



City of East Palo Alto Proposition 1E IRWM Stormwater Flood Management Grant Application Runnymede Storm Drain Phase II and O'Connor Pump Station Outfall Project

Attachment 3 – Work Plan

Attachment 3 is mandatory. See Exhibit A for detailed guidance on preparing this attachment. There is no page limitation for Attachment 3; however, applicants are encouraged to be clear and concise.

The Work Plan contains summary descriptions of all the projects constituting the Proposal and tasks necessary to complete each project in the Proposal. The Work Plan must be sufficiently detailed to demonstrate that the Proposal is ready for implementation, and should include a brief discussion of the supporting studies, data and resources for each project, to ensure implementation of the proposal is based on sound scientific and technical principles. Deliverables should be identified in the Work Plan. The Work Plan tasks should also be consistent with the major tasks and sub-tasks identified in the Budget (Attachment 4) and Schedule (Attachment 5). Refer to Exhibit A for an outline of tasks that will also meet the major tasks listed in the Budget in Exhibit B.

Introduction and Project Description

Documented flooding within the City of East Palo Alto (City), shown on Figure 3-1, has been occurring since the 1940s with the most damaging occurrences when heavy rainfall results in overtopping of San Francisquito Creek. The City is at the flattest, most downstream end of the 47 square mile (30,100 acre) San Francisquito Creek watershed, and, even relatively frequent rainfall events can cause localized flooding especially when they coincide with high tide events because the levees protecting the City and tidal waters can circumvent or overtop the levees. In January 1973, a 5-year storm occurred concurrent with a 1-percent annual tidal event resulting in flooding as did an event on December 19, 2010 which is estimated to be a 1-year storm event with a high tide of about 9.7 feet mean high water (MHHW).

One of the more significant flooding events in recent history occurred on February 2-3, 1998, when San Francisquito Creek overbanked at numerous locations in San Mateo and Santa Clara Counties, which lead to widespread flooding in the Cities of East Palo Alto, Palo Alto and Menlo Park. The preliminary estimate from City officials was that East Palo Alto suffered \$12.1 million worth of property damage (approximately \$17 million in today's dollars), including 50 homes destroyed and 105 others suffering major damage. About 500 other homes were damaged, but not as extensively. Thirty businesses were damaged, and 32 cars had to either be destroyed or undergo major repairs. The flooding in the City was the result of both the creek overtopping as well as local drainage issues. The flowrate at the USGS streamflow station near the Stanford golf course was estimated by the USGS to be between 6,500 cfs and 8,000 cfs. This is the highest flowrate ever recorded at that station since its installation in the 1930s. The previous historic record was 5,560 cfs in 1955. USGS records indicate that this flood was a 2-percent annual chance flood (i.e. approximately 50-year recurrence interval).

Since the 1998 flood, the San Francisquito Creek Joint Powers Authority (SFCJPA) was formed and is working on or has completed several projects including raising the associated levees and other projects to help accommodate flows from a 100-year return interval event and to accommodate the high tide (up to the 100-year) events while including the likely effects of sea level rise.

In concert with the activities of the SFCJPA, the City has been working on projects to improve the local drainage system. Prior to 1983, East Palo Alto was an unincorporated community whose public facilities, including storm drainage facilities were managed by San Mateo County. These storm drainage facilities evolved over time without a long-range plan. Figure 3-2 shows the existing storm drainage system layout. The majority of this system drains to the eastern portion of the City where the most serious flooding has occurred. This is adjacent to San Francisquito Creek. There are two



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principal drainage systems in this area. The southern portion of this drainage area (roughly from Highway 101 to O'Connor and from University Avenue to San Francisquito Creek which is hard piped directly to the O'Connor Pump Station (PS) where it is discharged to San Francisquito Creek. The remaining area that is much larger and includes that portion of the City south of Highway 101 flows north to Runnymede Avenue and then east to the Runnymede Outfall where it discharges to San Francisco Bay.

At the Runnymede Outfall there is a diversion structure. During low tide the discharge goes directly to the Bay. However during high tide, the tide valves close and the flow is diverted to an earthen channel (South Channel) and flows to a detention pond that serves as a forebay to the O'Connor PS. Storm water is then pumped to San Francisquito Creek. It is to be noted that there is an overflow from the O'Connor PS wet well to this detention pond that diverts storm water if the pump station is unable to handle the flood waters which is the case when the existing levee is overtopped.

In addition there are some small local storm drains between the Runnymede Outfall and the O'Connor PS that discharge directly to the South Channel through bubble ups.

The combination of high tide, a high rainfall event, and high flows in San Francisquito Creek results in flood waters backing up into the Runnymede system due to inadequate carrying capacity in the South Channel and causing localized flooding in that portion of East Palo Alto from the San Francisquito Creek levee to Clark Street and from O'Connor Street to Runnymede Street. This area is shown on Figure 3-1.

To address this problem the City has developed the Runnymede Storm Drain and O'Connor PS outfall project which was subsequently divided into two projects, Phase I and Phase II. The principal reason why this project was split into two phases was that it was determined that the South Channel was a wetlands and a critical habitat. This resulted in the development of extensive environmental mitigation measures that increased the overall project cost and resulted in significant time delays associated with permitting. These two phases are described in more detail below. See Attachment 3, 2 of 2, for the plans showing both Phase I and Phase II. Phase I has been constructed.

The Runnymede Storm Drain Improvement Projects were separated into two phases, each of which have been treated and permitted as separate projects. Phase I involved the installation of a box culvert at the northern end of the of the Runnymede channel where stormwater emerges from underground culverts. This structure allows for direct stormwater discharge to the Bay during low tides through twin 48" diameter TideFlex backflow valves connected to the box culvert outfall at the end of Runnymede Street and diverts water to the conveyance channel and O'Connor Pump Station during high tides through the bypass structure on the box culvert. See Figure 3-2.

The TideFlex valves allow stormwater to discharge directly to the marshes upstream of San Francisco Bay, when the tides are less than elevation 7.6'. As the tide elevation increases, the discharge capacities of the TideFlex valves are reduced until the head of the runoff cannot overcome the head produced by the tide, in which case the valves are no longer able to discharge any stormwater and the flow must be diverted to the South Channel. However, the South Channel does not have adequate carrying capacity since it has become overgrown with vegetation and water backs up in the channel and surfaces in the City as storm drain manholes and catch basins over flow.



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Runnymede Phase II involves excavating and widening the approximately 2,100 foot drainage channel along the length of the Project Area as well as the detention basin at the southern end of the Project Area. Approximately 13,000 cubic yards of material will be excavated from the combined areas and these excavated spoils will be used to create a small berm for added flood protection along the western side of the drainage channel and detention basin as well as increasing the capacity of the channel to account for a 100 year event.

Currently there is no berm separating the existing channel from City streets and private property. This newly constructed berm will rise to approximately +7 feet in elevation and will be 14 feet wide. Existing footpaths over the drainage channel will be upgraded to cross over new corrugated metal 54-inch to 60-inch culverts (they currently are boards that are not secured), and a new footpath with several culverts will be installed to improve community access to the Baylands walking and biking trails. The Runnymede Storm Drain Phase II and O'Connor Pump Station Outfall Project will complete the City's previously begun improvements, and assist in implementation of East Palo Alto's local plan to increase flood protection in the project area.

The project will also repair the O'Connor Pump Station outfall structure that discharges stormwater to San Francisquito Creek. The floor of the outfall structure has settled differentially over its lifespan causing cracks which prevent the outfall from functioning properly. The floor of the outfall structure will be repaired by pressure injecting grout under the slab which will elevate the slab to its original orientation. Additional bank stabilization is proposed around the outfall to prevent scour and protect the structure from future erosion.

The anticipated cost for the Runnymede Storm Drain Phase II and O'Connor Pump Station Outfall Project including construction, design, PM, inspection, administration, and environmental compliance is \$1,527,508. The 56% local project share of \$859,555 will be financed from funds available from the United States Environmental Protection Agency. The remaining 44% of the total cost, \$667,953 is being submitted for this Prop 1E IRWM Stormwater Flood Management grant.

Project Benefits

Primary Benefit- Flood Damage Reduction (FDR)

- *Increased Stormwater conveyance capacity to San Francisquito Creek*
 - Currently, the conveyance channel lacks the capacity to adequately convey stormwater to the detention pond at the southern end of the project site, resulting in flooding of the residential areas of East Palo Alto between Runnymede Street and O'Connor Street. By removing vegetation and sediment to increase the capacity of the conveyance channel and detention pond, the O'Connor Pump Station will be able to discharge a higher volume of stormwater to San Francisquito creek which in turn will reduce flooding as a result of stormwater events. Increasing the elevation of the conveyance berm will increase the channel capacity for a 100-year event.



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- *Increased Residential Flood Protection and Reduced flood inundation area and depths*
 - By constructing a berm to the west of the conveyance channel, the residential area adjacent to the berm will have added flood protection. The berm will protect the surrounding area as well as increase the channel's capacity to convey a 100-year event. Given any frequency storm event which delivers stormwater runoff, the increased conveyance capacity of the improved channel and the increased capacity of the detention pond will reduce the area of inundation and result in lower water levels than current conditions.

Secondary Benefit- Increased recreation and public use

- Access to the newly created flood protection berm and footpath will create another recreational opportunity for the public to use for activities such as walking, running, or wildlife watching.

Secondary Benefit- Increased local property values

- Local property values are anticipated to increase as a result of the reduced flood risk, resulting from both the Runnymede Phase II project as well as the regional SFCJPA projects.

Secondary Benefit- Protection of O'Connor Pump Station Outfall

- Differential settlement is damaging the existing outfall structure. Continued undermining will lead to the eventual failure of this structure and subsequent bank erosion and associated environmental damage.

Secondary Benefit- Protection of existing road infrastructure

- Extend saturation of road ways from standing water as occurs in flood events will increase the rate of deterioration of the asphalt and road base. Reducing the flooding, especially from frequent storm events, will extend the longevity of the roads and reduce the costs to the City and its citizens.

Secondary Benefit- Improved Wetlands Ecosystem

- The wetlands will be revegetated and restored as salt marsh habitat following construction completion. In addition, environmental documentation requires additional restoration of wetlands as mitigation for the construction. The location of these wetlands to be restored and the acreage required will be determined as the CEQA/NEPA process continues and agency input is received.

Goals and Objectives

The overall goal of the Runnymede Storm Drain Phase II and O'Connor Pump Station Outfall Project is to complete a two phased project that reduces local residential flooding by increasing stormwater conveyance capacity in the existing stormwater channel. This project works in concert with the broader regional San Francisquito Creek project sponsored by the SFCJPA.

The objectives of the Runnymede Storm Drain Phase II and O'Connor Pump Station Outfall project are to:



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- Improve flood protection for the residential areas in the eastern portion of East Palo Alto.
- Increase flood protection by constructing a new berm from excavated sediment and reduce the area of inundation in the case of extreme rainfall events.
- Improve the conveyance capacity of the drainage channel by excavating sediment that has built-up in the channel over the years and replacing existing culverts larger diameter culverts.
- Increase the capacity of the detention pond
- Protect the structural integrity of the O'Connor Pump Station.
- Conduct ecosystem restoration in affected project areas, as well as offsite environmental mitigation.
- Provide additional public access to wildlife and recreation areas

The Runnymede Storm Drain Phase II and O'Connor Pump Station Project will repair and make improvements to the existing stormwater conveyance system in the eastern portion of East Palo Alto which will reduce the potential for flooding residential areas of East Palo Alto. In making these improvements, the system will be more efficient in conveying and pumping stormwater runoff to San Francisquito Creek and reducing the area of inundation for larger storm events. In turn, there will be relatively less property damage in flood events than there would be with existing conditions.

Purpose and Need

The purpose of the Runnymede Storm Drain Phase II and O'Connor Pump Station Project proposal is to improve flood protection and practice integrated flood management. The project is needed to help the City of East Palo Alto to better protect low-laying residential areas in the eastern portion of the city as well as to meet local, regional, and statewide priorities of practicing integrated flood management. As the drainage conveyance channel and detention pond currently exist, there is an increased possibility of flooding in the residential areas in the eastern portion of East Palo Alto because the channel has not been maintained over the years resulting in sediment build-up and vegetative growth that has reduced the conveyance capacity to discharge storm runoff into San Francisquito Creek.

The City has taken over these facilities from San Mateo County because they had been neglected and were not protecting the City as designed. This transfer of the facilities from San Mateo County to the City was completed in 2005. This project is needed in order to reduce the risk of flooding due to the lack of conveyance capacity and to better protect the residential areas of East Palo Alto from damages as the result of flooding.

Project List

No other projects are being listed in this proposal.

Integrated Elements of Projects

While this is a stand-alone project for the purposes of this Prop 1E Grant application, it does integrate well with the broader regional flood risk reduction project in process by the SFCJPA. The San Francisquito Creek project reduces the risk of flood from the creek overtopping which happens during



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large storm events by addressing the condition and protection offered by the levees. The City's Runnymede Phase I and II projects address the local drainage capacity issues and reduces the risk of flood from more frequent flood events. The SFCJPA and City projects integrate to provide the City with flood protection from both large, in frequent and smaller, more frequent storm events.

Regional Map

A Regional map is provided on Figure 3-1

Completed Work

A hydraulic assessment and 30% Design Plans were prepared for the City of East Palo Alto in 2009. These plans covered the initial improvements and 30% of the south conveyance channel improvements and are attached as Exhibit 3-1. The construction portion of Phase I of the Runnymede Storm Drain Improvements Project was completed in November of 2010. The Phase I construction consisted of the installation of a box culvert/diversion structure and TideFlex valves at the northern end of the Project Area where storm water emerges from the underground Runnymede storm drain system to either be discharged to the bay or diverted toward the O'Connor Pump Station during high tides.

Before the Runnymede Storm Drain Phase II and O'Connor Pump Station Outfall project begins, environmental studies and documents will be prepared to meet CEQA/NEPA requirements. These documents are currently in draft form with an anticipated completion date of April 30, 2013. All permits will be obtained prior to the construction improvements as well as completing the preliminary design.

Existing Data and Studies

The following project drawings and reports were studied during the research stage of this project:

1. Report on Flooding and Flood Related Damages In Santa Clara County, Santa Clara Valley Water District, February 1998
2. BKF Engineers, Draft Storm Drain Master Plan, 2003
3. East Palo Alto Bay Access Master Plan, May 2007
4. Wilsey Ham, Letter to City of East Palo Alto: Runnymede Street Storm Drain Deficiencies, July 2009
5. U.S. Army Corps of Engineers Wetlands Delineation Study, January 2011
6. Cooley Landing Project Biological Assessment, December 2010
7. Federal Emergency Management Agency (FEMA), Flood Insurance Study, San Mateo County and Incorporated Areas, October 2012
8. Wilsey Ham, 30% Design for Runnymede Phase II Project, 2012 (provided as Exhibit 3-1)

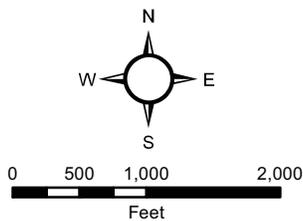
Projects Map

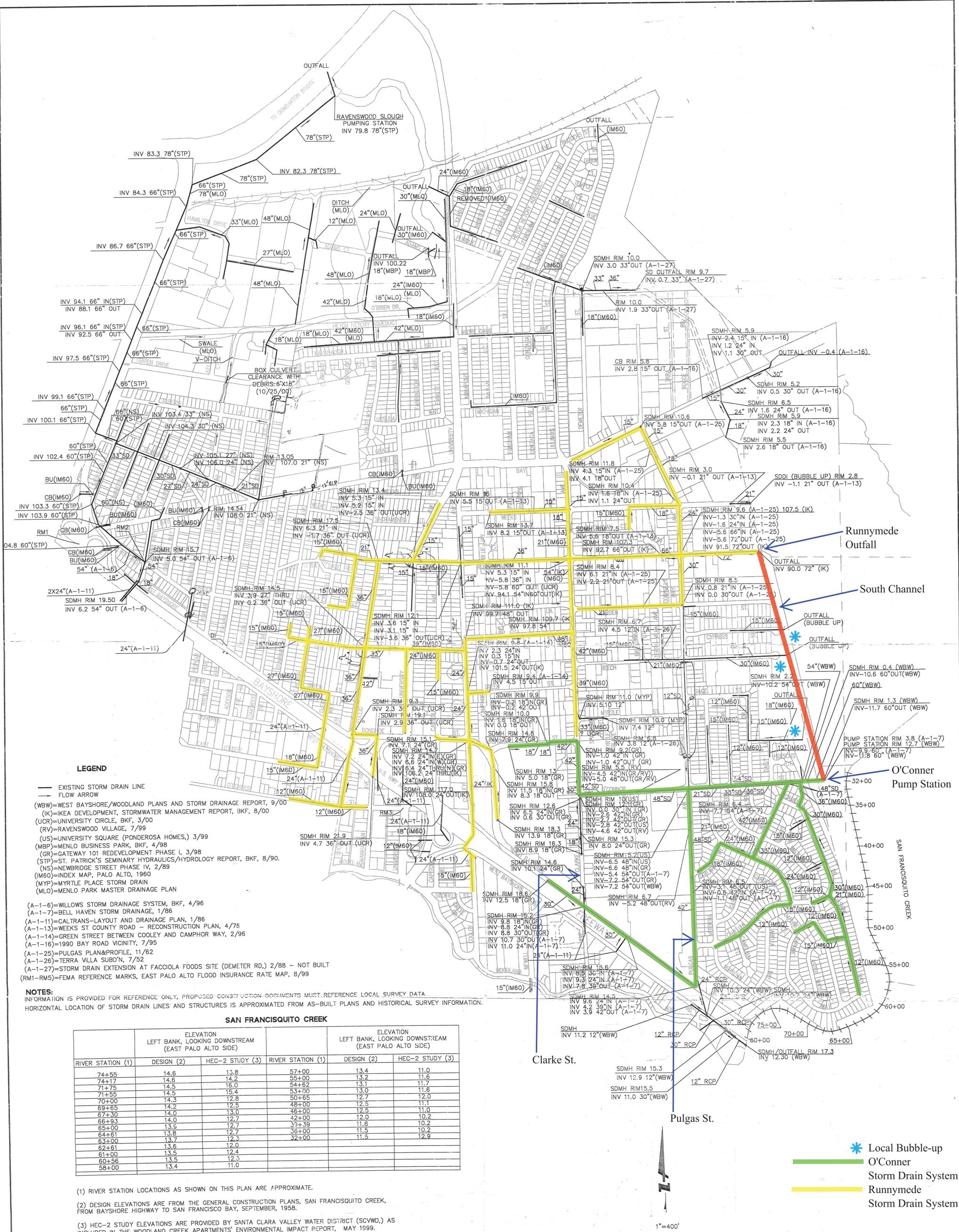
See Figures 3-1 and 3-2 on the following pages.



Figure 3-1. Project Area Location Map

Runnymede Site
 East Palo Alto, California





LEGEND

- EXISTING STORM DRAIN LINE
- FLOW ARROW
- (WBW)=WEST BAYSHORE/WOODLAND PLANS AND STORM DRAINAGE REPORT, 9/00
- (IK)=IKEA DEVELOPMENT, STORMWATER MANAGEMENT REPORT, BKF, 8/00
- (UCR)=UNIVERSITY CIRCLE, BKF, 3/00
- (RV)=RAVENSWOOD VILLAGE, 7/99
- (US)=UNIVERSITY SQUARE (PONDEROSA HOMES), 3/99
- (MBP)=MENLO BUSINESS PARK, BKF, 4/98
- (GR)=GATEWAY 101 REDEVELOPMENT PHASE I, 3/98
- (STP)=ST. PATRICK'S SEMINARY HYDRAULICS/HYDROLOGY REPORT, BKF, 8/90.
- (NS)=NEWBRIDGE STREET PHASE IV, 2/89
- (IM60)=INDEX MAP, PALO ALTO, 1960
- (MYP)=MYRTLE PLACE STORM DRAIN
- (MLO)=MENLO PARK MASTER DRAINAGE PLAN
- (A-1-6)=WILLOWS STORM DRAINAGE SYSTEM, BKF, 4/96
- (A-1-7)=BELL HAVEN STORM DRAINAGE, 1/86
- (A-1-11)=CALTRANS-LAYOUT AND DRAINAGE PLAN, 1/86
- (A-1-13)=WEEKS ST COUNTY ROAD - RECONSTRUCTION PLAN, 4/78
- (A-1-14)=GREEN STREET BETWEEN COOLEY AND CAMPOR WAY, 2/96
- (A-1-16)=1990 BAY ROAD VICINITY, 7/95
- (A-1-25)=PULGAS PLAN&PROFILE, 11/62
- (A-1-26)=TERRA VILLA SUBDN, 7/52
- (A-1-27)=STORM DRAIN EXTENSION AT FACCIOLA FOODS SITE (DEMETER RD.), 2/88 - NOT BUILT
- (RM1-RM5)=FEMA REFERENCE MARKS, EAST PALO ALTO FLOOD INSURANCE RATE MAP, 8/99

NOTES:
 INFORMATION IS PROVIDED FOR REFERENCE ONLY. PROPOSED CONSTRUCTION DOCUMENTS MUST REFERENCE LOCAL SURVEY DATA.
 HORIZONTAL LOCATION OF STORM DRAIN LINES AND STRUCTURES IS APPROXIMATED FROM AS-BUILT PLANS AND HISTORICAL SURVEY INFORMATION.

SAN FRANCISQUITO CREEK

ELEVATION LEFT BANK, LOOKING DOWNSTREAM (EAST PALO ALTO SIDE)			ELEVATION LEFT BANK, LOOKING DOWNSTREAM (EAST PALO ALTO SIDE)		
RIVER STATION (1)	DESIGN (2)	HEC-2 STUDY (3)	RIVER STATION (1)	DESIGN (2)	HEC-2 STUDY (3)
74+55	14.6	13.8	57+00	13.4	11.0
74+17	14.6	14.2	55+00	13.2	11.6
71+75	14.5	16.0	54+62	13.1	11.7
71+55	14.5	15.4	53+00	13.0	11.6
70+00	14.3	12.8	50+65	12.7	12.0
69+65	14.2	12.5	48+00	12.5	11.1
67+30	14.0	13.0	46+00	12.0	10.2
66+93	14.0	12.7	39+39	11.8	10.2
65+00	13.9	12.7	36+00	11.5	10.2
64+00	13.6	12.3	32+00	11.5	12.9
62+61	13.7	12.3			
61+00	13.5	12.4			
60+56	13.5	12.3			
58+00	13.4	11.0			

(1) RIVER STATION LOCATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE.
 (2) DESIGN ELEVATIONS ARE FROM THE GENERAL CONSTRUCTION PLANS, SAN FRANCISQUITO CREEK, FROM BAYSHORE HIGHWAY TO SAN FRANCISCO BAY, SEPTEMBER, 1958.
 (3) HEC-2 STUDY ELEVATIONS ARE PROVIDED BY SANTA CLARA VALLEY WATER DISTRICT (SCVWD), AS INCLUDED IN THE WOODLAND CREEK APARTMENTS' ENVIRONMENTAL IMPACT REPORT, MAY 1999.

FIGURE 3-2
 CITY OF EAST PALO ALTO, CALIFORNIA
 STORM DRAIN MASTER PLAN
 SYSTEM LAYOUT
 02/05/2001





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Project Timing and Phasing

The preliminary design, CEQA documentation, and permitting, is anticipated to be completed by April 30, 2013. The preparation of final plans, specifications, cost estimates, and bid documents for bidding are anticipated to begin upon certification of the CEQA/NEPA documents and will have 4 month duration with a completion date of July 15, 2013. Design review involves in-house review and review by appropriate regulatory agencies (i.e. City of East Palo Alto, US Fish and Wildlife, Regional Water Quality Control Board, etc.) It is anticipated that the project will be advertised, East Palo Alto will receive bids, and a contract will be awarded by September 15, 2013.

The Runnymede Storm Drain Phase II and O'Connor Pump Station Outfall Project would be constructed over the course of 16.5 months. Construction activities are anticipated to begin in mid-September 2013, and be completed by January 31, 2015. Construction scheduling is contingent on wet season and/or biological constraints. The list below gives an estimated timeframe for the construction tasks:

Project Items	Anticipated Dates	Anticipated Duration
90% Design, Final Design, SWPPP, Cost Estimates, and Bid Documents	04/29/2013 – 08/15/2013	4 months
Advertise and Award Contract	08/15/2013 – 09/18/2013	1 months
Repair O'Connor Station Outfall	09/15/2013 – 01/31/2014	4.5 months
Conveyance channel capacity improvements and berm construction	09/19/2013 – 01/30/2015	16.5 months
Detention Pond capacity improvements and berm construction	09/19/2013 – 01/30/2015	16.5 months
Project Total	04/29/13 – 02/01/2015	22.5 months

Note: Start date based on completion of CEQA/NEPA documentation

I) Proposed Work

Tasks necessary to construct/implement the Runnymede Storm Drain Phase II & O'Connor Pump Station Outfall Project are described in Table 1:



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Table 1. Work Plan for Runnymede Phase II and O'Connor Pump Station Outfall Project

Budget Category (a): Direct Project Administration Costs
<p>Task 1: Administration Description: Prepare and submit Grant invoices.</p> <p>Deliverables: Invoices.</p>
<p>Task 2: Labor Compliance Program Description: Perform labor compliance in accordance with the requirements of California Labor Code §1771.5(b).</p> <p>Deliverables: Execution of labor compliance program; documentation furnished to DWR as requested.</p>
<p>Task 3: Reporting Description: Prepare quarterly and final reports as specified in the Grant Agreement.</p> <p>Deliverables: Quarterly and final reports as specified in the Grant Agreement.</p>
<p>Task 4: Assessment and Evaluation Description: A Project Assessment and Evaluation Plan, Monitoring Plan, will be prepared and submitted to DWR.</p> <p>Deliverables: Monitoring Plan, as appropriate.</p>
Budget Category (b): Land Purchase/Easement
<p>Task 5: Right-of-Way Acquisition Description: A land easement from Pacific Gas and Electric will need to be obtained because the new berm from the excavated spoils will be constructed within PG&E's existing utility corridor.</p> <p>Deliverables: Copy of the agreement between the City of East Palo Alto and PG&E</p>



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<p>Budget Category (c): Planning/Design/Engineering/Environmental Documentation</p>
<p>Task 6: Preliminary Design The Preliminary Design (30% Design) was completed and includes the following topics:</p> <ul style="list-style-type: none">• Site specific topographic survey• General and Construction Notes• Approximate utility locations• Conveyance Channel and Detention Pond Plans and Profiles• Conveyance capacity and flood protection berm location and dimensions• Culvert materials and locations• System Hydraulic Assessment• Crossing and Potential Interfering Utilities• Appurtenances, including culverts and headwalls,• Environmental Permitting and Regulations• Approximate Implementation Schedule• Preliminary Cost Opinion <p>Deliverables: Completed Preliminary Design Report (30% Design Plans) found in Exhibit 3-1.</p>
<p>Task 7: Environmental (NEPA/CEQA) Documentation Description: The City of East Palo Alto will prepare the Final Initial Study/Mitigated Negative Declaration, and the City of East Palo Alto's council members will certify the document. All required NEPA/CEQA documentation will be prepared and approved before the 90% design begins. This is expected to be completed before Final Design commences (approximately April 26, 2013).</p> <p>Deliverables: Certified Final Initial Study/Mitigated Negative Declaration.</p>
<p>Task 8: Design Description: The design engineer will prepare plans and specifications to construct the Runnymede Storm Drain Phase II and O'Connor Pump Station Outfall Project. Plans and specifications will be prepared at the 90 percent and final design completion levels using the preliminary 30% Design. At each stage of completion, City of East Palo Alto staff and outside technical experts will provide technical review and QA/QC of the plans and specifications.</p> <p>Deliverables: Final Plans and Specifications for bidding.</p>
<p>Task 9: Permitting Description: The following permits will be obtained prior to the start of construction:</p> <ul style="list-style-type: none">• U.S. Army Corps of Engineers Section 404 Permit• Regional Water Board Section 401 Water quality Certification• California Department of Fish and Wildlife (formerly Fish and Game) Section 1602 Lake and Streambed Alteration• U.S. Fish and Wildlife Section 7 (Endangered Species Act) Biological Opinion• San Francisco Bay Conservation and Development Commission minor permit. <p>Deliverables: Copies of permits (to be provided as part of the Final Specifications).</p>



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<p>Budget Category (d): Construction/Implementation</p> <p>Task 10: Construction Description: Once design is completed and all permits are secured, the Runnymede Storm Drain Phase II and O'Connor Pump Station Outfall Project will be advertised for bidding through standard City of East Palo Alto procedures. The City of East Palo Alto will hold a pre-bid meeting and respond to questions from contractors, open and review bids for completeness and determine whether the contractors meet the experience requirements, and award the projects to the responsible bidder with the lowest bid in accordance with the Public Contract Code. Once the project has been bid and awarded, the contractor(s) will install mitigation and temporary protection measures, restore the O'Connor Pump Station Outfall, improve the Runnymede Channel Conveyance and Capacity by dredging/excavating the channel and pond and building the flood protection berm, improve associated structures, culverts, and headwalls. The excavation is estimated to be in excess of 13,000 cubic yards, and the construction of the berm will require over 5,000 cubic yards of the dried dredge spoils. Toward the end of construction, the channel, pond, and affected surrounding areas will be revegetated and restored using the proper salt marsh and pickleweed seed mixes and plants.</p> <p>Deliverables: Notice of Award issued to Contractor, submittals (including required product data sheets, shop drawings, installation manuals, analytical data, etc.) record drawings, construction photos.</p>
<p>Budget Category (e): Environmental Compliance/Mitigation/Enhancement</p> <p>Task 11: Environmental Compliance/Mitigation/Enhancement Description: During construction, City of East Palo Alto staff and/or qualified engineering consultants will provide environmental compliance services, which may include, but are not limited to storm water protection pollution plan sampling, dewatering water sampling, specialized archaeological/cultural resource inspection, oversight, and analysis; biological surveys; and compliance reporting for these and other environmental issues during the preparation of the CEQA/NEPA documents.</p> <p>Deliverables: Reports and submittals as defined in the final contract documents</p>
<p>Budget Category (f): Construction Administration</p> <p>Task 12: Construction Administration Description: During construction, City of East Palo Alto staff and/or qualified engineering consultants will provide construction management, oversight, and administration, including daily on-site observation; testing of materials used for construction, including soils and concrete; and documentation of these activities, and inspection of pipe culverts and valves.</p> <p>Deliverables: Same as for Task 10, Construction.</p>

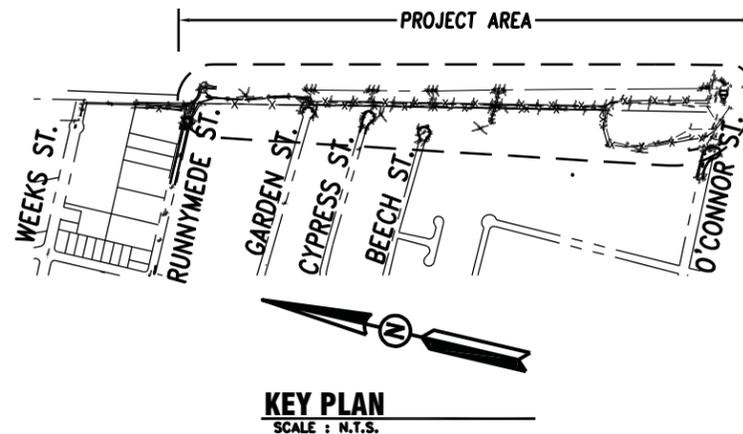
EAST PALO ALTO SAN MATEO COUNTY, CALIFORNIA RUNNYMEDE STORM DRAIN IMPROVEMENTS



VICINITY MAP
NO SCALE



LOCATION MAP
NO SCALE



KEY PLAN
SCALE : N.T.S.

ABBREVIATIONS

AB	AGGREGATE BASE
CB	CATCH BASIN
CL	CENTER LINE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CS	CLASS
DET.	DETAIL
DWY	DRIVEWAY
E	ELECTRIC
EL, ELEV	ELEVATION
EX OR (E)	EXISTING
FC	FACE OF CURB
FTG	FOOTING
INV	INVERT ELEVATION
LT	LEFT
LF	LINEAR FEET
LG.	LONG
MAX	MAXIMUM
MIN	MINIMUM
OC	ON CENTER
OPP.	OPPOSITE
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
RT	RIGHT
SS	SANITARY SEWER
SD	STORM DRAIN
STA	STATION
STD	STANDARD
SWK	SIDEWALK
T	TELEPHONE
TOF	TOP OF FOOTING
TOW	TOP OF WALL
TYP (TYP)	TYPICAL
W	WATER

SHEET DESCRIPTION

- 1 TITLE SHEET, LEGEND & ABBREVIATIONS
- 2 GENERAL NOTES
- 3 GENERAL NOTES
- 4 CONTROL SHEET & DEMOLITION PLAN
- 5 PLAN & PROFILE - STA. 1+00 TO 7+05
- 6 PLAN & PROFILE - STA. 7+05 TO 13+33
- 7 PLAN & PROFILE - STA. 13+33 TO 19+47
- 8 PLAN & PROFILE - STA. 19+47 TO 25+67
- 9 PLAN & PROFILE - STA. 25+67 TO 31+30
- 10 STORM DRAIN CHANNEL CROSS SECTIONS
- 11 STORM DRAIN POND CROSS SECTIONS
- 12 SECTIONS & DETAILS
- 13 SECTIONS & DETAILS
- 14 SECTIONS & DETAILS
- 15 SECTIONS & DETAILS
- 16 SECTIONS & DETAILS

LEGEND

PROPOSED

EXISTING

	PROPERTY LINE
	SANITARY SEWER
	STORM DRAIN
	CHAIN LINK OR WOOD FENCE
	BOX CULVERT
	PIPE CULVERT
	STORM DRAIN MANHOLE
	DITCH
	DIKE
	CL DITCH
	STORM DRAIN PIPE
	CONTROL LINE

1+00

ATTACHMENT 3.2 OF 2

30% PLANS RUNNYMEDE PHASE II

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WILSEY HAM
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**EAST PALO ALTO
RUNNYMEDE STORM DRAIN IMPROVEMENTS
TITLE SHEET**

EAST PALO ALTO SAN MATEO COUNTY CALIFORNIA

SHEET	1	OF
PROJ. NO.:	702-003	
SCALE:		
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GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THESE PLANS, SPECIAL PROVISIONS, THE CITY OF EAST PALO ALTO DEPARTMENT OF PUBLIC WORKS AND CALTRANS STANDARD PLANS AND SPECIFICATIONS DATED MAY 2006.
2. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE OWNER AND DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITY COMPANIES AND TO OBTAIN ANY PERMITS REQUIRED BY THE CITY OF EAST PALO ALTO AND OTHER AGENCIES IN ORDER TO DO THE WORK SHOWN ON THESE PLANS.
4. THE CITY ENGINEER SHALL BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL GIVE THE CITY OF EAST PALO ALTO ENGINEERING DEPARTMENT AT LEAST THREE (3) WORKING DAYS ADVANCE NOTICE PRIOR TO BEGINNING OF ACTUAL WORK AND ALL REQUIRED INSPECTION REQUESTS, AT (650) 833-1829.
5. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES AND TOPOGRAPHIC FEATURES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE TRUE LOCATION OF ALL EXISTING UTILITIES RELATIVE TO THE TOPOGRAPHIC FEATURES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, BUILDINGS AND WALLS. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES THAT WILL BE AFFECTED BY THE WORK TO OBTAIN ASSISTANCE IN LOCATING EXISTING MAINS AND SERVICE CONNECTIONS. A LIST OF MAJOR UTILITY COMPANIES WITH KNOWN EXISTING UNDERGROUND UTILITIES IN THE AREA IS:

UTILITY COMPANY	UTILITY	CONTACT	TELEPHONE NO.
PG&E	GAS	ROY MATTSO	650-598-7437
PG&E	ELECTRIC	WALT MACROY	650-598-7379
SBC/PACIFIC BELL	TELEPHONE	ART PAGE	408-493-7237
CITY OF EAST PALO ALTO	WATER & STORM	KAMAL FALAHA	650-853-3117
EPASD	SANITARY SEWER		650-325-9021

PRIOR TO ANY DIGGING CALL U.S.A. (800) 642-2444 48 HOURS IN ADVANCE TO HAVE EXISTING UNDERGROUND FACILITIES MARKED.

6. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OPERATION WITH ALL THE UTILITY COMPANIES WHICH ARE TO RELOCATE OR INSTALL THEIR UTILITIES TO ACHIEVE AN EFFICIENT SCHEDULE OF OPERATIONS THAT DOES NOT DELAY CONSTRUCTION.
7. AS PART OF THEIR PRE-BID INSPECTION, BIDDERS SHALL NOTE THE TYPE AND LOCATION OF OVERHEAD UTILITIES IN THE PROPOSED WORK AREA. BIDDERS PRICE SHALL INCLUDE PROVISIONS FOR WORKING IN AREAS WHERE OVERHEAD UTILITIES EXIST AT THE TIME OF BIDDING, WHETHER SHOWN ON THE PLAN OR NOT, AND NO ADDITIONAL COMPENSATION IS ALLOWED.
8. MAIN UTILITIES, OTHER THAN WATER, SANITARY SEWER, AND STORM IN CONFLICT WITH THE WORK WILL BE RELOCATED BY OTHERS. WATER MAINS, SANITARY SEWER MAINS, STORM DRAINS AND THEIR SERVICES REQUIRED TO BE TEMPORARILY OR PERMANENTLY RELOCATED FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS SHALL BE RELOCATED BY THE CONTRACTOR.
9. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER OF ANY DISCREPANCIES OR UNUSUAL CONDITIONS ASSOCIATED WITH THE PLANS, DETAILS OR CONSTRUCTION NOTES FIVE (5) DAYS PRIOR TO FINALIZATION OF BIDS AND COMMENCEMENT OF ANY CONSTRUCTION.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE SURVEYING MONUMENTS IN PLACE, AND THE CONTRACTOR SHALL BE FINANCIALLY RESPONSIBLE FOR RESETTING DAMAGED OR DESTROYED MONUMENTS.
11. HORIZONTAL AND VERTICAL DIMENSIONS PROVIDED ON THE DRAWINGS ARE BASED ON FIELD MEASUREMENTS. ADJUSTMENTS MAY BE MADE BY THE ENGINEER DURING CONSTRUCTION. PAYMENT WILL BE BASED ON QUANTITIES INSTALLED.
12. REFER TO SPECIFICATIONS FOR TRAFFIC CONTROL RESTRICTIONS AND HOURS OF WORK.
13. ACCESS TO ALL DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES EXCEPT WHEN PRECLUDED BY NECESSARY CONSTRUCTION, AS NOTED IN CALTRANS TRAFFIC MANUAL AND AS APPROVED BY THE CITY ENGINEER.
14. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMAN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
15. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE CITY ENGINEER OR WILSEY HAM.
16. UPON SATISFACTORY COMPLETION OF THE WORK, THE ENTIRE WORK SITE SHALL BE CLEANED AND LEFT FREE OF CONSTRUCTION WASTE, RUBBISH AND DEBRIS OF ANY NATURE TO THE SATISFACTION OF THE CITY ENGINEER.

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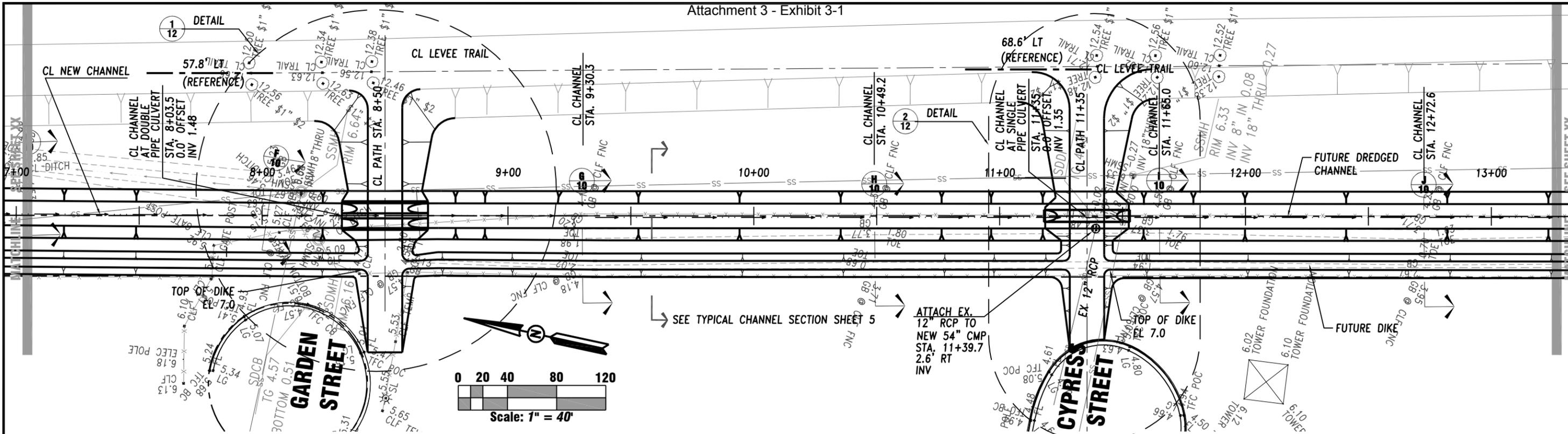


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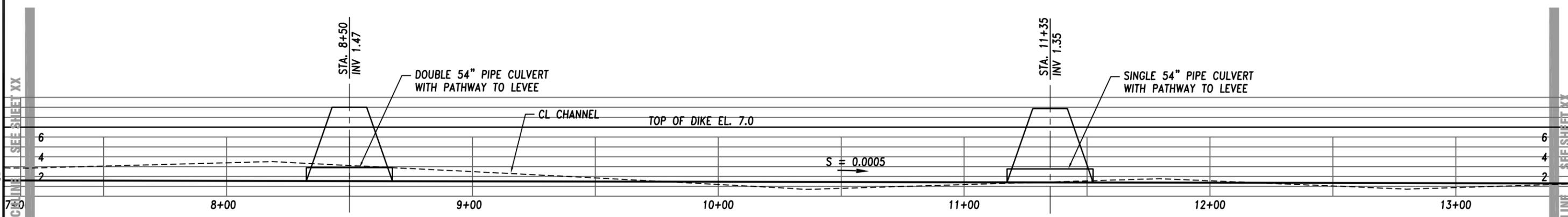
**EAST PALO ALTO
RUNNYMEDE STORM DRAIN IMPROVEMENTS
GENERAL NOTES**

EAST PALO ALTO SAN MATEO COUNTY CALIFORNIA

SHEET	2	OF
PROJ. NO.:	702-003	
SCALE:		
DATE:		



PLAN VIEW - STA. 7+05 TO 13+33
Scale: 1"=40' Horizontal



PROFILE - STA. 7+05 TO 13+33
Scale: 1"=40' Horizontal
1"= 10' Vertical

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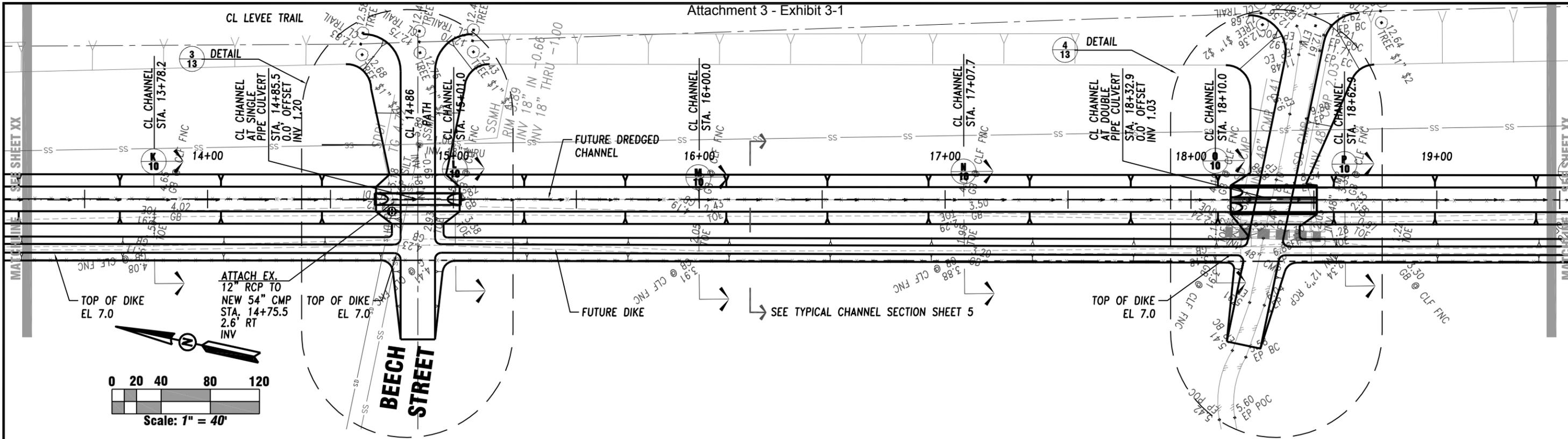
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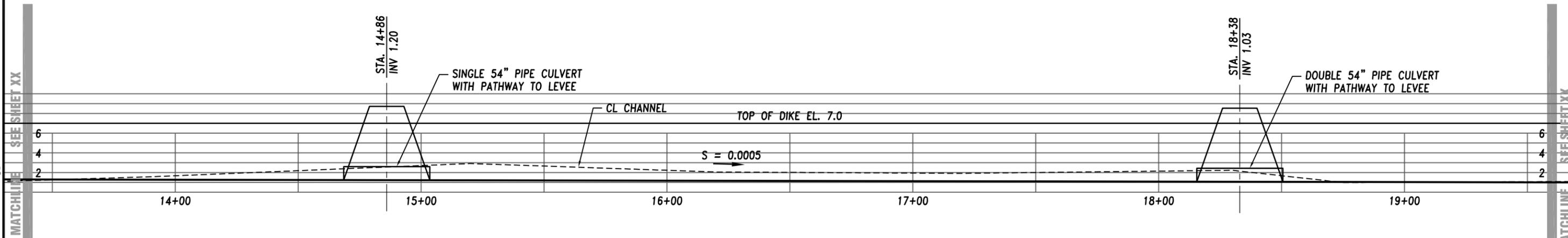
EAST PALO ALTO
RUNNYMEDE STORM DRAIN IMPROVEMENTS
PLAN & PROFILE - STA. 7+05 TO 13+33
EAST PALO ALTO SAN MATEO COUNTY CALIFORNIA

SHEET	6
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PLAN VIEW - STA. 13+33 TO 19+47

Scale: 1"=40' Horizontal



PROFILE - STA. 13+33 TO 19+47

Scale: 1"=40' Horizontal
1"= 10' Vertical

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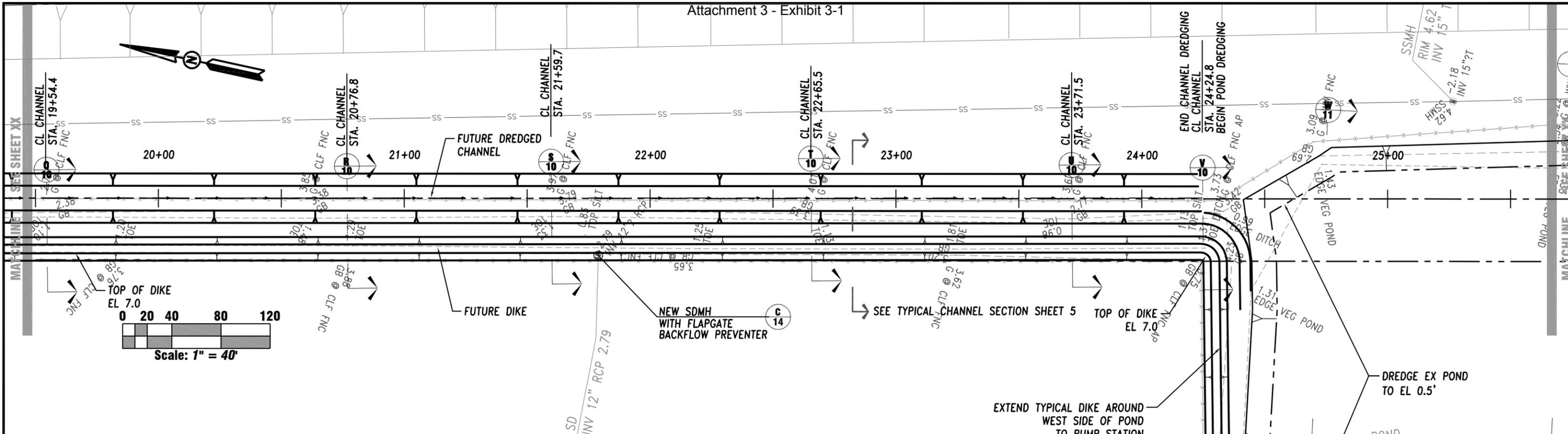
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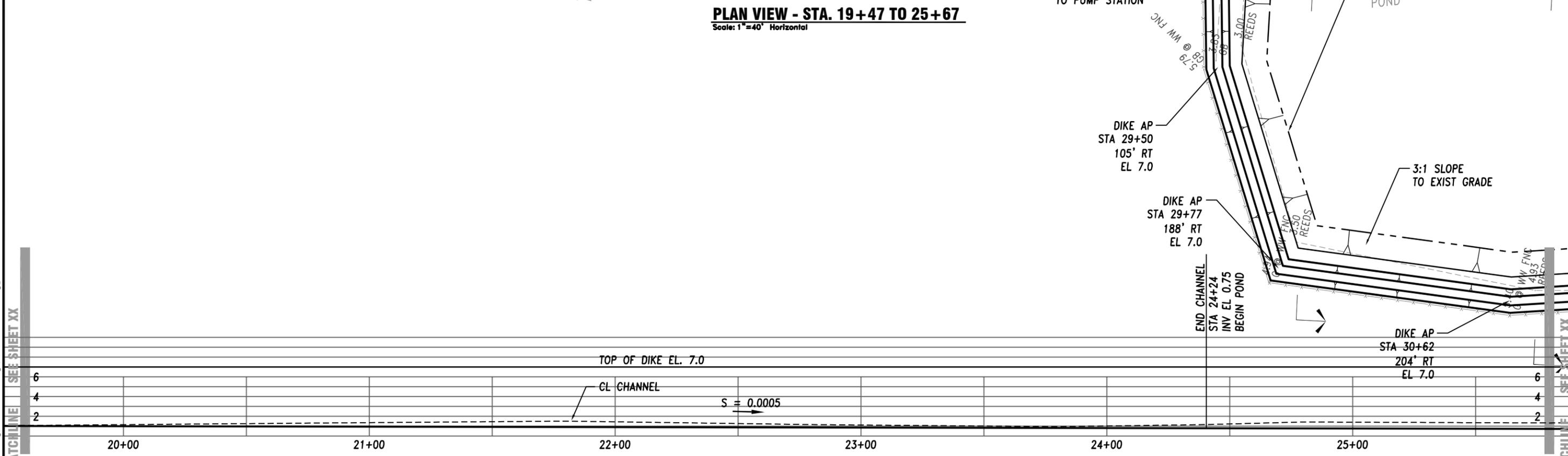
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EAST PALO ALTO
RUNNYMEDE STORM DRAIN IMPROVEMENTS
PLAN & PROFILE - STA. 13+33 TO 19+47
EAST PALO ALTO SAN MATEO COUNTY CALIFORNIA

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PLAN VIEW - STA. 19+47 TO 25+67
Scale: 1"=40' Horizontal



PROFILE - STA. 19+47 TO 25+67
Scale: 1"=40' Horizontal
1"= 10' Vertical

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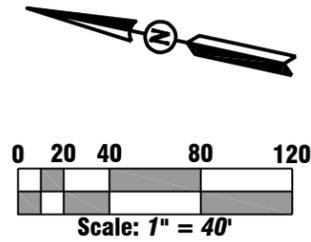
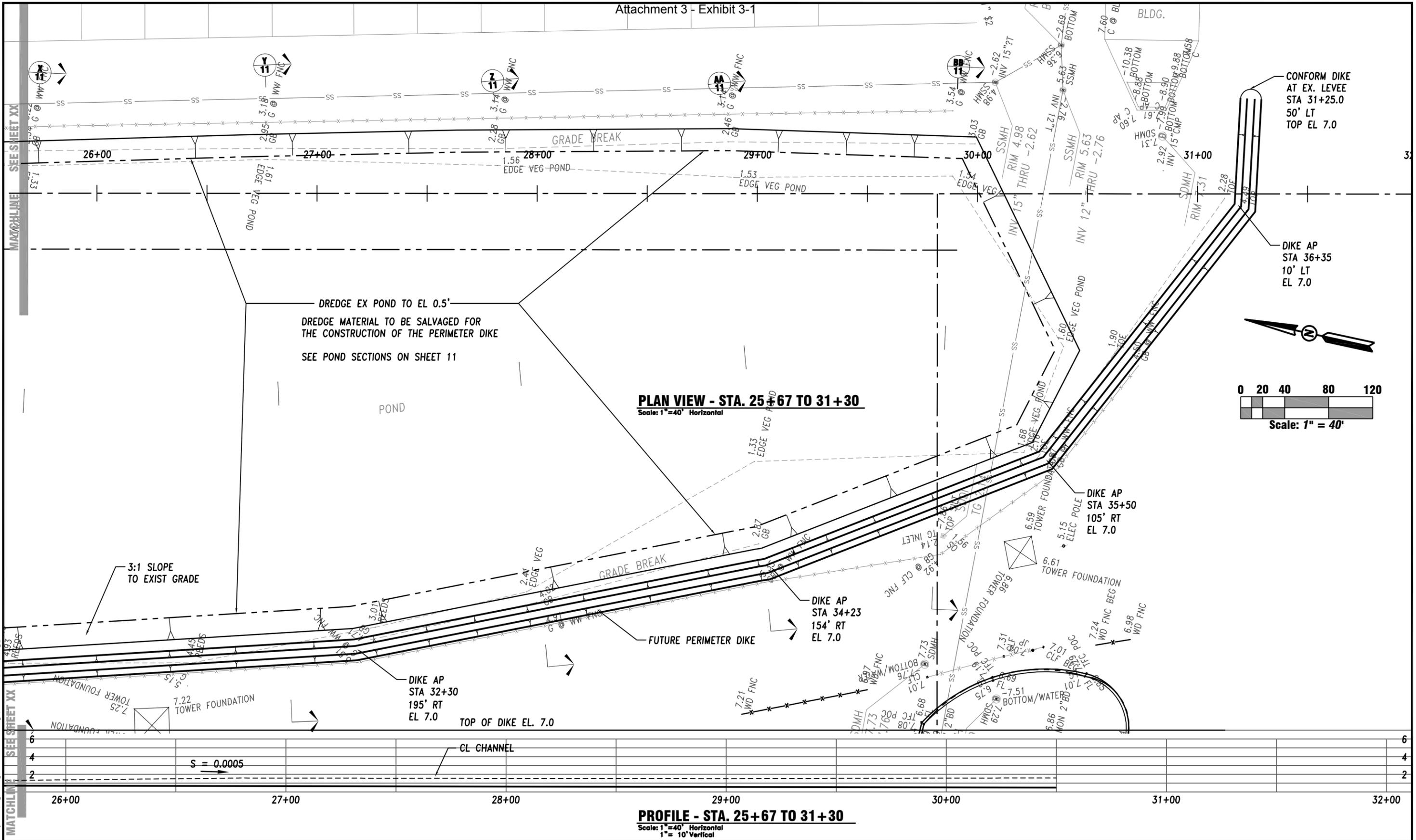


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PLAN & PROFILE - STA. 19+47 TO 25+67
EAST PALO ALTO SAN MATEO COUNTY CALIFORNIA

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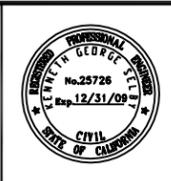
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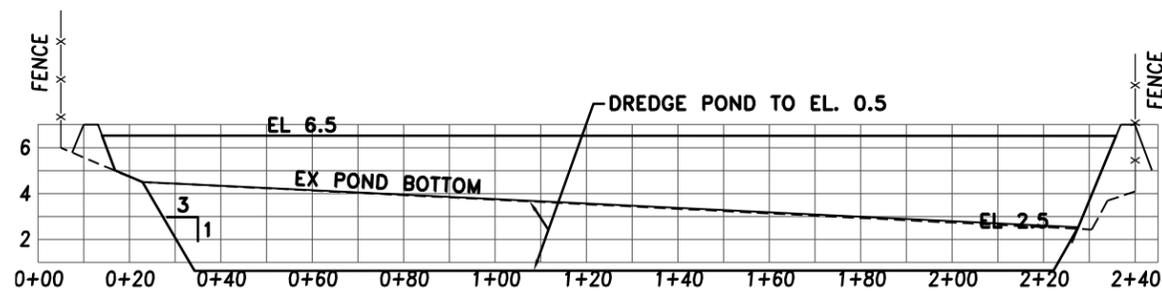


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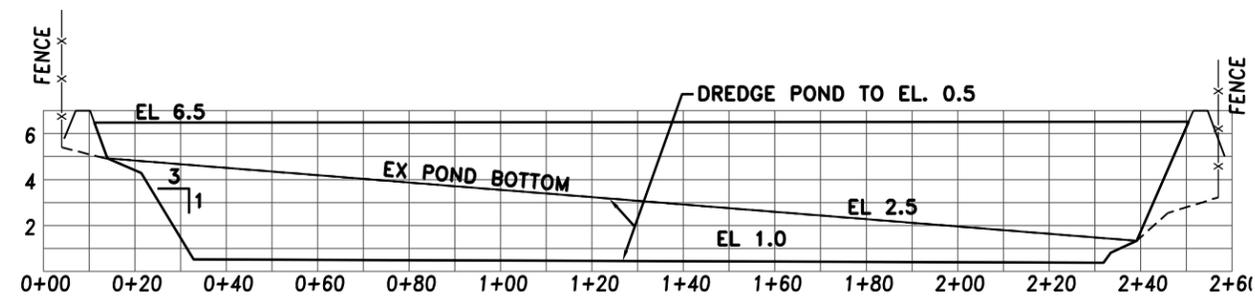
EAST PALO ALTO
RUNNYMEDE STORM DRAIN IMPROVEMENTS
PLAN & PROFILE - STA. 25+67 TO 31+30

EAST PALO ALTO SAN MATEO COUNTY CALIFORNIA

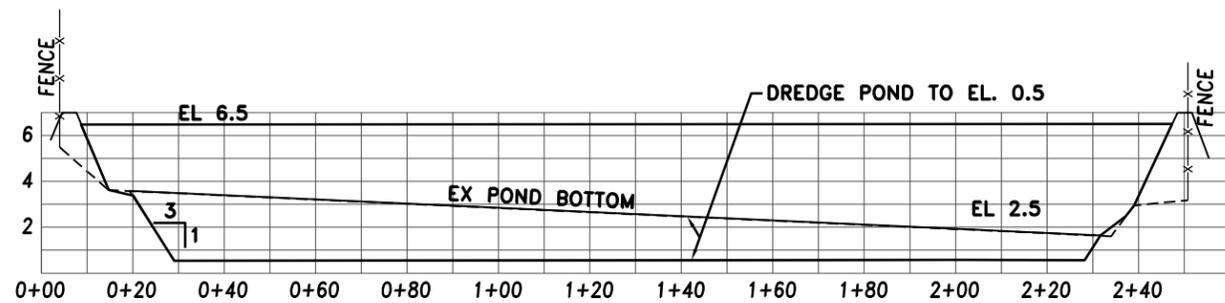
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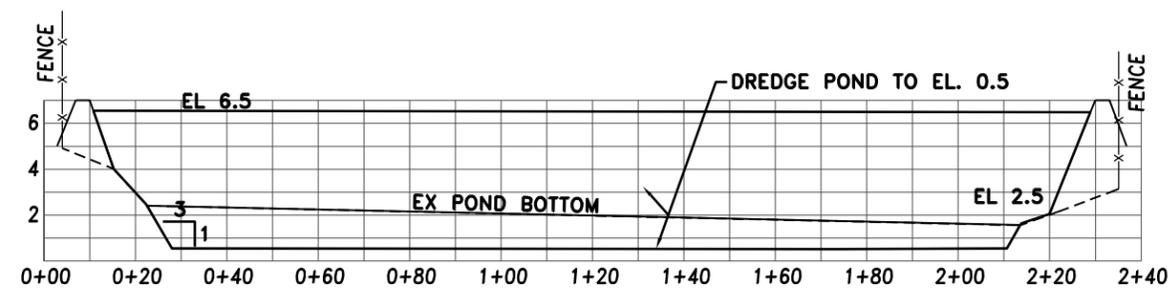
W SECTION



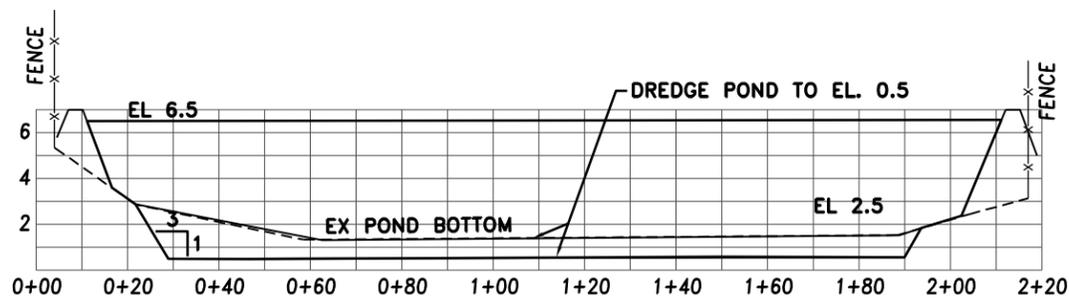
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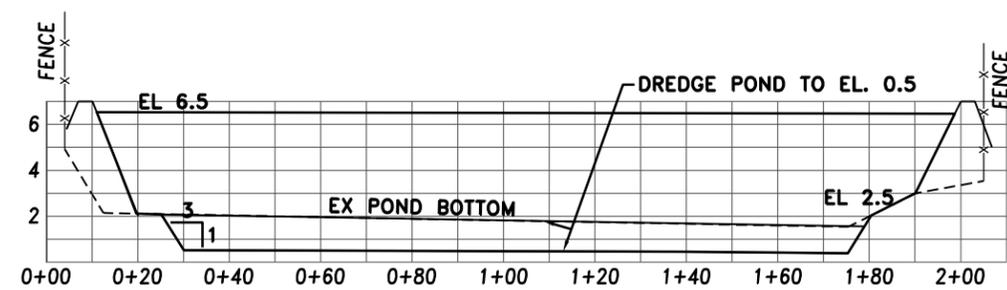
Y SECTION



Z SECTION



AA SECTION



BB SECTION

Scale: 1"=40' Horizontal
1"=8' Vertical

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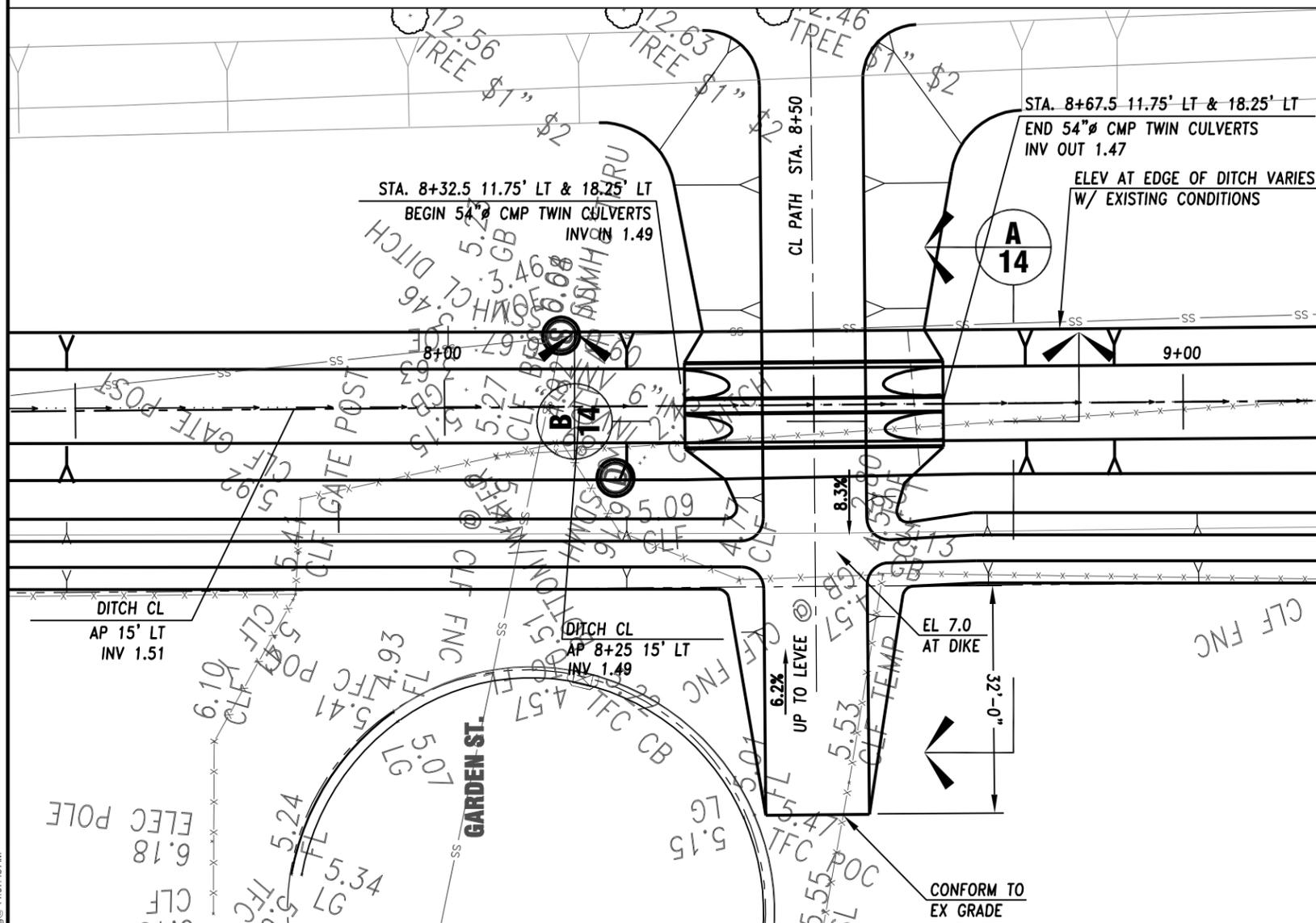
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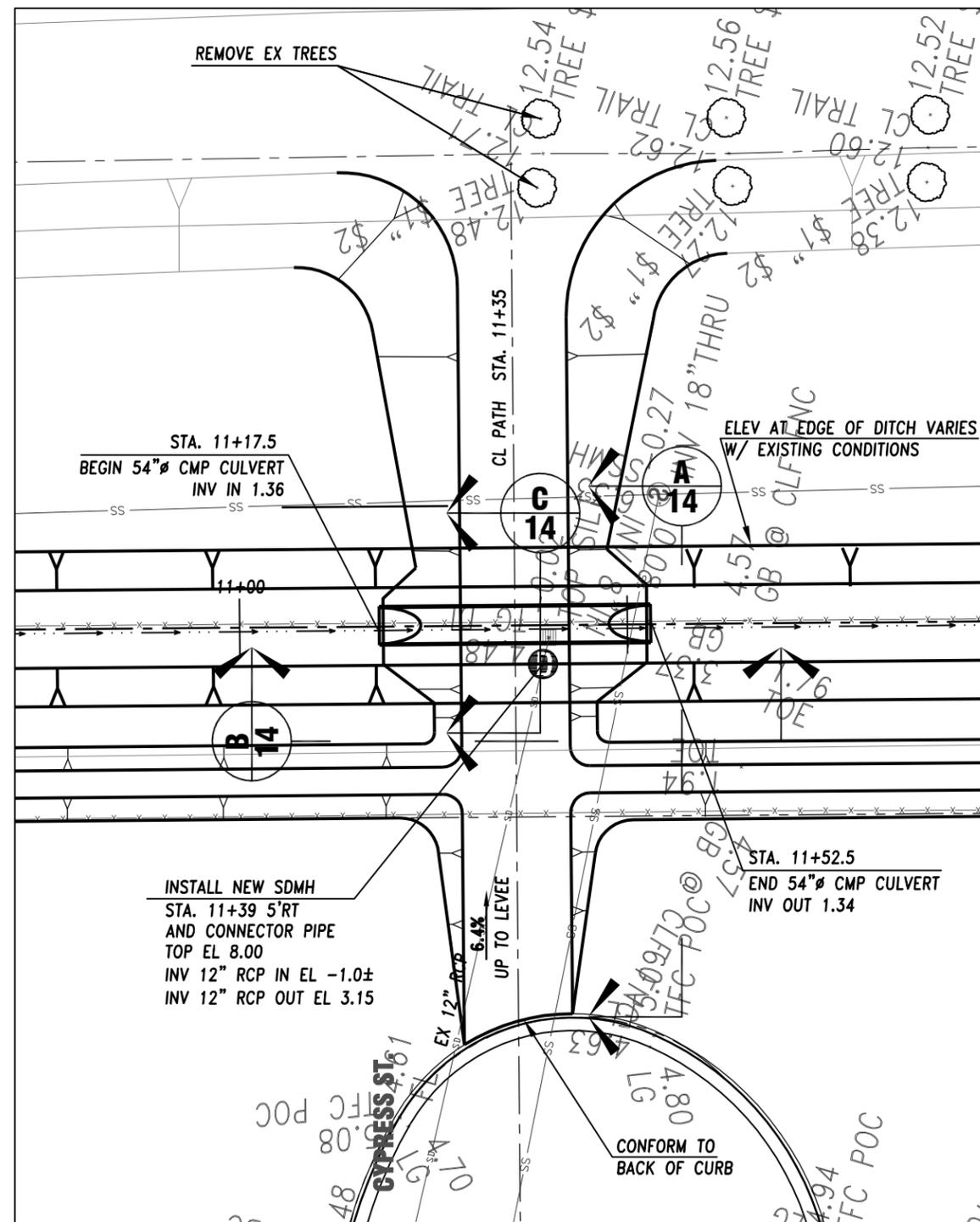
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RUNNYMEDE STORM DRAIN IMPROVEMENTS
STORM DRAIN POND SECTIONS
EAST PALO ALTO SAN MATEO COUNTY CALIFORNIA

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1 **DETAIL**
Scale: 1"=20'



2 **DETAIL**
Scale: 1"=20'

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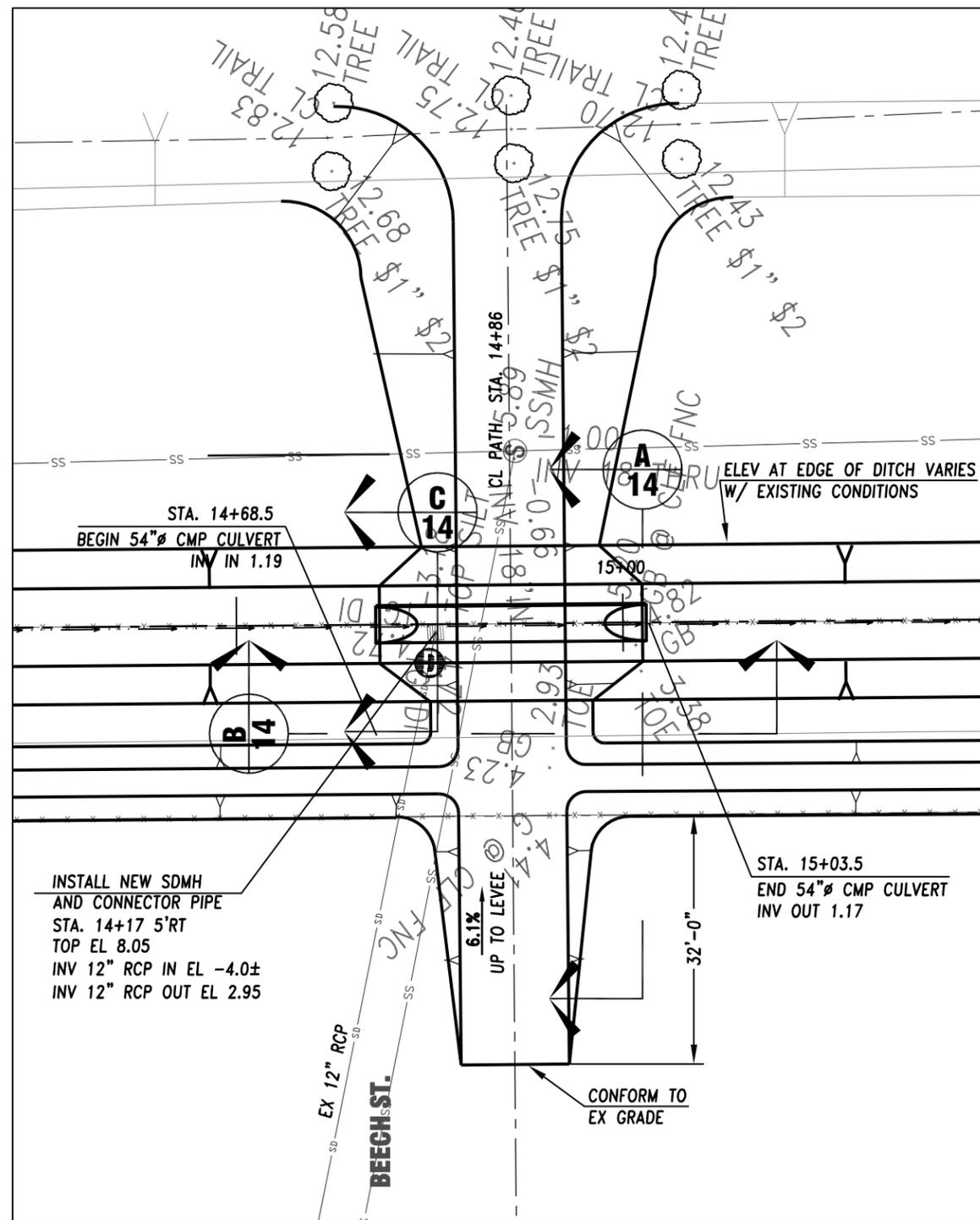
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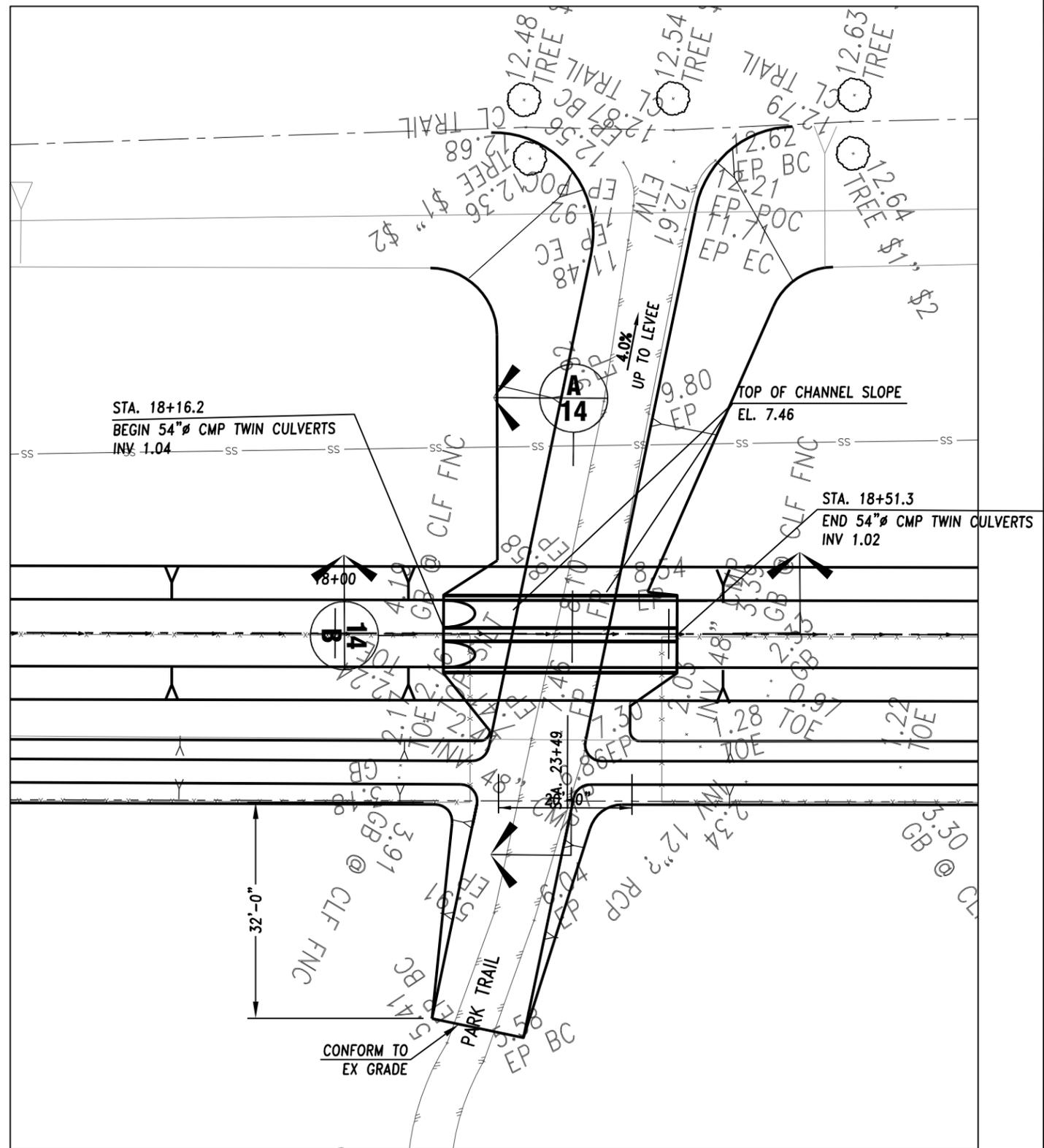
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EAST PALO ALTO
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SECTIONS & DETAILS
EAST PALO ALTO SAN MATEO COUNTY CALIFORNIA

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3 DETAIL
Scale: 1"=20'



4 DETAIL
Scale: 1"=20'

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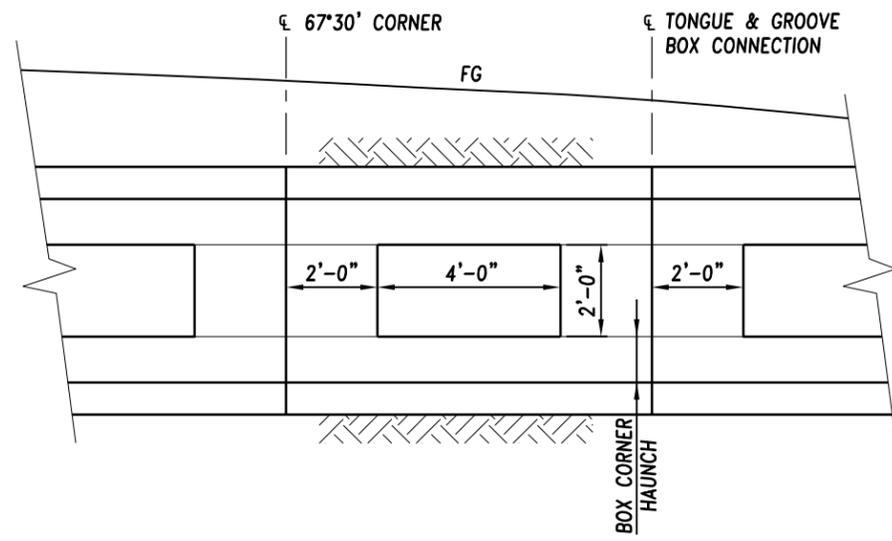


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EAST PALO ALTO
RUNNYMEDE STORM DRAIN IMPROVEMENTS
SECTIONS & DETAILS

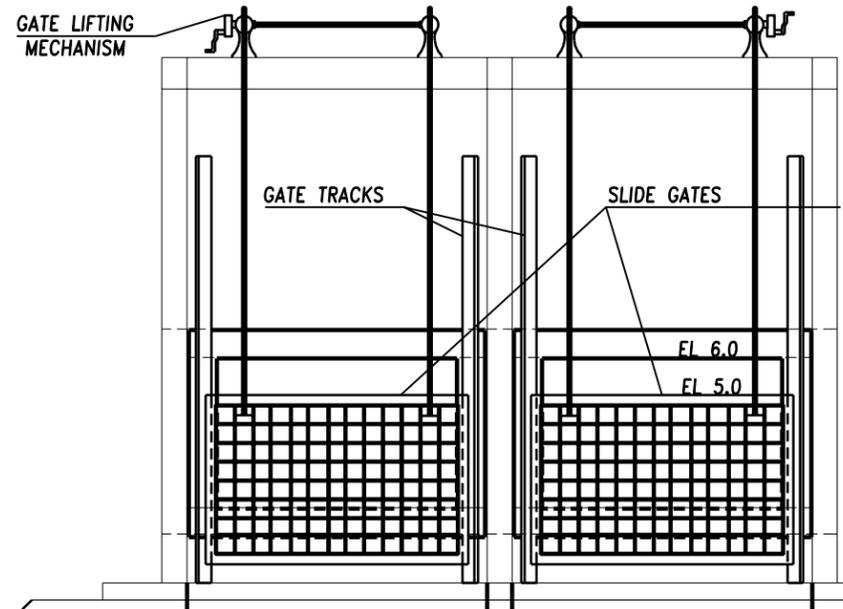
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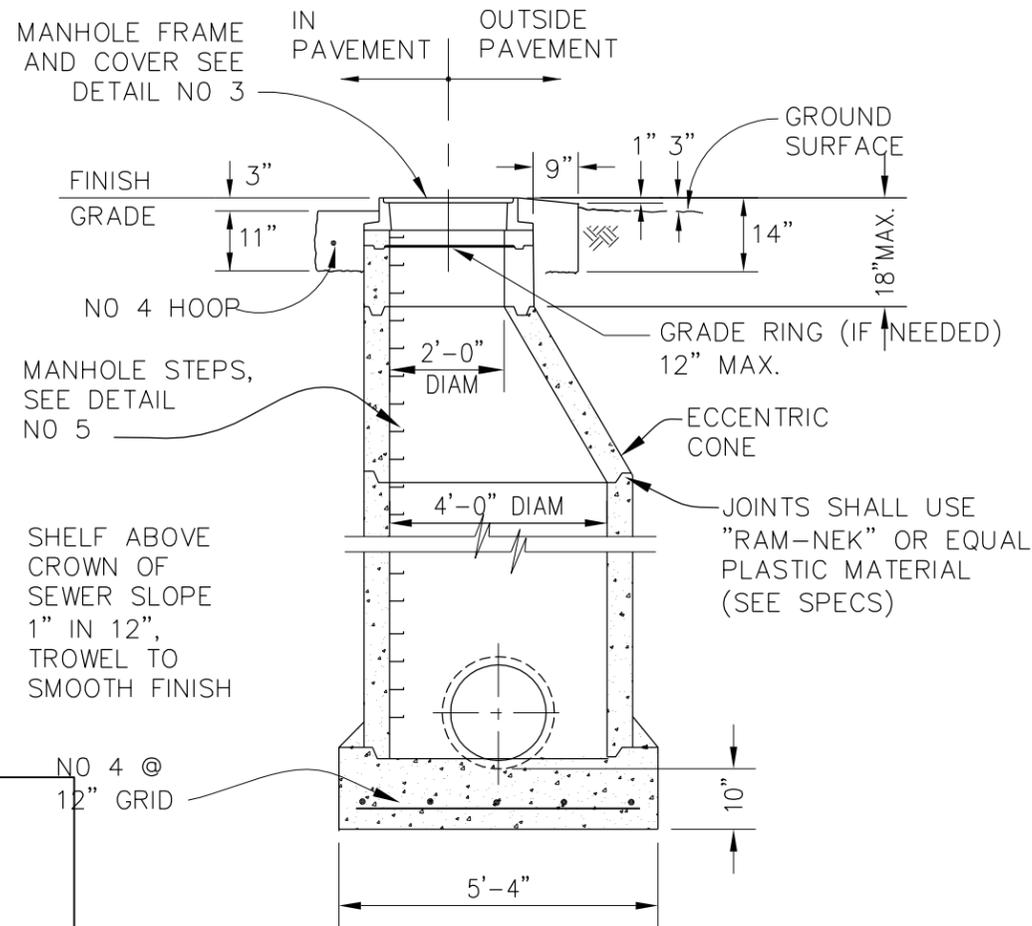
ELEVATION OF CENTER WALL AT 67°30' CORNER
CUT 4 EACH 2' HIGH BY 4' WIDE HOLES

A SECTION
Scale: 1"=5'



7'-0" WIDE BY 4'-6" TALL SLIDE GATES
TOP EDGE NORMALLY SET TO EL 5.0

B SECTION
Scale: 1"=5'



TYPICAL SECTION
STANDARD MANHOLE

NOTES:

1. PROVIDE 3" MIN. COVER ON REBAR.
2. MANHOLE SHELF SHALL BE MORTARED TO A SLOPE OF 1"/FT.
3. PREFORMED PLASTIC SEALING GASKET SHALL BE "RAM-NEK" OR APPROVED EQUAL.
4. STANDARD WATER STOPS SHALL BE INCORPORATED INTO THE MANHOLE BASE FOR ALL PIPE PENETRATIONS.
5. MANHOLE OPENING TO BE OPPOSITE THE LARGEST SHELF AREA OR AS DIRECTED BY THE DISTRICT ENGINEER
6. CONCRETE SHALL BE 3/4" CLASS A.

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EAST PALO ALTO
RUNNYMEDE STORM DRAIN IMPROVEMENTS
SECTIONS & DETAILS
EAST PALO ALTO SAN MATEO COUNTY CALIFORNIA

SHEET	16
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