

**APPENDICES**

**G) DETAILED BACKBONE INFRASTRUCTURE CONSTRUCTION COST ESTIMATE  
SUMMARY**

# UPDATED DRAFT Backbone Infrastructure Engineer's Preliminary Construction Cost Estimate Summary

Alameda Point  
ALAMEDA, CALIFORNIA

October 31, 2013



Prepared For:



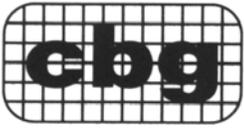
Prepared By:



**Carlson, Barbee  
& Gibson, Inc.**

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## Assumptions / Exclusions



**ALAMEDA POINT  
BACKBONE INFRASTRUCTURE  
ENGINEER'S PRELIMINARY CONSTRUCTION COST ESTIMATE  
KEY ASSUMPTIONS & EXCLUSIONS  
ALAMEDA, CALIFORNIA**

October 31, 2013  
Job No.: 1087-010

**Item Description**

**GENERAL**

- 1 This estimate is based on information available at this time. Carlson, Barbee & Gibson, Inc. (CBG) assumes no liability for changes in prices, fees or costs due to unforeseen conditions or changes required by Governing Agencies, Market Conditions, or other issues beyond the control of this office.
- 2 This estimate is based upon the Draft Master Infrastructure Plan, dated October 31, 2013. This estimate is also being prepared concurrently with the Alameda Point Planning Guide, Draft Environmental Impact Report, Zoning Amendment, Town Center & Waterfront Master Plan and Regional Transit Access Study (RTAS). This estimate is intended to be updated through the community review process of the documents listed above.
- 3 This estimate includes the construction costs of the backbone infrastructure described in the Draft MIP. All in-tract or on-site improvements interior to the development blocks are assumed to be future development costs and are excluded from this estimate.
- 4 This estimate excludes costs associated with Environmental Remediation. This estimate assumes that all environmental remediation will be completed by the Navy prior to transfer of the property to the City.
- 5 This estimate excludes the costs associated with the extension of infrastructure to the VA Project west of Monarch Street.
- 6 This estimate excludes improvements to the existing piers and wharfs in the southeast portion of the site, such as utility replacements, seismic retrofits, etc.
- 7 This estimate applies and includes a 25% contingency to all backbone infrastructure construction costs. The contingency is not applied to the soft costs.
- 8 This estimate includes Construction Administration (4%), Professional Services (15%) and Plan Check & Inspection Fees (4%). The soft costs are applied to the backbone infrastructure hard costs without contingency excluding the Regional Transit Costs which are assumed to already include soft costs.
- 9 This estimate excludes all costs associated with the maintenance and operations of the backbone infrastructure.

**DEMOLITION**

- 10 This estimate includes the costs associated with the Demolition and Abatement of the existing buildings within the Development Areas. The following typical unit costs for demolition and abatement are assumed in this estimate:
  - Single Family Residential Structures = \$50,000 per structure
  - Multi-Family Residential Structures = \$100,000 per structure
  - Industrial / Warehouse Structures (*north of W. Atlantic Ave*) = \$7.50 per square foot
  - Industrial / Warehouse Structures (*south of W. Atlantic Ave*) = \$15 per square foot
- 11 This estimate assumes the existing utilities within the public right of ways will be removed. The existing utilities within the Development Parcels are assumed to be 50% slurry filled and 50% removed.
- 12 This estimate assumes the existing on-site concrete and pavement materials will be processed and reused on-site for future street base rock, utility trench backfill and other uses as approved by the City and project geotechnical engineers.

**Item Description**

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- 13 This estimate assumes a budget of \$15M to relocate supportive housing (Alameda Point Collaborative, Building Futures for Women and Children, and Operation Dignity) to the northeast corner of the project site. This cost is included in Phase 2.

**GRADING**

- 14 This estimate assumes the Flood and Sea Level Rise Protection will be provided by the following improvements: *(Please see the enclosed exhibit depicting the Flood Protection Concept for Alameda Point)*
- Development Areas = The elevation of the development pads and streets will be elevated to be above the required elevation for flood and sea level rise protection.
  - Reuse Areas = A system of perimeter flood and sea level protection measures will be constructed including elevated sea walls, berms and revetments.
- 15 This estimate assumes the Northern Shoreline will be stabilized. The Northern Shoreline will be stabilized for all areas where Flood Protection measures are proposed within 200' of the shoreline.
- 16 This estimate includes costs for liquefaction remediation for Development Areas, roadway and utility corridors and areas within Flood Protection measures.
- 17 This estimate includes costs for importing material (\$25/CY) for the following areas:
- Flood Protection Berms & Revetments
  - Replacement of pavement and concrete within Residential Development Areas
  - Raise Development Areas that are below the Flooding Criteria *(northeast corner of site)*
  - Anticipated settlement associated with liquefaction remediation
  - Anticipated settlement associated with new structural loads within areas that previously had no structures
- 18 This estimate includes a budget to accelerate the settlement within areas where differential settlement are anticipated. This is intended to include a surcharge program and/or wick drains.

**DEWATERING**

- 19 This estimate includes costs for a dewatering operation during utility construction.
- 20 This estimate includes a budget to address contaminated groundwater that maybe encountered during construction dewatering. The budget included assumes only minor occurrences of groundwater contaminates will be encountered.

**UTILITIES**

- 21 This estimate assumes that all existing utilities within the project site will be replaced with new systems that are consistent with current codes and regulations. This includes utility replacements within the backbone streets within the Reuse Areas.
- 22 This estimate excludes the costs associated with interim rehabilitation improvements to the existing utility systems within the Reuse Areas. These interim improvements are anticipated to be completed by proposed development projects that utilize the existing utilities prior to their replacement.
- 23 This estimate assumes that utilidors will be constructed for all utilities within 50% of W. Atlantic Ave. and within the roadways south and east of Building 5.
- 24 This estimate includes budgets within each phase to maintain utility services to existing buildings and future phases throughout construction.
- 25 This estimate assumes that initial sub-phases within Phases 1 and 2 will initially connect to the existing sanitary sewer system between each phase and Pump Station 1. This estimate includes costs associated with rehabilitation improvements to this portion of the existing system, such as pipe lining. The ultimate sanitary sewer system connecting to Pump Station 1 is assumed to be constructed with subsequent phases.

**Item Description**

- 26 Sanitary sewer system must be a grid system of collection pipelines that connect the upstream pipe ends of separate sewer zones.
- 27 This estimate includes costs for point of source water quality facilities, such as roadside vegetated swales, to provide water quality treatment for the proposed streets only. All other on-site water quality solutions for the Development Areas are excluded and assumed to be on-site / in-tract costs.
- 28 This estimate assumes that the existing 115 kV poles adjacent to Main Street will remain in their existing locations.
- 29 This estimate excludes costs associated with upgrading the existing Cartwright Substation.

**ON-SITE STREET WORK**

- 30 This estimate assumes the street cross sections of the backbone roadway framework are consistent with those depicted in the Draft MIP.
- 31 This estimate includes budgets within each phase to maintain access to existing buildings and future phases throughout construction.

**TRANSPORTATION**

- 32 This estimate includes costs for the following off-site street and intersection improvements outlined in the DEIR Mitigation Measures.
- 33 This estimate excludes the costs associated with completing the Stargell Ave Widening to 4 Lanes (from Main St to 5th St) and the extension of Mitchell Ave (from Main St to the western boundary of Alameda Landing)
- 34 This estimate includes an assumed budget of \$1.75M for Off-Island Mitigations.
- 35 This estimate includes costs for the following transit costs:
- Bus Rapid Transit - Option W-2-B from the RTAS (Assumed to be constructed in Phase 2) This estimate assumes a 25% project share of the estimate from the RTAS of \$20M.
  - Shuttle Service (Assumed to be implemented in Phase 1) This estimate utilizes the initial start-up estimate cost from the RTAS of \$1M.
  - Ferry Terminal Parking Lot Expansion @ Ex Terminal (Assumed to be constructed in Phase 1)
  - Ferry Terminal New @ Seaplane Lagoon (Assumed to be constructed in Phase 2) This estimate assumes a budget of \$10M.
  - Transit Center (Assumed to be constructed in Phases 1 and 2) This estimate assumes a budget of \$1.5M.
  - Broadway / Jackson Project Share (Assumed to be spread across Phases 1 and 2) This estimate utilizes a previous estimate by others of \$4.5M.
  
  - TDM Costs (Assumed to be spread across the Phases 1 and 2) This estimate utilizes a previous estimate by others of \$4.2M.
  - Cross Alameda Trail (Assumed to be constructed in Phase 2) This estimate utilizes a previous estimate by others of \$1.9M.

**LANDSCAPING**

- 36 This estimate includes the costs associated with constructing the backbone park and open space system as outlined in the Draft MIP, unless otherwise noted below.
- 37 This estimate includes a budget of \$20M for the construction of the Sports Complex. This cost is assumed to be spread across Phases 1 and 2.
- 38 This estimate includes costs associated with improvement to approximately half of Enterprise Park. The remainder is assumed to be maintained in its existing condition or improved by others.
- 39 This estimate includes costs for constructing the Bay Trail adjacent to the project site frontages to the Sea Plane Lagoon, San Francisco Bay and Oakland Inner Harbor.

**Item Description**

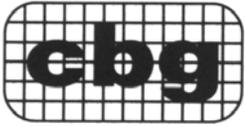
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**PUBLIC BENEFITS**

- 40 This estimate includes costs for the following public benefit costs:
- Fire Station (Assumed to be constructed in Phase 2) *This estimate assumes a budget of \$4.5M.*
  - Bay Trail NW Territories & VA Property *(Assumed to be constructed in Phase 2)*
  - Pro-Rata Share of Satellite Corporation Yard *(Assumed to be constructed in Phase 2) This estimate assumes a budget of \$1M.*
- 41 This estimate excludes costs associated with other Public Benefits, such as Enhanced Sports Complex, NW Territories Open Space, Wetland Creation / Restoration, Marina, Library, School, Sustainability Programs, etc. These Public Benefit costs are assumed to be provided by others.

# Overall Summary



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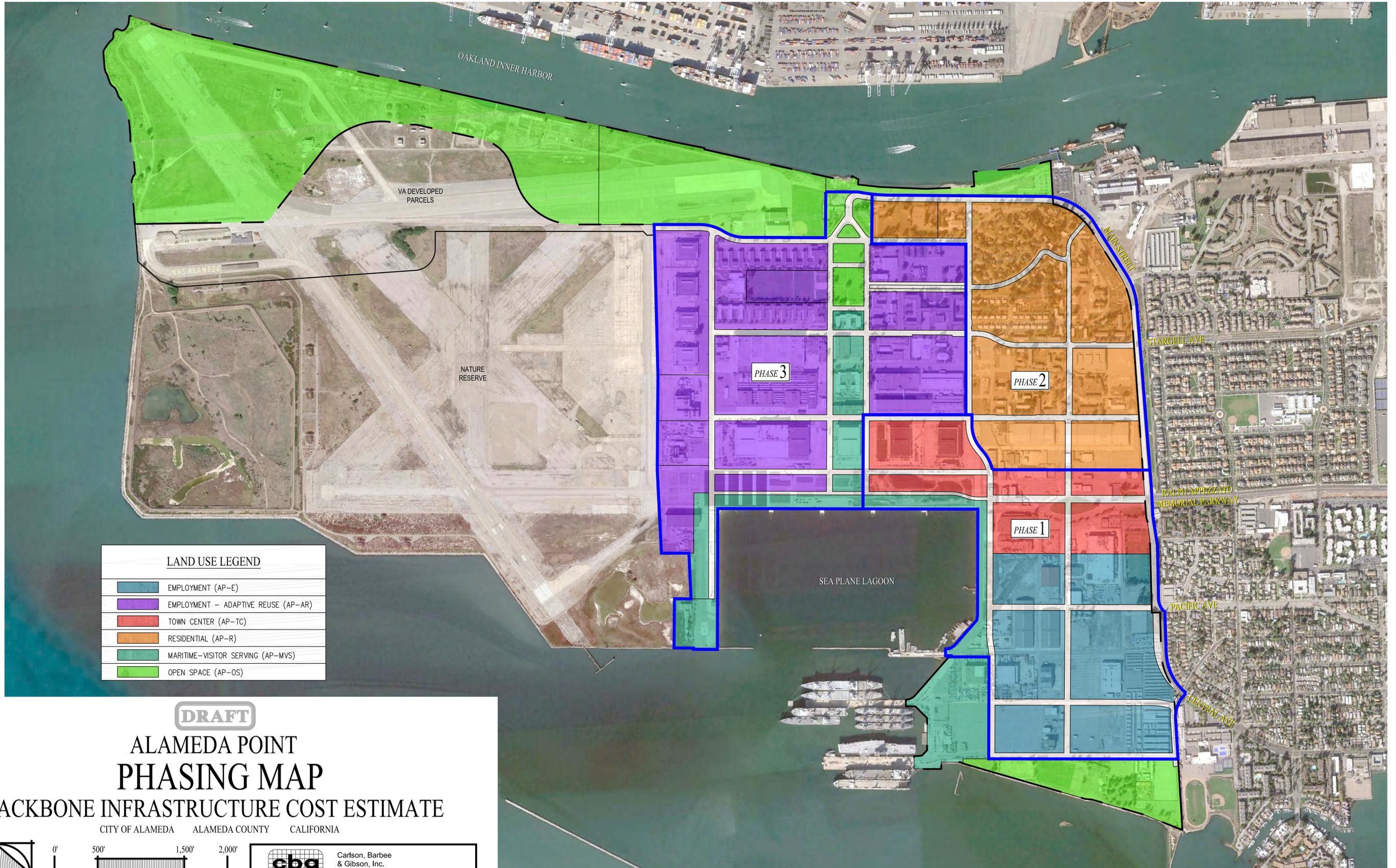
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**ALAMEDA POINT  
BACKBONE INFRASTRUCTURE  
ENGINEER'S PRELIMINARY CONSTRUCTION COST ESTIMATE  
COST ESTIMATE SUMMARY - OVERALL  
ALAMEDA, CALIFORNIA**

October 31, 2013  
Job No.: 1087-010

Description	PHASE 1	PHASE 2	PHASE 3	TOTAL
<b><u>BACKBONE INFRASTRUCTURE</u></b>				
1 DEMOLITION / SITE PREPARATION	\$ 33,919,000	\$ 42,064,000	\$ 1,946,000	\$ 77,929,000
2 ENVIRONMENTAL REMEDIATION	BY OTHERS	BY OTHERS	BY OTHERS	BY OTHERS
3 FLOOD PROTECTION AND SITE GRADING	\$ 41,483,000	\$ 40,343,000	\$ 23,573,000	\$ 105,399,000
4 DEWATERING	\$ 3,740,000	\$ 2,955,000	\$ 2,680,000	\$ 9,375,000
5 SANITARY SEWER	\$ 12,657,000	\$ 3,255,000	\$ 4,497,000	\$ 20,409,000
6 STORM DRAIN	\$ 13,325,000	\$ 8,408,000	\$ 10,250,000	\$ 31,983,000
7 POTABLE WATER	\$ 5,314,000	\$ 4,405,000	\$ 6,110,000	\$ 15,829,000
8 RECYCLED WATER	\$ 1,470,000	\$ 506,250	\$ 876,000	\$ 2,852,250
9 DRY UTILITIES	\$ 7,201,000	\$ 6,149,000	\$ 6,491,000	\$ 19,841,000
10 ON-SITE STREET WORK	\$ 23,455,000	\$ 19,904,000	\$ 13,411,000	\$ 56,770,000
11 TRANSPORTATION	\$ 10,400,000	\$ 34,206,000	\$ -	\$ 44,606,000
12 PARKS AND OPEN SPACE	\$ 28,990,000	\$ 15,898,000	\$ 20,030,000	\$ 64,918,000
13 PUBLIC BENEFITS	\$ 1,250,000	\$ 16,038,000	\$ -	\$ 17,288,000
<b>SUBTOTAL BACKBONE INFRASTRUCTURE CONSTRUCTION COST</b>	<b>\$ 183,200,000</b>	<b>\$ 194,130,000</b>	<b>\$ 89,860,000</b>	<b>\$ 467,200,000</b>
	<i>(to nearest \$10,000)</i>			
<b><u>SOFT COSTS</u></b>				
14 CONSTRUCTION ADMIN	\$ 5,862,000	\$ 6,212,000	\$ 2,876,000	\$ 14,950,000
15 PROFESSIONAL SERVICES	\$ 21,984,000	\$ 23,296,000	\$ 10,783,000	\$ 56,063,000
16 FEES	\$ 7,720,000	\$ 7,784,000	\$ 4,694,000	\$ 20,198,000
17 IMPROVEMENT ACCEPTANCE	\$ 733,000	\$ 777,000	\$ 359,000	\$ 1,869,000
<b>SUBTOTAL SOFT COST</b>	<b>\$ 36,300,000</b>	<b>\$ 38,070,000</b>	<b>\$ 18,710,000</b>	<b>\$ 93,080,000</b>
	<i>(to nearest \$10,000)</i>			
<b>TOTAL BACKBONE INFRASTRUCTURE COST</b>	<b>\$ 219,500,000</b>	<b>\$ 232,200,000</b>	<b>\$ 108,570,000</b>	<b>\$ 560,280,000</b>
	<i>(to nearest \$10,000)</i>			

# Exhibits



**LAND USE LEGEND**

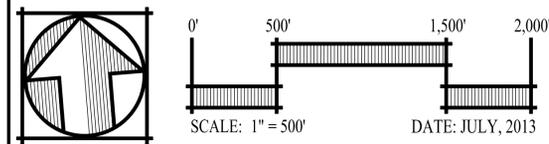
	EMPLOYMENT (AP-E)
	EMPLOYMENT - ADAPTIVE REUSE (AP-AR)
	TOWN CENTER (AP-TC)
	RESIDENTIAL (AP-R)
	MARITIME-VISITOR SERVING (AP-MVS)
	OPEN SPACE (AP-OS)

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# ALAMEDA POINT PHASING MAP

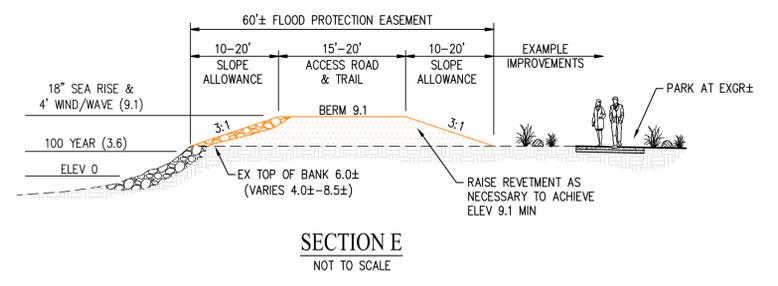
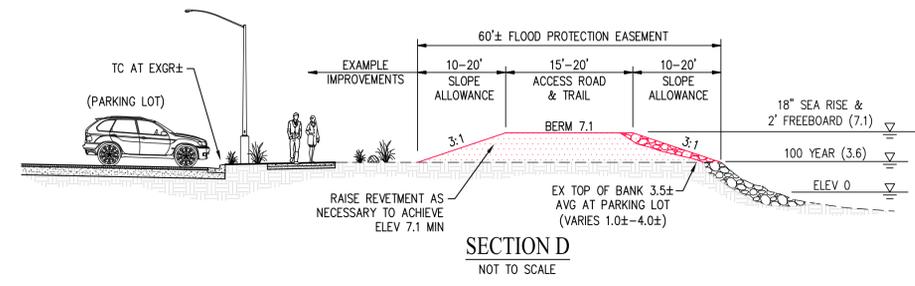
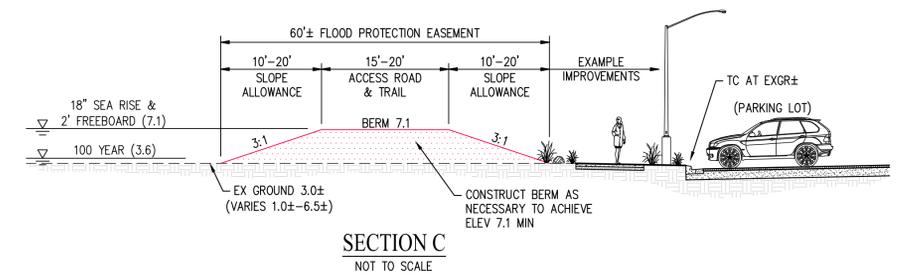
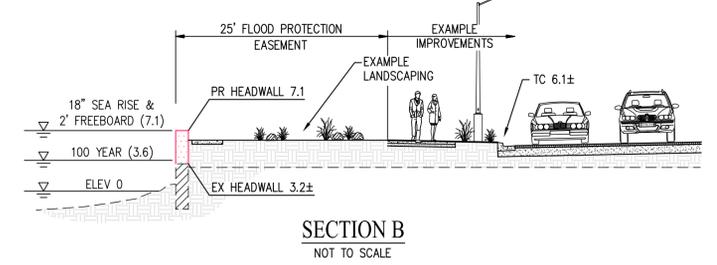
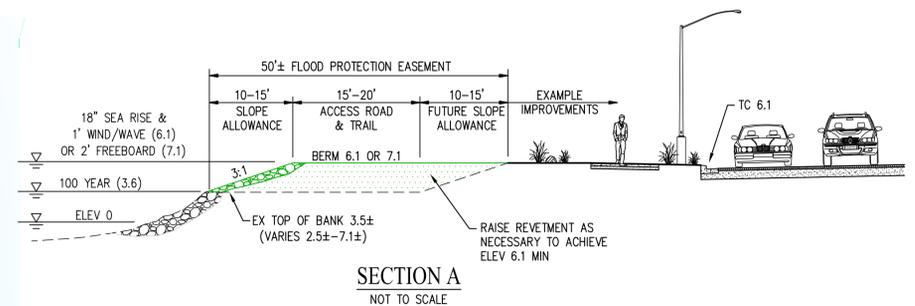
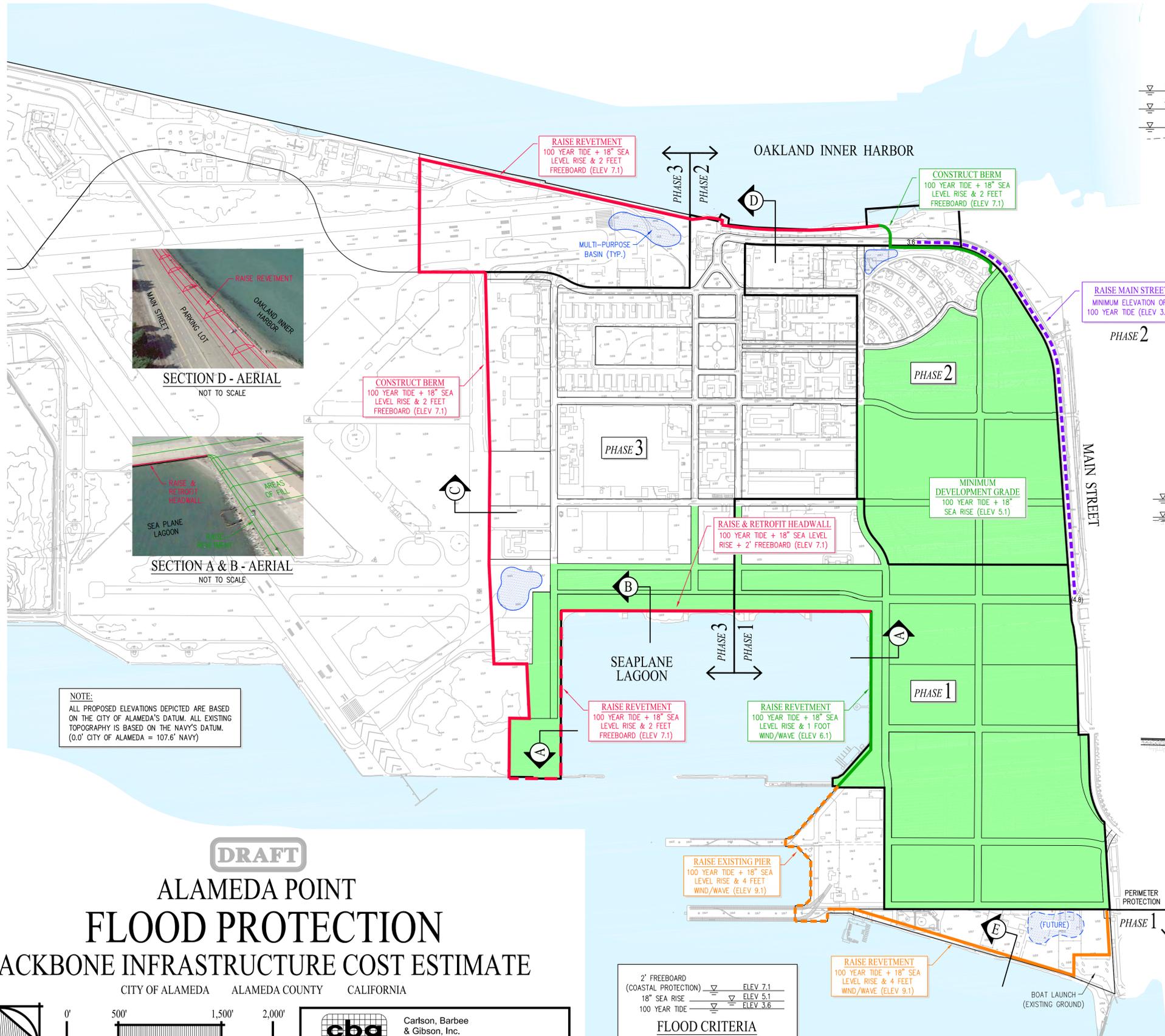
## BACKBONE INFRASTRUCTURE COST ESTIMATE

CITY OF ALAMEDA ALAMEDA COUNTY CALIFORNIA



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NOTE:  
 ROADWAY FRAMEWORK IS BASED UPON THE  
 PRELIMINARY DEVELOPMENT CONCEPT (PDC)

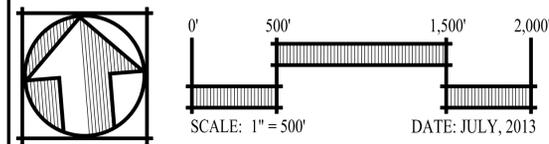


NOTE:  
ALL PROPOSED ELEVATIONS DEPICTED ARE BASED ON THE CITY OF ALAMEDA'S DATUM. ALL EXISTING TOPOGRAPHY IS BASED ON THE NAVY'S DATUM. (0.0' CITY OF ALAMEDA = 107.6' NAVY)

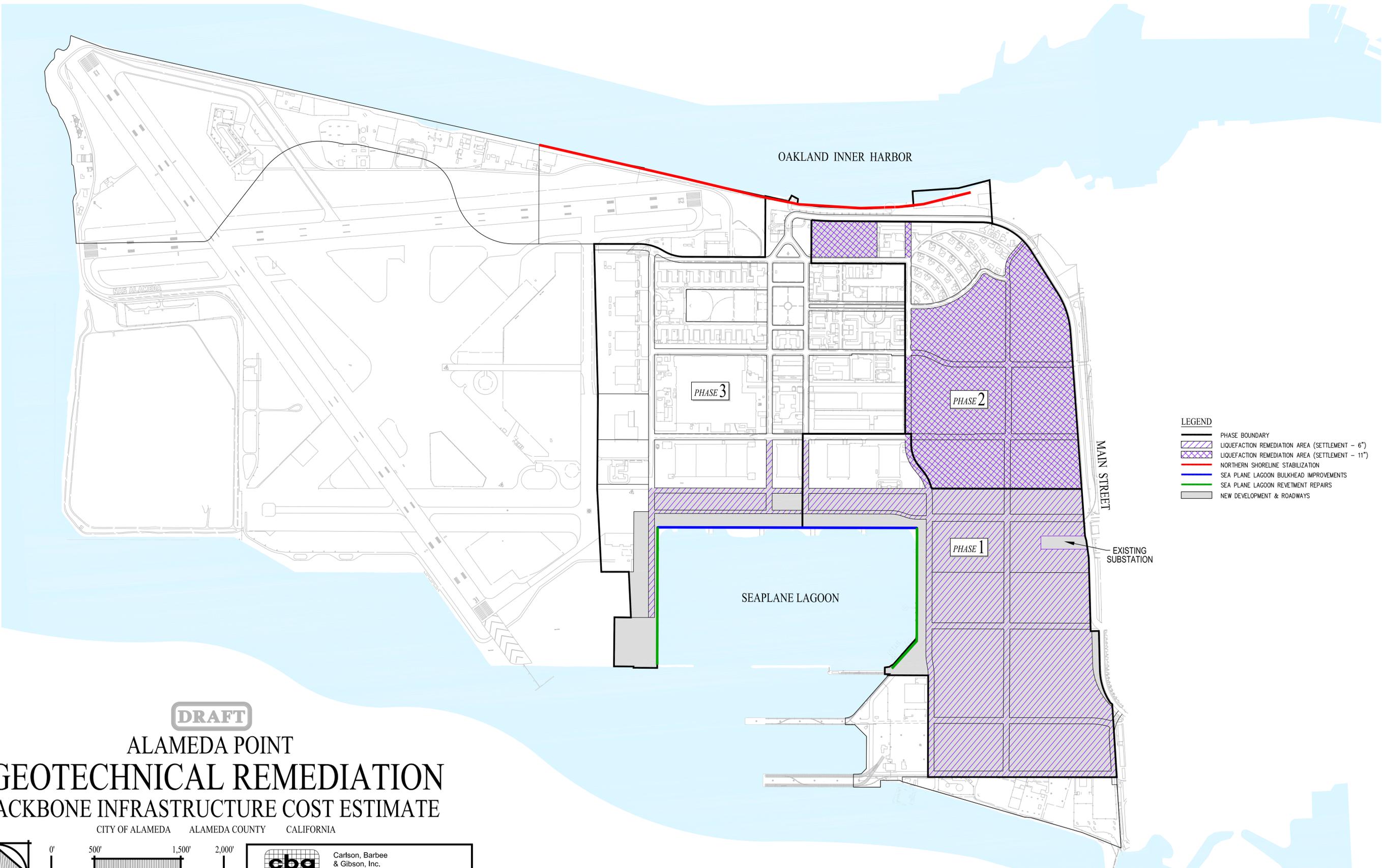
FLOOD CRITERIA	
CITY OF ALAMEDA DATUM	
2' FREEBOARD (COASTAL PROTECTION)	ELEV 7.1
18" SEA RISE	ELEV 5.1
100 YEAR TIDE	ELEV 3.6

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ALAMEDA POINT  
FLOOD PROTECTION  
BACKBONE INFRASTRUCTURE COST ESTIMATE

CITY OF ALAMEDA ALAMEDA COUNTY CALIFORNIA



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- LEGEND**
- PHASE BOUNDARY
  - LIQUEFACTION REMEDIATION AREA (SETTLEMENT - 6")
  - LIQUEFACTION REMEDIATION AREA (SETTLEMENT - 11")
  - NORTHERN SHORELINE STABILIZATION
  - SEA PLANE LAGOON BULKHEAD IMPROVEMENTS
  - SEA PLANE LAGOON REVETMENT REPAIRS
  - NEW DEVELOPMENT & ROADWAYS

MAIN STREET

EXISTING SUBSTATION

OAKLAND INNER HARBOR

SEAPLANE LAGOON

PHASE 3

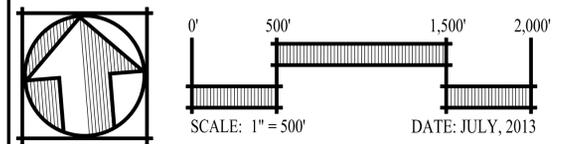
PHASE 2

PHASE 1

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# ALAMEDA POINT GEOTECHNICAL REMEDIATION BACKBONE INFRASTRUCTURE COST ESTIMATE

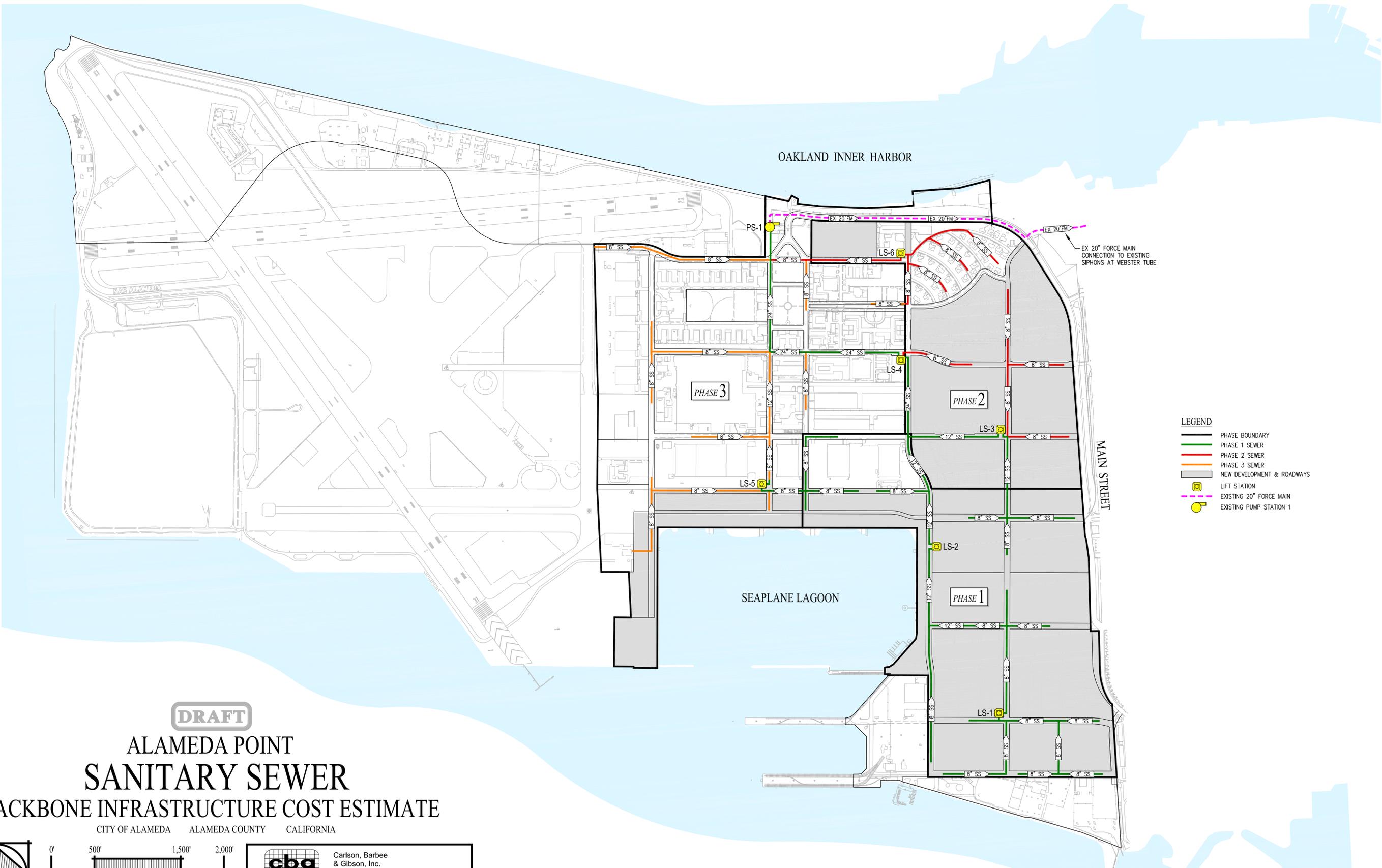
CITY OF ALAMEDA ALAMEDA COUNTY CALIFORNIA



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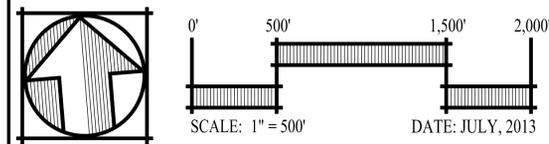
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**DRAFT**

# ALAMEDA POINT SANITARY SEWER BACKBONE INFRASTRUCTURE COST ESTIMATE

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- LEGEND**
- PHASE BOUNDARY
  - PHASE 1 SEWER
  - PHASE 2 SEWER
  - PHASE 3 SEWER
  - NEW DEVELOPMENT & ROADWAYS
  - LIFT STATION
  - EXISTING 20" FORCE MAIN
  - EXISTING PUMP STATION 1