director of Transportation

Date: 

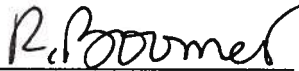
**APPROVED AS TO FORM:**  
DENNIS J. HERRERA  
City Attorney

By: 

Susan Cleveland-Knowles  
Deputy City Attorney

San Francisco Municipal Transportation Agency  
Board of Directors Resolution No. 180206-025  
Adopted: February 6, 2018

Attest:



Secretary, SFMTA Board of Directors

[Page Intentionally Left Blank]

## CONSENT OF

### SAN FRANCISCO PUBLIC UTILITIES COMMISSION

1. Execution. By executing this Consent, the person named below confirms that SFPUC has reviewed the ICA, and after considering the Infrastructure Plan, Development Agreement, Design Controls, and Utility-Related Mitigation Measures at a duly noticed public hearing, took the following actions.

(a) SFPUC authorized its General Manager to enter into the ICA and consent to the ICA and Infrastructure Plan as they relate to matters under SFPUC jurisdiction, for SFPUC Utility Infrastructure and Utility-Related Mitigation Measures.

(b) SFPUC agreed to accept, operate, and maintain SFPUC Utility Infrastructure, subject to appropriation and to Developer satisfying SFPUC requirements for construction, warranties and guarantees, operations and maintenance manuals, testing, and training, consistent with approved improvement plans. The SFPUC's responsibilities for the permitting, acceptance, operations and maintenance of utility related components constructed pursuant to this agreement are contingent on execution of a Memorandum of Agreement between the Port, SFPUC and other relevant City agencies regarding the implementation of such responsibilities.

(c) SFPUC delegated to the SFPUC General Manager or his designee any future SFPUC approvals under the ICA, subject to applicable Regulatory Requirements including the Charter.

2. No Waiver. By authorizing this SFPUC Consent, the SFPUC does not intend to in any way limit SFPUC's exclusive authority under Article VIII B of the Charter.

3. Cost Recovery. The SFPUC acknowledges that Developer has agreed to reimburse Other City Costs, including the SFPUC's costs, to implement the matters described above, on the following conditions.

(a) The SFPUC shall provide the Director of Public Works with a quarterly statement of the SFPUC's costs in time to allow Public Works to provide Developer with a combined quarterly statement of Other City Costs within six (6) months after the date the costs are incurred.

(b) The SFPUC will have no right to recover any SFPUC cost that is not included in a quarterly statement within twelve 12 months after it was incurred.

(c) Developer will make aggregate reimbursement payments directly to the Port, which will be responsible for disbursing the funds to the SFPUC without incurring liability for paying SFPUC amounts owing that Developer withholds.

4. Notice Address. SFPUC's address for notices given under the ICA is:

San Francisco Public Utilities Commission  
525 Golden Gate Ave  
13th Floor  
San Francisco, California 94102  
Attn: General Manager

**CITY AND COUNTY OF SAN FRANCISCO,**  
a municipal corporation, acting by and through the  
San Francisco Public Utility Commission

By: Harlan Kelly  
Harlan Kelly  
General Manager  
Date: 7.25.2018

Authorized by SFPUC Resolution No. 18-0014

**APPROVED AS TO FORM:**  
DENNIS J. HERRERA  
City Attorney

By: Francesca Gessner  
Name: Francesca Gessner  
SFPUC General Counsel

**CONSENT OF  
SAN FRANCISCO FIRE DEPARTMENT**

**1. Matters Covered.** By executing this Consent, the persons named below confirm that, after considering the Infrastructure Plan, they have consented on behalf of SFFD to the following.

(a) The ICA will govern procedures relating to matters under SFFD jurisdiction, including the Fire Safety Infrastructure.

(b) SFFD agrees that its approvals for the Project will be consistent with the Regulatory Requirements, including the Infrastructure Plan and Subdivision Regulations, and its prior approvals. SFFD agrees not to withhold its consent unreasonably to proposed changes to the ICA, or the Infrastructure Plan in relation to Fire Safety Infrastructure if the changes meet the requirements of this Consent.

(c) SFFD staff will be responsible for any future SFFD approvals under this ICA, subject to applicable law including the City Charter. SFFD staff will review and comment on Improvement Plans relating to matters under its exclusive authority under the Charter and participate in pre-filing conferences, pre-Submittal conference, and meet-and-confer meetings to facilitate the Project in accordance with the time-frames and procedures in this ICA.

(d) SFFD agrees to inspect Fire Safety Infrastructure within 21 days after receiving a copy of an Inspection Notice from the Director of Public Works and to notify the Director of Public Works in writing (which may be by email or interdepartmental mail) of SFFD's approval or provide a punch list of items to be corrected within five days after performing the inspection.

**2. No Limitation.** By authorizing this SFFD Consent, the SFFD Fire Chief and Fire Marshal do not intend to limit in any way SFFD's authority under Sections 4.108 and 4.128 of the City Charter.

**3. Cost Recovery.** SFFD acknowledges that Developer has agreed to reimburse Other City Costs, including the SFFD's costs, to implement the matters described above, on the following conditions.

(a) SFFD must provide the Port with a quarterly statement of SFFD's costs at the Port's address for notices set forth in Section 9.1 in time to allow with the Port to prepare a combined quarterly statement of Other City Costs within six months after the date the costs are incurred.

(b) SFFD will have no right to recover any SFFD cost that is not included in a quarterly statement within 12 months after it was incurred.

(c) Developer will make aggregate reimbursement payments directly to the Port, which will be responsible for disbursing the funds to SFFD without incurring liability for paying SFFD amounts owing that Developer withholds.



4. Notice Address. SFFD's address for notices given under the ICA is:

San Francisco Fire Department  
Department Headquarters  
698 - 2nd Street  
San Francisco, CA 94107  
Attn: Fire Chief

**CITY AND COUNTY OF SAN FRANCISCO,**  
a municipal corporation, acting by and through the  
San Francisco Fire Chief and Fire Marshal

By: Joanne Hayes-White  
Joanne Hayes-White  
Chief of the San Francisco Fire Department

Date: 08/03/2018

By: Dan de Cossio  
Dan de Cossio  
Fire Marshal and Assistant Deputy Chief

**APPROVED AS TO FORM:**  
DENNIS J. HERRERA  
City Attorney

By: Nena Gupta  
Name: Nena Gupta  
Deputy City Attorney

**ICA EXHIBIT A**  
**Infrastructure Plan**

[Page Intentionally Left Blank]

# MISSION ROCK INFRASTRUCTURE PLAN

DECEMBER 12, 2017

Prepared by



BKF Engineers  
with assistance from the Seawall Lot 337 Association,  
CMG, Perkins+Will, Langan Treadwell and Rollo, KPFF, ARUP,  
Atelier Ten, Nelson Nygaard Consulting Associates, Moffatt & Nichol,  
Evergreen Devco, Nibbi Brothers, Hathaway Dinwiddie,  
and Coblenz Patch Duffy & Bass

**TABLE OF CONTENTS**

1. INTRODUCTION .....	1
1.1 Purpose .....	1
1.2 Infrastructure Plan Overview .....	1
1.3 Property Acquisition, Dedication, and Easements .....	2
1.4 Project Datum .....	2
1.5 Conformance with EIR & Entitlements .....	3
1.6 Applicability of Uniform Codes and Infrastructure Standards .....	3
1.7 Master Plans .....	3
1.8 Project Phasing .....	3
1.9 Phases of Infrastructure Construction .....	4
2. SUSTAINABILITY .....	6
3. ENVIRONMENTAL REMEDIATION .....	7
3.1 Historical Use Background .....	7
3.2 Environmental Constraints and Regulations .....	7
3.2.1 Maher Ordinance Requirements and Site Assessment .....	7
3.2.2 Use Restrictions .....	8
3.3 Anticipated Site Remediation Procedures .....	8
3.2.1 Maher Ordinance Compliance .....	8
3.2.2 Use Restriction Variance .....	9
4. SITE DEMOLITION .....	10
4.1 Scope of Demolition .....	10
4.2 Existing Utility Demolition .....	10
4.3 Phases of Demolition .....	11
5. SITE RESILIENCY .....	12
5.1 Overview .....	12
5.2 Project Datum .....	12
5.3 Federal Emergency Management Agency Regulations .....	12
5.3.1 Seawall 337, China Basin Park and Terry A Francois Boulevard FEMA Flood Plain Designations .....	13
5.3.2 Pier 48, Pier 50, and Coastal Perimeter FEMA Flood Plain Designation .....	13
5.4 Sea Level Rise .....	14
5.4.1 Sea Level Rise Design Guidance .....	14
5.4.2 Sea Level Rise Design Parameters .....	15
5.4.3 Existing Mission Bay Grading for Resiliency .....	16
5.5 Proposed Site and Infrastructure Designs .....	16
5.5.1 Grading .....	16
5.5.2 Stormwater System .....	19
5.6 Adaptive Managements Strategies .....	20
5.6.1 Development Parcel Strategy .....	20
5.6.2 Shoreline Adaptation Strategy .....	21

6.	GEOTECHNICAL CONDITIONS .....	22
6.1	Existing Site Geotechnical Conditions.....	22
6.2	Existing Site Geotechnical Constraints .....	22
6.2.1	Liquefaction/ Settlement of Sand Layers .....	22
6.2.2	Lateral Spreading.....	23
6.2.3	Settlement of Bay Mud .....	23
6.3	Geotechnical Approaches .....	23
6.3.1	Site Grading Strategies.....	24
6.3.2	Liquefaction and Lateral Spreading Mitigations .....	25
6.3.3	Flexible Utility Connections .....	26
6.3.4	Site Accessibility .....	26
6.4	Phases of Geotechnical Stabilization .....	26
6.5	Schedule for Additional Geotechnical Studies.....	27
7.	SITE GRADING.....	28
7.1	Project Datum.....	28
7.2	Existing Site Conditions .....	28
7.3	Site Geotechnical Constraints and Approach.....	28
7.4	Project Grading Overview.....	28
7.5	Elevation and Grading Design Criteria .....	29
7.5.1	Elevation Design Criteria .....	29
7.6	Proposed Grading Designs.....	33
7.6.1	Building Areas .....	33
7.6.2	Proposed Roadways.....	33
7.6.3	Overland Release .....	33
7.7	Proposed Site Earthwork .....	34
7.8	Phases of Grading Activities and Approvals.....	34
8.	STREET AND TRANSPORTATION INFRASTRUCTURE.....	35
8.1	Design Controls: Plan Overview .....	35
8.2	Public Street System .....	35
8.2.1	Public Street Layout and Parcelization.....	36
8.2.2	Roadway Dimensions .....	36
8.2.3	Structured Streets and Open Space Areas.....	37
8.3	Public Street Modes of Travel and Access .....	38
8.3.1	Pedestrian Circulation and Accessibility .....	38
8.3.2	Vehicular Circulation.....	39
8.3.3	Bicycle Circulation .....	40
8.3.4	Loading, Servicing, and Parking.....	40
8.3.5	Fire Department Access.....	42
8.4	Public Street Network and Hierarchy.....	42
8.4.1	Street Zones and Designs .....	43
8.4.2	Street Designs.....	46
8.5	Components of Public Streets .....	60
8.5.1	Curb Heights.....	60
8.5.2	Paving .....	60
8.5.3	Street Trees .....	61
8.5.4	Sustainable Water Strategies .....	63

8.5.5	Lighting .....	64
8.5.6	Accessible Loading .....	64
8.5.7	Driveway and Streetscape Coordination .....	65
8.6	Traffic Calming .....	65
8.6.1	Raised Intersections and Raised Crosswalks.....	65
8.6.2	Intersection Bulb-Outs .....	66
8.7	Off-Site Traffic Signalization .....	66
8.7.1	3rd Street and Existing Terry A Francois Boulevard .....	67
8.7.2	3rd Street and Channel Street.....	67
8.7.3	3rd Street and Mission Rock Street .....	67
8.7.4	3rd Street and Exposition Street .....	67
8.7.5	4th Street Intersection Improvements .....	68
8.7.6	Mission Rock Street Striping.....	68
8.8	On-Site Traffic Controls.....	68
8.8.1	All-Way Stop-Controlled Intersections: DPW-Standard Curb Condition.....	68
8.8.2	All-Way Stop-Controlled Intersections: Raised Intersections .....	69
8.8.3	2-Way Stop at Raised Intersection .....	69
8.8.4	All-Way Stop-Controlled Intersections: Flush Intersections .....	70
8.9	Public Transportation System.....	70
8.10	SFMTA Infrastructure .....	71
8.11	Acceptance and Maintenance of Street Improvements .....	72
8.12	Phasing of New Roadway Construction .....	72
9.	OPEN SPACE AND PARKS .....	74
9.1	Open Space .....	74
9.1.1	China Basin Park .....	74
9.1.2	Mission Rock Square.....	74
9.1.3	The Blue Greenway and the non-pile supported portion of Channel Wharf .....	74
9.1.4	Channel Street .....	74
9.1.5	Channel Lane.....	75
9.1.6	Pier 48 Apron and the pile supported portion of Channel Wharf.....	75
10.	UTILITY LAYOUT AND SEPARATIONS .....	76
10.1	Utility Systems .....	76
10.2	Utility Layout and Separation Criteria .....	76
10.3	Conceptual Utility Layout .....	76
10.4	Utility Layout and Clearance Design Modifications and Exceptions .....	77
10.4.1	Utility Main Clearance to Face of Curb .....	77
10.4.2	Utility Structure Type and Clearance to Face of Curb .....	78
10.4.3	Auxiliary Water Supply System Main within Sidewalk.....	78
10.4.4	Storm Drain Main and Sanitary Sewer Main Layout Order .....	78
11.	LOW PRESSURE WATER SYSTEM.....	79
11.1	Existing Low Pressure Water System.....	79
11.2	Existing SFPUC System Capacity .....	79
11.3	Proposed Low Pressure Water System .....	79
11.3.1	Project Water Supply .....	79
11.3.2	Project Water Demands .....	79
11.3.3	Project Water Distribution System.....	80

11.3.4	Low Pressure Water Design Criteria .....	81
11.3.5	Proposed Fire Hydrant Locations .....	81
11.4	Phases for Low Pressure Water System Construction .....	81
11.4.1	Existing Low Pressure Water System Demolition Phasing .....	82
12.	SANITARY SEWER SYSTEM .....	83
12.1	Existing Sanitary Sewer System .....	83
12.2	Proposed Sanitary Sewer System .....	83
12.2.1	Proposed Sanitary Sewer Demands .....	83
12.2.2	Proposed Sanitary Sewer Capacity .....	84
12.2.3	Proposed Sanitary Sewer Design Basis .....	84
12.2.4	Proposed Sanitary Sewer Design Criteria .....	84
12.2.5	Proposed Sanitary Sewer Collection System .....	85
12.2.6	Structured Street Drainage .....	86
12.3	Design Modifications and Exceptions .....	87
12.4	Phases for Sanitary Sewer System Construction .....	88
12.4.1	Existing Sanitary Sewer System Demolition Phasing .....	88
13.	STORM DRAIN SYSTEM .....	90
13.1	Existing Storm Drain System .....	90
13.2	Conceptual Storm Drain System Design .....	90
13.2.1	Overview .....	90
13.2.2	Storm Drain Design Criteria .....	91
13.2.3	Conceptual Storm Drain System Layout .....	92
13.3	Storm Drain System Design Modifications and Exceptions .....	92
13.3.1	Pipe Material .....	93
13.3.2	Freeboard and Cover .....	93
13.3.3	Linear Drainage Infrastructure on Curbless and Flush Curb Streets .....	93
13.3.4	Storm Drainage Infrastructure on Curbless and Flush Curb Streets .....	93
13.4	Phases for Storm Drain System Construction .....	94
14.	AUXILIARY WATER SUPPLY SYSTEM (AWSS) .....	96
14.1	Existing AWSS Infrastructure .....	96
14.2	AWSS Regulations and Requirements .....	96
14.3	Conceptual AWSS Infrastructure .....	96
14.4	Phases for AWSS Construction .....	97
14.4.1	AWSS Phased Installation .....	98
15.	DISTRICT UTILITY INFRASTRUCTURE .....	99
15.1	Central Utility Plant .....	99
15.1.1	Central Utility Plant Components .....	99
15.1.2	Central Energy Plant .....	99
15.1.3	Heat Rejection and Cooling .....	100
15.1.4	Greywater Collection and Treatment Infrastructure .....	100
15.2	Phases for District Utility Infrastructure Construction .....	101
16.	STORMWATER MANAGEMENT SYSTEM .....	102
16.1	Existing Stormwater Management System .....	102
16.2	Proposed Stormwater Management System .....	102



16.2.1 San Francisco Stormwater Management Requirements & Design Guidelines .	102
16.2.2 Proposed Site Conditions and Baseline Assumptions .....	102
16.2.3 Stormwater Management Design Concepts and Master Plan .....	103
16.3 Stormwater Control Plan .....	104
16.4 Phases for Stormwater Management System Construction .....	104
17. DRY UTILITY SYSTEMS .....	106
17.1 Existing Electrical, Gas, and Communication Systems .....	106
17.2 Project Power Providers and Requirements .....	106
17.3 Proposed Joint Trench.....	107
17.4 Phases for Dry Utility Systems Construction .....	107

## **FIGURES**

Figure 1.1	Existing Conditions Plan
Figure 1.2	Conceptual Parcelization
Figure 6.1	Conceptual Location of Flexible Paving and Utilities
Figure 6.2	Conceptual Flexible Utility Connection
Figure 7.1	Existing Grading Plan
Figure 7.2	Conceptual Grading Plan
Figure 7.3	Street Sawtooth Grading
Figure 8.1	Public Realm Plan
Figure 8.2	Conceptual Site Plan & Street Layout
Figure 8.3	Roadway Dimensions
Figure 8.4	Plan View & Cross Sections Locations
Figure 8.5	Typical Street Cross Sections
Figure 8.6	Typical Street Cross Sections
Figure 8.7	Typical Street Cross Sections
Figure 8.8	Typical Street Cross Sections
Figure 8.9	Typical Street Cross Sections
Figure 8.10	Typical Street Cross Sections
Figure 8.11	Typical Street Cross Sections
Figure 8.12	Typical Street Cross Sections
Figure 8.13	Structured Street & Open Space Locations
Figure 8.14	Typical Structured Sheets
Figure 8.15	Pedestrian Circulation + Accessibility
Figure 8.16	Vehicular Circulation
Figure 8.17	Bicycle Circulation + Facilities
Figure 8.18	Loading, Servicing, + Parking
Figure 8.19	Pier 48 Service and Loading
Figure 8.20	Pier 50 Service and Loading
Figure 8.21	Conceptual Fire Truck Turning Analysis
Figure 8.22	Truck Turning Template
Figure 8.23	Truck Turning Enlargements
Figure 8.24	Truck Turning Enlargements
Figure 8.25	Truck Turning Enlargements

**FIGURES (Continued)**

Figure 8.26	Truck Turning Enlargements
Figure 8.27	Truck Turning Enlargements
Figure 8.28	Street Design
Figure 8.29	Shared Public Way
Figure 8.30	Shared Public Way Plan
Figure 8.31	Terry A Francois Boulevard
Figure 8.32	Terry A Francois Boulevard Plan
Figure 8.33	Bridgeview Street
Figure 8.34	Bridgeview Street Plan
Figure 8.35	Exposition Street
Figure 8.36	Exposition Street Plan
Figure 8.37	Long Bridge Street
Figure 8.38	Long Bridge Street Plan
Figure 8.39	3rd Street
Figure 8.40	3rd Street Plan
Figure 8.41	Mission Rock Street
Figure 8.42	Mission Rock Street Plan
Figure 8.43	Curb Heights Plan
Figure 8.44	Paving Diagram
Figure 8.45	Paving Types
Figure 8.46	Paving Types
Figure 8.47	Urban Forest Diagram
Figure 8.48	Urban Forest Criteria
Figure 8.49	Tree Planting at Structured Street
Figure 8.50	Stormwater Treatment Diagram
Figure 8.51	Stormwater Flow-Through Planter
Figure 8.52	Lighting Diagram
Figure 8.53	Lighting Zones
Figure 8.54	Accessible Loading at Exposition Street
Figure 8.55	Accessible Loading at Terry A Francois Boulevard
Figure 8.56	Accessible Loading at Shared Public Way
Figure 8.57	Typical Driveway Plan
Figure 8.58	Potential Traffic Calming Elements
Figure 8.59	Typical Raised Crossing & Bulb-Out Details
Figure 8.60	Off-Site Traffic Mitigations
Figure 8.61	On-Site Traffic Mitigations
Figure 8.62	Intersection Design Key Plan
Figure 8.63	Typical Intersection All-Way Stop Intersection
Figure 8.64	Typical Raised Intersection
Figure 8.65	Two-Way Stop Intersection
Figure 8.66	Typical Flush Intersections
Figure 8.67	Mission Rock Street Intersections

**FIGURES (Continued)**

Figure 9.1	Public Open Spaces
Figure 9.2	Phasing
Figure 10.1	Horizontal Utility Main Separation
Figure 10.2	Potential Utility Variance Request Locations
Figure 11.1	Conceptual Low Pressure Water System
Figure 11.2	Typical Utility Section within Public Streets
Figure 11.3	Conceptual Fire Hydrant Locations
Figure 12.1	Conceptual Sanitary Sewer System
Figure 12.2	Typical Utility Section within Public Streets
Figure 12.3	Sanitary Sewer Variance Request Locations
Figure 13.1	Conceptual Storm Drainage System
Figure 13.2	Typical Utility Section within Public Streets
Figure 14.1	Conceptual Auxiliary Water Supply System
Figure 14.2	Typical Utility Section within Public Streets
Figure 15.1	Conceptual Utility District Infrastructure
Figure 15.2	Conceptual Greywater Infrastructure
Figure 15.3	Conceptual Non-Potable Water Infrastructure
Figure 16.1	Conceptual Stormwater Management Plan
Figure 17.1	Conceptual Dry Utility Systems
Figure 17.2	Typical Utility Section within Public Streets

**APPENDICES**

Appendix A	NOT USED
Appendix B	Hazardous Soil Remediation Plan Letter, September 12 2011
Appendix C	Soil Management Plan, June 1999
Appendix D	Covenant to Restrict Use of Property, recorded January 27, 2000
Appendix E	Covenant to Restrict Use of Property, recorded July 25 2002
Appendix F	Preliminary Geotechnical Recommendations and Summary Memorandum No. 1 (Langan Treadwell & Rollo - January 26, 2016)
Appendix G	NOT USED
Appendix H	District Energy Typical Trench Section
Appendix I	Sea Level Rise Adaptation Strategy, September 6, 2016
Appendix J	NOT USED
Appendix K	NOT USED
Appendix L	NOT USED
Appendix M	District Heating and Cooling Services at Mission Rock May 13, 2016

## **1. INTRODUCTION**

### **1.1 Purpose**

This Infrastructure Plan is an exhibit to the Development Agreement (DA) between Sea Wall Lot 337 Associates, LLC (Developer) and City and County of San Francisco (City), and the Development and Disposition Agreement (DDA) between the Developer and the City, acting by and through the San Francisco Port Commission. The Infrastructure Plan describes the Horizontal Improvements (also referred to herein as Infrastructure), and the Infrastructure improvements to be constructed for the Mission Rock Development Project (Project), associated with Project sustainability, environmental remediation, demolition, grading, street and transportation improvements, open space and park improvements, the potable water system, the sanitary sewer system, the storm drain system, the auxiliary water supply system (AWSS), the central utility plant and eco-district system, the stormwater management system, and the dry utility system.

The Project site includes approximately 28 acres including the existing 14.2-acre Seawall Lot 337, the 0.3-acre lot known as Block P20, the 6.0-acre Pier 48, the 2.2-acre China Basin Park, 3.5-acre Terry A Francois Boulevard, 1.4-acre Pier 48 and 50 access zone, and 0.5-acre of Marginal Wharf. Initially capitalized terms unless separately defined in this Infrastructure Plan have the meanings and content set forth in the DDA and DA.

### **1.2 Infrastructure Plan Overview**

This Infrastructure Plan describes and governs the construction and development of Infrastructure to be provided by Developer for the development of the Project on the Project Site, including known associated off-site improvements needed to support the Project.

The Project infrastructure obligations of the Acquiring Agencies, are described herein, with ownership, maintenance, and acceptance responsibilities of the Acquiring Agencies identified in the DA, DDA, or Memorandum of Understanding (MOU) or Memorandum of Agreement (MOA) per the terms of the Interagency Cooperation Agreement (ICA). A condition of the Developer's performance under this Infrastructure Plan is the obtaining of all requisite approvals in accordance with the DDA, DA and ICA.

### **1.3 Property Acquisition, Dedication, and Easements**

The mapping, street vacations, property acquisition, dedication and acceptance of streets and other Infrastructure improvements is generally anticipated to occur through the subdivision mapping process. Except as otherwise noted, Infrastructure described in this Infrastructure Plan shall be constructed within the public right-of-way or dedicated easements to provide for access and maintenance of Infrastructure facilities.

Public service easements will be allowed within the Project as necessary to provide Infrastructure and services to the Project and are subject to review and approval by the affected City agency. Proposed public water, storm drain, sanitary sewer, recycled water, Auxiliary Water Supply System (AWSS), and power easements benefitting the San Francisco Public Utilities Commission (SFPUC) on Port property will be reviewed on a case-by-case basis. Full access for vehicles and equipment for the maintenance and repair of utility mains will be provided. Public utilities within easements will be installed in accordance with applicable City regulations for public acquisition and acceptance within public utility easement areas, including provisions for maintenance access. Where improvement standards proposed herein differ from the 2015 City and County of San Francisco Subdivision Regulations (Subdivision Regulations), such standards and Infrastructure shall be subject to design modification or exception requests and reviewed by the affected Acquiring Agencies during the Project Phase application or construction document approval process.

### **1.4 Project Datum**

Elevations, including tidal elevations, hydraulic grade lines (HGLs), and site elevations, referred to herein, are based on the Mission Bay Datum (MBD). The MBD is defined as the Mission Bay Datum, which equates to the following:

- The Old City Datum (OCD) plus 100 feet
- The San Francisco Vertical Datum 13 (SFVD13) plus 88.7 feet
- The North American Vertical Datum 88 (NAVD88) plus 88.7 feet

The project will process a design modification or exception for using the MBD in compliance with the Subdivision Regulations.

### **1.5 Conformance with EIR & Entitlements**

This Infrastructure Plan has been developed to be consistent with Project mitigation measures required by the Draft Environmental Impact Report (EIR) and other entitlement documents. Regardless of the status of their inclusion in this Infrastructure Plan, the mitigation measures of the EIR shall apply to the Project.

### **1.6 Applicability of Uniform Codes and Infrastructure Standards**

Future deviations from or modifications to this Infrastructure Plan and/or current City Standards, Guidelines, and Codes are subject to the procedures and provisions of the DA and DDA.

### **1.7 Master Plans**

Each publicly-owned or accepted Infrastructure system described herein will be more fully described and evaluated in Master Utility Plans (MUPs), which will be submitted to the Acquiring Agencies upon substantial completion of the Infrastructure Plan. The MUPs provide detailed layouts of each Infrastructure system. The Infrastructure Plan is to be approved by the Acquiring Agencies as part of the DA and DDA approval processes. Approval of this Infrastructure Plan does not imply approval of the MUPs, which will be approved after DA and DDA execution and prior to submittal of street improvement plans for the first phase of development.

### **1.8 Project Phasing**

It is anticipated that the Mission Rock site will be developed in several phases (Development Phase(s)) subject to the approval process outlined in the DA, DDA, and ICA. Each Development Phase would include a Development Parcel or Parcels and associated Infrastructure and open space areas. Phase Improvements are the street, access, utility and open space improvements necessary to accommodate development of a particular Development Parcel or Parcels.

The parties acknowledge that certain Horizontal Improvements as described in Sections 3, 4, 5, 6, 7 and 8 of the Infrastructure Plan, such as site preparation, removal or remediation of soils, grading, soil compaction and stabilization, may be required or desired at an earlier stage of development and in advance of such Phase Improvements. As described in the DA and/or DDA, the parties will cooperate in good faith in determining the scope and timing of such advance Horizontal Improvements, so as not to delay the construction of Development Parcels and associated Phase Improvements, or affect the criteria for the proportional scope of Phase Improvements.

## **1.9 Phases of Infrastructure Construction**

The construction of Infrastructure, as described in the Infrastructure Plan, tentative map and other Project approvals, will be phased to serve the incremental build-out of the Project in accordance with the Project approvals. Phase Improvements will be described in subsequent improvement plans and associated public improvements agreements or permits approved prior to filing a Final Map for the associated Development Parcels.

For each Development Parcel proposed for development, the associated adjacent and as needed Infrastructure to provide access and utilities to serve that development, such as streets, and improvements therein and thereon, will be constructed. As described in the DDA and DA, adjacent Infrastructure refers to Infrastructure that is necessary and near to and may share a common border or end point with the proposed Development Parcel or Parcels.

Phase Improvements may include Infrastructure on Port or City property outside of the present Phase boundary within a subsequent Phase area. The Acquiring Agency shall accept Phase Improvements that are constructed within Port or City property outside of the Phase boundary, subject to a demonstration of how the subsequent Phase Infrastructure can be sequenced to avoid impacting the Phase Improvements. Phase Improvements outside of the Phase boundary shall be accepted through an easement or Memorandum of Understanding (MOU) in Port property, which would terminate at the time of recording of the Final Map for the future Phase that will place said facilities into public right-of-ways.

The conceptual limits of the existing Infrastructure to be demolished as well as conceptual layouts of the permanent and/or temporary infrastructure systems for each Development Parcel will be provided as part of the construction document submittals for that Development Parcel or Phase. Repairs and/or replacement of the existing facilities necessary to serve the Development Parcel will be designed and constructed by the Developer.

Where requested by Developer, and if the Acquiring Agency(s) with jurisdiction over the affected Infrastructure, determines it is appropriate in connection with the phased development of the Project, portions of the Phase Improvements may be constructed or installed as interim improvements to be owned and maintained by the Developer. Interim improvements would be removed or abandoned, as

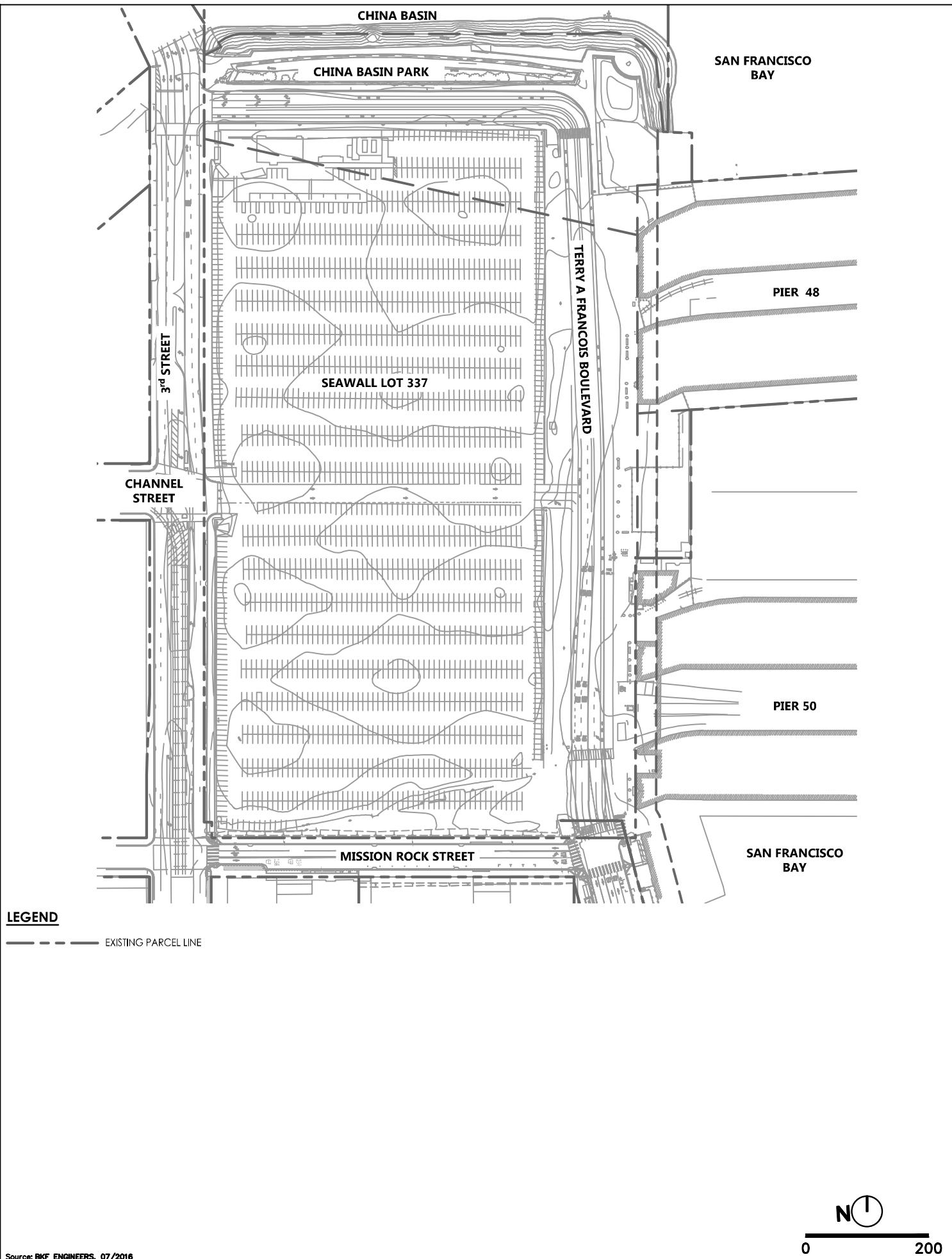
determined by the Acquiring Agency, when substitute permanent Phase Improvements are provided to serve a subsequent Development Parcel.

Demolition of existing Project area infrastructure and construction of each proposed Development Parcel and associated Phase Improvements will impact site accessibility. During construction of each Development Parcel and associated Phase Improvements, interim access shall be provided and maintained for emergency vehicles, subject to San Francisco Fire Department (SFFD) approval, as well as pedestrian access on at least one side of the street around the construction perimeter that is American with Disabilities Act (ADA) compliant. Interim access to the existing parking will also be maintained and coordinated between the Port, Developer and City, as required.

The Acquiring Agency will be responsible for maintenance of proposed publicly owned and/or accepted Infrastructure installed by the Developer once construction of the proposed Infrastructure is complete and accepted by the Acquiring Agency, except as otherwise specified in the DA, DDA, and/or ICA. At all phases of development prior to full build out, the Developer shall demonstrate to the Acquiring Agency that functioning utility systems are in place at all times and comply with applicable City laws, codes and regulations.



DRAWING NAME: \\bkf-sf\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 1.1 Existing Conditions.dwg  
PLOT DATE: 07/13/17  
PLOTTED BY: FELI

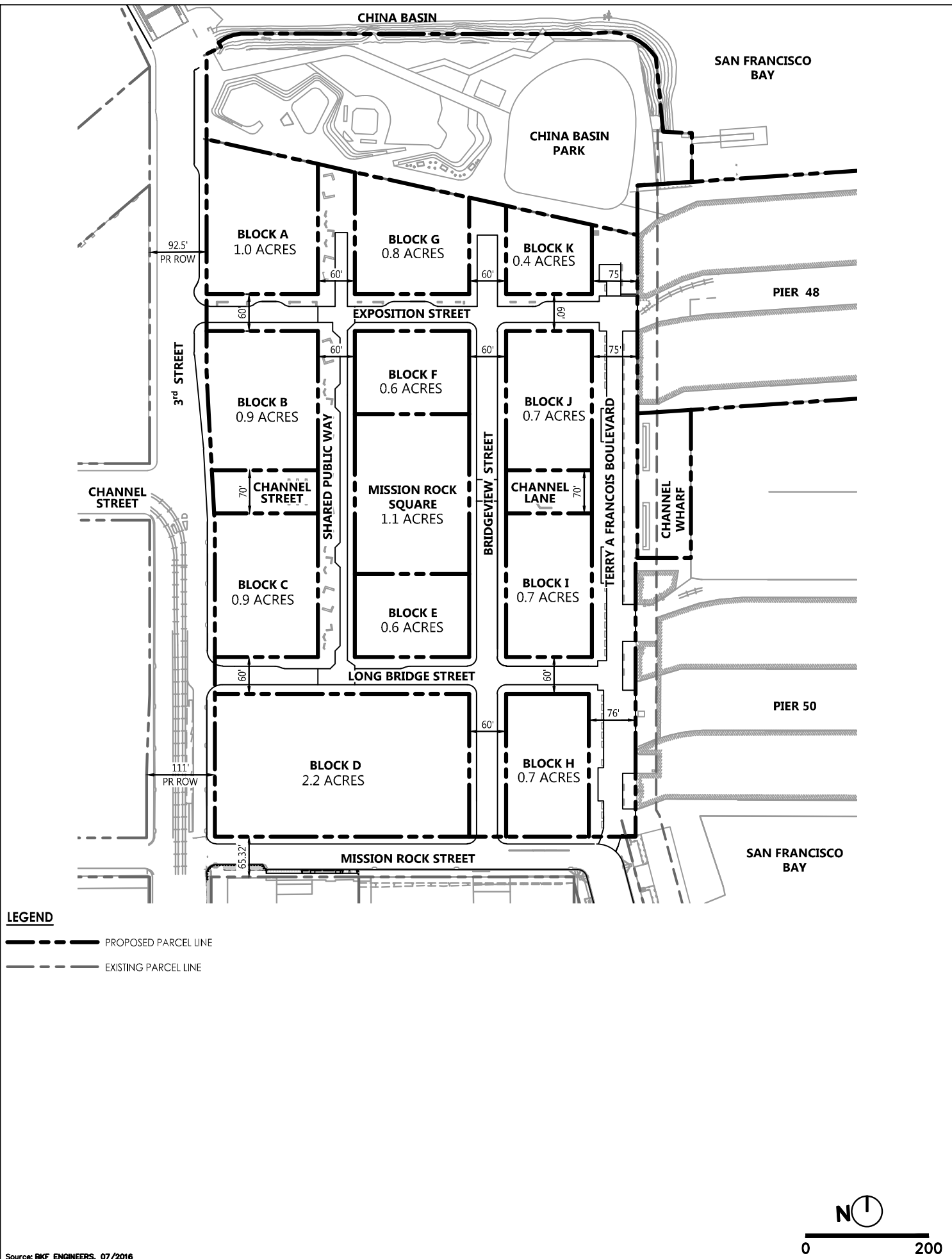


Source: BKF ENGINEERS, 07/2016

MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 1.1 - EXISTING CONDITIONS PLAN

DRAWING NAME: \\BKF-SF\vo14\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 1.2 Conceptual Parcelization.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELL



Source: BKF ENGINEERS, 07/2016

MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 1.2 - CONCEPTUAL PARCELIZATION

## **2. SUSTAINABILITY**

The Mission Rock Project will be a leading exemplar for sustainable design development through high performance infrastructure and attention to community health and prosperity. Improvements comply with the City and County of San Francisco and State sustainability requirements including Title 24 (Divisions 6 and 11), San Francisco Non-Potable Water Ordinance and The San Francisco Green Building Code. Key benefits of the Project's sustainable site design and infrastructure elements include improved health, a cleaner environment, minimal water dependency, and greenhouse gas-free energy. Anticipated sustainable infrastructure includes, but is not limited to, stormwater management facilities (i.e. landscaped park areas, landscape strips, flow-thru planters, bioretention areas), a central energy distribution plant and infrastructure, treatment of greywater for non-potable reuse within the buildings, green building material selection, and water fixture and lighting efficiency. A more detailed description of the sustainability strategies for the Project is found in the latest edition of the Sustainability Strategy Document, attached to the DDA.

### **3. ENVIRONMENTAL REMEDIATION**

#### **3.1 Historical Use Background**

The Project is proposed to be located in an area that was formerly an industrial property built upon filled marshland and shallow tidal flats between 1877 and 1913. The existing fill includes construction and demolition debris, rubble, rock and dirt originating from the nearby hills and the 1906 earthquake. The site has been historically used for railroad transportation, shipping related support structures and automobile parking. H&H Ship Service occupied the area from 1950 to 1996 for wastewater treatment and transfer operations to treat petroleum contaminated wastewater. In 1978 the Department of Health Services, now known as the Department of Toxic Substances Control (DTSC), declared wastes managed at the Project site to be hazardous under federal and state hazardous waste management regulations and the property was later designated as a hazardous waste treatment facility. The DTSC approved a Closure Plan prepared by H&H Ship Service which was compliant with the California Hazardous Waste Control Law (HWCL) in 1995. As a requirement to the hazardous waste treatment facility closure, use restrictions are imposed on the Project site and compliance with a Soil Management Plan (SMP) prepared by Geomatrix Consultants in 1999 is required (see Appendix C).

#### **3.2 Environmental Constraints and Regulations**

The Project site is subject to environmental monitoring regulations and use restrictions that will impact the Project Improvements. The Developer is responsible for addressing and complying with the following regulations and restrictions for the site:

##### **3.2.1 Maher Ordinance Requirements and Site Assessment**

The Mission Rock Project site is within a location required to adhere to Article 22A of the City and County of San Francisco Health Code. This code requirement, often referred to as the Maher Ordinance in reference to the original legislation that resulted in regulation, requires project proponents to evaluate the presence of contaminants in soil and groundwater and, if warranted based on presence of contaminants, develop health and safety plans and/or site managements plans to protect workers, future users, and the environment.

The Maher Ordinance site assessment requirements were satisfied during the previous parking lot construction with the development of an SMP, dated June 1999. The SMP provided a summary of the soil samples taken and the contaminants detected throughout the site. The primary chemicals

detected in the soil included polynuclear aromatic hydrocarbons (PAHs) and metals such as antimony, arsenic, copper, lead, nickel and mercury. The groundwater sampling did not yield PAH contaminants, but did show low concentrations of several metals. It was determined that the presence of chemicals within the soil and groundwater are not considered an unacceptable risk to future on-site construction workers, nearby residents and visitors under the future use as a paved parking lot that was anticipated at that time. However, to best manage the contaminated soil and groundwater, the SMP outlined removal, handling, stockpiling and disposal procedure requirements for the parking improvements, as well as future site development.

### **3.2.2 Use Restrictions**

As part of the regulatory closure of the former H&H Ship Service facility, Covenant to Restrict Use of Property agreements (“use restrictions”) were recorded between The Port of San Francisco and the DTSC restricting the use of certain portions of the Seawall Lot 337 property (approximately three acres of total 16-acre site). The use restrictions require that future activities comply with the Maher Ordinance, as applicable, and that the property shall not be used for any of the purposes stated in the use restrictions dated January 27, 2000 and July 25, 2002 (see Appendices D and E). Should the site be developed for any use of that which is listed as “restricted”, then a variance request can be submitted to the DTSC for review.

## **3.3 Anticipated Site Remediation Procedures**

The Developer will be responsible for adhering to the requirements stated in this section and will coordinate with the appropriate Agency for environmental clearance prior to construction, as required. The Project requirements are described in the Hazardous Soil Remediation Plan Letter “Mission Rock Development – Seawall 337 San Francisco, CA 1868-00,” dated September 12, 2011 by Ash Creek Associates, Inc. (See Appendix B).

### **3.2.1 Maher Ordinance Compliance**

The anticipated site remediation procedures will remain consistent with the SMP. The SMP will also be updated as required to support the Project. These remediation construction procedures shall include, but not be limited to, dust control, erosion and sediment control, stockpile management and appropriate soil disposal and sampling. Any excess soil that has been excavated and cannot be re-used within the excavation area will be considered waste soil and will be profiled

to determine suitable disposal options. Although chemical analysis results show that the soil samples collected on-site contain metal and organic constituents at concentrations less than the Total Threshold Limit Concentrations, additional testing may be needed to determine the concentration of soluble constituents and appropriately classify waste soil with respect to California state waste classification criteria. Waste soil containing contaminants at concentrations exceeding the Solubility Threshold Limit Concentrations of the State will be profiled as California Hazardous Waste and will be disposed of at the appropriately licensed landfill location.

The SMP requirements are consistent with the current parking lot site improvements. However, due to changes in the regulation, which now requires characterization of soil gas in some cases, and proposed change in use, additional evaluation of site conditions for compliance with the Maher Ordinance may be required. These issues will be discussed with the City and County of San Francisco Department of Public Health during a meeting with the Project team and additional documentation may be required

### **3.2.2 Use Restriction Variance**

The January 27, 2000 use restriction states that residential housing is prohibited. Mission Rock is currently proposing high-density housing improvements on a portion of land subject to that restriction. It is the Project team's understanding that the intent of the use restriction is to prevent residents' direct contact with site soil, such as might occur in single family home development, but would not occur in a high-density, multi-family residential development. Consequently, the Developer and Port of San Francisco will work with the DTSC to revise or obtain a variance from the existing use restriction to enable proposed development in a manner that does not enable future site occupants to come into direct contact with existing site soil.

## **4. SITE DEMOLITION**

### **4.1 Scope of Demolition**

The Developer will be responsible for the demolition and deconstruction of all non-retained existing buildings and infrastructure features. Demolition and deconstruction will include removal and disposal of hardscape, landscape, utilities, and temporary building structures. The demolition limit of work consists of the existing parking lot known as Giants Lot A, China Basin Park, Terry A Francois Boulevard and select sidewalk and vehicular pavement replacement along 3<sup>rd</sup> Street and Mission Rock Street. The existing Channel Wharf at the eastern end of Terry A Francois Boulevard will be renovated and Pier 48 will remain and undergo structural upgrades with the Project improvements. Demolition activities will be performed in compliance with the City Construction Demolition Debris Ordinance. Project demolition and grading activities will comply with City Ordinance 175-91 for use of non-potable water for soil compaction and dust control. Where feasible, concrete and asphalt pavements will be recycled and used on-site or made available for use elsewhere. Soil removal associated with demolition activities will comply with the Project environmental permit requirements.

As part of the vegetation grubbing and clearing operation, trees and other plant materials will be removed, relocated or protected in place, as required. Tree removal within the public right-of-way will be reviewed and approved by the Department of Public Works, Bureau of Urban Forestry. Trees and plant materials removed as part of the demolition process will be recycled by composting or similar methods for on-site uses associated with the planting of new vegetation and erosion control to the extent feasible.

The Developer shall be responsible for providing for the Infrastructure permanent improvements proposed to replace the existing infrastructure in accordance with approved building and construction permits issued by the Acquiring Agency. The extent of these improvements and associated demolition will be finalized during the construction document approval process.

### **4.2 Existing Utility Demolition**

Existing utility demolition scope includes storm drain, sanitary sewer, low pressure water and dry utility infrastructure removal. All storm drain utilities and utilities associated with the interim development, The Yard, at the northern edge of the existing parking lot and Terry A Francois Boulevard will be removed and disposed of. A portion of the existing sanitary sewer pipe along Terry A Francois Boulevard will be removed as well and replaced with a sanitary sewer line which will connect the existing Pier 48 and Pier

50 laterals to the public system. Existing water infrastructure along Terry A Francois Boulevard and China Basin Park will also be removed, disposed of and replaced to accommodate the proposed improvements. Gas utilities throughout Terry A Francois Boulevard will be removed and existing laterals that serve Piers 48 and 50 will be protected in place. Electric, telecom and fiber infrastructure will be undergrounded with new connections to Pier 48 and Pier 50 provided, where required. Existing outfalls on Terry A Francois and China Basin Park will be protected in place during adjacent demolition activities. Where transite pipe (asbestos-cement pipe) is encountered, appropriate abatement methods will be used to satisfy applicable regulatory agency requirements.

### **4.3 Phases of Demolition**

Demolition will occur in phases based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the DA, DDA and ICA. The amount and location of demolition will be the minimum necessary to support the Development Phase and maintain minimum required parking allocations, access and utility connections. Such phased demolition will allow the existing utility services, vehicular and pedestrian access areas, and landscaped spaces to remain in place as long as possible and reduce disruption of existing uses on the site and adjacent facilities. Project demolition activities will comply with City Ordinance 175-91 for use of non-potable water for soil compaction and dust control.



## 5. SITE RESILIENCY

### 5.1 Overview

Resilience is the ability to reduce risks and recover more easily from natural occurring events with large impacts on performance and use. The Project is located adjacent to the San Francisco Bay and faces potential risks from such events as earthquakes, settlement, liquefaction, lateral spreading, wave run-up, sea level rise, and climate change. The Developer plans to build site resiliency into the Project by implementing disaster risk reduction and resilient infrastructure. The Project will identify development areas and Infrastructure guidelines to accommodate tidal elevations, the 100-year Base Flood Elevation (BFE), and Sea Level Rise (SLR).

### 5.2 Project Datum

Elevations, including tidal elevations and site elevations, referred to herein are on the MBD. Refer to Section 1.4 for additional information related to the MBD and conversion information for OCD and SFVD 13.

### 5.3 Federal Emergency Management Agency Regulations

The Federal Emergency Management Agency (FEMA) under the jurisdiction of the Department of Homeland Security has recently completed a Preliminary City and County of San Francisco Flood Insurance Study (SF FIS) Number 060298V00A, version 2.3.2.0, dated November 12, 2015. This study has helped inform the development of preliminary Flood Insurance Rate Maps (FIRM) that categorize sites within "Flood Zones" based on their susceptibility to flood events. Flood Zone designations are used to inform the design process and insurance requirements for buildings to ensure that protections are made for human health and safety based on the flood hazard potential at a particular site. Per the FEMA website, the following is a description of the various Flood Zone designations employed by FEMA:

*"Flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30. Moderate flood hazard areas, labeled Zone B or Zone X (shaded) are also shown on the FIRM, and are the areas between the*

*limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded)."*

### **5.3.1 Seawall 337, China Basin Park and Terry A Francois Boulevard FEMA Flood Plain Designations**

Based on our review of the Preliminary Flood Insurance Rate Map 0602980119A (Project FIRM ), dated November 12, 2015, the Mission Rock development site, excluding Pier 48, Pier 50, and the coastal perimeter along China Basin Park, is located in a flood hazard classification of "Zone X." Per the Project FIRM, the Zone X designation of our site describes the following:

*"0.2% Annual Chance of Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas less than one square mile."*

With a Zone X designation, the Project site is subject to minor flooding of less than a foot during large storm events, which is considered a low to moderate risk area.

Since the majority of the site is in Flood Zone X, FEMA does not require specific grading or flood-proofing requirements. Proposed site grading, described in greater detail in Section 7, will be designed to elevate the site higher than the existing condition to protect against the effects of SLR, which in turn will provide a greater level of protection against the potential for flooding the area. Proposed buildings with basements and loading docks will comply with FEMA regulations and provide appropriate flood-proofing measures to ensure compliance, if required.

### **5.3.2 Pier 48, Pier 50, and Coastal Perimeter FEMA Flood Plain Designation**

Based on the Project FIRM, Pier 48, Pier 50, and the coastal perimeter along China Basin Park are located in a SFHA "Zone AE," which has a 100-year base flood elevation (BFE) of 11-feet (NAVD 88 datum). The more detailed Preliminary SF FIS, dated November 12, 2015 indicates a 1-percent annual chance Total Water Level Elevation (TWLE) of 11.4-feet (NAVD 88), which is the assumed 100-year BFE value for the pier structure for the purposes of this analysis. The TWLE is the maximum combined sea water level elevation, wave setup, and wave run-up considered for coastal BFEs.

The datum conversion is approximately 11.32-feet between NAVD 88 and OCD, and 100 feet between the OCD and MBD. Combining these datum conversions, the approximate conversion

from elevation 11.4 feet (NAVD 88) to the MBD is 88.68 feet, resulting in a 100-year BFE of 100.08 feet (MBD) for Pier 48, Pier 50, and the coastal perimeter along China Basin Park.

Based on the Project FIRM, the existing pier structures are subject to flooding from the 1% annual flood event (100-year event). The BFE refers to the minimum elevation at which Pier 48 and Pier 50 must be elevated or flood-proofed in compliance with FEMA/National Flood Insurance Program (NFIP) regulations to provide protection from the 1% annual flood event. Given a designation of SFHA "Zone AE" with a BFE of 11.4 feet (NAVD 88) / 100.08 feet (MBD), the Pier 48 and Pier 50 structures would be subject to mandatory Flood Insurance coverage requirements from the NFIP should the preliminary Project FIRM be officially approved. Since the Pier 48 and Pier 50 structures are a historical resource and will remain at its current elevation, there may be options for receiving variances for portions of Flood Insurance requirements that the structure may be subject to.

## **5.4 Sea Level Rise**

### **5.4.1 Sea Level Rise Design Guidance**

The increase in elevation of the Earth's water bodies over time is referred to as SLR. As SLR occurs, there is increased pressure on infrastructure along shoreline areas to provide protections for infrastructure, health, and safety. Studies on the effects of climate change on surface water elevations across the Earth are evolving as more scientific data becomes available. The following is a brief chronology of the guidance documents that inform the SLR strategies being developed for the Project to date:

- The Intergovernmental Panel on Climate Change (IPCC) was formed in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to provide policy makers with regular assessments of climate changes on a scientific basis. The IPCC issues reports which are produced by three working groups. The latest round of documents issued are based on their fifth assessment report which includes the following:

- Working Group 1, "Climate Change 2013: The Physical Science Basis," dated 2013.
- Working Group 2, "Climate Change 2014: Impacts, Adaptation, and Vulnerability," dated 2014.
- Working Group 3, "Climate Change 2014: Mitigation of Climate Change," dated 2014.
- IPCC, "Climate Change 2014: Synthesis Report," dated 2014.
- Governor Schwarzenegger issued Executive Order S-13-08 in 2008 directing state agencies to study and plan for the potential effects of SLR
- Port Engineering commissioned URS and AGS to analyze available literature and studies related to SLR and prepare coasting engineering analysis of the Port's Northern Waterfront. The joint venture between URS and AGS published "Port of San Francisco Sea Level Rise and Adaptation Study," January 2012.
- The National Research Council (NRC) issued the report titled "Sea Level Rise for the Coasts of California, Oregon, and Washington," dated June 2012 and revisions dated December 6, 2013.
- Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT) with science support from the Ocean Protection Council's Science Advisory Team and the California Ocean Science Trust issued "State of California Sea-Level Rise Document," dated March 2013
- City and County of San Francisco (CCSF) Sea-Level Rise Committee "Guidance for Incorporating Sea-Level Rise into Capital Planning in San Francisco: Assessing Vulnerability and Risk to Support Adaptation," September 2014.
- City and County of San Francisco (CCSF) "San Francisco Sea Level Rise Action Plan," March 2016.
- San Francisco Bay Conservation & Development Commission (BCDC) and Delta Alliance issued "Mission Creek Draft Sea Level Rise Adaptation Study," dated 2015.

#### 5.4.2 Sea Level Rise Design Parameters

The minimum design elevations for the Project development area will accommodate potential future sea level rise estimates for San Francisco Bay. The SLR estimates for the Project were developed in response to the CCSF SLR guidance, which is based on both the NRC and CO-CAT

studies. Under CCSF SLR guidance, the Project will be designed to accommodate the SLR criteria provided in Table 5.1.

**Table 5.1**  
**SLR and Associated Planning Requirements for Development Area**

YEAR	SLR AND PLANNING REQUIREMENTS
2030 SLR	6 to 12-inches by 2030. Planning for adaptive management not required.
2050 SLR	11 to 24-inches by 2050. 12-inches is the mean 2050 estimate for SLR. Planning for adaptive management not required.
2065 Mean SLR	16-inches by 2065.
2100 Mean SLR	36-inches by 2100. Planning for adaptive management required.
2100 High SLR	66-inches by 2100. Planning for adaptive management required.

The existing historical Pier 48 structure and Channel Wharf will remain at their current elevations and not incorporate provisions included in Table 5.1.

#### 5.4.3 Existing Mission Bay Grading for Resiliency

The existing finished grades in Mission Bay adjacent to the Project site range from elevations 97-100.5 feet (MBD). Grading and hydrology designs for Mission Bay were established prior to the more recent SLR investigations of the past 8 years, and do not accommodate for the 2100 High SLR estimates as currently graded. The existing perimeter streets of the Project including 3<sup>rd</sup> Street and Mission Rock Street will remain at their approximate existing grades. Along the east edge of the Project, Terry A Francois Boulevard will be reconstructed relatively close to its current grade. For existing grades at the Project site and surrounding existing streets, refer to Figure 7.1.

### 5.5 Proposed Site and Infrastructure Designs

#### 5.5.1 Grading

The proposed Project grading designs and approaches are documented in Section 7 Site Grading. The grading design criteria have been separated between:

- Elevation design criteria as it relates to tides, SLR, site elevations, HGL and existing streets
- Grading design criteria as it relates to site slopes.

The following summarizes the grading approaches for site building parcels and roadway areas,

open space areas, and historic structures:

- Maintain public access along the entire 100-foot shoreline band.
- In the zone between the development area and shoreline, provide access opportunities to water.
- Elevate and flood-proof proposed buildings and unadjustable structures to minimize the need for adaptive measures, even under high SLR estimates.
- Conform to grades of existing perimeter streets, pier structures, and wharf structure.

#### 5.5.1.1 Building and Roadway Areas

The minimum elevation design criteria for the proposed buildings and streets within the development areas are shown in Table 5.2.

**Table 5.2**  
**Elevation Design Criteria**

AREA	MINIMUM DESIGN CRITERIA
Development Area – Proposed Buildings	Provide a minimum finished floor elevation of 104.0 feet (~95 feet 2000 Mean Higher High Water elevation (MHHW) + 100-yr storm surge (100SS) (~3.5 feet) + 66 inches of 2100 High SLR) and/or flood-proof to 2100 High SLR projections for new occupied facilities.
Development Area – Proposed Parking Structures	The Block D Parking Garage entrances will be set based on the grade of the adjacent street. At a minimum, the garage entrances will be set with a minimum finish floor elevation of 99.83 feet (95 feet 2000 MHHW + 100-yr storm surge + 16 inches of 2065 Mean SLR). As required, Adaptive Management Strategies will be incorporated within the structure to provide resiliency and protection through 2100.
Development Area – Proposed On-Site Streets	<p>The street elevation shall accommodate 4 feet in general and 2 feet minimum freeboard between the 5-year storm drain system HGL and the street gutter flow line.</p> <p>For streets with City standard 4-inch to 8-inch tall curbs, the street's lowest top of curb elevation shall be above the HGL for the 100-year storm for the storm drain system. Refer to Section 13.</p> <p>For curbless streets or streets with flush curbs, hydraulic modeling and overland release</p>

	requirements will be determined during the approval process for the MUPs.
Development Area – Pier 48	The pier structure will remain at existing elevation. As SLR occurs, Adaptive Management Strategies may be incorporated within the structure to provide resiliency and protection through 2100, subject to jurisdictional approval.

For adjacent streets serving the project, including 3rd Street and Mission Rock Street, street elevations will remain relatively close to their current elevations. Along the east edge of the project, Terry A Francois Boulevard will be reconstructed relatively close to its current elevation. Proposed streets within the development will slope up from the existing conform elevations of approximate elevations of 99-101.5 feet at 3rd Street, Terry A Francois Boulevard, Piers 48 and 50, and Mission Rock Street to elevations of approximately 102.9-104.3 feet at the center of the site. By elevating the center of the site, access can be provided to building finished floors, which are set to accommodate protection from the 2100 High SLR projections or be flood-proofed to meet the 2100 High SLR projections.

### **5.5.1.2 Shoreline Open Space Areas and Parks**

#### **5.5.1.2.1 China Basin Park**

China Basin Park will maintain shoreline elevations close to the existing grade of approximately 100 feet (MBD). The park will transition to the Bay Trail at an approximate elevation of 102 feet (MBD) through the center of the park. The Bay Trail through the center of the park provides approximately 6 feet of freeboard from the King Tide elevation of 96 feet (MBD). When the sea level rises above 48-inches, the park will function as a space where future adaptations will creatively be implemented to maintain flood protection for existing public access features. The promenade, which interfaces between the south portion of the park and the northern part of the development area, will maintain access to the public at an elevation of approximately 103.5 – 104 feet (MBD).

#### **5.5.1.2.2 Historical Pier Structures**

Pier 48 and Pier 50 are historical structures that will be maintained at existing elevations. The existing grades for accessible areas at Pier 48 range from 99.2 to

101.0 feet (MBD). Accessible areas at Pier 50 have existing grades of 99.5 to 100.9 feet (MBD). The low lying areas of the piers may be susceptible to the 100-year TWLE of 100.08. Since the existing pier structures are historic resources, they will remain in place. To minimize impacts during a 100-year storm event, the interfacing street of Terry A Francois Boulevard will be regraded to channel stormwater away from the pier structures. Existing grades of the piers provide protection beyond 2050 Mean SLR for potential future flooding.

### **5.5.2 Stormwater System**

The 100-year Still Water Level Elevation (SWLE) is the 100-year return period water elevation, which is defined as the water elevation that is exceeded on average once every 100 years or the water elevation with a 1% annual chance of occurrence.

The SWLE for the design of the Development Area is 98.5 feet (MBD). The 100-year return period water elevation for the Development Area includes the effects of tides, storm surges, and tsunamis. The SWLE has been included with the drainage design of the 100-year storm event and overland flow release.

With the project's proximity to the San Francisco Bay, the Project must consider tidal elevations for drainage outfall conditions. The tidal elevation within the San Francisco Bay Area varies by location. The 2015 Subdivision Regulations identify a tidal elevation of 96.5 feet (MBD, -3.5 feet Old City Datum) for hydraulic grade calculations.

The SLR and tidal elevations for the Project have been prepared in the SLR Adaptation Strategy Memorandum by Moffatt & Nichol in Appendix I. The tidal elevations, SWLE, and SLR for the Project have been compiled in Table 5.3.



**Table 5.3****Tidal Elevations, SWLE and SLR by Datum**

<b>Elevation</b>	<b>NAVD88</b>	<b>OCD</b>	<b>MBD</b>
100-Year SWLE+66" SLR (2100 High SLR) (MHHW+100SS+66" SLR (2100 High SLR))	15.3'	4.0'	104.0
100-Year SWLE+36" SLR (2100 Mean SLR) (MHHW+100SS+36" SLR (2100 Mean SLR))	12.8'	1.5'	101.5
100-Year SWLE+16" SLR (2065 Mean SLR) (MHHW+100SS+16" SLR (2065 Mean SLR))	11.1'	-0.2'	99.8'
100-Year SWLE+12" SLR (2050 Mean SLR) (MHHW+100SS+12" SLR (2050 Mean SLR))	10.8'	0.7'	99.5'
100-Year SWLE	9.8'	-1.5'	98.5'
Subdivision Regulations Tidal Elevation	7.8'	-3.5'	96.5'
King Tide (Moffatt & Nichol)	7.3'	-4.0'	96.0'
MHHW	6.3'	-5.0'	95.0'
Mean Sea Level	0.0'	-11.3'	88.7'

**5.6 Adaptive Managements Strategies**

Sea Level Rise (SLR) has the potential to increase flooding risk along the shoreline areas as the MHHW, 100-year SWLE, TWLE, and BFE increases over time. The Project will be built to protect against varying amounts of SLR and has allocated space for future Adaptive Management Strategies to be implemented in the future to respond to adjusted SLR projections. Strategies for the Project have been developed for development areas, the shoreline, and pier structures.

**5.6.1 Development Parcel Strategy**

The proposed strategy for the Development Parcels, including unadjustable structures, is to set proposed grades to a minimum of 104 feet (MBD), high enough to accommodate for the current 2100 High SLR projects, thus Adaptive Management Strategies are not required. The Parcel D Parking Garage entrances will be set based on the grade of the adjacent street to accommodate for 2065 Mean SLR of 16-inches.

### 5.6.2 Shoreline Adaptation Strategy

The shoreline adaptation strategy will be applicable to areas surrounding the Development Parcels. The Promenade and Bay Trail within China Basin Park will be raised to an elevation of 102 feet (MBD) to provide 3.5-feet of freeboard above present day BFE. The China Basin Park shoreline, Terry A Francois Boulevard, 3<sup>rd</sup> Street, and Mission Rock Street will be maintained at existing grades to provide protection to Development Parcels from inundation during the king tide events beyond 2080. Along the shoreline of China Basin Park, the entire 100-foot shoreline band will be reserved for public access. For SLR above 48 inches, the shoreline band will provide an opportunity for creative implementation of future adaptation strategies to maintain flood protection to Mission Bay and the Development Parcels. Adaptive Management Strategies within China Basin Park may include modifications to create a raised promenade with retaining walls, realignment of the promenade, reconfiguration of shoreline protection to provide flatter slopes and wave breaks. Beyond 2050, future Adaptive Management Strategies may be implemented by the Port to the pier apron and below the pier structure to maintain flood protection for the structure.

Today, the National Oceanic and Atmospheric Administration (NOAA) monitors weather conditions and notifies the public of potential risk for flooding in low lying areas. Future adaptation of the shoreline would be enacted by the Port when published information from NOAA indicates that flooding to the public access areas would occur during King Tide events. Funding for Adaptive Management Strategies would be provided by the Port through a Community Financing District (CFD) or other equivalent funding mechanism.

## **6. GEOTECHNICAL CONDITIONS**

Site geotechnical investigations have been completed and potential site wide geotechnical improvements have been identified by Langan Treadwell & Rollo, culminating in the development of the "Preliminary Geotechnical Investigation Seawall Lot 337 – Mission Bay" (Geotechnical Report) by Treadwell & Rollo, dated September 8, 2011 and subsequent evaluations. In addition, Langan Treadwell & Rollo has also provided a supplemental memorandum: "Preliminary Geotechnical Recommendations and Summary Memorandum No. 1" (Geotechnical Memorandum), dated January 26, 2016 for additional reference, which is attached as Appendix F.

### **6.1 Existing Site Geotechnical Conditions**

The site was originally a shallow bay below water and a part of Mission Bay. It is understood the site was elevated using building rubble and debris from the 1906 San Francisco earthquake as fill. Borings indicate 13 to 37-feet of heterogeneous fill is underlain by approximately 46 to 72-feet of Bay Mud consisting of weak, soft to medium stiff, compressible clay. The over-consolidated Bay Mud at the site is evidence of complete settlement under the existing fill weight. Locations where Bay Mud has failed beneath the heavy fill loads show a "Bay Mud wave" condition and is comprised of clayey gravel and gravelly clay. The borings also encountered the bedrock surface to be at a depth of approximately 160-feet near the northwest corner of the site and 260-feet near the northeast corner of the site.

Groundwater was encountered approximately 7 to 9-feet below grade (Elevations 91 to 93 feet MBD). Other sites within Mission Bay have encountered groundwater measured at approximately five feet below grade (Elevation 94.5 feet MBD).

### **6.2 Existing Site Geotechnical Constraints**

#### **6.2.1 Liquefaction/ Settlement of Sand Layers**

Liquefaction is the transformation of soil from a solid state to a liquefied state during an earthquake where saturated soil builds up excessive pore water pressure and temporarily loses its strength. The result is immediate settlement and possible lateral movement of the sand material. Conservatively, all loose to medium dense soil materials (sands, silts and low plasticity clays) within both the artificial fills and underlying Bay Deposits are potentially liquefiable. The potential for soil liquefaction is likely to occur during a major earthquake. With the potentially liquefiable layers being random and discontinuous throughout the site, it is estimated the site will experience up to 3-inches of liquefaction-induced settlement within the fill material of the site. Along the west

end of Pier 48, the analysis indicated that 3 to 5-inches of liquefaction-induced settlement could occur.

### **6.2.2 Lateral Spreading**

Lateral spreading is considered the most damaging type of liquefaction-induced ground failure caused by earthquakes. In this case, surficial soil is displaced along a shear zone that has formed within a liquefied layer resulting in surficial blocks sliding downward toward unbound space, such as the Bay. These conditions are common in multiple San Francisco regions, such as the Downtown and Mission Bay districts. The southeast corner and northwest portion of the Project have been identified as being susceptible to lateral spreading estimated to result in 4 to 6-feet of lateral displacement during a large earthquake.

### **6.2.3 Settlement of Bay Mud**

The site is underlain by a layer of Bay Mud estimated to be 46 to 72-feet thick, which appears to be over-consolidated. Placing the new fill on top of the existing bay mud layer will initiate a new cycle of consolidation settlements for the Bay Mud layer. It can be expected that for each additional foot of fill placed on the site, approximately 2-inches of settlement may occur at entrances to pile supported structures, 3-inches within streets, and 4-inches in open space areas. During an earthquake, an additional settlement of approximately 9 inches could potentially occur due to seismic densification and liquefaction. For proposed building and structures designed to be pile supported, it is anticipated that 1 to 2-inches of settlement may result from a major earthquake.

If mitigation measures or preventative designs are not incorporated, differential settlement may occur and result in interrupted access, utility infrastructure damage, and accessibility issues.

## **6.3 Geotechnical Approaches**

Successful site development will require engineering design and project construction methods that account for the existing soil, existing conforms, and shoreline conditions. These improvements will help ensure that site accessibility and building access is maintained during seismic events, SLR, and minor long-term consolidation settlement. Proposed building will be constructed on piles with a similar approach proposed for the on-site streets and utilities supporting the new development. The

geotechnical design approaches considered and recommended for the Project have been summarized below and are documented in the Geotechnical Memorandum.

### **6.3.1 Site Grading Strategies**

The proposed development will be elevated 1 to 5-feet above existing grade to accommodate for future SLR. The use of soil fill to raise the site would cause ground settlement of up to a few feet. At the existing Project conforms with Terry A Francois Boulevard and Piers 48 and 50 to the east, new constructed Mission Rock Street to the south, and existing 3rd Street to the west, proposed grades will match the approximate existing grades to mitigate the potential for settlement. To raise the center of the site, the design team has explored several different alternatives to adding soil fill to the site, which include the following strategies:

#### **6.3.1.1 Soil Surcharging with Wick Drains**

Adding mounds of surcharge soil with perforated wick drains to collect water across the site will induce Bay Mud Settlement in advance of Project construction. This effectively mitigates the settlement of Bay Mud that the new fill proposed as part of the finished Project would typically cause. Considering that parking operations must be maintained at the site prior and during build-out of the Project, this settlement mitigation solution is not appropriate for the Project, since parking availability would be eliminated or severely limited.

#### **6.3.1.2 Deep Soil Mixing**

Deep Soil Mixing (DSM) acts to improvement the stability of the underlying site by mechanically mixing cementitious binder slurry with weak and compressible soils. Due to the depth of the Bay Mud layers at the site extending down to nearly 90-feet below existing finished grade, DSM is both cost prohibitive and less practical than other solutions considered by the Geotechnical Memorandum.

#### **6.3.1.3 Lightweight Fill to Raise Grades**

Lightweight fill materials such as cellular concrete or Geofam weigh less than traditional soil fill. Using such materials in lieu of soil to raise site grades significantly reduces the settlement of the Bay Mud layer. However, lightweight fill may present several utility installation and maintenance challenges. Installation of utilities can be difficult, as cutting

foam in the shape of the utilities may not be easily feasible. Long term maintenance of utilities within Geofoam would also require cutting of the Geofoam to access the utilities, which is a labor and cost intensive process. Additionally, storm drain and sanitary utilities will be installed as deep as 12 to 13-feet below finished grade, which is within the groundwater table, and can potentially cause uplift and complex dewatering strategies. Although lightweight fill is not anticipated to be used throughout the majority of the site, it may be utilized within park areas where utility grids and access for maintenance and operations is not a constraint.

#### **6.3.1.4 Pile supported structures, streets and utilities**

Due to the infeasibility of other options outlined above, the proposed Project streets are proposed to be pile supported "U-shaped" corridors that extend the width of the right-of-way and built to a depth required to support the installation of utilities. The "U-shaped" corridor would then be backfilled with soil to provide the typical street sub-surface condition, allow utilities to be installed with standard trenching method, and provide for long term utility and infrastructure maintenance using typical construction and City standards. Pile designs could include friction or end-bearing solutions with final designs prepared and approved during the construction document process. This is the preferred solution for mitigating site settlement issues, and with site structured street approaches are described in greater detail in Section 8 and on Figure 8.14 of this document. The pile-supported structure for the streets will be owned, maintained and accepted by the Acquiring Agency subject to the terms of the DA, DDA, and ICA.

#### **6.3.2 Liquefaction and Lateral Spreading Mitigations**

In order to mitigate the potential effects of earthquake induced lateral spreading and soil liquefaction, the Project proposed to incorporate solutions that would include Stone Columns, Deep Dynamic Compaction, or combination of both solutions.

Compaction Grouting and Rapid Impact Compaction (RIC) were also reviewed as potential solutions for mitigating lateral spreading and liquefaction. However, RIC has proven successful to depths of 10-feet, which is less than required for the site, and there is not enough soil overburden present in the site soils to handle the required pressures for Compaction Grouting.

### 6.3.3 Flexible Utility Connections

Portions of the site may experience differential settlement at the interface of pile supported streets with proposed buildings and the utility connections at 3rd Street, Mission Rock Street, Terry A Francois Boulevard, and China Basin Park. Differential settlement at these location could cause the utility connections to shear and break along this plane. Therefore, flexible utility connections, incorporating such solutions flexible pipe materials, ball joints or settlement vaults, may be installed at the interface of the structured street with a non-structured on-grade street (Terry A Francois Boulevard, Mission Rock Street, 3rd Street, or China Basin Park) to mitigate the displacement of the utility connections and ensure continuous utility service to the Project and existing adjacent properties. Conceptual locations of flexible utility connections are shown on Figure 6.1 with a conceptual flexible utility section included as Figure 6.2. Final design solutions, will be subject to review and approval by the Acquiring Agency. Ownership of flexible connections will be by the Port, unless the SFPUC agrees to accept flexible connections at a later date prior to project construction document approvals or as indicated in the DA, DDA, ICA, or separate MOU/MOA identifying acceptance, ownership, and maintenance responsibilities.

### 6.3.4 Site Accessibility

Minor Long-term settlement of the ground plane may occur along the site conforms at Mission Rock Street, 3rd Street, and Terry A Francois Boulevard. Where a pile-supported structure interfaces with the on-grade public streetscape, minor differential settlement may occur where the compressible material beneath the street begins to settle relative to pile supported buildings and proposed on-site streets. To mitigate areas where differential settlement is anticipated, grading and building designs will incorporate measures to ensure that continuous accessible paths of travel are maintained where building access points and private passageways interface with the public right-of-ways. Where required, measures such as flexible pavement sections, hinge slabs, gangways, and other adjustable surfaces, may be designed to mitigate the maximum anticipated long-term differential settlement. Refer to Figure 6.1 for the conceptual locations where flexible pavement connections would be required.

## 6.4 Phases of Geotechnical Stabilization

Geotechnical stabilization will occur in phases based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the DA, DDA,

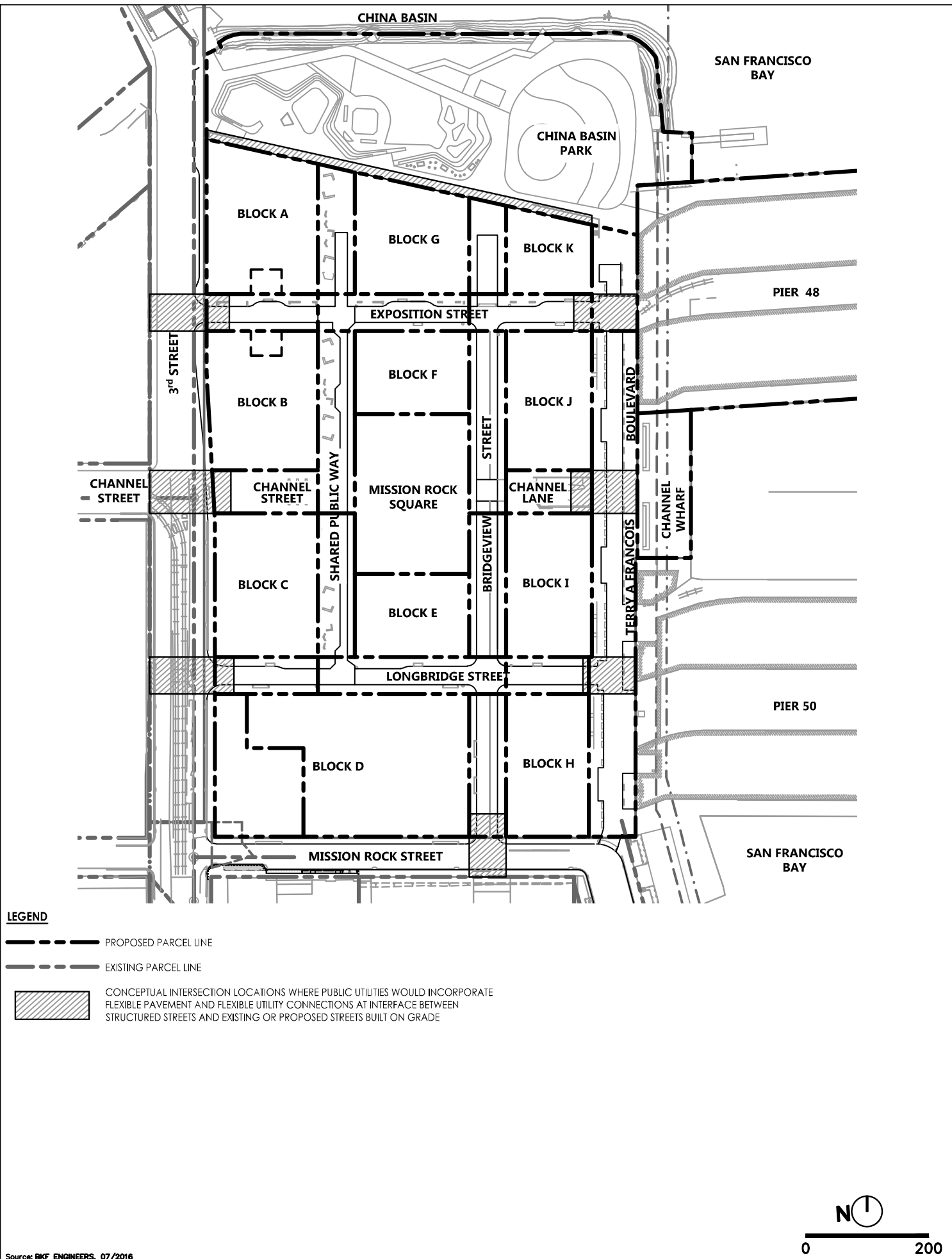
and ICA. The amount and location of geotechnical stabilization will be the minimum necessary to support the Development Phase and maintain minimum required parking allocations, access and utility connections. Such phased geotechnical stabilization will allow the existing utility services, vehicular and pedestrian access areas, and landscaped spaces to remain in place as long as possible and reduce disruption of existing uses on the site and adjacent facilities. Additional geotechnical stabilization, such as mitigations for lateral spreading and liquefaction, may be completed above the minimum necessary per phase due to constructability and efficiency considerations. Dewatering, and associated permits, may be required to support the Geotechnical Stabilization and construction process

#### **6.5 Schedule for Additional Geotechnical Studies**




Supplemental Geotechnical Studies and Reports will be prepared as required to support the proposed Project public improvements. In addition, Geotechnical Reports for private building parcels will be prepared and submitted to the City as part of the building permit process.

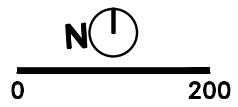


DRAWING NAME: \\BKF-SF\voia\2008\080008\_Mission Rock\ENG\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 6.1 Flexible Utilities.dwg  
 PLOT DATE: 11-15-17  
 PLOTTED BY: yolk



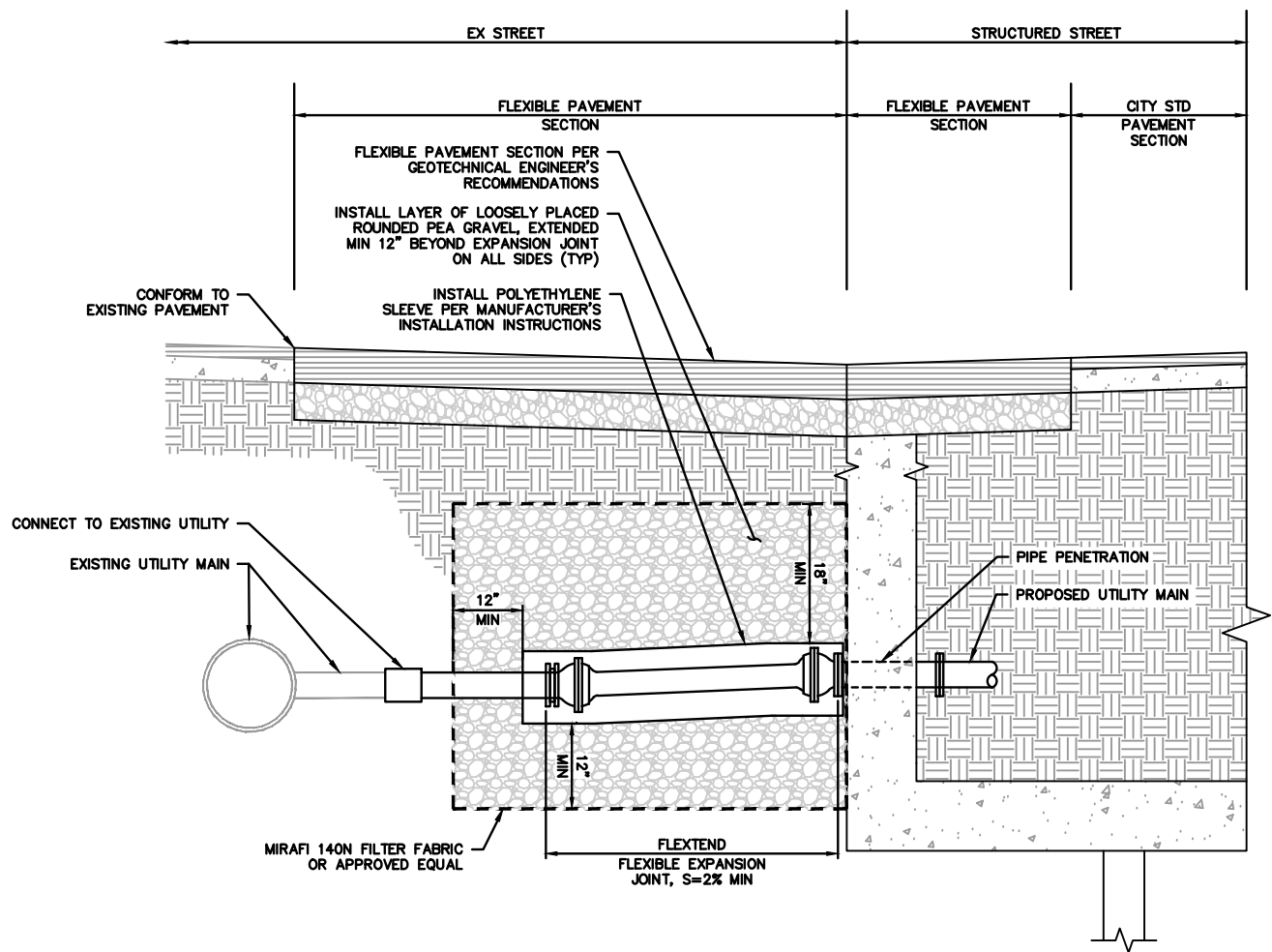
**LEGEND**

-  PROPOSED PARCEL LINE
-  EXISTING PARCEL LINE
-  CONCEPTUAL INTERSECTION LOCATIONS WHERE PUBLIC UTILITIES WOULD INCORPORATE FLEXIBLE PAVEMENT AND FLEXIBLE UTILITY CONNECTIONS AT INTERFACE BETWEEN STRUCTURED STREETS AND EXISTING OR PROPOSED STREETS BUILT ON GRADE



Source: BKF ENGINEERS, 07/2016

DRAWING NAME: \\BKF-SF\vo14\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibit\Plotted Sheets\Figure 6.2 Flexible Connection Detail.dwg  
 PLOT DATE: 11-15-17



Source: BKF ENGINEERS, 07/2016

## **7. SITE GRADING**

### **7.1 Project Datum**

Elevations, including tidal elevations, HGLs, and site elevations, referred to herein are on the Section 7 MBD, unless identified otherwise.

### **7.2 Existing Site Conditions**

The existing grade within the Project site slopes gradually east, west, and south away from the center of the existing parking lot with ground elevations ranging from approximately 101 feet elevation at high points to approximately 97 feet elevation to the south at low points in the existing parking lot. Along the western and eastern borders, the site is bounded by and conforms to the existing grades along 3rd Street, Pier 48 and Pier 50, with ground elevations ranging from 99 feet to 100.5 feet in elevation. The northern border is bounded by the north interface of China Basin Park at the rip rap of China Basin. Along the southern border, there is a grade different of 3 feet to 4 feet of elevation between the existing parking lot and the newly constructed Mission Rock Street. The existing site elevations are shown in Figure 7.1.

### **7.3 Site Geotechnical Constraints and Approach**

The Geotechnical Report and Geotechnical Memorandum were prepared for the Project by Langan Treadwell & Rollo. The Project site was originally a shallow bay below water as part of Mission Bay. It was later elevated by using building rubble and debris from the 1906 San Francisco earthquake as fill sourced from Potrero Hill. Site investigation found the fill is underlain by Bay Mud, building rubble, and debris.

Placement of new fill on top of existing Bay Mud layers will initiate a new cycle of consolidation settlements. The Project site may experience minor amounts of liquefaction, settlement, and lateral spreading due to existing sand layers and soft Bay Mud. The geotechnical engineer and explored different measures to mitigate these site constraints, which are described in greater detail in Section 6.

### **7.4 Project Grading Overview**

The Developer will be responsible for the design and construction of the proposed grading for the Project. Below is a description of the grading design for the different areas of the site. The proposed Project conceptual grading plan is shown in Figure 7.2.

The Project is comprised of the development area at the center of the project, the Promenade and China Basin Park to the north, and Terry A Francois Boulevard to the east that interfaces with Pier 48, Channel Wharf, and Pier 50. The development area consists of the Development Parcels, open space areas, and structured street grids.

Proposed grading for the Project raises the development area to approximate elevations of 103.5 feet to 104.5 feet at the center of the site. The structured street grid grades will slope down to the existing adjacent streets, the San Francisco Bay and China Basin shoreline, or park and open space areas. The streets and sidewalks have been designed to provide overland release and ADA compliant accessible pathways throughout the site and adjacent parcels. The proposed street grid with interconnected open space and accessible pathways will be constructed to link 3rd Street with Terry A Francois Boulevard in the west-east direction and China Basin Park with Mission Rock Street in the north-south direction. Throughout the site, grades less than 5 percent are provided.

## **7.5 Elevation and Grading Design Criteria**

The grading design criteria has been separated between:

- Elevation design criteria as it relates to tides, SLR, site elevations, HGLs, and existing streets
- Grading design criteria as it relates to site slopes.

### **7.5.1 Elevation Design Criteria**

The minimum elevations are based on the FEMA 100-year BFE. For existing perimeter roads serving the Project and adjacent properties, proposed infrastructure within these existing streets will be designed to accommodate tidal elevations. For more information on the Project as it relates the FEMA, refer to Section 5 Site Resiliency.

#### **7.5.1.1 Sea Level Rise**

SLR will result in changing water levels in the San Francisco Bay that the Project will need to accommodate. The design criteria employed at the time of this Infrastructure Plan are based on the best scientific forecasts and potential design strategies currently available. The forecasts will very likely change over time and will provide guidance for the future.

The minimum design elevations for the Project Development Parcels will accommodate potential future SLR estimates for San Francisco Bay as discussed in Section 5 Site

Resiliency. The Project will be designed to accommodate the SLR criteria provided in Table 7.1.

**Table 7.1**  
**SLR and Associated Planning Requirements**

<b>YEAR</b>	<b>SLR AND PLANNING REQUIREMENTS RELATIVE TO YEAR 2000</b>
2030 SLR	6 to 12-inches by 2030. Planning for adaptive management not required.
2050 SLR	11 to 24-inches by 2050. 12-inches is the mean 2050 estimate for SLR. Planning for adaptive management not required.
2065 Mean SLR	16-inches by 2065. Planning for adaptive management required.
2100 Mean SLR	36-inches by 2100. Planning for adaptive management required.
2100 High SLR	66-inches by 2100. Planning for adaptive management required.

The minimum SLR to be accommodated for the elevation design of structures and streets in the Project is 16-inches. To the extent feasible, the Project plans to develop structures in the Development Parcels to accommodate a 2100 High SLR of 66-inches above the BFE. For more information on the Project as it relates the SLR, refer to Section 5 Site Resiliency and Table 5.1.

#### 7.5.1.2 100-Year Base Flood Elevation and Tidal Elevation

The 100-year BFE is the 100-year return period water elevation, which is defined as the water elevation that is exceeded on average once every 100 years or the water elevation with a 1% annual chance of occurrence.

The BFE for the design of the Development Parcel is 98.5 feet. The 100-year return period water elevation for the Development Parcel includes the effects of tides, storm surges, and tsunamis. The BFE has been included with the drainage design of the 100-year storm event and overland flow release.

With the project's proximity to the San Francisco Bay, the Project must consider tidal elevations for drainage outfall conditions. The tidal elevation within the San Francisco Bay Area varies by location. For Mission Bay, the 2015 Subdivision Regulation identifies a tidal

elevation of 96.5 feet for the Project which has been included in design to analyze the 5-year storm event.

The SLR and tidal elevations for the Project have been prepared in the SLR Adaptation Strategy Memorandum by Moffat & Nichol in Appendix I, and are provided in Table 7.2.

**Table 7.2**  
**SLR and Tidal Elevations by Datum**

Elevation	NAVD88	Old City Datum	MBD
FEMA 100-Year BFE +66" SLR (100-Year SWLE+66" SLR (2100 High SLR) MHHW+100SS+66" SLR (2100 High SLR))	15.3'	4.0'	104.0
FEMA 100-Year BFE/100-Year SWLE	9.8'	1.5'	98.5'
Subdivision Regulations Tidal Elevation	7.8'	-3.5'	96.5'
King Tide (Moffatt & Nichol)	7.3'	-4.0'	96.0'
MHHW	6.3'	-5.0'	95.0'
Mean Sea Level	0.0'	-11.3'	88.7'

#### 7.5.1.3 Minimum Site Elevations

The minimum elevation design criteria for the Development Parcels are shown in Table 7.3.

**Table 7.3**  
**Elevation Design Criteria**

<b>AREA</b>	<b>MINIMUM DESIGN CRITERIA</b>
Development Parcel – Buildings	Provide a minimum finished floor elevation of 104.0 feet (~95 feet 2000 Mean Higher High Water elevation (MHHW) + 100-yr storm surge (100SS) (~3.5 feet) + 66 inches of 2100 High SLR) and/or flood-proof to 2100 High SLR projections for new occupied facilities.
Development Parcel – Parking Structures	The Block D Parking Garage entrances will be set based on the grade of the adjacent street. At a minimum, the garage entrances will be set with a minimum finish floor elevation of 99.83 feet (95 feet 2000 MHHW + 100-yr storm surge + 16 inches of 2065 Mean SLR). As required, Adaptive Management Strategies will be incorporated within the structure to provide resiliency and protection through 2100.
Development – Proposed On-Site Streets	<p>The street elevation shall accommodate 4 feet in general and 2 feet minimum of freeboard between the 5-year storm drain system HGL and the street gutter flow line.</p> <p>For streets with City standard 4-inch to 8-inch tall curbs, the street’s lowest top of curb elevation shall be above the HGL for the 100-year storm for the storm drain system. Refer to Section 13.</p> <p>For curbless streets or streets with flush curbs, hydraulic modeling and overland release requirements will be determined during the approval process for the MUPs.</p>
Development Parcel – Pier 48	The pier structure will remain at existing elevation. As SLR occurs, Adaptive Management Strategies may be incorporated within the structure to provide resiliency and protection through 2100, subject to jurisdictional approval.

For adjacent streets serving the project, including 3rd Street and Mission Rock Street, street elevations will remain relatively close to their current elevations. Along the east edge of the project, Terry A Francois Boulevard will be constructed relatively close to its current elevation. Proposed streets within the development will slope up from the existing conform elevations of approximate elevations of 99-101.5 feet at 3rd Street, Terry A Francois Boulevard, Piers 48 and 50, and Mission Rock Street to elevations of approximately 102.9-104.3 feet at the center

of the site. By elevating the center of the site, access can be provided to building finished floors, which are set to accommodate protection from the 2100 High SLR projections.

## **7.6 Proposed Grading Designs**

### **7.6.1 Building Areas**

Proposed finished floors will be set at a minimum of the 100-year tide level plus 66-inches of SLR to ensure protection from anticipated rising tide levels. Project development and grading designs will be developed to comply with the City requirements for ADA accessible paths of travel.

### **7.6.2 Proposed Roadways**

Proposed slopes along public streets and private alleys will be set at a maximum longitudinal slope of 5 percent to provide ADA accessible pathways of travel without requiring handrails as shown in Figure 7.2. The proposed public street system is designed in a saw tooth grading pattern as illustrated in Figure 7.3, such that adjacent high and low points have relatively the same elevations. At conforms, the site slopes down to the existing adjacent streets, China Basin, or park areas. With exception to Channel Street and Channel Lane, which will function primarily as pedestrian zones, handrails will be provided for stairs and accessible areas exceeding 5 percent, where required.

At street intersections, grades will be designed at a maximum slope of 2% to provide an accessible path of travel in crosswalks. In addition, vertical curves within the streets will be designed to both begin and end outside the limits of the crosswalk areas.

### **7.6.3 Overland Release**

As required by the Subdivision Regulations, grading designs will be developed such that the 100-year HGL is contained within the top of curb elevations on opposite sides of a street throughout the Project site. For streets without curbs or with flush curbs, such as Terry A Francois Boulevard, Shared Public Way and the northern block of Bridgeview Street, grading and hydrology designs will be developed to contain the HGL for a 100-year 3-hour storm within the street while both providing a 4-foot wide accessible path on one side of the street and assuming drainage structures within the local drainage area are blocked. The proposed on-site street grid will be graded to provide overland release for the Project. The proposed public street system is designed in a saw tooth grading pattern to facilitate overland flow of stormwater to adjacent streets. The Developer



shall provide all tenants, lessees, and owners adjacent to streets without curbs or with flush curbs with a written disclosure form, as approved by the Port and City, which notifies all such entities of the potential for flooding. The disclosure form also shall be recorded against any property adjacent to streets without curbs or with flush curbs prior to the initial sale or lease of all such properties.

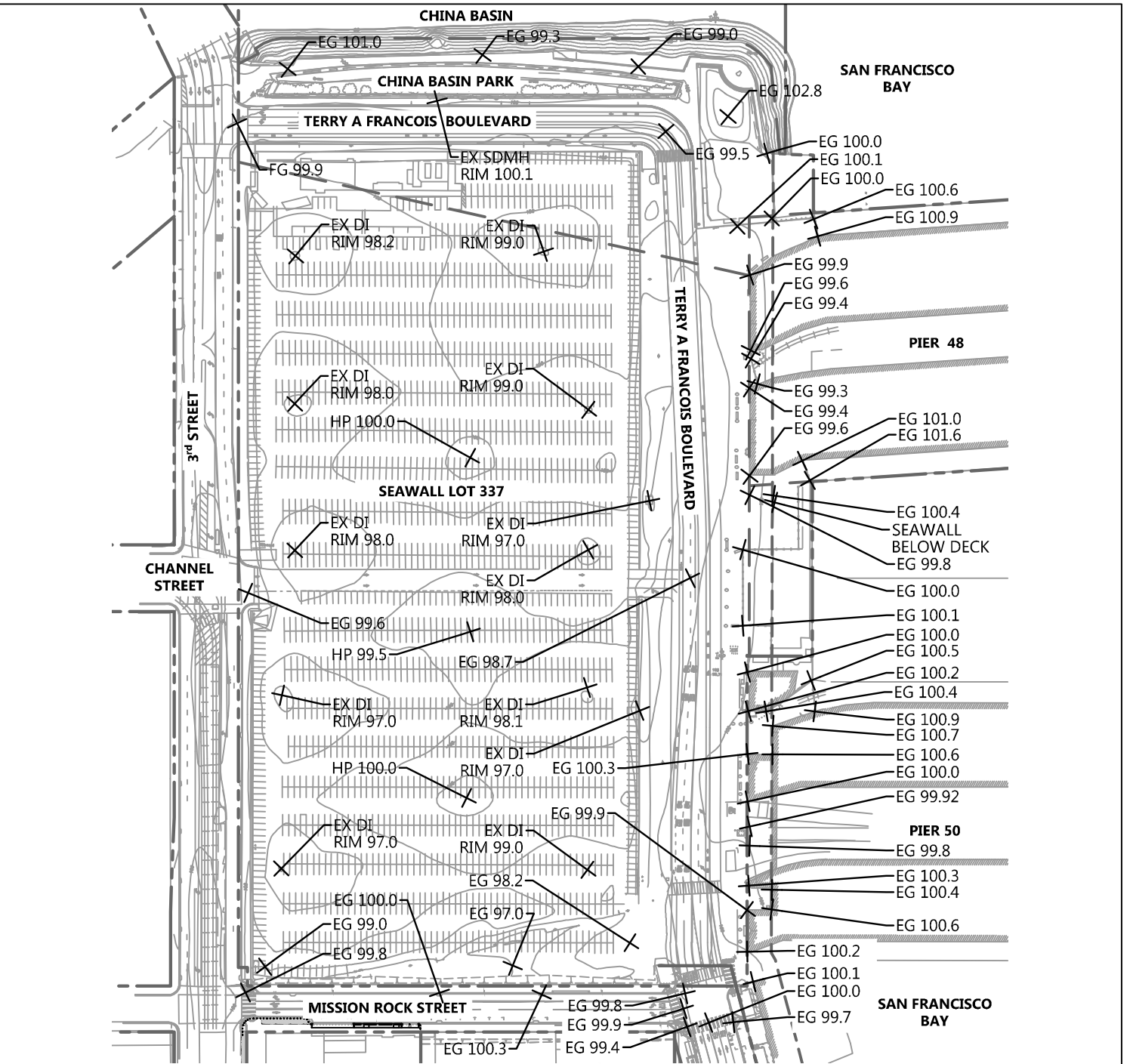
### **7.7 Proposed Site Earthwork**

The conceptual grading plan for the Project will require approximately 75,000 CY of gross earthwork to grade for topsoil within China Basin Park and the pile-supported structured streets. Within China Basin Park, grades will be elevated by a combination of topsoil and Geofoam. Development Parcels and Mission Rock Square may be pile-supported, requiring no additional fill to grade, or elevated using light-weight fill, Geofoam, topsoil, or a combination thereof. To support grading activities, a Storm Water Pollution Prevention Plan (SWPPP) / Erosion and Sediment Control Plan (ESCP) will be submitted in parallel with future grading permits. Grading in conjunction with site remediation efforts will be performed by the Developer.

### **7.8 Phases of Grading Activities and Approvals**

The Developer will grade the site based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the DA, DDA, and IGA. The amount and location of the grading proposed will be the minimum necessary to support the Development Phase. The new Development Phase will conform to the existing grades as close to the edge of the Development Phase area as possible while maintaining the integrity of the remainder of the Project. Repairs and/or replacement of the existing facilities necessary to support the proposed Development Phase will be designed and constructed by the Developer. Interim grading will be constructed and maintained by the Developer as necessary to maintain existing facilities impacted by proposed Development Phases. Project grading activities will comply with City Ordinance 175-91 for use of non-potable water for soil compaction and dust control.

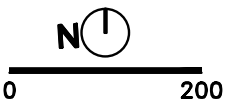
DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibit\Plotted Sheets\Figure 7.1 Existing Grading Plan.dwg  
PLOT DATE: 07/13/17  
PLOTTED BY: FELL



**LEGEND**

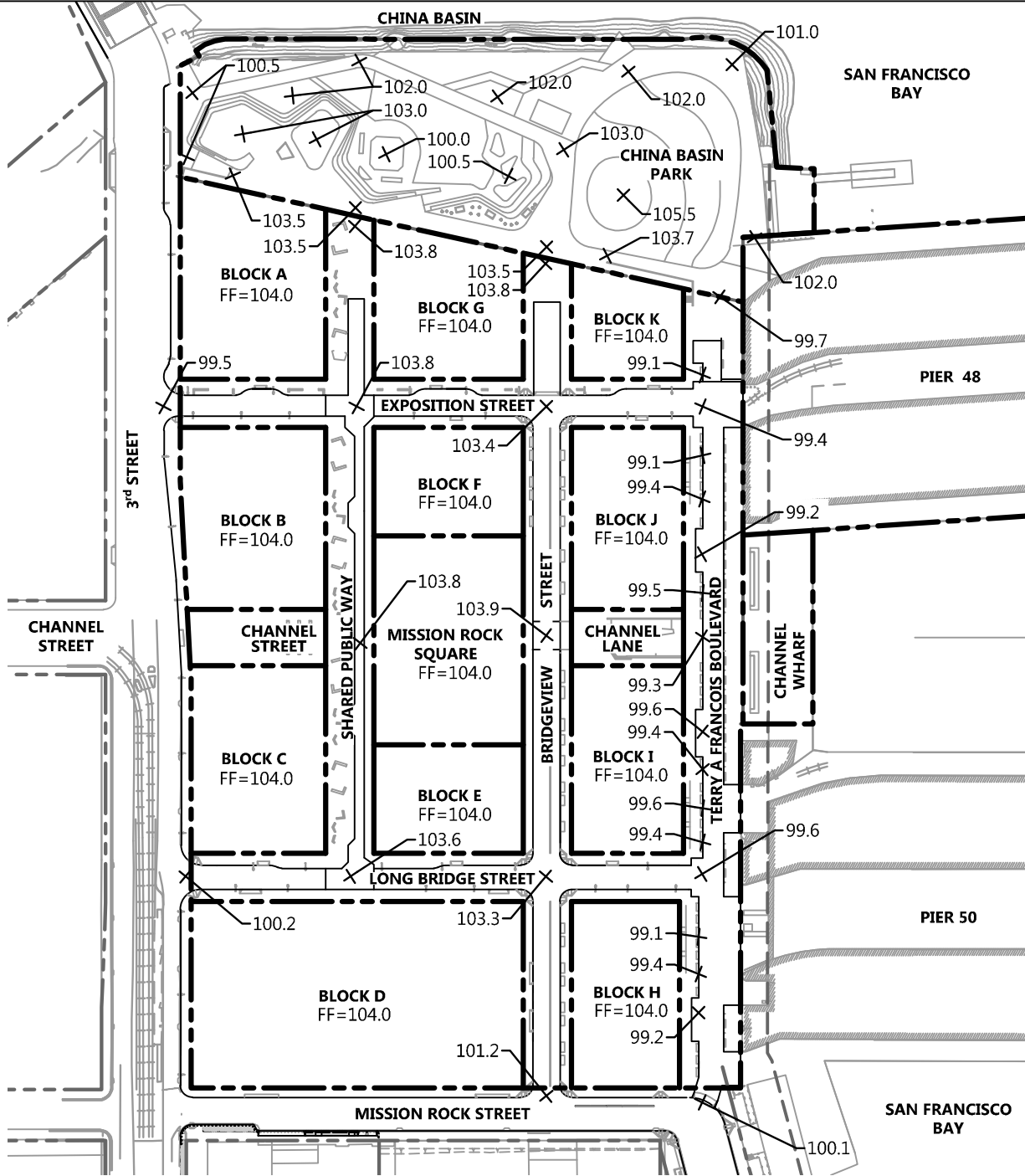
- EXISTING PARCEL LINE
- EXISTING CONTOUR

Source: BKF ENGINEERS, 07/2016



MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 7.1 - EXISTING GRADING PLAN



**LEGEND**

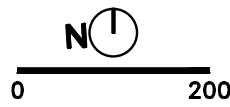
- PROPOSED PARCEL LINE
- EXISTING PARCEL LINE
- PROPOSED ELEVATION

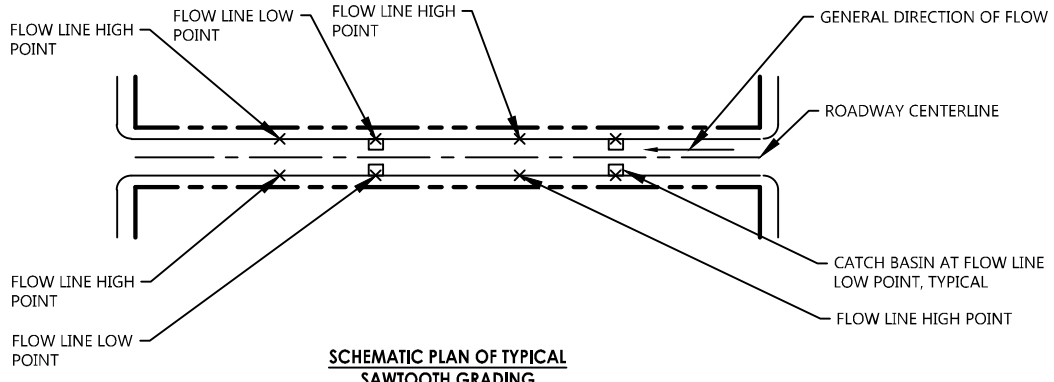
**NOTE**

ALL ELEVATION ARE BASED ON THE MISSION BAY DATUM. THE MISSION BAY DATUM EQUALS THE OLD CITY OF SAN FRANCISCO DATUM PLUS 100 FEET.

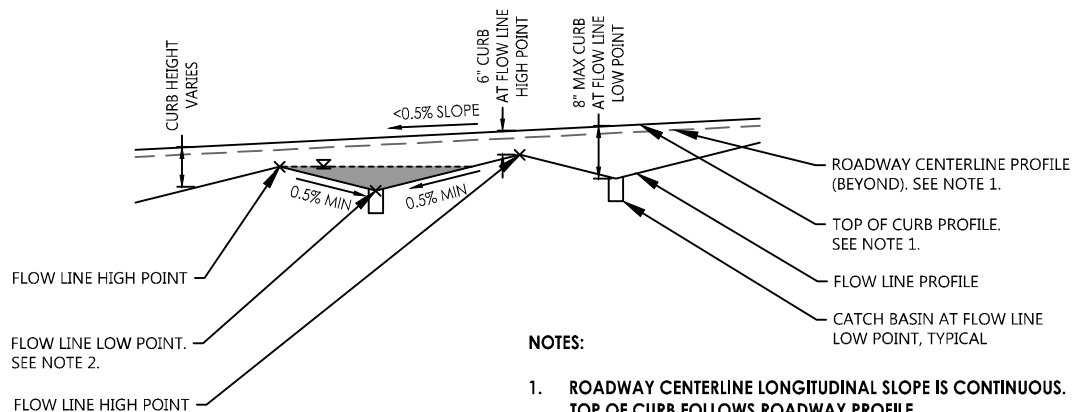
DRAWING NAME: \\BKF-SF\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 7.2 Conceptual Grading Plan.dwg  
PLOT DATE: 07/13/17 PLOTTED BY: FELI

Source: BKF ENGINEERS, 07/2016





**SCHEMATIC PLAN OF TYPICAL SAWTOOTH GRADING**

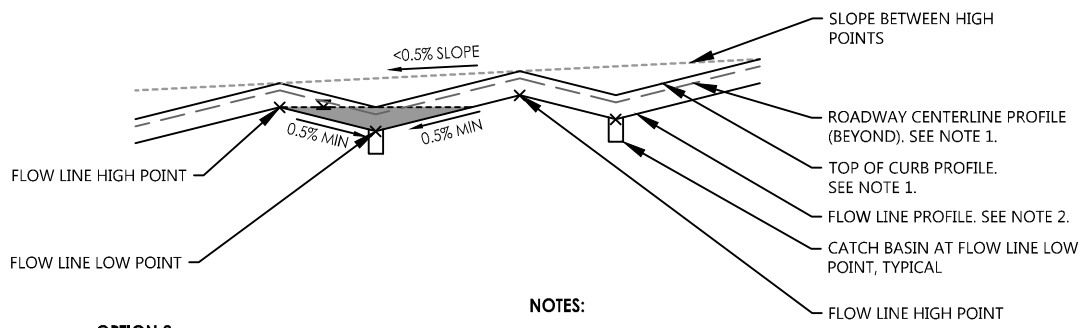


**OPTION 1**

**SCHEMATIC PROFILE OF SAWTOOTH GRADING WITH CONTINUOUS CENTERLINE AND TOP OF CURB**

**NOTES:**

1. ROADWAY CENTERLINE LONGITUDINAL SLOPE IS CONTINUOUS. TOP OF CURB FOLLOWS ROADWAY PROFILE.  
  
STREET CROSS SLOPE VARIES BETWEEN 2% AND 5% AND CURB HEIGHT VARIES BETWEEN 6-INCHES AND 8-INCHES (EXCEPT AT CURB RETURNS, CROSSWALKS, ACCESSIBLE PARKING SPACES, AND ACCESSIBLE PASSENGER LOADING ZONES) TO ACHIEVE A FLOW LINE WITH A 0.5% MINIMUM LONGITUDINAL SLOPE.
2. THE LOW POINT OF THE FLOW LINE COINCIDES WITH THE STEEPEST STREET CROSS SLOPE AND 8-INCH CURB.
3. THE ROADWAY CENTERLINE SLOPE ON TERRY A FRANCOIS BOULEVARD IS LESS THAN 0.5% SLOPE DUE TO EXISTING CONDITIONS.



**OPTION 2**

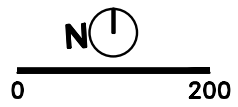
**SCHEMATIC PROFILE OF FLOW LINE SAWTOOTH GRADING WITH PARALLEL ROADWAY CENTERLINE AND TOP OF CURB**

**NOTES:**

1. ROADWAY CENTERLINE PROFILE AND TOP OF CURB FOLLOWS FLOW LINE PROFILE.
2. FLOW LINE HIGH POINT ELEVATIONS ARE LOWER THAN THE UPSTREAM TOP OF CURB LOW POINT ELEVATIONS.
3. THE ROADWAY CENTERLINE SLOPE ON TERRY A FRANCOIS BOULEVARD IS LESS THAN 0.5% SLOPE DUE TO EXISTING CONDITIONS.

DRAWING NAME: \\BKF-SF\vo14\2008\080008\_Mission Rock\ENG\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 7.3 Street Sawtooth Grading.dwg  
PLOT DATE: 07-13-17 PLOTTED BY: FELL

Source: BKF ENGINEERS, 07/2016



## **8. STREET AND TRANSPORTATION INFRASTRUCTURE**

Mission Rock's street network will be comprised of short, walkable blocks that connect to existing Mission Bay streets adjacent to the Project. The Project will prioritize pedestrian and bicycle safety and access to the buildings, streets, and open spaces at Mission Rock through careful consideration of transit and transportation connections, accessibility, traffic calming measures, and a centralized site parking facility instead of on-street parking. The bicycle network at Mission Rock will provide an important link for the district, connecting the Bay Trail/Blue Greenway to the Embarcadero, and will include a variety of facilities that will provide choices for cyclists of all ages and skill levels. These facilities will be integral to the unique character of Mission Rock's streets.

### **8.1 Design Controls: Plan Overview**

The Design Controls describe the public realm, open spaces, and streetscapes at Mission Rock represented in Figure 8.1. The street designs described herein represent one potential application of these controls. As a pedestrian-priority development, Mission Rock's street network will provide safe and easy access to open spaces, building entrances, and retail, with unique street types designed to the scale and speed of the pedestrian experience. A combination of traffic calming strategies will discourage unnecessary vehicle traffic and ensure that internal traffic will be low-speed and low-volume. The public realm will be fully integrated with the design and scale of the ground floor of Mission Rock's buildings.

### **8.2 Public Street System**

The Developer will be responsible for the design and construction of the public streets. Improvements will generally include the following:

- Pavement structural sections
- Concrete curbs and gutters
- Concrete sidewalk and curb ramps
- Traffic control signage and striping
- Traffic signals
- Street lighting and pedestrian-scale lighting
- Street landscaping and trees
- Stormwater management facilities (may include such methods as landscape strips, permeable pavements, and bio-retention areas)
- Street furnishings (includes, but are not limited to, benches, trash cans and bike support facilities)

- Accessible on-street passenger loading zones with adjacent street level passenger loading aisles and curb ramps.
- Accessible curb ramps
- Accessible Pedestrian Signal (APS) at traffic signal
- Raised crosswalks
- Raised Intersections
- Sidewalk bulb-outs
- Class I and II bikeways
- Enhanced Paving
- Installation of accessible pedestrian signals
- Utility Clearance Requirements

Streetscape and landscape improvements are further defined in Section 8.4 and in the Design Controls. Approval of and responsibility for maintenance and liability for non-standard stormwater treatment facilities shall be as specified in the ICA or future MOU or MOA.

### **8.2.1 Public Street Layout and Parcelization**

A system of street and parcel numbers has been created to facilitate planning and design coordination and is shown on Figure 8.2. The new grid network of public streets includes three streets oriented north to south: the Shared Public Way, Bridgeview Street, and the existing Terry A Francois Boulevard, which will be realigned and reconstructed. Exposition Street and Long Bridge Street will be oriented east to west. Property frontage improvements will result in partial renovation of the existing 3rd Street and Mission Rock Street sidewalks, with bicycle facilities to be coordinated with the City adjacent to Blocks A and H. Typical cross sections for the proposed streets and existing street improvements can be found on Figures 8.5 – 8.12, with streetscape improvements shown on Figures 8.29-8.42.

### **8.2.2 Roadway Dimensions**

Street widths—curb to curb—are designed to accommodate emergency access, utility clearances, bicycle facilities, passenger loading and building servicing, and vehicular access throughout the site. Typical vehicular travel lanes within streets will range from 10-feet to 11-feet in width. Travel lanes are measured from the face of curb or outside edge of bicycle facilities. All streets except the Shared Public Way will provide for two-way traffic and fire access, with street widths varying

from 22 to 34-feet. The Shared Public Way will provide a one-way 12-foot wide vehicular travelway within a Shared Zone that will have 20-foot minimum clearance between streetscape elements to facilitate fire access. All buildings will be Type 1 Construction. Additional roadway dimension information is shown in Figure 8.3 and detailed cross section information can be found on Figures 8.5-8.12, 8.29, 8.31, 8.33, 8.35, 8.37, 8.39, and 8.41.

### **8.2.3 Structured Streets and Open Space Areas**

Due to existing geotechnical constraints that make the Project site susceptible to differential settlement, liquefaction, and lateral spreading when fill is added to the site, the conceptual geotechnical approach is to provide structured street sections that are pile supported in fill areas. Refer to Section 6 for a detailed analysis of the Project's decision-making process for selecting the structured street and open space area approach to mitigating the site geotechnical constraints. Pile-supporting Mission Rock's streets will provide a geotechnically sound foundation for standard street and open space construction that will support the street designs described in Section 8.4, while mitigating the site's tendency for differential settlement.

The proposed structured streets include Exposition Street, Long Bridge Street, Shared Public Way and Bridgeview Street. The proposed open space areas include Channel Street and Channel Lane. Structured street and open space area locations are identified in Figure 8.13. The structured streets and open space areas will be comprised of street pavement and/ or pedestrian concrete paving, landscape, utility infrastructure, and sidewalk improvements built on top of and within structural fill throughout the street sections within the public right-of-way. Subject to the final design, preliminary designs for the concrete slab thickness at the bottom of the structure is conceptually 2-foot thick and walls will potentially be 1 foot thick. The depth of the structured streets will be a minimum of 6-foot deep beneath landscaping to provide sufficient room for tree roots and at least 1 foot deeper than the bottom of the deepest utility pipe per SFPUC vertical clearance requirements. Subdrains, where required based on the final design of the structured streets, will be provided within the structured streets and open space areas to prevent accumulation of water and will drain via a gravity connection or through a sump pump and force main to the sanitary sewer system as described in Section 12. Where a subdrain is required, a sand trap will be installed

in advance of the connection of the SFPUC sanitary sewer main. A preliminary typical structured street cross section is shown on Figure 8.14.

Structured streets and open space areas will be supported by steel H-piles or precast, pre-stressed concrete piles with no down drag. There are two types of pile systems being considered for supporting the structured streets and open space areas. The first consideration is friction-only piles that extend below the Bay Mud sub-layers and gain friction in the clay and sand beneath. The second consideration is a combination of friction plus end-bearing piles which will extend to dense sand or bedrock approximately 100 – 160-feet beneath the bottom of the Bay Mud layers. These preliminary pile-supporting systems are further discussed in Appendix F and are subject to final geotechnical studies and structural designs to be completed as part of the Construction Document process.

The structured streets and open space areas will be integrated within the Project's street grid and conform to existing and reconstructed streets of 3rd Street, Mission Rock Street, and Terry A Francois Boulevard. Final designs to determine pile spacing, depths, waterproofing and drainage will be completed as part of the Construction Document process. The Project will request a design modification or exception to the Subdivision Regulations for interim improvements. The request will be made to the City Department with authority over the interim infrastructure in compliance with the process outlined in the Subdivision Regulations.

### **8.3 Public Street Modes of Travel and Access**

#### **8.3.1 Pedestrian Circulation and Accessibility**

Creating a safe, accessible, and comfortable pedestrian experience will be a priority on all streets at Mission Rock, with safe pedestrian street crossings and connections to open spaces and surrounding streets. Mission Rock's three north-south streets will have reduced-height or flush curbs separating the pedestrian realm from the vehicular travelway. In addition to privileging pedestrian access, this strategy will facilitate paratransit vehicle access that can serve all of Mission Rock's Development Parcels and open spaces. Passenger loading and building servicing strategies will be designed to minimize conflicts between pedestrians and vehicles, and to maximize the special streetlife elements that create a rich pedestrian experience.



### **8.3.1.1 Pedestrian Throughway**

On all sidewalks and major pedestrian routes to and within Open Spaces, a pedestrian throughway that is 6-feet minimum in width will be maintained. This throughway is defined as a universally accessible path of travel that does not exceed 5% maximum longitudinal slope and 2% maximum cross slope. See Section 8.4 for mandated minimum widths of pedestrian throughway and circulation routes for specific streets.

### **8.3.1.2 Access to Development Parcels and Open Spaces**

Universal access to and within open spaces shall be provided for significant pedestrian connections, identified on Figure 8.15. Loading zones for passenger loading shall be provided, distributed to enable access to all Development Parcels and open spaces, with priority given to significant pedestrian connections.

## **8.3.2 Vehicular Circulation**

All streets at Mission Rock shall have two-way low-volume, low-speed traffic circulation, with the exception of the Shared Public Way, which shall have one-way traffic in the northbound direction only. Circulation and controlled intersections are shown on Figure 8.16 and described in Sections 8.7 and 8.8.

### **8.3.2.1 Paseos**

Paseos are proposed at the terminus of the Shared Public Way, Bridgeview Street, and Terry A Francois Boulevard at China Basin Park. These paseos shall accommodate Emergency Vehicle Access for a maximum distance of 150-feet from the Exposition Street right-of-way. The terminus of this access shall be clearly marked by permanent site furnishings or street trees. Along Exposition Street, paseos shall include signage and design cues that prohibit access for unauthorized vehicular traffic. Ownership and maintenance and liability for paseos and encroachments thereon shall be addressed as set forth in the ICA or future MOA or MOU.

### **8.3.2.2 Intersections**

All stop-controlled and signalized intersections shall adhere to City standards for signage and street markings. Where crosswalks at uncontrolled intersections are proposed at Open Space connections, an appropriate combination of traffic control strategies, including

crosswalk markings, shall be employed to maximize visibility and safe pedestrian crossing. Refer to Section 8.8 for more detailed information on intersection design and controls.

### **8.3.3 Bicycle Circulation**

The Mission Rock development is dedicated to improving bicycle transportation throughout the Mission Bay area by implementing the 2009 San Francisco Bicycle Plan and providing infrastructure for improved cyclist safety. In addition to providing a key link within the Bay Trail, between the Blue Greenway south of the site and the Embarcadero north of the site, bicycle lanes of various class designations will be incorporated into the public streets throughout the site. Terry A Francois Boulevard will include the Bay Trail/Blue Greenway, a multi-use trail along the waterfront, as well as sharrows within the Shared Zone. Bridgeview Street and Terry A Francois Boulevard will accommodate the majority of bicycle traffic traveling north and south through the site on protected bicycle facilities or multi-use trails, providing a safer environment that separates bicycles from vehicular traffic and prioritizes bicycle travel. Bridgeview Street and Mission Rock Street will include cycle tracks that are separated from vehicular traffic using mountable curbs, horizontal buffers, or vertical barriers. Bridgeview Street and Terry A Francois Boulevard will accommodate the majority of bicycle traffic traveling north and south through the site on protected bicycle facilities or multi-use trails, providing a safer environment that separates bicycles from vehicular traffic and prioritizes bicycle travel. Figure 8.17 indicates the conceptual strategy for these facilities at a network scale. Refer to Section 8.4 for specific street designs, bicycle facilities, and safety strategies.

### **8.3.4 Loading, Servicing, and Parking**

Loading, servicing, and parking at Mission Rock will be distributed to minimize impact on the public realm pedestrian experience. While no permanent street parking will be provided, passenger loading across the site will be accommodated in dedicated areas. Servicing needs for all of Mission Rock's Development Parcels will be accommodated on Exposition Street, Long Bridge Street, 3<sup>rd</sup> Street at Parcel A, and Terry A Francois Boulevard in time-limited commercial or dedicated commercial zones. Figure 8.18 describes this conceptual strategy.

#### **8.3.4.1 Passenger Loading**

Passenger loading zones are distributed across the public realm, with dedicated accessible passenger loading stalls located on all streets except Bridgeview and Mission Rock Streets.

Refer to the Transportation Plan for more detailed information. Refer to Section 8.4 for streetscape designs, and Section 8.6 for accessible loading stall details.

#### **8.3.4.2 Servicing**

Servicing for Development Parcels, including ground floor tenants, will be located in dedicated or time-limited commercial loading zones for deliveries, freight loading, and building servicing. Dedicated commercial loading zones will be provided on Exposition and Long Bridge Streets, and time-limited commercial zones will be located on 3<sup>rd</sup> Street and Terry a Francois Boulevard.

#### **8.3.4.3 Large Vehicle Access**

Exposition and Long Bridge Streets and Terry A Francois Boulevard shall accommodate commercial vehicle circulation. Access to pier sheds, aprons, and valleys shall be maintained for WB-50 trucks to Pier 50, and access to the Pier 48 valley by WB-67 shall be provided; refer to Figures 8.19 and 8.20 for access studies. Commercial vehicle access for trucks that are a maximum size of SU-30 shall be accommodated in time-limited commercial loading zones on the west side of the Terry A Francois Boulevard right-of-way for Working Waterfront tenants; see Section 8.4.

#### **8.3.4.4 Parking and Driveways**

Per Chapter 5 of the Design Controls, driveways may be provided for interior servicing of Development Parcels. If provided, driveways to access off street parking on all blocks except D are only permitted on Exposition Street and Long Bridge Street in accordance with Section 7.7. Driveways for the shared parking facility at Block D shall be provided on Long Bridge Street, Bridgeview Street and Mission Rock Street. See Section 8.6 for information regarding placement of driveways relative to streetscape elements.

#### **8.3.4.5 Mission Rock Square Garage**

In accordance with the DDA and other Transaction Documents, Port and Developer may determine to develop the underground Mission Rock Square Garage as part of the Project, including associated access improvements and facilities at Channel Street and Channel Lane. The development of the Mission Rock Square Garage, and associated improvements, facilities, and mitigation under the MMRP, is anticipated under the

Transaction Documents and, accordingly, would not constitute a Material Change to this Infrastructure Plan. If Mission Rock Square Garage is proposed for a Phase, prior to the First Submittal of Improvement Plans for that Phase, Developer will: (i) submit and obtain the approvals and consents required for a non-material Infrastructure Plan amendment describing the additional or modified horizontal improvements to be constructed by the Developer to serve the underground Mission Rock Square Garage; and (ii) include the associated Mission Rock Square Garage infrastructure improvements in the applicable Basis of Design documents submitted for that Phase. This provision does not limit the City's obligation to comply with CEQA, in connection with any subsequently proposed modifications to the Mission Rock Square Garage or associated facilities or improvements.

#### **8.3.5 Fire Department Access**

Based on the planning efforts undertaken during the Design Controls and meetings with the San Francisco Fire Department, intersection radii, street widths from curb to curb, and right-of-way layouts have been designed to accommodate fire truck turning movements at the Project intersections shown on Figure 8.21. Per the SFFD requirements, intersections are designed to accommodate the truck turning movements of the City of San Francisco 57-foot Articulated Fire Truck (Fire Truck), which is shown on Figure 8.22. Other emergency vehicles turning movements analyzed included the SFFD Engine, SFFD Rescue squad, and a second version of the 57-foot Articulated Truck. The SFFD 57-foot Articulated Fire Truck shown in figures 8.21-8.27 was the most restricted vehicle and thus was the basis for street layout designs. At intersection approaches and within intersections, the Fire Truck may encroach into the opposing vehicular travel lane to complete turning movements, but a minimum of 7-feet of refuge area is provided for any cars within these lanes. Figures 8.23-8.27 show enlargements of the fire truck turning movements for the San Francisco 57-foot Articulated Fire Truck at the site intersections.

#### **8.4 Public Street Network and Hierarchy**

The Mission Rock street network will include several street types with distinctive character, planting, traffic speed, and streetlife elements – site furniture, street trees, special paving, and understory planting that combine with active ground floor uses to enrich the pedestrian experience. These street types include:

- Shared Public Way: A pedestrian-oriented shared street with one-way, low-speed, low-volume traffic (Shared Public Way, 8.29-8.30).

- Working Waterfront: A shared street with two-way, low-speed, low-volume traffic that integrates industrial and maritime uses with the Blue Greenway (Terry A Francois Boulevard, 8.31-8.32).
- Neighborhood Street: Streets with generous sidewalks, stormwater treatment gardens, and slow traffic; vehicular travelway curb-separated from sidewalk; must include sharrows, standard bicycle lanes, or protected bicycle facilities (Bridgeview Street, 8.33-8.34; Exposition Street, 8.35-8.36; and Long Bridge Street, 8.37-8.38).
- Paseo: Non-vehicular street connection adjacent to China Basin Park that accommodates emergency vehicle access (Bridgeview Street, Terry A Francois Boulevard, and the Shared Public Way).
- District Street: Streets referencing OCII Mission Bay design standards that include sidewalk and bicycle improvements only (3<sup>rd</sup> Street, 8.39-8.40; Mission Rock Street, 8.41-8.42)

#### 8.4.1 Street Zones and Designs

The streets will contribute to a varied public realm while satisfying above- and under-ground infrastructure needs at Mission Rock. Proposed streets largely conform to the 2015 Subdivision Regulations, with exceptions noted in Section 8.4.2: Street Designs. The public right-of-way must be open to the sky with the exception of permitted landscape and street-wall encroachments per the Design Controls, Sections 3.8, 4.3, and 6.3.5, and publicly accessible at all times unless subject to maintenance, operations, security and safety rights, or closure by Master Developer for events. Street closure by Master Developer or others shall be subject to all applicable City and Port permitting and authorizations. Ownership and maintenance and liability for streetscape elements and encroachments shall be addressed as set forth in the ICA or future MOA or MOU for the following: on the Shared Public Way, including, but not limited to the Buffer/Furnishing Zone, Frontage Zone, Street Rooms, Tree Groves, and non-standard design features, such as lighting, stormwater gardens, and other stormwater treatments; on Terry A. Francois Boulevard, including but not limited to the Buffer/Furnishing Zone and non-standard design features; on Bridgeview Street, including but not limited to the Streetlife Zone and non-standard design features; on Exposition Street, including but not limited to the Streetlife Zone and Stormwater Zone; on Long Bridge Street, including but not limited to the Streetlife Zone and stormwater treatment; on 3<sup>rd</sup> Street, including but not limited to the

Streetlife Zone; on Mission Rock Street including but not limited to the Streetlife Zone.

#### 8.4.1.1 Street Zones: General Definitions

The overall dimension of each streetscape is divided into several sidewalk and roadway zones. The following zones apply to the pedestrian realm of all streets:

- Frontage Zone: A zone along building frontages for Active Edge uses such as seating, signage, and merchandizing, a portion of the public realm that a ground floor building is permitted and encouraged to occupy, as defined in Chapter 5 of the Design Controls.
- Pedestrian Throughway: An unobstructed path of travel for pedestrians that is 6-feet minimum in width and universally accessible, with longitudinal slopes not to exceed 5% maximum.
- Streetlife Zone: A zone within the sidewalk that houses streetscape elements such as trees, lighting, furnishings, and stormwater gardens; equivalent to a Furnishing Zone as defined in the 2015 Subdivision Regulations. See 8.4.1.3.
- Stormwater Treatment Zone: A zone at sidewalk grade on Exposition and Long Bridge Streets where large feature stormwater treatment gardens are proposed within the right-of-way.
- Loading Zone: A zone where temporary spaces for passenger loading and building servicing will be provided. See Figure 8.18 for locations.

The following zones apply to the roadway of Bridgeview, Exposition, Long Bridge, 3rd, and Mission Rock Streets:

- Loading Zone: A zone where temporary spaces for passenger loading and building servicing will be provided.
- Travel Lanes
- Bicycle Facilities

The following zone applies to the Shared Public Way and Terry A Francois Boulevard:

- Shared Zone: The Shared Zone will be shared by pedestrians and vehicles and will be flush with the pedestrian realm. The vehicular travelway will be located between pedestrian-only areas, and defined by visual and tactile detection

cues, site furniture, and designed in accordance with applicable accessibility codes and guidance to ensure pedestrian safety. Crosswalks will be marked at regular intervals.

#### 8.4.1.2 Street Markings

Street markings shall be in accordance with City and Port standards for street and intersection markings. See Section 8.8.

#### 8.4.1.3 Streetlife Zone: Elements

Each street will include a Streetlife Zone, equivalent to a Furnishing Zone as defined by the 2015 Subdivision Regulations, which will include the following elements:

- Tree Planting. Trees should be adapted to the particular microclimate and shade conditions of each street, and sited with consideration of localized wind conditions and City spacing requirements. See Section 8.5.3 for street tree palette, distribution, and species attributes.
- Street Furnishings. Street furnishings, located in the Streetlife Zone, should contribute to wayfinding and identity of each street, and should be a mix of fixed and flexible, movable elements in accordance with specific standards and guidelines for each street. These performance criteria are provided in lieu of a specific palette:
  - Seating. Seating should be an inviting element allowing visual permeability and social use. Special street furnishings are encouraged to emphasize each street's unique character.
  - Accessibility. All street furnishings should be universally accessible, or modifiable to meet or exceed CBC and CAL-DAG minimum requirements.
  - Trash Receptacles. Trash receptacles should be standardized across the site. Location of selected receptacles should not impede visual access or mobility.
  - Bicycle Parking. Bicycle parking shall be provided at building and park entries within the Streetlife Zone as described on each street. Bicycle

racks should be standardized on all internal site streets, with the exception of Bridgeview Street.

## 8.4.2 Street Designs

### 8.4.2.1 Shared Public Way

The Shared Public Way is proposed to be a major pedestrian route linking important site anchors such as Mission Rock Square and China Basin Park to site arrival points for MUNI, vehicles, and bicycles, as well as the main site parking garage on Block D. Shared Public Ways are curbsless streets that privilege pedestrian movement, following traditional street planning approaches in Europe and other pedestrian-friendly urban centers. The Shared Public Way at Mission Rock will be a dynamic space with active ground-floor retail, street rooms, stormwater gardens, and tree groves that will create a lively and unique environment. These design elements will also serve as cues to differentiate pedestrian-dedicated areas from the shared pedestrian/vehicular zone. Vehicles on the Shared Public Way will be limited to low-volume, low-speed, one-way northbound travel for drop-off, pickup, and deliveries, with traffic volumes not anticipated to exceed 100 vehicles per hour. The Shared Public Way will include the following zones as shown in Figures 8.29 and 8.30:

#### 8.4.2.1.1 Shared Public Way: Active Edges

Active Edges will be located along the retail frontages on both sides of the Shared Public Way and will include the following zones:

- A) Pedestrian Throughway: An unobstructed, 6-foot-minimum clear width path of travel for pedestrians shall be maintained within the Active Edges on both sides of the ROW.
- B) Furnishing Zone: A 6-foot-maximum width zone for furniture, signage, and merchandizing with tree planting shall be included in the 12' active edge on the east side of the ROW.
- C) Frontage Zone: A 2-foot-maximum zone shall be maintained for furniture, signage, and merchandizing on the west side of the ROW.



#### **8.4.2.1.2 Shared Public Way: Streetlife Zone**

The Streetlife Zone will be a 20-foot-maximum width zone located along the Shared Zone for its entire length. This zone will provide for safe east-west connections across the ROW. This zone shall include:

- A) Street Rooms: Special landscape areas with non-standard paving, built-in furniture, and ample space for flexible seating, small newsstands, and temporary kiosks.
- B) Tree Groves: Finely textured tree groves that provide dappled shade and enclosure along the entire Shared Public Way. See Section 8.6.
- C) Stormwater Gardens: Stormwater treatment infrastructure that functions ecologically, aesthetically, and programmatically, designed to maximize permeability of movement and view and to encourage lingering, with integrated seating. See Sections 8.6 and 16.

#### **8.4.2.1.3 Shared Public Way: Shared Zone**

The Shared Zone shall be consistently a 20-foot-minimum clear zone shared by pedestrians and vehicles. It shall include a non-meandering 12 to 20-foot wide travel lane. Two 8-ft wide passenger loading spaces with clear zones are provided adjacent to the 12-ft travel lane at Blocks E and F to serve retail and open space uses along the street; otherwise, the 12-foot travelway will be bordered by an 8-ft wide area free of streetscape elements to provide 20-ft clear width for emergency vehicle access. Vehicular-accessible areas will be separated from dedicated pedestrian-only areas with visual and tactile detection cues. Crosswalks shall be marked at regular intervals. The Shared Zone shall include:

- A) One-way Traffic: Vehicular traffic shall be permitted one-way northbound, from Long Bridge Street to Exposition Street. North of Exposition Street, the street becomes a paseo; emergency vehicle access only shall be permitted on the paseo between Blocks A and G. No vehicular access is permitted to the Shared Public Way from Channel Street. The Shared Public Way may be closed to vehicular traffic during special events.

- B) Delineated Loading Areas: Paving and demarcation of 8-foot wide passenger loading zones shall be distinct from the 12'-wide vehicular travel lane. See Figure 8.56.

#### **8.4.2.1.4 Shared Public Way: Vehicular Intersections**

Raised intersections with visual/tactile detection marking the pedestrian route shall be provided at Exposition and Long Bridge Streets and will comply with applicable accessibility guidance. Refer to traffic calming design described in Sections 8.6 and 8.8.

#### **8.4.2.1.5 Shared Public Way: Visual/Tactile Detection Cues**

Visual/Tactile Detection Cues shall differentiate the Shared Zone travel lane and loading zones from dedicated pedestrian areas; these shall be coordinated in consultation with applicable codes and accessibility guidance and include the following:

- A) Paving Strategies: Material tactics, including contrasting paving color, texture, or material type, shall ensure safe pedestrian connections across the Shared Zone. These cues shall delineate the Shared Zone for its entire length. Also see 8.5.2 and Figures 8.44-8.45.
- B) Spatial Cues: Incorporate design and spatial cues such as a 'gateway' to the Shared Zone from Long Bridge Street -- a constricted entry point with physical elements that will provide a visual/physical cue for drivers to slow down. Raised intersections at Long Bridge and Exposition Street are proposed in order to maximize pedestrian safety and visibility. Additional spatial cues are described in Section 8.6: Traffic Calming Design.

#### **8.4.2.1.6 Shared Public Way: Non-Standard Curbs and Drainage**

The Shared Public Way is curbless on both sides of the vehicular-accessible 20-ft wide Shared Zone, which is not in conformance with the Subdivision Regulations. A linear drainage element for the inverted crown street, which is described in greater detail in Sections 10 and 13, will convey surface runoff. A design modification and exception or an Encroachment Permit will be requested of the

Acquiring Agency for construction of the inverted crown street during the permitting process for the street improvements. See Figure 8.29 and Section 8.6.

#### **8.4.2.2 Terry A Francois Boulevard**

Terry A Francois Boulevard will be a unique Working Waterfront that supports active maritime, industrial, and production uses on the waterfront. Terry A Francois Boulevard will also connect the Bay Trail/Blue Greenway to China Basin Park and the Embarcadero to contribute to uninterrupted public access along San Francisco's eastern waterfront. Connecting the Mission Rock development to its active and historical maritime context, the expression of craft and industrial character along Terry A Francois Boulevard will be central to the personality and experience of this working waterfront. Terry A Francois will include the following zones, shown in Figures 8.31 and 8.32:

##### **8.4.2.2.1 Terry A Francois Boulevard: Waterfront Zone**

Located adjacent to Pier 48, Pier 50, and Channel Wharf, the Waterfront Zone shall include the following zones within a minimum cumulative width of 22-feet, measured from Pier 50:

- A) Bay Trail/Blue Greenway: A multi-use trail located along the east side of the entire Terry A Francois Boulevard ROW, with a 16-foot-minimum clear path of travel for bikes and pedestrians.
- B) Buffer/Furnishing Zone: A 3-foot-minimum width buffer comprised of furnishings and iconic lighting, located along the entire length of the Shared Zone. This zone will have contrasting paving and other cues to be coordinated with applicable accessibility codes and guidance.

##### **8.4.2.2.2 Terry A Francois Boulevard: Shared Zone**

The Shared Zone will be a 26-foot-minimum width zone with two-way traffic that is shared by pedestrians and vehicles from Mission Rock Street to Exposition Street. The Shared Zone will be separated from the Waterfront Zone and the Building-Front Zone with flush curbs per 8.4.2.2.7 and Buffer/Furnishing Zones per 8.4.2.2.1-B and 8.4.2.2.3-B.

**8.4.2.2.3 Terry A Francois Boulevard: Building-Front Zone**

The Building-Front Zone shall be contained within a maximum width of 24-feet adjacent to Blocks H, I, and J. The Building-Front Zone will include:

- A) Pedestrian Throughway: A 12-foot-minimum width pedestrian area with 6-foot minimum clear path of travel at street grade along Blocks H, I, and J.
- B) Encroachments: Where an Elevated Walkway is provided within the property line of the adjacent Development Parcels per Chapter 5 of the Design Controls, a 6-foot-maximum width encroachment within the right-of-way shall be provided to accommodate accessible circulation to the Elevated Walkway and a dock lift or similar apparatus at the building face to serve ground floor tenants.
- C) Buffer/Furnishing Zone: A 3-foot-minimum width buffer comprised of furnishings, located along the entire length of the Shared Zone. This zone will have contrasting paving and other visual/tactile detection cues for pedestrians, to be coordinated with applicable accessibility codes and guidance.
- D) Loading Area: A 9-foot-wide loading area that accommodates a maximum truck size of WB-30, located adjacent to the Shared Zone at Blocks H, I, and J. See Figure 8.55.
- E) Streetlife Zone: A 9-foot-wide dedicated pedestrian spill-out space, located adjacent to the loading area.

**8.4.2.2.4 Terry A Francois Boulevard: Paseo North of Exposition Street**

Between Block K and Pier 48, Terry A Francois Boulevard will become a paseo that will accommodate emergency vehicle access for up to 150-feet of its length, with the terminus of this access marked by permanent street furnishings. The paseo will include the following zones:

- A) Waterfront Zone at Pier 48: A 28-foot-wide zone, located adjacent to the Pier 48 bulkhead, shall accommodate the Bay Trail/Blue Greenway per 4.3.1-A) and additional public space for Pier 48.
- B) Vehicular Turnaround + Loading Spaces: A vehicular turnaround with

passenger loading spaces, accessed from the Shared Zone.

- C) Pedestrian Throughway: A 6-foot-minimum clear path of travel for pedestrians, located along Block K.

#### **8.4.2.2.5 Terry A Francois Boulevard: Vehicular Intersections**

Flush intersections with visual/tactile detection marking the pedestrian route shall be provided at Exposition and Long Bridge Streets. An uncontrolled, marked intersection shall be provided at the pedestrian crossing between Channel Lane and Channel Wharf. These will comply with applicable accessibility guidance. Aural warnings will be integrated within paving adjacent to intersections.

#### **8.4.2.2.6 Terry A Francois Boulevard: Streetscape Elements**

Streetscape elements are an important aspect of experience and character of Terry A Francois Boulevard.

- A) Placement: Streetscape elements shall be placed within the Buffer Zones at regular intervals as determined by applicable accessibility guidance. Additional permanent streetscape elements in the Waterfront or Building-Front Zones, if desired, shall not block throughway areas or impede circulation along Terry A Francois Boulevard.
- B) Expression of Production Character: Street furnishings, especially benches, along Terry A Francois Boulevard shall express the industrial character of the Working Waterfront Typology. Industrial and salvaged materials are strongly encouraged for these elements.
- C) Consistency of Elements: Trash receptacles and bicycle racks shall be consistent for the length of this streetscape. Benches may be varied.

#### **8.4.2.2.7 Terry A Francois Boulevard: Non-Standard Curbs and Drainage**

Terry A Francois Boulevard has flush curb conditions on both sides of the vehicular-accessible Shared Zone, with flush intersections at Long Bridge and Exposition Street, which are not in conformance with the Subdivision Regulations. Additionally, a linear drainage element, which is described in greater detail in Sections 10 and 13, along the flush curb condition will convey surface runoff. A

design modification and exception or an Encroachment Permit will be requested of the Acquiring Agency for construction of the linear drainage element during the permitting process for the street improvements.

#### **8.4.2.3 Bridgeview Street**

Bridgeview Street will be a Complete Street with dedicated bicycle infrastructure, active sidewalks, stormwater treatment gardens, and low-speed, low-volume vehicular traffic. An important north-south bicycle connection from China Basin Park to Mission Bay, Bridgeview Street will integrate protected bicycle facilities into the life and character of the street. Bridgeview Street will include the following zones, shown in Figures 8.33 and 8.34:

##### **8.4.2.3.1 Bridgeview Street: Sidewalk Zones**

Sidewalks on Bridgeview Street shall be 14-feet-wide along the east side of the right-of-way, and 12-feet wide along the west side of the right-of-way. The sidewalk shall include:

- A) Frontage Zone: A 2-feet-maximum width zone shall be maintained along building frontages for furniture, signage, and merchandizing.
- B) Pedestrian Throughway: An unobstructed, 6-feet-minimum clear width path of travel for pedestrians, with width as noted on Figure 8.33, shall be maintained between the Frontage Zone and the Streetlife Zone.
- C) Streetlife Zone: A zone between the curb and pedestrian throughway with width as noted on Figure 8.33. This zone shall include trees, lighting, and furnishings that shall be consistent for the entire length of the street. Stormwater treatment gardens shall be included in the Streetlife Zone with minimum area as noted in Section 16.
- D) Driveway Restrictions: Driveways shall not be permitted, except at the Block D parking garage.

##### **8.4.2.3.2 Bridgeview Street: Roadway Zones**

The 34-foot-wide roadway will accommodate two-way vehicular traffic from Exposition Street to Mission Rock Street and will include:

- A) **Bicycle Facility:** A two-way Class 1 cycle track with total width of 10-feet on the east side of the right-of-way, including two 5-foot-wide lanes. This facility shall be protected from vehicular traffic with a 3-foot-wide horizontal buffer that is flush with the cycle track surface. This horizontal buffer will include a mountable curb that grade-separates the facility from the adjacent vehicular travelway. Approved safe-hit posts that are 46-inches in height shall be provided in this area.
- B) **Travel Lanes:** Two 10.5-foot-wide travel lanes shall be provided to accommodate two-way vehicular traffic.

#### **8.4.2.3.3 Bridgeview Street: Paseo North of Exposition Street**

Between Block G and Block K, Bridgeview Street will become a paseo that will accommodate emergency vehicle access for up to 150-feet of its length with the terminus of this access marked by permanent street furnishings or street trees. The paseo will include the following zones:

- A) **Multi-Use Trail Connection:** A 16-foot-minimum clear multi-use trail shall connect China Basin Park to the Class 1 bicycle facility. This connection shall include paving and signage delineating this shared use path and warning cues for pedestrians and cyclists at crossings.
- B) **Emergency Vehicle Clear Access Width:** A 20-foot-minimum clear zone shall accommodate emergency vehicle access for up to 150 feet, measured from the Exposition Street right-of-way.
- C) **Pedestrian Throughway:** A 6-foot-minimum clear path of travel for pedestrians shall be provided on the east and west sides of the right-of-way.

#### **8.4.2.3.4 Bridgeview Street: Traffic Control and Calming Measures**

The intersections of Bridgeview Street with Mission Rock and Exposition Streets will have full stop control. The intersection at Long Bridge Street will be a raised intersection at cycle track grade with two-way stop control for Long Bridge, but no stop control for Bridgeview Street bicycle or vehicular traffic. See Section 8.8. A raised mid-block crosswalk at the intersection of Bridgeview Street, Mission Rock

Square, and Channel Lane shall be included. Bicycle facility treatment shall continue across the intersection, with signage to yield to pedestrians. See Figures 8.63, 8.65, and 8.67.

#### **8.4.2.3.5 Bridgeview Street: Bicycle striping, signage, and wayfinding**

Bicycle Signage and Wayfinding should refer to City, Port, and NACTO (National Association of City Transportation Officials) Urban Bikeway Standards. Signage should be mounted at the curb edge of the Streetlife Zone, or inset in bicycle facility paving. Before all intersections and at the northern paseo portion of Bridgeview Street, the cycle track shall include paved and signed warning cues for pedestrian crossings. Cycle track demarcation shall continue across intersections at Exposition and Long Bridge Streets to indicate that cyclists have the right-of-way. Signs should indicate that vehicles must yield to cyclists.

#### **8.4.2.3.6 Bridgeview Street: Non-Standard Curbs and Drainage**

Bridgeview Street has a raised cycle track with a mountable curb separating the cycle track from the vehicular travel way, and a 4-inch curb separating the cycle track from the sidewalk on the east side of the street; these are not in conformance with the 2015 Subdivision Regulations.

#### **8.4.2.4 Exposition Street**

Exposition Street is designed to calm traffic and create a lush pedestrian connection with bulb-out gardens that will treat stormwater and provide seating. It will also accommodate service and loading demands for Blocks A, B, F, G, J, and K. Exposition Street will include the following zones, shown in Figures 8.35 and 8.36:

##### **8.4.2.4.1 Exposition Street: Sidewalk Zones**

Sidewalks on Exposition Street shall be 14-feet-wide along the south side of the street, and 20-feet wide along the north side, with inset loading zones for passenger loading and servicing access. The sidewalk shall include:

- A) Frontage Zone: A 2-feet-maximum width zone shall be maintained along building frontages for furniture, signage, and merchandizing.



- B) Pedestrian Throughway: An unobstructed, 6-foot-minimum clear width path of travel for pedestrians, with width as noted in Figure 8.35, shall be maintained between the Frontage Zone and the Streetlife Zone.
- C) Streetlife Zone: A zone between the curb and pedestrian throughway with width as noted on Figure 8.35. This zone shall include trees, lighting, stormwater treatment gardens, and furnishings that shall be consistent for the entire length of the street.
- D) Stormwater Zone: An 8-foot-wide zone between the Streetlife Zone and Roadway on the north side of the right-of-way, at grade with the sidewalk, shall include large stormwater treatment gardens with unique integral seating located at the southeast and southwest corners of Blocks A, G, and K.

#### **8.4.2.4.2 Exposition Street: Roadway Zones**

The 26-foot-wide roadway will accommodate two-way vehicular traffic from 3rd Street to Terry A Francois Boulevard, and shall include:

- A) Bicycle Facilities: A 5-foot-wide painted Class II bike lane in the westbound direction, separated from vehicular traffic with a 6-inch-wide solid white line. Minimize utility covers and material transitions in this area. This facility shall be located 1-foot from the face of the adjacent curb. Eastbound sharrows shall be provided.
- B) Loading Zone: An 8-foot-wide zone shall be provided at grade with the roadway, located between stormwater treatment gardens described in Figure 8.36, to provide passenger loading and servicing access. See Section 8.5.6 and Figures 8.18 and 8.54.
- C) Travel Lanes: Two 10-foot-wide travel lanes shall be provided to accommodate two-way traffic.

#### **8.4.2.4.3 Exposition Street: Traffic Control and Calming Measures**

The intersection of Exposition Street with Bridgeview Street shall have full stop control for bicyclists and vehicles. At the Shared Public Way and Terry A Francois Boulevard, there shall be stop-controlled raised or flush intersections with

pedestrian thoroughway clearly delineated by crosswalks. At intersections, bicycle lane treatment shall continue across intersections at Bridgeview Street and the Shared Public Way. See Section 8.8 and Figures 8.63 and 8.66.

#### **8.4.2.4.4 Exposition Street: Large Vehicle Circulation**

Large vehicle circulation to and from Terry A Francois Boulevard and Pier 48 shall be accommodated on the roadway between Blocks K and J. See Figures 8.22-27.

#### **8.4.2.5 Long Bridge Street**

Long Bridge Street will be an important pedestrian entry point to the site from MUNI on 3rd Street. It is designed with wide thoroughways, shade trees, ample street furniture opportunities, and compact linear stormwater gardens. Long Bridge Street will accommodate service and loading demands for Blocks C, D, E, H, and I and will be the vehicular entry point for the Shared Public Way. Long Bridge Street will include the following zones, shown in Figures 8.37 and 8.38:

##### **8.4.2.5.1 Long Bridge Street: Sidewalk Zones**

Sidewalks on Long Bridge Street shall be 15-feet-wide on both sides of the right-of-way. The sidewalk will include:

- A) **Frontage Zone:** A 2-foot-maximum width zone shall be maintained along building frontages for furniture, signage, and merchandizing.
- B) **Pedestrian Thoroughway:** An unobstructed, 8-foot-clear width path of travel for pedestrians shall be maintained between the Frontage Zone and the Streetlife Zone.
- C) **Streetlife Zone:** A 5-foot-wide zone between the curb and pedestrian thoroughway with width as noted on Figure 8.37. This zone shall include trees, lighting, stormwater treatment gardens, and furnishings that shall be consistent for the entire length of the street.
- D) **Bulb-Out with Stormwater Treatment:** A 4-foot-maximum width bulb-out that includes stormwater treatment gardens shall be provided on the north side of Long Bridge Street, on either side of the Shared Public Way intersection.

#### **8.4.2.5.2 Long Bridge Street: Roadway Zones**

The 30'-wide roadway will accommodate two-way vehicular traffic from 3rd Street to Terry A Francois Boulevard, and will include:

- A) Loading Zone: An 8-foot-wide loading zone shall be provided at grade with the roadway on the north side of the right-of-way, to provide passenger loading and building servicing access. This zone shall be painted with a unique surface treatment that differentiates it from the travel lanes. This zone shall not interfere with fire truck access or turning movements at intersections. Refer to Transportation Plan for loading and servicing strategies.
- B) Travel Lanes: Two 11-foot-wide travel lanes shall be provided to accommodate two-way traffic.
- C) Bicycle Markings: East- and west-bound sharrows shall be provided.

#### **8.4.2.5.3 Long Bridge Street: Traffic Control and Calming Measures**

The intersection of Long Bridge Street with Bridgeview Street shall have stop control for all Long Bridge Street traffic only. At the Shared Public Way and Terry A Francois Boulevard, there shall be stop-controlled raised intersections with pedestrian throughway clearly delineated by crosswalks. See Section 8.8.

#### **8.4.2.5.4 Long Bridge Street: Driveways at Block D Parking Facility**

Driveways shall be provided at the Block D parking facility to accommodate ingress and egress. Refer to Transportation Plan.

#### **8.4.2.6 3rd Street**

3rd Street is Mission Rock's gateway to Mission Bay. A wide multi-modal street, its character is fundamentally different from the interior streets of Mission Rock. South of Long Bridge Street, the sidewalk is a key threshold into Mission Rock from the MUNI station at Mission Rock Street. 3rd Street will adhere to approved San Francisco Office of Community Investment and Infrastructure (OCII) Mission Bay standards or approved substitutions for paving materials, trees, street furniture, and lighting. 3rd Street will include the following zones, shown in Figures 8.39 and 8.40:

**8.4.2.6.1 3<sup>rd</sup> Street: Sidewalk Zones**

The sidewalk on 3rd Street will be 12-feet-wide as shown in Figure 8.39 and will include:

- A) Pedestrian Throughway: An unobstructed, 6-foot-minimum clear width path of travel for pedestrians shall be maintained between the building façade and the Streetlife Zone.
- B) Streetlife Zone: A zone between the curb and pedestrian throughway with width as noted on Figure 8.39. This zone shall include trees, lighting, stormwater treatment gardens, and furnishings that shall be consistent for the entire length of the street.

**8.4.2.6.2 3<sup>rd</sup> Street: Roadway Zones at Block A**

At Block A only, the following shall be provided:

- A) Loading Zone: An 8-foot-wide zone shall be provided at grade with the roadway to provide passenger loading and servicing access per Figure 8.18.
- B) Bicycle Facility: A 6-foot-wide painted Class II bike lane in the north-bound direction, separated from vehicular traffic with a 6-inch-wide solid white line.

**8.4.2.6.3 3<sup>rd</sup> Street: Emergency Vehicle Access Radii**

Vehicular turning radii from Long Bridge Street and Exposition Street onto Third St have minimum requirements for emergency vehicle access. Refer Figures 8.21-8.27 for truck turning analysis.

**8.4.2.7 Mission Rock Street**

Mission Rock Street will provide an important link to the Blue Greenway at the terminus of Bridgeview Street. The Block H frontage will incorporate bicycle facilities connecting Bridgeview Street to the Blue Greenway on Terry A Francois Boulevard. Mission Rock Street will adhere to approved San Francisco Office of Community Investment and Infrastructure (OCII) Mission Bay standards or approved substitutions for paving materials, trees, street furniture, and lighting. South of Block H, a contraflow Class 1 cycle track will connect cyclists from Bridgeview Street to Terry A Francois Boulevard's Blue Greenway

infrastructure. Sidewalk improvements will extend along the north side of the right-of-way from Terry A Francois Boulevard to 3rd Street. Mission Rock Street will include the following zones, shown in Figures 8.41 and 8.42:

#### **8.4.2.7.1 Mission Rock Street: Sidewalk Zones**

Sidewalk improvements on Mission Rock Street shall be 12-feet-wide, on the north side of the right-of-way, as shown in Figure 8.41. The sidewalk shall include:

- A) Frontage Zone: A 2-foot-maximum width zone shall be maintained along building frontages for furniture, signage, and merchandizing.
- B) Pedestrian Throughway: An unobstructed, 6-foot-minimum clear width path of travel for pedestrians shall be maintained between the building frontage and the Streetlife Zone.
- C) Streetlife Zone: A zone between the curb and pedestrian throughway with width as noted on Figure 8.41. This zone shall include trees, lighting, and furnishings that are consistent for the entire length of the street. Refer to OCII Mission Bay Standards.
- D) Driveways: Driveways shall be permitted at the Parcel D parking garage.

#### **8.4.2.7.2 Mission Rock Street: Bicycle Facilities**

- A) Bicycle Facility: A two-way Class 1 cycle track with total width of 10 feet measured from the face of curb on the north side of the right-of-way, from Bridgeview Street to Terry Francois Boulevard. This facility shall be protected from vehicular traffic with a raised buffer that is a minimum of 15-inches in width, 6 inches in height, and includes a 46-inches-high permanent vertical buffer. This buffer will be segmented to permit drainage. Installation of the raised buffer is adjacent to an existing low pressure water main and will require an agreement between the SFMTA and SFPUC regarding the disposition of the existing water main that will be coordinated during the permitting process.
- B) Cycle Track Warning Cues: At intersections, the cycle track shall include paved and signed warning cues indicating pedestrian crossings and vehicular intersections.

- C) Cycle Track Intersections: Cycle track demarcation shall continue across intersections at Bridgeview Street and Terry Francois Boulevard to indicate the primary bicycle route.
- D) Reduced-width travel lanes: existing travel lanes on Mission Rock Street will be narrowed to 10-foot wide. Proposed changes to existing roadway striping will be coordinated at a future date with SFMTA.

## **8.5 Components of Public Streets**

### **8.5.1 Curb Heights**

A variety of curb types will be installed throughout the site. Mission Rock Street, 3rd Street, Long Bridge Street and Exposition Street improvements will consist of crowned asphalt roadway and six-inch curb and gutter on either side. Terry A Francois Boulevard will have flush curb for optimal pedestrian access. Shared Public Way and the northern end of Bridgeview are curbless streets with continuous paving across the right-of-way. Overland release and stormwater drainage information for curbless streets can be found in Section 7: Site Grading and Section 13: Storm Drainage System, respectively. Bridgeview Street will utilize both mountable curb as well as four-inch and six-inch curb and gutter. The mountable curb will delineate the class I cycle track bicycle facility from the vehicular travel lanes and the four-inch curb and gutter will elevate the adjacent landscape and sidewalk above the bike lanes. Curb height design exception and modification requests subject to the process outlined in the City Subdivision Regulations will be reviewed and approved by the City on a case-by-case basis. For further reference of curb type locations throughout the site and typical curb details, see Figure 8.43.

### **8.5.2 Paving**

Paving will be a key component that defines the character, connectivity, and identity of Mission Rock's varied streets and open spaces. See Figures 8.44, 8.45, and 8.46 for proposed paving by street and zone. All paving in areas with high pedestrian traffic will facilitate universal accessibility. Paving connections to surrounding streets should be carefully considered for their impact on the larger Mission Bay neighborhood. Final pavement design for the roadway sections will be designed for the anticipated traffic load and equivalent single axial loads (ESAL) for a design life coordinated with the Acquiring Agency per the terms of the DA, DDA, and ICA.

The Pedestrian Throughway defined on each street shall be an accessible path of travel that is unobstructed by non-ADA-compliant paving or material treatments. Paving and built-in site elements shall be comprised of high-quality materials and finishes that are durable to withstand high-intensity use in the Bay environment. All material textures in designated clear path of travel and accessible use areas shall be ADA-compliant.

Where trees are planted in paving, surfacing material shall allow air and water to reach tree roots. Tree grates or stabilized crushed stone are permitted in the Streetlife Zone and in Open Spaces outside of dedicated Pedestrian Throughways. Where trees are planted in planting areas on streets, finish grade shall be within 2" of adjacent pedestrian paving.

### **8.5.3 Street Trees**

Planting at Mission Rock will function ecologically to help achieve the Project's goals for sustainability and contribute to a healthy environment. Composition and distribution of a diverse, adapted urban forest, stormwater gardens, and planted areas will create a resilient ecological framework to shape varied sensory experiences across the site and provide waterfront and urban habitat. See Figures 8.47, 8.48, and 8.49.

Trees will be used to block and mitigate wind, provide shade and reduce urban heat island effect, and to provide shelter for birds. Native or climate appropriate grasses, shrubs, and ground cover will provide as much species diversity as feasible in Mission Rock's planting areas, as well as function in stormwater treatment gardens. Upon construction, maintenance and management of tree and understory planting, soils, and irrigation will be essential to the successful function of the site's urban ecological systems.

Tree species shall be considered for their aesthetic and ecological benefits. Suggested species diversity in Figure 8.48 is a baseline; species selected for specific areas shall conform to this general distribution and diversity for the Mission Rock urban forest. Tree species suggested for each component of the Public Realm network have been selected in consultation with a certified arborist. If alternative species are chosen, they shall conform to the aesthetic and performance requirements outlined in Figure 8.48.

#### **8.5.3.1 Wind Mitigation**

Tree selection and maintenance will be vital to maintaining a comfortable public realm experience in both streets and open spaces. Trees shall be sited with consideration given to wind modeling at the neighborhood and local scale. Mandatory wind tolerances have been noted under the design criteria for tree species selection.

#### **8.5.3.2 Tree Species Installation and Establishment**

Trees shall receive adequate soil volume to sustain long-term health. Trees shall receive adequate irrigation and monitoring during a three-year establishment period. Large and medium-size trees shall be installed at a minimum size of 48-inch-box; small trees shall be installed at a minimum size of 36-inch box. Refer to Figure 8.48 for tree size and corresponding minimum size at installation. To meet functional requirements in both streets and open spaces, clear trunk requirements shall be achieved within five years of installation. Branches shall not interfere with pedestrian throughway (minimum 84 inches of clearance measured from ground surface) or mandated fire truck vertical clearance of 13.5-inches-minimum (measured from roadway surface). Master Developer and/or HOA intends to enter into a street tree maintenance and management agreement with Public Works to address street tree maintenance.

#### **8.5.3.3 Tree Maintenance and Management**

Trees in the Public Realm should be pruned yearly to sustain long-term health and to maintain desired growth habit. Determine appropriate water application after establishment (three years) in consultation with a certified arborist's comprehensive review of tree health on the site. Monitor water application yearly.

#### **8.5.3.4 Recommended Soil Volume for Trees**

Trees in the public realm should have adequate soil volume and infiltration, particularly trees planted in paving. Large tree species require 1500-2000 cubic feet of soil volume per tree; Medium tree species require 1000-1500 cubic feet of soil per tree; Small tree species require 800-1000 cubic feet of soil per tree. Tree species sizes are noted in Figure 8.48.



#### 8.5.3.5 Minimum clearance at On-Structure Conditions

Where trees are planted in on-structure conditions, at least 4-feet of soil depth, and a continuous gravel drainage layer that is 6-12 inches in depth, should be maintained.

#### 8.5.4 Sustainable Water Strategies

Mission Rock's landscapes and building systems will work together and be designed to conserve, re-use, and filter water. Site hydrology will be intertwined with daily life at Mission Rock in a unique and systematic way, with stormwater treatment gardens that are a part of the public realm experience in every streetscape and open space, building-integrated recycled water systems, and advanced greywater reuse strategies. Irrigation is an essential element of plant health and should be considered as part of the site hydrology strategy.

##### 8.5.4.1 Stormwater Treatment

Stormwater treatment will be handled through a combination of treatment within specific streets, and in centralized, large feature stormwater gardens to which runoff is conveyed by gravity or force main for treatment. See Figures 8.50 and 8.51 for a conceptual diagram of the site stormwater treatment approach, and refer to Section 16 for detailed discussion and analysis of stormwater management.

##### 8.5.4.2 Irrigation

All plant species shall receive establishment irrigation for a minimum of two years. Tree species shall receive establishment irrigation for three years or as deemed necessary for long-term health by a certified arborist. Refer to Mission Rock Sustainability Strategy for guidance about water usage. Planting design shall optimize irrigation efficacy by grouping plants with similar water needs into efficient irrigation hydrozones. Permanent irrigation infrastructure shall be provided for all trees, understory planting, stormwater treatment gardens, and lawn areas. Irrigation flow meters for all irrigation hydrozones will be installed to record and monitor water use across the site, and watering records kept for all site trees, with a yearly water audit to track the amount of water applied.

Efficient irrigation systems will be utilized, with drip irrigation except in lawn areas, where spray irrigation is acceptable. Refer to Local Model Water Efficient Landscape Ordinance for regulatory guidance. Recycled water shall be used for irrigation, with potable backup,

to minimize potable water use. This use shall conform to applicable public health standards; edible plants and play areas shall not be irrigated with non-potable water. See Sustainability Strategy for recycled water resources and minimum water quality treatment thresholds.

#### **8.5.5 Lighting**

Lighting will be an important component of nighttime identity, experience, and safety at Mission Rock. Lighting of special, unique character should reinforce key pedestrian routes along the Shared Public Way and Channel Lane and Channel Street. Where possible, a variety of lighting types should work together to create a warm, inviting, and safe nighttime environment. See Figures 8.42-8.53.

Lighting across the site will be scaled to the pedestrian and bicycle experience and will reinforce key pedestrian circulation routes and connections. Lighting strategies will also take care to protect site residents by minimizing light pollution. Lighting along the waterfront will operate on a gradient of intensity from a well-lit Promenade at the Buildings and Piers to a more uniformly diffused, minimal character along the water that will not disrupt the ecology of the Bay edge. Lighting strategies shall minimize glare, light trespass outside the development, and light pollution in areas adjacent to residential buildings and along the waterfront. Refer to Section 7.6 of the Design Controls and to the Sustainability Strategy for vertical development lighting controls. Site lighting will comply with applicable regulatory standards.

Lighting fixtures and bulbs shall meet or exceed applicable energy-efficiency standards. Lighting shall be designed to allow facial recognition along paths of travel. Lighting shall not create glare or "hot spots" that would inhibit visual acuity, or unnecessary vertical transmittance of light. Lighting strategies shall facilitate sight lines and perception of safety across the public realm. Lighting uniformity ranges in open spaces shall allow for variation in light levels to create hierarchy and a range of experiences.

#### **8.5.6 Accessible Loading**

Loading zones for vehicular and paratransit loading and unloading will be distributed across the site to enable access to all Development Parcels and open spaces, with priority given to significant

pedestrian connections noted in Figure 8.15. Proposed configurations for loading stalls are described for the following conditions:

DPW-Standard Curb, 6-inches typical: Figure 8.54.

Non-DPW-Standard flush curb, Shared Public Way: Figure 8.56

Non-DPW-Standard flush curb, Terry A Francois Boulevard: Figure 8.55.

### **8.5.7 Driveway and Streetscape Coordination**

The project will ensure that locations of above-grade utility boxes, where provided, are coordinated with streetscape elements. These locations shall be coordinated with tree spacing to ensure Urban Forestry standards are applied to the greatest extent possible. If provided at all Development Parcels except Block D, driveways shall be located only Exposition or Long Bridge Streets. Driveways for Block D shall be provided on Long Bridge, Bridgeview, and Mission Rock Streets. Driveways are not permitted on the Shared Public Way, Terry A Francois Boulevard, 3rd Street, or Bridgeview Street north of Long Bridge Street. Driveway locations shall be coordinated with placement of streetscape elements per Figure 8.57.

## **8.6 Traffic Calming**

As part of the pedestrian and bicycle focused development plan outlined in the Mission Rock Transportation Plan, traffic calming elements are proposed to improve non-vehicular traffic safety and access. Proposed traffic calming elements for the Project street rights-of-way are identified in Figure 8.58 and include raised intersections, raised crosswalks, bulb-outs, and narrowed lane widths to accommodate bicycle infrastructure.

### **8.6.1 Raised Intersections and Raised Crosswalks**

Raised intersections are proposed along the Shared Public Way, Terry A Francois Boulevard, and Bridgeview Street and are described in greater detail in Section 8.8. A raised mid-block pedestrian crosswalk is proposed along Bridgeview Street adjacent to Mission Rock Square and Channel Lane. A City Standard driveway is also proposed on Terry Francois Boulevard at the Mission Rock Street intersection to provide additional traffic calming measures as vehicles enter Terry A Francois Boulevard. At raised crosswalk and intersection locations, the street pavement areas will be raised as much as 6-inches to match the adjacent curb heights and will change paving material for a more effective visual cue to motorists. Final grades are dependent on overland release feasibility studies.

Where raised intersections or crossings are proposed, decorative crosswalk treatments or striped continental crosswalks shall be provided and comply with City and MUTCD standards and required review. Proposed decorative treatments shall meet ADA standards for slip-resistance. The design for these intersections and crosswalks will be coordinated with and are subject to the approval of the SFPUC, SFDPW, the SFMTA, and the San Francisco Fire Department (SFFD). Refer to Section 7: Site Grading for additional information about Project grading and overland release requirements. A typical raised crossing detail is shown on Figure 8.59.

The Developer or HOA will be responsible for maintenance and restoration of the street pavement sections, including pavement markings, within the raised intersection and raised crosswalk. Designs will incorporate measures to minimize maintenance and reduce the potential for dirt, silt and other debris to settle within the crosswalks.

#### **8.6.2 Intersection Bulb-Outs**

Bulb-outs have been strategically added along Long Bridge Street at the Shared Public Way intersection and along 3rd Street between Exposition Street and China Basin Park. These locations are expected to have a high concentration of pedestrian traffic traveling between the parking garage at Block D, the amenities along Shared Public Way, residential housing on the west side of 3rd Street, China Basin Park and AT&T Park just north of the development site. Bulb-outs will narrow driving lanes, create a shorter pedestrian crossing, make pedestrians more visible to motorists and require vehicles to reduce speeds. The final design for the bulb-outs will be coordinated with the SFMTA, SFDPW, SFPUC, and the SFFD. Bulb-out improvements will be constructed if the designs can meet the Acquiring Agency's requirements for overland drainage release, utility clearances, and accessibility for persons with disabilities. Overland Release at these locations will be studied in the Grading and Drainage Master Plan. A typical bulb-out detail is shown on Figure 8.59.

#### **8.7 Off-Site Traffic Signalization**

As shown in Figure 8.60 and described below, the Developer will be responsible for design and construction funding, either as partial contribution or in full, of traffic signal modifications or new traffic signals, as well as striping. Where possible, the electrical service for traffic signals will be located within the joint trench (see Section 17). Traffic signals shall be designed by and constructed to the specifications

of the SFMTA and SFDPW. If determined feasible, planned off-site intersection improvements include, but may not be limited to the following:

#### **8.7.1 3rd Street and Existing Terry A Francois Boulevard**

The existing traffic signal infrastructure at Terry A Francois Boulevard and 3rd Street will be removed or modified during the demolition of the northern segment of Terry A Francois Boulevard that currently provides east-west access across the site. The new intersection at this location will serve northbound and southbound vehicular and bike traffic as well as eastbound and westbound bike and pedestrian traffic. An updated signalized intersection is anticipated to provide safe crossing for bikes and pedestrians across 3rd Street. The developer will be responsible for SFMTA costs to review, design, coordinate and implement improvements including signal design and signal timing changes.

#### **8.7.2 3rd Street and Channel Street**

To accommodate improvements at the existing 3rd Street and Channel Street intersection, signal timing and phasing will be revised. Vehicular access on Channel Street will now terminate at 3rd Street and will no longer continue eastward onto the site. The left turn from southbound 3rd street and phasing segments will be removed from the signalization at the intersection. The developer will be responsible for SFMTA costs to review, design, coordinate and implement improvements including signal design and signal timing changes.

#### **8.7.3 3rd Street and Mission Rock Street**

The existing traffic signals at the 3rd Street and Mission Rock Street intersection are planned to remain in place. Restriping of the Mission Rock lanes will likely require phasing and timing design alterations for the intersection. Revisions to the existing signalization at 3rd Street and Mission Rock Street will be completed by the SFMTA.

#### **8.7.4 3rd Street and Exposition Street**

A new traffic signal will be installed at the intersection of 3<sup>rd</sup> Street and Exposition Street to provide safe mobility for vehicular traffic, cyclists and pedestrians. Vehicles exiting the site from Exposition Street will be permitted to turn right and left onto 3<sup>rd</sup> Street. Northbound vehicles on 3<sup>rd</sup> Street will be allowed right turn access into the site at Expositions Street. Left turns from southbound 3<sup>rd</sup> Street on to Exposition Street will be permitted. Pedestrian crosswalks will also be incorporated

across Exposition Street in the north-south and east-west directions. The developer will be responsible for SFMTA costs to review, design, coordinate and implement improvements.

#### **8.7.5 4th Street Intersection Improvements**

As described in the project DEIR, the Developer will provide funding to the SFMTA, for a maximum amount of one-million dollars to SFMTA to design and construct traffic signals at the intersections of 4<sup>th</sup> Street and Mission Rock Street and 4<sup>th</sup> Street and Long Bridge Street. Funding shall be provided prior to the issuance of approval for the third building site permit, but in no event later than the site permit for Block D2 parking garage, SFMTA will construct the improvements in advance of the Developer's proposed date of opening for the Block D2 parking garage.

#### **8.7.6 Mission Rock Street Striping**

As described in the project DEIR, the Developer will provide the following:

- Stripe a "keep clear" zone in front of the easternmost driveway closest to Bridgeview Street.
- Extend the southbound left-turn lane at the Third Street-Mission Rock Street intersection to a total length of 350-ft. In combination with the re-striped left-turn lane, install advance traffic signal detention equipment in coordination with SFMTA.
- Stripe a "keep clear" zone on Mission Rock Street adjacent to the driveway access points serving the public services building. Final location and extents of the "keep clear" zone will be coordinated with the SFFD and San Francisco Police Department during the construction document approval process.

### **8.8 On-Site Traffic Controls**

Traffic calming and stop-controlled intersections, rather than signalization, are the primary strategy for on-site traffic control. Stop signs will be added at most of the intersections, with final locations to be determined by traffic sight distance requirements, Project phasing and coordination with the City. If implemented, stop signs on city streets will require legislation from SFMTA Board and traffic calming may also require SFMTA Board and/or public hearing.

#### **8.8.1 All-Way Stop-Controlled Intersections: DPW-Standard Curb Condition**

Mission Rock will have two all-way stop-controlled intersections at streets with DPW-Standard curbs, at the intersection of Bridgeview Street with Exposition Street (Figure 8.63) and the intersection of Bridgeview Street with Mission Rock Street (Figure 8.67). Bicycle and vehicular traffic will stop in all directions at these intersections. Crosswalks will be marked with City-

standard markings, and DPW-Standard curb ramps will be provided at crosswalks. Bicycle facility treatment will continue across these intersections for all streets. Refer to Transportation Plan for traffic volume information at these intersections.

### **8.8.2 All-Way Stop-Controlled Intersections: Raised Intersections**

Mission Rock will have two all-way stop-controlled intersections that are also raised intersections. These occur at the intersection of the Shared Public Way with Long Bridge Street and at Exposition Street. The Shared Public Way will have one-way northbound traffic only, from Long Bridge Street to Exposition Street. Refer to Transportation Plan for traffic volume information at these intersections.

#### **8.8.2.1 Shared Public Way at Long Bridge Street**

At the intersection of the Shared Public Way with Long Bridge Street, vehicular and bicycle traffic on Long Bridge Street will stop in both directions; Long Bridge Street traffic is permitted to turn onto the Shared Public Way at this intersection, but turning will be discouraged through design cues. Refer to Section 8.4.2 and Figure 8.64.

#### **8.8.2.2 Shared Public Way at Exposition Street**

At the intersection of the Shared Public Way with Exposition Street, vehicular and bicycle traffic on Exposition Street will stop in both directions and no turns will be permitted. Shared Public Way traffic will stop at the intersection with Exposition Street, and is permitted to turn right or left. The Shared Public Way becomes a paseo north of this intersection; vehicular traffic will not be permitted on the paseo, but it will accommodate emergency vehicle access for up to 150-feet of its length per Section 8.4. Approved removable or hydraulic bollards will be installed at Exposition Street to prohibit vehicular entry.

### **8.8.3 2-Way Stop at Raised Intersection**

Mission Rock will have one internal two-way stop-controlled intersection, at the intersection of Bridgeview Street with Long Bridge Street (Figure 8.65). Vehicular and bicycle traffic on Long Bridge Street will stop in both directions, while bicycle and vehicular traffic on Bridgeview Street will continue through without stopping. This intersection will be raised to meet the grade of the raised cycle track. Crosswalks will be marked with City- standard markings, and DPW-Standard

curb ramps will be provided at crosswalks. Bicycle facility treatment on Bridgeview Street will continue across this intersection. Refer to Transportation Plan for traffic volume information at these intersections.

#### **8.8.4 All-Way Stop-Controlled Intersections: Flush Intersections**

Mission Rock will have two all-way stop-controlled intersections that are also flush intersections, at the intersection of Terry A Francois Boulevard with Long Bridge Street and at Exposition Street. Grade transition will occur within the Terry A Francois Boulevard ROW. Terry A Francois Boulevard will have two-way traffic.

##### **8.8.4.1 Terry A Francois Boulevard at Exposition Street (Figure 8.66).**

At the intersection of Terry A Francois Boulevard with Exposition Street, vehicular and bicycle traffic on Exposition Street will stop; Exposition Street terminates at Terry A Francois Boulevard. For all vehicles except trucks servicing Pier 48, right turns only will be permitted onto Terry A Francois Boulevard. Northbound Terry A Francois Boulevard traffic will stop at the intersection with Exposition Street, and is permitted to turn left only. Terry A Francois Boulevard becomes a paseo north of this intersection. The paseo will accommodate emergency vehicle access for up to 150-feet of its length. Approved removable or hydraulic bollards will be installed to restrict vehicular entry; vehicular traffic will be permitted only for passenger loading within a clearly delineated and signed area (refer to Section 8.4.3).

##### **8.8.4.2 Terry A Francois Boulevard at Long Bridge Street.**

At the intersection of Terry A Francois Boulevard with Long Bridge Street, vehicular and bicycle traffic on Long Bridge Street will stop; Long Bridge Street terminates at Terry A Francois Boulevard. Long Bridge Street traffic is permitted to turn onto Terry A Francois Boulevard in both directions at this intersection. Terry A Francois Boulevard traffic will stop at this intersection in both directions, and turning onto Long Bridge Street is permitted. This intersection will be coordinated with Pier 50 operational requirements.

### **8.9 Public Transportation System**

The Mission Rock site is adjacent to the Muni light rail along King Street and 3rd Street and the Caltrain 4th and King station. It is nearby the Bay Area Rapid Transit (BART) stations for Embarcadero,



Montgomery and Powell Street. The Transbay Transit Center, currently under construction, within the Financial District is also within close proximity to the proposed development. To encourage the use of these and other modes of sustainable transportation, the Mission Rock development has prioritized pedestrian, bike and transit access through the site. Ride share programs are also promoted within the design by incorporating loading and drop off zones throughout the proposed public street network.

Although there are no anticipated bus or light rail improvements associated with this Project, it is the Project team's understanding that SFMTA plans on enhancing the existing Muni transit networks near the Mission Bay area to improve commuter connections and efficiency throughout San Francisco. These improvements will be under the responsibility of SFMTA. For additional information regarding the public transportation system, refer to the latest edition of the Project Transportation Plan.

### **8.10 SFMTA Infrastructure**

Where required, the following list of infrastructure items includes items to be owned, operated and maintained by the SFMTA within public right-of-ways:

- Security monitors and cameras
- Signals and Signal Interconnects, including Muni Bus Prioritization signals
- TPS signal preempt detectors
- Conduit containing TPS signal cables
- Shelters (with Vendor)
- Paint – poles and asphalt delineating coach stops
- Asphalt painting for transit lanes
- Departure prediction ("NextBus") monitors and related communications equipment
- Bicycle racks
- Crosswalk striping, except for areas with a raised intersection/crosswalk or with painted concrete special striping or other special decorative treatment
- Bike lane and facility striping
- APS/Pedestrian crossing signals
- Street Signs

### **8.11 Acceptance and Maintenance of Street Improvements**

Upon acceptance of the new and/or improved public streets, including the structures supporting the streets, by the Acquiring Agency, responsibility for the operation and maintenance of the roadway and streetscape elements will be designated to the appropriate Acquiring Agency as defined in the City of San Francisco Municipal Code and related ordinances, and the Project DA, DDA, ICA, or a separate MOU or MOA per the terms of the ICA. Conflicts between proposed public utility infrastructure and the surface improvements proposed as part of the Project, including but not limited to dedicated transportation routes, trees, bulb-outs, traffic circles and medians, shall be minimized in the design of the infrastructure and surface improvements. The Acquiring Agency responsible for said utility infrastructure will review all proposals for surface improvements above proposed public utility infrastructure on a case-by-case basis to ensure that future access for maintenance is preserved. Stormwater management and treatment infrastructure installed as part of the streetscape to meet the Stormwater Management Requirements and Design Guidelines (SMR) will be maintained by the Master Developer and/or Acquiring Agency subject to the terms of the Project DA, DDA, ICA, or a separate MOU or MOA per the terms of the ICA.

As outlined in the DA, DDA, ICA, or a separate MOU or MOA, the Master Developer or Port will be responsible for maintenance and restoration of the non-standard materials and design features, including decorative paving and hardscape elements, as well as specific streetscape elements and encroachments. Restoration will include replacement of the pavement markings within areas with non-standard materials.

### **8.12 Phasing of New Roadway Construction**

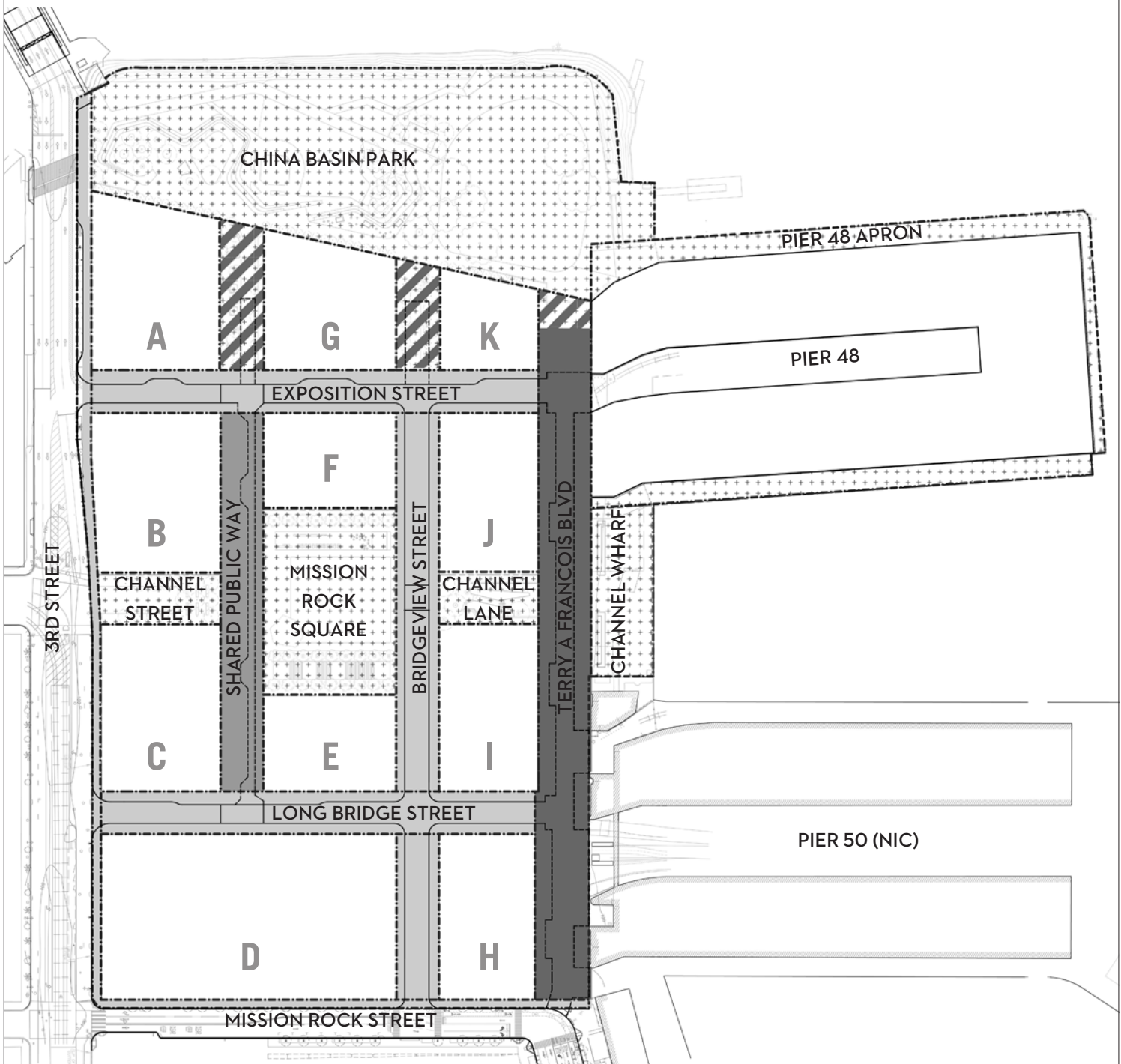
New roadway construction will occur in phases based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the Project Phasing Plan, and the DA, DDA, ICA, or a separate MOU or MOA. The amount and location of roadway repair/ or replacement will be the minimum necessary to support the Development Phase and maintain minimum required parking allocations, access and utility connections. Such phased roadway construction will allow the existing utility services, vehicular and pedestrian access areas, and landscaped spaces to remain in place as long as possible and reduce disruption of existing uses on the site and adjacent facilities.

Temporary Fire truck turnaround areas, if any, will be coordinated with the SFFD and constructed by the Developer consistent with the Fire Code. Phasing of traffic signalization improvements will be based on

cumulative development thresholds identified by the Project traffic consultant and/or the SFMTA coincident with the Phase applications, construction documents or as stated in the DA. Sidewalk and other accessible pedestrian paths of travel, either permanent or temporary, shall be provided to serve the pedestrian entrance and exit requirements of each Development Parcel prior to being released for occupancy. Such paths of travel will connect to the sidewalks along 3rd Street, Mission Rock Street and Terry A Francois Boulevard and hence to the public transit stations and bus stops thereon.

The Developer will be responsible for mitigating impacts to improvements installed with previous Project Development Phase(s) due to the designs or construction of current or future Development Phases, which will be addressed prior to approval of the construction drawings for the current or future Development Phase.

**FIGURE 8.1; PUBLIC REALM PLAN**



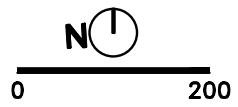
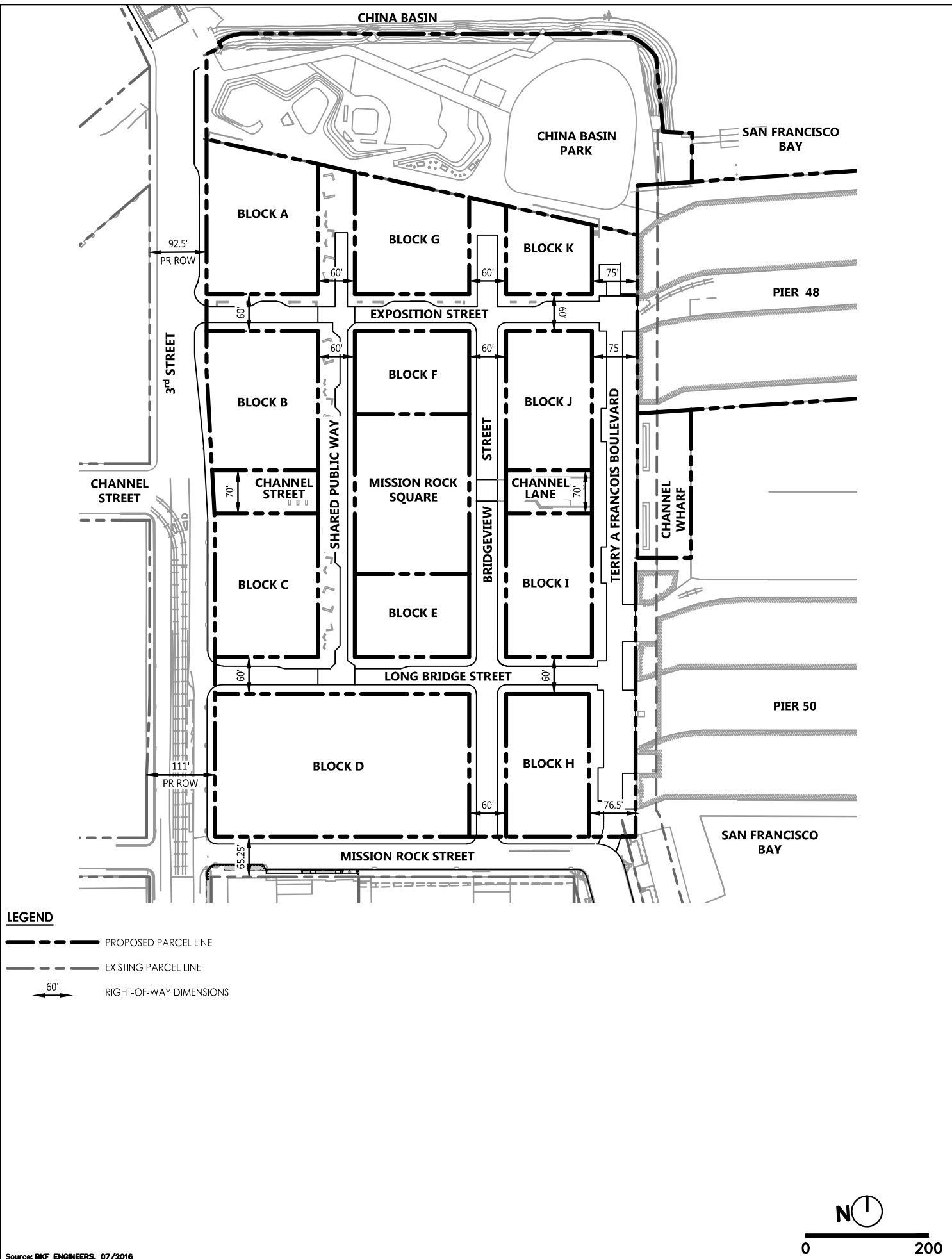
**FIGURE 8.1: PUBLIC REALM PLAN**



- Shared Public Way**
  - Pedestrian access permitted across entire ROW; vehicular traffic permitted in Shared Zone only
  - Traffic volumes anticipated not to exceed 100 cars per hour; one-way northbound traffic
  - Flush curb on both sides of vehicular zone
  
- Working Waterfront (Terry A Francois Boulevard)**
  - Pedestrian access permitted across entire ROW; vehicular traffic permitted in Shared Zone only
  - Traffic volumes anticipated not to exceed 100 cars per hour; two-way traffic
  - Flush curb on both sides of vehicular zone
  
- Vehicular/Neighborhood Street**
  - Two-way street with curb-separated sidewalk
  - Must include bicycle facilities or sharrow
  - Loading and service access provided in dedicated areas
  
- Paseo (Open Space within R.O.W.)**
  - Non-vehicular street connection; accommodates emergency vehicle access
  
- Open Space (Shown for reference only)**
  
- Proposed Boundary**

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

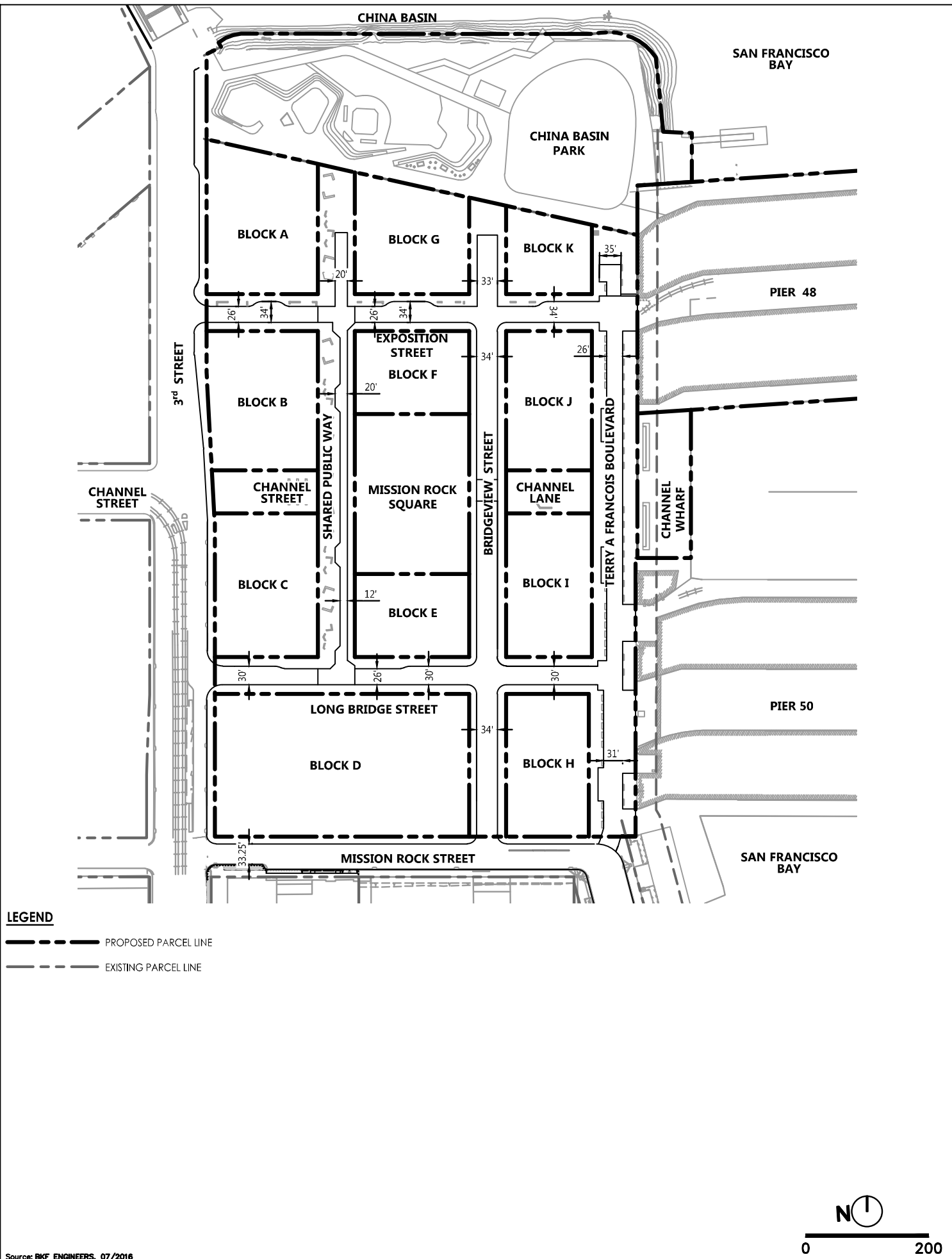
DRAWING NAME: \\BKF-SF\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.2 Conceptual Site Plan & Street Layout.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELL



MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 8.2 - CONCEPTUAL SITE PLAN & STREET LAYOUT

DRAWING NAME: \\BKF-SF\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.3 Roadway Dimensions.dwg  
PLOT DATE: 07-13-17  
PLOTTED BY: FELI

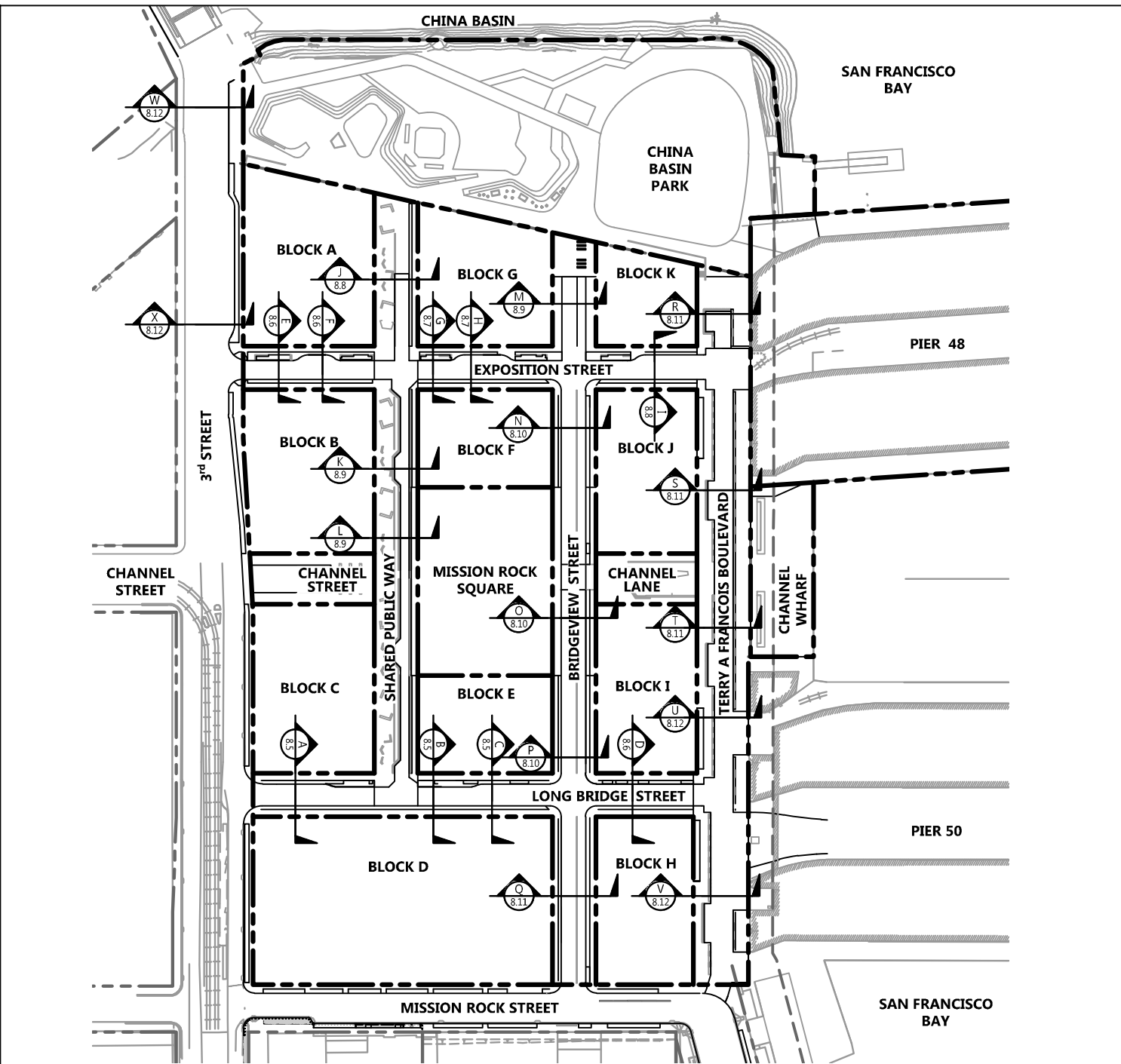


Source: BKF ENGINEERS, 07/2016




MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 8.3 - ROADWAY DIMENSIONS

DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure B.4 Plan View & Cross Section Locations.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELI



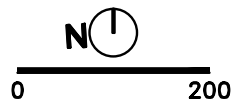
**LEGEND**

-  PROPOSED PARCEL LINE
-  EXISTING PARCEL LINE
-  SECTION LOCATION

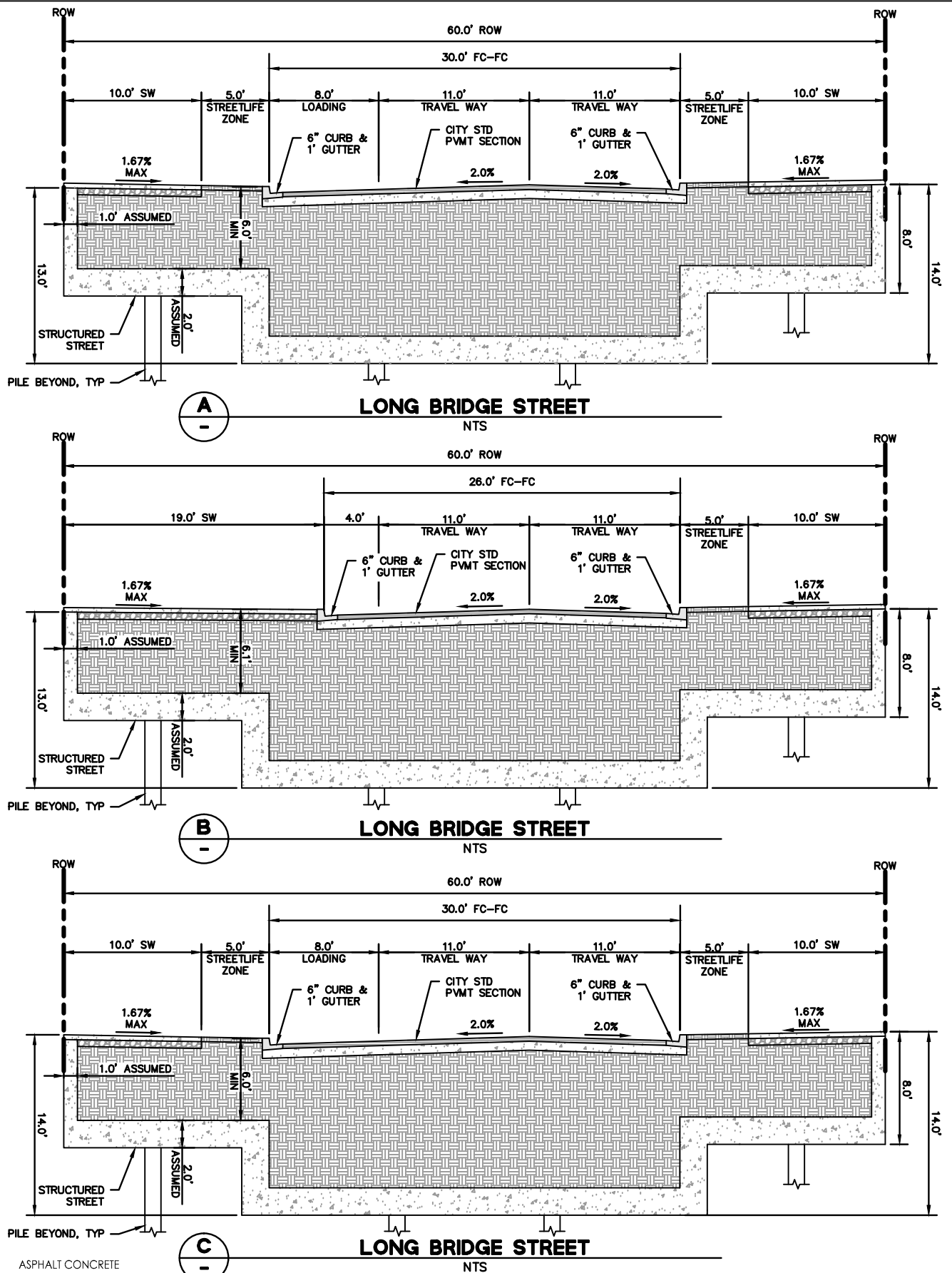
**NOTES**

SEE FIGURES 8.5 - 8.12 FOR TYPICAL STREET CROSS SECTIONS.

Source: BKF ENGINEERS, 07/2016



DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.5-8.12 Typical Street Cross Sections.dwg  
 PLOT DATE: 07/13/17 PLOTTED BY: FELI

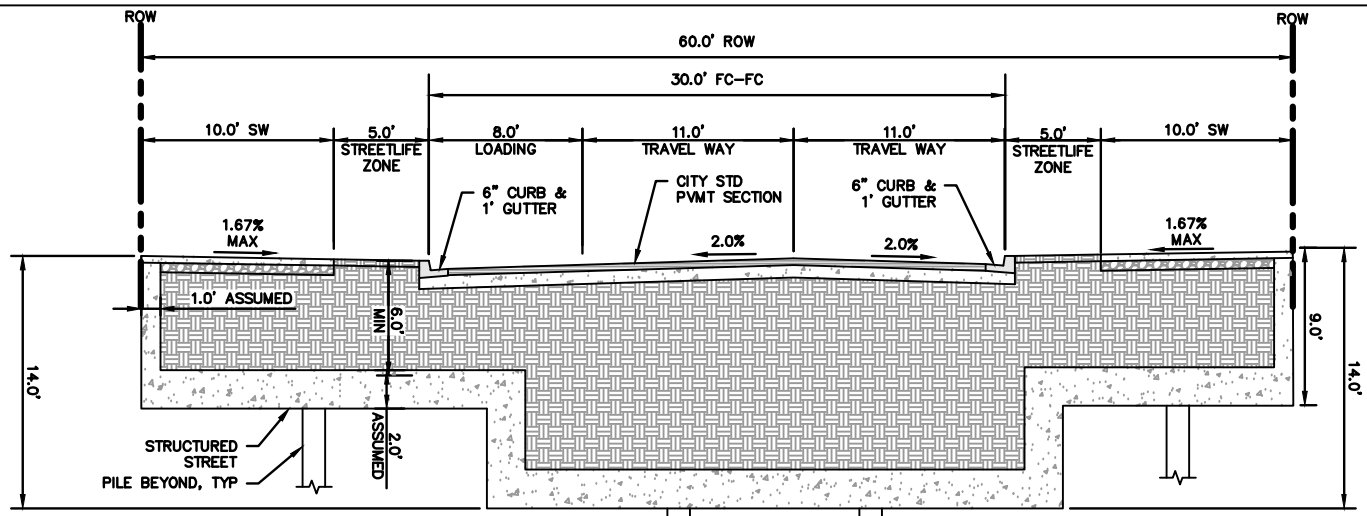


LEGEND	
AC	ASPHALT CONCRETE
APPROX	APPROXIMATE
BCDC	BAY CONSERVATION AND DEVELOPMENT COMMISSION
EX	EXISTING
FC	FACE OF CURB
MIN	MINIMUM
PCC	PORTLAND CONCRETE CEMENT
PVMT	PAVEMENT
ROW	RIGHT OF WAY
STD	STANDARD
SW	SIDEWALK
TYP	TYPICAL

- NOTES**
- STREETLIFE ZONE MAY INCLUDE LANDSCAPE ELEMENTS, STREET LIGHT, BIORETENTION AREAS, AND PAVEMENT.
  - DIMENSION SHOWN ARE FROM FACE OF CURB TO FACE OF CURB.

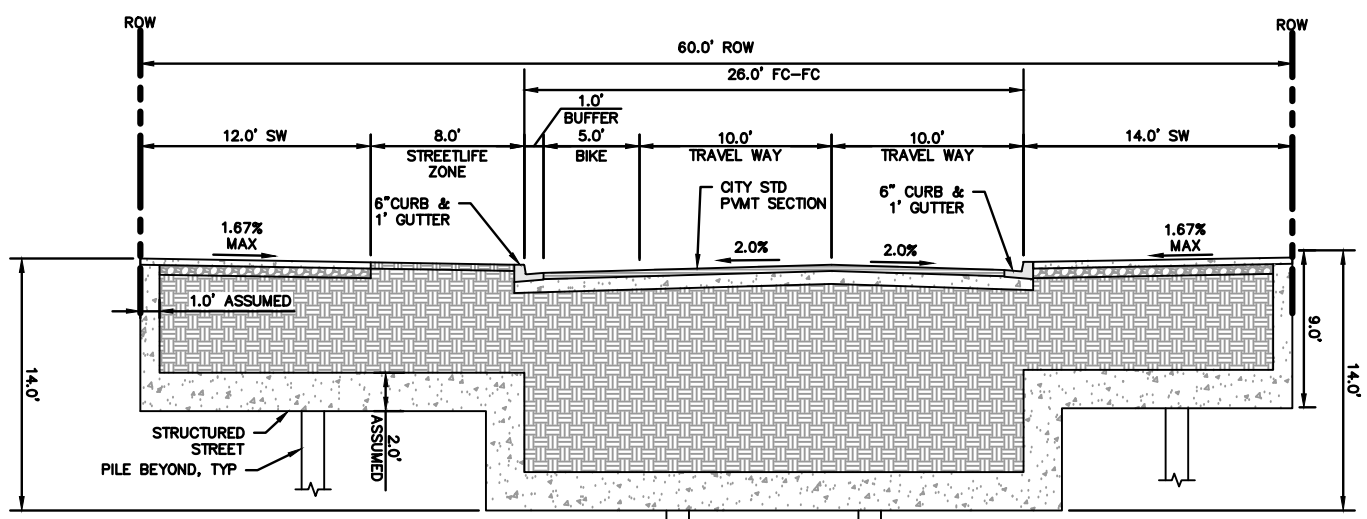


DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibit\Plotted Sheets\Figure 8.5-8.12 Typical Street Cross Sections.dwg  
 PLOT DATE: 07/13/17 PLOTTED BY: FELI



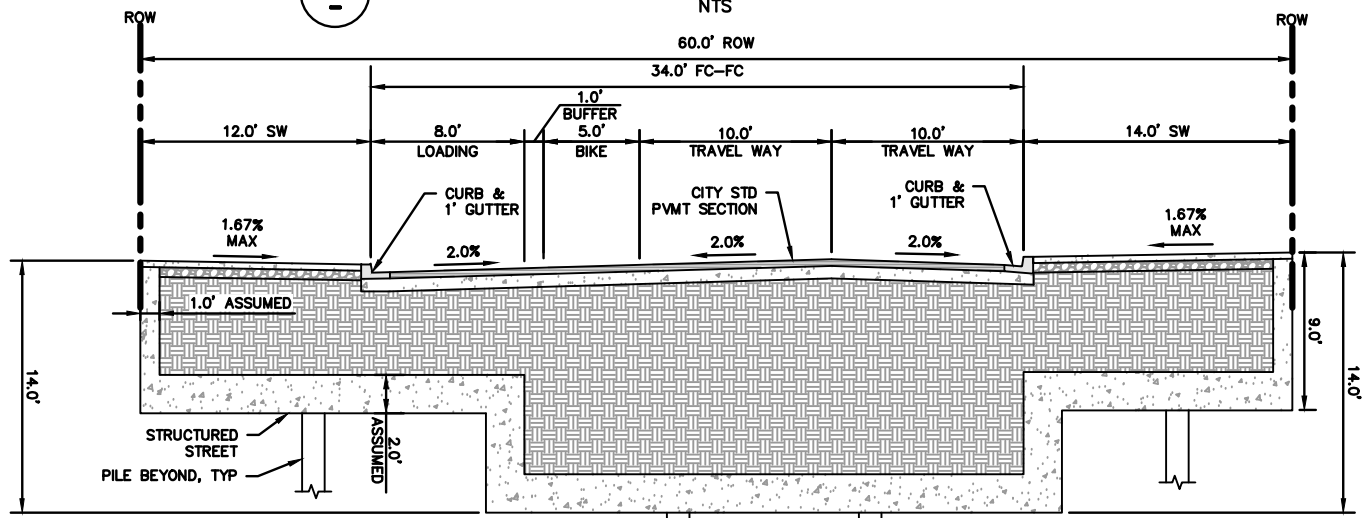
**D**

**LONG BRIDGE STREET**  
NTS



**E**

**EXPOSITION STREET**  
NTS



**F**

**EXPOSITION STREET**  
NTS

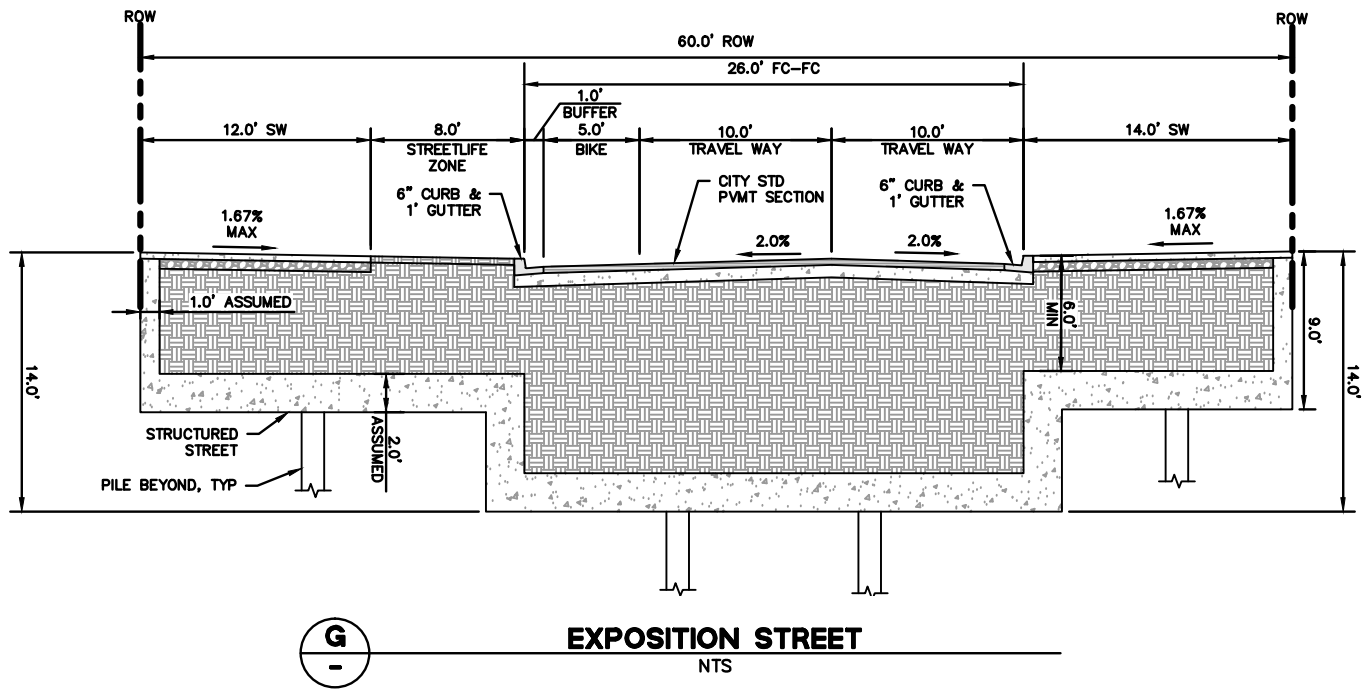
**LEGEND**

AC	ASPHALT CONCRETE	ROW	RIGHT OF WAY
APPROX	APPROXIMATE	STD	STANDARD
BCDC	BAY CONSERVATION AND DEVELOPMENT COMMISSION	SW	SIDEWALK
EX	EXISTING	TYP	TYPICAL
FC	FACE OF CURB		
MIN	MINIMUM		
PCC	PORTLAND CONCRETE CEMENT		
PVMT	PAVEMENT		

- NOTES**
1. STREETLIFE ZONE MAY INCLUDE LANDSCAPE ELEMENTS, STREET LIGHT, BIORETENTION AREAS, AND PAVEMENT.
  2. DIMENSION SHOWN ARE FROM FACE OF CURB TO FACE OF CURB.

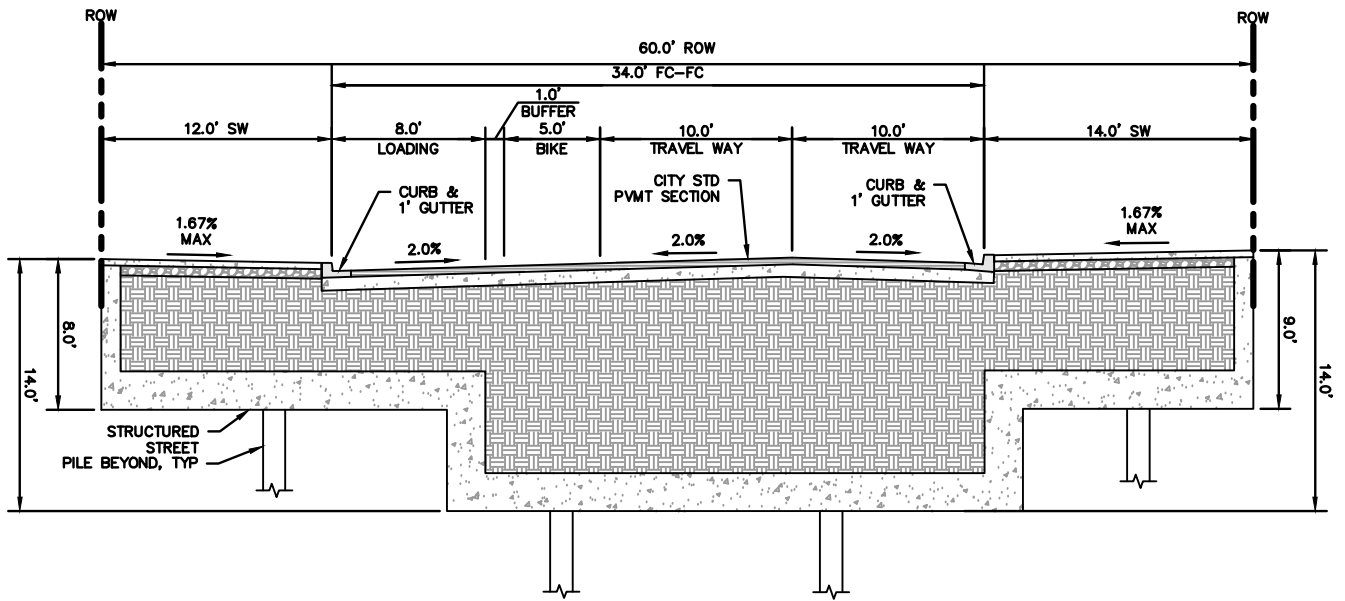
Source: BKF ENGINEERS, 07/2016

DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 8.5-8.12 Typical Street Cross Sections.dwg  
 PLOT DATE: 07/13/17 PLOTTED BY: FELL1



**G**

**EXPOSITION STREET**  
NTS



**H**

**EXPOSITION STREET**  
NTS

**LEGEND**

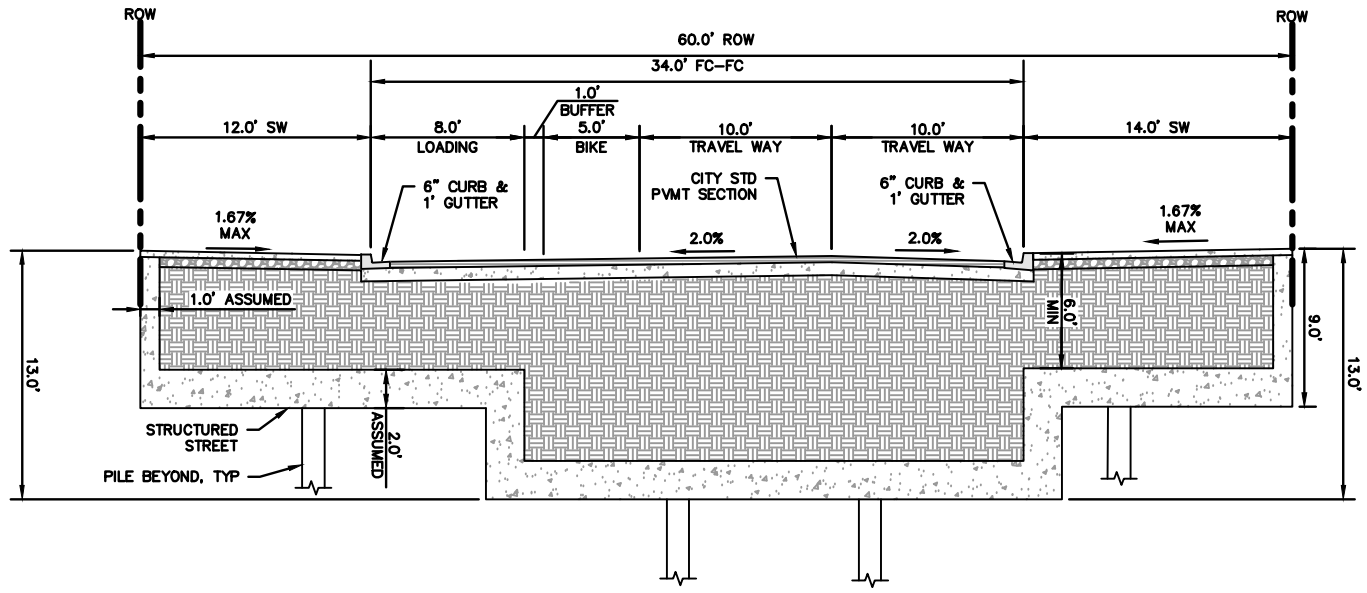
AC	ASPHALT CONCRETE	ROW	RIGHT OF WAY
APPROX	APPROXIMATE	STD	STANDARD
BCDC	BAY CONSERVATION AND DEVELOPMENT COMMISSION	SW	SIDEWALK
EX	EXISTING	TYP	TYPICAL
FC	FACE OF CURB		
MIN	MINIMUM		
PCC	PORTLAND CONCRETE CEMENT		
PVMT	PAVEMENT		

**NOTES**

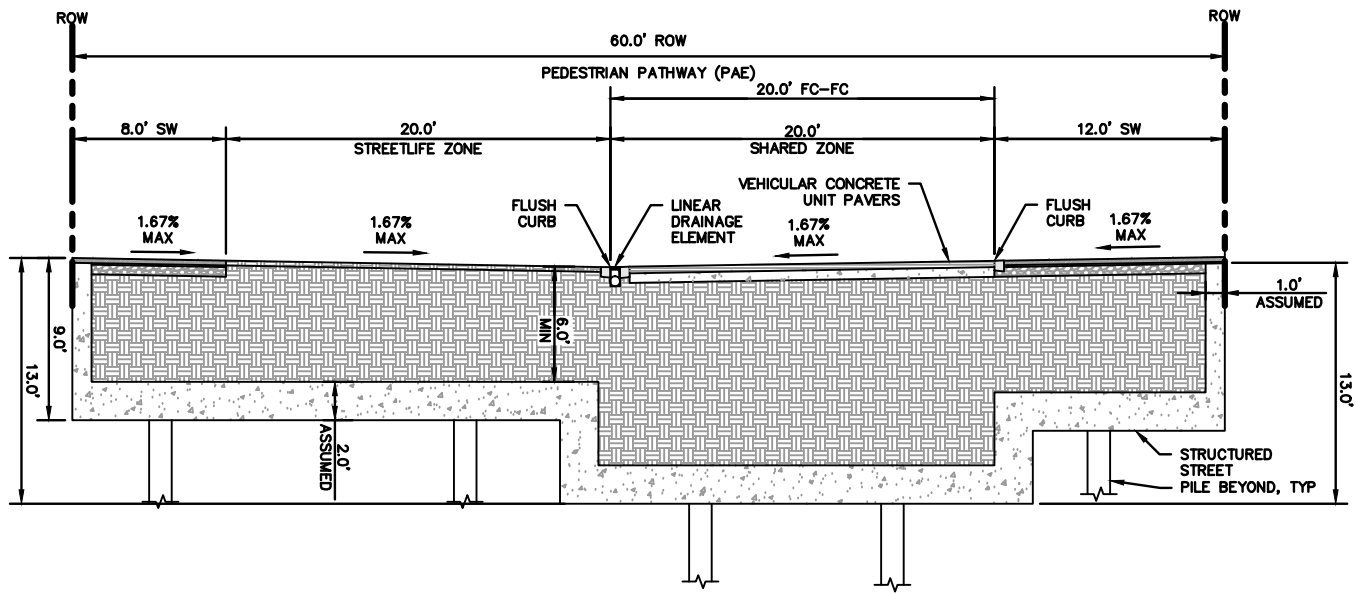
- STREETLIFE ZONE MAY INCLUDE LANDSCAPE ELEMENTS, STREET LIGHT, BIORETENTION AREAS, AND PAVEMENT.
- DIMENSION SHOWN ARE FROM FACE OF CURB TO FACE OF CURB.

Source: BKF ENGINEERS, 07/2016

DRAWING NAME: \\BKF-SF\Vol4\2008\080008\_Mission\_Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.5-8.12 Typical Street Cross Sections.dwg  
 PLOT DATE: 07/13/17 PLOTTED BY: FELL1



**EXPOSITION STREET**  
 NTS



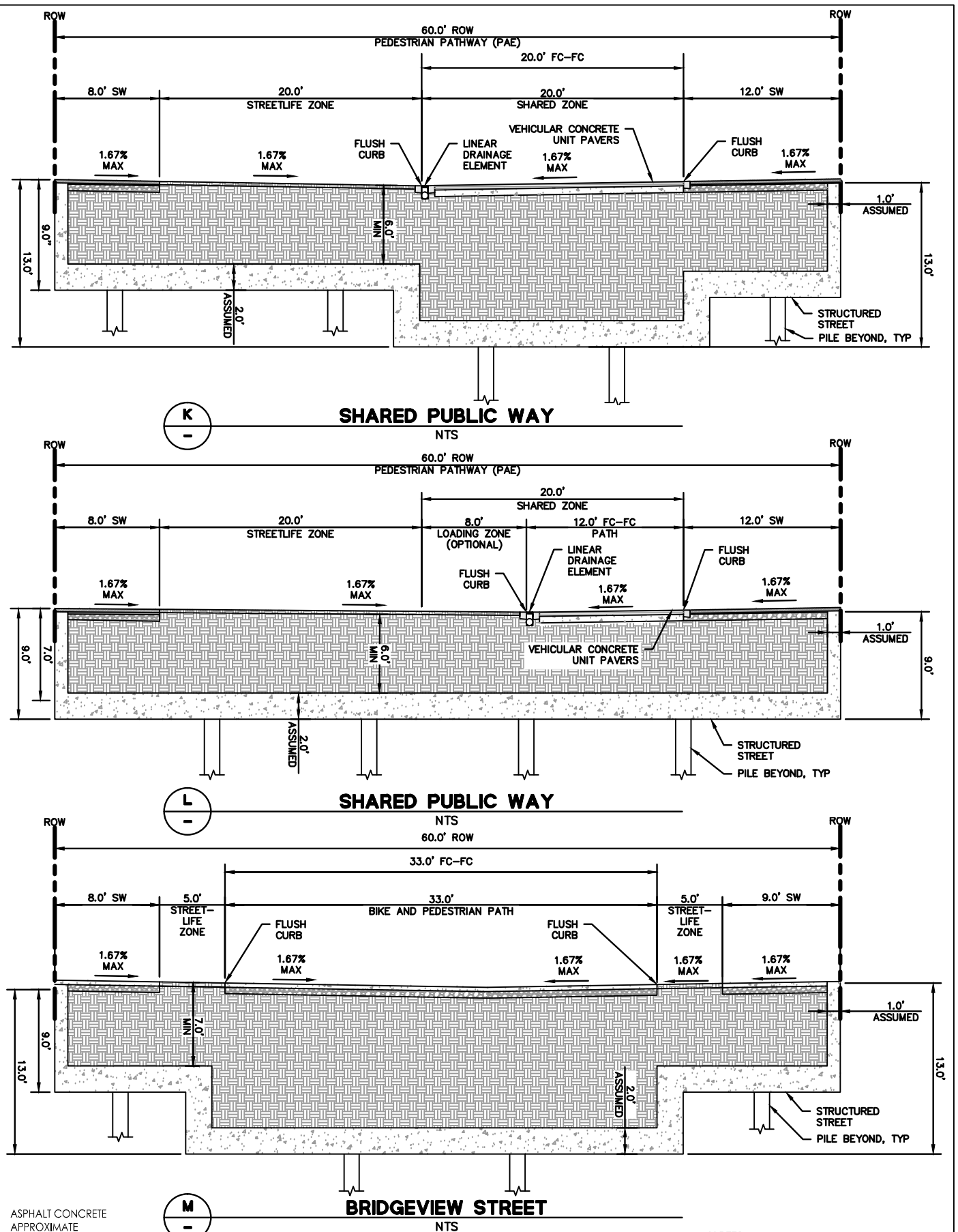
**SHARED PUBLIC WAY**  
 NTS

LEGEND	
AC	ASPHALT CONCRETE
APPROX	APPROXIMATE
BCDC	BAY CONSERVATION AND DEVELOPMENT COMMISSION
EX	EXISTING
FC	FACE OF CURB
MIN	MINIMUM
PCC	PORTLAND CONCRETE CEMENT
PVMT	PAVEMENT
ROW	RIGHT OF WAY
STD	STANDARD
SW	SIDEWALK
TYP	TYPICAL

- NOTES**
- STREETLIFE ZONE MAY INCLUDE LANDSCAPE ELEMENTS, STREET LIGHT, BIORETENTION AREAS, AND PAVEMENT.
  - DIMENSION SHOWN ARE FROM FACE OF CURB TO FACE OF CURB.

Source: BKF ENGINEERS, 07/2016

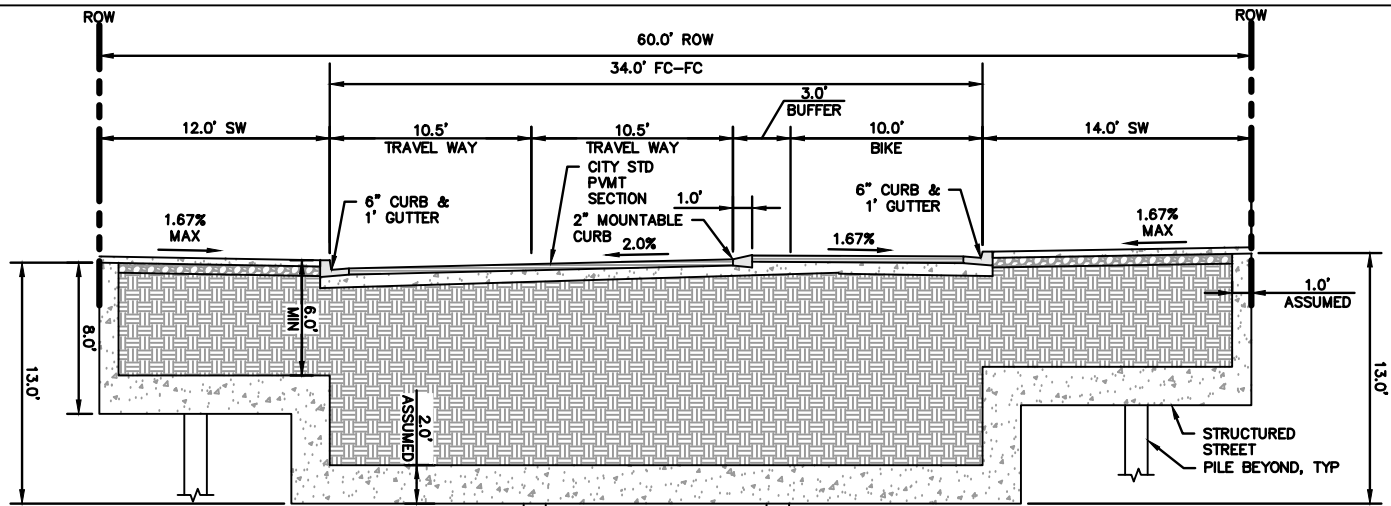
DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission\_Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.5-8.12 Typical Street Cross Sections.dwg  
 PLOT DATE: 11-15-17 PLOTTED BY: yolk



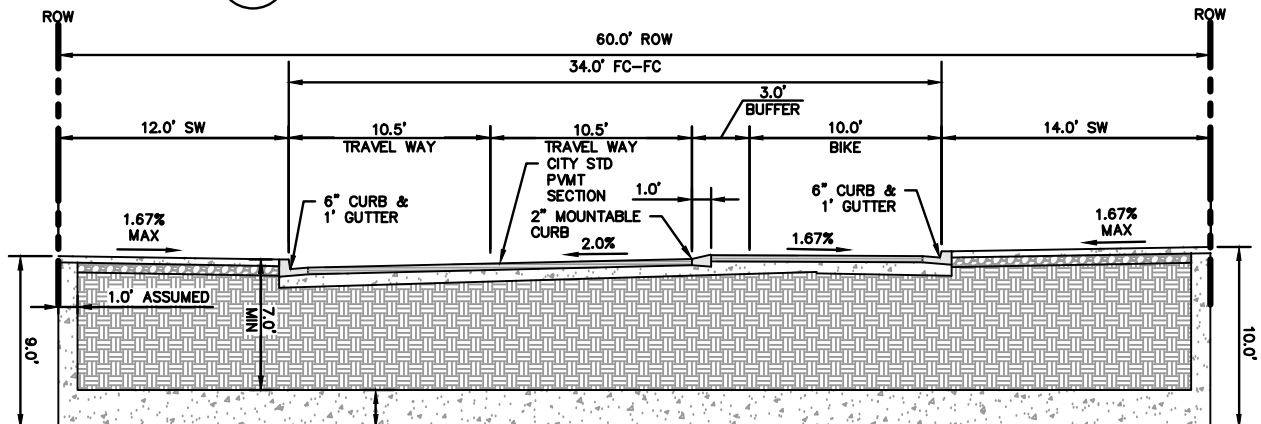
LEGEND	
AC	ASPHALT CONCRETE
APPROX	APPROXIMATE
BCDC	BAY CONSERVATION AND DEVELOPMENT COMMISSION
EX	EXISTING
FC	FACE OF CURB
MIN	MINIMUM
PCC	PORTLAND CONCRETE CEMENT
PVMT	PAVEMENT
ROW	RIGHT OF WAY
STD	STANDARD
SW	SIDEWALK
TYP	TYPICAL

- NOTES**
1. STREETLIFE ZONE MAY INCLUDE LANDSCAPE ELEMENTS, STREET LIGHT, BIORETENTION AREAS, AND PAVEMENT.
  2. DIMENSION SHOWN ARE FROM FACE OF CURB TO FACE OF CURB.

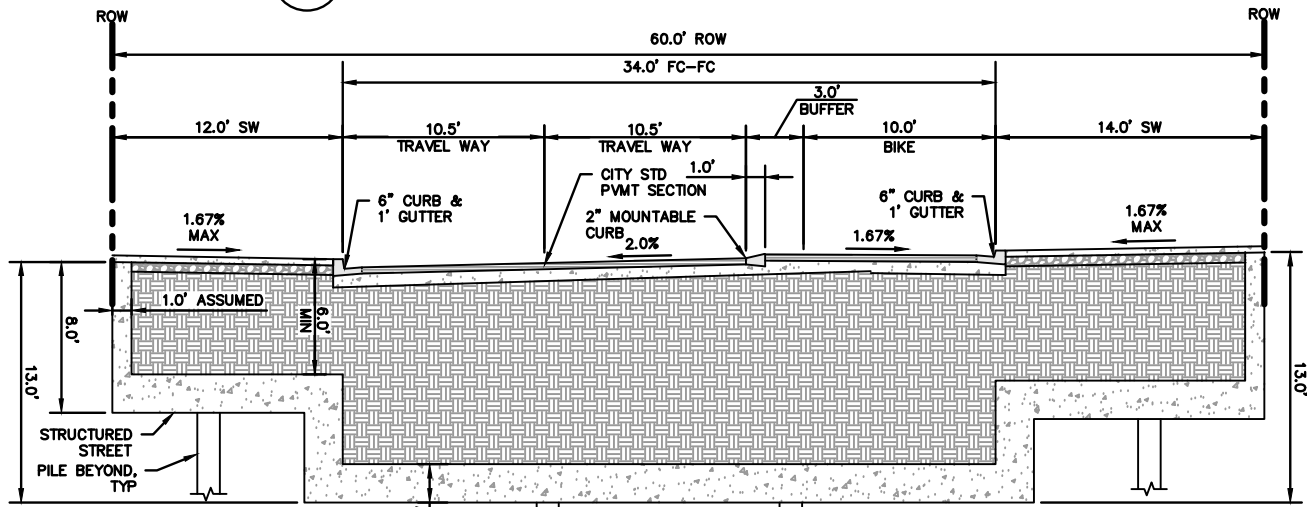
DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibit\Plotted Sheets\Figure 8.5-8.12 Typical Street Cross Sections.dwg  
 PLOT DATE: 07/13/17 PLOTTED BY: FELI



**BRIDGEVIEW STREET**  
NTS



**BRIDGEVIEW STREET**  
NTS



**BRIDGEVIEW STREET**  
NTS

**LEGEND**

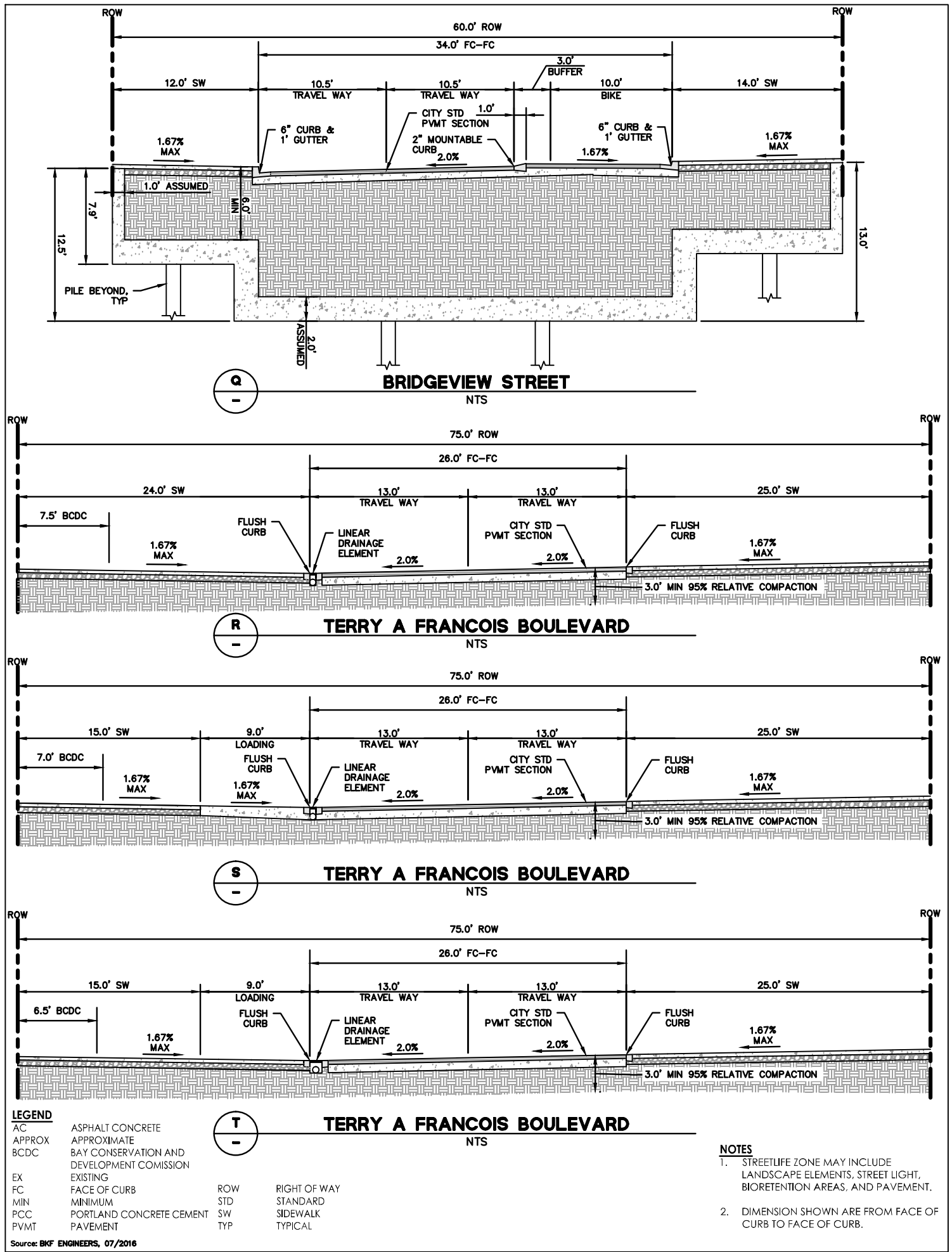
AC	ASPHALT CONCRETE	ROW	RIGHT OF WAY
APPROX	APPROXIMATE	STD	STANDARD
BCDC	BAY CONSERVATION AND DEVELOPMENT COMMISSION	SW	SIDEWALK
EX	EXISTING	TYP	TYPICAL
FC	FACE OF CURB		
MIN	MINIMUM		
PCC	PORTLAND CONCRETE CEMENT		
PVMT	PAVEMENT		

**NOTES**

1. STREETLIFE ZONE MAY INCLUDE LANDSCAPE ELEMENTS, STREET LIGHT, BIORETENTION AREAS, AND PAVEMENT.
2. DIMENSION SHOWN ARE FROM FACE OF CURB TO FACE OF CURB.

Source: BKF ENGINEERS, 07/2016

DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 8.5-8.12 Typical Street Cross Sections.dwg  
 PLOT DATE: 07/13/17 PLOTTED BY: FELI

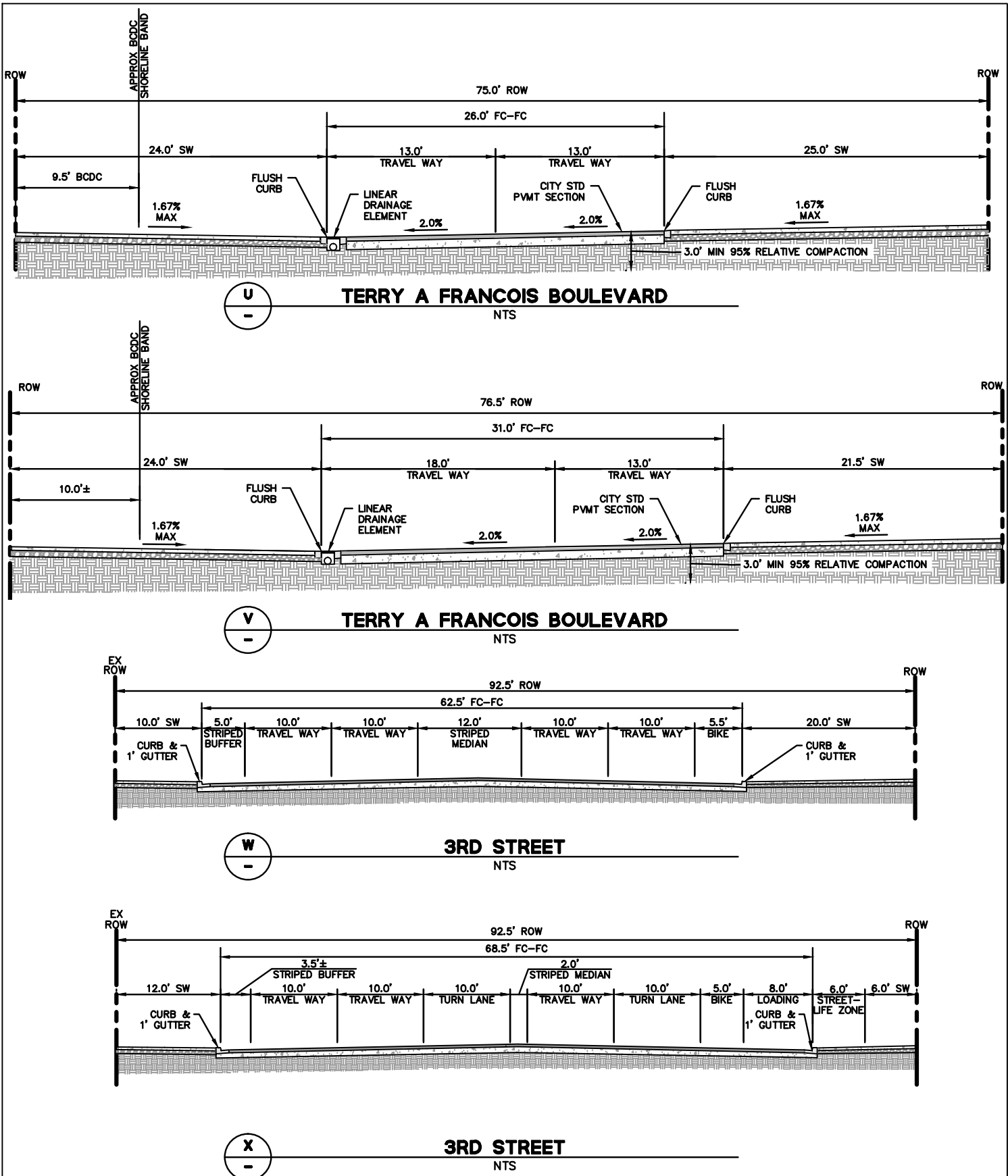


**LEGEND**

AC	ASPHALT CONCRETE	ROW	RIGHT OF WAY
APPROX	APPROXIMATE	STD	STANDARD
BCDC	BAY CONSERVATION AND DEVELOPMENT COMMISSION	SW	SIDEWALK
EX	EXISTING	TYP	TYPICAL
FC	FACE OF CURB		
MIN	MINIMUM		
PCC	PORTLAND CONCRETE CEMENT		
PVMT	PAVEMENT		

- NOTES**
- STREETLIFE ZONE MAY INCLUDE LANDSCAPE ELEMENTS, STREET LIGHT, BIORETENTION AREAS, AND PAVEMENT.
  - DIMENSION SHOWN ARE FROM FACE OF CURB TO FACE OF CURB.

DRAWING NAME: \\BKF-SF\vol4\2008\080808\_Mission\_Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.5-8.12 Typical Street Cross Sections.dwg  
 PLOT DATE: 07/13/17 PLOTTED BY: FELL



**LEGEND**

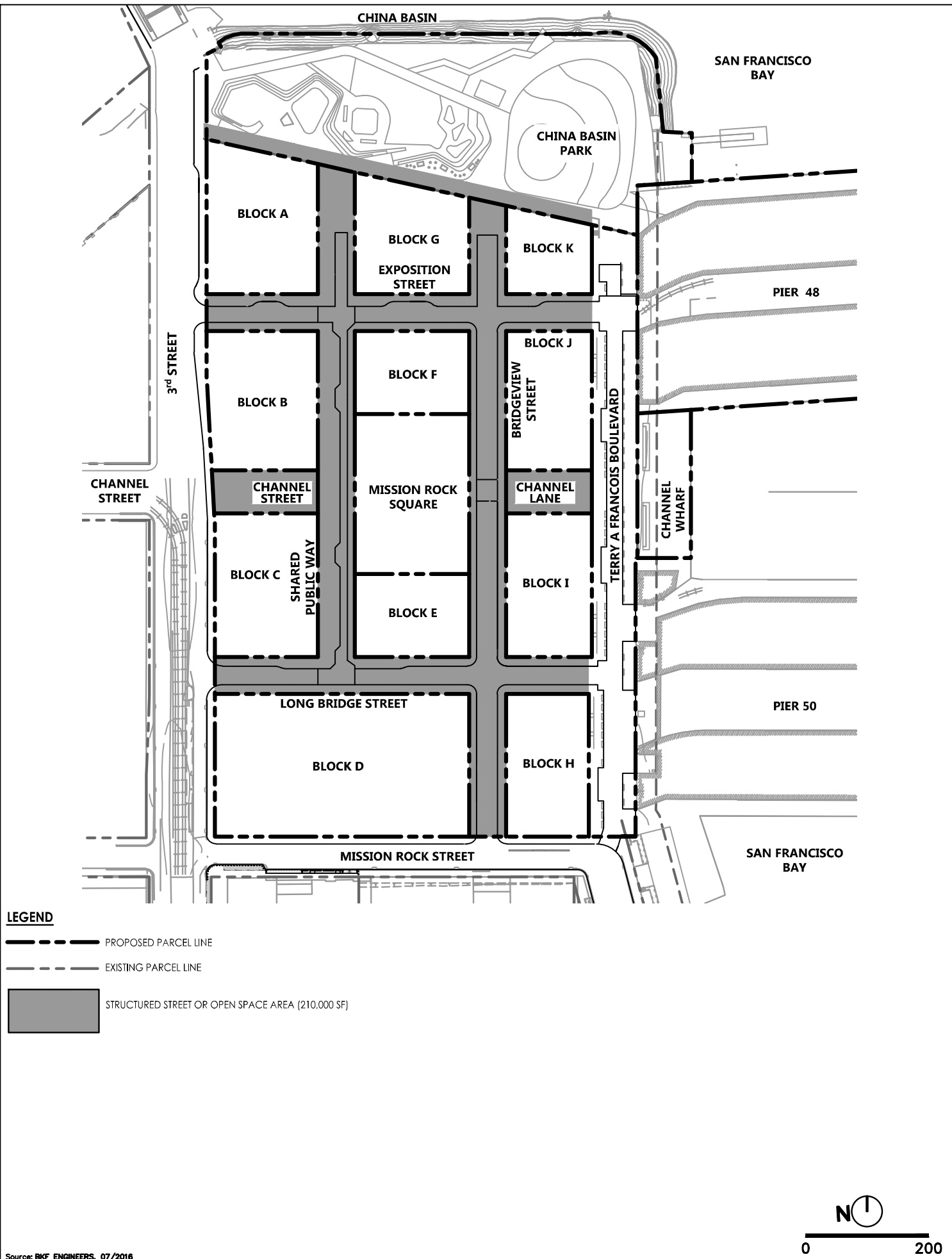
AC	ASPHALT CONCRETE	ROW	RIGHT OF WAY
APPROX	APPROXIMATE	STD	STANDARD
BCDC	BAY CONSERVATION AND DEVELOPMENT COMMISSION	SW	SIDEWALK
EX	EXISTING	TYP	TYPICAL
FC	FACE OF CURB		
MIN	MINIMUM		
PCC	PORTLAND CONCRETE CEMENT		
PVMT	PAVEMENT		

**NOTES**

- STREETLIFE ZONE MAY INCLUDE LANDSCAPE ELEMENTS, STREET LIGHT, BIORETENTION AREAS, AND PAVEMENT.
- DIMENSION SHOWN ARE FROM FACE OF CURB TO FACE OF CURB.

Source: BKF ENGINEERS, 07/2016

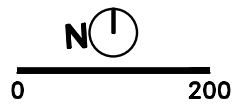
DRAWING NAME: \\BKF-SF\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.13 Structured Streets Limits.dwg  
 PLOT DATE: 07/13/17 PLOTTED BY: FELI



**LEGEND**

- PROPOSED PARCEL LINE
- - - EXISTING PARCEL LINE
- STRUCTURED STREET OR OPEN SPACE AREA (210,000 SF)

Source: BKF ENGINEERS, 07/2016

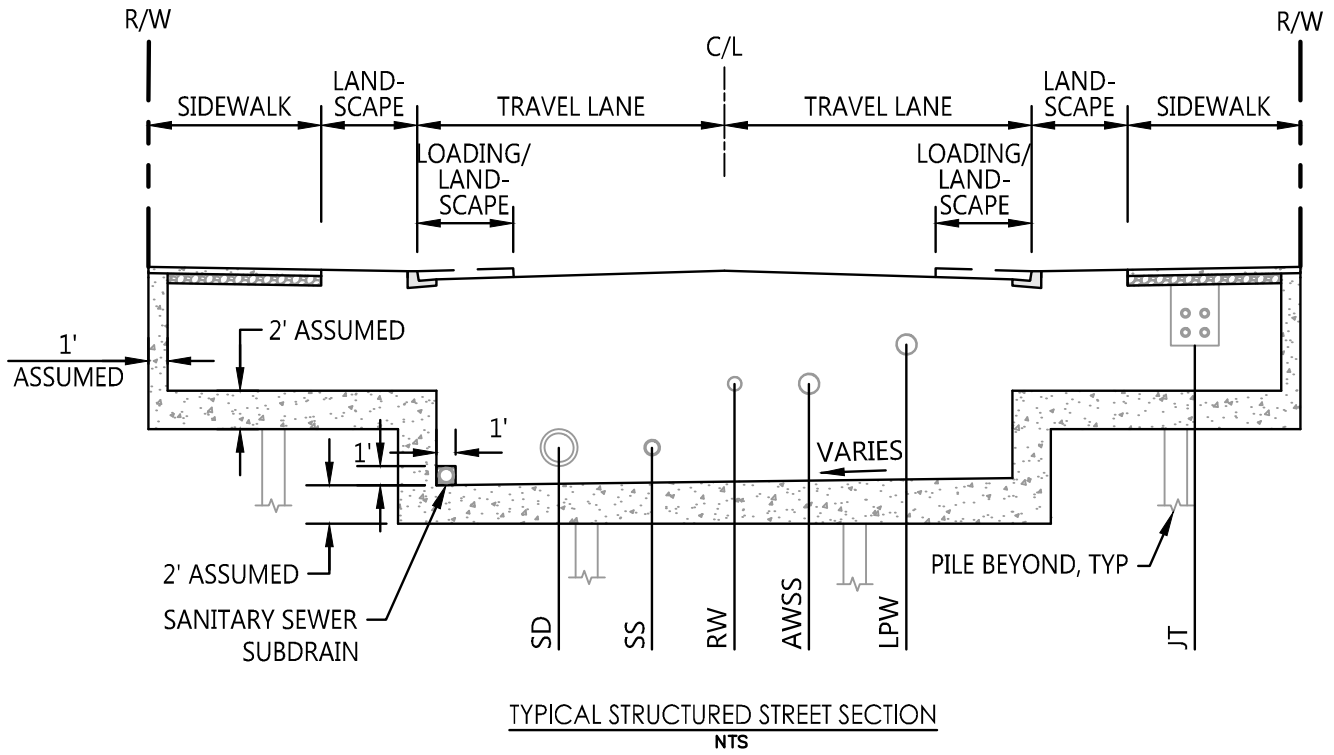


MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 8.13 - STREET & OPEN SPACE LOCATIONS ON STRUCTURE

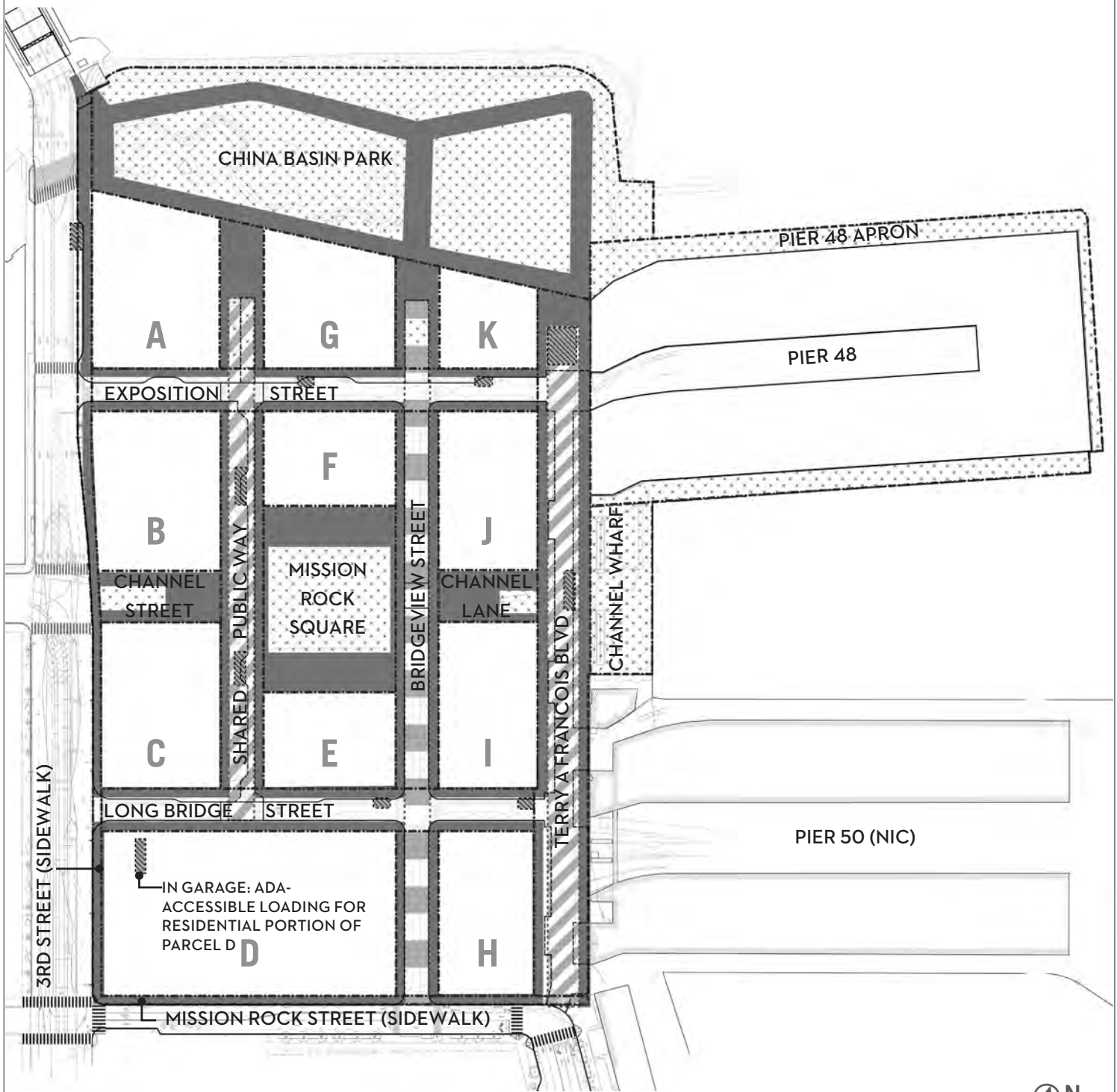


DRAWING NAME: \\BKF-SF\vol14\2008\060606\_Mission\_Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.14 Typical Structured Streets.dwg  
PLOT DATE: 07-13-17 PLOTTED BY: boyd



Source: BKF ENGINEERS, 07/2016

**FIGURE 8.15: PEDESTRIAN CIRCULATION + ACCESSIBILITY**



**FIGURE 8.15: PEDESTRIAN CIRCULATION + ACCESSIBILITY**



Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

FIGURE 8.16: VEHICULAR CIRCULATION

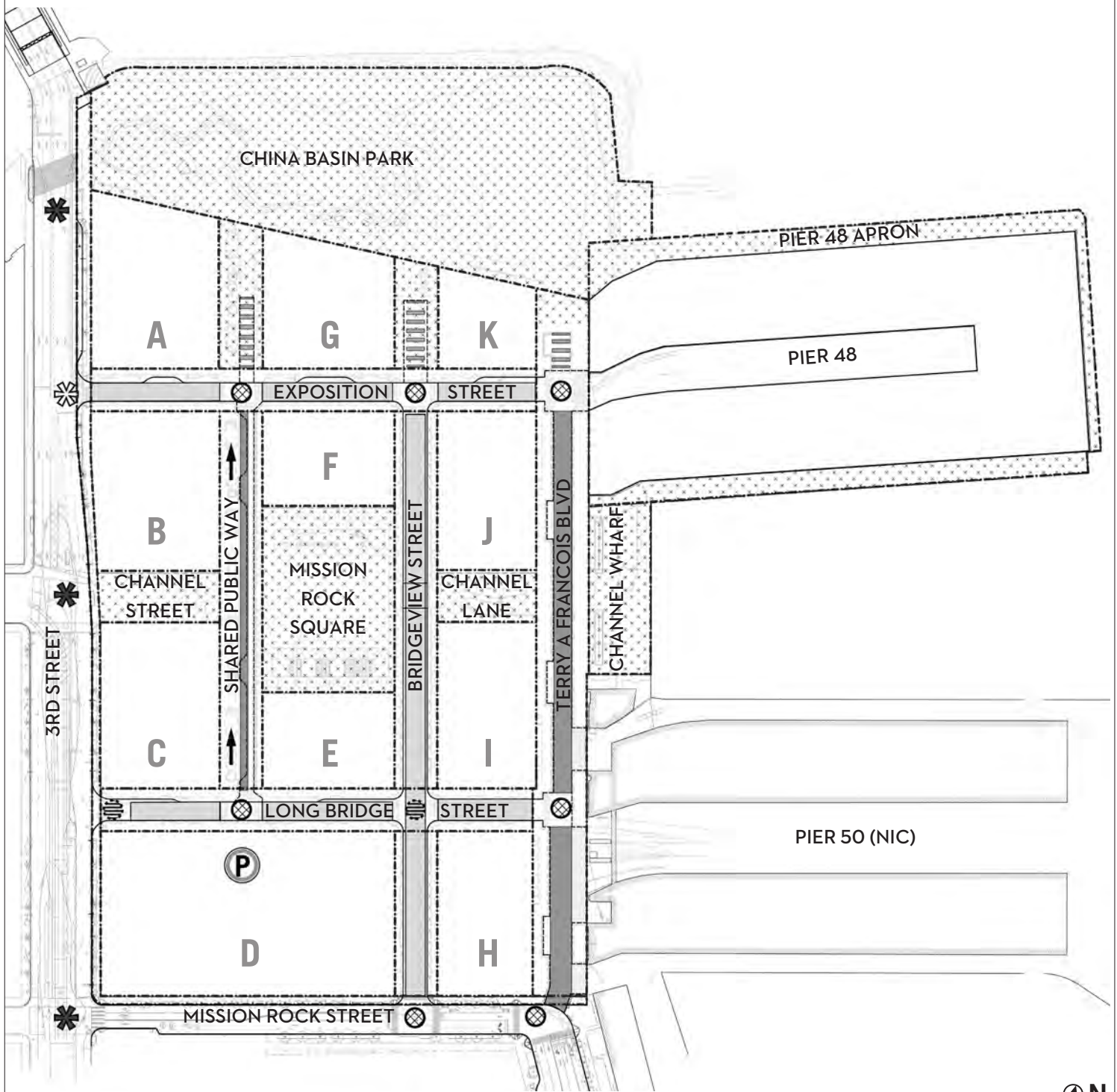












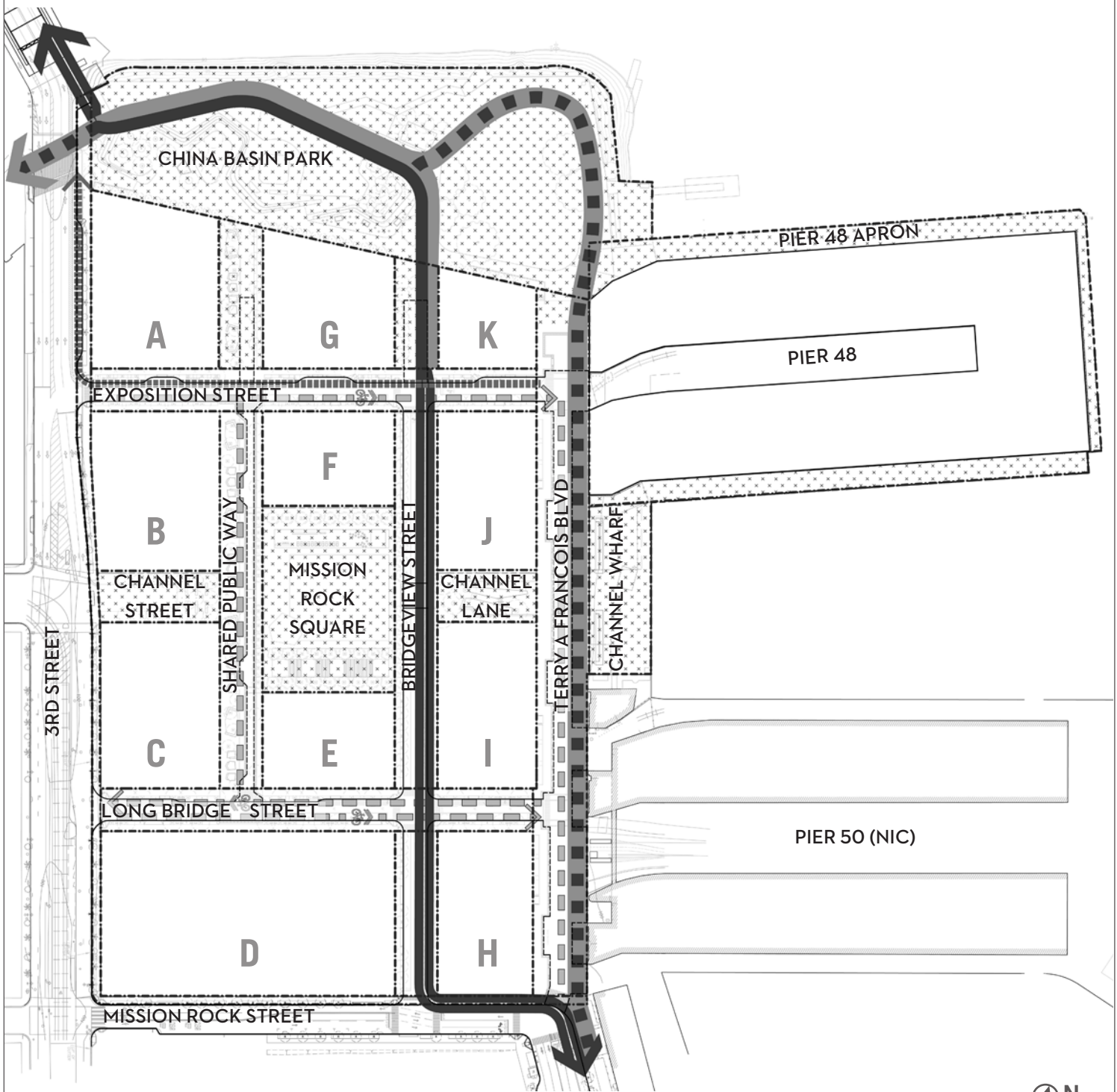
FIGURE 8.16: VEHICULAR CIRCULATION



- |   |                                       |   |                                  |
|---|---------------------------------------|---|----------------------------------|
|   | Shared Street (No Street Parking)     |  | Shared Site Parking Location     |
|   | 2-Way Street (No Street Parking)      |  | Stop Sign: All-Way               |
|   | Paseo with Emergency Vehicle Access   |  | Stop Sign: At Through Streets    |
|   | Open Space (Shown for reference only) |  | Existing Signalized Intersection |
|  | Direction of 1-Way Traffic            |  | Proposed Signalized Intersection |

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

**FIGURE 8.17: BICYCLE CIRCULATION + FACILITIES**

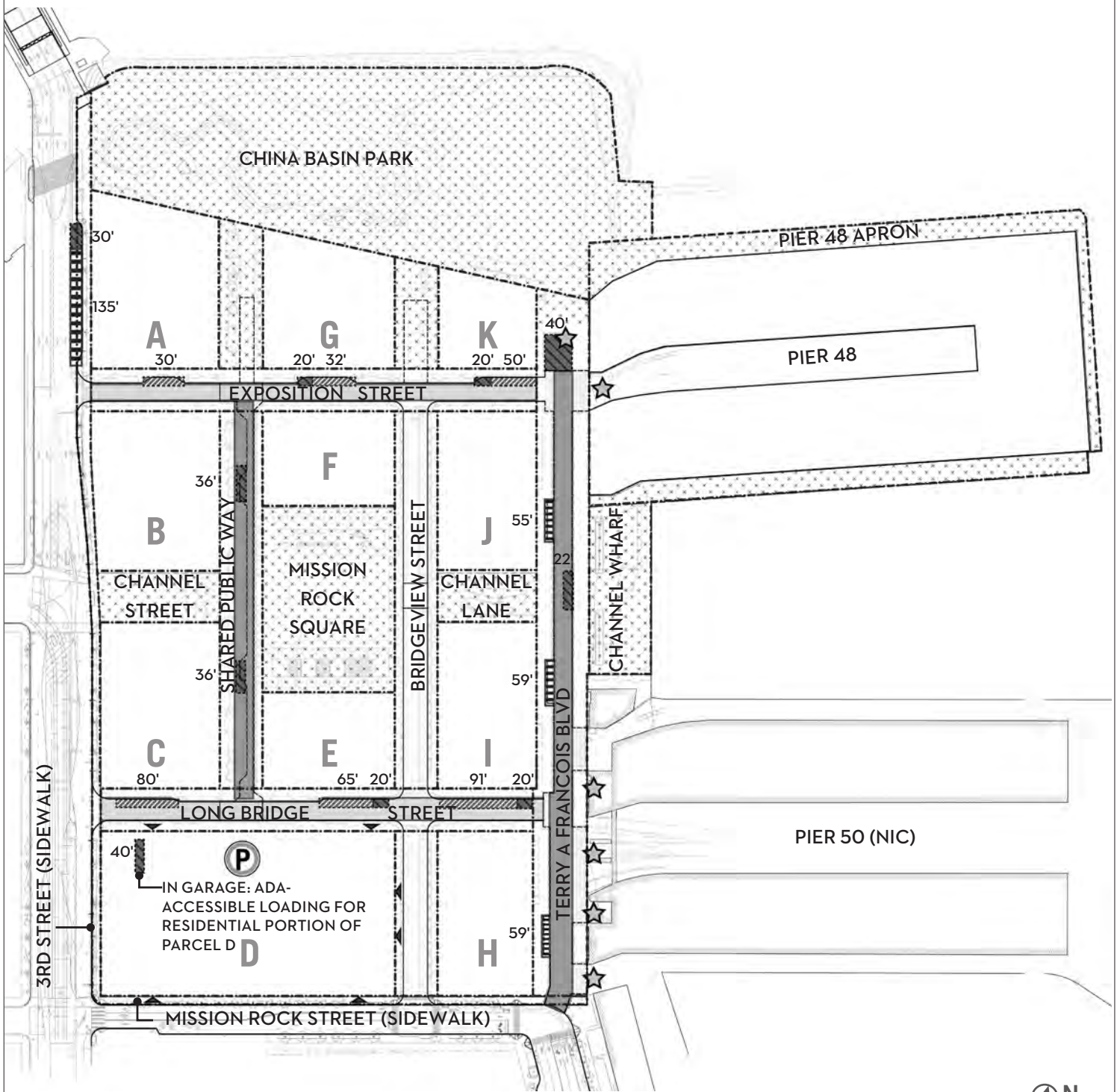


**FIGURE 8.17: BICYCLE CIRCULATION + FACILITIES**


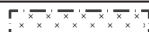







- - 
  -
- Blue Greenway: China Basin Park  
*- Primary N-S Bicycle Connection: Multi-Use Trail*
- Blue Greenway: Terry A Francois Blvd and China Basin Park  
*- Multi-Use Trail*
- Protected Cycle Track: Bridgeview + Mission Rock Streets  
*- Primary N-S Bicycle Connection*
- - 
  -
- Painted Bike Lane
- Sharrows / Shared Travelway
- Open Space (Shown for reference only)

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

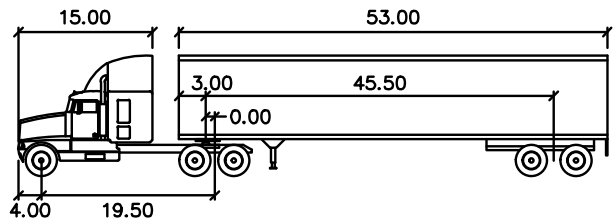
**FIGURE 8.18: LOADING, SERVICING, + PARKING**



**FIGURE 8.18: SERVICING AND LOADING**

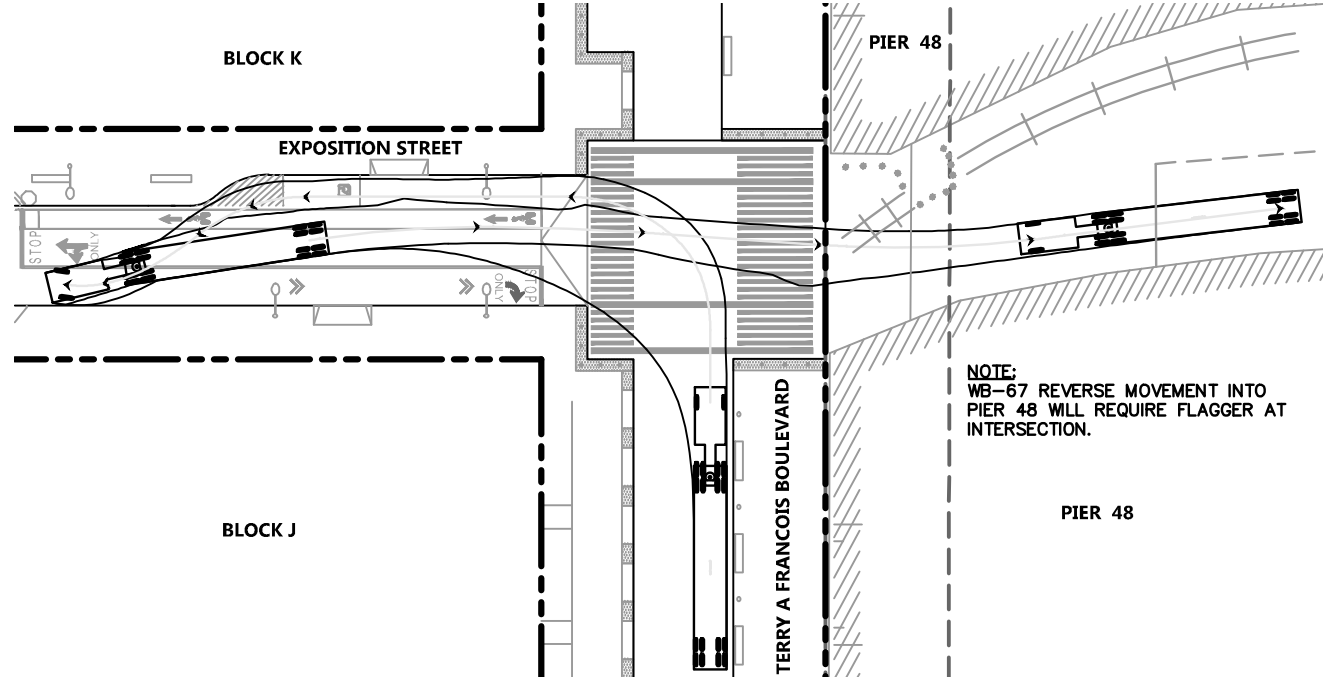
- |  |  |   |                                       |
|--|--|---|---------------------------------------|
|  | Service Street   |  | Open Space (Shown for reference only) |
|  | Shared Street (Flush Curb)   |  | Large Truck/Vehicle Access            |
|  | Commercial Delivery Zone (Length as Noted)                                 |  | Garage Driveway Location              |
|  | Accessible Loading (Length as Noted)                                       |  | Shared Parking Facility               |
|  | Time-Limited Commercial Delivery Zone (Accessible Loading All Other Times) |   |                                       |

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016



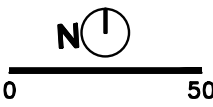
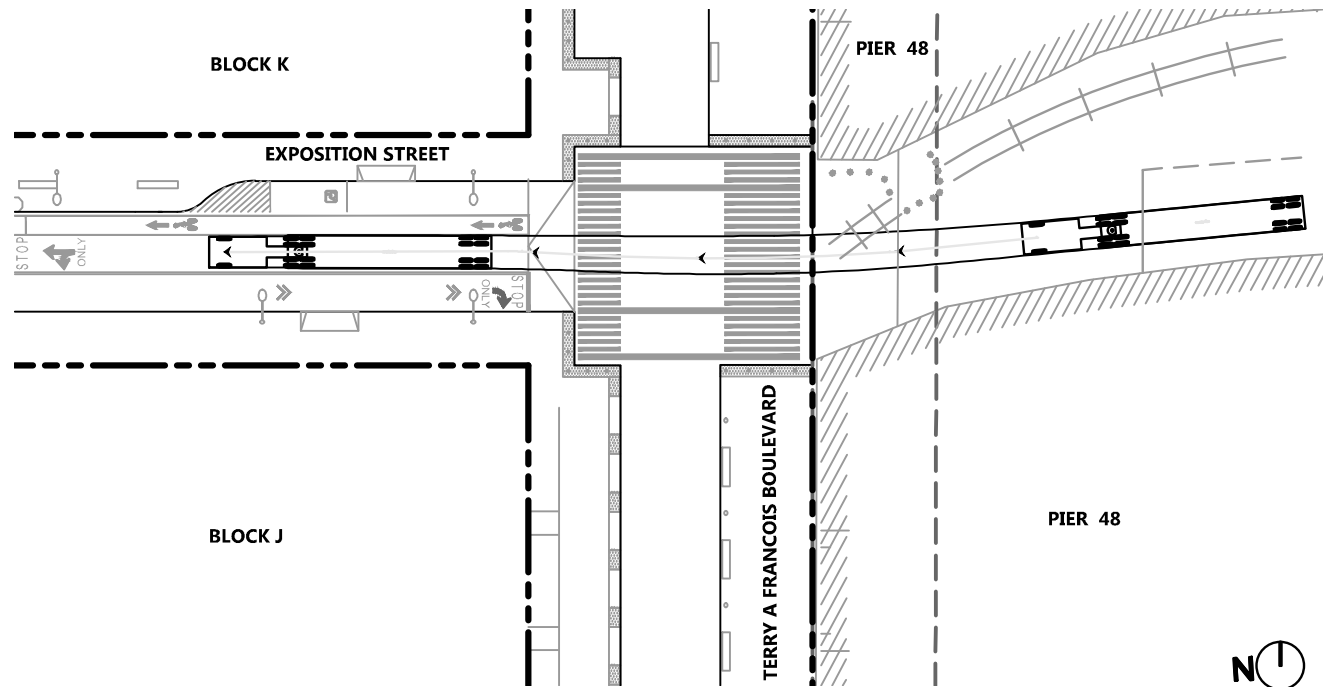
WB-67	feet	feet	
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

**WB-67 TRUCK TEMPLATE**



**NOTE:**  
WB-67 REVERSE MOVEMENT INTO PIER 48 WILL REQUIRE FLAGGER AT INTERSECTION.

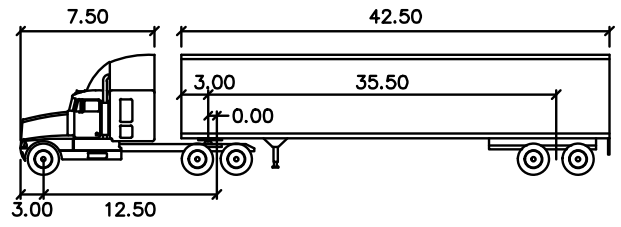
**WB-67 TRUCK ENTERING PIER 48**



**WB-67 TRUCK EXITING PIER 48**

DRAWING NAME: \\bkf-sf\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.19-20 Pier Turning.dwg  
PLOT DATE: 07/13/17 PLOTTED BY: FELL1

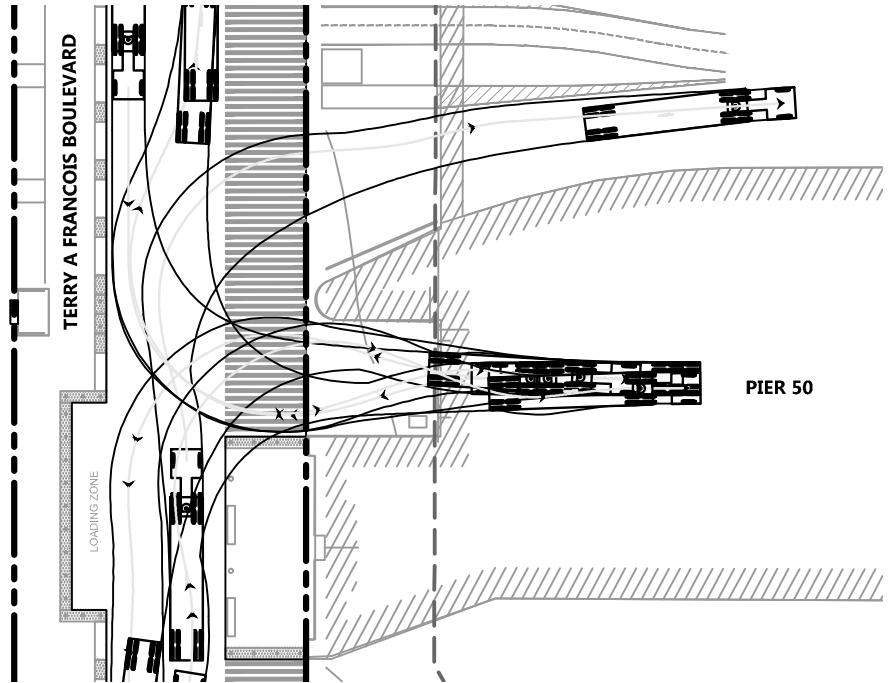
Source: BKF ENGINEERS, 07/2016



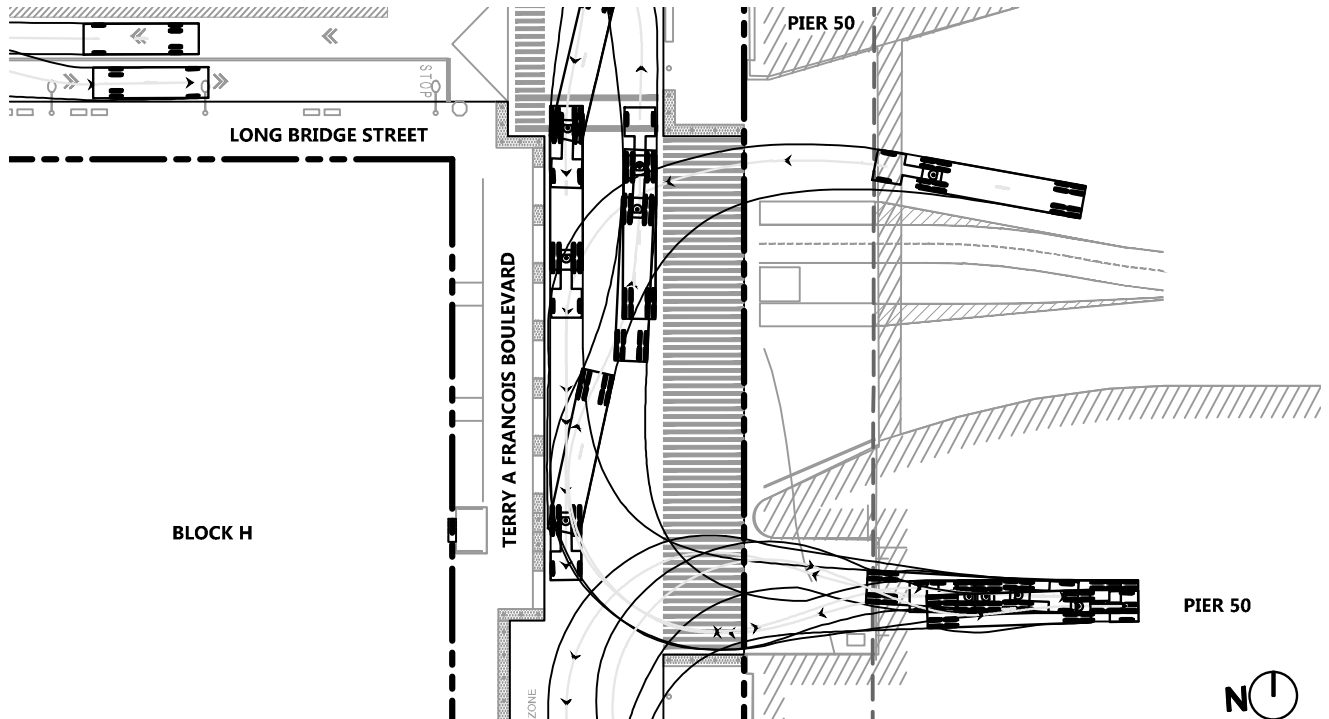
WB-50	feet	feet	
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

**WB-50 TRUCK TEMPLATE**

BLOCK H

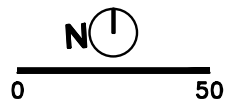


**WB-50 TRUCK ENTERING PIER 50**



BLOCK H

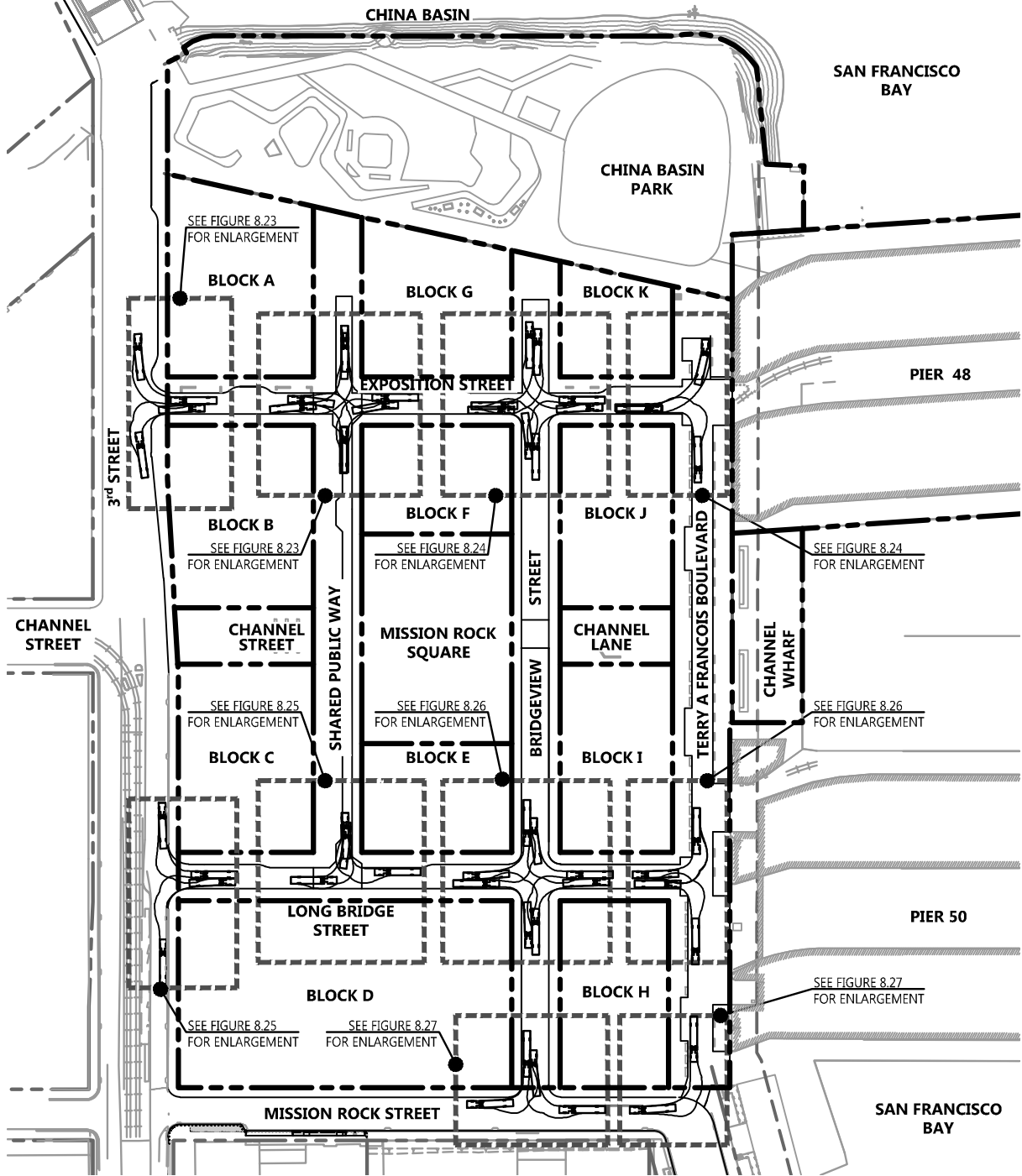
**WB-50 TRUCK EXITING PIER 50**



DRAWING NAME: \\BKF-SF\vo14\2008\080008\_Mission Rock\ENG\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 8.19-20 Pier Turning.dwg  
PLOT DATE: 07/13/17 PLOTTED BY: boyg

Source: BKF ENGINEERS, 07/2016

DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.21 Conceptual Fire Truck Turning Analysis.dwg  
PLOT DATE: 07-13-17  
Source: BKF ENGINEERS, 07/2016



**LEGEND**

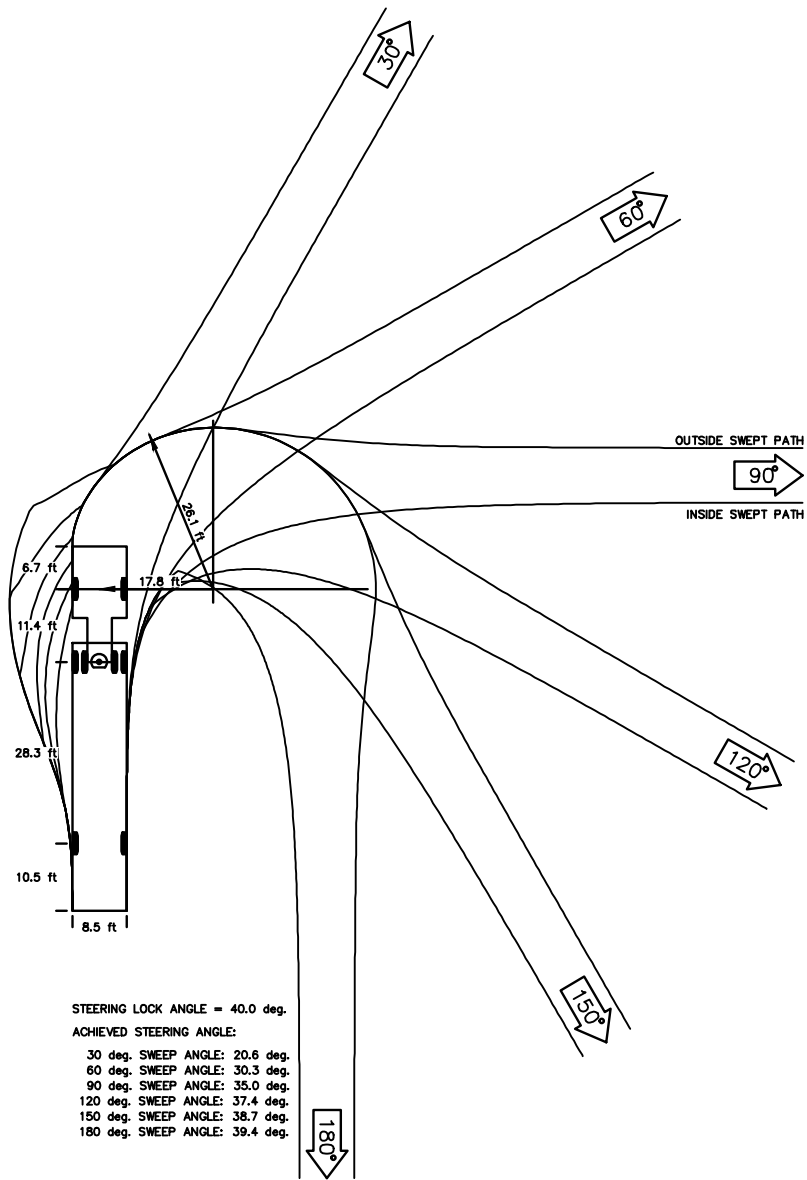
- PROPOSED PARCEL LINE
- - - EXISTING PARCEL LINE
- PROPOSED FIRE TRUCK PATH



0 200



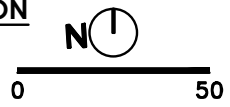
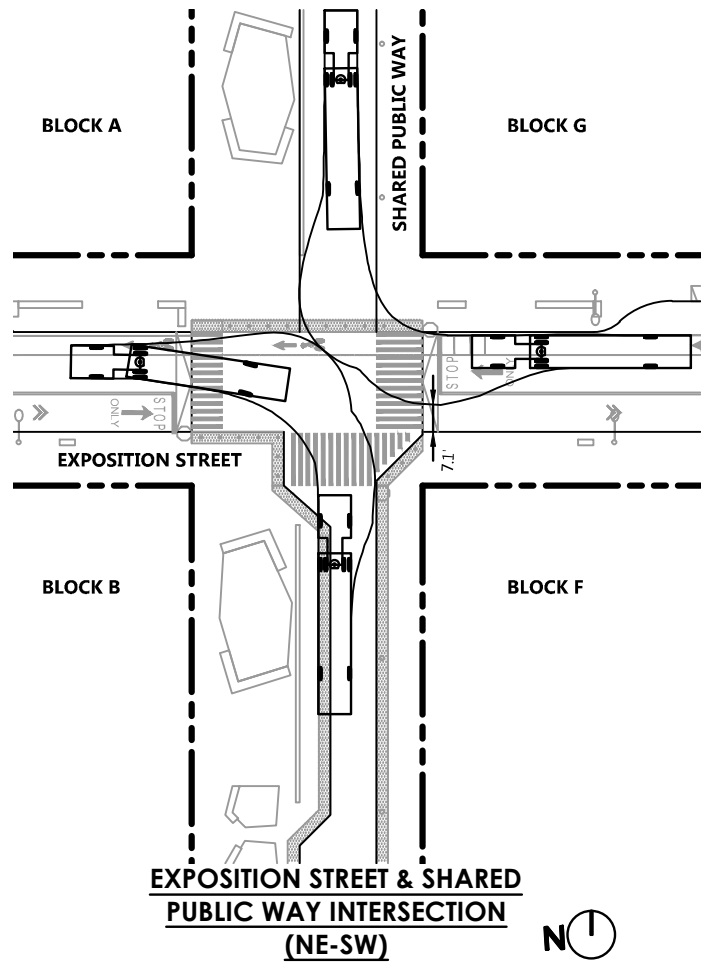
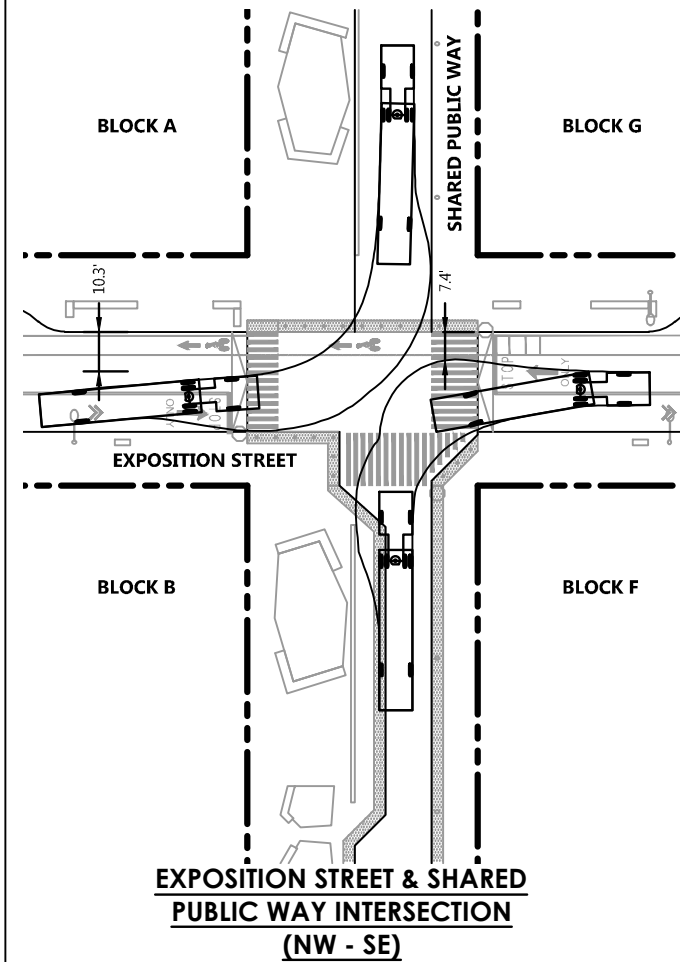
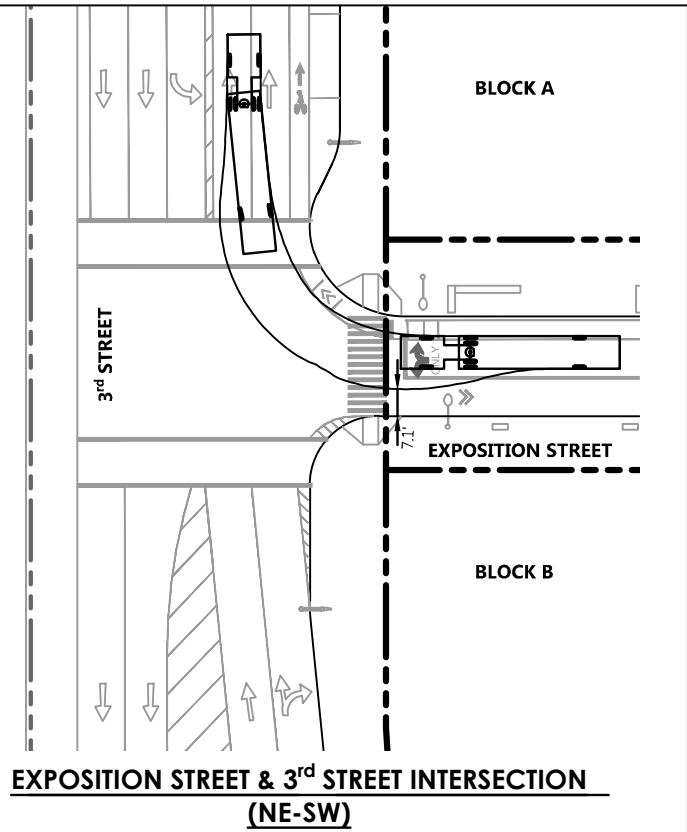
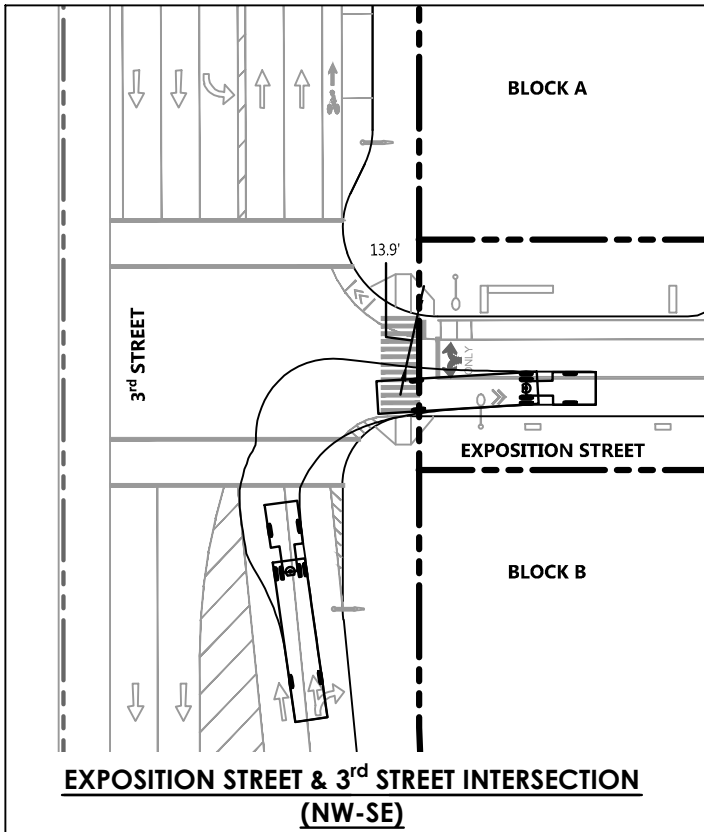
DRAWING NAME: \\BKF-SF\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.22 Truck Turning Template.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELL



SFFD 57' Articulated\_V2  
 Custom  
 [ft]  
 © 2014 Transoft Solutions, Inc. All rights reserved.

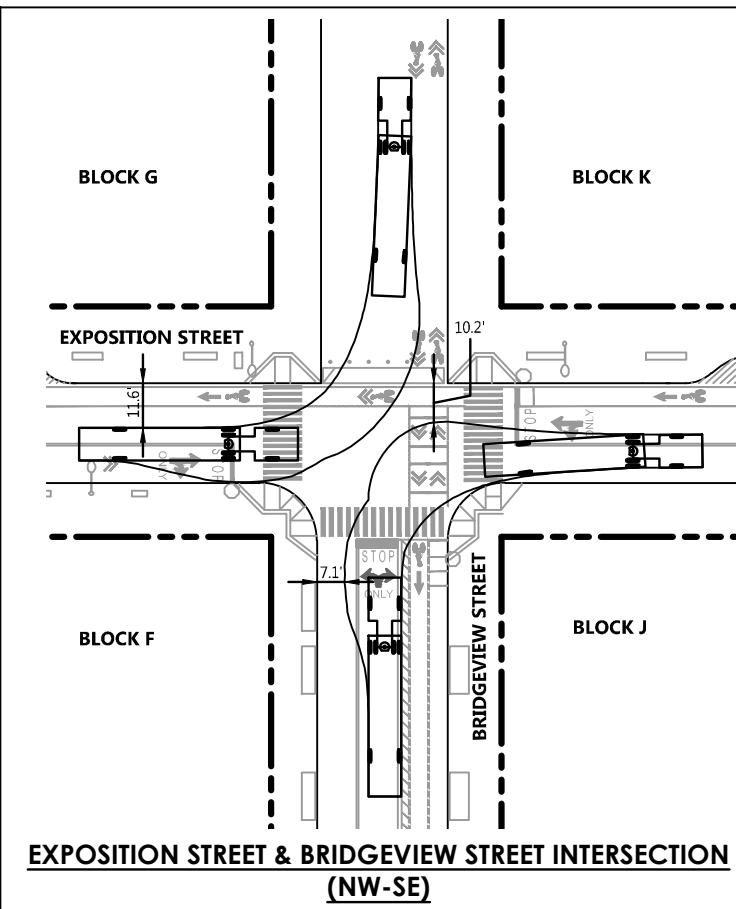


DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission\_Rock\ENG\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 8.23-8.27 Truck Turning Enlargements.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELI

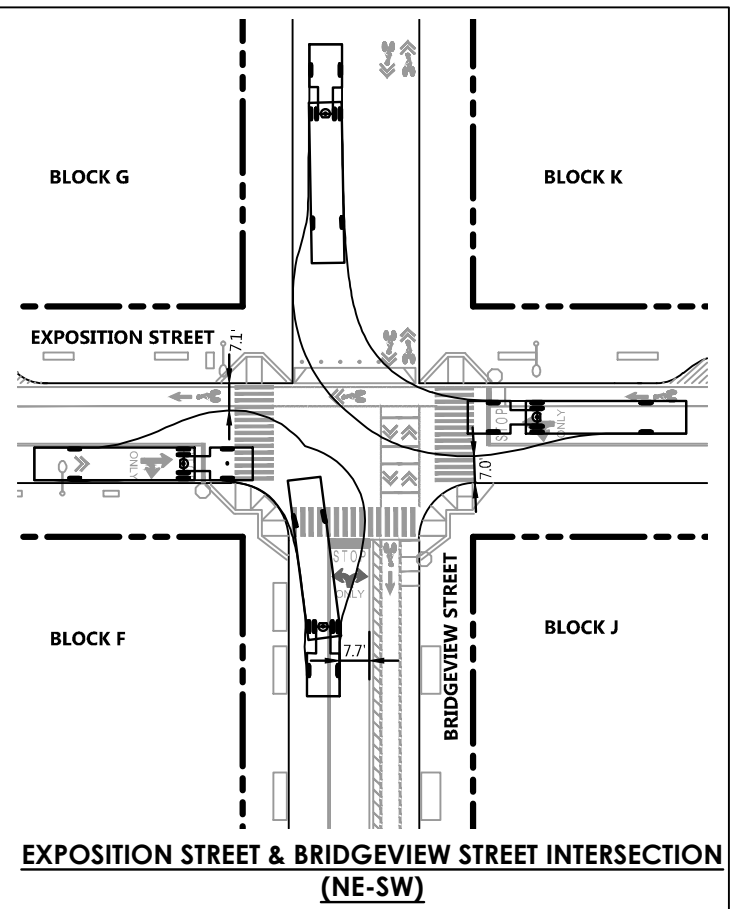


Source: BKF ENGINEERS, 07/2016

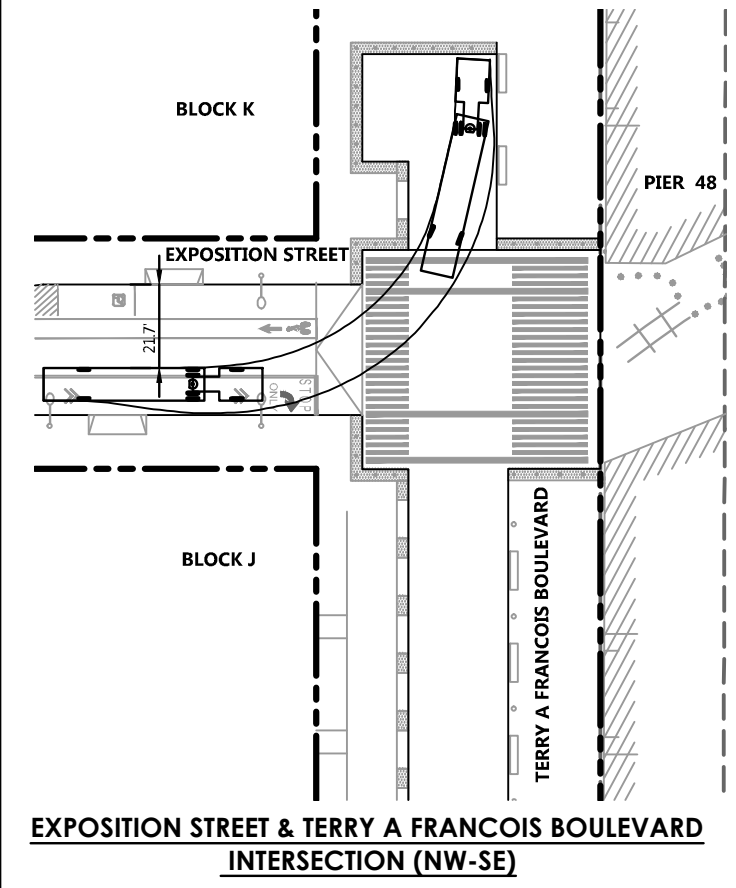
DRAWING NAME: \\BKF-SF\vo14\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.23-8.27 Truck Turning Enlargements.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELI



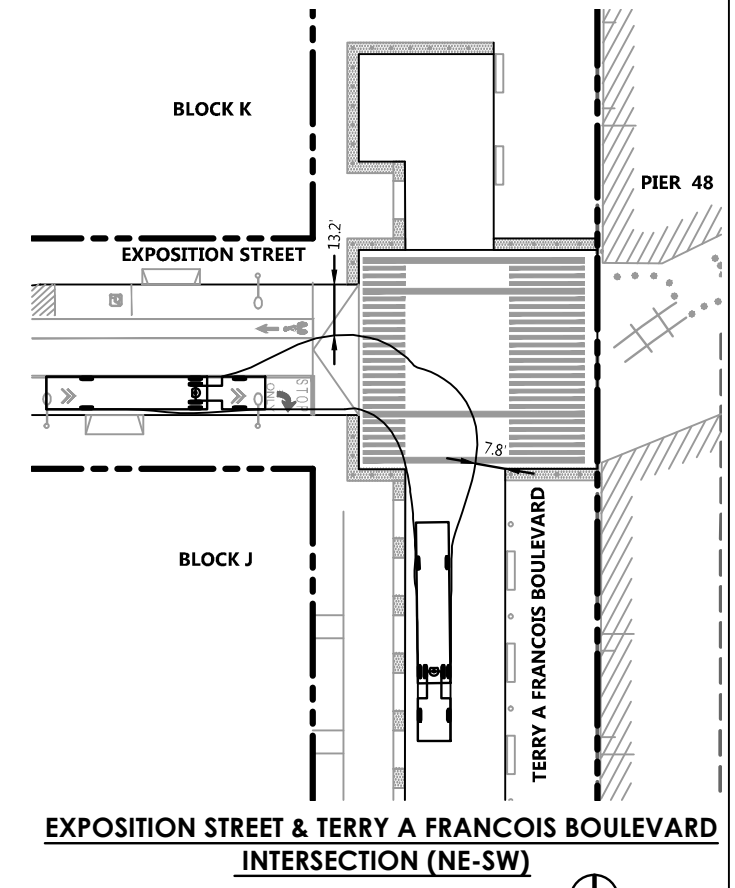
**EXPOSITION STREET & BRIDGEVIEW STREET INTERSECTION (NW-SE)**



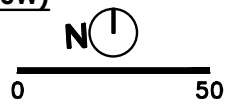
**EXPOSITION STREET & BRIDGEVIEW STREET INTERSECTION (NE-SW)**



**EXPOSITION STREET & TERRY A FRANCOIS BOULEVARD INTERSECTION (NW-SE)**

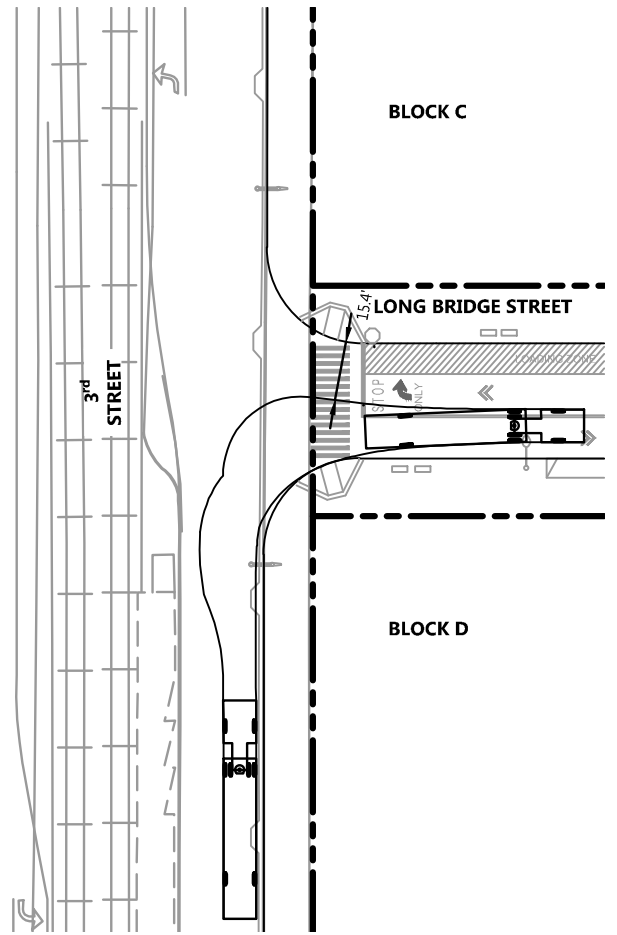


**EXPOSITION STREET & TERRY A FRANCOIS BOULEVARD INTERSECTION (NE-SW)**

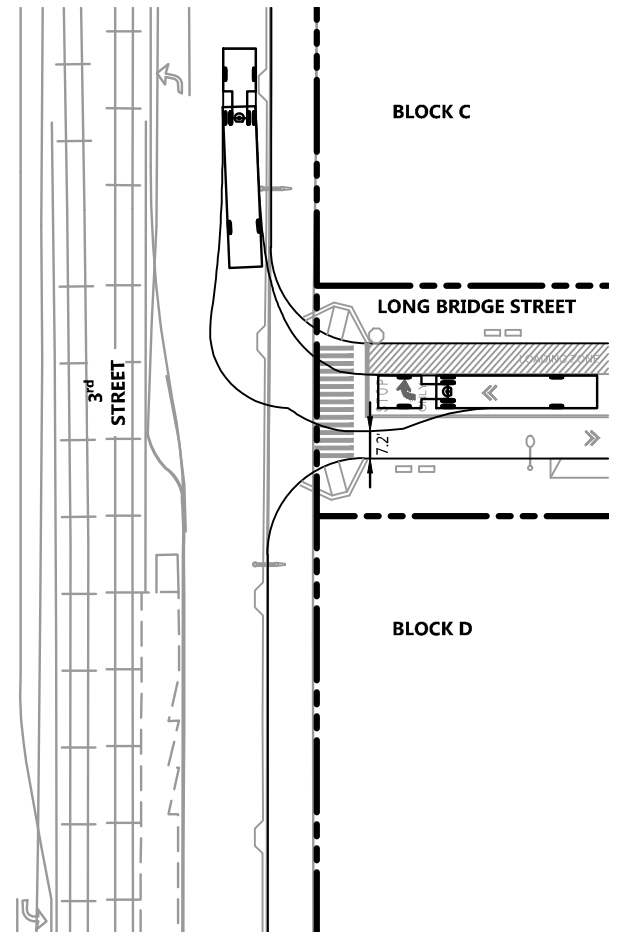


Source: BKF ENGINEERS, 07/2016

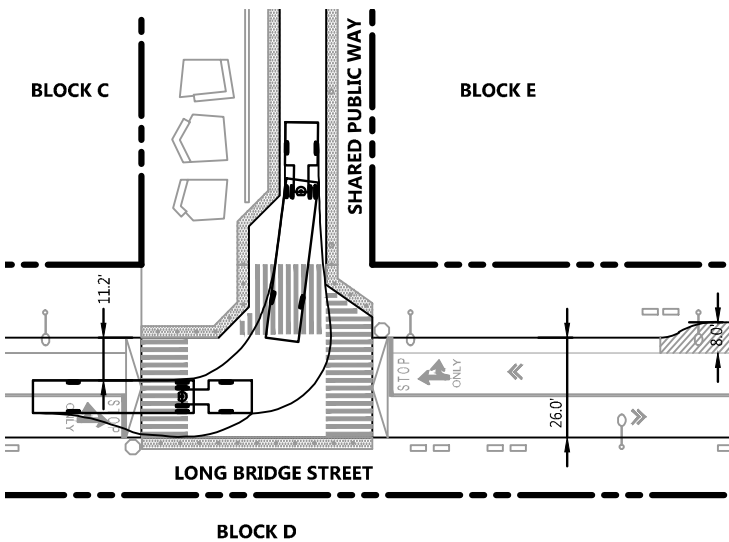
DRAWING NAME: \\BKF-SF\vol4\2008\080808\_Mission\_Rock\ENG\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 8.23-8.27 Truck Turning Enlargements.dwg  
 PLOT DATE: 07/13/17 PLOTTED BY: FELI



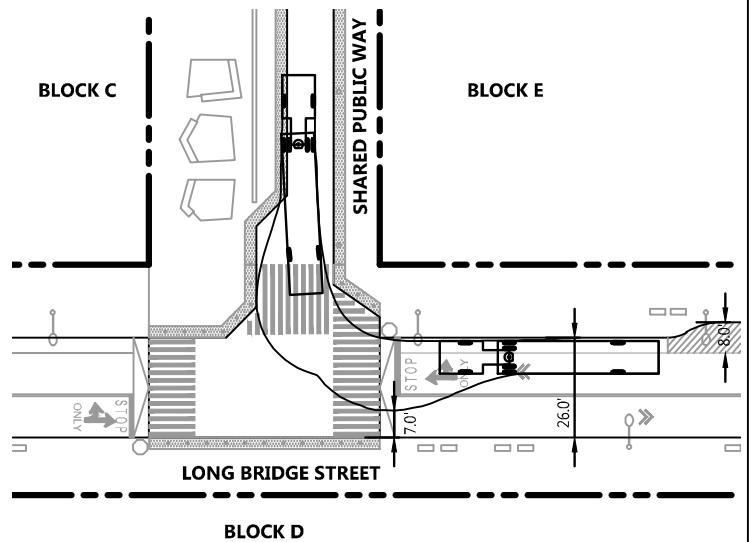
**LONG BRIDGE STREET & 3<sup>rd</sup> STREET INTERSECTION (NW-SE)**



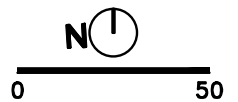
**LONG BRIDGE STREET & 3<sup>rd</sup> STREET INTERSECTION (NE-SW)**



**LONG BRIDGE STREET & SHARED PUBLIC WAY INTERSECTION (NW-SE)**

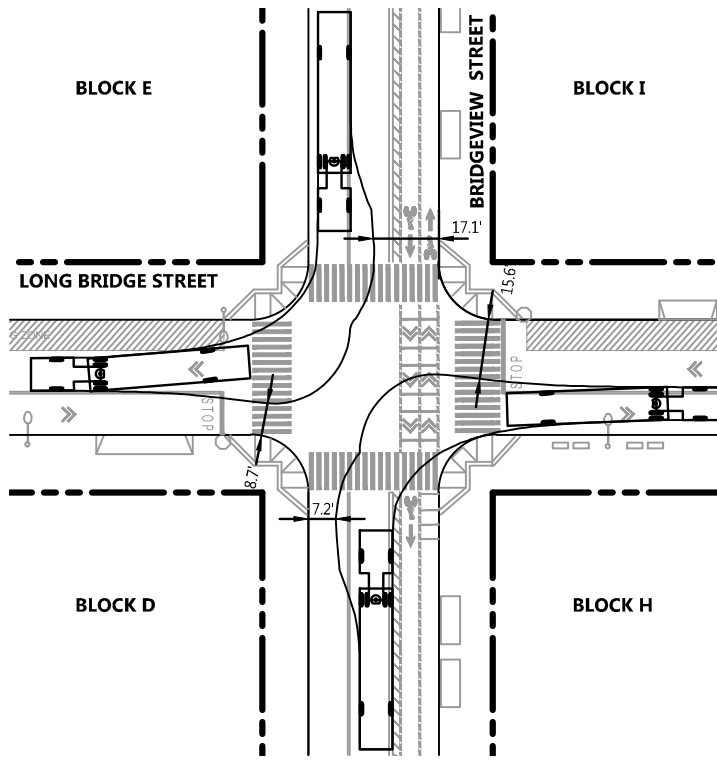


**LONG BRIDGE STREET & SHARED PUBLIC WAY INTERSECTION (NE-SW)**

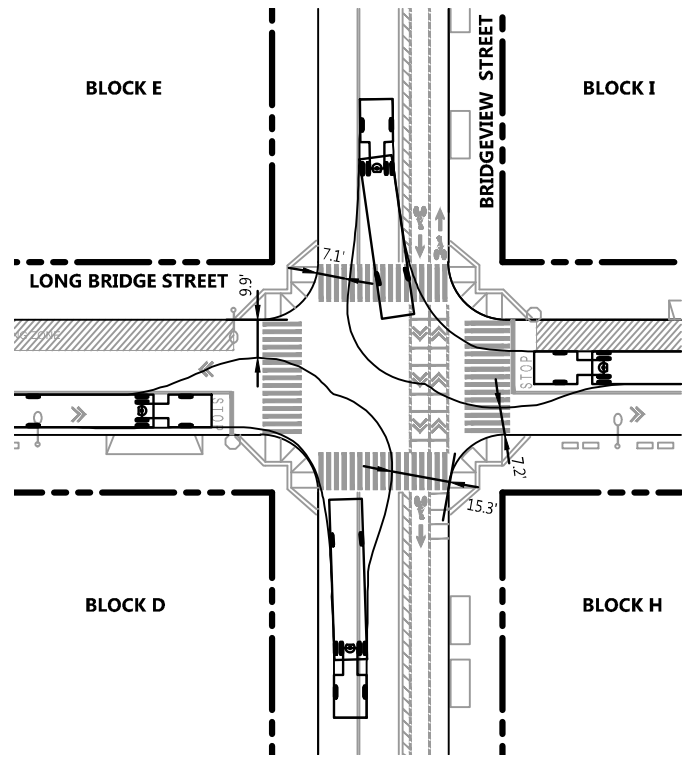


Source: BKF ENGINEERS, 07/2016

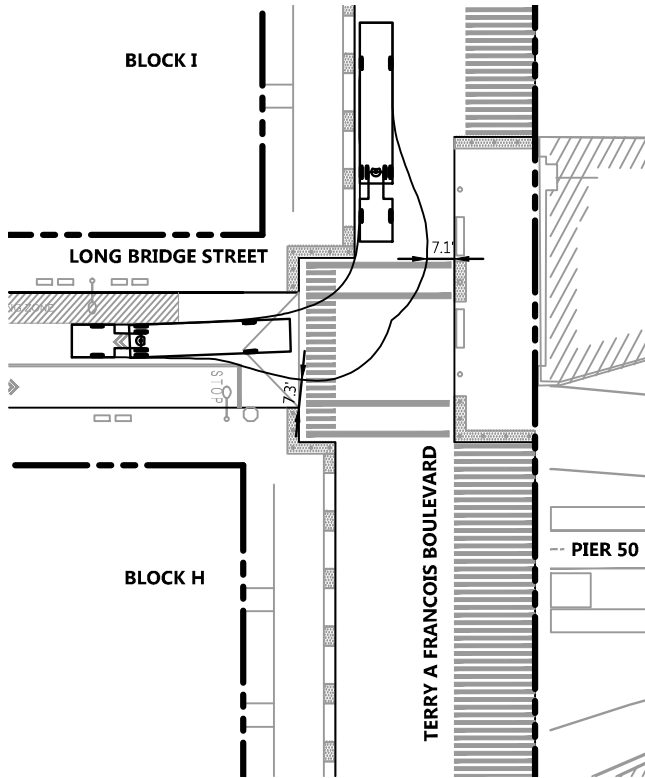
DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibita\Infrastructure Plan Exhibit\Plotted Sheets\Figure 8.23-8.27 Truck Turning Enlargements.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELL



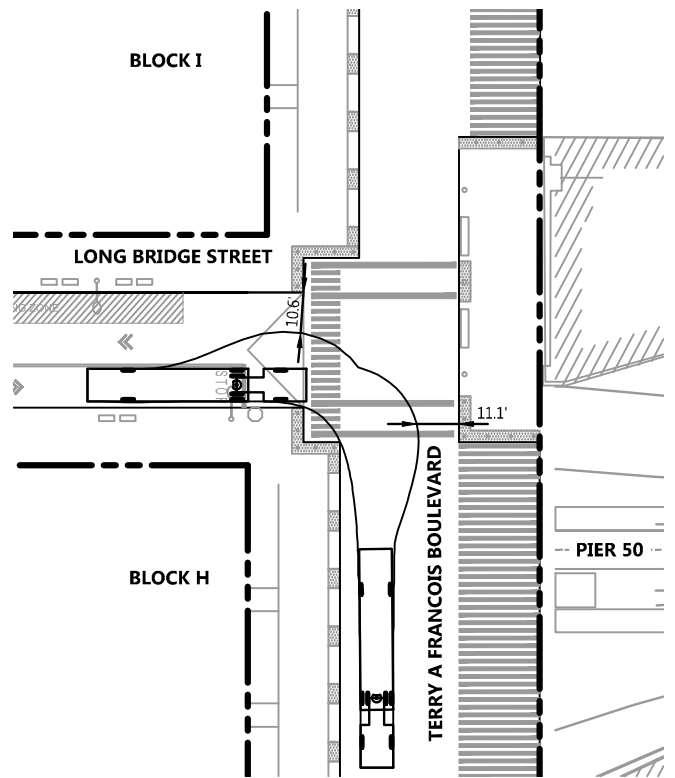
**LONG BRIDGE STREET & BRIDGEVIEW STREET  
 INTERSECTION (NW-SE)**



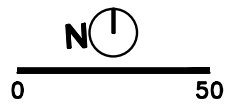
**LONG BRIDGE STREET & BRIDGEVIEW STREET  
 INTERSECTION (NE-SW)**



**LONG BRIDGE STREET & TERRY A FRANCOIS  
 BOULEVARD INTERSECTION (NW-SE)**

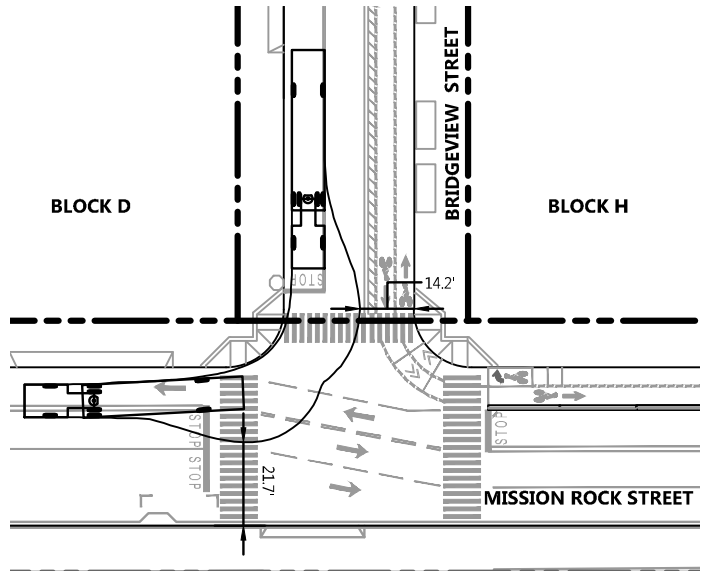


**LONG BRIDGE STREET & TERRY A FRANCOIS  
 BOULEVARD INTERSECTION (NE-SW)**

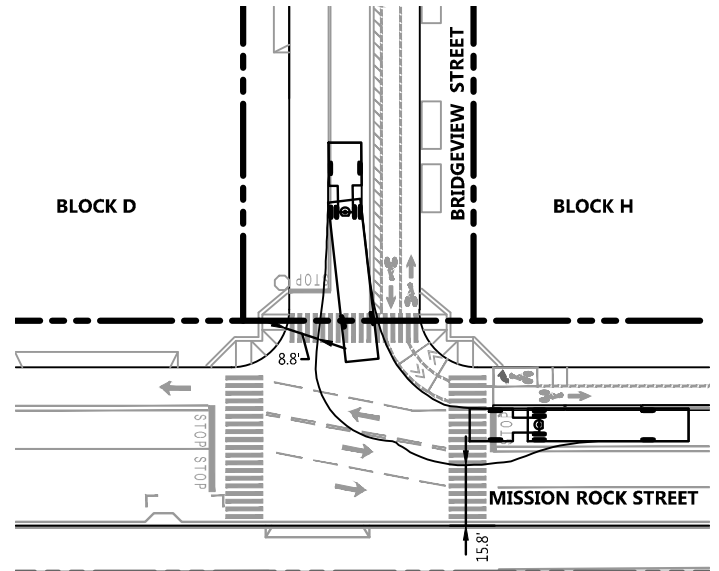


Source: BKF ENGINEERS, 07/2016

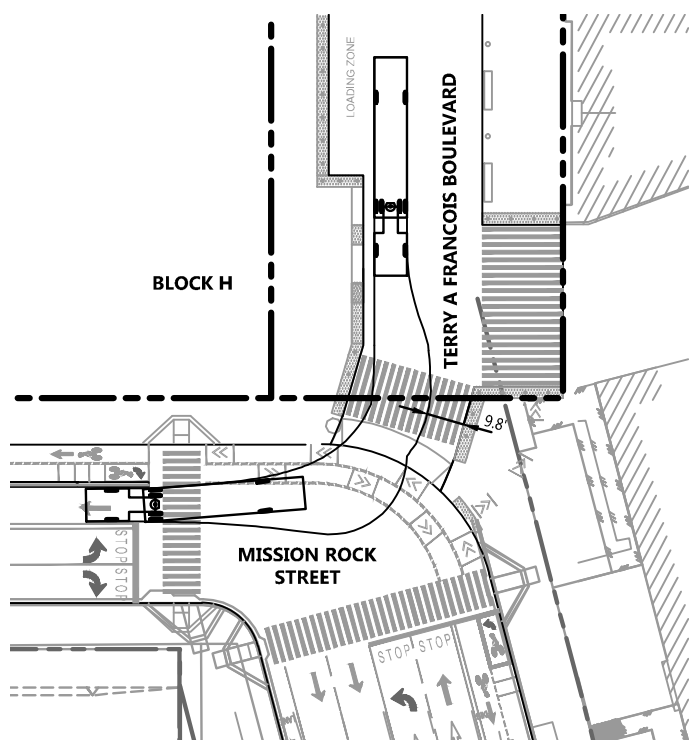
DRAWING NAME: \\BKF-SF\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.23-8.27 Truck Turning Enlargements.dwg  
PLOT DATE: 07/13/17  
PLOTTED BY: FELI



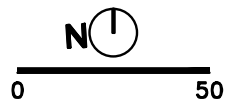
**MISSION ROCK STREET & BRIDGEVIEW STREET INTERSECTION (NW-SE)**



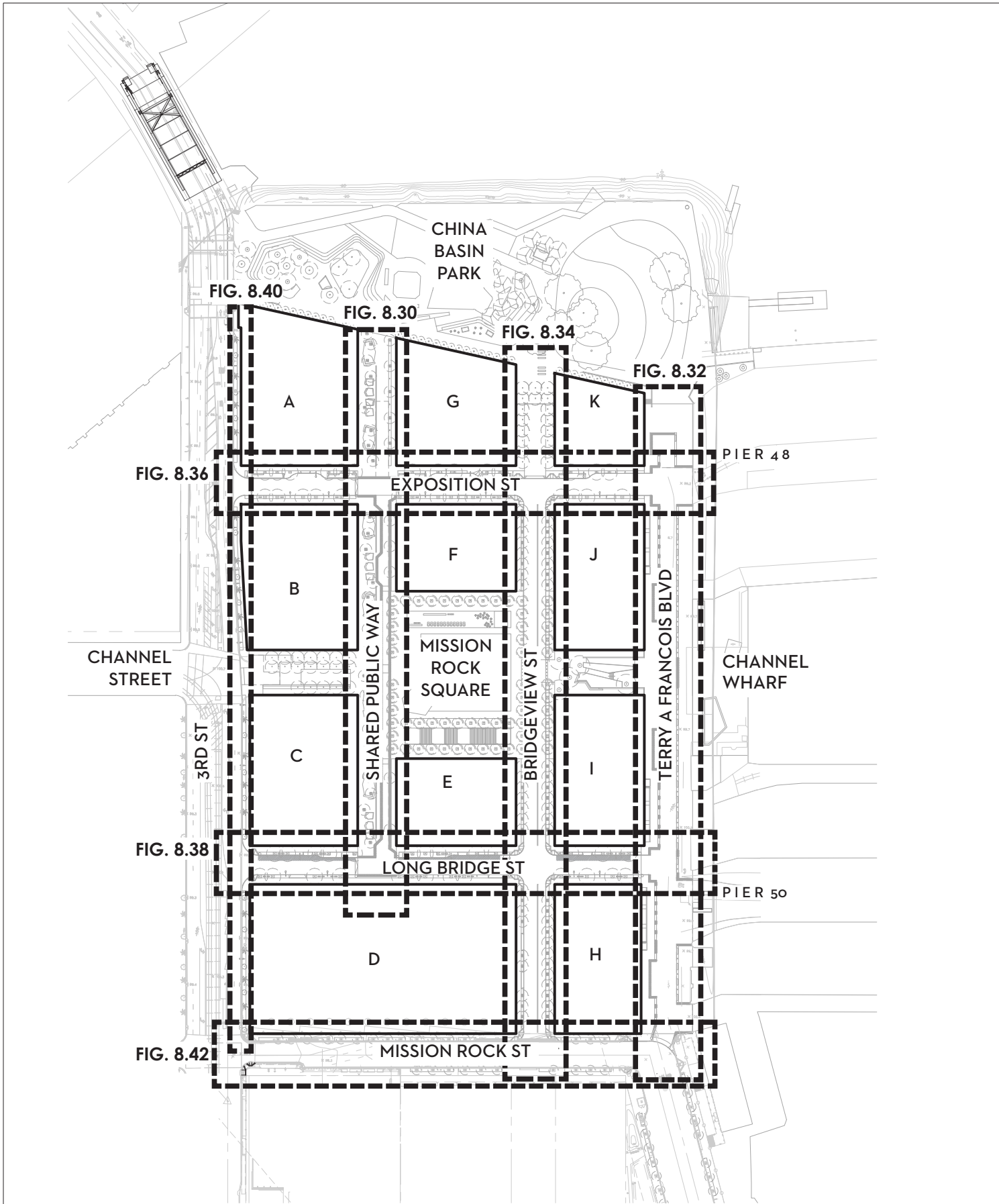
**MISSION ROCK STREET & BRIDGEVIEW STREET INTERSECTION (NE-SW)**

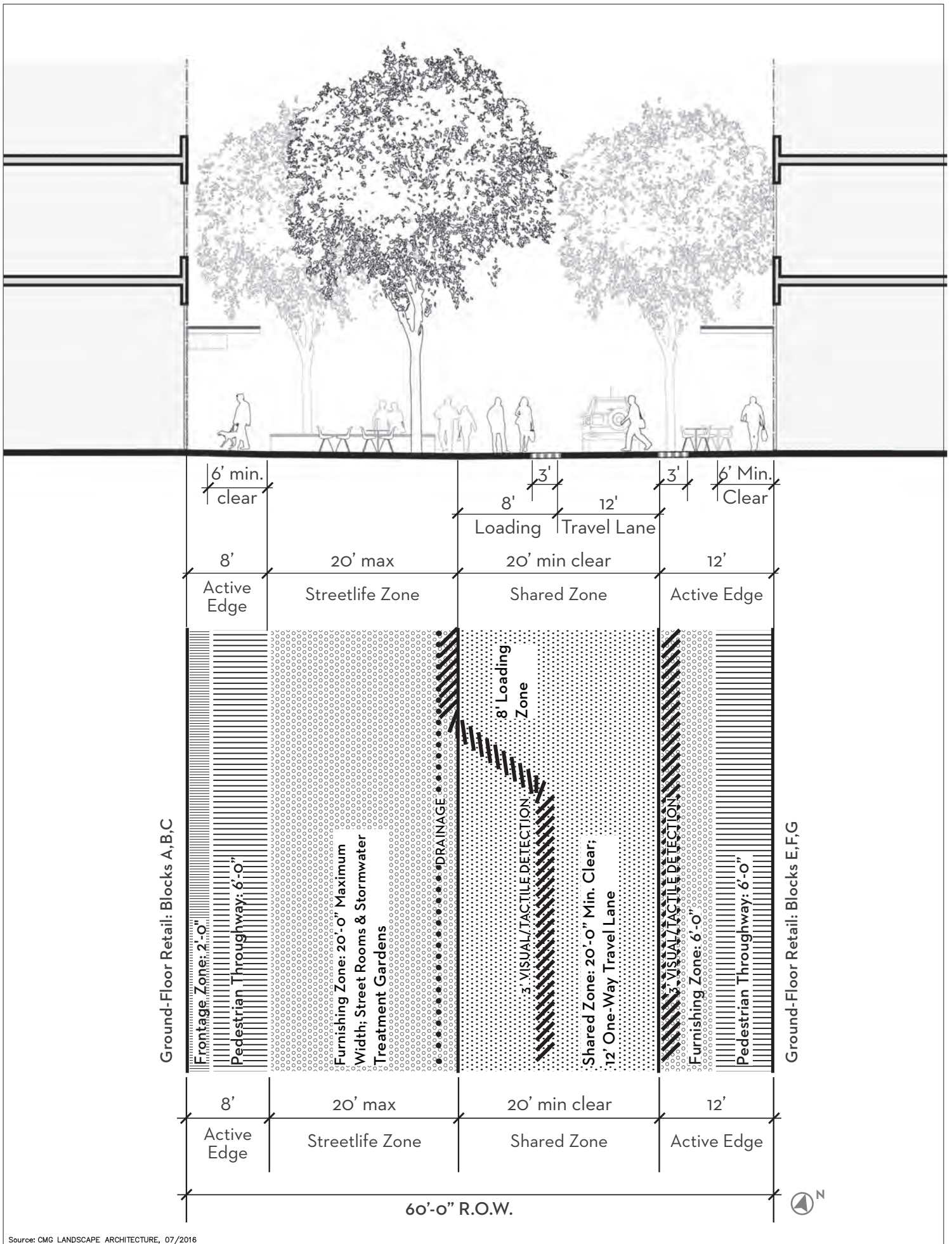


**MISSION ROCK STREET & TERRY A FRANCOIS BOULEVARD INTERSECTION (NW-SE)**



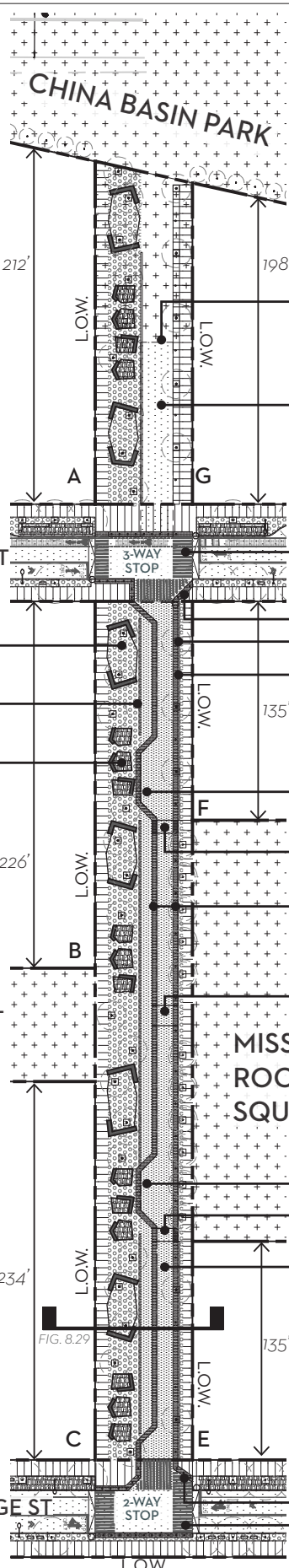
Source: BKF ENGINEERS, 07/2016





Source: CMG LANDSCAPE ARCHITECTURE, 07/2016





CHINA BASIN PARK

212'

198'

135'

226'

234'

135'

L.O.W.

**SHARED PUBLIC WAY**

**BOLLARDS OR PERMANENT SITE FURNITURE**  
- At terminus of Emergency Vehicle Access

**PASEO**  
- With approved hydraulic or automatic bollards at Exposition Street  
- 150'-maximum Emergency Vehicle Access

EXPOSITION ST

3-WAY STOP

RAISED INTERSECTION

STREET ROOM, TYP.

TRENCH DRAIN OR LINEAR DRAINAGE ELEMENT, TYP.

STORMWATER TREATMENT GARDEN, TYP.

DETECTABLE WARNING PAVING WITH BOLLARDS

STREET TREE, TYP.

STREET LIGHT, TYP.

ACCESSIBLE LOADING STALL, SEE FIGURE 8.56

MARKED CROSSWALK

3' MIN. CONTRASTING PAVING BAND  
- Along both sides of Shared Zone / Travelway

CHANNEL STREET

MISSION ROCK SQUARE

ACCESSIBLE LOADING STALL

MARKED CROSSWALK

DISTINCT PAVING AT 20'-CLEAR SHARED ZONE

LONG BRIDGE ST

2-WAY STOP

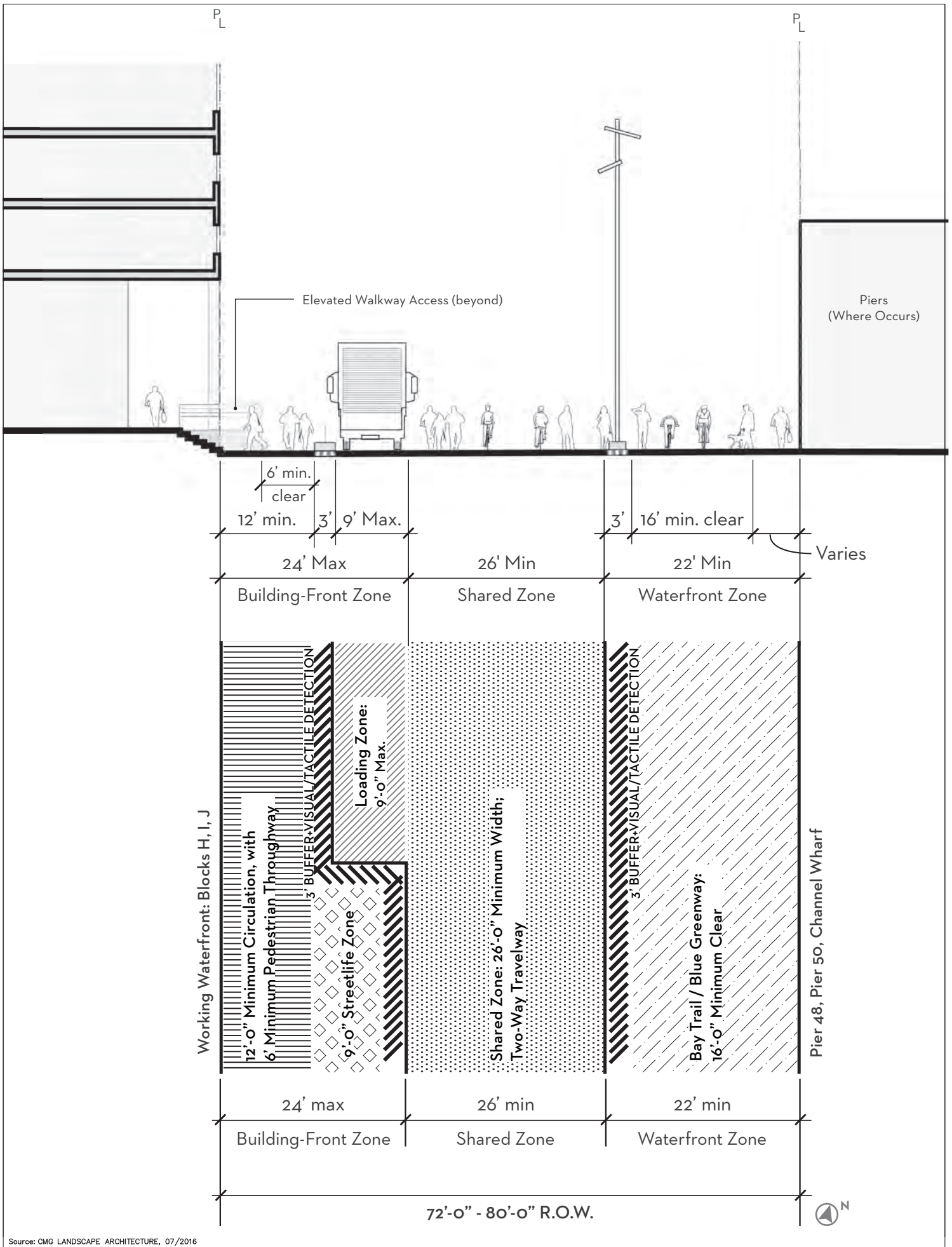
DETECTABLE WARNING PAVING WITH BOLLARDS

RAISED INTERSECTION

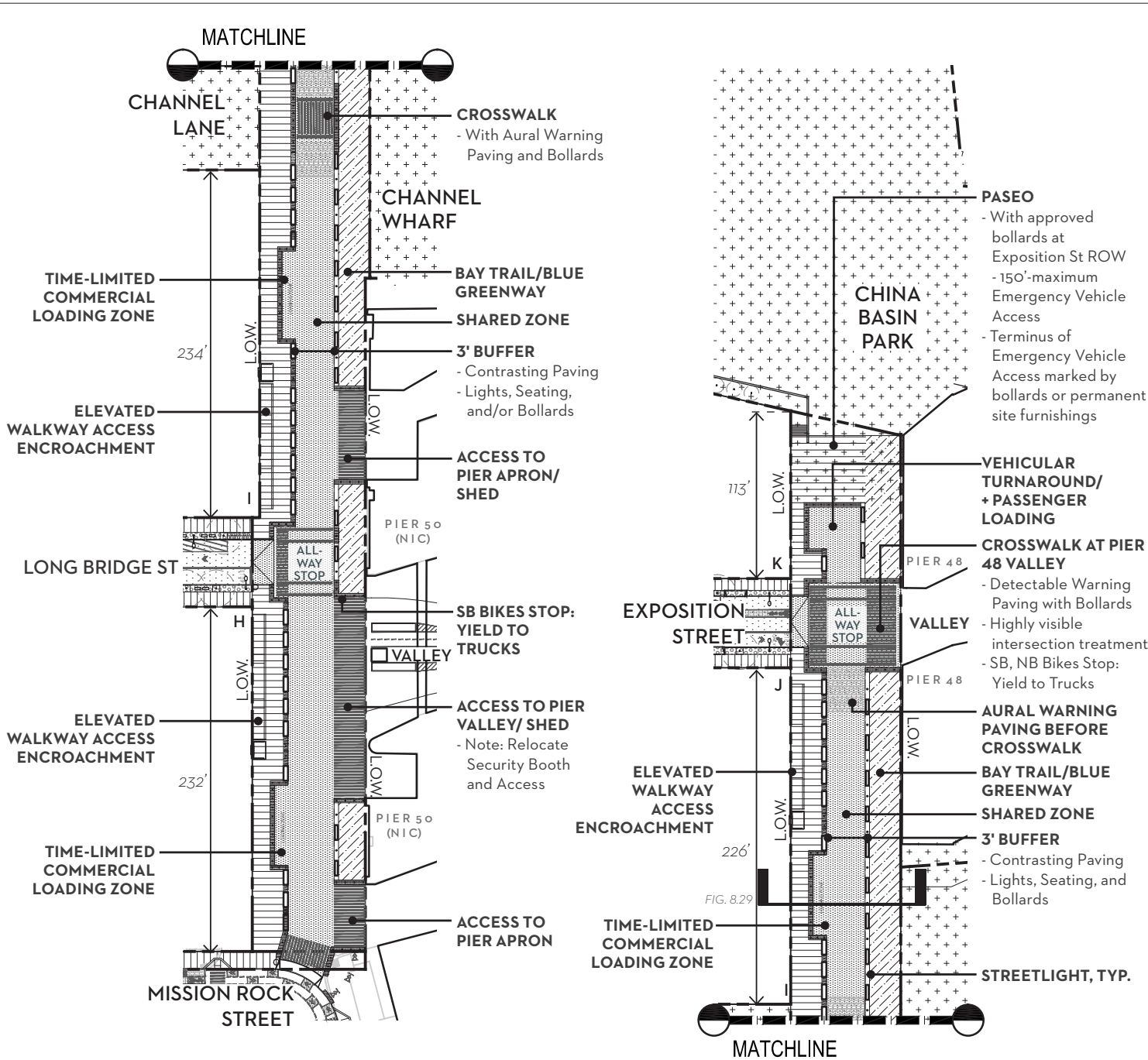
-  Active Edge + Pedestrian Throughway
-  Streetlife Zone
-  Stormwater Treatment Garden
-  Shared Zone
-  Park / Open space
-  Detectable Warning Paving

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016





Source: CMG LANDSCAPE ARCHITECTURE, 07/2016



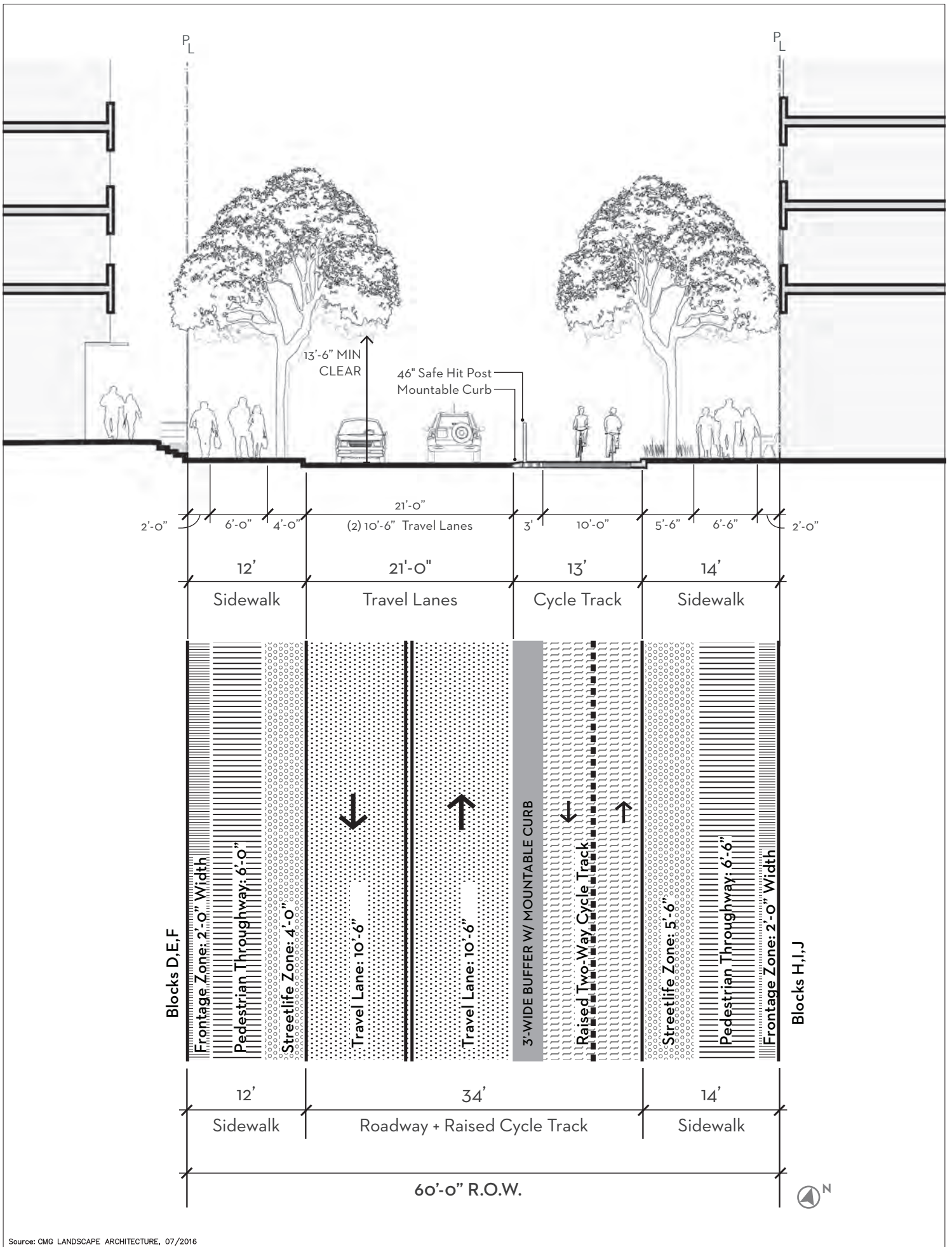
- Pedestrian Circulation + Throughway
- 3' Buffer (Tactile Warning + Bollards)
- Shared Zone
- Loading Zone
- Waterfront Zone
- Park / Open Space
- Detectable Warning Paving
- Aural Warning Paving

**TERRY FRANCOIS BOULEVARD**

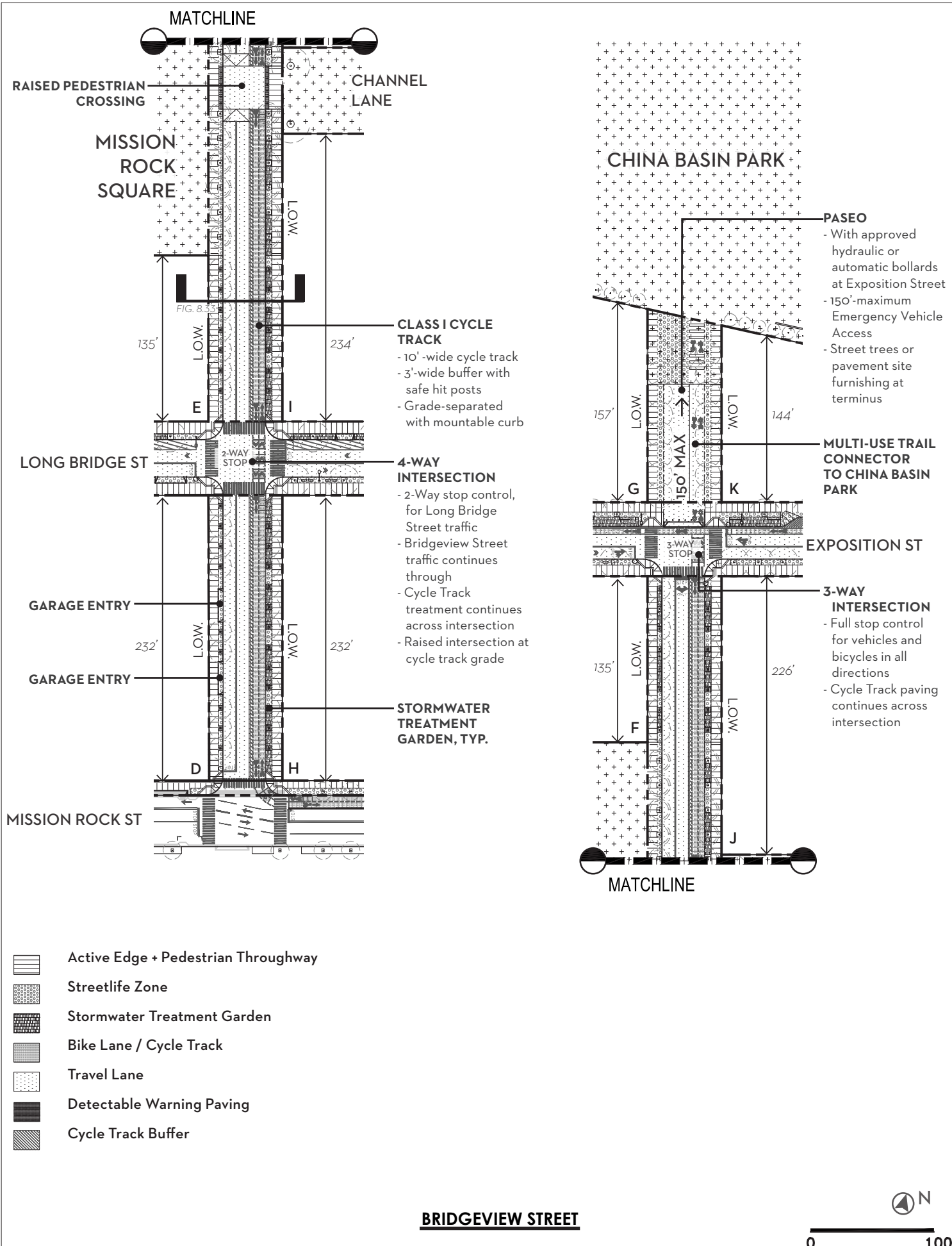


0 100

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

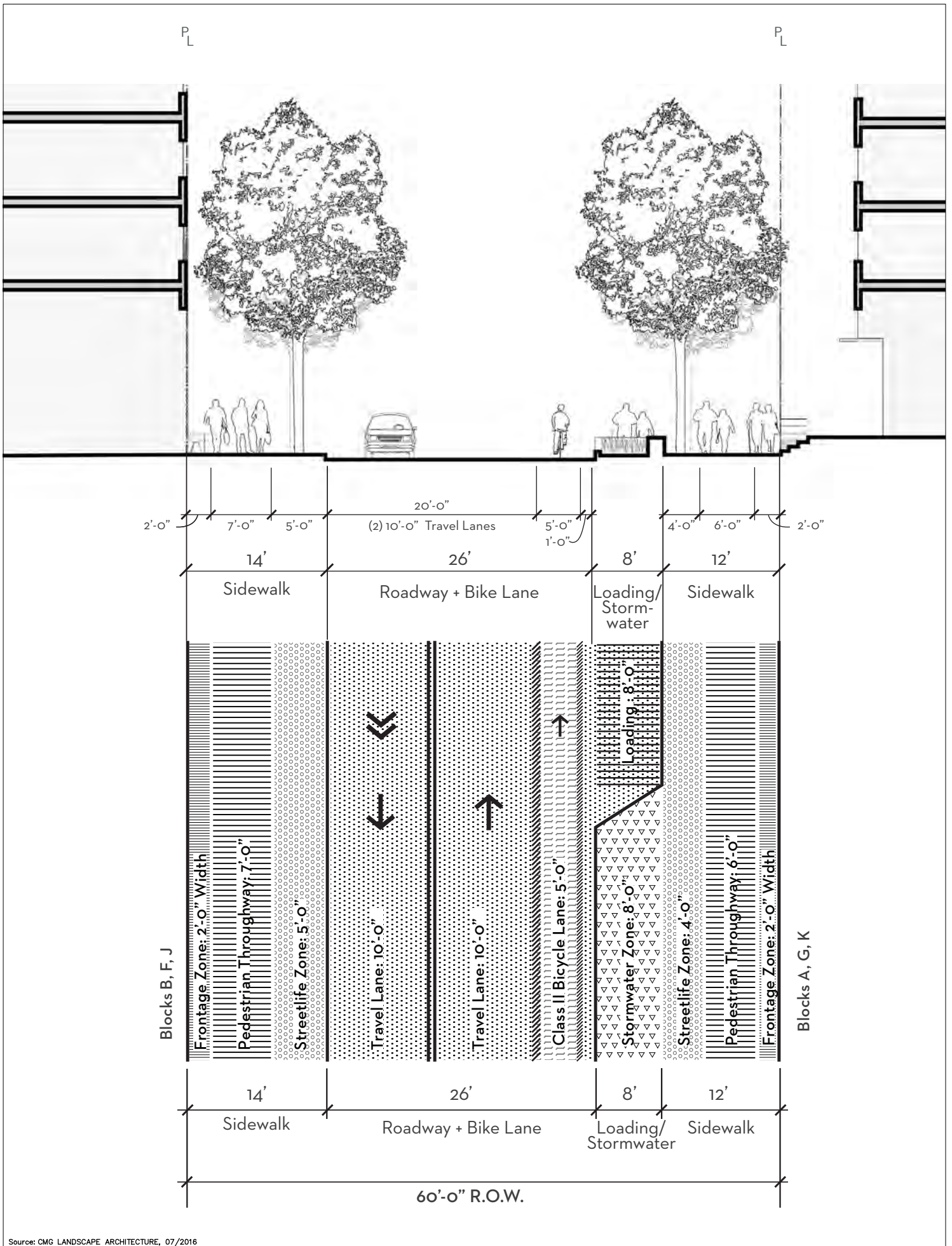


Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

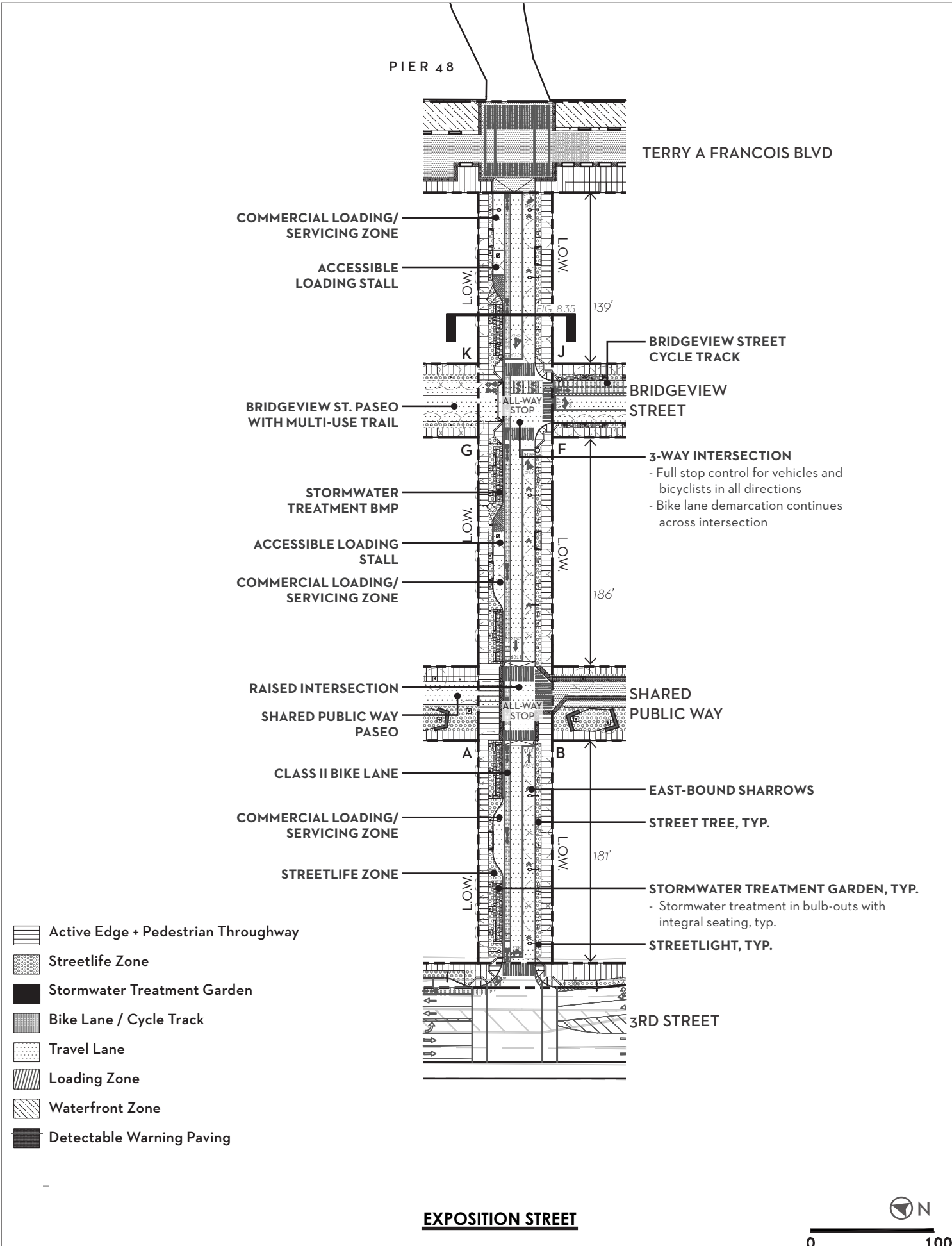


Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

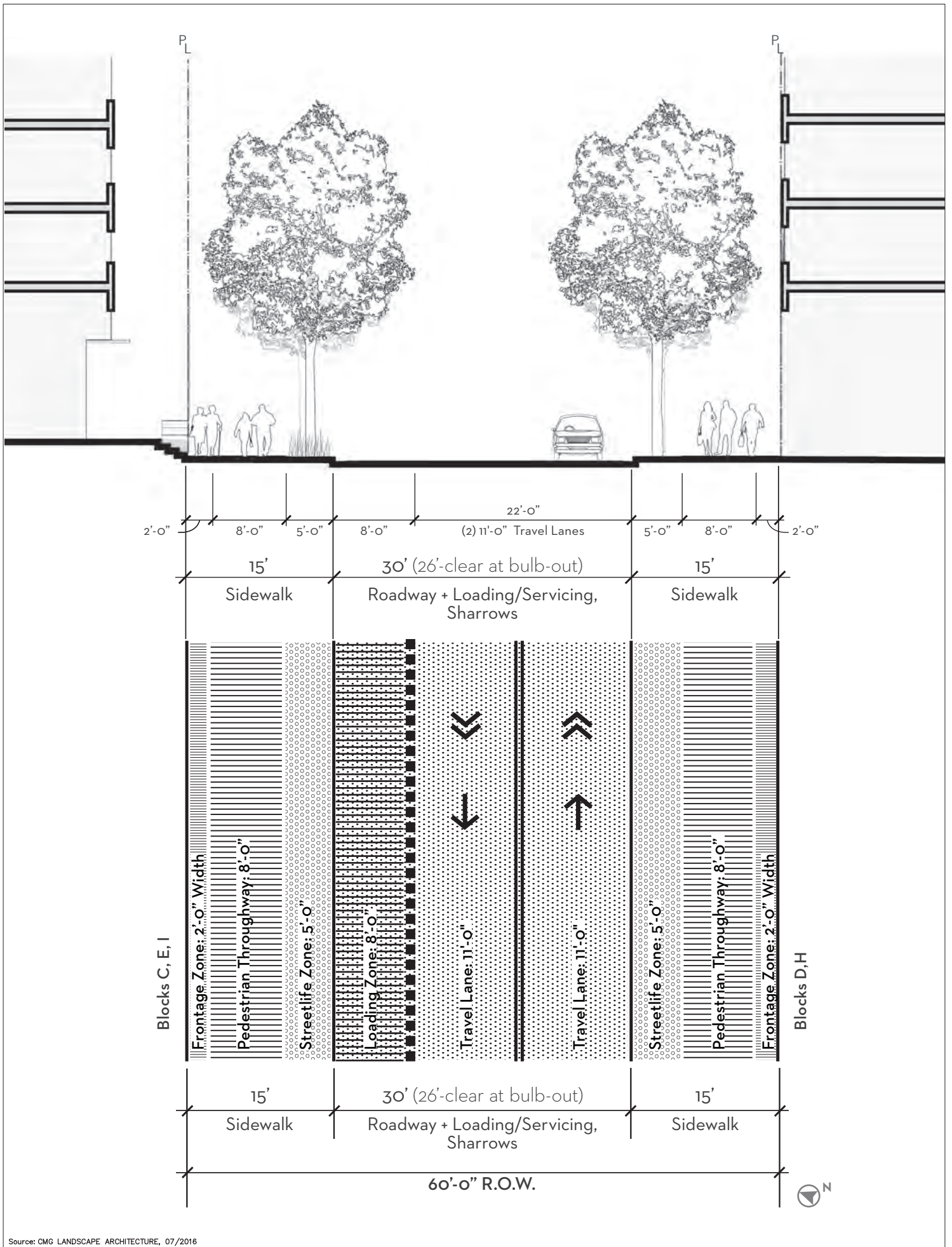




Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

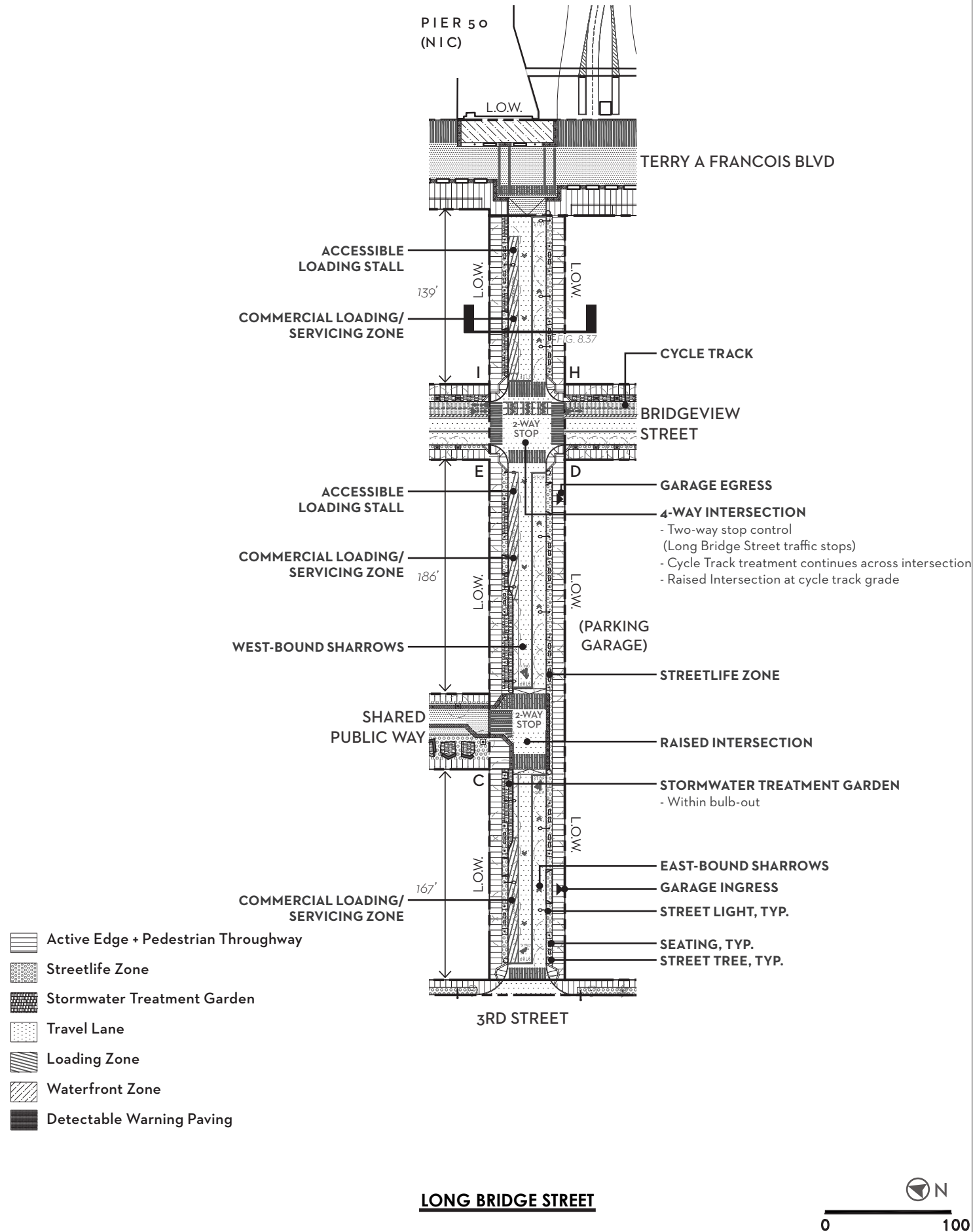


Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

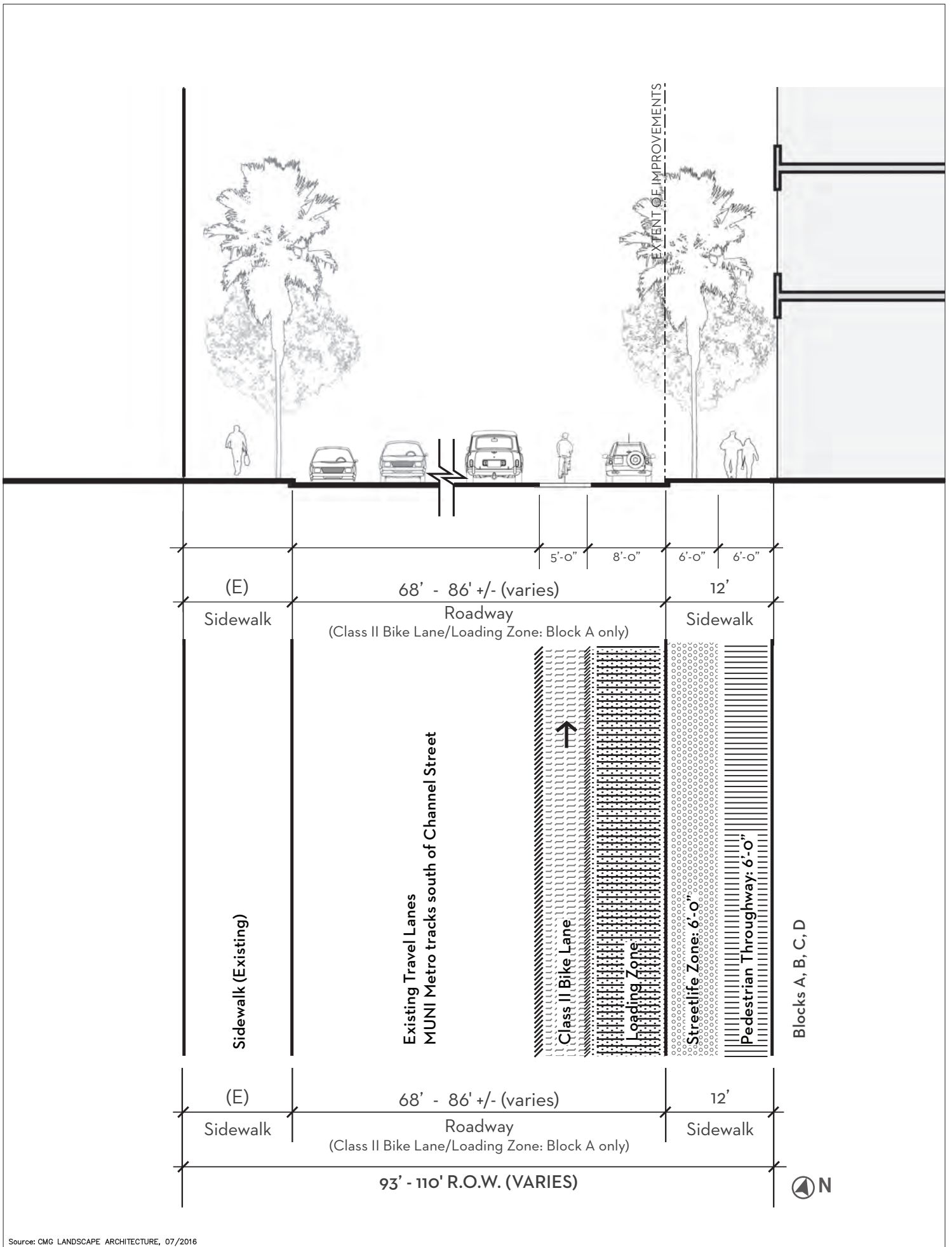


Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

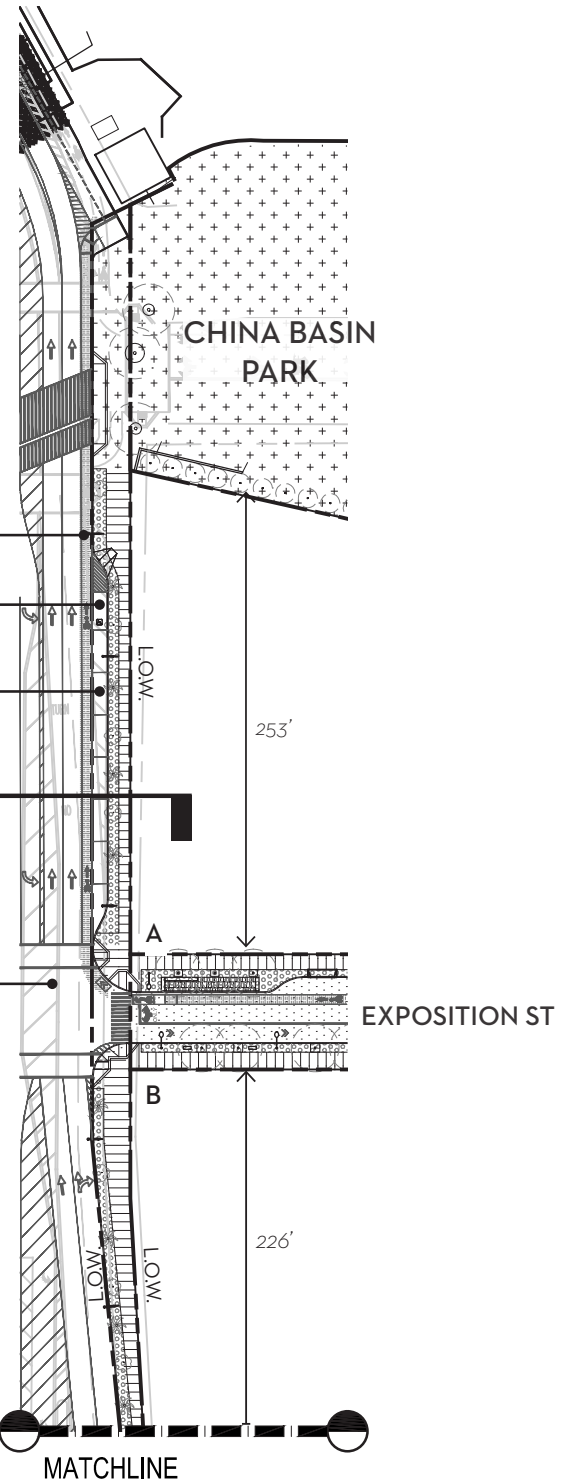
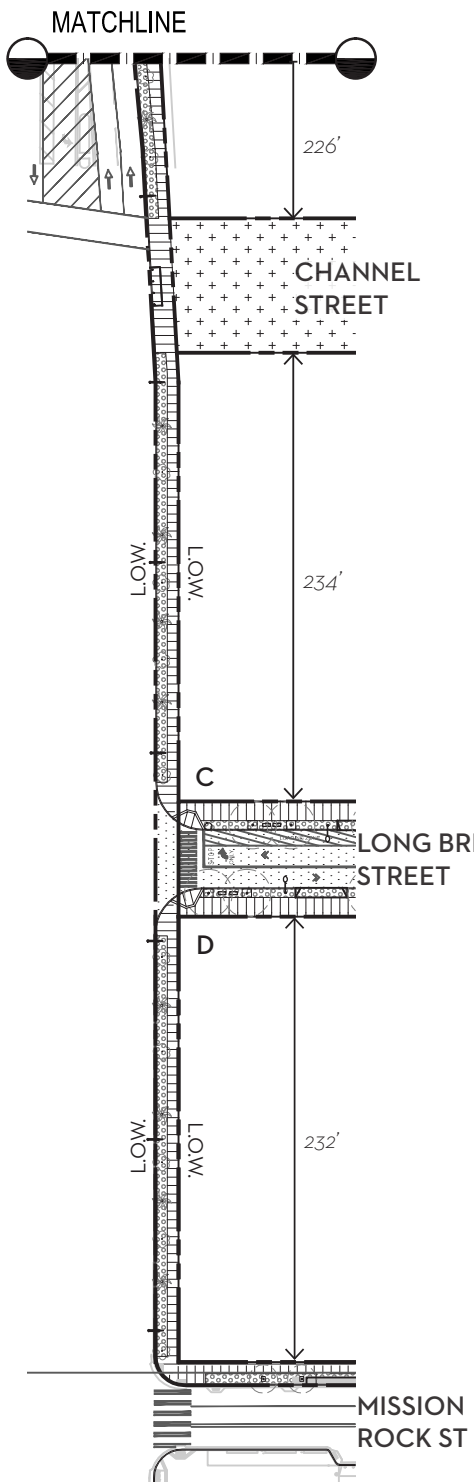




Source: CMG LANDSCAPE ARCHITECTURE, 07/2016



Source: CMG LANDSCAPE ARCHITECTURE, 07/2016



BIKE LANE  
 ACCESSIBLE  
 LOADING STALL  
 TIME-LIMITED  
 COMMERCIAL  
 LOADING ZONE  
 SIGNALIZED  
 INTERSECTION

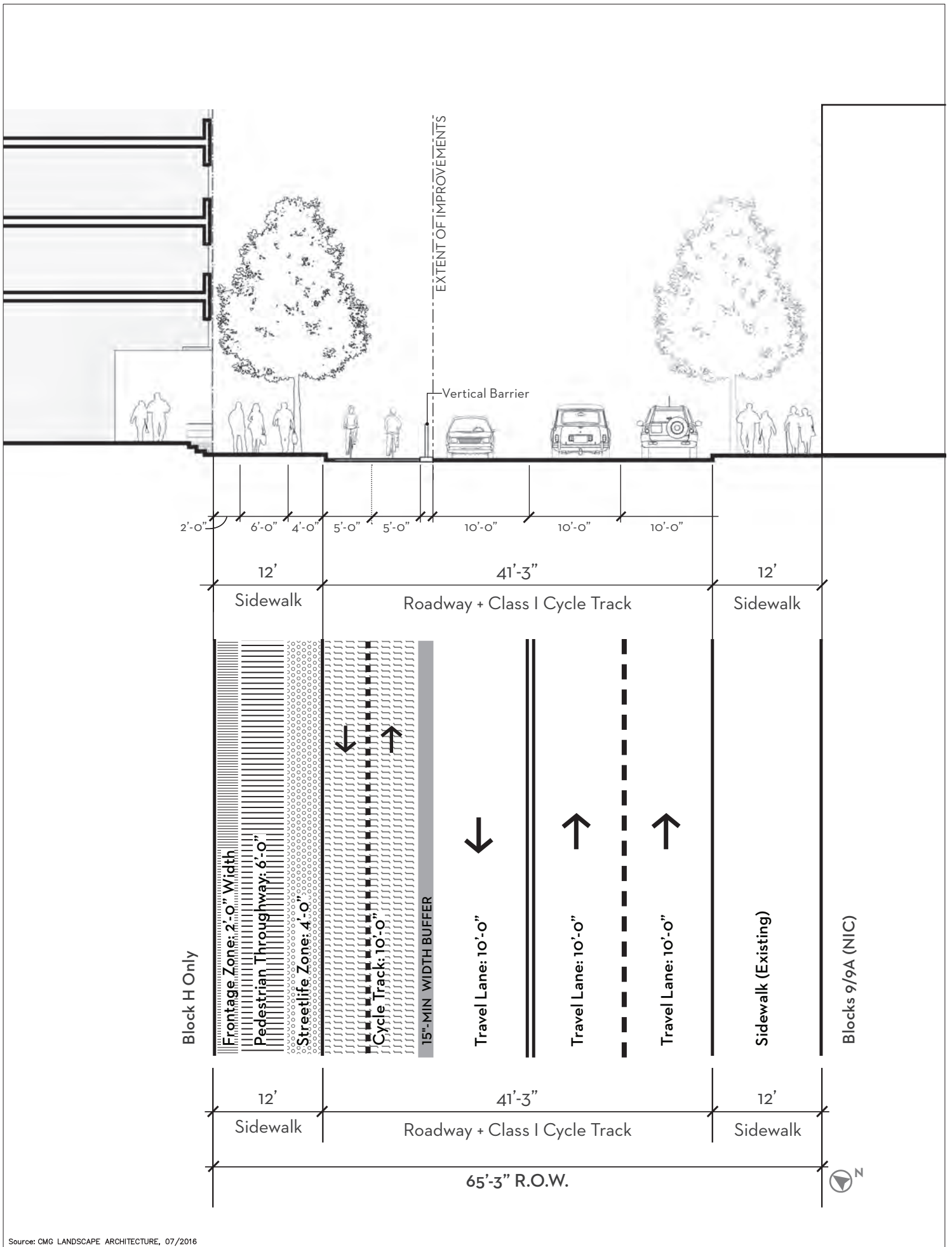
-  Active Edge + Pedestrian Throughway
-  Streetlife Zone
-  Bike Lane / Cycle Track
-  Travel Lane
-  Loading Zone
-  Open Space

**THIRD STREET**

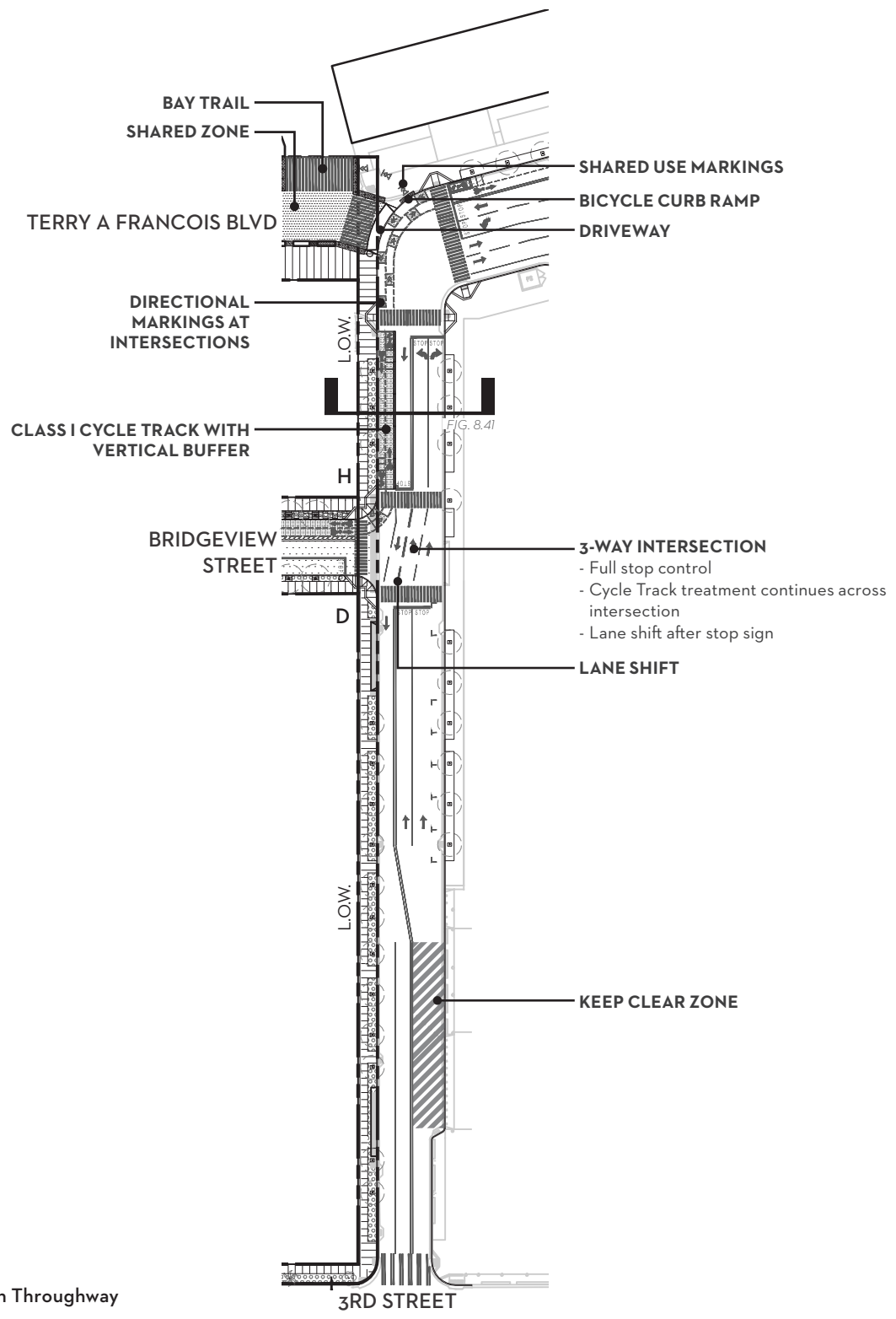







0 100

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016



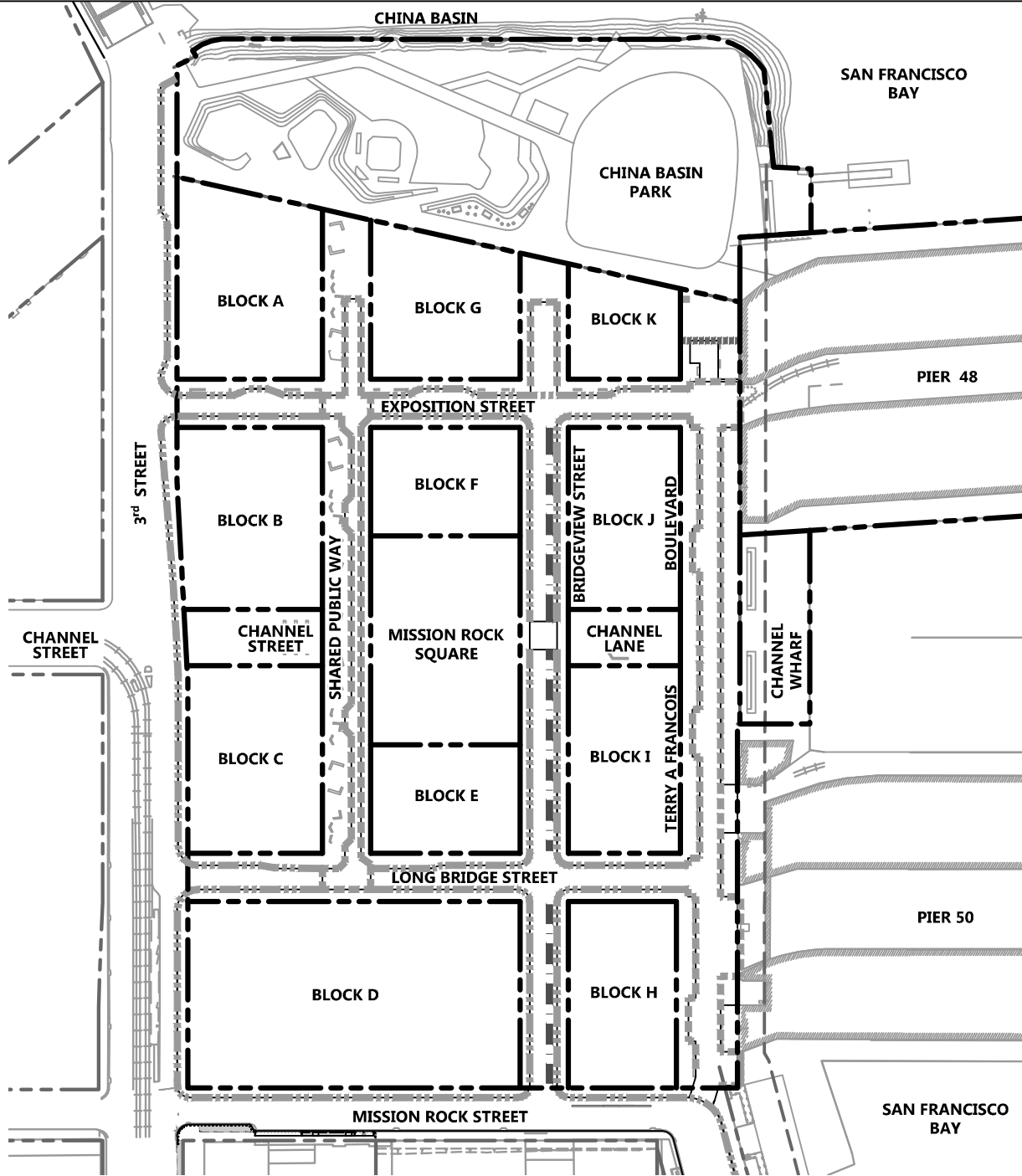
Source: CMG LANDSCAPE ARCHITECTURE, 07/2016



-  Active Edge + Pedestrian Throughway
-  Furnishing Zone
-  Bike Lane / Cycle Track
-  Travel Lane
-  Detectable Warning Paving



Source: CMG LANDSCAPE ARCHITECTURE, 07/2016



**LEGEND**

- PROPOSED PARCEL LINE
- EXISTING PARCEL LINE
- FLUSH CURB OR CURBLESS
- 6" CURB
- 6" CURB & GUTTER
- MOUNTABLE CURB AT CYCLE TRACK

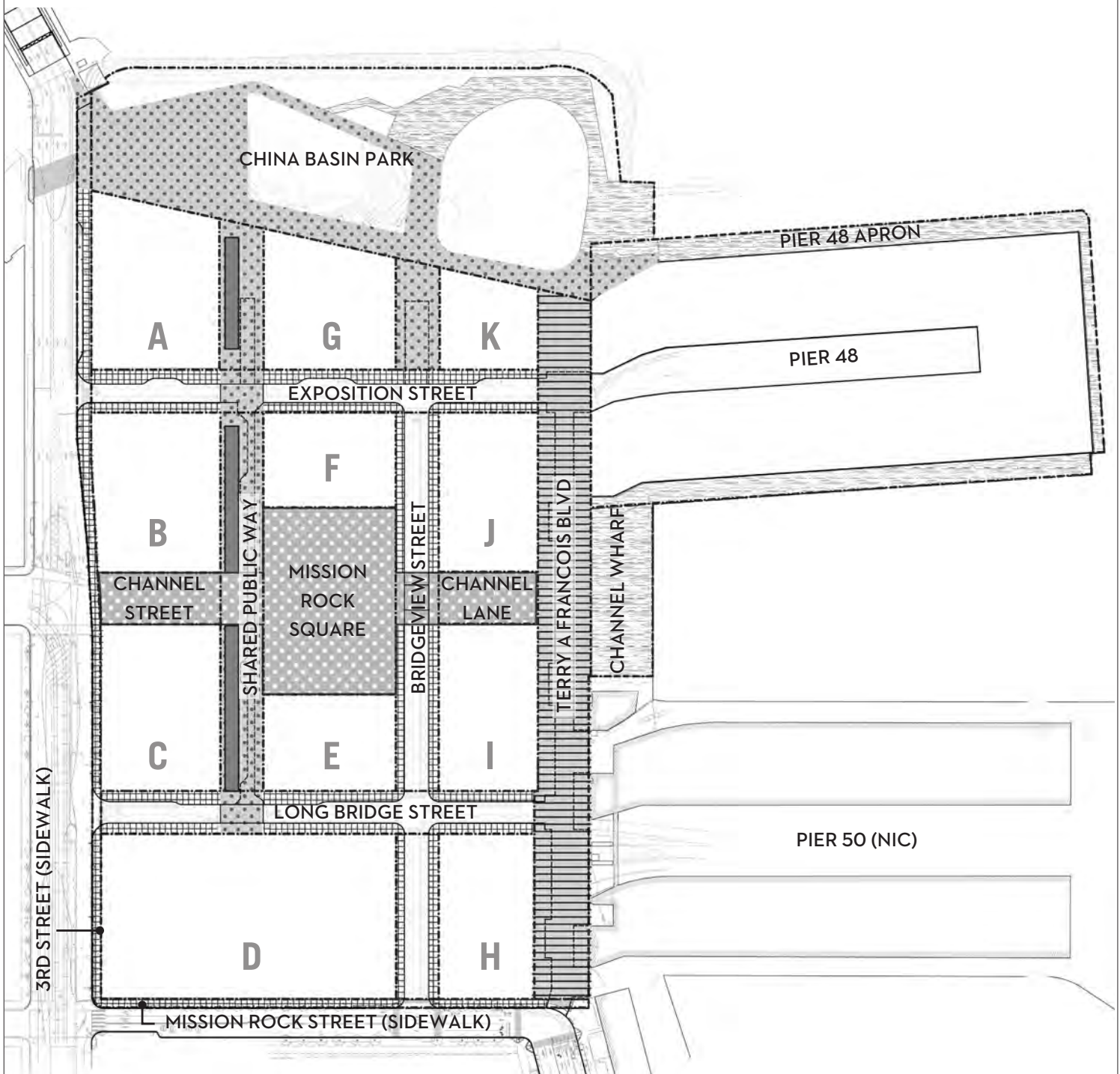
DRAWING NAME: \\BKF-SF\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.43\_Curb Heights Plan.dwg  
PLOT DATE: 07/13/17  
PLOT BY: FELI

Source: BKF ENGINEERS, 07/2016



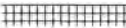



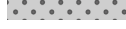


0 200

**FIGURE 8.44: PAVING DIAGRAM**



**FIGURE 8.44: PAVING DIAGRAM (OPEN SPACES SHOWN FOR REFERENCE)**



- |   |   |   |  |
|---|---|---|--|
|  | Sidewalk (DPW-Standard)   |  | Open Space: Mission Rock Square, Channel Street + Channel Lane |
|  | Working Waterfront Paving: Terry Francois Blvd. (Non-DPW-Standard)                  |  | Open Space: Waterfront Paving                                  |
|  | Pedestrian-Scale Paving: Shared Public Way, Paseos + Open Spaces (Non-DPW-Standard) |  | Proposed Boundary  |
|  | Special Paving (Non-DPW-Standard)   |   |  |

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

**FIGURE 8.45: PAVING ZONES BY STREET**

<b>SHARED PUBLIC WAY</b>		
<b>PAVING</b>	<b>STREET ZONE</b>	<b>DESCRIPTION</b>
Active Edge	Pedestrian Throughway	Pedestrian Unit Pavers, with approved tree pit surfacing at trees.
	Furnishing Zone	
	Frontage Zone	
	Buffer at Shared Zone	Detectable Surface Paving: Alternate (non-DPW-Standard) tactile paving, with 70% visual contrast from adjacent paving and textured surface.
Streetlife Zone	Furnishing Zone	Pedestrian Unit Pavers, with approved tree pit surfacing at trees and special paving street rooms.
	Buffer at Shared Zone	Detectable Surface Paving: Alternate (non-DPW-Standard) tactile paving, with 70% visual contrast from adjacent paving and textured surface.
Shared Zone	Vehicular Travelway	Vehicular Unit Pavers
	Loading Zones	Vehicular Unit Pavers, with color contrast.
	Crosswalks	Textured Paving, contrasting from adjacent surfaces, with DPW-Standard detectable paving.
<b>CURBS AND DRAINAGE</b>		
Curb at Shared Zone		Curbless
Trench Drain		6" - 12" wide trench drain/linear drainage element, located outside of vehicular travelway.
<b>TERRY A FRANCOIS BOULEVARD</b>		
<b>PAVING</b>	<b>STREET ZONE</b>	<b>DESCRIPTION</b>
Building-Front Zone	Pedestrian Throughway	Pedestrian Unit Pavers or CIP Concrete Paving
	Streetlife Zone	
	Loading Zones	Vehicular Unit Pavers or CIP Concrete Paving.
	Buffer at Shared Zone	Detectable Surface Paving: Alternate (non-DPW-Standard) tactile paving, with 70% visual contrast from adjacent paving and textured surface.
Waterfront Zone	Blue Greenway	Pedestrian Unit Pavers or CIP Concrete Paving
	Buffer at Shared Zone	Detectable Surface Paving: Alternate (non-DPW-Standard) tactile paving, with 70% visual contrast from adjacent paving and textured surface.
Shared Zone	Vehicular Travelway	Vehicular Unit Pavers or CIP Concrete Paving
	Crosswalks	Textured Paving, contrasting from adjacent surfaces, with DPW-Standard detectable paving.
<b>CURBS AND DRAINAGE</b>		
Curb at Shared Zone		CIP Concrete Flush Curb
Trench Drain		6" - 12" wide Trench Drain, located outside of vehicular travelway.
<b>BRIDGEVIEW STREET</b>		
<b>PAVING</b>	<b>STREET ZONE</b>	<b>DESCRIPTION</b>
Sidewalk	Frontage Zone	DPW-Standard CIP Concrete or Pedestrian Unit Pavers
	Pedestrian Throughway	DPW-Standard CIP Concrete
	Streetlife Zone	Pedestrian Unit Pavers, with approved tree pit surfacing at trees.
Roadway	Raised Cycle Track	Painted Asphalt with contrasting buffer
	Travel Lanes	DPW-Standard Asphalt Concrete Paving
<b>CURBS AND DRAINAGE</b>		
Curb + Gutter, West Side		DPW-Standard, 6" Curb typical
Curb + Gutter, East Side		Non-DPW Standard 4" Vertical Curb
Curb at Raised Cycle Track		Mountable Curb

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

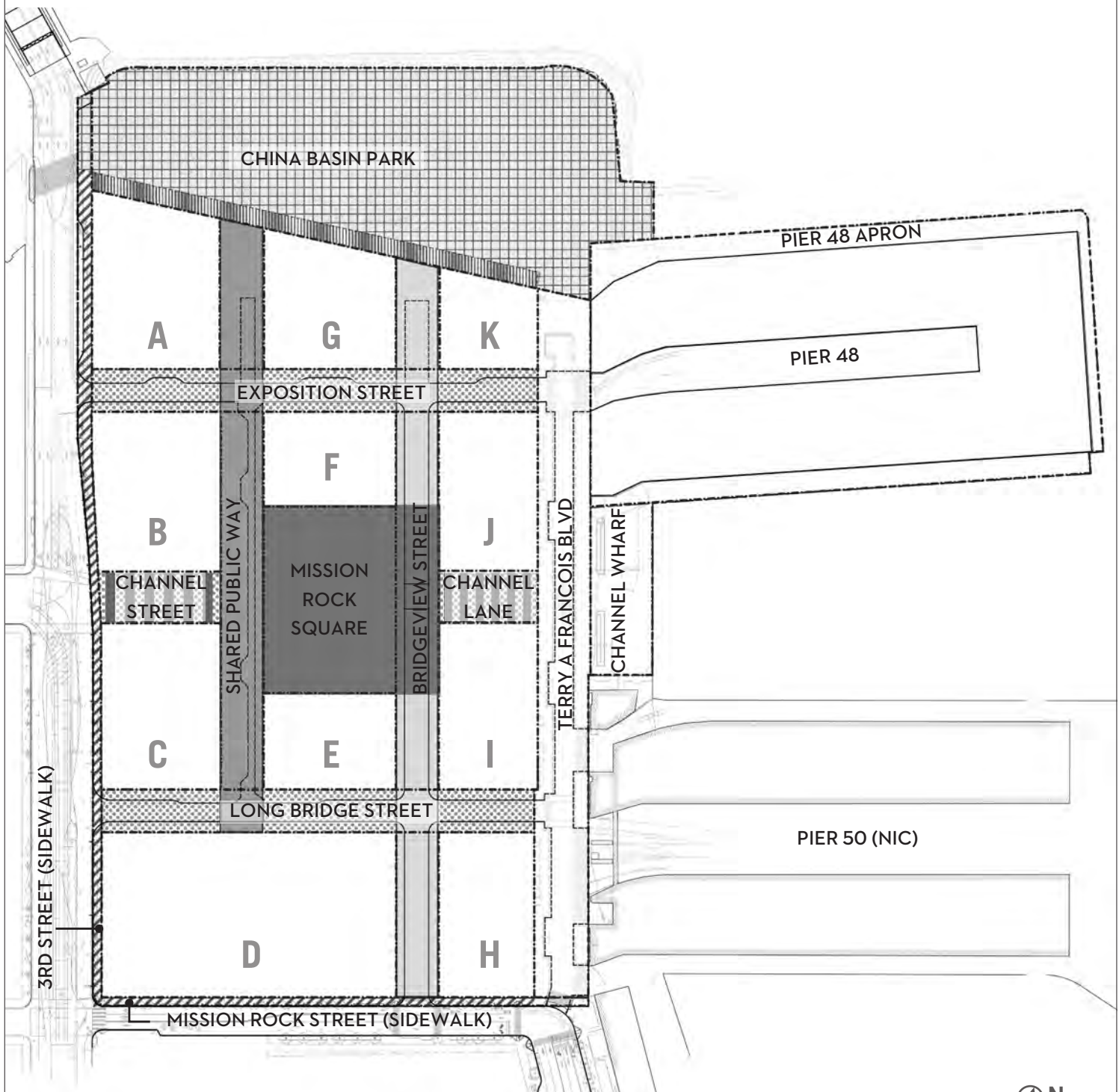


**FIGURE 8.46: PAVING ZONES BY STREET**

<b>EXPOSITION STREET</b>		
<b>PAVING</b>	<b>STREET ZONE</b>	<b>DESCRIPTION</b>
Sidewalk	Frontage Zone	DPW-Standard CIP Concrete or Pedestrian Unit Pavers
	Pedestrian Throughway	DPW-Standard CIP Concrete
	Streetlife Zone	Pedestrian Unit Pavers, with approved tree pit surfacing at trees
	Stormwater Treatment	Custom/Feature Flow-Through Planters with Understory Planting
Roadway	Travel Lanes	DPW-Standard Asphalt Concrete Paving
	Class II Bicycle Lane	Painted DPW-Standard Asphalt Concrete Paving
	Loading	DPW-Standard Asphalt Concrete Paving
<b>CURBS AND DRAINAGE</b>		
Curb + Gutter		DPW-Standard, 6" Curb typical
<b>LONG BRIDGE STREET</b>		
<b>PAVING</b>	<b>STREET ZONE</b>	<b>DESCRIPTION</b>
Sidewalk	Frontage Zone	DPW-Standard CIP Concrete or Pedestrian Unit Pavers
	Pedestrian Throughway	DPW-Standard CIP Concrete
	Streetlife Zone	Pedestrian Unit Pavers, with approved tree pit surfacing at trees
Roadway	Loading Zone	Painted DPW-Standard Asphalt Concrete Paving
	Travel Lanes	DPW-Standard Asphalt Concrete Paving
<b>CURBS AND DRAINAGE</b>		
Curb + Gutter		DPW-Standard, 6" Curb typical
<b>MISSION ROCK STREET</b>		
<b>PAVING</b>	<b>STREET ZONE</b>	<b>DESCRIPTION</b>
Sidewalk	Pedestrian Throughway	OCII / Mission Bay Standard CIP Concrete.
	Streetlife Zone	OCII / Mission Bay Standard Pedestrian Unit Pavers, with approved tree pit surfacing at trees
Roadway	Cycle Track	Painted Asphalt Concrete Paving
	Travel Lanes	DPW-Standard Asphalt Concrete Paving
<b>CURBS AND DRAINAGE</b>		
Curb + Gutter		DPW-Standard, 6" Curb typical. OCII / Mission Bay Standard
Raised Buffer at Cycle Track		6" high x 15" minimum width buffer, segmented to facilitate drainage
<b>3<sup>RD</sup> STREET</b>		
<b>PAVING</b>	<b>STREET ZONE</b>	<b>DESCRIPTION</b>
Sidewalk	Pedestrian Throughway	OCII / Mission Bay Standard CIP Concrete
	Streetlife Zone	OCII / Mission Bay Standard paving and approved tree pit surfacing at trees




Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

**FIGURE 8.47: URBAN FOREST**











**FIGURE 8.47: URBAN FOREST DIAGRAM (OPEN SPACES SHOWN FOR REFERENCE)**



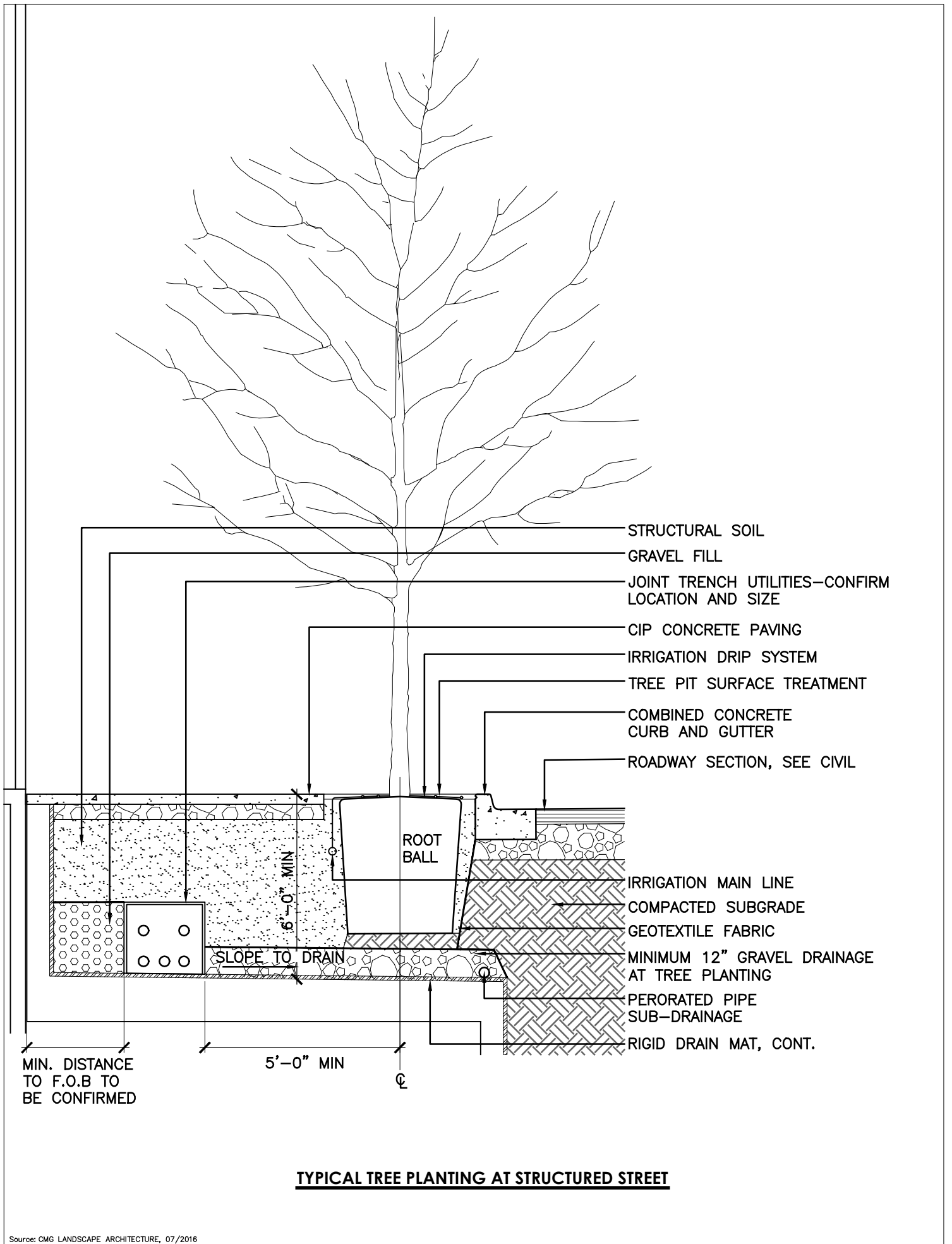
- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li> China Basin Park<br/>- Large, iconic specimen evergreen trees</li> <li> Park Promenade<br/>- Small to medium tree with upright habit, shade tolerance required</li> <li> Shared Public Way<br/>- Large, arching trees with fine-textured canopy</li> <li> Mission Rock Square<br/>- Large, uniform, upright trees with iconic seasonal character in leaf or flower</li> </ul> | <ul style="list-style-type: none"> <li> Neighborhood Street Tree: Upright<br/>- Medium to large tree with upright habit</li> <li> Neighborhood Street Tree: Arching<br/>- Medium to large tree with arching habit, special seasonal character</li> <li> Channel St and Channel Lane<br/>- Wind-tolerant tree from Mission Rock Square, Neighborhood Street palettes</li> <li> Mission Bay Street Trees<br/>- Per OCII Mission Bay Standards</li> </ul> |
|---|--|

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

**FIGURE 8.48: URBAN FOREST DESIGN CRITERIA**

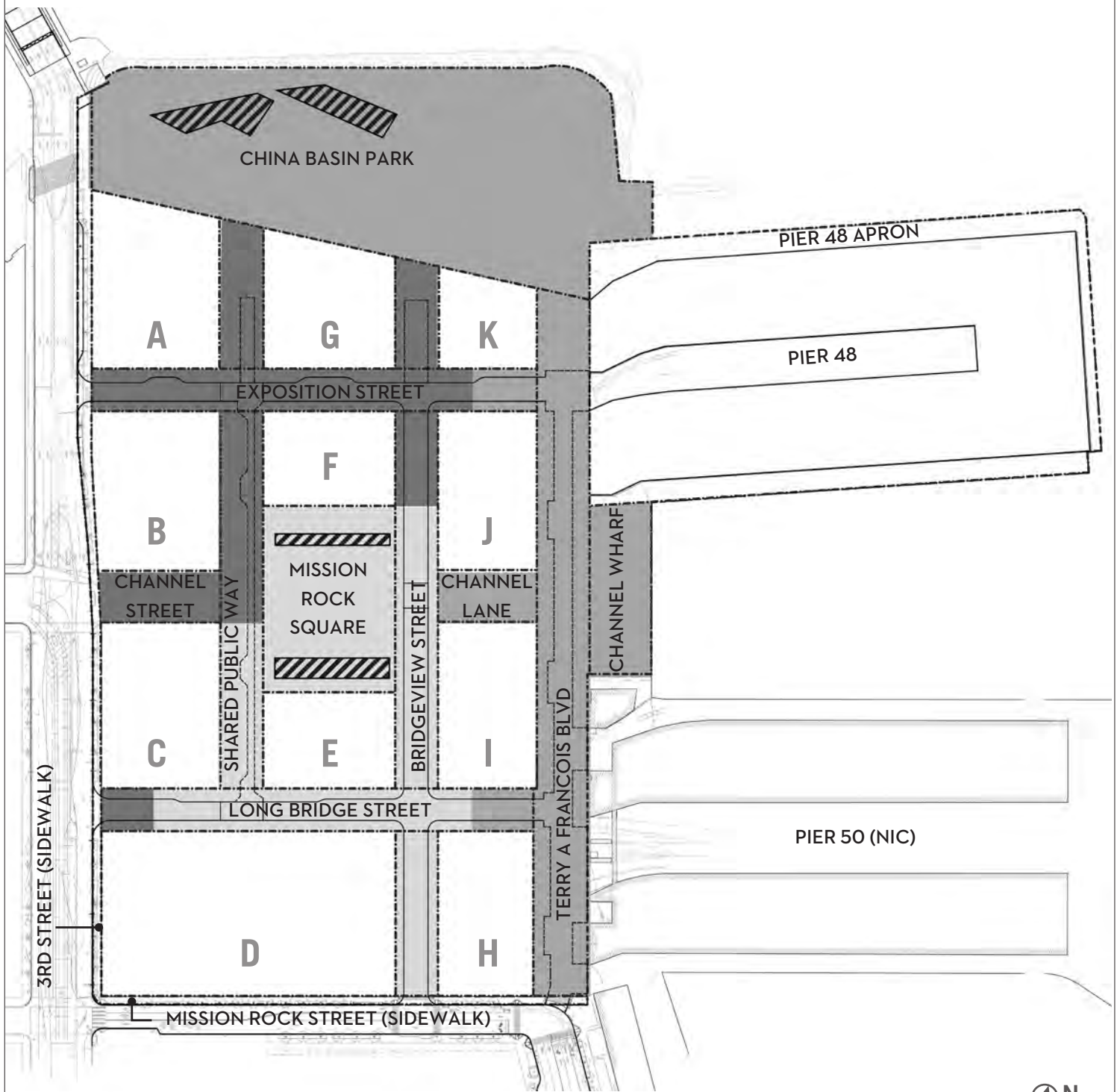
TREE TYPE	SIZE	TOLERANCES	WATER USE	DESIGN CRITERIA	RECOMMENDED SPECIES
<b>China Basin Park: Specimen Tree</b> 	At Installation: Min. 48" Box At Maturity: 50' x 60' (HxW)	Wind: High Shade: Partial Shade	Low to Medium	<ul style="list-style-type: none"> <li>• Iconic character</li> <li>• Windbreak</li> <li>• Healthy in paving and/or lawn</li> <li>• Coastal tolerance</li> </ul>	Monterey Cypress [ <i>Cupressus macrocarpa</i> ] New Zealand Christmas Tree [ <i>Metrosiderous excelsa</i> ] Red-Flowering Gum [ <i>Corymbia ficifolia</i> ]
<b>China Basin Park: Park Promenade</b> 	At Installation: Min. 48" Box At Maturity: 30' x 35' (H)	Wind: Medium-High Shade: Deep Shade	Low	<ul style="list-style-type: none"> <li>• Scaled to intimating walking experience</li> <li>• Ornamental leaves, flowers, bark</li> <li>• Paving tolerant</li> <li>• Coastal tolerance</li> </ul>	Red Oak cultivar [ <i>Quercus rubra</i> 'Crimson Spire'] Melaleuca [ <i>Melaleuca quinquenervia</i> ]
<b>Shared Public Way</b> 	At Installation: Min 48" Box At Maturity: 45'-50' (H)	Wind: High Shade: Partial Shade	Low	<ul style="list-style-type: none"> <li>• Fine textured canopy</li> <li>• Trunk 13'-6" clear from paving</li> <li>• 48" box min</li> </ul>	Chinese Elm [ <i>Ulmus parvifolia</i> ] Strawberry Tree [ <i>Arbutus 'Marina'</i> ] Southern Live Oak [ <i>Quercus virginiana</i> ]
<b>Mission Rock Square</b> 	At Installation: Min 48" Box At Maturity: 45'-50' (H)	Wind: Medium Shade: Partial to Full Shade	Low	<ul style="list-style-type: none"> <li>• Medium-Fine textured canopy</li> <li>• Winter/Summer interest</li> <li>• Trunk 8' clear from paving</li> <li>• 48" box min</li> </ul>	Ginkgo [ <i>Ginkgo biloba</i> cultivar] Freeman Maple [ <i>Acer x. freemanii</i> ] Chinese Elm [ <i>Ulmus parvifolia</i> ]
<b>Neighborhood Street: Upright</b> 	At Installation: Min 48" Box At Maturity: 40' (H)	Wind: Medium Shade: Partial to Full Shade	Low	<ul style="list-style-type: none"> <li>• Winter/Summer interest</li> <li>• Trunk 13'-6" clear from paving/ travel lanes</li> </ul>	Brisbane Box [ <i>Lophostemon confertus</i> ] Red Oak cultivar [ <i>Quercus rubra</i> 'Crimson Spire']
<b>Neighborhood Street: Arching</b> 	At Installation: Min 48" Box At Maturity: 35'-40' (H)	Wind: Medium Shade: Partial Shade	Low	<ul style="list-style-type: none"> <li>• Special flowering</li> <li>• Trunk 13'-6" clear from paving/ travel lanes</li> </ul>	Victorian Box [ <i>Pittosporum undulatum</i> ] California Pepper [ <i>Schinus molle</i> ] Cork Oak [ <i>Quercus suber</i> ]
<b>Channel Street / Channel Lane</b> 	See description for: Mission Rock Square and/or Neighborhood Street Tree: Upright				
<b>Mission Bay Street Trees</b> 	Per OCII / Mission Bay Standards				

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016



Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

**FIGURE 8.50: STORMWATER TREATMENT CONCEPTUAL DIAGRAM**

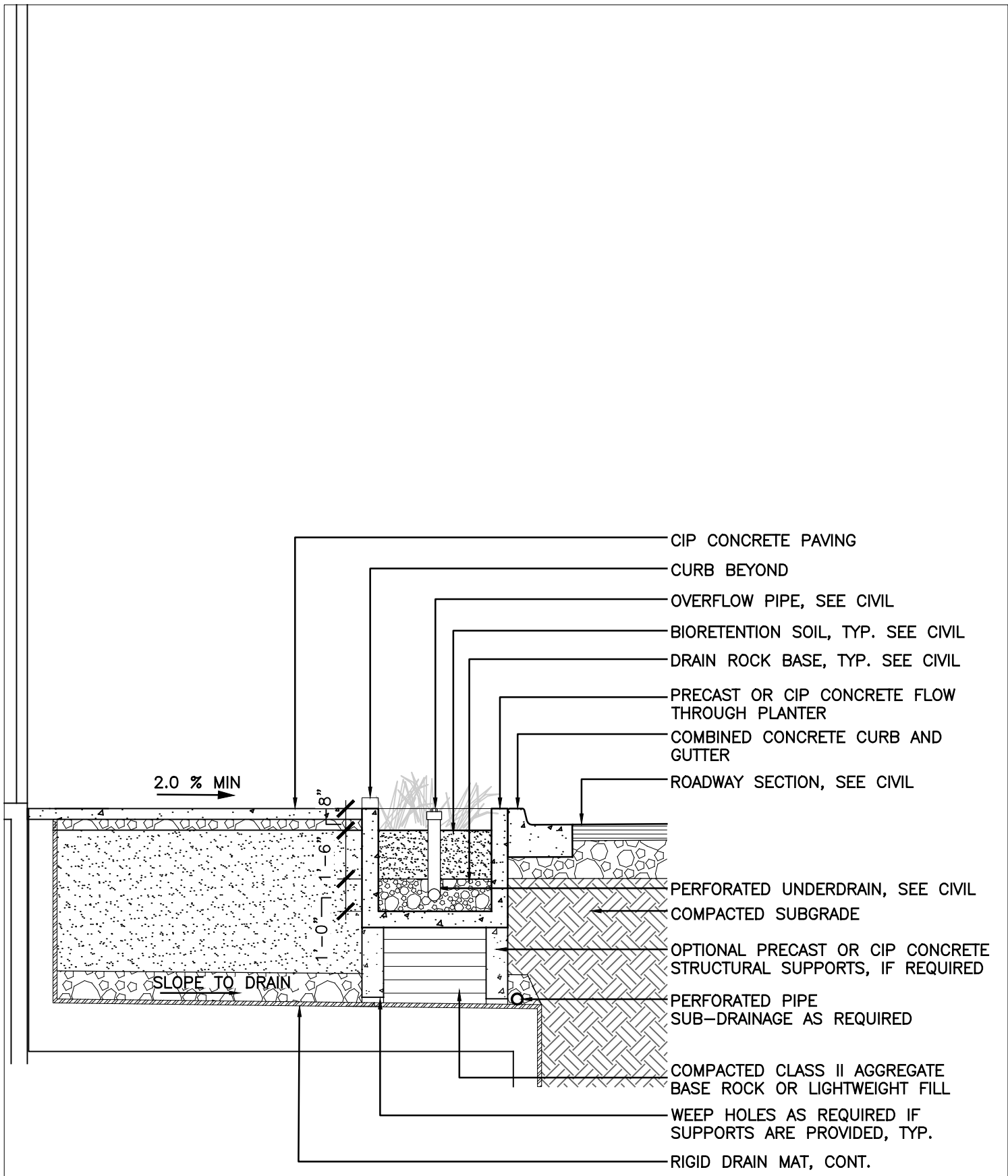


**FIGURE 8.50: STORMWATER TREATMENT CONCEPTUAL DIAGRAM**



- Localized Treatment
- Centralized Treatment: Mission Rock Square
- Centralized Treatment: China Basin Park
- Large Feature Stormwater Gardens
- Open Space (Shown for reference only)

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016



**TYPICAL STORMWATER FLOW THROUGH PLANTER**

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

FIGURE 8.52: LIGHTING DIAGRAM

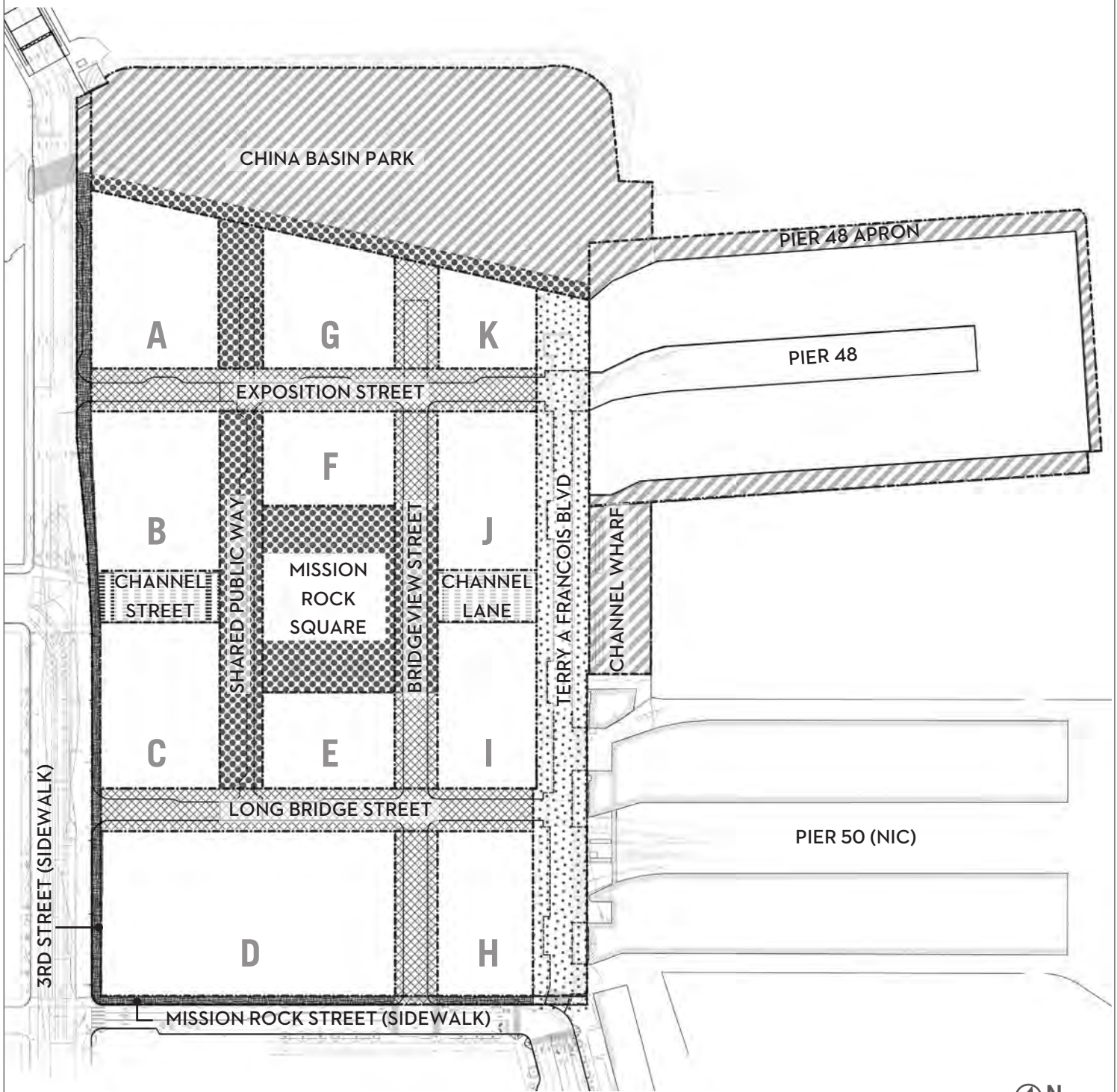








FIGURE 16: LIGHTING DIAGRAM (OPEN SPACES SHOWN FOR REFERENCE)

- Zone 1: Waterfront**
  - Light levels should be brightest at the buildings, and less bright at the waterfront to minimize impact on the ecosystem at the water's edge.
- Zone 2: High-Activity, High Retail**
  - Opportunity for feature lighting; variety of light types encouraged; contributing ambient light from ground floor uses.
- Zone 3: Working-Waterfront**
  - Iconic lighting; intersections should be highly visible.
- Zone 4: Neighborhood Streets**
  - Some contributing light from ground-floor uses, especially on Bridgeview Street; intersection should be highly visible.
- Zone 5: Gateways**
  - Opportunity for overhead lighting.
- Zone 6: District Streets**
  - Mission Bay. Refer to OCII Mission Bay controls.

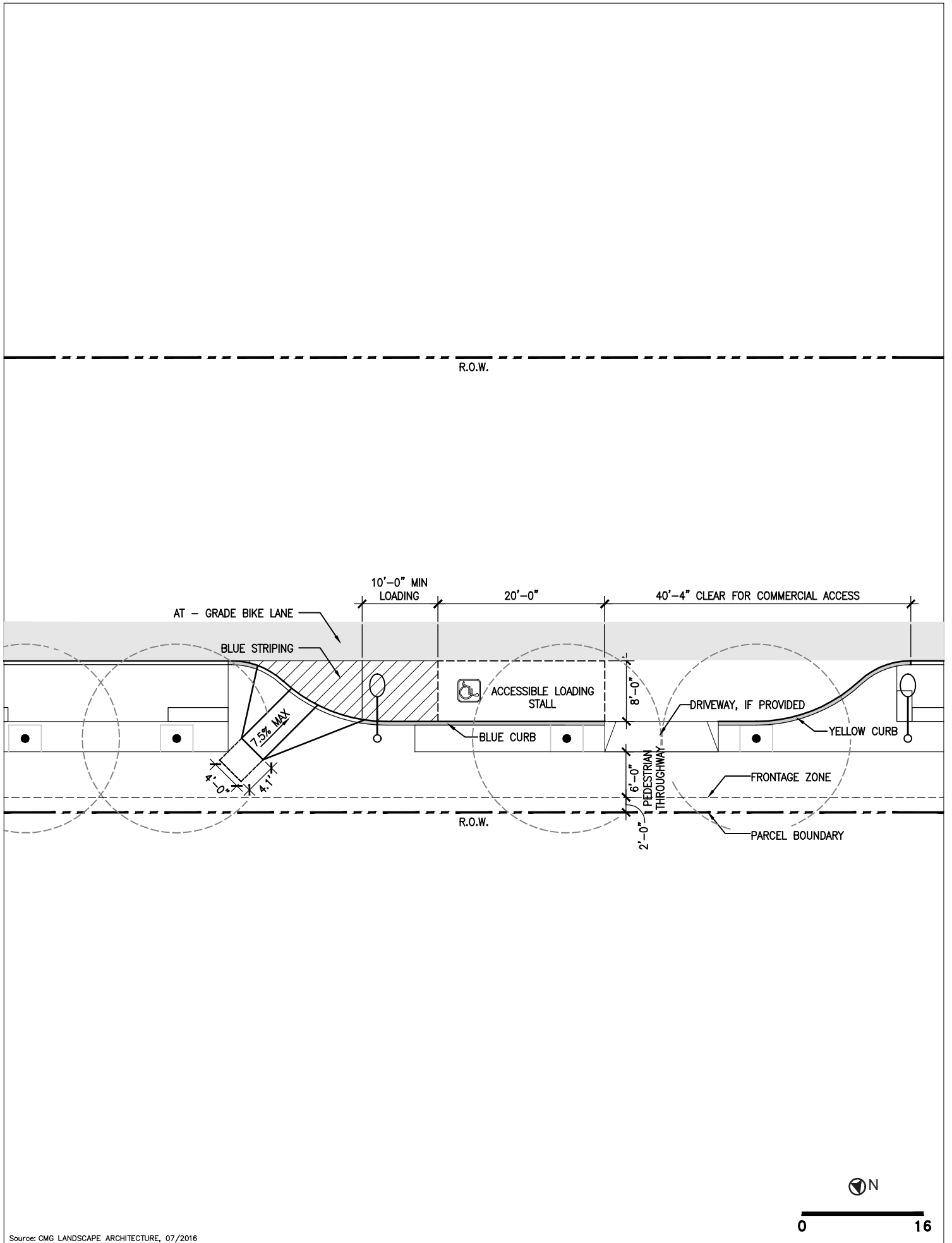
Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

**FIGURE 8.53: LIGHTING ZONES**

LIGHTING ZONE	LIGHTING ZONE: DESCRIPTION	PEDESTRIAN LIGHT LEVELS (FOOTCANDLES)*	ROADWAY MINIMUM MAINTAINED AVERAGE LIGHT LEVEL (fc)*	UNIFORMITY RATIO, AVERAGE / MINIMUM*
Zone 1: Waterfront	<i>Light levels should be brightest at the buildings, and less bright at the waterfront to minimize impact on the ecosystem at the water's edge.</i>			
	Non-Waterfront Paths	1 fc Average	N/A	10:1
	Planting/Lawn Areas	0.5-0.8 fc Average	N/A	40:1
	Plaza/Wharf Areas	0.8-1 fc Average	N/A	20:1
	Waterfront Paths	0.5-0.8 fc Average	N/A	5:1
Zone 2: High Activity, High-Retail Zone	<i>Opportunity for feature lighting; variety of light types encouraged; contributing ambient light from ground-floor uses</i>			
	Mission Rock Square	0.5-0.8 fc Average	N/A	40:1
	Shared Public Way	1 fc Average	0.4 to 1 fc	4 to 6
Zone 3: Working Waterfront	<i>Working Waterfront. Iconic lighting; intersections should be highly visible.</i>			
	Terry A Francois Boulevard	1 fc Average	0.4 to 1.7 fc 1.8 fc at intersections	3 to 6
Zone 4: Neighborhood Streets	<i>Some contributing light from ground-floor uses, especially on Bridgeview Street. Intersections should be highly visible.</i>			
	Bridgeview Street & Exposition Street	0.5-0.8 fc Average	0.4 to 1.2 fc 1.4-1.8 at intersections	4 to 6
	Long Bridge Streets	1 fc Average	0.4 to 1.2 fc 1.4-1.8 at intersections	3 to 6
Zone 5: Gateways	<i>Opportunity for overhead lighting.</i>			
	Channel Street	1-1.2 fc Average	N/A	10:1
	Channel Lane	1-1.2 fc Average	N/A	10:1
Zone 6: District Streets	<i>Mission Bay. Refer to OCII Mission Bay controls.</i>			
	3rd & Mission Rock Streets (See OCII Standards)			

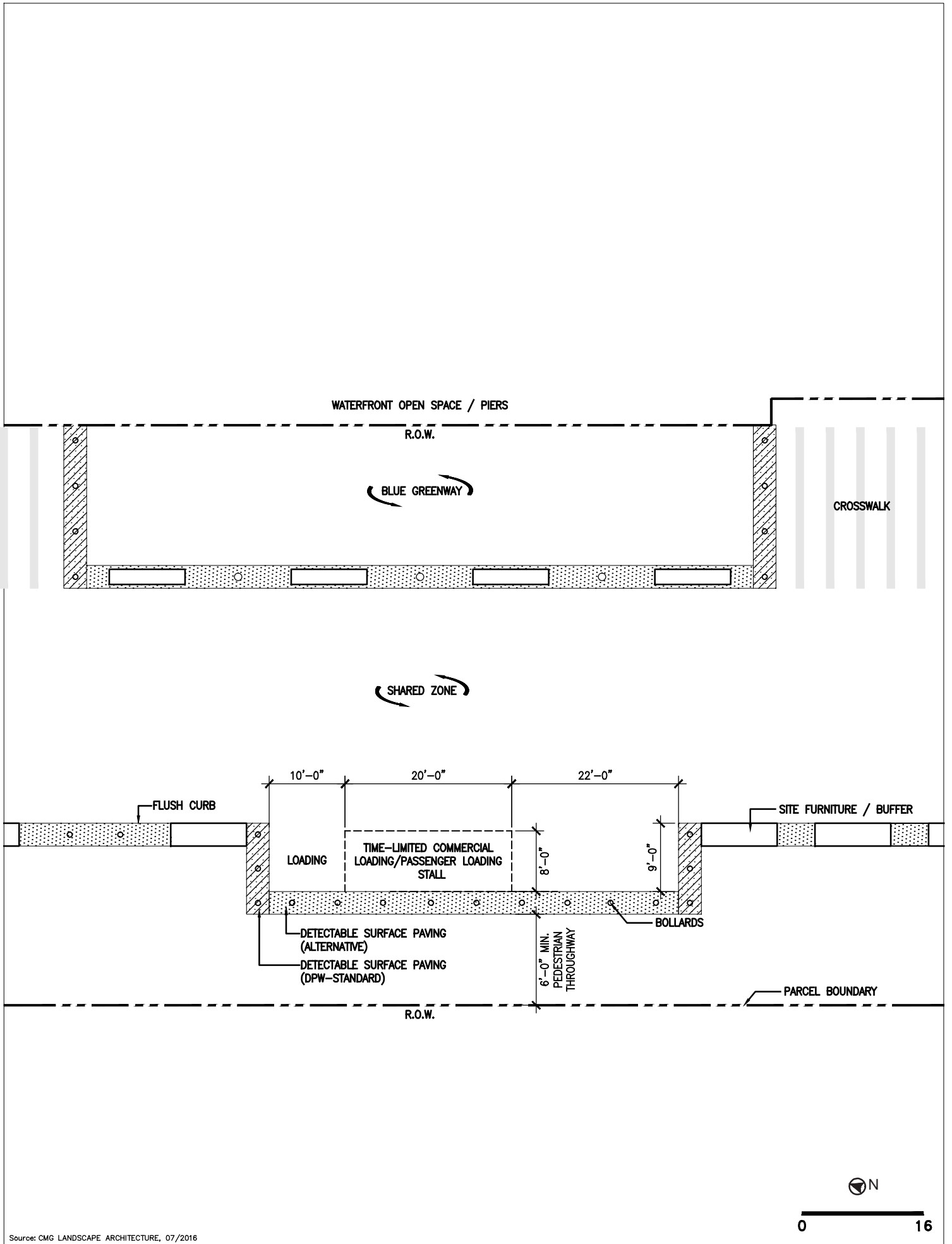
\*Source: Better Streets Plan <[www.sfbetterstreets.org/find-project-types/streetscape-elements/street-lighting/](http://www.sfbetterstreets.org/find-project-types/streetscape-elements/street-lighting/)>



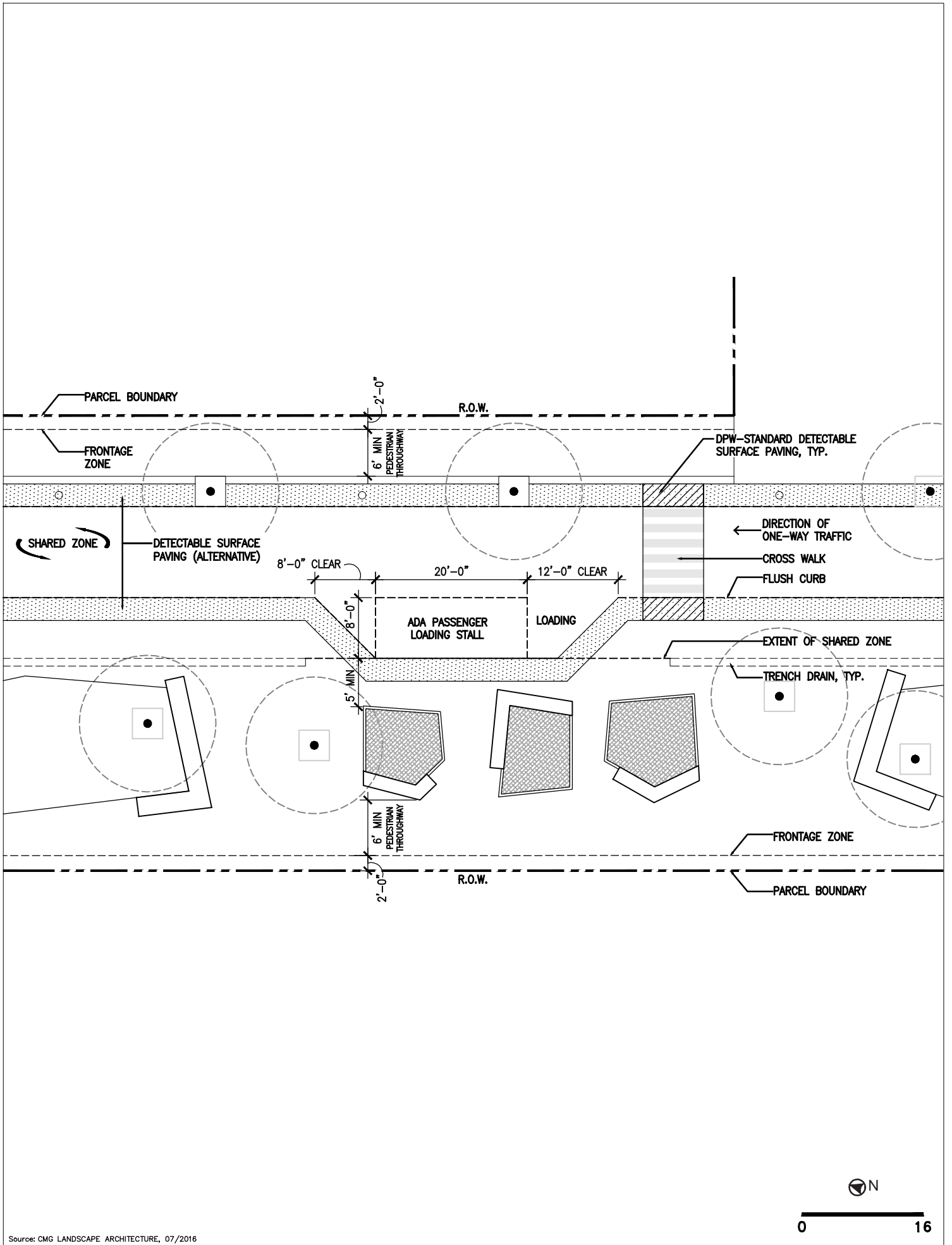


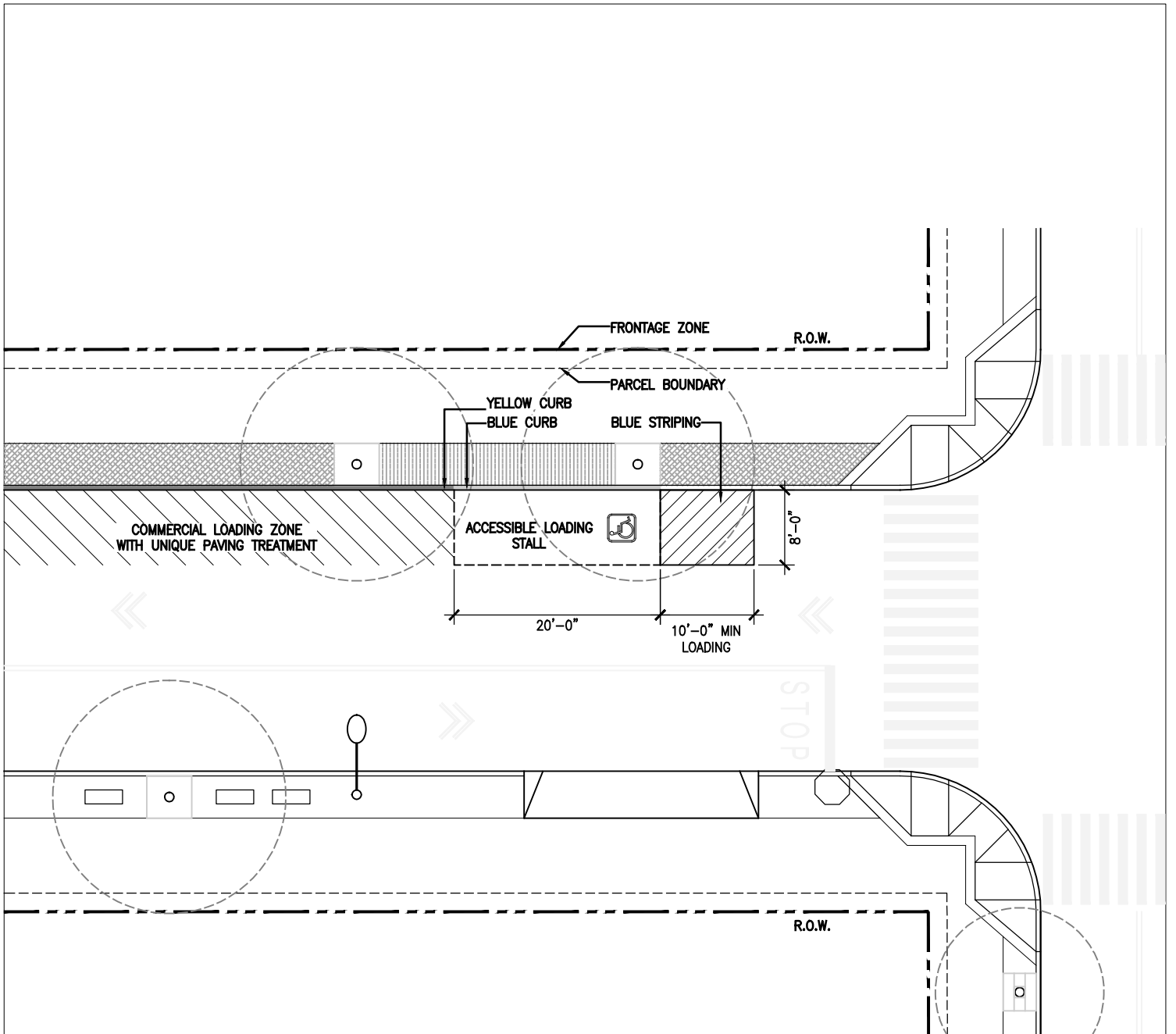
Source: CMG LANDSCAPE ARCHITECTURE, 07/2016





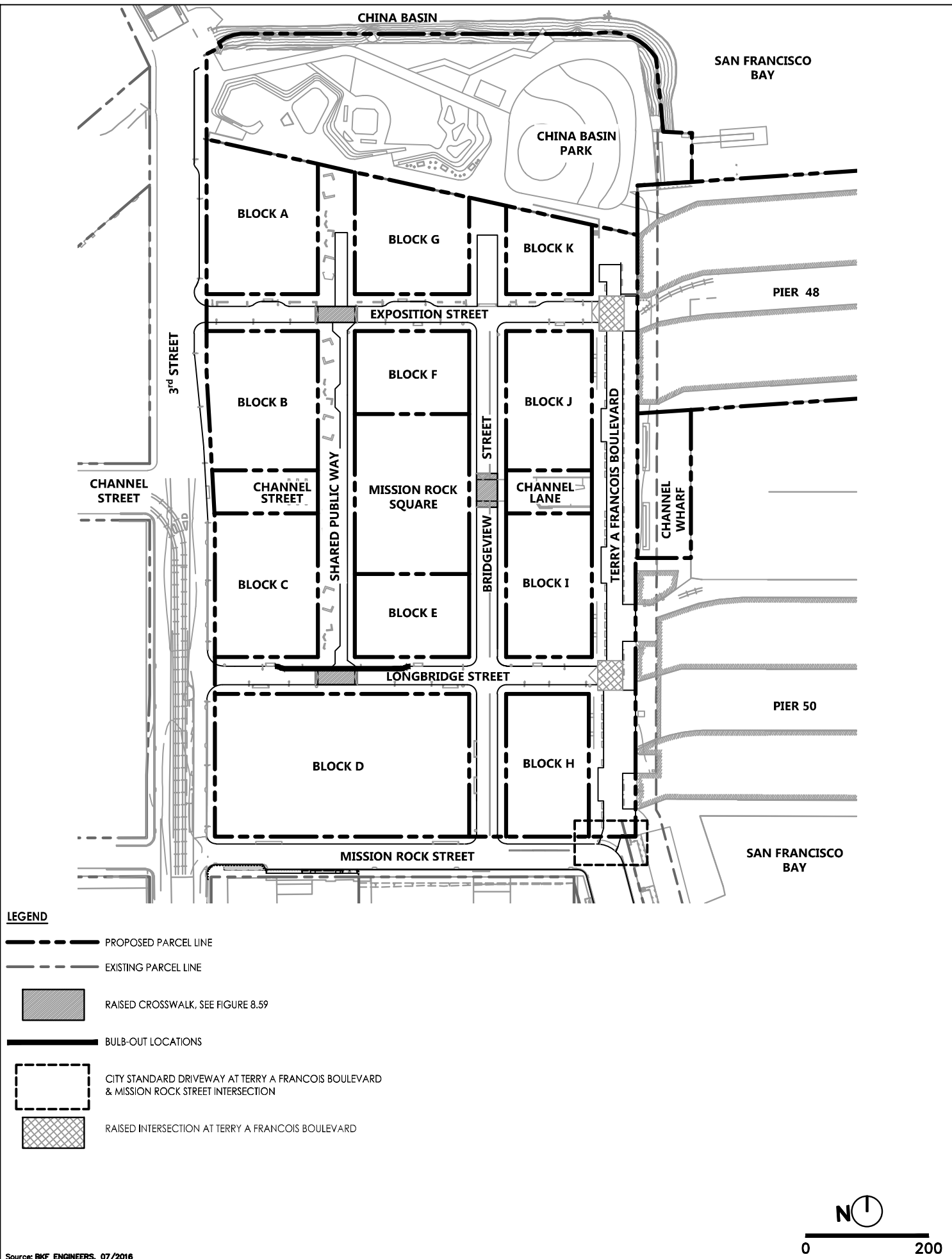
Source: CMG LANDSCAPE ARCHITECTURE, 07/2016





0 16

DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.58 Potential Traffic Calming Elements.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELI

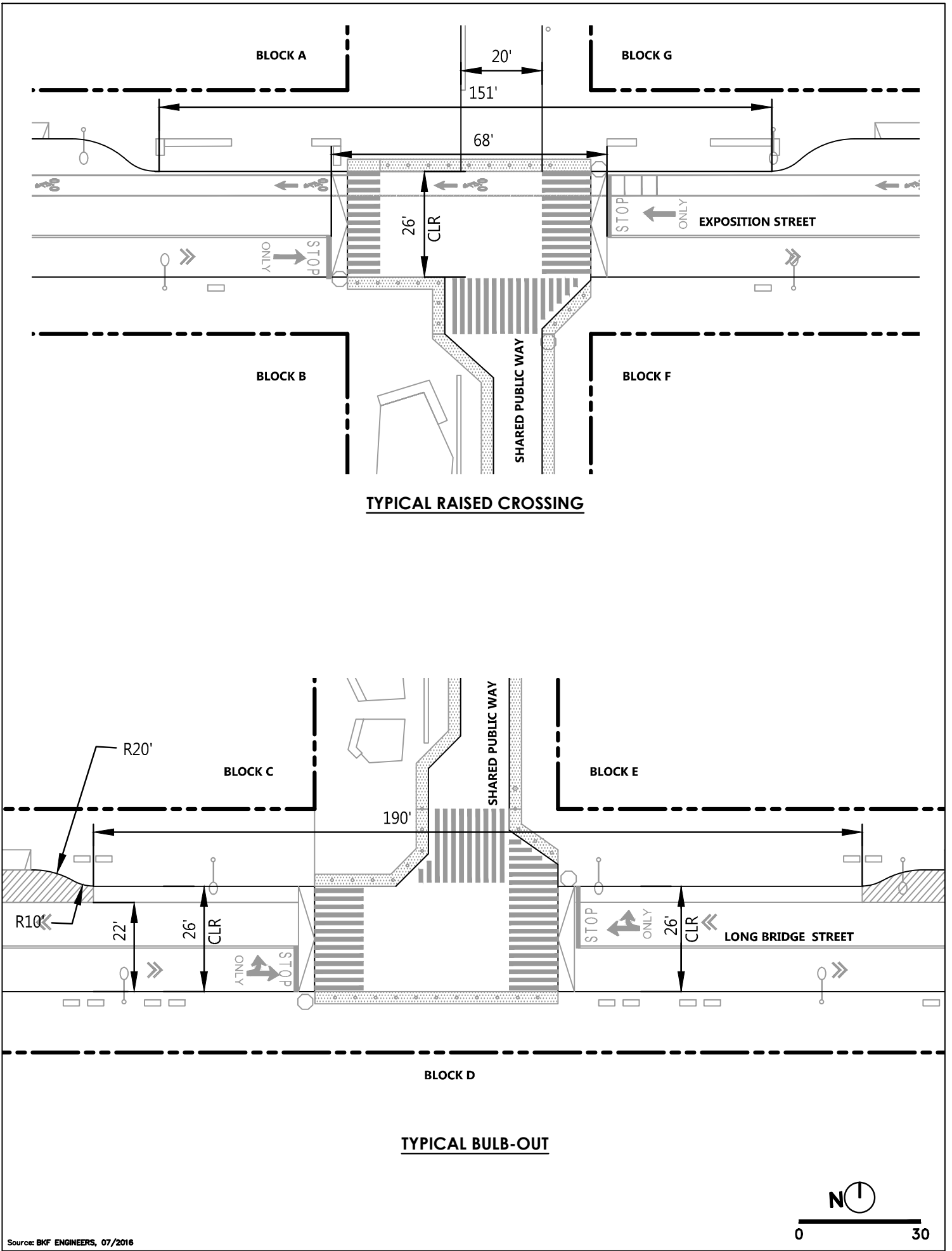


Source: BKF ENGINEERS, 07/2016

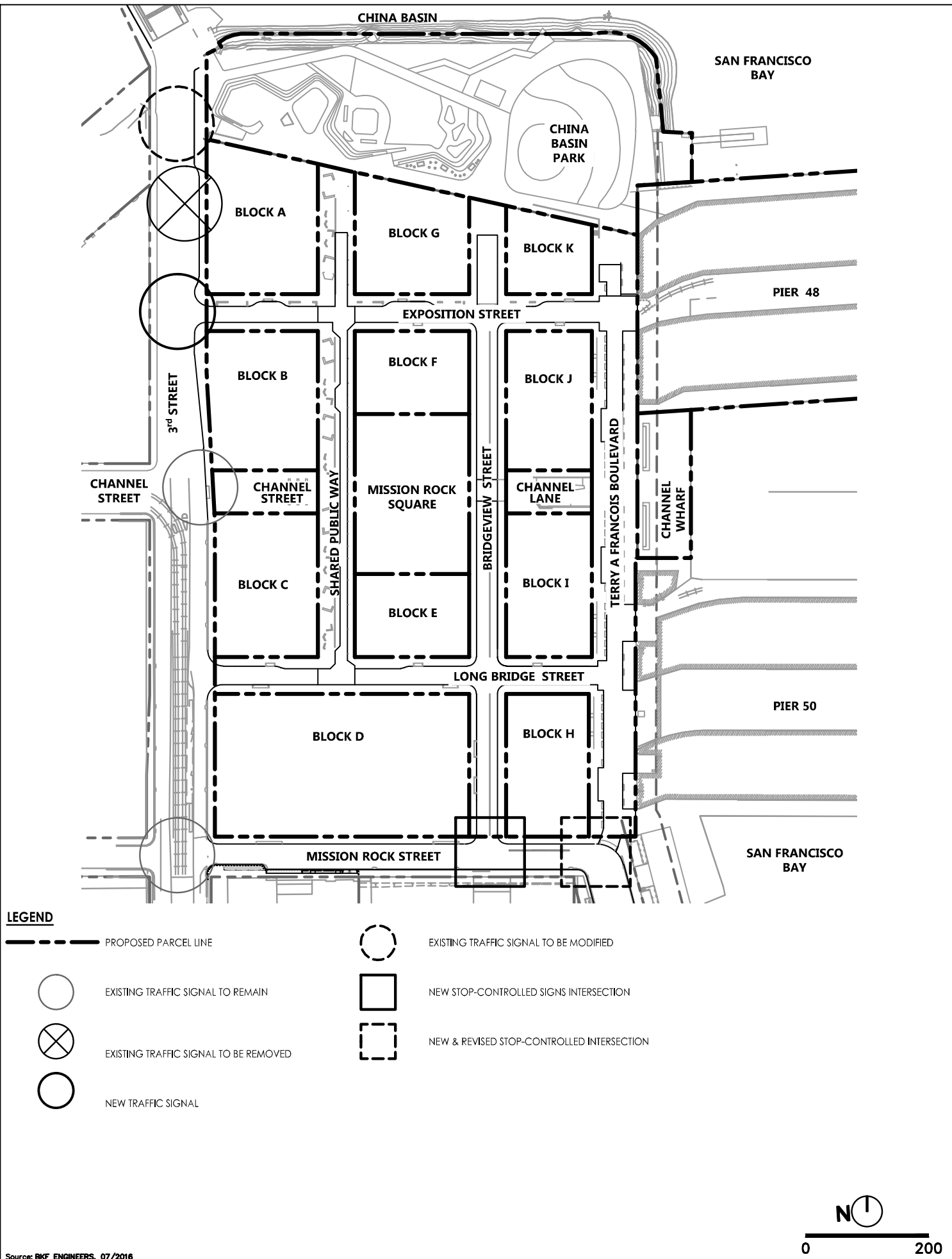
MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 8.58 - POTENTIAL TRAFFIC CALMING ELEMENTS







DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.59 Typical Raised Crossing & Bulb-Out Details.dwg  
PLOT DATE: 07/13/17  
PLOTTED BY: FELI



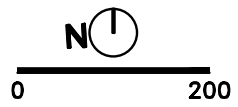
DRAWING NAME: \\BKF-SF\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.60 Off-Site Traffic Mitigations.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELI



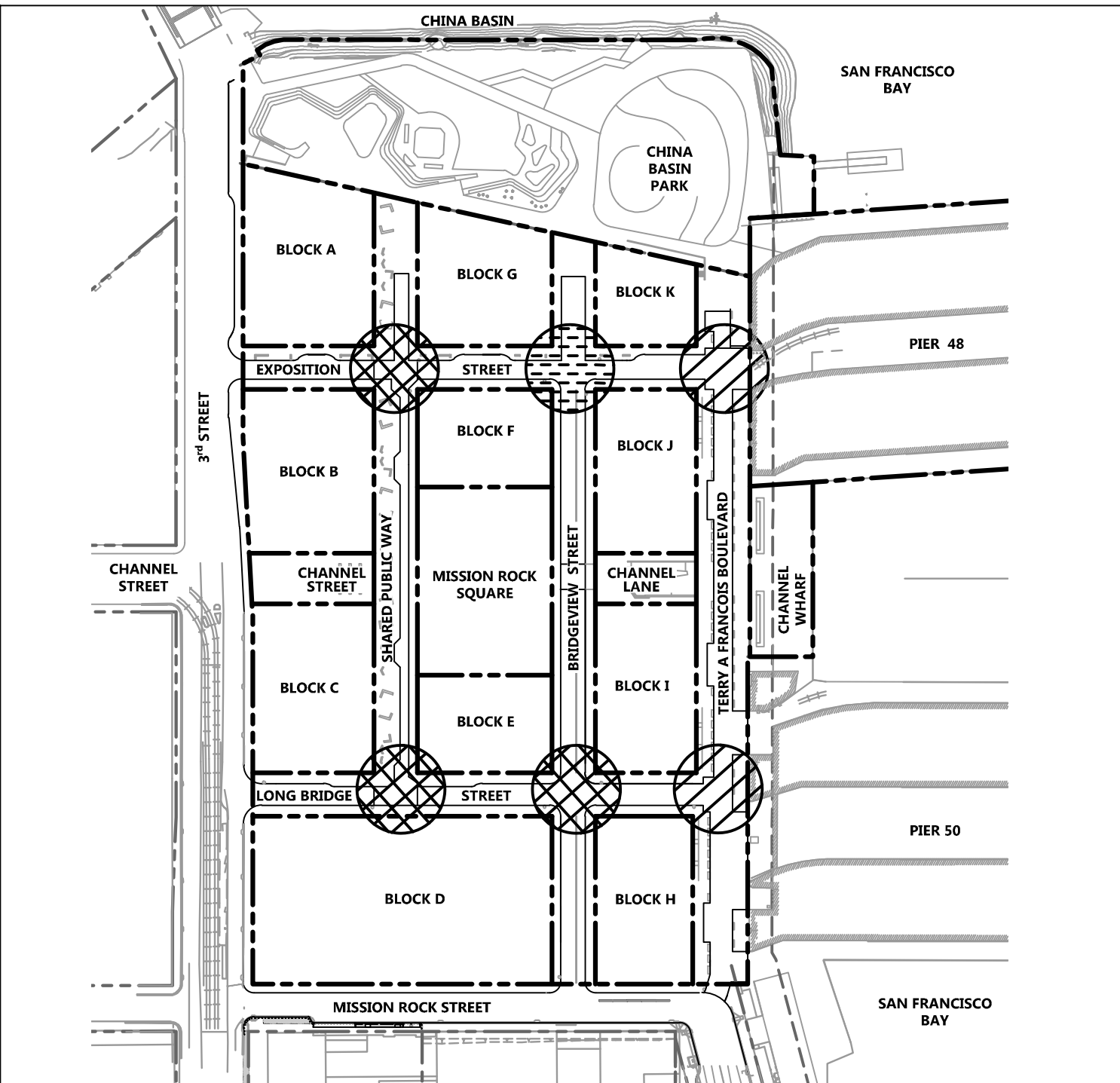
**LEGEND**

-  PROPOSED PARCEL LINE
-  EXISTING TRAFFIC SIGNAL TO BE REMOVED
-  EXISTING TRAFFIC SIGNAL TO BE MODIFIED
-  NEW TRAFFIC SIGNAL
-  NEW STOP-CONTROLLED SIGNS INTERSECTION
-  NEW & REVISED STOP-CONTROLLED INTERSECTION



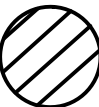
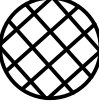
Source: BKF ENGINEERS, 07/2016



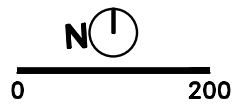
DRAWING NAME: \\BKF-SF\sv\4\2008\080008\_Mission\_Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 8.61 On-site Traffic Mitigations.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: boyg



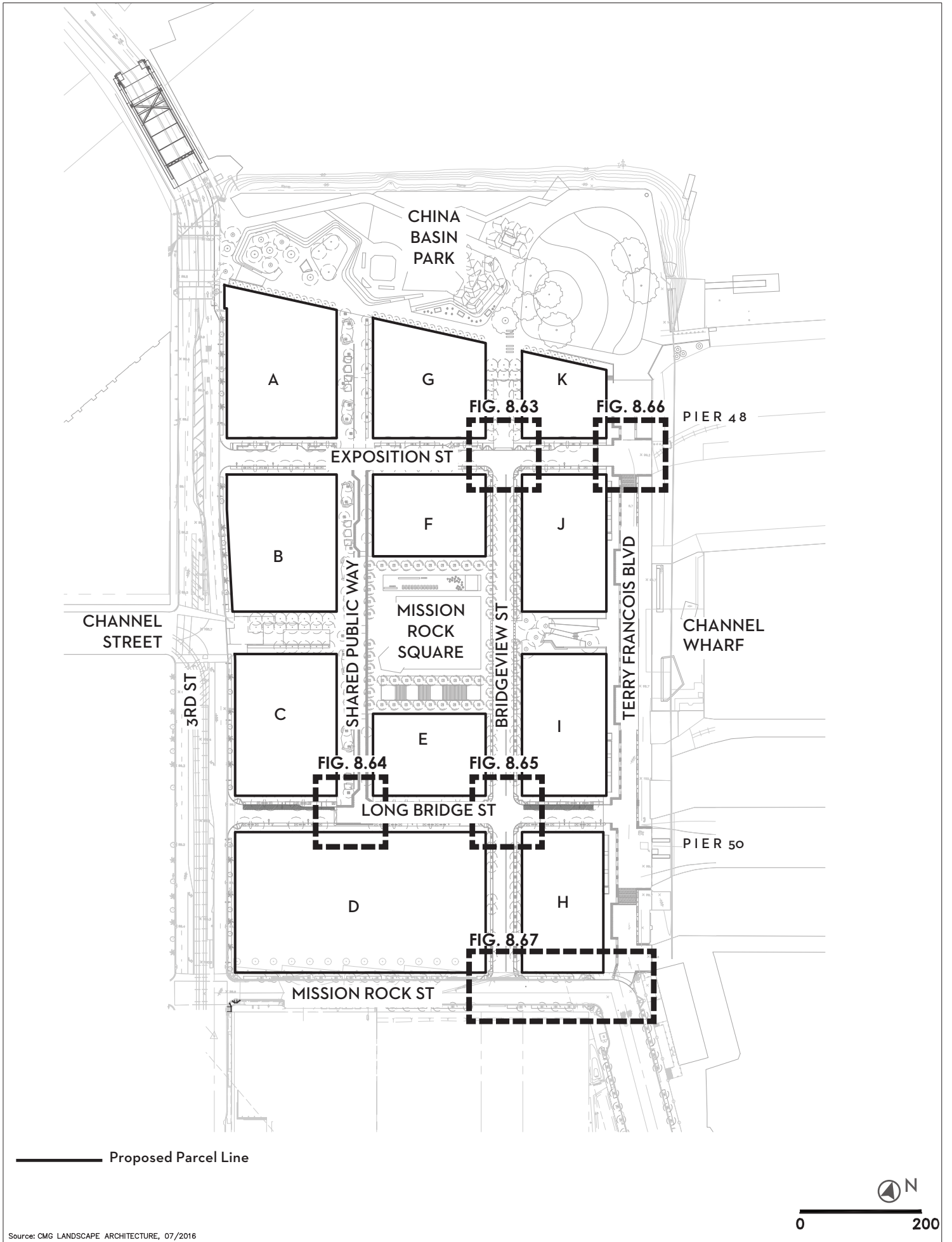
**LEGEND**

-  PROPOSED PARCEL LINE
-  THREE WAY STOP-CONTROLLED INTERSECTION
-  ONE WAY STOP-CONTROLLED INTERSECTION
-  TWO WAY STOP-CONTROLLED INTERSECTION

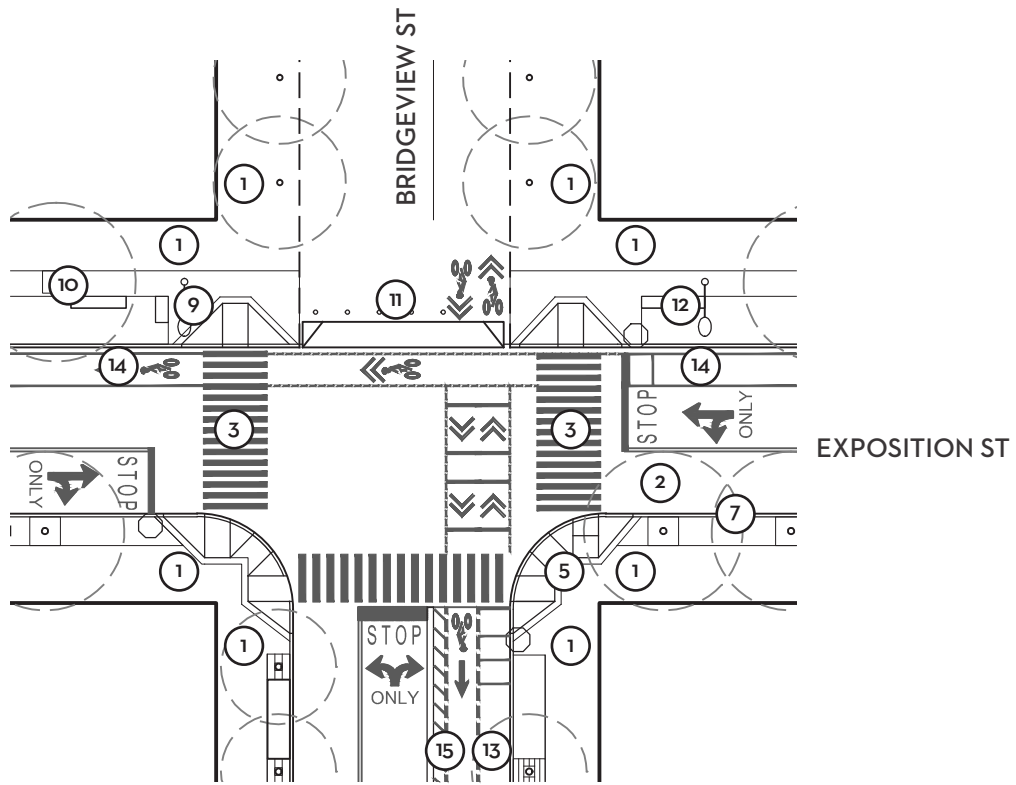
Source: BKF ENGINEERS, 07/2016







Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

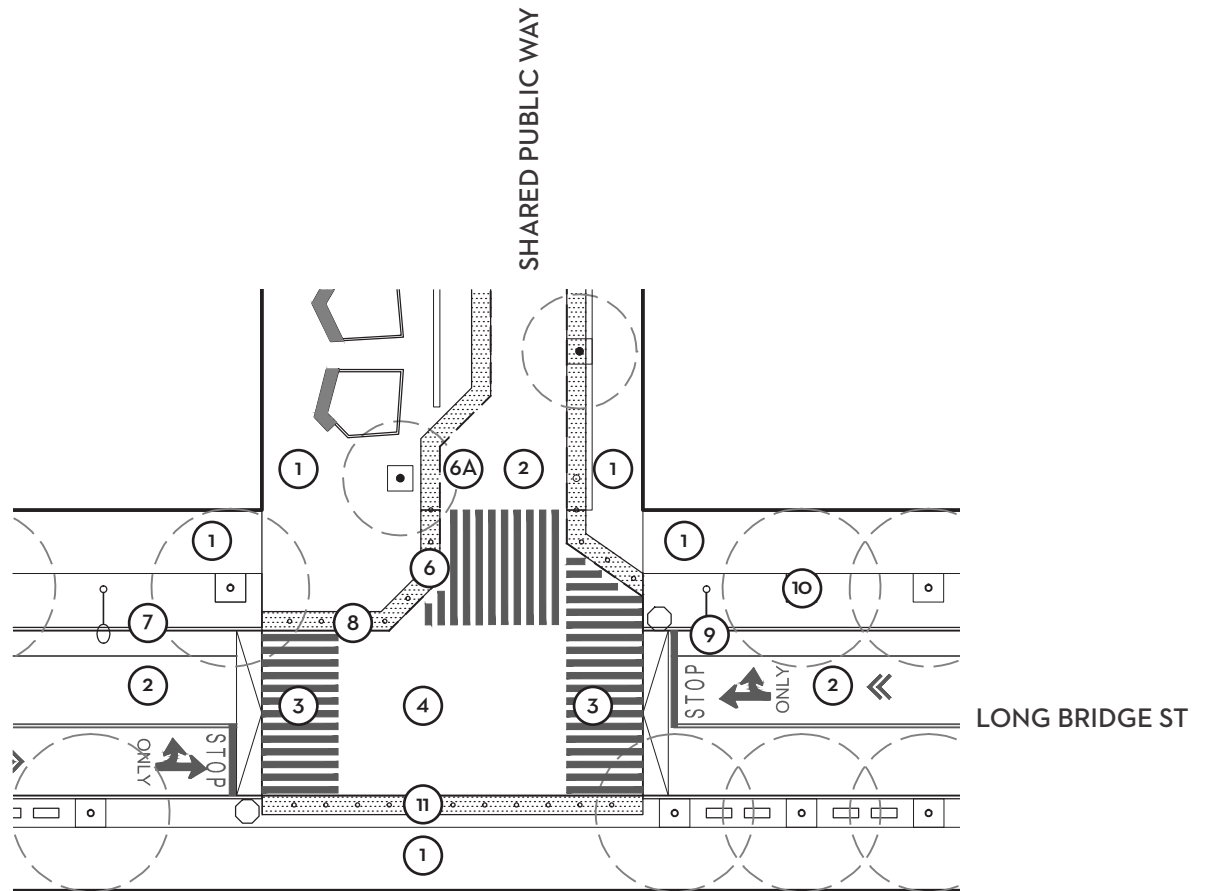


**TYPICAL INTERSECTION ALL-WAY STOP: EXPOSITION STREET AT BRIDGEVIEW STREET**

- |  |                              |
|--|------------------------------|
| ① Pedestrian Throughway                  | ⑧ Flush Curb                 |
| ② Vehicular Travelway                    | ⑨ Streetlight                |
| ③ Crosswalk                              | ⑩ Street Tree                |
| ④ Raised Intersection                    | ⑪ Bollards                   |
| ⑤ DPW Standard Curb Ramp                 | ⑫ Street Furnishing          |
| ⑥ DPW Standard Detectable Surface Paving | ⑬ Cycle Track (Raised)       |
| ⑦ DPW Standard Curb                      | ⑭ Bike Lane at Roadway Grade |
|  | ⑮ Cycle Track Buffer         |

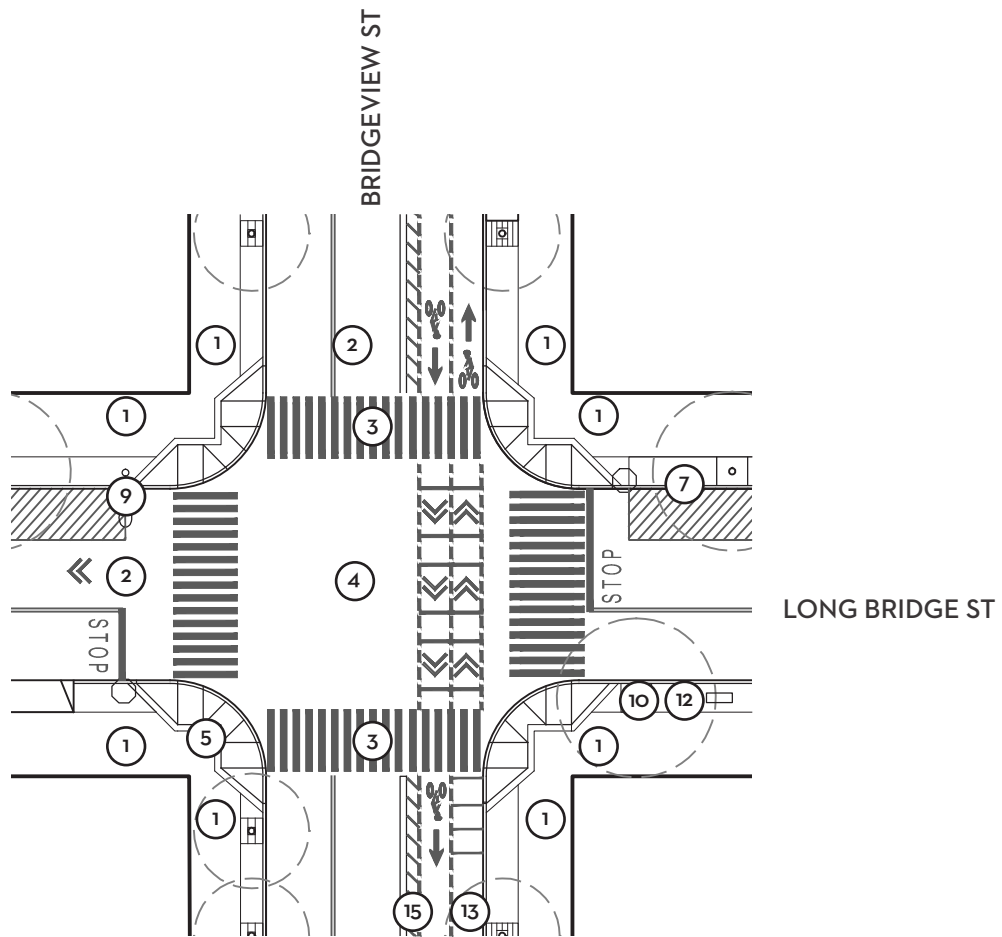


0 30



**RAISED INTERSECTION: SHARED PUBLIC WAY AT LONG BRIDGE STREET**

- |   |                              |
|---|------------------------------|
| ① Pedestrian Throughway                   | ⑦ DPW Standard Curb          |
| ② Vehicular Travelway                     | ⑧ Flush Curb                 |
| ③ Crosswalk                               | ⑨ Streetlight                |
| ④ Raised Intersection                     | ⑩ Street Tree                |
| ⑤ DPW Standard Curb Ramp                  | ⑪ Bollards                   |
| ⑥ DPW Standard Detectable Surface Paving  | ⑫ Street Furnishing          |
| ⑥A Detectable Surface Paving: Alternative | ⑬ Cycle Track (Raised)       |
|   | ⑭ Bike Lane at Roadway Grade |

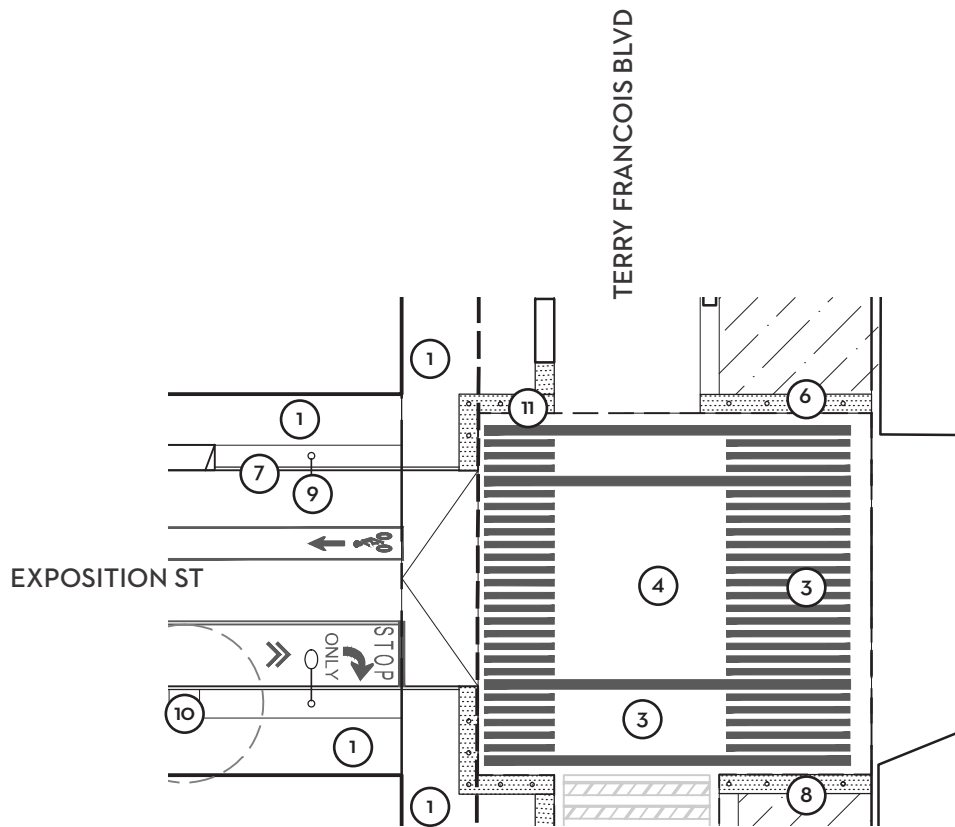


**RAISED INTERSECTION / 2-WAY STOP: BRIDGEVIEW STREET AT LONG BRIDGE STREET**

- |  |                              |
|--|------------------------------|
| ① Pedestrian Throughway                  | ⑧ Flush Curb                 |
| ② Vehicular Travelway                    | ⑨ Streetlight                |
| ③ Crosswalk                              | ⑩ Street Tree                |
| ④ Raised Intersection                    | ⑪ Bollards                   |
| ⑤ DPW Standard Curb Ramp                 | ⑫ Street Furnishing          |
| ⑥ DPW Standard Detectable Surface Paving | ⑬ Cycle Track (Raised)       |
| ⑦ DPW Standard Curb                      | ⑭ Bike Lane at Roadway Grade |
|  | ⑮ Cycle Track Buffer         |



0 30



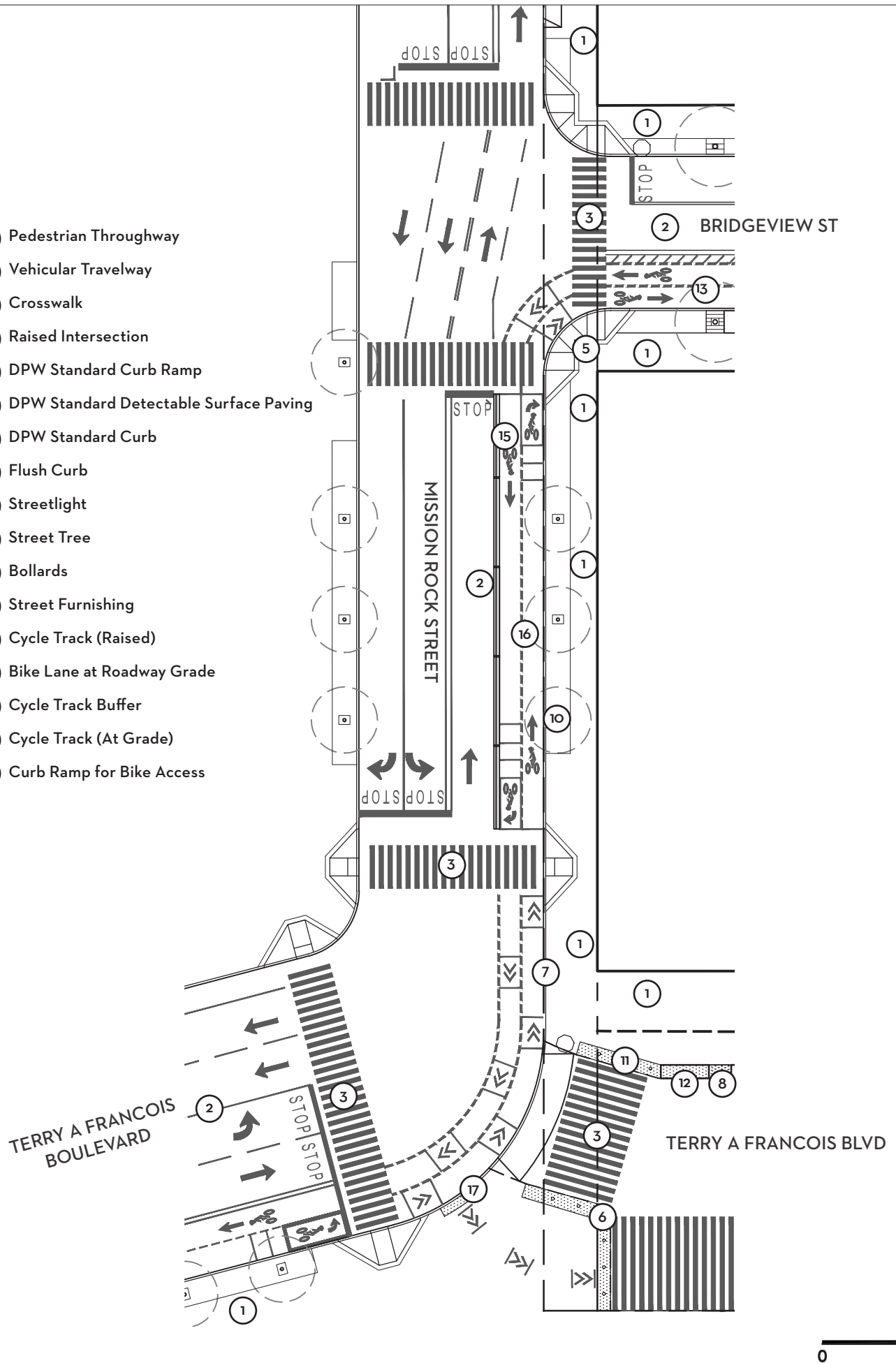
FLUSH INTERSECTION: TERRY FRANCOIS BOULEVARD AT PIER 48

- |  |                              |
|--|------------------------------|
| ① Pedestrian Throughway                  | ⑧ Flush Curb                 |
| ② Vehicular Travelway                    | ⑨ Streetlight                |
| ③ Crosswalk                              | ⑩ Street Tree                |
| ④ Raised Intersection                    | ⑪ Bollards                   |
| ⑤ DPW Standard Curb Ramp                 | ⑫ Street Furnishing          |
| ⑥ DPW Standard Detectable Surface Paving | ⑬ Cycle Track (Raised)       |
| ⑦ DPW Standard Curb                      | ⑭ Bike Lane at Roadway Grade |



0 30

- ① Pedestrian Throughway
- ② Vehicular Travelway
- ③ Crosswalk
- ④ Raised Intersection
- ⑤ DPW Standard Curb Ramp
- ⑥ DPW Standard Detectable Surface Paving
- ⑦ DPW Standard Curb
- ⑧ Flush Curb
- ⑨ Streetlight
- ⑩ Street Tree
- ⑪ Bollards
- ⑫ Street Furnishing
- ⑬ Cycle Track (Raised)
- ⑭ Bike Lane at Roadway Grade
- ⑮ Cycle Track Buffer
- ⑯ Cycle Track (At Grade)
- ⑰ Curb Ramp for Bike Access



Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

## **9. OPEN SPACE AND PARKS**

The following describes the phasing of construction of open space and parks in connection with the Development Parcels. Unless specifically identified otherwise in the Section, ownership, maintenance, and acceptance of the open space and park areas will be by the Master Developer or Port, subject to the terms of the DDA.

### **9.1 Open Space**

Open space shall be substantially Completed consistent with the following schedule:

#### **9.1.1 China Basin Park**

China Basin Park will be constructed in connection with the adjacent Development Parcels A, G and K, as further described in the associated Public Improvement Agreement(s) (PIA) for such Development Parcels. Construction of China Basin Park, including, without limitation, the portions of the park located between and adjacent to Development Parcels A and G and Development Parcels G and K, may be sequenced in relation to the phasing of such adjacent Development Parcels or to accommodate the need for construction staging or likelihood of site disturbances associated with construction of the adjacent Development Parcels.

#### **9.1.2 Mission Rock Square**

Mission Rock Square will be constructed in connection with the adjacent Development Parcels (E and F), as further described in the associated PIAs for such Development Parcels. Construction may be sequenced or adjusted as needed to accommodate construction of adjacent Development Parcels.

#### **9.1.3 The Blue Greenway and the non-pile supported portion of Channel Wharf**

The Blue Greenway and the non-pile supported portion of Channel Wharf (as described herein) will be constructed in connection with the construction of the adjacent portion of Terry A Francois Boulevard. The Blue Greenway is within the public street right-of-way of Terry A Francois Boulevard and will be owned and maintained by the Acquiring Agency.

#### **9.1.4 Channel Street**

Channel Street will be constructed in connection with the adjacent Development Parcels (B and C) as further described in the associated PIAs for such Development Parcels. Construction may be sequenced or adjusted as needed to accommodate construction of adjacent Development

Parcels. Ownership and maintenance and liability for Channel Street and encroachments thereon shall be addressed as set forth in the ICA or future MOA or MOU.

#### **9.1.5 Channel Lane**

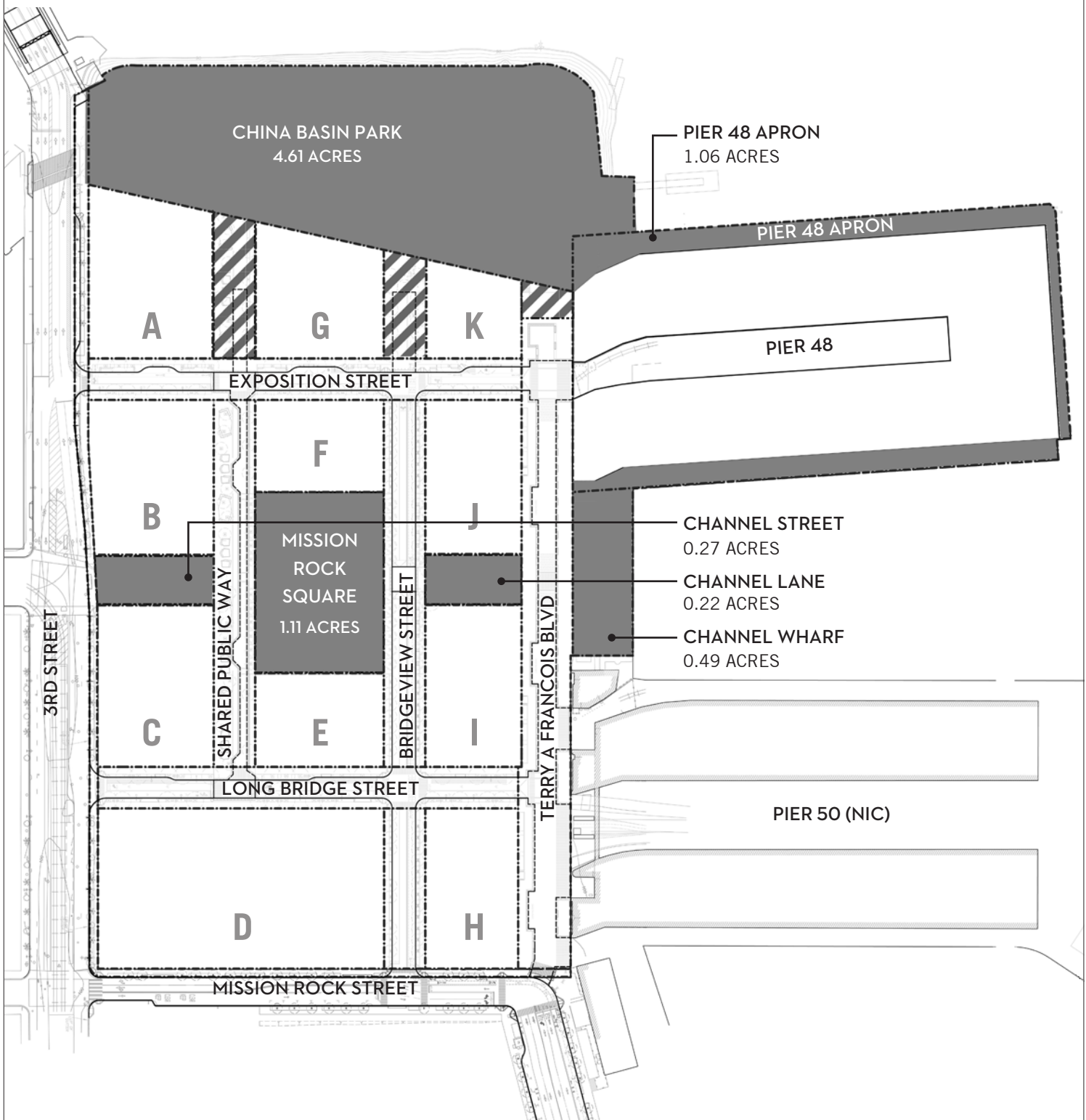
Channel Lane will be constructed in connection with the adjacent Development Parcels (I and J) as further described in the associated PIAs for such Development Parcels. Construction may be sequenced or adjusted as needed to accommodate construction of adjacent Development Parcels. Ownership and maintenance and liability for Channel Lane and encroachments thereon shall be addressed as set forth in the ICA or future MOA or MOU.

#### **9.1.6 Pier 48 Apron and the pile supported portion of Channel Wharf**

The Pier 48 apron and the pile supported portion of Channel Wharf will be renovated, replaced or constructed in connection with the development of Pier 48. The Pier 48 Apron will be owned, maintained, and accepted by the Port.



**FIGURE 9.1: PUBLIC OPEN SPACES**



**FIGURE 9.1: PUBLIC OPEN SPACES**



**Public Open Spaces**

**Paseo (Open Space within R.O.W.)**  
 - Non-vehicular street connection; accommodates emergency vehicle access. Refer to Section 8.

**Limit of Work**

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

FIGURE 9.2: PHASING

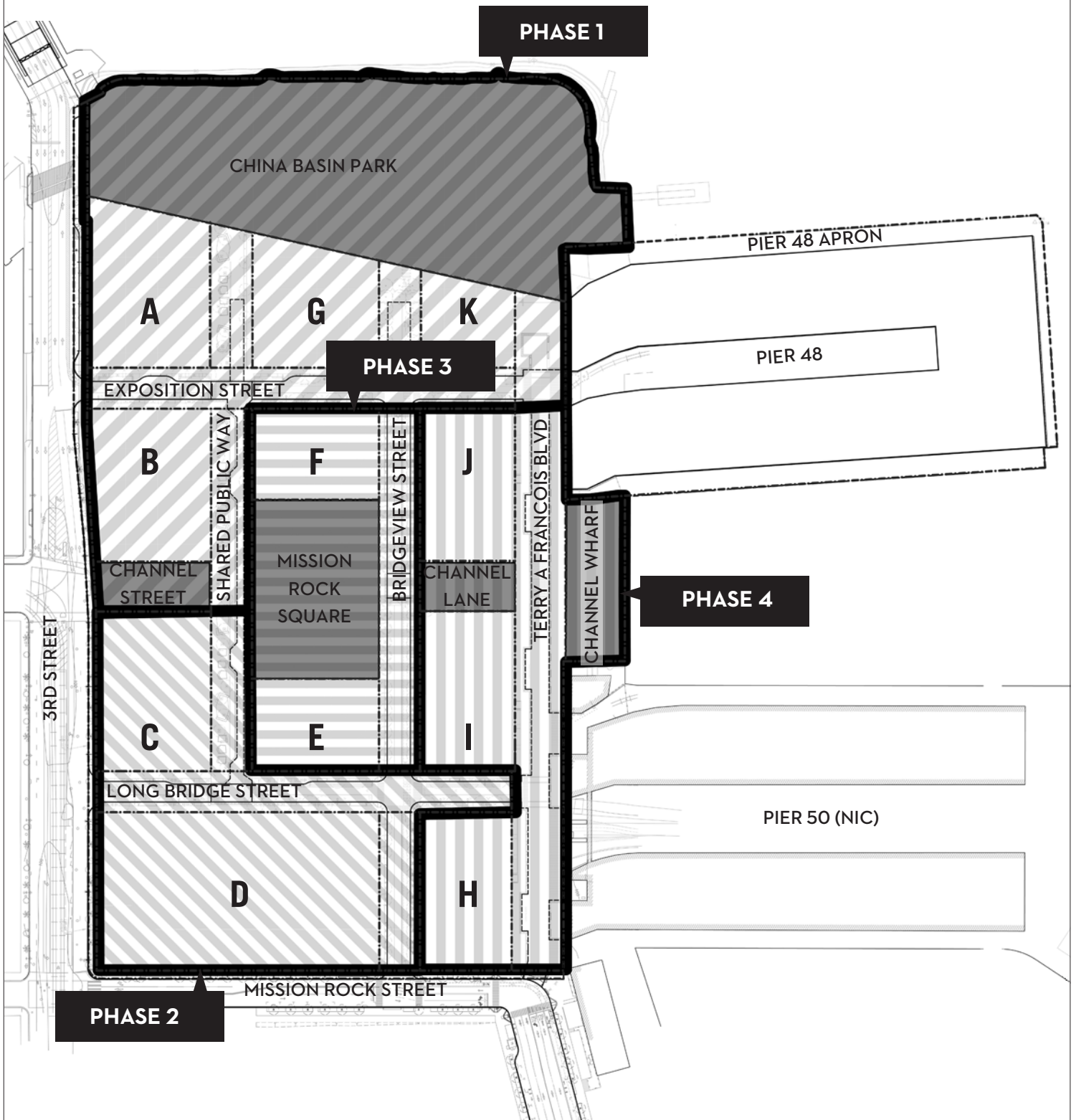


FIGURE 9.2: PHASING



- Public Open Spaces
- Phases of Development

Source: CMG LANDSCAPE ARCHITECTURE, 07/2016

## **10. UTILITY LAYOUT AND SEPARATIONS**

### **10.1 Utility Systems**

The Project proposes to install public utility systems, including the storm drainage system, separated sanitary sewer system, low pressure water (LPW) system, auxiliary water supply system (AWSS), and dry utility systems. Privately owned and maintained systems – district energy, greywater collection– will be installed to promote Project sustainability goals. Non-potable water infrastructure within the street right-of-ways will either be privately or publicly, by the SFPUC, owned or maintained. Ownership, maintenance, and acceptance responsibilities of utility infrastructure will be documented in the DA and DDA.

### **10.2 Utility Layout and Separation Criteria**

Utility main layout and separations will be designed in accordance with the Subdivision Regulations and SFPUC Utility Standards. The Project proposes district energy cooling, non-potable water, and greywater collection systems which have utility separation requirements based on the Subdivision Regulations Diagram 2 and separation requirements provided by ARUP, shown in Appendix H. Utility main separation requirements are presented in Figure 10.1 Horizontal Utility Main Separation Matrix.

### **10.3 Conceptual Utility Layout**

The Project utility layout is designed to connect the proposed Project utility infrastructure to the existing adjacent public utility infrastructure facilities. The proposed LPW system, shown on Figure 11.1, will be a looped system and have three connections to the existing SFPUC LPW system on 3<sup>rd</sup> Street and Mission Rock Street. The proposed separated sanitary system, shown on Figure 12.1, will have three connections to the existing SFPUC sanitary sewer system on both 3<sup>rd</sup> Street and Mission Rock Street. The proposed storm drainage system, shown on Figure 13.1, will have four connections to the existing SFPUC storm drain system on 3<sup>rd</sup> Street, a potential connection to the existing SFPUC storm drain system on Mission Rock Street, a connection to the existing Port outfall at China Basin, and a connection to the existing Port outfall at Channel Wharf, which, if accepted by the SFPUC as part of the Project, will be provided to the SFPUC subject to compliance the SFPUC standards for outfall design. The proposed AWSS, shown on Figure 14.1, will be a looped system a connection to the existing 12-inch AWSS main in 3<sup>rd</sup> Street at the Exposition Street intersection and to a future SFPUC AWSS main at the intersection of Mission Rock Street and Terry A Francois Boulevard. The district energy plant and infrastructure layout, shown on Figure 15.1, and greywater collection, shown on Figure 15.2 will be centralized at Block A. The bay source system will

be installed in China Basin Park to connect the district energy plant to the Bay. From Block A, District Energy and non-potable water will be provided to all Development Parcels.

#### **10.4 Utility Layout and Clearance Design Modifications and Exceptions**

Due to constraints within the Project site, design modifications and exceptions to standard sizing, spacing, and locations of utilities will be requested. A design modification and exception request to utility standards and requirements is subject to the review and approval by the department with authority over each utility. The separated sanitary sewer system, storm drainage system, LPW system, AWSS, and non-potable water system design modifications and exceptions receive authorization per the process outlined in the Subdivision Regulations. Potential locations for the design modifications and exceptions listed in this section are shown in Figure 10.2. Approval of this Infrastructure Plan does not constitute authorization of utility-related design modifications and exceptions.

##### **10.4.1 Utility Main Clearance to Face of Curb**

A bulb-out section, approximately 190-feet long, at the intersection of Long Bridge Street and Shared Public Way (SPW) will be provided for traffic calming purposes. The bulb-out reduces the face of curb to face of curb width from 30-feet to 26-feet. The Low Pressure Water main separation to the face of curb is given priority which ultimately reduces the Storm Drain structure to face of curb separation to 0.3-feet from the required 4.5-feet clearance. If the AWSS main is removed from Long Bridge Street, as currently proposed based on recent discussions, 4.5-ft of clearance between the bulb-out and LPW main may be provided and a design modification and exception request would not be required.

SPW will not have a curb, and Terry A Francois Boulevard will utilize flush curbs. The clear street width is 20 feet on SPW, which does not provide adequate width for the horizontal layout of District Energy pipes, a non-potable water main, a LPW main, and a storm drainage main. Thus, the project proposes to locate the storm drainage main underneath the edge of the clear travel way and beneath the linear drainage element. Proposed storm drainage infrastructure would be accepted by the Acquiring Agency with maintenance completed through the HOA fees or CFD funds. If the SFPUC and City do not accept the infrastructure, then the Acquiring Agency will be the Port.

#### **10.4.2 Utility Structure Type and Clearance to Face of Curb**

TFB, SPW, and the northern segment of Bridgeview Street will utilize flush curbs in place of City standard curb and gutter design, eliminating feasible installation of City standard curb inlets. To accommodate the Project design approach, a linear drainage element, including but not limited to a valley gutter, inverted crown street, or trench drains, in combination with inlets at low points will be incorporated at or along the flowline to provide drainage. Proposed storm drainage infrastructure would be accepted by the Acquiring Agency with maintenance completed through the HOA fees or CFD funds.

#### **10.4.3 Auxiliary Water Supply System Main within Sidewalk**

The street width of Terry A Francois Boulevard is inadequate to provide horizontal clearance for all proposed utility mains within the street pavement. The proposed AWSS main will be located underneath the blue greenway on the east side of Terry A Francois Boulevard, as agreed upon between the developer and the City, SFFD, and SFPUC.

#### **10.4.4 Storm Drain Main and Sanitary Sewer Main Layout Order**

Per the Subdivision Regulations, street utility order places the storm drain main closest to the face of curb, then the sanitary sewer main closer to the centerline of the street section. In Terry A Francois Boulevard and Exposition Street, the utility order of the storm drain main and the sanitary sewer main is switched to place the sanitary sewer main closest to the face of curb instead of the storm drain main. This change in layout order provides better alignment with the storm drain connection on 3<sup>rd</sup> Street and reduces crossing conflicts between the sanitary sewer and storm drain systems.

**Figure 10.1 - HORIZONTAL UTILITY MAIN SEPARATION**

Utility Separation	Storm Drain	Sanitary Sewer	Sanitary Sewer Force Main	Potable Water (LPW)	Auxiliary Water Supply System	Recycled Water (Private)	Greywater Collection (Private)	District Energy (Private)	Structure Appurtenances of Other Utilities
Face of Curb	6.5' min FOC to CL sewer pipe or structure (Ref 1)	6.5' min FOC to CL sewer pipe or structure (Ref 1)	3.5' clear to OD (assumed from Ref 1)	4.5' clear to OD (Ref 4, see Note 1)	4.5' clear to OD (assumed from Ref 4, see Note 1)	4.5' clear to OD (assumed from Ref 4, see Note 1)	6.5' min FOC to CL greywater pipe or structure (Ref 1)	Street w/ CB: 4' clear to OD (assumed from Ref 1) Street w/o CB: 1' clear to OD (assumed from Ref 3)	---
Catch Basin	6" clear CB to MH, 1' clear to OD (Ref 1)	6" clear CB to MH, 1' clear to OD (Ref 1)	6" clear CB to utility structure, 1' clear to OD (Ref 1)	6" clear CB to utility structure, 1' clear to OD (Ref 1)	6" clear CB to utility structure, 1' clear to OD (Ref 1)	6" clear CB to utility structure, 1' clear to OD (Ref 1)	6" clear CB to utility structure, 1' clear to OD (Ref 1)	6" clear CB to utility structure, 1' clear to OD (Ref 1)	1' min clear OD to outside of structure
Storm Drain	---	3.5' min clear OD to OD (assumed from Ref 1)	3.5' min clear OD to OD (assumed from Ref 1)	4' clear OD to OD (Ref 2)	3.5' clear to OD (assumed from Ref 1)	3.5' clear to OD (assumed from Ref 1)	3.5' clear to OD (assumed from Ref 1)	3.5' clear to OD (assumed from Ref 1)	1' min clear OD to outside of structure
Sanitary Sewer	---	---	3.5' min clear OD to OD (assumed from Ref 1)	10' clear OD to OD (Ref 2)	3.5' min clear OD to OD (Ref 1)	3.5' min clear OD to OD (Ref 1)	3.5' min clear OD to OD (assumed from Ref 1)	3.5' min clear OD to OD (assumed from Ref 1)	1' min clear OD to outside of structure
Sanitary Sewer Force Main	---	---	---	10' min clear OD to OD (Ref 2)	3.5' min clear OD to OD (assumed from Ref 1)	3.5' min clear OD to OD (assumed from Ref 1)	3.5' min clear OD to OD (assumed from Ref 1)	3' min clear OD to OD (assumed from Ref 1)	1' min clear OD to outside of structure
Potable Water (LPW)	---	---	---	---	4' clear OD to OD (Ref 1 & 2)	4' clear OD to OD (Ref 1 & 2)	10' clear OD to OD (Ref 2)	4' clear OD to OD (assumed from Ref 1 & 2)	1' min clear OD to outside of structure
Auxiliary Water Supply System	---	---	---	---	---	3' clear to outside pipe (Ref 1)	3' clear to outside pipe (assumed from Ref 1)	3' min clear OD to OD (assumed from Ref 1)	1' min clear OD to outside of structure
Recycled Water	---	---	---	---	---	---	3' clear to outside pipe (assumed from Ref 1)	3' min clear OD to OD (assumed from Ref 1)	1' min clear OD to outside of structure
Greywater Collection	---	---	---	---	---	---	---	3' min clear OD to OD (assumed from Ref 1)	1' min clear OD to outside of structure
Structure Appurtenances of Other Utilities	---	---	---	---	---	---	---	---	2' min clear outside of structure to outside of structure

References

- 1 SFPUC Subdivision Regulations Diagram No. 2 Minimum Utilities Separation for Wastewater and Water - Separate Sewer System (dated October 2014)
- 2 CA Code of Regulations Title 22 Section 64572
- 3 District Energy Separations Per ARUP Detail Mission Rock Typical Trench Sections District Energy (dated 01/12/2016), see Appendix H of Infrastructure Report
- 4 SFPUC Drawing CDD-001 Standard Layout for Potable and Recycled Water Distribution Main Installation (dated Nov 2015)

Notes

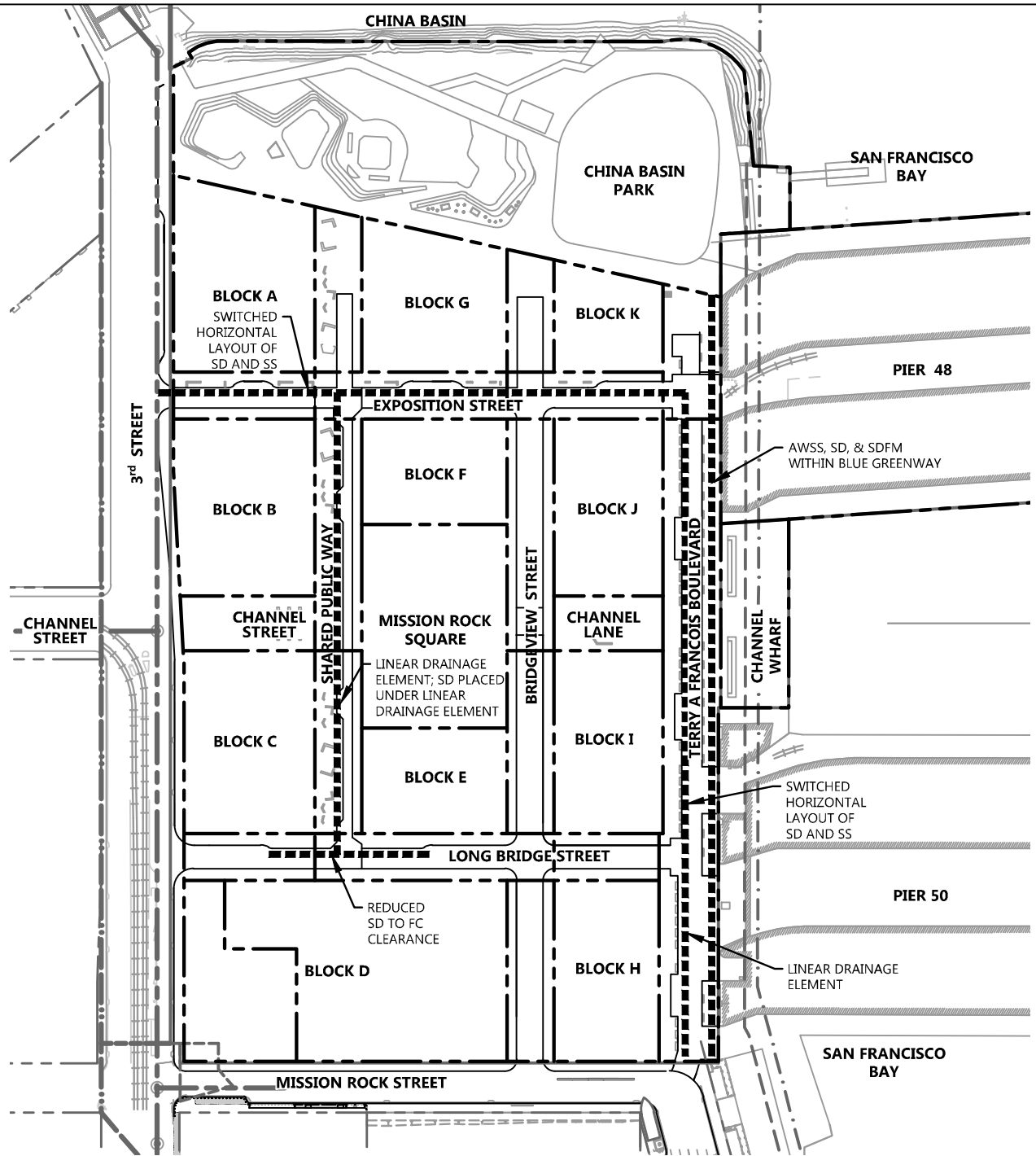
- 1 Due to street width constraints LPW clearance to Face of Curb reduced but not less than 4' clear (SPW & Long Bridge)
- 2 Storm drain and sanitary sewer structures include manhole structures. Horizontal distances shall be measured from largest OD of manhole barrel.

Abbreviations

CB - Catch Basin	MH - Manhole	w/ - with
CL - Centerline	MIN - Minimum	w/o - without
FOC - Face of Curb	OD - Outside Diameter (of Pipe)	

DRAWING NAME: \\BKF\proj\14\2008\060008\_Mission\_Rock\ENG\Exhibits\Infrastructure Plan Exhibit\Plotted Sheets\Figure 10.2 Utility Variance Request Locations.dwg  
 PLOT DATE: 11-15-17  
 PLOTTED BY: PO14

Source: BKF ENGINEERS, 07/2016



**LEGEND**

- PROPOSED PARCEL LINE
- EXISTING PARCEL LINE
- VARIANCE REQUEST LOCATION

**ABBREVIATIONS**

AWSS	AUXILIARY WATER SUPPLY SYSTEM
FC	FACE OF CURB
LG	LIP OF GUTTER
SD	STORM DRAIN MAIN
SS	SANITARY SEWER MAIN
FM	FORCE MAIN



0 200

## **11. LOW PRESSURE WATER SYSTEM**

### **11.1 Existing Low Pressure Water System**

Potable water service is provided by a water supply, storage, and distribution system operated by the SFPUC. Existing LPW system infrastructure surrounds the site on Terry A Francois Boulevard (12-inch), 3rd Street (12-inch), and Mission Rock Street (12-inch). Fire hydrants and Piers 48 and 50 are serviced through the existing waterline in Terry A Francois Boulevard.

### **11.2 Existing SFPUC System Capacity**

Based on the report, "Computer Modeling and Analysis of the Low Pressure Water System, Mission Bay Development" by Winzler & Kelly dated May 2000 (2000 LPW Report), the existing mains along 3rd Street, Mission Rock Street, and Terry A Francois Boulevard will have adequate capacity to support the Development and do not require replacement. Fire hydrant pressure and flow data from field tests of existing SFPUC hydrants adjacent to the project site will be used to verify the 2000 LPW report assumptions. This field data will be incorporated into the LPW water model and will be included as part of the Low Pressure Water Master Utility Plan (LPWMP).

### **11.3 Proposed Low Pressure Water System**

#### **11.3.1 Project Water Supply**

The Project has been accounted for in the SFPUC's latest City-wide demand projections provided in its 2013 Water Availability Study<sup>1</sup> and the Water Supply Assessment prepared for and approved by the SFPUC in January 2017. As concluded previously, the Project would not require major expansions of the existing water system.

#### **11.3.2 Project Water Demands**

The Project water demands are identified in Table 11.1 below. The LPWMP will outline the Project's methods used for calculating the flow demands. The Project proposes bay source cooling, which provides significant water savings by reducing the quantity of cooling towers for the Project; however, the WSA assumed that each development parcel would incorporate independent heating and cooling systems, resulting in larger water demands than those assumed in Table 11.1

---

<sup>1</sup> <http://www.sfwater.org/modules/showdocument.aspx?documentid=4168>



**Table 11.1**  
**Project Water Demands**

<b>Scenario</b>	<b>Demand (gpm)</b>
Domestic Average Day Demand (ADD)	450
Maximum Day Demand (MDD) (includes peaking factor of 1.6)	721
Peak-Hour Demand (PHD) (includes peaking factor of 2.4)	1,081
Required Fire-Flow	1,875
<b>Maximum Demand</b> (Max Day Demand + Required Fire-Flow)	<b>2,596</b>

### 11.3.3 Project Water Distribution System

The LPW system will be designed and constructed by the Developer, then owned and operated by the Acquiring Agency upon completion of construction and acceptance of the improvements. The proposed LPW system is identified schematically in Figure 11.1. Along 3<sup>rd</sup> Street, two new LPW connections are proposed at Exposition Street and Long Bridge Street to provide an on-site looped system. The proposed domestic water supply and fire protection system is anticipated to consist of 12-inch ductile iron pipe mains, LPW fire hydrants, valves and fittings, and appurtenances. The LPW infrastructure will be located within the paved area of the street such that the outside wall of a potable water pipe is a minimum of 4.5-feet clear from the face of curb and a minimum of 5-feet clear from the center of proposed tree trunks. A portion of the existing LPW system in Mission Rock Street between Terry A Francois Boulevard and proposed Bridgeview Street may require relocation to accommodate bicycle infrastructure coordinated with the SFMTA.

Vertical and horizontal separation distances between adjacent separated sewer systems, LPW infrastructure, and dry utilities will conform to the requirements outlined in Title 22 of the California Code of Regulations, the State of California Department of Health Services Guidance Memorandum 2003-02, and the Subdivision Regulations. Refer to the Typical Utility Section (Figure 11.2) for depth and relationship to other utilities. Required disinfection and connections to new mains will be performed by the SFPUC at the Developer's cost. Cathodic protection to be provided as required by the SFPUC. Based on a cathodic protection analysis, cathodic protection is to be completed during the Development Phase of the project.

### **11.3.4 Low Pressure Water Design Criteria**

The proposed LPW system is required to maintain a minimum pressure of 20 psi and a maximum velocity of 12 fps during a Maximum Day Demand and maintain a minimum pressure of 40 psi and a maximum velocity of 8 fps during a Peak Hour Demand. The Project LPW system will be modeled in the LPWMP to confirm the on-site system infrastructure will meet pressure and flow requirements.

### **11.3.5 Proposed Fire Hydrant Locations**

As shown on Figure 11.3, proposed on-site and off-site fire hydrants have been located at a maximum radial separation of 300-feet between hydrants. In addition, building fire department connections will be located within 100-feet of a fire hydrant. Final hydrant locations are subject to the approval of the SFFD, SFPUC, and will be located outside of the curb returns per DPW Order 175,387. If fire hydrants are required by SFFD within the curb returns to meet SFFD requirements, the Project will work with the SFPUC and SFDPW to request an exception per Sections VI and VII of DPW Order 175,387 to accommodate the SFFD. Fire hydrants shall not be located within landscape or bioretention areas and must have a paved direct path leading to the adjacent access road.

## **11.4 Phases for Low Pressure Water System Construction**

The Developer will design and install the new LPW system based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the DA, DDA and ICA. The amount and location of the proposed LPW systems installed will be the minimum necessary to support the Development Phase. The new Development Phase will connect to the existing systems as close to the edge of the Development Phase area as possible while maintaining the integrity of the existing system for the remainder of the Project. Repairs and/or replacement of the existing facilities necessary to support the proposed Development Phase will be designed and constructed by the Developer. Interim LPW systems will be owned, constructed, and maintained by the Developer as necessary to maintain existing LPW facilities impacted by proposed Development Phases, unless the SFPUC agrees to maintain interim facilities at the Developer's cost.

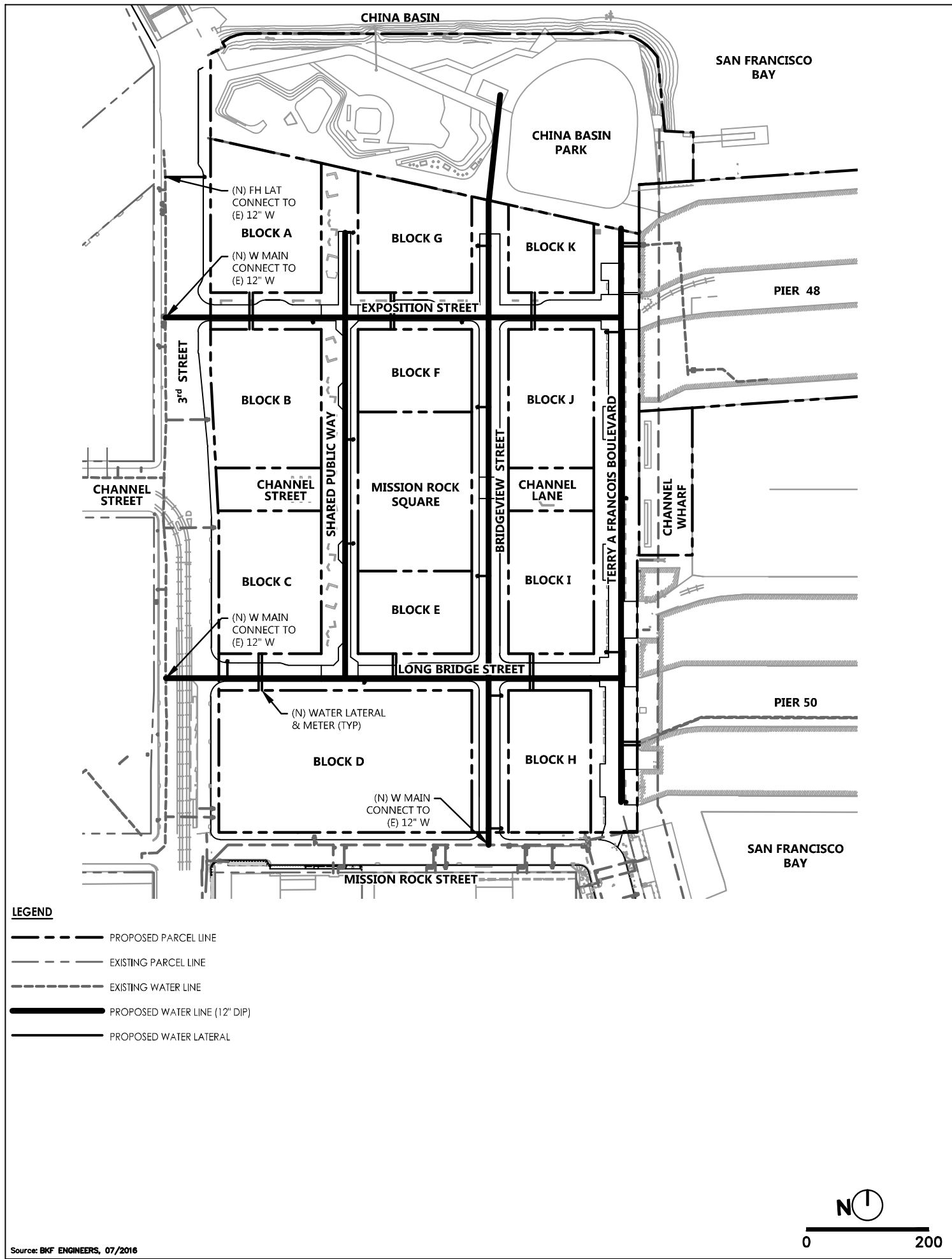
The SFPUC will be responsible for ownership and maintenance of existing SFPUC-owned LPW facilities. The Acquiring Agency will own and maintain the proposed LPW facilities once construction of the

horizontal improvements required for a Development Phase or a new LPW facility is complete and accepted by the Acquiring Agency. The Developer will be responsible for mitigating impacts to improvements installed with previous Project Development Phase(s) due to the designs or construction of current or future Development Phases, which will be addressed prior to approval of the construction drawings for the current or future Development Phase. For each Development Phase and concomitant with the submittal of Improvement Plans, the Developer will provide a phase-specific LPW Utility Report describing and depicting all existing LPW infrastructure to remain and demonstrating that the Development Phase will provide the required pressures and flow to the standards of the Acquiring Agency.

#### **11.4.1 Existing Low Pressure Water System Demolition Phasing**

The existing SFPUC-owned LPW system adjacent to the site along 3<sup>rd</sup> Street and Mission Rock Street will remain. The existing on-site 12-inch LPW main loops through Terry A Francois Boulevard connecting 3<sup>rd</sup> Street at the Lefty O'Doul Bridge to Mission Rock Street. The portion of this main along the frontage of Pier 48 and Pier 50 will remain to provide the piers service. This main will then be replaced with a 12-inch main connected to the Mission Rock LPW system during the redevelopment of Terry A Francois Boulevard. New connections will be made to Pier 48 and Pier 50 branching from the new LPW main.

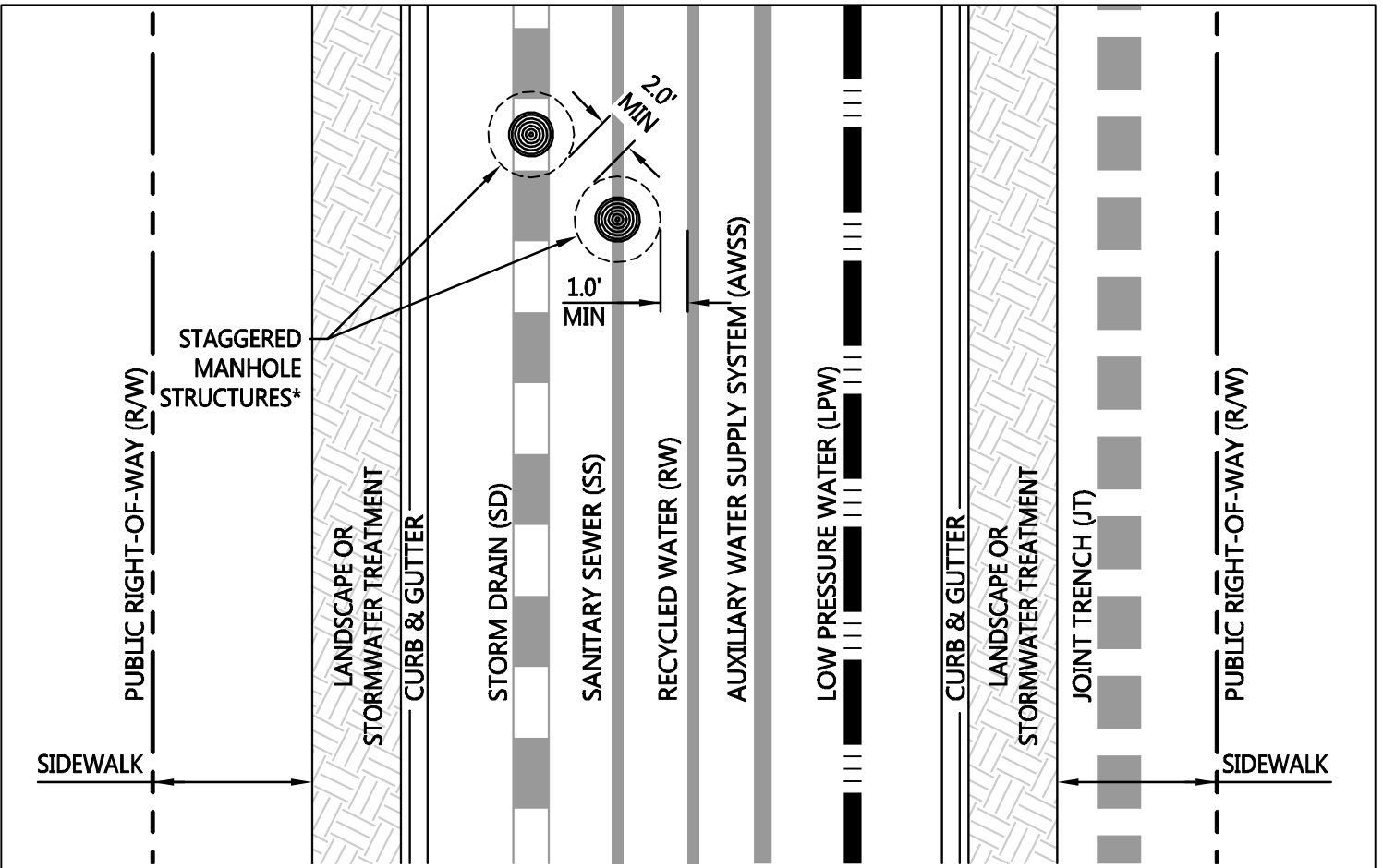
DRAWING NAME: \\bkf-sf\sv\4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibit\Plotted Sheets\Figure 11.1 Conceptual Low Pressure Water System.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELI



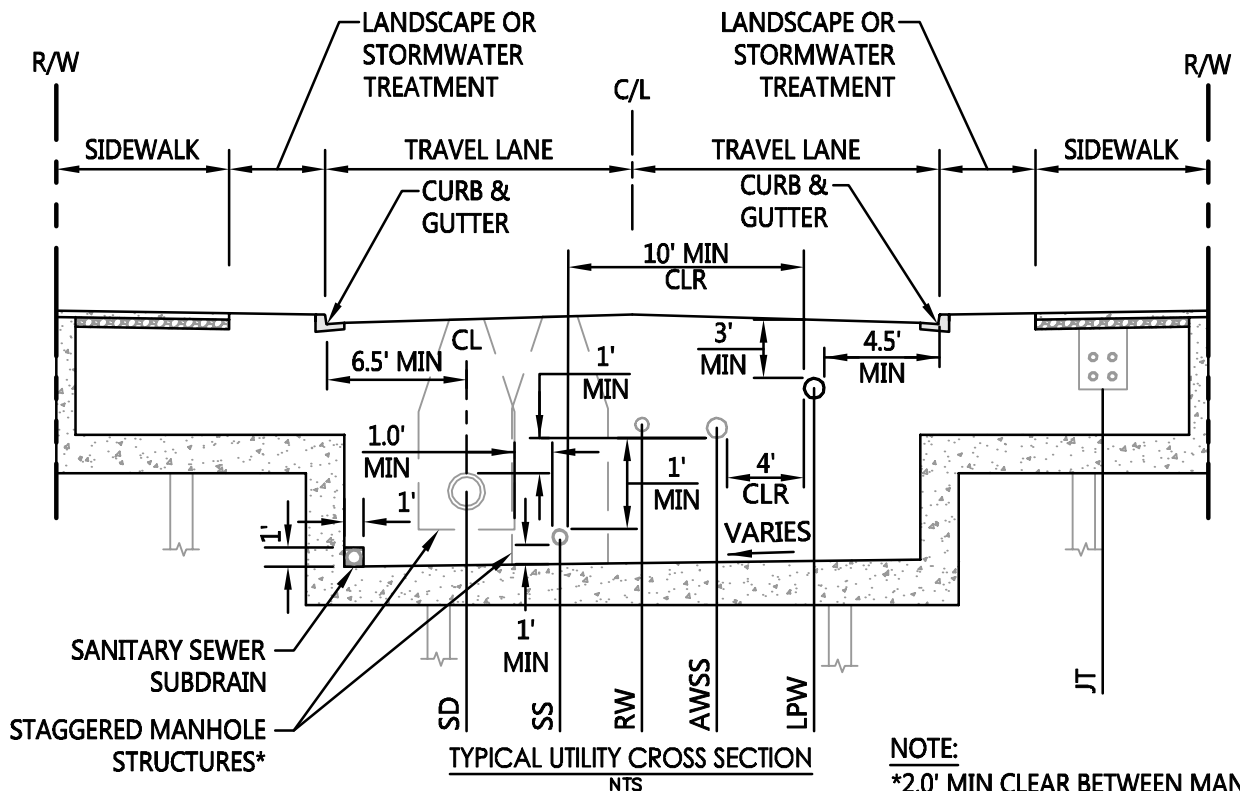
MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 11.1 - CONCEPTUAL LOW PRESSURE WATER SYSTEM

DRAWING NAME: \\NA-SF\vol14\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 11.2\_14.2 Typical UTII Section.dwg  
 PLOT DATE: 11-13-17  
 PLOTTED BY: yolk



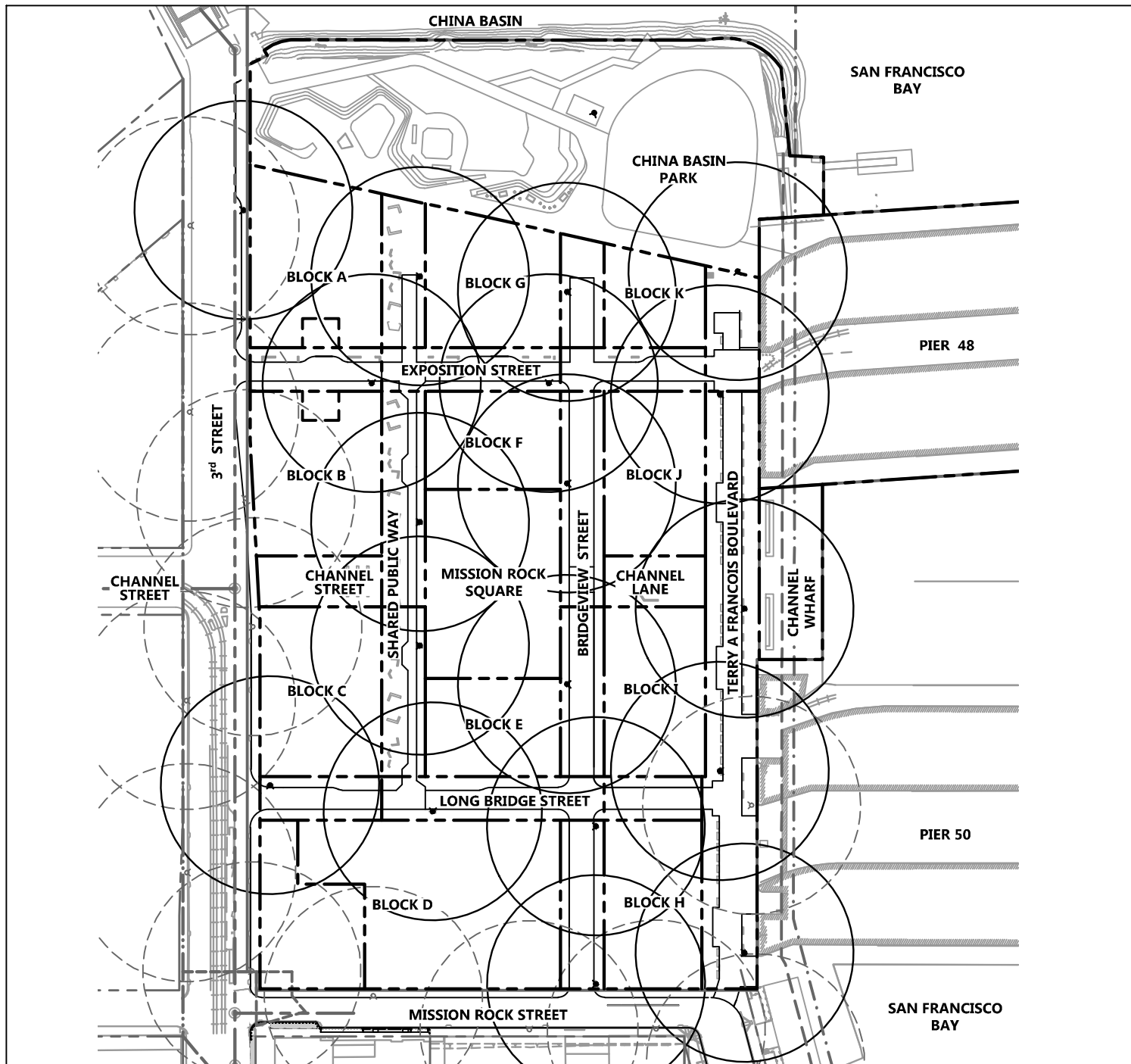
**TYPICAL STREETS**  
NTS



**TYPICAL UTILITY CROSS SECTION**  
NTS

**NOTE:**  
 \*2.0' MIN CLEAR BETWEEN MANHOLE STRUCTURES, 1.0' MIN CLEAR FROM PIPE OD TO OUTSIDE MANHOLE STRUCTURE

DRAWING NAME: \\BKF-1\1\4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibit\Plotted Sheets\Figure 11.3 Conceptual Fire Hydrant Locations.dwg  
 PLOT DATE: 11-14-17



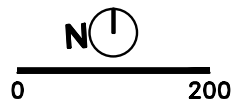
**LEGEND**

- PROPOSED PARCEL LINE
- EXISTING PARCEL LINE
- ▲ PROPOSED LPW FIRE HYDRANT
- EXISTING LPW FIRE HYDRANT
- PROPOSED FIRE HYDRANT COVERAGE 150' RADIUS
- EXISTING FIRE HYDRANT COVERAGE 150' RADIUS

**ABBREVIATIONS**

LPW LOW PRESSURE WATER

Source: BKF ENGINEERS, 07/2016



**MISSION ROCK INFRASTRUCTURE PLAN**

**FIGURE 11.3 - CONCEPTUAL FIRE HYDRANT LOCATIONS**

## **12. SANITARY SEWER SYSTEM**

### **12.1 Existing Sanitary Sewer System**

The existing uses of the site include a parking lot and China Basin Park. Although the site does not have existing sanitary sewer facilities, an existing sewer lateral off of Channel Street and 3rd Street was capped after two existing industrial buildings were demolished to build the parking lot.

The existing sanitary sewer infrastructure along the south and west side of the Project site has a separated sewer system. On the east side of the Project, Pier 48 and Pier 50 are served by a 15-inch sanitary storm sewer main that drains to the south within Terry A Francois Boulevard. Sanitary flows within Terry A Francois Boulevard are conveyed to a low spot in the main just south of the intersection at Mission Rock Street where there is an existing sanitary sewer pump station (Port SSPS) owned and maintained by the Port of San Francisco. A 6-inch force main from the Port SSPS at this location lifts sanitary flows into a 12-inch gravity sewer main within Mission Rock Street and is conveyed west into a 15-inch main as it reaches 3rd Street.

Existing separated sanitary sewer facilities within 3rd Street include an 8-inch main north of Channel Street which connects into a 21-inch main in between Channel Street and Mission Rock Street. The flows from the 21-inch main in 3rd Street and the 15-inch main in Mission Rock Street converge at the intersection of 3rd Street and Mission Rock Street and are conveyed through gravity sewer mains to Sanitary Sewer Pump Station #3 at Park 15 and ultimately conveyed to the San Francisco Southeast Treatment Plant prior to treatment and discharge to the Bay.

### **12.2 Proposed Sanitary Sewer System**

#### **12.2.1 Proposed Sanitary Sewer Demands**

The Project sanitary sewer demands conservatively assume 95% return on potable water demands and 100% return on recycled water demands for ADD, resulting in an Average Daily Dry Weather Flow (ADWF) of approximately 312,668 gallons per day (gpd) or 217 gallons per minute (gpm) over 24-hours. Including an infiltration rate of 0.003 cubic feet per second per acre and applying a peaking factor of 3, the Project is anticipated to generate a Peak Wet Weather Flow (PWWF) of 978 gallons per minute (gpm). The Project's methods for calculating the flow demands will be outlined in the Sanitary Sewer Master Utility Plan (SSMP).

### **12.2.2 Proposed Sanitary Sewer Capacity**

Sanitary sewer models for the Project have been developed to confirm the sanitary sewer system designs and capacity, and will be included in the SSMP. The Project proposes to direct all new sanitary sewer flows, with the exception of Block H & Block I, to the existing 21-inch sanitary sewer main in 3<sup>rd</sup> Street. Capacity of the existing 21-inch sanitary sewer main in 3<sup>rd</sup> Street is adequate to serve these demands, which is accounted for in the Mission Bay Master Plan. Block H & Block I sanitary sewer demands will be directed to the existing 12-inch sanitary sewer main in Mission Rock Street. An analysis of the impacts of the Project demands on the existing upstream and downstream infrastructure will be reviewed as part of the SSMP approval process.

The Project proposes to utilize the existing Port SSPS at the corner of Terry A Francois Boulevard and Mission Rock Street to continue serving the existing demands from Pier 48 and Pier 50 which amount to 96 gpm or 138,660 gpd under ADWF conditions and 315 gpm under PWWF conditions. This flow is within the conditions accounted for in the Mission Bay Master Plan. No additional flow resulting from the Project will be directed to the existing Port SSPS at the corner of Terry A Francois Boulevard and Mission Rock Street.

### **12.2.3 Proposed Sanitary Sewer Design Basis**

The proposed sanitary sewer system will be designed in accordance with the City Subdivision Regulations and SFPUC wastewater utility standards. The design basis will be described in greater detail as part of the SSMP.

### **12.2.4 Proposed Sanitary Sewer Design Criteria**

The proposed separated sewer system is intended to convey sanitary sewer flow from the Project. The physical and capacity design criteria for the sanitary sewer system are presented in Table 12.1.



**Table 12.1****Mission Rock Separated Sewer Main Design Criteria**

<b>Parameter</b>	<b>Criteria/Value</b>
Pipe material for pipe sizes 6-inch to 21-inch inside diameter	VCP (ASTM C-700 Extra Strength) HDPE with special approval from SFDPW and SFPUC
Manhole spacing	300-feet preferred 350-feet maximum (subject to approval of SFPUC)
Minimum depth of cover for mains	6-feet minimum unless otherwise approved by the SFPUC on a case-by-case basis
Minimum flow velocity ( <i>average dry weathersanitary flow</i> )	2 fps
Minimum infiltration intensity	0.003 second feet per acre
Manning's n (roughness coefficient) for proposed pipes	VCP: 0.013 HDPE: 0.010
Maximum Pipe Flow Depth Ratio, $d/D$ ( <i>average dry weather sanitary flow</i> )	0.50
Maximum Pipe Flow Depth Ratio, $d/D$ ( <i>peak wet weather sanitary flow</i> )	0.8
Sewer Generation <sup>(1)</sup>	Residential: 54 GPD / capita Commercial/Retail: 0.1 GPD / SF

**TABLE 12.1 NOTES:**

<sup>(1)</sup> Assumes 95% return on potable water and 100% return on non-potable water based on until demands from the "Treasure Island, Technical Memorandum, Potable Water" dated April 1, 2016. Sewer generation value subject to SFPUC review and approval in the Master Utility Plan.

VCP = Vitrified Clay Pipe

fps = feet per second

$d/D$  = ratio of the depth of flow ( $d$ ) to the pipe inside diameter ( $D$ )

**12.2.5 Proposed Sanitary Sewer Collection System**

The proposed sanitary sewer system is identified schematically on Figure 12.1. The sanitary sewer system will be designed and constructed by the Developer. Sanitary sewer designs will be reviewed and approved by the Acquiring Agency. Upon construction completion and improvement acceptance by the Acquiring Agency, the new sanitary sewer system will be maintained and owned by the Acquiring Agency. The proposed system will include sanitary sewer

laterals connected to a new system of 8-inch to 12-inch gravity sanitary sewer mains and a force main downstream of the proposed sanitary sewer pump station.

In addition, a new sanitary sewer pump station for dedication to the SFPUC is proposed adjacent to Exposition Street in either Block A or Block B. An easement, MOU, and/or separate agreement will be recorded for SFPUC facilities on Vertical Development parcels on Port property, including provisions for maintenance access.

The development will connect to the existing sanitary sewer main on 3<sup>rd</sup> Street at two locations. It is anticipated that the proposed sanitary sewer flows along Exposition Street will be discharged to an existing manhole at the intersection of 3<sup>rd</sup> Street and Exposition Street by a sanitary sewer force main. The proposed pump station for this sanitary sewer force main will be located in either Block A or Block B. The proposed sanitary sewer flows from Long Bridge Street will connect to existing sanitary sewer main on 3<sup>rd</sup> Street at a new SFPUC manhole structure.

The remaining proposed development flows from Block H & Block I will be collected by a sanitary sewer main in Bridgeview Street and discharge to the existing sanitary sewer main in Mission Rock Street at a new SFPUC manhole structure.

Consistent with the existing condition, the flows from Pier 48 and Pier 50 will connect to the new sanitary sewer main in Terry A Francois Boulevard and discharge to the existing Port SSPS at the intersection of Terry A Francois Boulevard and Mission Rock Street.

See Figure 12.2 for a typical utility cross-section identifying the approximate sanitary sewer system depth and its horizontal relationship to other adjacent utilities.

#### **12.2.6 Structured Street Drainage**

Due to geotechnical constraints, the Project will provide structured street sections which will require subdrains to prevent accumulation of water on the structured street. Subdrains, where required based on the final design of the structured streets, will be provided within the structured streets and open space areas to prevent accumulation of water and will drain via a gravity connection or through a sump pump and force main to the sanitary sewer system. Where a

subdrain is required, a sand trap will be installed in advance of the connection of the SFPUC sanitary sewer main. Ownership, maintenance and acceptance of the subdrains and/or sump pumps will be by the Acquiring Agency subject to the DA, DDA, ICA, or separate MOA or MOU.

### **12.3 Design Modifications and Exceptions**

Proposed pipe slopes and cover are constrained within the Project by the existing adjacent sanitary sewer system infrastructure. The existing adjacent sanitary sewer system does not have adequate depth or cover to provide Subdivision Regulation compliant pipe cover. A minimum cover of 6-feet will be provided on top of mains within public streets, where less than 6-ft of cover is provided, a design modification and exception request for a reduced cover depth of up to 3-feet will be submitted for approval by the Director of Public Works with the consent of the SFPUC during the construction document approval process. Anticipated locations where a design modification and exception requests for reduced pipe cover are shown on Figure 12.3.

With the cover and slope constraints, VCP sanitary sewer mains will not provide adequate flow velocities or capacities. To provide the minimum flow velocity of 2 fps and sufficient flow capacity with the limited available pipe slopes, the Project proposes to install fusion-welded high density polyethylene (HDPE) pipe SDR-17 or better. The HDPE pipe has less friction than VCP and will provide adequate flow velocities and flow capacities. HDPE pipe will be flex tested using Mandrel test. Design modification and exception requests to allow HDPE pipe are subject to the approval of the Director of Public Works with the consent of the SFPUC.

Vertical and horizontal separation distances between adjacent sanitary sewer system, storm drain system, potable water, and dry utilities will conform to the requirements outlined in Title 22 of the California Code of Regulations and the State of California Department of Health Services Guidance Memorandum 2003-02 and the Subdivision Regulations. As shown in Figure 12.2 and described in Section 10, the sanitary sewer mains are proposed to be offset from the center of the street to ensure that adjacent water lines can be placed outside of the proposed bulb-outs while maintaining the required health code separation clearances. Horizontal clearances for proposed sanitary sewer infrastructure are provided in the Section 10 Utility Layouts and Separations. Design modification and exception requests to allow for alternative pipe locations are subject to the approval of the Director of Public Works with the consent of the SFPUC.

## **12.4 Phases for Sanitary Sewer System Construction**

The Developer will design and install the new sanitary sewer system based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the DA, DDA and ICA. The amount and location of the proposed sanitary sewer systems installed will be the minimum necessary to support the Development Phase. The new Development Phase will connect to the existing systems as close to the edge of the Development Phase area as possible while maintaining the integrity of the existing system for the remainder of the Project. Repairs and/or replacement of the existing Infrastructure necessary to support the proposed Development Phase will be designed and constructed by the Developer. Interim sanitary sewer systems connecting to SFPUC or Port owned infrastructure will be owned, constructed and maintained by the Developer as necessary to maintain existing sanitary sewer facilities impacted by proposed Development Phases. The Developer will own and maintain interim facilities, as required, until completion of the Development Phase or until the infrastructure is no longer functionally required and has been removed.

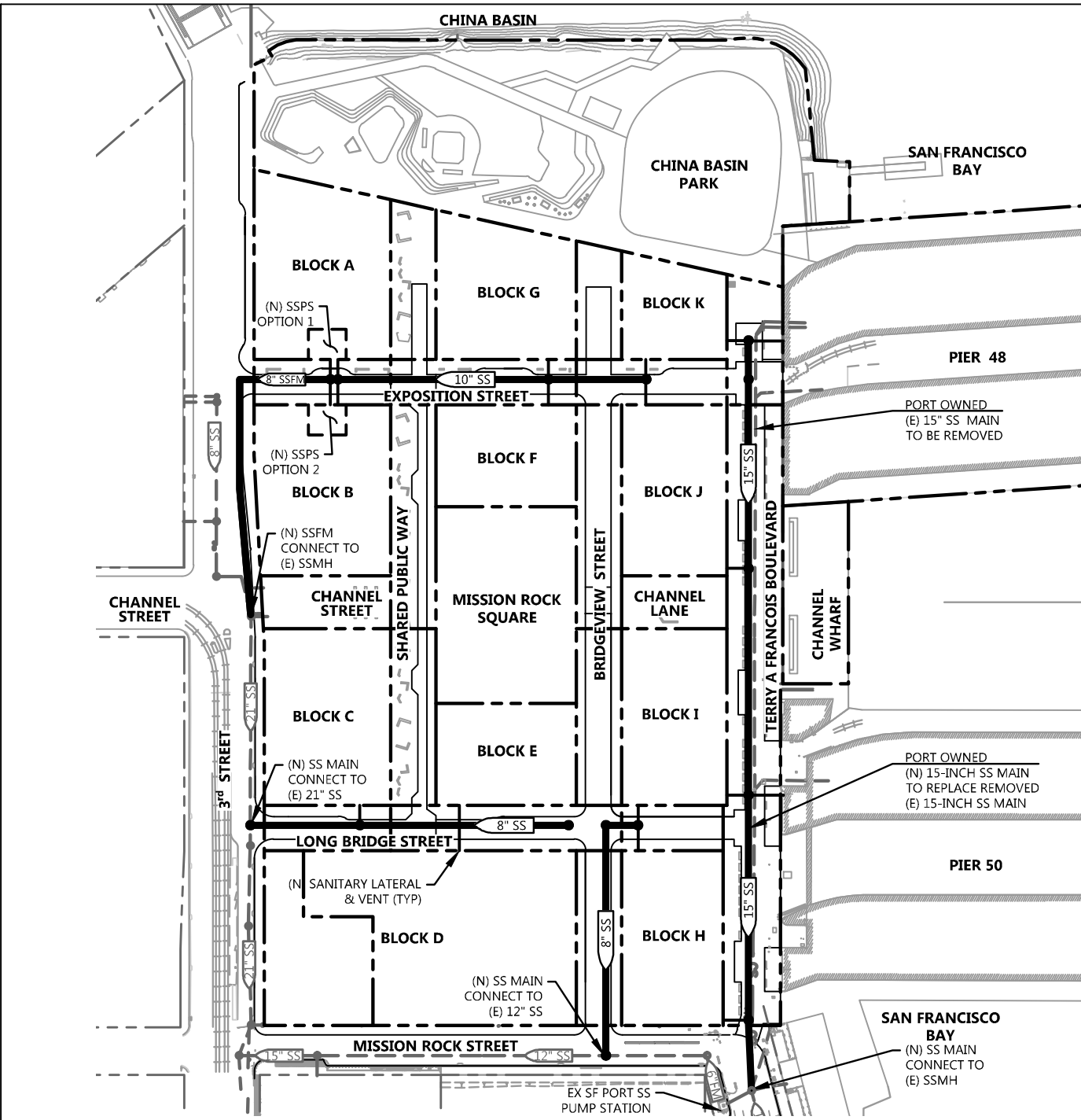
The Port and City are responsible for maintenance of the existing Port and City sanitary sewer facilities, respectively. The Acquiring Agency will be responsible for the proposed sanitary sewer system once construction of the horizontal improvements for Development Phase or new sanitary sewer system is complete and accepted by the Acquiring Agency. The Developer will be responsible for mitigating impacts to Infrastructure installed with previous Development Phases of the Project due to the designs or construction of new Development Phases and will be addressed prior to approval of the construction drawings for the new Development Phase. Pipes and manholes adjacent to a new Development Phase must undergo inspection before and after construction of the new Development Phase. For each Development Phase and concomitant with the submittal of construction documents, the Developer will provide a phase-specific Sanitary Sewer System Utility Report describing and depicting the existing and proposed sanitary sewer infrastructure, and demonstrating that the Development Phase will provide sanitary sewer infrastructure capable of serving the Development Phase to the standards of the Acquiring Agency.

### **12.4.1 Existing Sanitary Sewer System Demolition Phasing**

The existing sanitary sewer system adjacent to the site along 3<sup>rd</sup> Street and Mission Rock Street will remain. The existing on-site 15-inch combined sewer main is located in Terry A Francois Boulevard east of Seawall Lot 337 and connects to the existing sanitary sewer manhole at the

intersection of Mission Rock Street and Terry A Francois Boulevard. The portion of this main that along the frontage of Pier 48 and Pier 50 will remain to provide service to the Piers. This main is proposed to be replaced with a 12-inch separated sanitary sewer system during the redevelopment of Terry A Francois Boulevard. New connections will be provided to Pier 48 and Pier 50 branching from the new main.

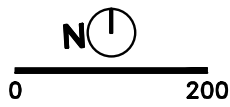
DRAWING NAME: K:\0008\080008\_Mission\_Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 12.1 Conceptual Sanitary Sewer System.dwg  
 PLOT DATE: 11-09-17 PLOTTED BY: [Redacted]



**LEGEND**

- PROPOSED PARCEL LINE
- - - EXISTING PARCEL LINE
- PROPOSED SANITARY SEWER LINE (8" HDPE & 12" HDPE)
- - - EXISTING SANITARY SEWER LINE
- PROPOSED SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- ◀ 12" SS PIPE SIZE AND FLOW DIRECTION

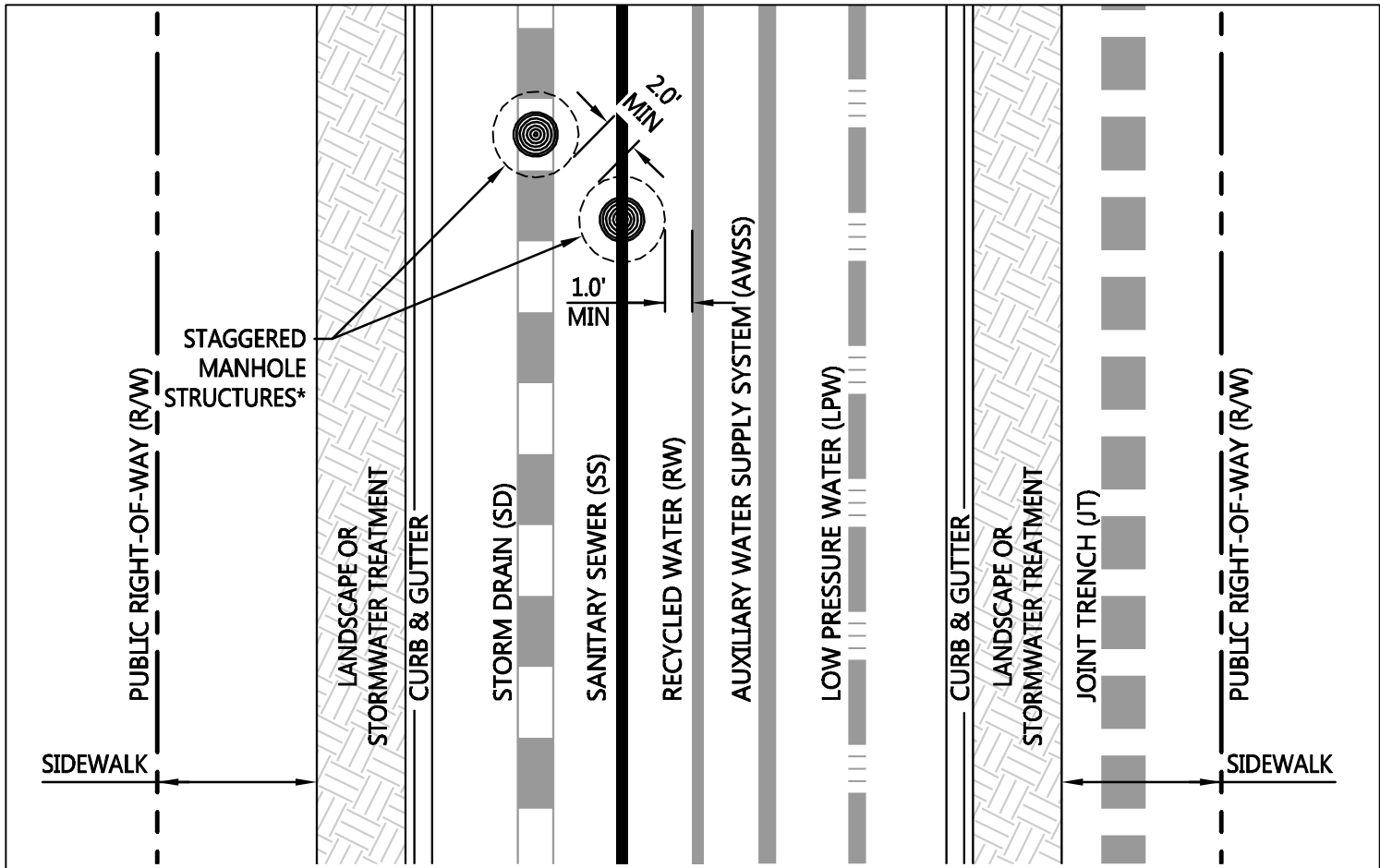
Source: BKF ENGINEERS, 07/2016



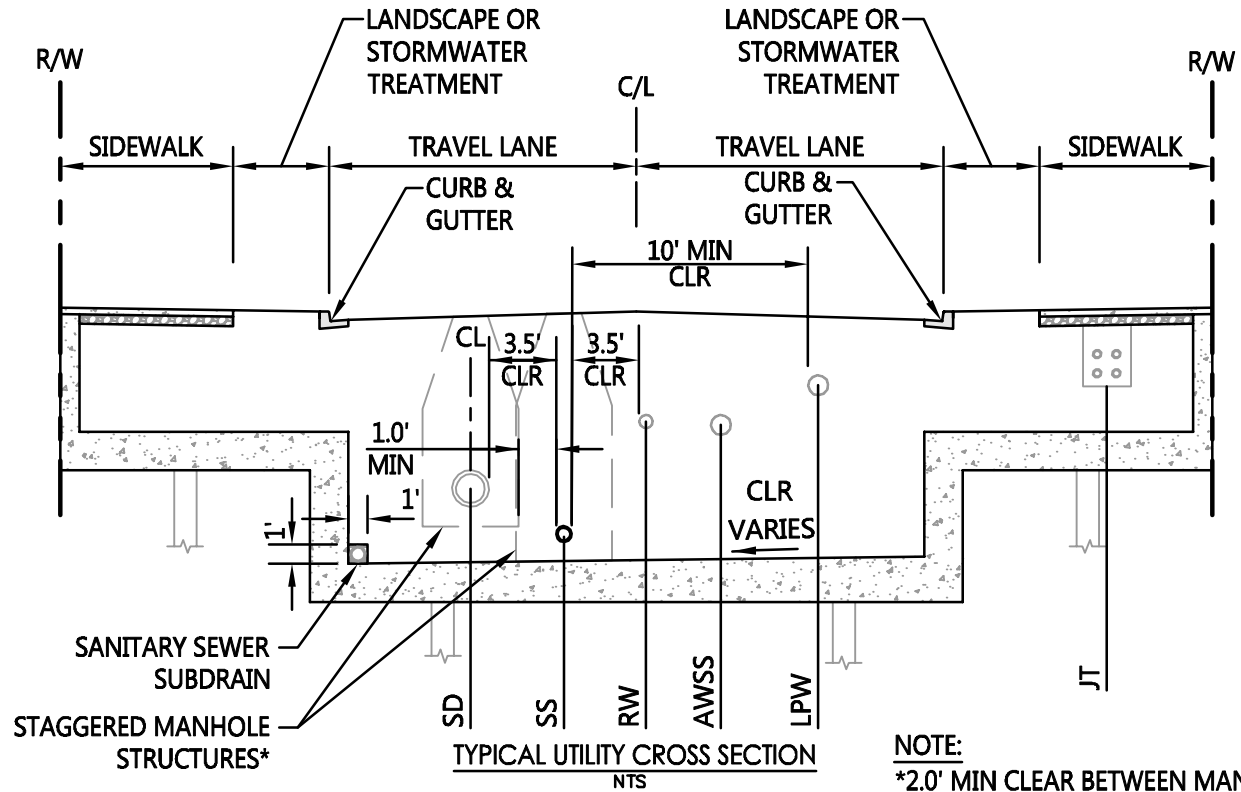
**MISSION ROCK INFRASTRUCTURE PLAN**

**FIGURE 12.1 - CONCEPTUAL SANITARY SEWER SYSTEM**

DRAWING NAME: \\NAI-SF\vol14\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 11.2\_14.2 Typical UTII Section.dwg  
 PLOT DATE: 11-13-17  
 PLOTTED BY: yolk

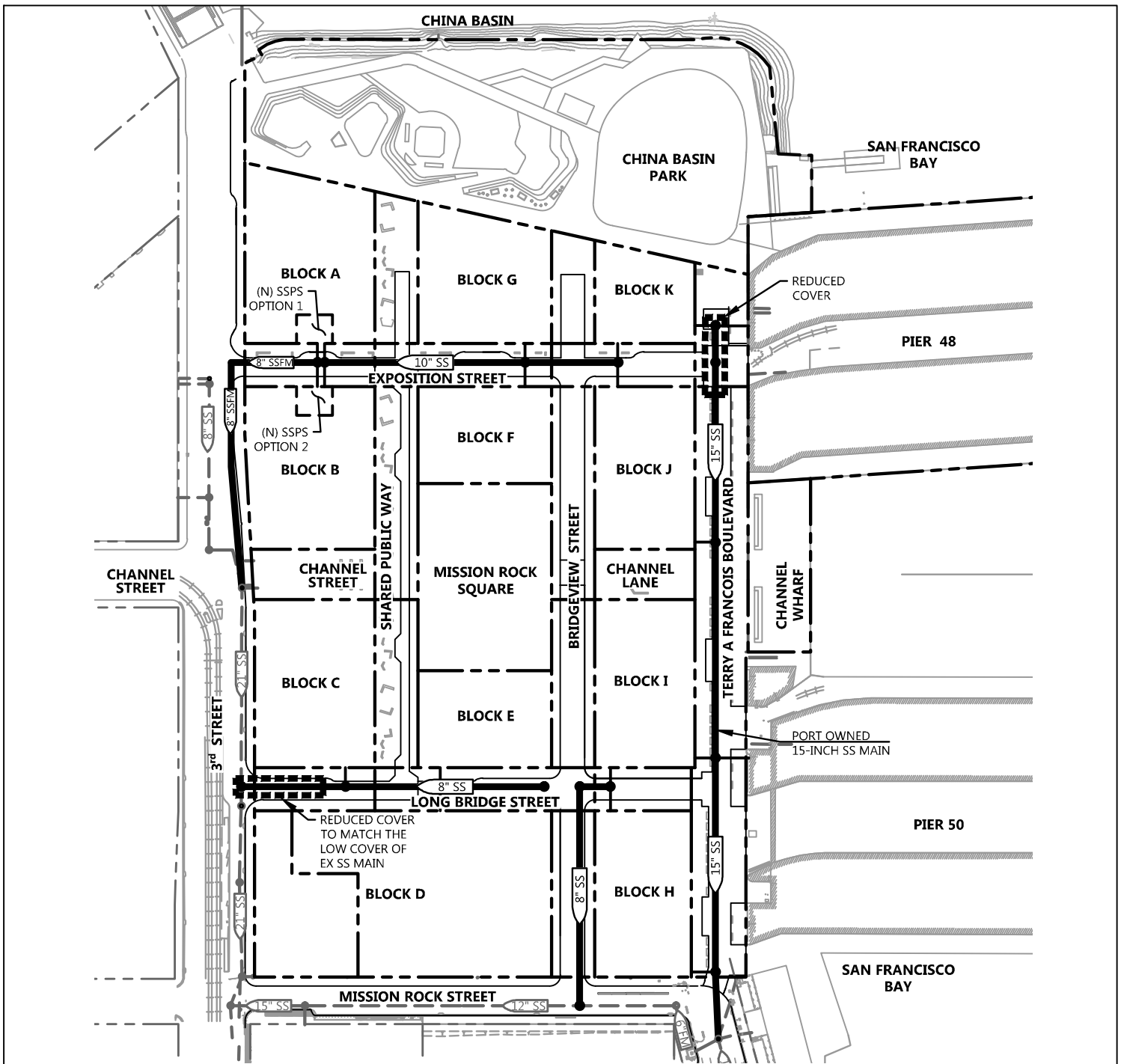


TYPICAL STREETS  
NTS



**NOTE:**  
 \*2.0' MIN CLEAR BETWEEN MANHOLE STRUCTURES, 1.0' MIN CLEAR FROM PIPE OD TO OUTSIDE MANHOLE STRUCTURE

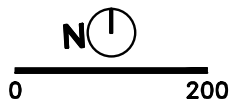
DRAWING NAME: K:\0008\080008\_Mission\_Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 12.3 Sanitary Sewer Variance Request Locations.dwg  
 PLOT DATE: 11-09-17 PLOTTED BY: [Redacted]



**LEGEND**

- PROPOSED PARCEL LINE
- - - EXISTING PARCEL LINE
- PROPOSED SANITARY SEWER LINE (8" & 12" PIPES)
- - - EXISTING SANITARY SEWER LINE
- COVER VARIANCE REQUEST LOCATION
- PROPOSED SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- 12" SS PIPE SIZE AND FLOW DIRECTION

Source: BKF ENGINEERS, 07/2016



**MISSION ROCK INFRASTRUCTURE PLAN**

**FIGURE 12.3 - SANITARY SEWER VARIANCE REQUEST LOCATIONS**



## **13. STORM DRAIN SYSTEM**

### **13.1 Existing Storm Drain System**

The existing storm drain infrastructure within the vicinity of the Project site has a separated storm drain system to the west, south, and east, and two separate Port-owned outfalls that drain to the San Francisco Bay. The west side of the Project is served by an existing separated storm drain system within 3rd Street that is routed to the future Mission Bay Stormwater Pump Station (SWPS) #3 for discharge to Mission Creek. Until SWPS #3 is constructed, stormwater flows continue past SWPS #3 into an existing 11' x 11' combined sewer box that drains to the existing Channel Street Pump Station. The re-aligned Mission Rock Street to the south has a new separated storm drain system that conveys stormwater to Mission Bay SWPS #6 to the south that discharges to the San Francisco Bay adjacent to the Radiance Development and Block P18. Both China Basin Park and Terry A Francois Boulevard have storm drain systems that discharge directly to the San Francisco Bay through existing Port-owned outfalls. The existing Pier 48 and Pier 50 structures have a separated storm drain system that discharge directly to the Bay from the piers.

Storm drain system capacities within the existing 42 inch storm drain system in 3<sup>rd</sup> Street and the 21-inch storm drain main in Mission Rock Street are adequate to serve the tributary drainage areas from the Project. As described in the Draft Drainage Report for Mission Bay Drainage Area D (September, 2012), the existing storm drain system provides the minimum freeboard requirement for a 5-year storm event. Pump station designs have also been sized to meet the 5-year storm event requirements and are summarized in The Basis of Design Mission Bay Stormwater Pump Station #3 Draft Report (May, 2009).

### **13.2 Conceptual Storm Drain System Design**

#### **13.2.1 Overview**

The Project will replace the existing on-site storm drain system with new storm drain systems connecting into the existing separated storm drain systems serving the site. The proposed separated storm drain system will be designed in accordance with the Subdivision Regulations and the Stormwater Management Requirements and Design Guidelines (SMR) and other SFPUC wastewater standards, where applicable. The on-site storm drain system will be designed to convey the stormwater runoff from the 5-year storm event from the development parcels and streets. For the 100-year storm and overland release, the storm drain system, street section, and street grading will be designed to convey the stormwater runoff from the Development Parcels

and streets. A more detailed analysis will be included in the Grading and Storm Drain System Master Utility Plan.

### 13.2.2 Storm Drain Design Criteria

As documented in the Subdivision Regulations and the SFPUC utility standards, as appropriate, proposed 6-inch to 21-inch pipes will be constructed from ASTM C-700 Extra Strength Vitrified Clay Pipe (VCP). Main extensions for 36-inch pipes or larger shall require monolithic reinforced concrete or reinforced concrete pipe subject to approval by the Director with consent of the SFPUC.

Proposed Acquiring Agencies' storm drain mains within the Project will be constructed on approved crush rock bedding. The minimum residential and commercial service lateral size is 6-inches and 8-inches, respectively. Manhole covers will be solid with manhole spacing set at a maximum distance of 300-feet and at changes in size, grade or alignment. Stormwater inlets will be installed per the Subdivision Regulations or SFPUC wastewater utility standards and outside of the curb returns crosswalks, accessible passenger loading zones and accessible parking spaces, where feasible. Linear Drainage Elements within the bike and pedestrian zones of TFB and SPW will be installed to be ADA compliant, and meet the modeling requirements described in Section 13.3.3 below.

Storm drain system capacities within the existing 42-inch storm drain system in 3<sup>rd</sup> Street and the 21-inch storm drain main in Mission Rock Street are adequate to serve the entire buildout of the project. A minimum depth of cover of 6-feet will be required on top of storm drain mains within new public streets. A freeboard of 4-feet below pavement or ground will be required to conform to the Subdivision Regulations or SFPUC utility standards. If necessary, an alternative minimum cover of 4-feet and/or minimum freeboard of 2-feet below pavement or ground may be permitted by the Acquiring Agency, or if accepted by the City, the Director of Public Works with the consent of the SFPUC or Port.

Vertical and horizontal separation distances between adjacent sanitary sewer system, storm drain system, LPW infrastructure, district utilities, and dry utilities will conform to the requirements outlined in Section 10 and the Subdivision Regulations.

### 13.2.3 Conceptual Storm Drain System Layout

The conceptual storm drain system is identified schematically on Figure 13.1. The storm drain system will be designed and constructed by the Developer. Street storm drains including street drainage within the new public rights-of-way will be reviewed and approved by the Acquiring Agency. The new storm drain system will be maintained and owned by the Acquiring Agency, upon construction completion and improvement acceptance by the Acquiring Agency. The proposed system will include storm drain laterals connected to a system of 12-inch to 42-inch SFPUC gravity storm drain mains.

The conceptual storm drain system will connect to the existing storm drain systems at up to seven locations. Along 3rd Street, the on-site storm drain system will connect to an existing SFPUC 42-inch main through proposed manhole structures at Exposition Street, Channel Street, Long Bridge Street, China Basin Park, and the west half of Block D. The storm drain system within Terry A Francois Boulevard will drain to a treatment pump conveying treatment flows to the proposed parks for treatment. For larger storm events, Terry A Francois Boulevard will connect into an existing Port 30-inch outfall that drains to the San Francisco Bay between Pier 48 and Pier 50. As part of the project, the outfall will be upgraded or replaced and dedicated to the SFPUC, along with a required access and maintenance easement. China Basin Park storm drain system will connect into an existing 12-inch Port outfall draining to China Basin for discharge of treated stormwater. . Refer to Section 16 for a description of the conceptual stormwater treatment strategy for the Project

Refer to Figure 13.2 for the approximate storm drain system depth and its relationship to other adjacent utilities. The storm drain infrastructure layout and locations will be approved during the Project construction document review process.

### 13.3 Storm Drain System Design Modifications and Exceptions

Design modification and exception requests are anticipated for, but not limited to, the following storm drain infrastructure items, which will be subject to the approval of the Director of Public Works with the consent of the SFPUC, or other Acquiring Agency:

### **13.3.1 Pipe Material**

The Project proposes to install HDPE pipe SDR-17 or better and associated trenching requirements in place of VCP. The HDPE pipe has less friction than VCP, is more flexible, can better accommodate minor amounts of settlement, and will provide adequate flow velocities and capacities. In addition, HDPE pipe will be flex tested using the Mandrel test.

### **13.3.2 Freeboard and Cover**

Due to existing conditions and constraints within the Project site and at conforms to the existing City-accepted public rights-of-way at 3<sup>rd</sup> Street and Mission Rock Street, exceptions to the standard layout of utilities will be requested during design development. A design modification and exception will be requested to allow for a reduced minimum cover of 4-feet on top of the storm drain system infrastructure. In addition, initial modeling for the 5-year storm design analysis indicates that the conceptual storm drain system was only able to provide a minimum hydraulic grade line (HGL) of 2-feet of freeboard below the pavement or ground surface at select proposed connection points due to existing high starting HGL elevations at existing storm drains.

### **13.3.3 Linear Drainage Infrastructure on Curbless and Flush Curb Streets**

Terry A Francois Boulevard, SPW, and the northern segment of Bridgeview Street will be designed without curbs or with flush curbs in combination with an inverted crown. To accommodate the project design approach, a linear drainage element, including but not limited to a valley gutter, inverted crown street or trench drains, in combination with inlets at low points will be incorporated at or along the flowline to provide drainage. Linear drainage elements are proposed along the theoretical face of curb of the curbless streets, which represents the location in which a curb would typically be installed if included as part of the street design. These linear drainage elements will be rated to handle heavy vehicle (H20) traffic loading. Drainage from linear drainage elements will be conveyed to the storm drain. Performance modeling of grading and hydrology designs along streets with no curbs or with flush curb will be developed during the MUP approval process in conformance with the requirements of the Acquiring Agency.

### **13.3.4 Storm Drainage Infrastructure on Curbless and Flush Curb Streets**

The clear street width is 20 feet on SPW, which does not provide adequate width for the horizontal layout of District Energy pipes, a non-potable water main, a low pressure water main, and a storm drainage main. Thus, the Project proposes to locate the storm drainage main underneath the edge

of the clear travel way and beneath the linear drainage element. If the SFPUC and City do not accept the infrastructure, then the Acquiring Agency will be the Port. This will be documented in the Ownership and Maintenance Matrix included as part of the DA, DDA, ICA, or a separate MOU/MOA between the Port, City and Developer.

Storm Drain lateral responsibility would be assigned to the property owner if the adjacent development parcel requiring a lateral from TFB, SPW, or the northern segment of Bridgeview Street. This will be documented in the Ownership and Maintenance Matrix included as part of the DA, DDA, ICA, or a separate MOU/MOA between the Port, City and Developer.

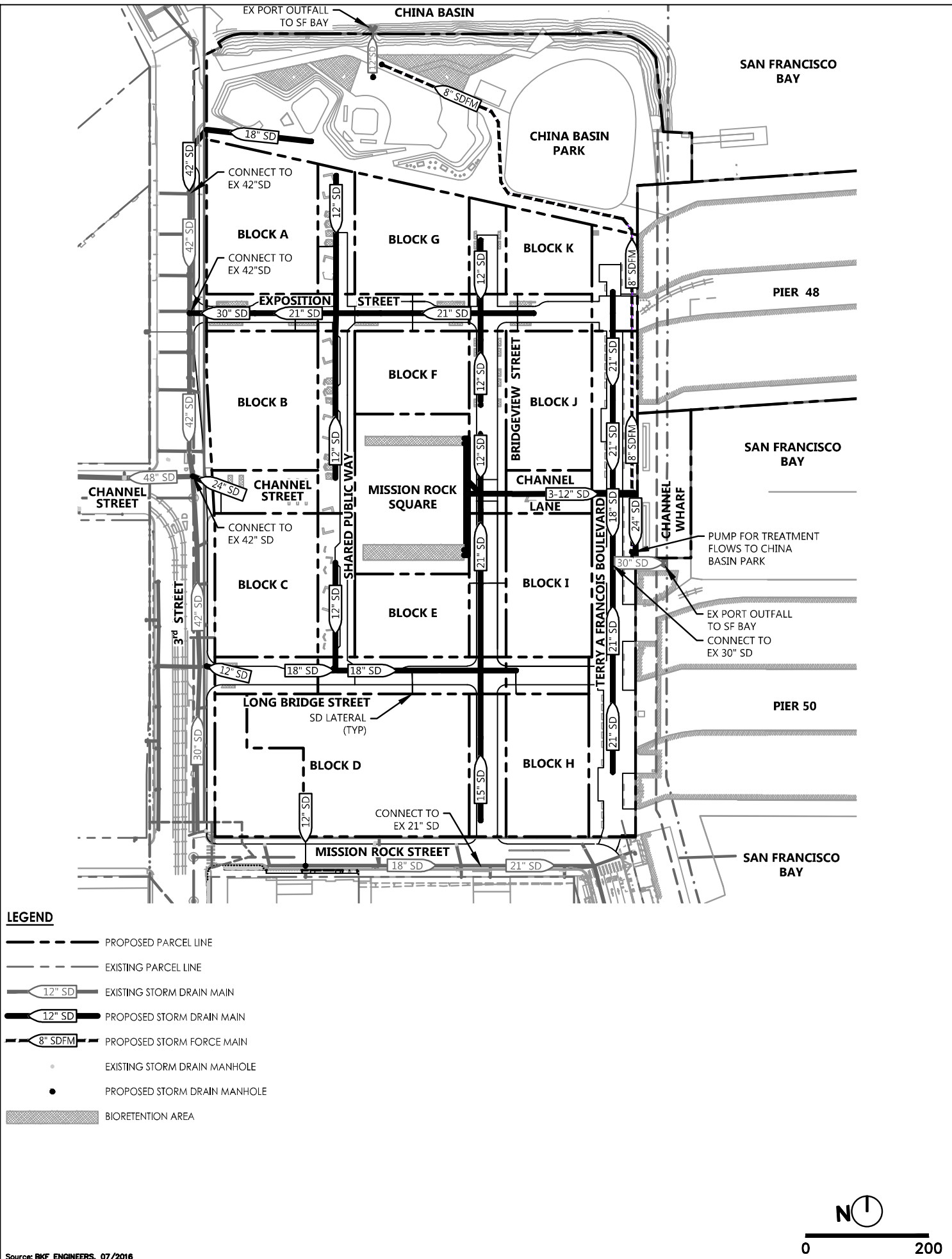
### **13.4 Phases for Storm Drain System Construction**

The Developer will design and install the new storm drain system based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the DA, DDA, and ICA. The amount and location of the proposed storm drain systems installed will be the minimum necessary to support the Development Phase. The new Development Phase will connect to the existing systems as close to the edge of the Development Phase area as possible while maintaining the integrity of the existing system for the remainder of the Project. Repairs and/or replacement of the existing facilities necessary to support the proposed Development Phase will be designed and constructed by the Developer. Interim storm drain systems will be constructed, owned, and maintained by the Developer as necessary to maintain existing drainage facilities impacted by proposed Development Phases. The Acquiring Agency may inspect interim facilities owned by the Developer or Port subject to the DA, DDA, ICA, or separate MOU/MOA between the Port, City, and Developer.

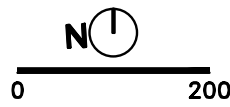
The Port and City will be responsible for ownership and maintenance of existing Port or City owned storm drain facilities, respectively. The Acquiring Agency will own and maintain the proposed storm drainage facilities once construction of the Horizontal Improvements required for a Development Phase or a new storm drain facility is complete and accepted by the Acquiring Agency subject to the DA, DDA, ICA, or a separate MOU/MOA between the Port, City and Developer. The Developer will be responsible for mitigating impacts to Infrastructure improvements installed with previous Project Development Phase(s) due to the designs or construction of current or future Development Phases, which will be addressed prior to approval of the construction drawings for the current or future Development Phase. For each Development Phase and concurrent with the submittal of construction documents, the Developer will

provide a phase-specific Storm Drain System Utility Report describing and depicting the existing and proposed storm drain infrastructure, and demonstrating the that Development Phase will provide drainage infrastructure capable of serving the Development Phase to the standards of the Acquiring Agency. This will be documented in the Ownership and Maintenance Matrix included is part of the DA, DDA, ICA, or a separate MOU/MOA between the Port, City and Developer.

DRAWING NAME: \\bkf-sf\vo14\2008\080008\_Mission Rock\ENG\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 13.1 Conceptual Storm Drainage System.dwg  
 PLOT DATE: 11-13-17  
 PLOTTED BY: VO1K



- LEGEND**
- PROPOSED PARCEL LINE
  - - - EXISTING PARCEL LINE
  - 12" SD --- EXISTING STORM DRAIN MAIN
  - 12" SD --- PROPOSED STORM DRAIN MAIN
  - 8" SDFM --- PROPOSED STORM FORCE MAIN
  - EXISTING STORM DRAIN MANHOLE
  - PROPOSED STORM DRAIN MANHOLE
  - BIORETENTION AREA

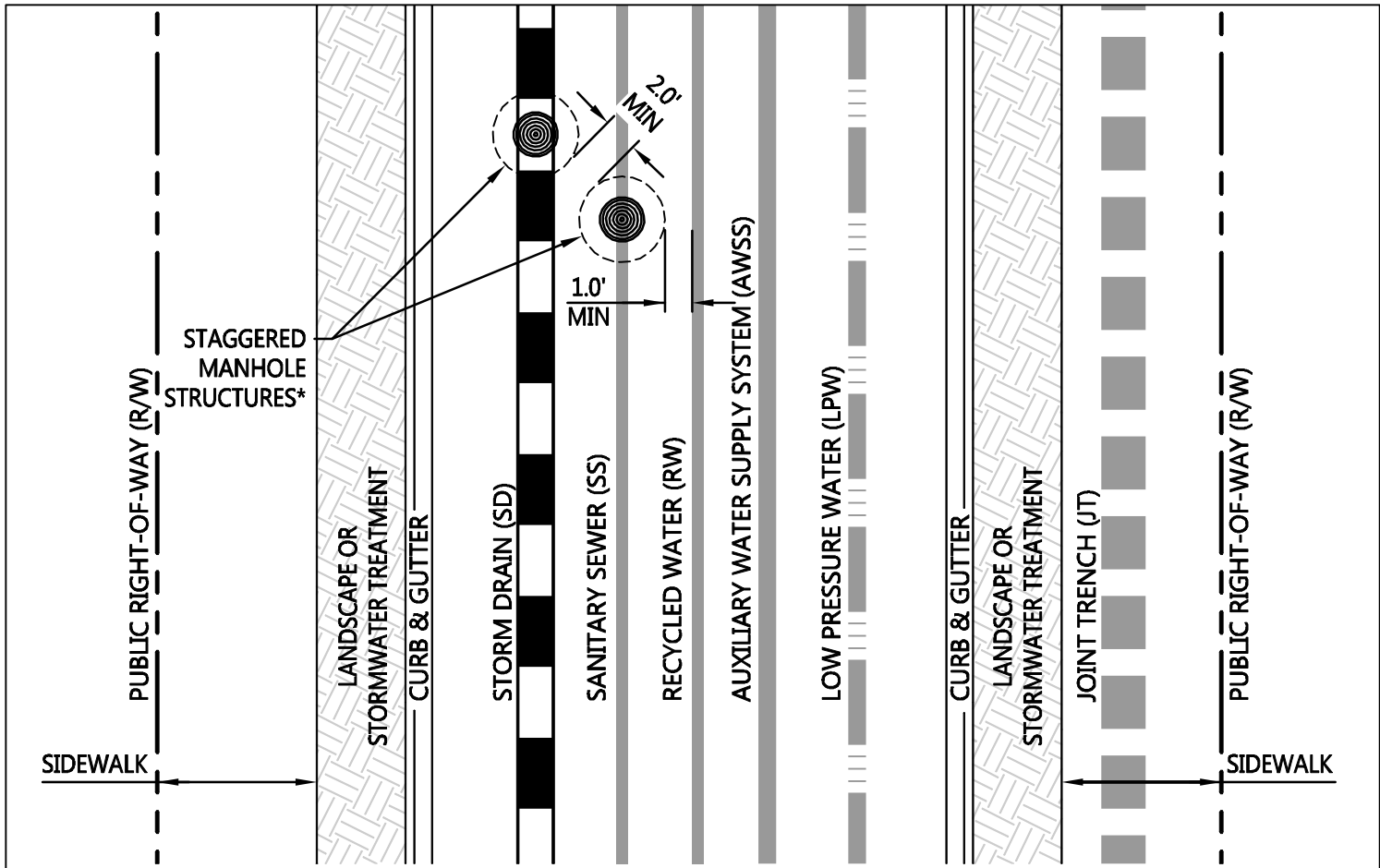


Source: BKF ENGINEERS, 07/2016

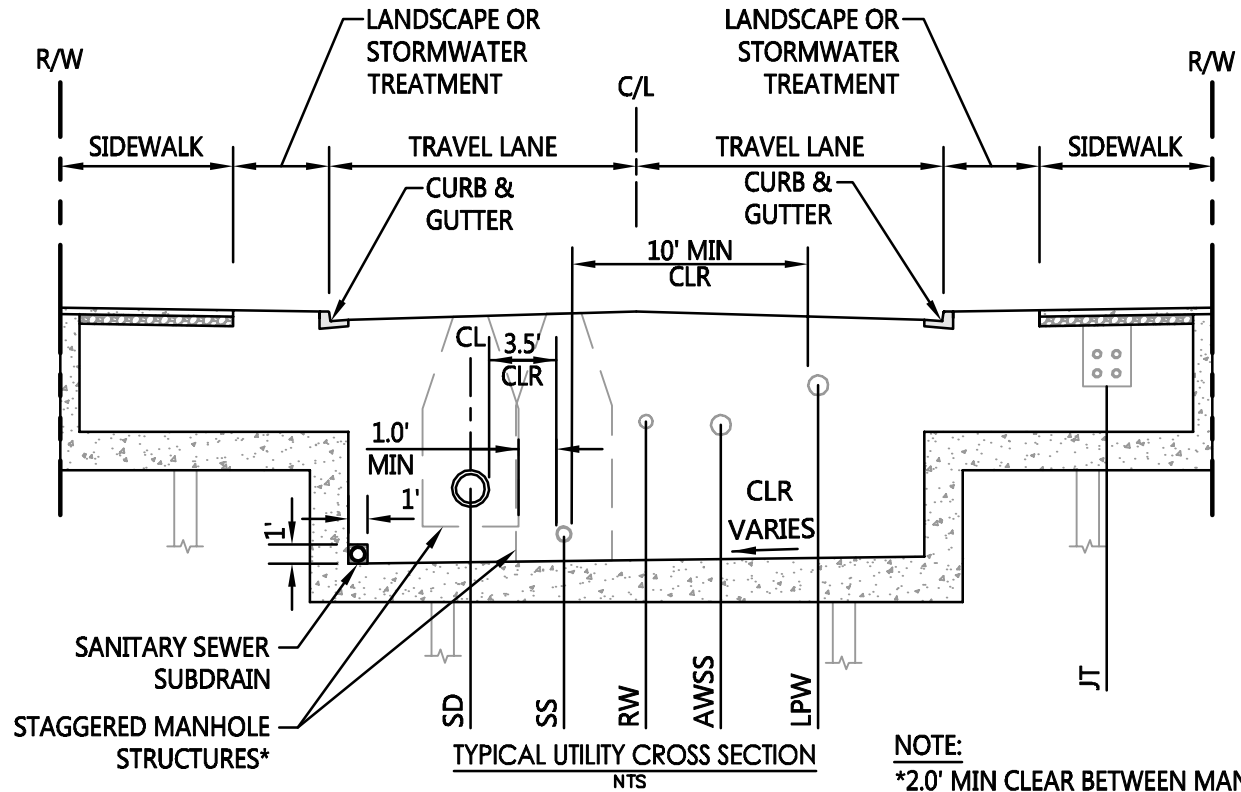
MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 13.1 - CONCEPTUAL STORM DRAINAGE SYSTEM

DRAWING NAME: \\NAI-SF\vol14\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 11.2\_14.2 Typical UTII Section.dwg  
 PLOT DATE: 11-13-17  
 PLOTTED BY: volik



TYPICAL STREETS  
NTS



TYPICAL UTILITY CROSS SECTION  
NTS

**NOTE:**  
 \*2.0' MIN CLEAR BETWEEN MANHOLE STRUCTURES, 1.0' MIN CLEAR FROM PIPE OD TO OUTSIDE MANHOLE STRUCTURE



## **14. AUXILIARY WATER SUPPLY SYSTEM (AWSS)**

### **14.1 Existing AWSS Infrastructure**

The San Francisco Public Utilities Commission (SFPUC), in cooperation with the San Francisco Fire Department (SFFD), owns and operates the Auxiliary Water Supply System (AWSS), a high-pressure non-potable water distribution system dedicated to fire suppression that is particularly designed for reliability after a major seismic event. Currently, a 12-inch AWSS main exists adjacent to the Project site on 3<sup>rd</sup> Street between Channel Street and Mission Rock Street.

### **14.2 AWSS Regulations and Requirements**

New developments must meet the fire suppression objectives that were developed by the SFPUC and SFFD. The SFPUC and SFFD will work with the Developer to determine post-seismic fire suppression requirements during the planning phases of the Project. Requirements will be determined based on building density, fire flow and pressure requirements, City-wide objectives for fire suppression following a seismic event, and proximity of new facilities to existing AWSS facilities. AWSS improvements will be located in public rights-of-way or on City property, as approved by SFPUC. Easements required to place AWSS infrastructure on Port property are subject to the approval of the Port and SFPUC.

### **14.3 Conceptual AWSS Infrastructure**

To meet the SFPUC and SFFD AWSS requirements, the development may be required to incorporate infrastructure and facilities that may include, but are not limited to:

- Seismically reliable high-pressure water piping and hydrants with two points of connection. One connection is proposed at the existing 12-inch AWSS distribution system in 3<sup>rd</sup> Street near the Exposition Street intersection, and a second connection is proposed to a future AWSS facility at the Mission Rock Street and Terry A Francois Boulevard intersection;
- Independent network of seismically reliable low-pressure piping and hydrants with connection to existing potable water distribution system at location that is determined to be seismically upgraded by SFPUC;
- Saltwater pump station that supplies saltwater to AWSS distribution piping following a major seismic event;
- Piping manifolds along waterfront that allow fire trucks to access and pump sea or bay water for fire suppression; and/or
- Portable water supply system (PWSS), including long reaches of hose and equipment mounted

on dedicated trailers or trucks.

- Cisterns

Based on coordination with the SFPUC, the Project proposed locations and types of AWSS infrastructure are identified schematically on Figure 14.1 and approximate AWSS main depths and its relationship to other adjacent utilities are shown on Figure 14.2. AWSS fire hydrants are provided at street intersections within the Project site. In addition, the project includes an extension of the AWSS system down Terry A Francois Boulevard from Long Bridge Street to the Mission Rock Street-Terry A Francois Boulevard intersection for a connection to the future AWSS facility on Terry A. Francois Boulevard that will extend from South Street to Mission Rock Street. Where the AWSS facility is proposed to be installed in the Terry A Francois Boulevard right-of-way, the AWSS infrastructure will be placed beneath the 16-ft wide and clear zone beneath the Blue Greenway, which exceeds the 12-ft minimum clear access width for Gate Trucks required by SFPUC. Final designs of the AWSS solution for the Project site will be determined by the SFPUC and SFFD in consultation with the Developer based on equivalent infrastructure costs of the proposed AWSS layout and infrastructure as shown on Figure 14.2, and a capital contribution not to exceed \$1,500,000 current dollars, subject to a 4.5% escalation calculated from the time of project approval, to support off-site AWSS infrastructure per the terms of the DA, DDA, and/or ICA.

#### **14.4 Phases for AWSS Construction**

The Developer will design and install the new AWSS based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the DA, DDA and ICA. The amount and location of the proposed AWSS installed will be the minimum necessary to support the Development Phase. The new Development Phase will connect to the existing systems as close to the edge of the Development Phase area as possible while maintaining the integrity of the existing system for the remainder of the Project. Repairs and/or replacement of the existing facilities necessary to support the proposed Development Phase will be designed and constructed by the Developer.

The SFPUC will be responsible for the new AWSS facilities once construction of the improvements is complete, and the facilities are accepted by the SFPUC. Impacts to improvements installed with previously constructed portions of the development due to the designs of other Development Phases will be the

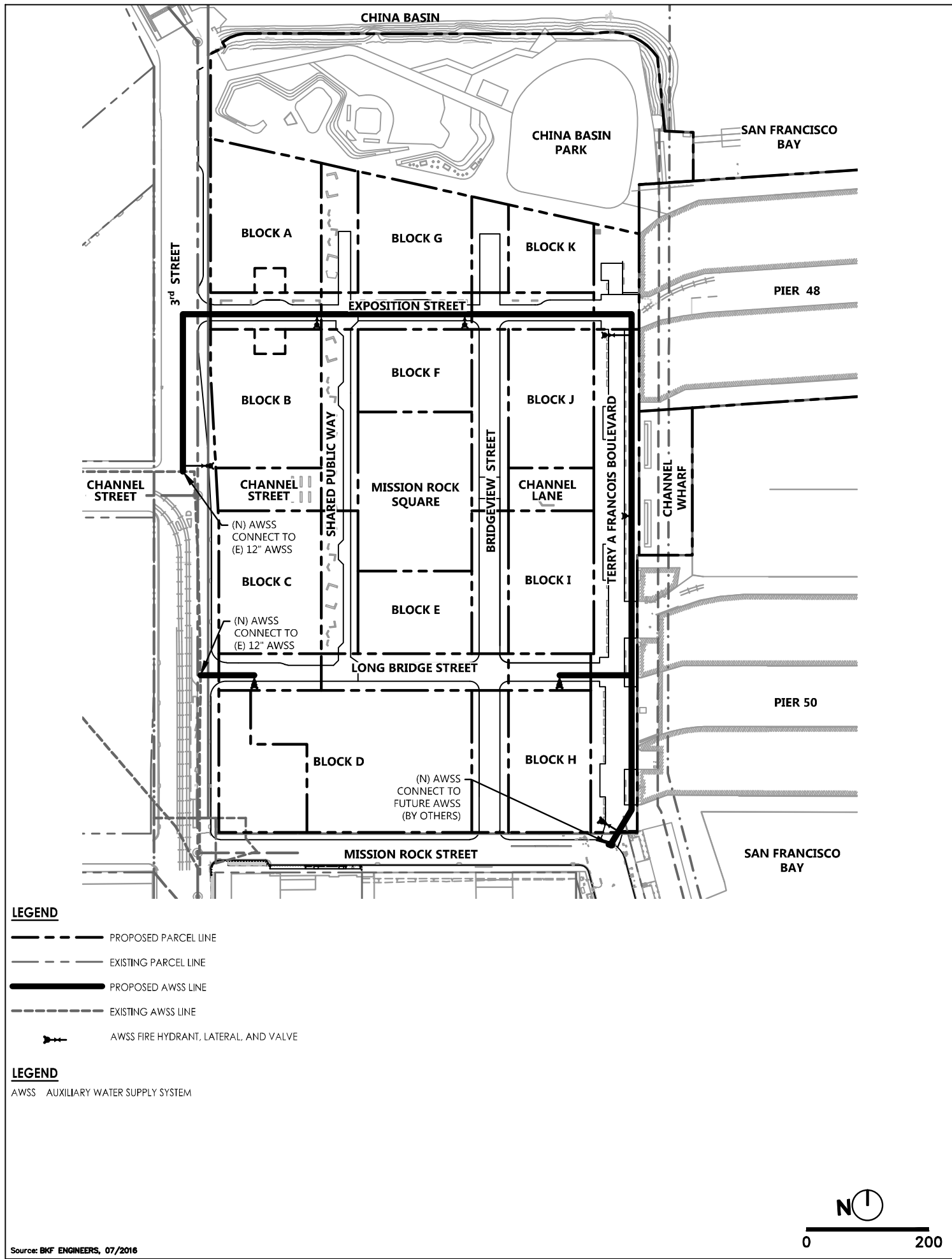
responsibility of the Developer and addressed prior to approval of the construction drawings for the new Development Phase.

#### **14.4.1 AWSS Phased Installation**

The Mission Rock AWSS will be installed within the phased structured streets, 3<sup>rd</sup> Street and Terry A Francois Boulevard. The existing AWSS adjacent to the site along 3rd Street will remain in place. The new system will connect to the existing SFPUC system at the adjacent existing AWSS main along 3<sup>rd</sup> Street.

For each Development Phase, the SFPUC, in conjunction with its consultants, will provide an AWSS Report describing and depicting the pressures and flows the AWSS provides with the Phase. The construction documents and installation of AWSS infrastructure will be completed by the Developer in coordination with the SFPUC.

DRAWING NAME: \\BKF-s1\voia\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibit\Plotted Sheets\Figure 14.1 Conceptual Auxiliary Water Supply System.dwg  
 PLOT DATE: 11-14-17



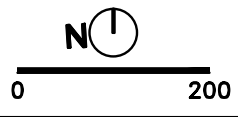
**LEGEND**

- PROPOSED PARCEL LINE
- - - EXISTING PARCEL LINE
- PROPOSED AWSS LINE
- - - EXISTING AWSS LINE
- ⊕ AWSS FIRE HYDRANT, LATERAL, AND VALVE

**LEGEND**

AWSS - AUXILIARY WATER SUPPLY SYSTEM

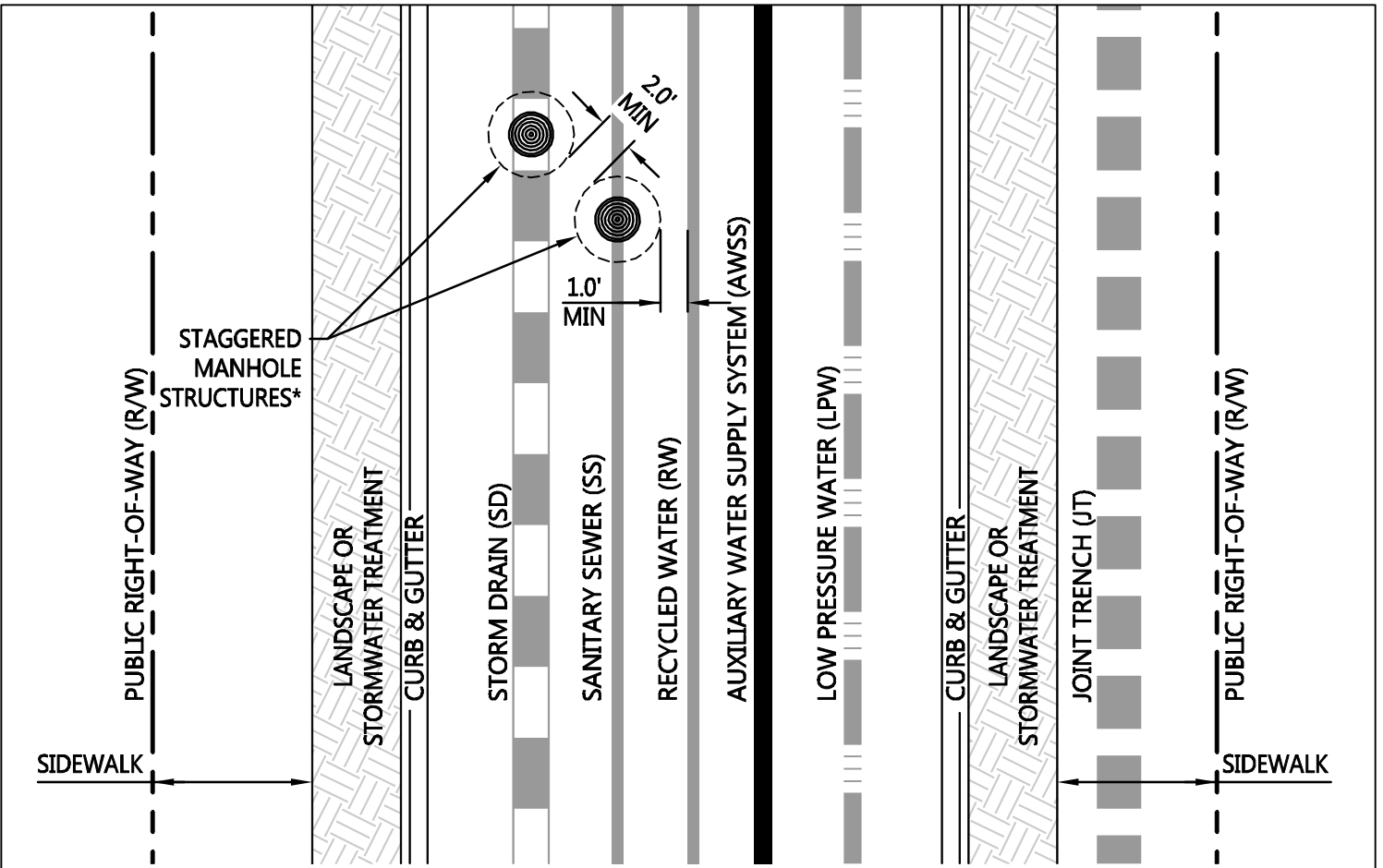
Source: BKF ENGINEERS, 07/2016



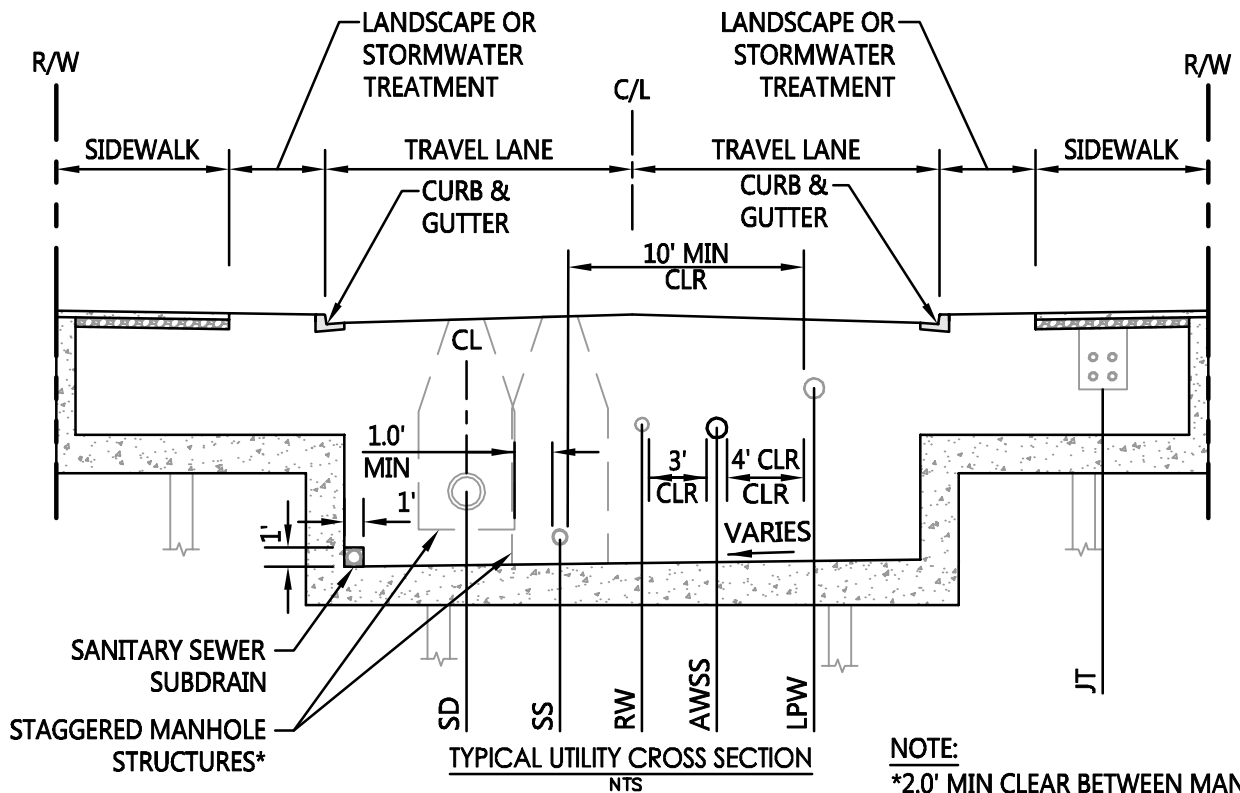
MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 14.1 - CONCEPTUAL AUXILIARY WATER SUPPLY SYSTEM

DRAWING NAME: \\NAI-SF\vol14\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 11.2\_14.2 Typical UTII Section.dwg  
 PLOT DATE: 11-13-17  
 PLOTTED BY: volik



TYPICAL STREETS  
NTS



TYPICAL UTILITY CROSS SECTION  
NTS

**NOTE:**  
 \*2.0' MIN CLEAR BETWEEN MANHOLE STRUCTURES, 1.0' MIN CLEAR FROM PIPE OD TO OUTSIDE MANHOLE STRUCTURE

## **15. DISTRICT UTILITY INFRASTRUCTURE**

### **15.1 Central Utility Plant**

The Mission Rock development will utilize a central utility plant (CUP) in Block A for heating and cooling, greywater collection treatment, and non-potable water distribution infrastructure required to achieve the sustainability goals of the Project. The heating and cooling may be provided by a bay sourced cooling loop that will connect the Bay to the chillers at the CUP, or through an approved, alternative heat exchange method. Greywater, which refers to wastewater collected from building systems without fecal contamination, will be collected and directed to the CUP for treatment before distribution throughout the Project for non-potable uses. The development is considered a Type-I Eco-District. The infrastructure maximizes efficiencies by providing budget certainty for thermal services. In addition to providing a sustainable district energy system throughout the site, the Type-I Eco-District development will also meet the San Francisco Eco-District guidelines. For additional information, refer to the District Heating and Cooling Services at Mission Rock prepared by Arup, dated May 13, 2016 in Appendix M and the latest edition of the Sustainability Strategy prepared by Atelier Ten.

#### **15.1.1 Central Utility Plant Components**

The CUP comprises a central district energy distribution plant, bay source cooling, and a greywater treatment and distribution plant at Block A. The central energy plant will provide chilled and hot water to each Development Parcel to support mechanical system demands. The greywater treatment plant will supply non-potable water to each Development Parcel. The distribution system will be developed with consideration to other site utilities, but is anticipated to be predominately routed through Shared Public Way, Bridgeview Street, and China Basin Park. Considerations for this utility routing include limiting the amount of district utilities that are parallel to the main public utilities in Exposition Street and Long Bridge Street and development phasing. Locations for each Development Parcel's heating hot water and chilled water connections, greywater collection point of connection, and non-potable water distribution point of connection will be determined during the vertical design for each Development Parcel.

#### **15.1.2 Central Energy Plant**

The Project has a goal to use renewable energy for 100% of its building energy demands, thereby offsetting its projected greenhouse emissions. The central energy plant will be powered by 100% renewable energy. The renewable energy may be purchased from an off-site renewable power

provider and delivered to the site via the power provider. Chilled water and hot water supply and return lines will distribute heating and cooling energy from the central energy plant at Block A to each Development Parcel. Each Development Parcel will be required to connect to this system, which also significantly reduces the volume of water required by cooling towers. Chilled water and heating hot water supply lines are distributed to the Development Parcels from the central energy plant at Block A through Shared Public Way, Bridgeview Street, and China Basin Park.

### **15.1.3 Heat Rejection and Cooling**

Bay water may be used for heat rejection and cooling in the district energy system to minimize the energy demand for cooling and provide significant water savings by reducing the need for cooling towers. Cooling will be provided by the bay source cooling loop that rejects heat from the chillers at the central plant to the Bay. This heat exchange requires very little energy. The HDPE Intake and outfall pipes will be placed within the Pier 48 footprint, at or slightly below the seabed elevation and on top of plastic lumber. The inlet screens will be in deep water, protected by the pier and accessible for maintenance. Secondary screening may also be provided at the pump station on-shore or near the bulkhead. The bay source heat rejection infrastructure will likely consist of two 24-inch pipes located in China Basin Park that provide a connection between the intake/outfall at Pier 48 and the central plant at Block A, shown on Figure 15.1. Backup cooling towers may be required for emergency or maintenance operations when the bay source cooling system is offline.

### **15.1.4 Greywater Collection and Treatment Infrastructure**

The Project has established a goal to use non-potable water for 100% of the non-potable water demand. Non-potable water demands include irrigation, toilet flushing and cooling towers. However, the demand for cooling towers is minimized by the bay source cooling and heat rejection system; thus, the non-potable demands for the purposes of this section include only irrigation and toilet flushing. Greywater will only be collected from the largest greywater-producing buildings, which includes Blocks A and K in Phase 1 and Block F in Phase 3. Greywater is conveyed to the greywater treatment plant in Block A, as shown on Figure 15.2. Non-potable water (treated greywater) is then distributed to the Development Parcels from the central greywater treatment plant at Block A through Shared Public Way, Bridgeview Street, and China Basin Park, as shown on Figure 15.3. The centralized approach optimizes the collection, treatment,

and distribution systems by producing enough non-potable water to meet 100% of the site's flushing and irrigation demands, while minimizing the amount of Infrastructure. A backup connection to the City's non-potable water main at 3<sup>rd</sup> Street will be required for emergency or maintenance operations when the greywater collection and non-potable water distribution system is offline. A connection to the SFPUC LPW potable main or the existing SFPUC recycled water main, which is currently fed by the LPW potable system in 3<sup>rd</sup> Street, may be required for the greywater treatment plant to supply backup water should the greywater treatment facility become temporarily non-operational.

Greywater and non-potable water system designs will comply with Article 12C of the San Francisco Health Code. Required SFPUC water budget application materials will be submitted to the City as part of the phase applications and construction document submittals.

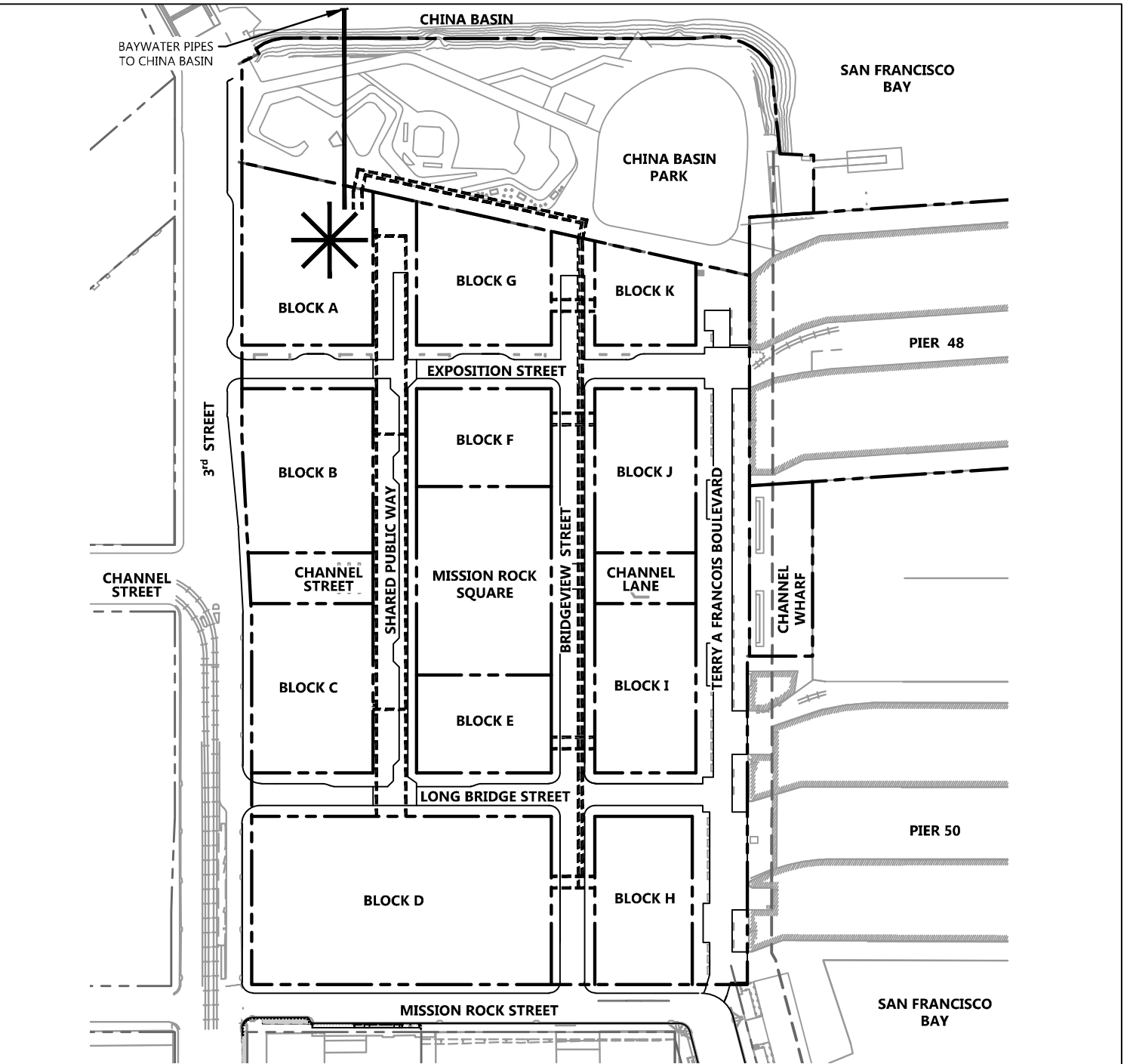
### **15.2 Phases for District Utility Infrastructure Construction**

The Developer will design and install the new central utility district infrastructure based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the DA, DDA and ICA. The amount and location of the proposed central utility district infrastructure installed will be the minimum necessary to support the Development Phase.

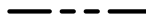



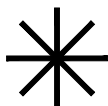
The Private Entity, other Agent, or the Acquiring Agency will be responsible for ownership and maintenance of new district utility infrastructure with permitting coordinated by The Private Entity, other Agent, or Developer. Ownership, maintenance, and acceptance responsibilities for district utility infrastructure will be documented in a separate agreement. Impacts to central utility district infrastructure installed with previous Development Phases of the Project due to the designs of new Development Phases will be the responsibility of the Developer and addressed prior to approval of the construction drawings for the new Development Phase.



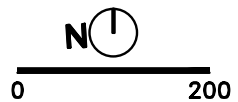
DRAWING NAME: \\bkf-sf\sv\4\2008\080008\_Mission Rock\ENG\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 15.1 Conceptual Utility District Infrastructure.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELI



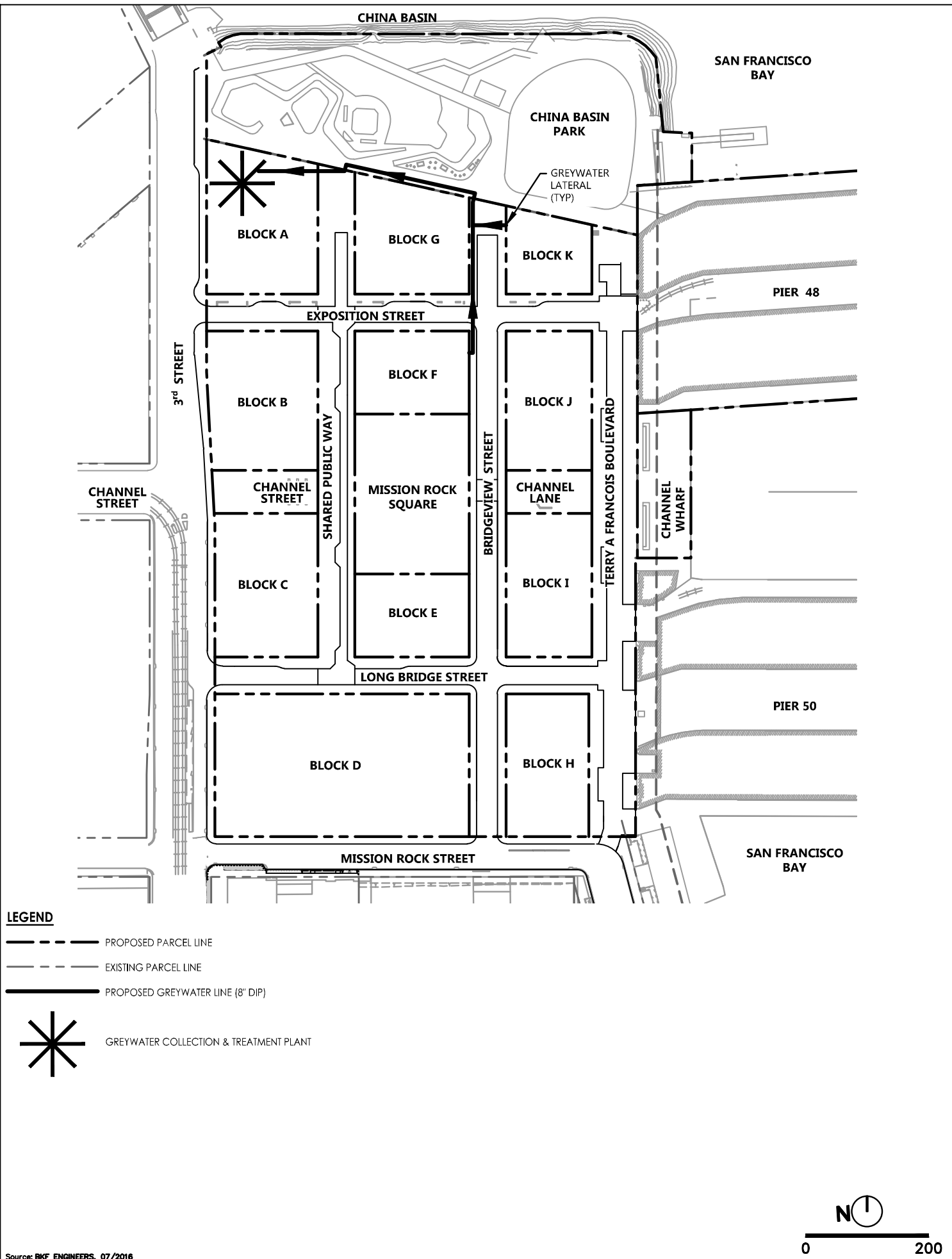
**LEGEND**

-  PROPOSED PARCEL LINE
-  EXISTING PARCEL LINE
-  DISTRICT ENERGY (12" CHW & 8" HHW)
-  BAYWATER COOLING (24" HDPE)
-  CENTRAL PLANT DISTRICT ENERGY DISTRIBUTION

Source: BKF ENGINEERS, 07/2016



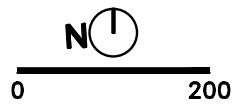
DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 15.2 Conceptual Greywater Infrastructure.dwg  
 PLOT DATE: 07-13-17  
 PLOTTED BY: FELI



**LEGEND**

- PROPOSED PARCEL LINE
- EXISTING PARCEL LINE
- PROPOSED GREYWATER LINE (8" DIP)
- GREYWATER COLLECTION & TREATMENT PLANT

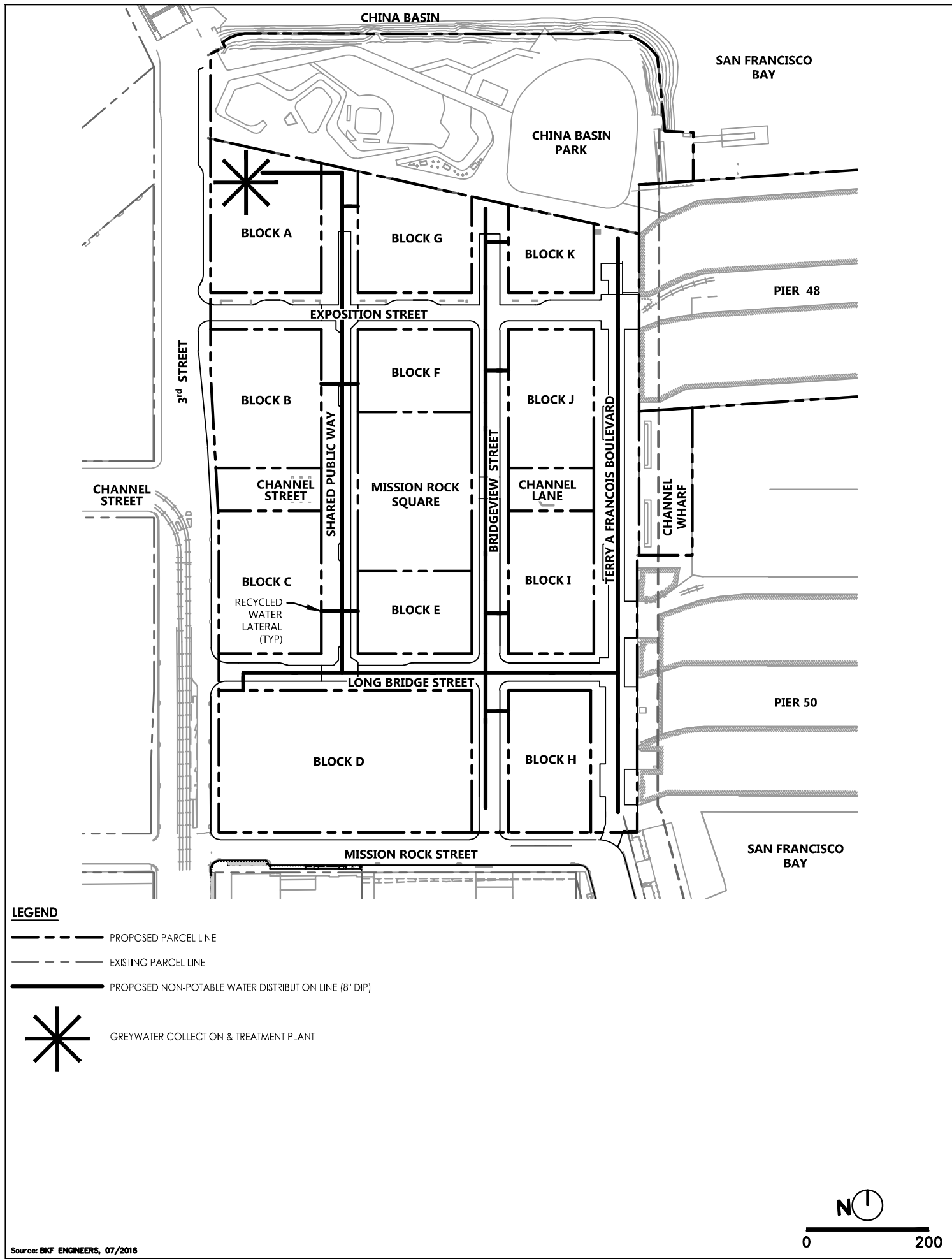
Source: BKF ENGINEERS, 07/2016






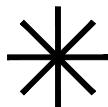
**MISSION ROCK INFRASTRUCTURE PLAN**

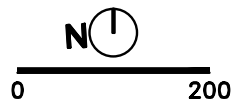
**FIGURE 15.2 - CONCEPTUAL GREYWATER INFRASTRUCTURE**

DRAWING NAME: \\bkf-sf\voia\2008\080008\_Mission Rock\ENG\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 15.3 Conceptual Recycled Water Infrastructure.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELI



**LEGEND**

-  PROPOSED PARCEL LINE
-  EXISTING PARCEL LINE
-  PROPOSED NON-POTABLE WATER DISTRIBUTION LINE (8" DIP)
-  GREYWATER COLLECTION & TREATMENT PLANT



Source: BKF ENGINEERS, 07/2016

## **16. STORMWATER MANAGEMENT SYSTEM**

### **16.1 Existing Stormwater Management System**

The existing site is approximately 96.6 percent impervious, mostly covered in pavement with a park to the north. The existing site drains to storm drain systems that discharged directly or indirectly to the San Francisco Bay. The west side of the Project is served by an existing SFPUC storm drain system within 3rd Street that is routed to the future SWPS #3 for discharge to Mission Creek. Until SWPS #3 is constructed portions of the run-off discharge to an existing 11' x 11' combined sewer. The re-aligned Mission Rock Street has a new storm drain system that conveys stormwater to Mission Bay SWPS #6 to the south that discharges to the San Francisco Bay adjacent to Radiance and Block P18. Both China Basin Park and Terry A Francois Boulevard have storm drain systems that discharge directly to the San Francisco Bay through existing Port outfalls. The existing condition of the Project site does not include any stormwater facilities to treat stormwater flows prior to discharge.

### **16.2 Proposed Stormwater Management System**

#### **16.2.1 San Francisco Stormwater Management Requirements & Design Guidelines**

The SMR is the regulatory guidance document describing requirements for post-construction stormwater management. Stormwater management performance requirements are determined based on the storm drain system available to connect into as well as the jurisdiction of the storm drain system. For Project areas that will connect into the SFPUC's existing separated storm drain system in 3<sup>rd</sup> Street or Mission Rock Street, or a SFPUC accepted outfall, the SMR requires the Project to implement a stormwater management plan that results in capture and treatment of all stormwater runoff from the 90<sup>th</sup>-percentile storm event prior to discharge to the separated storm sewer system. For Project areas that will be served by the Port's separated storm drain system outfalling directly to the San Francisco Bay through a Port outfall, the SMR requires the Project to implement a stormwater management plan that results in capture and treatment of all stormwater runoff from the 85<sup>th</sup> percentile storm event.

#### **16.2.2 Proposed Site Conditions and Baseline Assumptions**

The Project includes public streets, parks and plaza open space areas, and Private Development Parcels. The Project will be designed to integrate Low Impact Development (LID) elements with stormwater best management practices (BMPs) to create a sustainable environment at the site and achieve compliance with the SMR. LID elements include landscaping, permeable paving

materials, and vegetated roofs to reduce stormwater runoff from hardscape surfaces. Stormwater treatment BMPs considered for the Project include street flow-through planters, bioretention areas, rain gardens, and green roofs to treat stormwater runoff prior to discharging to the public separated storm drain system.

Public streets will consist of at-grade streets or pile-supported structured streets with a combination of landscape strips, tree wells, permeable pavers, and street flow-through planters. China Basin Park will be elevated by a combination of planting soil and Geofoam within the park and structured streets within the Promenade. Mission Rock Square may be a pile-supported podium or constructed on lightweight fill, Geofoam, and/or imported fill material. China Basin Park and Mission Rock Square will include landscape strips, tree wells, and centralized bioretention areas. The development parcels will be covered entirely with podium structures consisting of a combination of landscape planters, tree wells, green roofs, and pedestrian pathways.

### **16.2.3 Stormwater Management Design Concepts and Master Plan**

The SMR requires the Project to implement BMPs to capture and treat stormwater runoff from all impervious areas for the design storm event. To be included with the Stormwater Management Master Utility Plan, a process flow diagram illustrating the limits of the drainage management areas (DMAs), location of stormwater discharge to existing storm drain system, and jurisdiction of existing storm drain system will be developed to illustrate compliance with the SMR.

The conceptual stormwater management plan for the Project includes DMAs with either localized treatment or centralized treatment facilities. Localized treatment occurs in DMAs that are able to direct surface runoff to BMPs that are sized to treat stormwater runoff from impervious areas per the given design storm event. Private development parcels located within DMAs with localized treatment will allocate a space to implement BMP measures and treat stormwater for the design storm event prior to discharging into the adjacent public storm drain system. Alternatively, Development Parcels also have the option to collect and reuse stormwater on-site.

For areas that are not able to treat surface runoff prior to entering the storm drain system, untreated runoff is pumped to centralized treatment facility located in either China Basin Park or Mission Rock Square. Private development parcels within DMAs without localized treatment are

not required to implement additional BMP measures on-site where centralized treatment areas are sized to treat runoff from the private development parcels.

The conceptual stormwater management approach for the Project is presented in Figure 16.1. Stormwater management performance quantities and strategies will be documented as part of the Project Stormwater Management Master Utility Plan to be submitted for review and approval by the SFPUC and Port.

### **16.3 Stormwater Control Plan**

Based on the designs to be reviewed and approved by the SFPUC and Port as part of the Stormwater Management Master Utility Plan, the stormwater management strategies for the Project will be documented in a Stormwater Control Plan (SCP) in compliance with SFPUC and Port stormwater management regulations and the requirements of the SMR. The selected modeling methodology will be per the SFPUC and Port-accepted hydrologic calculation methods. The Preliminary SCP for the public improvements will be submitted for review and approval before the 60% Improvement Plan for each phase of the project, and the Final SCP will be submitted with the 95% Improvement Plan for that phase or Development Parcel and prior to construction. For Development Parcels, a Preliminary SCP and Final SCP shall be submitted for approval per SFPUC and Port stormwater management requirements.

### **16.4 Phases for Stormwater Management System Construction**

The Developer will design and install the new stormwater management system based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the DA, DDA and ICA. The amount and location of the proposed stormwater management systems installed will be the minimum necessary to support the Development Phase. The new Development Phase will connect to the existing systems as close to the edge of the Development Phase area as possible while maintaining the integrity of the existing system for the remainder of the Project. Development phasing with regard to stormwater treatment and storm drain system is conceptual and remains under design. The phasing and simplification of the stormwater treatment and drain systems will be further coordinated with the SFPUC prior to approval of the MUPs.

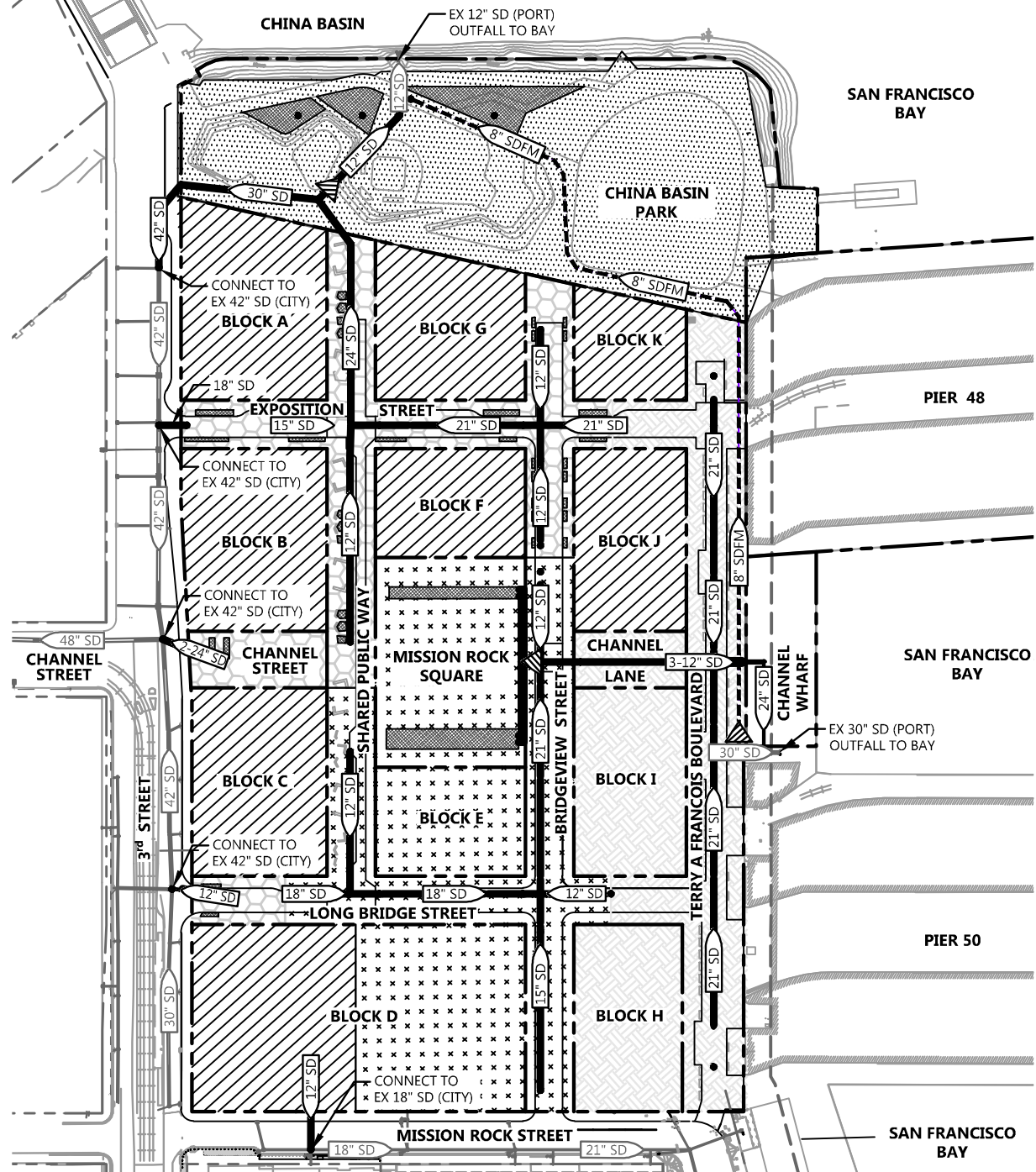
At all phases of the development, the Developer must provide functioning and adequate stormwater management in compliance with the SFPUC and Port's post-construction stormwater management requirements and the SMR. The Developer will be required to complete the review process with SFPUC

and Port to seek approval for the Preliminary SCP and Final SCP for each Development Phase. The street right-of-way and Park Improvement Plans must have Final SCP approval prior to issuance of the Street Improvement Permit (SIP). In addition, the Developer must complete the construction of the approved stormwater management and treatment improvements required for each development phase prior to receiving a Certification of Completion for the development phase.

Permanent or interim centralized stormwater management and treatment facilities necessary to achieve SMR compliance within a development phase will be constructed and operational prior to or in conjunction with that phase. Interim stormwater BMPs implemented as part of the on-site remediation will be preserved on undeveloped parcels. As required by the SFPUC and Regional Water Quality Control Board (RWQCB), the Developer will be responsible for constructing and maintaining interim stormwater management and treatment infrastructure, and ensuring such interim treatment facilities remain online and operating continuously until permanent BMP infrastructure is fully functional and operating.

Stormwater management and treatment systems, which may include bioretention areas, street flow-through planters, pump stations, and storage areas located on public or private property within the Project, will be constructed and maintained by the Acquiring Agency, Developer, or its Assignees, where applicable, per the terms of the DA and DDA, ICA, or separate MOU/MOA between the Port, City, and Developer.

DRAWING NAME: \\BKF-SF\vol14\2008\080008\_Mission Rock\Eng\Exhibita\Infrastructure Plan Exhibita\Plotted Sheets\Figure 16.1 Conceptual Stormwater Management Plan.dwg  
 PLOT DATE: 07-13-17  
 PLOTTED BY: PELL

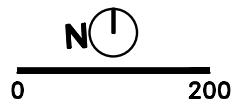


**LEGEND**

- PROPOSED PARCEL LINE
- EXISTING PARCEL LINE
- 30" SD EXISTING STORM DRAIN LINE
- 12" SD PROPOSED STORM DRAIN MAIN
- 8" SDFM PROPOSED STORM DRAIN FORCE MAIN
- PROPOSED STORM DRAIN MANHOLE
- LOCALIZED STORMWATER TREATMENT AT DEVELOPMENT
- LOCALIZED STORMWATER TREATMENT AT STREETS
- PUMPED TO MISSION ROCK SQUARE FOR CENTRALIZED STORMWATER TREATMENT
- PUMPED TO CHINA BASIN PARK FOR CENTRALIZED STORMWATER TREATMENT
- DRAINED TO CHINA BASIN PARK FOR CENTRALIZED STORMWATER TREATMENT
- BIORETENTION AREA

TREATMENT PUMP STATION

Source: BKF ENGINEERS, 07/2016



**MISSION ROCK INFRASTRUCTURE PLAN**

**FIGURE 16.1 - CONCEPTUAL STORMWATER MANAGEMENT PLAN**



## **17. DRY UTILITY SYSTEMS**

### **17.1 Existing Electrical, Gas, and Communication Systems**

The existing parking lot is bordered by overhead PG&E electrical lines on Terry A Francois Blvd, 3<sup>rd</sup> Street and Mission Rock Street. The SFPUC provides electrical service to existing facilities at Piers 48 and 50 using existing rights to the overhead PG&E lines serving Piers 48 and 50 and is responsible for invoicing the existing facilities. Existing street lighting and telecom infrastructure are also located along 3<sup>rd</sup> Street and Mission Rock Street. Site lighting is also located within the Project. 3<sup>rd</sup> Street serves as a municipal transportation route and contains multiple Overhead Contact System (OCS) lines, owned by SFMTA, which will be maintained during and after construction. Existing PG&E gas and AT&T, or other fiber providers, telecom lines, serving Piers 48 and 50 are located on Terry A Francois Blvd as well.

### **17.2 Project Power Providers and Requirements**

Pursuant to Chapter 99.3 of the San Francisco Administrative Code, all leases and subleases on City property shall receive electric service from the SFPUC unless the SFPUC determines that such service is not feasible. In September 2016, the SFPUC notified the Port and the Developer of its intention to continue to be the electricity provider for the Project and the other Port properties in the vicinity, including Piers 48 and 50. The SFPUC shall prepare an assessment of the feasibility of the City providing electric service to the development (the "Feasibility Study"). The Developer will cooperate with SFPUC in SFPUC's preparation of the Feasibility Study. The Feasibility Study shall include, but not be limited to, the following: 1) electric load projection and schedule; 2) evaluation of existing electric infrastructure and new infrastructure that will be needed; 3) analysis of purchase and delivery costs for electric commodity as well as transmission and distribution services that will be needed to deliver power to the development; 4) the potential for load reduction through energy efficiency and demand response; 5) business structure cost analysis; and 6) financial and cost recovery period analysis. Should the City elect to provide electric service to the Project, such service shall be provided by the City on terms and conditions generally comparable to the electric service otherwise available to the Project. If the City determines that providing power services to the Project is infeasible, the developer will pursue PG&E or other power providers to serve the Project. Should the Project be served by SFPUC power, the Developer will enter into an Electric Service Agreement with the SFPUC.

### **17.3 Proposed Joint Trench**

The proposed Joint Trench is identified schematically on Figures 17.1 and 17.2. Services and lighting will also be provided as required to China Basin Park and Mission Rock Square. Work necessary to provide the joint trench for dry utilities, typically installed within public streets and adjacent sidewalk area, consists of trench excavation and installation of conduit ducts for electrical, gas, and communication lines. In locations where public streets will be built upon structural piles, the joint trench utilities will be installed within the structured street section. Utility vaults, splice boxes, street lights and bases, wire and transformer allowance, and backfill will be included within the structured street section. Gas, Electric and power systems will be constructed per the applicable standards of the agency or company with controlling ownership of said facilities with street lighting infrastructure constructed per City standards. The utility owner/franchisee (such as SFPUC, PG&E, AT&T, Comcast and/or other communication companies) will be responsible for installing facilities such as transformers and wire. Necessary and properly authorized public utility improvements for which franchises are authorized by the City shall be designed and installed in the public right-of-way in accordance with permits approved by SFDPW and SFPUC. Proposed dry utility infrastructure location and separation from parallel wet utilities shall comply with the utility owner's regulations. Joint trenches or utility corridors will be utilized wherever allowed. The location and design of joint trenches or utility corridors in the public right-of-way must be approved by SFDPW and the SFPUC during the subdivision review process. The precise location of the joint trench in the right-of-way will be determined prior to recording the applicable Final Map and identified in the Project construction documents. Nothing in this Infrastructure Plan shall be deemed to preclude the Developer from seeking reimbursement for or causing others to obtain consent for the utilization of such joint trench facilities where such reimbursement or consent requirement is otherwise permitted by law.

### **17.4 Phases for Dry Utility Systems Construction**

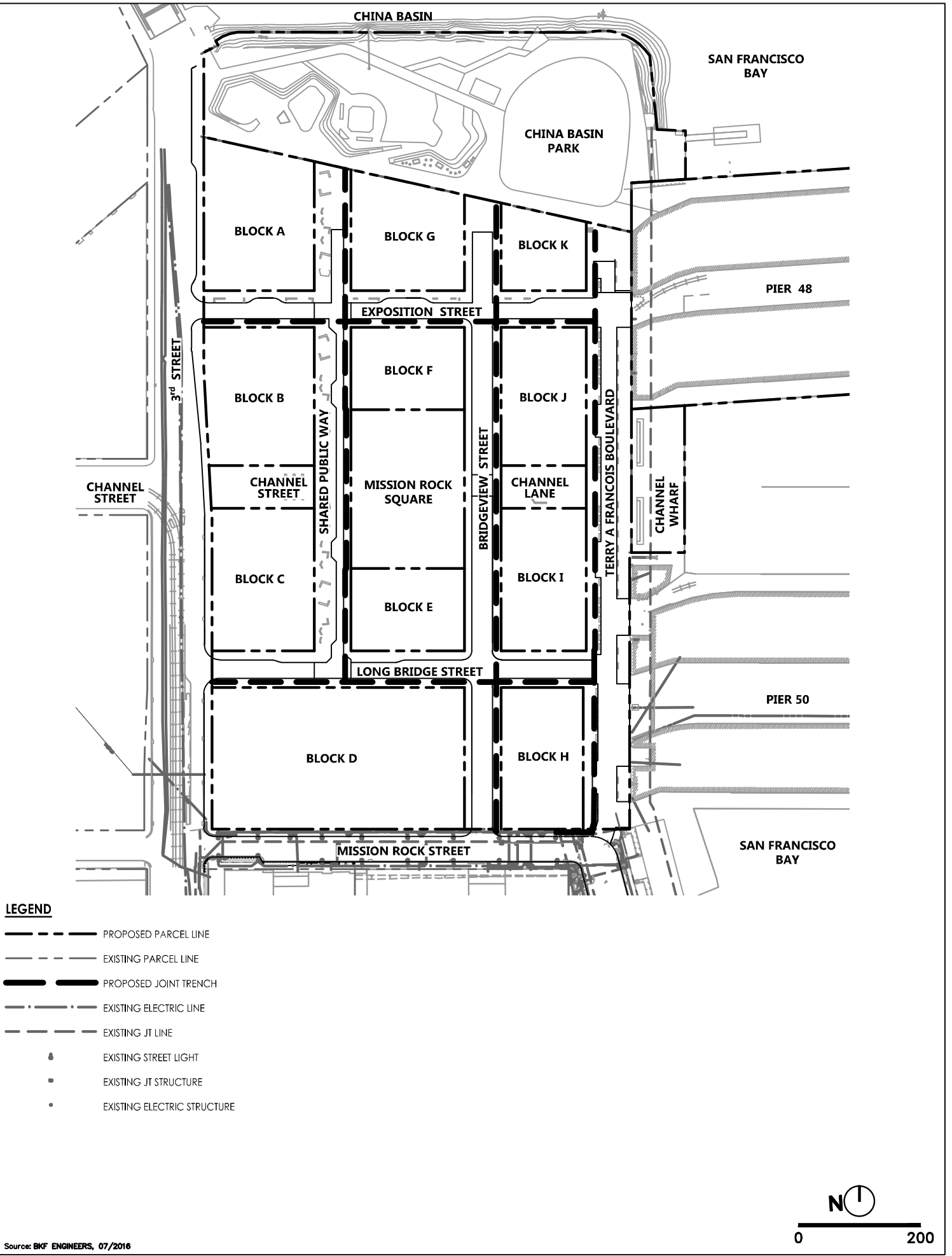
Joint trench design and installation will occur in phases based on the principle of adjacency and as-needed to facilitate a specific proposed Development Phase and consistent with the requirements of the DA, DDA and ICA. The amount of existing system replaced and new infrastructure installed along Terry A Francois Blvd, 3<sup>rd</sup> Street and Mission Rock Street will be the minimum necessary to support the Development Phase and piers. The new infrastructure will connect to the existing systems as close to the proposed development as possible while maintaining the integrity of the existing system. Repairs and/or replacement of the existing facilities necessary to serve the Development Phase will be designed and

constructed by the Developer. Such phased dry utility installation will allow the existing utility services to remain in place as long as possible and reduce disruption of existing uses on the site and adjacent facilities. Temporary or interim electric or dry utility infrastructure may be constructed and maintained as necessary to support service to existing buildings.

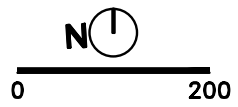
The service providers will be responsible for maintenance of existing facilities until replaced by the Developer. In the interim, the service provider is responsible for any power facilities installed under any agreement with the Developer and Acquiring Agency. The service provider will also be responsible for any new power facilities once the horizontal improvements for the Development phase or the new power facility is complete and accepted by the Acquiring Agency.

Impacts to improvements installed with previous Development Phases due to the designs of the new Development Phase will be the responsibility of the Developer and addressed prior to approval of the construction drawings for the new Development Phase.

DRAWING NAME: \\BKF-SF\vol4\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 17.1 Conceptual Dry Utility Systems.dwg  
 PLOT DATE: 07/13/17  
 PLOTTED BY: FELI



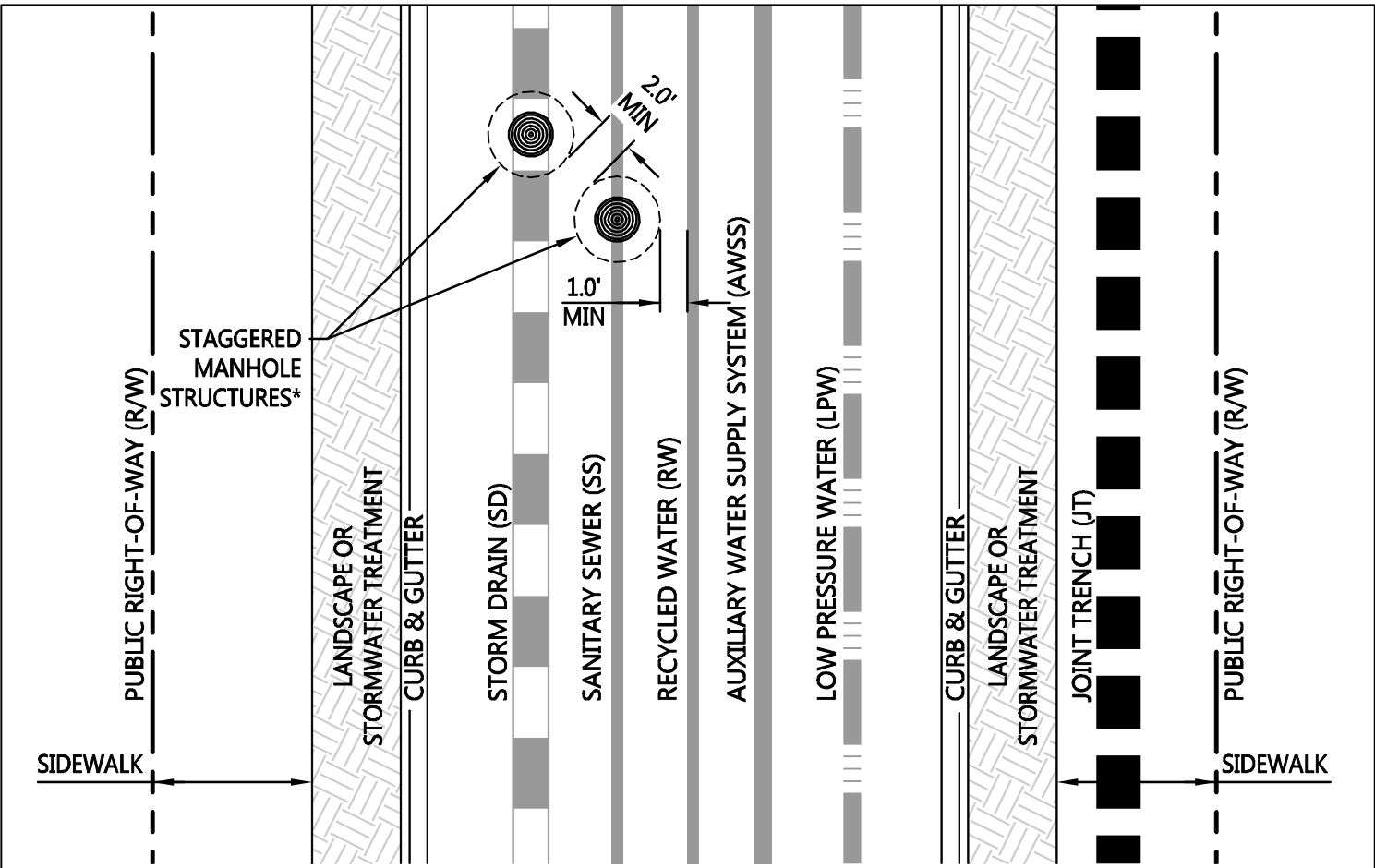
Source: BKF ENGINEERS, 07/2016



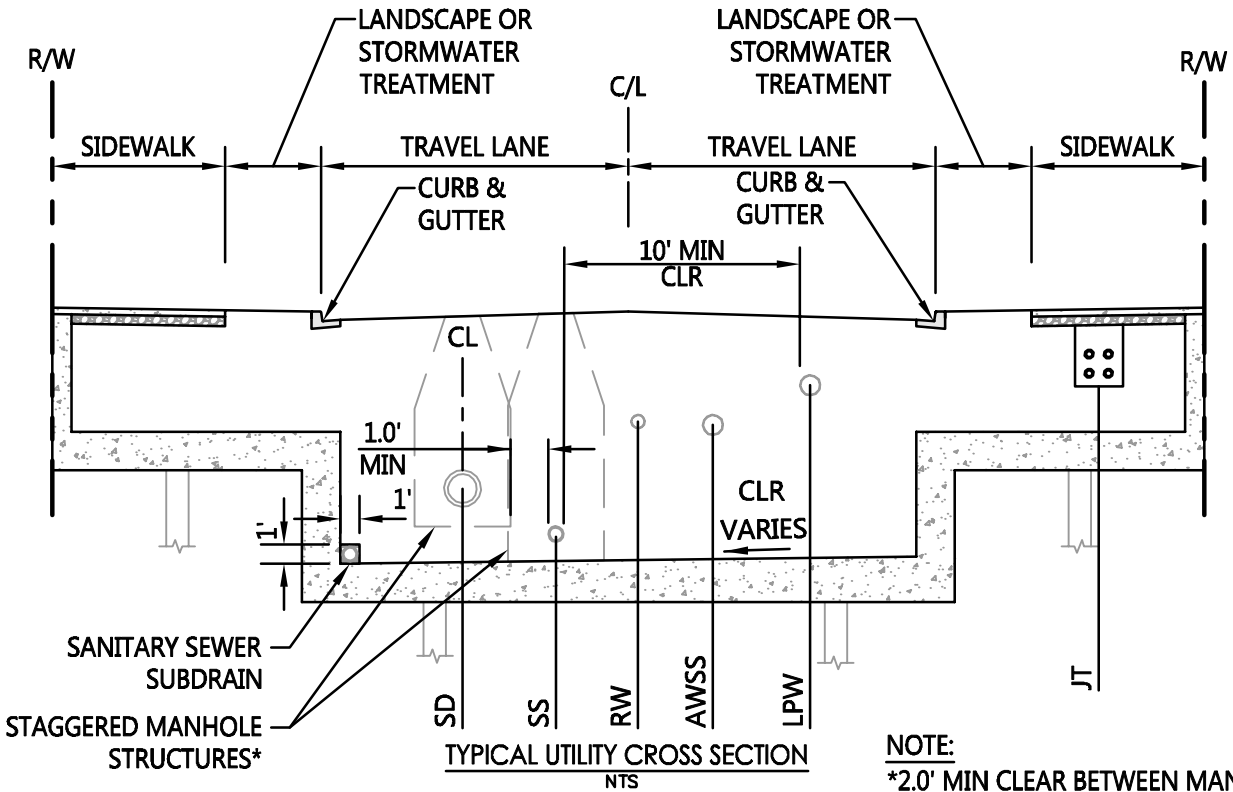
MISSION ROCK INFRASTRUCTURE PLAN

FIGURE 17.1 - CONCEPTUAL DRY UTILITY SYSTEMS

DRAWING NAME: \\NAI-SF\vol14\2008\080008\_Mission Rock\ENG\Exhibits\Infrastructure Plan Exhibits\Plotted Sheets\Figure 11.2\_14.2 Typical UTII Section.dwg  
 PLOT DATE: 11-13-17  
 PLOTTED BY: yolk



TYPICAL STREETS  
NTS



TYPICAL UTILITY CROSS SECTION  
NTS

**NOTE:**  
 \*2.0' MIN CLEAR BETWEEN MANHOLE STRUCTURES, 1.0' MIN CLEAR FROM PIPE OD TO OUTSIDE MANHOLE STRUCTURE

**APPENDIX A**  
**(Not Used)**

**APPENDIX B**  
**Hazardous Soil Remediation Plan Letter**  
**September 12, 2011**



# Ash Creek Associates, Inc.

Environmental and Geotechnical Consultants

September 12, 2011

Jon Knorpp  
Seawall Lot 337 Assoc., LLC  
24 Willie Mays Plaza  
San Francisco, CA 94107

Re: Mission Rock Development – Seawall Lot 337  
San Francisco, California  
1868-00

Dear Mr. Knorpp:

As requested, this letter outlines the anticipated steps to complete the environmental program related to potential hazardous substances in soil and groundwater at the subject site. Mission Rock Development is planning a mixed use development at Lot 337 in San Francisco, California (the Site). Figure 1 provides a Site Location Map. The Site is a former industrial property within the area subject to the requirements of Article 20 of the City and County of San Francisco Public Health Department Ordinance 253-86 (the Maher Ordinance). In addition, Covenant to Restrict Use of Property (Use Restrictions) were recorded in agreements between the City and County of San Francisco (City) and the California Department of Toxic Substance Control (DTSC) as a part of previous development of the Site. As described herein, these documents outline certain requirements that will need to be met prior to initiating the proposed site development.

## **BACKGROUND**

Environmental investigations were performed at the Site in the 1990s when the Site was redeveloped for use as a parking lot and park. The scope of the investigations performed was developed to satisfy the requirements of the Maher Ordinance and to achieve site closure from the City and DTSC. Several documents were prepared documenting the scope and results of these investigations, including:

- Site Use History and Proposed Article 20 Sampling Program, Proposed Imperial Weitz Parking Lots South of China Basin Channel, San Francisco California prepared by Geomatrix Consultants, Inc. dated March 1999;
- Results of Article 20 Sampling Program and Health Risk Assessment, Proposed Imperial Weitz Parking Lots for the Giants Pacific Bell Ball Park Area e – Port of San Francisco, San Francisco California prepared by Geomatrix Consultants, Inc. dated June 1999;
- Preliminary Screening Evaluation, H&H Ship Service Company, San Francisco, California, prepared by Harding Lawson Associates dated September 14, 1995; and



- RCRA Closure Certification Report, Former H&H Ship Service Company, San Francisco, California, prepared by Harding Lawson Associates dated February 4, 1999.

Copies of these reports can be obtained at the Port of San Francisco website at the following link:

<http://www.sf-port.org/index.aspx?page=44>

As part of the cleanup requirements to achieve site closure, a Soil Management Plan was prepared to detail methods and procedures for soil handling, stockpiling, disposal, and accessing to be used during and after site development. A copy of the Soil Management Plan is included as Attachment A to this letter. In addition, land use restrictions were described in the Use Restrictions and recorded in two agreements between the City and DTSC (one for the part of the Site that is South of Terry Francois Blvd and currently used as a parking lot and the second that is north of Terry Francois Blvd and is currently used as a park). A copy of each of the Use Restrictions are included as Attachment B to this letter. The Use Restrictions require, amongst other items, that Maher Ordinance assessments be performed if more than 50 cubic yards of soil are to be disturbed and a variance be obtained if the Site is to be developed for any of the uses listed as "restricted" in the Use Restriction.

### **ANTICIPATED ACTIVITIES TO ACHIEVE ENVIRONMENTAL CLEARANCES**

Based on a review of the available documents and the Use Restrictions for the Site, the following actions are anticipated to achieve environmental clearances of potentially hazardous substances in soil or groundwater necessary to complete the site development.

- 1) Use Variance. The current Use Restrictions do not allow residential development at the Site. It is our understanding that some of the Site may be developed for high-density housing as a part of the proposed development. The intent of the Use Restrictions is to preclude single family home development and it appears that high-density housing is an acceptable use of the Site. However, a variance to the Use Restrictions may be needed. A meeting with the DTSC and the Port of San Francisco (Port) will be conducted to discuss the proposed development and identify whether a variance will be needed from the provisions in the Use Restrictions. If a variance is required, the variance will be developed and written in conjunction with the DTSC and the Port.
- 2) Maher Ordinance. The Use Restrictions and City regulations require that the Maher Ordinance requirements be met prior to initiation of site development. Investigations satisfying the Maher Ordinance were performed in support of the previous development of the Site as a parking area and park. The investigations performed for the Maher Ordinance provided an understanding of both the soil and groundwater quality at the Site. A risk assessment was performed and did not identify unacceptable risk to construction workers or other receptors for that development. The scopes of the previous assessments are consistent with currently proposed site development and appear to be sufficient to meet the requirements of the Maher Ordinance. A meeting with the City and County of San Francisco Department of Public Health (DPH) will be conducted to discuss site conditions and the proposed development to illustrate how the previous investigations have collected the needed data to meet Maher Ordinance requirements for the new development.

If the DPH agrees that sufficient data has been collected to meet the Maher requirements for the Site, a report will be prepared that summarizes the proposed development and existing data for DPH review and approval to document that the Maher Ordinance requirements have been met. If the DPH does not agree and requests additional site data, a work plan will be prepared identifying the work scope and procedures to collect the data the DPH is requesting to meet the Maher Ordinance requirements. The work plan will be submitted to the DPH for review. Upon DPH approval of the work plan, the work scope will be completed and a results report prepared for submittal to DPH to achieve closure on the Maher Ordinance requirements. The DTSC will be kept apprised of the activities being performed to meet the Maher Ordinance to satisfy the requirements of the Use Restrictions.

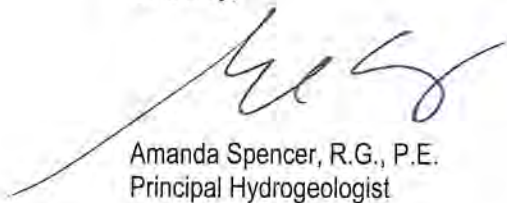


## REMEDIATION PLAN

Based on our understanding of the Site, it is anticipated that site remediation will consist of implementation of a Soil Management Plan consistent to that previously developed for the Site (see Attachment A). The Soil Management Plan describes the methods and procedures for soil management during site construction and following site development, and maintenance of a site cover. Soil management during site construction will consist of dust control, erosion control, stockpile management, and appropriate soil disposal should excess soil be excavated during construction activities. If excess soil is generated, the excess soil would need to be profiled to determine appropriate disposal options. Based on chemical analysis results of soil samples collected from the Site, total metal and organic concentrations are less than the Total Threshold Limit Concentrations (TTLCs) for designation as California Hazardous Waste. However, additional solubility testing of some of the metals (e.g., lead) would likely be required by disposal facilities to better assess the waste profile for the soil. It is possible that the solubility of the lead using the Waste Extraction Test would exceed the Solubility Threshold Limit Concentrations (STLCs) of the state. The excess soil would then be profiled as California Hazardous waste and would need to be disposed of at the appropriately licensed landfill facility.

Please do not hesitate to contact me should you have any questions.

Sincerely,



Amanda Spencer, R.G., P.E.  
Principal Hydrogeologist

## ATTACHMENTS

Figure 1 – Site Location Map

Attachment A – Soil Management Plan

Attachment B – Use Restriction

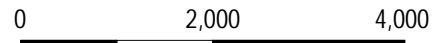




**Note:** Base map prepared from USGS 7.5-minute quadrangle of San Francisco North, CA, dated 1993 as provided by usgs.gov.



**CALIFORNIA**



Approximate Scale in Feet

## Site Location Map

Mission Rock Development - Seawall Lot 337  
San Francisco, California



Ash Creek Associates, Inc.  
Environmental and Geotechnical Consultants

Project Number **1868-00**

September 2011

Figure

**1**

***Attachment A***

---

**Soil Management Plan**



---

## **SOIL MANAGEMENT PLAN**

### **Imperial Weitz Parking Lots for the Giants Pacific Bell Ball Park Area E - Port of San Francisco Property**

San Francisco, California

*Prepared for:*

**Imperial Weitz, LLC**  
800 Second Avenue, Suite 300  
Des Moines, Iowa 50309

*Prepared by:*

**Geomatrix Consultants, Inc.**  
2101 Webster Street, 12th Floor  
Oakland, California 94612  
(510) 663-4100

June 1999

Project No. 4952

---

**Geomatrix Consultants**

## TABLE OF CONTENTS

	Page
1.0 INTRODUCTION.....	1
2.0 BACKGROUND.....	1
2.1 SITE SETTING AND HISTORICAL USAGE.....	1
2.2 SITE INVESTIGATIONS.....	2
2.2.1 Previous Site Investigations.....	2
2.2.2 Recent Site Investigation.....	2
2.3 PROPOSED DEVELOPMENT.....	3
2.4 RISK ASSESSMENT.....	4
3.0 OBJECTIVES.....	4
4.0 PROPOSED SOIL MANAGEMENT PROCEDURES.....	5
4.1 SOIL MANAGEMENT PROCEDURES FOR SITE CONSTRUCTION.....	5
4.1.1 Dust Control.....	5
4.1.2 Erosion Control.....	5
4.1.3 Soil Stockpile Management.....	6
4.1.4 Soil Disposal.....	6
4.1.5 Site Access Control.....	6
4.2 SOIL MANAGEMENT FOLLOWING SITE DEVELOPMENT.....	6
5.0 MAINTENANCE OF SITE COVER.....	7
6.0 CONTINGENCY PLAN.....	7
7.0 HEALTH AND SAFETY GUIDELINES.....	7
8.0 FACILITY MAP.....	8
9.0 REFERENCES.....	9

### TABLES

Table 1	Summary of Analytical Results - Metals Detected in Soil Samples
Table 2	Summary of Analytical Results - Volatile Organic Compounds Detected in Soil Samples
Table 3	Summary of Analytical Results - Polynuclear Aromatic Compounds Detected in Soil Samples
Table 4	Summary of Analytical Results - Other Maher Parameters
Table 5	Summary of Analytical Results - Metals Detected in Grab Groundwater Samples
Table 6	Summary of Health Risk Assessment Results

**TABLE OF CONTENTS**  
(Continued)

**FIGURES**

- Figure 1 Site Location Map
- Figure 2 Site Plan Showing Sampling Locations

**APPENDIXES**

- Appendix A Data Summaries from Previous Investigations
- Appendix B Site Maps Illustrating Alternative Storm Drainage Systems



**SOIL MANAGEMENT PLAN**  
Imperial Weitz Parking Lots for the  
Giants Pacific Bell Ball Park  
Area E - Port of San Francisco Property  
San Francisco, California

**1.0 INTRODUCTION**

Geomatrix Consultants, Inc. (Geomatrix) has prepared this Soil Management Plan (SMP) on behalf of Imperial Weitz, LLC for the proposed 14-acre parking lot for the Giants' Pacific Bell Ball Park. The proposed parking lot site is located south of China Basin Channel and east of Third Street in San Francisco, California (the site; Figure 1). The site is part of a total of approximately 36 acres of parking to be developed by Imperial Weitz south of China Basin Channel and has been referred to as Area E in previous environmental documents prepared by Geomatrix on behalf of Imperial Weitz.

**2.0 BACKGROUND**

Imperial Weitz is proposing to construct a paved parking lot on the site. A site history review, environmental investigation and risk evaluation were performed to meet Article 20 requirements and assess potential risks to construction worker and site visitor health associated with soil and groundwater quality at the site. The following summarizes the results of the site history review, environmental investigations, and risk assessment, and describes the proposed parking lot development.

**2.1 SITE SETTING AND HISTORICAL USAGE**

The approximately 19 acre site is currently owned by the Port of San Francisco (the Port). The subject area was originally marshlands and shallow tidal flats bordering San Francisco Bay. It was filled between 1877 and 1913; the source of the fill is unknown but likely included construction debris and rubble from the 1906 earthquake and cut material from nearby hills and construction areas.

Historical site uses include: railroad trackage and support structures for rail-related activities, parking and shipping, and truck maintenance. H&H Shipping Service Company, Inc. (H&H) occupied the northeastern corner of the site from 1950 to 1996. H&H used the area for vehicle parking and offices, and maintained a tank cleaning area and drum storage unit. No known underground storage tanks (USTs) have been identified on the site. Recently, the site has been



leased by multiple tenants. Tenant uses consist of a recycling center, an automobile sales center, the Mission Rock Recovery Center, a moving company, maritime offices, and automobile storage.

## **2.2 SITE INVESTIGATIONS**

### **2.2.1 Previous Site Investigations**

Burlington Northern Santa Fe Railway Company ("the Railroad") conducted Phase I and Phase II Environmental Assessments of property formerly operated by the Railroad located east of Third Street, between Sixteenth Street and China Basin Channel; this property included the western half of the site. The scope of the Railroad's investigations included one soil boring in the southern portion of the site. Soil samples were collected at depths of 0.5, 5, and 8 feet bgs and analyzed for total petroleum hydrocarbons as gasoline (TPHg), TPH as motor oil (TPHmo), lead, nickel, arsenic, chromium, cadmium, and zinc. Results of chemical analyses on these soil samples indicated that several metals were present at concentrations exceeding typical regional background concentrations (Geomatrix, March 1999).

In addition, HLA has performed an investigation of the former H&H Shipping parcel located in the northeast corner of the site (HLA; 1999). Seventeen soil samples were collected and analyzed for metals, TPH as diesel (TPHd), TPHg, oil and grease, volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons (PNAs). Five groundwater samples were collected and one or more samples were analyzed for metals, TPHd, TPHg, benzene, toluene, ethylbenzene, xylenes [BTEX], PCBs, and PNAs. Several soil samples contained PNAs and metals; very low concentrations of some aromatic hydrocarbons and PCBs were detected in a few soil samples. The groundwater samples contained low to trace concentrations of several metals. Filtered groundwater samples did not contain PNAs; however, unfiltered samples contained low concentrations of several PNA compounds. PCBs and BTEX were not detected in the groundwater samples. Summary tables for the soil and groundwater analysis results of the H&H investigation are contained in Appendix A.

### **2.2.2 Recent Site Investigation**

In April 1999, Geomatrix installed 8 soil borings and collected 16 soil samples (two soil samples per boring) and 2 groundwater samples (from 2 of the 8 locations) for chemical analysis. Sampling locations are illustrated on Figure 2. Primary chemicals detected in soil were PNAs and some metals (i.e., antimony, arsenic, copper, lead, nickel, and mercury). Soil sample results from the recent investigation are summarized in Tables 1 through 5. Several

metals were detected in groundwater; however, chemical concentrations were generally low to non-detect (Table 6). PNAs were not detected in the groundwater samples.

### **2.3 PROPOSED DEVELOPMENT**

The proposed development for the subject area is asphalt paved parking. Two alternatives for storm drainage are being considered, as described below. Figures illustrating the two alternatives for the storm drainage system are contained in Appendix B.

#### **Alternative 1**

This alternative for the drainage system consists of a series of storm drainage lines and catch basins to collect and transport storm water from the parking lot site to the main City box culvert located on Channel Street, west of Fourth Street. During a 5 year storm event, the City system could reach capacity and overflows would result. Overflows from the parking lot site would be diverted to a small treatment plant to be located east of Fourth Street, near China Basin Channel. Under this alternative, Area E will be entirely paved with asphalt and surrounded by a 3- to 4-foot fence.

The catch basins will be installed in excavations with aerial dimensions of approximately 4 feet by 4 feet and extending to depths of 4 to 6 feet. Trenches will be excavated to install the piping; the trenches are anticipated to be approximately 2 to 3 feet wide and will extend between 4 to 6 feet below grade. Estimated maximum excavation depth for the piping system is 6 feet bgs. The parking area will be graded and bermed to enhance flow to each of the catch basins, and paved with asphaltic concrete.

#### **Alternative 2**

This alternative includes perimeter grassy drainage swales to collect and drain storm water overflows.

The parking area will contain a storm drain system to collect surface water runoff. The storm drain system will consist of a network of catch basins and drainage swales to collect storm water on the parking lot. The storm water will be conveyed through a series of pipes and the drainage swales to one point of discharge. The discharge pipe will collect into one main and flow into the City box sewer in Channel Street near Fourth Street.

The catch basins will be installed in excavations with aerial dimensions of approximately 4 feet by 4 feet and extending to depths of 4 to 6 feet. Trenches will be excavated to install the

pipng; the trenches are anticipated to be approximately 2 to 3 feet wide and will extend between 4 to 6 feet below grade. Estimated maximum excavation depth for the piping system is 6 feet bgs. The swales will be approximately 32 feet in width and 2 to 3 feet in depth. The swales will be covered with a geotextile fabric and grass. The parking area will be graded and bermed to enhance flow to each of the catch basins, and paved with asphaltic concrete.

## 2.4 RISK ASSESSMENT

A health risk assessment (HRA) was conducted to evaluate the potential human health risks associated with the presence of chemicals in soil and groundwater assuming future use of the site as a parking lot with grassy swales (Geomatrix, May 1999). Potential noncarcinogenic hazard indexes and theoretical lifetime excess cancer risks were estimated for future on-site construction workers and future on-site visitors assuming conservative estimates of human exposure. Future on-site construction workers may be exposed to chemicals in soil across the site to the depth required for installation of the storm drain system or in groundwater if encountered in excavation areas. Following construction, potential exposure to future on-site visitors would be limited to exposed soil in the grass-covered swale areas.

The results of the HRA indicate that the presence of chemicals in soil and groundwater at the site should not pose an unacceptable noncarcinogenic or carcinogenic risk to future on-site construction workers and visitors. A summary table for the HRA results is provided as Table 7. Based on these results, it was also concluded that potential risks to nearby residents during construction and future on-site maintenance workers and trespassers after construction would also not be of concern.

## 3.0 OBJECTIVES

As described above, the results of the HRA indicate that chemicals in site soil do not present an unacceptable human health risk. However, dust from a construction site can present a nuisance if not controlled. Likewise, erosion of on-site soil during construction activities can increase the turbidity of surface water run-off.

Therefore, the objectives of the SMP are to:

- provide guidelines for soil handling, stockpiling, dust and erosion minimization and, if needed, soil disposal during site construction activities for the proposed parking lot; and

- describe procedures for soil management following site construction for the duration of the use of the Site as a parking lot.

#### **4.0 PROPOSED SOIL MANAGEMENT PROCEDURES**

The following two sections describe the soil management procedures that will be implemented during and following site construction.

#### **4.1 SOIL MANAGEMENT PROCEDURES FOR SITE CONSTRUCTION**

The following procedures will be implemented during site construction activities to minimize dust and control erosion.

##### **4.1.1 Dust Control**

The dust control measures to be implemented at the site correspond to the PM<sub>10</sub> control measures recommended by the Bay Area Air Quality Management District (BAAQMD) in their California Environmental Quality Act Guidelines. These measures consist of:

- Water all active construction areas at least twice daily or as necessary to prevent visible dust plumes from migrating outside of the site limits.
- Mist or spray water while loading transportation vehicles.
- Minimize drop heights while loading transportation vehicles.
- Use tarpaulins or other effective covers for trucks carrying soils that travel on public streets.
- Pave, apply water 3 times daily, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas.
- Sweep all paved access routes parking areas and staging areas daily, if visibly soiled.
- Sweep street daily if visible soil material is carried onto public streets from the site.

##### **4.1.2 Erosion Control**

A Stormwater Pollution Prevention Plan (SWPPP) will be developed by the site contractor prior to initiation of Site work that details procedures for minimizing erosion. The SWPPP will include elements such as silt traps and hay bales to minimize surface water runoff from the Site into storm drains or the San Francisco Bay, berms to control Site runoff, and covering soil stockpiles during the rainy season (November through March) to minimize sediment runoff.

#### **4.1.3 Soil Stockpile Management**

Temporary stockpiling of excavated soil may be necessary throughout site construction. Soil stockpiled at the Site will be lightly sprayed with water as needed to minimize dust. To the extent practical, the soil stockpiles will be covered with plastic sheeting or other similar material at times when not in active use. When a soil stockpile is uncovered during the rainy season, it will be surrounded by hay bales and/or silt traps to minimize sediment runoff.

#### **4.1.4 Soil Disposal**

Site development has been designed to minimize the generation of excess soil; therefore, soil requiring off-site disposal is not anticipated. Although not anticipated at this time, if excess soil is generated from the site, the excess soil will be profiled to determine appropriate disposal options. Handling and disposal of the soil will be conducted in accordance with all applicable state and federal laws.

Based on chemical analysis results of soil samples collected from the site, total metal and organic concentrations are less than the Total Threshold Limit Concentrations (TTLCs) for designation as California Hazardous Waste. However, additional solubility testing of some of the metals (e.g., lead) would likely be required by disposal facilities to better assess the waste profile for the soil.

#### **4.1.5 Site Access Control**

The construction site will be fenced to control pedestrian or vehicular entry, except at controlled points (i.e., gates). Gates will be closed and locked during non-construction hours. "No-trespassing" signs will be posted every 500 feet along the fencing.

### **4.2 SOIL MANAGEMENT FOLLOWING SITE DEVELOPMENT**

Following site development, the soil will be covered by asphalt pavement or grass (in the swale areas) and it is unlikely that the soil will be accessed, with the exception of future maintenance work on subsurface utilities. The HRA assessed possible health risks to future maintenance workers at the parking lot and concluded that chemicals in soil at the site should not pose an unacceptable carcinogenic or noncarcinogenic risk (Geomatrix, May 1999). Soil management procedures during future site maintenance work requiring soil excavation will be as described in Section 4.1 of this SMP; if waste soil is generated, the soil will be disposed in accordance with the procedures described in Section 4.1.4.

## 5.0 MAINTENANCE OF SITE COVER

Procedures in this section are applicable only if Alternative 2 is selected for the storm drainage system.

Although the HRA concluded that soil in the grass-covered swale area would not present an unacceptable risk to human health for parking lot visitors or trespassers, it is prudent that the grass-covered swale areas be well maintained. Therefore, the swale areas will be inspected monthly during the baseball season, and quarterly during the off-season to visually observe the condition of the grass cover. Large areas of exposed soil (e.g., areas larger than several feet in diameter) should be reseeded as quickly as practical. A log of the parking area inspections ("Inspection Log") will be maintained at the site and will include written comments on the condition of the grass cover, areas requiring repairs, and repair dates.

Annual inspections of the paved parking areas will be performed to observe whether breaches in the pavement that may allow prolonged access to site soil are visible. If observed, the breach would be repaired such that the soil cover is maintained. Results of the annual inspections of the paved parking areas will be documented in the Inspection Log, described above.

## 6.0 CONTINGENCY PLAN

A Contingency Plan for this site is not warranted. The purpose of a Contingency Plan is to present response actions to an emergency situation. The results of the HRA indicate that exposure to site soil or groundwater while breaches in the pavement or grassy areas are being repaired would not present a situation requiring an emergency response.

## 7.0 HEALTH AND SAFETY GUIDELINES

A health and safety plan for site construction will be developed by the site contractor before initiation of the development activities. The results of the HRA indicate that the presence of chemicals in soil and groundwater at the site should not pose an unacceptable health risk to future construction workers or nearby receptors during construction or future maintenance workers, visitors or trespassers after construction. Therefore, a health and safety plan for known chemical hazards at the Site is not warranted, and the health and safety plan will focus on physical hazards. Additionally, contingency actions for encountering unanticipated buried hazards (e.g., drums, or other containers) will also be included in the health and safety plan.



## 8.0 FACILITY MAP

The final construction plan for the Site development is not complete. A copy of this plan will be forwarded to the SFDPH as an addendum to this SMP once it has been finalized.



## 9.0 REFERENCES

Geomatrix Consultants, Inc., 1999, Site Use History and Article 20 Sampling Program, March.

Harding Lawson Associates, 1999, RCRA Closure Certification Report, Former H&H Ship Service Facility, San Francisco, California, February 4.



**TABLE 1**  
**SUMMARY OF ANALYTICAL RESULTS**  
**METALS DETECTED IN SOIL SAMPLES<sup>1</sup>**

Proposed Imperial Parking Area  
Area E - Port of San Francisco Property  
South of China Basin Channel, San Francisco, California  
Concentrations are reported in milligrams per kilogram (mg/kg)

Sample I.D.	Sample Interval (feet bgs)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Total Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
GMX-1-1.0	0.5 - 1.0	<5.0	<0.35	27	<5.0	<5.0	120	16	9.6	8.7	<0.1	<5.0	220	<5.0	<5.0	<5.0	36	37
GMX-1-4.5	4.5 - 5.0	<5.0	2.5	35	<5.0	<5.0	200	24	12	13	<0.1	<5.0	370	<5.0	<5.0	<5.0	20	32
GMX-2-1.0	0.5 - 1.0	<5.0	<0.35	170	<5.0	<5.0	62	15	50	220	0.13	<5.0	71	<5.0	<5.0	<5.0	49	150
GMX-2-4.5	4.5 - 5.0	<5.0	<0.35	160	<5.0	<5.0	91	17	31	54	<0.1	18	110	<5.0	<5.0	<5.0	40	83
GMX-3-1.0	0.5 - 1.0	33	64	84	<5.0	<5.0	35	12	93	250	0.28	<5.0	140	<5.0	<5.0	<5.0	20	250
GMX-3-4.5	4.5 - 5.0	15	7.7	76	<5.0	<5.0	110	14	44	98	0.23	<5.0	240	<5.0	<5.0	<5.0	24	130
GMX-4-1.0	0.5 - 1.0	<5.0	1.8	170	<5.0	<5.0	42	16	40	110	0.16	<5.0	100	<5.0	<5.0	<5.0	31	94
GMX-4-4.5	4.5 - 5.0	<5.0	<0.35	100	<5.0	<5.0	36	8.7	26	53	<0.1	<5.0	40	<5.0	<5.0	<5.0	27	60
GMX-5-1.0	0.5 - 1.0	<5.0	0.47	26	<5.0	<5.0	21	<5.0	7.1	42	<0.1	<5.0	20	<5.0	<5.0	<5.0	17	69
GMX-5-7.0	4.5 - 5.0	<5.0	2.5	47	<5.0	<5.0	11	<5.0	13	60	0.57	<5.0	12	<5.0	<5.0	<5.0	12	35
GMX-6-1.0	0.5 - 1.0	<5.0	<0.35	360	<5.0	<5.0	17	12	66	17	<0.1	<5.0	21	<5.0	<5.0	<5.0	28	40
GMX-6-4.5	4.5 - 5.0	<5.0	<0.35	210	<5.0	<5.0	43	14	46	62	0.18	<5.0	59	<5.0	<5.0	<5.0	29	55
GMX-7-1.0	0.5 - 1.0	<5.0	10	160	<5.0	<5.0	21	5.3	93	290	5.7	<5.0	28	<5.0	<5.0	<5.0	17	320
GMX-7-5.0	4.5 - 5.0	<5.0	<0.35	180	<5.0	<5.0	87	21	35	750	<0.1	<5.0	250	<5.0	<5.0	<5.0	29	160
GMX-8-1.0	0.5 - 1.0	<5.0	<0.35	680	<5.0	<5.0	21	32	130	18	<0.1	<5.0	34	<5.0	<5.0	<5.0	40	49
GMX-8-4.5	4.5 - 5.0	<5.0	5	100	<5.0	<5.0	6.8	<5.0	21	61	<0.1	<5.0	9.1	<5.0	<5.0	<5.0	12	41
Background <sup>2</sup>		5.5	19.1	323	1	2.7	99	22	69	16	0.4	7.4	120	5.6	1.8	27	74	106
95% UTL		25.7	45.7	572.3	5.0	5.0	190.0	32.8	133.1	602.0	4.0	14.0	379.8	5.0	5.0	5.0	53.7	311.7
95% UTL > Background?		Yes	Yes	Yes	NA	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NA	NA	NA	No	Yes

Note:

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc. and analyzed by Entech Analytical Laboratories of Sunnyvale, California, for Title 22 metals using EPA Methods 6000/7000 Series.

<sup>2</sup> Background = Lawrence Berkeley National Laboratory, 1995.

Abbreviations:

feet bgs = feet below ground surface.

< = analyte not detected at or above method detection limit shown.

NA = not applicable; sample results below detection limit reported by the analytical laboratory.

95% UTL = 95 percent upper tolerance limit.

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS**  
**VOLATILE ORGANIC COMPOUNDS DETECTED IN SOIL SAMPLES<sup>1</sup>**

Proposed Imperial Parking Area  
 Area E - Port of San Francisco Property  
 South of China Basin Channel, San Francisco, California

Concentrations are reported in milligrams per kilogram (mg/kg)

Sample I.D.	Sample Interval (feet bgs)	Toluene	Ethylbenzene	Xylenes	1,2,4-Trimethylbenzene
GMX-1-1.0	0.5 - 1.0	0.030	<0.005	0.029	0.010
GMX-1-4.5	4.5 - 5.0	0.008	<0.005	<0.005	<0.005
GMX-2-1.0	0.5 - 1.0	0.013	<0.005	0.009	0.005
GMX-2-4.5	4.5 - 5.0	0.007	<0.005	<0.005	<0.005
GMX-3-1.0	0.5 - 1.0	0.014	<0.005	0.006	<0.005
GMX-3-4.5	4.5 - 5.0	0.023	<0.005	0.018	0.014
GMX-4-1.0	0.5 - 1.0	0.020	<0.005	0.030	<0.005
GMX-4-4.5	4.5 - 5.0	<0.005	<0.005	<0.005	<0.005
GMX-5-1.0	0.5 - 1.0	0.027	<0.005	0.014	0.008
GMX-5-7.0	4.5 - 5.0	<0.005	<0.005	<0.005	<0.005
GMX-6-1.0	0.5 - 1.0	0.037	<0.005	0.056	0.036
GMX-6-4.5	4.5 - 5.0	<0.005	<0.005	<0.005	<0.005
GMX-7-1.0	0.5 - 1.0	0.008	<0.005	0.009	<0.005
GMX-7-5.0	4.5 - 5.0	0.021	<0.005	0.009	<0.005
GMX-8-1.0	0.5 - 1.0	<0.005	0.023	0.046	<0.005
GMX-8-4.5	4.5 - 5.0	0.008	<0.005	0.010	<0.005

Note:

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc. and analyzed by Entech Analytical Laboratories of Sunnyvale, California, for VOCs using EPA Method 8260B.

Abbreviations:

feet bgs = feet below ground surface.

< = indicates result less than the laboratory detection limit indicated.

VOCs = volatile organic compounds.

**TABLE 3**  
**SUMMARY OF ANALYTICAL RESULTS**  
**POLYNUCLEAR AROMATIC COMPOUNDS DETECTED IN SOIL SAMPLES<sup>1</sup>**

Proposed Imperial Parking Area  
 Area E - Port of San Francisco Property  
 South of China Basin Channel, San Francisco, California

Concentrations are reported in milligrams per kilogram (mg/kg)

Sample I.D.	Sample Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene <sup>2</sup>	Phenanthrene	Pyrene
GMX-1-1.0	0.5 - 1.0	<0.04	<0.04	<0.04	<0.04	<0.002	<0.04	<0.04	<0.04	0.089	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.058
GMX-1-4.5	4.5 - 5.0	<0.01	<0.01	0.023	<0.01	0.029	<0.01	<0.01	<0.01	<0.01	<0.01	0.025	<0.01	<0.01	<0.01	0.024	0.029
GMX-2-1.0	0.5 - 1.0	<0.02	0.024	0.103	0.141	<0.002	<0.02	<0.02	<0.02	0.08	<0.02	0.363 <sup>3</sup>	<0.02	<0.02	<0.02	0.105	0.415 <sup>3</sup>
GMX-2-4.5	4.5 - 5.0	<0.002	0.0024	0.0066	0.022	0.022	0.0048	<0.002	<0.002	0.011	<0.002	0.023	<0.002	<0.002	0.0058	0.0068	0.025
GMX-3-1.0	0.5 - 1.0	<0.02	<0.02	0.078	0.114	<0.002	<0.02	<0.02	<0.02	0.064	<0.02	0.169	<0.02	<0.02	<0.02	0.08	0.16
GMX-3-4.5	4.5 - 5.0	<0.01	<0.01	<0.01	0.025	0.04	<0.01	<0.01	<0.01	0.014	<0.01	0.036	<0.01	<0.01	<0.01	0.024	0.045
GMX-4-1.0	0.5 - 1.0	<0.04	<0.04	<0.04	0.072	<0.04	<0.04	<0.04	<0.04	0.061	<0.04	0.142	<0.04	<0.04	<0.04	0.071	0.183
GMX-4-4.5	4.5 - 5.0	0.053	0.107	0.129	<0.02	<0.2	<0.2	<0.2	0.295	0.18	<0.2	0.628 <sup>4</sup>	<0.02	<0.2	0.057	0.668 <sup>4</sup>	0.777 <sup>4</sup>
GMX-5-1.0	0.5 - 1.0	<0.02	<0.02	<0.02	<0.002	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.032	<0.02	<0.02	<0.02	0.02	0.034
GMX-5-7.0	4.5 - 5.0	<0.002	<0.002	0.026	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	0.011	<0.002	<0.002	<0.002	0.026	0.013
GMX-6-1.0	0.5 - 1.0	<0.04	<0.04	<0.04	0.205	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.046	<0.04	<0.04	<0.04	0.06	0.107
GMX-6-4.5	4.5 - 5.0	<0.01	<0.01	0.029	0.122	0.1	0.023	0.038	0.072	0.056	<0.01	0.11	<0.01	0.042	<0.01	0.029	0.111
GMX-7-1.0	0.5 - 1.0	<0.02	<0.02	0.024	0.187	<0.02	<0.02	<0.02	<0.02	0.098	<0.02	0.196	<0.02	<0.02	<0.02	0.194	0.224
GMX-7-5.0	4.5 - 5.0	<0.01	<0.01	<0.01	0.031	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.04	0.072	<0.01
GMX-8-1.0	0.5 - 1.0	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.288	<0.04	<0.04	0.095	0.156	0.374
GMX-8-4.5	4.5 - 5.0	0.019	0.078	<0.01	0.314 <sup>4</sup>	0.457 <sup>4</sup>	<0.01	<0.01	<0.01	0.323 <sup>4</sup>	<0.01	0.772 <sup>4</sup>	<0.01	<0.01	<0.01	0.288 <sup>4</sup>	0.680 <sup>4</sup>

Notes:

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc. and analyzed by Advanced Technology Laboratories of Signal Hill, California, for PNAs using EPA Method 8270 SIMS.

<sup>2</sup> Detected concentration reported as part of EPA Method 8260.

<sup>3</sup> Results reported from a 1:100 dilution.

<sup>4</sup> Results reported from a 1:50 dilution.

Abbreviations:

feet bgs = feet below ground surface.

< = indicates result less than the laboratory detection limit indicated.

PNAs = polynuclear aromatic hydrocarbons.

TABLE 4

SUMMARY OF ANALYTICAL RESULTS

OTHER MAHER PARAMETERS<sup>1</sup>

Proposed Imperial Parking Area

Area E - Port of San Francisco Property

South of China Basin Channel, San Francisco, California

Concentrations are reported in milligrams per kilogram (mg/kg) unless noted

Sample I.D.	Sample Interval (feet bgs)	Asbestos	Cyanide	Fluoride	Total Sulfide	pH (no units)	FID (ppmv)
GMX-1-1.0	0.5 - 1.0	<1%	<0.5	<0.5	<0.5	8.4	0
GMX-1-4.5	4.5 - 5.0	NA	NA	NA	NA	NA	
GMX-2-1.0	0.5 - 1.0	NA	NA	NA	NA	NA	100
GMX-2-4.5	4.5 - 5.0	<1%	NA	NA	NA	9.4	
GMX-3-1.0	0.5 - 1.0	NA	NA	NA	NA	NA	0
GMX-3-4.5	4.5 - 5.0	<1%	<0.5	<0.5	<0.5	8.8	
GMX-4-1.0	0.5 - 1.0	<1%	NA	NA	NA	9.4	100
GMX-4-4.5	4.5 - 5.0	NA	NA	NA	NA	NA	
GMX-5-1.0	0.5 - 1.0	<1%	<0.5	<0.5	<0.5	9.1	100
GMX-5-7.0	4.5 - 5.0	NA	NA	NA	NA	NA	
GMX-6-1.0	0.5 - 1.0	NA	NA	NA	NA	NA	1100
GMX-6-4.5	4.5 - 5.0	<1%	NA	NA	NA	9.2	
GMX-7-1.0	0.5 - 1.0	NA	NA	NA	NA	NA	10
GMX-7-5.0	4.5 - 5.0	<1%	<0.5	<0.5	<0.5	9.2	
GMX-8-1.0	0.5 - 1.0	<1%	NA	NA	NA	7.7	150
GMX-8-4.5	4.5 - 5.0	NA	NA	NA	NA	NA	

Note:

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc. and analyzed for pH, cyanide, total sulfide, fluoride, and asbestos using EPA Methods 9045, 9010, 9030, and 340.2M, and polarized light microscopy. Analyses performed by Entech Analytical Laboratories, Inc. of Sunnyvale, California (pH and fluoride), Advanced Technology Laboratories of Signal Hill, California (cyanide and total sulfide), and EMSL Analytical, Inc. of Milpitas, California (asbestos).

Abbreviations:

feet bgs = feet below ground surface.

< = analyte not detected at or above method detection limit shown.

NA = not analyzed.

FID = flame ionization detector.

ppmv = parts per million vapor.

**TABLE 5**  
**SUMMARY OF ANALYTICAL RESULTS**  
**METALS DETECTED IN GRAB GROUNDWATER SAMPLES<sup>1</sup>**

Proposed Imperial Parking Area  
 Area E - Port of San Francisco Property  
 South of China Basin Channel, San Francisco, California

Concentrations are reported in milligrams per liter (mg/l)

Sample I.D.	Sb	Ar	Ba	Be	Cd	Cr.Total	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
GMX-1 <sup>2</sup>	0.092/ 0.1	<0.005	0.1	<0.004	<0.005	<0.005	<0.005	<0.005	<0.015	<0.0005	0.018/ 0.02	0.010/ 0.011	<0.015	<0.005	<0.002	<0.010	0.014
GMX-5	<0.005	<0.005	1.7	<0.004	<0.005	0.006	0.008	<0.005	<0.015	<0.0005	0.051	0.006	<0.015	0.034	<0.002	<0.010	0.025

Notes:

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc. and analyzed by Entech Analytical Laboratories, of Sunnyvale, California for Title 22 metals using EPA Methods 6000/7000 Series.

<sup>2</sup> Second result from duplicate sample GMX-11.

Abbreviation:

< = indicates result less than the laboratory detection limit indicated.

Sb = Antimony

Ar = Arsenic

Ba = Barium

Be = Beryllium

Cd = Cadmium

Cr Total = Total Chromium

Co = Cobalt

Cu = Copper

Pb = Lead

Hg = Mercury

Mo = Molybdenum

Ni = Nickel

Se = Selenium

Ag = Silver

Tl = Thallium

V = Vanadium

Zn = Zinc



TABLE 6

**SUMMARY OF HEALTH RISK ASSESSMENT RESULTS**

Proposed Imperial Weitz Parking Lot Areas

Area E - Port of San Francisco Property

South of China Basin Channel, San Francisco, California

**Noncancer Hazard Indexes**

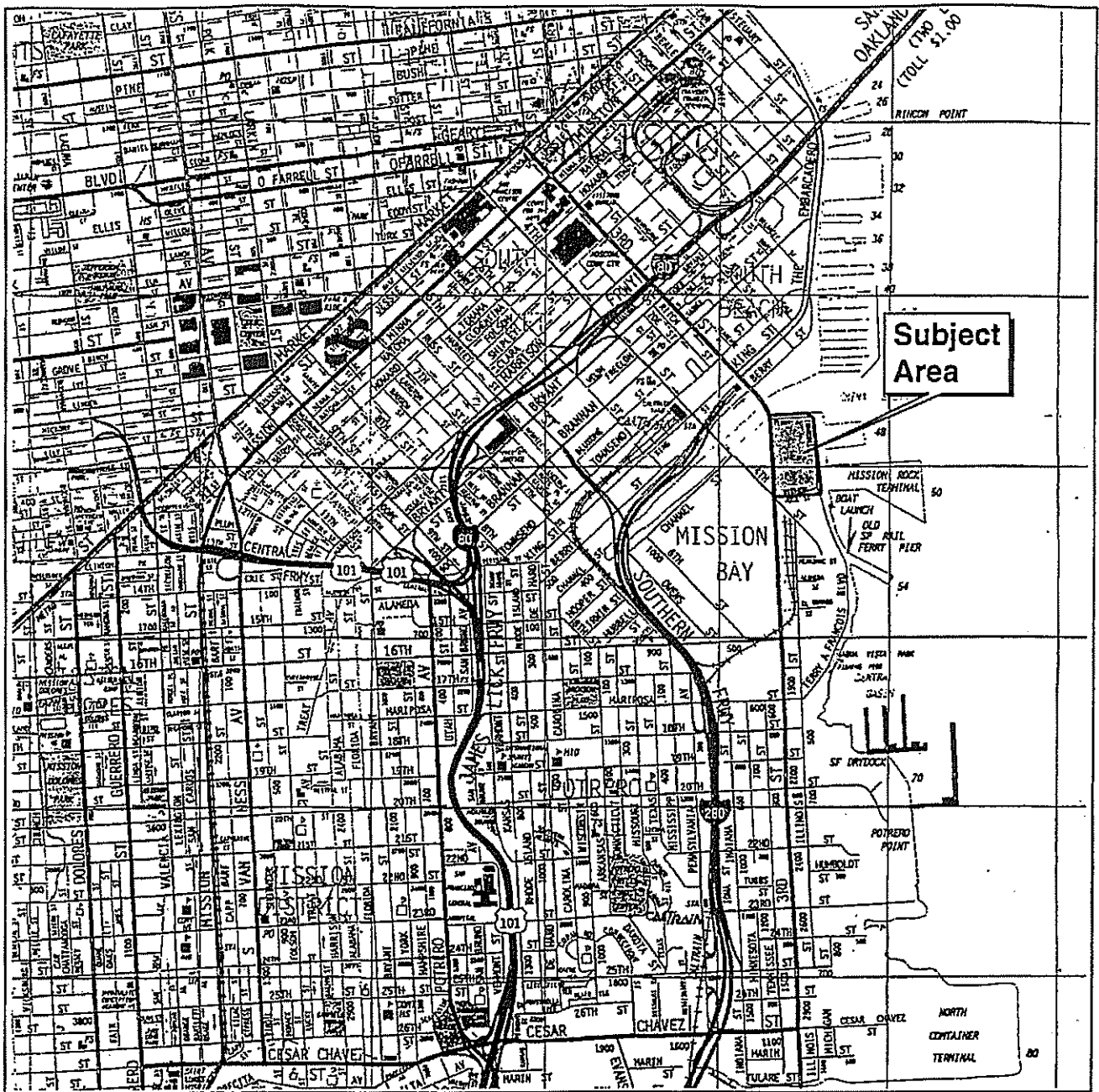
Scenario	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Particulates	Dermal Contact with Groundwater	Hazard Index
Future On-site Construction Worker	6E-02	2E-03	8E-04	7E-03	7E-02
Future On-site Visitor	1E-02	5E-03	7E-07	NA	1E-02

**Theoretical Lifetime Excess Cancer Risks**

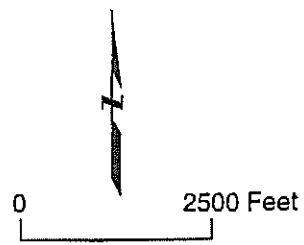
Scenario	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Particulates	Dermal Contact with Groundwater	Excess Cancer Risk
Future On-site Construction Worker	3E-07	1E-08	7E-08	4E-06	4E-06
Future On-site Visitor	5E-07	3E-07	9E-10	NA	8E-07

Note:

NA = Not applicable

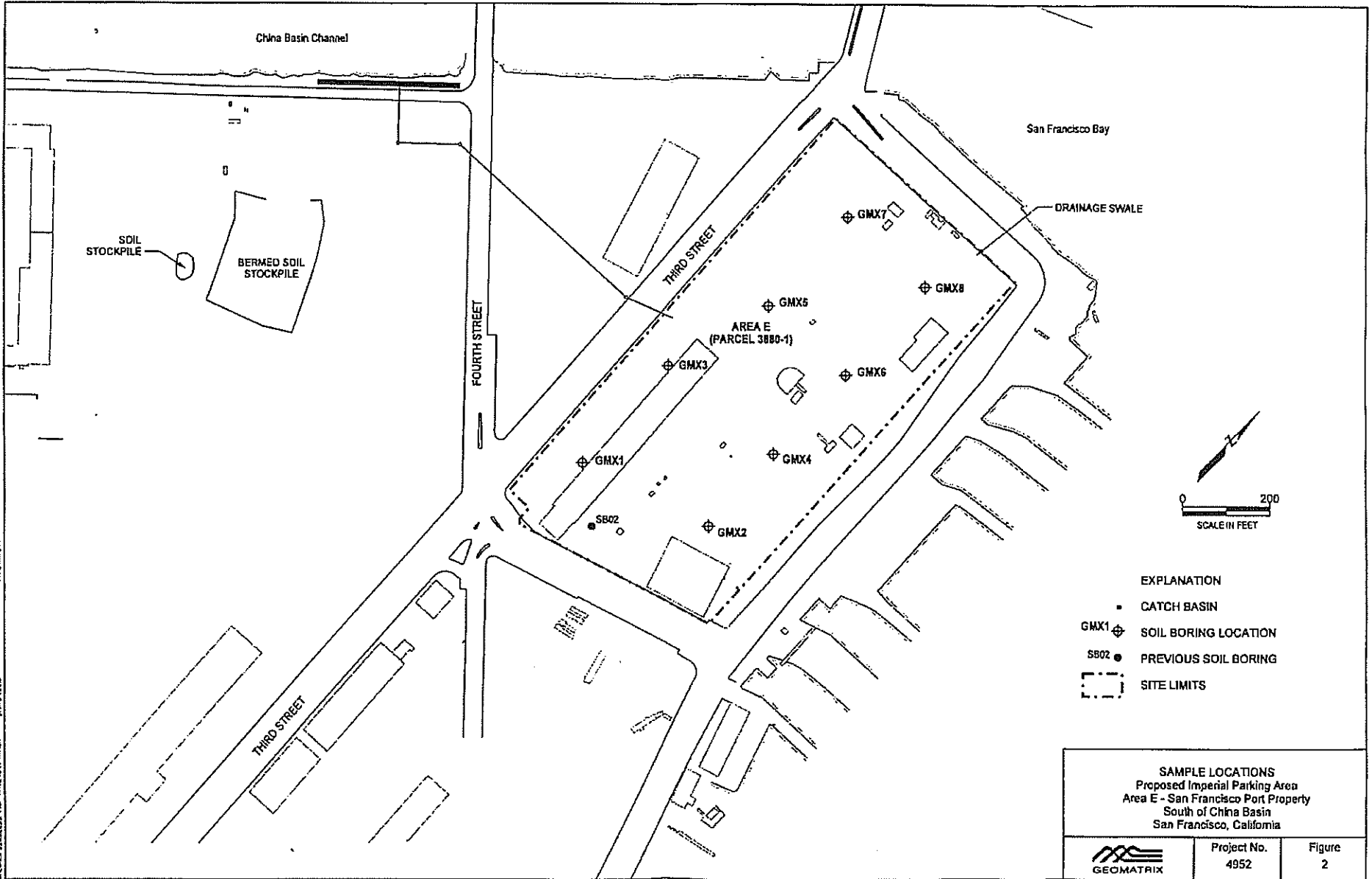


Base map from *The Thomas Gulde, 1997 Golden Gate Street Guide and Directory*. Reproduced with permission granted by THOMAS BROS. MAPS. This map is copyrighted by THOMAS BROS. MAPS. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. All rights reserved.



**SITE LOCATION MAP**  
 Proposed Imperial Parking Area  
 Area E - San Francisco Port Property  
 South of China Basin  
 San Francisco, California

Figure  
 1  
 Project No.  
 4952



MAP 4/20/04

25 NOV 1999 06:23  
132121170 100% 100%  
132121170 100% 100%

RECORD

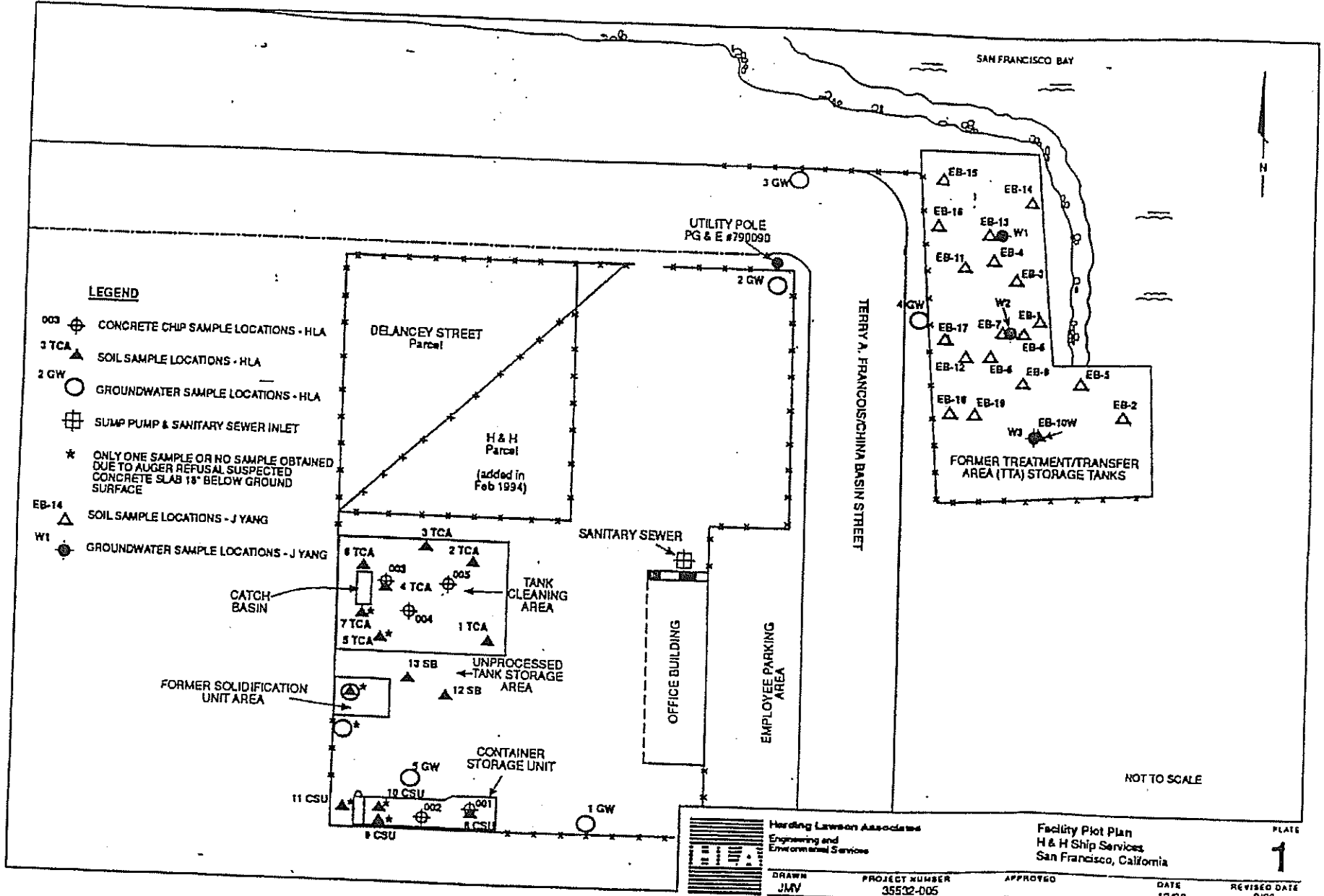




## APPENDIX A

---

# Data Summaries from Previous Investigations



**LEGEND**

- 003 ⊕ CONCRETE CHIP SAMPLE LOCATIONS - HLA
- 3 TCA ▲ SOIL SAMPLE LOCATIONS - HLA
- 2 GW ○ GROUNDWATER SAMPLE LOCATIONS - HLA
- ⊕ SUMP PUMP & SANITARY SEWER INLET
- \* ONLY ONE SAMPLE OR NO SAMPLE OBTAINED DUE TO AUGER REFUSAL SUSPECTED CONCRETE SLAB 18" BELOW GROUND SURFACE
- EB-14 ▲ SOIL SAMPLE LOCATIONS - J YANG
- W1 ● GROUNDWATER SAMPLE LOCATIONS - J YANG

NOT TO SCALE

	Harding Lawson Associates		Facility Plot Plan		PLATE <b>1</b>
	Engineering and Environmental Services		H & H Ship Services		
DRAWN JMV	PROJECT NUMBER 35532-005	APPROVED	DATE 12/98	REVISED DATE 2/98	

Table 4. Summary of Chemicals Detected In Soil  
 Tank Cleaning Area, Container Storage Unit, and Solidification Unit  
 H & H Ship Service Company  
 San Francisco, California

Analyte	Units	Number of Detections	Number of Analyses	Frequency of Detection	Minimum Detected Conc.	Maximum Detected Conc.	Location of Maximum Conc.
<b>Inorganics</b>							
Arsenic	mg/kg	16	17	94%	ND	9.2E+01	3TCA-008
Barium	mg/kg	17	17	100%	3.8E+01	6.5E+02	12SB-023
Cadmium	mg/kg	1	17	6%	ND	5.3E-01	3TCA-008
Chromium	mg/kg	17	17	100%	7.3E+00	7.0E+01	1TCA-001
Cobalt	mg/kg	17	17	100%	3.8E+00	4.0E+01	3TCA-007
Copper	mg/kg	17	17	100%	8.9E+00	1.4E+02	10CSU-021
Lead	mg/kg	16	17	94%	ND	2.1E+02	1TCA-001
Mercury	mg/kg	16	17	94%	ND	4.8E-01	2TCA-005
Nickel	mg/kg	17	17	100%	1.3E+01	3.2E+02	6TCA-014
Silver	mg/kg	3	17	18%	ND	3.0E+00	3TCA-007
Thallium	mg/kg	11	17	65%	ND	1.1E+01	1TCA-001
Vanadium	mg/kg	17	17	100%	1.6E+01	4.8E+01	5TCA-013
Zinc	mg/kg	17	17	100%	3.2E+01	2.5E+02	4TCA-011
<b>Petroleum</b>							
Oil and Grease (Total)	mg/kg	17	17	100%	1.1E+02	6.4E+03	4TCA-011
Oil and Grease (Non-Polar)	mg/kg	16	17	94%	ND	5.0E+03	3TCA-007
TPH-Diesel	mg/kg	17	17	100%	5.0E+00	2.1E+03	4TCA-011
TPH-Gasoline	mg/kg	4	17	24%	ND	1.0E+02	4TCA-011
Toluene	mg/kg	17	17	100%	1.2E-02	1.3E+00	3TCA-007
Ethylbenzene	mg/kg	3	17	18%	ND	6.3E-01	4TCA-011
Xylene	mg/kg	6	17	35%	ND	9.3E+00	4TCA-011
<b>PCBs</b>							
Aroclor 1016	mg/kg	2	17	12%	ND	1.0E-01	5TCA-013
Aroclor 1254	mg/kg	7	17	41%	ND	2.4E-01	5TCA-013
Aroclor 1260	mg/kg	3	17	18%	ND	5.5E-01	5TCA-013
<b>PAHs</b>							
Acenaphthene	mg/kg	2	17	12%	ND	9.3E-01	8CSU-018
Acenaphthylene	mg/kg	3	17	18%	ND	1.5E+00	8CSU-018
Anthracene	mg/kg	5	17	29%	ND	3.1E+00	8CSU-018
Benz(a)anthracene	mg/kg	11	17	65%	ND	2.4E+00	8CSU-018
Benzo(b,k)fluoranthene	mg/kg	11	17	65%	ND	2.6E+00	8CSU-018
Benzo(a)pyrene	mg/kg	10	17	59%	ND	1.8E+00	6CSU-018
Benzo(g,h,i)perylene	mg/kg	10	17	59%	ND	6.8E-01	8CSU-018
Chrysene	mg/kg	11	17	65%	ND	2.3E+00	8CSU-018
Dibenz(a,h)anthracene	mg/kg	7	17	41%	ND	3.7E-01	8CSU-018
Fluoranthene	mg/kg	14	17	82%	ND	4.3E+00	8CSU-018
Fluorene	mg/kg	5	17	29%	ND	3.7E+00	8CSU-018
Indeno(1,2,3-cd)pyrene	mg/kg	9	17	53%	ND	7.0E-01	8CSU-018
Naphthalene	mg/kg	5	17	29%	ND	2.5E+00	4TCA-011
Phenanthrene	mg/kg	15	17	88%	ND	6.3E+00	8CSU-018
Pyrene	mg/kg	15	17	88%	ND	4.7E+00	8CSU-018

mg/kg Milligrams per kilogram.  
 Note: Only detected compounds are listed.

**Table 8. Summary of Chemicals Detected in Groundwater  
Tank Cleaning Area, Container Storage Unit, and Solidification Unit  
H & H Ship Service Company  
San Francisco, California**

Chemical	Units	Number of Detections	Number of Analyses	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Concentration
<b>Inorganics (filtered)</b>							
Arsenic	mg/L	1	5	20%	0.812	0.812	3GW
Barium	mg/L	5	5	100%	0.0847	0.748	3GW
Cobalt	mg/L	1	5	20%	0.0185	0.0185	2GW
Molybdenum	mg/L	1	5	20%	0.0207	0.0207	4GW
Nickel	mg/L	2	5	40%	0.0419	0.0883	2GW
Zinc	mg/L	1	5	20%	0.128	0.128	4GW
<b>Inorganics (unfiltered)</b>							
Arsenic	mg/L	2	4	50%	0.3	9.2	1GW
Barium	mg/L	4	4	100%	0.27	5.1	1GW
Cadmium	mg/L	3	4	75%	0.012	0.026	1GW
Chromium	mg/L	4	4	100%	0.048	1.1	3GW
Cobalt	mg/L	4	4	100%	0.31	2.5	3GW
Copper	mg/L	4	4	100%	0.056	2	2GW
Lead	mg/L	4	4	100%	0.88	5.8	2GW
Mercury	mg/L	4	4	100%	0.0017	2	4GW
Nickel	mg/L	4	4	100%	0.32	12	3GW
Thallium	mg/L	1	4	25%	0.15	0.15	1GW
Vanadium	mg/L	3	4	75%	0.061	0.47	1GW
Zinc	mg/L	4	4	100%	1	7.2	1GW
<b>Petroleum (unfiltered)</b>							
TPH-Diesel	mg/L	1	4	25%	2.4	2.4	1GW
<b>PCBs (unfiltered) None Detected</b>							
<b>PAHs (unfiltered)</b>							
Acenaphthylene	µg/L	1	5	20%	0.5	0.5	1GW
Anthracene	µg/L	1	5	20%	1.1	1.1	1GW
Benzo(a)anthracene	µg/L	3	5	60%	0.14	5.1	1GW
Benzo(b)fluoranthene	µg/L	1	1	100%	0.56	0.56	5GW
Benzo(k)fluoranthene	µg/L	1	1	100%	0.12	0.12	5GW
Benzo(b,k)fluoranthene	µg/L	3	4	75%	0.8	10	1GW
Benzo(a)pyrene	µg/L	3	5	60%	0.34	6.8	1GW
Benzo(g,h,i)perylene	µg/L	3	5	60%	0.5	5.5	1GW
Chrysene	µg/L	2	5	40%	7	7	1GW
Dibenz(a,h)anthracene	µg/L	1	5	20%	1.2	1.2	1GW
Fluoranthene	µg/L	3	5	60%	0.7	10	1GW
Fluorene	µg/L	1	5	20%	1.5	1.5	5GW
Indeno(1,2,3-cd)pyrene	µg/L	1	5	20%	4.2	4.2	1GW
Naphthalene	µg/L	3	5	60%	0.5	1.1	5GW
Phenanthrene	µg/L	4	5	80%	0.5	4.8	1GW
Pyrene	µg/L	4	5	80%	0.8	10	1GW
<b>PAHs (filtered) None Detected</b>							

mg/L Milligrams per liter.

µg/L Micrograms per liter.

ND Not detected.

NA Not available.

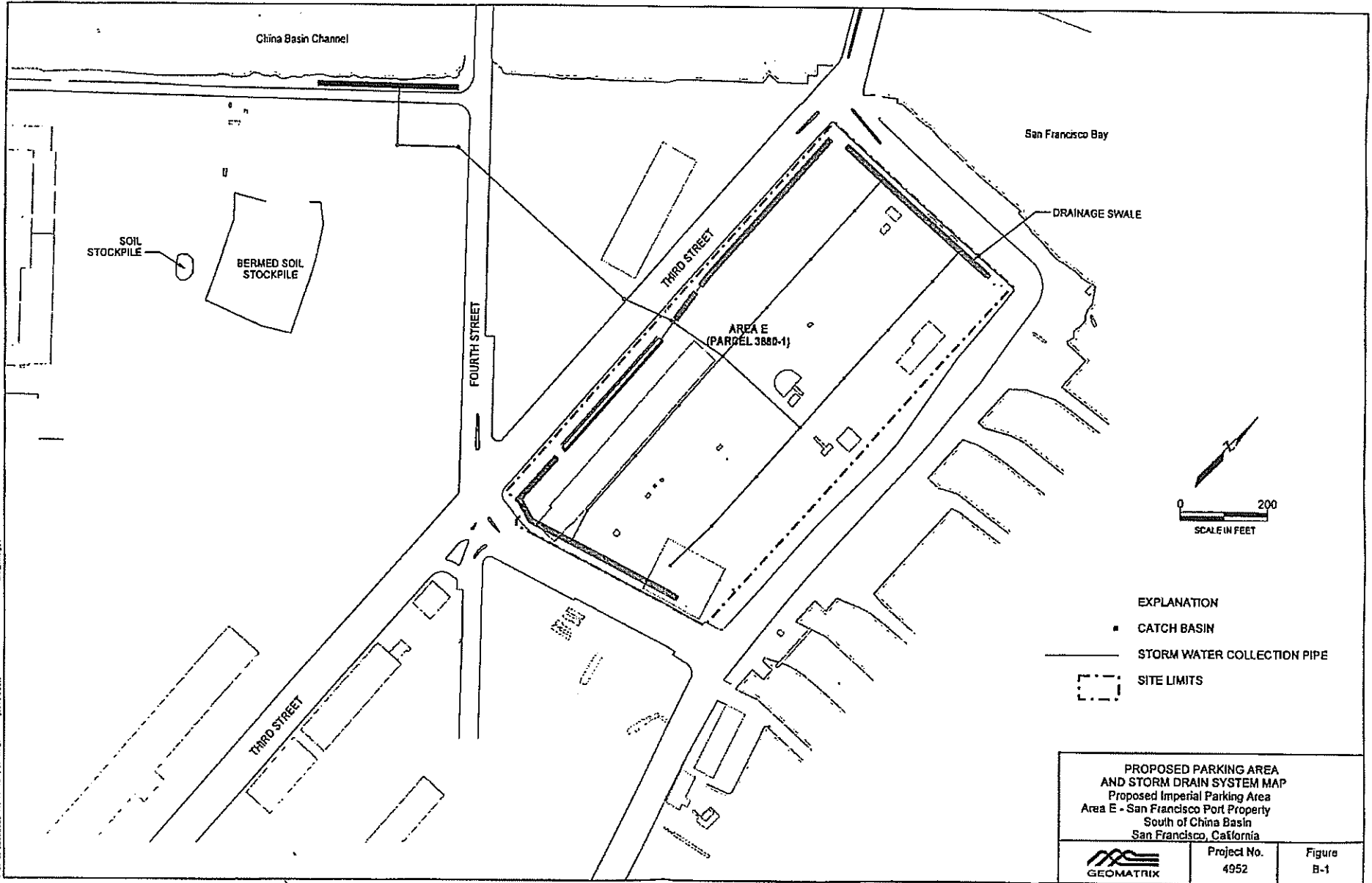
Note: Only detected analytes are listed.



## APPENDIX B

---

# Site Plans Illustrating Alternative Storm Drainage Systems



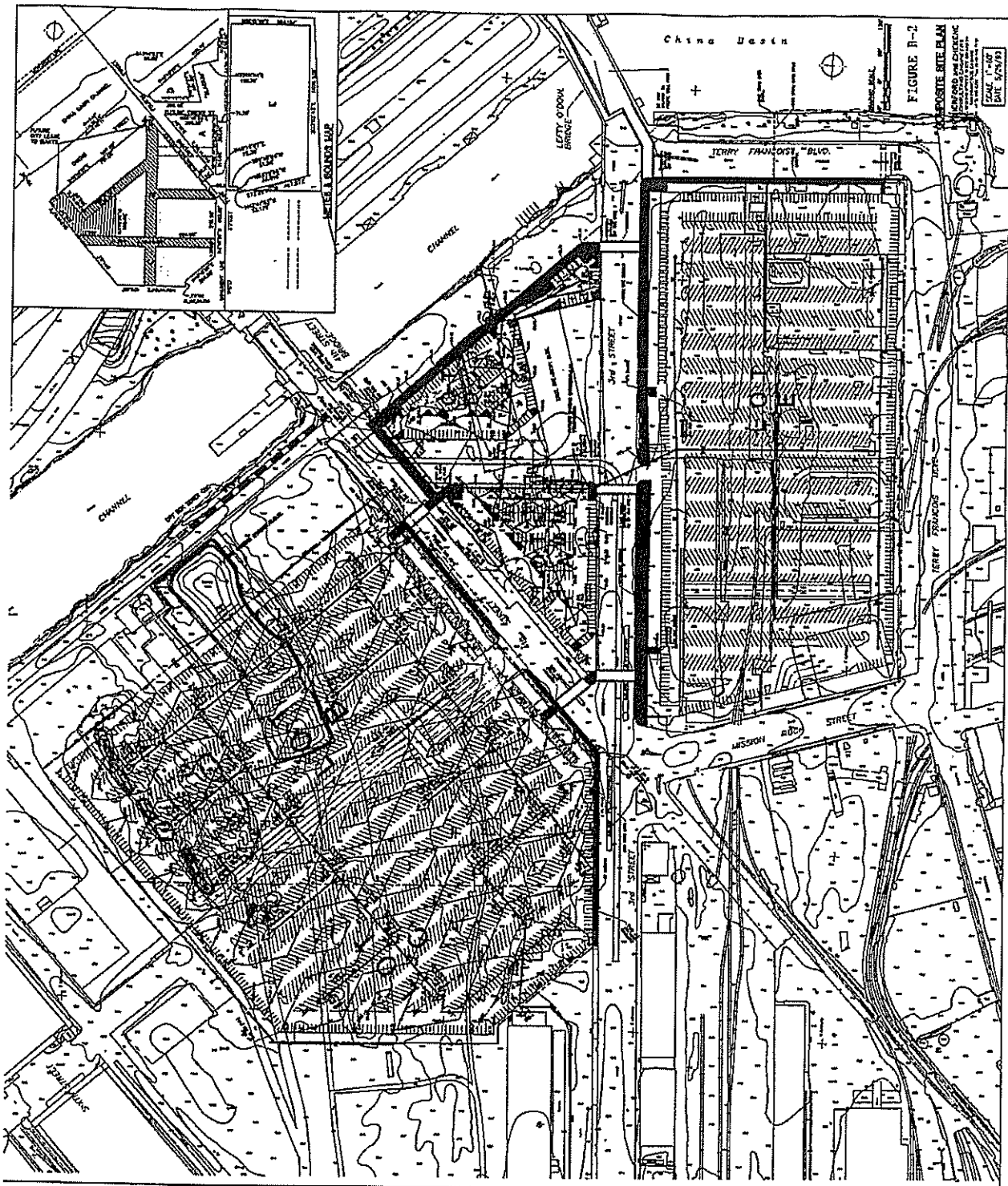


FIGURE P-2  
ALTERNATE SITE PLAN

SCALE 1" = 100'  
DATE 11/1/67  
SHEET 2 OF 2

***Attachment B***

---

**Use Restriction**





San Francisco Assessor-Recorder  
Doris M. Ward, Assessor-Recorder  
**DOC- 2000-G723986-00**

RECORDING REQUESTED BY:  
The Port of San Francisco  
Ferry Building  
San Francisco, California 94111

Acct 25-NO CHARGE DOCUMENT  
Thursday, JAN 27, 2000 10:47:55  
FRE \$0.00  
Ttl Pd \$0.00 Nbr-0001346614  
REEL H561 IMAGE 0199 oed/ER/1-16

WHEN RECORDED, MAIL TO:

Department of Toxic Substances Control  
700 Heinz Avenue, Suite 300  
Berkeley, California 94710  
Attention: Mohinder S. Sandhu, P.E., Chief  
Standardized Permits and Corrective  
Action Branch

N/c  
16

SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE

**COVENANT TO RESTRICT USE OF PROPERTY**

**ENVIRONMENTAL RESTRICTION**

*(Re: H&H Site located at Seawall Lot 337, City and County of San Francisco)*

**This Covenant and Agreement ("Covenant") is made by and between COVENANT TO RESTRICT USE OF PROPERTY**

**ENVIRONMENTAL RESTRICTION**

Re: H&H Site located at Seawall Lot 337, City and County of San Francisco

This Covenant and Agreement ("Covenant") is made by and between the City and County of San Francisco, a charter city and county in trust (the "Covenantor"), the current owner, of certain property situated in the City and County of San Francisco, State of California, described in Exhibit "A", attached hereto and incorporated herein by this reference (the "Property"), and the Department of Toxic Substances Control (the

"Department"). Pursuant to Civil Code section 1471(c), the Department has determined that this Covenant is reasonably necessary to protect present or future human health or safety or the environment as a result of the presence on the land of hazardous materials as defined in Health and Safety Code ("H&SC") section 25260. The Covenantor and the Department, collectively referred to as the "Parties", therefore intend that the use of the Property be restricted as set forth in this Covenant, in order to protect human health, safety and the environment.

ARTICLE I  
STATEMENT OF FACTS

1.01. The Property, totaling approximately 14 acres, is more particularly described in Exhibit "A" and depicted in Exhibit "A-1", attached hereto and incorporated herein by this reference. The Property is located in the area now generally bounded by Terry Francois Boulevard on the North and East, in the City and County of San Francisco, California.

1.02. The site was created by filling marshlands and shallow tidal flats bordering San Francisco Bay between 1877 and 1913. Sources of fill are unknown, but likely included construction/demolition debris and rubble, and rock and dirt cut from nearby hills. Historical uses of the Site include railroad tracks and related support structures, parking and shipping by truck, and truck maintenance. From 1950 to 1996 H&H Ship Service operated a hazardous waste treatment facility, including a tank cleaning area and drum storage unit, and used portions of the Property for vehicle parking and offices.

In 1978 several of the wastes managed at the H&H Ship Service facility were determined to be hazardous wastes subject to federal and state hazardous waste management regulations. Since that time, the Department of Toxic Substances Control (or its predecessor in interest, the Department of Health Services) authorized H&H Ship Service's operations pursuant to an interim status document. Under this authorization the property was a hazardous waste facility (Facility), regulated by the Department, subject to the requirements of the California Hazardous Waste Control Law ("HWCL"), at Health and Safety Code ("H&S Code") section 25100 et seq., and the federal Resource Conservation and Recovery Act ("RCRA"), at 42 U.S.C. section 6901 et seq.

The Department is requiring this Covenant pursuant to the closure requirements of the HWCL, including H&S Code section 25246 and post-closure notices provisions of Title 22 California Code of Regulations [section 66265.119(b) for interim status hazardous waste facilities], as part of the facility closure. The Department circulated a closure plan, dated August 30, 1996 and a draft Categorical Exemption pursuant to the California Environmental Quality Act, Public Resources Code section 21000 et seq for

public review and comment from December 23, 1999 to January 24, 2000. The Department approved the closure plan, closure certification report titled, *RCRA Closure Certification Report, Former H&H Ship Service Facility, San Francisco, California, dated February 4, 1999*, containing a health risk assessment, and the Categorical Exemption on January 26, 2000. Hazardous wastes, which are also hazardous materials as defined in Health and Safety Code sections 25117 and 25260, including petroleum hydrocarbons, polynuclear aromatic hydrocarbons, metals and arsenic, remain in the soil and groundwater at the Site at concentrations below those which would pose a significant human health risk under proposed reuse scenarios. The health risk assessment did not evaluate an unrestricted land use scenario, recreational use involving direct contact with soil, or potential impacts from use of groundwater. Therefore a deed restriction to limit use of the property to those exposure scenarios evaluated and found to be below acceptable risk limits is required as part of the facility closure.

1.03. As detailed in the health risk assessment within the *RCRA Closure Certification Report*, as approved by the Department on January 26, 2000, portions of the surface and subsurface soils on the Site contain hazardous wastes and hazardous materials, as defined in H&S Code section 25117 and 25260, including the following contaminants of concern: arsenic (up to 92 mg/kg) and benzo(a)pyrene (up to 2.5 mg/kg). Groundwater beneath the Property is found within 10 to 20 feet below ground surface. Dissolved arsenic was found in groundwater at up to 812 ug/l. California drinking water standards are arsenic at 50 ug/l. Because the health risk assessment did not evaluate an unrestricted land use scenario, recreational use involving direct contact with soil, or potential impacts from use of groundwater, the Department concluded that use of the Property as a residence, hospital, school for persons under the age of 21, day care center, or recreational use involving direct contact with soil would entail an unacceptable potential human health risk. The Department further concluded that the Property, subject to the restrictions of this Covenant, does not present an unacceptable threat to human safety or the environment.

## ARTICLE II DEFINITIONS

2.01. Department. "Department" shall mean the California Department of Toxic Substances Control and shall include its successor agencies, if any.

2.02. Owner. "Owner" shall mean the Covenantor, its successors in interest, and their successors in interest, including heirs and assigns, who at any time hold title to all or any portion of the Property.

2.03. Occupant. "Occupant" shall mean Owners and any person or entity entitled by ownership, leasehold, or other legal relationship to the right to occupy any portion of the Property.

ARTICLE III  
GENERAL PROVISIONS

3.01. Restrictions to Run With the Land. This Covenant sets forth protective provisions, covenants, restrictions, and conditions (collectively referred to as "Restrictions"), upon and subject to which the Property and every portion thereof shall be improved, held, used, occupied, leased, sold, hypothecated, encumbered, and/or conveyed. Each and every one of the Restrictions: (a) shall run with the land pursuant to H&SC sections 25202.5, and 25202.6 and Civil Code section 1471; (b) shall inure to the benefit of and pass with each and every portion of the Property, (c) shall apply to and bind the respective successors in interest to the Property, (d) are for the benefit of, and shall be enforceable by the Department, and (e) are imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof.

3.02. Binding Upon Owners/Occupants. Pursuant to Health and Safety Code section 25202.5(b), this Covenant shall be binding upon all of the owners of the land, their heirs, successors, and assignees, and the agents, employees, and lessees of the owners, heirs, successors, and assignees. Pursuant to Civil Code section 1471(b), all successive owners of the Property are expressly bound hereby for the benefit of the covenantee(s) herein. "Owner" shall include "Covenantor".

3.04. Written Notice of Hazardous Substance Release. The Owner shall, prior to the sale, lease, or rental of the Property, give written notice that a release of hazardous substances has come to be located on or beneath the Property, pursuant to Health and Safety Code section 25359.7. Such written notice shall include a copy of this Covenant.

ARTICLE IV  
RESTRICTIONS

4.01. Prohibited Uses. The Property shall not be used for any of the following purposes:

- (a) A residence, including any mobile home or factory built housing, constructed or installed for use as residential human habitation;
- (b) A hospital for humans;
- (c) A public or private school for persons under 21 years of age;
- (d) A day care center for children; or
- (e) Recreational use involving direct contact with soil.

4.02. Soil Management

- (a) Any contaminated soils brought to the surface by grading, excavation, trenching or backfilling shall be managed in accordance with all applicable provisions of state and federal law.
- (b) If more than 50 cubic yards of any surface or subsurface soil will be disturbed, including excavation and grading, then the soil shall be evaluated for potential human health risks in compliance with Article 20 of the SF Municipal Code ("the Maher Ordinance"), and managed accordingly.

4.03. Prohibited Activities. The following activities shall not be conducted at the Property:

- (a) No raising of food (e.g., cattle, food crops, cotton, etc.) shall be permitted on the property.
- (b) No groundwater shall be extracted on the Property for purposes other than site remediation or construction dewatering without prior written approval by the Department.

4.04. Access for Department. Covenantor agrees that the Department shall have reasonable right of entry and access to the Property for inspection, monitoring, and other activities consistent with the purposes of this Covenant as deemed necessary by the Department in order to protect the public health and safety.

ARTICLE V  
ENFORCEMENT

5.01. Enforcement. Failure of the Covenantor and/or Owner to comply with any of the Restrictions specifically applicable to it shall be grounds for the Department, by reason of this Covenant, to require that the Covenantor and/or Owner modify or remove any improvements ("Improvements" herein shall mean all buildings, roads, driveways, and paved parking areas, constructed or placed upon any portion of the Property constructed in violation of the Restrictions.) Violation of this Covenant shall be grounds for the Department to file civil and/or criminal actions against the Covenantor and/or Owner as provided by law.

ARTICLE VI  
VARIANCE, TERMINATION, AND TERM

6.01. Variance. Any Owner or, with the Owner's written consent, any Occupant of the Property or any portion thereof may apply to the Department for a written variance from the provisions of this Covenant. Such application shall be made in accordance with H&S Code section 25202.6.

6.02. Termination. Any Owner, and/or, with the Owner's written consent, any Occupant of the Property, or any portion thereof, may apply to the Department for a termination of the Restrictions or other terms of this Covenant as they apply to all or any portion of the Property. Such application shall be made in accordance with H&S Code section 25202.6.

6.03. Term. Unless ended in accordance with the Termination Paragraph above, by law, or by the Department in the exercise of its discretion, this Covenant shall continue in effect in perpetuity.

ARTICLE VII  
MISCELLANEOUS

7.01. No Dedication Intended. Nothing set forth in this Covenant shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Property, or any portion thereof to the general public or anyone else for any purpose whatsoever.

7.02. Department References. All references to the Department include successor agencies/departments or other successor entity.

7.03. Recordation. The Covenantor shall record this Covenant, with all referenced Exhibits, in the County of San Francisco within ten (10) days of the Covenantor's receipt of a fully executed original.

7.04. Notices. Whenever any person gives or serves any notice ("Notice" as used herein includes any demand or other communication with respect to this Covenant), each such Notice shall be in writing and shall be deemed effective: (1) when delivered, if personally delivered to the person being served or to an officer of a corporate party being served, or (2) three (3) business days after deposit in the mail, if mailed by United States mail, postage paid, certified, return receipt requested:

To Owner:

G723986

On or Before 12/31/00:

Port of San Francisco  
3100 Ferry Building  
San Francisco, CA 94111  
Attention: Carol Bach,

With a copy to

Noreen Ambrose  
Port General Counsel  
Port of San Francisco  
3100 Ferry Building  
San Francisco, CA 94111.

After 12/31/00:

Port of San Francisco  
Pier 1  
San Francisco, CA 94111  
Attention: Carol Bach,

With a copy to:  
Noreen Ambrose  
Port General Counsel  
Port of San Francisco  
Pier 1  
San Francisco, CA 94111.

To Department:

California Environmental Protection Agency  
Department of Toxic Substances Control  
700 Heinz Avenue, Suite 300  
Berkeley, CA 94710-2737  
Attention: Branch Chief  
Standardized Permits and Corrective Action Branch

Any party may change its address or the individual to whose attention a notice is to be sent by giving written notice in compliance with this paragraph.

7.05. Partial Invalidity. If any portion of the Restrictions or other term set forth herein is determined by a court of competent jurisdiction to be invalid for any reason, the surviving portions of this Covenant shall remain in full force and effect as if such portion found invalid had not been included herein.

G723986

IN WITNESS WHEREOF, the Parties execute this Covenant.

"Covenantor"

CITY & COUNTY OF SAN FRANCISCO

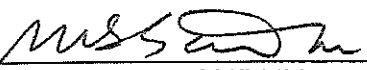
Date: 2/26/2000

By:   
DOUGLAS F. WONG  
Its: Executive Director  
PORT OF SAN FRANCISCO

"Department"

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Date: 1/26/00

By:   
MOHINDER S. SANDHU  
Its: Chief, Standardized Permits and Corrective Action  
Branch



CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

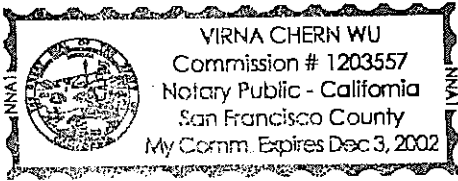
State of California }  
County of San Francisco } ss.

On January 26, 2000, before me, Virna C. Wu, "Notary Public"  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Douglas Farrell Wong  
Name(s) of Signer(s)

personally known to me  
 proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Virna C. Wu  
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Environmental Restriction

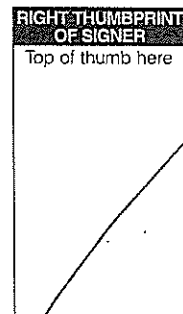
Document Date: 1/26/2000 Number of Pages: 8 + 6 (Parcel M, C, D)

Signer(s) Other Than Named Above: None

Capacity(ies) Claimed by Signer

- Signer's Name: Douglas Farrell Wong
- Individual
- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: Port Executive Director

Signer Is Representing: Port of San Francisco



G723986

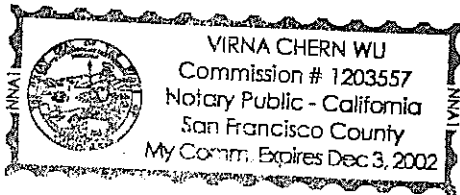
CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California }
County of San Francisco } ss.

On January 26, 2000, before me, Virna C. Wu, "Notary Public"
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Mohinder Singh Sandhu
Name(s) of Signer(s)

personally known to me
proved to me on the basis of satisfactory evidence



to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Environmental Restriction

Document Date: 01/26/2000 Number of Pages: 8+6 (Parcel A, C, D)

Signer(s) Other Than Named Above: None

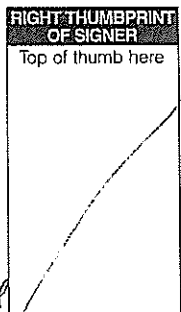
Capacity(ies) Claimed by Signer

Signer's Name: Mohinder Singh Sandhu

- Individual
Corporate Officer - Title(s):
Partner - Limited General
Attorney in Fact
Trustee
Guardian or Conservator

Other: Chief, Standardized Permits & Collective Action Branch

Signer Is Representing: Dept. of Toxic Substances Control



G723986

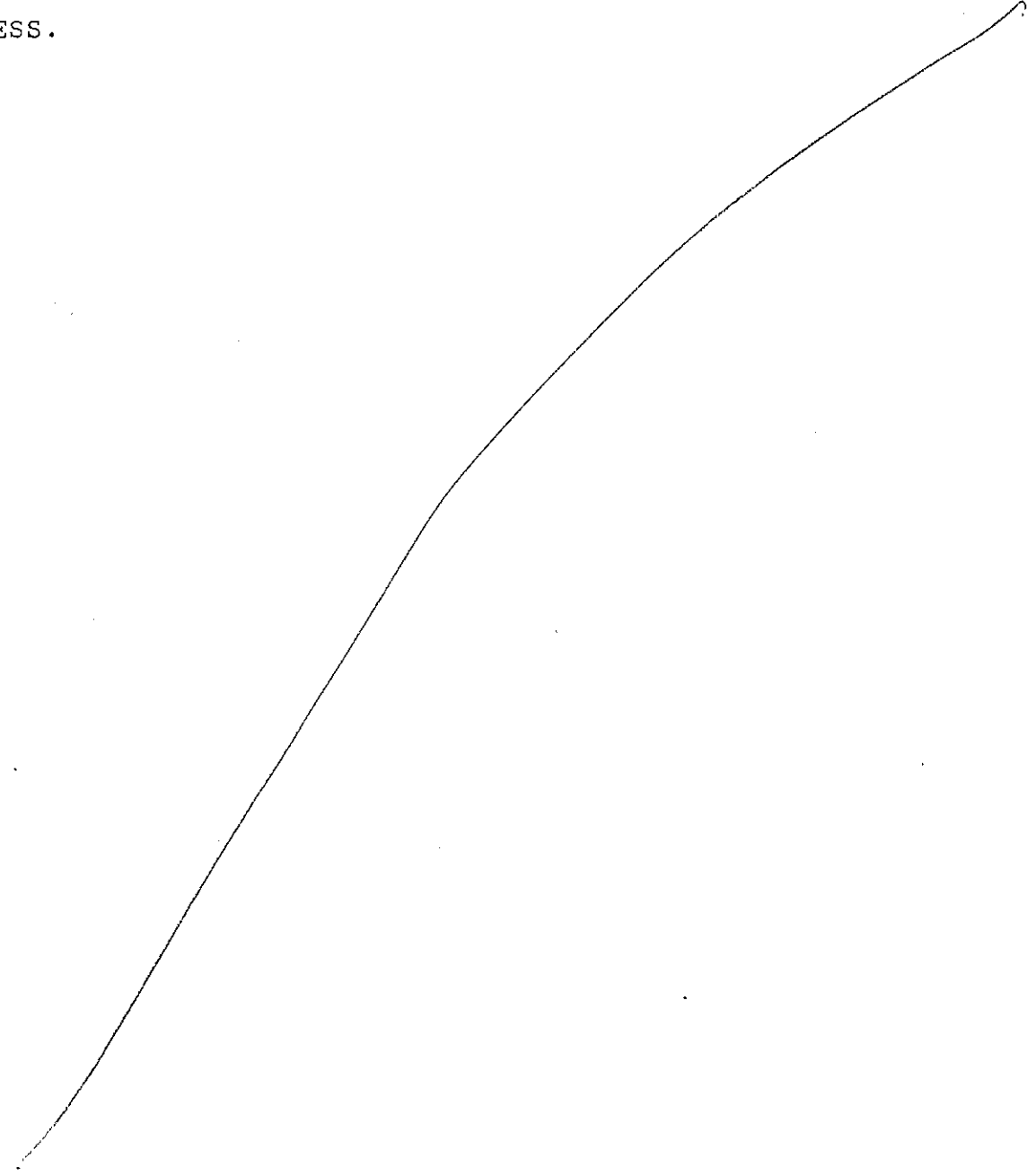
SEAWALL LOT 337

.PARCEL A

ALL THAT CERTAIN REAL PROPERTY SITUATED AT THE CITY AND COUNTY OF SAN FRANCISCO, BEING A PORTION OF SEAWALL LOT 337 OF THE SAN FRANCISCO PORT AUTHORITY, DESCRIBED AS FOLLOWS; COMMENCING AT THE SOUTHWEST CORNER OF THE INTERSECTION OF TOWNSEND STREET AND DELANCEY STREET (FORMERLY FIRST STREET), SAID CORNER BEING INNER 14 OF THE INNER WATERFRONT LINE AS DESCRIBED IN THE RECORDS ON FILE AT THE OFFICE OF ENGINEERING OF THE SAN FRANCISCO PORT AUTHORITY; RUNNING THENCE ALONG SAID INNER WATERFRONT LINE AT S 3DEG 02'27" E A DISTANCE OF 2,217.59 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG THE LAST AFOREMENTIONED COURSE A DISTANCE OF 149.77 FEET; THENCE AT S 86DEG 57'33" W A DISTANCE OF 38.12 FEET; THENCE AT S 3DEG 14'22" E A DISTANCE OF 31.51 FEET; THENCE AT N 86DEG 45'38" E A DISTANCE OF 55.69 FEET; THENCE AT S 3DEG 02'27" E A DISTANCE OF 120.00 FEET; THENCE AT S 86DEG 45'38" W A DISTANCE OF 55.27 FEET; THENCE AT N 3DEG 14'22" W A DISTANCE OF 120.00 FEET; THENCE AT S 86DEG 45'38" W A DISTANCE OF 40.17 FEET; THENCE AT S 3DEG 14'22" E A DISTANCE OF 120.00 FEET; THENCE AT N 86DEG 45'38" E A DISTANCE OF 40.17 FEET; THENCE AT S 3DEG 14'22" E A DISTANCE OF 48.20 FEET; THENCE AT S 86DEG 57'33" W A DISTANCE OF 142.25 FEET; THENCE AT

G723986

S 86DEG 50'57" W A DISTANCE OF 111.99 FEET; THENCE AT  
N 3DEG 10'55" W A DISTANCE OF 200.00 FEET; THENCE AT  
N 86DEG 57'33" E A DISTANCE OF 171.00 FEET; THENCE AT  
N 3DEG 02'27" W A DISTANCE OF 149.48 FEET; THENCE AT  
N 86DEG 49'20" E A DISTANCE OF 121.29 FEET TO THE TRUE POINT OF  
BEGINNING, CONTAINING AN AREA OF 70,765.20 SQUARE FEET, MORE  
OR LESS.

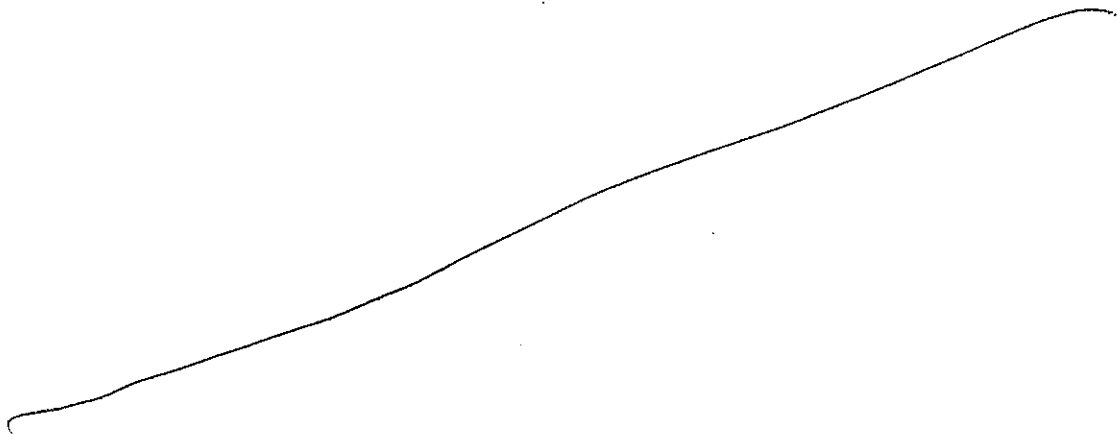


G723986

SEAWALL LOT 337

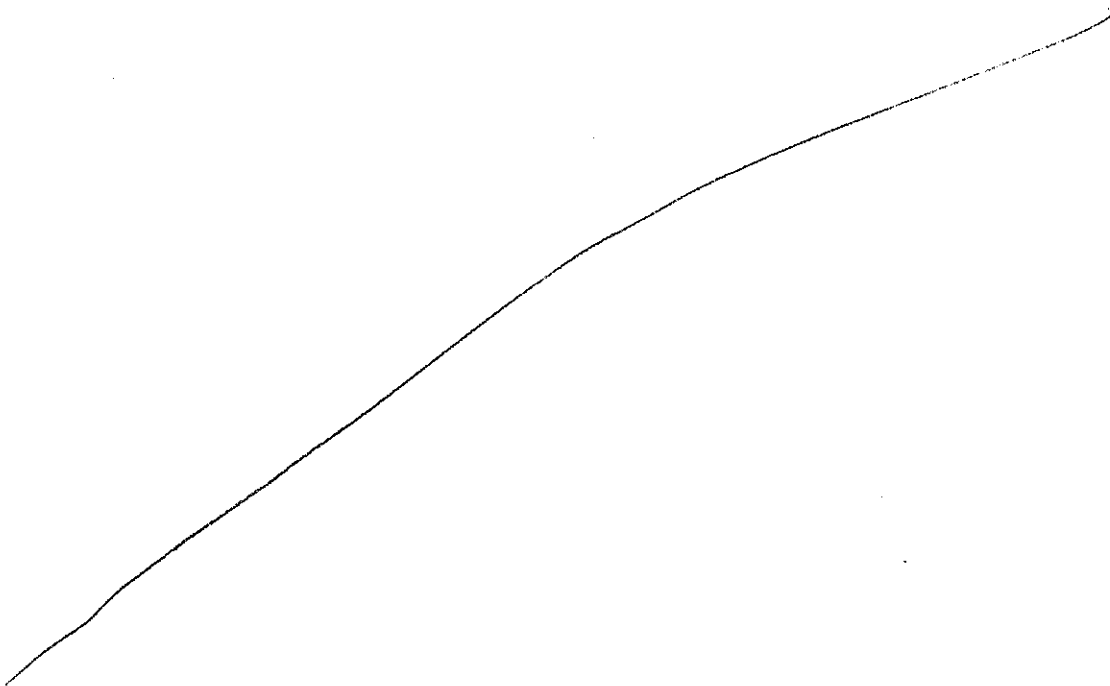
PARCEL C

BEING A PORTION OF SEAWALL LOT 337 OF THE SAN FRANCISCO PORT AUTHORITY ,CITY AND COUNTY OF SAN FRANCISCO, BRIEFLY DESCRIBED AS FOLLOWS; COMMENCING AT THE SOUTHWEST CORNER OF THE INTERSECTION OF TOWNSEND STREET AND DELANCEY STREET (FORMERLY FIRST STREET), SAID CORNER BEING INNER 14 OF THE INNER WATERFRONT LINE AS DESCRIBED IN THE RECORDS ON FILE AT THE OFFICE OF ENGINEERING OF THE SAN FRANCISCO PORT AUTHORITY; RUNNING THENCE ALONG THE AFORESAID INNER WATERFRONT LINE AT S 3DEG 02'27" E A DISTANCE OF 2,367.36 FEET TO THE TRUE POINT OF BEGINNING; THENCE AT S 48DEG 02'27" E A DISTANCE OF 25.00 FEET; THENCE AT S 3DEG 02'27" E A DISTANCE OF 13.64 FEET; THENCE AT S 86DEG 45'38" W A DISTANCE OF 55.69 FEET; THENCE AT N 3DEG 14'22" W A DISTANCE OF 31.51 FEET; THENCE AT N 86DEG 57'33" E A DISTANCE OF 38.12 FEET TO THE TRUE POINT OF BEGINNING, CONTAINING AN AREA OF 1,594.90 SQUARE FEET, MORE OR LESS.



G723986

ALSO INCLUDED IN THIS PARCEL IS A PORTION OF SEAWALL  
LOT 337 BRIEFLY DESCRIBED AS FOLLOWS;  
COMMENCING AT THE SOUTHWEST CORNER OF THE INTERSECTION OF  
TOWNSEND STREET AND DELANCEY STREET (FORMERLY FIRST STREET)  
SAID POINT BEING INNER 14 OF THE INNER WATERFRONT LINE AS  
DESCRIBED IN THE RECORDS ON FILE AT THE OFFICE OF ENGINEERING  
OF THE SAN FRANCISCO PORT AUTHORITY; RUNNING THENCE ALONG THE  
AFORESAID INNER WATERFRONT LINE A DISTANCE OF 2,518.74 FEET;  
THENCE AT N 86DEG 45'38" E A DISTANCE OF 17.66 FEET TO THE  
TRUE POINT OF BEGINNING; THENCE AT S 3DEG 02'27" E DISTANCE OF  
30.72 FEET; THENCE AT S 41DEG 57'33" W A DISTANCE OF 25.00  
FEET; THENCE S 86DEG 57'33" W A DISTANCE OF 37.43 FEET; THENCE  
AT N 3DEG 14'22" W A DISTANCE OF 48.20 FEET; THENCE AT  
N 86DEG 45'38" E DISTANCE OF 55.27 FEET TO THE TRUE POINT  
OF BEGINNING, CONTAINING AN AREA OF 2,509.60 SQUARE FEET, MORE  
OR LESS.



G723986

SEAWALL LOT 337

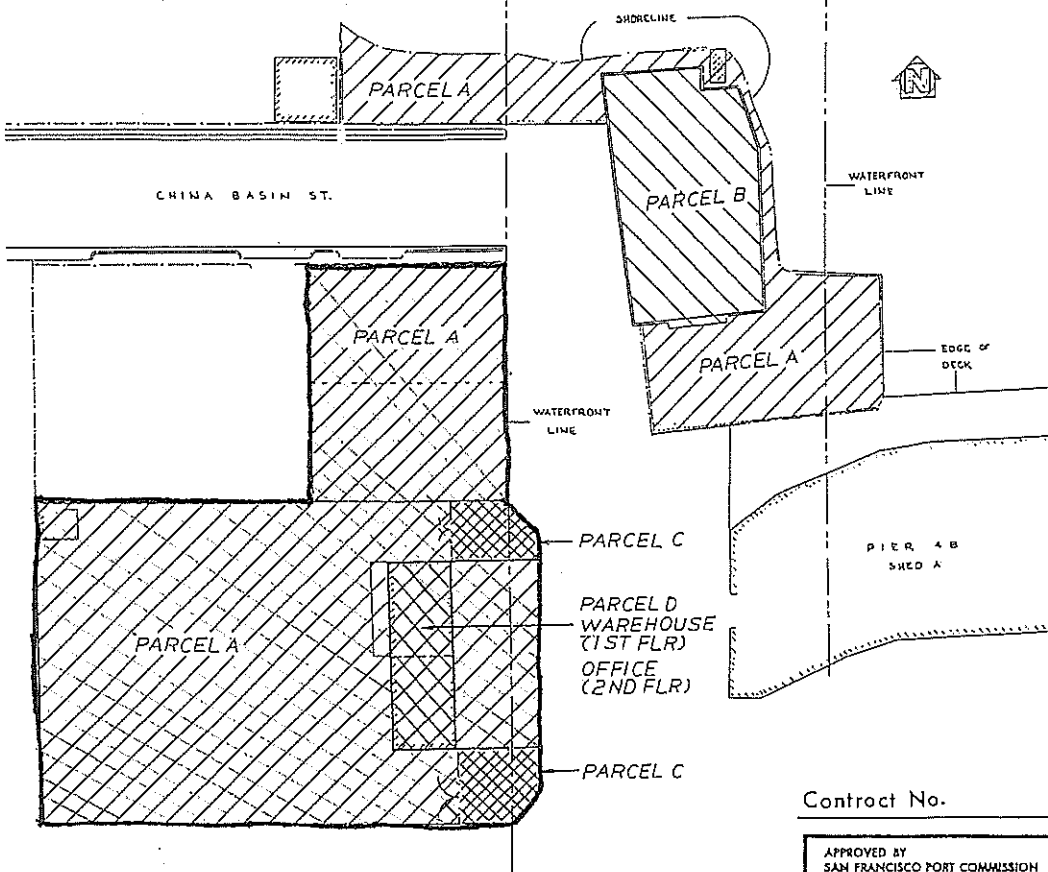
PARCEL D

PARCEL D IS A TWO-STORY WAREHOUSE AND OFFICE BUILDING LOCATED AT CHINA BASIN STREET WHOSE FOOTPRINT IS BRIEFLY DESCRIBED AS FOLLOWS;

COMMENCING AT THE SOUTHWEST CORNER OF THE INTERSECTION OF TOWNSEND STREET AND DELANCEY STREET (FORMERLY FIRST STREET), SAID POINT BEING INNER 14 OF THE INNER WATERFRONT LINE AS DESCRIBED IN THE RECORDS ON FILE AT THE OFFICE OF ENGINEERING OF THE SAN FRANCISCO PORT AUTHORITY; RUNNING THENCE SOUTHERLY ALONG THE AFORESAID INNER WATERFRONT LINE AT S 3DEG 02'27" E A DISTANCE OF 2,398.74 FEET; THENCE AT N 86DEG 45'38" E A DISTANCE OF 38.02 FEET TO THE TRUE POINT OF BEGINNING; THENCE AT S 3DEG 14'22" E A DISTANCE OF 120.00 FEET; THENCE AT S 86DEG 45'38" W A DISTANCE OF 40.17 FEET; THENCE AT N 3DEG 14'22" W A DISTANCE OF 120.00 FEET; THENCE AT N 86DEG 45'38" E A DISTANCE OF 40.17 FEET TO THE TRUE POINT OF BEGINNING, CONTAINING AN AREA OF 4,820.00 SQUARE FEET, MORE OR LESS.

ALSO INCLUDED IN THIS PARCEL IS THE SECOND FLOOR OFFICE SPACE OF THE AFOREMENTIONED TWO-STORY BUILDING WITH AN AREA OF 2,414.00 SQUARE FEET, MORE OR LESS.

G723986



PARCEL A	91,844 SF
PARCEL B	14,071 SF
SUB TOTAL	105,915 SF
PARCEL C	4,105 SF
PARCEL D	
WAREHOUSE	4,820 SF
OFFICE	2,414 SF
TOTAL	117,254 SF

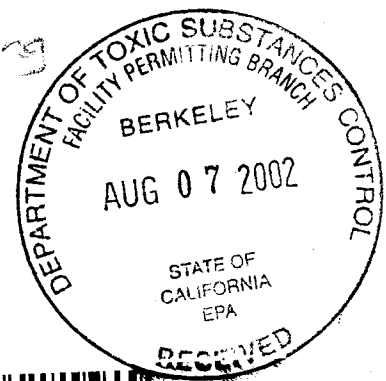
NO.	DATE	DESCRIPTION
REVISIONS		
PORT OF SAN FRANCISCO SAN FRANCISCO PORT COMMISSION DEPARTMENT OF ENGINEERING		
<b>EXHIBIT A-1</b> H & H SHIP SERVICE CO. LEASE NO. L-11679		
DRAWN BY	E.C.C.	CHECKED BY
DESIGNED BY		DATE
SECTION HEAD		SCALE
DRAWING NO.		SHEET NO.
		OF SHEETS

Contract No.

APPROVED BY  
SAN FRANCISCO PORT COMMISSION  
DATE July 21, 1982  
*Chil Parrot*  
CHIEF ENGINEER



20020807-10-Wong



RECORDING REQUESTED BY:  
The Port of San Francisco  
Ferry Building  
San Francisco, California 94111

WHEN RECORDED, MAIL TO

Department of Toxic Substances Control  
700 Heinz Avenue, Suite 300  
Berkeley, California 94710  
Attention: Mohinder S. Sandhu, P.E., Chief  
Standardized Permits and Corrective Action  
Branch

San Francisco Assessor-Recorder  
Doris M. Ward, Assessor-Recorder  
**DOC- 2002-H209674-00**

Acct 25-NO CHARGE DOCUMENT  
Thursday, JUL 25, 2002 12:45:40  
Ttl Pd \$0.00 Nbr-0001906468  
**REEL I187 IMAGE 0545**  
0J1/JL/1-14

---

SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE

COVENANT TO RESTRICT USE OF PROPERTY

ENVIRONMENTAL RESTRICTION

*(Re: H&H Site located at China Basin Channel and Terry Francois Blvd, City and County of San Francisco)*

---

---

This Covenant and Agreement ("Covenant") is made by and between the City and County of San Francisco, a charter city and county in trust (the "Covenantor"), the current owner of certain property situated in the City and County of San Francisco, State of California, described in Exhibit "A", attached hereto and incorporated herein by this reference (the "Property"), and the Department of Toxic Substances Control (the "Department"). Pursuant to Civil Code section 1471(c) and the California Health and Safety Code, Section 25222.1, the Department has determined that this Covenant is reasonably necessary to protect present or future human health or safety or the environment as a result of the presence on the land of hazardous materials as defined in Health and Safety Code ("H&SC"), Section 25260. The Covenantor and the Department, collectively referred to as the "Parties", therefore intend that the use of the Property be restricted as set forth in this Covenant, in order to protect human health,

safety and the environment.

ARTICLE I  
STATEMENT OF FACTS

1.01. The Property, totaling approximately 0.6 acres, is more particularly described in Exhibit "A" and depicted in Exhibit "A-1", attached hereto and incorporated herein by this reference. The Property is located in the area now generally bounded by Terry Francois Boulevard to the west, China Basin Channel to the north, and San Francisco Bay to the east, in the City and County of San Francisco, California.

1.02. The site was created by filling marshlands and shallow tidal flats bordering San Francisco Bay between 1877 and 1913. Sources of fill are unknown, but likely included construction/demolition debris and rubble, and rock and dirt cut from nearby hills. Historical uses of the Site include railroad tracks and related support structures and parking. From 1950 to 1996 H&H Ship Service occupied the area for wastewater treatment and transfer operations, including aboveground storage tanks for receiving, settling and treating wastewater containing petroleum.

In 1978 several of the wastes managed at the H&H Ship Service facility were determined to be hazardous wastes subject to federal and state hazardous waste management regulations. Since that time, the Department of Toxic Substances Control (or its predecessor in interest, the Department of Health Services) authorized H&H Ship Service's operations pursuant to an interim status document. Under this authorization the property was a hazardous waste facility (Facility), regulated by the Department, subject to the requirements of the California Hazardous Waste Control Law ("HWCL"), at Health and Safety Code ("H&S Code") section 25100 et seq., and the federal Resource Conservation and Recovery Act ("RCRA"), at 42 U.S.C. section 6901 et seq. Under Interim Status, the property was a portion of the Facility that was known as the Treatment/Transfer Area (TTA).

The Department is requiring this Covenant pursuant to the closure requirements of the HWCL, including H&S Code section 25246 and post-closure notices provisions of Title 22 California Code of Regulations [section 66265.119(b) for interim status hazardous waste facilities], as part of the facility closure. In 1994, the Department reviewed H&H's Closure Plan to ensure that the closure of the TTA met the requirements in Title 22, California Code of Regulations, Chapter 15, Article 7. The Department circulated the draft Closure Plan and Proposed Negative Declaration for public review and comment from August 11, 1994 to September 13, 1994. The Department approved the Closure Plan on January 13, 1995 and filed a Notice of Determination for the project with the

State Clearinghouse on February 15, 1995.

The Department reviewed the closure certification report titled, *RCRA Closure Certification Report, Former H&H Ship Service Facility, San Francisco, California*, (February 4, 1999), and subsequent submittals titled *Response to Comments, RCRA Closure Certification Report, Former H&H Ship Service Facility*, (November 2, 1999); *Results of Article 20 Sampling Program. Proposed China Basin Park Area* (July 2000); *Site Investigation and Surface Soil Sampling Results, Former H&H Ship Service Company – Treatment Transfer Area Parcel* (February 28, 2002); and *Addendum to the Article 20 Health Risk Assessment* (July 18, 2002). Upon filing of this deed restriction, the Department will approve the closure certification report.

Hazardous wastes, which are also hazardous materials as defined in Health and Safety Code sections 25117 and 25260, including petroleum hydrocarbons, polynuclear aromatic hydrocarbons, metals and arsenic, remain in the soil and groundwater at the Site at concentrations below those which would pose a significant human health risk under proposed reuse scenarios. Therefore a deed restriction to limit use of the property to those exposure scenarios evaluated and found to be below acceptable risk limits is required as part of the facility closure.

1.03. As detailed in the above-referenced reports, portions of the surface and subsurface soils on the Site contain hazardous wastes and hazardous materials, as defined in H&S Code section 25117 and 25260, including the following contaminants of concern: arsenic (up to 96 mg/kg) and benzo(a)pyrene (up to 11 mg/kg). Groundwater beneath the Property is found within 10 to 20 feet below ground surface. Dissolved arsenic was found in groundwater at up to 180 ug/l. The California drinking water standard for arsenic is 50 ug/l.

A review of the analytical results and the chemical distribution suggests that there are "hot spots". Hot spots are areas of affected soil or groundwater having concentrations higher than an empirically determined percentile of the distribution of concentrations in a particular population. 65 soil samples from 20 locations at various depths were collected within the TTA. Elevated concentrations of benzo(a)pyrene equivalent B(a)P EQ were measured in samples collected from two borings locations (EB-1, 19.8 milligrams per kilogram [mg/kg]) and (EB-20, 7.9 mg/kg). One surface soil sample (GMX-08) contained B(a)P EQ concentration of 1.5 mg/kg. All other concentrations of B(a)P EQ were less than 1 mg/kg. Elevated concentrations of arsenic and lead were observed in samples collected from borings EB-1 (3,000 mg/kg lead), EB-5 (96 mg/kg arsenic and 1,300 mg/kg lead), and EB-18 (2,400 mg/kg lead). Borings EB-1 and EB-5 are located in the eastern section of the TTA; GMX-08 is located near the northern perimeter; and borings EB-18 and EB-20 are located in the southwest section.

Based on these observations, borings EB-1, EB-5, GMX-08, EB-18, and EB-20 can be considered hot spots. However, each of borings is located under a concrete/asphalt

foundation or a compacted aggregate/crushed rock/roadbase material. The concrete/asphalt foundation or compacted aggregate/crushed rock/roadbase material serves as a physical barrier preventing direct contact with chemicals in soil; thus, there are no potential direct exposure pathways to chemicals at these hot spots by future receptors. If in the unlikely event that the concrete/asphalt foundation is removed, the excess cancer risk to a receptor from the hot spots would range from  $9 \times 10^{-5}$  to  $3 \times 10^{-6}$ .

Imported topsoil at least 18 inches thick followed by a layer of sod will be placed over the existing asphalt-concrete foundation. The concrete is present at one foot thick to at least 3 feet thick across approximately two-third of the TTA. The remaining one-third of the TTA is currently overlain with an aggregate/crushed rock/roadbase material. The concrete/asphalt foundation and compacted aggregate/crushed rock/roadbase layer precludes a complete exposure pathway. Additional of the 18 inches of topsoil and sod layer will eliminate potential direct exposures to soil in fill material within the TTA.

In order to ensure that no complete pathways are established, the Department will require that the existing concrete/asphalt foundation remain undisturbed so long as the intended use of the Property is to be a recreational park. Additionally, the Department will require that the site be covered (capped) with at least eighteen (18) inches of imported topsoil on top of an indicator lining material to denote the separation of the topsoil from native fill. Because the health risk assessment also did not evaluate an unrestricted land use scenario or potential impacts from use of groundwater, the Department concluded that use of the Property as a residence, hospital, school for persons under the age of 21, or day care center would entail an unacceptable use. The Department further concluded that the Property, subject to the restrictions of this Covenant, does not present an unacceptable threat to human safety or the environment.

## ARTICLE II DEFINITIONS

2.01. Department. "Department" shall mean the California Department of Toxic Substances Control and shall include its successor agencies, if any.

2.02. Owner. "Owner" shall mean the Covenantor, its successors in interest, and their successors in interest, including heirs and assigns, who at any time hold title to all or any portion of the Property.

2.03. Occupant. "Occupant" shall mean Owners and any person or entity entitled by ownership, leasehold, or other legal relationship to the right to occupy any portion of the Property.

2.04. Cap. "Cap" shall mean eighteen (18) inches of imported topsoil on top of

an indicator lining material which is used to denote the separation of the imported topsoil from native fill.

2.05 Concrete/Asphalt Foundation. "Concrete/Asphalt Foundation" shall mean the existing concrete/asphalt surface which is overlain approximately two-third of the Property.

### 2.03. ARTICLE III GENERAL PROVISIONS

3.01. Restrictions to Run With the Land. This Covenant sets forth protective provisions, covenants, restrictions, and conditions (collectively referred to as "Restrictions"), upon and subject to which the Property and every portion thereof shall be improved, held, used, occupied, leased, sold, hypothecated, encumbered, and/or conveyed. Each and every one of the Restrictions: (a) shall run with the land pursuant to H&SC sections 25202.5, and 25202.6 and Civil Code section 1471; (b) shall inure to the benefit of and pass with each and every portion of the Property, (c) shall apply to and bind the respective successors in interest to the Property, (d) are for the benefit of, and shall be enforceable by the Department, and (e) are imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof.

3.02. Binding Upon Owners/Occupants. Pursuant to Health and Safety Code section 25202.5(b), this Covenant shall be binding upon all of the owners of the land, their heirs, successors, and assignees, and the agents, employees, and lessees of the owners, heirs, successors, and assignees. Pursuant to Civil Code section 1471(b), all successive owners of the Property are expressly bound hereby for the benefit of the covenantee(s) herein. "Owner" shall include "Covenantor".

3.03. Written Notice of Hazardous Substance Release. The Owner shall, prior to the sale, lease, or rental of the Property, give written notice that a release of hazardous substances has come to be located on or beneath the Property, pursuant to Health and Safety Code section 25359.7. Such written notice shall include a copy of this Covenant.

3.04. Incorporation into Deeds and Leases. The Restrictions set forth herein shall be incorporated by reference in each and all deeds and leases for any portion of the Property.

3.05. Conveyance of Property. Covenantor agrees that the Owner shall provide notice to the Department not later than thirty (30) days after any conveyance of any ownership interest in the Property (excluding mortgages, liens, and other non-possessory encumbrances). The Department shall not, by reason of this Covenant, have authority to approve, disapprove, or otherwise affect such proposed conveyance, except as otherwise provided by law, by administrative order, or specific provision of this Covenant.

ARTICLE IV  
RESTRICTIONS

4.01. Prohibited Uses. The Property shall not be used for any of the following purposes:

- (a) A residence, including any mobile home or factory built housing, constructed or installed for use as residential human habitation;
- (b) A public or private school for persons under 21 years of age; or
- (c) A hospital for humans; or
- (c) A day care center for children.

4.02 Prohibited Activities. The following activities shall not be conducted at the Property:

- (a) No raising of food (e.g., cattle, food crops, cotton, etc.) shall be permitted on the property.
- (b) No groundwater shall be extracted on the Property for purposes other than site remediation or construction dewatering without prior written approval by the Department.

4.03 Non-Interference with the Cap. Covenantor agrees:

- (a) No activities which will disturb the Cap (e.g. excavation, grading, removal, trenching, filling, earth movement, or mining) shall be permitted on the Property without prior review and approval by the Department.
- (b) All uses and development of the Property shall preserve the integrity of the Cap.
- (c) Any proposed alteration of the Cap shall require written approval by the Department.
- (d) Covenantor shall notify the Department of each of the following: (i) The type, cause, location and date of any disturbance to the Cap which could affect the ability of the Cap to contain subsurface hazardous materials in the Property, and (ii) the type and date of repair of such disturbance. Notification to the Department shall be made as provided below within ten (10) working days of both the discovery of any such disturbance(s) and the completion of any repairs. Timely and accurate notification by any Owner or Occupant shall satisfy this requirement on behalf of all other

## Owners and Occupants.

4.04. Management of Native Fill and Concrete/Asphalt Foundation Material

- (a) All uses and development of the Property shall preserve the integrity of the existing Concrete/Asphalt Foundation.
- (b) No activities (e.g., excavation, grading, removal, trenching, filling, earth movement or mining) which will disturb the native fill and/or the Concrete/Asphalt Foundation material underlying the Cap as indicated in Exhibit B shall be permitted on the Property without a Department-approved Soil Management Plan and Health and Safety Plan.
- (c) Native fill and/or Concrete/Asphalt Foundation material shall not be managed or handled such that it may migrate into the bay.
- (d) Any native fill and/or Concrete/Asphalt Foundation material brought to the surface by grading, excavation, trenching or backfilling shall be managed in accordance with the applicable state and federal laws and their implementing regulations.
- (e) The Owner shall provide the Department written notice at least fourteen (14) days prior to any building, filling, grading, mining or excavating at the Property.
- (f) If more than 50 cubic yards of any native fill will be disturbed, including excavation and grading, then the soil shall be evaluated for potential human health risks in compliance with Article 20 of the SF Municipal Code ("the Maher Ordinance"), and managed accordingly.
- (g) Covenantor shall notify the Department of each of the following: (i) The type, cause, location and date of any disturbance to the native fill and/or Concrete/Asphalt Foundation which could affect the ability of the Concrete/Asphalt Foundation to contain subsurface hazardous materials in the Property, and (ii) the type and date of repair of such disturbance. Notification to the Department shall be made as provided below within ten (10) working days of both the discovery of any such disturbance(s) and the completion of any repairs. Timely and accurate notification by any Owner or Occupant shall satisfy this requirement on behalf of all other Owners and Occupants.

4.05. Access for Department. Covenantor agrees that the Department shall

have reasonable right of entry and access to the Property for inspection, monitoring, and other activities consistent with the purposes of this Covenant as deemed necessary by the Department in order to protect the public health and safety.

ARTICLE V  
ENFORCEMENT

5.01. Enforcement. Failure of the Covenantor and/or Owner to comply with any of the Restrictions specifically applicable to it shall be grounds for the Department, by reason of this Covenant, to require that the Covenantor and/or Owner modify or remove any improvements ("Improvements" herein shall mean all buildings, roads, driveways, and paved parking areas, constructed or placed upon any portion of the Property constructed in violation of the Restrictions.) Violation of this Covenant shall be grounds for the Department to file civil and/or criminal actions against the Covenantor and/or Owner as provided by law.

ARTICLE VI  
VARIANCE, TERMINATION, AND TERM

6.01. Variance. Any Owner or, with the Owner's written consent, any Occupant of the Property or any portion thereof may apply to the Department for a written variance from the provisions of this Covenant. Such application shall be made in accordance with H&S Code section 25202.6.

6.02. Termination. Any Owner, and/or, with the Owner's written consent, any Occupant of the Property, or any portion thereof, may apply to the Department for a termination of the Restrictions or other terms of this Covenant as they apply to all or any portion of the Property. Such application shall be made in accordance with H&S Code section 25202.6.

6.03. Term. Unless ended in accordance with the Termination Paragraph above, by law, or by the Department in the exercise of its discretion, this Covenant shall continue in effect in perpetuity.

ARTICLE VII  
MISCELLANEOUS

7.01. No Dedication Intended. Nothing set forth in this Covenant shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Property, or any portion thereof to the general public or anyone else for any purpose whatsoever.

7.02. Department References. All references to the Department include successor agencies/departments or other successor entity.



7.03. Recordation. The Covenantor shall record this Covenant, with all referenced Exhibits, in the County of San Francisco within ten (10) days of the Covenantor's receipt of a fully executed original.

7.04. Notices. Whenever any person gives or serves any notice ("Notice" as used herein includes any demand or other communication with respect to this Covenant), each such Notice shall be in writing and shall be deemed effective: (1) when delivered, if personally delivered to the person being served or to an officer of a corporate party being served, or (2) three (3) business days after deposit in the mail, if mailed by United States mail, postage paid, certified, return receipt requested:

To Owner:

Carol Bach  
Assist. Deputy Director, Environmental Health and Safety  
Port of San Francisco  
Pier 1  
San Francisco, CA 94111

With a copy to:

Noreen Ambrose  
Port General Counsel  
Port of San Francisco  
Pier 1  
San Francisco, CA 94111.

To Department:

California Environmental Protection Agency  
Department of Toxic Substances Control  
700 Heinz Avenue, Suite 300  
Berkeley, CA 94710-2737  
Attention: Chief, Standardized Permits and Corrective Action  
Branch

Any party may change its address or the individual to whose attention a notice is to be sent by giving written notice in compliance with this paragraph.

7.05. Partial Invalidity. If any portion of the Restrictions or other term set forth herein is determined by a court of competent jurisdiction to be invalid for any reason, the surviving portions of this Covenant shall remain in full force and effect as if such portion found invalid had not been included herein.

H209674

IN WITNESS WHEREOF, the Parties execute this Covenant.

"Covenantor"

Date: 7/24/02

By: //original signed by//  
DOUGLAS F. WONG  
Its: Executive Director

"Department"

Date: 7/24/02

By: //original signed by//  
Mohinder S. Sandhu, P.E.  
Its: Chief, Standardized Permits and Corrective Action  
Branch

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California }  
County of San Francisco } ss.

On July 24, 2002, before me, Virna C. Wu "Notary Public"  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Mohinder Singh Sandhu  
Name(s) of Signer(s)

- personally known to me
- ~~proved to me on the basis of satisfactory evidence~~

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

//original signed by//  
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Covenant to Restrict Use of Property

Document Date: None Number of Pages: 10 Pages + Exhibits A & B

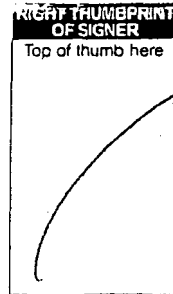
Signer(s) Other Than Named Above: None

Capacity(ies) Claimed by Signer

Signer's Name: Mohinder Singh Sandhu

- Individual
- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: Port Executive Director

Signer Is Representing: Port of San Francisco



H209674

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

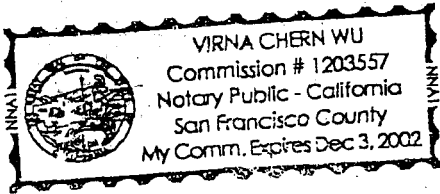
State of California }  
County of San Francisco } ss.

On July 24, 2002, before me, Virna C. Wu "Notary Public"  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Mohinder Singh Sandhu  
Name(s) of Signer(s)

- personally known to me
- proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

//original signed by//  
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Covenant to Restrict Use of Property

Document Date: None Environmental Restriction 10 Pages + Exhibits A & B  
Number of Pages:

Signer(s) Other Than Named Above: None

Capacity(ies) Claimed by Signer

Signer's Name: Mohinder Singh Sandhu

- Individual
- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: Chief, Standardized Permits & Corrective

Signer Is Representing: Department of Toxic Substances Control  
Action Branch

RIGHT THUMBPRINT OF SIGNER  
Top of thumb here

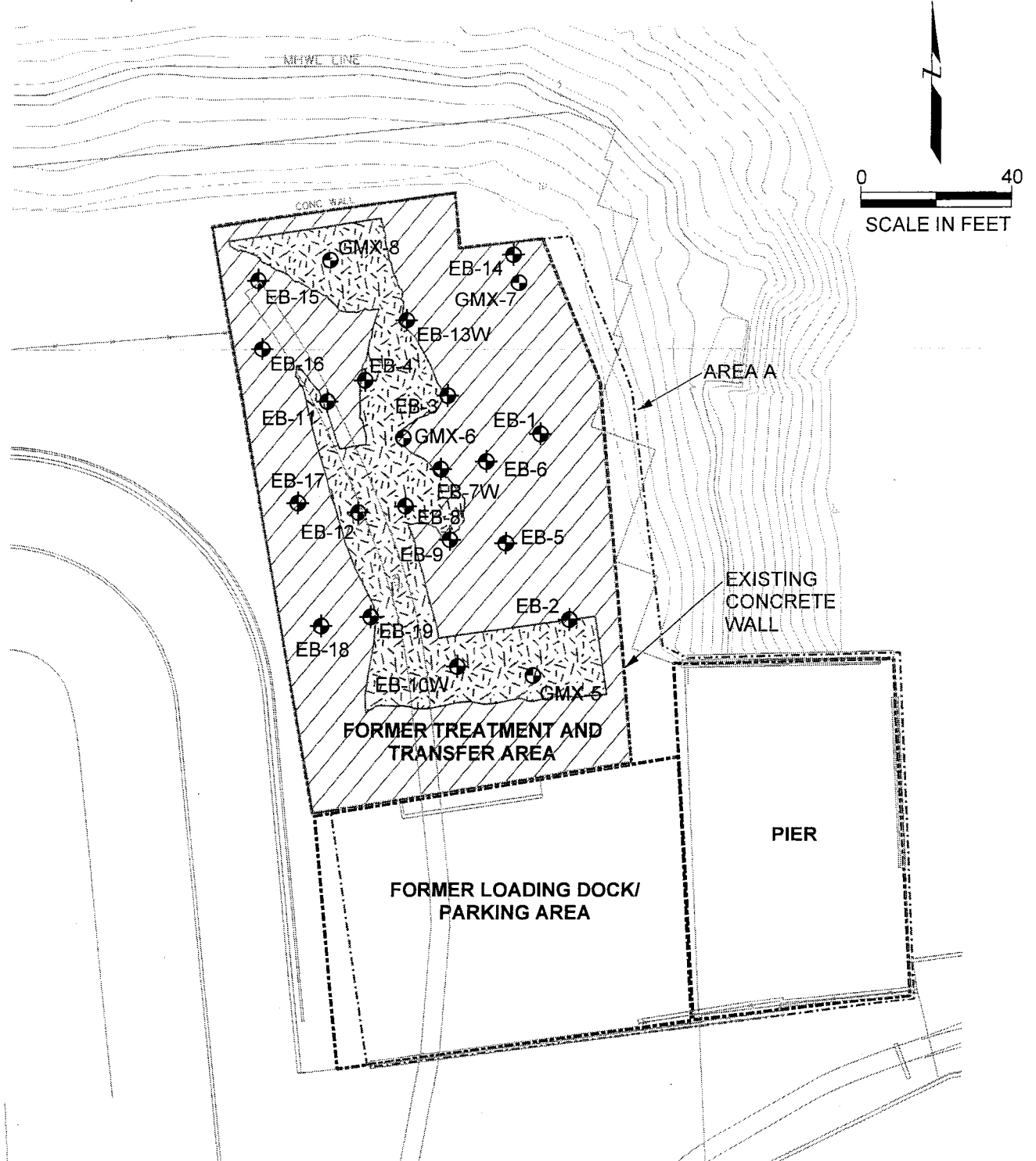


## EXHIBIT A

## H&amp;H Parcel – Tank Treatment Area

All that certain real property of the San Francisco Port Commission, City and County of San Francisco, State of California, situate at the northeast corner of Terry A. Francois Boulevard (formerly China Basin Street), more particularly described as follows:

Commencing at the point of intersection of the northwesterly line of Townsend Street with the southwesterly line of Delancey Street (formerly First Street), said point being Inner 14 of the Inner Waterfront Line as described in records on file in the office of Engineering of said San Francisco Port Commission; Thence along said Inner Waterfront Line, S 03°02'27" E a distance of 2132.11 feet; Thence N 86°51'14" E a distance of 65.28 feet, to the True Point Of Beginning; Thence S 10°21'36" E a distance of 127.93 feet; Thence N 80°50'39" E a distance of 4.70 feet; Thence S 09°13'14" E a distance of 68.59 feet; Thence N 81°09'11" E a distance of 146.17 feet; Thence N 03°21'24" W a distance of 85.74 feet; Thence S 88°44'14" W a distance of 54.91 feet; Thence N 66°55'27" W a distance of 9.19 feet; Thence N 07°12'31" W a distance of 68.86 feet; Thence N 21°58'29" W a distance of 44.82 feet; Thence S 83°22'07" W a distance of 28.09 feet; Thence N 05°44'30" W a distance of 14.69 feet; Thence S 81°59'17" W a distance of 65.99 feet; Thence S 10°21'36" E a distance of 30.22 feet to the True Point Of Beginning; Containing 26,592 square feet (0.61 acres), more or less.

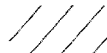


EXPLANATION

- ⊕ Soil samples collected at multiple depths by J. Yang and Assoc. March 15, 1995
- Surface soil samples collected by Geomatrix, November 16, 2001



Area of aggregate/crushed rock/road base material



Concrete/asphalt foundation

EXHIBIT B

**APPENDIX C**  
**Soil Management Plan**  
**June 1999**



---

## **SOIL MANAGEMENT PLAN**

### **Imperial Weitz Parking Lots for the Giants Pacific Bell Ball Park Area E - Port of San Francisco Property**

San Francisco, California

*Prepared for:*

**Imperial Weitz, LLC**  
800 Second Avenue, Suite 300  
Des Moines, Iowa 50309

*Prepared by:*

**Geomatrix Consultants, Inc.**  
2101 Webster Street, 12th Floor  
Oakland, California 94612  
(510) 663-4100

June 1999

Project No. 4952

---

**Geomatrix Consultants**



## TABLE OF CONTENTS

	Page
1.0 INTRODUCTION.....	1
2.0 BACKGROUND.....	1
2.1 SITE SETTING AND HISTORICAL USAGE.....	1
2.2 SITE INVESTIGATIONS.....	2
2.2.1 Previous Site Investigations.....	2
2.2.2 Recent Site Investigation.....	2
2.3 PROPOSED DEVELOPMENT.....	3
2.4 RISK ASSESSMENT.....	4
3.0 OBJECTIVES.....	4
4.0 PROPOSED SOIL MANAGEMENT PROCEDURES.....	5
4.1 SOIL MANAGEMENT PROCEDURES FOR SITE CONSTRUCTION.....	5
4.1.1 Dust Control.....	5
4.1.2 Erosion Control.....	5
4.1.3 Soil Stockpile Management.....	6
4.1.4 Soil Disposal.....	6
4.1.5 Site Access Control.....	6
4.2 SOIL MANAGEMENT FOLLOWING SITE DEVELOPMENT.....	6
5.0 MAINTENANCE OF SITE COVER.....	7
6.0 CONTINGENCY PLAN.....	7
7.0 HEALTH AND SAFETY GUIDELINES.....	7
8.0 FACILITY MAP.....	8
9.0 REFERENCES.....	9

### TABLES

Table 1	Summary of Analytical Results - Metals Detected in Soil Samples
Table 2	Summary of Analytical Results - Volatile Organic Compounds Detected in Soil Samples
Table 3	Summary of Analytical Results - Polynuclear Aromatic Compounds Detected in Soil Samples
Table 4	Summary of Analytical Results - Other Maher Parameters
Table 5	Summary of Analytical Results - Metals Detected in Grab Groundwater Samples
Table 6	Summary of Health Risk Assessment Results

**TABLE OF CONTENTS**  
(Continued)

**FIGURES**

- Figure 1 Site Location Map
- Figure 2 Site Plan Showing Sampling Locations

**APPENDIXES**

- Appendix A Data Summaries from Previous Investigations
- Appendix B Site Maps Illustrating Alternative Storm Drainage Systems



**SOIL MANAGEMENT PLAN**  
Imperial Weitz Parking Lots for the  
Giants Pacific Bell Ball Park  
Area E - Port of San Francisco Property  
San Francisco, California

**1.0 INTRODUCTION**

Geomatrix Consultants, Inc. (Geomatrix) has prepared this Soil Management Plan (SMP) on behalf of Imperial Weitz, LLC for the proposed 14-acre parking lot for the Giants' Pacific Bell Ball Park. The proposed parking lot site is located south of China Basin Channel and east of Third Street in San Francisco, California (the site; Figure 1). The site is part of a total of approximately 36 acres of parking to be developed by Imperial Weitz south of China Basin Channel and has been referred to as Area E in previous environmental documents prepared by Geomatrix on behalf of Imperial Weitz.

**2.0 BACKGROUND**

Imperial Weitz is proposing to construct a paved parking lot on the site. A site history review, environmental investigation and risk evaluation were performed to meet Article 20 requirements and assess potential risks to construction worker and site visitor health associated with soil and groundwater quality at the site. The following summarizes the results of the site history review, environmental investigations, and risk assessment, and describes the proposed parking lot development.

**2.1 SITE SETTING AND HISTORICAL USAGE**

The approximately 19 acre site is currently owned by the Port of San Francisco (the Port). The subject area was originally marshlands and shallow tidal flats bordering San Francisco Bay. It was filled between 1877 and 1913; the source of the fill is unknown but likely included construction debris and rubble from the 1906 earthquake and cut material from nearby hills and construction areas.

Historical site uses include: railroad trackage and support structures for rail-related activities, parking and shipping, and truck maintenance. H&H Shipping Service Company, Inc. (H&H) occupied the northeastern corner of the site from 1950 to 1996. H&H used the area for vehicle parking and offices, and maintained a tank cleaning area and drum storage unit. No known underground storage tanks (USTs) have been identified on the site. Recently, the site has been

leased by multiple tenants. Tenant uses consist of a recycling center, an automobile sales center, the Mission Rock Recovery Center, a moving company, maritime offices, and automobile storage.

## **2.2 SITE INVESTIGATIONS**

### **2.2.1 Previous Site Investigations**

Burlington Northern Santa Fe Railway Company ("the Railroad") conducted Phase I and Phase II Environmental Assessments of property formerly operated by the Railroad located east of Third Street, between Sixteenth Street and China Basin Channel; this property included the western half of the site. The scope of the Railroad's investigations included one soil boring in the southern portion of the site. Soil samples were collected at depths of 0.5, 5, and 8 feet bgs and analyzed for total petroleum hydrocarbons as gasoline (TPHg), TPH as motor oil (TPHmo), lead, nickel, arsenic, chromium, cadmium, and zinc. Results of chemical analyses on these soil samples indicated that several metals were present at concentrations exceeding typical regional background concentrations (Geomatrix, March 1999).

In addition, HLA has performed an investigation of the former H&H Shipping parcel located in the northeast corner of the site (HLA; 1999). Seventeen soil samples were collected and analyzed for metals, TPH as diesel (TPHd), TPHg, oil and grease, volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and polynuclear aromatic hydrocarbons (PNAs). Five groundwater samples were collected and one or more samples were analyzed for metals, TPHd, TPHg, benzene, toluene, ethylbenzene, xylenes [BTEX], PCBs, and PNAs. Several soil samples contained PNAs and metals; very low concentrations of some aromatic hydrocarbons and PCBs were detected in a few soil samples. The groundwater samples contained low to trace concentrations of several metals. Filtered groundwater samples did not contain PNAs; however, unfiltered samples contained low concentrations of several PNA compounds. PCBs and BTEX were not detected in the groundwater samples. Summary tables for the soil and groundwater analysis results of the H&H investigation are contained in Appendix A.

### **2.2.2 Recent Site Investigation**

In April 1999, Geomatrix installed 8 soil borings and collected 16 soil samples (two soil samples per boring) and 2 groundwater samples (from 2 of the 8 locations) for chemical analysis. Sampling locations are illustrated on Figure 2. Primary chemicals detected in soil were PNAs and some metals (i.e., antimony, arsenic, copper, lead, nickel, and mercury). Soil sample results from the recent investigation are summarized in Tables 1 through 5. Several

metals were detected in groundwater; however, chemical concentrations were generally low to non-detect (Table 6). PNAs were not detected in the groundwater samples.

### **2.3 PROPOSED DEVELOPMENT**

The proposed development for the subject area is asphalt paved parking. Two alternatives for storm drainage are being considered, as described below. Figures illustrating the two alternatives for the storm drainage system are contained in Appendix B.

#### **Alternative 1**

This alternative for the drainage system consists of a series of storm drainage lines and catch basins to collect and transport storm water from the parking lot site to the main City box culvert located on Channel Street, west of Fourth Street. During a 5 year storm event, the City system could reach capacity and overflows would result. Overflows from the parking lot site would be diverted to a small treatment plant to be located east of Fourth Street, near China Basin Channel. Under this alternative, Area E will be entirely paved with asphalt and surrounded by a 3- to 4-foot fence.

The catch basins will be installed in excavations with aerial dimensions of approximately 4 feet by 4 feet and extending to depths of 4 to 6 feet. Trenches will be excavated to install the piping; the trenches are anticipated to be approximately 2 to 3 feet wide and will extend between 4 to 6 feet below grade. Estimated maximum excavation depth for the piping system is 6 feet bgs. The parking area will be graded and bermed to enhance flow to each of the catch basins, and paved with asphaltic concrete.

#### **Alternative 2**

This alternative includes perimeter grassy drainage swales to collect and drain storm water overflows.

The parking area will contain a storm drain system to collect surface water runoff. The storm drain system will consist of a network of catch basins and drainage swales to collect storm water on the parking lot. The storm water will be conveyed through a series of pipes and the drainage swales to one point of discharge. The discharge pipe will collect into one main and flow into the City box sewer in Channel Street near Fourth Street.

The catch basins will be installed in excavations with aerial dimensions of approximately 4 feet by 4 feet and extending to depths of 4 to 6 feet. Trenches will be excavated to install the

pipng; the trenches are anticipated to be approximately 2 to 3 feet wide and will extend between 4 to 6 feet below grade. Estimated maximum excavation depth for the piping system is 6 feet bgs. The swales will be approximately 32 feet in width and 2 to 3 feet in depth. The swales will be covered with a geotextile fabric and grass. The parking area will be graded and bermed to enhance flow to each of the catch basins, and paved with asphaltic concrete.

## 2.4 RISK ASSESSMENT

A health risk assessment (HRA) was conducted to evaluate the potential human health risks associated with the presence of chemicals in soil and groundwater assuming future use of the site as a parking lot with grassy swales (Geomatrix, May 1999). Potential noncarcinogenic hazard indexes and theoretical lifetime excess cancer risks were estimated for future on-site construction workers and future on-site visitors assuming conservative estimates of human exposure. Future on-site construction workers may be exposed to chemicals in soil across the site to the depth required for installation of the storm drain system or in groundwater if encountered in excavation areas. Following construction, potential exposure to future on-site visitors would be limited to exposed soil in the grass-covered swale areas.

The results of the HRA indicate that the presence of chemicals in soil and groundwater at the site should not pose an unacceptable noncarcinogenic or carcinogenic risk to future on-site construction workers and visitors. A summary table for the HRA results is provided as Table 7. Based on these results, it was also concluded that potential risks to nearby residents during construction and future on-site maintenance workers and trespassers after construction would also not be of concern.

## 3.0 OBJECTIVES

As described above, the results of the HRA indicate that chemicals in site soil do not present an unacceptable human health risk. However, dust from a construction site can present a nuisance if not controlled. Likewise, erosion of on-site soil during construction activities can increase the turbidity of surface water run-off.

Therefore, the objectives of the SMP are to:

- provide guidelines for soil handling, stockpiling, dust and erosion minimization and, if needed, soil disposal during site construction activities for the proposed parking lot; and

- describe procedures for soil management following site construction for the duration of the use of the Site as a parking lot.

#### **4.0 PROPOSED SOIL MANAGEMENT PROCEDURES**

The following two sections describe the soil management procedures that will be implemented during and following site construction.

#### **4.1 SOIL MANAGEMENT PROCEDURES FOR SITE CONSTRUCTION**

The following procedures will be implemented during site construction activities to minimize dust and control erosion.

##### **4.1.1 Dust Control**

The dust control measures to be implemented at the site correspond to the PM<sub>10</sub> control measures recommended by the Bay Area Air Quality Management District (BAAQMD) in their California Environmental Quality Act Guidelines. These measures consist of:

- Water all active construction areas at least twice daily or as necessary to prevent visible dust plumes from migrating outside of the site limits.
- Mist or spray water while loading transportation vehicles.
- Minimize drop heights while loading transportation vehicles.
- Use tarpaulins or other effective covers for trucks carrying soils that travel on public streets.
- Pave, apply water 3 times daily, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas.
- Sweep all paved access routes parking areas and staging areas daily, if visibly soiled.
- Sweep street daily if visible soil material is carried onto public streets from the site.

##### **4.1.2 Erosion Control**

A Stormwater Pollution Prevention Plan (SWPPP) will be developed by the site contractor prior to initiation of Site work that details procedures for minimizing erosion. The SWPPP will include elements such as silt traps and hay bales to minimize surface water runoff from the Site into storm drains or the San Francisco Bay, berms to control Site runoff, and covering soil stockpiles during the rainy season (November through March) to minimize sediment runoff.

#### **4.1.3 Soil Stockpile Management**

Temporary stockpiling of excavated soil may be necessary throughout site construction. Soil stockpiled at the Site will be lightly sprayed with water as needed to minimize dust. To the extent practical, the soil stockpiles will be covered with plastic sheeting or other similar material at times when not in active use. When a soil stockpile is uncovered during the rainy season, it will be surrounded by hay bales and/or silt traps to minimize sediment runoff.

#### **4.1.4 Soil Disposal**

Site development has been designed to minimize the generation of excess soil; therefore, soil requiring off-site disposal is not anticipated. Although not anticipated at this time, if excess soil is generated from the site, the excess soil will be profiled to determine appropriate disposal options. Handling and disposal of the soil will be conducted in accordance with all applicable state and federal laws.

Based on chemical analysis results of soil samples collected from the site, total metal and organic concentrations are less than the Total Threshold Limit Concentrations (TTLCs) for designation as California Hazardous Waste. However, additional solubility testing of some of the metals (e.g., lead) would likely be required by disposal facilities to better assess the waste profile for the soil.

#### **4.1.5 Site Access Control**

The construction site will be fenced to control pedestrian or vehicular entry, except at controlled points (i.e., gates). Gates will be closed and locked during non-construction hours. "No-trespassing" signs will be posted every 500 feet along the fencing.

### **4.2 SOIL MANAGEMENT FOLLOWING SITE DEVELOPMENT**

Following site development, the soil will be covered by asphalt pavement or grass (in the swale areas) and it is unlikely that the soil will be accessed, with the exception of future maintenance work on subsurface utilities. The HRA assessed possible health risks to future maintenance workers at the parking lot and concluded that chemicals in soil at the site should not pose an unacceptable carcinogenic or noncarcinogenic risk (Geomatrix, May 1999). Soil management procedures during future site maintenance work requiring soil excavation will be as described in Section 4.1 of this SMP; if waste soil is generated, the soil will be disposed in accordance with the procedures described in Section 4.1.4.



## 5.0 MAINTENANCE OF SITE COVER

Procedures in this section are applicable only if Alternative 2 is selected for the storm drainage system.

Although the HRA concluded that soil in the grass-covered swale area would not present an unacceptable risk to human health for parking lot visitors or trespassers, it is prudent that the grass-covered swale areas be well maintained. Therefore, the swale areas will be inspected monthly during the baseball season, and quarterly during the off-season to visually observe the condition of the grass cover. Large areas of exposed soil (e.g., areas larger than several feet in diameter) should be reseeded as quickly as practical. A log of the parking area inspections ("Inspection Log") will be maintained at the site and will include written comments on the condition of the grass cover, areas requiring repairs, and repair dates.

Annual inspections of the paved parking areas will be performed to observe whether breaches in the pavement that may allow prolonged access to site soil are visible. If observed, the breach would be repaired such that the soil cover is maintained. Results of the annual inspections of the paved parking areas will be documented in the Inspection Log, described above.

## 6.0 CONTINGENCY PLAN

A Contingency Plan for this site is not warranted. The purpose of a Contingency Plan is to present response actions to an emergency situation. The results of the HRA indicate that exposure to site soil or groundwater while breaches in the pavement or grassy areas are being repaired would not present a situation requiring an emergency response.

## 7.0 HEALTH AND SAFETY GUIDELINES

A health and safety plan for site construction will be developed by the site contractor before initiation of the development activities. The results of the HRA indicate that the presence of chemicals in soil and groundwater at the site should not pose an unacceptable health risk to future construction workers or nearby receptors during construction or future maintenance workers, visitors or trespassers after construction. Therefore, a health and safety plan for known chemical hazards at the Site is not warranted, and the health and safety plan will focus on physical hazards. Additionally, contingency actions for encountering unanticipated buried hazards (e.g., drums, or other containers) will also be included in the health and safety plan.



## 8.0 FACILITY MAP

The final construction plan for the Site development is not complete. A copy of this plan will be forwarded to the SFDPH as an addendum to this SMP once it has been finalized.

## 9.0 REFERENCES

Geomatrix Consultants, Inc., 1999, Site Use History and Article 20 Sampling Program, March.

Harding Lawson Associates, 1999, RCRA Closure Certification Report, Former H&H Ship Service Facility, San Francisco, California, February 4.

**TABLE 1  
SUMMARY OF ANALYTICAL RESULTS  
METALS DETECTED IN SOIL SAMPLES<sup>1</sup>**

Proposed Imperial Parking Area  
Area E - Port of San Francisco Property  
South of China Basin Channel, San Francisco, California  
Concentrations are reported in milligrams per kilogram (mg/kg)

Sample I.D.	Sample Interval (feet bgs)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Total Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
GMX-1-1.0	0.5 - 1.0	<5.0	<0.35	27	<5.0	<5.0	120	16	9.6	8.7	<0.1	<5.0	220	<5.0	<5.0	<5.0	36	37
GMX-1-4.5	4.5 - 5.0	<5.0	2.5	35	<5.0	<5.0	200	24	12	13	<0.1	<5.0	370	<5.0	<5.0	<5.0	20	32
GMX-2-1.0	0.5 - 1.0	<5.0	<0.35	170	<5.0	<5.0	62	15	50	220	0.13	<5.0	71	<5.0	<5.0	<5.0	49	150
GMX-2-4.5	4.5 - 5.0	<5.0	<0.35	160	<5.0	<5.0	91	17	31	54	<0.1	18	110	<5.0	<5.0	<5.0	40	83
GMX-3-1.0	0.5 - 1.0	33	64	84	<5.0	<5.0	35	12	93	250	0.28	<5.0	140	<5.0	<5.0	<5.0	20	250
GMX-3-4.5	4.5 - 5.0	15	7.7	76	<5.0	<5.0	110	14	44	98	0.23	<5.0	240	<5.0	<5.0	<5.0	24	130
GMX-4-1.0	0.5 - 1.0	<5.0	1.8	170	<5.0	<5.0	42	16	40	110	0.16	<5.0	100	<5.0	<5.0	<5.0	31	94
GMX-4-4.5	4.5 - 5.0	<5.0	<0.35	100	<5.0	<5.0	36	8.7	26	53	<0.1	<5.0	40	<5.0	<5.0	<5.0	27	60
GMX-5-1.0	0.5 - 1.0	<5.0	0.47	26	<5.0	<5.0	21	<5.0	7.1	42	<0.1	<5.0	20	<5.0	<5.0	<5.0	17	69
GMX-5-7.0	4.5 - 5.0	<5.0	2.5	47	<5.0	<5.0	11	<5.0	13	60	0.57	<5.0	12	<5.0	<5.0	<5.0	12	35
GMX-6-1.0	0.5 - 1.0	<5.0	<0.35	360	<5.0	<5.0	17	12	66	17	<0.1	<5.0	21	<5.0	<5.0	<5.0	28	40
GMX-6-4.5	4.5 - 5.0	<5.0	<0.35	210	<5.0	<5.0	43	14	46	62	0.18	<5.0	59	<5.0	<5.0	<5.0	29	55
GMX-7-1.0	0.5 - 1.0	<5.0	10	160	<5.0	<5.0	21	5.3	93	290	5.7	<5.0	28	<5.0	<5.0	<5.0	17	320
GMX-7-5.0	4.5 - 5.0	<5.0	<0.35	180	<5.0	<5.0	87	21	35	750	<0.1	<5.0	250	<5.0	<5.0	<5.0	29	160
GMX-8-1.0	0.5 - 1.0	<5.0	<0.35	680	<5.0	<5.0	21	32	130	18	<0.1	<5.0	34	<5.0	<5.0	<5.0	40	49
GMX-8-4.5	4.5 - 5.0	<5.0	5	100	<5.0	<5.0	6.8	<5.0	21	61	<0.1	<5.0	9.1	<5.0	<5.0	<5.0	12	41
Background <sup>2</sup>		5.5	19.1	323	1	2.7	99	22	69	16	0.4	7.4	120	5.6	1.8	27	74	106
95% UTL		25.7	45.7	572.3	5.0	5.0	190.0	32.8	133.1	602.0	4.0	14.0	379.8	5.0	5.0	5.0	53.7	311.7
95% UTL > Background?		Yes	Yes	Yes	NA	NA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NA	NA	NA	No	Yes

Note:

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc. and analyzed by Entech Analytical Laboratories of Sunnyvale, California, for Title 22 metals using EPA Methods 6000/7000 Series.

<sup>2</sup> Background = Lawrence Berkeley National Laboratory, 1995.

Abbreviations:

feet bgs = feet below ground surface.

< = analyte not detected at or above method detection limit shown.

NA = not applicable; sample results below detection limit reported by the analytical laboratory.

95% UTL = 95 percent upper tolerance limit.

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS**  
**VOLATILE ORGANIC COMPOUNDS DETECTED IN SOIL SAMPLES<sup>1</sup>**

Proposed Imperial Parking Area  
 Area E - Port of San Francisco Property  
 South of China Basin Channel, San Francisco, California

Concentrations are reported in milligrams per kilogram (mg/kg)

Sample I.D.	Sample Interval (feet bgs)	Toluene	Ethylbenzene	Xylenes	1,2,4-Trimethylbenzene
GMX-1-1.0	0.5 - 1.0	0.030	<0.005	0.029	0.010
GMX-1-4.5	4.5 - 5.0	0.008	<0.005	<0.005	<0.005
GMX-2-1.0	0.5 - 1.0	0.013	<0.005	0.009	0.005
GMX-2-4.5	4.5 - 5.0	0.007	<0.005	<0.005	<0.005
GMX-3-1.0	0.5 - 1.0	0.014	<0.005	0.006	<0.005
GMX-3-4.5	4.5 - 5.0	0.023	<0.005	0.018	0.014
GMX-4-1.0	0.5 - 1.0	0.020	<0.005	0.030	<0.005
GMX-4-4.5	4.5 - 5.0	<0.005	<0.005	<0.005	<0.005
GMX-5-1.0	0.5 - 1.0	0.027	<0.005	0.014	0.008
GMX-5-7.0	4.5 - 5.0	<0.005	<0.005	<0.005	<0.005
GMX-6-1.0	0.5 - 1.0	0.037	<0.005	0.056	0.036
GMX-6-4.5	4.5 - 5.0	<0.005	<0.005	<0.005	<0.005
GMX-7-1.0	0.5 - 1.0	0.008	<0.005	0.009	<0.005
GMX-7-5.0	4.5 - 5.0	0.021	<0.005	0.009	<0.005
GMX-8-1.0	0.5 - 1.0	<0.005	0.023	0.046	<0.005
GMX-8-4.5	4.5 - 5.0	0.008	<0.005	0.010	<0.005

Note:

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc. and analyzed by Entech Analytical Laboratories of Sunnyvale, California, for VOCs using EPA Method 8260B.

Abbreviations:

feet bgs = feet below ground surface.

< = indicates result less than the laboratory detection limit indicated.

VOCs = volatile organic compounds.

**TABLE 3**  
**SUMMARY OF ANALYTICAL RESULTS**  
**POLYNUCLEAR AROMATIC COMPOUNDS DETECTED IN SOIL SAMPLES<sup>1</sup>**

Proposed Imperial Parking Area  
 Area E - Port of San Francisco Property  
 South of China Basin Channel, San Francisco, California

Concentrations are reported in milligrams per kilogram (mg/kg)

Sample I.D.	Sample Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene <sup>2</sup>	Phenanthrene	Pyrene
GMX-1-1.0	0.5 - 1.0	<0.04	<0.04	<0.04	<0.04	<0.002	<0.04	<0.04	<0.04	0.089	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.058
GMX-1-4.5	4.5 - 5.0	<0.01	<0.01	0.023	<0.01	0.029	<0.01	<0.01	<0.01	<0.01	<0.01	0.025	<0.01	<0.01	<0.01	0.024	0.029
GMX-2-1.0	0.5 - 1.0	<0.02	0.024	0.103	0.141	<0.002	<0.02	<0.02	<0.02	0.08	<0.02	0.363 <sup>3</sup>	<0.02	<0.02	<0.02	0.105	0.415 <sup>3</sup>
GMX-2-4.5	4.5 - 5.0	<0.002	0.0024	0.0066	0.022	0.022	0.0048	<0.002	<0.002	0.011	<0.002	0.023	<0.002	<0.002	0.0058	0.0068	0.025
GMX-3-1.0	0.5 - 1.0	<0.02	<0.02	0.078	0.114	<0.002	<0.02	<0.02	<0.02	0.064	<0.02	0.169	<0.02	<0.02	<0.02	0.08	0.16
GMX-3-4.5	4.5 - 5.0	<0.01	<0.01	<0.01	0.025	0.04	<0.01	<0.01	<0.01	0.014	<0.01	0.036	<0.01	<0.01	<0.01	0.024	0.045
GMX-4-1.0	0.5 - 1.0	<0.04	<0.04	<0.04	0.072	<0.04	<0.04	<0.04	<0.04	0.061	<0.04	0.142	<0.04	<0.04	<0.04	0.071	0.183
GMX-4-4.5	4.5 - 5.0	0.053	0.107	0.129	<0.02	<0.2	<0.2	<0.2	0.295	0.18	<0.2	0.628 <sup>4</sup>	<0.02	<0.2	0.057	0.668 <sup>4</sup>	0.777 <sup>4</sup>
GMX-5-1.0	0.5 - 1.0	<0.02	<0.02	<0.02	<0.002	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.032	<0.02	<0.02	<0.02	0.02	0.034
GMX-5-7.0	4.5 - 5.0	<0.002	<0.002	0.026	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	0.011	<0.002	<0.002	<0.002	0.026	0.013
GMX-6-1.0	0.5 - 1.0	<0.04	<0.04	<0.04	0.205	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.046	<0.04	<0.04	<0.04	0.06	0.107
GMX-6-4.5	4.5 - 5.0	<0.01	<0.01	0.029	0.122	0.1	0.023	0.038	0.072	0.056	<0.01	0.11	<0.01	0.042	<0.01	0.029	0.111
GMX-7-1.0	0.5 - 1.0	<0.02	<0.02	0.024	0.187	<0.02	<0.02	<0.02	<0.02	0.098	<0.02	0.196	<0.02	<0.02	<0.02	0.194	0.224
GMX-7-5.0	4.5 - 5.0	<0.01	<0.01	<0.01	0.031	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.04	0.072	<0.01
GMX-8-1.0	0.5 - 1.0	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.288	<0.04	<0.04	0.095	0.156	0.374
GMX-8-4.5	4.5 - 5.0	0.019	0.078	<0.01	0.314 <sup>4</sup>	0.457 <sup>4</sup>	<0.01	<0.01	<0.01	0.323 <sup>4</sup>	<0.01	0.772 <sup>4</sup>	<0.01	<0.01	<0.01	0.288 <sup>4</sup>	0.680 <sup>4</sup>

Notes:

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc. and analyzed by Advanced Technology Laboratories of Signal Hill, California, for PNAs using EPA Method 8270 SIMS.

<sup>2</sup> Detected concentration reported as part of EPA Method 8260.

<sup>3</sup> Results reported from a 1:100 dilution.

<sup>4</sup> Results reported from a 1:50 dilution.

Abbreviations:

feet bgs = feet below ground surface.

< = indicates result less than the laboratory detection limit indicated.

PNAs = polynuclear aromatic hydrocarbons.

TABLE 4

SUMMARY OF ANALYTICAL RESULTS

OTHER MAHER PARAMETERS<sup>1</sup>

Proposed Imperial Parking Area

Area E - Port of San Francisco Property

South of China Basin Channel, San Francisco, California

Concentrations are reported in milligrams per kilogram (mg/kg) unless noted

Sample I.D.	Sample Interval (feet bgs)	Asbestos	Cyanide	Fluoride	Total Sulfide	pH (no units)	FID (ppmv)
GMX-1-1.0	0.5 - 1.0	<1%	<0.5	<0.5	<0.5	8.4	0
GMX-1-4.5	4.5 - 5.0	NA	NA	NA	NA	NA	
GMX-2-1.0	0.5 - 1.0	NA	NA	NA	NA	NA	100
GMX-2-4.5	4.5 - 5.0	<1%	NA	NA	NA	9.4	
GMX-3-1.0	0.5 - 1.0	NA	NA	NA	NA	NA	0
GMX-3-4.5	4.5 - 5.0	<1%	<0.5	<0.5	<0.5	8.8	
GMX-4-1.0	0.5 - 1.0	<1%	NA	NA	NA	9.4	100
GMX-4-4.5	4.5 - 5.0	NA	NA	NA	NA	NA	
GMX-5-1.0	0.5 - 1.0	<1%	<0.5	<0.5	<0.5	9.1	100
GMX-5-7.0	4.5 - 5.0	NA	NA	NA	NA	NA	
GMX-6-1.0	0.5 - 1.0	NA	NA	NA	NA	NA	1100
GMX-6-4.5	4.5 - 5.0	<1%	NA	NA	NA	9.2	
GMX-7-1.0	0.5 - 1.0	NA	NA	NA	NA	NA	10
GMX-7-5.0	4.5 - 5.0	<1%	<0.5	<0.5	<0.5	9.2	
GMX-8-1.0	0.5 - 1.0	<1%	NA	NA	NA	7.7	150
GMX-8-4.5	4.5 - 5.0	NA	NA	NA	NA	NA	

Note:

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc. and analyzed for pH, cyanide, total sulfide, fluoride, and asbestos using EPA Methods 9045, 9010, 9030, and 340.2M, and polarized light microscopy. Analyses performed by Entech Analytical Laboratories, Inc. of Sunnyvale, California (pH and fluoride), Advanced Technology Laboratories of Signal Hill, California (cyanide and total sulfide), and EMSL Analytical, Inc. of Milpitas, California (asbestos).

Abbreviations:

feet bgs = feet below ground surface.

< = analyte not detected at or above method detection limit shown.

NA = not analyzed.

FID = flame ionization detector.

ppmv = parts per million vapor.

**TABLE 5**  
**SUMMARY OF ANALYTICAL RESULTS**  
**METALS DETECTED IN GRAB GROUNDWATER SAMPLES<sup>1</sup>**

Proposed Imperial Parking Area  
 Area E - Port of San Francisco Property  
 South of China Basin Channel, San Francisco, California

Concentrations are reported in milligrams per liter (mg/l)

Sample I.D.	Sb	Ar	Ba	Be	Cd	Cr.Total	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
GMX-1 <sup>2</sup>	0.092/ 0.1	<0.005	0.1	<0.004	<0.005	<0.005	<0.005	<0.005	<0.015	<0.0005	0.018/ 0.02	0.010/ 0.011	<0.015	<0.005	<0.002	<0.010	0.014
GMX-5	<0.005	<0.005	1.7	<0.004	<0.005	0.006	0.008	<0.005	<0.015	<0.0005	0.051	0.006	<0.015	0.034	<0.002	<0.010	0.025

Notes:

<sup>1</sup> Soil samples collected by Geomatrix Consultants, Inc. and analyzed by Entech Analytical Laboratories, of Sunnyvale, California for Title 22 metals using EPA Methods 6000/7000 Series.

<sup>2</sup> Second result from duplicate sample GMX-11.

Abbreviation:

< = indicates result less than the laboratory detection limit indicated.

Sb = Antimony

Ar = Arsenic

Ba = Barium

Be = Beryllium

Cd = Cadmium

Cr Total = Total Chromium

Co = Cobalt

Cu = Copper

Pb = Lead

Hg = Mercury

Mo = Molybdenum

Ni = Nickel

Se = Selenium

Ag = Silver

Tl = Thallium

V = Vanadium

Zn = Zinc





TABLE 6

**SUMMARY OF HEALTH RISK ASSESSMENT RESULTS**

Proposed Imperial Weitz Parking Lot Areas

Area E - Port of San Francisco Property

South of China Basin Channel, San Francisco, California

**Noncancer Hazard Indexes**

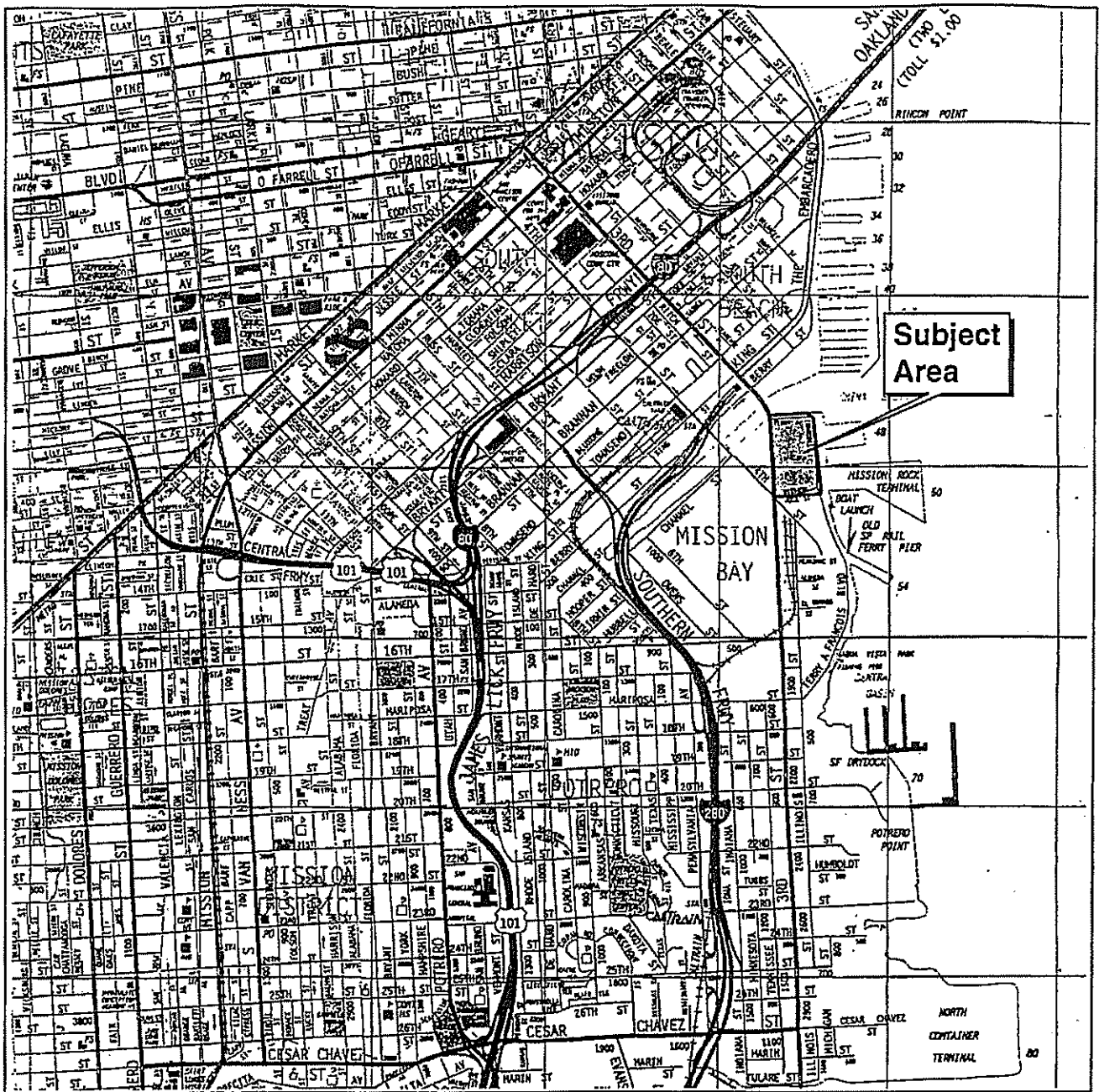
Scenario	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Particulates	Dermal Contact with Groundwater	Hazard Index
Future On-site Construction Worker	6E-02	2E-03	8E-04	7E-03	7E-02
Future On-site Visitor	1E-02	5E-03	7E-07	NA	1E-02

**Theoretical Lifetime Excess Cancer Risks**

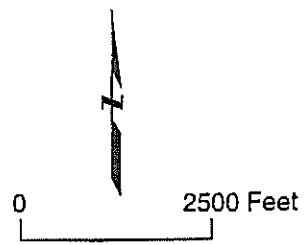
Scenario	Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Particulates	Dermal Contact with Groundwater	Excess Cancer Risk
Future On-site Construction Worker	3E-07	1E-08	7E-08	4E-06	4E-06
Future On-site Visitor	5E-07	3E-07	9E-10	NA	8E-07

Note:

NA = Not applicable



Base map from *The Thomas Gulde, 1997 Golden Gate Street Guide and Directory*. Reproduced with permission granted by THOMAS BROS. MAPS. This map is copyrighted by THOMAS BROS. MAPS. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. All rights reserved.



**SITE LOCATION MAP**  
 Proposed Imperial Parking Area  
 Area E - San Francisco Port Property  
 South of China Basin  
 San Francisco, California

Figure  
 1  
 Project No.  
 4952

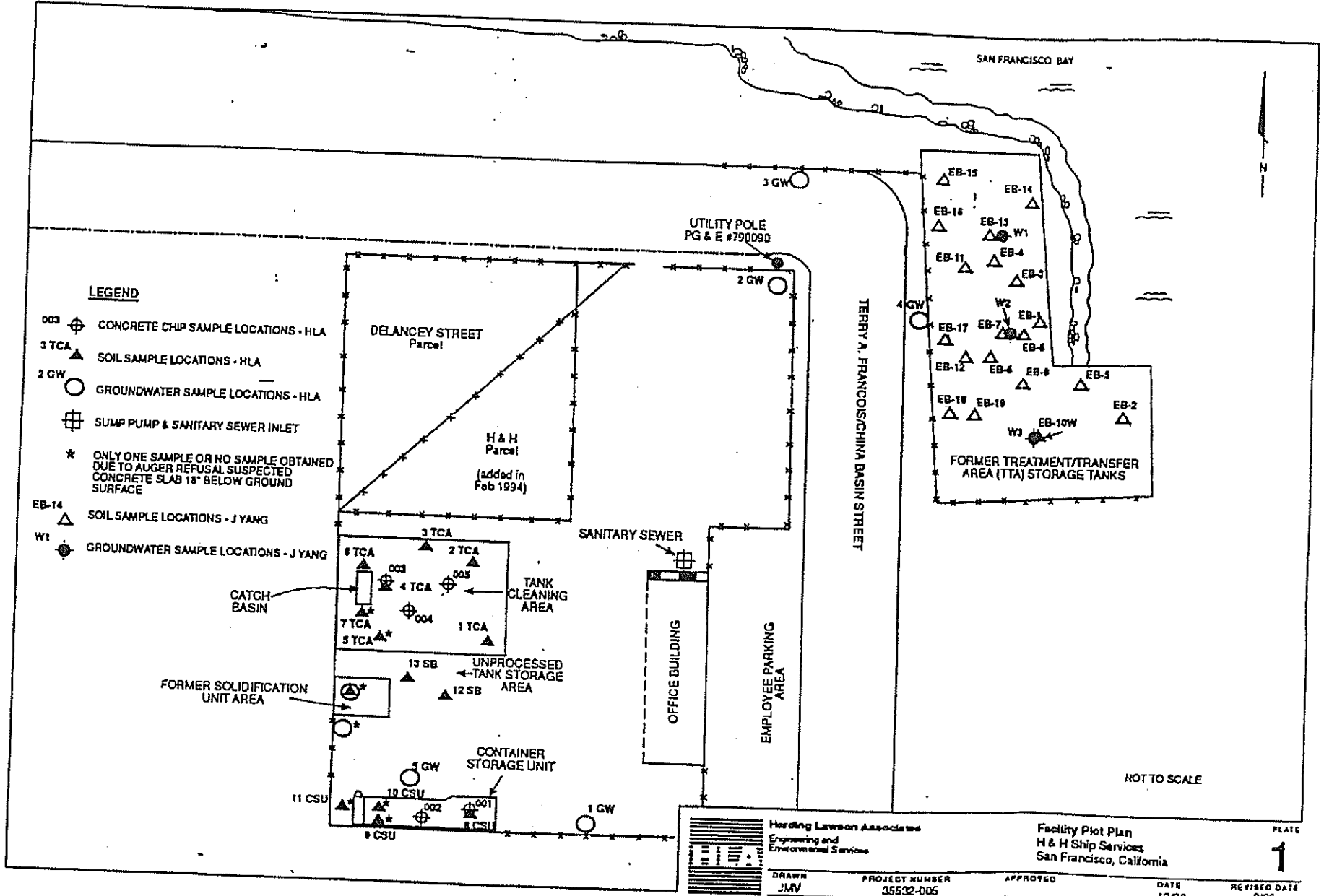




## APPENDIX A

---

# Data Summaries from Previous Investigations



**LEGEND**

- 003 ⊕ CONCRETE CHIP SAMPLE LOCATIONS - HLA
- 3 TCA ▲ SOIL SAMPLE LOCATIONS - HLA
- 2 GW ○ GROUNDWATER SAMPLE LOCATIONS - HLA
- ⊕ SUMP PUMP & SANITARY SEWER INLET
- \* ONLY ONE SAMPLE OR NO SAMPLE OBTAINED DUE TO AUGER REFUSAL SUSPECTED CONCRETE SLAB 18" BELOW GROUND SURFACE
- EB-14 ▲ SOIL SAMPLE LOCATIONS - J YANG
- W1 ● GROUNDWATER SAMPLE LOCATIONS - J YANG

NOT TO SCALE

	Harding Lawson Associates	Facility Plot Plan	PLATE
	Engineering and Environmental Services	H & H Ship Services	1
DRAWN JMV	PROJECT NUMBER 35532-005	APPROVED	DATE 12/98
			REVISED DATE 2/98

Table 4. Summary of Chemicals Detected In Soil  
 Tank Cleaning Area, Container Storage Unit, and Solidification Unit  
 H & H Ship Service Company  
 San Francisco, California

Analyte	Units	Number of Detections	Number of Analyses	Frequency of Detection	Minimum Detected Conc.	Maximum Detected Conc.	Location of Maximum Conc.
<b>Inorganics</b>							
Arsenic	mg/kg	16	17	94%	ND	9.2E+01	3TCA-008
Barium	mg/kg	17	17	100%	3.8E+01	6.5E+02	12SB-023
Cadmium	mg/kg	1	17	6%	ND	5.3E-01	3TCA-008
Chromium	mg/kg	17	17	100%	7.3E+00	7.0E+01	1TCA-001
Cobalt	mg/kg	17	17	100%	3.8E+00	4.0E+01	3TCA-007
Copper	mg/kg	17	17	100%	8.9E+00	1.4E+02	10CSU-021
Lead	mg/kg	16	17	94%	ND	2.1E+02	1TCA-001
Mercury	mg/kg	16	17	94%	ND	4.8E-01	2TCA-005
Nickel	mg/kg	17	17	100%	1.3E+01	3.2E+02	6TCA-014
Silver	mg/kg	3	17	18%	ND	3.0E+00	3TCA-007
Thallium	mg/kg	11	17	65%	ND	1.1E+01	1TCA-001
Vanadium	mg/kg	17	17	100%	1.6E+01	4.8E+01	5TCA-013
Zinc	mg/kg	17	17	100%	3.2E+01	2.5E+02	4TCA-011
<b>Petroleum</b>							
Oil and Grease (Total)	mg/kg	17	17	100%	1.1E+02	6.4E+03	4TCA-011
Oil and Grease (Non-Polar)	mg/kg	16	17	94%	ND	5.0E+03	3TCA-007
TPH-Diesel	mg/kg	17	17	100%	5.0E+00	2.1E+03	4TCA-011
TPH-Gasoline	mg/kg	4	17	24%	ND	1.0E+02	4TCA-011
Toluene	mg/kg	17	17	100%	1.2E-02	1.3E+00	3TCA-007
Ethylbenzene	mg/kg	3	17	18%	ND	6.3E-01	4TCA-011
Xylene	mg/kg	6	17	35%	ND	9.3E+00	4TCA-011
<b>PCBs</b>							
Aroclor 1016	mg/kg	2	17	12%	ND	1.0E-01	5TCA-013
Aroclor 1254	mg/kg	7	17	41%	ND	2.4E-01	5TCA-013
Aroclor 1260	mg/kg	3	17	18%	ND	5.5E-01	5TCA-013
<b>PAHs</b>							
Acenaphthene	mg/kg	2	17	12%	ND	9.3E-01	8CSU-018
Acenaphthylene	mg/kg	3	17	18%	ND	1.5E+00	8CSU-018
Anthracene	mg/kg	5	17	29%	ND	3.1E+00	8CSU-018
Benz(a)anthracene	mg/kg	11	17	65%	ND	2.4E+00	8CSU-018
Benzo(b,k)fluoranthene	mg/kg	11	17	65%	ND	2.6E+00	8CSU-018
Benzo(a)pyrene	mg/kg	10	17	59%	ND	1.8E+00	6CSU-018
Benzo(g,h,i)perylene	mg/kg	10	17	59%	ND	6.6E-01	8CSU-018
Chrysene	mg/kg	11	17	65%	ND	2.3E+00	8CSU-018
Dibenz(a,h)anthracene	mg/kg	7	17	41%	ND	3.7E-01	8CSU-018
Fluoranthene	mg/kg	14	17	82%	ND	4.3E+00	8CSU-018
Fluorene	mg/kg	5	17	29%	ND	3.7E+00	8CSU-018
Indeno(1,2,3-cd)pyrene	mg/kg	9	17	53%	ND	7.0E-01	8CSU-018
Naphthalene	mg/kg	5	17	29%	ND	2.5E+00	4TCA-011
Phenanthrene	mg/kg	15	17	88%	ND	6.3E+00	8CSU-018
Pyrene	mg/kg	15	17	88%	ND	4.7E+00	8CSU-018

mg/kg Milligrams per kilogram.  
 Note: Only detected compounds are listed.

**Table 8. Summary of Chemicals Detected in Groundwater  
Tank Cleaning Area, Container Storage Unit, and Solidification Unit  
H & H Ship Service Company  
San Francisco, California**

Chemical	Units	Number of Detections	Number of Analyses	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Location of Maximum Concentration
<b>Inorganics (filtered)</b>							
Arsenic	mg/L	1	5	20%	0.812	0.812	3GW
Barium	mg/L	5	5	100%	0.0847	0.748	3GW
Cobalt	mg/L	1	5	20%	0.0185	0.0185	2GW
Molybdenum	mg/L	1	5	20%	0.0207	0.0207	4GW
Nickel	mg/L	2	5	40%	0.0419	0.0883	2GW
Zinc	mg/L	1	5	20%	0.128	0.128	4GW
<b>Inorganics (unfiltered)</b>							
Arsenic	mg/L	2	4	50%	0.3	9.2	1GW
Barium	mg/L	4	4	100%	0.27	5.1	1GW
Cadmium	mg/L	3	4	75%	0.012	0.026	1GW
Chromium	mg/L	4	4	100%	0.048	1.1	3GW
Cobalt	mg/L	4	4	100%	0.31	2.5	3GW
Copper	mg/L	4	4	100%	0.056	2	2GW
Lead	mg/L	4	4	100%	0.88	5.8	2GW
Mercury	mg/L	4	4	100%	0.0017	2	4GW
Nickel	mg/L	4	4	100%	0.32	12	3GW
Thallium	mg/L	1	4	25%	0.15	0.15	1GW
Vanadium	mg/L	3	4	75%	0.061	0.47	1GW
Zinc	mg/L	4	4	100%	1	7.2	1GW
<b>Petroleum (unfiltered)</b>							
TPH-Diesel	mg/L	1	4	25%	2.4	2.4	1GW
<b>PCBs (unfiltered) None Detected</b>							
<b>PAHs (unfiltered)</b>							
Acenaphthylene	µg/L	1	5	20%	0.5	0.5	1GW
Anthracene	µg/L	1	5	20%	1.1	1.1	1GW
Benzo(a)anthracene	µg/L	3	5	60%	0.14	5.1	1GW
Benzo(b)fluoranthene	µg/L	1	1	100%	0.56	0.56	5GW
Benzo(k)fluoranthene	µg/L	1	1	100%	0.12	0.12	5GW
Benzo(b,k)fluoranthene	µg/L	3	4	75%	0.8	10	1GW
Benzo(a)pyrene	µg/L	3	5	60%	0.34	6.8	1GW
Benzo(g,h,i)perylene	µg/L	3	5	60%	0.5	5.5	1GW
Chrysene	µg/L	2	5	40%	7	7	1GW
Dibenz(a,h)anthracene	µg/L	1	5	20%	1.2	1.2	1GW
Fluoranthene	µg/L	3	5	60%	0.7	10	1GW
Fluorene	µg/L	1	5	20%	1.5	1.5	5GW
Indeno(1,2,3-cd)pyrene	µg/L	1	5	20%	4.2	4.2	1GW
Naphthalene	µg/L	3	5	60%	0.5	1.1	5GW
Phenanthrene	µg/L	4	5	80%	0.5	4.8	1GW
Pyrene	µg/L	4	5	80%	0.8	10	1GW
<b>PAHs (filtered) None Detected</b>							

mg/L Milligrams per liter.

µg/L Micrograms per liter.

ND Not detected.

NA Not available.

Note: Only detected analytes are listed.



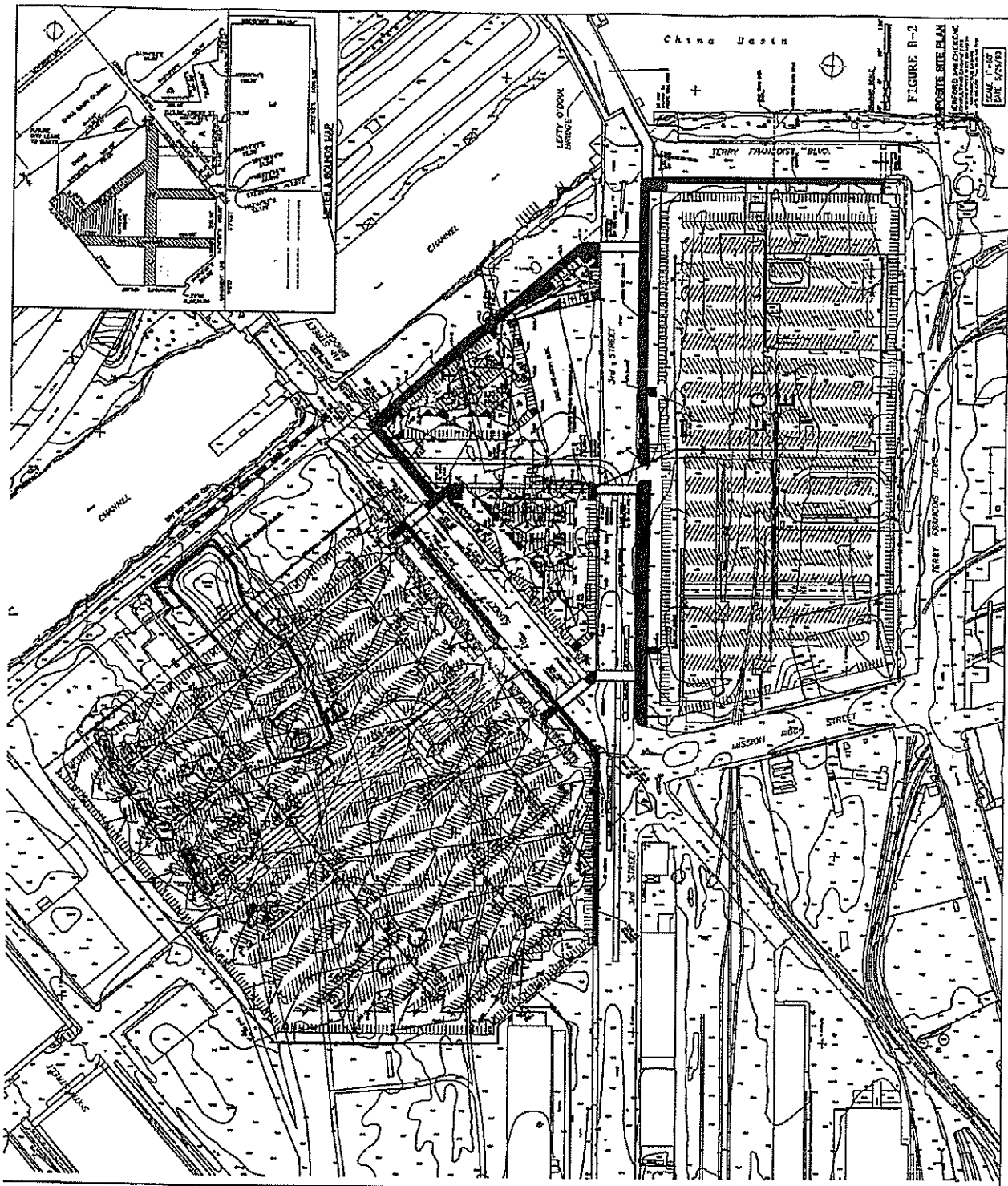
## APPENDIX B

---

# Site Plans Illustrating Alternative Storm Drainage Systems







**APPENDIX D**  
**Covenant to Restrict Use of Property**  
**Recorded January 27, 2000**



San Francisco Assessor-Recorder  
Doris M. Ward, Assessor-Recorder  
**DOC- 2000-G723986-00**

RECORDING REQUESTED BY:  
The Port of San Francisco  
Ferry Building  
San Francisco, California 94111

Acct 25-NO CHARGE DOCUMENT  
Thursday, JAN 27, 2000 10:47:55  
FRE \$0.00  
Ttl Pd \$0.00 Nbr-0001346614  
REEL H561 IMAGE 0199 oed/ER/1-16

WHEN RECORDED, MAIL TO:

Department of Toxic Substances Control  
700 Heinz Avenue, Suite 300  
Berkeley, California 94710  
Attention: Mohinder S. Sandhu, P.E., Chief  
Standardized Permits and Corrective  
Action Branch

N/c  
16

SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE

**COVENANT TO RESTRICT USE OF PROPERTY**

**ENVIRONMENTAL RESTRICTION**

*(Re: H&H Site located at Seawall Lot 337, City and County of San Francisco)*

**This Covenant and Agreement ("Covenant") is made by and between COVENANT TO RESTRICT USE OF PROPERTY**

**ENVIRONMENTAL RESTRICTION**

Re: H&H Site located at Seawall Lot 337, City and County of San Francisco

This Covenant and Agreement ("Covenant") is made by and between the City and County of San Francisco, a charter city and county in trust (the "Covenantor"), the current owner, of certain property situated in the City and County of San Francisco, State of California, described in Exhibit "A", attached hereto and incorporated herein by this reference (the "Property"), and the Department of Toxic Substances Control (the

"Department"). Pursuant to Civil Code section 1471(c), the Department has determined that this Covenant is reasonably necessary to protect present or future human health or safety or the environment as a result of the presence on the land of hazardous materials as defined in Health and Safety Code ("H&SC") section 25260. The Covenantor and the Department, collectively referred to as the "Parties", therefore intend that the use of the Property be restricted as set forth in this Covenant, in order to protect human health, safety and the environment.

ARTICLE I  
STATEMENT OF FACTS

1.01. The Property, totaling approximately 14 acres, is more particularly described in Exhibit "A" and depicted in Exhibit "A-1", attached hereto and incorporated herein by this reference. The Property is located in the area now generally bounded by Terry Francois Boulevard on the North and East, in the City and County of San Francisco, California.

1.02. The site was created by filling marshlands and shallow tidal flats bordering San Francisco Bay between 1877 and 1913. Sources of fill are unknown, but likely included construction/demolition debris and rubble, and rock and dirt cut from nearby hills. Historical uses of the Site include railroad tracks and related support structures, parking and shipping by truck, and truck maintenance. From 1950 to 1996 H&H Ship Service operated a hazardous waste treatment facility, including a tank cleaning area and drum storage unit, and used portions of the Property for vehicle parking and offices.

In 1978 several of the wastes managed at the H&H Ship Service facility were determined to be hazardous wastes subject to federal and state hazardous waste management regulations. Since that time, the Department of Toxic Substances Control (or its predecessor in interest, the Department of Health Services) authorized H&H Ship Service's operations pursuant to an interim status document. Under this authorization the property was a hazardous waste facility (Facility), regulated by the Department, subject to the requirements of the California Hazardous Waste Control Law ("HWCL"), at Health and Safety Code ("H&S Code") section 25100 et seq., and the federal Resource Conservation and Recovery Act ("RCRA"), at 42 U.S.C. section 6901 et seq.

The Department is requiring this Covenant pursuant to the closure requirements of the HWCL, including H&S Code section 25246 and post-closure notices provisions of Title 22 California Code of Regulations [section 66265.119(b) for interim status hazardous waste facilities], as part of the facility closure. The Department circulated a closure plan, dated August 30, 1996 and a draft Categorical Exemption pursuant to the California Environmental Quality Act, Public Resources Code section 21000 et seq for

public review and comment from December 23, 1999 to January 24, 2000. The Department approved the closure plan, closure certification report titled, *RCRA Closure Certification Report, Former H&H Ship Service Facility, San Francisco, California, dated February 4, 1999*, containing a health risk assessment, and the Categorical Exemption on January 26, 2000. Hazardous wastes, which are also hazardous materials as defined in Health and Safety Code sections 25117 and 25260, including petroleum hydrocarbons, polynuclear aromatic hydrocarbons, metals and arsenic, remain in the soil and groundwater at the Site at concentrations below those which would pose a significant human health risk under proposed reuse scenarios. The health risk assessment did not evaluate an unrestricted land use scenario, recreational use involving direct contact with soil, or potential impacts from use of groundwater. Therefore a deed restriction to limit use of the property to those exposure scenarios evaluated and found to be below acceptable risk limits is required as part of the facility closure.

1.03. As detailed in the health risk assessment within the *RCRA Closure Certification Report*, as approved by the Department on January 26, 2000, portions of the surface and subsurface soils on the Site contain hazardous wastes and hazardous materials, as defined in H&S Code section 25117 and 25260, including the following contaminants of concern: arsenic (up to 92 mg/kg) and benzo(a)pyrene (up to 2.5 mg/kg). Groundwater beneath the Property is found within 10 to 20 feet below ground surface. Dissolved arsenic was found in groundwater at up to 812 ug/l. California drinking water standards are arsenic at 50 ug/l. Because the health risk assessment did not evaluate an unrestricted land use scenario, recreational use involving direct contact with soil, or potential impacts from use of groundwater, the Department concluded that use of the Property as a residence, hospital, school for persons under the age of 21, day care center, or recreational use involving direct contact with soil would entail an unacceptable potential human health risk. The Department further concluded that the Property, subject to the restrictions of this Covenant, does not present an unacceptable threat to human safety or the environment.

## ARTICLE II DEFINITIONS

2.01. Department. "Department" shall mean the California Department of Toxic Substances Control and shall include its successor agencies, if any.

2.02. Owner. "Owner" shall mean the Covenantor, its successors in interest, and their successors in interest, including heirs and assigns, who at any time hold title to all or any portion of the Property.

2.03. Occupant. "Occupant" shall mean Owners and any person or entity entitled by ownership, leasehold, or other legal relationship to the right to occupy any portion of the Property.

ARTICLE III  
GENERAL PROVISIONS

3.01. Restrictions to Run With the Land. This Covenant sets forth protective provisions, covenants, restrictions, and conditions (collectively referred to as "Restrictions"), upon and subject to which the Property and every portion thereof shall be improved, held, used, occupied, leased, sold, hypothecated, encumbered, and/or conveyed. Each and every one of the Restrictions: (a) shall run with the land pursuant to H&SC sections 25202.5, and 25202.6 and Civil Code section 1471; (b) shall inure to the benefit of and pass with each and every portion of the Property, (c) shall apply to and bind the respective successors in interest to the Property, (d) are for the benefit of, and shall be enforceable by the Department, and (e) are imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof.

3.02. Binding Upon Owners/Occupants. Pursuant to Health and Safety Code section 25202.5(b), this Covenant shall be binding upon all of the owners of the land, their heirs, successors, and assignees, and the agents, employees, and lessees of the owners, heirs, successors, and assignees. Pursuant to Civil Code section 1471(b), all successive owners of the Property are expressly bound hereby for the benefit of the covenantee(s) herein. "Owner" shall include "Covenantor".

3.04. Written Notice of Hazardous Substance Release. The Owner shall, prior to the sale, lease, or rental of the Property, give written notice that a release of hazardous substances has come to be located on or beneath the Property, pursuant to Health and Safety Code section 25359.7. Such written notice shall include a copy of this Covenant.

ARTICLE IV  
RESTRICTIONS

4.01. Prohibited Uses. The Property shall not be used for any of the following purposes:

- (a) A residence, including any mobile home or factory built housing, constructed or installed for use as residential human habitation;
- (b) A hospital for humans;
- (c) A public or private school for persons under 21 years of age;
- (d) A day care center for children; or
- (e) Recreational use involving direct contact with soil.

4.02. Soil Management

- (a) Any contaminated soils brought to the surface by grading, excavation, trenching or backfilling shall be managed in accordance with all applicable provisions of state and federal law.
- (b) If more than 50 cubic yards of any surface or subsurface soil will be disturbed, including excavation and grading, then the soil shall be evaluated for potential human health risks in compliance with Article 20 of the SF Municipal Code ("the Maher Ordinance"), and managed accordingly.

4.03. Prohibited Activities. The following activities shall not be conducted at the Property:

- (a) No raising of food (e.g., cattle, food crops, cotton, etc.) shall be permitted on the property.
- (b) No groundwater shall be extracted on the Property for purposes other than site remediation or construction dewatering without prior written approval by the Department.

4.04. Access for Department. Covenantor agrees that the Department shall have reasonable right of entry and access to the Property for inspection, monitoring, and other activities consistent with the purposes of this Covenant as deemed necessary by the Department in order to protect the public health and safety.

ARTICLE V  
ENFORCEMENT

5.01. Enforcement. Failure of the Covenantor and/or Owner to comply with any of the Restrictions specifically applicable to it shall be grounds for the Department, by reason of this Covenant, to require that the Covenantor and/or Owner modify or remove any improvements ("Improvements" herein shall mean all buildings, roads, driveways, and paved parking areas, constructed or placed upon any portion of the Property constructed in violation of the Restrictions.) Violation of this Covenant shall be grounds for the Department to file civil and/or criminal actions against the Covenantor and/or Owner as provided by law.



ARTICLE VI  
VARIANCE, TERMINATION, AND TERM

6.01. Variance. Any Owner or, with the Owner's written consent, any Occupant of the Property or any portion thereof may apply to the Department for a written variance from the provisions of this Covenant. Such application shall be made in accordance with H&S Code section 25202.6.

6.02. Termination. Any Owner, and/or, with the Owner's written consent, any Occupant of the Property, or any portion thereof, may apply to the Department for a termination of the Restrictions or other terms of this Covenant as they apply to all or any portion of the Property. Such application shall be made in accordance with H&S Code section 25202.6.

6.03. Term. Unless ended in accordance with the Termination Paragraph above, by law, or by the Department in the exercise of its discretion, this Covenant shall continue in effect in perpetuity.

ARTICLE VII  
MISCELLANEOUS

7.01. No Dedication Intended. Nothing set forth in this Covenant shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Property, or any portion thereof to the general public or anyone else for any purpose whatsoever.

7.02. Department References. All references to the Department include successor agencies/departments or other successor entity.

7.03. Recordation. The Covenantor shall record this Covenant, with all referenced Exhibits, in the County of San Francisco within ten (10) days of the Covenantor's receipt of a fully executed original.

7.04. Notices. Whenever any person gives or serves any notice ("Notice" as used herein includes any demand or other communication with respect to this Covenant), each such Notice shall be in writing and shall be deemed effective: (1) when delivered, if personally delivered to the person being served or to an officer of a corporate party being served, or (2) three (3) business days after deposit in the mail, if mailed by United States mail, postage paid, certified, return receipt requested:

To Owner:

G723986

On or Before 12/31/00:

Port of San Francisco  
3100 Ferry Building  
San Francisco, CA 94111  
Attention: Carol Bach,

With a copy to

Noreen Ambrose  
Port General Counsel  
Port of San Francisco  
3100 Ferry Building  
San Francisco, CA 94111.

After 12/31/00:

Port of San Francisco  
Pier 1  
San Francisco, CA 94111  
Attention: Carol Bach,

With a copy to:  
Noreen Ambrose  
Port General Counsel  
Port of San Francisco  
Pier 1  
San Francisco, CA 94111.

To Department:

California Environmental Protection Agency  
Department of Toxic Substances Control  
700 Heinz Avenue, Suite 300  
Berkeley, CA 94710-2737  
Attention: Branch Chief  
Standardized Permits and Corrective Action Branch

Any party may change its address or the individual to whose attention a notice is to be sent by giving written notice in compliance with this paragraph.

7.05. Partial Invalidity. If any portion of the Restrictions or other term set forth herein is determined by a court of competent jurisdiction to be invalid for any reason, the surviving portions of this Covenant shall remain in full force and effect as if such portion found invalid had not been included herein.


G723986

IN WITNESS WHEREOF, the Parties execute this Covenant.

"Covenantor"

CITY & COUNTY OF SAN FRANCISCO

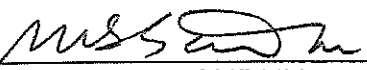
Date: 2/26/2000

By:   
DOUGLAS F. WONG  
Its: Executive Director  
PORT OF SAN FRANCISCO

"Department"

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Date: 1/26/00

By:   
MOHINDER S. SANDHU  
Its: Chief, Standardized Permits and Corrective Action  
Branch

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

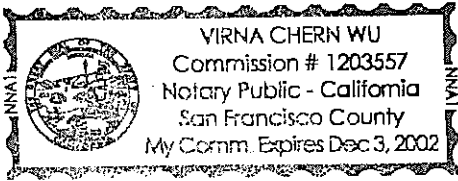
State of California }  
County of San Francisco } ss.

On January 26, 2000, before me, Virna C. Wu, "Notary Public"  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Douglas Farrell Wong  
Name(s) of Signer(s)

personally known to me  
 proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Virna C. Wu  
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Environmental Restriction

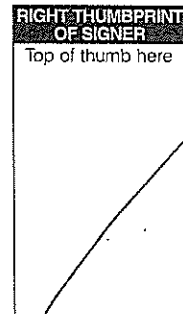
Document Date: 1/26/2000 Number of Pages: 8 + 6 (Parcel M, C, D)

Signer(s) Other Than Named Above: None

Capacity(ies) Claimed by Signer

- Signer's Name: Douglas Farrell Wong
- Individual
- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: Port Executive Director

Signer Is Representing: Port of San Francisco



G723986

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

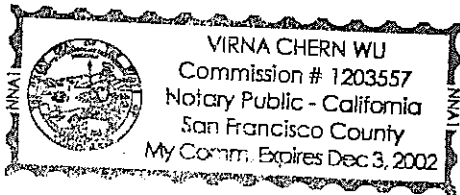
State of California }
County of San Francisco } ss.

On January 26, 2000, before me, Virna C. Wu, "Notary Public"
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Mohinder Singh Sandhu
Name(s) of Signer(s)

[ ] personally known to me
[X] proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Virna C Wu

Place Notary Seal Above

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Environmental Restriction

Document Date: 01/26/2000 Number of Pages: 8+6 (Parcel A, C, D)

Signer(s) Other Than Named Above: None

Capacity(ies) Claimed by Signer

Signer's Name: Mohinder Singh Sandhu

- [ ] Individual
[ ] Corporate Officer — Title(s):
[ ] Partner — [ ] Limited [ ] General
[ ] Attorney in Fact
[ ] Trustee
[ ] Guardian or Conservator

[X] Other: Chief, Standardized Permits & Collective Action Branch

Signer Is Representing: Dept. of Toxic Substances Control

RIGHT THUMBPRINT OF SIGNER

Top of thumb here

G723986

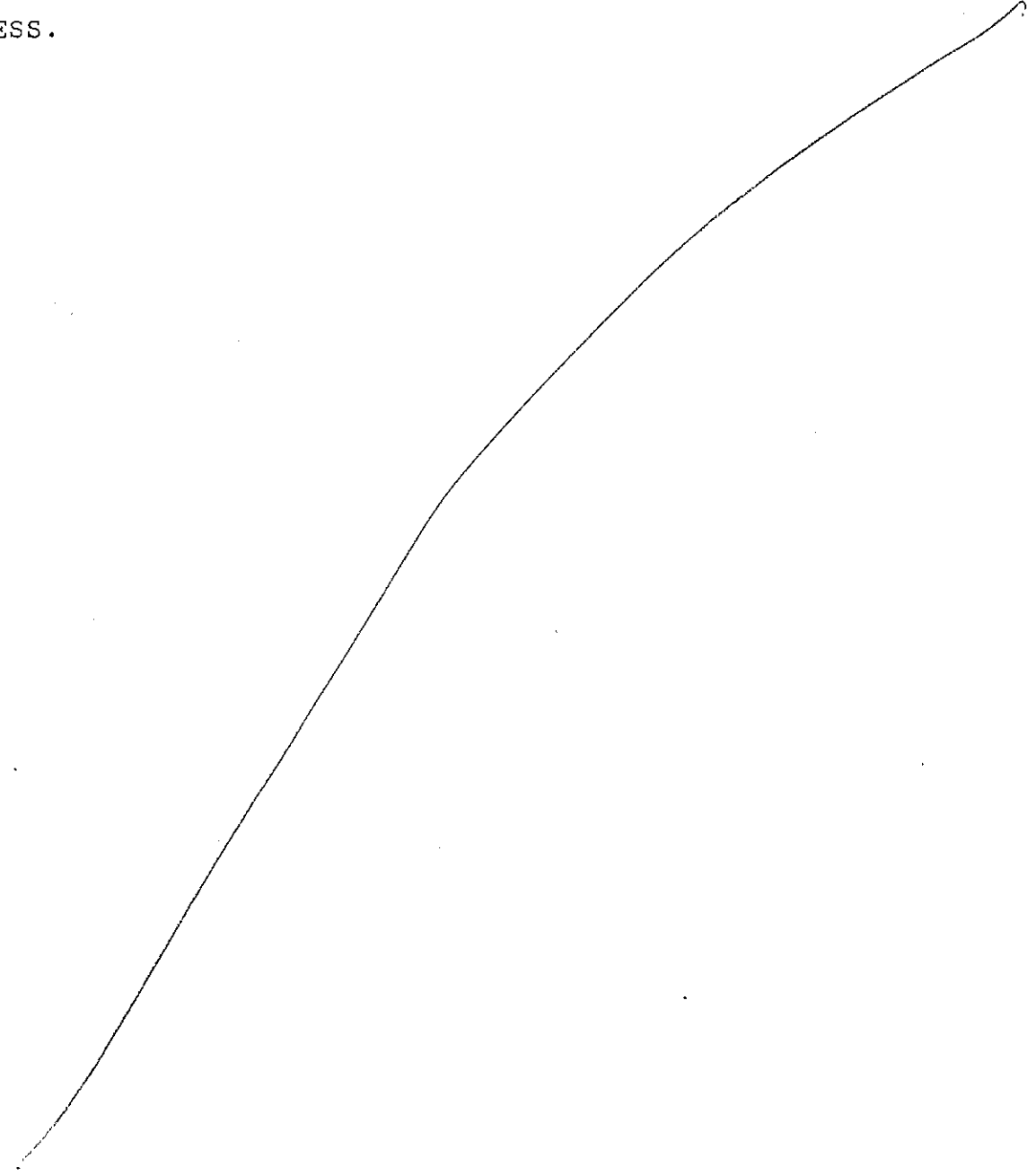
SEAWALL LOT 337

.PARCEL A

ALL THAT CERTAIN REAL PROPERTY SITUATED AT THE CITY AND COUNTY OF SAN FRANCISCO, BEING A PORTION OF SEAWALL LOT 337 OF THE SAN FRANCISCO PORT AUTHORITY, DESCRIBED AS FOLLOWS; COMMENCING AT THE SOUTHWEST CORNER OF THE INTERSECTION OF TOWNSEND STREET AND DELANCEY STREET (FORMERLY FIRST STREET), SAID CORNER BEING INNER 14 OF THE INNER WATERFRONT LINE AS DESCRIBED IN THE RECORDS ON FILE AT THE OFFICE OF ENGINEERING OF THE SAN FRANCISCO PORT AUTHORITY; RUNNING THENCE ALONG SAID INNER WATERFRONT LINE AT S 3DEG 02'27" E A DISTANCE OF 2,217.59 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG THE LAST AFOREMENTIONED COURSE A DISTANCE OF 149.77 FEET; THENCE AT S 86DEG 57'33" W A DISTANCE OF 38.12 FEET; THENCE AT S 3DEG 14'22" E A DISTANCE OF 31.51 FEET; THENCE AT N 86DEG 45'38" E A DISTANCE OF 55.69 FEET; THENCE AT S 3DEG 02'27" E A DISTANCE OF 120.00 FEET; THENCE AT S 86DEG 45'38" W A DISTANCE OF 55.27 FEET; THENCE AT N 3DEG 14'22" W A DISTANCE OF 120.00 FEET; THENCE AT S 86DEG 45'38" W A DISTANCE OF 40.17 FEET; THENCE AT S 3DEG 14'22" E A DISTANCE OF 120.00 FEET; THENCE AT N 86DEG 45'38" E A DISTANCE OF 40.17 FEET; THENCE AT S 3DEG 14'22" E A DISTANCE OF 48.20 FEET; THENCE AT S 86DEG 57'33" W A DISTANCE OF 142.25 FEET; THENCE AT

G723986

S 86DEG 50'57" W A DISTANCE OF 111.99 FEET; THENCE AT  
N 3DEG 10'55" W A DISTANCE OF 200.00 FEET; THENCE AT  
N 86DEG 57'33" E A DISTANCE OF 171.00 FEET; THENCE AT  
N 3DEG 02'27" W A DISTANCE OF 149.48 FEET; THENCE AT  
N 86DEG 49'20" E A DISTANCE OF 121.29 FEET TO THE TRUE POINT OF  
BEGINNING, CONTAINING AN AREA OF 70,765.20 SQUARE FEET, MORE  
OR LESS.

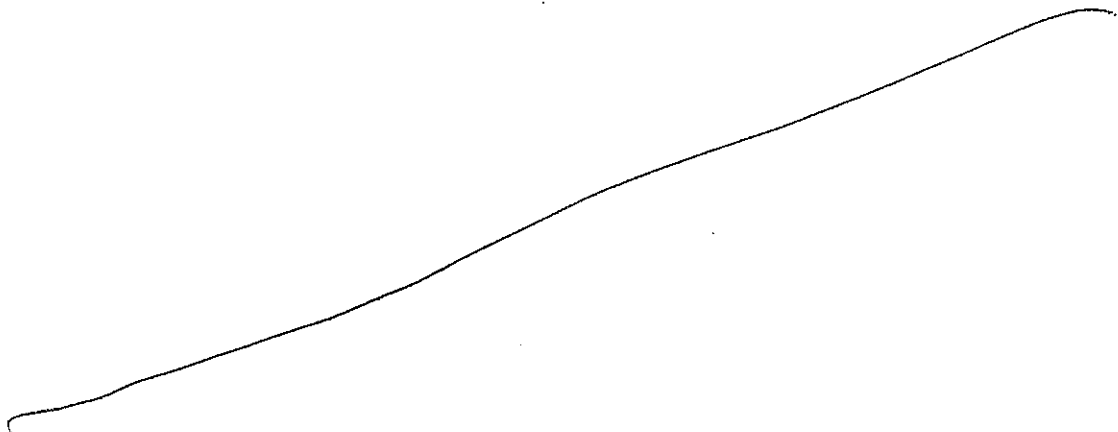


G723986

SEAWALL LOT 337

PARCEL C

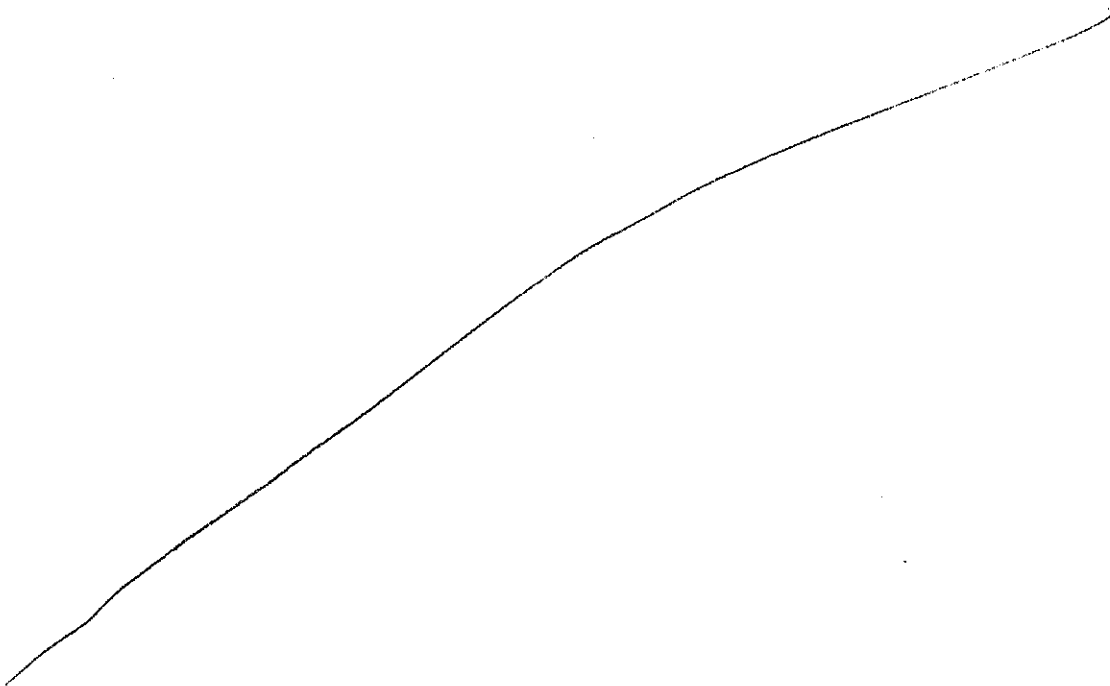
BEING A PORTION OF SEAWALL LOT 337 OF THE SAN FRANCISCO PORT AUTHORITY ,CITY AND COUNTY OF SAN FRANCISCO, BRIEFLY DESCRIBED AS FOLLOWS; COMMENCING AT THE SOUTHWEST CORNER OF THE INTERSECTION OF TOWNSEND STREET AND DELANCEY STREET (FORMERLY FIRST STREET), SAID CORNER BEING INNER 14 OF THE INNER WATERFRONT LINE AS DESCRIBED IN THE RECORDS ON FILE AT THE OFFICE OF ENGINEERING OF THE SAN FRANCISCO PORT AUTHORITY; RUNNING THENCE ALONG THE AFORESAID INNER WATERFRONT LINE AT S 3DEG 02'27" E A DISTANCE OF 2,367.36 FEET TO THE TRUE POINT OF BEGINNING; THENCE AT S 48DEG 02'27" E A DISTANCE OF 25.00 FEET; THENCE AT S 3DEG 02'27" E A DISTANCE OF 13.64 FEET; THENCE AT S 86DEG 45'38" W A DISTANCE OF 55.69 FEET; THENCE AT N 3DEG 14'22" W A DISTANCE OF 31.51 FEET; THENCE AT N 86DEG 57'33" E A DISTANCE OF 38.12 FEET TO THE TRUE POINT OF BEGINNING, CONTAINING AN AREA OF 1,594.90 SQUARE FEET, MORE OR LESS.





G723986

ALSO INCLUDED IN THIS PARCEL IS A PORTION OF SEAWALL  
LOT 337 BRIEFLY DESCRIBED AS FOLLOWS;  
COMMENCING AT THE SOUTHWEST CORNER OF THE INTERSECTION OF  
TOWNSEND STREET AND DELANCEY STREET (FORMERLY FIRST STREET)  
SAID POINT BEING INNER 14 OF THE INNER WATERFRONT LINE AS  
DESCRIBED IN THE RECORDS ON FILE AT THE OFFICE OF ENGINEERING  
OF THE SAN FRANCISCO PORT AUTHORITY; RUNNING THENCE ALONG THE  
AFORESAID INNER WATERFRONT LINE A DISTANCE OF 2,518.74 FEET;  
THENCE AT N 86DEG 45'38" E A DISTANCE OF 17.66 FEET TO THE  
TRUE POINT OF BEGINNING; THENCE AT S 3DEG 02'27" E DISTANCE OF  
30.72 FEET; THENCE AT S 41DEG 57'33" W A DISTANCE OF 25.00  
FEET; THENCE S 86DEG 57'33" W A DISTANCE OF 37.43 FEET; THENCE  
AT N 3DEG 14'22" W A DISTANCE OF 48.20 FEET; THENCE AT  
N 86DEG 45'38" E DISTANCE OF 55.27 FEET TO THE TRUE POINT  
OF BEGINNING, CONTAINING AN AREA OF 2,509.60 SQUARE FEET, MORE  
OR LESS.



G723986

SEAWALL LOT 337

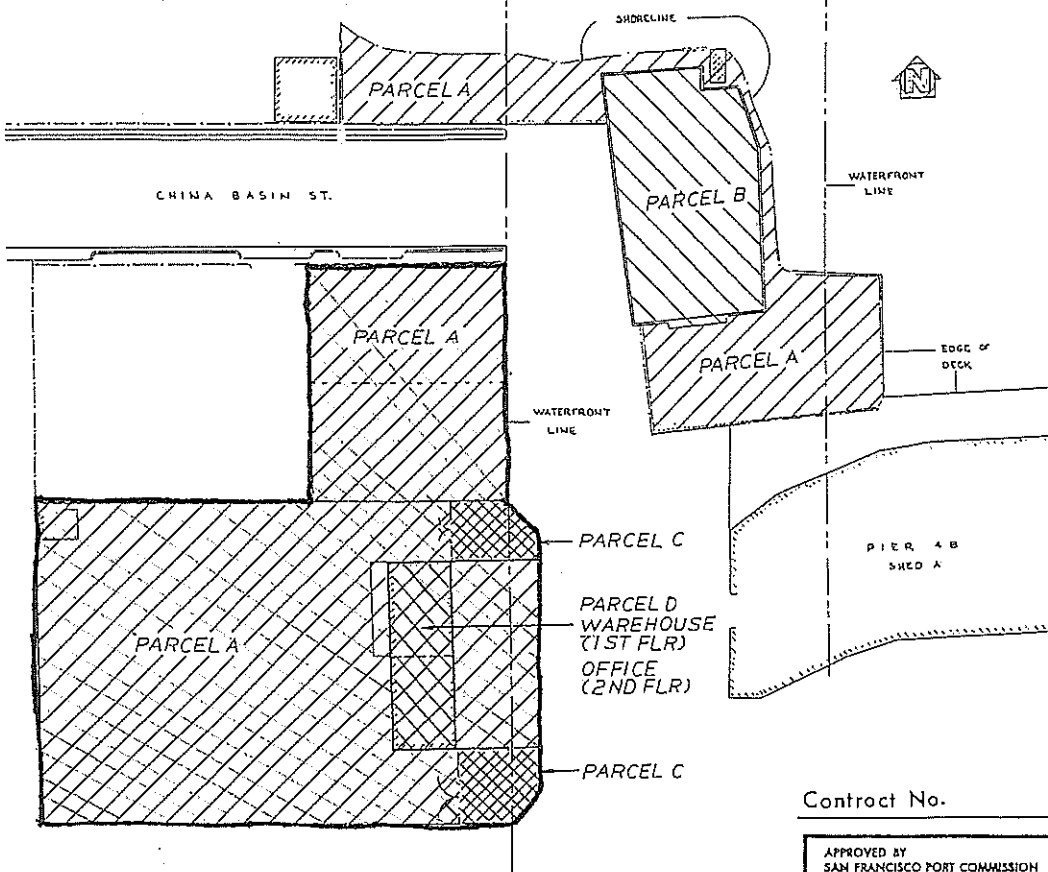
PARCEL D

PARCEL D IS A TWO-STORY WAREHOUSE AND OFFICE BUILDING LOCATED AT CHINA BASIN STREET WHOSE FOOTPRINT IS BRIEFLY DESCRIBED AS FOLLOWS;

COMMENCING AT THE SOUTHWEST CORNER OF THE INTERSECTION OF TOWNSEND STREET AND DELANCEY STREET (FORMERLY FIRST STREET), SAID POINT BEING INNER 14 OF THE INNER WATERFRONT LINE AS DESCRIBED IN THE RECORDS ON FILE AT THE OFFICE OF ENGINEERING OF THE SAN FRANCISCO PORT AUTHORITY; RUNNING THENCE SOUTHERLY ALONG THE AFORESAID INNER WATERFRONT LINE AT S 3DEG 02'27" E A DISTANCE OF 2,398.74 FEET; THENCE AT N 86DEG 45'38" E A DISTANCE OF 38.02 FEET TO THE TRUE POINT OF BEGINNING; THENCE AT S 3DEG 14'22" E A DISTANCE OF 120.00 FEET; THENCE AT S 86DEG 45'38" W A DISTANCE OF 40.17 FEET; THENCE AT N 3DEG 14'22" W A DISTANCE OF 120.00 FEET; THENCE AT N 86DEG 45'38" E A DISTANCE OF 40.17 FEET TO THE TRUE POINT OF BEGINNING, CONTAINING AN AREA OF 4,820.00 SQUARE FEET, MORE OR LESS.

ALSO INCLUDED IN THIS PARCEL IS THE SECOND FLOOR OFFICE SPACE OF THE AFOREMENTIONED TWO-STORY BUILDING WITH AN AREA OF 2,414.00 SQUARE FEET, MORE OR LESS.

G723986



PARCEL A	91,844 SF
PARCEL B	14,071 SF
SUB TOTAL	105,915 SF
PARCEL C	4,105 SF
PARCEL D	
WAREHOUSE	4,820 SF
OFFICE	2,414 SF
TOTAL	117,254 SF

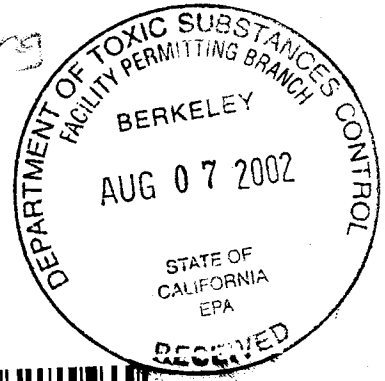
NO.	DATE	DESCRIPTION
REVISIONS		
PORT OF SAN FRANCISCO SAN FRANCISCO PORT COMMISSION DEPARTMENT OF ENGINEERING		
<b>EXHIBIT A-1</b> H & H SHIP SERVICE CO. LEASE NO. L-11679		
DRAWN BY	E.C.C.	CHECKED BY
DESIGNED BY		DATE
SECTION HEAD		SCALE
DRAWING NO.		SHEET NO.
		OF SHEETS

Contract No.

APPROVED BY  
SAN FRANCISCO PORT COMMISSION  
DATE *July 21, 1982*  
*Chil Parrot*  
CHIEF ENGINEER

**APPENDIX E**  
**Covenant to Restrict Use of Property**  
**Recorded July 25, 2002**

20020807-10-Wong



RECORDING REQUESTED BY:  
The Port of San Francisco  
Ferry Building  
San Francisco, California 94111

WHEN RECORDED, MAIL TO

Department of Toxic Substances Control  
700 Heinz Avenue, Suite 300  
Berkeley, California 94710  
Attention: Mohinder S. Sandhu, P.E., Chief  
Standardized Permits and Corrective Action  
Branch

San Francisco Assessor-Recorder  
Doris M. Ward, Assessor-Recorder  
**DOC- 2002-H209674-00**

Acct 25-NO CHARGE DOCUMENT  
Thursday, JUL 25, 2002 12:45:40  
Ttl Pd \$0.00 Nbr-0001906468  
**REEL I187 IMAGE 0545**  
0J1/JL/1-14

---

SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE

COVENANT TO RESTRICT USE OF PROPERTY

ENVIRONMENTAL RESTRICTION

*(Re: H&H Site located at China Basin Channel and Terry Francois Blvd, City and County of San Francisco)*

---

This Covenant and Agreement ("Covenant") is made by and between the City and County of San Francisco, a charter city and county in trust (the "Covenantor"), the current owner of certain property situated in the City and County of San Francisco, State of California, described in Exhibit "A", attached hereto and incorporated herein by this reference (the "Property"), and the Department of Toxic Substances Control (the "Department"). Pursuant to Civil Code section 1471(c) and the California Health and Safety Code, Section 25222.1, the Department has determined that this Covenant is reasonably necessary to protect present or future human health or safety or the environment as a result of the presence on the land of hazardous materials as defined in Health and Safety Code ("H&SC"), Section 25260. The Covenantor and the Department, collectively referred to as the "Parties", therefore intend that the use of the Property be restricted as set forth in this Covenant, in order to protect human health,

safety and the environment.

ARTICLE I  
STATEMENT OF FACTS

1.01. The Property, totaling approximately 0.6 acres, is more particularly described in Exhibit "A" and depicted in Exhibit "A-1", attached hereto and incorporated herein by this reference. The Property is located in the area now generally bounded by Terry Francois Boulevard to the west, China Basin Channel to the north, and San Francisco Bay to the east, in the City and County of San Francisco, California.

1.02. The site was created by filling marshlands and shallow tidal flats bordering San Francisco Bay between 1877 and 1913. Sources of fill are unknown, but likely included construction/demolition debris and rubble, and rock and dirt cut from nearby hills. Historical uses of the Site include railroad tracks and related support structures and parking. From 1950 to 1996 H&H Ship Service occupied the area for wastewater treatment and transfer operations, including aboveground storage tanks for receiving, settling and treating wastewater containing petroleum.

In 1978 several of the wastes managed at the H&H Ship Service facility were determined to be hazardous wastes subject to federal and state hazardous waste management regulations. Since that time, the Department of Toxic Substances Control (or its predecessor in interest, the Department of Health Services) authorized H&H Ship Service's operations pursuant to an interim status document. Under this authorization the property was a hazardous waste facility (Facility), regulated by the Department, subject to the requirements of the California Hazardous Waste Control Law ("HWCL"), at Health and Safety Code ("H&S Code") section 25100 et seq., and the federal Resource Conservation and Recovery Act ("RCRA"), at 42 U.S.C. section 6901 et seq. Under Interim Status, the property was a portion of the Facility that was known as the Treatment/Transfer Area (TTA).

The Department is requiring this Covenant pursuant to the closure requirements of the HWCL, including H&S Code section 25246 and post-closure notices provisions of Title 22 California Code of Regulations [section 66265.119(b) for interim status hazardous waste facilities], as part of the facility closure. In 1994, the Department reviewed H&H's Closure Plan to ensure that the closure of the TTA met the requirements in Title 22, California Code of Regulations, Chapter 15, Article 7. The Department circulated the draft Closure Plan and Proposed Negative Declaration for public review and comment from August 11, 1994 to September 13, 1994. The Department approved the Closure Plan on January 13, 1995 and filed a Notice of Determination for the project with the

State Clearinghouse on February 15, 1995.

The Department reviewed the closure certification report titled, *RCRA Closure Certification Report, Former H&H Ship Service Facility, San Francisco, California*, (February 4, 1999), and subsequent submittals titled *Response to Comments, RCRA Closure Certification Report, Former H&H Ship Service Facility*, (November 2, 1999); *Results of Article 20 Sampling Program. Proposed China Basin Park Area* (July 2000); *Site Investigation and Surface Soil Sampling Results, Former H&H Ship Service Company – Treatment Transfer Area Parcel* (February 28, 2002); and *Addendum to the Article 20 Health Risk Assessment* (July 18, 2002). Upon filing of this deed restriction, the Department will approve the closure certification report.

Hazardous wastes, which are also hazardous materials as defined in Health and Safety Code sections 25117 and 25260, including petroleum hydrocarbons, polynuclear aromatic hydrocarbons, metals and arsenic, remain in the soil and groundwater at the Site at concentrations below those which would pose a significant human health risk under proposed reuse scenarios. Therefore a deed restriction to limit use of the property to those exposure scenarios evaluated and found to be below acceptable risk limits is required as part of the facility closure.

1.03. As detailed in the above-referenced reports, portions of the surface and subsurface soils on the Site contain hazardous wastes and hazardous materials, as defined in H&S Code section 25117 and 25260, including the following contaminants of concern: arsenic (up to 96 mg/kg) and benzo(a)pyrene (up to 11 mg/kg). Groundwater beneath the Property is found within 10 to 20 feet below ground surface. Dissolved arsenic was found in groundwater at up to 180 ug/l. The California drinking water standard for arsenic is 50 ug/l.

A review of the analytical results and the chemical distribution suggests that there are "hot spots". Hot spots are areas of affected soil or groundwater having concentrations higher than an empirically determined percentile of the distribution of concentrations in a particular population. 65 soil samples from 20 locations at various depths were collected within the TTA. Elevated concentrations of benzo(a)pyrene equivalent B(a)P EQ were measured in samples collected from two borings locations (EB-1, 19.8 milligrams per kilogram [mg/kg]) and (EB-20, 7.9 mg/kg). One surface soil sample (GMX-08) contained B(a)P EQ concentration of 1.5 mg/kg. All other concentrations of B(a)P EQ were less than 1 mg/kg. Elevated concentrations of arsenic and lead were observed in samples collected from borings EB-1 (3,000 mg/kg lead), EB-5 (96 mg/kg arsenic and 1,300 mg/kg lead), and EB-18 (2,400 mg/kg lead). Borings EB-1 and EB-5 are located in the eastern section of the TTA; GMX-08 is located near the northern perimeter; and borings EB-18 and EB-20 are located in the southwest section.

Based on these observations, borings EB-1, EB-5, GMX-08, EB-18, and EB-20 can be considered hot spots. However, each of borings is located under a concrete/asphalt

foundation or a compacted aggregate/crushed rock/roadbase material. The concrete/asphalt foundation or compacted aggregate/crushed rock/roadbase material serves as a physical barrier preventing direct contact with chemicals in soil; thus, there are no potential direct exposure pathways to chemicals at these hot spots by future receptors. If in the unlikely event that the concrete/asphalt foundation is removed, the excess cancer risk to a receptor from the hot spots would range from  $9 \times 10^{-5}$  to  $3 \times 10^{-6}$ .

Imported topsoil at least 18 inches thick followed by a layer of sod will be placed over the existing asphalt-concrete foundation. The concrete is present at one foot thick to at least 3 feet thick across approximately two-third of the TTA. The remaining one-third of the TTA is currently overlain with an aggregate/crushed rock/roadbase material. The concrete/asphalt foundation and compacted aggregate/crushed rock/roadbase layer precludes a complete exposure pathway. Additional of the 18 inches of topsoil and sod layer will eliminate potential direct exposures to soil in fill material within the TTA.

In order to ensure that no complete pathways are established, the Department will require that the existing concrete/asphalt foundation remain undisturbed so long as the intended use of the Property is to be a recreational park. Additionally, the Department will require that the site be covered (capped) with at least eighteen (18) inches of imported topsoil on top of an indicator lining material to denote the separation of the topsoil from native fill. Because the health risk assessment also did not evaluate an unrestricted land use scenario or potential impacts from use of groundwater, the Department concluded that use of the Property as a residence, hospital, school for persons under the age of 21, or day care center would entail an unacceptable use. The Department further concluded that the Property, subject to the restrictions of this Covenant, does not present an unacceptable threat to human safety or the environment.

## ARTICLE II DEFINITIONS

2.01. Department. "Department" shall mean the California Department of Toxic Substances Control and shall include its successor agencies, if any.

2.02. Owner. "Owner" shall mean the Covenantor, its successors in interest, and their successors in interest, including heirs and assigns, who at any time hold title to all or any portion of the Property.

2.03. Occupant. "Occupant" shall mean Owners and any person or entity entitled by ownership, leasehold, or other legal relationship to the right to occupy any portion of the Property.

2.04. Cap. "Cap" shall mean eighteen (18) inches of imported topsoil on top of



an indicator lining material which is used to denote the separation of the imported topsoil from native fill.

2.05 Concrete/Asphalt Foundation. "Concrete/Asphalt Foundation" shall mean the existing concrete/asphalt surface which is overlain approximately two-third of the Property.

### 2.03. ARTICLE III GENERAL PROVISIONS

3.01. Restrictions to Run With the Land. This Covenant sets forth protective provisions, covenants, restrictions, and conditions (collectively referred to as "Restrictions"), upon and subject to which the Property and every portion thereof shall be improved, held, used, occupied, leased, sold, hypothecated, encumbered, and/or conveyed. Each and every one of the Restrictions: (a) shall run with the land pursuant to H&SC sections 25202.5, and 25202.6 and Civil Code section 1471; (b) shall inure to the benefit of and pass with each and every portion of the Property, (c) shall apply to and bind the respective successors in interest to the Property, (d) are for the benefit of, and shall be enforceable by the Department, and (e) are imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof.

3.02. Binding Upon Owners/Occupants. Pursuant to Health and Safety Code section 25202.5(b), this Covenant shall be binding upon all of the owners of the land, their heirs, successors, and assignees, and the agents, employees, and lessees of the owners, heirs, successors, and assignees. Pursuant to Civil Code section 1471(b), all successive owners of the Property are expressly bound hereby for the benefit of the covenantee(s) herein. "Owner" shall include "Covenantor".

3.03. Written Notice of Hazardous Substance Release. The Owner shall, prior to the sale, lease, or rental of the Property, give written notice that a release of hazardous substances has come to be located on or beneath the Property, pursuant to Health and Safety Code section 25359.7. Such written notice shall include a copy of this Covenant.

3.04. Incorporation into Deeds and Leases. The Restrictions set forth herein shall be incorporated by reference in each and all deeds and leases for any portion of the Property.

3.05. Conveyance of Property. Covenantor agrees that the Owner shall provide notice to the Department not later than thirty (30) days after any conveyance of any ownership interest in the Property (excluding mortgages, liens, and other non-possessory encumbrances). The Department shall not, by reason of this Covenant, have authority to approve, disapprove, or otherwise affect such proposed conveyance, except as otherwise provided by law, by administrative order, or specific provision of this Covenant.

ARTICLE IV  
RESTRICTIONS

4.01. Prohibited Uses. The Property shall not be used for any of the following purposes:

- (a) A residence, including any mobile home or factory built housing, constructed or installed for use as residential human habitation;
- (b) A public or private school for persons under 21 years of age; or
- (c) A hospital for humans; or
- (c) A day care center for children.

4.02 Prohibited Activities. The following activities shall not be conducted at the Property:

- (a) No raising of food (e.g., cattle, food crops, cotton, etc.) shall be permitted on the property.
- (b) No groundwater shall be extracted on the Property for purposes other than site remediation or construction dewatering without prior written approval by the Department.

4.03 Non-Interference with the Cap. Covenantor agrees:

- (a) No activities which will disturb the Cap (e.g. excavation, grading, removal, trenching, filling, earth movement, or mining) shall be permitted on the Property without prior review and approval by the Department.
- (b) All uses and development of the Property shall preserve the integrity of the Cap.
- (c) Any proposed alteration of the Cap shall require written approval by the Department.
- (d) Covenantor shall notify the Department of each of the following: (i) The type, cause, location and date of any disturbance to the Cap which could affect the ability of the Cap to contain subsurface hazardous materials in the Property, and (ii) the type and date of repair of such disturbance. Notification to the Department shall be made as provided below within ten (10) working days of both the discovery of any such disturbance(s) and the completion of any repairs. Timely and accurate notification by any Owner or Occupant shall satisfy this requirement on behalf of all other

## Owners and Occupants.

4.04. Management of Native Fill and Concrete/Asphalt Foundation Material

- (a) All uses and development of the Property shall preserve the integrity of the existing Concrete/Asphalt Foundation.
- (b) No activities (e.g., excavation, grading, removal, trenching, filling, earth movement or mining) which will disturb the native fill and/or the Concrete/Asphalt Foundation material underlying the Cap as indicated in Exhibit B shall be permitted on the Property without a Department-approved Soil Management Plan and Health and Safety Plan.
- (c) Native fill and/or Concrete/Asphalt Foundation material shall not be managed or handled such that it may migrate into the bay.
- (d) Any native fill and/or Concrete/Asphalt Foundation material brought to the surface by grading, excavation, trenching or backfilling shall be managed in accordance with the applicable state and federal laws and their implementing regulations.
- (e) The Owner shall provide the Department written notice at least fourteen (14) days prior to any building, filling, grading, mining or excavating at the Property.
- (f) If more than 50 cubic yards of any native fill will be disturbed, including excavation and grading, then the soil shall be evaluated for potential human health risks in compliance with Article 20 of the SF Municipal Code ("the Maher Ordinance"), and managed accordingly.
- (g) Covenantor shall notify the Department of each of the following: (i) The type, cause, location and date of any disturbance to the native fill and/or Concrete/Asphalt Foundation which could affect the ability of the Concrete/Asphalt Foundation to contain subsurface hazardous materials in the Property, and (ii) the type and date of repair of such disturbance. Notification to the Department shall be made as provided below within ten (10) working days of both the discovery of any such disturbance(s) and the completion of any repairs. Timely and accurate notification by any Owner or Occupant shall satisfy this requirement on behalf of all other Owners and Occupants.

4.05. Access for Department. Covenantor agrees that the Department shall

have reasonable right of entry and access to the Property for inspection, monitoring, and other activities consistent with the purposes of this Covenant as deemed necessary by the Department in order to protect the public health and safety.

ARTICLE V  
ENFORCEMENT

5.01. Enforcement. Failure of the Covenantor and/or Owner to comply with any of the Restrictions specifically applicable to it shall be grounds for the Department, by reason of this Covenant, to require that the Covenantor and/or Owner modify or remove any improvements ("Improvements" herein shall mean all buildings, roads, driveways, and paved parking areas, constructed or placed upon any portion of the Property constructed in violation of the Restrictions.) Violation of this Covenant shall be grounds for the Department to file civil and/or criminal actions against the Covenantor and/or Owner as provided by law.

ARTICLE VI  
VARIANCE, TERMINATION, AND TERM

6.01. Variance. Any Owner or, with the Owner's written consent, any Occupant of the Property or any portion thereof may apply to the Department for a written variance from the provisions of this Covenant. Such application shall be made in accordance with H&S Code section 25202.6.

6.02. Termination. Any Owner, and/or, with the Owner's written consent, any Occupant of the Property, or any portion thereof, may apply to the Department for a termination of the Restrictions or other terms of this Covenant as they apply to all or any portion of the Property. Such application shall be made in accordance with H&S Code section 25202.6.

6.03. Term. Unless ended in accordance with the Termination Paragraph above, by law, or by the Department in the exercise of its discretion, this Covenant shall continue in effect in perpetuity.

ARTICLE VII  
MISCELLANEOUS

7.01. No Dedication Intended. Nothing set forth in this Covenant shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Property, or any portion thereof to the general public or anyone else for any purpose whatsoever.

7.02. Department References. All references to the Department include successor agencies/departments or other successor entity.

7.03. Recordation. The Covenantor shall record this Covenant, with all referenced Exhibits, in the County of San Francisco within ten (10) days of the Covenantor's receipt of a fully executed original.

7.04. Notices. Whenever any person gives or serves any notice ("Notice" as used herein includes any demand or other communication with respect to this Covenant), each such Notice shall be in writing and shall be deemed effective: (1) when delivered, if personally delivered to the person being served or to an officer of a corporate party being served, or (2) three (3) business days after deposit in the mail, if mailed by United States mail, postage paid, certified, return receipt requested:

To Owner:

Carol Bach  
Assist. Deputy Director, Environmental Health and Safety  
Port of San Francisco  
Pier 1  
San Francisco, CA 94111

With a copy to:

Noreen Ambrose  
Port General Counsel  
Port of San Francisco  
Pier 1  
San Francisco, CA 94111.

To Department:

California Environmental Protection Agency  
Department of Toxic Substances Control  
700 Heinz Avenue, Suite 300  
Berkeley, CA 94710-2737  
Attention: Chief, Standardized Permits and Corrective Action  
Branch

Any party may change its address or the individual to whose attention a notice is to be sent by giving written notice in compliance with this paragraph.

7.05. Partial Invalidity. If any portion of the Restrictions or other term set forth herein is determined by a court of competent jurisdiction to be invalid for any reason, the surviving portions of this Covenant shall remain in full force and effect as if such portion found invalid had not been included herein.

H209674

IN WITNESS WHEREOF, the Parties execute this Covenant.

"Covenantor"

Date: 7/24/02

By: //original signed by//  
DOUGLAS F. WONG  
Its: Executive Director

"Department"

Date: 7/24/02

By: //original signed by//  
Mohinder S. Sandhu, P.E.  
Its: Chief, Standardized Permits and Corrective Action  
Branch

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California }  
County of San Francisco } ss.

On July 24, 2002, before me, Virna C. Wu "Notary Public"  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Mohinder Singh Sandhu  
Name(s) of Signer(s)

- personally known to me
- ~~proved to me on the basis of satisfactory evidence~~

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

//original signed by//  
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Covenant to Restrict Use of Property

Document Date: None Number of Pages: 10 Pages + Exhibits A & B

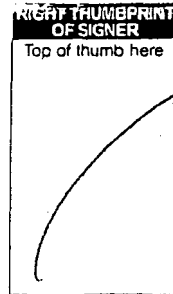
Signer(s) Other Than Named Above: None

Capacity(ies) Claimed by Signer

Signer's Name: Mohinder Singh Sandhu

- Individual
- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: Port Executive Director

Signer Is Representing: Port of San Francisco



H209674

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California }  
County of San Francisco } ss.

On July 24, 2002, before me, Virna C. Wu "Notary Public"  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Mohinder Singh Sandhu  
Name(s) of Signer(s)

- personally known to me
- proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

//original signed by//  
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Covenant to Restrict Use of Property

Document Date: None Environmental Restriction 10 Pages + Exhibits A & B  
Number of Pages:

Signer(s) Other Than Named Above: None

Capacity(ies) Claimed by Signer

Signer's Name: Mohinder Singh Sandhu

- Individual
- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: Chief, Standardized Permits & Corrective

Signer Is Representing: Department of Toxic Substances Control  
Action Branch



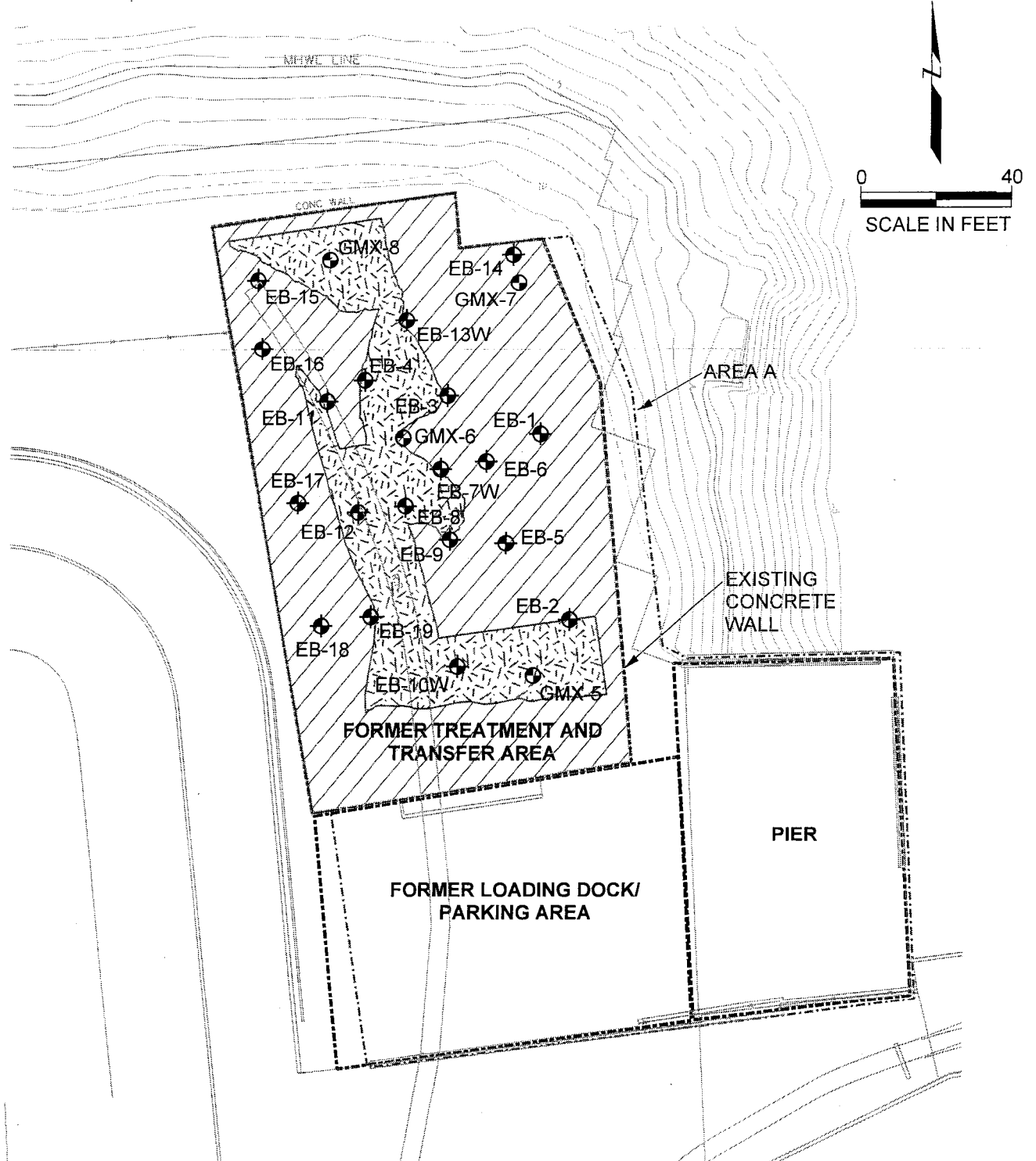


## EXHIBIT A

## H&amp;H Parcel – Tank Treatment Area

All that certain real property of the San Francisco Port Commission, City and County of San Francisco, State of California, situate at the northeast corner of Terry A. Francois Boulevard (formerly China Basin Street), more particularly described as follows:

Commencing at the point of intersection of the northwesterly line of Townsend Street with the southwesterly line of Delancey Street (formerly First Street), said point being Inner 14 of the Inner Waterfront Line as described in records on file in the office of Engineering of said San Francisco Port Commission; Thence along said Inner Waterfront Line, S 03°02'27" E a distance of 2132.11 feet; Thence N 86°51'14" E a distance of 65.28 feet, to the True Point Of Beginning; Thence S 10°21'36" E a distance of 127.93 feet; Thence N 80°50'39" E a distance of 4.70 feet; Thence S 09°13'14" E a distance of 68.59 feet; Thence N 81°09'11" E a distance of 146.17 feet; Thence N 03°21'24" W a distance of 85.74 feet; Thence S 88°44'14" W a distance of 54.91 feet; Thence N 66°55'27" W a distance of 9.19 feet; Thence N 07°12'31" W a distance of 68.86 feet; Thence N 21°58'29" W a distance of 44.82 feet; Thence S 83°22'07" W a distance of 28.09 feet; Thence N 05°44'30" W a distance of 14.69 feet; Thence S 81°59'17" W a distance of 65.99 feet; Thence S 10°21'36" E a distance of 30.22 feet to the True Point Of Beginning; Containing 26,592 square feet (0.61 acres), more or less.



EXPLANATION

- ⊕ Soil samples collected at multiple depths by J. Yang and Assoc. March 15, 1995
- Surface soil samples collected by Geomatrix, November 16, 2001



-  Area of aggregate/crushed rock/road base material
-  Concrete/asphalt foundation

EXHIBIT B

**APPENDIX F**  
**Preliminary Geotechnical Recommendations and Summary**  
**Memorandum No. 1**  
**(Langan Treadwell & Rollo - January 26, 2016)**

---

555 Montgomery Street, Suite 1300 San Francisco, CA 94111 T: 415.955.5200 F: 415.955.5201

---

**To:** Ms. Fran Weld – San Francisco Giants  
Mr. Jon Knorpp – San Francisco Giants

**From:** Cary E. Ronan, GE 2741  
Lori A. Simpson, GE 2396

**cc:** Mr. Gerry Tierney – Perkins + Will Architects  
Mr. Marc Press – KPFF Structural Engineers  
Mr. Darin Peterson – Hathaway Dinwiddie General Contractors  
Mr. Joe Olla – Nibbi Brothers

**Date:** 26 January 2016

**PROJECT:** Mission Rock Development  
Seawall Lot 337  
San Francisco, California  
Langan Project No. 750604203

**Subject:** Preliminary Geotechnical Recommendations and  
Summary Memorandum No. 1

---

This memorandum is in fulfillment of our proposal dated 20 January 2016. It presents preliminary geotechnical design recommendations and a summary of geotechnical issues and concepts regarding development at SWL337 that have not been formally memorialized, in addition to an overview summary of some geotechnical issues that have been discussed in the previously published documents listed above. The topics addressed in this memorandum include:

- 1) axial capacity of piles bearing above bedrock, including friction-only piles in clay and friction plus end-bearing piles bearing in dense sand
- 2) impacts of raising site and surrounding street grades, including settlement and downdrag, and measures to mitigate adverse impacts, including discussion of surcharge/wick drains, Geofoam, ground improvement/deep soil mixing beneath streets, and pile-supported streets
- 3) preliminary geotechnical recommendations for design of the Mission Rock Square garage (MRSG)
- 4) liquefaction mitigation considerations, including discussion of deep dynamic compaction (DDC), compaction grouting, rapid impact compaction (RIC), and stone columns

We have previously studied the Mission Rock development site by performing: 1) a preliminary geotechnical investigation at Seawall Lot 337 (SWL337), 2) a liquefaction and lateral spreading evaluation for SWL337 and Pier 48 shoreline, and 3) a geotechnical evaluation of the shoreline conditions at Pier 48. The results of these evaluations were presented in reports dated 8 September 2011, 23 December 2013, and 5 March 2014 (draft), respectively.

# MEMO

## PROPOSED DEVELOPMENT

Plans for the SWL337 site, which is bound by Terry A. Francois Boulevard on the north and east, Third Street on the west, and Mission Rock Street on the south, include constructing 12 structures between 90 and 240 feet in height (Blocks A through K, mixed residential and commercial), a large open park in the central portion of the site (Mission Rock Square), another large open park at the northern portion of the site (China Basin Park), a three-level, below-grade parking garage beneath Mission Rock Square (MRSQ), and associated infrastructure, including streets, sidewalks, and utilities, as shown on Figure 1. We understand site grades will be raised to accommodate future sea level rise; the high point will be at the middle of the site at Mission Rock Square and may be about four to six feet above existing and surrounding Third Street and Terry Francois Boulevard grades. We further understand up to 1-1/2 and 4-1/2 feet of fill was placed recently (since 1997) to raise grades along the southern approximately 750 to 800 feet of Third Street adjacent to SWL337 and Mission Rock Street, respectively, and no new fill is planned along either of these streets or along Terry Francois Boulevard. On the basis of a review of drawings by Perkins + Will (Option 1 – Channel Street/Channel Plaza Entry/Exit Ramp Plan, dated 17 December 2013), it appears the lowest finished floor of the garage will be approximately 30 feet below the proposed finished grade of Mission Rock Square Park. Pier 48 will also be upgraded and be part of the Mission Rock Development.

## SUBSURFACE CONDITIONS

Originally, the site was below water in a shallow bay known as Mission Bay. Starting in the 1880s, the bay was reclaimed by placing fill. Based on historic maps, we believe the majority of the site was reclaimed between 1880 and 1906. Some of the material used to reclaim the site is likely building rubble and debris from the 1906 San Francisco earthquake.

Boring logs from investigations of the site and the site vicinity indicate the site is underlain by approximately 13 to 37 feet of heterogeneous fill which varies in density and, in some areas, contains rubble comprised of brick, rock and debris. The fill is underlain by approximately 46 to 72 feet of weak, soft to medium stiff, compressible clay, locally referred to as Bay Mud. Where tested, the Bay Mud at the site appears to be slightly overconsolidated, which indicates that settlement of the Bay Mud is complete under the weight of existing fill. The deeper fill material (below a depth of about 20 to 25 feet) adjacent to thin fill (thinner than about 15 feet) is indicative of a "Bay Mud wave". A Bay Mud wave can occur when heavy fill loads are placed on the Bay Mud and cause a bearing capacity failure of the Bay Mud. As the Bay Mud fails, the gravel sinks into the soil and the Bay Mud pushes up around the failure zone, causing the thick and thin fill soil profile. The Bay Mud wave fill material encountered at this site is generally comprised of clayey gravel and gravelly clay.

The borings drilled at the site indicate the Bay Mud is generally underlain by an older marine clay, known as Old Bay Clay that is 68 to 74 feet thick where explored. Old Bay Clay is typically stiff to very stiff and overconsolidated. In one area of the site, a 28-foot-thick layer of dense to

# MEMO

very dense clayey sand was encountered below the Bay Mud, which was, in turn, underlain by Old Bay Clay. Sand may be present beneath the Bay Mud in other unexplored areas of the site, as well.

Alluvial sand and clay layers are typically encountered below the Old Bay Clay. Dense to very dense sand layers with varying fines contents are present below the Old Bay Clay in some of the borings around the site. The top of this sand layer was encountered at approximately 165 to 180 feet below the existing ground surface and, where present, the sand is about 10 to 15 feet thick near the project site. Based on available borings this sand layer is not present across the entire site and, where present, varies in thickness, fines content, and density.

The top of the bedrock surface has been encountered in borings around the site at depths of about 160 feet (near the northwest corner of the site) to 260 feet (in the northeast corner of the site) below the ground surface. The bedrock surface appears to be steeply sloping down from west to east in the northern portion of the site and more gently sloping up along the eastern side of the site from a depth of 260 feet at the northeast corner to 220 feet at the southeast corner. The bedrock surface and quality are expected to vary significantly across the site.

Groundwater was encountered at the site and in the site vicinity approximately 7 to 9 feet below the existing ground surface (bgs), corresponding to approximate Elevations 91 to 93 feet<sup>1</sup>, but has been found within five feet of the ground surface at some sites in Mission Bay. No springs or seepages were observed on site.

## **AXIAL PILE CAPACITY FOR PILES BEARING ABOVE BEDROCK**

We provided estimates of axial and lateral capacities of 14-inch steel H-piles driven to bedrock in our preliminary geotechnical investigation report, dated 8 September 2011. Since then, the design team has requested preliminary axial capacities for piles bearing above bedrock, i.e. friction-only piles in clay and friction plus end-bearing piles bearing in dense sand. Preliminary pile capacities for all of these cases are presented below.

### **End-Bearing Piles**

Piles can typically encounter refusal in very dense, relatively clean sand layers (typically less than 10 percent fines, passing the No. 200 sieve), at least 10 feet thick. If significant fines are present, the pile will generally continue driving through the layer. Although some borings encountered a relatively dense sand at depth, a continuous sand layer does not appear to be present across the site. However, as described in the subsurface section above, there may be

---

<sup>1</sup> Elevations reference Mission Bay datum, which is based on San Francisco City datum (SFCD) plus 100 feet.

# MEMO

a dense, end-bearing sand layer present below the Bay Mud in a few areas of the site; it should be noted that this condition is not typical across Mission Bay sites. Additionally, dense sand may be present below the Old Bay Clay in some areas of the site. The capacities provided in our preliminary report are for piles with downdrag loads on them. We have been requested to provide capacities of piles without downdrag loads imposed on them. For completeness, we are including end-bearing pile capacities for piles bearing in dense sand or bedrock for driven 14-inch steel H-piles or 14-inch-square precast prestressed concrete piles with no downdrag in Table 1.

**TABLE 1**

**Preliminary Estimated Single Pile Axial Capacity  
End-Bearing Driven 14-Inch Steel H-Piles or 14-Inch-Square Precast Prestressed Concrete  
Piles (No Downdrag)**

<b>Estimated Pile Tip Elevation (feet, SFCD + 100 feet)</b>	<b>Anticipated End-Bearing Condition</b>	<b><math>Q_{ultimate}</math> Axial Capacity (kips)</b>	<b><math>Q_{allowable}</math> Dead plus Live (kips)</b>	<b><math>Q_{allowable}</math> Total Design Load (kips)</b>
Average of -150	Bedrock	960	480	640
30 (representative of conditions in the vicinity of Boring BSWL337-2)	Dense Sand just below Bay Mud	500	175	230
-60	Dense Sand below Old Bay Clay	860	430	570

Notes:

- 1) Capacities of piles presented in Table 1 represent the capacity of the soil and bedrock only; the structural capacity of the pile should be checked and should govern if less.
- 2) For the bedrock and deeper sand (tip at Elevation -60 feet) end-bearing piles,  $Q_{allowable}$  includes a factor of safety of 2 (these capacities are based on nearby pile load tests).
- 3)  $Q_{allowable}$  for the shallower sand end-bearing piles (tip at Elevation 30 feet), dead plus live loads represents a factor of safety of 2 for friction and 3 for end-bearing.
- 4)  $Q_{allowable}$  for total design loads (including earthquake loads) represents a 1/3 increase over  $Q_{allowable}$  for dead plus live loads.

## **Friction-Only Piles Bearing in Clay**

We developed preliminary friction-only capacity for piles extending below the Bay Mud and gaining friction in the sand and clay below the Bay Mud; these capacities are presented on Figure 2. The capacities shown on Figure 2 consider:

- capacity starting at the bottom of the Bay Mud (see Figure 1 for estimated contours of the bottom of Bay Mud elevations)
- piles do not gain capacity in the fill and Bay Mud
- a factor of safety of 2

## **IMPACTS OF RAISING SITE AND SURROUNDING STREET GRADES**

As previously described, site grades will be raised to accommodate future sea level rise; the high point will be at the middle of the site at Mission Rock Square and may be about four to six feet above surrounding Third Street and Terry Francois Boulevard grades. We further understand up to 1-1/2 and 4-1/2 feet of fill was recently placed to raise grades along the southern portion of Third Street and Mission Rock Street, respectively, and no additional fill is planned along either of these streets or along Terry Francois Boulevard.

Using soil fill to raise grades will create a new cycle of consolidation settlement of the Bay Mud beneath the site, causing ground settlement of up to several feet. This settlement will create differential settlement between pile-supported buildings, where there will be little to no settlement, and surrounding streets, sidewalks, and other improvements. The differential settlement will affect utility connections and building entrances. The settlement will also cause an additional load (downdrag) to act on piles on the order of 200 to 225 kips, as the fill and Bay Mud move downward relative to the pile, thus reducing the pile capacity.

Where site grades have been raised in the public right-of-way around the site, the design team will need to accommodate the effects of settlement. Within the site, however, there are a variety of ways the site grades can be raised. The design team has explored several alternatives to adding soil fill loads to the site, including:

- preloading the site with soil mound surcharge and wick drains to “pre-settle” the Bay Mud, such that adding new fill would not cause new settlement of the Bay Mud (Surcharge and Wick Drains)
  - Because of the Giants’ baseball operations and parking needs and the time required for the surcharge program, this option was deemed to be infeasible; the mounds would need to be at least ten feet tall, making parking access impractical.



# MEMO

- improving the ground through the bottom of the Bay Mud using deep soil mixing (DSM) (Ground Improvement)
  - We understand that for DSM to be a cost-effective alternative over piles, the depth of the soil to improve should be less than about 30 to 40 feet. With the thickness of fill and Bay Mud at this site averaging on the order of 90 feet, it would be cost prohibitive and impractical to try to improve the ground to support new fill loads.
- using lightweight foam (geofoam, or similar) to raise site grades (geofoam)
  - Utilities and streets would need to be supported on and within geofoam; when they needed to be repaired, the geofoam would need to be cut through and replaced in kind. We anticipate on-going maintenance of the geofoam would be required, which could be difficult.
  - Several of the gravity-fed utilities require that trenches be on the order of 10 to 12 feet deep; this would put Geofoam below groundwater, which renders installation and maintenance difficult and impractical.
- supporting the streets and utility corridors on piles (Pile-Supported Streets)
  - This option was deemed to be the most practical, economical, and feasible for the site because:
    - relatively little street and utility settlement would occur and, thus, relatively little to no differential settlement between pile-supported streets and adjacent pile-supported buildings would occur
    - by pile supporting the streets, no new fill would be required; therefore, no downdrag loads would be induced on new piles supporting adjacent buildings (except where the streets surrounding the site have been raised)

Therefore, on a preliminary basis, the Mission Rock design team is moving forward with evaluating pile-supported streets and utility corridors for the proposed development.

We estimate that, due to the relatively recent placement of new fill along the southern portion of Third Street and along Mission Rock Street, new piles along the western and southern edges of SWL337 will be subjected to downdrag. We estimate this will affect piles for the southern 50 feet of planned structures at Parcels D and H and the proposed Bridgeview Street and for the western 25 feet of Parcels B, C, and D and the proposed Channel and Bosque Streets.

## **PRELIMINARY RECOMMENDATIONS FOR MISSION ROCK SQUARE GARAGE**

Plans are to construct a three-level below-grade garage below the Mission Rock Square park and surrounding streets that will abut proposed Parcels B, C, E, F, I, and J, as shown on Figure 2. Preliminary plans show that the proposed lowest garage finished floor will be at approximate Elevation 73 feet. We are currently planning a geotechnical investigation in the

# MEMO

MRSO footprint to develop site-specific preliminary geotechnical recommendations for design; however, we have performed preliminary analyses based on the existing data at the site, and have the following preliminary conclusions:

- We are anticipating that the structural loads of the MRSO plus some new soil atop the garage may be nearly balanced by the weight of soil removed for the excavation of the MRSO, such that the new loads may be nearly a “net zero” addition.
- Although there may be a nearly “net zero” new load addition, there will be some rebound/heave of Bay Mud below the garage due to removal of soil load and some recompression of the Bay Mud as the new loads are applied.
- We anticipate it may be difficult logistically to add the same amount of fill at the proposed street and ramp areas as can be added in the park area, such that there may be some differential settlement between these structures.
- We are anticipating that a pile-supported mat or “raft” foundation system may be appropriate for support of the MRSO; piles will likely be required mainly for settlement and uplift/heave control rather than actual structural load support.
- The shoring system should consist of a relatively rigid soil-cement-mixed, secant pile, soldier pile tremie concrete (SPTC) or diaphragm cutoff wall to resist earth and water pressures
- With a cutoff shoring wall extending into relatively impermeable Bay Mud, only the interior of the excavation will require dewatering.
- A concrete working pad with steel reinforcement should be constructed at the base of the excavation to reduce the potential for base heave and provide a relatively stable working pad for construction activities.
- On a preliminary basis, we estimate the allowable bearing capacity of the Bay Mud at Elevation 73 feet is on the order of 1,400 pounds per square foot (psf) for the temporary construction condition; this value includes a factor of safety of 2. For the permanent condition, we estimate the allowable bearing capacity of the Bay Mud at Elevation 73 feet is on the order of 1,900 psf; this value includes a factor of safety of 3. Care should be taken to minimize disturbance of the Bay Mud during construction. Disturbed Bay Mud will have lower strength and lower bearing capacity.

# MEMO

## LIQUEFACTION MITIGATION CONSIDERATIONS

As discussed in our 23 December 2013 letter, *Liquefaction and Lateral Spread Potential at Seawall Lot 337*, there is a potential for the fill across the majority of the site to liquefy<sup>2</sup> and settle during a major earthquake. Additionally, we estimate there are localized areas within the site that are susceptible to lateral spreading<sup>3</sup> as a result of liquefaction.

If liquefaction occurs, the ability of piles to resist lateral loads will be reduced, induced moments in the piles will be increased, and passive resistance at basement walls, pile caps and grade beams will be reduced. Where lateral spreading occurs, additional loading on piles and basement walls will occur due to the soil movement, which could cause significant foundation damage.

The Mission Rock design team is currently undergoing a study of the comparison of effects on design with and without liquefaction at the site. However, based on our experience, it may not be practical to design a foundation system to accommodate the loss of lateral capacity due to liquefaction and the lateral movement from lateral spreading. Deep foundation elements such as piles would need to be designed to resist large lateral deflections and associated moments.

Should it be decided to improve the ground against liquefaction, on the basis of our experience with different methods of improvement, we judge that the most appropriate methods to mitigate the potential for liquefaction and lateral spreading to occur at the site are:

- deep dynamic compaction<sup>4</sup> (DDC)
- stone columns<sup>5</sup>

---

<sup>2</sup> Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits.

<sup>3</sup> Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. The surficial blocks are transported downslope or in the direction of a free face, such as a bay, by earthquake and gravitational forces. Lateral spreading is generally the most pervasive and damaging type of liquefaction-induced ground failure generated by earthquakes.

<sup>4</sup> Deep dynamic compaction (DDC) consists of the systematic dropping of a 10- to 20-ton weight or tamper from heights as high as 40 to 80 feet. The weight or tamper typically drops about 5 to 15 times per location at a rate of one to three drops per minute. Depending on the total energy input into the ground and subsurface conditions, deep dynamic compaction can generally be effective at densifying granular soils up to 20 to 30 feet deep.

<sup>5</sup> Stone columns are a ground improvement technique that results in in-situ densification of granular soil. Stone column installation is accomplished using vibrating probes that are inserted to the desired depth of improvement and withdrawn. The voids created through densification are backfilled with gravel or crushed rock and compacted while withdrawing the probe, leaving a dense stone column typically 3 to 4 feet in diameter surrounded by densified soil.

# MEMO

Compaction grouting<sup>6</sup> and rapid impact compaction<sup>7</sup> (RIC) were also considered; however, both of these ground improvement methods were rejected for this site. Because of the grout injection pressures required for compaction grouting, we believe there is insufficient overburden (soil weight) to resist heave and properly improve the fill. Additionally, it has been our experience across Mission Bay that RIC has been only moderately successful in improving the ground and mitigating the potential for liquefaction and lateral spreading and, when successful on recent projects, the ground improvement was evident only in the upper about 10 feet. There are potentially liquefiable layers at the site that extend deeper than 10 feet below ground.

Further details regarding the use of DDC and stone columns at the site are provided in our 23 December 2013 letter.

## **PLANNED INVESTIGATION AND EVALUATIONS**

We are planning additional subsurface investigation at the site, including drilling four borings at the four corners of the proposed MRSG footprint and three additional borings in the western portion of the site to fill in data gaps from previous investigations. Drilling for the additional investigation is currently scheduled to begin on 16 February 2016. The results of our investigation will be presented in a data report, which will present all of the previous borings and cone penetration tests (CPTs) performed at the site and the laboratory test results. We will also perform additional engineering analyses for the MRSG and will present those results and preliminary recommendations in a separate letter report. Other on-going analyses include evaluating the impacts on design with and without liquefaction, including site-specific seismic ground response analysis.

We trust that the foregoing is sufficient for the design team's needs at this time. If you have any questions, please call.

750604203.05B\_CER\_SWL 337\_GTK Preliminary Design and Summary Memo\_R1

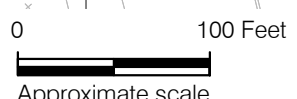
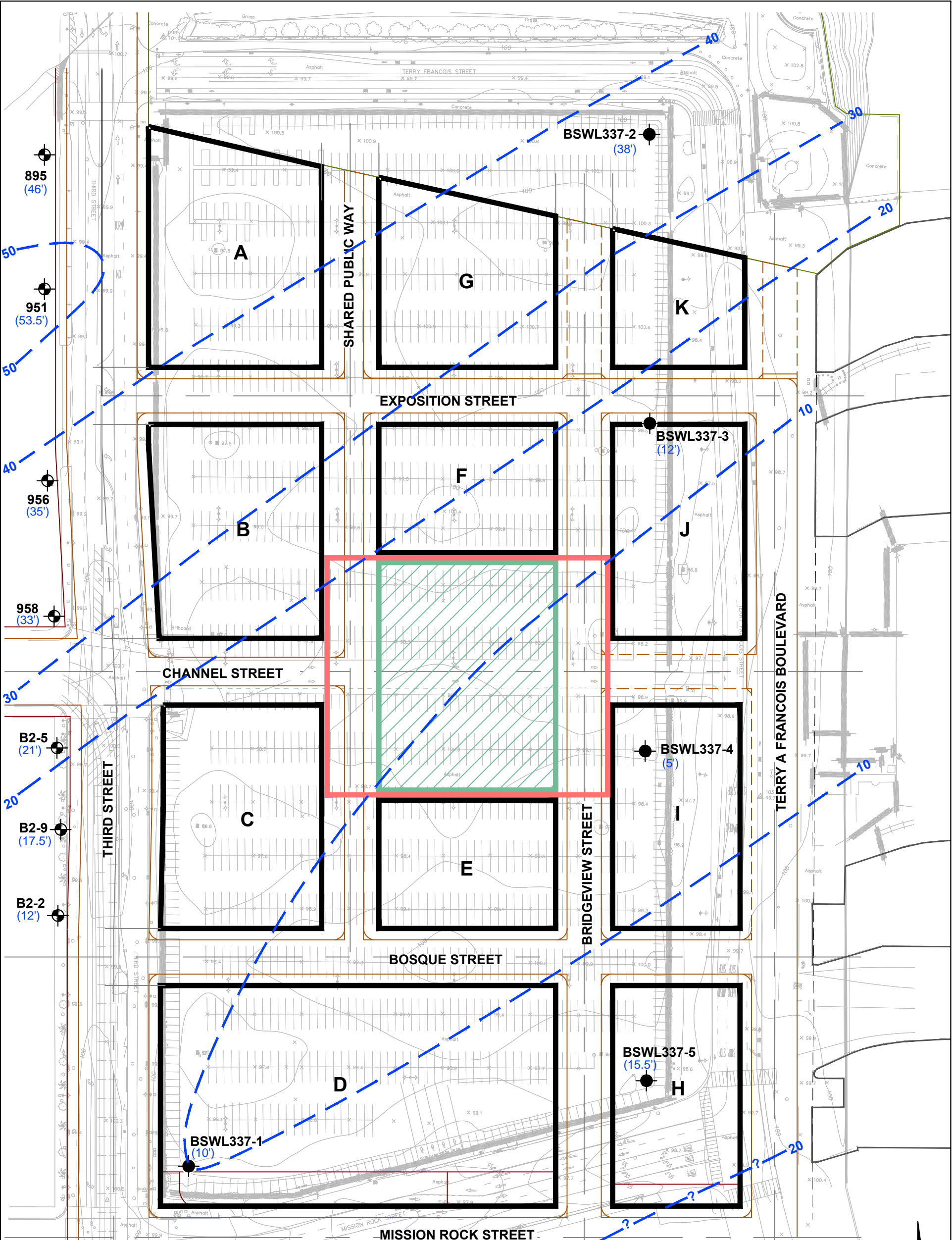
Attachments: Figure 1 – Proposed Site Plan  
Figure 2 – Allowable Friction Capacity, Driven 14-Inch Steel H-Pile and  
14-Inch Square Precast Prestressed Concrete Piles

---

<sup>6</sup> Compaction grouting is a ground improvement technique in which cement grout is injected under high pressure to increase the density of the soil, thereby reducing the liquefaction potential.

<sup>7</sup> The rapid impact compaction method uses a Rapid Impact Compactor (RIC) to impart energy by dropping a 7.5 ton weight from a controlled height of about 1 m onto a patented foot. Applications include compaction of loose soils to improve bearing capacity and mitigation of liquefaction potential.

\\langan.com\data\AK\da.ta.2\750604203\Cadd\_Data - 750604203\2D-DesignFiles\Geotechnical\750604203-B-SP0108.dwg 1/22/16

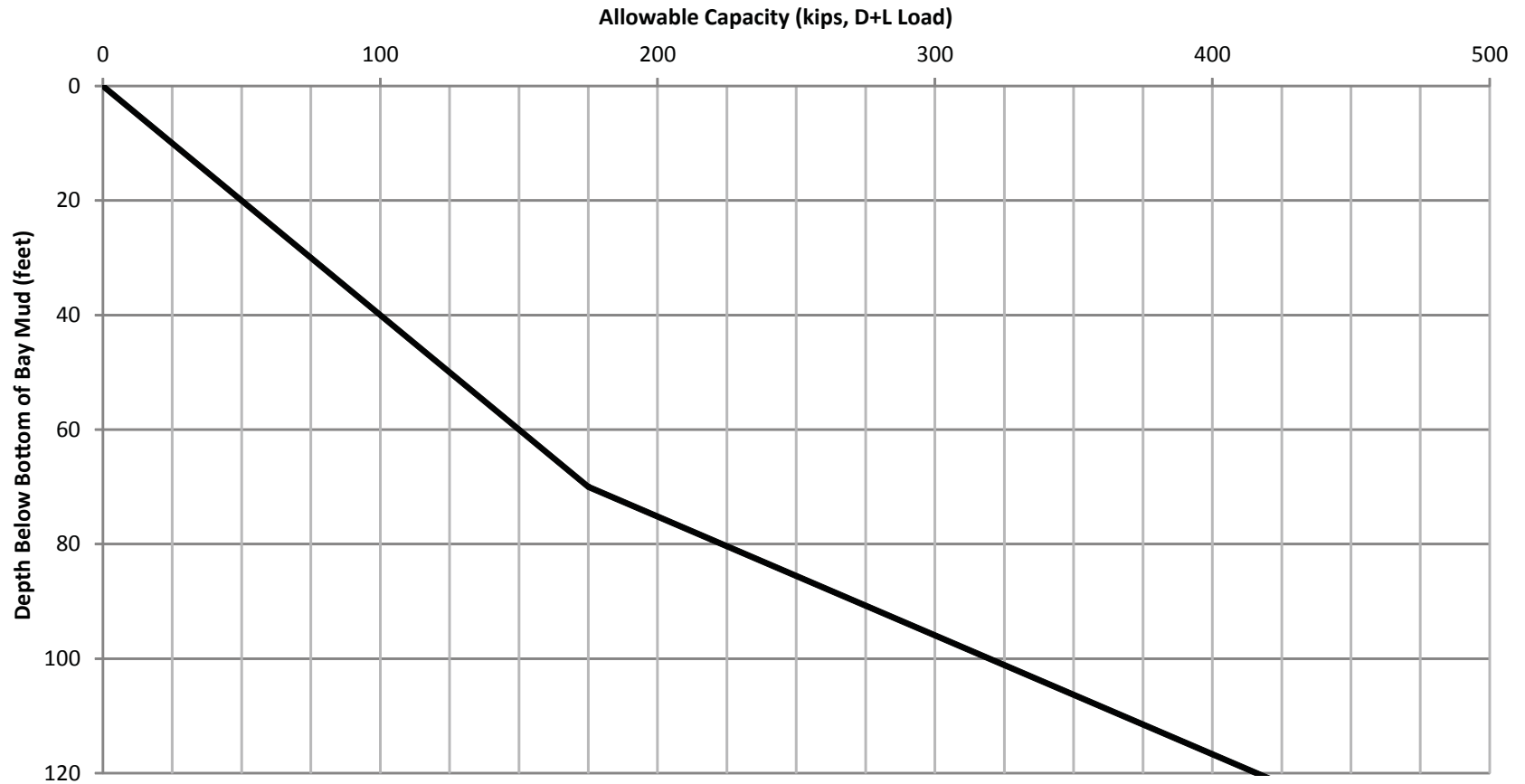


**EXPLANATION**

- BSWL337-1** Boring drilled for SWL 337 Preliminary investigation (July 2011)
- 895** Boring drilled for previous investigation
- Proposed Mission Rock Square below-grade garage
- Proposed Mission Rock Square park
- A** Proposed parcel for new development (mixed-use commercial and residential)
- (46')** Elevation of bottom of Bay Mud (feet, San Francisco City datum (SFCD) + 100 feet)
- 40-40** Contour of elevation of bottom of Bay Mud (feet, SFCD + 100 feet)

<b>MISSION ROCK DEVELOPMENT SEAWALL LOT 337 San Francisco, California</b>		
<b>PROPOSED SITE PLAN</b>		
Date 01/22/16	Project No. 750604203	Figure 1
<b>LANGAN TREADWELL ROLLO</b>		

References: Base map from a drawing titled "Seawall Lot 337, Working Exhibit", by BKF Engineers, dated 07/19/2011. and "SWL 337/Parcel Plan", by Perkins + Will, undated.



Notes:

- 1) Where refusal in dense sand or bedrock is encountered, the pile capacities in Table 1 will apply. Bedrock depths are expected to range between 100 to 160 feet below the bottom of Bay Mud.
- 2) Pile capacities do not include downdrag.
- 3) Pile capacities include a factor of safety of 2.

**MISSION ROCK DEVELOPMENT  
SEAWALL LOT 337**

San Francisco, California

**ALLOWABLE FRICTION CAPACITY, DRIVEN  
14-INCH STEEL H-PILE AND 14-INCH-SQUARE  
PRECAST PRESTRESSED CONCRETE PILES**

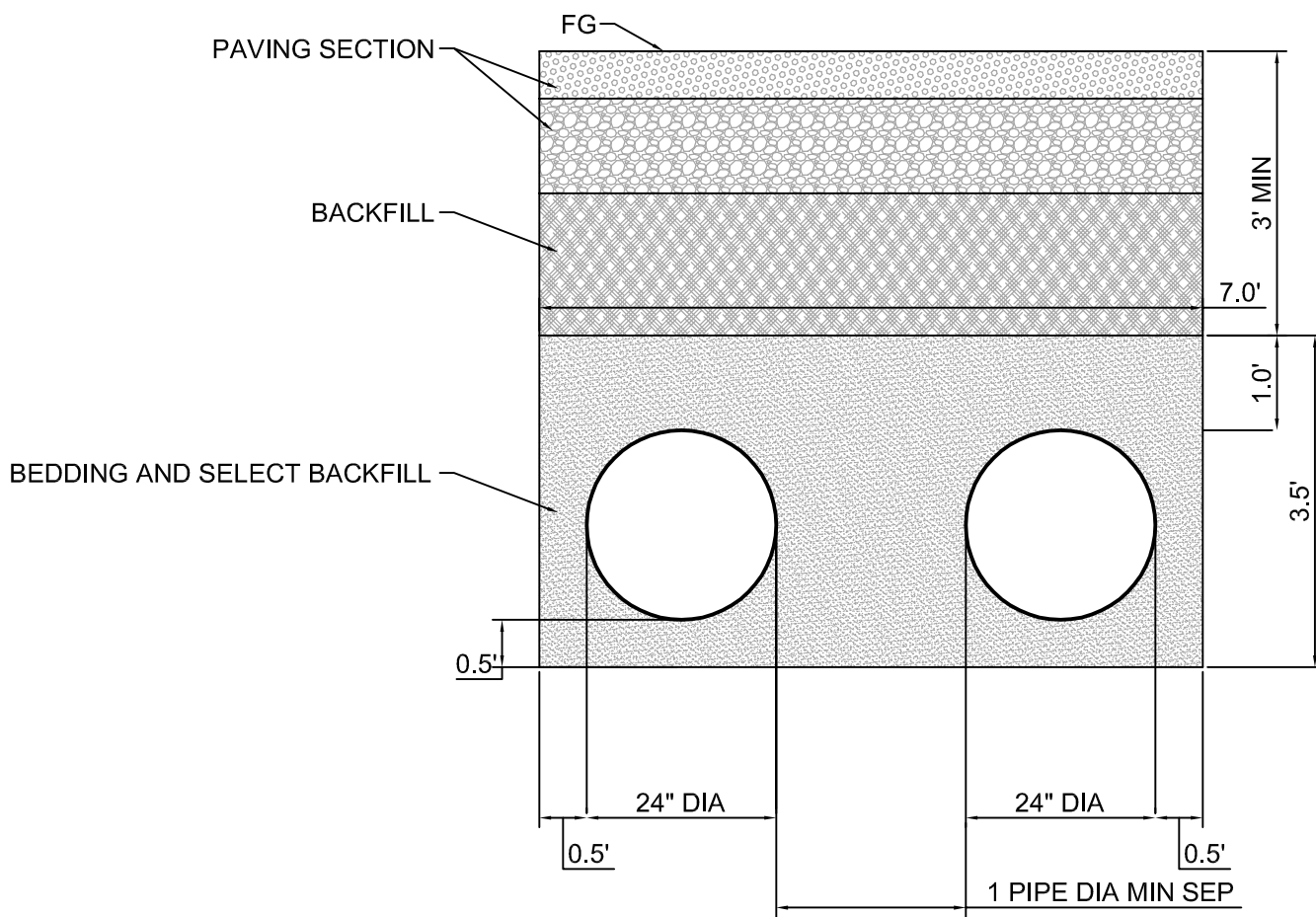
Date 01/21/16 | Project No. 750604203 | Figure 2

**LANGAN TREADWELL ROLLO**

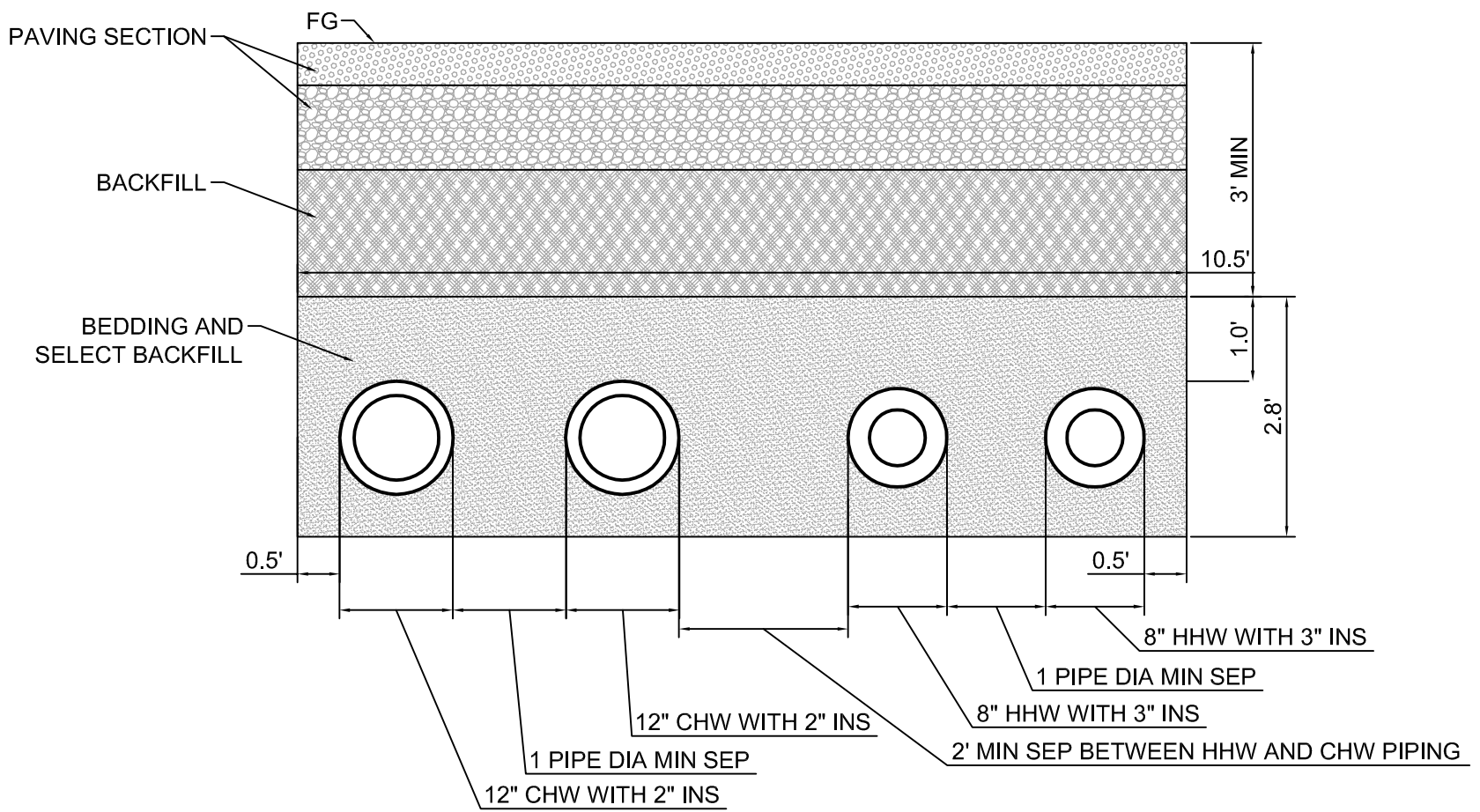
**APPENDIX G**  
**(Not Used)**

**APPENDIX H**  
**District Energy Typical Trench Section**

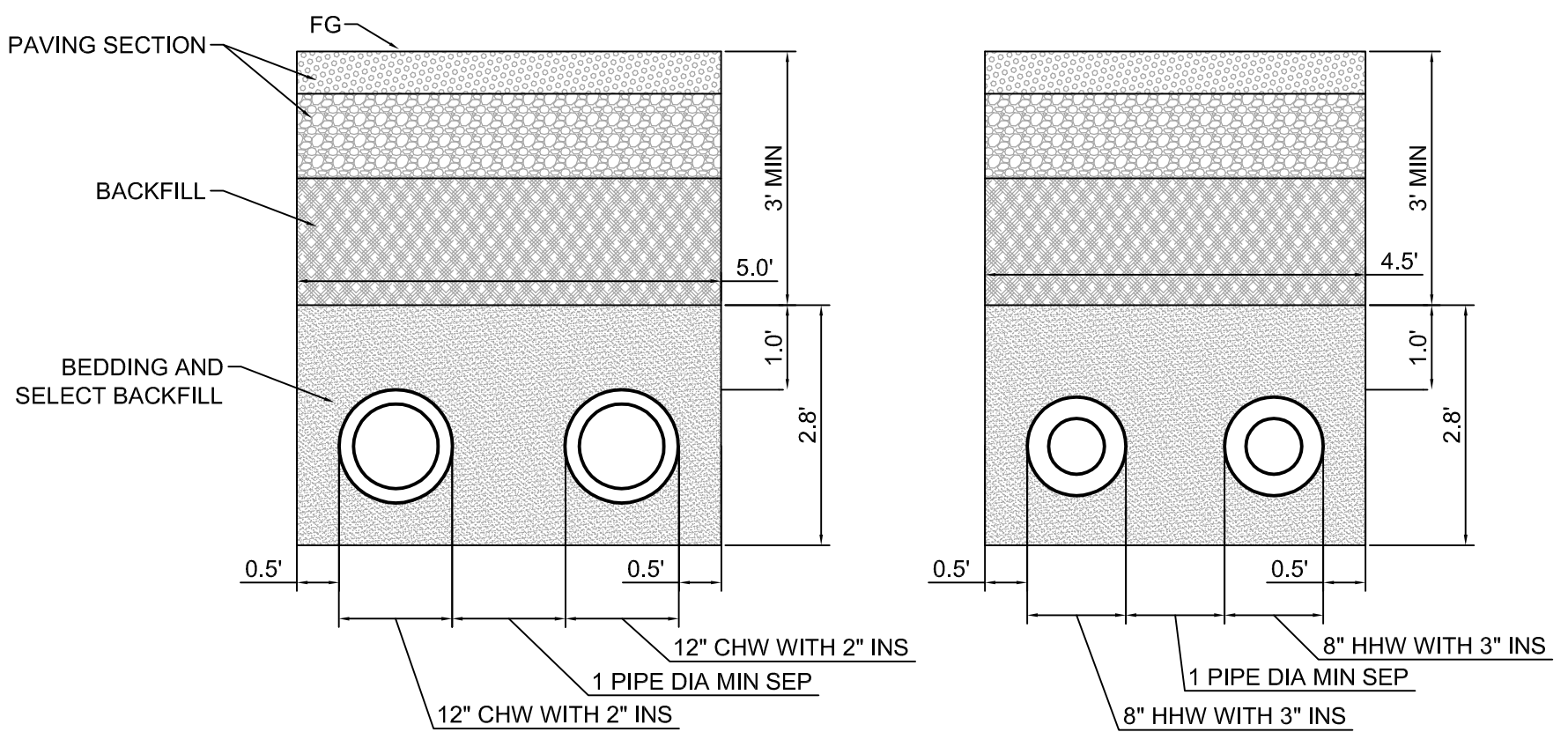




TYP BAY WATER COOLING TRENCH SECTION



TYP DIST ENERGY TRENCH SECTION - SINGLE TRENCH



TYP DIST ENERGY TRENCH SECTION - SPLIT TRENCH

SCALE 1" = 2'

**ARUP**

Arup North America Ltd.  
560 Mission Street, 7th Floor  
San Francisco, CA 94105 USA  
Tel (415) 957 9445 Fax (415) 957 9096  
www.arup.com

MISSION ROCK  
TYPICAL TRENCH SECTIONS  
DISTRICT ENERGY  
2016-01-12

Drawing Number:

**APPENDIX I**  
**Sea Level Rise Adaptation Strategy**  
**September 6, 2016**



2185 N. California Blvd. Suite 500  
Walnut Creek, CA 94596

(925) 944-5411  
www.moffattnichol.com

## MEMORANDUM

**To:** Jon Knorpp, Managing Director

**From:** Christopher Devick P.E. and Dilip Trivedi P.E.

**Date:** September 06, 2016

**Subject:** Mission Rock Development Seawall Lot 337  
Sea Level Rise Adaptation Strategy

**M&N Job No.:** 7530-02

This memorandum serves to summarize the present understanding of sea level rise projections being used by regulatory agencies, flood elevations proposed by Federal Emergency Management Agency (FEMA), minimum proposed grades and a proposed adaptation strategy for the Mission Rock Development Project in San Francisco, CA.

### Sea Level Rise Projections

In March 2013, the Sea-Level Rise Task Force of the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT) released their State of California Sea-Level Rise Guidance Document based on the recently published (June 2012) National Academy of Sciences (NAS) Sea-Level Rise for the Coasts of California, Oregon, and Washington. Table 1 summarizes the sea level rise (SLR) projections, including the low and high range values, for the San Francisco Bay area. Further, the CO-CAT guidance recommends that sea level rise values for planning be selected based on risk tolerance and adaptive capacity.

**Table 1 Sea Level Rise Projections for San Francisco, California (feet; NAS 2012 Report)**

Year	Projections	Ranges
2030	6 ± 2 in	2 to 12 in
2050	11 ± 4 in	5 to 24 in
2100	36 ± 10 in	17 to 66 in

### Reference Water levels

Water levels used in developing the sea level rise strategy included the Base Flood Elevation for the development areas, and King Tide for China Basin Park as described below.

The *Base Flood Elevation* (BFE) is a regulatory standard for insurance purposes. The definition of the BFE, per FEMA, is “The flood having a one percent chance of being equaled or exceeded in any given year.” Since development areas with building structures are subject to flood plain ordinance review by City building permit officials, the BFE is an appropriate reference water level to use for establishing finish floor elevations. The BFE can be represented by the 1% still water level, which was estimated based on

work conducted by BakerAECOM<sup>1</sup> for a flood study of the Central Bay region that included the vicinity of the proposed project.

*King tide* is a colloquial term for an especially high tide, such as a perigean spring tide that occur when the gravitational pull of the sun and the moon are in alignment. They occur only a few times a year and therefore are a good indicator for the potential disruption of use for areas such as open space and park areas. The elevation representative of a king tide was estimated based on a review of tidal elevation observations at the National Oceanographic and Atmospheric Administration Alameda, CA tide gauge. The estimated BFE and King Tide for the Project site are provided in Table 2.

**Table 2: King Tide and Base Flood Elevations**

<b>Water Level</b>	<b>NAVD88, feet</b>	<b>Old City Datum, feet</b>	<b>Mission Bay Datum, feet</b>
<b>King Tide</b>	7.3	-4.0	96.0
<b>Base Flood Elevation (1% Still Water Level)</b>	9.8	-1.5	98.5

#### Proposed Minimum Grades

The proposed minimum grades were developed for the project based on the following criteria:

- Reserve the entire 100-foot shoreline band for public access;
- Elevate buildings and immovable facilities high enough such that adaptations would not be necessary even for conservative estimates of SLR;
- Rather than elevate the zone between the development area and the shoreline for flood protection, maximize access opportunities to the water.

Based on these criteria, the following design elements have been adopted:

1. For the development area, the proposed strategy will raise existing grades to a minimum elevation of 104 feet Mission Bay Datum (MBD), which will provide a minimum of 5.5 feet (66 inches) of freeboard above present day BFE. Streets placed on fill would be pile supported within the raised development grade. This is necessitated by geotechnical considerations.
2. For the China Basin Park area, the promenade and Bay Trail are proposed to be raised to elevation 102 feet MBD which will provide approximately 6 feet of freeboard above the King Tide (or 3.5 feet of freeboard above present day BFE). Proposed grading for the Park includes transitioning from BayTrail/Promenade elevations of 102 MBD to development grade elevations of 104 feet MBD.

<sup>1</sup> BakerAECOM. 2012. A Central San Francisco Bay Coastal Flood Hazard Study San Francisco County, California Study Report. November 2, 2012.

3. The shoreline, Pier 48, Pier 50, Terry A. Francois Boulevard, 3<sup>rd</sup> Street and Mission Rock Street will remain at current elevations; proposed grading includes transitioning from these locations to Bay Trail/Promenade elevations of 102 feet MBD.

The above set of criteria and proposed grades are based on the principles of 'living with the Bay' and 'managed retreat' rather than elevating shoreline spaces now against future SLR. It also implies that the proposed improvements along the shoreline are for the purpose of flood protection for the open space area and do not serve as a levee or flood protection element for the developed area.

#### Shoreline Adaptation Strategy

In the development footprint, the proposed minimum grades (104 MBD) provide an elevation which will address potential flooding for even the highest estimates of sea level rise in 2100 for the San Francisco Bay Area by the NRC. Therefore, based on current sea level rise projections, the earliest when adaptations for the development area may be needed is 2100.

For the space between the development area and the Bay Trail/Promenade, proposed minimum grades (102 MBD) will address potential flooding beyond 2080 for even the highest estimates of sea level rise. From a functional perspective, the proposed grades (102 MBD, or 6 feet above King Tide) will address potential future flooding from King Tide events even beyond 2100. For higher estimates of sea level rise, the China Basin Park area functions as the space where future adaptations could be creatively implemented to maintain flood protection for the constructed public access features. Strategies to address larger amounts of sea level rise may include modifications to raise the promenade and reconfiguring the shoreline protection to provide flatter slopes and wave breaks. This will ensure continued protection of the public access open space areas from flooding.

In general, adaptation actions at the shoreline would be implemented when published information from NOAA indicate that flooding to the public access areas will occur during king tides. To implement future adaptations for sea level rise for the Park Area, a fund from an infrastructure financing district or community facilities district could be established now for the improvements needed to address sea level rise greater than the 3.5 feet (42 inches) allowance that is included in the proposed grades.

**APPENDIX J**  
**(Not Used)**

**APPENDIX K  
(Not Used)**

**APPENDIX L**  
**(Not Used)**



**APPENDIX M**  
**District Heating and Cooling Services at Mission Rock**  
**May 13, 2016**



## **REQUEST FOR QUALIFICATIONS**

District Heating and Cooling Services  
At Mission Rock

San Francisco, California

**Submission Date:**                      **May 13, 2016**

# Table of Contents

1	INTRODUCTION .....	1
2	PROCUREMENT INFORMATION.....	2
2.1	Procurement Process.....	2
2.2	Submission of Qualifications.....	3
2.3	Questions .....	3
2.4	Evaluation of Qualifications .....	3
2.5	No Reimbursement for Costs.....	4
2.6	Representations.....	4
2.7	Eligible Respondents .....	4
2.8	Additional Contract Requirements .....	4
3	GLOSSARY OF DEFINITIONS .....	5
4	DESCRIPTION OF THE PROJECT SITE .....	7
4.1	Background.....	7
4.2	Project Site.....	7
5	DESCRIPTION OF THE PROJECT.....	11
5.1	Project Goals and Objectives .....	11
5.2	Project Technical Opportunity.....	12
5.3	Project Commercial Opportunity.....	17
6	REQUIREMENTS FOR THE SOQ .....	21
6.1	Proposed Project Team .....	21
6.2	Previous Experience .....	21
6.3	Technical Response .....	22
6.4	Commercial Responses.....	22
6.5	Blue Sky Discussion .....	23
	ATTACHMENT A: Draft Memorandum of Understanding.....	A-1
	ATTACHMENT B: Site Plan.....	B-2
	ATTACHMENT C: Draft Schematic of Planned Utilities .....	C-1
	ATTACHMENT D: Supplementary Technical Information .....	D-1
D.1	Thermal Generation Details.....	D-1

D.2	Distribution Details.....	D-1
D.3	Building Interconnections.....	D-3
D.4	Anchor Brewing Process Loads.....	D-3
ATTACHMENT E: Assumptions .....		D-1

*Tables:*

Table 1: Phasing Program and Land use details .....	8
Table 2: Indicative Performance Thresholds .....	11
Table 3: Project Site Performance Requirements and Sustainability Targets.....	12
Table 4: DES conceptual design basic information.....	13
Table 5: Estimated Non-Concurrent Peak Heating and Cooling – By Parcel.....	13
Table 6: Estimated Non-Concurrent Peak Heating and Cooling, without P48 – By Phase.....	14
Table 7: Load diversities.....	14
Table 8: Estimated Concurrent Peak Heating and Cooling .....	14
Table 9: Estimated Peak Non-Concurrent Heating and Cooling for Anchor.....	16
Table 10: Potential Commercial Allocations .....	17

*Figures:*

<i>Figure 1: Potential CUP Siting Locations.....</i>	15
Figure 2: Typical Bay Water Intake/Outflow Section .....	D-2
Figure 3: Chilled and Hot Water Combined Trench - Maximum Section.....	D-2
Figure 4: Chilled Water Trench - Maximum Section .....	D-2
Figure 5: Heat Hot Water Trench - Maximum Section.....	D-3
Figure 6: Substation Depiction .....	D-3
Figure 7: Ultimate Energy Consumption Split (400,000 Barrels/Year, no Brewery Efficiency) .....	D-4
Figure 8: Hypothetical Ultimate Energy Consumption Estimates (400,000 barrels/year) .....	D-5
Figure 9: Development Thermal Load Map .....	D-6

# **1 INTRODUCTION**

---

Through this Request for Qualifications (“RFQ”), Seawall Lot 337 Associates LLC (“Master Developer”) is soliciting Statements of Qualifications (“SOQs”) from energy services companies (“Respondent” or “DES Developer”) that describe their proposal and capabilities to build, own, and operate (“BOO”) a district scale heating and cooling plant as well as operate and maintain a district scale distribution system (the “Project”) in the Mission Rock development (“Project Site”), which is a private real estate development located on public land that will be ground leased from the Port of San Francisco for a period not to exceed 75 years.

The intention is for the Project to be developed through a private-to-private partnership between the Master Developer and DES Developer. The Master Developer is open to a variety of business models and commercial structures and is input from the DES Developer to this end.

Master Developer is interested in selecting a firm that has direct experience in developing, designing, building, financing, operating and maintaining projects similar to the Project, and that will deliver the Project to meet the goals, standards, performance requirements, and schedule outlined this RFQ.

## **2 PROCUREMENT INFORMATION**

---

### **2.1 Procurement Process**

This RFQ provides the information necessary for Respondents to prepare and submit SOQs for consideration by Master Developer. The following describes the general procurement process:

- Collecting SOQs in response to this RFQ is the first step in selecting a firm.
- Once SOQs are received, Master Developer will choose a shortlist of Respondents for in depth site visits and interviews.
- After interviews, a DES Developer will be selected and enter into a Memorandum of Understanding (MOU), under which Master Developer and DES Developer will negotiate the final terms and conditions of an Energy Service Agreement (ESA).

This RFQ is not an offer to enter into an agreement with any Respondent; it is a request to receive SOQs from companies interested in developing the Project. The Master Developer reserves the right to reject all SOQs, in whole or in part, and/or enter into negotiations with any party to provide such services, whether or not a SOQ has been submitted. Master Developer will not have any obligation to any Respondent unless and until it has entered into a written agreement with terms and conditions agreed to by to Master Developer. Master Developer may enter into discussions or negotiations with a Respondent with respect to any SOQ or otherwise, which shall not be deemed to be an acceptance of such SOQ or an agreement with the Respondent.

The City and County of San Francisco (“City”), the Port of San Francisco (“Port”), and various other agencies are aware of the Project and have been involved in the process to date; however, it should be noted that this is a private RFQ that does not fall under the City’s Public Procurement Policies or any other competitive bidding requirements. During the RFQ process, no Public Agency may be contacted in regards to the Project.

#### **2.1.1 Procurement Schedule**

- Release: March 28, 2016
- Onsite Project Presentation and Q&A: Week of April 11<sup>th</sup>  
Location:  
Arup Office  
560 Mission St, Floor 7  
San Francisco, CA 94105
- Submission Due Date: May 13, 2016
- Anticipated Selection Date: June 15, 2016
- MOU Execution: no later than June 30, 2016
- ESA Substantially Complete: November 1, 2016 (estimated)

## **2.2 Submission of Qualifications**

Statements of Qualifications must be submitted via internet link only, which is provided below. No hard copies will be accepted.

[Internet link to be provided]

SOQs must use a minimum of 11 point font and be no more than 25 pages not including attachments. Attachments should be limited to items such as resumes, information on requested projects, and other materials pertinent to the evaluation but not suitable for including in written response.

Materials submitted as part of the SOQ will be subject to provisions in the NDA executed by the Respondents prior to receiving this RFQ. However, Master Developer may wish to use ideas or concepts presented by Respondents in the SOQ and reserves the right to do so subject to confidentiality.

## **2.3 Questions**

Respondents shall direct all questions regarding this RFQ in writing to the Point of Contact. The Point-of-Contact may or may not choose to answer questions and may share questions and answers with all responding parties unless it is clearly marked as confidential information by the submitting Respondent.

### **2.3.1 Point of Contact**

The below individuals are designated as Point-of-Contact for this RFQ:

Fran Weld, Vice President Development, San Francisco Giants  
[fweld@sfgiants.com](mailto:fweld@sfgiants.com)

Orion Fulton, Sr. Manager, Arup  
[Orion.fulton@arup.com](mailto:Orion.fulton@arup.com)

## **2.4 Evaluation of Qualifications**

Master Developer reserves the right to select the best Respondent for its partnership requirements; however, in general, the evaluation of the Qualifications shall be based on, but not limited to:

- Prior project experience with developing and operating similar scale systems;
- History of partnerships with other organizations, experience with urban systems with multiple off-takers;
- Ability to vertically integrate the development process; and
- Compatibility with Master Developer's stated goals and requirements in this RFQ.

Master Developer intends to evaluate SOQs submitted in response to this RFQ based on the completeness of the information provided, the business and technical merits as they address the goal of the Project, and any other factors that the Master Developer determines.

Following the submission of SOQs, Master Developer may request supplemental information from Respondents on an individual or group basis and may elect to meet with certain Respondents in person. Master Developer intends to select a Respondent that will serve the best interests of the Project as determined by Master Developer in its sole discretion.

## **2.5 No Reimbursement for Costs**

In submitting an SOQ, Respondent acknowledges and accepts that any costs incurred from the participation in this RFQ procurement process shall be at the sole risk and responsibility of the Respondent, and the Master Developer will not compensate Respondents for any expenses incurred in qualifications preparation or for any presentations that may be made.

## **2.6 Representations**

Master Developer makes no representations of any kind that an award will be made as a result of this RFQ. Master Developer reserves the right to accept or reject any or all SOQs, delete any item/requirements from this RFQ when deemed to be in Master Developer's best interest, consider factors not included in this RFQ, or select a DES Developer that did not respond to the RFQ.

## **2.7 Eligible Respondents**

Only individual firms or lawfully formed business organizations may apply. The Master Developer intends to contract only with a Prime Firm. This does not preclude a Respondent from using subcontractors or consultants, but a Prime Firm must be identified and be the entity submitting the SOQ. The Prime Firm must demonstrate in the SOQ it has the ability to represent any and all subcontractors or members of its team. Joint Ventures are not encouraged.

## **2.8 Additional Contract Requirements**

Under its agreement with the Port, Master Developer, as well as The Prime Firm and all other members of the Project Team, are obligated to comply with all applicable City and Port requirements in effect at the time that Master Developer's Development Agreement with the Port is executed. In submitting an SOQ, a Respondent acknowledges and accepts that if selected, it will be obligated to comply with all City and Port requirements, including without limitation, Non-Discrimination in Contracts and Property Contracts (Admin. Code Chapters 12B and 1C) and Health Care Accountability Ordinance (Admin. Code Chapter 12Q). DES Developers are obligated to become familiar with all applicable local, state, and Federal requirements and to comply with them fully as they are amended from time to time. City ordinances are currently available on the web at [www.sfgov.org](http://www.sfgov.org). It is a stated goal of Master Developer to promote and encourage contracting and subcontracting opportunities for Local Business Enterprises ("LBE") in all contracts. The target goals for each phase of development are:

- Entitlements 10%
- Horizontal Infrastructure Development 20%



### 3 GLOSSARY OF DEFINITIONS

---

The following terms and acronyms are used within this RFQ:

Arup	Master Developer’s procurement advisor
BOO	Build Own Operate
BTU or btu	British Thermal Unit
CHP	Combined heat and power system
City	City and County of San Francisco
CUP	Central Utility Plant
DES	District Energy System
DES Developer	The entity selected as the preferred contracting entity via the RFQ evaluation process, that once selected, that will perform the works described in this RFQ and its SOQ
Project	The district scale heating and cooling plant and related O&M functions
EIR	Environmental Impact Report
ESA	Energy Service Agreement
ETS	Energy Transfer Stations
GAAP	Generally accepted accounting principles
gsf	Gross square feet
HUB	Historically underutilized business
IFRS	International financial reporting standards
kW	Kilowatt
kWh	Kilowatt-hour
Lead A/E Firm	Lead architecture and/or design engineering firm
Lead Contractor(s)	Contractor(s) in the Project Team who are responsible for engineering, procurement and construction (“EPC”) and Operation and Maintenance (“O&M”) functions
Master Developer	Seawall Lot 337 Associates LLC
MMBTH	One million BTUs per hour
Mission Rock	The name for the development of Seawall Lot 337 and Pier 48, for the purposes of this RFQ, see “Project Site” below
MOU	Memorandum of Understanding
MW	Megawatt
O&M	Operation and Maintenance
PA	Project Agreement
PG&E	Pacific Gas & Electric
psig	Pounds per square inch gauge
Prime Firm	The organization considered to be lead Respondent/DES Developer entity (if not a joint venture)
Port	Port of San Francisco
Project Site	Seawall Lot 337 and Pier 48; the area that the DES serves
Project Team	All key entities that comprise the DES Developer organization

Public Agency	Port, City, SFPUC, PG&E, or other agency representing the public interest
Respondent	The contracting organization/entity that submits the SOQ, on behalf of the Project Team.
RFQ	Request for Qualifications
SEC	Security and Exchange Commission
SFPUC	San Francisco Public Utilities Commission
SOQ	Statement of Qualifications
T&C's	Terms and conditions
Vertical Developers	Future holders of individual ground leases within the Project Site to build commercial real estate

## 4 DESCRIPTION OF THE PROJECT SITE

---

### 4.1 Background

In 2008, the San Francisco Giants won a public bid for the exclusive development rights to this property. Over the last eight years, the Giants, which formed Sea Wall Lot 337 Associates LLC to act as master developer, have worked with the community to develop a comprehensive land use plan, and in November of 2015, this plan was voted on and passed by the voters of San Francisco.

A key element of the future neighborhood is a robust sustainability plan. This plan will outline topics such as material selection, climate change resiliency, water re-use, and energy; and the DES is expected to play a central role in achieving some of the sustainability goals.

#### 4.1.1 Urban context

Given its size and location, SWL 337 is one of the Port's most desirable development sites. Consistent with the Port's land use policy document, the Waterfront Land Use Plan, the Port engaged in a multi-year public planning process culminating in the following vision statement for development of the parcel:

*Create a vibrant and unique mixed-use urban neighborhood focused on a major new public open space at the water's edge. This new neighborhood should demonstrate the highest quality of design and architecture, and the best in sustainable development with a mix of public and economic uses that creates a public destination which enlivens the Central Waterfront, celebrates the San Francisco Bay shoreline, and energizes development at Mission Bay.*

The Project Site also includes Pier 48, a pile-supported 212,500 square-foot facility containing about 181,200 square feet of enclosed warehouse space and a 31,300 square-foot valley. Pier 48 is bounded by China Basin on the north, Pier 50 on the south, and Terry Francois Boulevard to the west. Pier 48 was originally constructed in 1928 and is the southernmost pier structure in the Port of San Francisco Embarcadero Waterfront Historic District, which is listed in the National Register of Historic Places.

Through the planning process, the Port identified the following objective for Pier 48, if included in any development proposal for SWL 337:

*Propose a use program for Pier 48 that is publicly-oriented and water-related to the extent possible, and which complements and enhances the public use and enjoyment of the major new open space at China Basin. The Pier 48 use program must be consistent with the public trust, and any improvements must comply with the Secretary of the Interior Standards for Rehabilitation.*

### 4.2 Project Site

Seawall Lot 337 and Pier 48 are owned by the Port of San Francisco, and together form the Project Site. Seawall Lot 337 is a rectangular parcel bound by Terry A. Francois Boulevard to

the north and east, Third Street to the west, Mission Rock Street to the south. Seawall Lot 337 is currently a surface parking lot just south of AT&T Park known as Parking Lot A.

The Project Site will include 8 acres of parks and open space, approximately 3.5 million square feet of development with a mix of housing, offices, parking, and neighborhood serving retail, as well as historic Pier 48 which may become home for a new brewery by Anchor Brewing. More information can be found at <http://missionrock.org/index.html#>.

See Attachment B for a site plan showing land uses and phasing.

#### 4.2.1 Relationship of Parties

- Port of San Francisco: Owners of Project Site
- The City of San Francisco: land use and development regulation,
- Seawall Lot 337 Associates LLC: Master Developer, holds the exclusive rights to develop Mission Rock
- Anchor Brewery: Intended tenant for Pier 48
- Arup: Master Developer’s DES concept designer & procurement advisor

#### 4.2.2 Land Use Program and Phasing

##### *Phasing*

The Project Site is divided into 12 buildable Parcels not including Pier 48, 11 of which will be developed in Phases of Parcels. The 11th parcel (parcel D2) would hold the structured parking. The table below shows the draft phasing program, including the Mission Rock ground-level parking and Pier 48:

*Table 1: Phasing Program and Land use details*

Phase	Parcel	Land Use	Building Height	Building Stories	Gross SF (a)
1	A	Residential	240 ft.	23 Stories	413,900
	B	Office	118 ft.	8 Stories	274,750
	G	Office	188 ft.	13 Stories	303,064
	K	Residential	120 ft.	11 Stories	130,469
	Pier 48	Industrial	n/a	n/a	263,000
2	C	Office	188 ft.	13 Stories	354,826
	D1	Residential	240 ft.	23 Stories	240,494
	D2	Parking	100 ft.	10 Stories	851,130
3	E	Office	90 ft.	6 Stories	141,330

Phase	Parcel	Land Use	Building Height	Building Stories	Gross SF (a)
	F	Residential	240 ft.	23 Stories	323,775
	Mission Rock Square	Parking	0 ft.	0 Stories	227,180
4	H (Flex)	Office	90 ft.	6 Stories	151,932
	I (Flex)	Residential	120 ft.	11 Stories	200,315
	J (Flex)	Office	90 ft.	6 Stories	151,982
<b>TOTAL</b>	-	-	<b>1824 ft.</b>	<b>153 Stories</b>	<b>3,977,647</b>

**Land Use Program**

A key element of the Master Developer’s land use program is the ability to respond to future market demands through flexible zoning. To this end, eight parcels are proposed to be designated as either predominantly residential (Parcels A, D, F, and K) or commercial/office (Parcels B, C, E, and G) above the lower-floor active uses, while three parcels would be flexible to allow either type of land use (Parcels H, I, and J) above the lower floor.

On the flexible parcels, the land uses (i.e., residential or office/commercial), would be determined at the time of filing for design approvals for block development proposals. Parcels designated for flexible zoning would ultimately be developed for either predominantly residential or pre-dominantly commercial/office uses above the lower floor. In all circumstances, ground floor retail and restaurant uses would be included in the flexible zoning parcels. The square footage for the flex option by land use is as follows:

- Commercial: 1,377,884 gsf
- Parking: 1,078,310 gsf
- Production: 263,000 gsf

For more information, the following describes in general terms the type of land uses proposed at the Project Site.

- **Retail, Restaurant, and Ground Floor Spaces.** 241,038 gsf to 244,777 gsf of retail and restaurant space located on the ground floor of residential and commercial buildings throughout the site. These totals do not include development at Pier 48.
- **Housing.** Housing will be located throughout the site, between 1,048 and 1,579 residential units predominantly consisting of one and two bedroom apartments. Housing would be provided on Parcel A, D, F, K and potentially on flexible Parcels H, I, and/or J.
- **Office.** Office space would primarily be located along Third Street and the south end of the proposed Mission Rock Square and at China Basin Park. Between 972,175 gross sq. ft. to 1,361,181 gsf of office space would be developed on Seawall Lot 337. Office uses would be provided on Parcels B, C, E, and G and potentially on the flexible Parcels H, I, and/or J.
- **Open Spaces and Parks.** Approximately eight acres of new and expanded public open spaces would be included: expanded China Basin Park totaling 5.12 acres, Mission Rock

Square totaling 1.1 acres and located in the center of the Project Site. Channel Wharf would be a 0.5-acre, hardscaped plaza, located between Pier 48 and Pier 50. Lastly, the Pier 48 Aprons, totaling 1.1 acres, would be preserved and improved for public access, waterfront promenade, and maritime operations.

- **Parking.** Included in the proposed parking structure on Parcel D at the southwest corner of the Project Site would be 2,300 parking spaces for use by the Project and for the ballpark games and events, and other public parking, including commuter parking/park-and-ride. In addition to the above-grade structural garage parking on Parcel D, 700 parking stalls would be located under Mission Rock Square and adjacent streets. During game days, approximately 2,000 of the parking structure stalls in the two proposed garages would be available for use to the patrons of AT&T Park. An additional approximately 100 parking stalls would be provided within residential and commercial buildings, for a maximum of 3,100 off-street parking spaces.
- **Pier 48.** Pier 48 would be rehabilitated in compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, with a mix of uses in the 240,000-sf rehabilitated pier, including light industrial/manufacturing, barging, ancillary office, storage, retail, restaurants, tours, events, and continued maritime operations on the east and south side and along Channel Plaza.

It is currently anticipated that the Anchor Brewing Company would occupy all of the interior usable space of Pier 48 under a 30-year Port interim lease. The retail/restaurant spaces provided at Pier 48 would include 11,000 gsf of brewery retail/exhibition space, 11,000 gsf of brewery restaurant space, and 10,000 gsf of other retail space. An additional 7,875 gsf of office space would be provided on Pier 48. The brewery/distillery would be up to 190,500 gsf and a separate production area would consist of 9,625 gsf.

#### **4.2.3 Site Utilities**

Utility provider contracts are still being developed. The Master Developer is currently undecided between Pacific Gas & Electric (PG&E) and San Francisco Public Utilities Commission (SFPUC) as the power utility. Input on this decision may be solicited from the DES Developer once the MOU is signed.

The opportunity to provide electricity into the development from the DES is described further in Section 5.2.4.

#### **4.2.4 Project Site Entitlement Schedule**

Key milestones in the Mission Rock entitlements are as follows:

- Publish Public Draft EIR July/Aug 2016
- Financial Negotiations with City through September 2016
- EIR Certification January 2017
- Port and City Approvals January 2017
- Regional (BCDC) and State (SLC) Approvals February 2017
- Begin Design of Phase 1 March 2017
- Complete construction of first building in Phase 1 Q1 2019 [approximate]

## 5 DESCRIPTION OF THE PROJECT

---

### 5.1 Project Goals and Objectives

#### 5.1.1 Project Goal

The Project goal is to develop a district scale solution to heating and cooling buildings at the Project Site that meets the stated performance and sustainability objectives.

#### 5.1.2 Project Objectives

The following are the primary project objectives (described without any order of importance or preference):

- Enter into a long-term contract(s) that provides vertical developers with budget certainty and economic value for thermal services;
- Leverage the creative problem solving capacity of the energy marketplace;
- Be a good steward of natural resources, including water resources; utilize reclaimed water service for cooling tower fill (assuming a source is available);
- Achieve a resilient utility infrastructure (with appropriate redundancy) that will deliver critical energy requirements during normal and emergency conditions;
- Fit proposed CUP or CUPs within allocated parcel space(s) and heights;
- Review, comment, and provide concurrence for DES distribution design;
- Meet Minimum Performance Requirements (see Section 5.1.3); and
- Help achieve the sustainability objectives (see Section 5.1.4).

#### 5.1.3 Minimum Performance Standards

Though not yet formalized, the Master Developer will set energy efficiency and environmental performance thresholds that the DES Developer will need to meet. For purposes of the RFQ, indicative performance thresholds are provided in Table 2 below.

Table 2: Indicative Performance Thresholds

Annual Average Efficiency				
<b>Chilled water plant</b>	Maximum	0.45	kW/Ton	Inclusive of chillers, all primary & secondary distribution pumps, and heat rejection
<b>Heat recovery chiller plant</b>	Maximum	0.68	kW/Ton	Inclusive of chillers, all primary & secondary distribution pumps, and heat rejection
<b>Boiler combustion</b>	Minimum	86.5 0%	%	Per individual boiler fuel & btu meter trend data
<b>Chilled water distribution</b>	Minimum	98.7 5%	%	Per plant leaving chilled water btu meter & aggregate of customer chilled water btu meter trend data
<b>Hot water distribution</b>	Minimum	98.2 5%	%	Per plant leaving hot water btu meter & aggregate of customer hot water btu meter trend data

### 5.1.4 Sustainability Objectives for Vertical Development

The Master Developer has sustainability performance requirements and targets for both horizontal and vertical development.<sup>1</sup> These sustainability performance requirements and targets for Mission Rock, shown in Table 3, are consistent with San Francisco Eco-Districts guidelines, of which Mission Rock is a Type-1 Eco-District.<sup>2</sup> The DES Developer will assist in achieving these by delivering energy that is highly efficient and environmentally friendly.

Table 3: Project Site Performance Requirements and Sustainability Targets

Performance requirements	Sustainability targets
<ul style="list-style-type: none"> <li>• Up to 26% better than ASHRAE 90.1-2010</li> <li>• Net zero potable water use for non-potable uses</li> <li>• LEED Gold for commercial buildings</li> <li>• LEED Gold for residential buildings</li> </ul>	<ul style="list-style-type: none"> <li>• Each building type can exceed future code and achieve an exceptional level of energy performance.</li> <li>• The Mission Rock development looks to improve upon the city’s leading emissions performance by further reducing annual carbon emissions associated with energy use by up to 19%.</li> <li>• 100% renewable energy by 2030</li> <li>• Water conservation and reuse strategies with a target of up to 47% reduction in annual carbon emissions associated with water.</li> <li>• Municipal solid waste diversion in San Francisco is about twice the national average, significantly decreasing the GHG emissions associated with landfill waste disposal. As there is still room for improvement in waste diversion, Mission Rock is targeting a further 25% reduction in annual carbon emissions associated with waste, compared to current San Francisco performance.</li> </ul>

## 5.2 Project Technical Opportunity

The main technical scope is to offer central combined heating and cooling with bay heat rejection and cooling (if permissible). However, there are a number of enhancement opportunities on the technical delivery discussed in this section.

The chosen DES Developer will be required to satisfy themselves of the peak design loads for the Site after the MOU is executed. However, for purposes of this RFQ, Arup’s reference design and load calculation shall be used.

The DES is comprised of three major components:

<sup>1</sup> The sustainability plan is currently in draft form and may change during this procurement, with possible input from the DES Developer

<sup>2</sup> <http://www.sf-planning.org/index.aspx?page=3051>



- One or more central utility plants (CUP or CUPs)
- A thermal utility distribution system
- The energy transfer stations (ETS) within each building/parcel

Table 4 summarizes reference design information and further information is provided in subsequent sections and in Attachments D and E:

Table 4: DES conceptual design basic information

Design and Construction Stage	
CUP	Central Combined Heating & Cooling + Bay Heat Rejection & Cooling
CUP System	<ul style="list-style-type: none"> <li>• Centralized heat recovery chillers</li> <li>• Centralized electric water cooled chillers</li> <li>• Centralized low/medium temperature hot water boilers</li> <li>• Plate-and-frame “free-cooling” heat exchangers (bay-water)</li> <li>• Plate-and-frame “heat-rejection” heat exchangers (bay-water)</li> <li>• Balance of bay-water heat rejection and cooling plant</li> <li>• Minimal cooling towers</li> </ul>
Distribution System	<ul style="list-style-type: none"> <li>• The planning basis for the distribution portion of the DES has assumed a 6-pipe system comprising of:</li> <li>• Chilled water (CHW) supply and return pipes</li> <li>• Heating hot water (HHW) supply and return pipes</li> <li>• Bay water intake and outflow pipes</li> <li>• Parcel level electrical infrastructure</li> </ul>

### 5.2.1 Estimated Heating and Cooling by Phase

#### Non-concurrent Peak Loads

The land-use heating and cooling peak load density assumptions (see Attachment E) yield the following peak non-concurrent loads in the tables below.

Table 5: Estimated Non-Concurrent Peak Heating and Cooling – By Parcel

PARCEL	PRIMARY USE	PARCEL AREA (sqft)	TOTAL GFA (sqft)	Cooling (Tons)	Heating (MMBH)
A	Residential	42,150	413,900	591.3	4.1
B	Commercial	40,209	274,750	686.9	4.1
C	Commercial	39,124	354,826	887.1	5.3
D1	Residential	9,745	240,494	343.6	2.4
D2	Parking	86,161	851,130	n/a	n/a
E	Commercial	25,110	141,330	353.3	2.1
F	Residential	25,110	323,775	462.5	3.2
G	Commercial	33,057	303,064	757.7	4.5
H	Commercial	31,144	151,932	379.8	2.3
I	Residential	32,543	200,315	286.2	2.0

PARCEL	PRIMARY USE	PARCEL AREA (sqft)	TOTAL GFA (sqft)	Cooling (Tons)	Heating (MMBH)
J	Commercial	31,515	151,982	380.0	2.3
K	Residential	17,857	130,469	186.4	1.3
P48	Production	259,328	263,000	657.5	1.3

**TOTAL, without P48**

**5,315**

**33.8**

**TOTAL, with P48**

**5,972**

**35.1**

Table 6: Estimated Non-Concurrent Peak Heating and Cooling, without P48 – By Phase

Assumed Phase	Parcel	Heating (MMBH)	Cooling (Tons)
1	A, B, G, K	14.1	2,222
2	C, D1, D2	7.7	1,231
3	E, F	5.4	816
4	H, I, J	6.6	1,046
<b>Total:</b>	-	<b>33.8</b>	<b>5,315</b>

### Concurrent Peak Loads

Arup estimates that the concurrent load diversities for the mix of uses in the flex parcel option are:

Table 7: Load diversities

	Cooling	Heating
w/out P48	10%	2%
w/P48	8%	2%

Table 8: Estimated Concurrent Peak Heating and Cooling

	Cooling (Tons)	Heating (MMBH)
w/out P48	4,791	33.1
w/P48	5,517	34.3

### 5.2.2 Plant Location Considerations

Possible plant locations are constrained by size, phasing, and general location. The potential locations for siting CUP's are illustrated in Figure 1 below.

Figure 1: Potential CUP Siting Locations



Available when parcel is built. Refer to assumed phasing plan elsewhere in the RFQ.

**Process Plant**

- Anchor plant for brewing process
- High pressure steam required
- Medium-high temperature hot water required (170 °F)
- Low temperature chilled water required (< 36 °F)
- Total area is currently unknown

**Comfort Heating/Cooling Plant**

- Central plants for building comfort heating & cooling equipment
- Elevated chilled water preferable (> 50 °F)
- Low temperature hot water preferable (< 150 °F)
- Connection to Bay to reduce cooling towers & maximize cooling efficiency
- Total area is between 24K & 35K sf plus some roof space (TBD)
  - Phase 1 Plant ~12K to ~20K sf

A consideration relating to siting the CUP is the nature of Pier 48. It has a limited clear height that roughly ranges between 20 feet at the edges and 35 feet at the core, load bearing limits due to pile foundation and bay muds, and sea level rise considerations.

Potential partners will need to propose solutions that are nimble and flexible so that the complexity and uncertainty introduced by the project phasing can be overcome.

**5.2.3 Distribution System Considerations**

The distribution system routing options are being planned along with other utilities in the public rights-of-way (ROW). Utilities are generally constrained along Exposition St and Bosque St. Further, utilities will not be placed in the Terry A Francois Blvd ROW until parcels I/J/K are built. A large parking structure is planned at the podium level beneath Mission Rock Square between parcels B and C to the West and parcels I and J to the East and between Exposition St to the North and Bosque St to the South. Rights-of-way for Shared Public Way and Bridgeview Way are currently being considered for the distribution system but this may require running the pipes inside the garage. Finally, the ROW north of parcels A, G, and K and South of China Basin Park is generally free of utilities. Please see Attachment B for a draft schematic of the planned utilities.

The selected DES Developer will be expected to provide input to, and ultimately concur with, the routing and design of the distribution system.

**5.2.4 Anchor Brewing**

It is currently anticipated that the Anchor Brewing Company would occupy all of the interior usable space of Pier 48 under a 30-year Port interim lease. Anchor Brewing has indicated that it will be developing, as part of the new brewery, a process plant capable of supporting the

production of approximately 200,000 barrels annually. This figure is subject to change by Anchor.

The technical opportunity includes the following heating and cooling loads for the Anchor site. This does not include any heating and cooling loads that Anchor may require for their production needs. See Attachment D section D.5 for more details on Anchor’s production loads.

Table 9: Estimated Peak Non-Concurrent Heating and Cooling for Anchor

Assumed Phase	Parcel	Heating (MMBH)	Cooling (Tons)
n/a	P48	1.3	658

**Anchor Brewing Enhancement Opportunities:**

There may be an opportunity to:

- Pre-heat the Anchor Brewing process hot water using the district heating system and distribution, thereby reducing the required steam boiler capacity in the Anchor Brewing process plant. This might be achievable under a scenario where an extensive distribution run from the closest main branch is not required.
- Operate and Maintain the Anchor Brewing process plant under a performance contract or other form of contract. This will require discussions with Anchor Brewing directly during the RFQ procurement.
- Run microturbines for cogeneration of electricity as part of the Anchor Brewing process plant operation. Again, discussions with Anchor Brewing directly during the RFQ procurement will be required to better understand this opportunity. [The environmental impacts of cogeneration may be addressed as part of the Mission Rock EIR.]

**5.2.5 Bay Water Heat Rejection & Cooling**

The inclusion of bay water as a means for heat rejection & cooling is an important aspect of the DES design as it relates to sustainability performance. Not only will it save considerable amounts of energy and water, it will also alleviate site design concerns related to cooling towers that would otherwise be needed. Master Developer expects this technology to be pursued as part of the DES design, construction, and operation.

The following is the current proposed approach for installing the bay water system, which was developed for purposes of examining potential environmental impacts in the EIR:

1. Based on the soil conditions at the site (young bay mud & rubble debris), directional drilling is not recommended.
2. The intake and outfall pipelines would be HDPE, placed at or just below the existing seabed, supported on plastic lumber attached the piles with 316SS hardware.
3. The outfall and intake pipelines & structures should be within the footprint of the Pier 48.
4. The inlet manifold should be placed one bent in from the pier head. The inlet screens will be in deep water, protected by the pier, and maintenance will have direct access to the screens.

5. If necessary to extend the pipeline offshore, it would likely be directly buried, which would require minor dredging and placement of rock riprap. Maintenance of the screens will be more costly and may require support piles.
6. The outfall is typically easier to install and the engineer will determine the placement and the number of duckbill diffusers.
7. The Pump Station is recommended to remain onshore or near the bulkhead. At Pier 15, a project precedent, the intake screens, pump station, secondary screens, and outfall are at one location near the outer third of the pier.
8. If secondary screening is required, it should be near the pump station.

## 5.3 Project Commercial Opportunity

### 5.3.1 Introduction to Potential Commercial Structure

An “off-balance sheet” approach is the preferred approach of the Master Developer, where the DES Developer builds, owns, and operates the CUP and provides routine and lifecycle operations and maintenance for the distribution system up to the energy transfer station in each building. The Master Developer is interested in feedback on potential commercial structures throughout this section (see Section 6.4).

The anticipated payment structure will:

- Mitigate market risk through a DES connection mandate for all properties and, to the extent feasible, phasing of the real estate development so that annual capital requirements and annual cash flows yield sufficient returns for the DES Developer.
- Obligate DES Developer to (i) design and construct the CUP according to agreed specifications; provide a provide a security package that includes but is not limited to parent company guarantee, warranties, liquidated damages and/or holdbacks of the design and construction work; (ii) provide project financing; (iii) operate and maintain the CUP and distribution system and (iv) provide required reporting and customer service activities, and;
- Grant DES Developer the right to receive payments according to the agreed schedule at agreed rates for a number of years to be determined after substantial completion of the Project (which will include, among other things, that the CUP is available for use), under the terms and conditions negotiated by the parties.

The following table displays the potential commercial roles for the parties involved in the CUP and distribution system:

*Table 10: Potential Commercial Allocations*

	CUP	Distribution system
Ownership	DES Developer	Port/Nonprofit/DES Developer
Permitting	DES Developer	Master Developer/DES Developer
Site Use	DES Developer will lease from SWL	Franchise agreement/lease within public right of way
Design and construction	DES Developer	Port or Master Developer with support of DES Developer
Commissioning	DES Developer	DES Developer

	CUP	Distribution system
Financing	DES Developer	On-balance sheet taxable from Master Developer with buy-out by the Port using tax exempt CFD
Billing and Customer Service	DES Developer	n/a
Routine O&M	DES Developer	DES Developer
Lifecycle	DES Developer	DES Developer

**5.3.2 Off-take Agreement**

It is assumed that each individual property owner will have a retail agreement to purchase from the DES Developer, based on rates negotiated under the ESA.

*Alternative Off-take Opportunities:*

Master Developer is considering an energy non-profit organization to act as the single off-taker for the ESA. The goal is for this organization to help reduce counterparty credit risk for the DES Developer by buying thermal power on behalf of the property owners in Mission Rock. The DES Developer, in turn, would not have to factor the credit risk (including the ongoing costs of billings/collections) of individual customers and could accept a lower rate of return.

Master Developer is interested in discussing with the partner the viability of this option as well as other commercial structures.

**5.3.3 Energy Non-Profit**

The Master Developer is interested in establishing a non-profit that could perform all or some of the following roles as they relate to the Project:

- Rates Negotiation: The non-profit entity would help to reduce counterparty credit risk for the DES Developer by buying thermal power, and would negotiate rates for Mission Rock property owners.
- Ownership: The non-profit could own the distribution system and contract the O&M to the DES Developer. The nonprofit could also own the full DES System, or to secure a credit enhancement for the full system from the Port.
- Financing: The non-profit could be used to secure conduit financing for the distribution system or the CUP.

The Master Developer would set up this organization, with it or the Port acting as the credit-worthy backer. Establishment and maintenance (reporting, auditing) costs for the nonprofit are expected to be nominal for a non-charity nonprofit.

Running the nonprofit requires the establishment of a board and the election of board members. Possible board seats could include voting and non-voting members, who would meet regularly (quarterly, bi-yearly) and would determine meetings and expenditures. Such board members may include:

- Master Developer

- The Port
- Elected seats for Mission Rock property owners/customers

### **5.3.4 Financing**

The DES Developer will be responsible for the formation of capital necessary to deliver the Project. The Master Developer does not have a preference for a specific financing structure. However, it is expected that financing for the Project will include a combination of equity and debt (bank debt, taxable and/or tax-exempt bonds).

The distribution system is to be financed on Master Developer's balance sheet, which would be eventually bought out by the Port.

#### *Alternative Financing Opportunities:*

In addition to the above, Master Developer is interested in feedback on the following possible financing options:

- The DES Developer providing upfront capital for the distribution system and the Port buying out their equity with the CFD tax exempt financing.
- A nonprofit entity providing 63-20 conduit financing (or similar) for the CUP or the distribution system.

### **5.3.5 Operations and Maintenance**

Master Developer will include stipulations for output product availability (up-time) and other performance specifications as part of negotiations under the MOU. The DES Developer will be responsible for all operations and maintenance activities necessary to make sure that availability and performance requirements are met.

Prior to beginning output product sales, and annually thereafter, the DES Developer shall provide independent, certified calibration and operational checks of all revenue meters.

### **5.3.6 Billing/Customer Service**

Master Developer and the DES Developer will negotiate an appropriate means and mechanism for invoicing. The DES Developer will be responsible for providing a negotiated level of customer service, inclusive of response and resolution of issues raised by Master Developer within a contractually agreed time period.

### **5.3.7 Entitlement and Permitting**

Master Developer will be responsible for all entitlements and approvals from authorities having jurisdiction over the Project Site.

The DES Developer will be responsible for all permitting related to the CUP.

The distribution system will be a joint permitting effort between the Master Developer and the DES Developer.

DES Developer will be responsible for all ongoing permitting related to DES operations.

### **5.3.8 Reporting**

The DES Developer will be responsible for providing all routine, periodic, and incident reporting as negotiated between the Master Developer and DES Developer.



## **6 REQUIREMENTS FOR THE SOQ**

---

The following are the minimum requirements for the SOQ. Please structure your SOQ so that it mirrors the structure of this section, addressing each requirement in order.

In the Technical and Commercial Responses, the Master Developer is seeking to gain an understanding of how your Project Team would approach the Project, not on the final solutions. Technical and Commercial Responses will be subject to further negotiation and refinement post-selection when the DES Developer will be able to conduct full due diligence and determine feasibility, among other things.

Qualifications shall be prepared simply, providing a straightforward description of the Respondent's ability to meet the requirements of this RFQ. Emphasis shall be on the quality, completeness, clarity of content, responsiveness to the requirements, and an understanding of Master Developer's needs.

### **6.1 Proposed Project Team**

- Provide a statement of interest for the Project including a narrative describing the unique qualifications of the Project Team as they pertain to the Project.
- Provide a brief history of the Prime Firm and the Prime Firm's experience in similar projects. In addition, please discuss any known limitations to the Project Team's ability to fulfill the scope as outlined herein.
- Provide resumes (limit one page each) giving the experience and expertise of the key professional members that would be working on this deal from the Prime Firm as well as for the lead for engineering, procurement and construction ("EPC") services and the lead for O&M services (together "Lead Contractor(s)"), including their experience with similar projects, the number of years with the firm, and their city of residence.
- Provide a statement on the availability and commitment of the key professionals in the Prime Firm and Lead Contractor(s) that will be assigned to the Project.

### **6.2 Previous Experience**

- List a maximum of five (5) projects for which the Prime Firm has provided services that are most directly related to the Project. Wherever possible, provide representative projects where the proposed Prime Firm, Lead Contractor(s), lead A/E Firm and other key sub-contractors have worked together. List the projects in order of priority, with the most relevant project listed first. Provide the following information for each project listed:
  - Project name, location, contract delivery method, and description.
  - Color images (photographic or machine reproductions).
  - Final Construction Cost, including Change Orders.
  - Final Project size in gross square feet; Final Project power and thermal capacity.
  - Type of construction (new, renovation, or expansion).
  - Actual start and finish dates for design.
  - Actual Notice to Proceed and Substantial Completion dates for construction.
  - Description of professional services Prime Firm and contractors provided for the project.

- Name of Project Manager (individual responsible to the System/University for the overall success of the project).
  - Sources of funding/financing.
- Provide references for each project listed above, identify the following:
  - The Owner's name and representative who served as the day-to-day liaison during the design and construction, and O&M phases of the Project, including name, title, telephone number and email.
  - Contractor's name and representative who served as the day-to-day liaison during the pre-construction and/or construction phase of the project, including name, title, telephone number and email.
  - Length of business relationship with the owner.

References shall be considered relevant based on specific project participation and experience with the Prime Firm and/or Lead Contractor(s).

### **6.3 Technical Response**

- Please describe generally the Project Team's suggested technical approach to the Project. In doing so, please describe how your approach would achieve stated goals and requirements of the Project listed in Sections 5.1.3 and 5.1.3 above. Highlight your experience with delivering the proposed technological solutions (e.g. from other projects preferably submitted with your SOQ). Please also include additional ideas or innovations not addressed in this RFQ.
- Describe the Project Team's approach to construction, commissioning and start-up. Please include in the narrative how the approach will take into account the phased nature of the Mission Rock development. Please specifically address the Team's approach to plant locations and any sequencing required to reach the final CUP build-out.
- Please describe the Project Team's approach to O&M. Include discussion and examples of reliability assurance, water and energy conservation practices in operations, energy efficiency practices in operations, safety practices, quality assurances, controls and monitoring approaches.

### **6.4 Commercial Responses**

- Please describe generally the commercial structure you envisage for the Project. Provide a deal structure diagram showing key parties and major agreements. Please also address the Alternative Off-taker Opportunity and Nonprofit Opportunity mentioned in Sections 5.3.2 and 5.3.3 above and discuss what benefits and challenges these opportunities may present. Highlight your experience with the proposed commercial structure (e.g. from other projects, preferably projects submitted with your SOQ).
- Please identify the primary risks that the Project Team anticipates for the Project, categorized by Design, Construction and O&M, along with recommended mitigation measures for those risks.
- Please demonstrate the Prime Firm's ability to secure financing for the Project (i.e. as a BOO). In doing so, please state what key debt requirements you might expect given your suggested structure (e.g. gearing requirements). Please also address the Alternative Financing

Opportunities mentioned in Section 5.3.2 above. Highlight your experience with similar financings involved on projects (preferably projects submitted with your SOQ).

- Detail the DES Developer's ability and demonstrated experience in providing financing for:
  - Similar projects within specified financial closing time parameters;
  - Projects utilizing offtake agreements for multiple retail customers; and
  - Projects where you were a counterparty to single, non-profit off-taker.

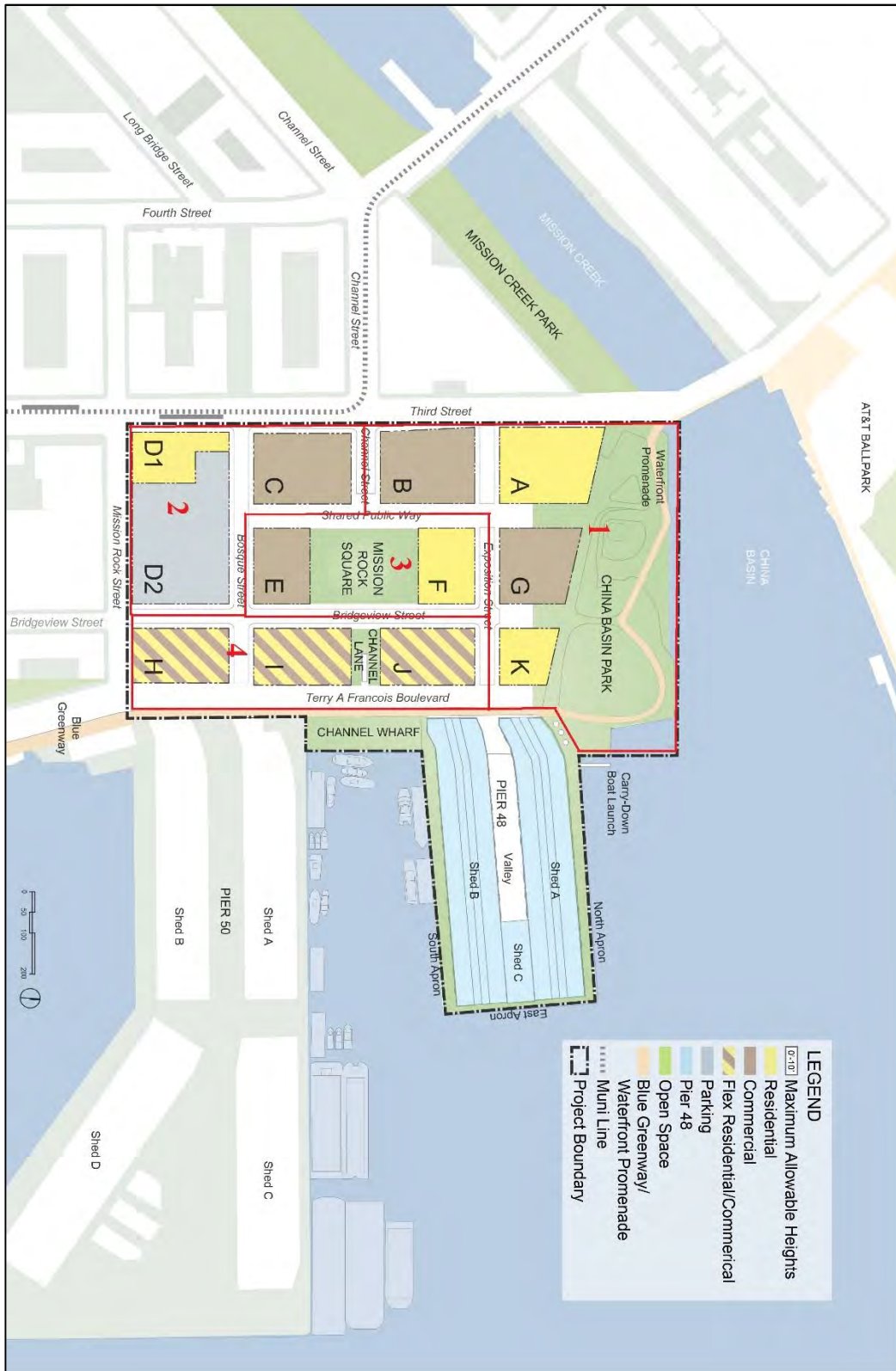
## **6.5 Blue Sky Discussion**

- Please also provide additional ideas or areas for consideration that have not been included in the scope of this RFQ.
- Please note the Master Developer may be running a separate RFQ for a water treatment system for Mission Rock. Please reach out to the Point of Contact if Respondent is interested in similarly designing, building, owning or operating a water treatment system. Respondents that are interested in this opportunity should state in this section of the SOQ the possible benefits the Master Developer and other end users might see as a result of the Project Team delivering and operating both systems jointly.

ATTACHMENT A: Draft Memorandum of Understanding

[To be released]

ATTACHMENT B: Site Plan



ATTACHMENT C: Draft Schematic of Planned Utilities

## ATTACHMENT D: Supplementary Technical Information

### D.1 Thermal Generation Details

The planning basis for the generation portion of the DES assumes:

- Centralized heat recovery chillers
- Centralized electric water cooled chillers
- Centralized low/medium temperature hot water boilers
- Plate-and-frame “free-cooling” heat exchangers (bay-water)
- Plate-and-frame “heat-rejection” heat exchangers (bay-water)
- Balance of bay-water heat rejection and cooling plant (tanks, screens, etc.)
- Cooling towers<sup>3</sup>

### D.2 Distribution Details

The planning basis for the distribution portion of the DES assumes a 6-pipe system comprising of:

- Chilled water (CHW) supply and return pipes
- Heating hot water (HHW) supply and return pipes
- Bay water intake and outflow pipes

The HHW and CHW systems are assumed to be direct bury, insulated piping systems, steel for HHW and HDPE for CHW. The bay water piping is assumed to be uninsulated, direct bury steel pipe.

Distribution routing and pipe sizing will be driven by CUP location and configuration and project phasing. Right of way corridors within the project site are relatively narrow, and site roadways are pile supported to mitigate differential settlement relative to the buildings, reducing the space available for utility installation. Pipe routing and building points of connection will need to be coordinated with site and building design teams.

Representative trench sections are presented in the figures below:

---

<sup>3</sup> Capacity to be limited by greater of (1) heat rejection capacity needed above 24” bay-water capacity, and (2) heat rejection requirements during scheduled bay-water system down-time

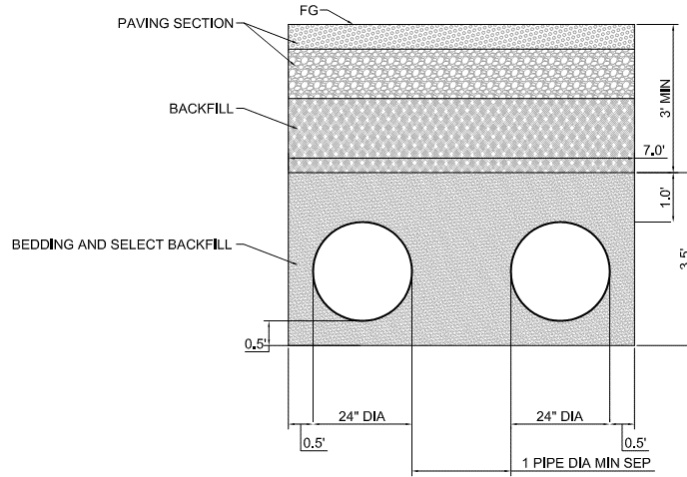


Figure 2: Typical Bay Water Intake/Outflow Section

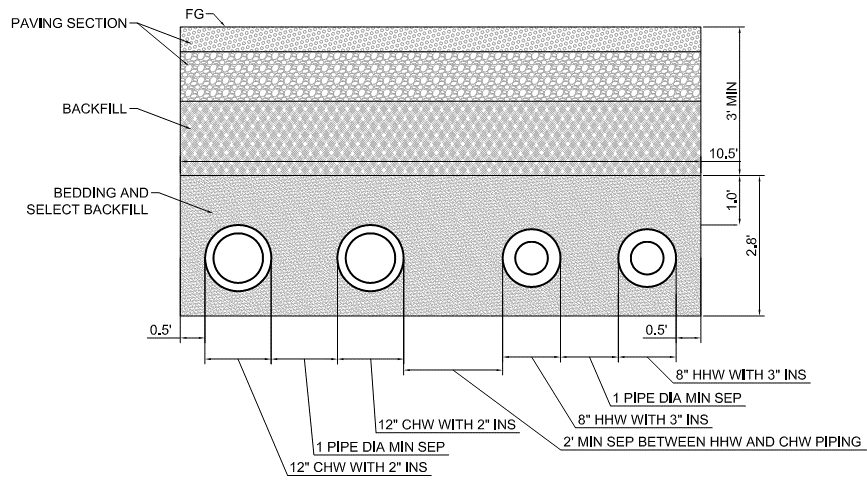


Figure 3: Chilled and Hot Water Combined Trench - Maximum Section

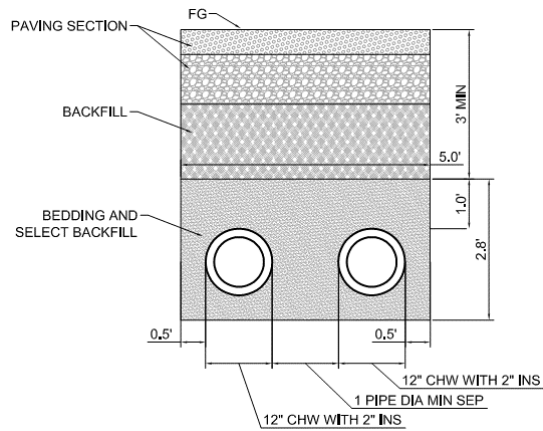


Figure 4: Chilled Water Trench - Maximum Section



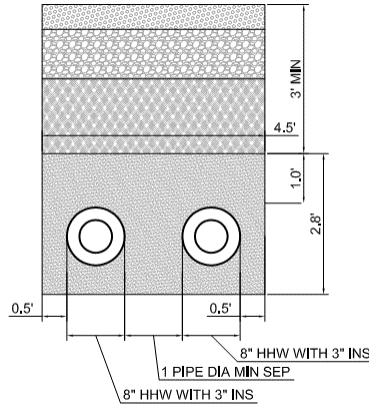


Figure 5: Heat Hot Water Trench - Maximum Section

### D.3 Building Interconnections

The planning basis for the building interconnection portion of the DTES has assumed pairs of plate-and-frame heat exchangers for each of the hot water and chilled water services. As part of a partnership, the developer will be taking on the responsibility of collaborating with the vertical development team on the design, coordination, and commissioning of these systems.

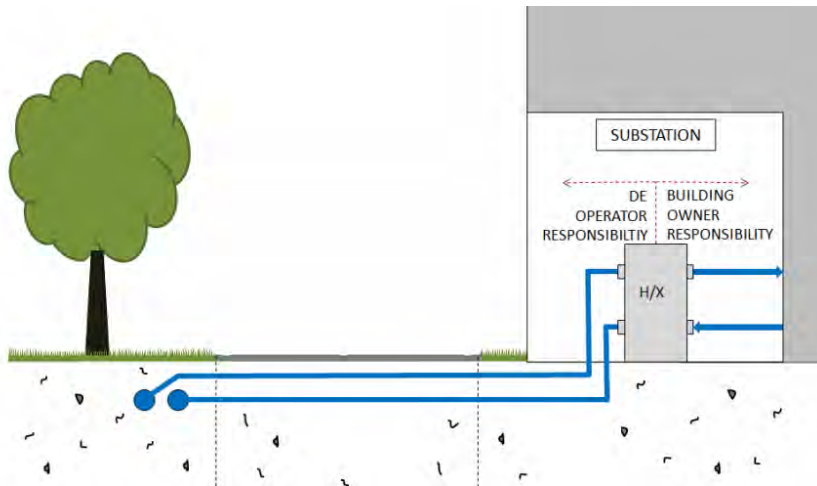


Figure 6: Substation Depiction

### D.4 Anchor Brewing Process Loads

Anchor Brewing process loads account for a major portion of the site energy consumption.

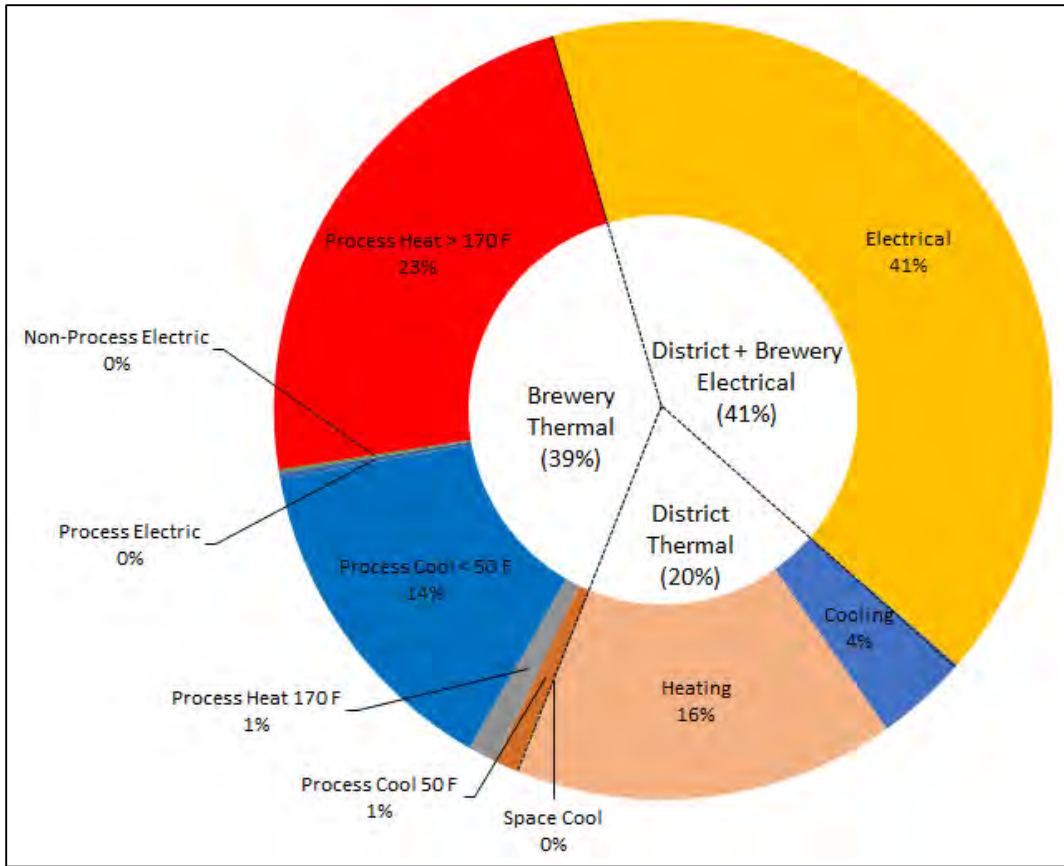


Figure 7: Ultimate Energy Consumption Split (400,000 Barrels/Year, no Brewery Efficiency)

Applying plausible levels of energy efficiency to all brewery end-uses generates the hypothetical energy consumption estimates summarized in Figure 8. This illustrates the sensitivity of the brewery energy efficiency as an input to the load estimation exercise.

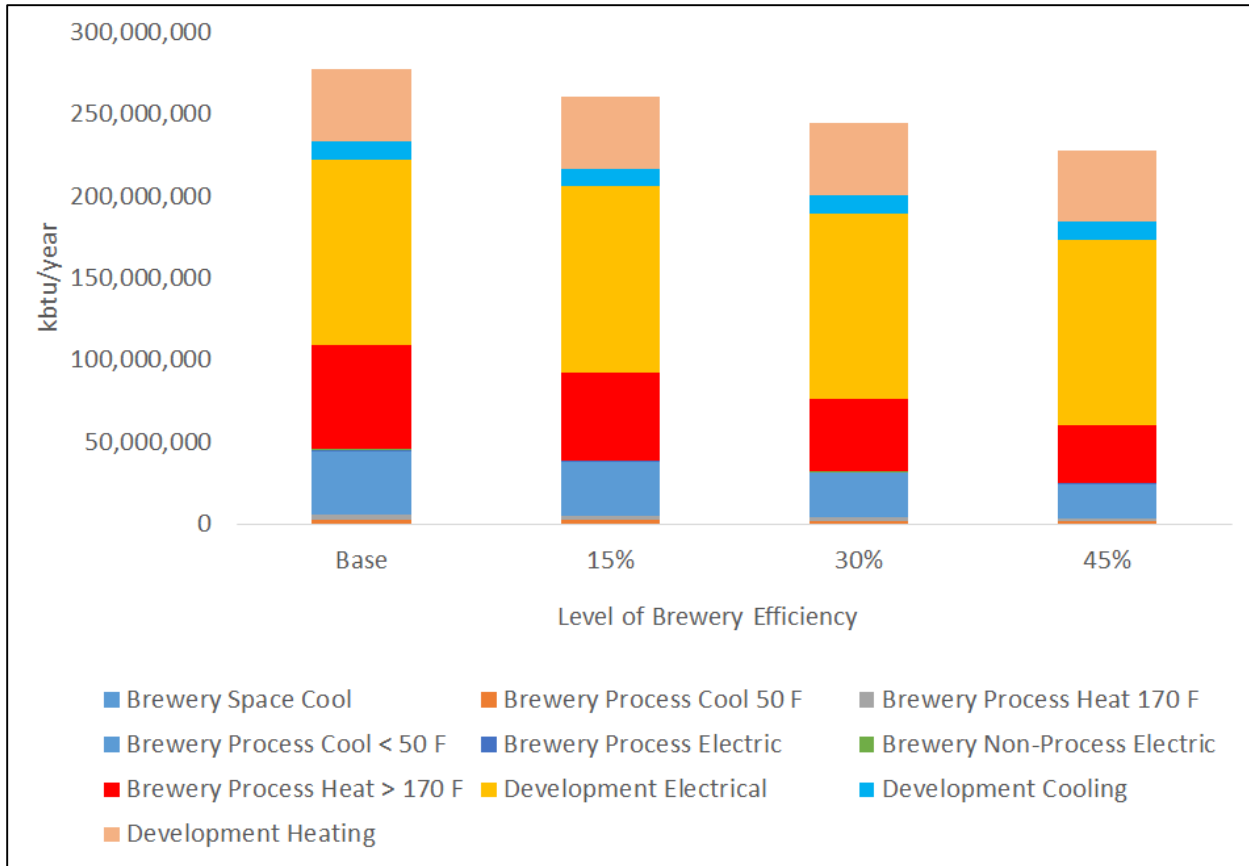


Figure 8: Hypothetical Ultimate Energy Consumption Estimates (400,000 barrels/year)

Unlike the district, the Anchor brewing process entails several high-temperature, steam, and low-temperature chilled water loads as illustrated in **Figure 9**.

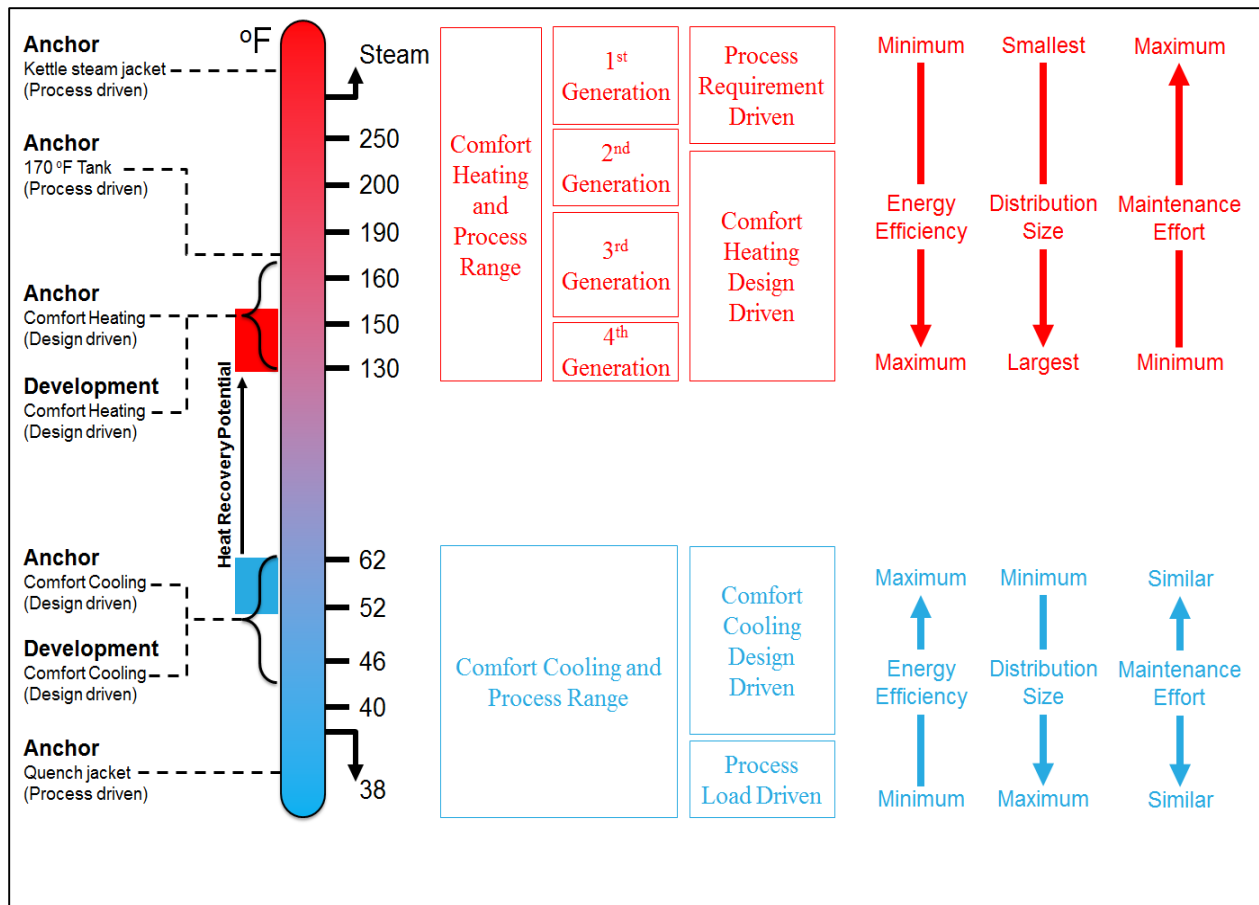


Figure 9: Development Thermal Load Map

It is not thermodynamically efficient to aggregate and supply these significantly different load categories from a single plant, or to overproduce steam or low-temperature chilled water to serve low-temperature heating and elevated chilled water cooling loads respectively.

Anchor Brewing has indicated that the brewing process, loads, and therefore the process plant requirements will continue to be updated as of and after the publication of this RFQ.

For these reasons, the current approach is to site the Anchor Brewing process plant as close as possible to the loads it serves (i.e. on Pier 48), and not over-size it to additionally serve the Project Site (or a portion thereof).

There may be opportunities to pre-heat the Anchor Brewing process hot water using the district heating system and distribution. This might be achievable under a scenario where an extensive distribution run from the closest main branch is not required, and could be beneficial if a significant resulting reduction in the Anchor brewing plant (essentially steam boiler capacity) can be achieved.

## ATTACHMENT E: Assumptions

Given the early planning nature of this work, Arup developed and shared a series of technical assumptions during the 2013 feasibility study. These assumptions were approved for planning purposes, and are being carried forward for purposes of a reference design in the RFQ. These assumptions are tabulated below.

Standard Office Cooling EUI	Energy Utilization Intensities	1.3	kbtu/sq.ft./year
Standard Office Heating EUI	Energy Utilization Intensities	9.5	kbtu/sq.ft./year
Standard Office Electric EUI	Energy Utilization Intensities	41.3	kbtu/sq.ft./year
Biotech Office Cooling EUI	Energy Utilization Intensities	15.3	kbtu/sq.ft./year
Biotech Office Heating EUI	Energy Utilization Intensities	10.9	kbtu/sq.ft./year
Biotech Office Electric EUI	Energy Utilization Intensities	89.3	kbtu/sq.ft./year
Residential Cooling EUI	Energy Utilization Intensities	1.4	kbtu/sq.ft./year
Residential Heating EUI	Energy Utilization Intensities	23.2	kbtu/sq.ft./year
Residential Electric EUI	Energy Utilization Intensities	22.20	kbtu/sq.ft./year
Retail Cooling EUI	Energy Utilization Intensities	7.6	kbtu/sq.ft./year
Retail Heating EUI	Energy Utilization Intensities	5.0	kbtu/sq.ft./year
Retail Electric EUI	Energy Utilization Intensities	54.5	kbtu/sq.ft./year
Brewery Space Heating EUI	Energy Utilization Intensities	0.1	kbtu/sq.ft./year
Brewery Space Cool EUI	Energy Utilization Intensities	3.6	kbtu/sq.ft./year
Brewery Process Electric EUI	Energy Utilization Intensities	36	kbtu/barrel/year
Brewery Non-Process Electric EUI	Energy Utilization Intensities	18	kbtu/barrel/year
Brewery Process Heat > 170 F EUI	Energy Utilization Intensities	190	kbtu/barrel/year
Brewery Process Heat 170 F EUI	Energy Utilization Intensities	10	kbtu/barrel/year
Brewery Process Cool > 50 F EUI	Energy Utilization Intensities	26.6	kbtu/barrel/year
Brewery Process cool < 50 F EUI	Energy Utilization Intensities	145	kbtu/barrel/year
BAU Cooling Efficiency	Avg. Annual Equipment Efficiencies	0.55	kW/Ton
BAU Heating Efficiency	Avg. Annual Equipment Efficiencies	80%	%
BAU Electric Efficiency	Avg. Annual Equipment Efficiencies	99%	%
Vapor Compression Chillers	Avg. Annual Equipment Efficiencies	0.364	kW/Ton
Absorption Chillers	Avg. Annual Equipment Efficiencies	1	COP
Organic Refrigerant Chillers	Avg. Annual Equipment Efficiencies	0.70	kW/Ton

Gas Hot Water Boilers	Avg. Annual Equipment Efficiencies	82%	%
CHP/CCHP Thermal Efficiency	Avg. Annual Equipment Efficiencies	41.6%	%
CHP/CCHP Electrical Efficiency	Avg. Annual Equipment Efficiencies	45.1%	%
CHP/CCHP Max Turndown	Avg. Annual Equipment Efficiencies	85%	%
CHP/CCHP Max Heat Dumping	Avg. Annual Equipment Efficiencies	15%	%
Electric Only Fuel Cell Thermal Efficiency	Avg. Annual Equipment Efficiencies	51.7%	%
Electric Only Fuel Cell Electrical Efficiency	Avg. Annual Equipment Efficiencies	20%	%
Heat Recovery Chillers	Avg. Annual Equipment Efficiencies	0.60	kW/Ton
Cooling Towers	Avg. Annual Equipment Efficiencies	0.053	kW/Ton
Heat Dump Radiators	Avg. Annual Equipment Efficiencies	0.106	kW/Ton
Vapor Compression Chiller w/ Deep Lake Condenser Water	Avg. Annual Equipment Efficiencies	0.35	kW/Ton
Heat Recovery Chiller w/ Deep Lake Condenser Water	Avg. Annual Equipment Efficiencies	0.59	kW/Ton
Anchor Steam Existing Steam Boiler Plant	Avg. Annual Equipment Efficiencies	65%	%
New Steam Boiler Plant	Avg. Annual Equipment Efficiencies	78%	%
CHW Network Thermal Efficiency	DE Network Thermal Efficiencies	97.0%	%
HHW Network Thermal Efficiency	DE Network Thermal Efficiencies	95.5%	%
CW Network Thermal Efficiency	DE Network Thermal Efficiencies	98.0%	%
Pump Efficiency	District Pumping Efficiency	80%	%
Motor Efficiency	District Pumping Efficiency	90%	%
Average Network Pressure Head	District Pumping Efficiency	1.75	ft./100 ft.
CHW Design Supply T	Chilled Water Network Parameters	50	F
CHW Design Cooling Delta T	Chilled Water Network Parameters	13	F
CHW Total Network Length	Chilled Water Network Parameters	3,680	ft.
CHW Heat Exchanger Pressure Drop	Chilled Water Network Parameters	15	ft.
CHW Valves, Fittings, Bends Loss	Chilled Water Network Parameters	40%	% of Total Straight Pipe Loss
HHW Design Heating Delta T	Heating Hot Water Network Parameters	35	F
HHW Total Network Length	Heating Hot Water Network Parameters	3,680	ft.
HHW Heat Exchanger Pressure Drop	Heating Hot Water Network Parameters	15	ft.
HHW Valves, Fittings, Bends Loss	Heating Hot Water Network Parameters	40%	% of Total Straight Pipe Loss
CW Design Cooling Delta T	Condenser Water Network Parameters	15	F
CW Total Network Length	Condenser Water Network Parameters	3,680	ft.

CW Heat Exchanger Pressure Drop	Condenser Water Network Parameters	15	ft.
CW Valves, Fittings, Bends Loss	Condenser Water Network Parameters	40%	% of Total Straight Pipe Loss
Reversible Heat Pump Cooling Efficiency	Avg. Annual Equipment Efficiencies	0.711	kW/Ton
Reversible Heat Pump Heating Efficiency	Avg. Annual Equipment Efficiencies	0.708	kW/Ton
Reversible Heat Pump - Cooling with Colder Bay/River Water	Avg. Annual Equipment Efficiencies	0.675	kW/Ton
Bay Water Flow rate (Heat Rejection)	Bay Water Heat Rejection Parameters	3	gpm/ton
Bay Water Pump Efficiency (Heat Rejection)	Bay Water Heat Rejection Parameters	80%	%
Bay Water Pump Motor Efficiency (Heat Rejection)	Bay Water Heat Rejection Parameters	90%	%
Bay Water Network Length (Heat Rejection)	Bay Water Heat Rejection Parameters	4,000	ft.
Bay Water Average Network Pressure Head (Heat Rejection)	Bay Water Heat Rejection Parameters	1.75	ft./100 ft.
Bay Water Design Delta T (Heat Rejection)	Bay Water Heat Rejection Parameters	10	F
Bay Water Heat Exchanger Pressure Drop (Heat Rejection)	Bay Water Heat Rejection Parameters	15	ft.
Bay Water Valves, Fittings, Bends Loss (Heat Rejection)	Bay Water Heat Rejection Parameters	40%	% of Total Straight Pipe Loss
Bay Water Flow rate (Cooling)	Bay Water Cooling Parameters	2	gpm/ton
Bay Water Pump Efficiency (Cooling)	Bay Water Cooling Parameters	80%	%
Bay Water Pump Motor Efficiency (Cooling)	Bay Water Cooling Parameters	90%	%
Bay Water Network Length (Cooling)	Bay Water Cooling Parameters	8,000	ft.
Bay Water Average Network Pressure Head (Cooling)	Bay Water Cooling Parameters	1.75	ft./100 ft.
Bay Water Design Delta T (Cooling)	Bay Water Cooling Parameters	13	F
Bay Water Heat Exchanger Pressure Drop (Cooling)	Bay Water Cooling Parameters	15	ft.
Bay Water Valves, Fittings, Bends Loss (Cooling)	Bay Water Cooling Parameters	40%	% of Total Straight Pipe Loss
Residential Cooling Load Density	Space Cooling Load Densities	700	sq.ft./Ton
Retail Cooling Load Density	Space Cooling Load Densities	350	sq.ft./Ton
Commercial Cooling Load Density	Space Cooling Load Densities	400	sq.ft./Ton
Brewery Cooling Load Density	Space Cooling Load Densities	400	sq.ft./Ton
Residential Heating Load Density	Space Heating Load Densities	10	btu/h/sq.ft.
Retail Heating Load Density	Space Heating Load Densities	20	btu/h/sq.ft.
Commercial Heating Load Density	Space Heating Load Densities	15	btu/h/sq.ft.
Brewery Heating Load Density	Space Heating Load Densities	5	btu/h/sq.ft.

Nominal Heating Plant Efficiency (Sizing)	Nominal Equipment Efficiencies	85%	%
Bay Minimum Winter Temperature	Bay Water Cooling Parameters	48	F
Bay Maximum Summer Temperature	Bay Water Cooling Parameters	70	F
Parking Structure Conditioning		Unconditioned	Conditioned/ Unconditioned
Branch Pipe Sizing Criteria	Chilled Water Network Parameters	7	fps
Main Pipe Sizing Criteria	Chilled Water Network Parameters	10	fps



[Page Intentionally Left Blank]

**ICA EXHIBIT B**

**[Intentionally Omitted]**

[Page Intentionally Left Blank]

## EXHIBIT C

### PROPOSAL FOR NON-STANDARD INFRASTRUCTURE (For Discussion Purposes Only)

The Project proposes to use non-standard public improvements as described in the Infrastructure Plan. The attachment memorandum “Mission Rock – Public Infrastructure Design Exceptions and Modifications,” dated 7/11/2017 from BKF Engineers represents Developer’s preliminary analysis of necessary design modifications and exceptions to standard City design requirements and specifications.

Subject to the further development of the Structured Street designs, and any changes that may be identified in connection therewith, and the negotiation and execution of the Infrastructure Acceptance & Maintenance MOA, Developer’s proposal for non-standard infrastructure includes the following:

(a) Structured Street Superstructure and Structured Street Drainage. The Project Site is subject to unique geotechnical considerations due to the fact that significant portions of the Project Site are underlain by fill material, in-situ historic soils and compressed soils. To address these considerations, Developer proposes to use a U-shaped pile-supported concrete structure under and supporting the structured Public ROW ("**Structured Street Superstructure**"). The Structured Street Superstructure will incorporate a drainage system to drain the U-shaped corridor via sub-drains designed to prevent accumulation of water within in the structured street sections. The structured street drainage system may also include sump pumps ("**Structured Street Drainage**"). Developer proposes that Public Works be the Permitting Agency for the Structured Street Superstructure, and associated Structured Street Drainage facilities. Upon completion, Developer proposes that the Structured Street Superstructure and Structured Street Drainage facilities would be acquired/accepted by the Port.

(b) Flexible Utility Connections and Flexible Street Improvements. Where structured streets interface with Public ROW not supported by such superstructures, differential settlement is likely to occur in the Public ROW; therefore Developer proposes to use (1) flexible utility connections, which may include, e.g., flexible pipe materials, ball joints or settlement vaults (collectively, "**Flexible Utility Connections**"), and (2) sections of flexible street surface improvements ("**Flexible Street Improvements**").

(i) Developer proposes that Public Works be the Permitting Agency, and upon completion, subject to its approval of final design criteria, SFPUC accept the Flexible Utility Connections (including AWSS, low pressure water, recycled water, wastewater and stormwater), provided that in the event SFPUC fails to agree upon design criteria and accept the Flexible Utility Connections, the Port will accept the Flexible Utility Connections. The Infrastructure Acceptance & Maintenance MOA will address Developer’s warranty, including any extended

warranty, and under said warranty Developer's obligation to repair damage to the Flexible Utility Connections caused by settlement between the new Structured Street Superstructure supported Public ROW and the existing non-structured Public ROW.

(ii) Developer proposes that Public Works, subject to its approval of final design criteria, be the Permitting Agency for the Flexible Street Improvements. Upon completion, Developer proposes that Public Works accept the Flexible Street Improvements for operation and maintenance, provided that if Public Works fails to accept the Flexible Street Improvements they will be accepted by the Port. The Infrastructure Acceptance & Maintenance MOA will address Developer's warranty, including any extended warranty, and under said warranty Developer's obligation to repair damage to the Flexible Street Improvements, normal wear and tear excepted, caused by settlement between new Structured Street Superstructure supported Public ROW and the existing and non-structured Public ROW.

(c) Shared Public Streets. The Project includes shared public streets ("**Shared Public Streets**"), including a "Shared Public Way" and Terry A. Francois Boulevard. Generally, the Shared Public Streets are curbsless, and emphasize pedestrian traffic over vehicular traffic. Shared Public Streets are expressly contemplated by the City's Better Streets Plan.

(i) The Shared Public Streets are subject to approval of necessary Subdivision Code exceptions and design modifications. Developer's plan for the Shared Public Streets will address the following criteria, to the reasonable satisfaction of the Director of Public Works and the General Manager of the SFPUC, as will be further defined by standards included in the applicable Basis of Design Report:

**A.** Maintenance will be performed by Developer (Master Association) and maintenance costs will be funded by a project-based services CFD Tax and/or Master Association dues, or combination thereof in accordance with the DDA.

**B.** Street drainage meets SFPUC hydraulic performance standards;

**C.** SFPUC standards for maintenance access of SFPUC utilities are accommodated in the shared street design or alternative commitments for maintenance are provided; and

**D.** Verification that designs are ADA compliant.

Subject to the foregoing, Developer proposes that Public Works accept Shared Public Streets.

(d) HDPE. The Infrastructure Plan proposes to use HDPE throughout the Project Site. While HDPE is commonly used in infrastructure development, including elsewhere in San Francisco, the Subdivision Regulations have not been updated to authorize HDPE pipe. Developer's engineers assert that HDPE pipe offers numerous benefits, including durability and flexibility, as well as reduced propensity for leaks and superior flow characteristics. As such, Developer believes that there is good cause for use of HDPE pipe within the Project, and the use of HDPE pipe is consistent with sound engineering practices. In the event that SFPUC or any other affected City Agency determines that the use of HDPE pipe poses engineering concerns with respect to a given Improvement Plan Submittal, it shall promptly notify Developer.

[Page Intentionally Left Blank]

**ICA EXHIBIT D:**  
**PROPOSAL FOR DEFERRED INFRASTRUCTURE**  
**(FOR DISCUSSION PURPOSES ONLY)**

This exhibit describes how the Developer proposes to implement Deferred Infrastructure, subject to Developer's attainment of all required City approvals. The City has not reviewed or approved this proposal and will review each submittal on a case by case basis. However, in the event that the City elects to approve any proposed Deferred Infrastructure concept, the Developer acknowledges that City would impose certain minimum requirements applicable to trenching, public right-of-way restoration, and street acceptance, such as those set forth in the Subdivision Regulations for Treasure Island and Yerba Buena Island (adopted by Public Works Order No. 185,562, approved December 21, 2016), Appendix A, Section VII.D.3.b (“Trenching and Public Right-of-Way Restoration and Acceptance of Street When Lateral Installations Deferred”), and notice of special restrictions regarding these requirements.

Developer is obligated to construct all of the Horizontal Improvements for the Project Site that are described in the Infrastructure Plan, but may assign responsibility for certain Deferred Infrastructure to Vertical Developers consisting of a limited amount of work adjacent to and/or serving their building development. Vertical Developer will perform under a contract with Developer and will be obligated to meet performance timelines tied to the occupancy of its buildings, but in no case later than the outside date of the DDA Schedule of Performance for the work. Certain types of Deferred Infrastructure, such as deferred laterals, may require an exception to the Subdivision Regulations to be granted by the Director of Public Works in accordance with the Subdivision Code, subject to City approval and possible conditions.

Developer will remain responsible for the construction and completion of the applicable Deferred Infrastructure until such time as the applicable Permitting Agency has approved the rights and obligations of Vertical Developer to construct and complete the Deferred Infrastructure separately from the rest of the associated Horizontal Improvements.

Developer shall remain the responsible party seeking reimbursement for Deferred Infrastructure as provided for in the Acquisition Agreement. Developer shall also remain the responsible party seeking formal acceptance of Deferred Infrastructure by the Board of Supervisors, unless otherwise provided in the construction permit or Public Improvement Agreement.

Scope of Deferred Infrastructure

As described in DDA Section 14.5 (Deferred Infrastructure), the timely and efficient construction of Phase Improvements may require the construction of certain Deferred Infrastructure to be delayed until the adjacent Vertical Improvements are built. Deferred Infrastructure within Deferred Infrastructure Zones (as described below), would include, but not limited to, the following:



(i) the area between back-of-curb and the adjacent Development Parcel boundary (or if none, the adjacent Public Spaces);

(ii) bands up to 40 feet of Public Spaces, including but not limited to the paseos, Channel Lane and Channel Street, adjacent to Development Parcels; and

(iii) the area adjacent to Development Parcels for the installation of service infrastructure, including laterals, traps, air vents, clean-outs, meter boxes, irrigation facilities and associated pedestals, pull boxes, and secondary conduits, and street furnishings and landscaping.

#### Identification of Deferred Infrastructure within an application

Developer will identify elements of Deferred Infrastructure with the Basis of Design Report submitted for each Phase, including, to the extent known, the proposed scope and limits of work. With respect to the Deferred Infrastructure proposed in the Basis of Design Report, the City Agencies having regulatory jurisdiction will evaluate the proposed scope of work, limits of work (the "**Deferred Infrastructure Zone**" or "**Zone**"), and required time constraints. City Agencies, through the Permitting Agency, will conditionally approve with reasonable conditions, or disapprove the proposed Deferred Infrastructure. Commercially reasonable consideration will be given to the timing of proposed Deferred Infrastructure to coordinate with the City to minimize unnecessary excavations, and provided such coordination will not cause delay to the vertical development. Any disapproval must be accompanied with a letter describing the reason for disapproval.

#### Design of Deferred Infrastructure

Improvement Plans will propose a code compliant design consistent with the Infrastructure Plan and schematic design for Public Spaces or Public ROW. Design of Deferred Infrastructure that is conditionally approved in the Basis of Design Report application will continue to be developed in successive submittals of the Improvement Plans per the ICA. The limits of work for Deferred Infrastructure will be shown as "Not-in-Permit" in the Improvement Plans. Developer, or the assigned Vertical Developer, will then be obligated to obtain a permit for Deferred Infrastructure within the Zone. Vertical Developers may make adjustments to driveways, trees, service laterals, or other Deferred Infrastructure with the consent of Developer and subject to City approval prior to permitting.

#### Permitting of Deferred Infrastructure

There will be two permit reviews for Deferred Infrastructure - one in the Improvement Plans where Deferred Infrastructure is shown as Not-in-Permit, and the second in the permit for the Deferred Infrastructure or vertical building application. Vertical building applications will be referred to City Agencies having jurisdiction over the work, and should be coordinated with Other City Agencies (including but not limited to SFPUC and SFMTA). This may include the requirement for a street improvement permit if the work involves "back of curb" or "service" infrastructure. For efficiency, the same City reviewers of the Improvement Plans should also review these building permit applications. Permit applications for third party utility services such as from PG&E gas, and the telecom companies will need to be included in vertical building applications.

### Construction of Deferred Infrastructure

For Deferred Infrastructure permitted by Vertical Developer, the construction will be sequenced much like an in-fill project, with the Deferred Infrastructure being built in the last quarter of those projects. Developer and Vertical Developer will execute a Vertical Coordination Agreement that includes provisions for Developer review and consent process for final Deferred Infrastructure plans, schedule of performance, Vertical Developer access to the Zone, and requirements for protections of improvements that have been previously installed by Developer, but not yet accepted. Final Inspection of Horizontal Improvements including Deferred Infrastructure will be performed by City in accordance with the formal acceptance process.

[Page Intentionally Left Blank]

ICA EXHIBIT E  
MISSION ROCK  
BASIS OF DESIGN

*Basis of Design Report for Infrastructure, including all off-site infrastructure to be developed in a Phase:*

- Project Narrative
  - Summary of Applicable Standards
    - Tentative Map COA matrix
      - List of Requested Exceptions, including constraints/hardships and suggested solution
- Geotechnical Report, including:
  - Soil report
  - Groundwater level
  - Analysis of soil corrosivity
  - Data from site borings
- Structural Plans for Public Streets built on piles per ICA Section 4.3(a)
- General Site Grading Study with preliminary street grades
  - Topographic Map of the proposed subdivision and adjacent lands showing the existing conditions
  - Detailed field surveys to the extent detailed field surveyed topographic maps are required
  - Proposed grading plan
  - Location, height and type of proposed structural retaining walls
- Updates to Master Utility Plans/Calculations (as needed)
  - Low Pressure Water and Fire Flow Report
  - Recycled Water Report (as applicable)
  - AWSS Report (as applicable by SFPUC)
  - Hydrology and Hydraulics Report
  - Sanitary Sewer Analysis
- Conceptual Utility Layout (Horizontal plane)
  - Horizontal layout of drainage and sanitary facilities, including alignment, manhole covers, and other underground structures together with distance between them and direction of flow
  - Horizontal layout of pressurized utilities (LPW, RW, AWSS)
  - Dry utilities and private utilities
  - Layout of the street lighting
  - Facilities for the fire alarm and police communication system (DTIS)
- Horizontal layout of fire hydrants (to be coordinated with SFFD)

- Utility Cross Sections, showing clearances to curbs and each other
- Location and size of all required easements and rights-of-way needed to serve the above utilities
- Street Layout Plan (identify public and private streets)
  - Identify public (and private) streets
  - Proposed street sections with dimensions
- Vertical curve criteria and sight distance studies
- Turning templates for fire, bus and design vehicles
- Identify any vacation of public street or other conveyance of public property or rights-of-way which is proposed and the public entity is involved
- Traffic Operation and Circulation Plan with lane configurations
  - Transit routes and bus/shuttle stop locations/layouts
  - Bike lane cross sections
  - Parking and Loading Plan, including accessible parking and loading
- Conceptual Stormwater Control Plan layout, description and calculations
- Conceptual Phasing Study
- Identification of proposed parties responsible for ownership, maintenance, and jurisdiction, as well as the instruments for securing such responsibility and/or funding and the source of maintenance funds.

*Other items to consider including:*

- Statement of the improvements proposed to be constructed or installed and the tentative schedule for the start and completion thereof
- Identify any approval of any special use, any coastal zone or Bay Conservation and Development Commission permission, any certificate of appropriateness under Article 10 of the City Planning Code or any other permit, license or approval, other than a building, site, demolition or other permit under the Building Code, which is prerequisite to carrying out the subdivision or its proposed design or improvements
- Note any party responsible for ownership and maintenance of the actual infrastructure if that party differs from the proposed owner in fee
- Proposed connection between existing (including previous sub-phases) and proposed utilities.
  - Note any infrastructure improvements necessary to make the utility facilities operable, whether on-site or off-site, to be constructed together, and required under “adjacency” principles of the Plan
  - Mitigation measures adopted as part of CEQA approvals
  - Elements of Vertical Related Deferred Infrastructure will be identified as "Not-in Permit"

Developer and City may, as necessary or appropriate agree to modify the Basis of Design submittals as described in **Exhibit E**.