

La Habra/Union Pacific Railroad (UPRR) Bikeway
Alternatives Analysis Report (Draft)
La Habra, CA

PREPARED FOR:



City of La Habra Public Works Department
201 East La Habra Boulevard
La Habra, California 90633-0337

PREPARED BY:



2400 East Katella Avenue, Suite 800
Anaheim, CA 92806

In association with:

Alta Planning + Design
Blodgett, Baylosis and Associates
CHO Design Consultants
Coast Surveying, Inc.
Ninyo & Moore
Overland, Pacific & Cutler, Inc.

March 6, 2017



1. INTRODUCTION

The City of La Habra Public Works Department is developing a Class I bikeway within the existing Union Pacific Railroad corridor otherwise known as the Brea Chemical Industrial Lead. The proposed bikeway is intended to serve bicyclists and pedestrians along the entire length of the railroad corridor within City limits with eventual connections to the Whittier Greenway Trail to the west and Brea Bikeway Trail to the east, both within the UPRR corridor.

The primary objectives of the project consist of the following:

- Provide a safe and inviting pedestrian and bicycle corridor that offers unique linkage to recreational areas and other bicycle facilities in the City consistent with the City's current Bicycle Master Plan..
- Provide visible and safe crossings at each roadway crossing including railroad preemption to ensure sufficient clearance is provided to avoid pedestrian, vehicular and train collisions.
- Improve current security and safety to pedestrians, bicyclists, residents and ultimately train operators.
- Utilize available funding to design the proposed improvements while seeking additional funding for right of way acquisition and ultimate construction.

This alternatives analysis report compares available alternatives, establishes the basis of design and defines the project elements selected by the City based on aesthetics, feasibility, preference and cost. Conceptual cost estimates and schedule are also included.

2. PROJECT ELEMENTS

Several elements were initially identified for the project. Such elements include bikeway, site, traffic signal enhancements, lighting, hardscape features, softscape features and signage. Such elements are designed to allow bikeway connections and future bikeway extensions. Each one is briefly described below.

Bikeway

Bikeway elements identified for the project attempt to achieve two primary objectives, namely, providing access and circulation as well as reducing the potential for risky behavior currently experienced by pedestrians and bicyclists who currently trespass in railroad property often traveling on or across the single UPRR railroad track. Such elements include pavement, signage, striping, landscaping, drainage, fencing and lighting.

Site

Site elements proposed include reconstruction and restriping of the parking lot including new lighting for the parking lot and platform areas as well as storm water treatment. Roadway elements include the addition of wrought iron fence and pedestrian railing to enhance pedestrian safety while reducing the potential for risky behavior. Each element is briefly described on the following page.



Reconstruction and Restriping

The Metrolink station parking lot is proposed to be reconstructed, including restriping, to change the angle of parking stalls to enhance overall circulation within the station. Reconstruction improvements include replacement of existing landscaping (i.e., trees) and parking lot lighting to enhance lighting levels and eliminate current conflicts between trees and light poles which produce shadows and lower illumination levels. All improvements are designed to meet current design standards and are illustrated in the site and lighting concept plan included in Attachment A at the end of this report.

Storm Water Treatment

Proposed enhancements include the provision of grassy swales within landscaped areas. Such enhancements are designed to meet current standards for storm water treatment which relies on treating the “first flush” of storm water runoff before allowing runoff to outlet into drainage facilities. Grassy swales offer a natural alternative for runoff treatment and drainage as well as enhance the overall aesthetic appearance of the bikeway.



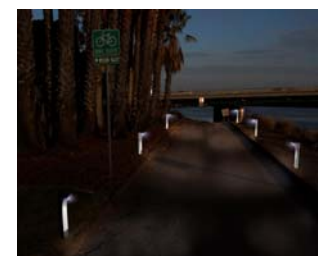
Traffic Signal Enhancements



Pedestrian heads are proposed to enhance safe pedestrian behavior at nearby traffic signals north and south of the rail crossings. Such indicators provide pedestrians with a clearer estimate of time to cross while discouraging pedestrian crossings when ample time to cross is no longer available. The countdown signals will enhance traffic circulation by eliminating improper or risky pedestrian crossings.

Lighting

Portions of the trail may be lighted, especially where there is considerable evening pedestrian and bicycle commuter traffic. There will be some lighting benefit from existing light sources along adjacent roadways and at crossings. Dark sky-compliant lighting should be used to illuminate the trail. Dark sky lighting must project light downward without releasing lighting upwards into the atmosphere or outward past the intended projected path. Bollard-type pedestrian lighting may also be considered.





Fencing

Wrought Iron Fence

Fencing along the Bikeway will vary depending on the location and agreements between adjacent landowners and Union Pacific Railroad (UPRR). Fencing will typically be used for the following reasons: safety, security, trespass prevention, environmental impacts, and privacy. The following narrative describes the types of fencing appropriate for various locations and needs. Not any one type is presumed for use throughout the Bikeway. Efforts will be made to preserve and encourage neighborhood connectivity.



Fences will be used when required by either UPRR or the adjacent landowner. When a fence is required, it will be located at the right-of-way edge or a minimum of two (2) feet from the outermost edge of the trail surface. The specific location of the trail fence will be determined at the time of the preliminary design and finalized in the construction documents for each implementation phase of the project. Where authorized crossings exist or are planned, the implementing entity, with UPRR and City approval, and the adjacent landowner will mutually determine the most appropriate method of a gated treatment or open fence segments for vehicular access and/or public access to public lands.



Wire Security Fence

Where the utmost security is necessary, a ninety-six (96) inch-high woven-wire fence with metal posts (but not less than seventy-two (72) inch fence) is recommended. This fence type provides a high level of trespass prevention and security. This fence also provides an opportunity for screening with vine plantings to soften the look of the fence and could provide additional protection from train blown dust and debris.



Other barrier types between the trail and private property may be used such as ditches, berms, and/or vegetation. Recommended vegetation types should be low-water, low-maintenance varieties. Ditch or berm gradients should not exceed two to one (2:1) slopes or be greater than ten (10) feet in depth or height.



Hardscape Features

Hardscape features proposed for gateways within the proposed bikeway include colored paving, a new fountain, benches, trash receptacles and decorative pots. Each one is briefly described below.

Paving

A multi-use paved path is a derivative of the Caltrans-defined Class I bike path in the Caltrans Highway Design Manual, Chapter 1000, Bicycle Transportation Design, Topic 1003 - Bikeway Design Criteria. A Class I bike path provides bicycle travel on a paved right-of-way, completely separated from any street or highway. A multi-use paved path permits a variety of users, in addition to bicyclists, including walkers, joggers, wheelchair users, and non-motorized scooter users.

Typical design elements may include:

- Paved surface of eight to twelve (8-12') feet wide or wider if right-of-way exists and/or high use is anticipated (concrete, asphalt, or permeable), and a two-foot (2') wide shoulder on each side
- Center lane striping
- Separation from adjacent roadways by at least twelve (12) feet
- Safety fence separating inner trail edge from rail line (e.g., seventy-two [72] inch minimum post and wire) as needed
- Lighting fixtures
- Use of noninvasive ornamental barrier plants as a buffer or to help soften fencing
- Provide clearly illustrated and properly located signage with informational, interpretive, and regulatory messages
- Compliance with ADA requirements in trail design where possible
- Minimum 8' 6" setback from railroad centerline





Benches and Trash Receptacles

Facilities for comfort (benches, trash receptacles, shade structures, and water fountains), safety (phones and kiosks with user information), and interpretative information (historical, cultural, and educational information) should be developed along the trail. Rest areas should be located at places of interest and at regular intervals (approximately one [1] mile apart).

Design Elements could include:

- Trash Cans / Pet Sanitation Stations
- Emergency Phone
- Drinking Water
- Shade Element
- Benches / Seating
- Bike Racks





Softscape Features

Landscape

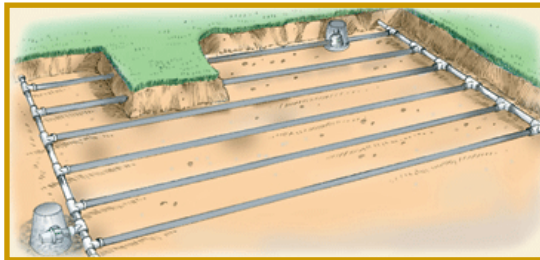
Landscape treatment should include both California native and non-native drought-tolerant plant palettes. The landscape areas offer an opportunity to use a broad range of choices for plant species to be used in the landscape. Plant palettes will be determined as part of the design phase at intervals and important nodes of the trail in coordination with the city. Planting plans will also comply with any environmental studies and recommendations concerning sensitive or critical native plant habitats or areas of soil contamination and mitigation. Other precautions should consist of the strict avoidance of invasive species.





Irrigation

A visually pleasing plant palette was chosen mainly for drought tolerance in response to the strain on water resources including cost and maintenance upkeep. Consequently, proposed irrigation will be designed under the same objectives of water resource conservation, and will utilize a low flow / low volume system to distribute water to all planting areas, including the planter pots. Sub-surface dripline products (with pressure-compensating inline drip emitters) are an excellent method to obtain one of the highest levels of irrigation efficiency and comply with local water conservation standards/ordinances. Furthermore, the use of rain sensors and smart irrigation controllers also help to adjust the system operation based on local weather changes.





Signage

Uniform sign design and logo theme will be provided along the trail. Signing and marking will unify the trail design and provide functional information. Elements such as bollards to prevent unauthorized trail access, mile post markers to identify specific locations along the trail, directional signs to various places of interest and user services, informational and traffic control signs and a trail logo will all provide necessary information and help to unify the design.



Signs along the trail should be designed to meet all of the required and recommended signing and marking standards developed by Caltrans in Chapter 1000 of the Highway Design Manual. In addition, all signs and markings should conform to the standards developed in the Manual of Uniform Traffic Control Devices (MUTCD).



In general, all signs should be located at least three to four (3-4) feet from the edge of the paved surface, have a minimum vertical clearance of eight-and-a-half (8.5) feet when located above the trail surface, and be a minimum of four (4) feet above the trail surface when located on the side of the trail. All signs should be oriented so as not to confuse motorists. The designs (though not the size) of signs and markings should be the same as used for motor vehicles as per the MUTCD.



Directional signing may be useful for trail users and motorists alike. For motorists, a sign reading "Bikeway Xing" along with a trail emblem or logo helps both warn and promote use of the trail itself. For trail users, directional signs and street names at crossings help direct people to their destinations. The signage will ensure trail connectivity to other bike and pedestrian facilities through way-finding and directional signs.





3. PREFERRED ELEMENTS

Based on review of the project elements identified for the project and discussed in Section 2 of this report, the City review such elements and determined the following elements based on their feasibility and cost. Figure 2 below outlines the preferred elements by the City of La Habra.

Bikeway	
Site	<p>Reconstruction and Restriping</p>  <p>Storm Water Treatment</p> 



Traffic Signal Enhancements

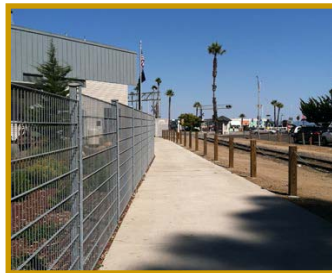


Lighting



Wrought Iron Fence and Pedestrian Signage

Fencing



Wire Security Fence



Hardscape Features

Paving





**Hardscape
Features**



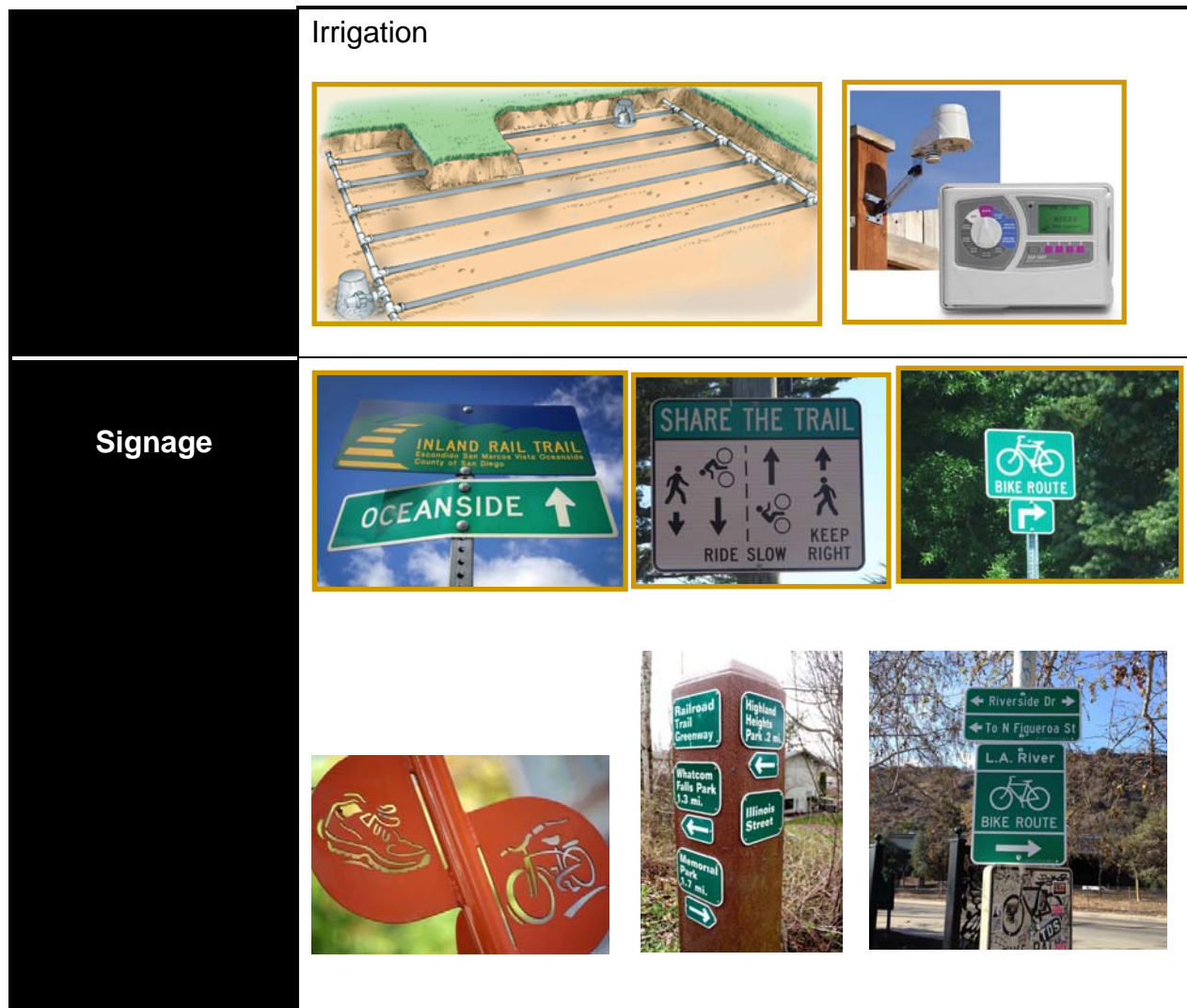
Benches and Trash Receptacles



**Softscape
Features**

Landscape





4. ALTERNATIVES

Two alternatives were evaluated for the project. Alternative 1 proposes a Class I bikeway along the north edge of the UPRR corridor. Alternative 2 proposes a similar bikeway along the south edge of the UPRR corridor. Each alternative is briefly described below and illustrated Figures 1 through 3 and included in Attachment A.

Alternative 1 (North Side)

Alternative 1 consists of a 15-ft. wide bikeway which follows the northerly edge of UPRR right of way. The bikeway includes amenities such as landscaping, swales, gabions, benches, waste receptacles, gateway monuments, signage, traffic signals, etc. The bikeway has locations where it deviates away from the right of way boundary due to existing drainage conditions and culverts which cannot be impeded to maintain adequate drainage. Preemption is provided at all roadway crossings which parallel the trackway.



Alternative 2 (South Side)

Alternative 2 offers the same elements to Alternatives 1 and follows the southerly UPRR property line. As such, this alternative results in the need for bridge and culvert structures as well as retaining structures due to the difference in grades encountered along the southerly edge of property. This alternative also requires two at-grade rail crossings east of Euclid Avenue thus posing an additional challenge in obtaining approval from UPRR and CPUC.

5. RAILROAD REQUIREMENTS

The proposed bikeway must comply with regulatory requirements by the Federal Railroad Administration (FRA), California Public Utilities Commission (CPUC) and the Union Pacific Railroad.

6. CONCEPTUAL COSTS

Conceptual cost estimates reflecting the elements preferred by the City indicate estimated costs of **\$16,536,412.00** and **\$22,298,462.00** for Alternative 1 and 2, respectively. Detailed cost estimates are included in Attachment B.

7. PROJECT SCHEDULE

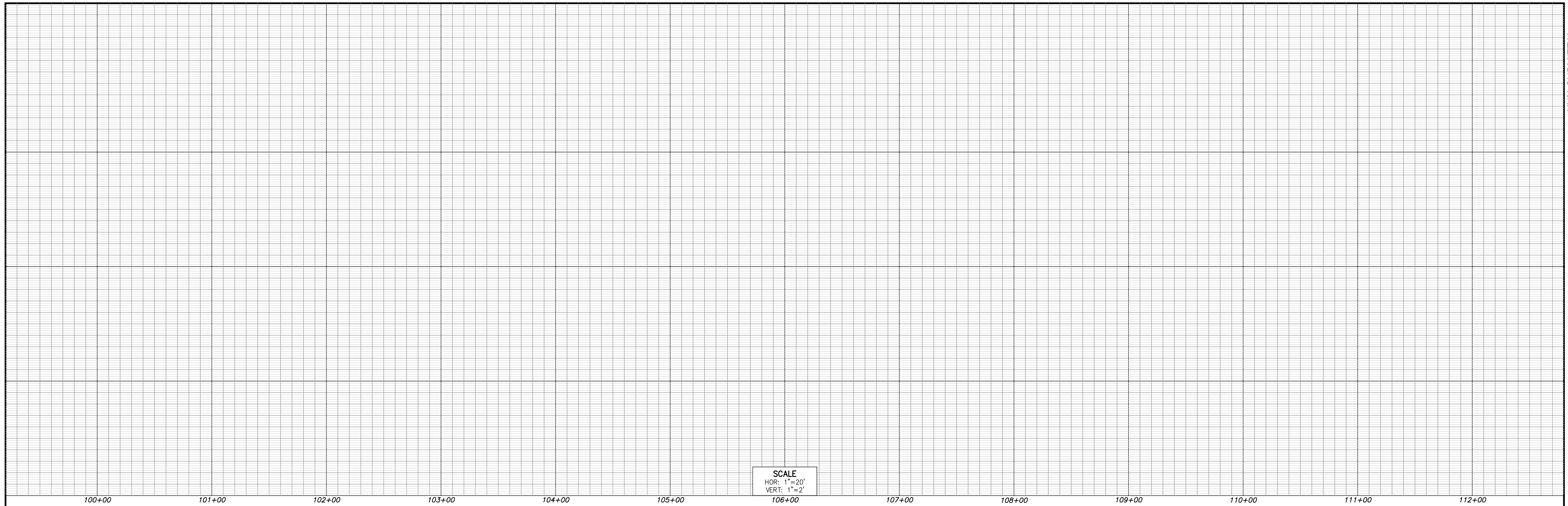
The current project schedule is included in Attachment C.

ATTACHMENTS

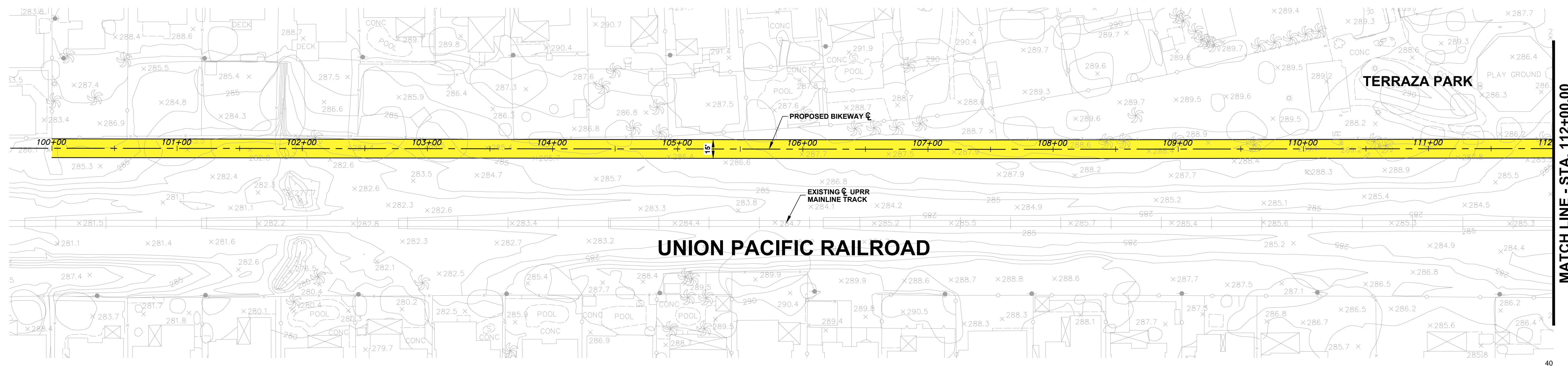
Attachment A - Conceptual Plans
Alignment Map for Alternatives 1 and 2
Conceptual Plans for Alternative 1

Attachment B - Conceptual Cost Estimates

Attachment C - Project Schedule



SCALE
HOR: 1"=20'
VERT: 1"=2'



UNION PACIFIC RAILROAD

TERRAZA PARK

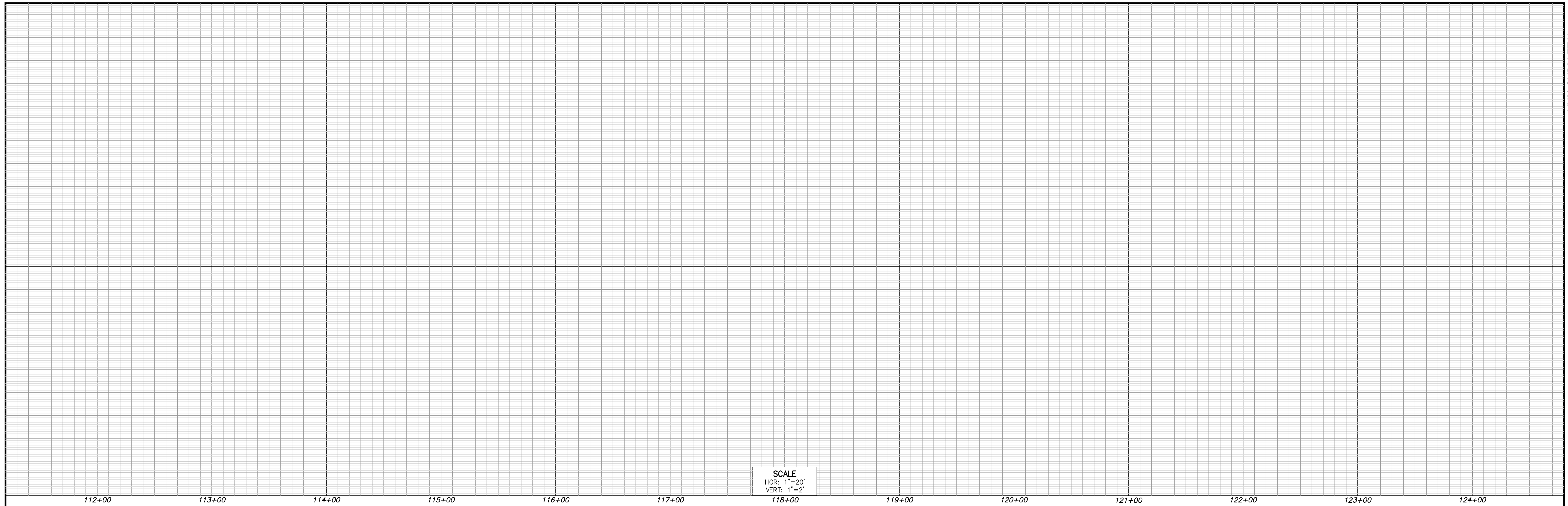
MATCH LINE - STA. 112+00.00
SEE SHEET NO. XX

SCALE: 1" = 40'

NO.	DATE	DESCRIPTION	BY
1			
2			
3			
4			

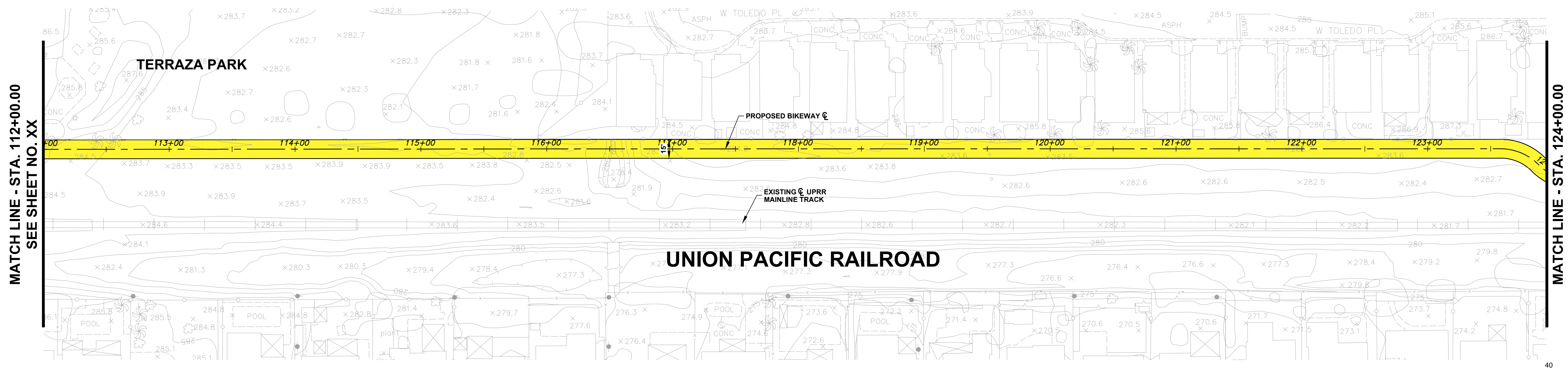
CITY OF LA HABRA
UPRR BIKEWAY PROJECT

RECOMMENDED BY SAM MAKAR, P.E. SR. CIVIL ENGINEER	APP'D BY CITY ENGINEER	FILE DWG. NO.
DATE	DATE	SHEET OF XX



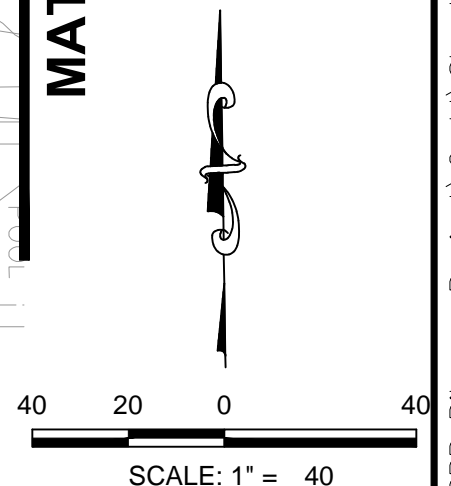
SCALE
HOR: 1"=20'
VERT: 1"=2'

112+00 113+00 114+00 115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00

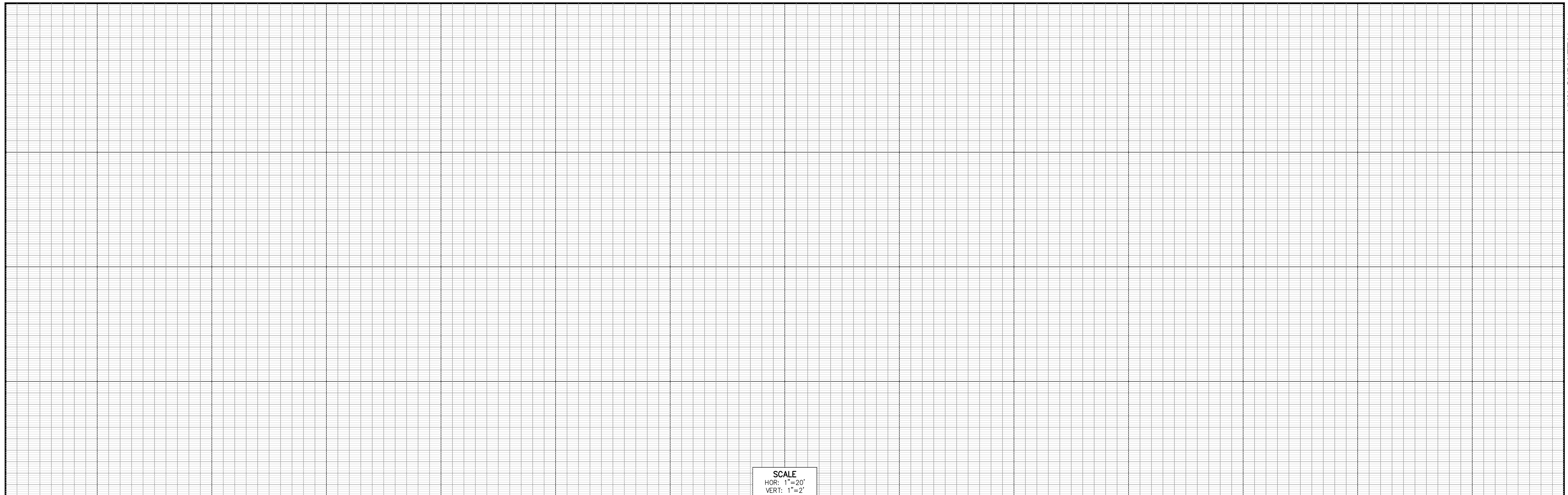


MATCH LINE - STA. 112+00.00
SEE SHEET NO. XX

MATCH LINE - STA. 124+00.00
SEE SHEET NO. XX



<table border="1"> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> </tr> </table>		REV	DATE	DESCRIPTION	1			2			3			4			CITY OF LA HABRA UPRR BIKEWAY PROJECT	
REV	DATE	DESCRIPTION																
1																		
2																		
3																		
4																		
RECOMMENDED BY SAM MAHAR, P.E. SR. CIVIL ENGINEER DATE _____	APP'D BY CITY ENGINEER DATE _____	FILE DWG. NO. SHEET OF XX																



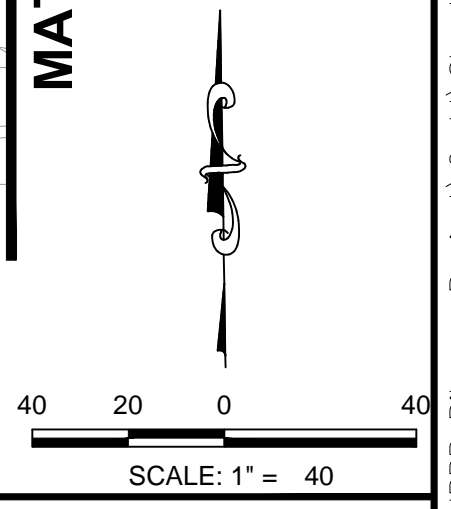
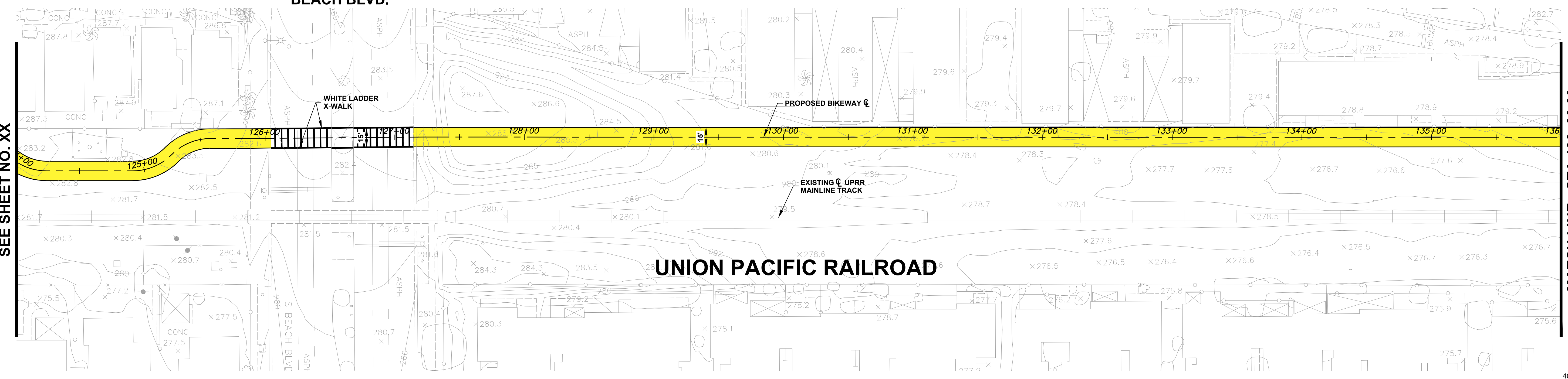
SCALE
HOR: 1"=20'
VERT: 1"=2'

124+00 125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00

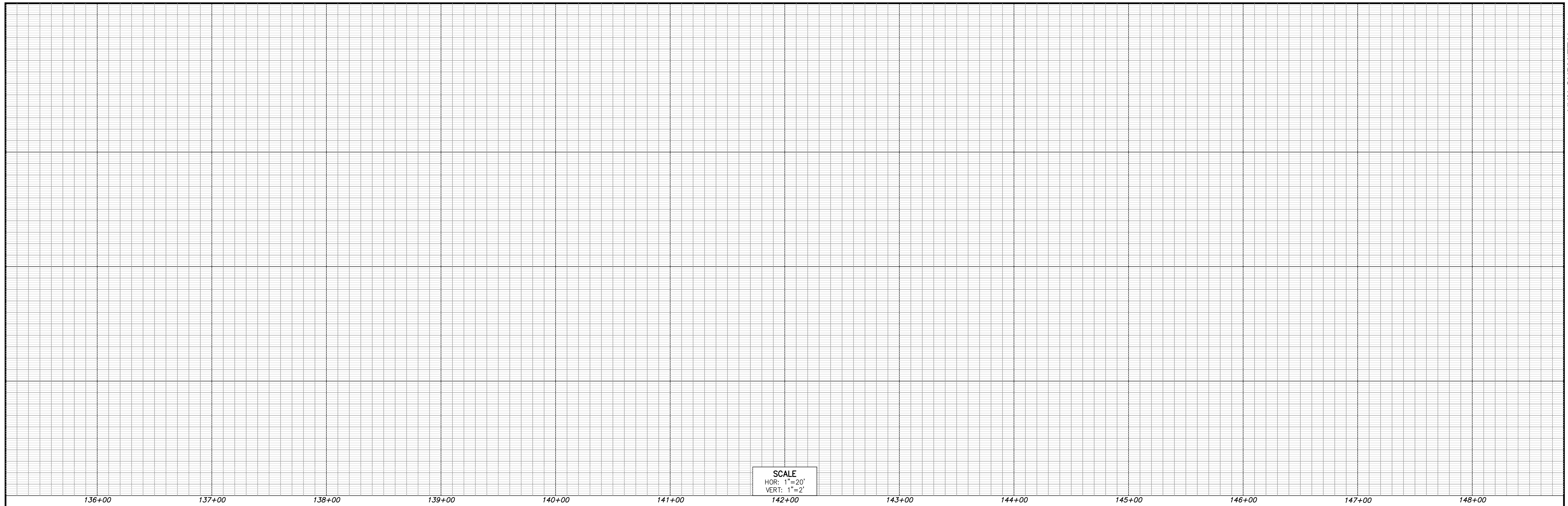
BEACH BLVD.

MATCH LINE - STA. 124+00.00
SEE SHEET NO. XX

MATCH LINE - STA. 136+00.00
SEE SHEET NO. XX

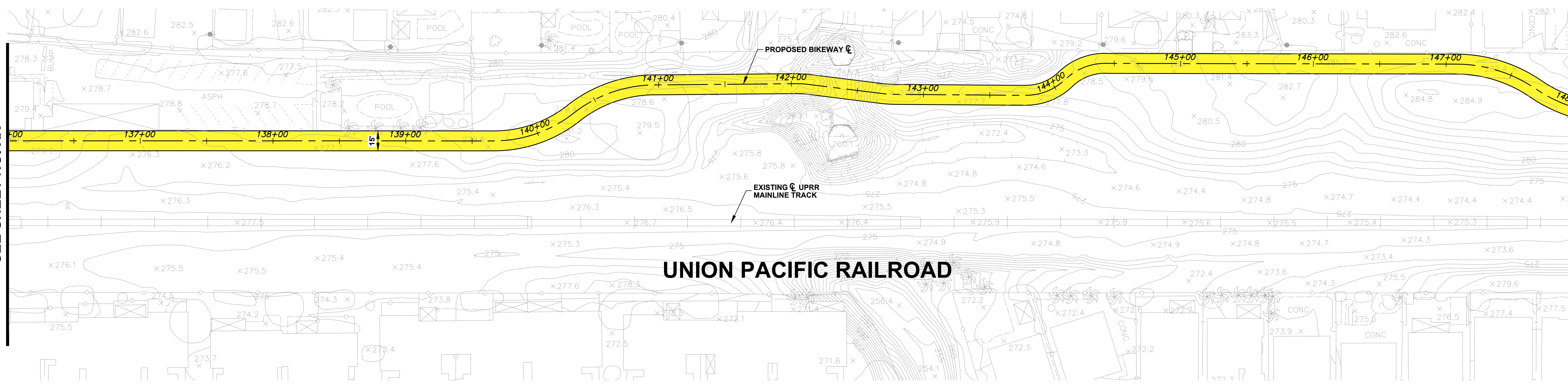


CITY OF LA HABRA	
UPRR BIKEWAY PROJECT	
REVISION	
NO.	DESCRIPTION
1	
2	
3	
4	
RECOMMENDED BY	APP'D BY
SAM MAKAR, P.E. SR. CIVIL ENGINEER	CITY ENGINEER
DATE	DATE
FILE	DWG. NO.
	SHEET OF XX



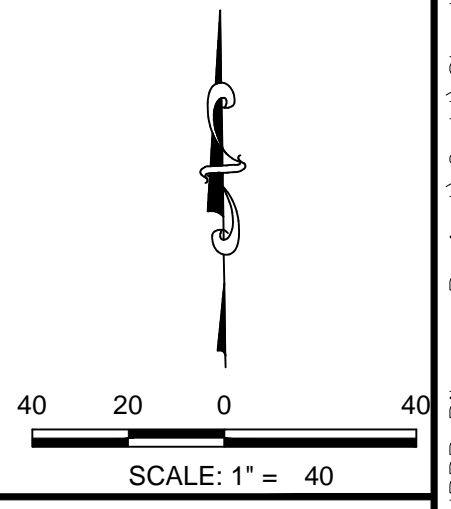
SCALE
HOR: 1"=20'
VERT: 1"=2'

MATCH LINE - STA. 136+00.00
SEE SHEET NO. XX

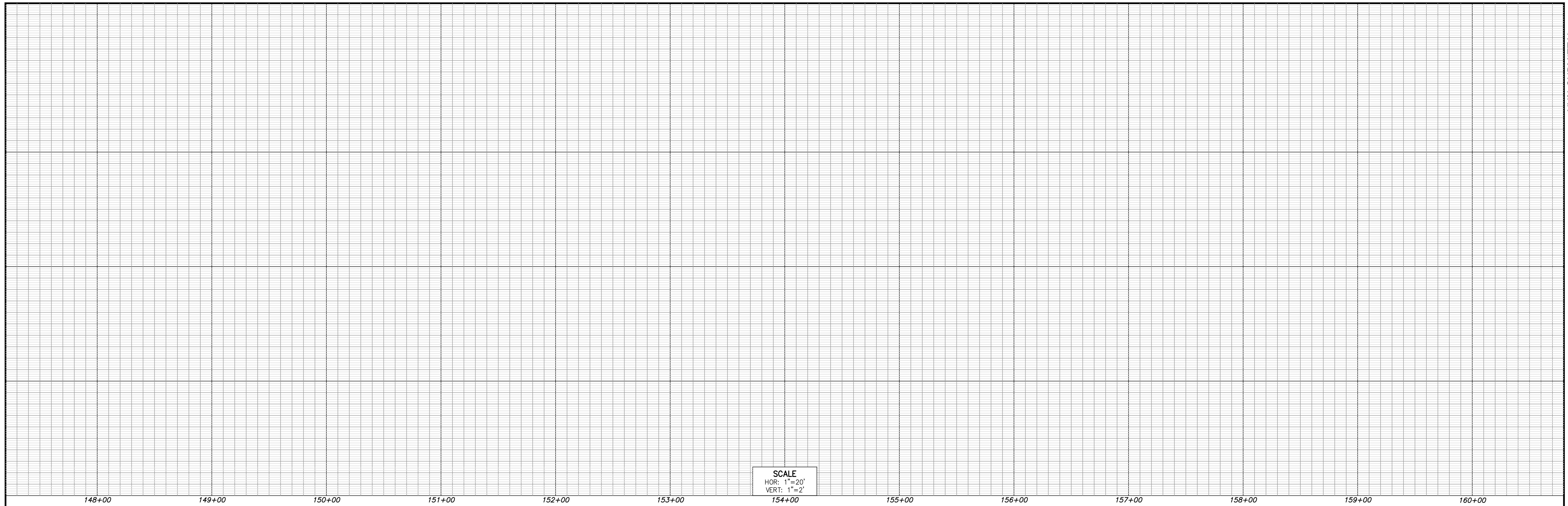


UNION PACIFIC RAILROAD

MATCH LINE - STA. 148+00.00
SEE SHEET NO. XX

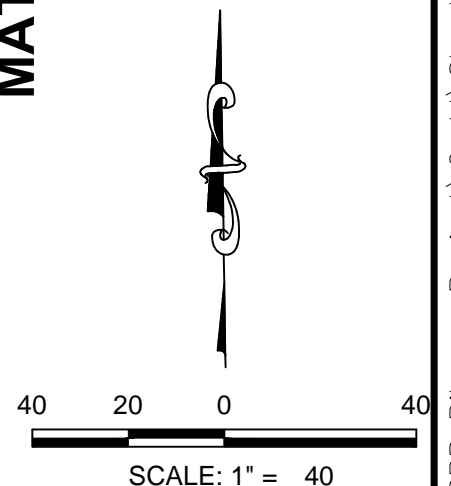
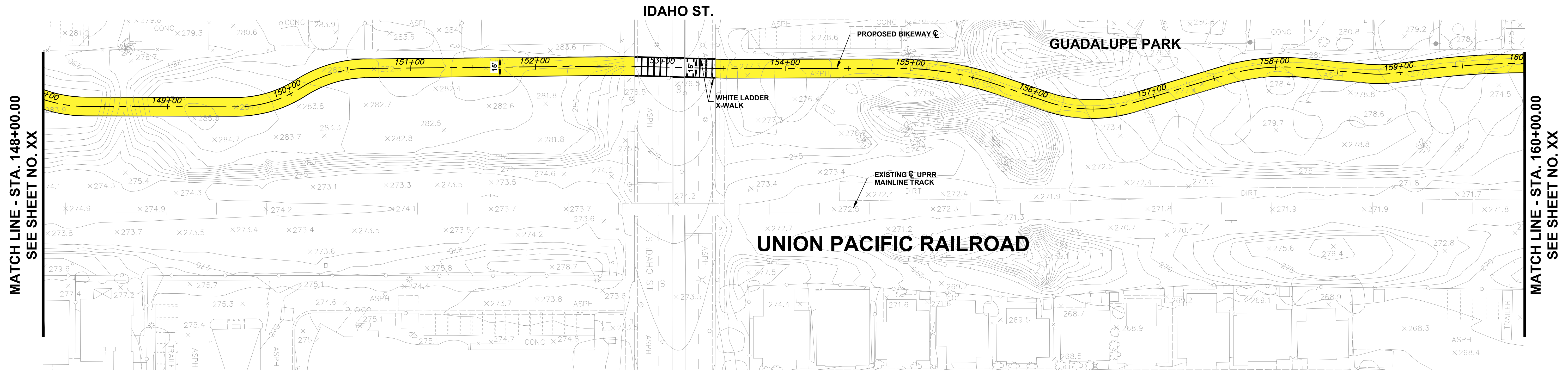


<table border="1"> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> </tr> </table>		REV	DATE	DESCRIPTION	1			2			3			4			<p>CITY OF LA HABRA UPRR BIKEWAY PROJECT</p>	
REV	DATE	DESCRIPTION																
1																		
2																		
3																		
4																		
<p>RECOMMENDED BY SAM MAKAR, P.E. SR. CIVIL ENGINEER</p>		<p>APP'D BY CITY ENGINEER</p>																
<p>DATE</p>		<p>DATE</p>																
<p>FILE</p>		<p>DWG. NO.</p>																
<p>SHEET</p>		<p>OF XX</p>																

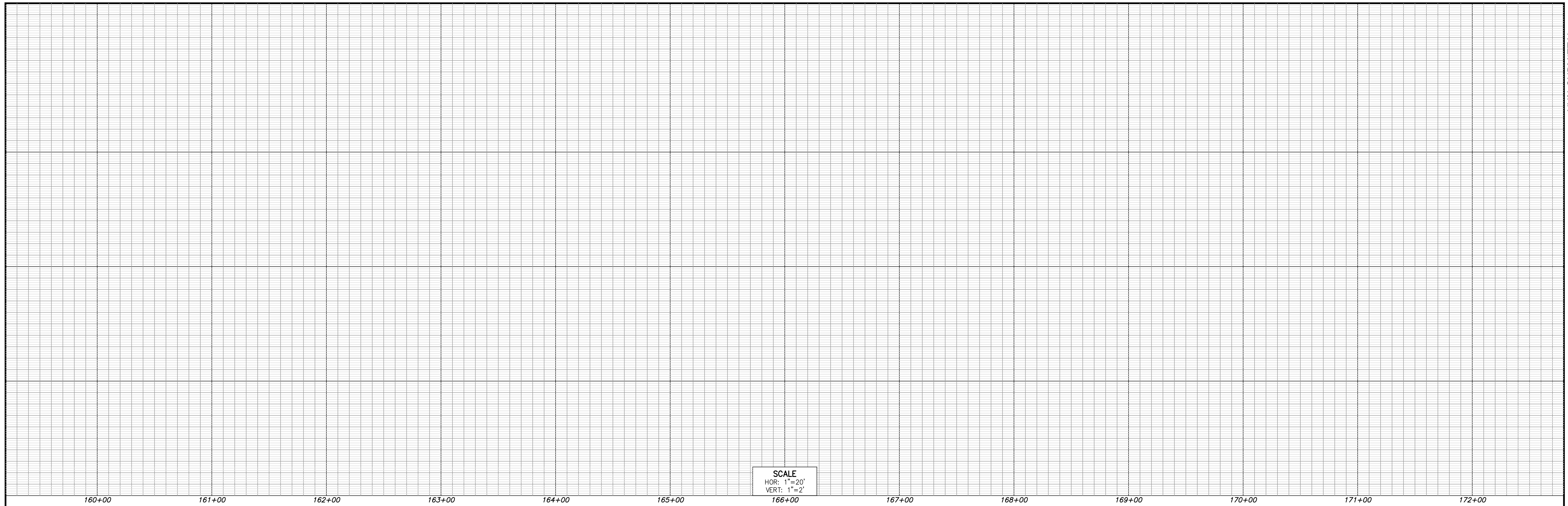


SCALE
HOR: 1"=20'
VERT: 1"=2'

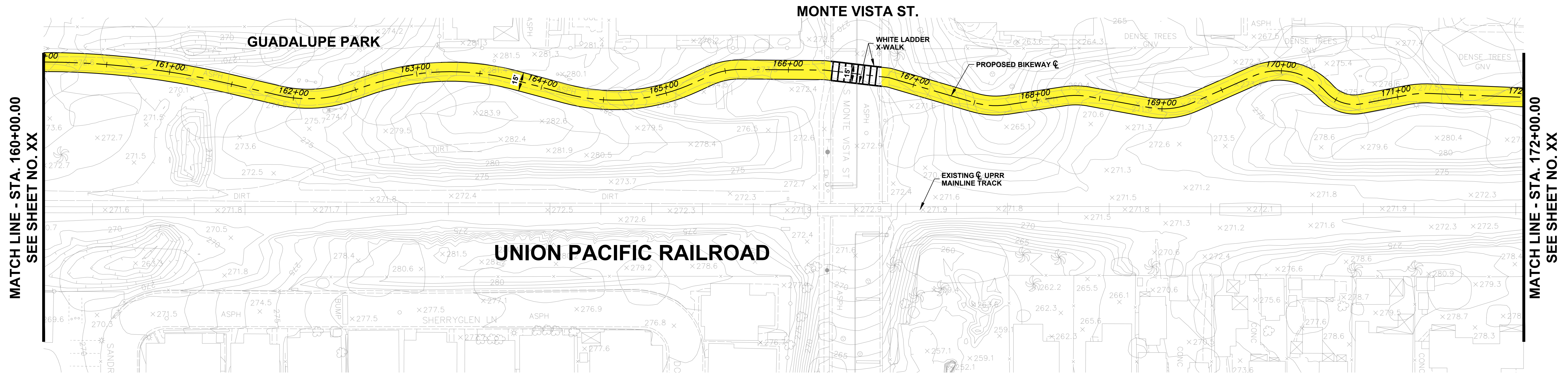
148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00



CITY OF LA HABRA	
UPRR BIKEWAY PROJECT	
REVISION	
NO.	DESCRIPTION
1	
2	
3	
4	
RECOMMENDED BY	APP'D BY
SAM MAKAR, P.E. SR. CIVIL ENGINEER	CITY ENGINEER
DATE	DATE
FILE	DWG. NO.
	SHEET OF XX

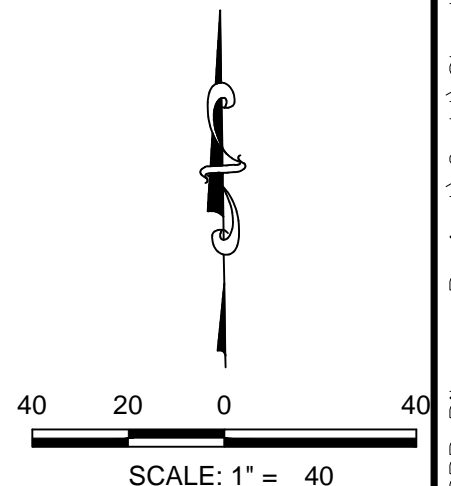


SCALE
HOR: 1"=20'
VERT: 1"=2'

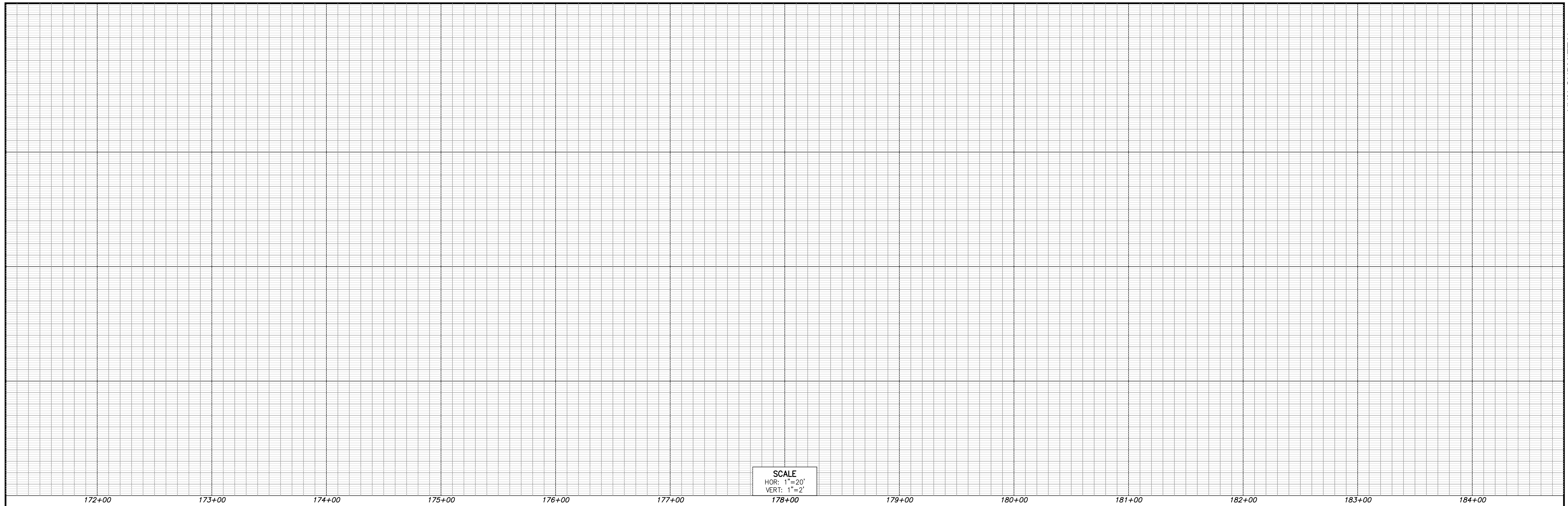


MATCH LINE - STA. 160+00.00
SEE SHEET NO. XX

MATCH LINE - STA. 172+00.00
SEE SHEET NO. XX



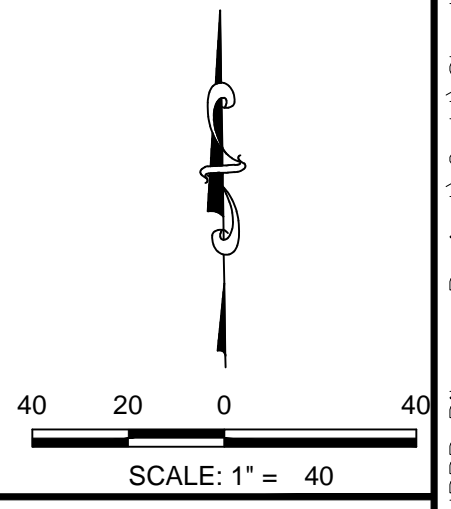
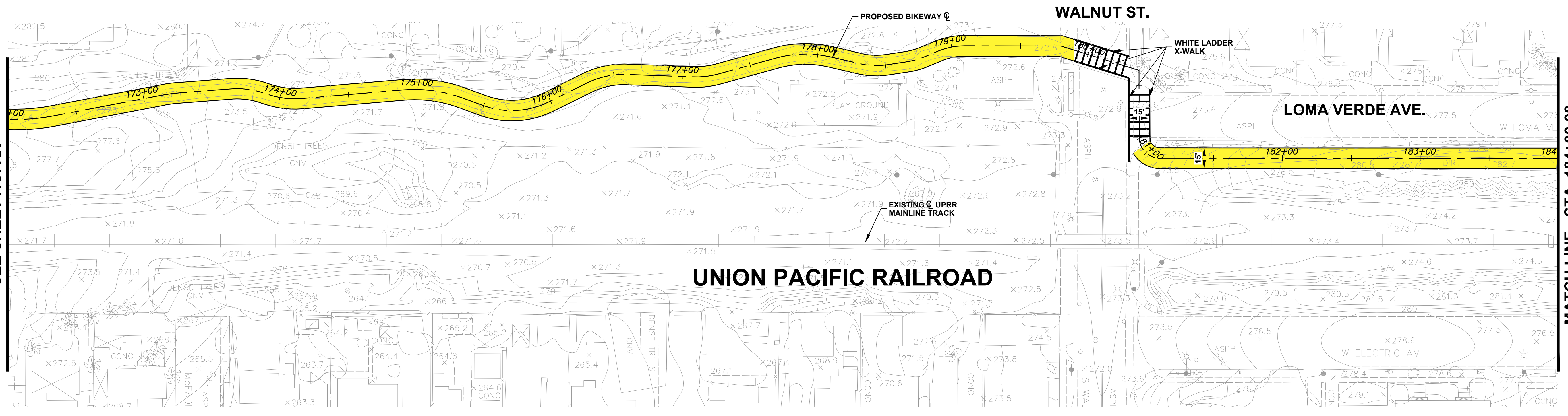
<table border="1"> <tr> <td>4</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td></td> <td>REV</td> <td>DATE</td> </tr> </table>		4			3			2			1				REV	DATE	<p align="center">CITY OF LA HABRA UPRR BIKEWAY PROJECT</p>	
4																		
3																		
2																		
1																		
	REV	DATE																
RECOMMENDED BY SAM MAKAR, P.E. SR. CIVIL ENGINEER DATE _____		APP'D BY CITY ENGINEER DATE _____																
FILE DWG. NO. SHEET OF XX																		



SCALE
HOR: 1"=20'
VERT: 1"=2'

MATCH LINE - STA. 172+00.00
SEE SHEET NO. XX

MATCH LINE - STA. 184+00.00
SEE SHEET NO. XX



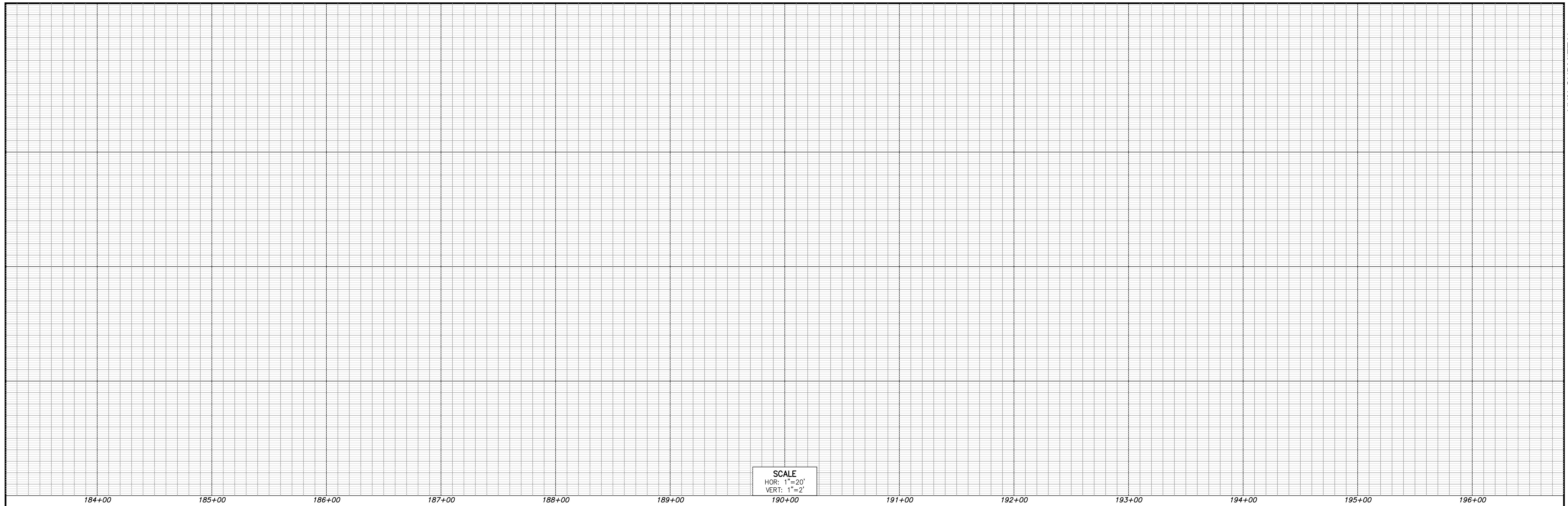
REV	DATE	DESCRIPTION	BY
1			
2			
3			
4			

CITY OF LA HABRA
UPRR BIKEWAY PROJECT

RECOMMENDED BY
SAM MAKAR, P.E. SR. CIVIL ENGINEER
DATE

APP'D BY
CITY ENGINEER
DATE

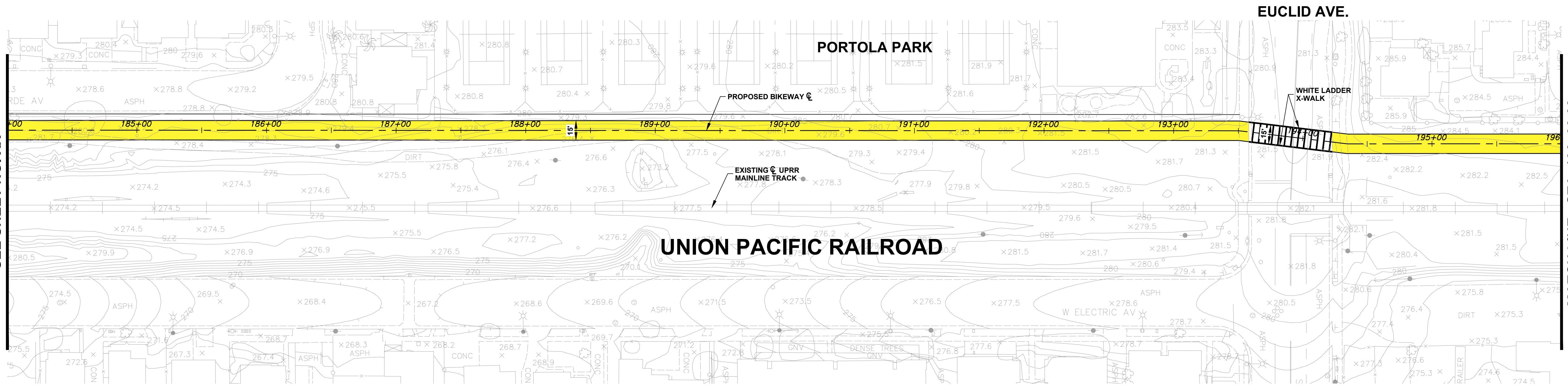
FILE
DWG. NO.
SHEET OF XX



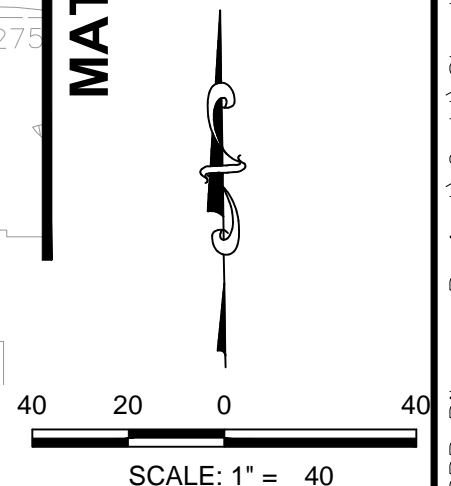
SCALE
HOR: 1"=20'
VERT: 1"=2'

184+00 185+00 186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00

MATCH LINE - STA. 184+00.00
SEE SHEET NO. XX



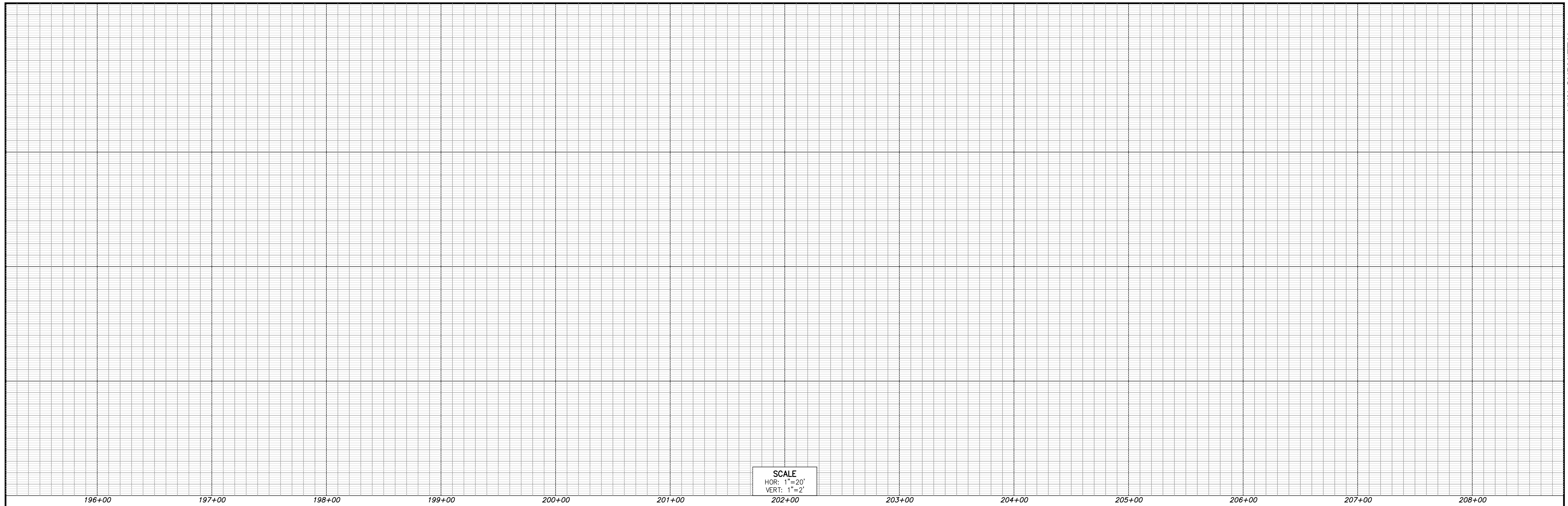
MATCH LINE - STA. 196+00.00
SEE SHEET NO. XX



REV	DATE	DESCRIPTION	BY
1			
2			
3			
4			

CITY OF LA HABRA
UPRR BIKEWAY PROJECT

RECOMMENDED BY SAM MAHAR, P.E. SR. CIVIL ENGINEER	APP'D BY CITY ENGINEER	FILE DWG. NO.
DATE	DATE	SHEET OF XX

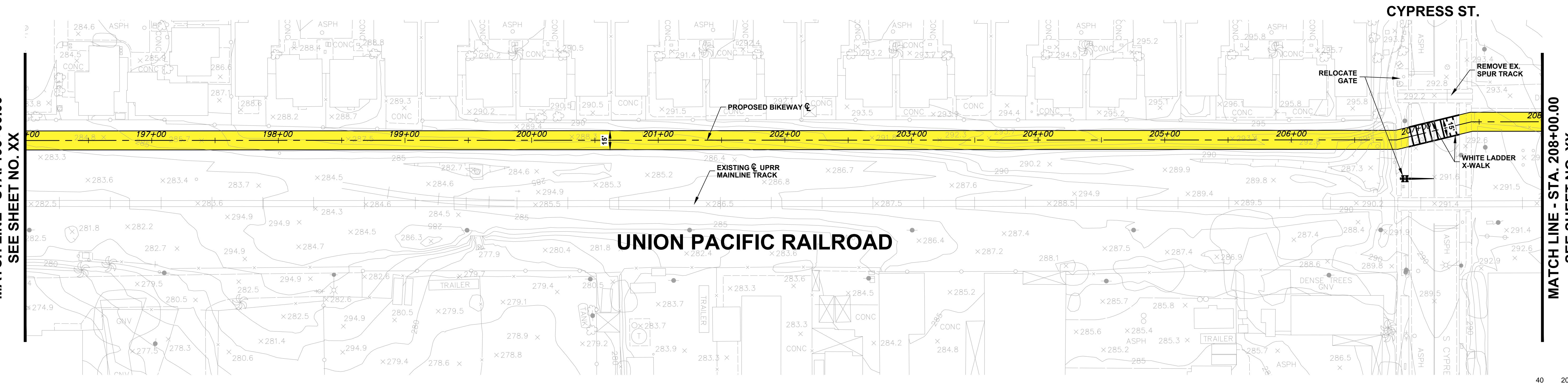


SCALE
HOR: 1"=20'
VERT: 1"=2'

196+00 197+00 198+00 199+00 200+00 201+00 202+00 203+00 204+00 205+00 206+00 207+00 208+00

MATCH LINE - STA. 196+00.00
SEE SHEET NO. XX

MATCH LINE - STA. 208+00.00
SEE SHEET NO. XX



UNION PACIFIC RAILROAD

CYPRESS ST.

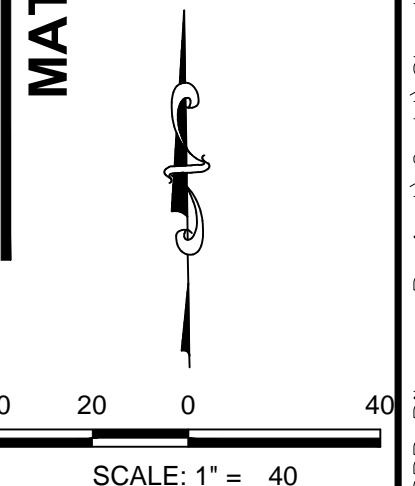
PROPOSED BIKEWAY

EXISTING UPRR MAINLINE TRACK

RELOCATE GATE

REMOVE EX. SPUR TRACK

WHITE LADDER X-WALK



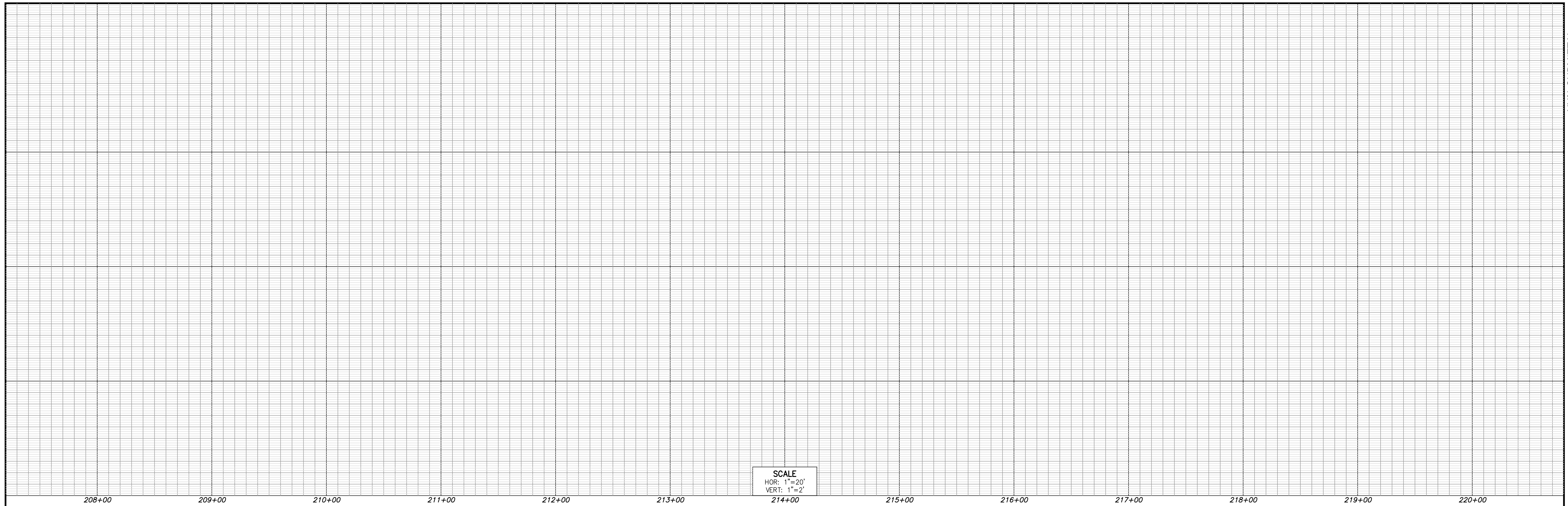
REV	DATE	DESCRIPTION	BY
1			
2			
3			
4			

CITY OF LA HABRA
UPRR BIKEWAY PROJECT

RECOMMENDED BY
SAM MAKAR, P.E. SR. CIVIL ENGINEER
DATE

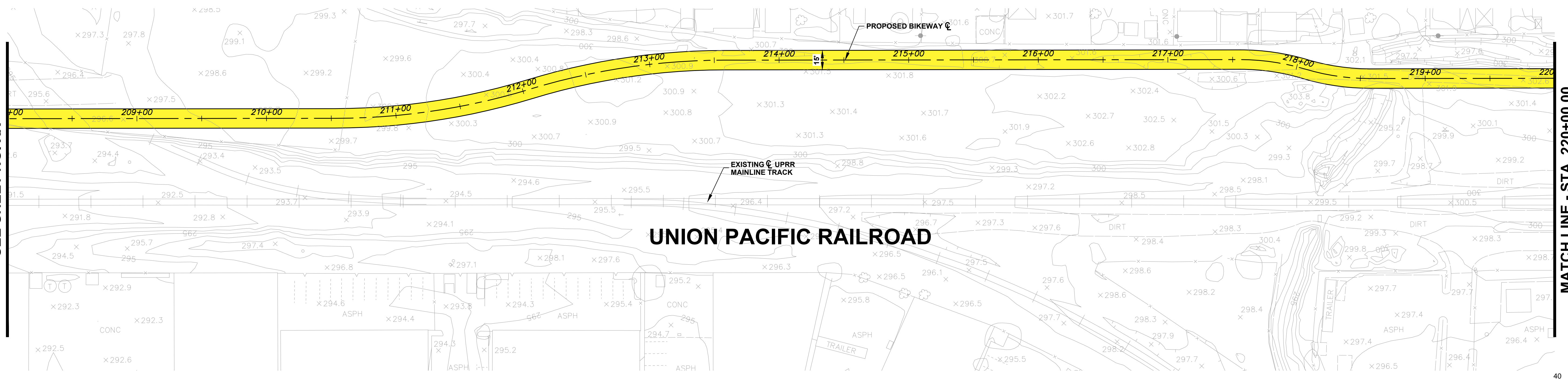
APP'D BY
CITY ENGINEER
DATE

FILE
DWG. NO.
SHEET OF XX



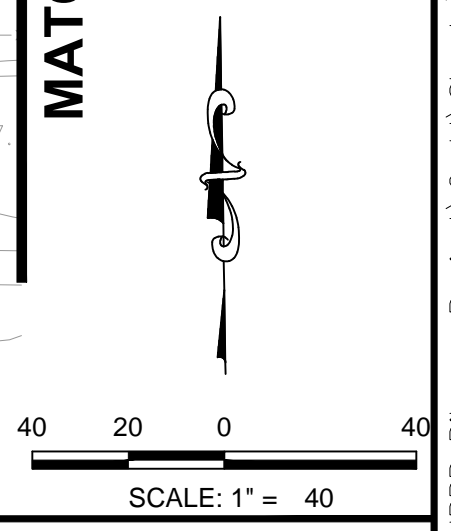
SCALE
HOR: 1"=20'
VERT: 1"=2'

MATCH LINE - STA. 208+00.00
SEE SHEET NO. XX



MATCH LINE - STA. 220+00.00
SEE SHEET NO. XX

UNION PACIFIC RAILROAD



NO.	DATE	DESCRIPTION	BY
1			
2			
3			
4			

CITY OF LA HABRA
UPRR BIKEWAY PROJECT

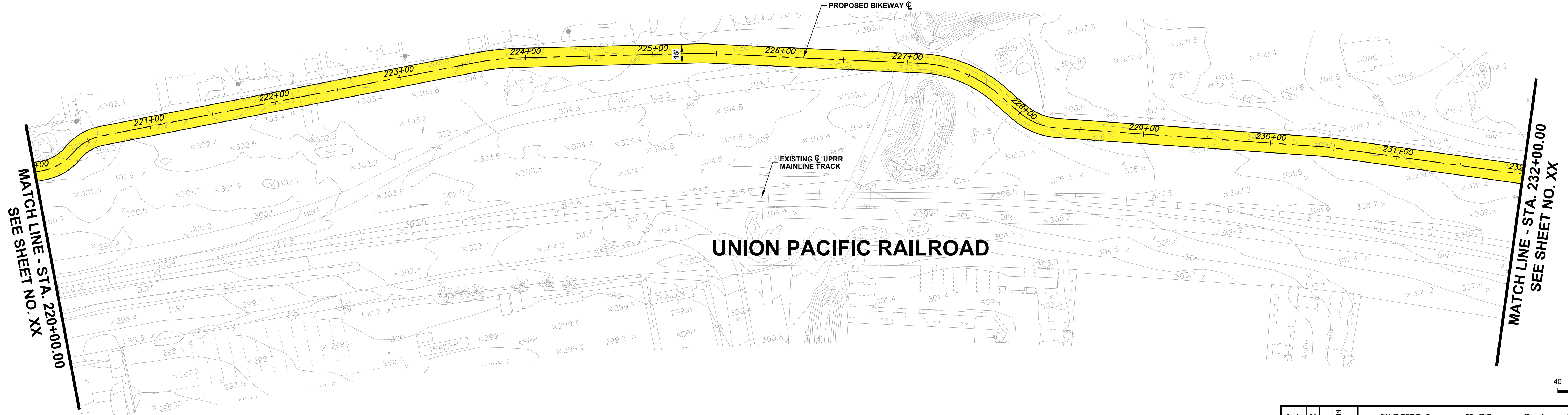
RECOMMENDED BY
SAM MAKAR, P.E. SR. CIVIL ENGINEER
DATE

APP'D BY
CITY ENGINEER
DATE

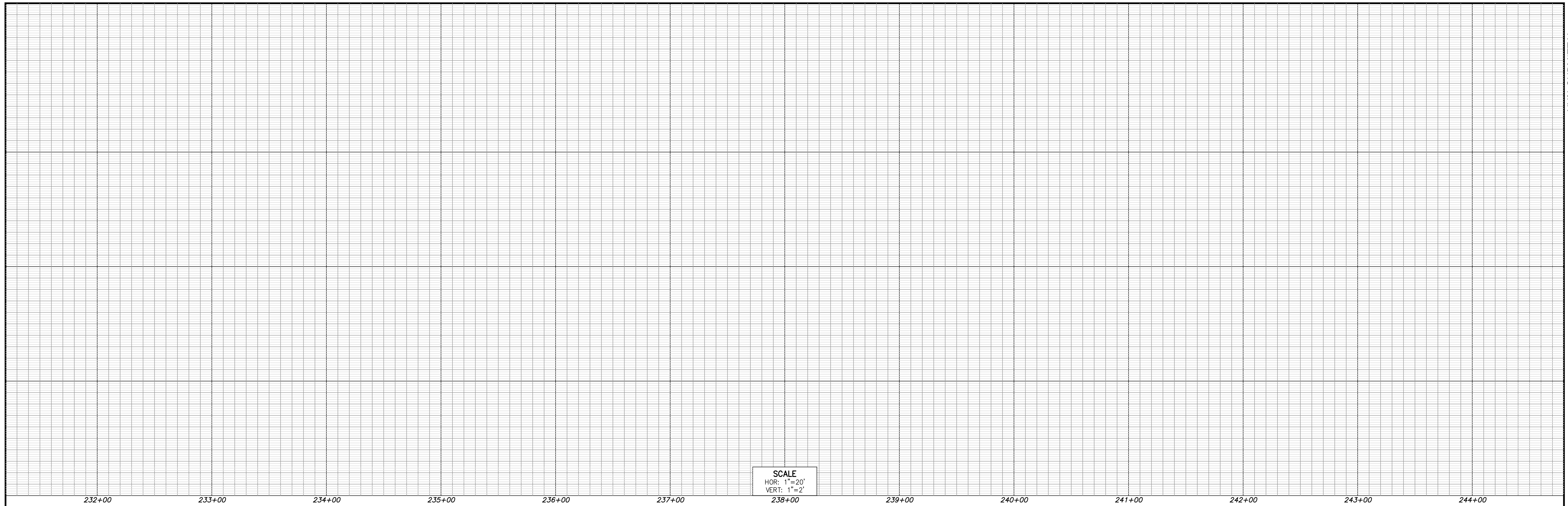
FILE
DWG. NO.
SHEET OF XX

220+00 221+00 222+00 223+00 224+00 225+00 226+00 227+00 228+00 229+00 230+00 231+00 232+00

SCALE
HOR: 1"=20'
VERT: 1"=2'

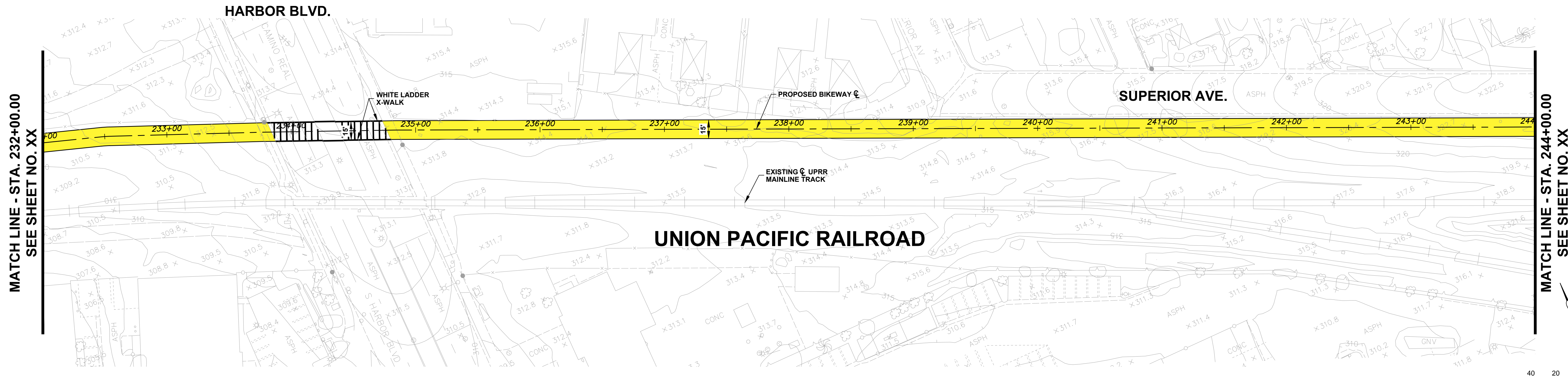


REVISION		CITY OF LA HABRA	
NO.	DATE	UPRR BIKEWAY PROJECT	
1		RECOMMENDED BY	APP'D BY
2		SAM MAKAR, P.E. SR CIVIL ENGINEER	CITY ENGINEER
3		DATE	DATE
4		FILE	DWG. NO.
			SHEET OF XX



SCALE
HOR: 1"=20'
VERT: 1"=2'

232+00 233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00 241+00 242+00 243+00 244+00



MATCH LINE - STA. 232+00.00
SEE SHEET NO. XX

MATCH LINE - STA. 244+00.00
SEE SHEET NO. XX

REV	DATE	DESCRIPTION	BY
1			
2			
3			
4			

CITY OF LA HABRA
UPRR BIKEWAY PROJECT

RECOMMENDED BY
SAM MAKAR, P.E. SR. CIVIL ENGINEER
DATE

APP'D BY
CITY ENGINEER
DATE

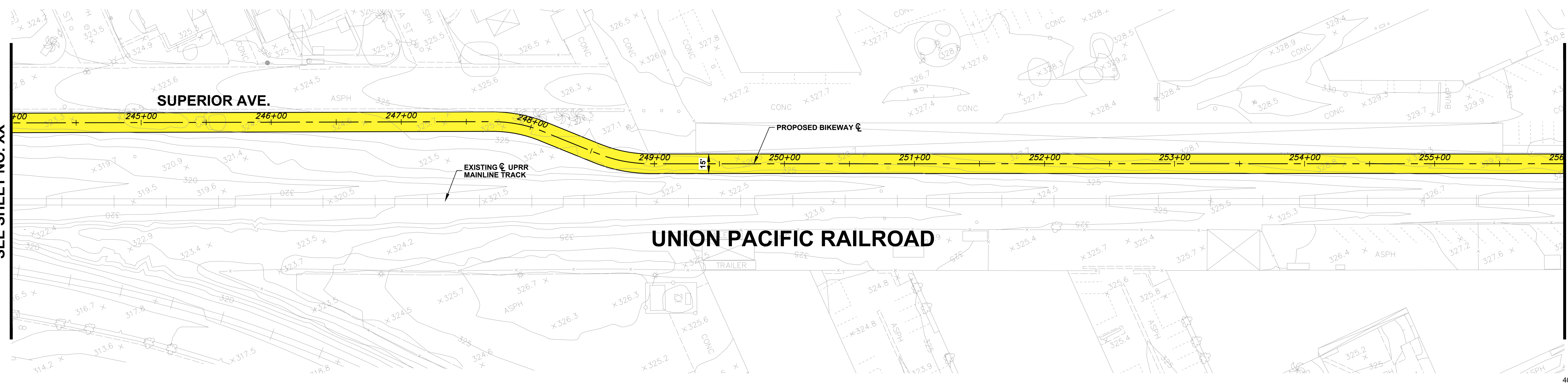
FILE
DWG. NO.
SHEET OF XX

244+00 245+00 246+00 247+00 248+00 249+00 250+00 251+00 252+00 253+00 254+00 255+00 256+00

SCALE
HOR: 1"=20'
VERT: 1"=2'

MATCH LINE - STA. 244+00.00
SEE SHEET NO. XX

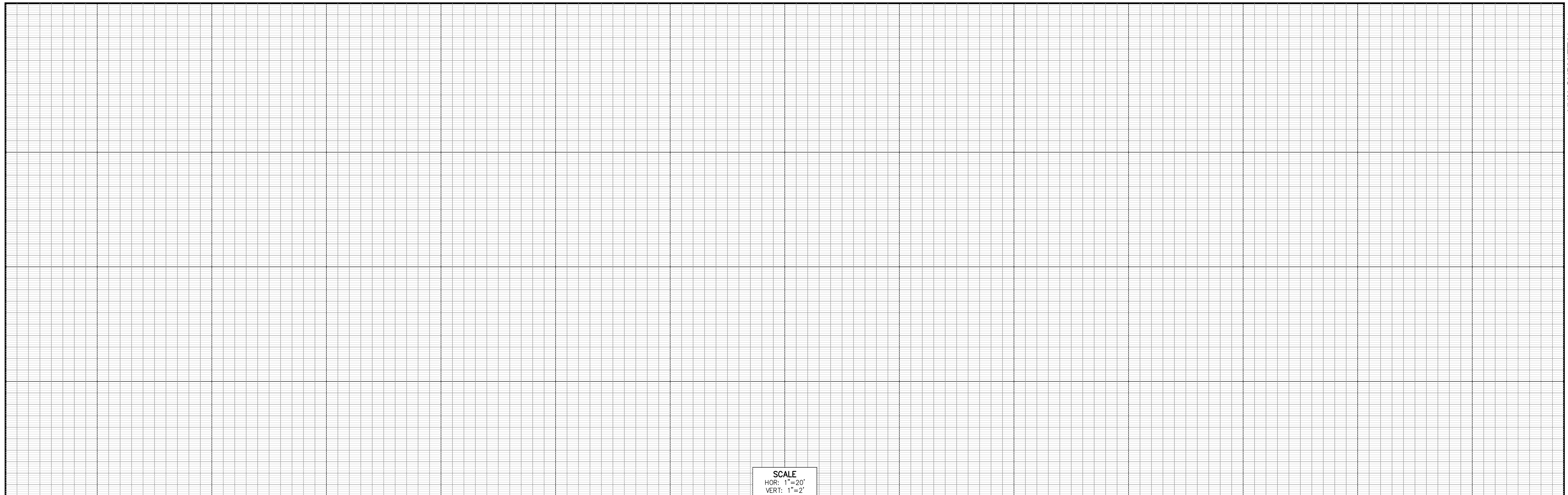
MATCH LINE - STA. 256+00.00
SEE SHEET NO. XX



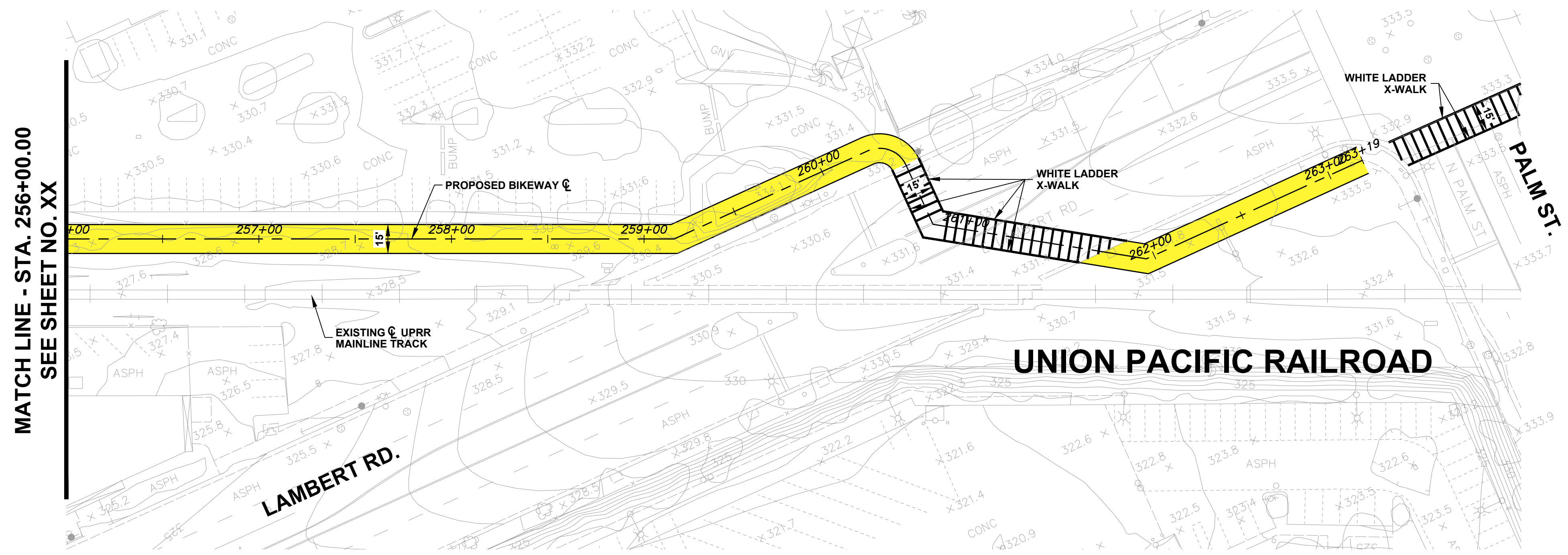
REV	DATE	DESCRIPTION	BY
1			
2			
3			
4			

CITY OF LA HABRA
UPRR BIKEWAY PROJECT

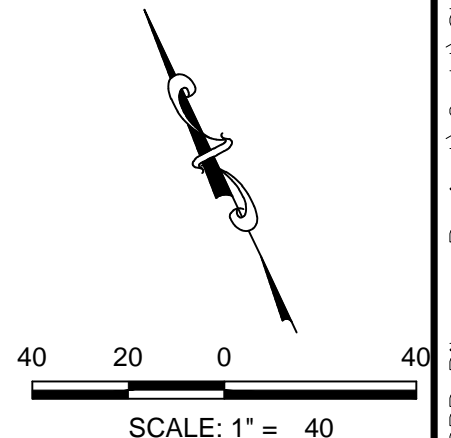
RECOMMENDED BY SAM MAKAR, P.E. SR. CIVIL ENGINEER	APP'D BY CITY ENGINEER	FILE DWG. NO.
DATE	DATE	SHEET OF XX



SCALE
HOR: 1"=20'
VERT: 1"=2'



MATCH LINE - STA. 256+00.00
SEE SHEET NO. XX



CITY OF LA HABRA	
UPRR BIKEWAY PROJECT	
REVISION	
NO.	DESCRIPTION
1	
2	
3	
4	
RECOMMENDED BY	APP'D BY
SAM MAKAR, P.E. SR. CIVIL ENGINEER	CITY ENGINEER
DATE	DATE
FILE	DWG. NO.
	SHEET OF XX

**LA HABRA/UPRR BIKEWAY PROJECT
CONCEPTUAL COST ESTIMATE (30% LEVEL)**

ALTERNATIVE 1 (NORTH SIDE)

October 22, 2014

Item	Payment Ref.	Quantity	Unit	Unit Price	Item Cost	Total
Site Items						
Mobilization, Utility Coordination and Permitting	1 (300-1)	1	LS	\$80,000.00	\$80,000	
Unclassified Excavation	2 (300-2.1)	10,000	CY	\$20.00	\$200,000	
AC Cold Milling, Removal and Hauling Materials	3 (302-1)	26,400	SF	\$0.30	\$7,920	
Concrete Removal & Hauling	4 (300-1)	0	CY	\$50.00	\$0	
Clearing & Grubbing	5 (300-1)	1	LS	\$40,000.00	\$40,000	
NPDES & Erosion Control Compliance	6	1	LS	\$10,000.00	\$10,000	
Surveying and Monumentation	7 (2-9, 309)	1	LS	\$18,000.00	\$18,000	
						\$355,920
Bikeway						
PCC Pavement, 4-Inch Sidewalk	8 (303-5)	0	SF	\$13.00	\$0	
Asphalt Concrete Pavement (PG 64-10-C2)	9 (302-5)	1,159	Ton	\$75.00	\$86,906	
Decomposed Granite		78,030	SF	\$6.00	\$468,180	
Concrete Curb	9 (303-5)	0	LF	\$35.00	\$0	
Conc. Curb & Gutter (6")	9 (303-5)	0	LF	\$45.00	\$0	
Concrete Ribbon Gutter	9 (303-5)	0	SF	\$15.00	\$0	
Curb Ramp	9 (303-5)	22	EA	\$3,500.00	\$77,000	
						\$632,086
Drainage Items						
Rectangular PCC Conduit	14-1 (303-1)	0	EA	\$2,000.00	\$0	
Catch Basin and Local Depression	14-1 (303-1)	0	EA	\$5,000.00	\$0	
15 inch RCP	14-1 (303-1)	0	LF	\$100.00	\$0	
Box Culvert (10'x10'x20')		31	CY	\$500.00	\$15,519	
24" RCP Culvert		100	LF	\$200.00	\$20,000	
Junction Structure	14-1 (303-1)	0	EA	\$3,000.00	\$0	
Gabions		992	CY	\$350.00	\$347,200	
V-Shape Cross Gutter (Including 4" compacted base)	14-1 (303-1)	0	SF	\$20.00	\$0	
						\$382,719
Utility Items						
Adjust Manhole to Grade	17-1	0	EA	\$350.00	\$0	
Connect Lateral to Existing Water Line	15-1	0	EA	\$2,000.00	\$0	
Connect Lateral to Existing Sanitary Sewer Line	15-1	0	EA	\$5,000.00	\$0	
Connect Lateral to Existing Storm Drain	15-1	0	EA	\$10,000.00	\$0	
2-6" PVC Schedule 40 Conduit & Pulloper	15-1	0	LF	\$20.00	\$0	
						\$0
Hardscape Improvements						
Fountain	33-2	0	EA	\$35,200.00	\$0	
Planter Pots	34-2	0	EA	\$350.00	\$0	
Benches	35-2	18	EA	\$2,100.00	\$37,800	
Handrail	36-4 (206-7)	0	LF	\$50.00	\$0	
Chain Link Fence, 2" mesh, 72" tall fence minimum		1,980	LF	\$35.00	\$69,300	
Wrought Iron Fence	36-4 (210-3)	0	LF	\$80.00	\$0	
Flag Pole (20' Height)	37-2	0	EA	\$5,000.00	\$0	
Decorative Concrete	38-2	0	SF	\$20.00	\$0	
Install Brick Pavers (Herringbone Pattern)	39-1	0	SF	\$30.00	\$0	
Install Brick Paver (Stacked Pattern)	39-1	0	SF	\$30.00	\$0	
Install Brick Pavers (Basketweave Pattern)	39-1	0	SF	\$30.00	\$0	
Tactile Warning Strips	40-2	0	EA	\$1,000.00	\$0	
Litter Receptacles	41-2	18	EA	\$930.00	\$16,740	
Bicycle Rack		18	EA	\$400.00	\$7,200	
Shade Structure		9	EA	\$20,000.00	\$180,000	
Pet Sanitation		18	EA	\$350.00	\$6,300	
Trail Gateways at city limits		2	EA	\$12,000.00	\$24,000	
Trail Map		9	EA	\$3,000.00	\$27,000	
Trail Directional Sign		9	EA	\$600.00	\$5,400	
Trail Confirmation Marker		27	EA	\$400.00	\$10,800	
Trail Mile Marker		24	EA	\$150.00	\$3,600	
Interpretive Sign		6	EA	\$2,000.00	\$12,000	
						\$400,140
Landscape						
Rainbird Dripline	46	14,300	LF	\$0.30	\$4,290	
RWS-Root Watering System (Trees)	46	142	EA	\$50.00	\$7,100	
Manifold-Flush Assembly	46	24	EA	\$15.00	\$360	
1" Drip Line Valve (Underground Install)	46	24	EA	\$300.00	\$7,200	
1" Valves w/ Valve Boxes	46	30	EA	\$295.00	\$8,850	
Quick Couplers w/ Valve Boxes	46	10	EA	\$200.00	\$2,000	
Gate Valves w/ Valve Boxes	46	15	EA	\$370.00	\$5,550	
Flow Sensor	46	2	EA	\$250.00	\$500	
Controllers (1)	46	1	EA	\$5,000.00	\$5,000	
Controller Stainless Steel Enclosure	46	1	EA	\$1,000.00	\$1,000	
2" Master Valve	46	2	EA	\$520.00	\$1,040	
Y-Stainer	46	1	EA	\$300.00	\$300	
3/4 Backflow Assembly w/Enclosure	46	1	EA	\$3,000.00	\$3,000	
Mainline and Control Wire	46	1,250	LF	\$20.00	\$25,000	
Lateral Lines	46	750	LF	\$7.00	\$5,250	
Sleeving	46	750	LF	\$12.00	\$9,000	
Soil Amendments	45	300	CY	\$50.00	\$15,000	
36" Box Trees	45	18	EA	\$1,200.00	\$21,600	

**LA HABRA/UPRR BIKEWAY PROJECT
CONCEPTUAL COST ESTIMATE (30% LEVEL)**

ALTERNATIVE 1 (NORTH SIDE)

October 22, 2014

Item	Payment Ref.	Quantity	Unit	Unit Price	Item Cost	Total
24" Box Trees	45		EA	\$750.00	\$0	
5 gal	45	513	EA	\$25.00	\$12,825	
1 gal	45	1,500	EA	\$10.00	\$15,000	
6" Pots	45	991	EA	\$6.00	\$5,946	
Flats (60 Per Flat)	45	100	EA	\$60.00	\$6,000	
Landscape Maintenance	45	3	MO	\$2,000.00	\$6,000	
Landscape Demolition	45		5%	\$167,811.00	\$8,391	
Shrub Planting		432	SF	\$7.00	\$3,024	
Low Flow Irrigation System		432	SF	\$5.00	\$2,160	
Irrigation Equipment		1	LS	\$3,000.00	\$3,000	
						\$184,386
Traffic Items						
Signing and Striping	63-4	1	LS	\$10,000.00	\$10,000	
Parking Bumper (Wheel Stop)	64-4	0	EA	\$250.00	\$0	
Traffic Control	65-4	1	LS	\$10,000.00	\$10,000	
Traffic Signal (New)	67-4	5	LS	\$100,000.00	\$500,000	
Traffic Signal Modifications	67-4	1	LS	\$100,000.00	\$100,000	
No. 6 Pull Box	67-2	12	EA	\$500.00	\$6,000	
No. 6 (T) Pull Box	67-2	0	EA	\$750.00	\$0	
Electrical (Shelter)	67-2	0	LS	\$5,000.00	\$0	
						\$626,000
Station Signage						
Site Identification Monument	69-31	0	EA	\$9,400.00	\$0	
Vehicular Directional	69-31	0	EA	\$5,600.00	\$0	
Information/Restrictive	69-31	0	EA	\$550.00	\$0	
Parking Restrictive English/Spanish	69-31	0	EA	\$1,000.00	\$0	
Parking Restrictive/Accessible	69-31	0	EA	\$675.00	\$0	
Parking Restrictive	69-31	0	EA	\$625.00	\$0	
Warning Signs	69-31	0	EA	\$550.00	\$0	
City Pedestrian Directional	69-31	0	EA	\$3,300.00	\$0	
City Vehicular Directional	69-31	0	EA	\$3,850.00	\$0	
						\$0
Lighting Items						
Electrical Conduit (Sch 80 PVC) & Conductors	70-4	0	LF	\$20.00	\$0	
Electrical Pullbox (#5)	70-4	0	EA	\$300.00	\$0	
Electrolier w/ New Luminaire(s) & Footing	70-4	396	EA	\$1,000.00	\$396,000	
Tree Receptacles & Up-Lighting	70-4	0	LS	\$15,000.00	\$0	
Modify Electrical Service and Subpanels	70-4	0	EA	\$1,500.00	\$0	
						\$396,000
Surveillance Items						
Relocate CCTV Cameras	71-3	0	LS	\$5,000.00	\$0	
CCTV Conductors & Cables	71-3	0	LS	\$2,500.00	\$0	
						\$0
Structural Items						
Bridges		0	SF	\$250.00	\$0	
Retaining Walls		1,000	SF	\$250.00	\$250,000	
						\$250,000
Railroad Items						
Preemption		6	LS	\$75,000.00	\$450,000	
		0	LS	\$2,500.00	\$0	
						\$450,000
Right of Way						
Property (UPRR)		158,998	SF	\$60.00	\$9,539,880	
Relocation		0	LS	\$2,500.00	\$0	
Goodwill		0	LS	\$2,500.00	\$0	
						\$9,539,880
Subtotal						\$13,217,130
Contingency (10%)						\$1,321,713
Construction Management & Inspection (10%)						\$1,321,713
Administration (4%)						\$528,685
Flagging (15 days)/Permitting (1%)						\$147,171
Grand Total						\$16,536,412

**LA HABRA/UPRR BIKEWAY PROJECT
CONCEPTUAL COST ESTIMATE (30% LEVEL)**

ALTERNATIVE 2 (SOUTH SIDE)

October 22, 2014

Item	Payment Ref.	Quantity	Unit	Unit Price	Item Cost	Total
Site Items						
Mobilization, Utility Coordination and Permitting	1 (300-1)	1	LS	\$80,000.00	\$80,000	
Unclassified Excavation	2 (300-2.1)	10,000	CY	\$20.00	\$200,000	
AC Cold Milling, Removal and Hauling Materials	3 (302-1)	26,400	SF	\$0.30	\$7,920	
Concrete Removal & Hauling	4 (300-1)	0	CY	\$50.00	\$0	
Clearing & Grubbing	5 (300-1)	1	LS	\$40,000.00	\$40,000	
NPDES & Erosion Control Compliance	6	1	LS	\$10,000.00	\$10,000	
Surveying and Monumentation	7 (2-9, 309)	1	LS	\$18,000.00	\$18,000	
						\$355,920
Bikeway						
PCC Pavement, 4-Inch Sidewalk	8 (303-5)	0	SF	\$13.00	\$0	
Asphalt Concrete Pavement (PG 64-10-C2)	9 (302-5)	1,159	Ton	\$75.00	\$86,906	
Decomposed Granite		78,030	SF	\$6.00	\$468,180	
Concrete Curb	9 (303-5)	0	LF	\$35.00	\$0	
Conc. Curb & Gutter (6")	9 (303-5)	0	LF	\$45.00	\$0	
Concrete Ribbon Gutter	9 (303-5)	0	SF	\$15.00	\$0	
Curb Ramp	9 (303-5)	22	EA	\$3,500.00	\$77,000	
						\$632,086
Drainage Items						
Rectangular PCC Conduit	14-1 (303-1)	0	EA	\$2,000.00	\$0	
Catch Basin and Local Depression	14-1 (303-1)	0	EA	\$5,000.00	\$0	
15 inch RCP	14-1 (303-1)	0	LF	\$100.00	\$0	
Box Culvert (10'x10'x20')		31	CY	\$500.00	\$15,519	
24" RCP Culvert		100	LF	\$200.00	\$20,000	
Junction Structure	14-1 (303-1)	0	EA	\$3,000.00	\$0	
Gabions		992	CY	\$350.00	\$347,200	
V-Shape Cross Gutter (Including 4" compacted base)	14-1 (303-1)	0	SF	\$20.00	\$0	
						\$382,719
Utility Items						
Adjust Manhole to Grade	17-1	0	EA	\$350.00	\$0	
Connect Lateral to Existing Water Line	15-1	0	EA	\$2,000.00	\$0	
Connect Lateral to Existing Sanitary Sewer Line	15-1	0	EA	\$5,000.00	\$0	
Connect Lateral to Existing Storm Drain	15-1	0	EA	\$10,000.00	\$0	
2-6" PVC Schedule 40 Conduit & Pullope	15-1	0	LF	\$20.00	\$0	
						\$0
Hardscape Improvements						
Fountain	33-2	0	EA	\$35,200.00	\$0	
Planter Pots	34-2	0	EA	\$350.00	\$0	
Benches	35-2	18	EA	\$2,100.00	\$37,800	
Handrail	36-4 (206-7)	0	LF	\$50.00	\$0	
Chain Link Fence, 2" mesh, 72" tall fence minimum		1,980	LF	\$35.00	\$69,300	
Wrought Iron Fence	36-4 (210-3)	0	LF	\$80.00	\$0	
Flag Pole (20' Height)	37-2	0	EA	\$5,000.00	\$0	
Decorative Concrete	38-2	0	SF	\$20.00	\$0	
Install Brick Pavers (Herringbone Pattern)	39-1	0	SF	\$30.00	\$0	
Install Brick Paver (Stacked Pattern)	39-1	0	SF	\$30.00	\$0	
Install Brick Pavers (Basketweave Pattern)	39-1	0	SF	\$30.00	\$0	
Tactile Warning Strips	40-2	0	EA	\$1,000.00	\$0	
Litter Receptacles	41-2	18	EA	\$930.00	\$16,740	
Bicycle Rack		18	EA	\$400.00	\$7,200	
Shade Structure		9	EA	\$20,000.00	\$180,000	
Pet Sanitation		18	EA	\$350.00	\$6,300	
Trail Gateways at city limits		2	EA	\$12,000.00	\$24,000	
Trail Map		9	EA	\$3,000.00	\$27,000	
Trail Directional Sign		9	EA	\$600.00	\$5,400	
Trail Confirmation Marker		27	EA	\$400.00	\$10,800	
Trail Mile Marker		24	EA	\$150.00	\$3,600	
Interpretive Sign		6	EA	\$2,000.00	\$12,000	
						\$400,140
Landscape						
Rainbird Dripline	46	14,300	LF	\$0.30	\$4,290	
RWS-Root Watering System (Trees)	46	142	EA	\$50.00	\$7,100	
Manifold-Flush Assembly	46	24	EA	\$15.00	\$360	
1" Drip Line Valve (Underground Install)	46	24	EA	\$300.00	\$7,200	
1" Valves w/ Valve Boxes	46	30	EA	\$295.00	\$8,850	
Quick Couplers w/ Valve Boxes	46	10	EA	\$200.00	\$2,000	
Gate Valves w/ Valve Boxes	46	15	EA	\$370.00	\$5,550	
Flow Sensor	46	2	EA	\$250.00	\$500	
Controllers (1)	46	1	EA	\$5,000.00	\$5,000	
Controller Stainless Steel Enclosure	46	1	EA	\$1,000.00	\$1,000	
2" Master Valve	46	2	EA	\$520.00	\$1,040	
Y-Stainer	46	1	EA	\$300.00	\$300	
3/4 Backflow Assembly w/Enclosure	46	1	EA	\$3,000.00	\$3,000	
Mainline and Control Wire	46	1,250	LF	\$20.00	\$25,000	
Lateral Lines	46	750	LF	\$7.00	\$5,250	
Sleeving	46	750	LF	\$12.00	\$9,000	

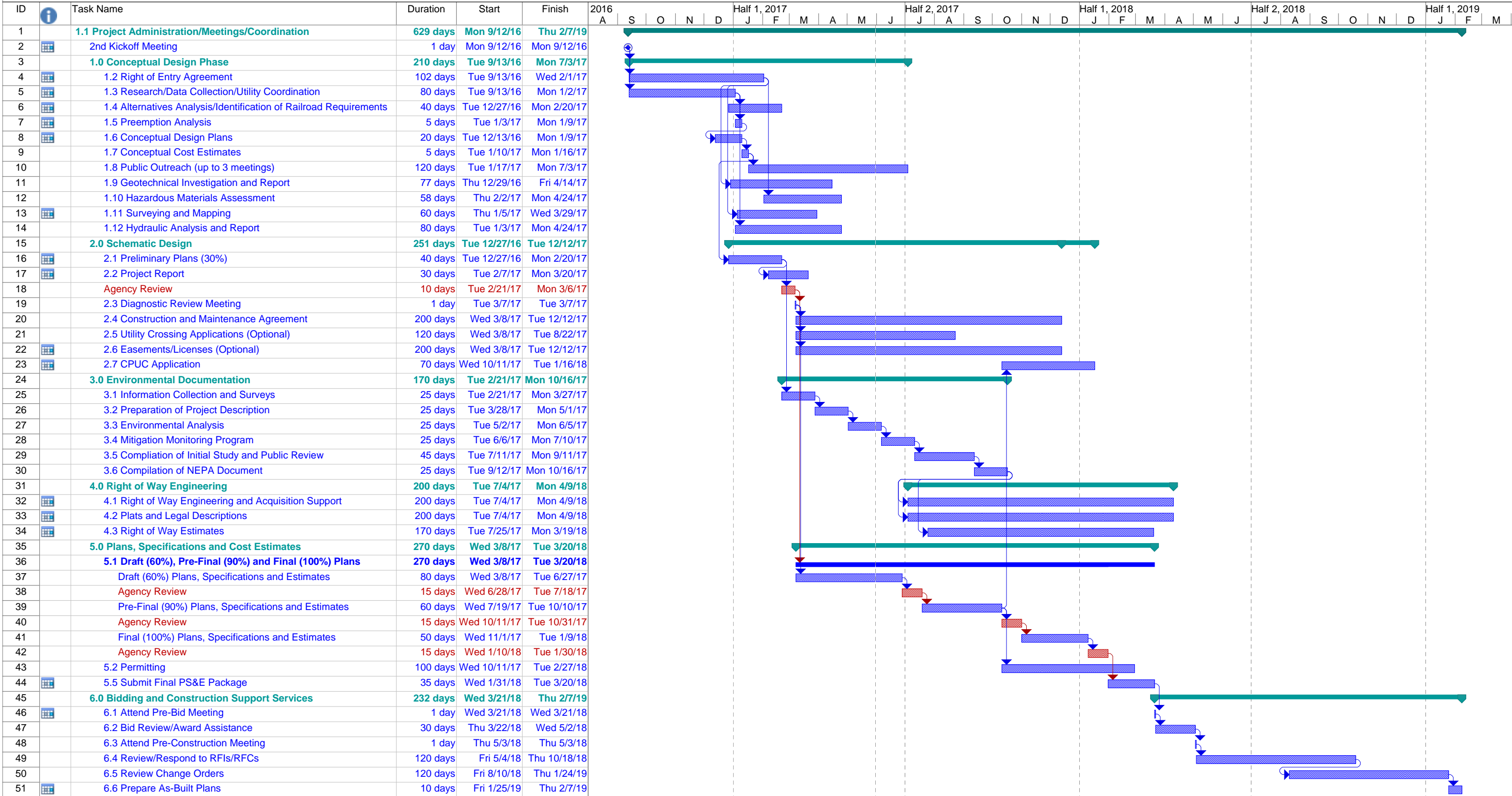
**LA HABRA/UPRR BIKEWAY PROJECT
CONCEPTUAL COST ESTIMATE (30% LEVEL)**

ALTERNATIVE 2 (SOUTH SIDE)

October 22, 2014

Item	Payment Ref.	Quantity	Unit	Unit Price	Item Cost	Total
Soil Amendments	45	300	CY	\$50.00	\$15,000	
36" Box Trees	45	18	EA	\$600.00	\$10,800	
24" Box Trees	45		EA	\$500.00	\$0	
5 gal	45	513	EA	\$25.00	\$12,825	
1 gal	45	1,500	EA	\$10.00	\$15,000	
6" Pots	45	991	EA	\$6.00	\$5,946	
Flats (60 Per Flat)	45	100	EA	\$60.00	\$6,000	
Landscape Maintenance	45	3	MO	\$2,000.00	\$6,000	
Landscape Demolition	45		5%	\$157,011.00	\$7,851	
Shrub Planting		432	SF	\$7.00	\$3,024	
Low Flow Irrigation System		432	SF	\$5.00	\$2,160	
Irrigation Equipment		1	LS	\$3,000.00	\$3,000	
						\$173,046
Traffic Items						
Signing and Striping	63-4	1	LS	\$10,000.00	\$10,000	
Parking Bumper (Wheel Stop)	64-4	0	EA	\$250.00	\$0	
Traffic Control	65-4	1	LS	\$10,000.00	\$10,000	
Traffic Signal (New)	67-4	7	LS	\$100,000.00	\$700,000	
Traffic Signal Modifications	67-4	1	LS	\$100,000.00	\$100,000	
No. 6 Pull Box	67-2	1	EA	\$500.00	\$500	
No. 6 (T) Pull Box	67-2	12	EA	\$750.00	\$9,000	
Electrical (Shelter)	67-2	0	LS	\$5,000.00	\$0	
						\$129,500
Station Signage						
Site Identification Monument	69-31	0	EA	\$9,400.00	\$0	
Vehicular Directional	69-31	0	EA	\$5,600.00	\$0	
Information/Restrictive	69-31	0	EA	\$550.00	\$0	
Parking Restrictive English/Spanish	69-31	0	EA	\$1,000.00	\$0	
Parking Restrictive/Accessible	69-31	0	EA	\$675.00	\$0	
Parking Restrictive	69-31	0	EA	\$625.00	\$0	
Warning Signs	69-31	0	EA	\$550.00	\$0	
City Pedestrian Directional	69-31	0	EA	\$3,300.00	\$0	
City Vehicular Directional	69-31	0	EA	\$3,850.00	\$0	
						\$0
Lighting Items						
Electrical Conduit (Sch 80 PVC) & Conductors	70-4	0	LF	\$20.00	\$0	
Electrical Pullbox (#5)	70-4	0	EA	\$300.00	\$0	
Electrolier w/ New Luminaire(s) & Footing	70-4	396	EA	\$1,000.00	\$396,000	
Tree Receptacles & Up-Lighting	70-4	0	LS	\$15,000.00	\$0	
Modify Electrical Service and Subpanels	70-4	0	EA	\$1,500.00	\$0	
						\$396,000
Surveillance Items						
Relocate CCTV Cameras	71-3	0	LS	\$5,000.00	\$0	
CCTV Conductors & Cables	71-3	0	LS	\$2,500.00	\$0	
						\$0
Structural Items						
Bridges		1,000	SF	\$250.00	\$250,000	
Retaining Walls		2,000	SF	\$250.00	\$500,000	
						\$750,000
Railroad Items						
Preemption		7	LS	\$75,000.00	\$525,000	
Grade Crossings		0	EA	\$500,000.00	\$0	
						\$525,000
Right of Way						
Property		234,706	SF	\$60.00	\$14,082,360	
Relocation		0	LS	\$2,500.00	\$0	
Goodwill		0	LS	\$2,500.00	\$0	
						\$14,082,360
Subtotal						\$17,826,770
Contingency (10%)						\$1,782,677
Construction Management & Inspection (10%)						\$1,782,677
Administration (4%)						\$713,071
Flagging (15 days)/Permitting (1%)						\$193,268
Grand Total						\$22,298,462

La Habra UPRR Rail Line Bikeway Project
City of La Habra
May 31, 2017



Project: Schedule1 Date: Wed 5/31/17	Task		Project Summary		Inactive Task		Duration-only		Finish-only		Progress		Deadline
	Split		External Tasks		Inactive Milestone		Manual Summary Rollup		Manual Summary		Deadline		
	Milestone		External Milestone		Inactive Summary		Manual Summary		Manual Summary		Deadline		
	Summary		Inactive Task		Manual Task		Start-only						