

INDEPENDENT COST ESTIMATES FOR THE McKINLEY STREET GRADE SEPARATION PROJECT STUDY REPORT, CITY OF CORONA



Final Report prepared for
KZAB Engineers, Inc.

December 20, 2017



CNC Engineering

www.cnc-eng.com

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This Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which the results are based.

Tapas Dutta

Tapas Dutta, PE, QSD, ENV SP
Project Manager

December 20, 2017





Project Background

A Project Study Report (PSR) for the project was approved in 2011. The PSR evaluated six build alternatives, Alternatives 1, 2, 3A, 3B, 3C and 4.

Scope of Report

The City of Corona (City) tasked KZAB Engineers, Inc. (KZAB) to perform independent cost estimates based on Alternatives 2 and 4 of the PSR.

Alternative 2 entails raising the BNSF tracks over McKinley Street.

Alternative 4 raises McKinley Street over the BNSF tracks with connections to Sampson Avenue.

The independent cost estimates are based on the conceptual design for Alternatives 2 and 4 in the 2011 PSR. No evaluation of the concepts was done for completeness, feasibility, correctness or suitability to meet the stated Need and Purpose in the PSR. The cost estimates include soft costs, such as design and City oversight, that will be associated with the project. Any refinement to the concepts proposed in the PSR are discussed in the sections below.

The base costs for the two alternatives (See Appendices A and B) were computed in 2017 dollars. Since a majority of the project cost will be expended by June 30, 2023, an escalation factor was added to adjust to approximately the mid-point year of 2020. Based on historical averages of the Consumer Price Index – Urban Consumers (CPI- U) an average annual inflation of 2% was used. The ROW costs are based on current (2017) fair market value. Due to the uncertain nature of the real estate market, actual fair market values may be different at the time of property assessments.

For the concept design in the PSR, see the exhibits for Alternatives 2 and 4 from the PSR starting on page 4.

Discussion of Alternative 2

- Widening of McKinley Street between the SR-91 East Bound Ramps and Magnolia Avenue was added in order to make this alternative consistent with the improvements along McKinley Street in Alternative 4. The widening also added Right of Way (ROW) acquisition along McKinley Street.
- Temporary Construction Easements (TCE) were added.
- Utility relocations/adjustments for the following major facilities were taken into consideration:
 - Overhead power lines crossing over the tracks at three locations
 - Gas line, south of the channel
 - Relocation of existing Fiber Optic line located on the north side of the BNSF ROW
- Modification of the existing Reinforced Concrete Box (RCB) that crosses under the BNSF tracks east of McKinley to support the proposed retaining walls
- Soundwalls on top of the proposed retaining walls were incorporated



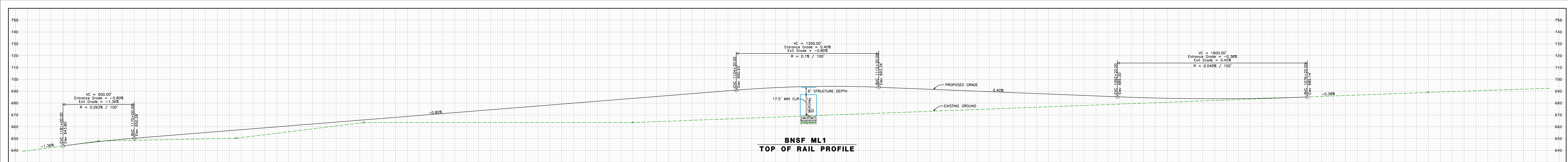
- A separate line item estimating the maintenance cost to the City for the BNSF bridge and retaining walls over an assumed useful life period of 100 years was added using 2017 dollars
- The layout of the existing tracks requires that two temporary shoofly tracks be constructed, since both the existing tracks will be demolished when the two proposed tracks are built on the north side (channel side) of the BNSF ROW during the first phase. The third proposed mainline track will be built during the second phase, with the two new tracks operational.
- Since BNSF requires a flat surfaced segment at crossovers, the proposed relocation of the existing crossover was modified, resulting in increased length of tracks and retaining walls
- The cost for the relocation or modification of the existing cell tower, west of McKinley was added.

Discussion of Alternative 4

- Utility relocations/adjustments for the following major facilities were taken into considerations:
 - Overhead power lines
 - Water lines
 - Sewer lines
 - Time Warner Cable
 - Oil Line along McKinley, north of Sampson
 - Fiber Optic Line, adjacent to the tracks
 - Gas Line, south of the channel
- Temporary Construction Easements (TCE) were added.
- The ROW cost includes relocation assistance for the property owners displaced.
- Cost for relocating/adding a BNSF signal bridge west of the crossing that may be obscured for west bound trains due to the proposed bridge.
- ROW takes along McKinley Street due to the widening were incorporated
- The estimate includes cost of relocating the Corona Cruiser Blue Line bus stops currently located near the northeast and northwest corners of McKinley and Sampson.

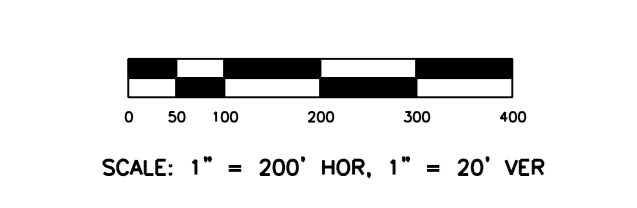


EXHIBITS FOR ALTERNATIVES 2 and 4 from the PSR



**BNSF ML1
TOP OF RAIL PROFILE**

STAGING CONCEPT:



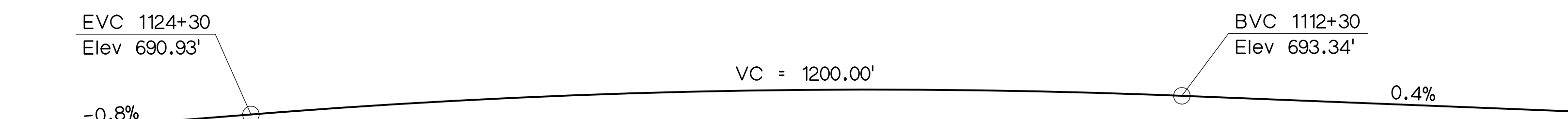
LEGEND

- PROPOSED NEW TRACK
- EXISTING TRACK
- RIGHT-OF-WAY (BNSF)
- RETAINING WALL
- PROPOSED BRIDGE

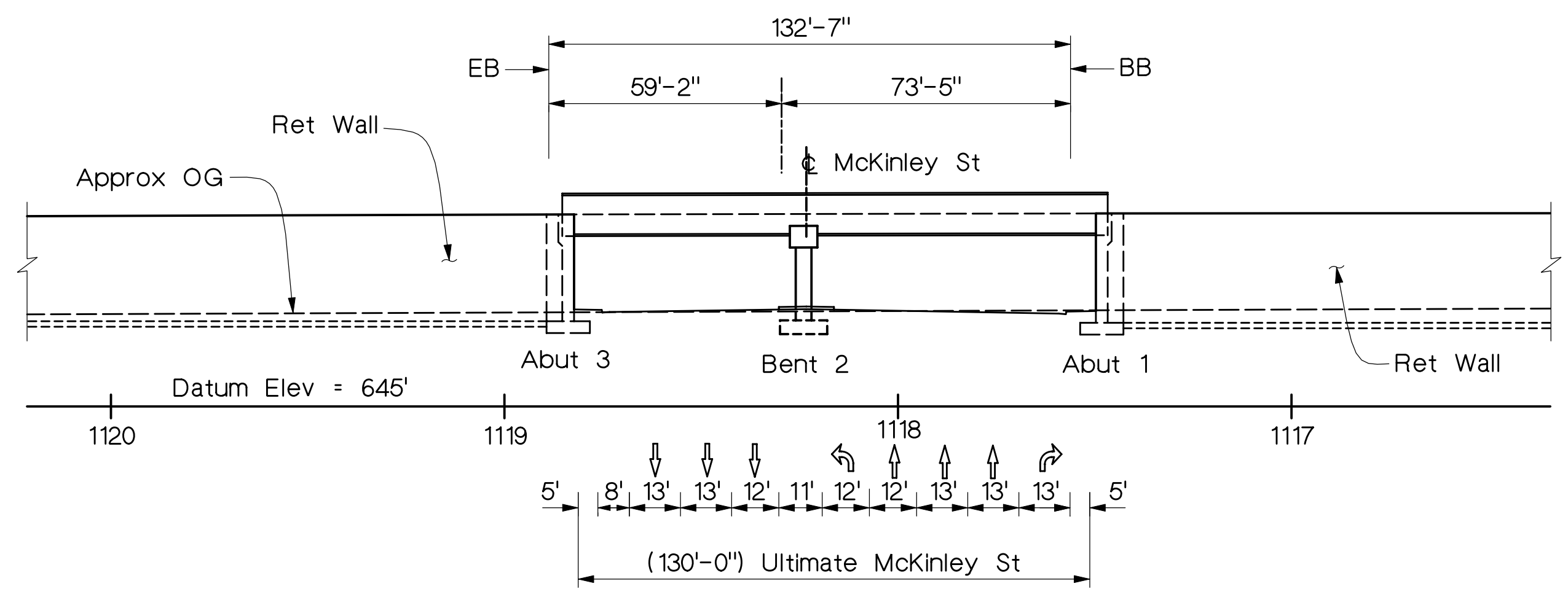
PLANS PREPARED BY:
AECOM
200 HARRIS DRIVE
LAKE FOREST, CA 92630
949.766-8888

CITY OF CORONA
DEPARTMENT OF PUBLIC WORKS
MCKINLEY ST GRADE SEPARATION PROJECT
ALTERNATIVE 2

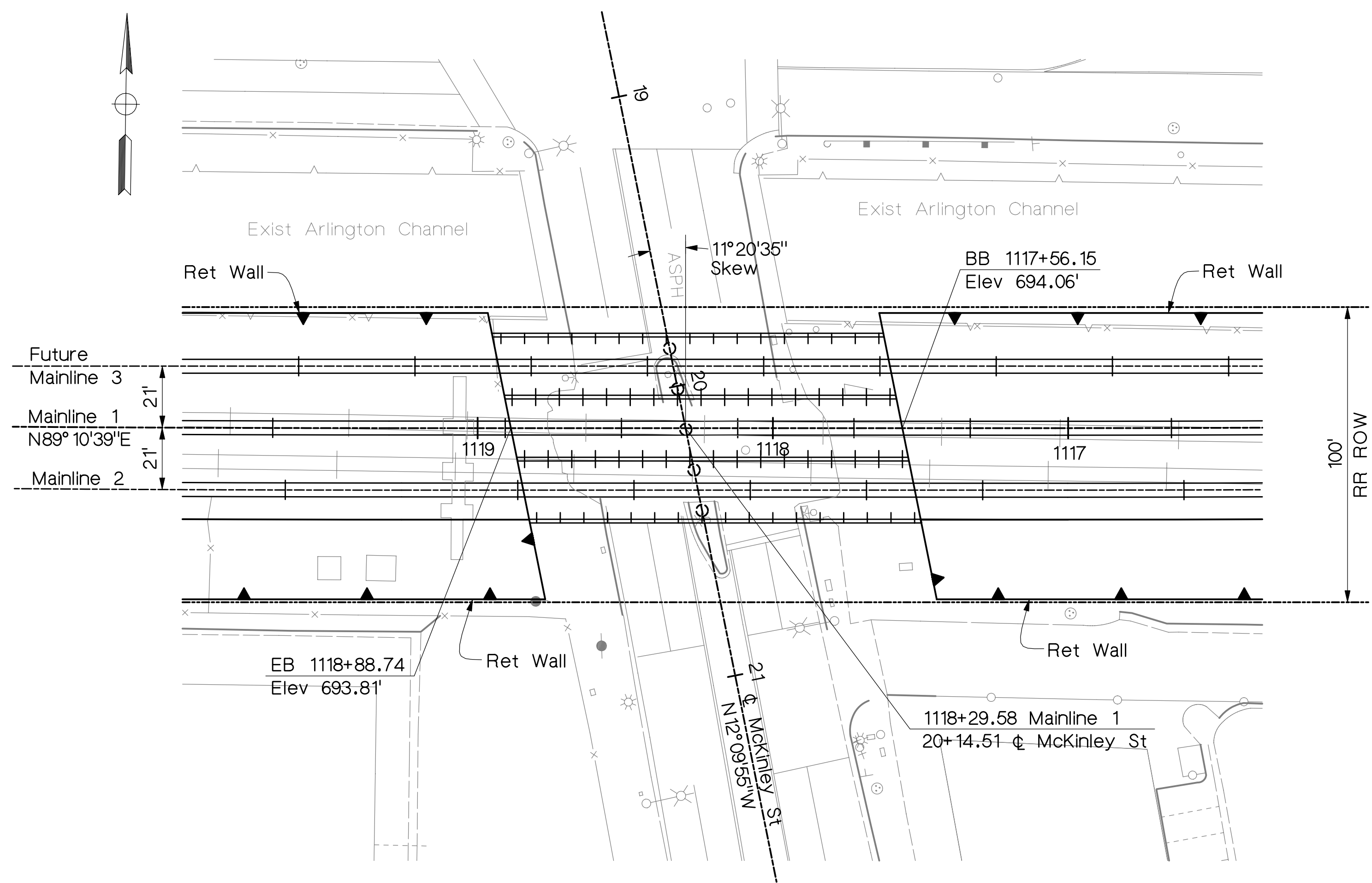
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AS SHOWN
PROJECT NO.:
ST XX-XX
SHEET NO. OF X



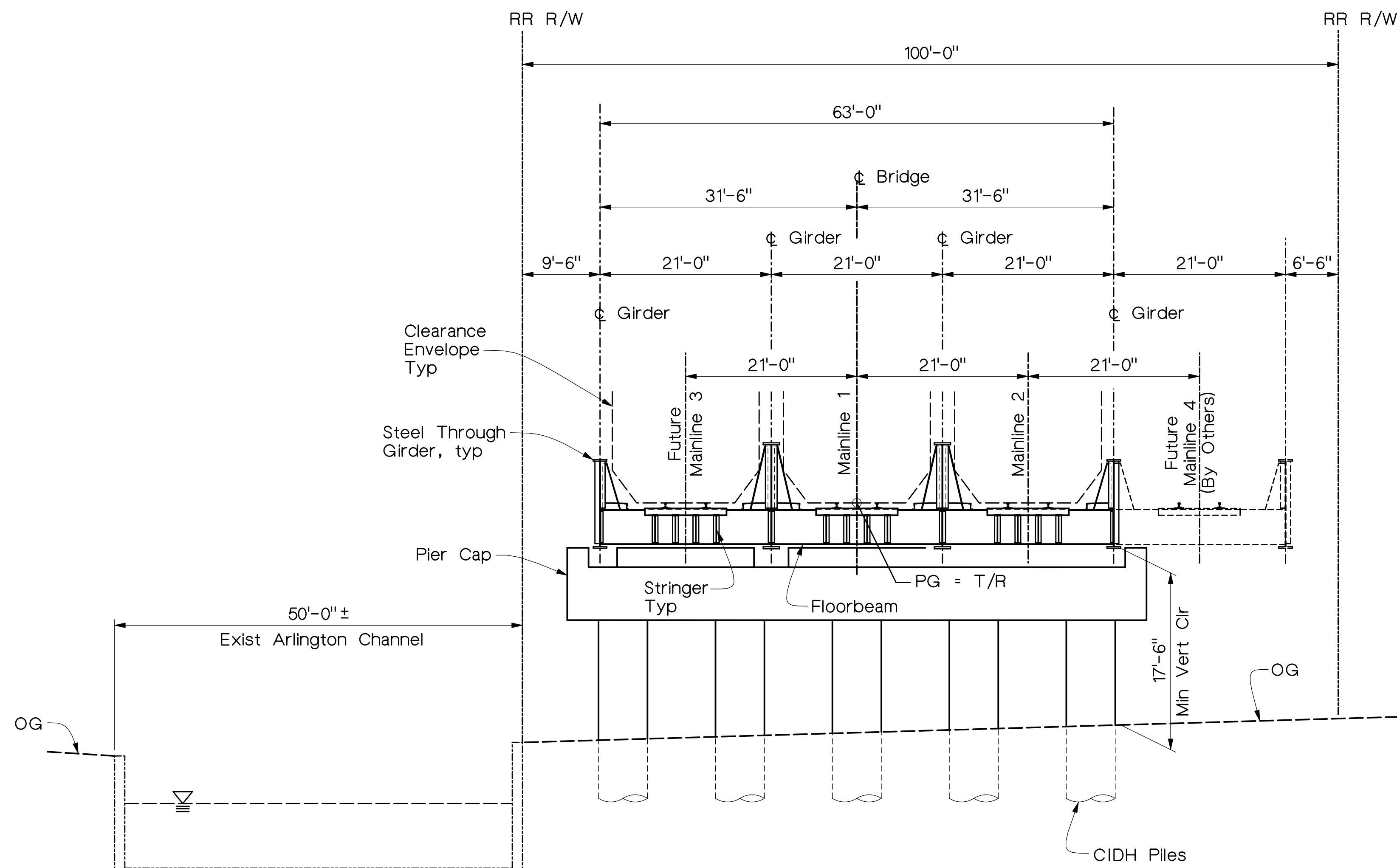
PROFILE GRADE
No Scale



ELEVATION
1"=30'



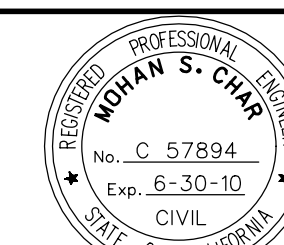
PLAN
1"=30'



TYPICAL SECTION
1"=10'

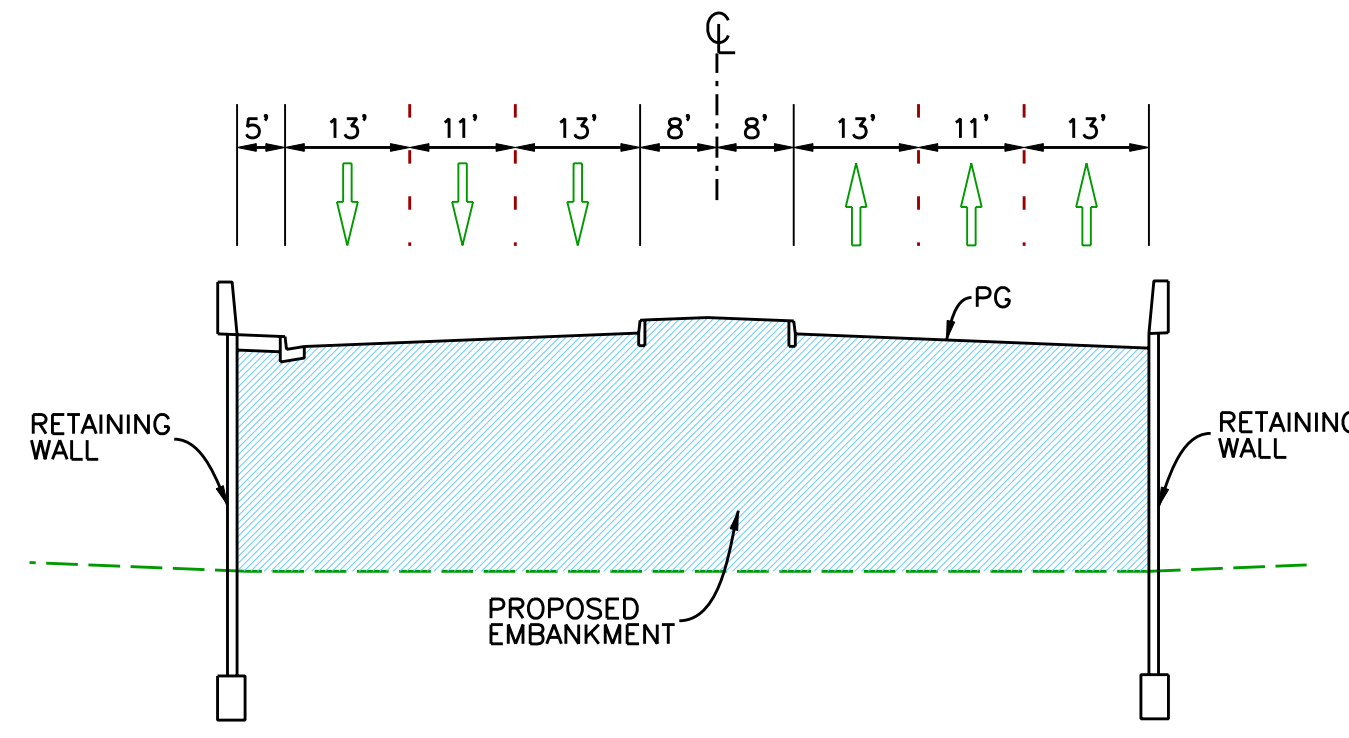
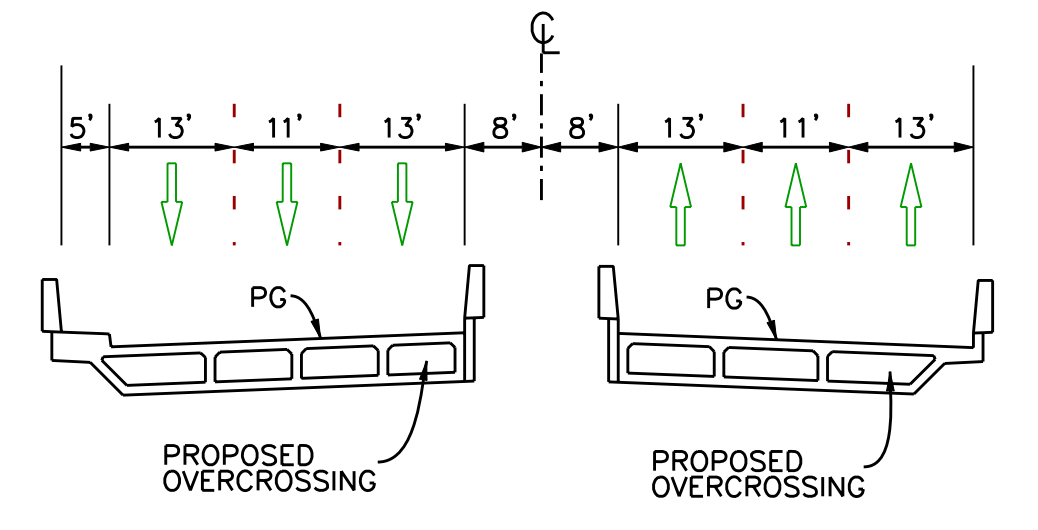
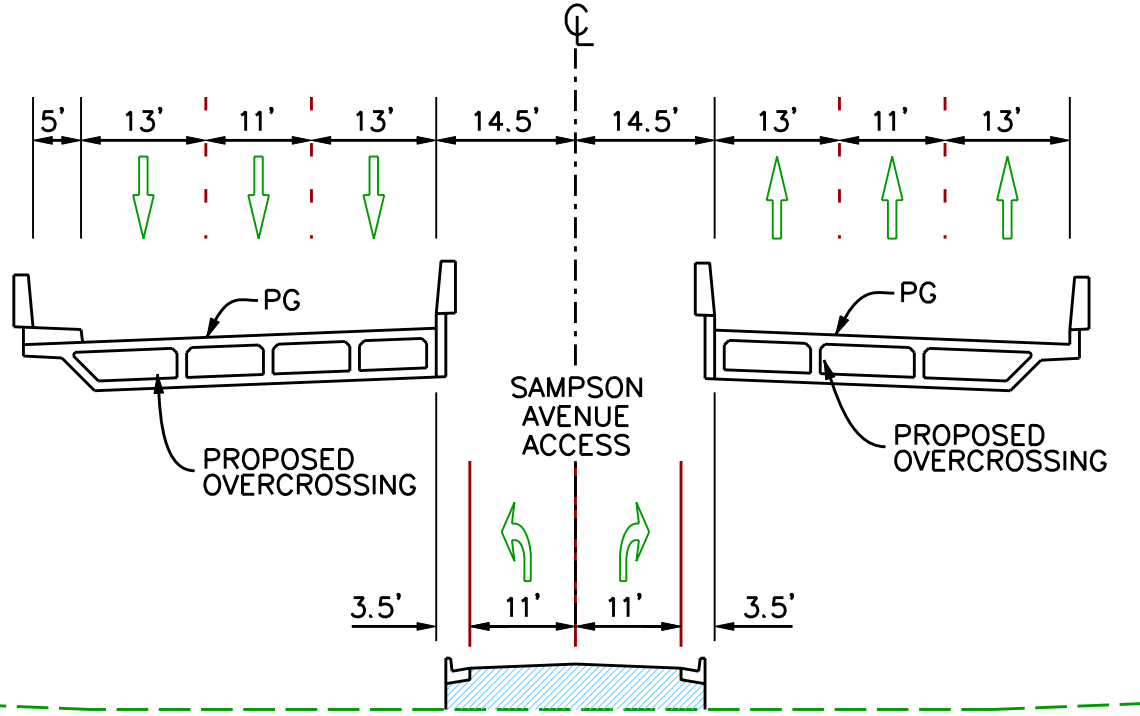
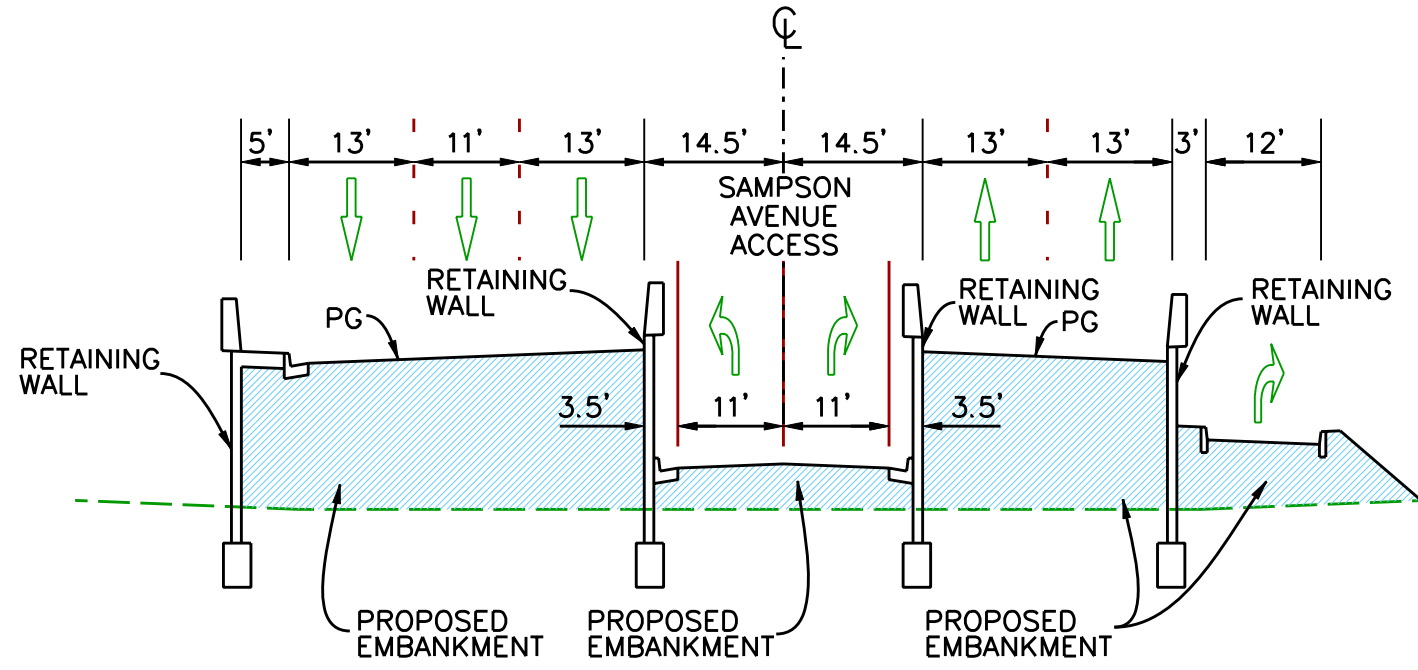
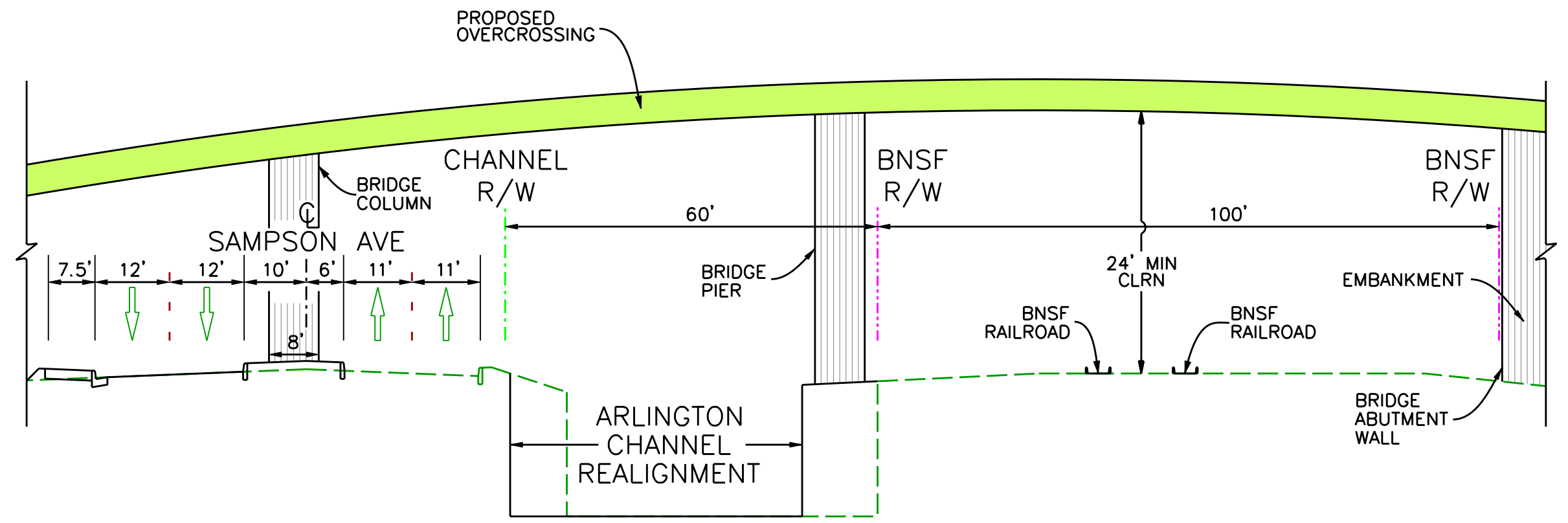
ALTERNATIVE 2

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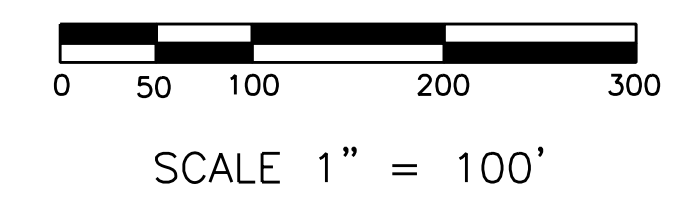
CITY OF CORONA
DEPARTMENT OF PUBLIC WORKS
MCKINLEY ST GRADE SEPARATION PROJECT
MCKINLEY ST UNDERPASS

SCALE
AS SHOWN
PROJECT NO.
ST XX-XX
SHT. 1 OF 1



SECTION D-D
NO SCALE

SECTION E-E
NO SCALE

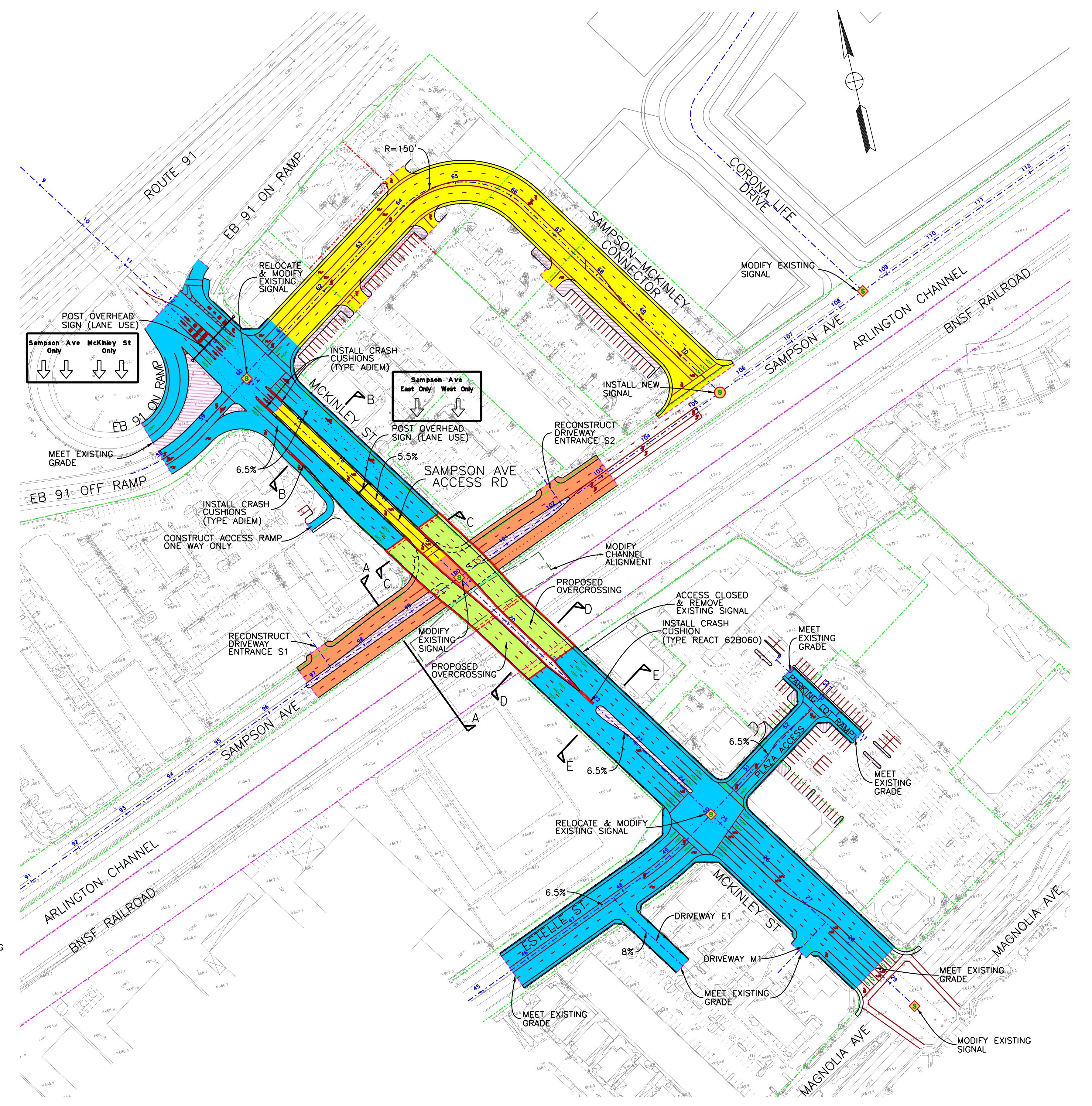


LEGEND

- PROPOSED STRIPING
- PROPOSED OVERCROSSING
- PROPOSED RETAINING WALL
- BNSF RIGHT-OF-WAY

- TRAFFIC SIGNAL
- EXISTING BNSF TRACK
- EXISTING RIGHT-OF-WAY
- PROPOSED R/W

- LANDSCAPE/HARDSCAPE
- EMBANKMENT
- SAMPSON AVE (ON GRADE)
- CONNECTOR/ACCESS RD

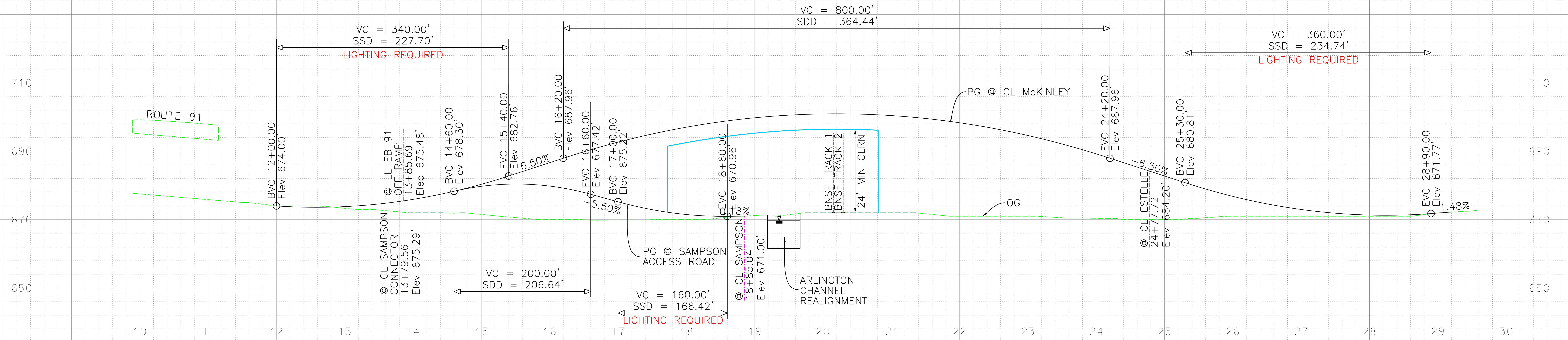


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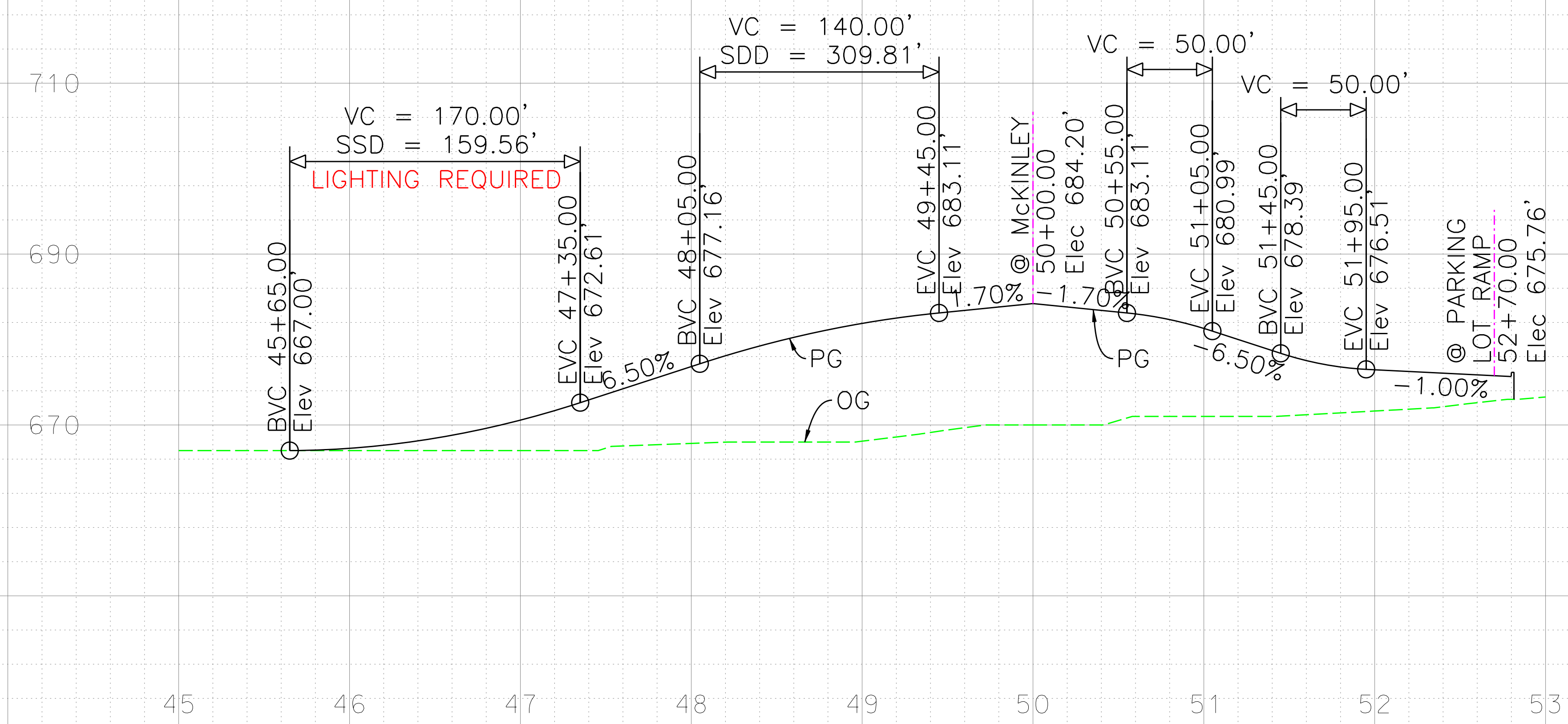


CITY OF CORONA
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MCKINLEY ST GRADE SEPARATION PROJECT
OVERHEAD - ALT.4
LAYOUT

SCALE
AS SHOWN
PROJECT NO.
ST XX-XX
SHT. X OF X

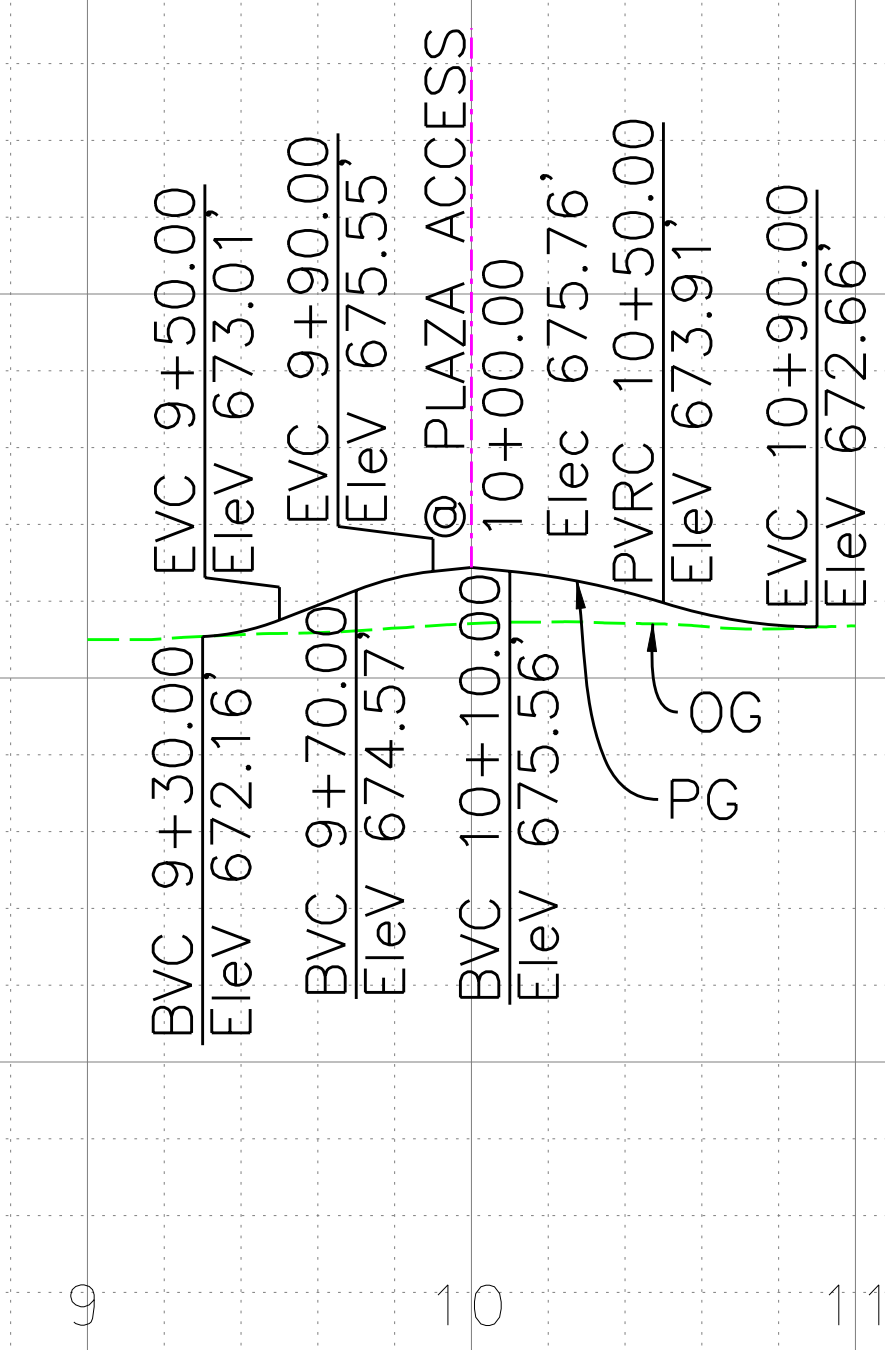


PROFILE @ MCKINLEY STREET
DESIGN SPEED = 45 MPH

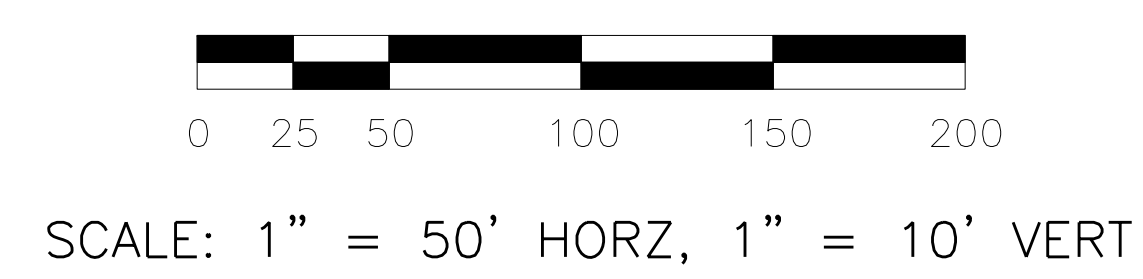


PROFILE @ ESTELLE STREET
DESIGN SPEED = 35 MPH

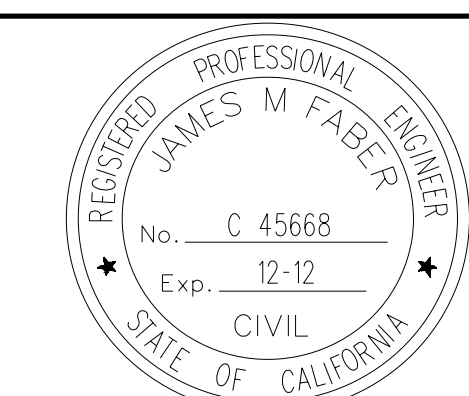
PROFILE @ PLAZA ACCESS
DESIGN SPEED = 20 MPH



PROFILE @ PARKING LOT RAMP



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MCKINLEY ST GRADE SEPARATION PROJECT
PROFILES - ALT 4

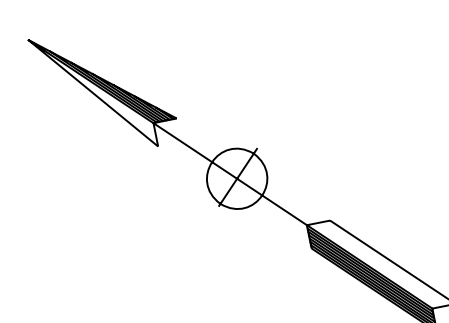
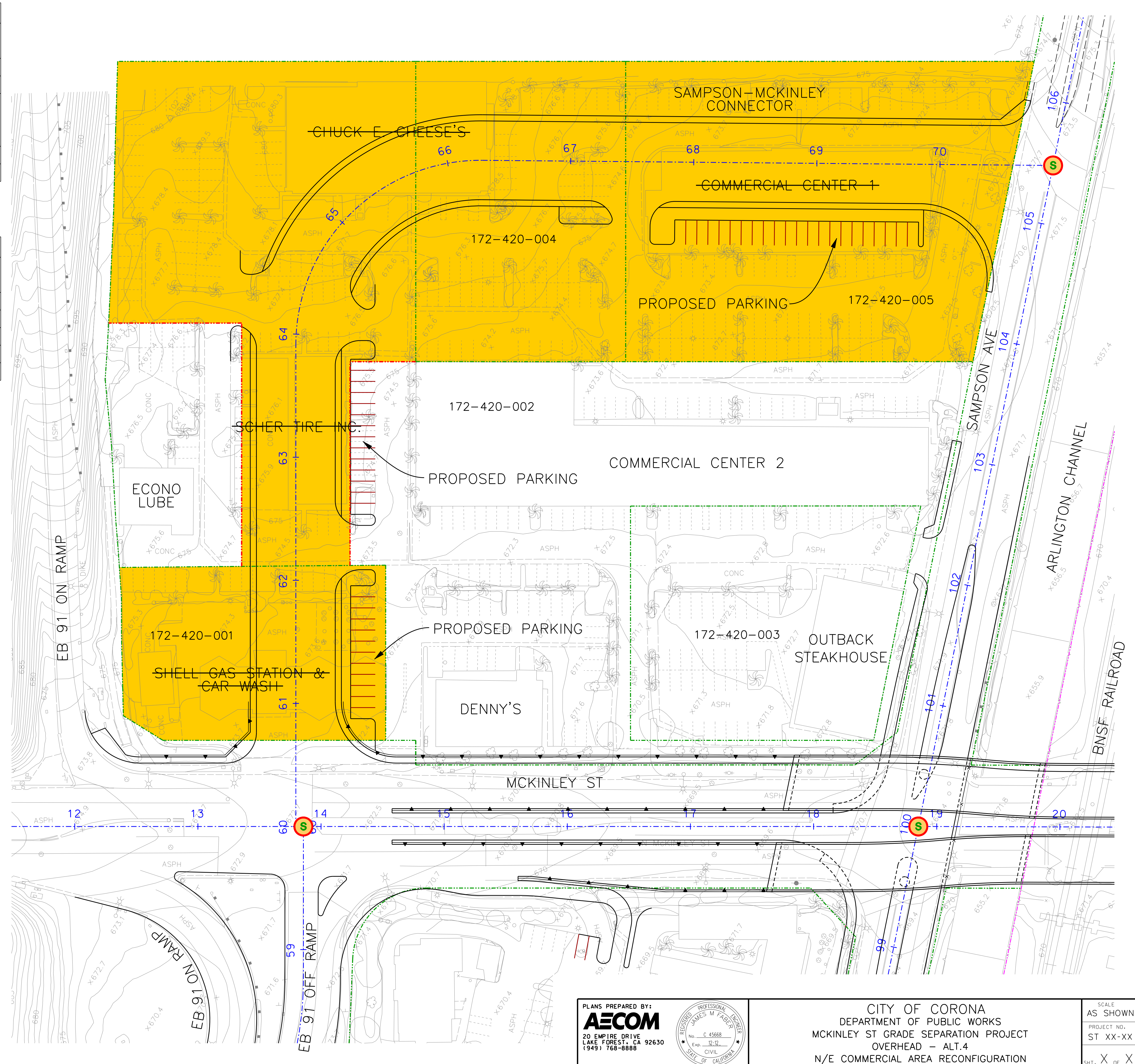
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PROJECT NO.
ST XX-XX
SHT. X OF X

PROPOSED PROPERTY TAKE			
BUSINESS	APN NO	NON-BUILDING AREA SF	BUILDING AREA SF
SHELL GAS STATION & CAR WASH	172-420-001	18,000	7,700
SCHER TIRE INC.	172-420-002	22,500	5,100
CHUCK E. CHEESE'S	172-420-002 & 172-420-004	42,900	9,300
TOTAL		73,900	14,600
COMMERICAL CENTER 1	172-420-005	50,800	18,700
TOTAL		165,200	46,100

PROPOSED PARKING RECONFIGURATION			
BUSINESS	APN NO	PARKING SPACES BEFORE	PARKING SPACES AFTER
ECONO LUBE	172-420-002	20	20
COMMERCIAL CENTER 2	172-420-002	100	136
DENNY'S	172-420-002	29	42
OUTBACK STEAKHOUSE	172-420-003	36	36
TOTAL		185	234

LEGEND

- XXX-XXX-XXX APN NUMBER
- EXISTING R/W OR PARCEL LINE
- PROPOSED R/W
- PROPOSED PROPERTY TAKE
- PROPERTY NAME OF FULL TAKE PROPERTY



SCALE 1:40

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 OVERHEAD - ALT.4
 N/E COMMERCIAL AREA RECONFIGURATION

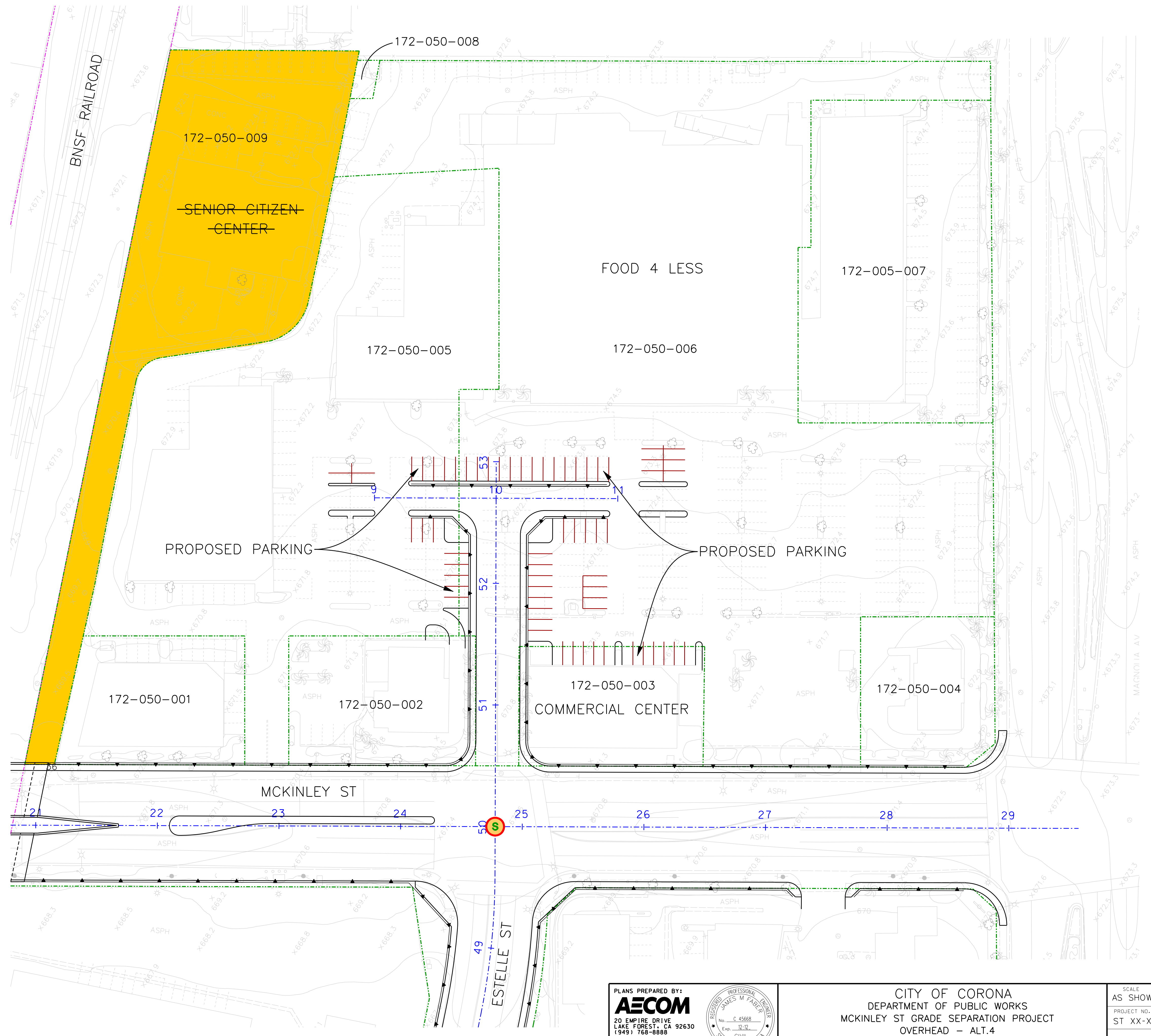
SCALE AS SHOWN
 PROJECT NO. ST XX-XX
 SHEET X OF X

PROPOSED PROPERTY TAKE			
BUSINESS	APN NO	NON-BUILDING AREA SF	BUILDING AREA SF
SENIOR CITIZEN CENTER	172-050-009	27,400	9,600
TOTAL		27,400	9,600

PROPOSED PARKING RECONFIGURATION			
BUSINESS	APN NO	PARKING SPACES BEFORE	PARKING SPACES AFTER
FOOD 4 LESS	172-050-006	348	307
COMMERCIAL CENTER	172-050-003	18	18
TOTAL		366	325

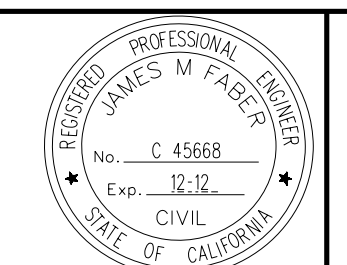
LEGEND

- XXX-XXX-XXX APN NUMBER
-  EXISTING R/W OR PARCEL LINE
-  PROPOSED R/W
-  PROPOSED PROPERTY BOUNDARY
-  PROPOSED PROPERTY TAKE
-  ~~PROPERTY~~ NAME OF FULL TAKE PROPERTY



SCALE 1:40

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 MCKINLEY ST GRADE SEPARATION PROJECT
 OVERHEAD - ALT.4
 S/E COMMERCIAL AREA RECONFIGURATION

SCALE AS SHOWN
 PROJECT NO. ST XX-XX
 SHEET X OF X



Appendix A: PSR Level Independent Cost Estimate for Alternative 2

McKinley Street Grade Separation Project

INDEPENDENT COST ESTIMATE

ALTERNATIVE 2

CNC Engineering

November 30, 2017

Type of Estimate: Independent PSR Cost Estimates

Project Description: McKinley Street Grade Separation, City of Corona

Alternative: 2 (Railroad bridge over McKinley)

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY COST	\$ 34,533,400
TOTAL RAILROAD COST	\$ 27,481,800
TOTAL STRUCTURES COST	\$ 64,283,400
CONTINGENCY (20%)	\$ 25,259,720
SUBTOTAL CONSTRUCTION COST	\$ 151,558,320
UTILITY RELOCATION	\$ 9,107,100
TOTAL RIGHT OF WAY COST	\$ 285,983
TOTAL CAPITAL OUTLAY COSTS	\$ 160,951,403

DESIGN, ENVIRONMENTAL and Design Support During Construction (Inc. Permits, ROW Eng Support & Outreach) (12%)	\$ 18,186,998
CONSTRUCTION MANAGEMENT (8%)	\$ 12,124,666
CITY OVERSIGHT (2%)	\$ 3,031,166
BNSF Construction & Maintenance	\$ 1,500,000
Maintenance of BNSF Structures (2017 dollars) - 100 year life	\$ 17,896,000
TOTAL SUPPORT COST	\$ 52,738,831

TOTAL PROJECT COST (2017 dollars)	\$ 213,690,234
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Inflation escalation per year	2%
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TOTAL PROJECT COST (2020 dollars)	\$ 226,511,648
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McKinley Street Grade Separation Project

ALTERNATIVE 2

SECTION 1: EARTHWORK

11/30/2017

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Backfill for Retaining Walls	CY	315,250	x	40.00	= \$	12,610,000
Clearing & Grubbing	LS	1	x	1,000,000.00	= \$	1,000,000

TOTAL EARTHWORK SECTION ITEMS	\$ 13,610,000
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SECTION 2: PAVEMENT STRUCTURAL SECTION

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Construct Asphalt Pavement	TN	5,952	x	90.00	= \$	535,680
Construct Aggregate Base	CY	5,879	x	30.00	= \$	176,370

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS	\$ 712,100
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TOTAL THIS PAGE \$ 14,322,100

McKinley Street Grade Separation Project ALTERNATIVE 2

\$

SECTION 3: DRAINAGE

11/30/2017	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
Modification to existing RCB under RR R/W	LF	140	x 2,500.00 = \$	350,000
Modify Open Channel	LF	100	x 1,250.00 = \$	125,000
Protection (Encasement) of existing SD Laterals	LF	600	x 210.00 = \$	126,000

TOTAL DRAINAGE ITEMS	\$ 601,000
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SECTION 4: SPECIALTY ITEMS

	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
Mobilization (5% of Const Costs)	LS	1	x 6,784,552.32 = \$	6,784,552
De-Mobilization (1% of Const Costs)	LS	1	x 1,356,910.46 = \$	1,356,910
Sidewalk Improvements	SF	12,725	x 5.00 = \$	63,625
Curb and Gutter Improvements	LF	3,520	x 25.00 = \$	88,000
Roadway Bridge over Channel	SF	6,000	x 205.00 = \$	1,230,000
Field Office Overhead	DAYS	1,100	x 2,000.00 = \$	2,200,000
Home Office Overhead	DAYS	1,100	x 1,000.00 = \$	1,100,000

TOTAL SPECIALTY ITEMS	\$ 12,823,100
------------------------------	----------------------

TOTAL THIS PAGE \$ 13,424,100

McKinley Street Grade Separation Project ALTERNATIVE 2

\$ -

SECTION 5: ENVIRONMENTAL

43069

	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
Archeo/Paleo (Treatment/Downtime)	HR	24	x 500.00 = \$	12,000
Archeo/Paleo (Recovery)	ALLOW	1	x 100,000.00 = \$	100,000
Hazardous Material Disposal	ALLOW	1	x 100,000.00 = \$	100,000
<i>Subtotal Environmental Mitigation</i>				<i>\$ 212,000</i>

5B - LANDSCAPE AND IRRIGATION

	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
Landscape and Irrigation	LS	1	x 175,000.00 = \$	175,000

Subtotal Landscape and Irrigation \$ 175,000

5C - EROSION CONTROL

Included in 5D

	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
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Subtotal Erosion Control \$ -

5D - NPDES

	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
Prepare SWPPP	LS	1	x 10,000.00 = \$	10,000
Implement SWPPP (1% Const Costs)	LS	1	x 1,356,910.46 = \$	1,356,910

Subtotal NPDES \$ 1,366,910

TOTAL ENVIRONMENTAL	\$ 1,754,000
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McKinley Street Grade Separation Project ALTERNATIVE 2

\$ -

SECTION 6: TRAFFIC ITEMS

11/30/2017

	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
Traffic Signal Modifications	EA	4	x 300,000.00	= \$ 1,200,000

Subtotal Traffic Electrical \$ 1,200,000

6B - Traffic Signing and Striping

	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
Signing and Striping Improvements on McKinley	LS	1	x 25,000.00	= \$ 25,000

Subtotal Traffic Signing and Striping \$ 25,000

6C - Traffic Management Plan

	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
Traffic Management Plan Implementation (0.5% of Const Costs)	LS	1	x \$ 584,300	= \$ 584,300

Subtotal Traffic Management Plan \$ 584,300

6D - Stage Construction and Traffic Handling

	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
Traffic Control (2% of Const Costs)	LS	1	x 2,713,820.93	= \$ 2,713,821

Subtotal Stage Construction and Traffic Handling \$ 2,713,821

6E - Street Lighting

	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price (\$)</i>	<i>Cost</i>
Street Light Removal	LS	1	x 50,000.00	= \$ 50,000
Install Street Light	LS	1	x 460,000.00	= \$ 460,000

Subtotal Stage Construction and Traffic Handling \$ 510,000

TOTAL TRAFFIC ITEMS	\$ 5,033,200
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McKinley Street Grade Separation Project ALTERNATIVE 2

#REF!

43069

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Remove Track	TF	20,960	x	\$ 45.00	=	\$943,200
Remove Ballast	CY	133,523	x	\$ 20.00	=	\$2,670,460
Rail Downtime	HR	200	x	\$ 500.00	=	\$100,000
Sub-Ballast	CY	37,629	x	\$ 55.00	=	\$2,069,595
New Track for ML 1 & 2 (includes Ballast)	TF	20,960	x	\$ 295.00	=	\$6,183,200
New Track for ML 3 (includes Ballast)	TF	11,698	x	\$ 295.00	=	\$3,450,910
Shoofly Track (includes Ballast)	TF	23,360	x	\$ 295.00	=	\$6,891,200
Remove Shoofly Track	TF	23,360	x	\$ 45.00	=	\$1,051,200
Track Switches	EA	6	x	\$ 137,000.00	=	\$822,000
Track Equipment						
Overhead Signals	EA	2	x	\$ 50,000.00	=	\$100,000
Communication Shacks	EA	7	x	\$ 100,000.00	=	\$700,000
Railroad Cutover	EA	8	x	\$ 20,000.00	=	\$160,000
Railroad Coordiantion and Flagman	LS	1	x	\$ 2,340,000.00	=	\$2,340,000

TOTAL RAILROAD ITEMS	\$27,481,800
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SECTION 12: STRUCTURE ITEMS

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Retaining Walls (Type 1)			x		=	\$0
Structural Excavation	CY	18,555	x	\$ 35.00	=	\$649,425
Structural Concrete	CY	36,639	x	\$ 460.00	=	\$16,853,940
Bar Reinforcement	LB	4,180,537	x	\$ 1.15	=	\$4,807,618
Shoring Wall (Soldier Pile)						
Driven Piles	EA	1,312	x	\$ 4,275.00	=	\$5,608,800
Sheet Piles	SF	790,000	x	\$ 35.00	=	\$27,650,000
8' Soundwall on top of Retaining Wall	SF	167,584	x	\$ 25.00	=	\$4,189,600
Rail Bridge	SF	11,310	x	\$ 400.00	=	\$4,524,000

TOTAL STRUCTURE ITEMS	\$64,283,400
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McKinley Street Grade Separation Project ALTERNATIVE 2

III. RIGHT OF WAY

11/30/2017

<i>Item</i>	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Temporary Construction Easement (TCE) for RR Improvements - Residential	SF	24520	x	2.50	= \$	61,300.00
Temporary Construction Easement (TCE) for RR Improvements - Commercial	SF	70680	x	2.50	= \$	176,700.00
Right-of-Way Acquisition for McKinley Improvements	SF	1035	x	25.00	= \$	25,875.00
Temporary Construction Easement (TCE) for McKinley Improvements - Commercial	SF	17686	x	1.25	= \$	22,107.50

TOTAL RIGHT OF WAY ESTIMATE

\$285,983

IV. UTILITIES

<i>Item</i>	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Relocation Overhead lines on E/S of McKinley	LF	900	x	1250.00	= \$	1,125,000.00
Relocation of Fiber Optic on S/S of Channel	LF	10474	x	650.00	= \$	6,808,100.00
Relocation of Gas Line on E/S of McKinley	LS	1	x	100000.00	= \$	100,000.00
Relocate existing overhead lines with one pole at RR Stations 1144+70 and 1171+50.	LF	420	x	1250.00	= \$	525,000.00
Protect (Encasement) 2 sewer line crossings of RR Tracks	LF	200	x	210.00	= \$	42,000.00
Utility Appurtenance Relocations for McKinley Improvements						
Elec/Tele Cabinets	EA	12	x	5000.00	= \$	60,000.00
Water (FH's, Etc.)	EA	7	x	1000.00	= \$	7,000.00
Power Poles	EA	14	x	10000.00	= \$	140,000.00
Relocate/Modify existing Cell Tower	EA	1	x	300000.00	= \$	300,000.00

TOTAL UTILITIES ESTIMATE

\$9,107,100



Appendix B: PSR Level Independent Cost Estimate for Alternative 4

McKinley Street Grade Separation Project

INDEPENDENT COST ESTIMATE

Alternative 4

CNC Engineering

November 30, 2017

Type of Estimate: Independent PSR Cost Estimates

Project Description: McKinley Street Grade Separation, City of Corona

Alternative: 4 (McKinley bridge over railroad)

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY COST	\$	17,416,500
TOTAL RAILROAD COST	\$	250,000
TOTAL STRUCTURES COST	\$	13,564,800
CONTINGENCY (20%)	\$	6,246,260
SUBTOTAL CONSTRUCTION COST	\$	37,477,560
UTILITY RELOCATION	\$	3,635,000
TOTAL RIGHT OF WAY COST	\$	24,162,500
TOTAL CAPITAL OUTLAY COSTS	\$	65,275,060

DESIGN, ENVIRONMENTAL and Design Support During Construction (Inc. Permits, ROW Eng Support & Outreach) (25%)	\$	9,369,390
CONSTRUCTION MANAGEMENT (18%)	\$	6,745,961
CITY OVERSIGHT (5%)	\$	1,873,878
BNSF COORDINATION	\$	750,000
TOTAL SUPPORT COST	\$	18,739,229

TOTAL PROJECT COST (2017 dollars)	\$	84,014,289
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Inflation escalation per year	2%
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TOTAL PROJECT COST (2020 dollars)	\$	89,055,146
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McKinley Street Grade Separation Project

Alternative 4

SECTION 1: EARTHWORK

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Unclassified Excavation	CY	265	x	25.00	= \$	6,625
Imported Borrow	CY	61,000	x	20.00	= \$	1,220,000
Clearing and Grubbing	LS	1	x	500,000.00	= \$	500,000

TOTAL EARTHWORK SECTION ITEMS	\$ 1,726,700
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SECTION 2: PAVEMENT STRUCTURAL SECTION

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Asphalt Concrete Pavement	TONS	15,600	x	100.00	= \$	1,560,000
Class 2 Aggregate Base	CY	16,000	x	45.00	= \$	720,000
Remove AC pavement	SF	177,000	x	2.00	= \$	354,000

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS	\$ 2,634,000
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McKinley Street Grade Separation Project Alternative 4

SECTION 3: DRAINAGE

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Remove Existing Catch Basins	EA	4	x	1,650.00	= \$	6,600
Modify Existing Arlington Channel	LF	270	x	1,250.00	= \$	337,500
Relocate 8'x4' Dbl. RCB	LF	700	x	2,500.00	= \$	1,750,000
Miscellaneous Drainage modifications	LS	1	x	300,000.00	= \$	300,000

TOTAL DRAINAGE ITEMS	\$ 2,394,100
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SECTION 4: SPECIALTY ITEMS

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Construct Driveway Approach	SF	5,804	x	10.00	= \$	58,040
Construct 8" Curb and Gutter	LF	5,479	x	30.00	= \$	164,370
Construct 8" Curb	LF	665	x	28.00	= \$	18,620
Construct PCC Sidewalk	SF	27,117	x	5.50	= \$	149,144
Construct/Modify Medians	SF	14,740	x	15.00	= \$	221,100
Construct Offsite Parking Lot Islands	SF	6,294	x	15.00	= \$	94,410
Mobilization (5% of Const Costs)	LS	1	x	1,850,000.00	= \$	1,850,000
De-Mobilization (1% of Const Costs)	LS	1	x	370,000.00	= \$	370,000
Existing Building Demolition	LS	1	x	400,000.00	= \$	400,000
Removal/ Relocation of Bus Stop and Coordination	LS	1	x	15,000.00	= \$	15,000
Field Office Overhead	Day	1,100	x	2,000.00	= \$	2,200,000
Tempory Water Line	LS	1	x	150,000.00	= \$	150,000
Railroad coordination and flagman	LS	1	x	500,000.00	= \$	500,000
Crash Cushion (Type ADIEM)	EA	3	x	32,000.00	= \$	96,000
Crash Cushion (Type REACT 62B060)	EA	1	x	32,000.00	= \$	32,000

TOTAL SPECIALTY ITEMS	\$ 6,318,700
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TOTAL THIS PAGE \$ 8,712,800

McKinley Street Grade Separation Project Alternative 4

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
			x		= \$	-
			x		= \$	-
Archeo/Paleo (Treatment/Downtime)	HR	30	x	1,600.00	= \$	48,000
Archeo/Paleo (Recovery)	ALLOW	1	x	125,000.00	= \$	125,000
Hazardous Material Disposal	ALLOW	1	x	100,000.00	= \$	100,000
Contaminated Soil Removal	LS	1	x	500,000.00	= \$	500,000

Subtotal Environmental Mitigation \$ 773,000

5B - LANDSCAPE AND IRRIGATION

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Landscape and Irrigation	LS	1	x	750,000.00	= \$	750,000

Subtotal Landscape and Irrigation \$ 750,000

5C - EROSION CONTROL

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Included in 5D						

Subtotal Erosion Control \$ -

5D - NPDES

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Prepare SWPPP	LS	1	x	10,000.00	= \$	10,000
Implement SWPPP (1% Const Costs)	LS	1	x	370,000.00	= \$	370,000

Subtotal NPDES \$ 380,000

TOTAL ENVIRONMENTAL	\$ 1,903,000
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McKinley Street Grade Separation Project Alternative 4

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Install Traffic Signal at McKinley St./ FWY-91 EB Off-Ramp	LS	1	x	300,000.00	= \$	300,000
Install Traffic Signal at McKinley St./ Sampson Ave intersection	LS	1	x	225,000.00	= \$	225,000
Install Traffic Signal at McKinley St./ Estelle St intersection	LS	1	x	300,000.00	= \$	300,000
Modification of Traffic Signal at McKinley St./ Magnolia Ave intersection	LS	1	x	75,000.00	= \$	75,000
Install Traffic Signal at Sampson Ave/ Connector Rd intersection	LS	1	x	300,000.00	= \$	300,000
Remove Traffic Signal at McKinley St./ Senior Center Driveway intersection	LS	1	x	30,000.00	= \$	30,000

Subtotal Traffic Electrical \$ 1,230,000

6B - Traffic Signing and Striping

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Traffic Signing and Striping	LS	1	x	100,000.00	= \$	100,000

Subtotal Traffic Signing and Striping \$ 100,000

6C - Traffic Management Plan

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Traffic Management Plan Implementation (1% of Const Costs)	LS	1	x	\$ 370,000	= \$	370,000

Subtotal Traffic Management Plan \$ 370,000

6C - Stage Construction and Traffic Handling

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Traffic Control (2% of Const Costs)	LS	1	x	740,000.00	= \$	740,000

Subtotal Stage Construction and Traffic Handling \$ 740,000

6D - Street Lighting

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Street Light Removal	LS	1	x	50,000.00	= \$	50,000
Install Street Light	LS	1	x	460,000.00	= \$	460,000

Subtotal Stage Construction and Traffic Handling \$ 510,000

TOTAL TRAFFIC ITEMS	\$ 2,440,000
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McKinley Street Grade Separation Project Alternative 4

SECTION 11: RAILROAD ITEMS

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>	=	<i>Cost</i>
Remove Existing Rail Road Gates	LS	1	x	50,000.00	=	\$50,000
Install Railroad Signal Bridge	LS	1	x	200,000.00	=	\$200,000

TOTAL RAILROAD ITEMS	\$250,000
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SECTION 12: STRUCTURE ITEMS

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>	=	<i>Cost</i>
Estelle Street and Plaza Access						
Structural Excavation	CY	700	x	35.00	=	\$24,500
Structural Concrete	CY	1,300	x	460.00	=	\$598,000
Bar Reinforcement Steel	LB	7,400	x	1.15	=	\$8,510
McKinley Street						
Structure Excavation	CY	2,500	x	35.00	=	\$87,500
Structural Concrete	CY	4500	x	460.00	=	\$2,070,000
Bar Reinforcement Steel	LB	475,000	x	1.15	=	\$546,250
			x		=	\$0
Bridge Structure	SF	34,100	x	300.00	=	\$10,230,000

TOTAL STRUCTURE ITEMS	\$13,564,800
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McKinley Street Grade Separation Project Alternative 4

III. RIGHT OF WAY

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Temporary Construction Easement (TCE)	SF	34,000	x	1.25	=	\$42,500
Street right-of-way aquisition except full parcel acquisition	SF	16,800	x	25.00	=	\$420,000
Shell Gas Station & Car Wash - full parcel acquisition	LS	1	x	4,500,000.00	=	\$4,500,000
Scher Tire acquisition	LS	1	x	3,000,000.00	=	\$3,000,000
Chuck E. Cheese acquisition	LS	1	x	4,700,000.00	=	\$4,700,000
Commercial Center-1 acquisition	LS	1	x	8,500,000.00	=	\$8,500,000
Senior Citizen Center acquisition	LS	1	x	3,000,000.00	=	\$3,000,000

TOTAL RIGHT OF WAY ITEMS	\$24,162,500
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IV. UTILITIES

	<i>Unit</i>	<i>Quantity</i>		<i>Unit Price (\$)</i>		<i>Cost</i>
Relocation of Overhead Power lines along McKinley Street	LF	900	x	1,250.00	=	\$1,125,000
Relocation of Water lines	LS	1	x	1,080,000.00	=	\$1,080,000
Relocation of Sewer lines	LS	1	x	250,000.00	=	\$250,000
Relocation of Time Warner Cable line	LS	1	x	250,000.00	=	\$250,000
Relocation of Oil Line	LS	1	x	650,000.00	=	\$650,000
Relocation of Fiber Optic Line	LS	1	x	180,000.00	=	\$180,000
Relocation/ coordination of Gas Line	LS	1	x	100,000.00	=	\$100,000

TOTAL UTILITY ITEMS	\$3,635,000
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