

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



BART TO LIVERMORE EXTENSION ALTERNATIVE 2: DMU/EMU

CONTRACT DRAWINGS

FUNDING AGENCIES / PARTNERS:

CITY OF LIVERMORE
CITY OF DUBLIN
CITY OF PLEASANTON
ALAMEDA COUNTY
CALTRANS
LAVTA
MTC
ACTC
SAN JOAQUIN RTD
ALTAMONT CORRIDOR EXPRESS

CONTRACT NO. 08CT008

10% PRELIMINARY ENGINEERING

DATE: 31 JULY 2017

INDEX OF DRAWINGS

PAGE NO.	CONTRACT SHEET NO.	REV NO.	TITLE
GENERAL			
001	3G-0000	0	TITLE SHEET
002	3G-0001	0	SHEET INDEX
003	3G-0002	0	SCHEMATIC PLAN
004	3G-0003	0	KEY PLAN
RAIL			
005	3TW-101	0	TRACK PLAN AND PROFILE
006	3TW-102	0	TRACK PLAN AND PROFILE
007	3TW-103	0	TRACK PLAN AND PROFILE
008	3TW-104	0	TRACK PLAN AND PROFILE
009	3TW-105	0	TRACK PLAN AND PROFILE
010	3TW-106	0	TRACK PLAN AND PROFILE
011	3TW-107	0	TRACK PLAN AND PROFILE
012	3TW-201	0	TYPICAL SECTIONS
013	3TW-202	0	TYPICAL SECTIONS
014	3TW-203	0	TYPICAL SECTIONS
ROADWAY			
015	3G-0004	0	KEY PLAN
016	3RW-101	0	TRACK PLAN AND PROFILE
017	3RW-102	0	PLAN AND PROFILE
018	3RW-103	0	PLAN AND PROFILE
019	3RW-104	0	PLAN AND PROFILE
020	3RW-105	0	PLAN AND PROFILE
021	3RW-106	0	PLAN AND PROFILE
022	3RW-108	0	RAMP PROFILES
023	3RW-109	0	RAMP PROFILES
024	3RW-110	0	PROFILES
025	3RW-201	0	TYPICAL SECTIONS
026	3RW-202	0	TYPICAL SECTIONS
027	3RW-203	0	TYPICAL SECTIONS
028	3RW-204	0	TYPICAL SECTIONS AT FREEWAY INTERCHANGE
029	3RW-205	0	TYPICAL SECTIONS AT FREEWAY INTERCHANGE
STRUCTURES			
030	3G-0005	0	KEY PLAN
031	3ST-101	0	IRON HORSE REGIONAL TRAIL UNDERPASS
032	3ST-102	0	HACIENDA DR ON-RAMP TUNNEL
033	3ST-103	0	TASSAJARA CREEK BRIDGE
034	3ST-104	0	SANTA RITA ROAD/TASSAJARA ROAD RETAINING WALL 1 & 2
035	3ST-105	0	FALLEN ROAD/EL CHARRO ROAD OC RETAINING WALL 3 & 4
036	3ST-106	0	AIRWAY BOULEVARD OC (OLD)
037	3ST-107	0	AIRWAY BOULEVARD OC RETAINING WALL 5 & 6
038	3ST-108	0	AIRWAY BOULEVARD OC RETAINING WALL 7 & 8
039	3ST-109	0	ARROYO LAS POSITAS CREEK BRIDGE
040	3ST-110	0	I-580 TUNNEL SHEET 1 OF 2
041	3ST-111	0	I-580 TUNNEL SHEET 2 OF 2
042	3ST-112	0	CREEK BRIDGE/LAS POSITAS
043	3ST-113	0	CAYETANO CREEK BRIDGE

PAGE NO.	CONTRACT SHEET NO.	REV NO.	TITLE
STATION			
044	3G001	0	D/P STATION - LOCATION MAP
045	3A100	0	D/P STATION - OVERALL PLAN
046	3A101	0	D/P STATION - SITE PLAN
047	3A102	0	D/P STATION - PLATFORM LEVEL PLAN
048	3A103	0	D/P STATION - CONCOURSE LEVEL PLAN
049	3A305	0	D/P STATION - ELEVATIONS
050	3A401	0	D/P STATION - TRANSVERSE SECTION
051	3G001	0	ISABEL STATION - LOCATION MAP
052	3A000	0	ISABEL STATION - OVERALL SITE PLAN
053	3A001	0	ISABEL STATION - BIKE PATH PLAN
054	3A100	0	ISABEL STATION - SITE SECTION AND ELEVATION
055	3A101	0	ISABEL STATION - CONCOURSE FLOOR PLAN
056	3A102	0	ISABEL STATION - PLATFORM FLOOR PLAN
057	3A103	0	ISABEL STATION - EOL FACILITY FLOOR PLANS
058	3A110	0	ISABEL STATION - KEY ELEVATION AND SECTION
059	3A111	0	ISABEL STATION - SOUTH ELEVATION
060	3A112	0	ISABEL STATION - WEST ELEVATION
061	3A121	0	ISABEL STATION - LONGITUDINAL SECTION
062	3A122	0	ISABEL STATION - CROSS SECTION
063	3A200	0	ISABEL STATION - SITE ACCESS PLAN & PARKING
064	3A201	0	ISABEL STATION - PARKING STRUCTURE - FIRST FLOOR PLAN
065	3A202	0	ISABEL STATION - PARKING STRUCTURE - 2ND, 3RD & 5TH LEVEL TYPICAL FLOOR PLAN
066	3A203	0	ISABEL STATION - PARKING STRUCTURE - 4TH LEVEL FLOOR PLAN
067	3A204	0	ISABEL STATION - PARKING STRUCTURE - ROOF LEVEL FLOOR PLAN
068	3A211	0	ISABEL STATION - PARKING STRUCTURE - EXTERIOR ELEVATIONS
069	3A212	0	ISABEL STATION - PARKING STRUCTURE - EXTERIOR ELEVATIONS
070	3A221	0	ISABEL STATION - PARKING STRUCTURE - LONGITUDINAL SECTIONS
071	3A300	0	ISABEL STATION - BUS TRANSIT CENTER - SITE PLAN
072	3A301	0	ISABEL STATION - NORTH POC TOUCHDOWN STRUCTURE - FLOOR PLANS & ELEVATIONS
073	3A302	0	ISABEL STATION - SOUTH POC TOUCHDOWN STRUCTURE - FLOOR PLANS
074	3A310	0	ISABEL STATION - SOUTH POC TOUCHDOWN STRUCTURE - SECTION, SOUTH & EXTERIOR ELEVATIONS
075	3G001	0	DMU MAINTENANCE FACILITY - LOCATION MAP
076	3A001	0	DMU MAINTENANCE FACILITY - PERSPECTIVE
077	3A400	0	DMU MAINTENANCE FACILITY - SITE / KEY PLAN
078	3A401	0	DMU MAINTENANCE BLDG - FLOOR PLAN
079	3A405	0	DMU MAINTENANCE BLDG - ROOF PLAN
080	3A410	0	DMU MAINTENANCE BLDG - EXTERIOR ELEVATIONS
081	3A411	0	DMU MAINTENANCE BLDG - EXTERIOR ELEVATIONS
082	3A420	0	DMU MAINTENANCE BLDG - BUILDING SECTIONS
083	3A601	0	DMU BLOWDOWN STRUCTURE - FLOOR PLAN, ELEVATION & SECTIONS
084	TP101	0	ALTERNATIVE 3 (DMU) - MASTER SCHEMATIC
085	TP102	0	WAYSIDE FACILITY (DMU) - FACILITY LOCATIONS
086	TC101	0	WAYSIDE FACILITY (DMU) - SITE LAYOUT OPTIONS TRAIN CONTROL HOUSE (L35)
087	TP101	0	WAYSIDE FACILITY (EMU) - FACILITY LOCATIONS
088	TP102	0	ALTERNATIVE 3 (EMU) - MASTER SCHEMATIC
089	TP103	0	WAYSIDE FACILITY (DMU) - SITE LAYOUT TRAIN CONTROL HOUSE (L36)
090	TP104	0	HIGH VOLTAGE SUBSTATION (LHV) & TPSS (LIA)

REFERENCE


A EXISTING UTILITY MAP

Jul 28, 2017 - 11:37am \\global-arup.com\americas\Jobs\3-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU EMU\Rail\3G-0001.dwg
 eronsudhousen

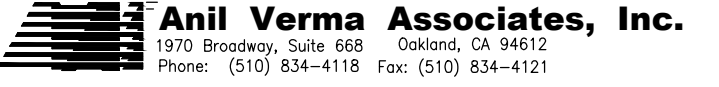
REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: G. WALKER
DRAWN: K. MCMILLEN
CHECKED: D. HUNT
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



Arup North America Ltd.
550 Mission Street, 7th Floor
San Francisco, CA 94105 USA
Tel (415) 957-6666
Fax (415) 957-6666
www.arup.com

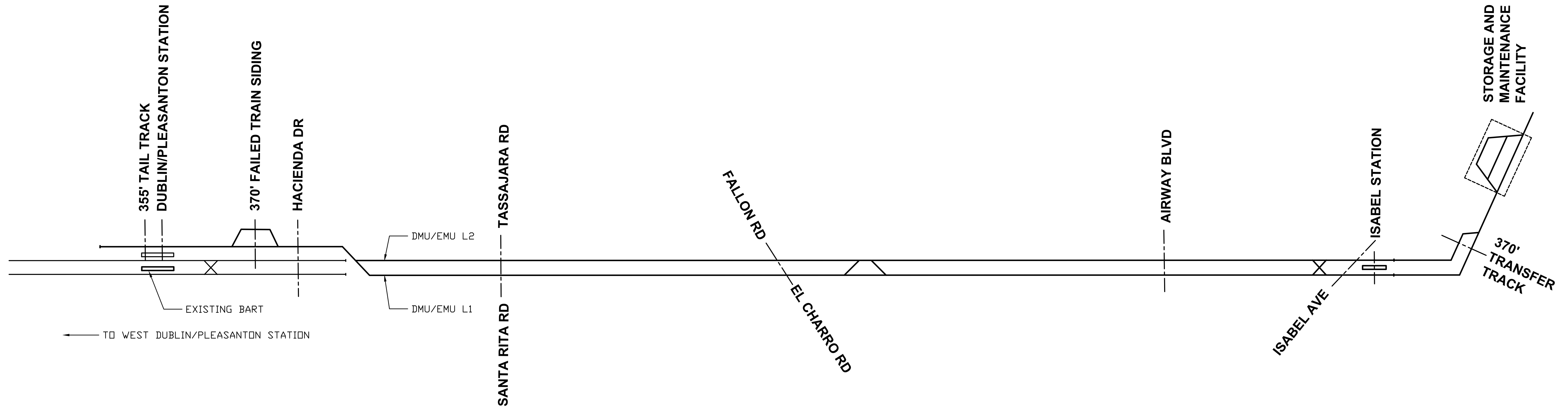


Anil Verma Associates, Inc.
1970 Broadway, Suite 1900
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

BART TO LIVERMORE EXTENSION ALTERNATIVE 2 - DMU

SHEET INDEX

CADD FILENAME 3G-0001.DWG	
SIZE: SCALE D AS NOTED	
CONTRACT NO. 8CT008	REV. 0
CONTRACT SHEET NO. 3G-0001	PAGE NO. 002




SCHEMATIC PLAN

Jul 14, 2017 - 11:26am \\global.arup.com\americas\jobs\S-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\TBM EMU\Rail\3G-0002.dwg
 kyle.mcmillen


REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
G. WALKER
 DRAWN:
K. MCMILLEN
 CHECKED:
D. HUNT
 APPROVED:
D. HUNT
 DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com



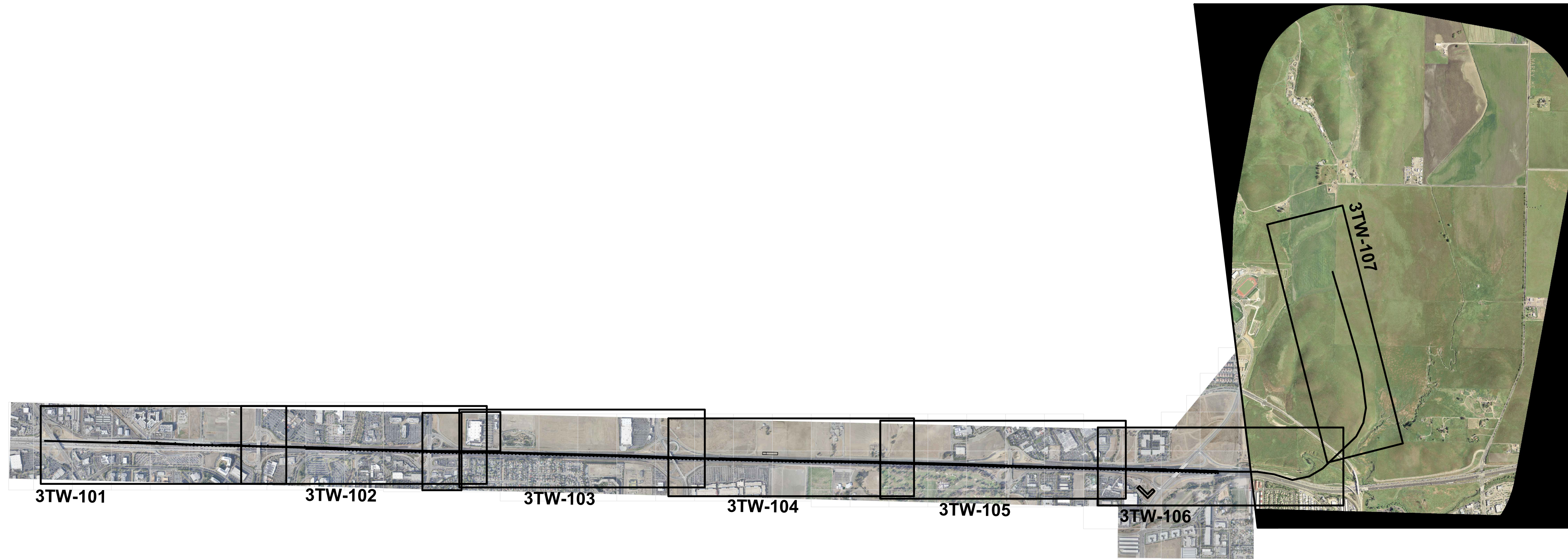
Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

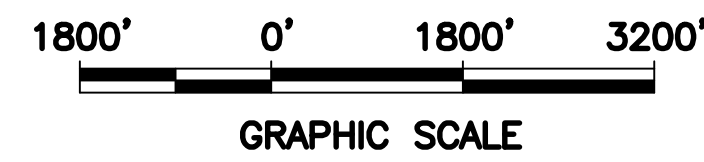
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU**

SCHEMATIC PLAN

CADD FILENAME 3G-0002.DWG	
SIZE: ISCALE D	AS NOTED
CONTRACT NO. 8CT008	REV. 0
CONTRACT SHEET NO. 3G-0002	PAGE NO. 003



PLAN




Jul 13, 2017 10:03pm J:\S-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU EMU\Rail\3G-0003.dwg
kyle.mcmillen


REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
G. WALKER
DRAWN:
K. MCMILLEN
CHECKED:
D. HUNT
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



ARUP
Arup North America Ltd.
250 Mission Street, 7th Floor
San Francisco, CA 94105 USA
Tel (415) 857-3445
Fax (415) 857-3999
www.arup.com



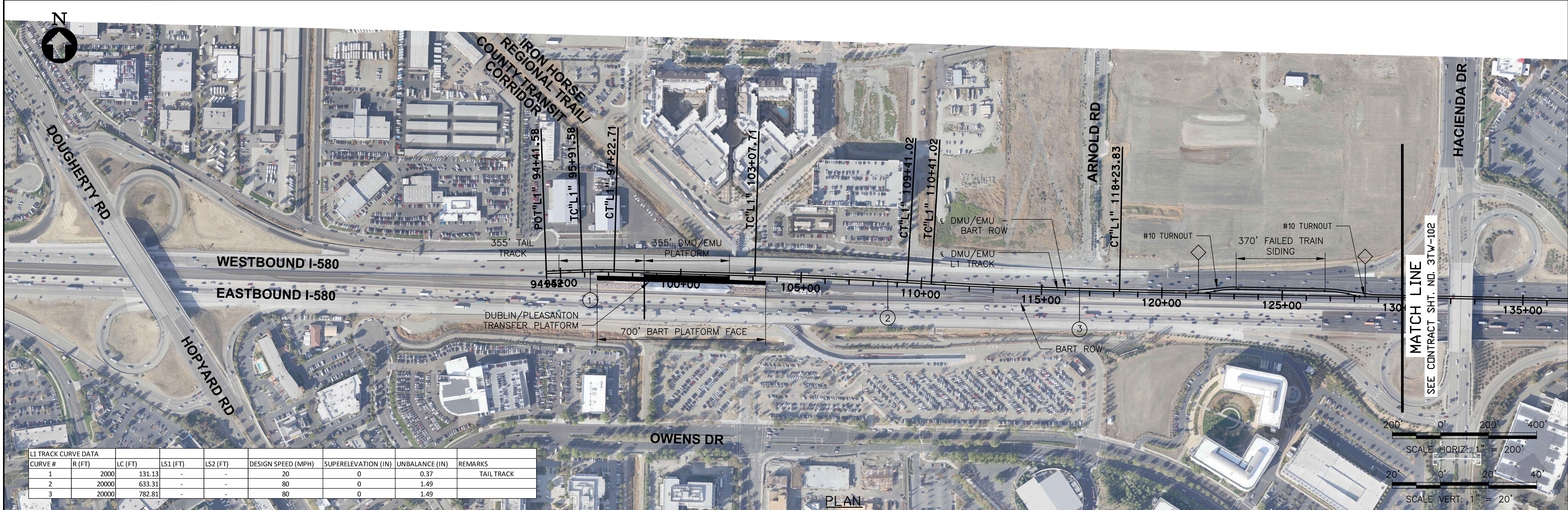
Anil Verma Associates, Inc.
1970 Broadway, Suite 608
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

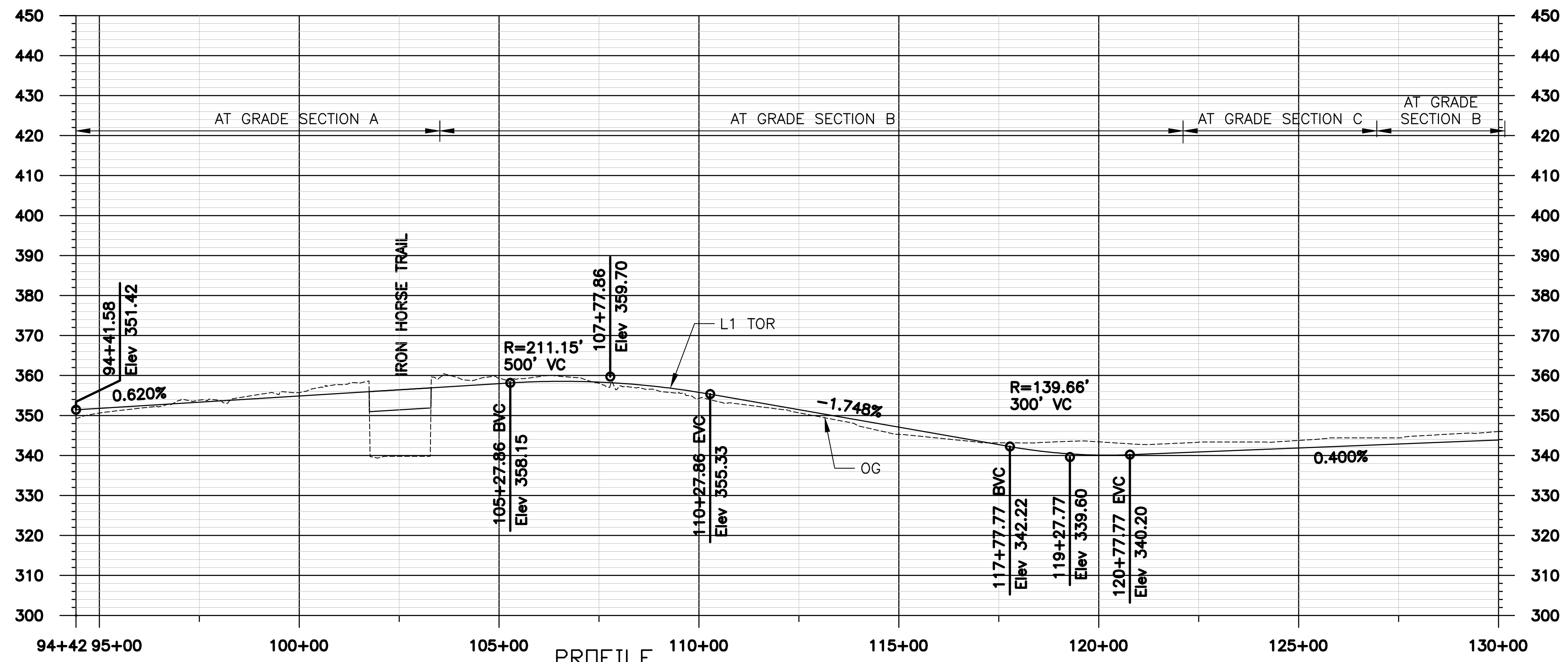
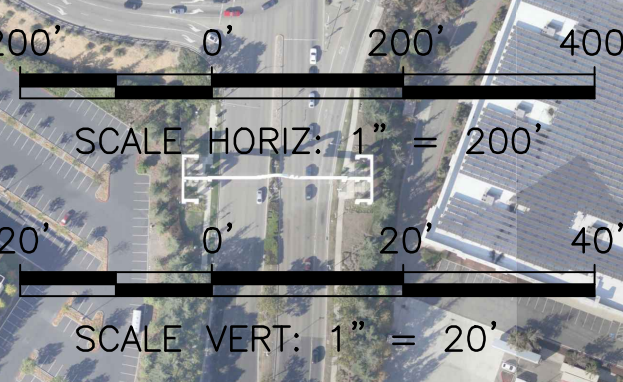
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU**

KEY PLAN

CADD FILENAME 3G-0002.DWG	
SIZE: D	SCALE AS NOTED
CONTRACT NO. 8CT008	REV. 0
CONTRACT SHEET NO. 3G-0003	PAGE NO. 004



L1 TRACK CURVE DATA								
CURVE #	R (FT)	LC (FT)	LS1 (FT)	LS2 (FT)	DESIGN SPEED (MPH)	SUPERELEVATION (IN)	UNBALANCE (IN)	REMARKS
1	2000	131.13	-	-	20	0	0.37	TAIL TRACK
2	20000	633.31	-	-	80	0	1.49	
3	20000	782.81	-	-	80	0	1.49	



Jul 13, 2017 10:06pm J:\S-F\23000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings Sheets\DMU EMU\Rail\3TW-101.dwg kyle.mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:
G. WALKER
DRAWN:
K. MCMILLEN
CHECKED:
D. HUNT
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP North America Ltd.
500 Mission Street, 7th Floor
San Francisco, CA 94105 USA
Tel (415) 957-3445
Fax (415) 957-8999
www.arup.com

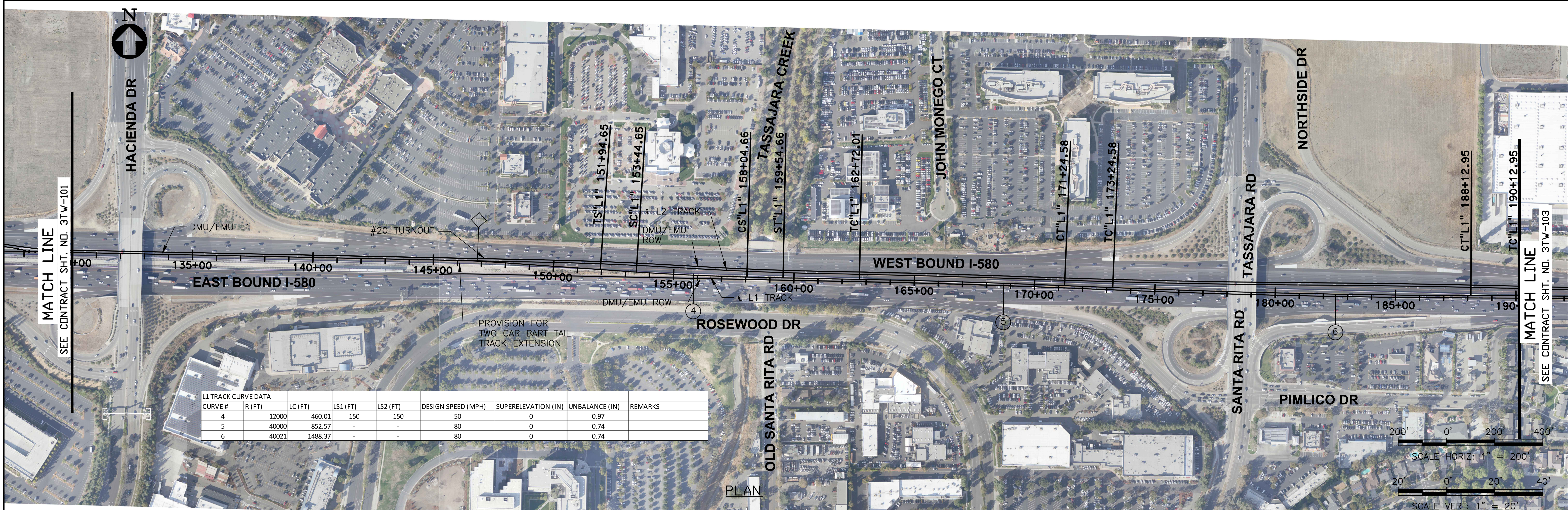
Anil Verma Associates, Inc.
1970 Broadway, Suite 668
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU**

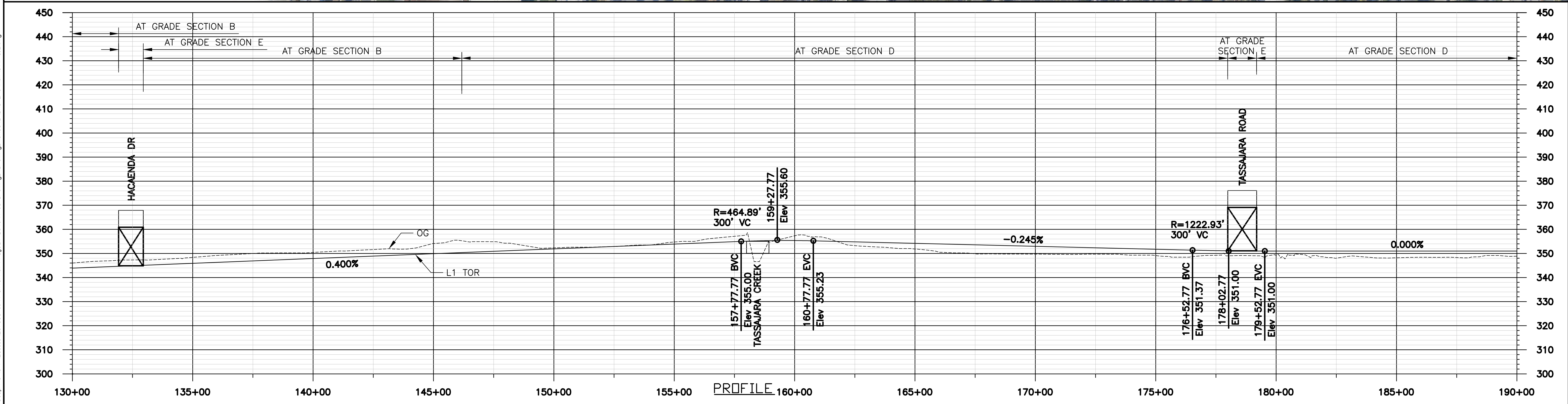
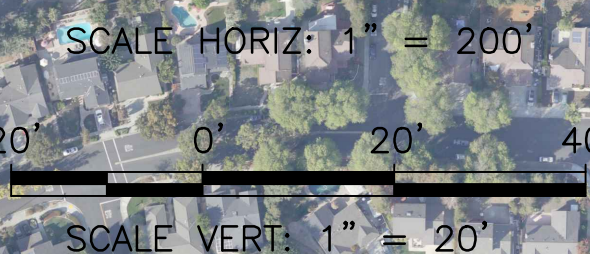
TRACK PLAN AND PROFILE

CADD FILENAME 3TW-101.DWG	
SIZE: D	SCALE: AS NOTED
CONTRACT NO. 8CT008	REV. 0
CONTRACT SHEET NO. 3TW-101	PAGE NO. 005



L1 TRACK CURVE DATA								
CURVE #	R (FT)	LC (FT)	LS1 (FT)	LS2 (FT)	DESIGN SPEED (MPH)	SUPERELEVATION (IN)	UNBALANCE (IN)	REMARKS
4	12000	460.01	150	150	50	0	0.97	
5	40000	852.57	-	-	80	0	0.74	
6	40021	1488.37	-	-	80	0	0.74	

PLAN



PROFILE

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: G. WALKER
DRAWN: K. McMILLEN
CHECKED: D. HUNT
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP Arup North America Ltd.
250 Maiden Street, 7th Floor
San Francisco, CA 94105 USA
Tel (415) 857-3445
Fax (415) 857-3999
www.arup.com

Anil Verma Associates, Inc.
1570 Broadway, Suite 668
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU**

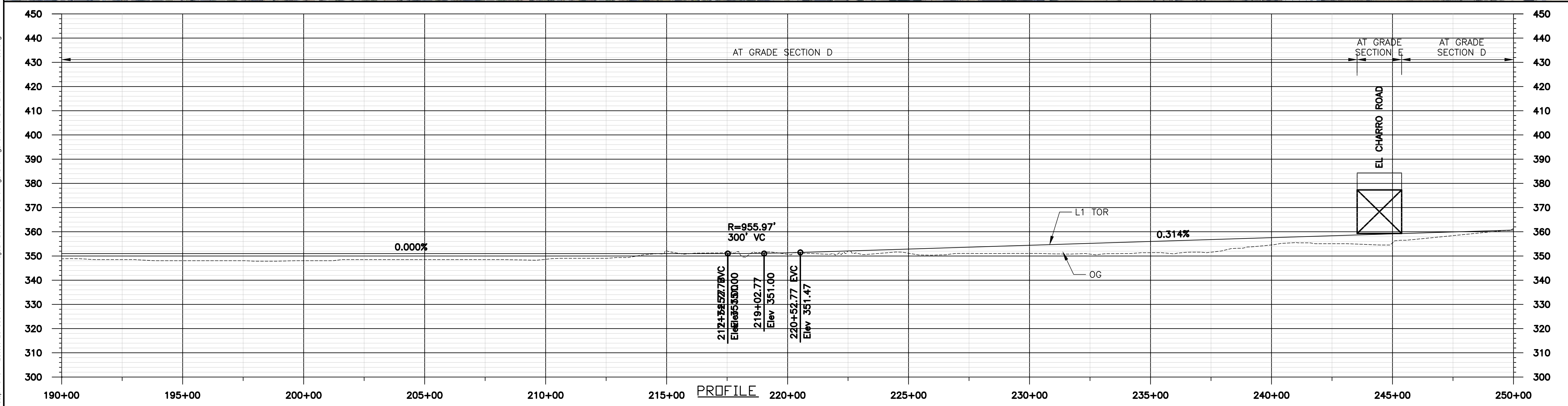
TRACK PLAN AND PROFILE

CADD FILENAME 3TW-102.DWG	REV. 0
SCALE AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3TW-102	PAGE NO. 006

Jul 13, 2017 - 10:08pm J:\S-F\23000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings Sheets\DMU\EMU\Rail\3TW-102.dwg kyle.mcmillen



L1 TRACK CURVE DATA								
CURVE #	R (FT)	LC (FT)	LS1 (FT)	LS2 (FT)	DESIGN SPEED (MPH)	SUPERELEVATION (IN)	UNBALANCE (IN)	REMARKS
7	40000	876.54	-	-	80	0	0.74	
8	40000	880.00	-	-	80	0	0.74	
9	40021	1243.09	-	-	80	0	0.74	



Jul 13, 2017 11:10pm J:\S-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU EMU\Rail\3TW-103.dwg
 KyleMcMillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:
G. WALKER
 DRAWN:
K. McMILLEN
 CHECKED:
D. HUNT
 APPROVED:
D. HUNT
 DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP
Arup North America Ltd.
 550 Mission Street, 7th Floor
 San Francisco, CA 94105 USA
 Tel (415) 857 3445
 Fax (415) 857 3999
 www.arup.com

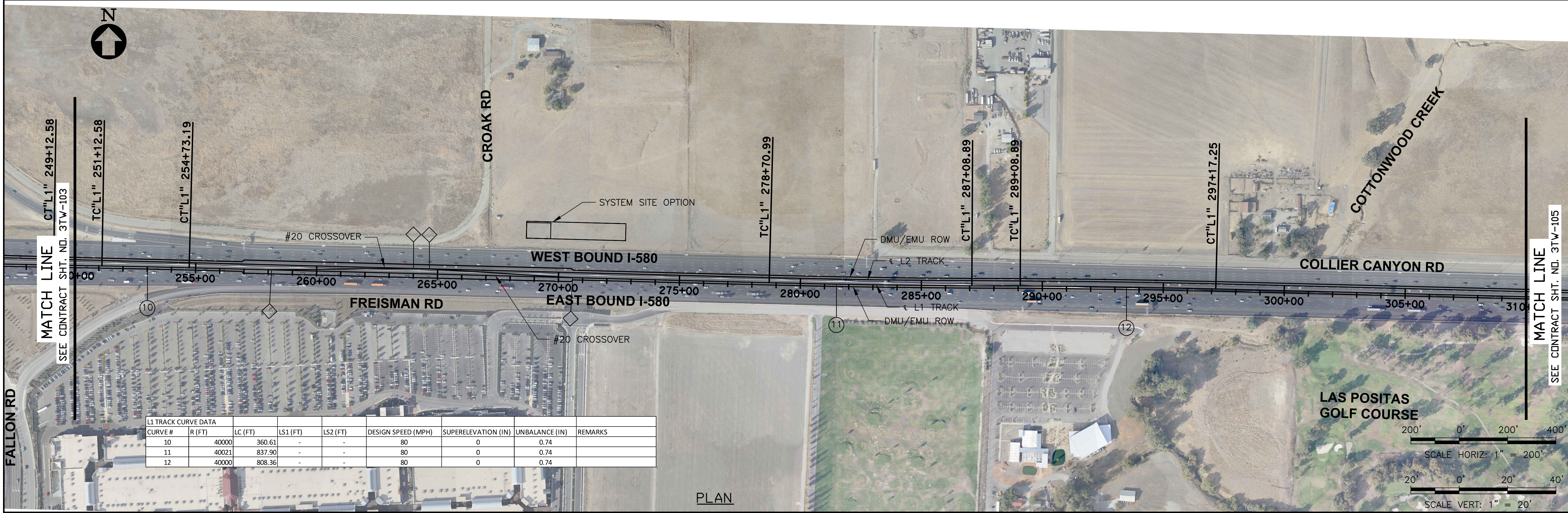
Anil Verma Associates, Inc.
1970 Broadway, Suite 668
 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU**

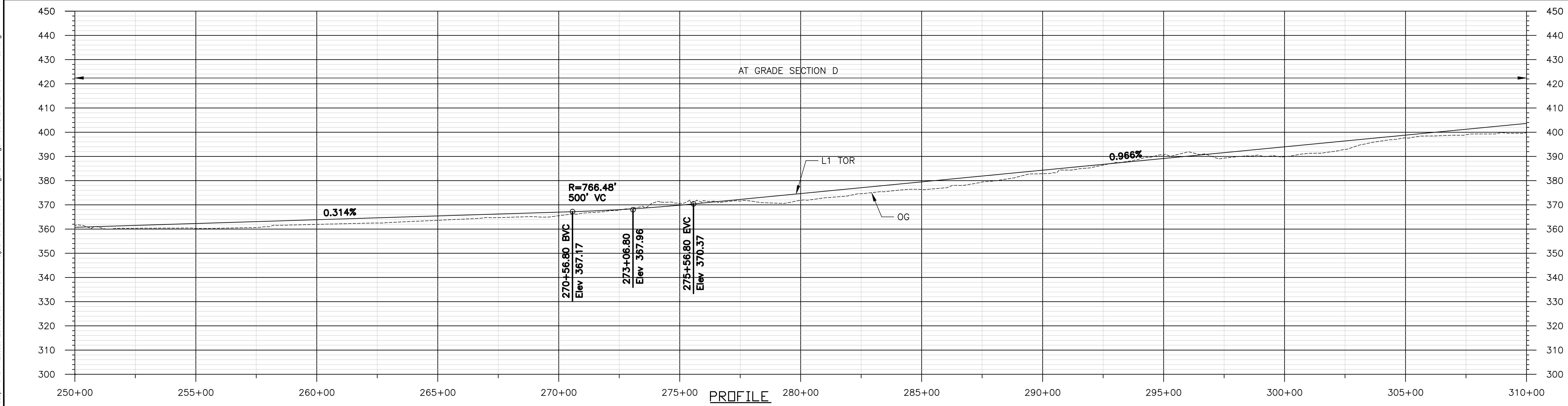
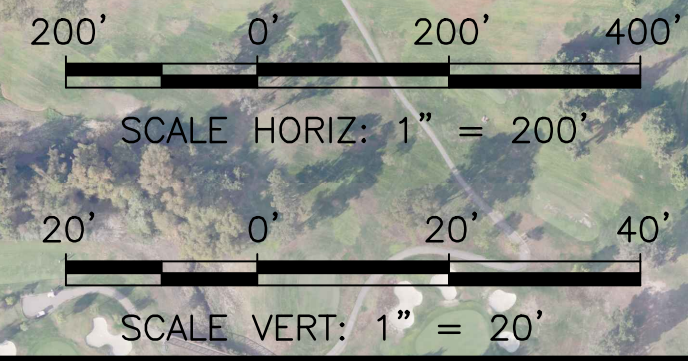
TRACK PLAN AND PROFILE

CADD FILENAME 3TW-103.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3TW-103	PAGE NO. 007



L1 TRACK CURVE DATA								
CURVE #	R (FT)	LC (FT)	LS1 (FT)	LS2 (FT)	DESIGN SPEED (MPH)	SUPERELEVATION (IN)	UNBALANCE (IN)	REMARKS
10	40000	360.61	-	-	80	0	0.74	
11	40021	837.90	-	-	80	0	0.74	
12	40000	808.36	-	-	80	0	0.74	

PLAN



PROFILE

Jul 13, 2017 - 11:33pm J:\S-F\230000\237865-00\4 Internal Project Drawings\Drawings\Sheets\DMU\EMU\Rail\3TW-104.dwg
 KyleMcMillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
G. WALKER
 DRAWN:
K. MCMILLEN
 CHECKED:
D. HUNT
 APPROVED:
D. HUNT
 DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
 550 Mission Street, 7th Floor
 San Francisco, CA 94105 USA
 Tel (415) 857-3445
 Fax (415) 857-3999
 www.arup.com

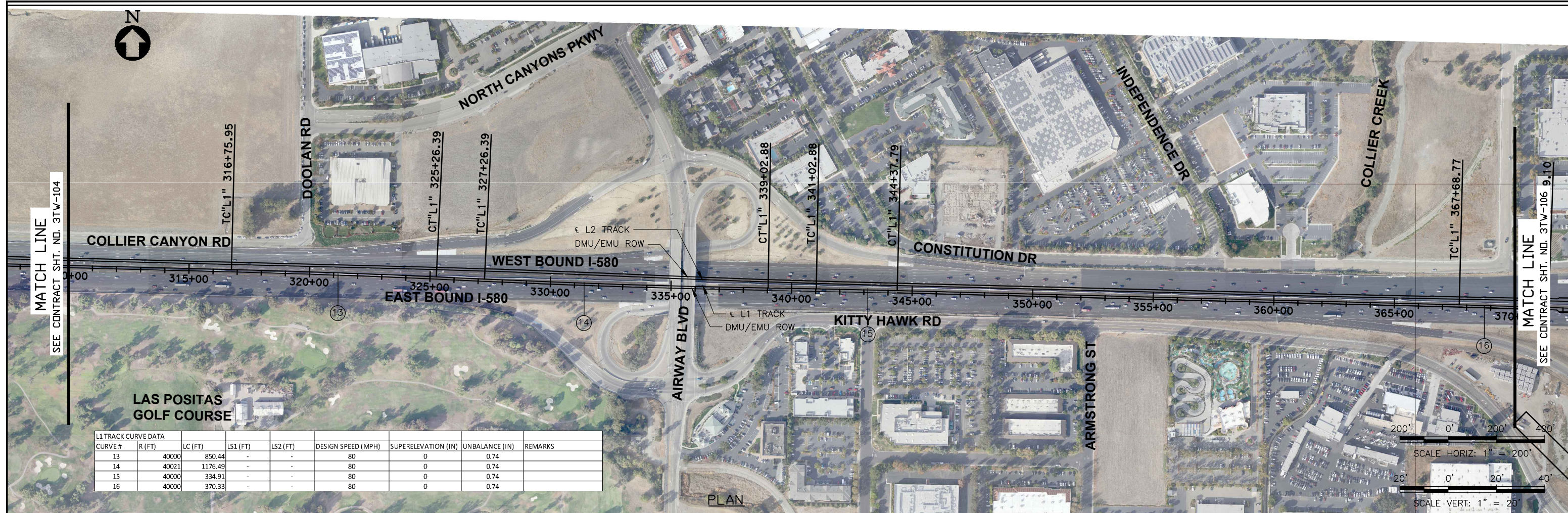
Anil Verma Associates, Inc.
 1970 Broadway, Suite 668
 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

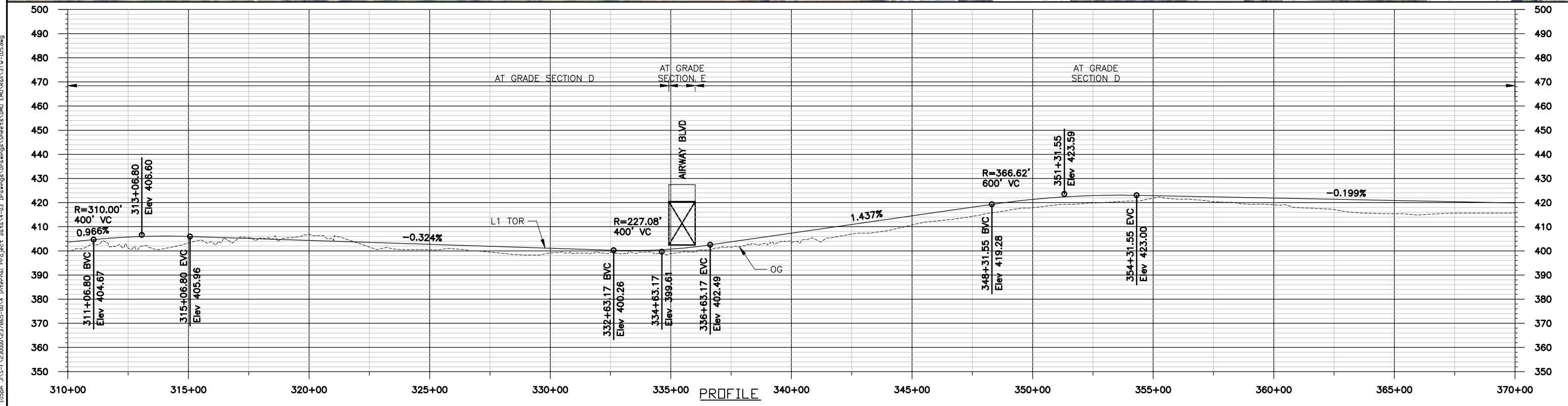
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU**

TRACK PLAN AND PROFILE

CADD FILENAME 3TW-104.DWG	
SIZE: D	SCALE: AS NOTED
CONTRACT NO. 8CT008	REV. 0
CONTRACT SHEET NO. 3TW-104	PAGE NO. 008



L1 TRACK CURVE DATA								
CURVE #	R (FT)	LC (FT)	LS1 (FT)	LS2 (FT)	DESIGN SPEED (MPH)	SUPERELEVATION (IN)	UNBALANCE (IN)	REMARKS
13	40000	850.44	-	-	80	0	0.74	
14	40021	1176.49	-	-	80	0	0.74	
15	40000	334.91	-	-	80	0	0.74	
16	40000	370.33	-	-	80	0	0.74	



REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:
G. WALKER
DRAWN:
K. MCMILLEN
CHECKED:
D. HUNT
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP Arup North America Ltd.
601 Mission Street, 7th Floor
San Francisco, CA 94105 USA
Tel: (415) 957-9444
Fax: (415) 957-9999
www.arup.com

Anil Verma Associates, Inc.
1970 Broadway, Suite 666
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

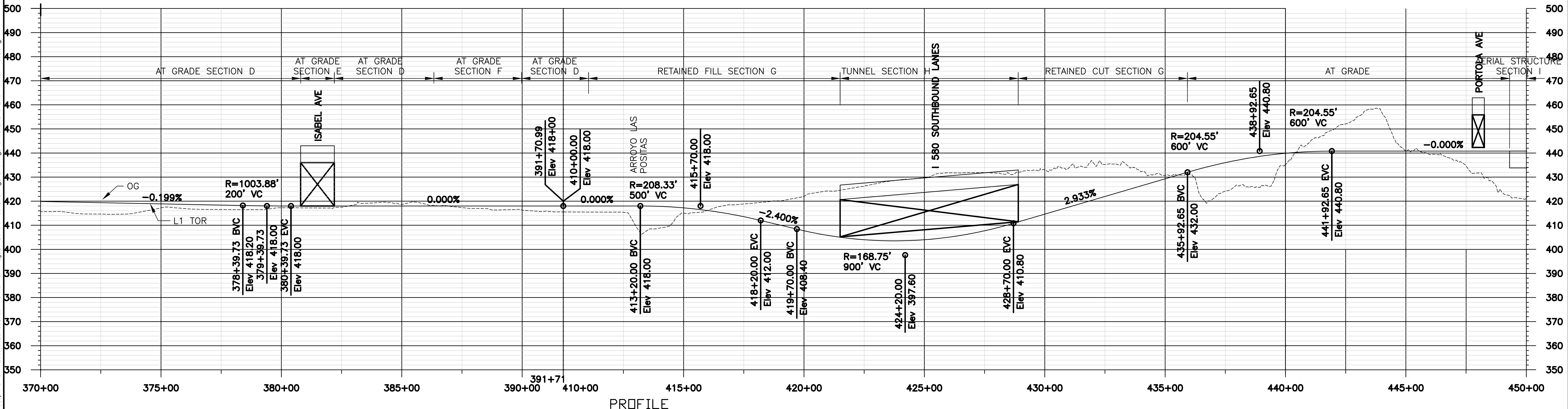
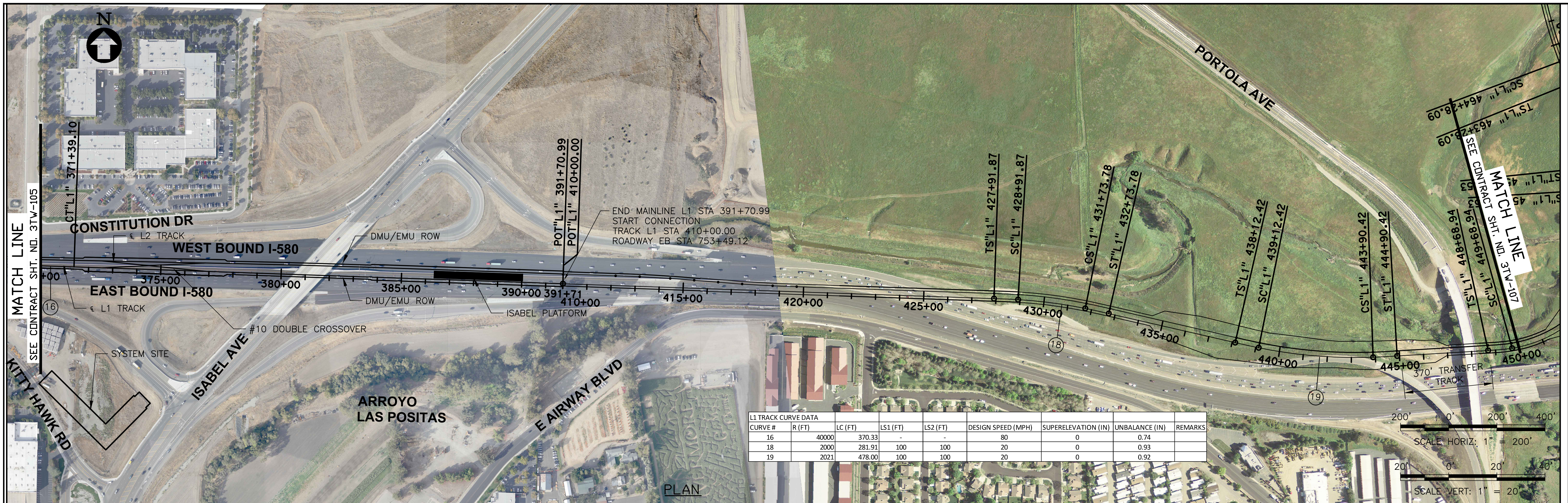
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU**

TRACK PLAN AND PROFILE

CADD FILENAME:
3TW-105.DWG
SIZE: SCALE
D AS NOTED
CONTRACT NO.
8CT008
CONTRACT SHEET NO.
3TW-105

REV.
0
PAGE NO.
009

Jul 13, 2017 - 11:52pm J:\S-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\EMU\Rail\3TW-105.dwg



REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:
G. WALKER
DRAWN:
K. MCMILLEN
CHECKED:
D. HUNT
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP Arup North America Ltd.
250 Mission Street, 7th Floor
San Francisco, CA 94105 USA
Tel (415) 857-8445
Fax (415) 857-8999
www.arup.com

Anil Verma Associates, Inc.
1970 Broadway, Suite 668
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

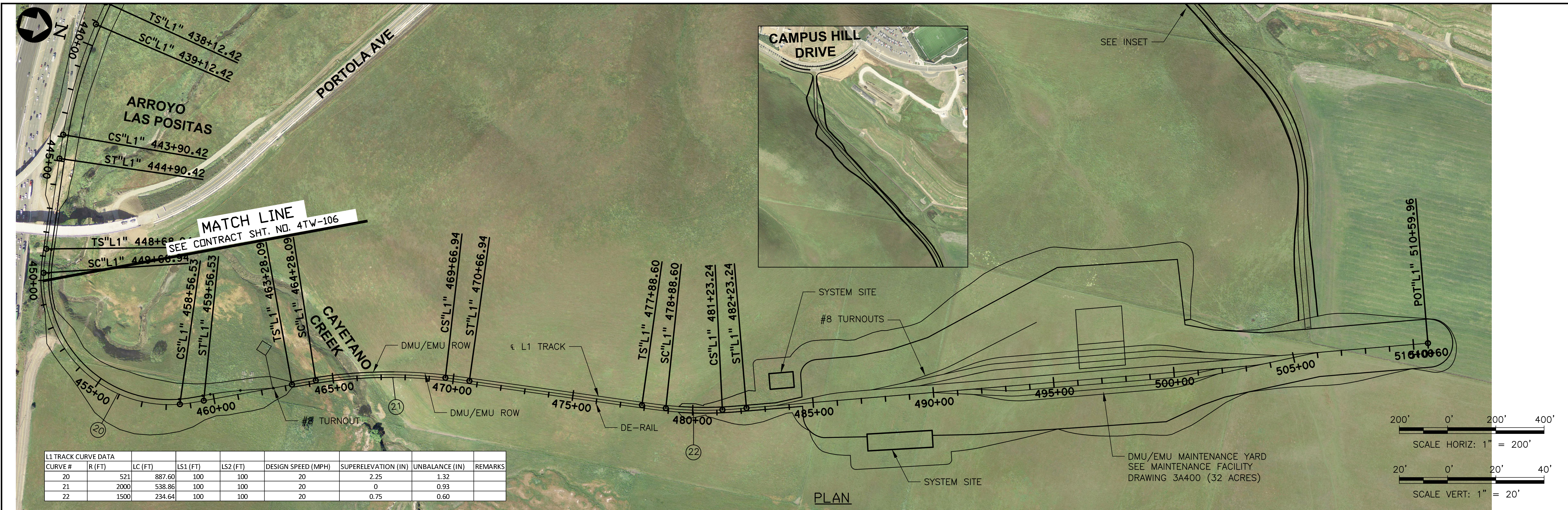
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU**

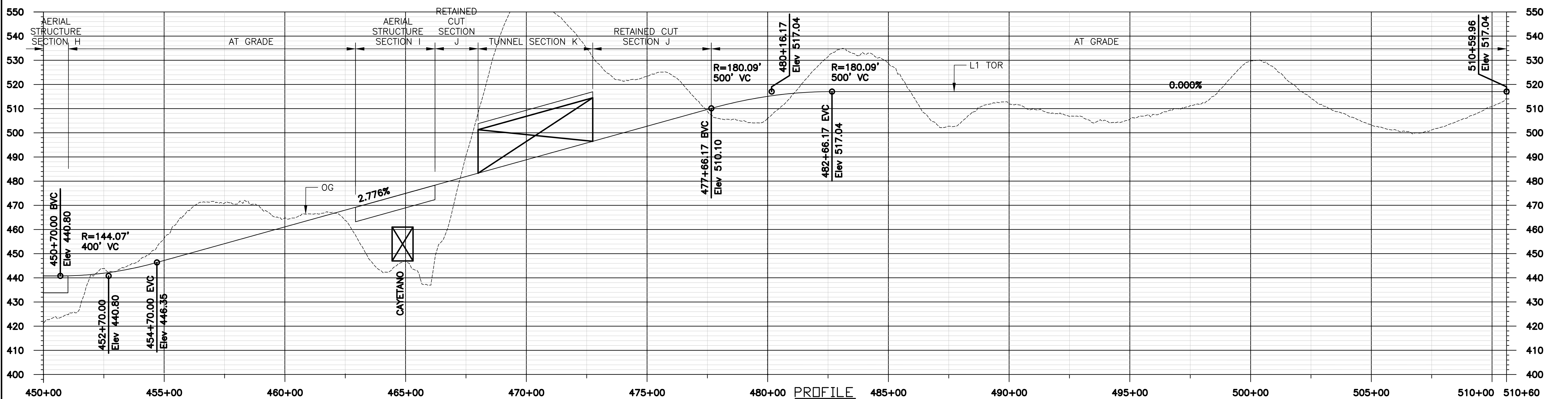
TRACK PLAN AND PROFILE

CADD FILENAME: 3TW-106.DWG
SIZE: SCALE: D AS NOTED
CONTRACT NO. 8CT008 REV. 0
CONTRACT SHEET NO. 3TW-106 PAGE NO. 010

Jul 13, 2017 - 11:08pm J:\S-F\230000\237865-00\4 Internal Drawings\Drawings\Sheets\DMU\Rail\3TW-106.dwg kyle.mcmillen



L1 TRACK CURVE DATA								
CURVE #	R (FT)	LC (FT)	LS1 (FT)	LS2 (FT)	DESIGN SPEED (MPH)	SUPERELEVATION (IN)	UNBALANCE (IN)	REMARKS
20	521	887.60	100	100	20	2.25	1.32	
21	2000	538.86	100	100	20	0	0.93	
22	1500	234.64	100	100	20	0.75	0.60	



Jul 13, 2017 12:12pm J:\S-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU EMU\Rail\3TW-107.dwg
 kyle.mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: C. WALKER
DRAWN: K. MCMILLEN
CHECKED: D. HUNT
APPROVED: D. HUNT
DATE: 05/19/2017

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP
Arup North America Ltd.
 560 Mission Street, 7th Floor
 San Francisco, CA 94105, USA
 Tel (415) 957 8445
 Fax (415) 957 8996
 www.arup.com

Anil Verma Associates, Inc.
1970 Broadway, Suite 508
 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

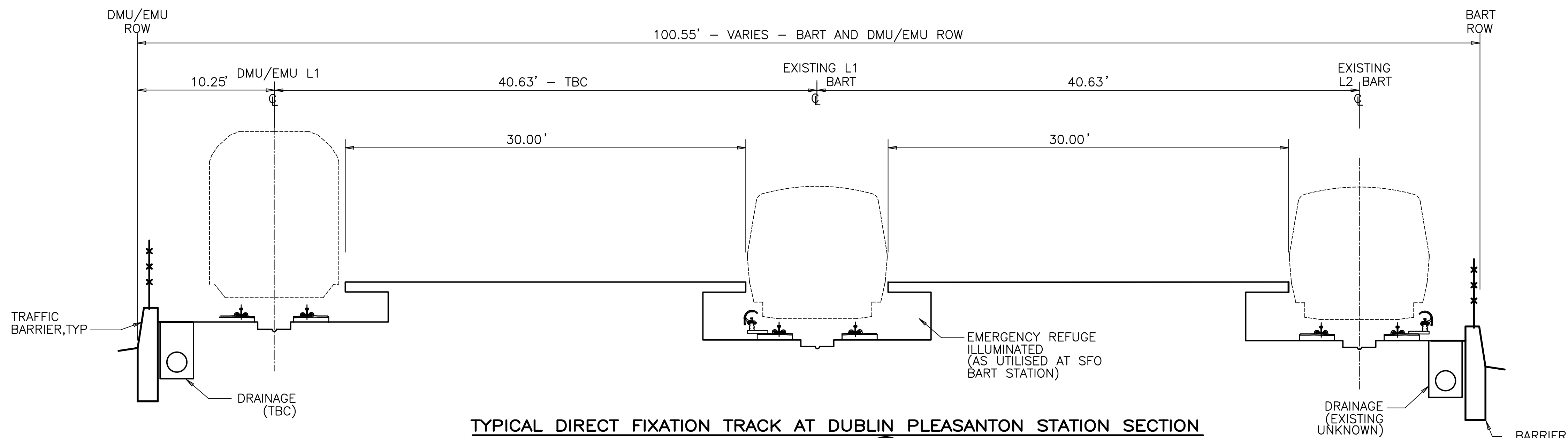
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU**

TRACK PLAN AND PROFILE

CADD FILENAME 3TW-107.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3TW-107	PAGE NO. 011

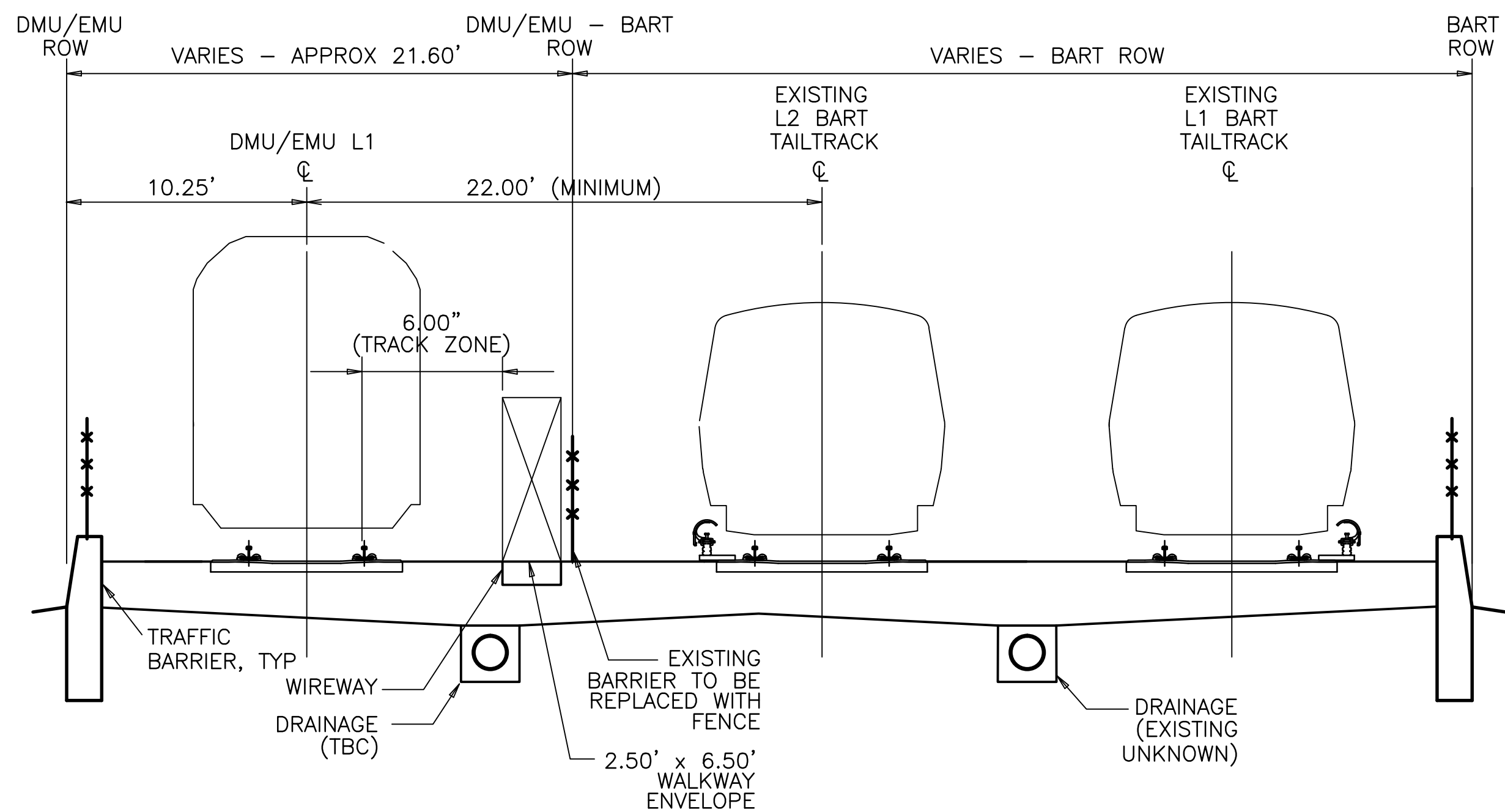
NOTES

1. EMU DCS NOT SHOWN.
2. I-580 NOT SHOWN
3. DMU/EMU PLATFORM CLEARANCE TO BE ASCERTAINED



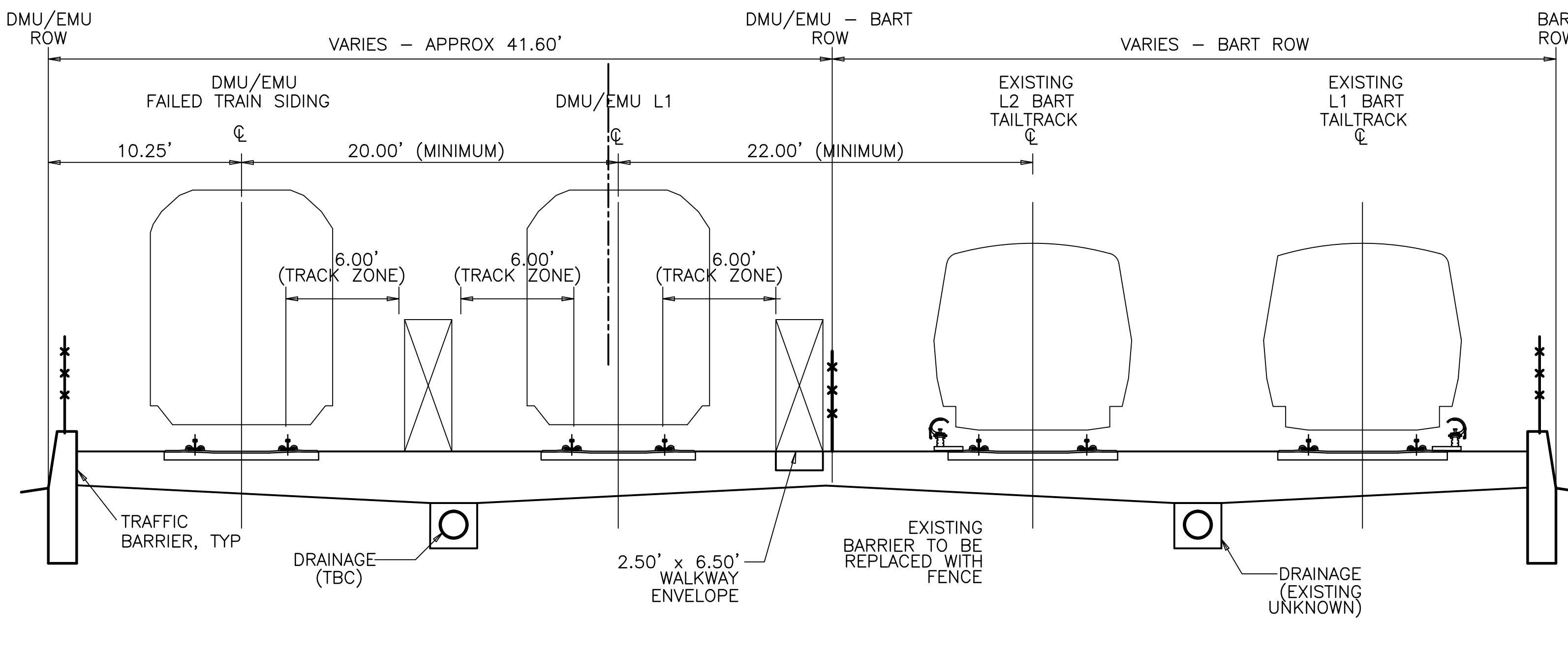
TYPICAL DIRECT FIXATION TRACK AT DUBLIN PLEASANTON STATION SECTION

SECTION **A**
SCALE: 1"=5'



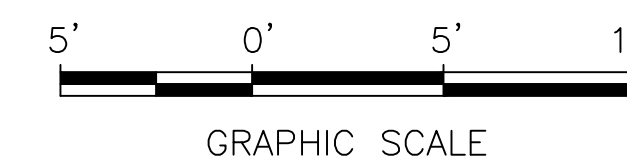
TYPICAL BALLASTED TRACK AT GRADE AT BART TAIL TRACKS

SECTION **B**
SCALE: 1"=5'



TYPICAL BALLASTED TRACK AT FAILED TRAIN SIDING LOCATION

SECTION **C**
SCALE: 1"=5'



Jul 13, 2017 - 12:10pm J:\S-F\233000\237865-00\4 Internal Drawings\Drawings\Sheets\DMU\EMU\Rail\3TV-201.dwg kyle.mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED: G. WALKER
DRAWN: K. MCMILLEN
CHECKED: D. HUNT
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
550 Mission Street, 7th Floor
San Francisco, CA 94105 USA
Tel (415) 857-3445
Fax (415) 857-3939
www.arup.com

Anil Verma Associates, Inc.
1970 Broadway, Suite 658
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

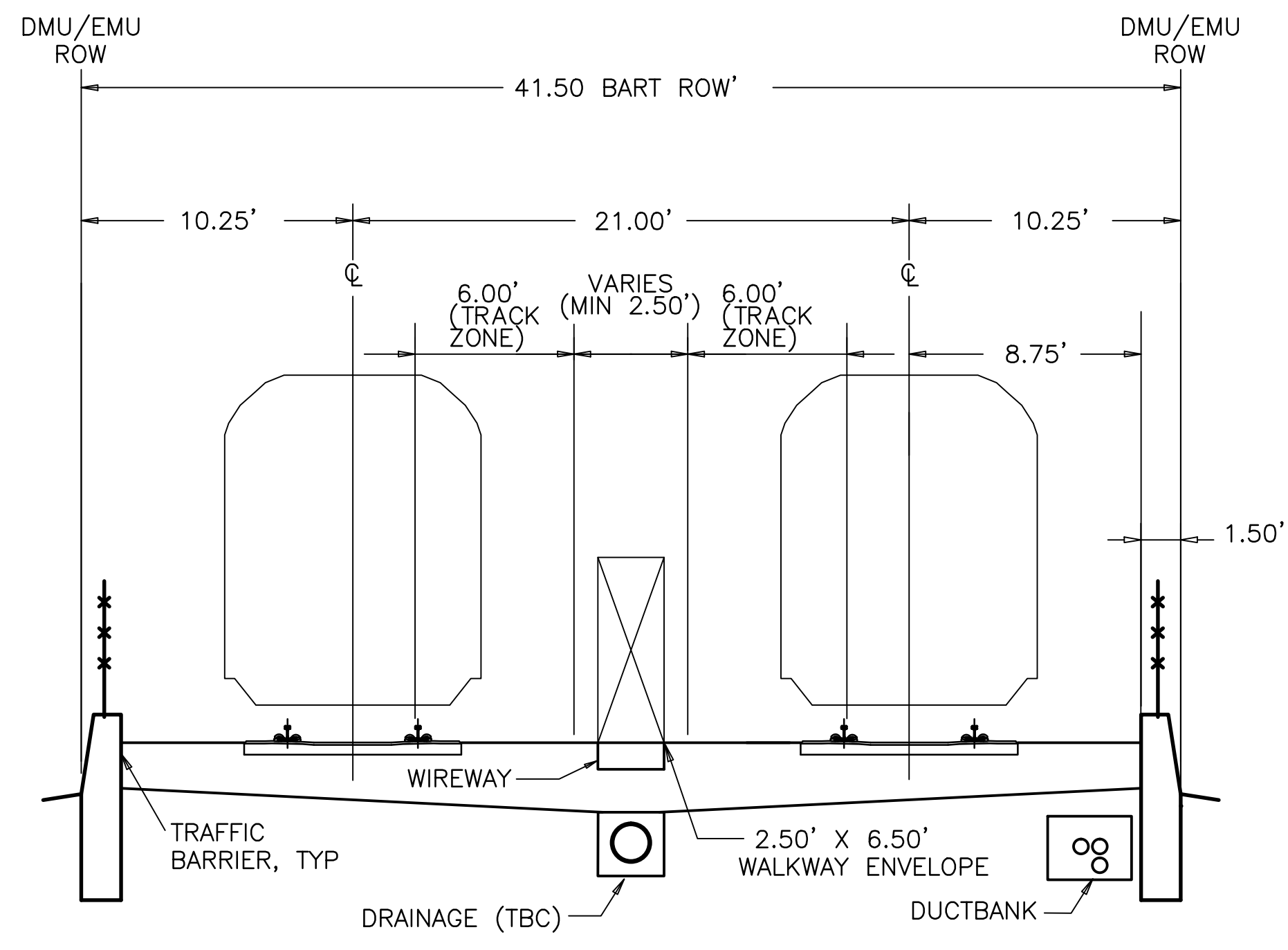
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU**

TYPICAL SECTIONS

CADD FILENAME 3TW-201.DWG	REV. 0
SIZE: D	SCALE 1"=5'-0"
CONTRACT NO. 8CT008	PAGE NO. 012
CONTRACT SHEET NO. 3TW-201	

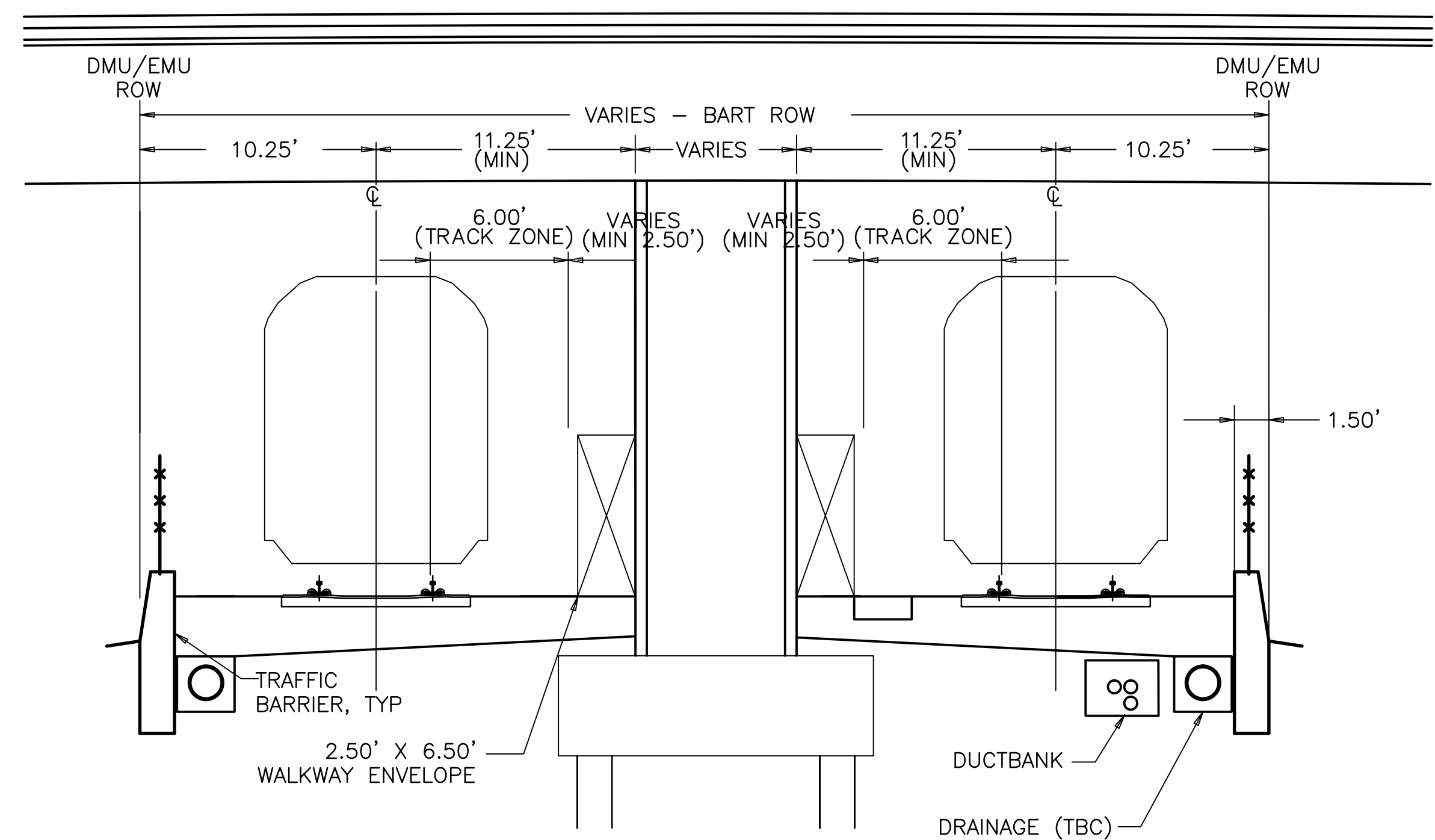
NOTES

1. EMU OCS NOT SHOWN.
2. I-580 NOT SHOWN.
3. VERTICAL CLEARANCE AT INTERCHANGE BRIDGES TO BE ASCERTAINED



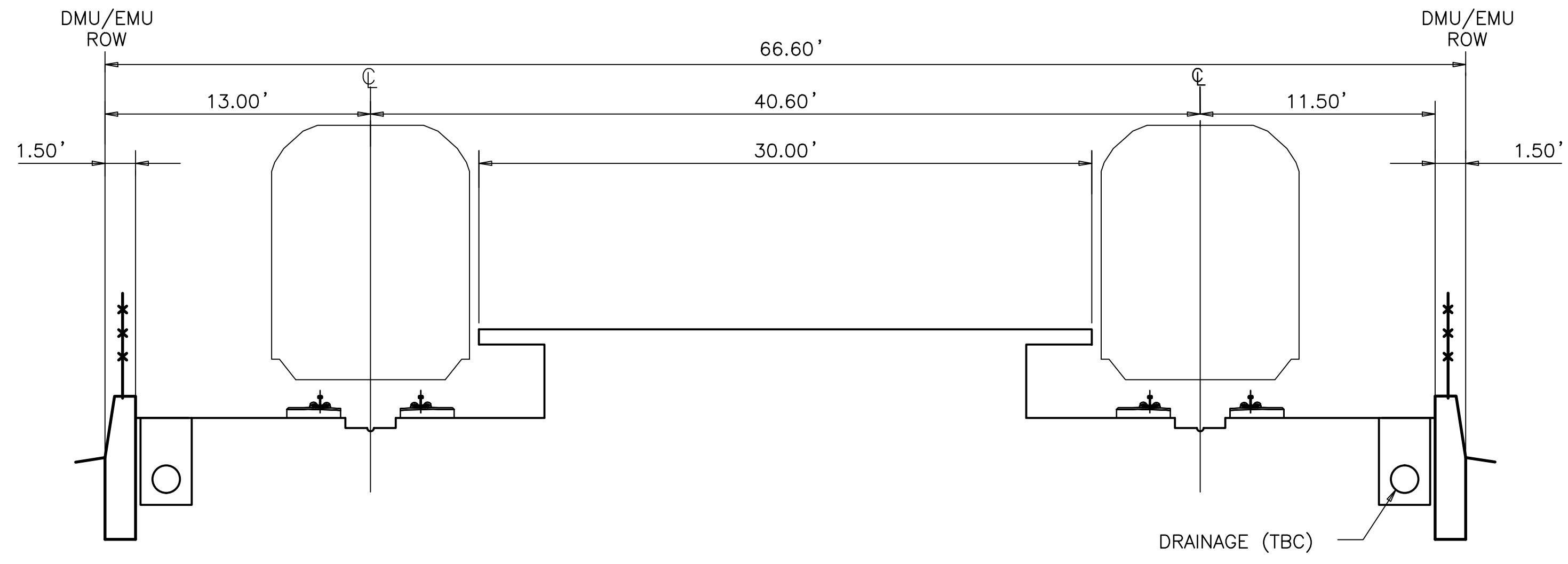
TYPICAL BALLASTED TRACK AT-GRADE SECTION

SECTION D
SCALE: 1"=5'



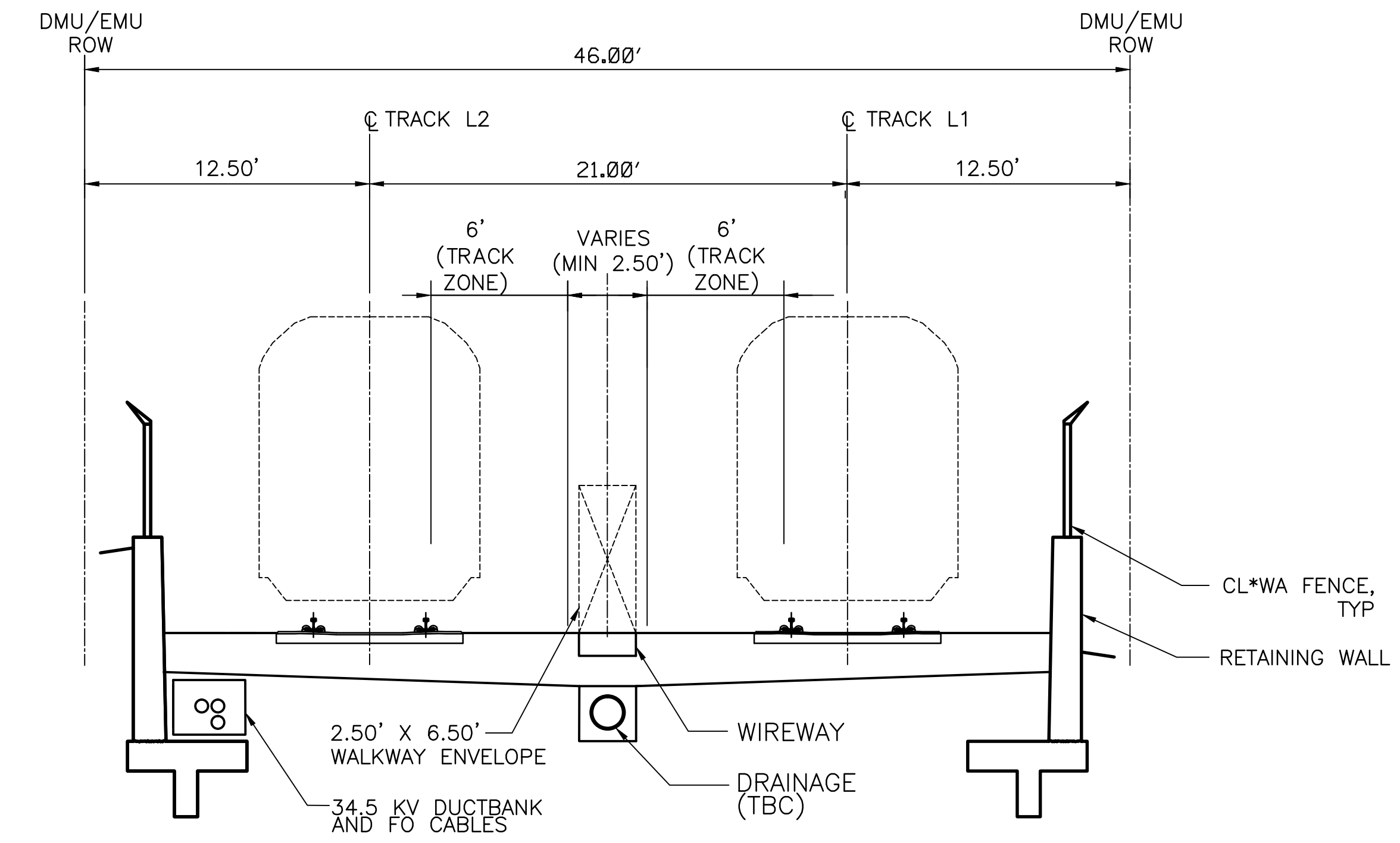
TYPICAL BALLASTED TRACK AT GRADE AT BRIDGE COLUMNS SECTION

SECTION E
SCALE: 1"=5'



TYPICAL DIRECT FIXATION TRACK AT ISABEL STATION SECTION

SECTION F
SCALE: 1"=5'



TYPICAL BALLASTED TRACK IN RETAINED CUT SECTION

SECTION G
SCALE: 1"=5'



Jul 13, 2017 10:22pm J:\S-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\EMU\Rail\3TW-202.dwg kylemcmlen

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED: G. WALKER
DRAWN: K. MCMILLEN
CHECKED: D. HUNT
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP North America Ltd.
500 Mission Street, 7th Floor
San Francisco, CA 94105 USA
Tel (415) 857-3445
Fax (415) 857-3992
www.arup.com

Anil Verma Associates, Inc.
1970 Broadway, Suite 458
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

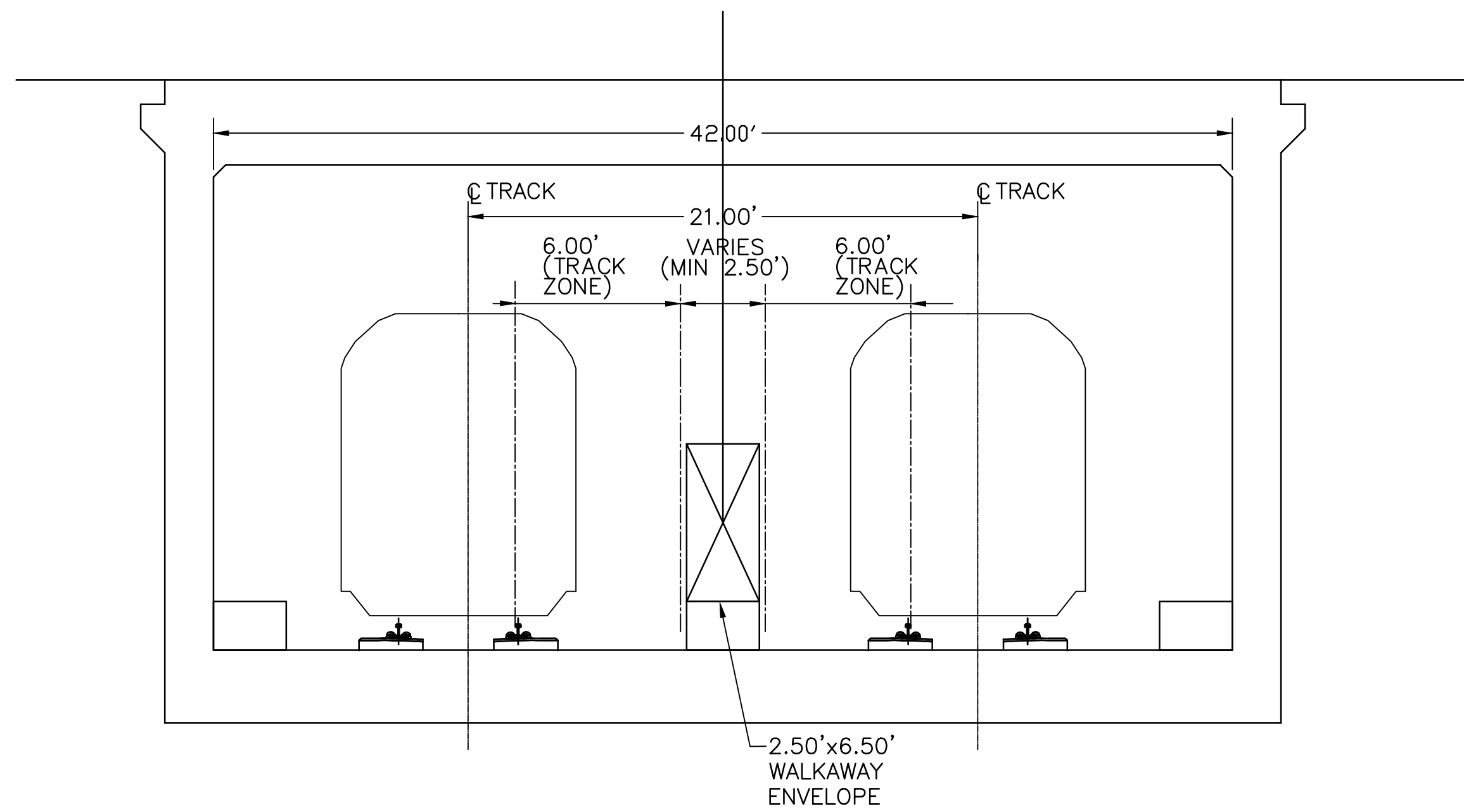
BART TO LIVERMORE EXTENSION ALTERNATIVE 2 - DMU

TYPICAL SECTIONS

CADD FILENAME 3TW-202.DWG	REV. 0
SIZE: SCALE D 1"=5'-0"	CONTRACT NO. 6M6048
CONTRACT SHEET NO. 3TW-202	PAGE NO. 013

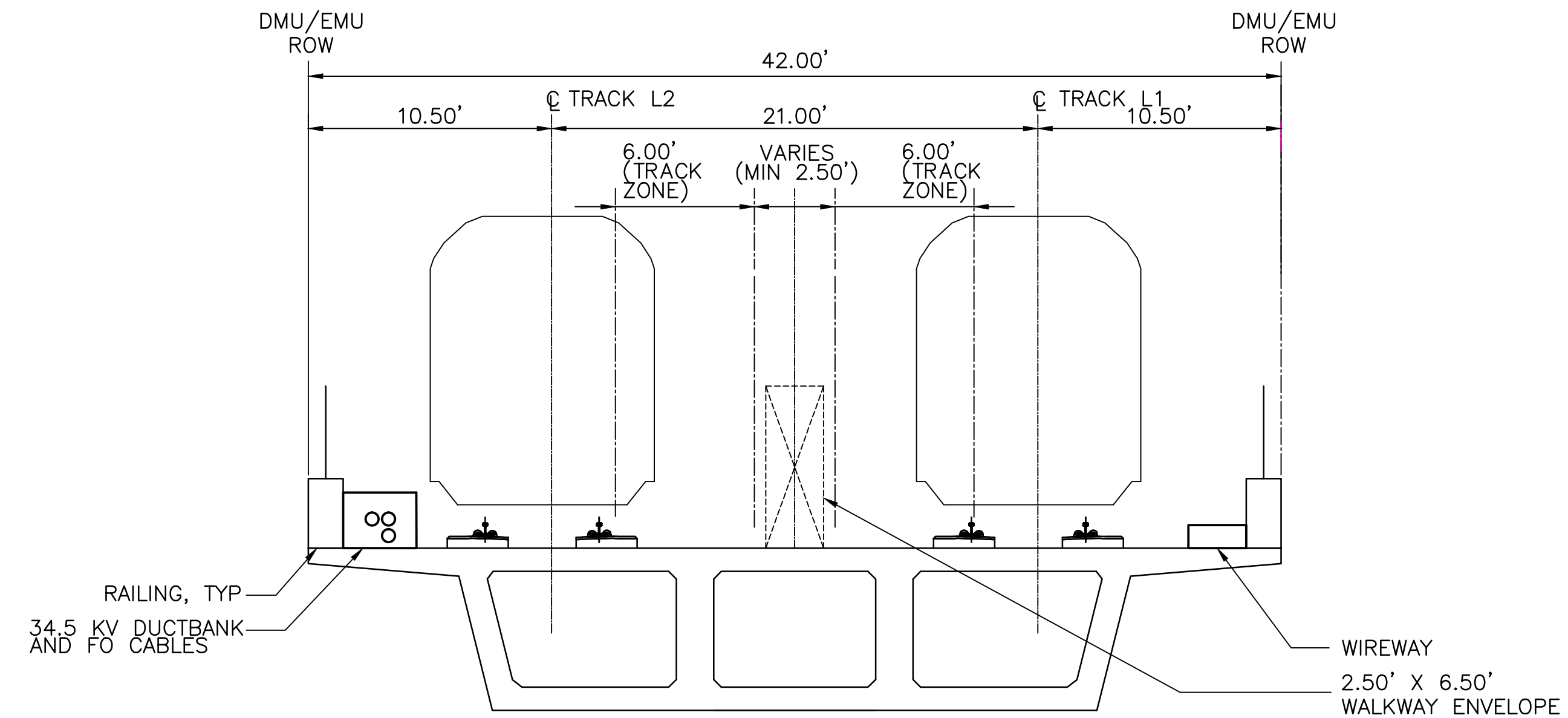
NOTES

1. EMU OCS NOT SHOWN.
2. I-580 NOT SHOWN
3. DMU/EMU PLATFORM CLEARANCE TO ASCERTAINED
4. RETAINING WALLS ARE INDICATIVE ONLY
5. CAYETANO CREEK STRUCTURE IS SINGLE TRACK. SEE STRUCTURE DRAWINGS



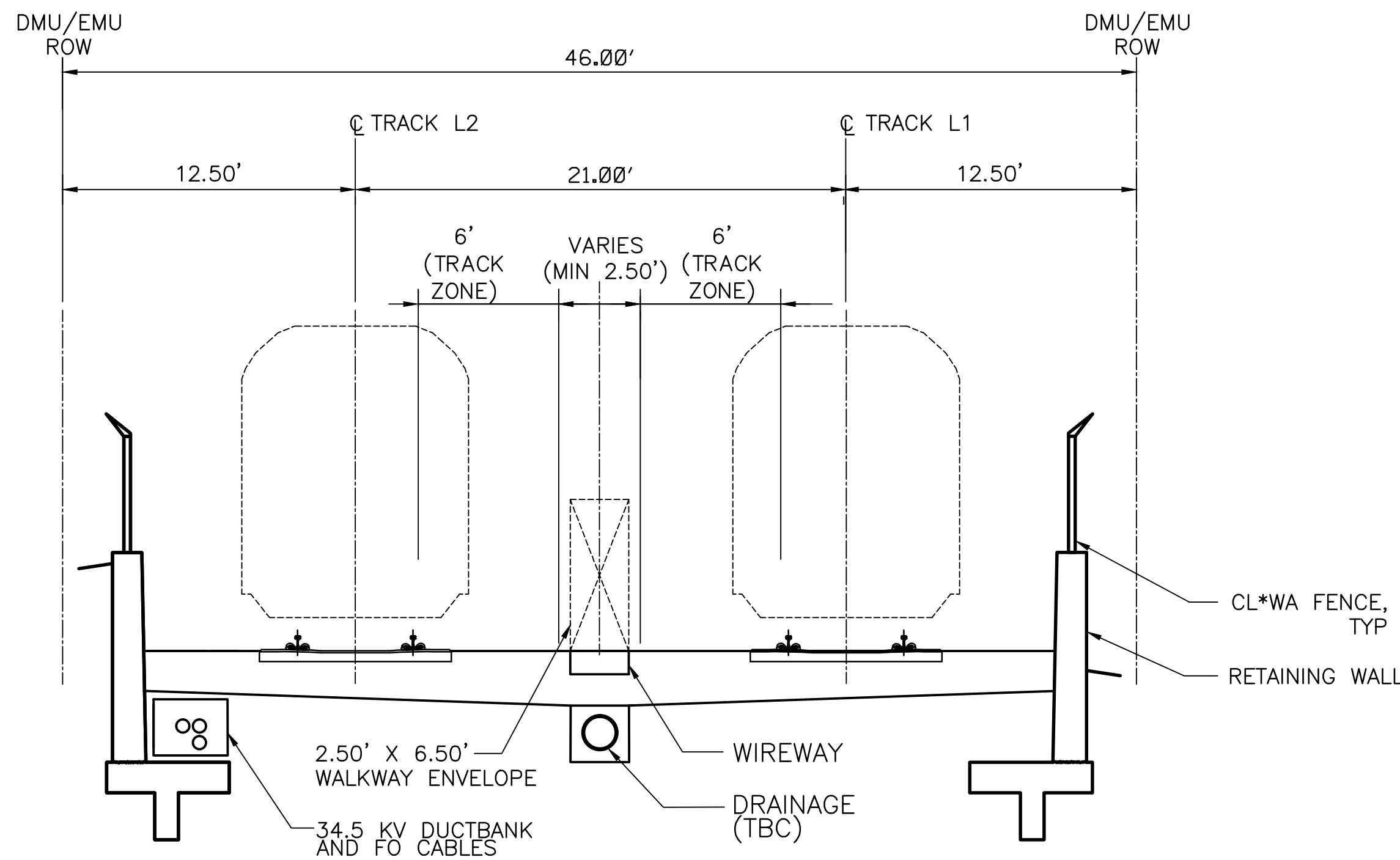
TYPICAL DIRECT FIXATION TRACK IN TUNNEL

SECTION H
SCALE: 1"=5'



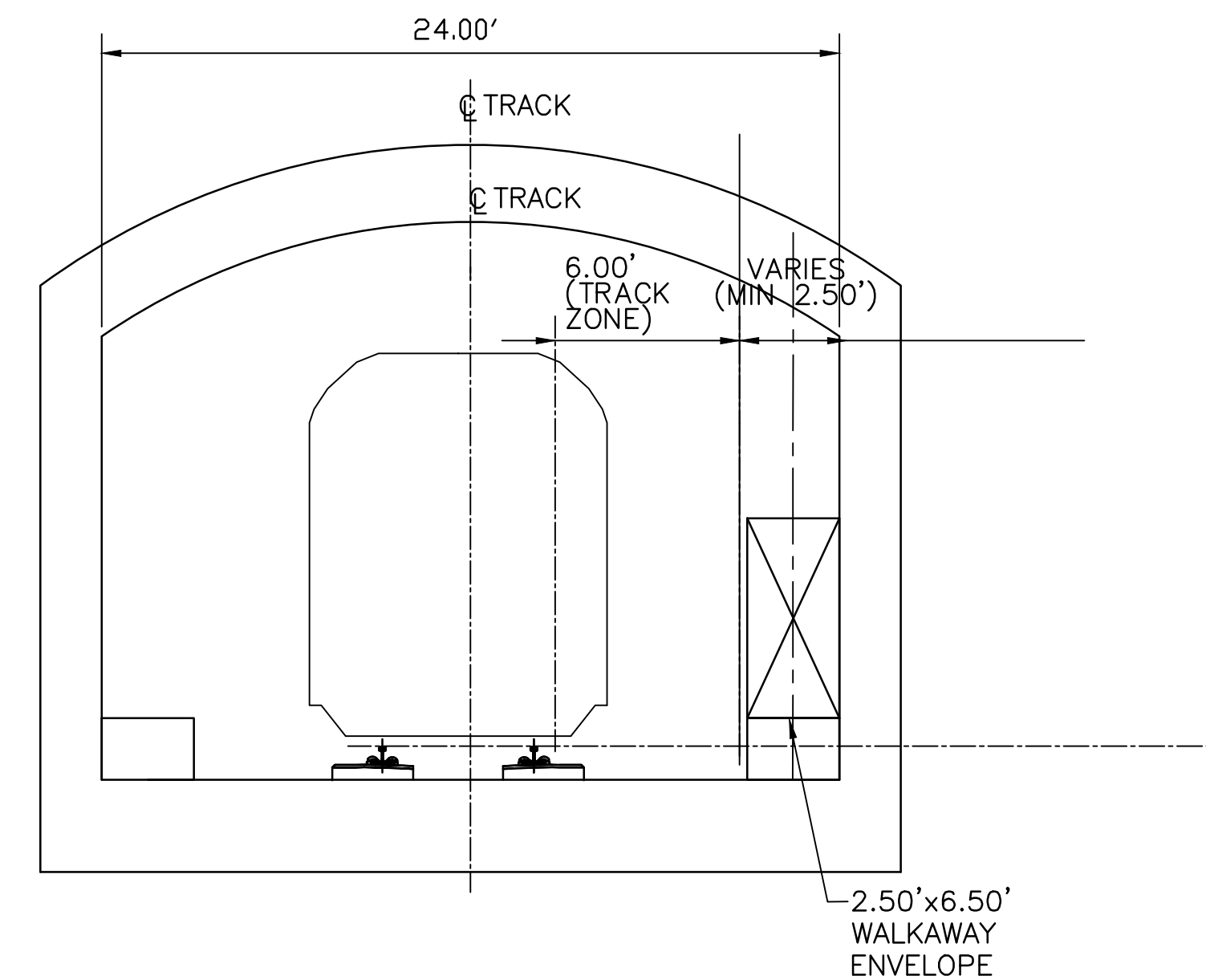
TYPICAL DIRECT FIXATION TRACK ON AERIAL STRUCTURE

SECTION I
SCALE: 1"=5'



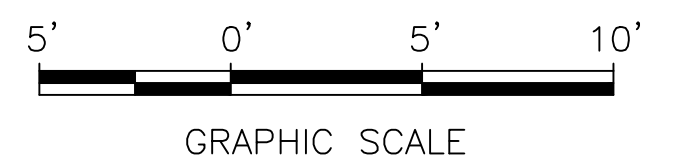
TYPICAL BALLASTED TRACK IN RETAINED CUT SECTION

SECTION J
SCALE: 1"=5'



TYPICAL DIRECT FIXATION TRACK IN TUNNEL

SECTION K
SCALE: 1"=5'



Jul 13, 2017 10:22pm J:\S-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings Sheets\DMU EMU\Rail\3TW-203.dwg kyle.mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
G. WALKER
DRAWN:
K. MCMILLEN
CHECKED:
D. HUNT
APPROVED:
D. HUNT
DATE:
05/19/2017

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP North America Ltd.
550 Mission Street, 7th Floor
San Francisco, CA 94105 USA
Tel (415) 957-3445
Fax (415) 957-3992
www.arup.com

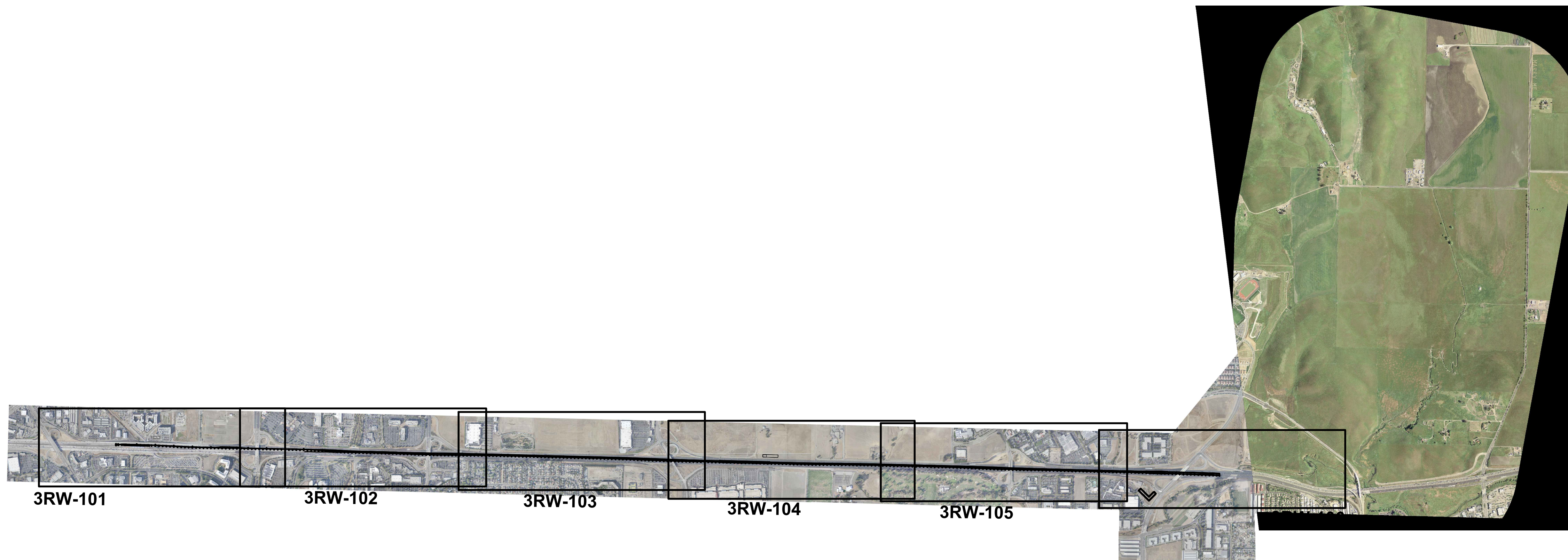
Anil Verma Associates, Inc.
1970 Broadway, Suite 658
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

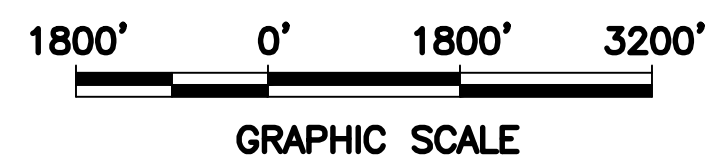
BART TO LIVERMORE EXTENSION ALTERNATIVE 2 - DMU

TYPICAL SECTIONS

CADD FILENAME 3TW-202.DWG	REV. 0
SIZE: SCALE D 1"=5'-0"	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3TW-203	PAGE NO. 014



PLAN



Jul 14, 2017 - 8:41am \\global-arup.com\americas\Jobs\SF\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU EMU Roadway\3G-0004.dwg
 kyle.mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:
J. MONG
 DRAWN:
K. MCMILLEN
 CHECKED:
S. BROWN
 APPROVED:
D. HUNT
 DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957 9445
Fax (415) 957 9999
www.arup.com

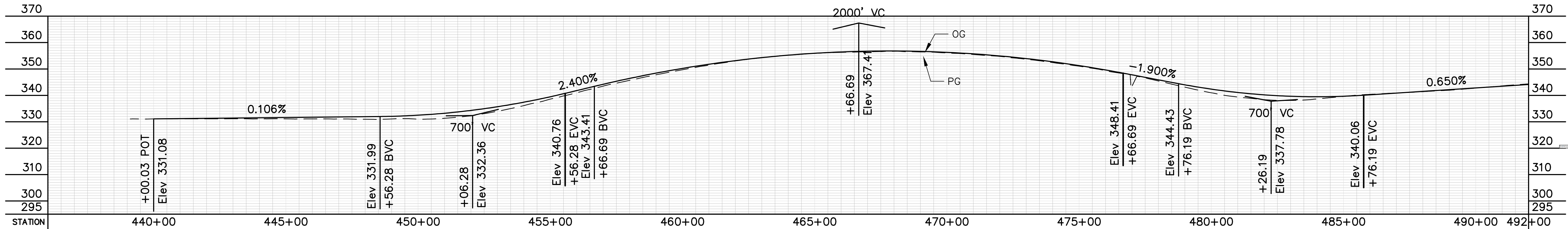
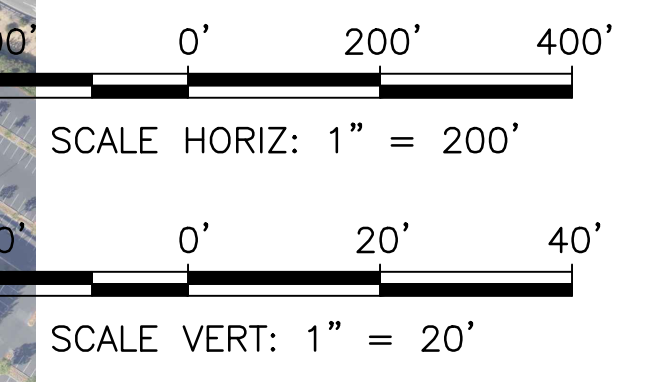
Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
ROADWAY ALIGNMENT**

KEY PLAN

CADD FILENAME 3G-0004.DWG	
SIZE: D	SCALE: AS NOTED
CONTRACT NO. 6M6048	REV. 0
CONTRACT SHEET NO. 3G-0004	PAGE NO. 015



"I580-WBD"

PROFILE

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:
J. MONG
DRAWN:
K. MCMILLEN
CHECKED:
S. BROWN
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957 9445
Fax (415) 957 9999
www.arup.com

Anil Verma Associates, Inc.
1970 Broadway, Suite 908 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

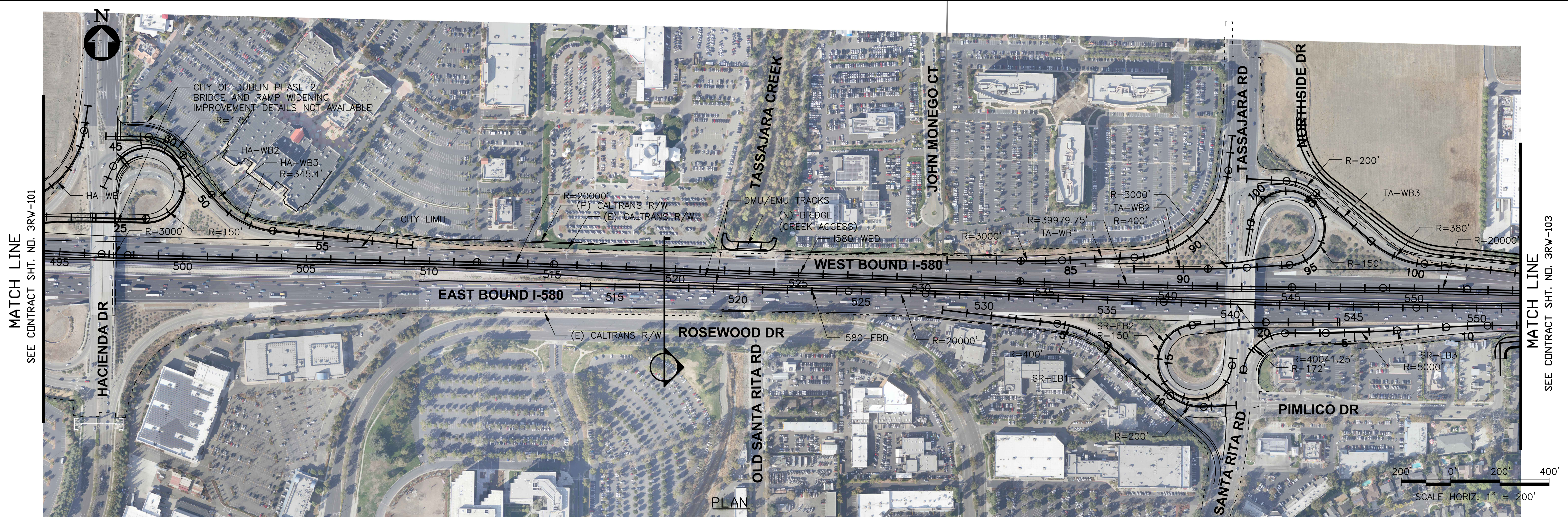
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
ROADWAY ALIGNMENT**

PLAN AND PROFILE

CADD FILENAME 3RW-101.DWG	REV. 0
SIZE: SCALE D AS NOTED	PAGE NO. 016
CONTRACT NO. 6M6048	
CONTRACT SHEET NO. 3RW-101	

Jul 14, 2017 - 8:43am \\global\arup.com\americas\jobs\S-F\230000\27865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU Roadway\3RW-101.dwg

Jul 14, 2017 - 8:46am \\global\arup.com\americas\jobs\SF\230000\27865-004 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU EMU Roadway\3RW-102.dwg



DESIGNED: J. MONG
DRAWN: K. MCMILLEN
CHECKED: S. BROWN
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

Anil Verma Associates, Inc. 1970 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

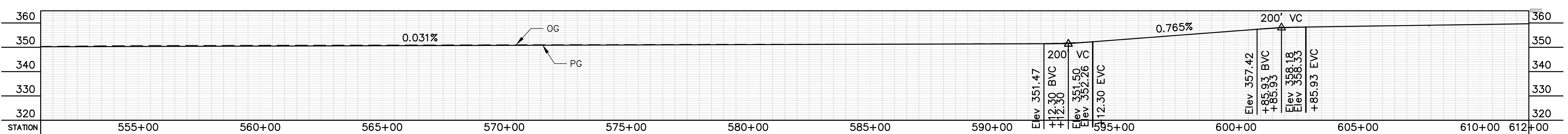
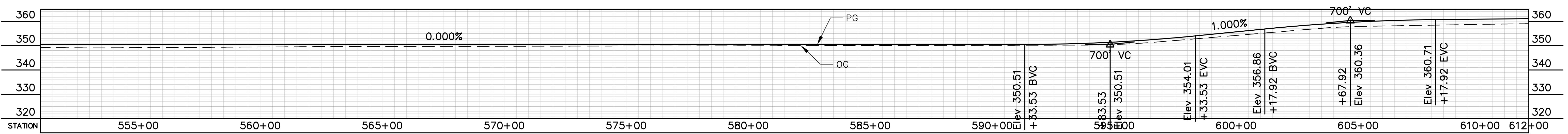
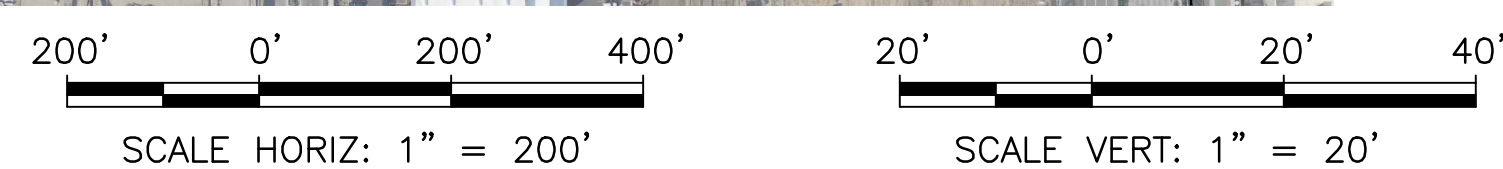
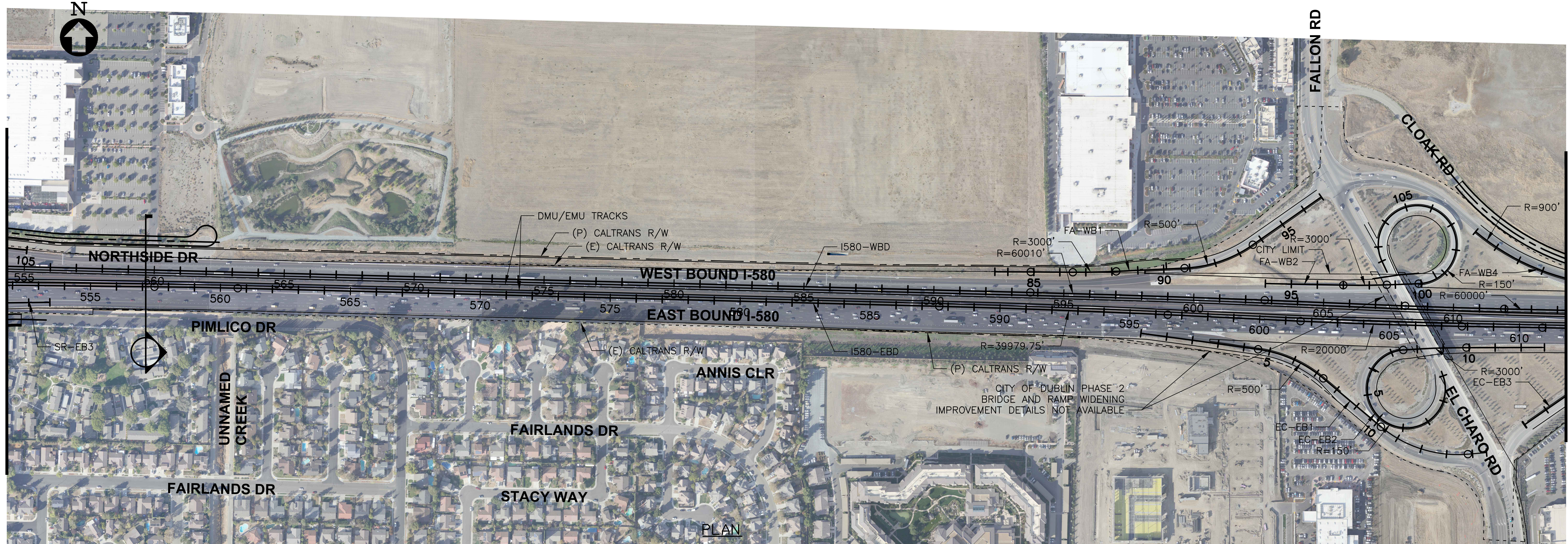
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
ROADWAY ALIGNMENT**

PLAN AND PROFILE

CADD FILENAME 3RW-102.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 6M6048
CONTRACT SHEET NO. 3RW-102	PAGE NO. 017

MATCH LINE
SEE CONTRACT SHT. NO. 3RW-102

MATCH LINE
SEE CONTRACT SHT. NO. 3RW-104



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
J. MONG
DRAWN:
K. MCMILLEN
CHECKED:
S. BROWN
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

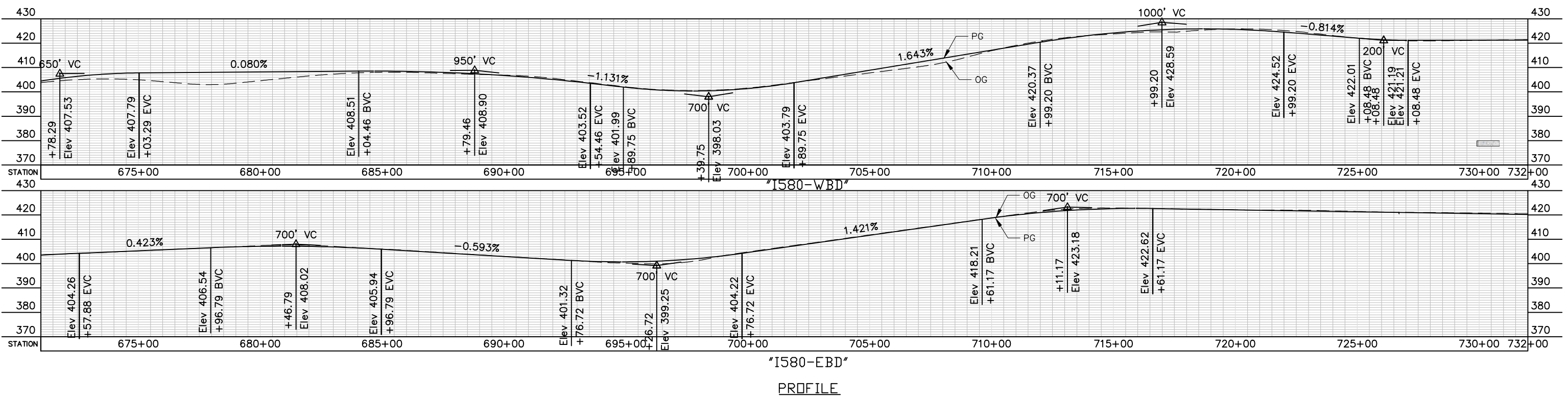
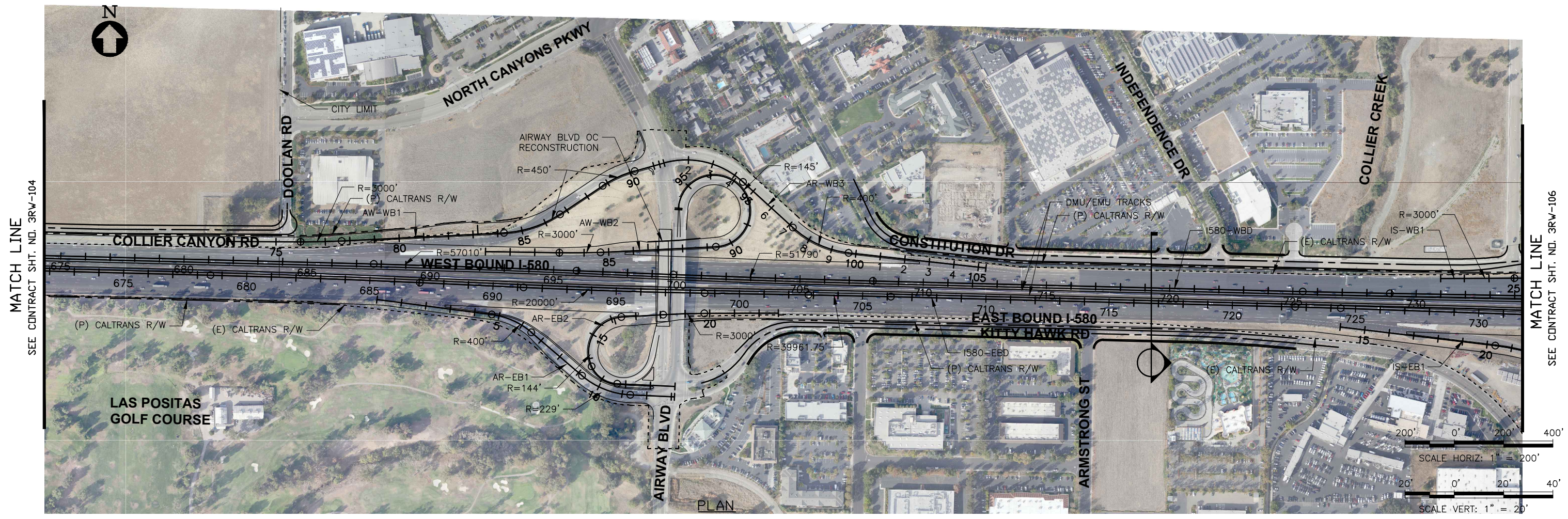
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
ROADWAY ALIGNMENT**

PLAN AND PROFILE

CADD FILENAME 3RW-103.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 6M6048
CONTRACT SHEET NO. 3RW-103	PAGE NO. 018

Jul 14, 2017 - 8:48am \\global-arup.com\americas\jobs\S-F\230000\27965-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\Roadway\3RW-103.dwg

Jul 14, 2017 - 8:53am \\glb01arup.com\americas\louis\p-230000\237865-0014 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU EMU\Roadway\3RW-105.dwg
 Kyle McMullen



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
J. MONG
 DRAWN:
K. MCMILLEN
 CHECKED:
S. BROWN
 APPROVED:
D. HUNT
 DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP North America Ltd.
250 Mission Street, 7th Floor
San Francisco, CA 94105 USA
Tel: (415) 957-9444
Fax: (415) 957-9000
www.arup.com

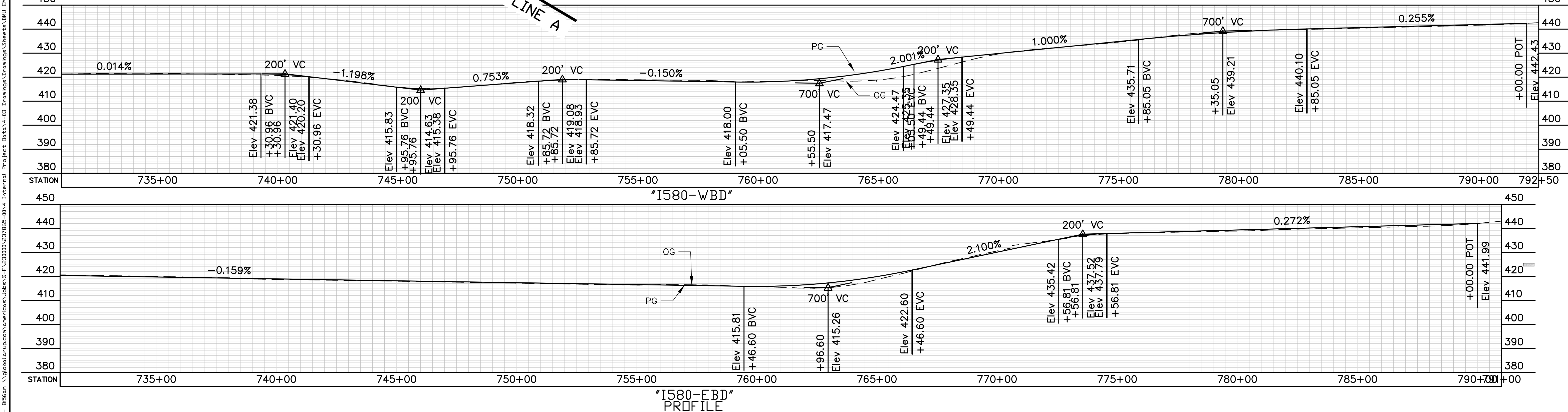
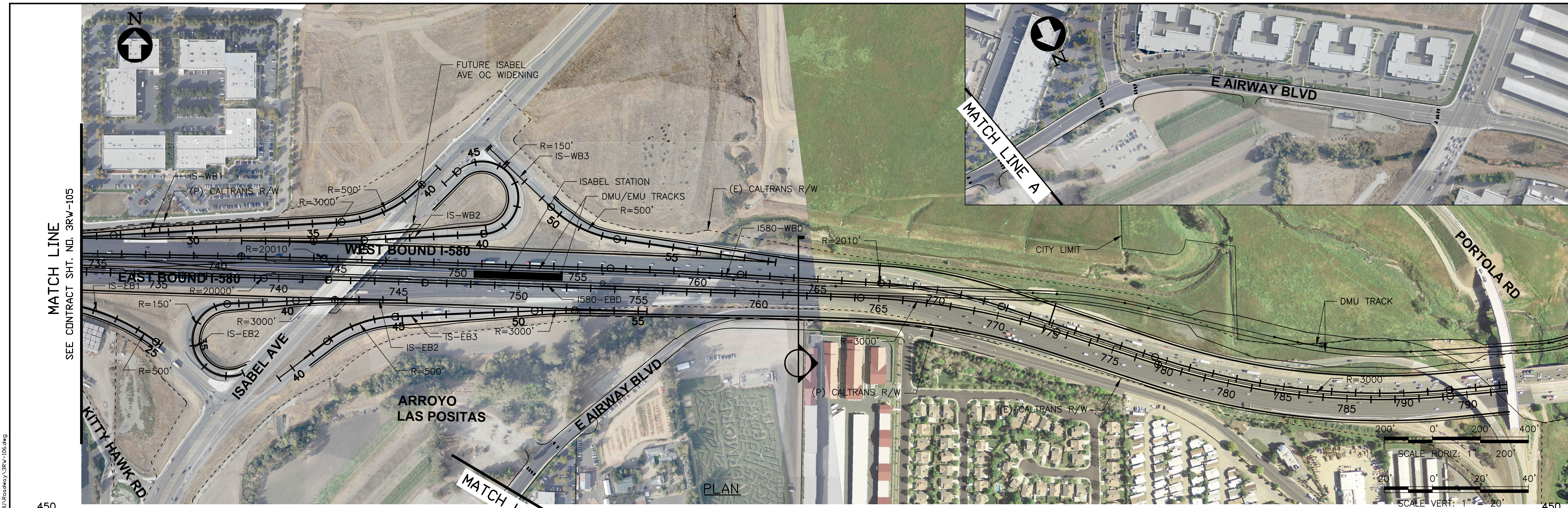
Anil Verma Associates, Inc.
1970 Broadway, Suite 608
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
ROADWAY ALIGNMENT**

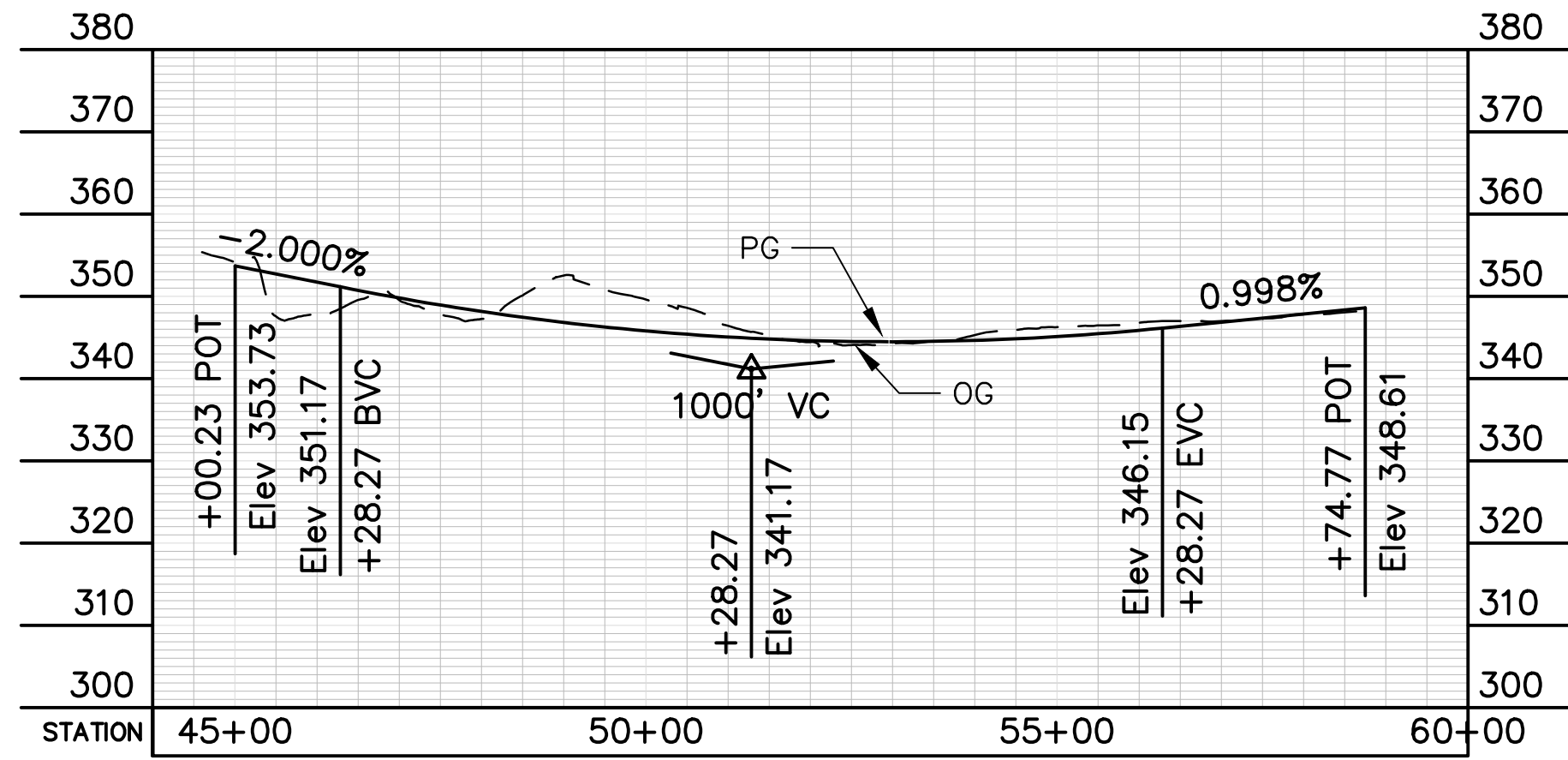
PLAN AND PROFILE

CADD FILENAME 3RW-105.DWG	
SIZE: SCALE D AS NOTED	REV. 0
CONTRACT NO. 6M6048	
CONTRACT SHEET NO. 3RW-105	PAGE NO. 020

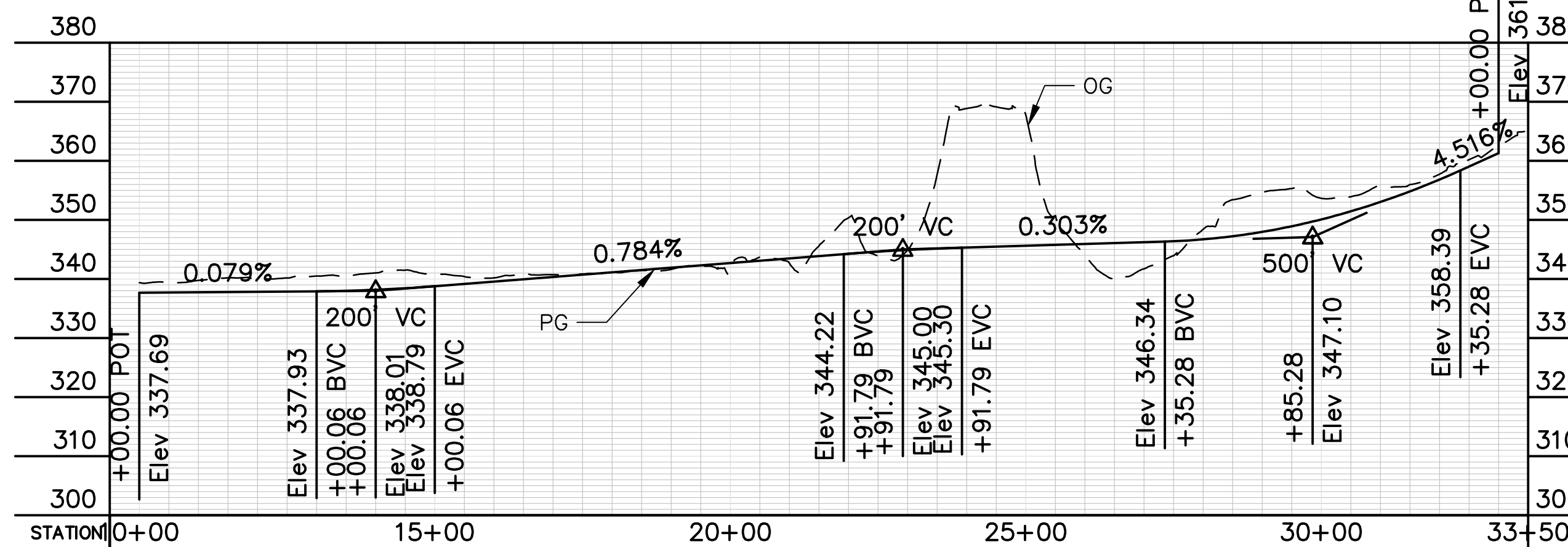


0 20160624 10% PRELIMINARY ENGINEERING				DESIGNED: J. MONG DRAWN: K. MCMILLEN CHECKED: S. BROWN APPROVED: D. HUNT DATE: 06/24/2016				SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT ARUP Arup North America Ltd. 560 Mission Street, 7th Floor San Francisco, CA 94105, USA Tel (415) 957-9445 Fax (415) 957-9999 www.arup.com				BART TO LIVERMORE EXTENSION ALTERNATIVE 2 - DMU ROADWAY ALIGNMENT PLAN AND PROFILE				CADD FILENAME: 3RW-106.DWG SIZE: SCALE: D AS NOTED CONTRACT NO. 6M6048 CONTRACT SHEET NO. 3RW-106 REV. 0 PAGE NO. 021			
--	--	--	--	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

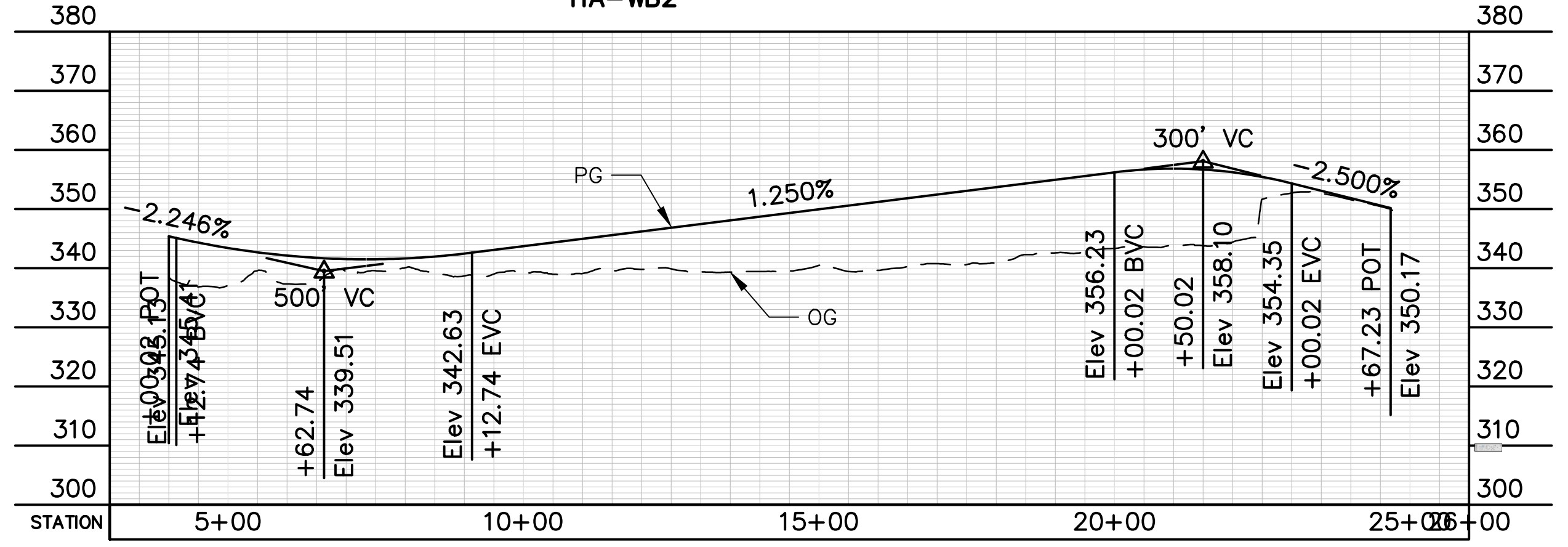
Jul 14, 2017 - 8:57am - \\global-arup.com\americas\jobs\5-F\230000\27865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU EMU Roadway\3RW-108.dwg
 kyle.mcmillen



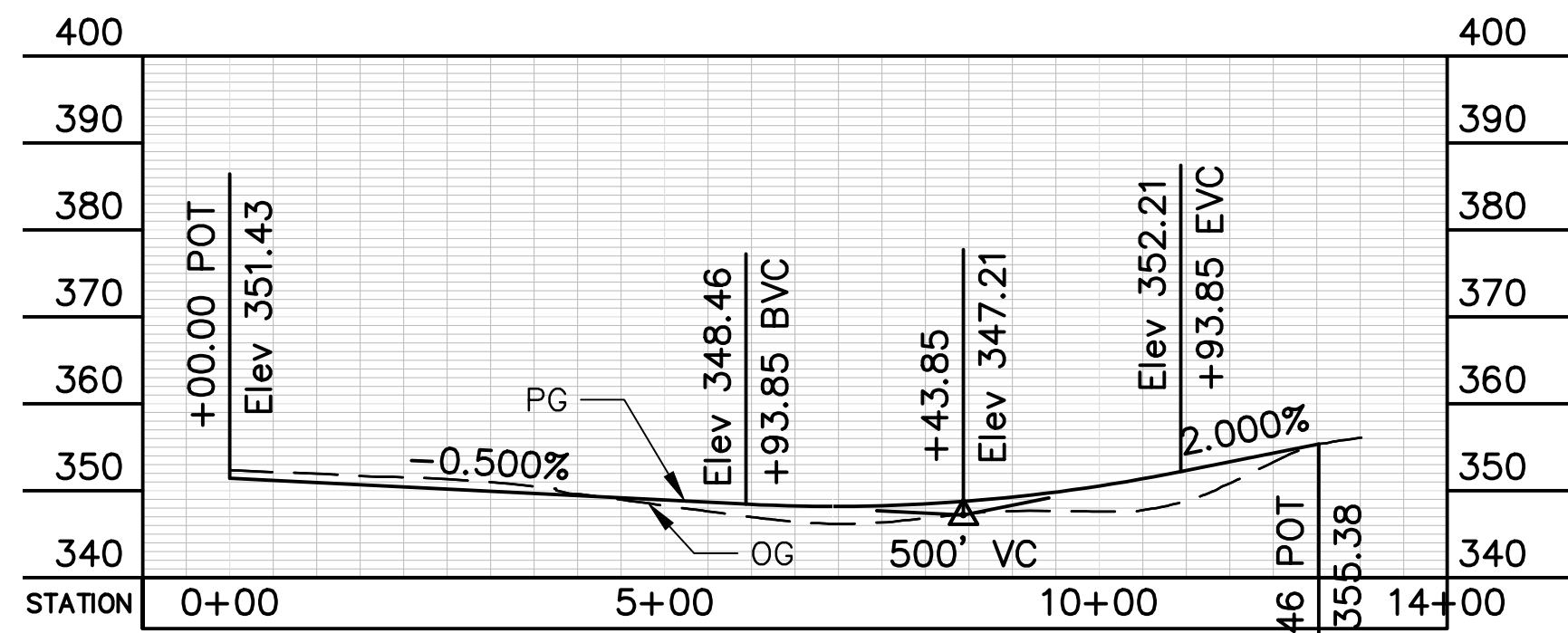
HA-WB3



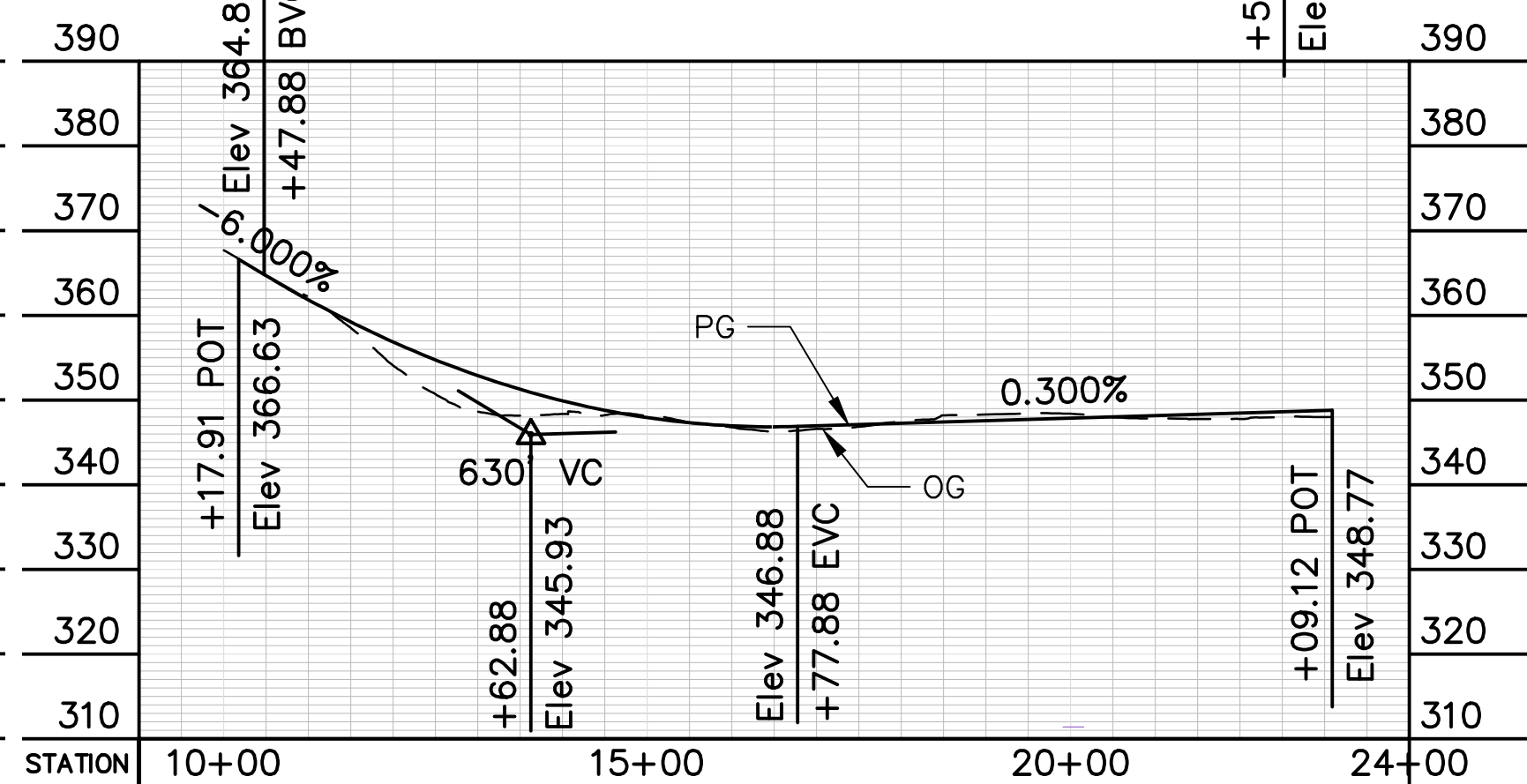
HA-WB2



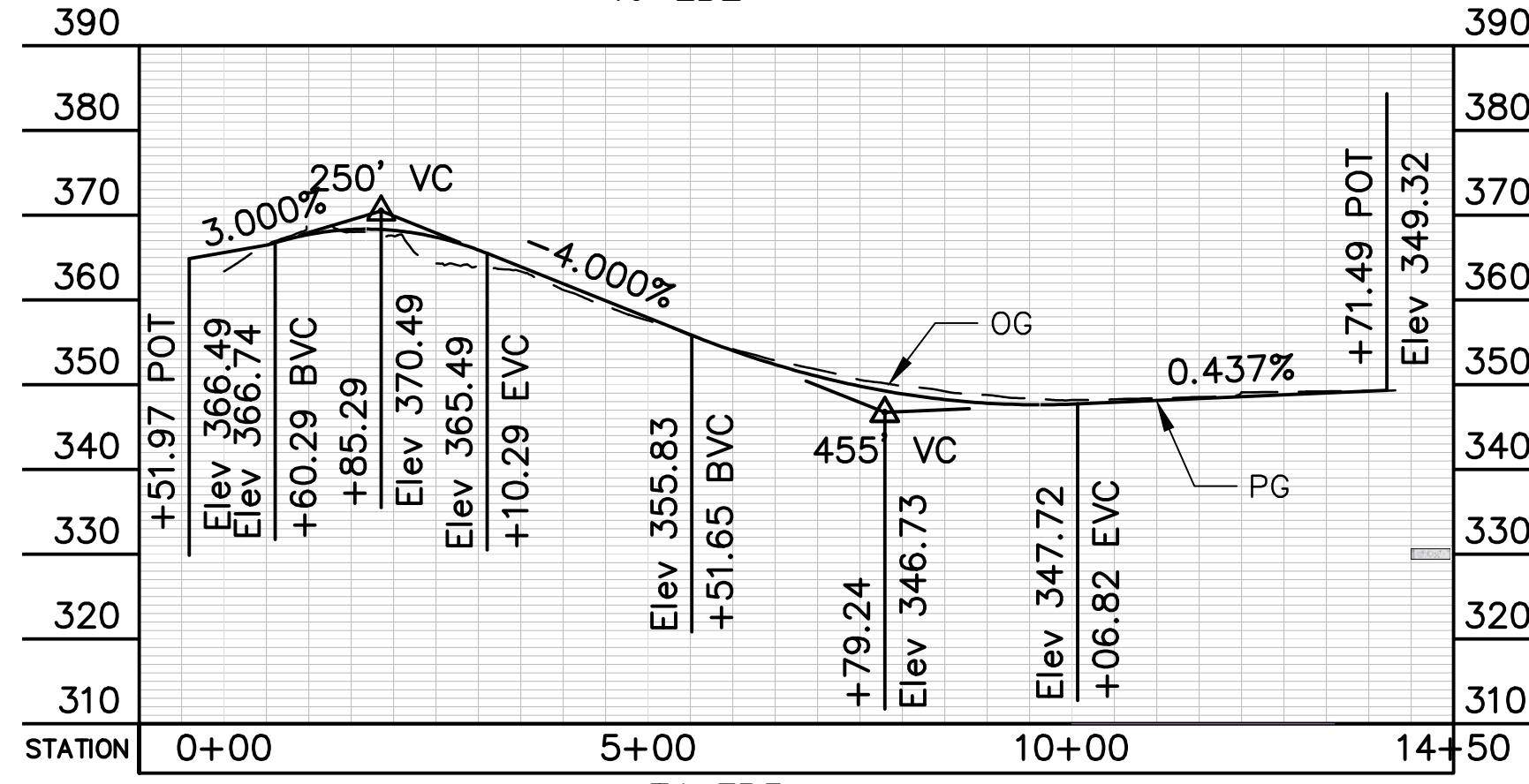
HA-WB1



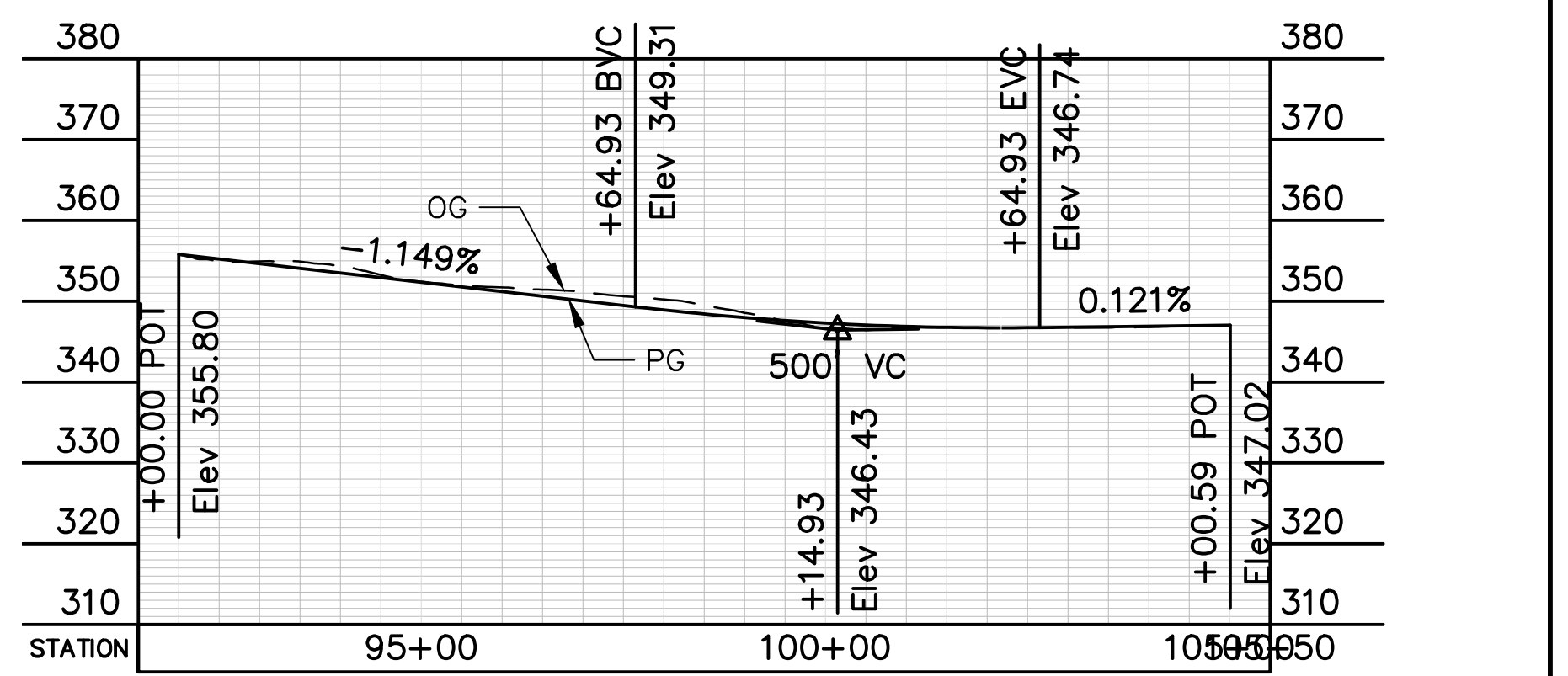
TJ-EB1



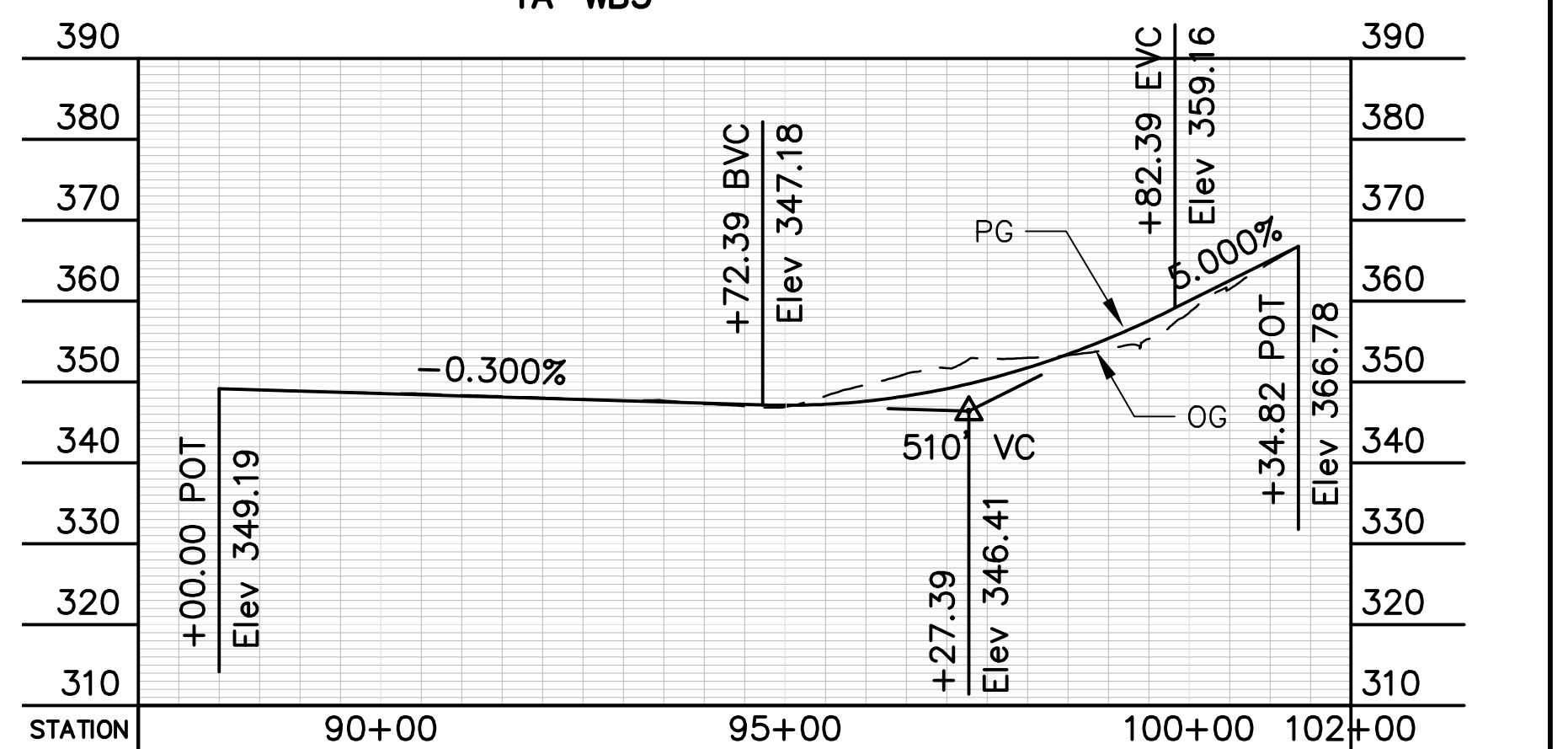
TJ-EB2



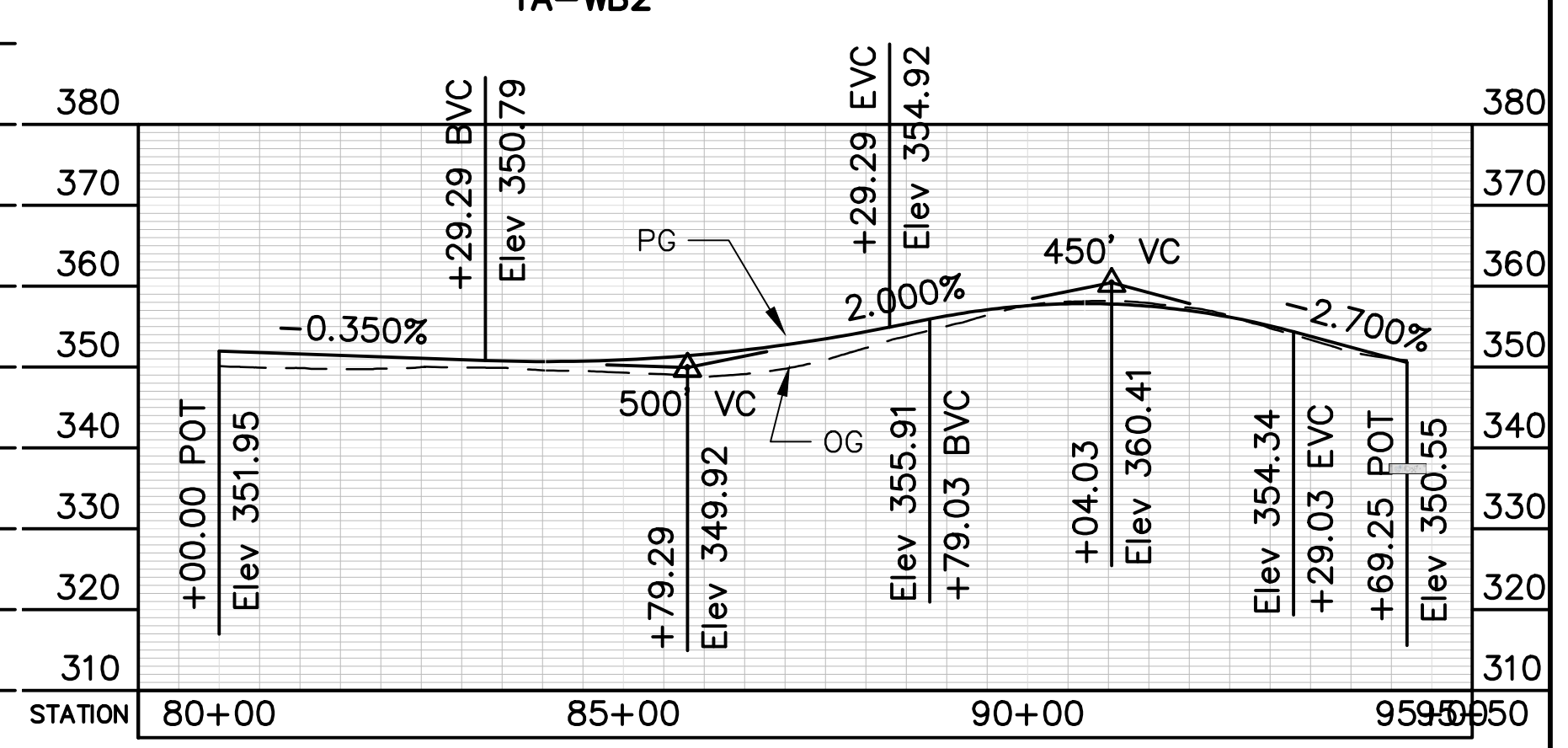
TJ-EB3



TA-WB3

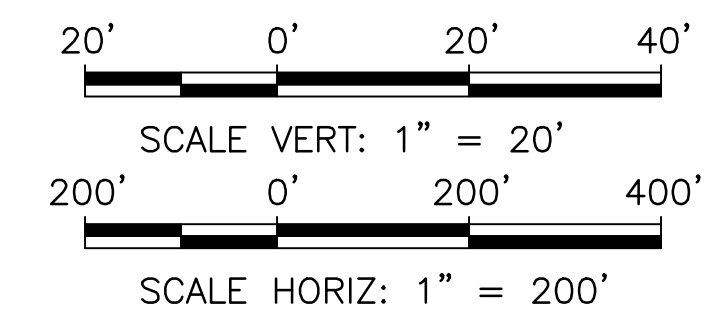


TA-WB2



TA-WB1

PROFILE



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
J. MONG
 DRAWN:
K. MCMILLEN
 CHECKED:
S. BROWN
 APPROVED:
D. HUNT
 DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

Anil Verma Associates, Inc.
1970 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

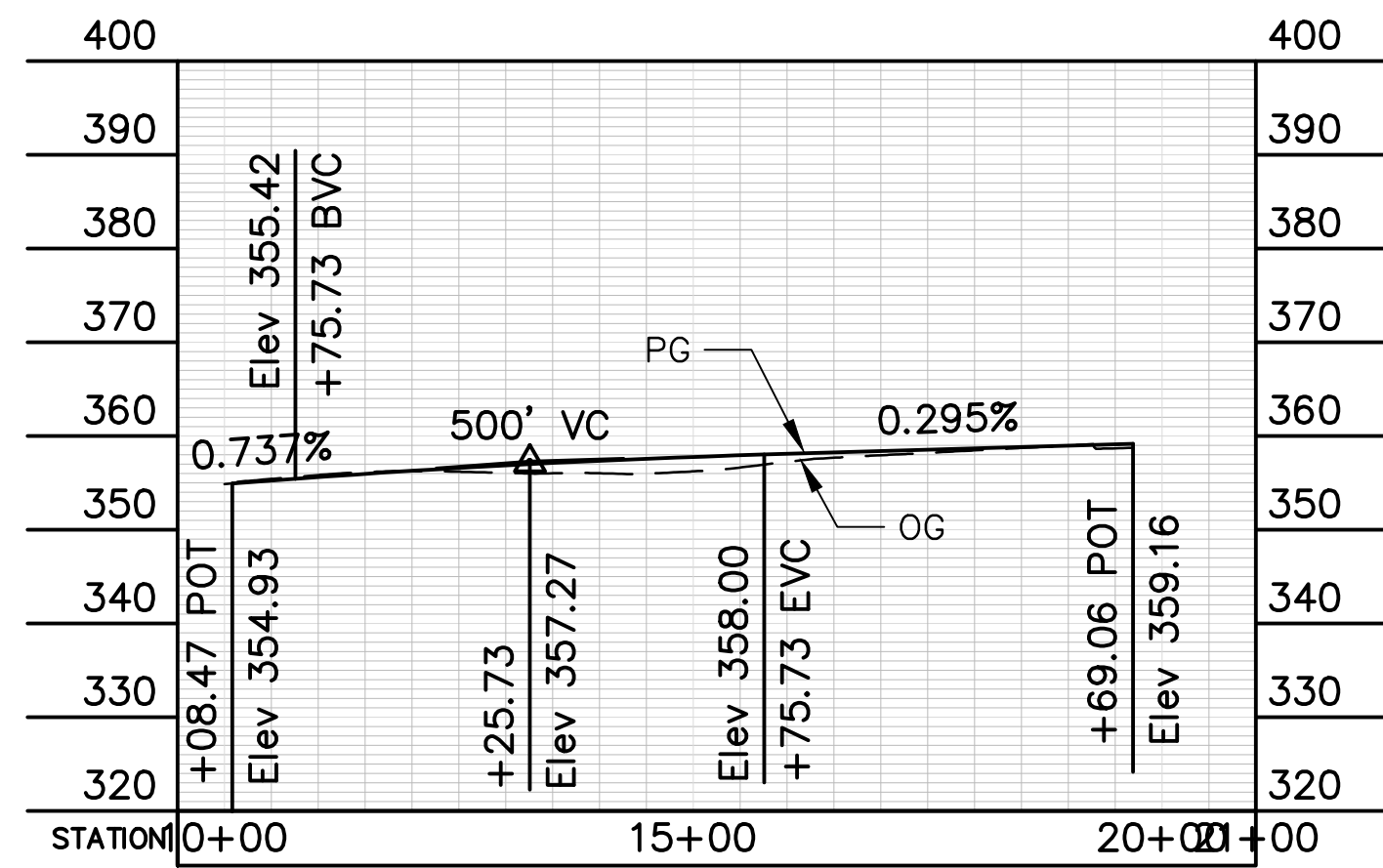
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
ROADWAY ALIGNMENT**

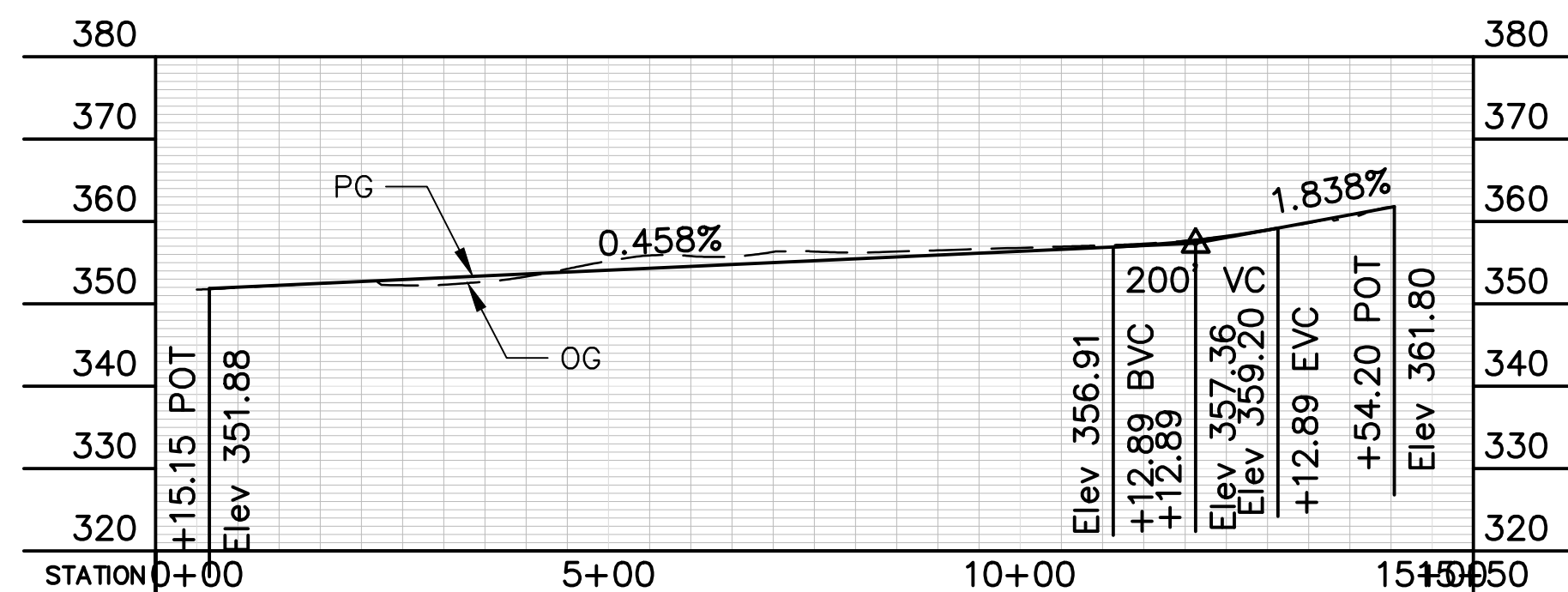
RAMP PROFILES

CADD FILENAME 3RW-108.DWG	
SIZE: SCALE D AS NOTED	REV. 0
CONTRACT NO. 6M6048	
CONTRACT SHEET NO. 3RW-108	PAGE NO. 022

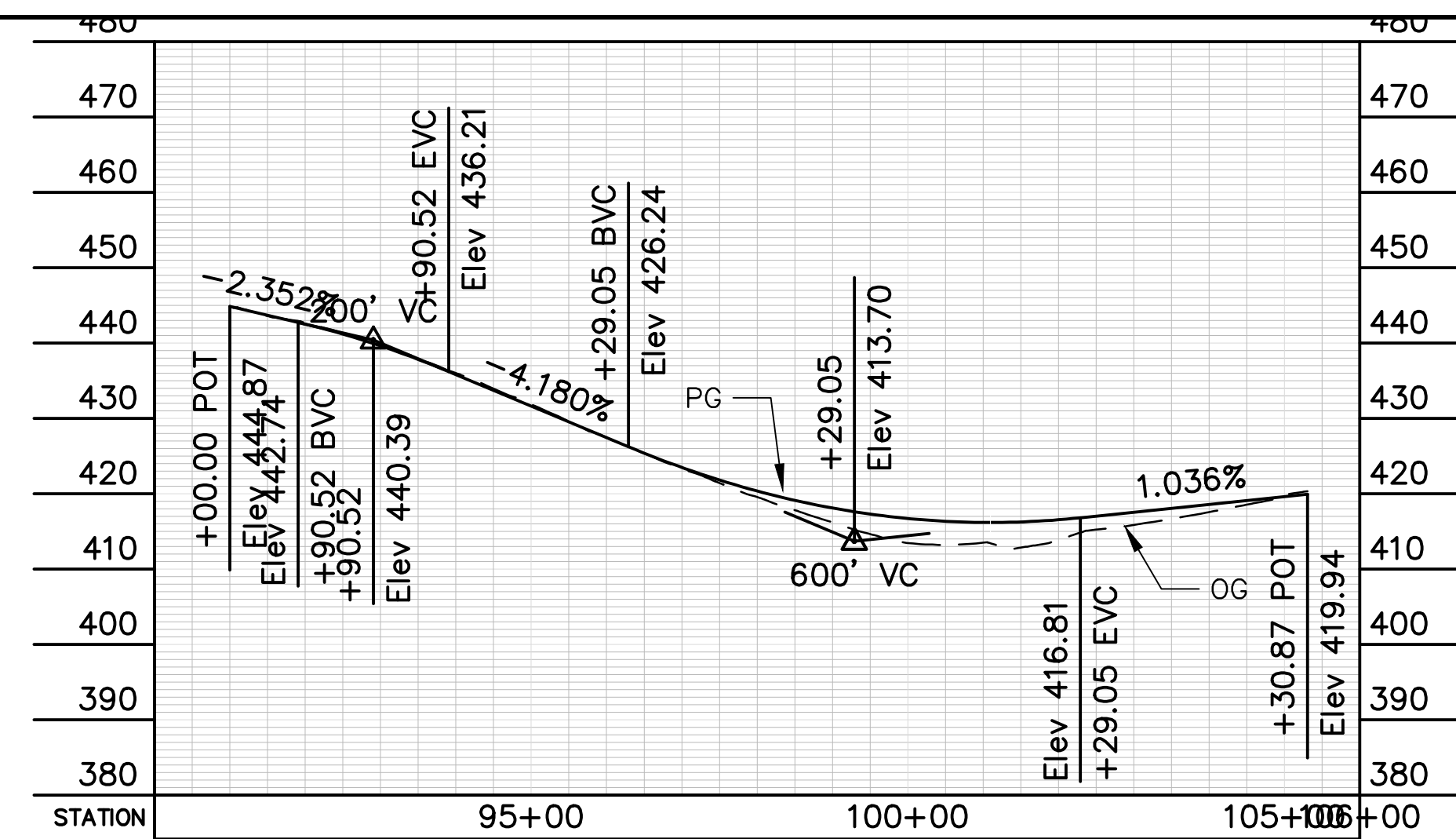
Jul 14, 2017 - 9:08am \\global-arup.com\americas\lobes\sf-fa\230000\237665-004 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU EMU Roadway\3RW-109.dwg



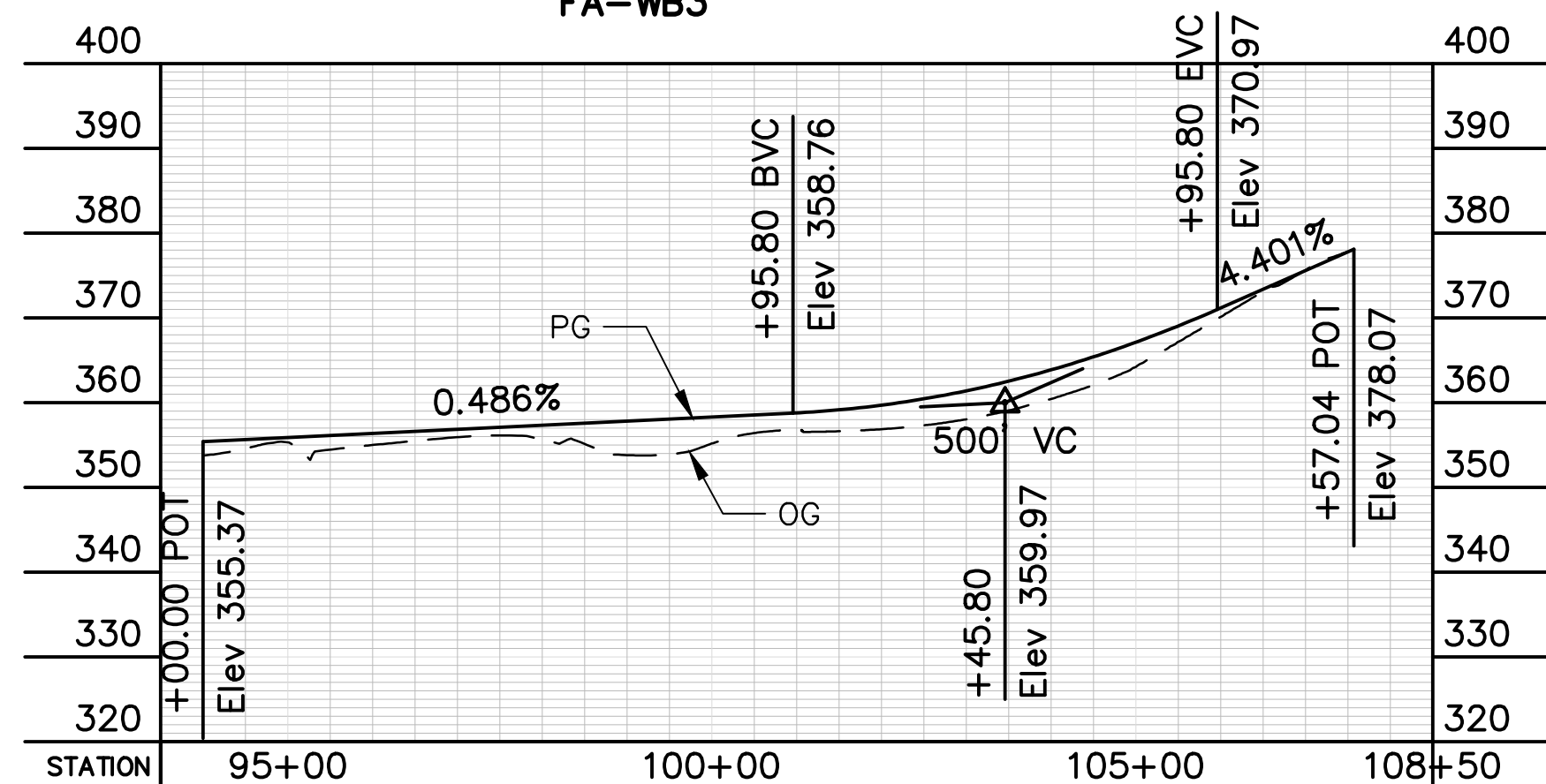
FA-WB3



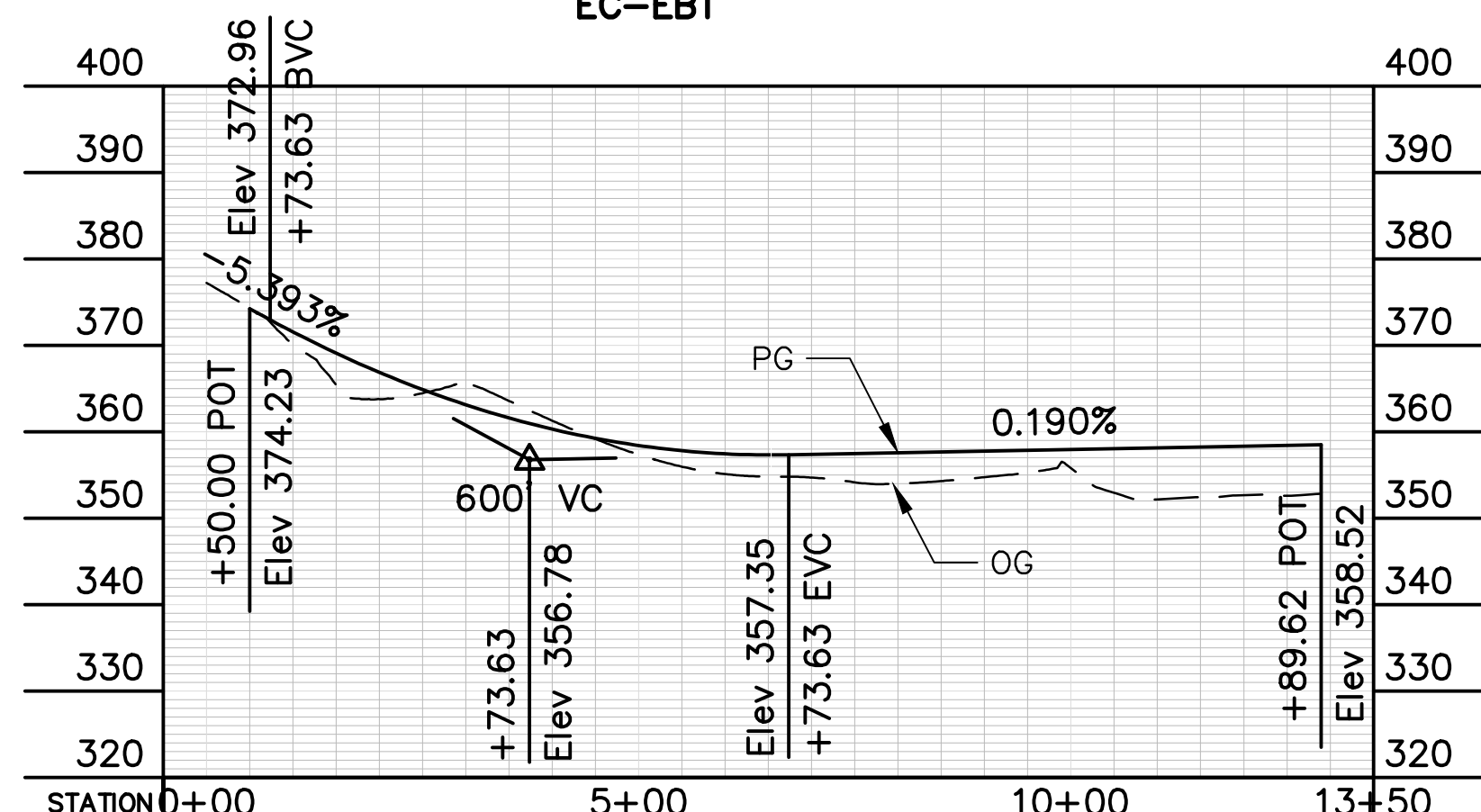
EC-EB1



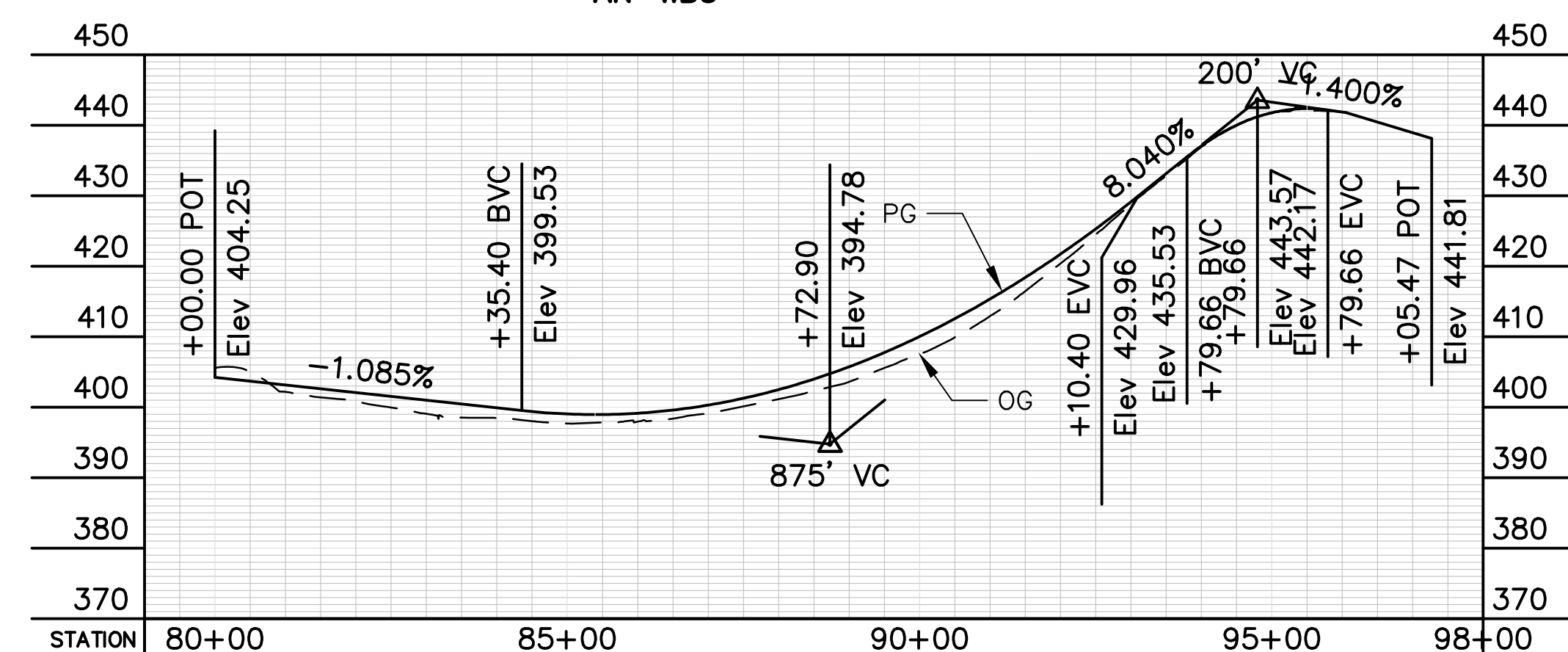
AR-WB3



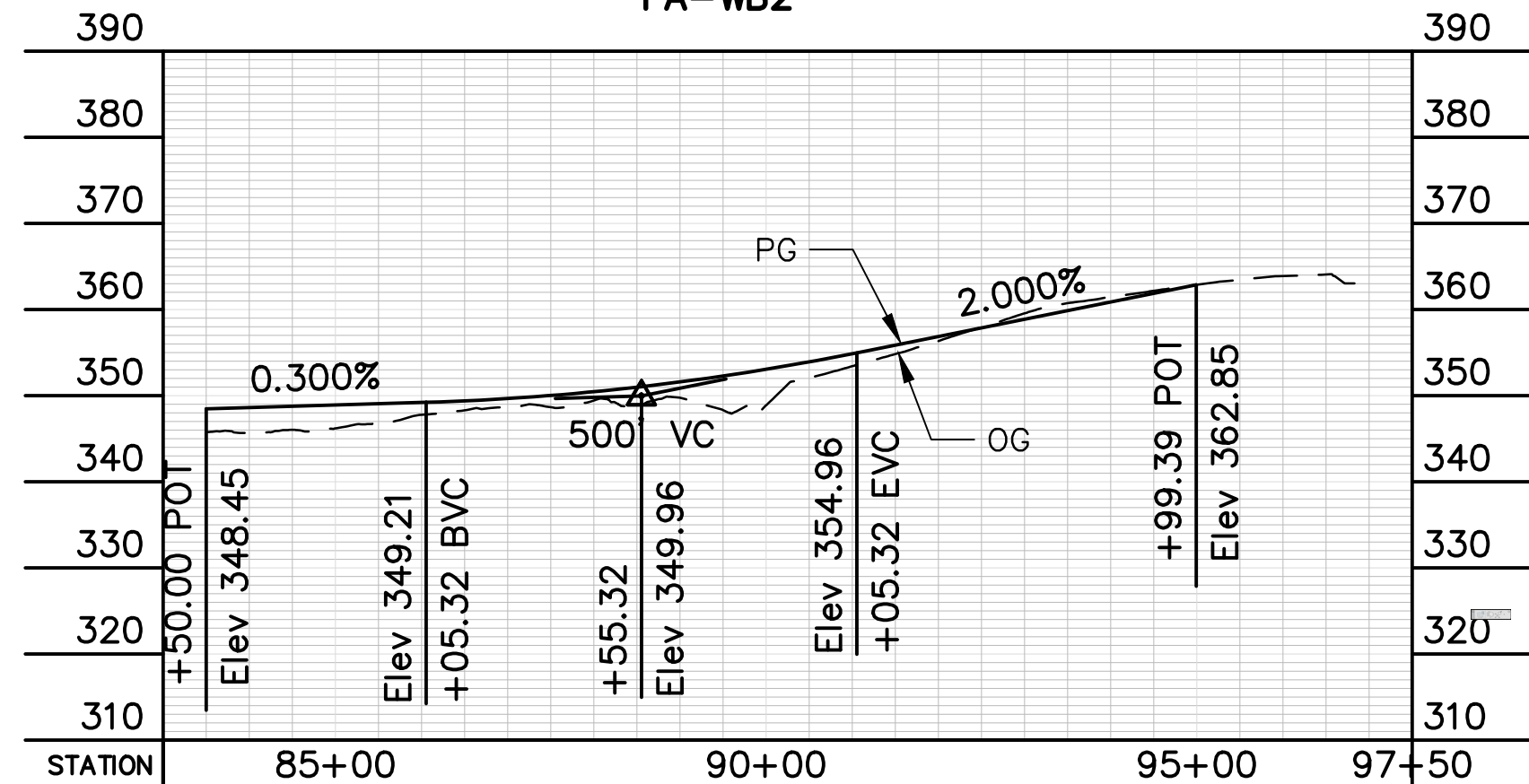
FA-WB2



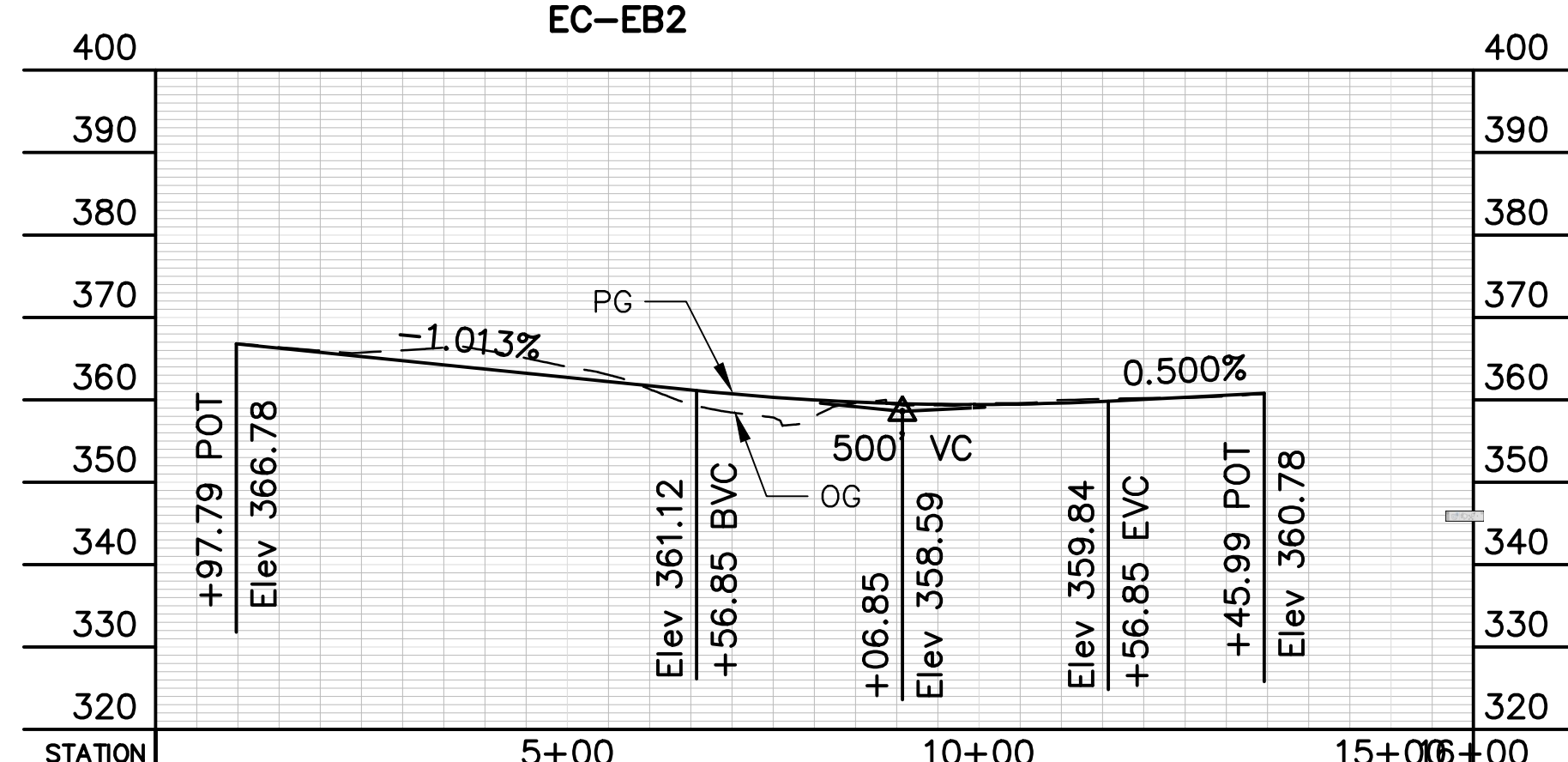
EC-EB2



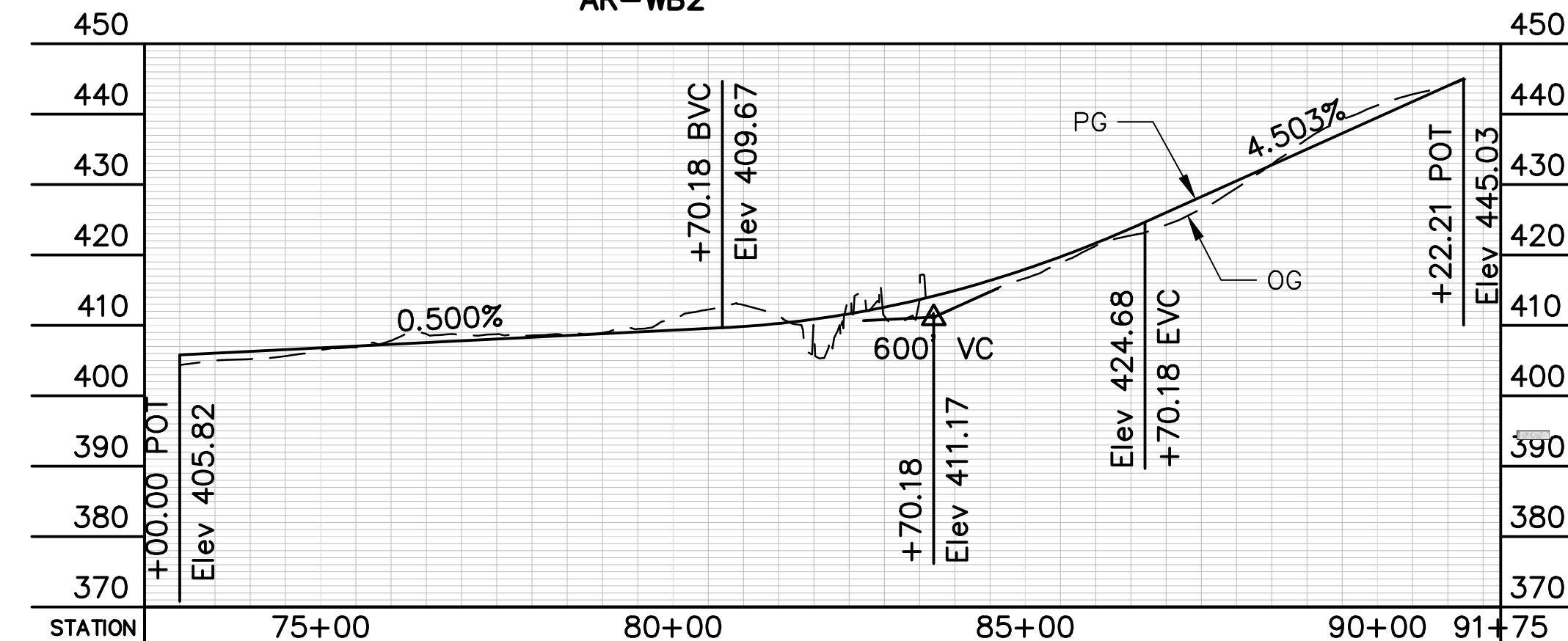
AR-WB2



FA-WB1

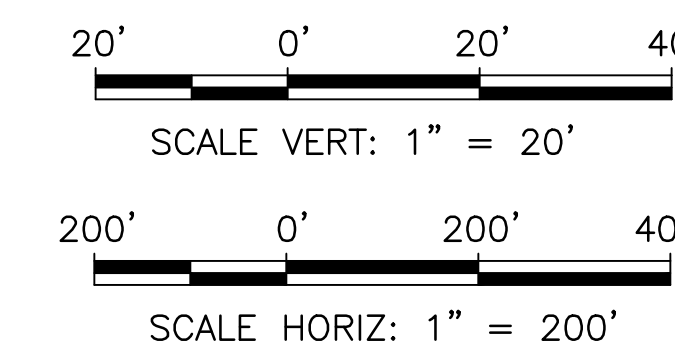


EC-EB3



AR-WB1

PROFILE



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
J. MONG
DRAWN:
K. McMILLEN
CHECKED:
S. BROWN
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
ROADWAY ALIGNMENT

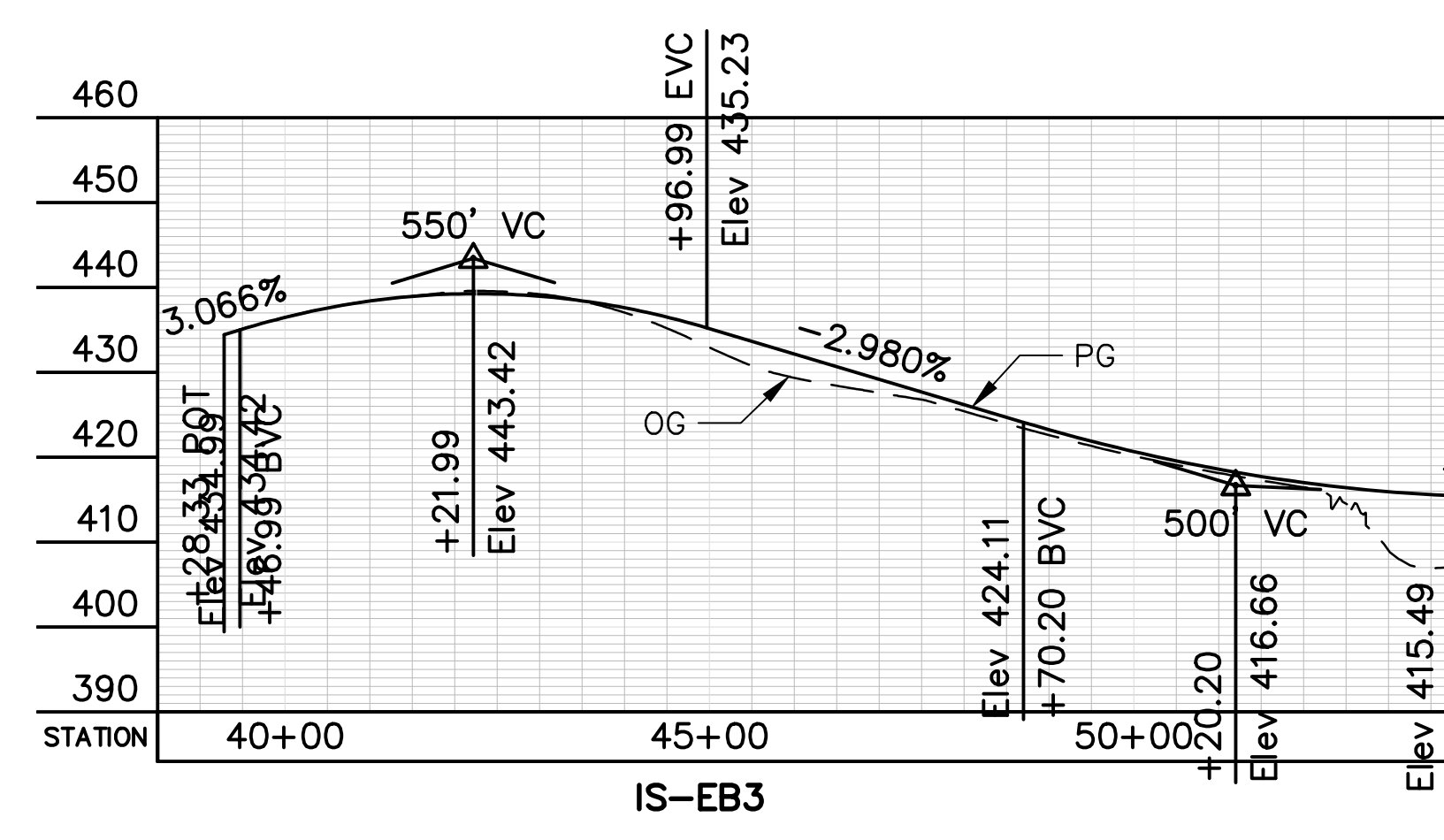
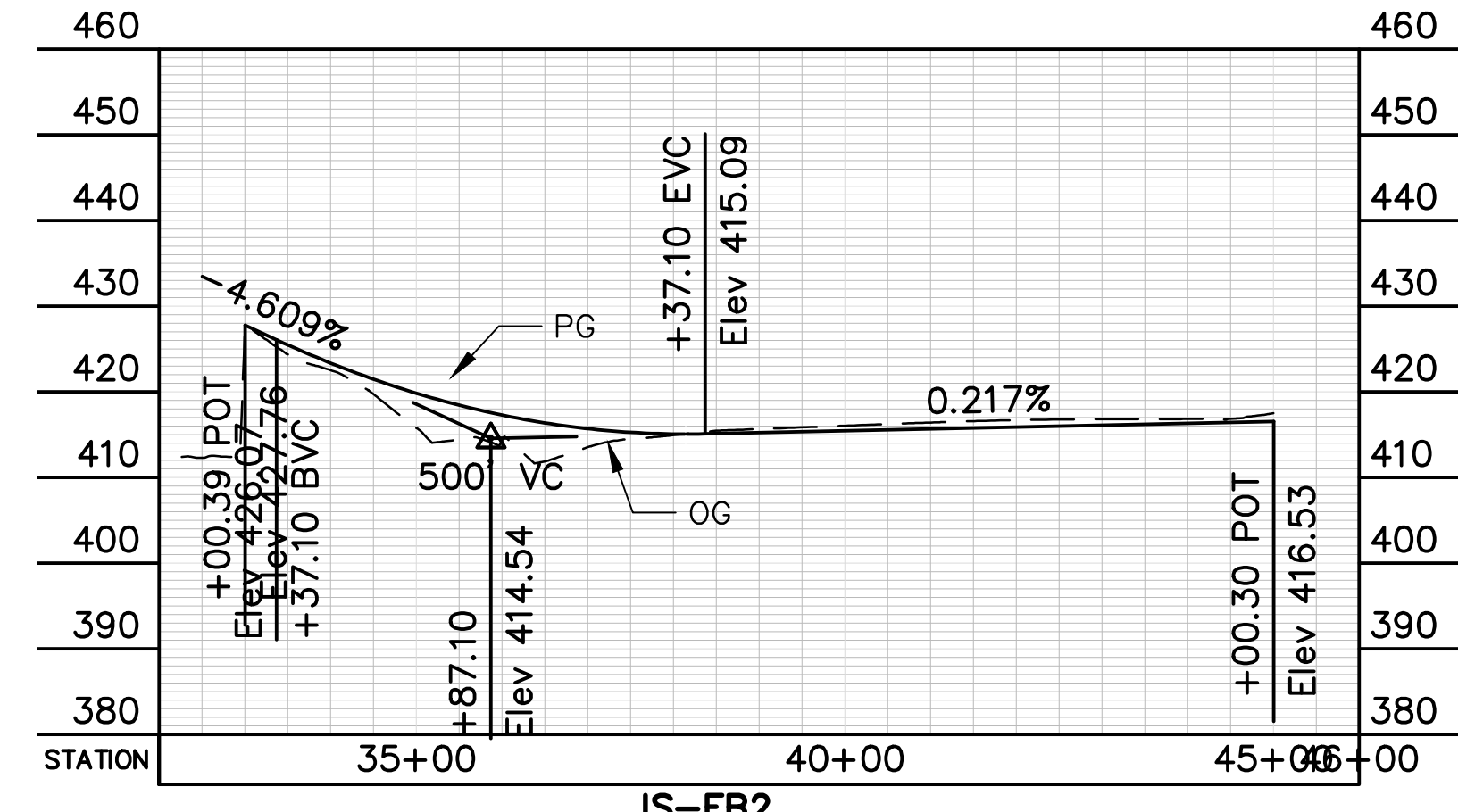
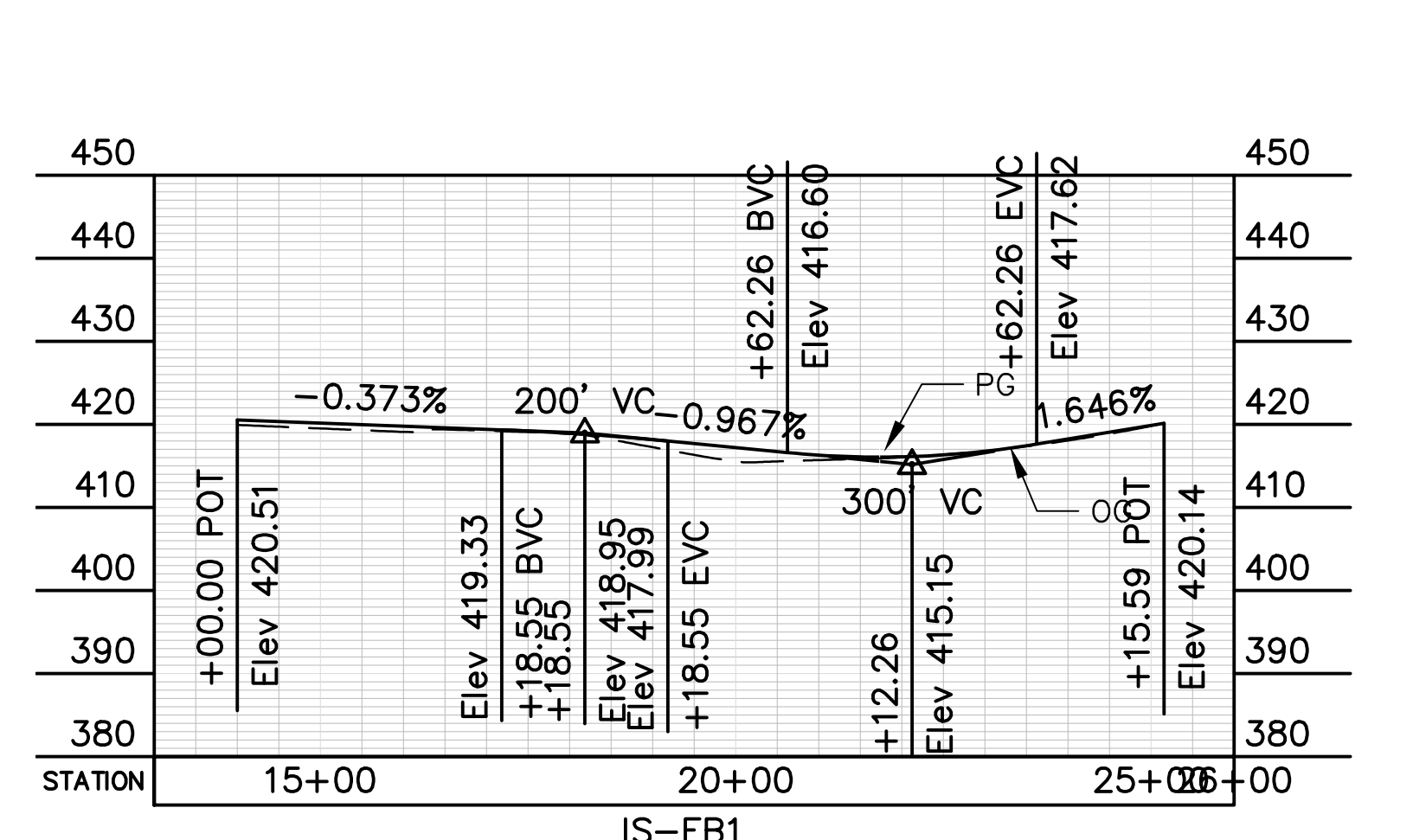
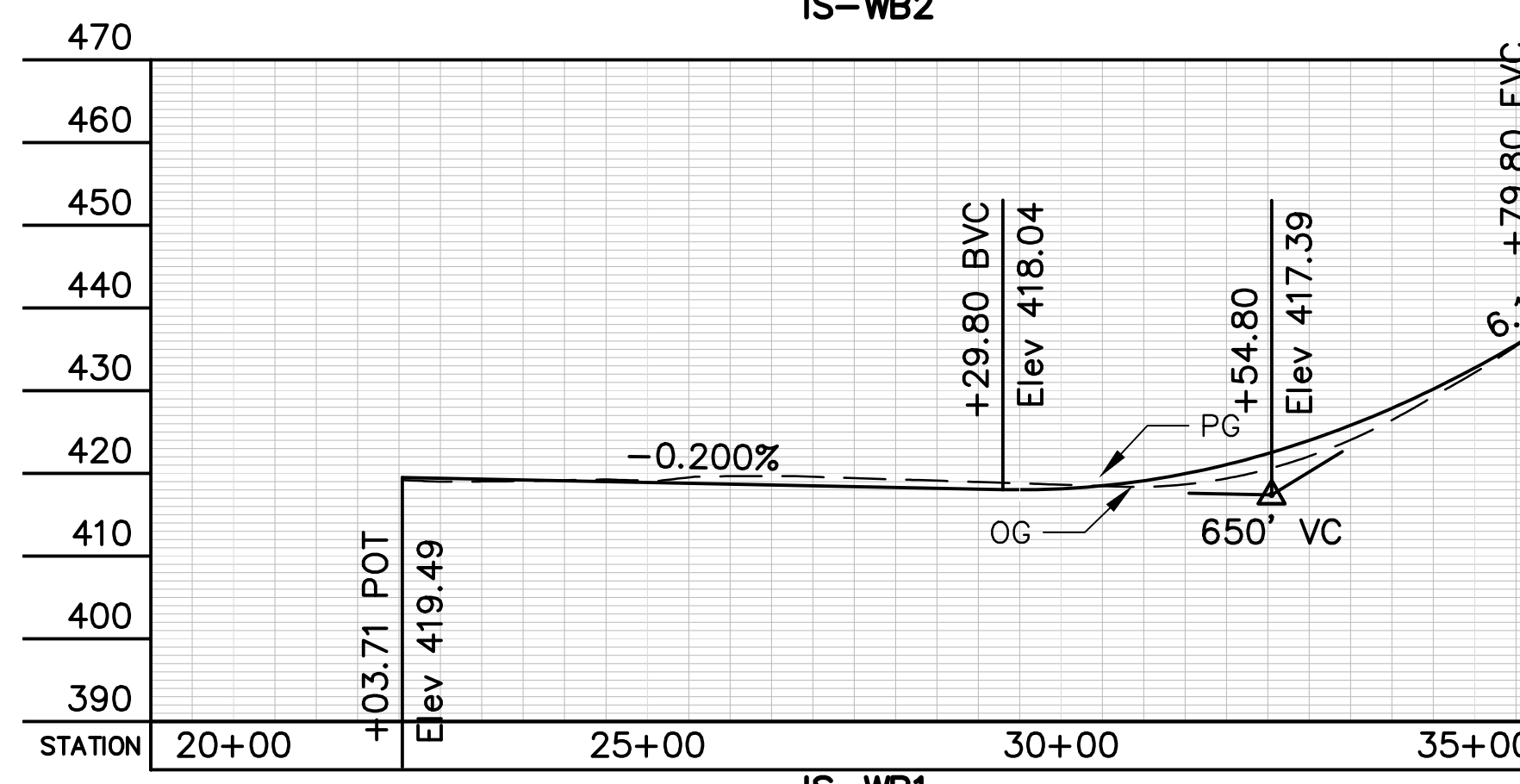
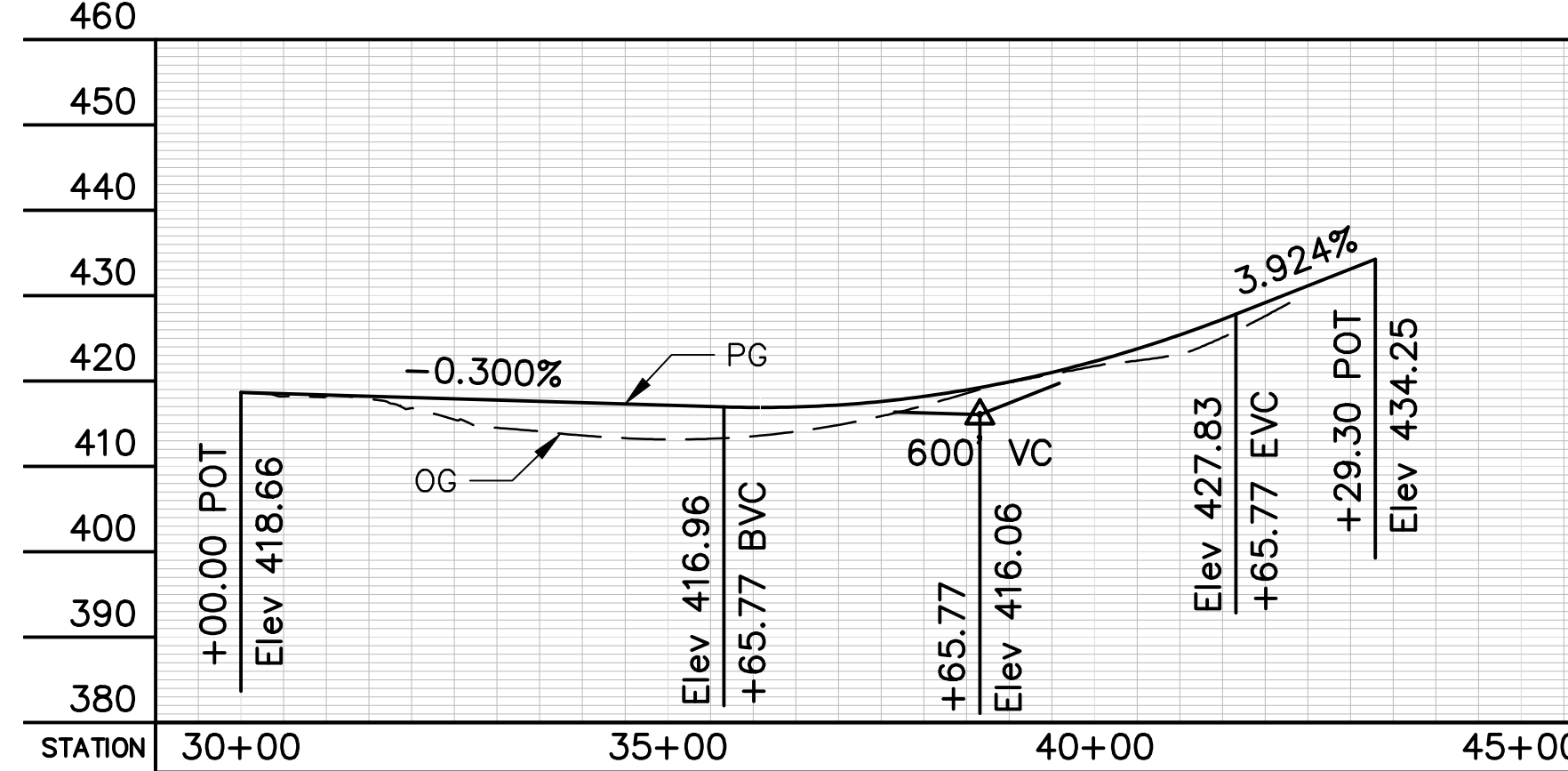
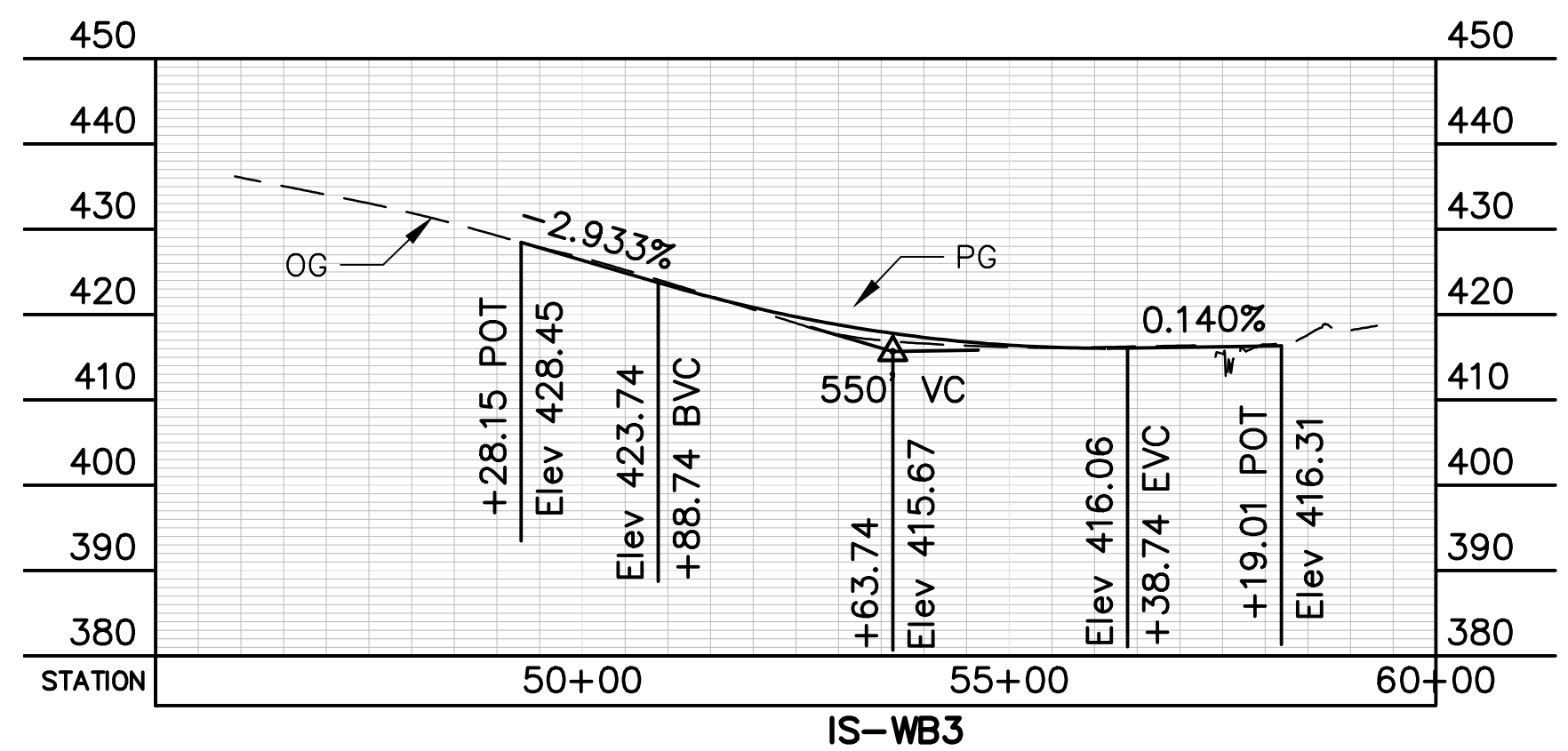
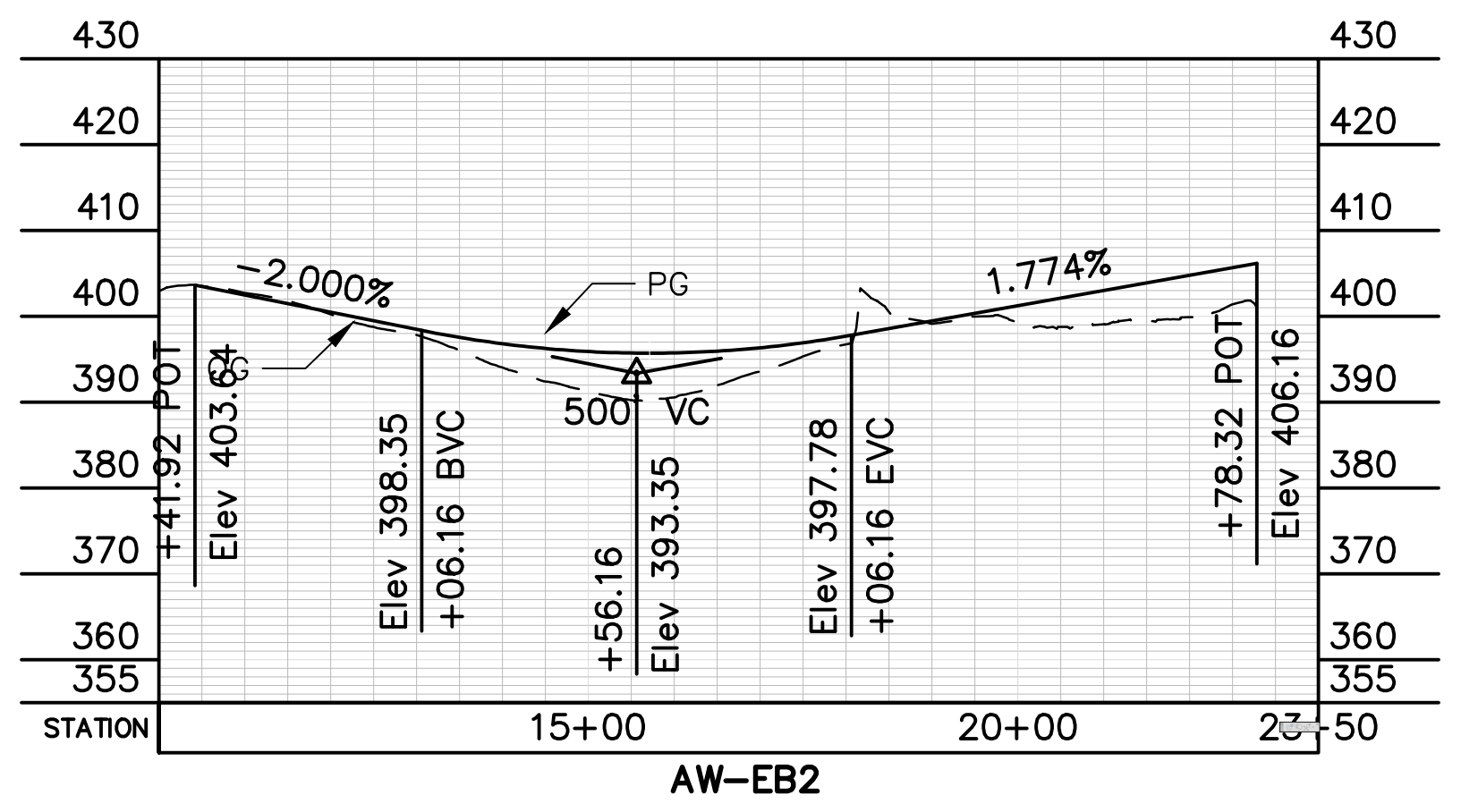
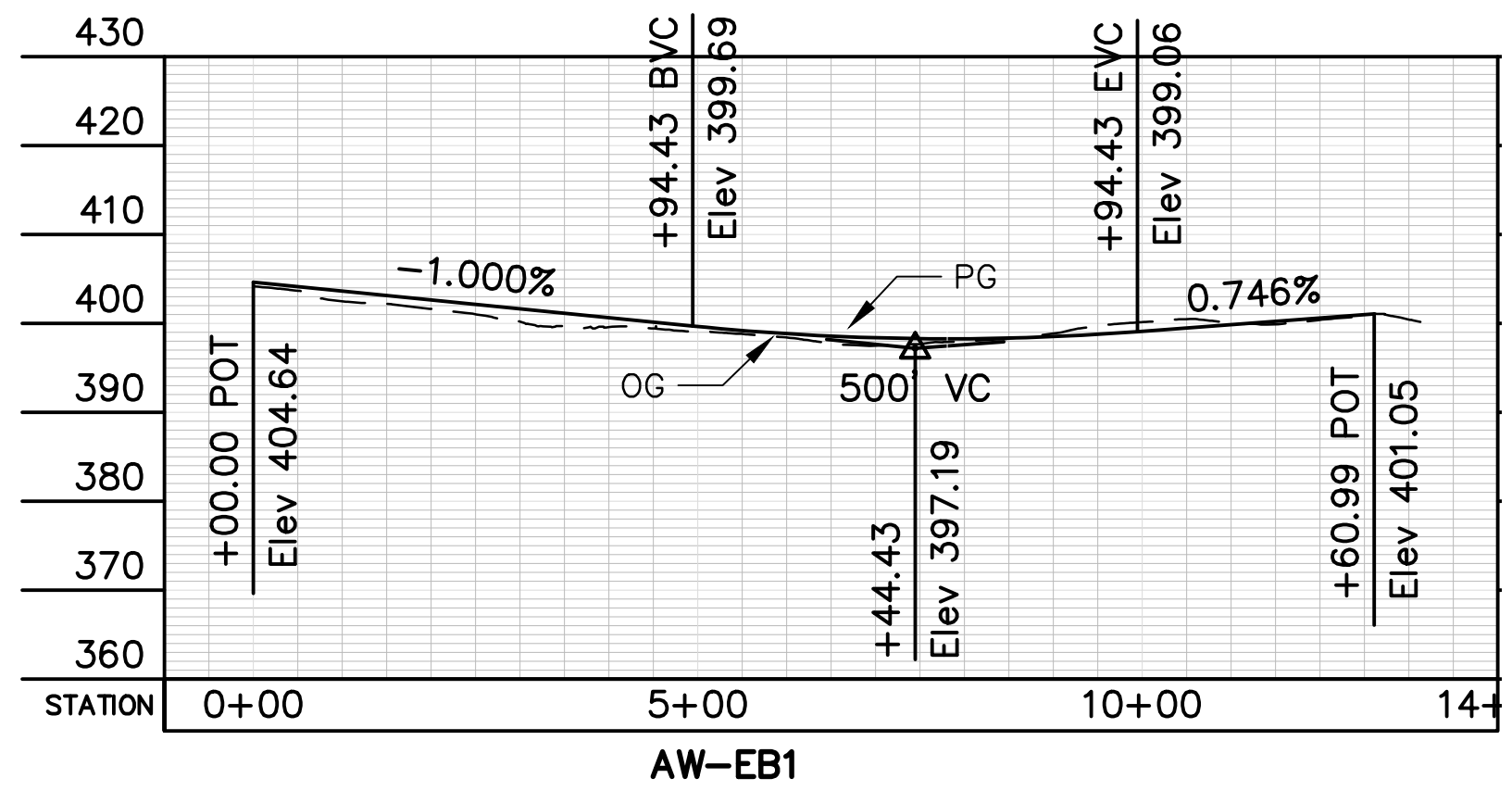
RAMP PROFILES

CADD FILENAME 3RW-109.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 6M6048
CONTRACT SHEET NO. 3RW-109	PAGE NO. 023

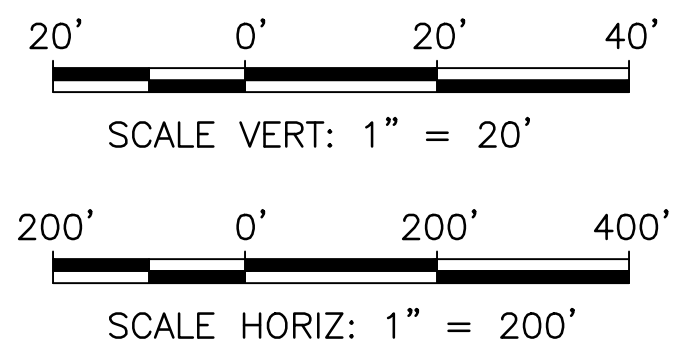
SUBMITTED _____

APPROVED _____

Jul 14, 2017 - 9:53am \\global\arup.com\americas\jobs\15-F\230000\23785-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU_EKU_Roadway\3RW-110.dwg
 kyle.mcmillen



PROFILE



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
J. MONG
 DRAWN:
K. MCMILLEN
 CHECKED:
S. BROWN
 APPROVED:
D. HUNT
 DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

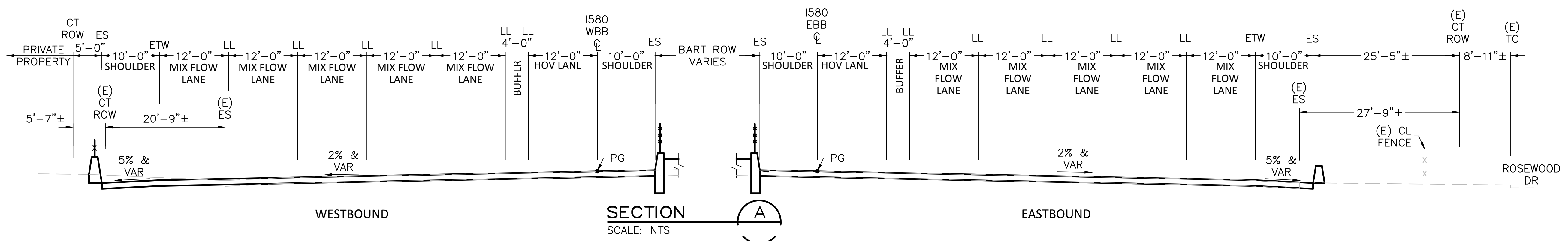
Anil Verma Associates, Inc.
1970 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

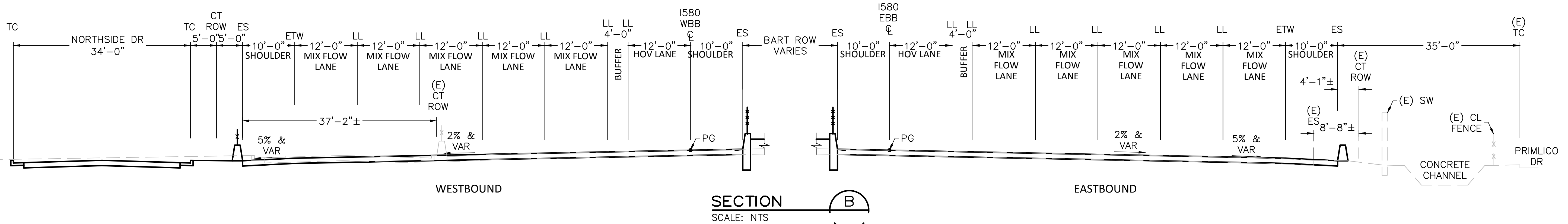
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
ROADWAY ALIGNMENT**

PROFILES

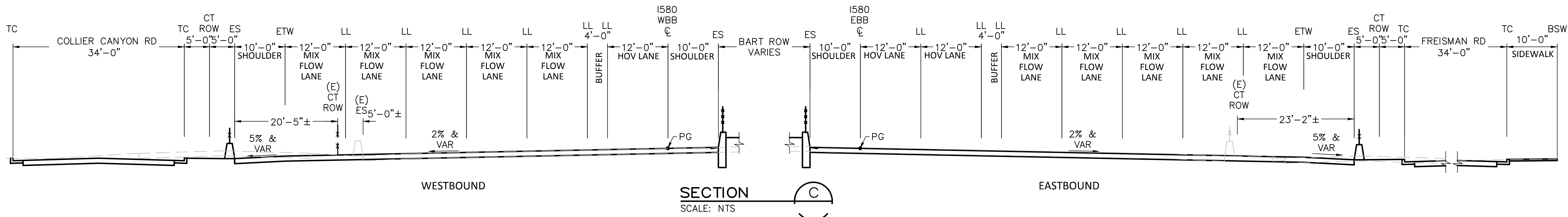
CADD FILENAME 3RW-110.DWG	
SIZE: SCALE D AS NOTED	REV. 0
CONTRACT NO. 6M6048	
CONTRACT SHEET NO. 3RW-110	PAGE NO. 024



SECTION A
SCALE: NTS



SECTION B
SCALE: NTS



SECTION C
SCALE: NTS

Jul 14, 2017 - 9:53am \\global-arup.com\americas\jobs\5-F\230000\27865-004 - Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU Roadway\3RW-201.dwg
 kyle.mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:
J. MONG
 DRAWN:
K. MCMILLEN
 CHECKED:
S. BROWN
 APPROVED:
D. HUNT
 DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

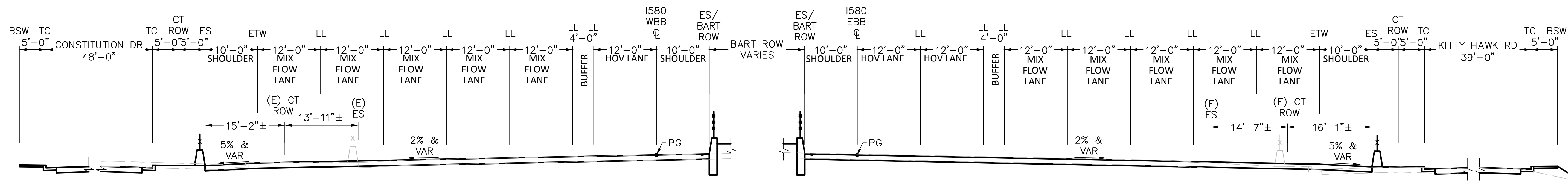
Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

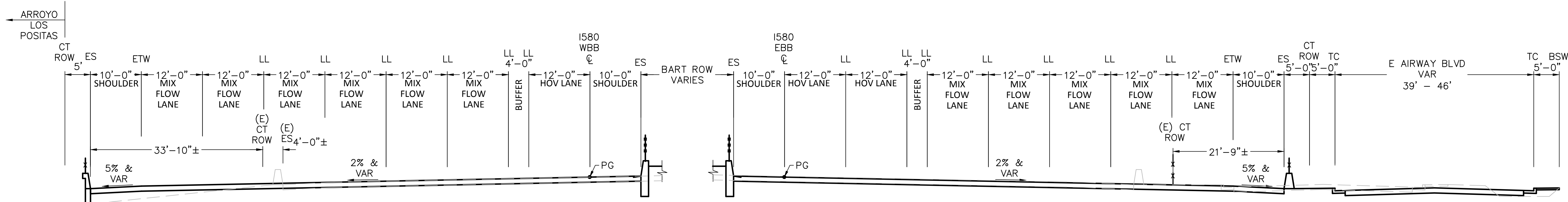
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
ROADWAY ALIGNMENT**

TYPICAL SECTIONS

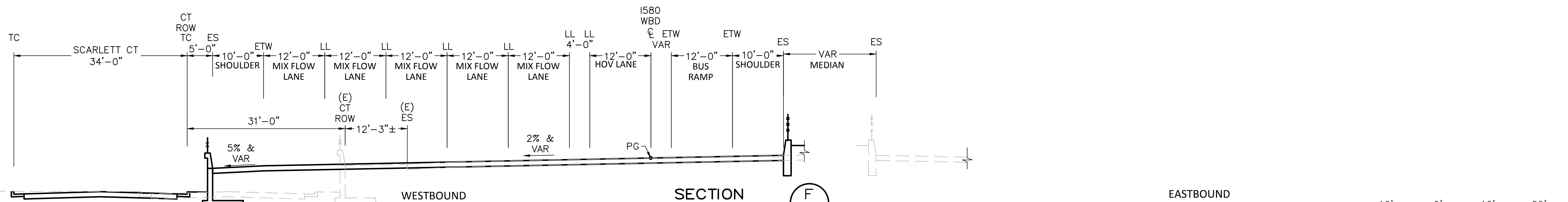
CADD FILENAME 3RW-201.DWG	REV. 0
SIZE: SCALE D NTS	CONTRACT NO. 6M6048
CONTRACT SHEET NO. 3RW-201	PAGE NO. 025



SECTION D
SCALE: NTS



SECTION E
SCALE: NTS



SECTION F
SCALE: NTS



Jul 14, 2017 - 9:53am - \\global-arup.com\americas\jobs\5-F\230000\27865-00\4 - Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU Roadway\3RW-202.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: J. MONG
DRAWN: K. MCMILLEN
CHECKED: S. BROWN
APPROVED: D. HUNT
DATE: 06/24/2016

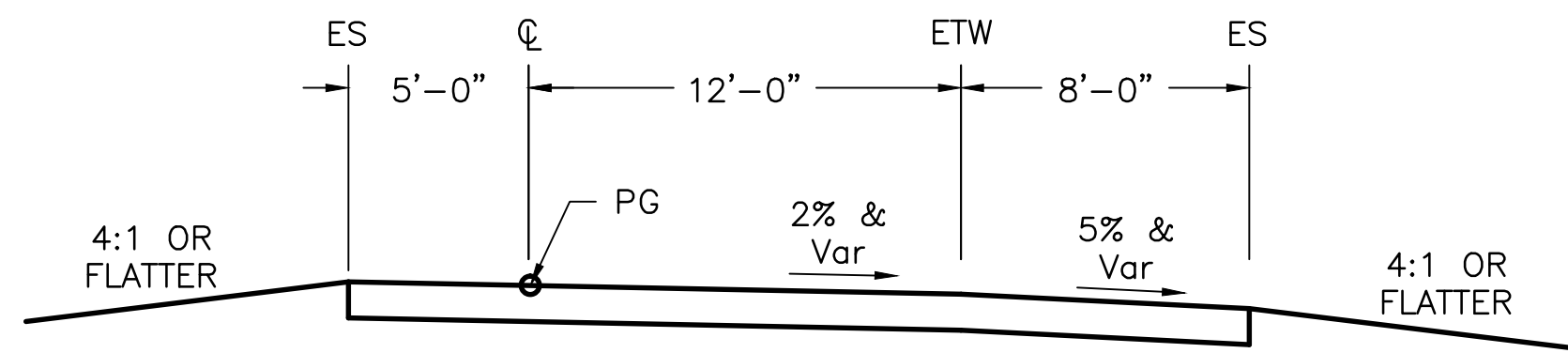
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

Anil Verma Associates, Inc.
1970 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

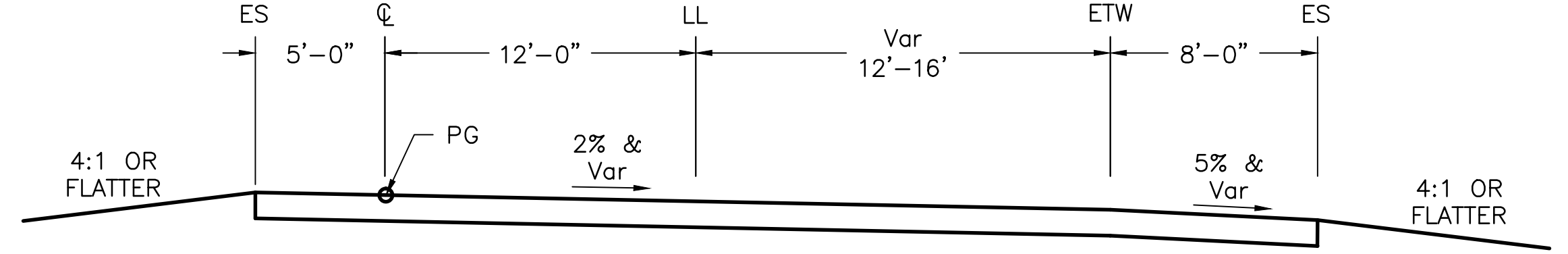
SUBMITTED _____ APPROVED _____

BART TO LIVERMORE EXTENSION ALTERNATIVE 2 - DMU ROADWAY ALIGNMENT	
TYPICAL SECTIONS	
CADD FILENAME 3RW-202.DWG	REV. 0
SIZE: SCALE D 1"=10'-0"	CONTRACT NO. 6M6048
CONTRACT SHEET NO. 3RW-202	PAGE NO. 026



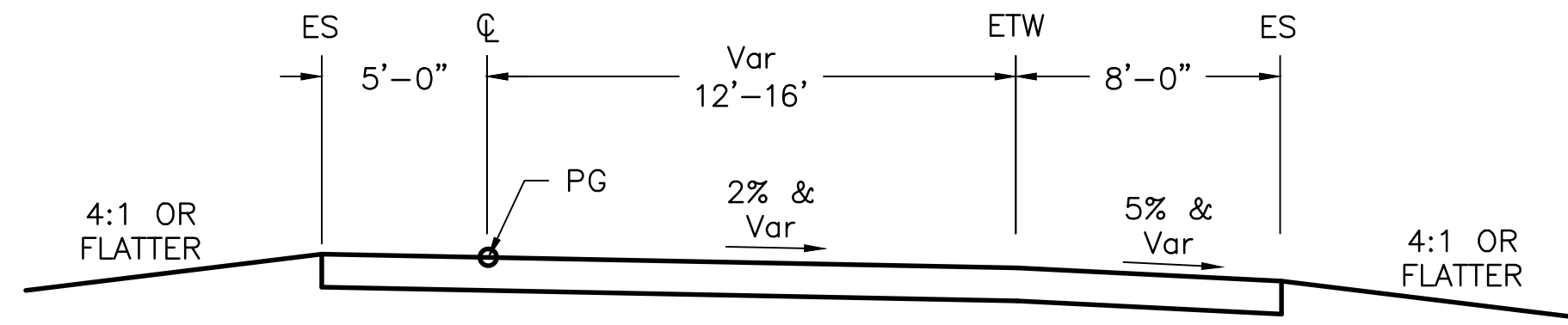
TYPICAL SINGLE LANE RAMP (EB)

SCALE: NTS



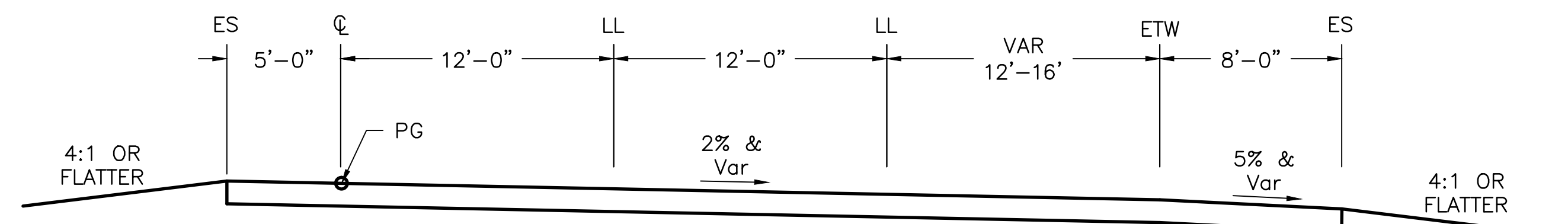
TYPICAL 2-LANE RAMP (EB)

SCALE: NTS



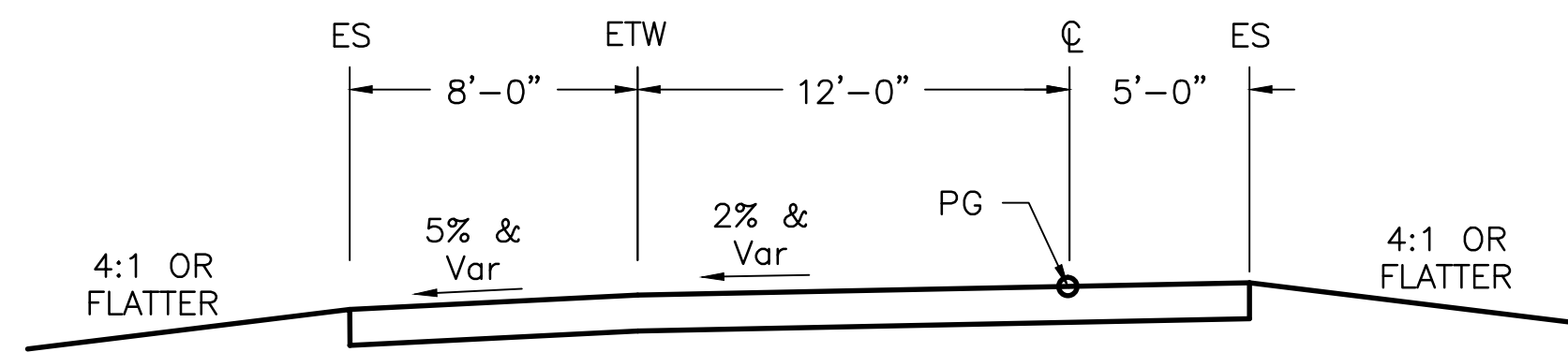
TYPICAL SINGLE LANE LOOP RAMP (EB)

SCALE: NTS



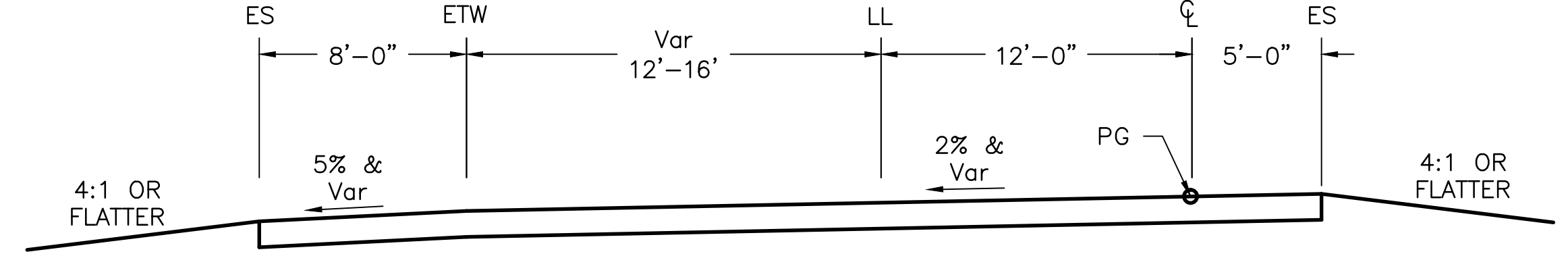
TYPICAL 3-LANE RAMP (EB)

SCALE: NTS



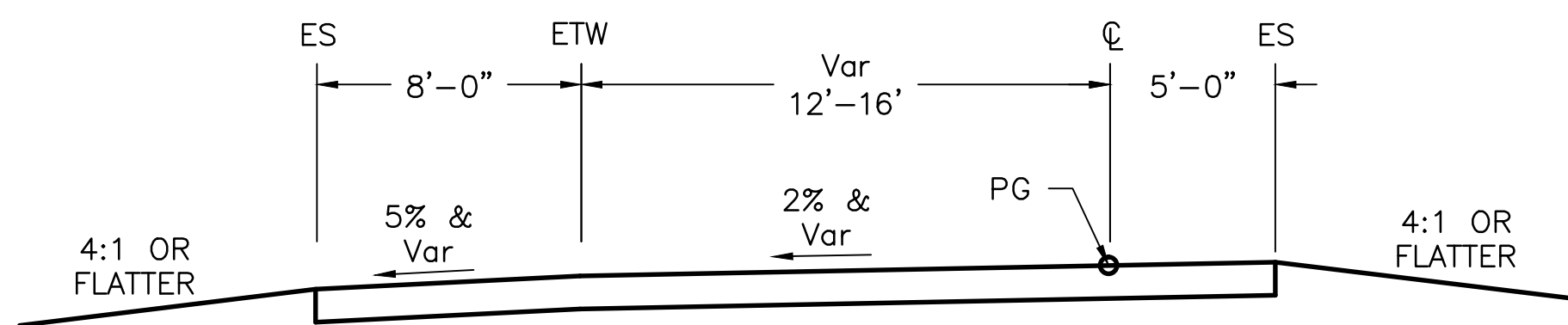
TYPICAL SINGLE LANE RAMP (WB)

SCALE: NTS



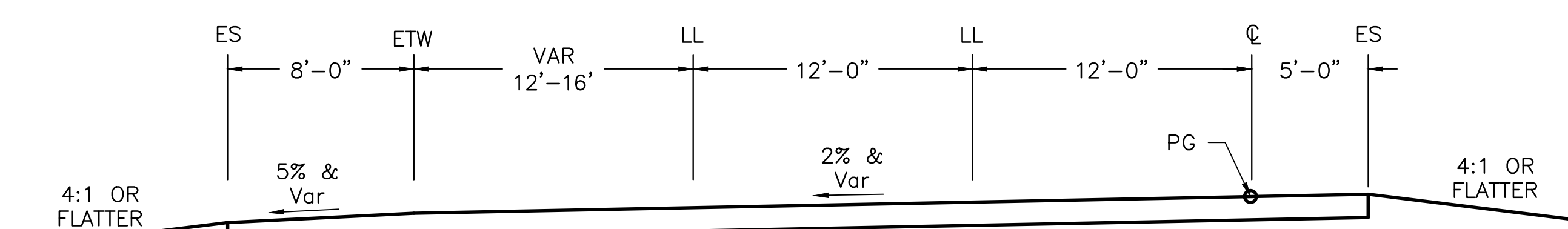
TYPICAL 2-LANE RAMP (WB)

SCALE: NTS



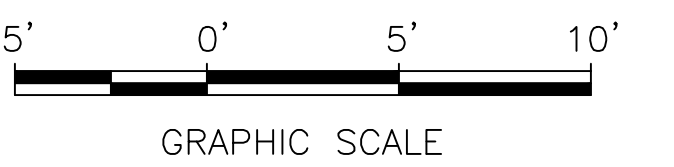
TYPICAL SINGLE LANE LOOP RAMP (WB)

SCALE: NTS



TYPICAL 3-LANE RAMP (WB)

SCALE: NTS



Jul 14, 2017 - 9:53am - \\global-arup.com\americas\jobs\5-F\230000\237865-00\4 - Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU Roadway\3RW-203.dwg
 kyle.mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
J. MONG
 DRAWN:
K. MCMILLEN
 CHECKED:
S. BROWN
 APPROVED:
D. HUNT
 DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

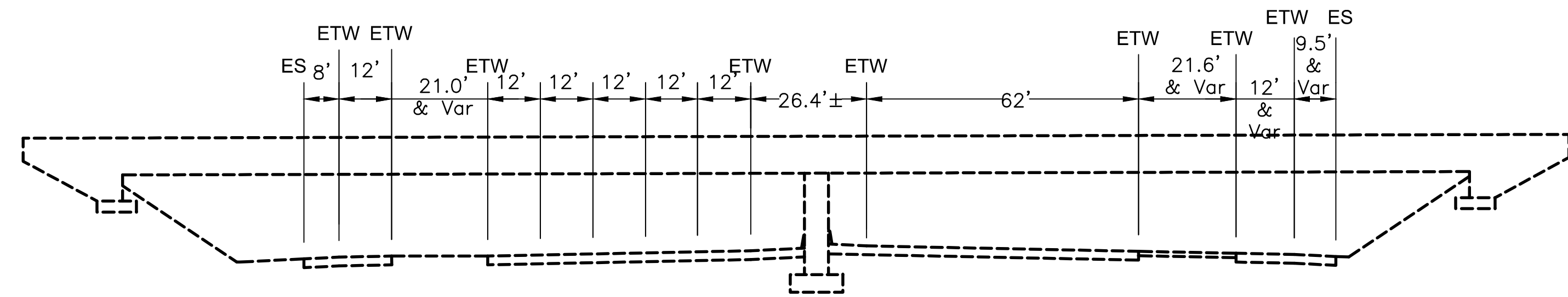
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
ROADWAY ALIGNMENT**

TYPICAL SECTIONS

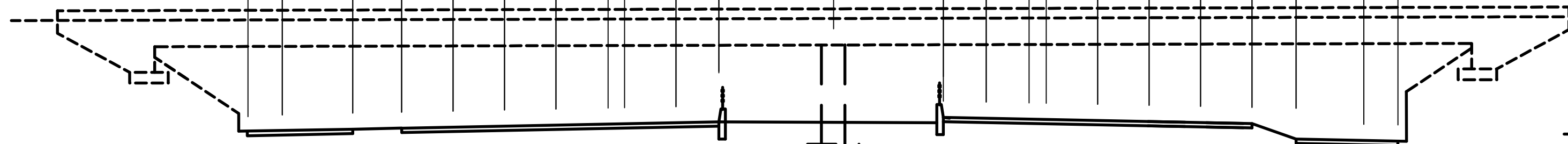
CADD FILENAME 3RW-204.DWG	REV. 0
SIZE: SCALE D 1"=5'-0"	CONTRACT NO. 6M6048
CONTRACT SHEET NO. 3RW-203	PAGE NO. 027

NOTES

- EXISTING BRIDGE AND ABUTMENTS ARE SHOWN FOR INFORMATION ONLY. EXACT LOCATION SHALL BE FIELD VERIFIED.

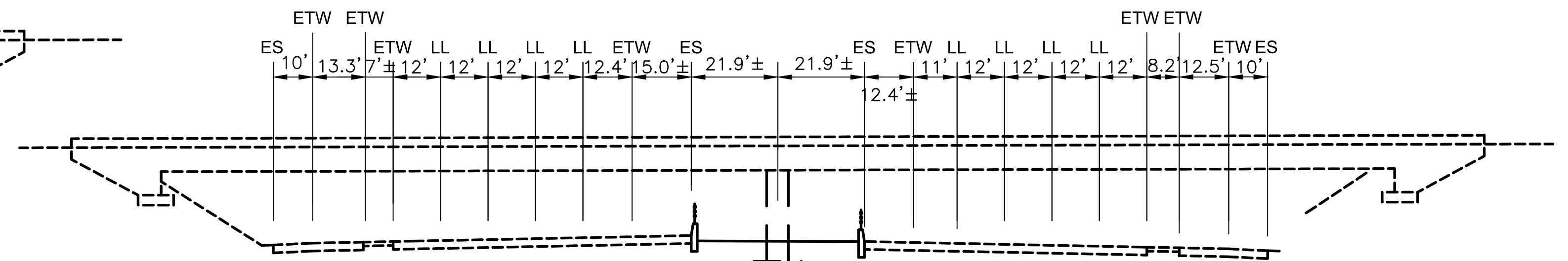


EXISTING
 ES ETW ETW ETW LL LL LL LLLL WB 580 ES ES EB 580 LLLL LL LL LL ETW ETW ETW ES
 8' 16.41' 11.41' 12' 12' 12' 12' 4' 12' 10' 26.75' 25.68' 10' 10' 4' 12' 12' 12' 10.30' 15.78' 8'

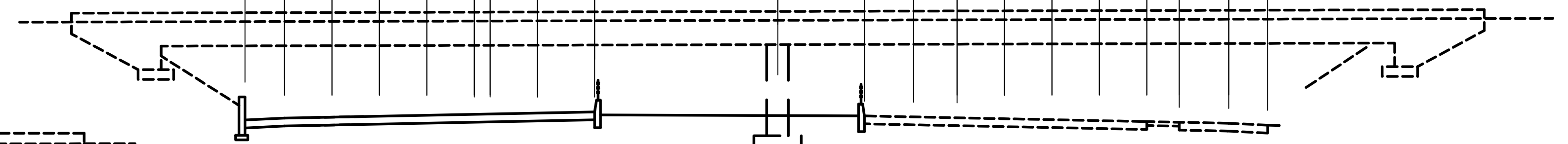


PROPOSED
TYPICAL SECTION AT TASSAJARA RD /SANTA RITA RD OVERCROSSING

SCALE: NTS



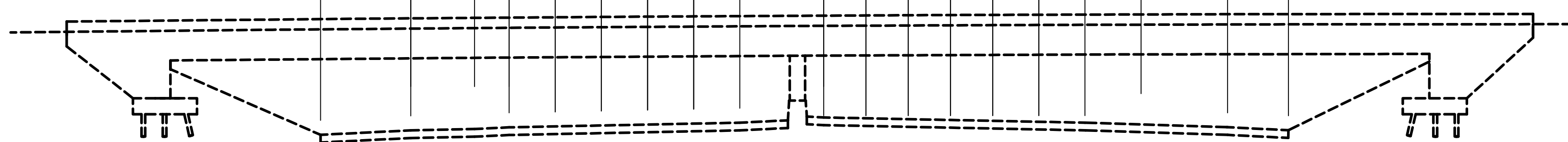
EXISTING
 ES ETW LL LL LL LL ETW ES ES ETW LL LL LL LL ETW ES
 10' 12' 12' 12' 12' 4' 12' 14.4' 46.4'± 21.9'± 21.9'± 11' 12' 12' 12' 12' 8.2' 12.5' 10'



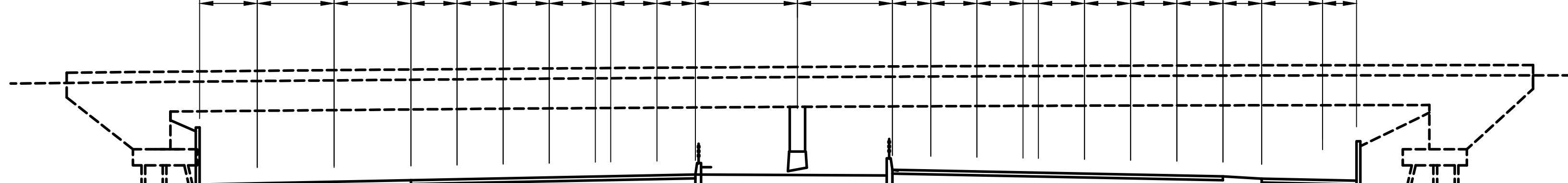
PROPOSED
TYPICAL SECTION AT HACIENDA DR OVERCROSSING

SCALE: NTS

EXISTING
 EP 10.1' & Var 16.6' & Var 9'± 12' 12' 12' 12' 21'± 11' 11' 11' 11' 12' 12' 21.6' & Var 22.4' & Var 15.9' & Var



PROPOSED
 ES ETW ETW ETW LL LL LL LLLL WB 580 ES ES EB 580 LLLL LL LL LL LL ETW ETW ETW ES
 15' 20' 20' 12' 12' 12' 12' 4' 12' 10' 26.56' 24.75' 10' 12' 12' 4' 12' 12' 12' 10.1' 15.8' 8.9'



BENT 2
 PROPOSED
TYPICAL SECTION AT EL CHARRO RD /FALLON RD OVERCROSSING

SCALE: NTS

Jul 14, 2017 - 9:53am \\global\arup.com\americas\jobs\S-F\230000\27865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU EMU Roadway\3RW-204.dwg
 kyle.mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: J. MONG
DRAWN: K. MCMILLEN
CHECKED: S. BROWN
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

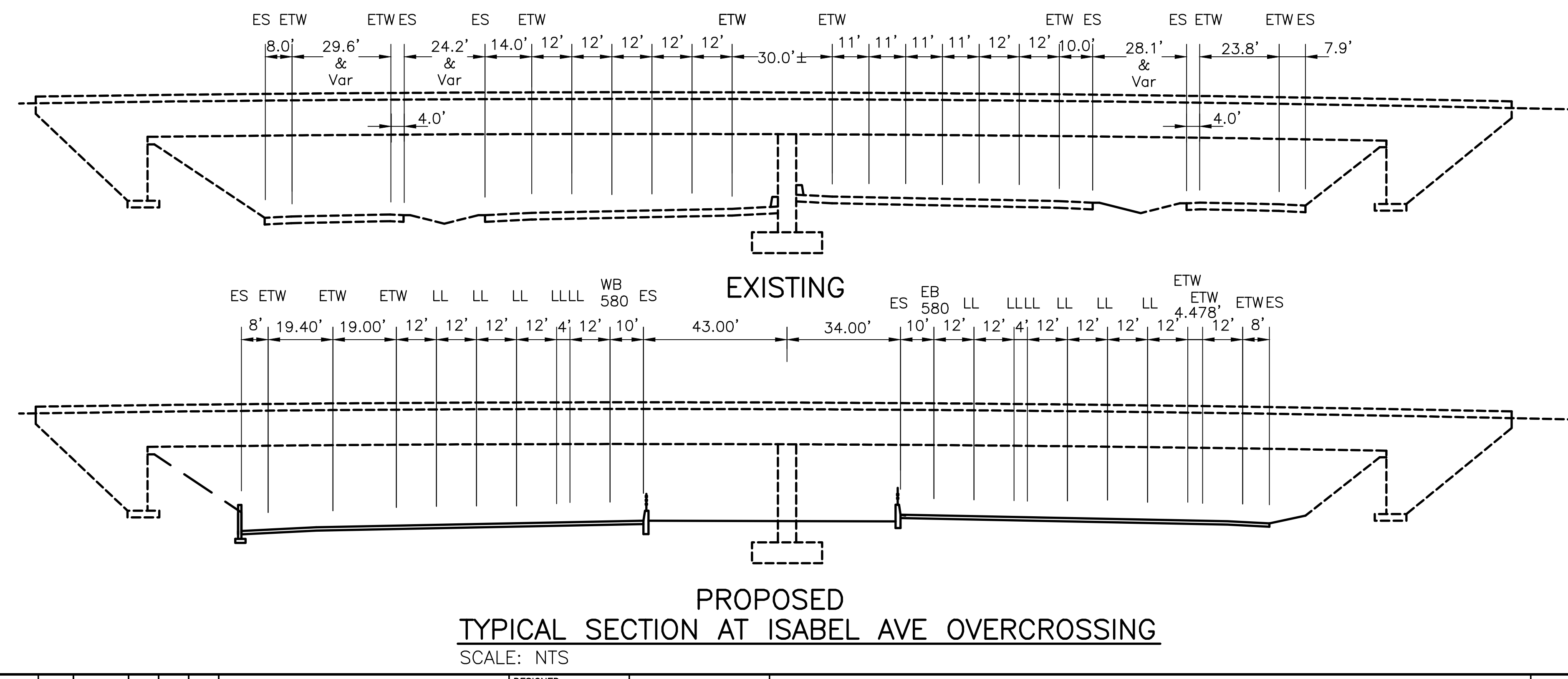
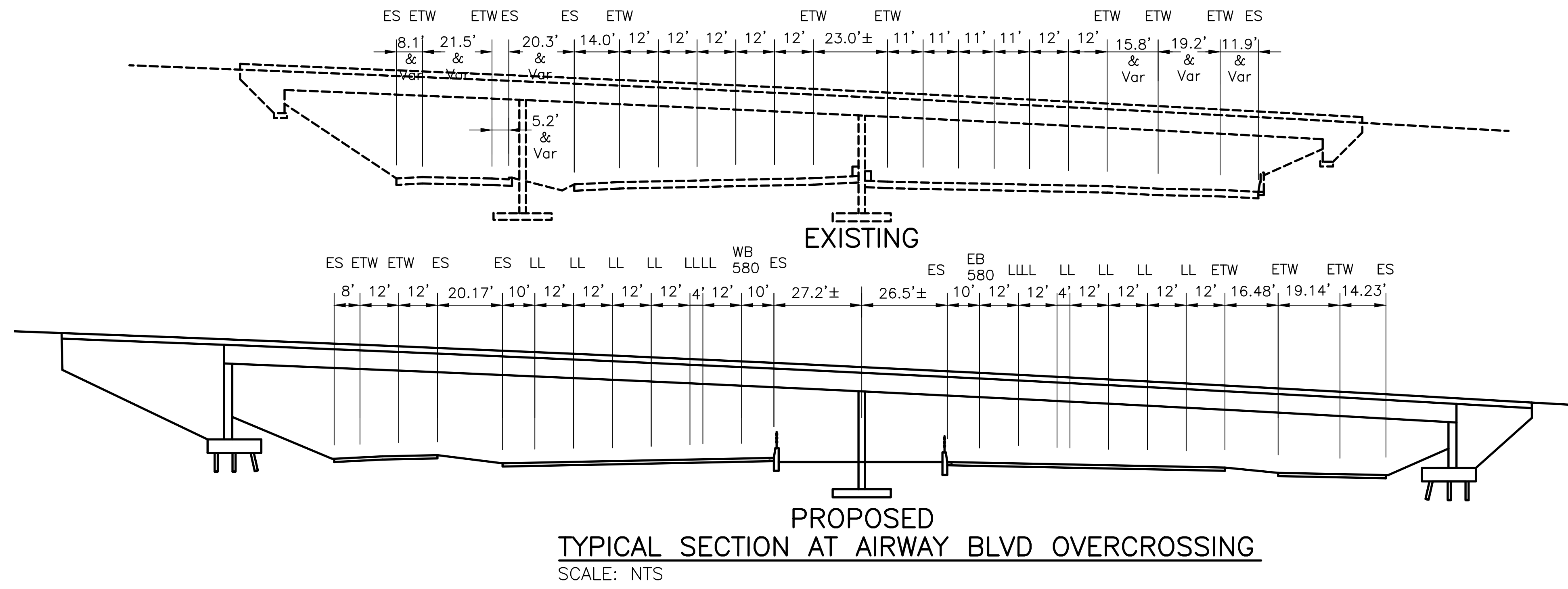
**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU
 ROADWAY ALIGNMENT**

TYPICAL SECTIONS AT FREEWAY INTERCHANGE

CADD FILENAME 3RW-204.DWG	REV. 0
SIZE: SCALE D AS SHOWN	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3RW-204	PAGE NO. 028

NOTES

- EXISTING BRIDGE AND ABUTMENTS ARE SHOWN FOR INFORMATION ONLY. EXACT LOCATION SHALL BE FIELD VERIFIED.



Jul 14, 2017 - 9:53am - \\global-arup.com\americas\jobs\S-F\230000\237865-00\4 - Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU - EMU Roadway\3RW-205.dwg

DESIGNED: J. MONG	DATE: 11/15/2016
DRAWN: K. MCMILLEN	
CHECKED: S. BROWN	
APPROVED: D. HUNT	
DESCRIPTION: 10% PRELIMINARY ENGINEERING	

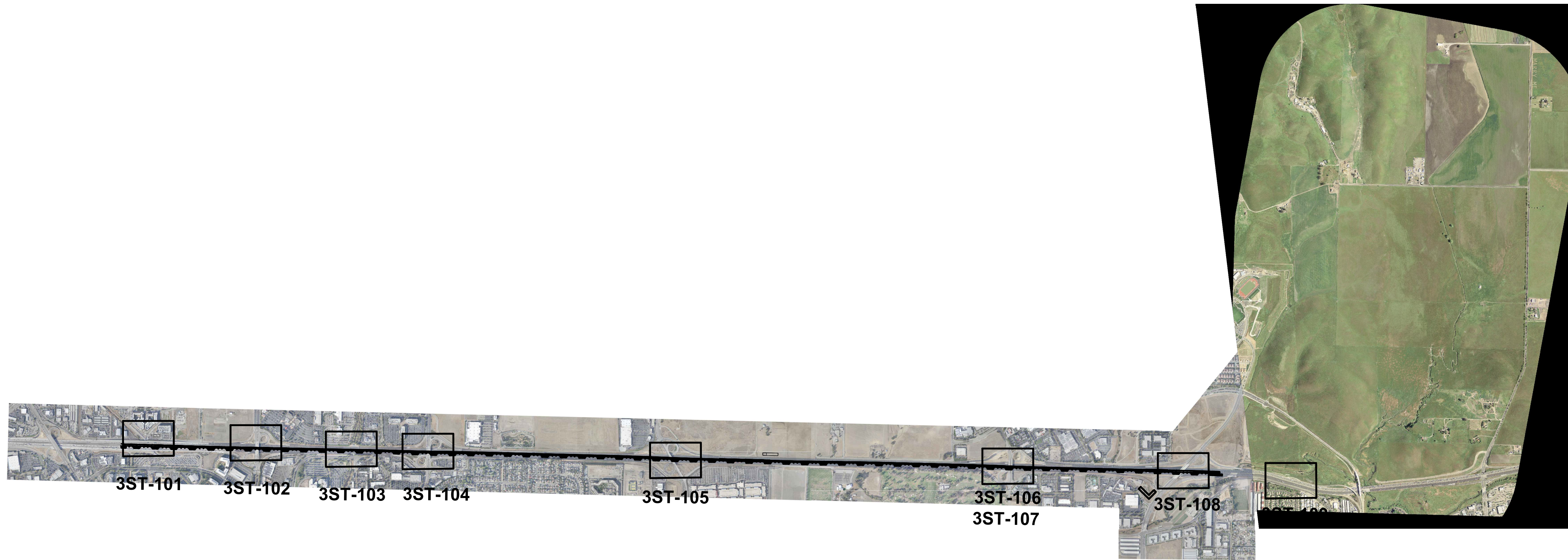
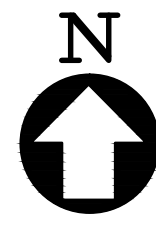
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

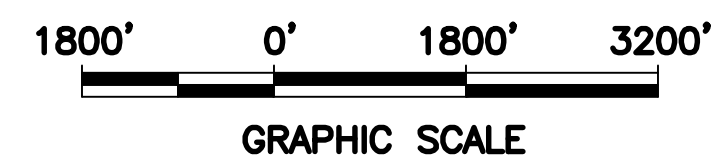
Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

BART TO LIVERMORE EXTENSION ALTERNATIVE 2 - DMU ROADWAY ALIGNMENT	
TYPICAL SECTIONS AT FREEWAY INTERCHANGE	
CADD FILENAME: 3RW-205.DWG	REV. 0
SIZE: SCALE D AS SHOWN	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3RW-205	PAGE NO. 029



PLAN




Jul 13, 2017 - 2:27pm J:\S-F\230000\237865-004 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\DMU\Structure\3G-0005.dwg


REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:
H. LEE
DRAWN:
K. MCMILLEN
CHECKED:
Y. REN
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9995
www.arup.com



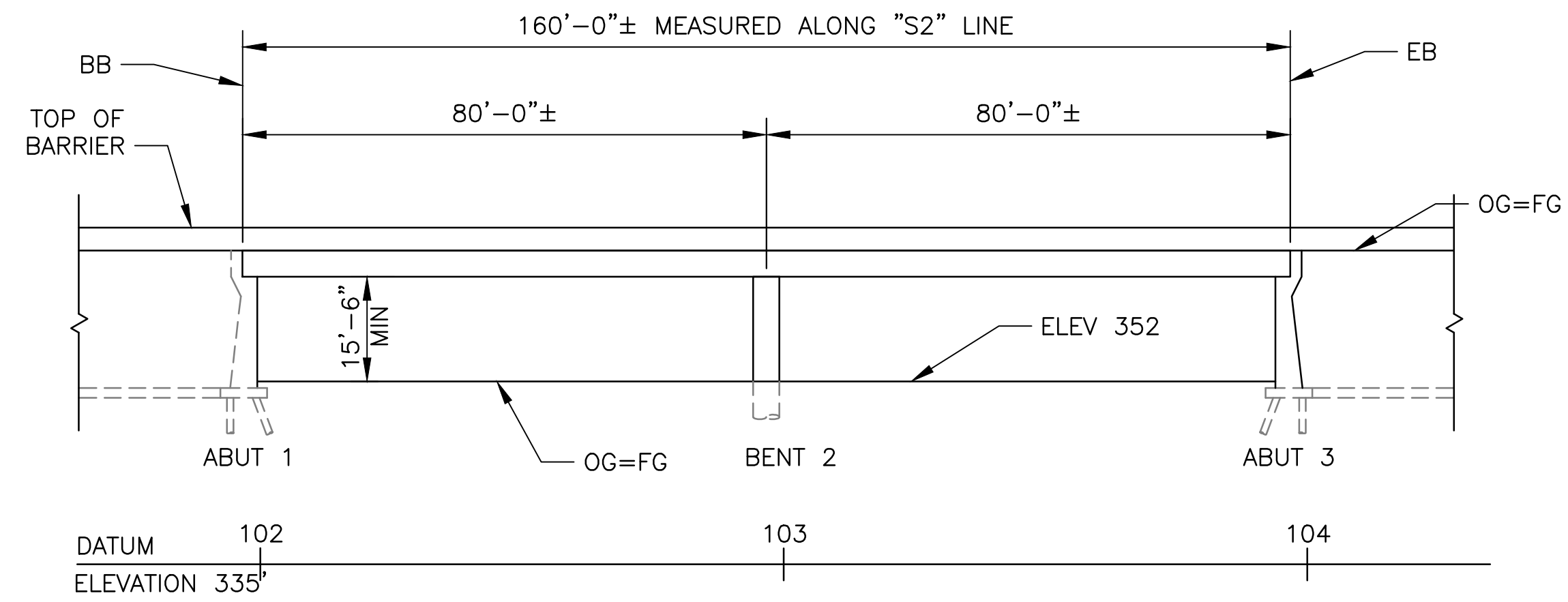
Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

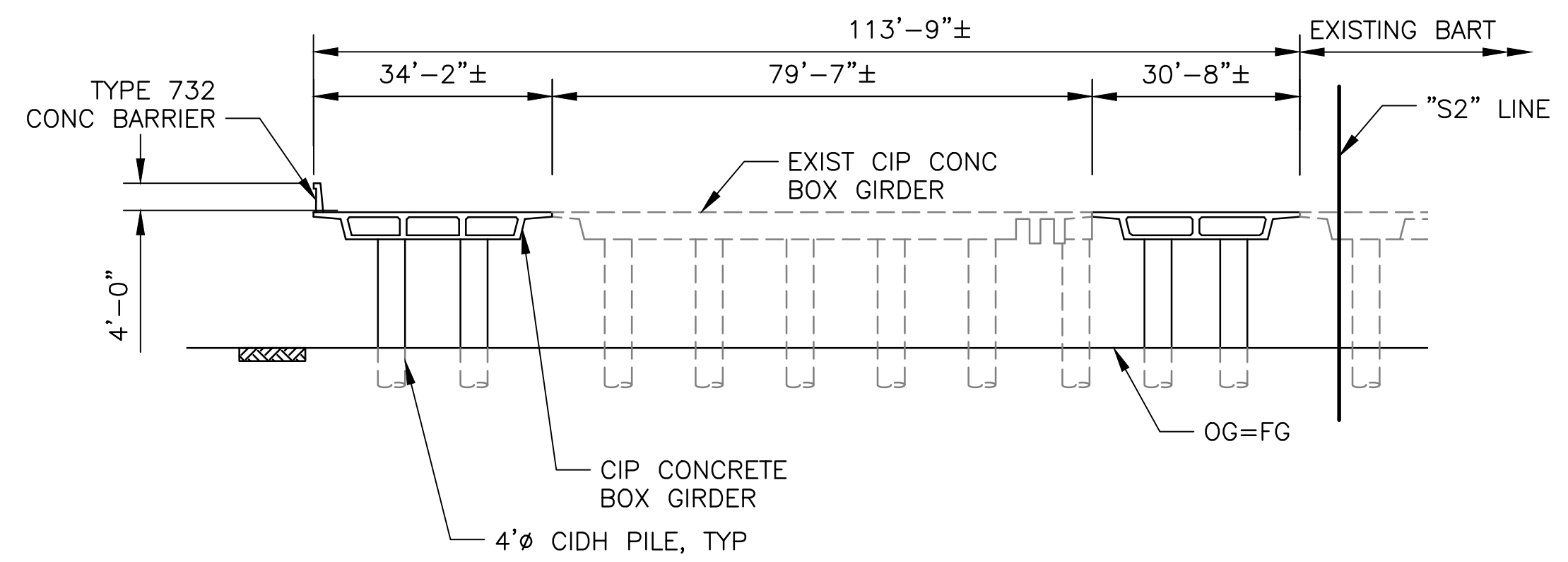
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

KEY PLAN

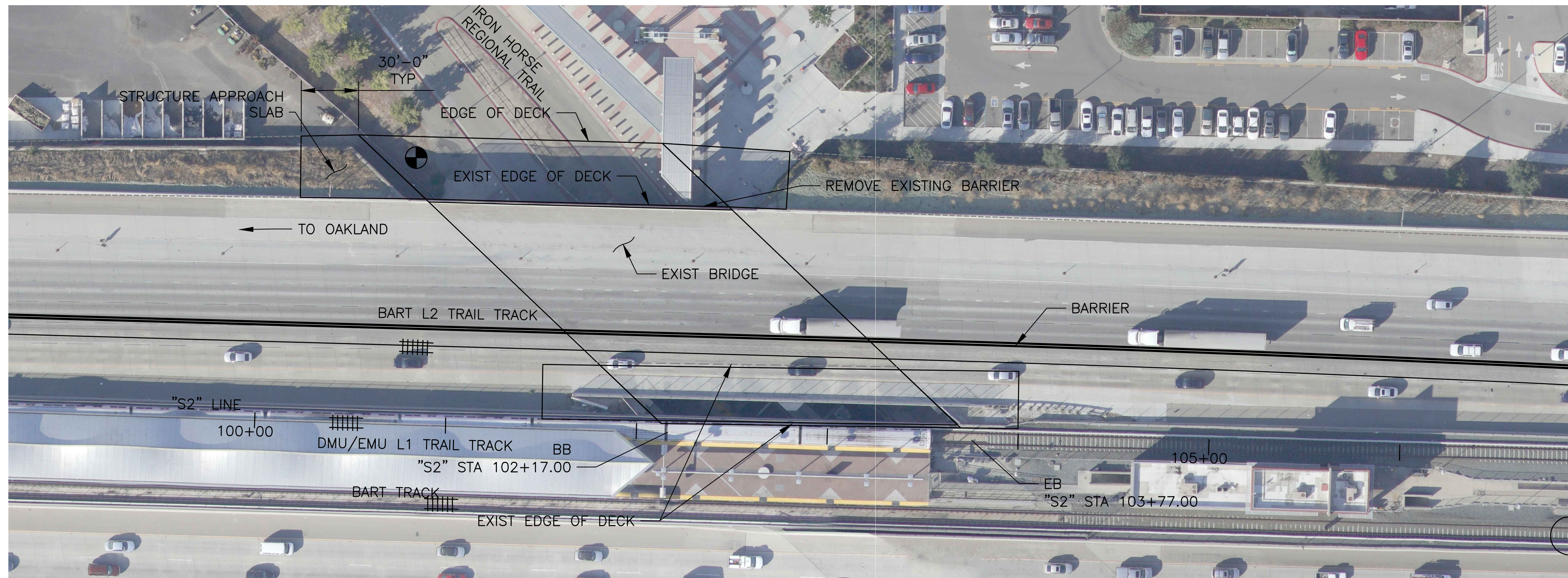
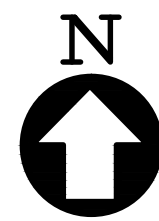
CADD FILENAME 3G-0002.DWG	
SIZE: D	SCALE: AS NOTED
CONTRACT NO. 8CT008	REV. 0
CONTRACT SHEET NO. 3G-0005	PAGE NO. 030



ELEVATION
SCALE: 1"=20'



TYPICAL SECTION
SCALE: 1"=20'



PLAN
SCALE: 1"=40'

LEGEND:

⊙ INDICATES VERTICAL CLEARANCE

40' 0' 40' 80'

SCALE HORIZ: 1" = 40'

Jul 13, 2017 2:30pm J:\S-F\230000\237865-00\4 Internal Drawings\Drawings\Sheets\DMU\Structure\3ST-101.dwg kyle.mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
H. LEE

DRAWN:
K. MCMILLEN

CHECKED:
Y. REN

APPROVED:
D. HUNT

DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-8445
Fax (415) 957-9999
www.arup.com

Anil Verma Associates, Inc.
1970 Broadway, Suite 508
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

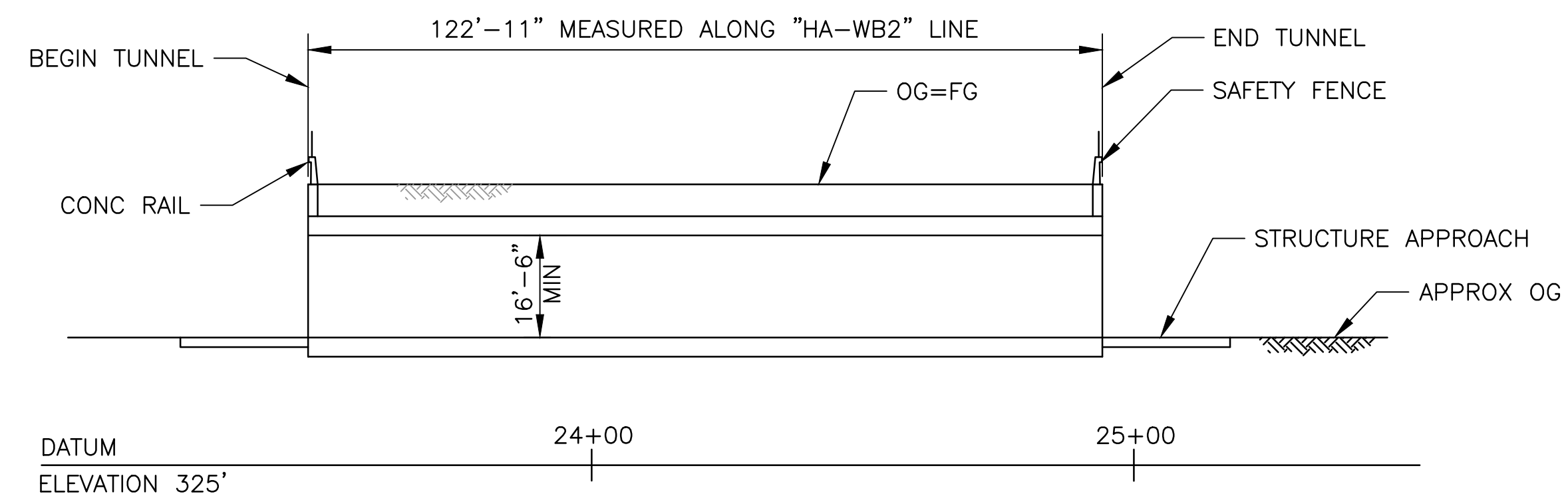
SUBMITTED _____

APPROVED _____

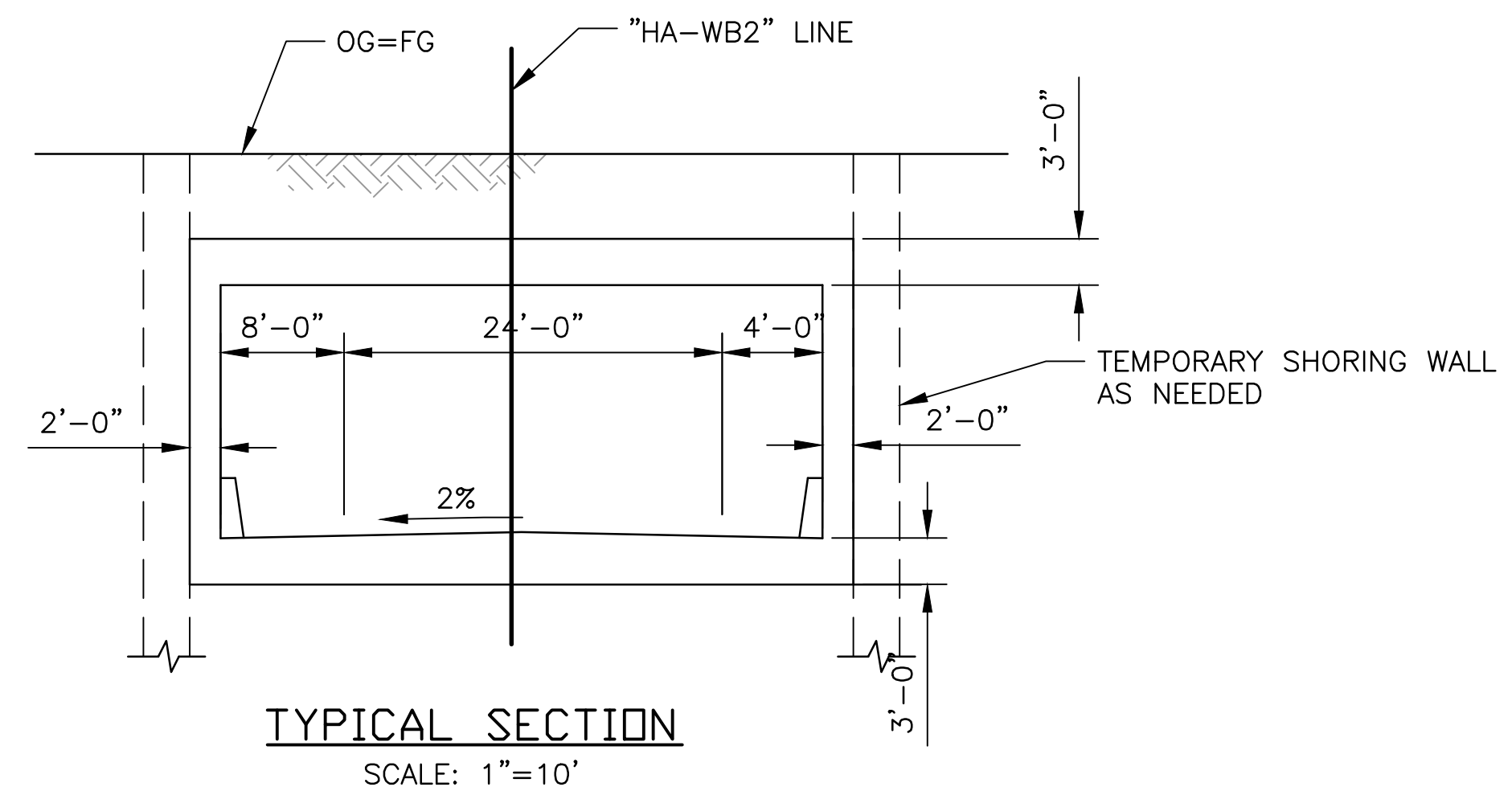
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

IRON HORSE REGIONAL TRAIL UNDERPASS

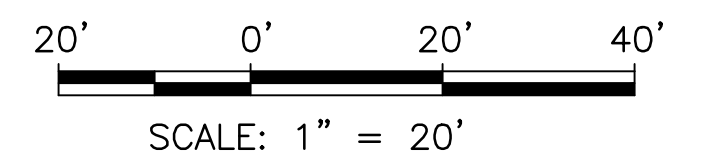
CADD FILENAME 3ST-101.DWG	
SIZE: D	SCALE AS NOTED
CONTRACT NO. 8CT008	REV. 0
CONTRACT SHEET NO. 3ST-101	PAGE NO. 031



ELEVATION
SCALE: 1"=20'



LEGEND:
● INDICATES VERTICAL CLEARANCE



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED:
H. LEE
DRAWN:
K. MCMILLEN
CHECKED:
Y. REN
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-8445
Fax (415) 957-9999
www.arup.com

Anil Verma Associates, Inc.
1970 Broadway, Suite 508
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

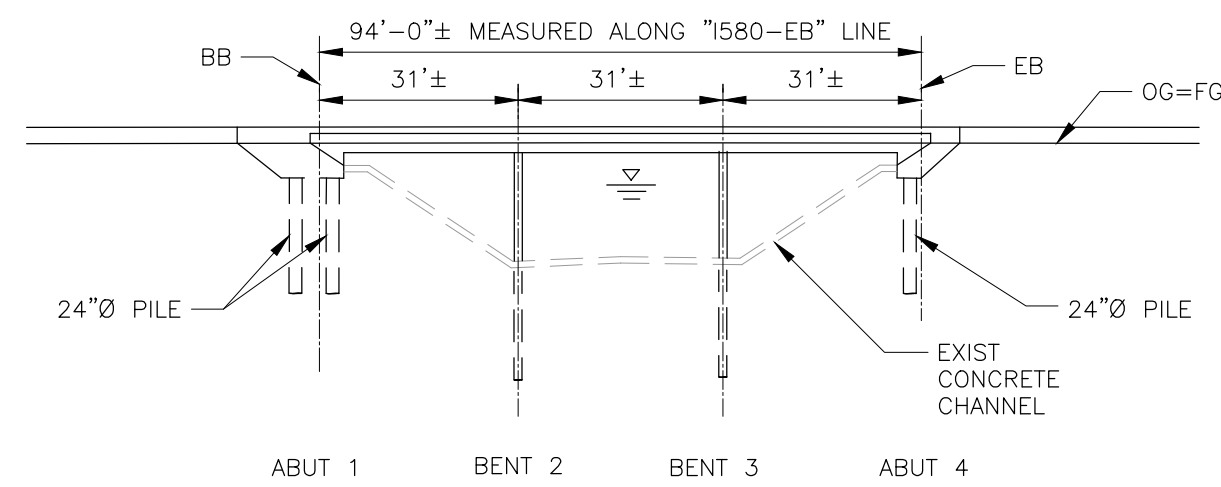
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

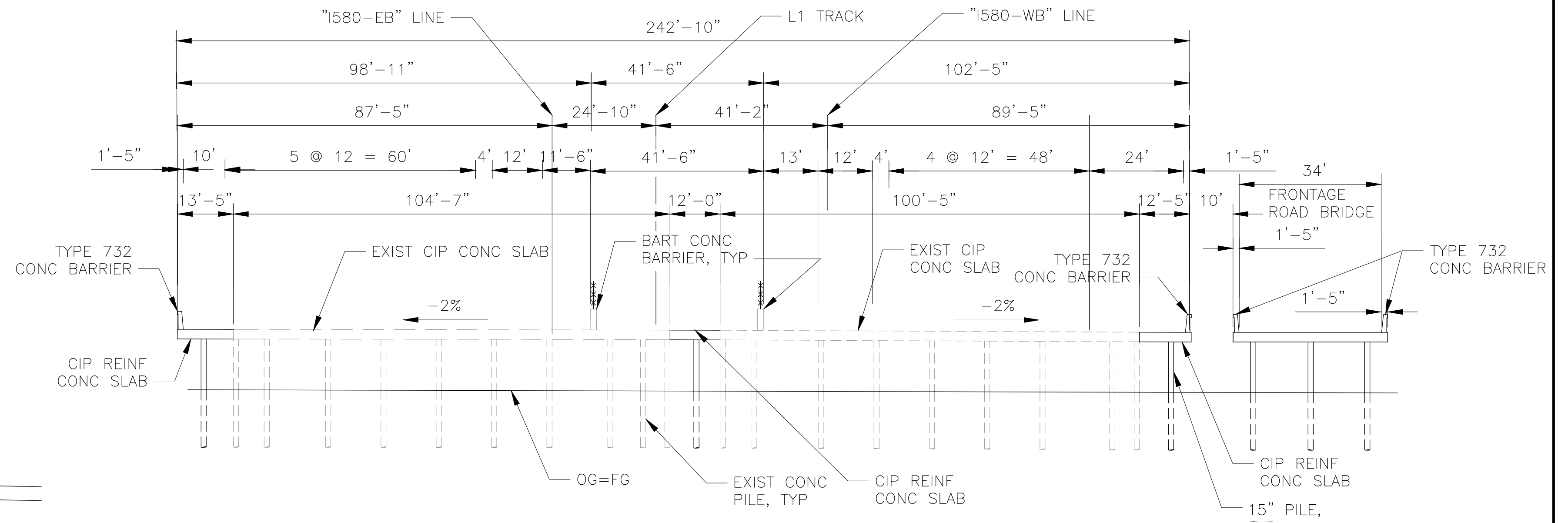
HACIENDA DR ON-RAMP TUNNEL

CADD FILENAME 3ST-102.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3ST-102	PAGE NO. 032

Jul 13, 2017 2:34pm JAS-F:\23000\0237865-004 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\EMU\Structure\3ST-102.dwg kyle.mcmillen

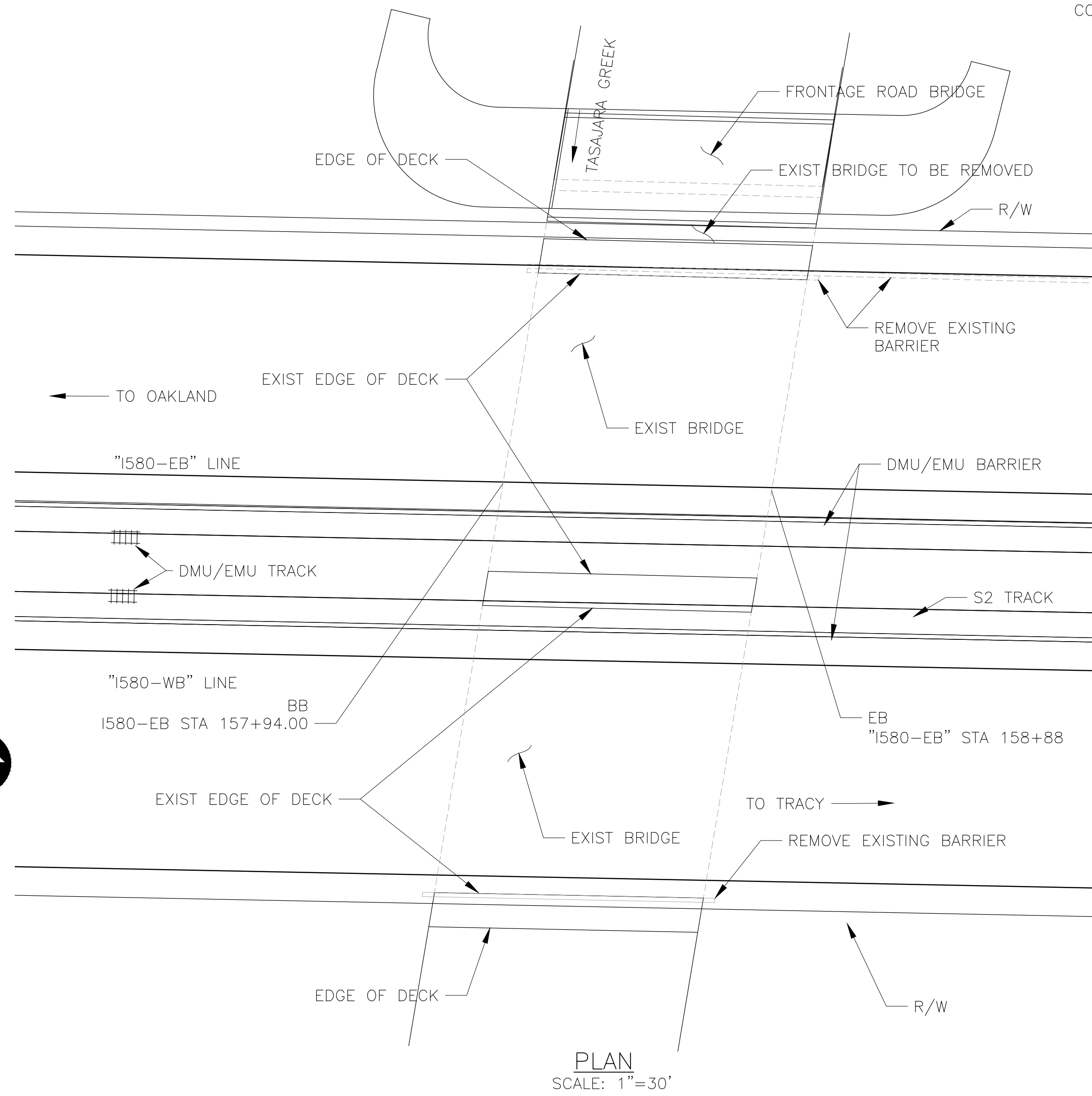


ELEVATION
 SCALE: 1"=30'



TYPICAL SECTION
 SCALE: 1"=20'

NOTE:
 EXISTING STRUCTURE TO BE ANALYSED DURING 35% DESIGN FOR STRUCTURE COMPETENCY



s:\mcmillen_jul_13_2017_2:36pm_JAS-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\DMU\Structure\3ST-103.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: H. LEE
DRAWN: K. MCMILLEN
CHECKED: Y. REN
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
 560 Mission Street, 7th Floor
 San Francisco, CA 94105, USA
 Tel (415) 957-9445
 Fax (415) 957-9996
 www.arup.com

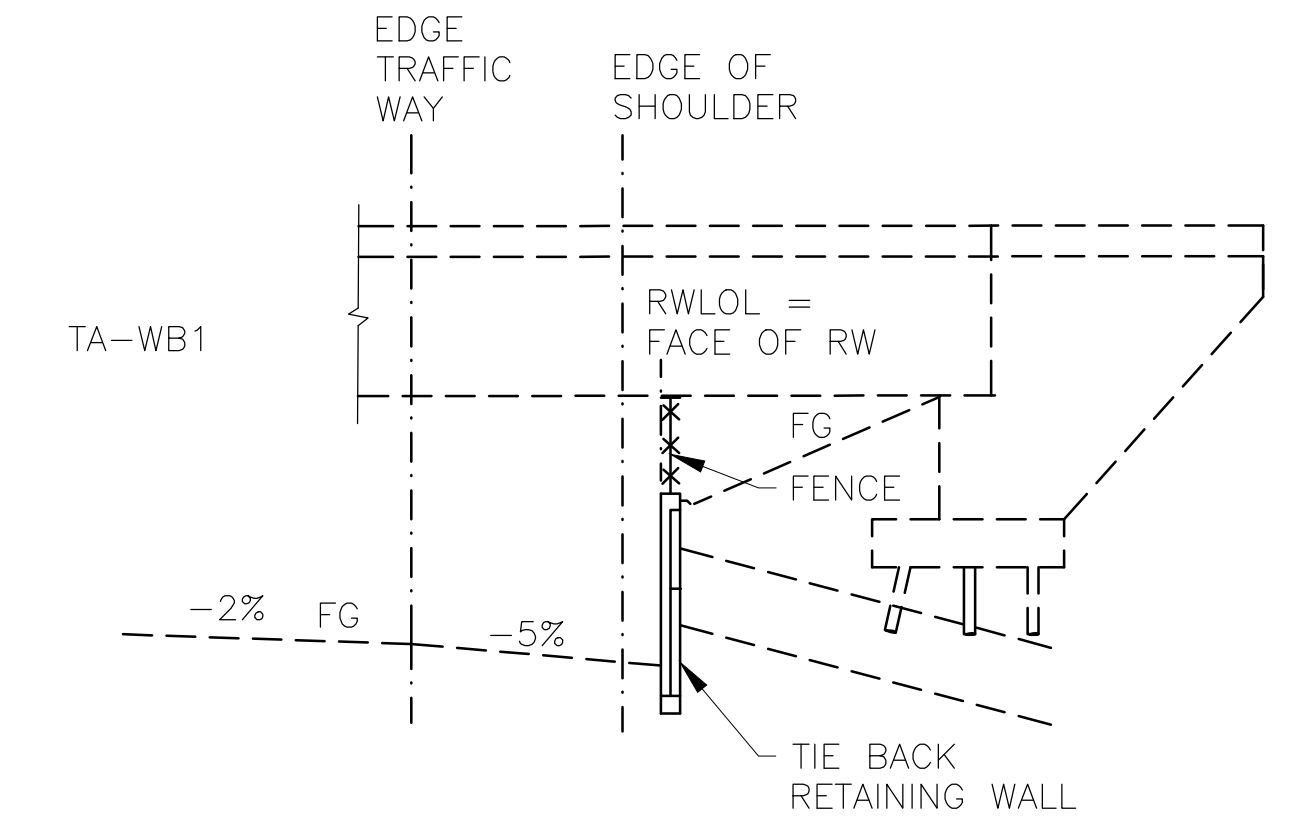
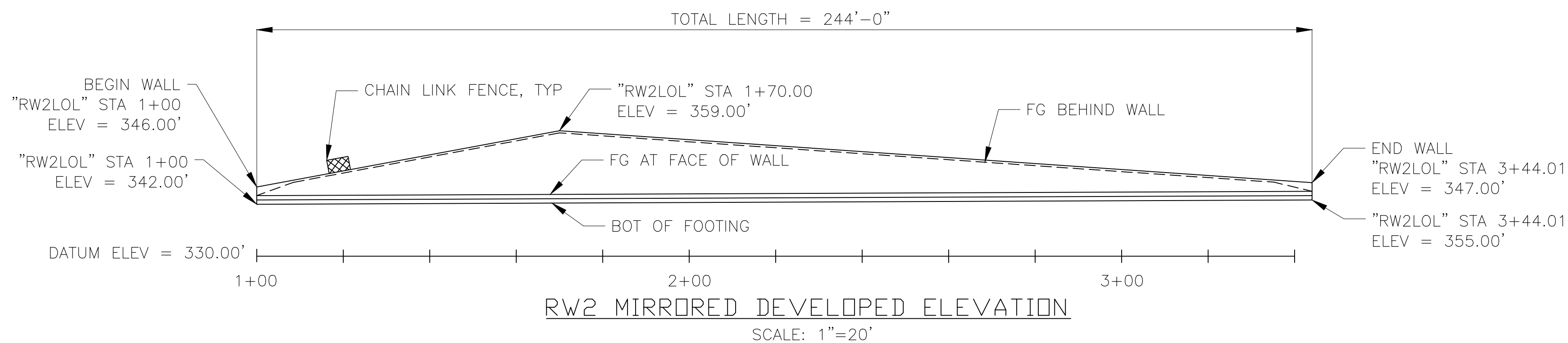
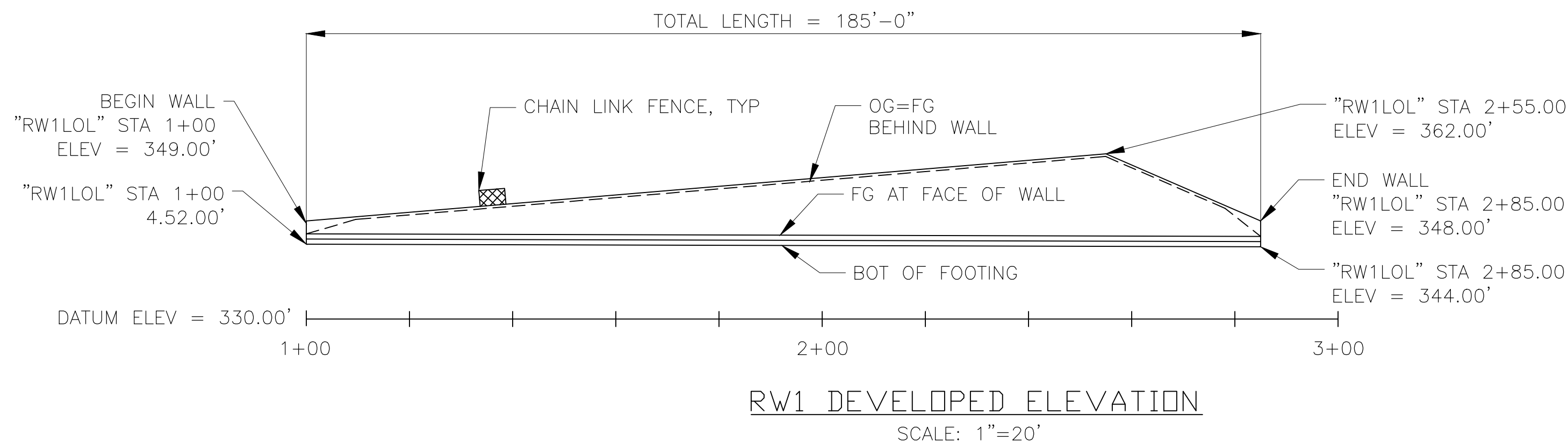
Anil Verma Associates, Inc.
 1570 Broadway, Suite 908 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU
 STRUCTURES**

TASSAJARA CREEK BRIDGE

CADD FILENAME 3ST-103.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3ST-103	PAGE NO. 033

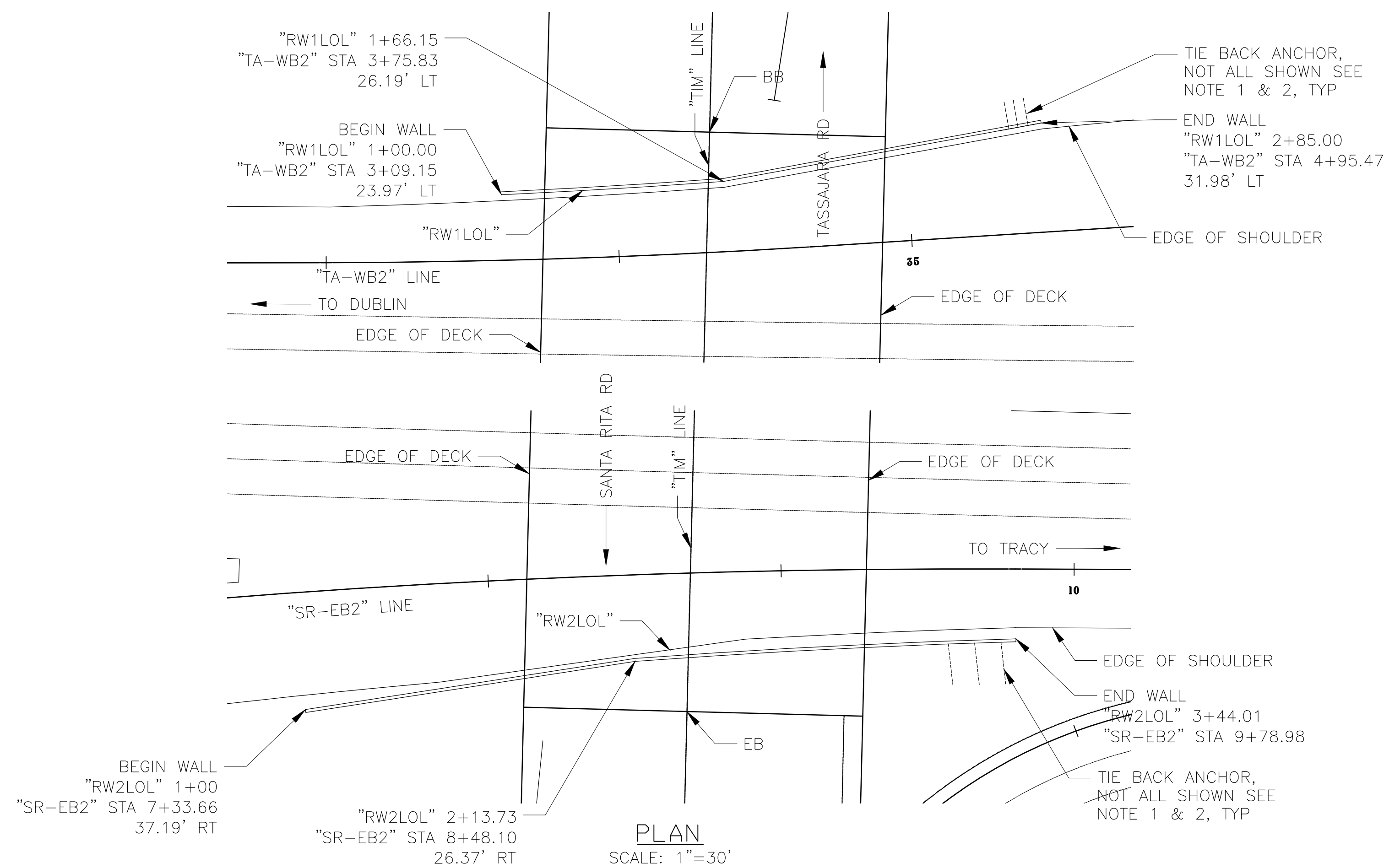


NOTE: RETAINING WALL 1 SHOWN, RETAINING WALL 2 SIMILAR

TYPICAL SECTION
SCALE: 1"=10'

NOTES:

1. TIE BACK ANCHOR TO BE ARRANGED TO AVOID EXIST PILES AT BRIDGE ABUTS.
2. NOT ALL TIE-BACK ANCHORS SHOWN.



PLAN
SCALE: 1"=30'

Jul. 13, 2017 2:40pm J:\S-F\23000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\EMU\Structure\3ST-104.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: H. LEE
DRAWN: K. MCMILLEN
CHECKED: Y. REN
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

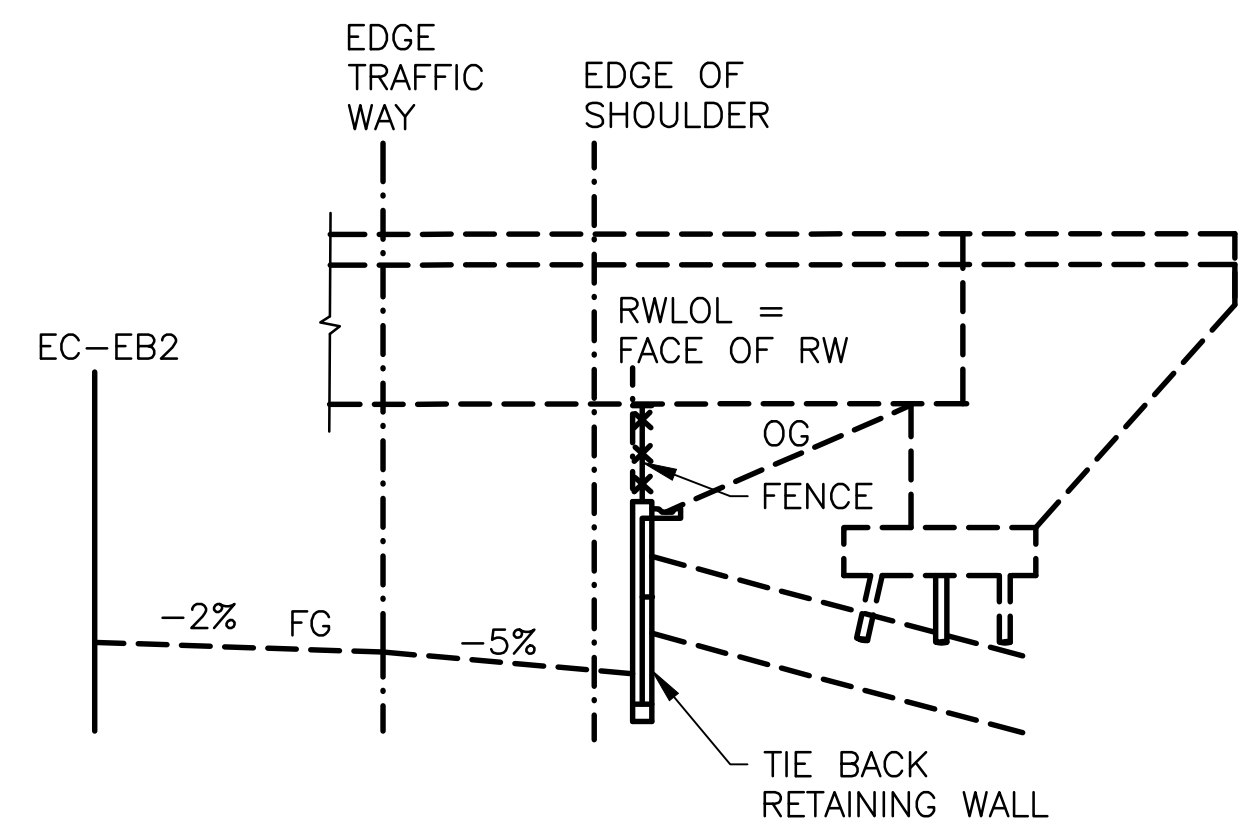
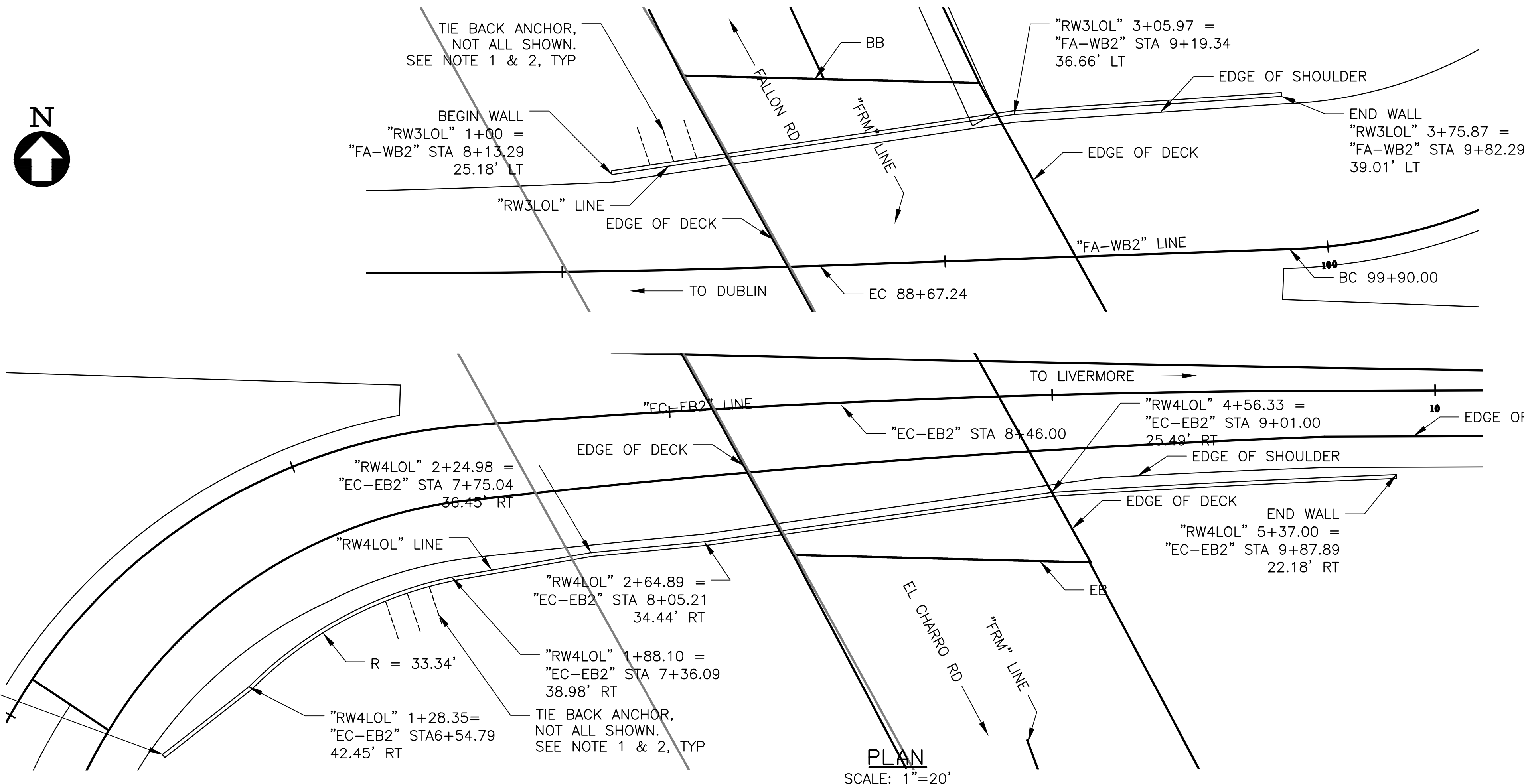
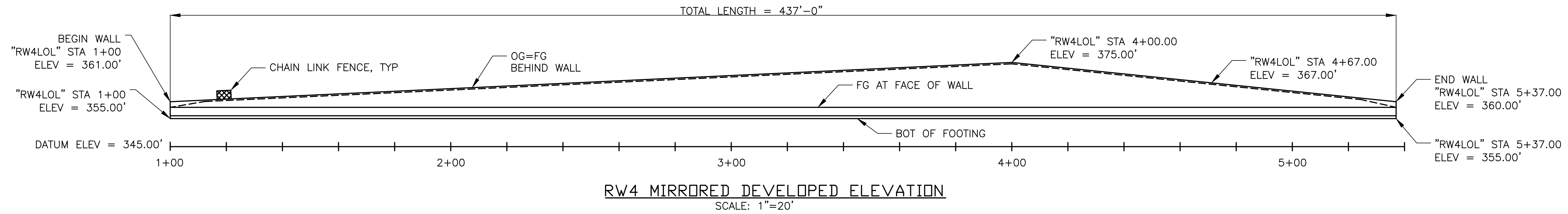
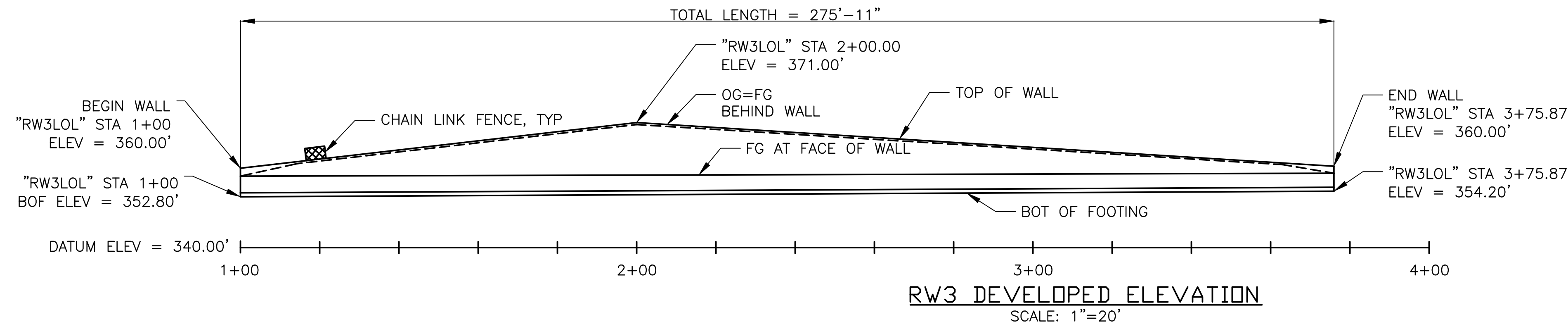
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

SANTA RITA RD/TASSAJARA ROAD
RETAINING WALL 1 & 2

CADD FILENAME 3ST-104.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3ST-104	PAGE NO. 034

NOTES:

1. TIE BACK ANCHOR TO BE ARRANGED TO AVOID EXIST PILES AT BRIDGE ABUTS.
2. NOT ALL TIE-BACK ANCHORS SHOWN.



NOTE: RETAINING WALL 4 SHOWN, RETAINING WALL 3 SIMILAR

TYPICAL SECTION
SCALE: 1"=10'

Jul. 13, 2017 - 2:43pm JAS-F:\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\EMUStructure\3ST-105.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: H. LEE
DRAWN: K. MCMILLEN
CHECKED: Y. REN
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9400
Fax (415) 957-9999
www.arup.com

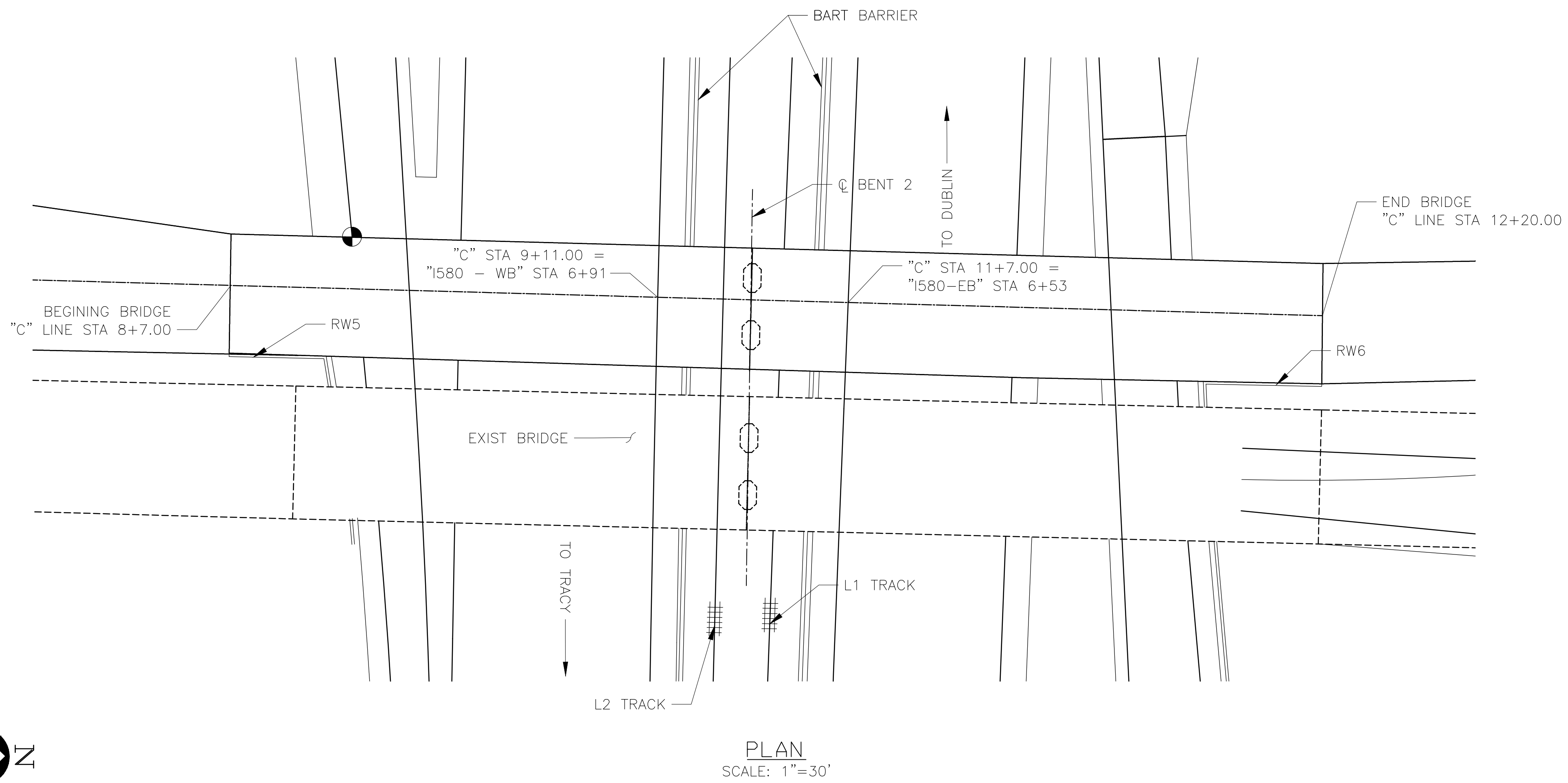
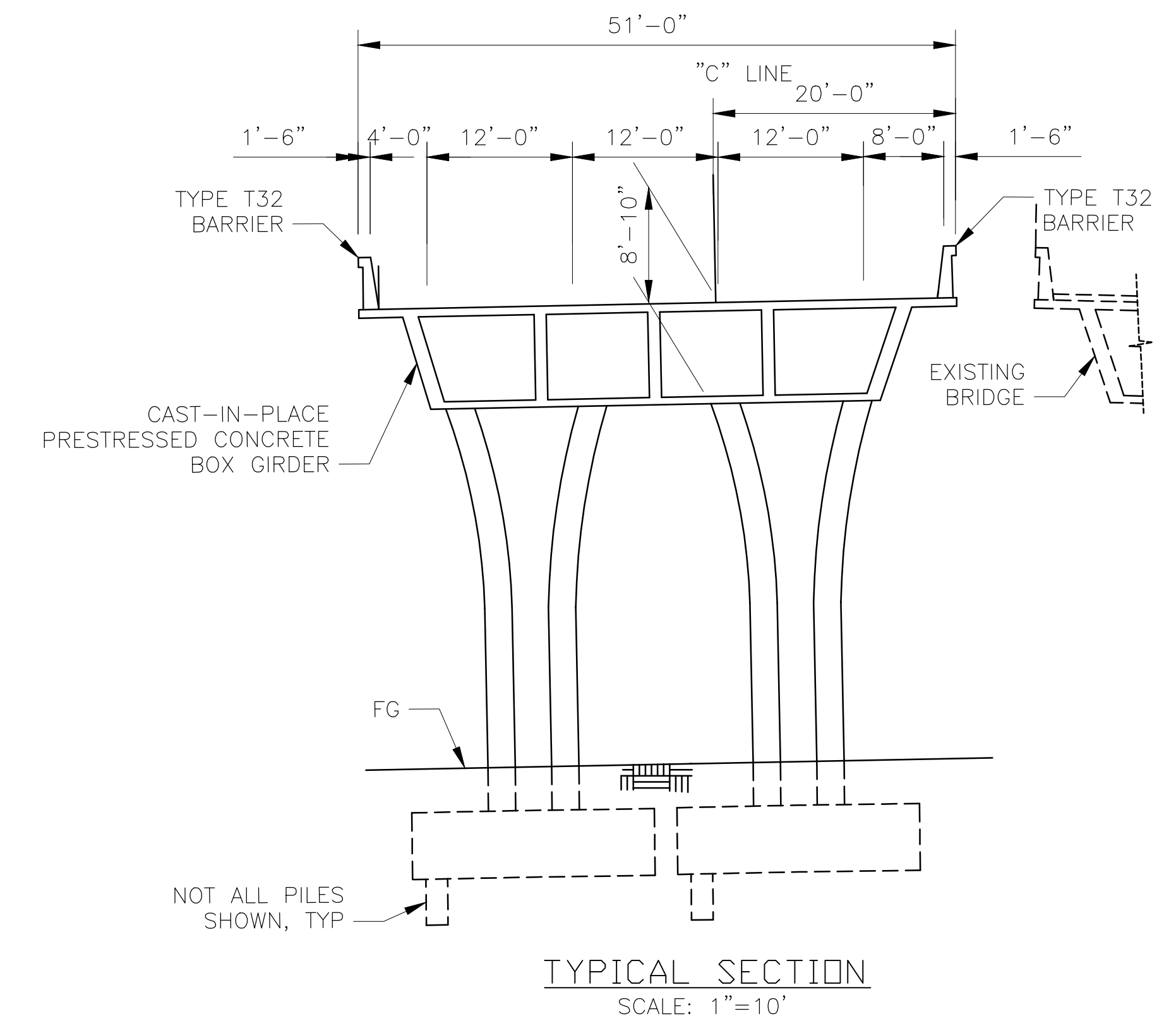
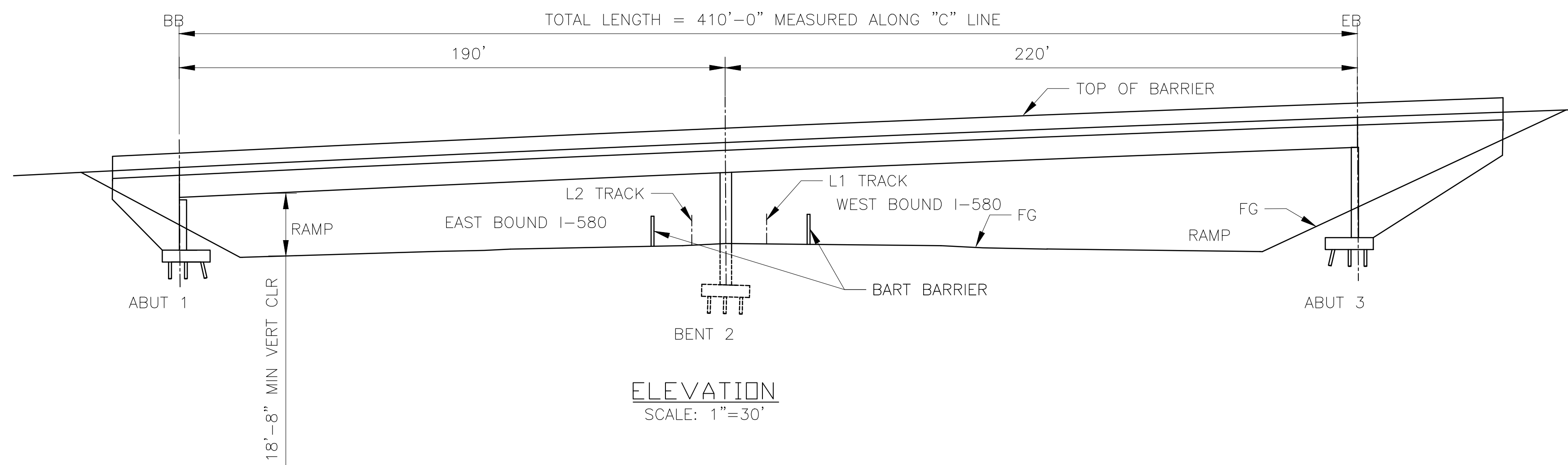
Anil Verma Associates, Inc.
1970 Broadway, Suite 608
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

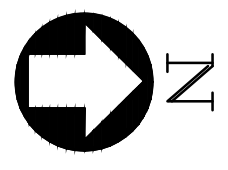
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

FALLEN RD/EL CHARRO RD OC
RETAINING WALL 3 & 4

CADD FILENAME 3ST-105.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3ST-105	PAGE NO. 035



● DENOTES LOCATION OF MINIMUM VERTICAL CLEARANCES.



Jul. 13, 2017 2:44pm JAS-F:\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\EMU\Structure\3ST-106.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:
H. LEE
DRAWN:
K. MCMILLEN
CHECKED:
Y. REN
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9996
www.arup.com

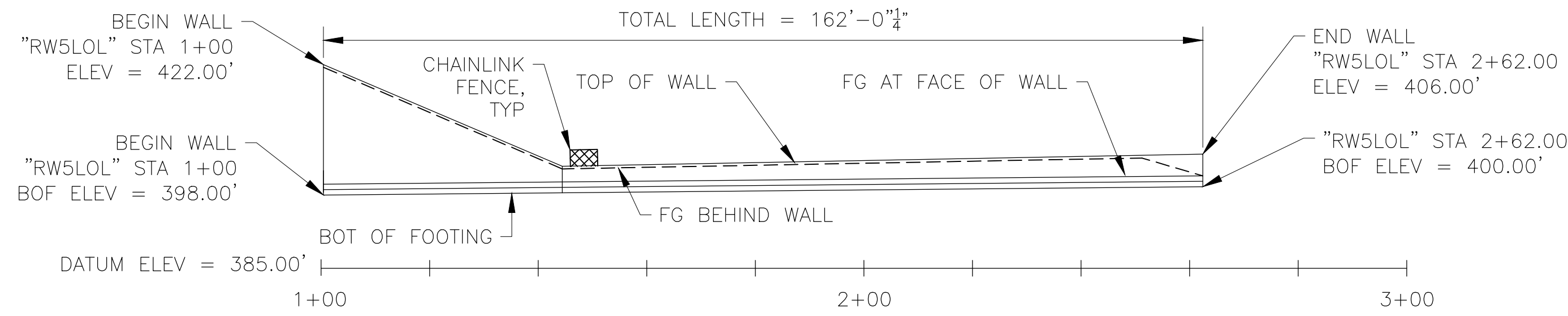
Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

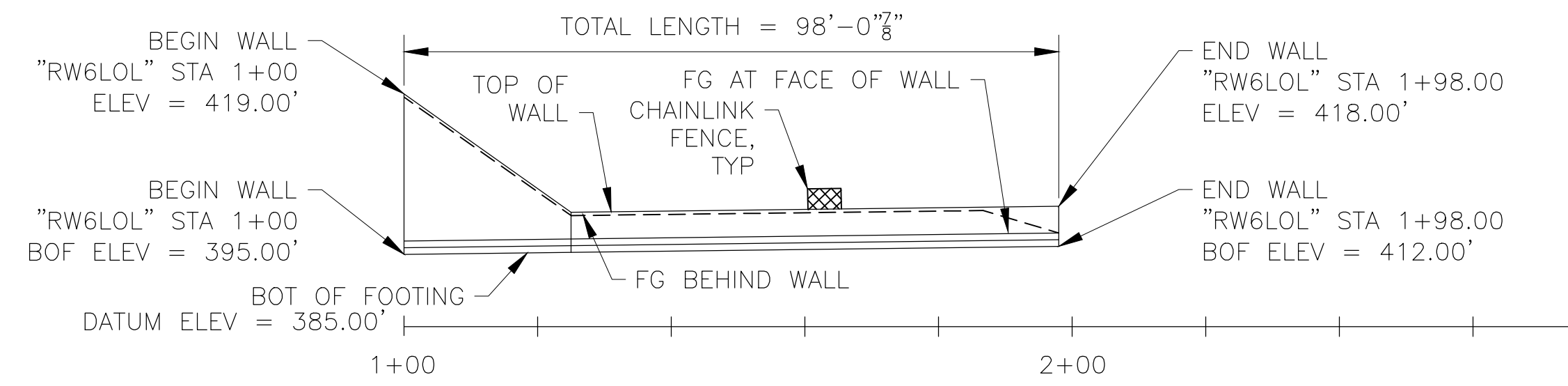
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

AIRWAY BLVD OC (OLD)

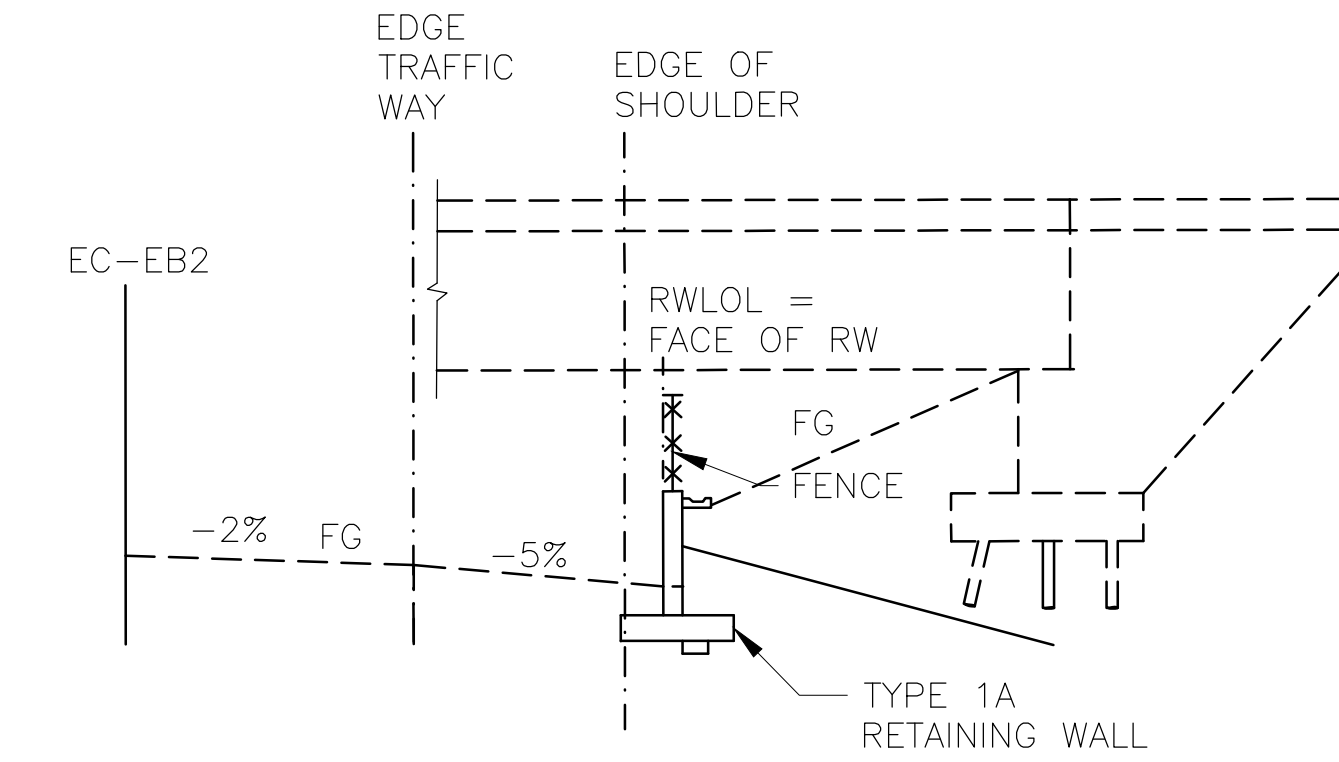
CADD FILENAME 3ST-106.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3ST-106	PAGE NO. 036



RW5 DEVELOPED ELEVATION
SCALE: 1"=20'

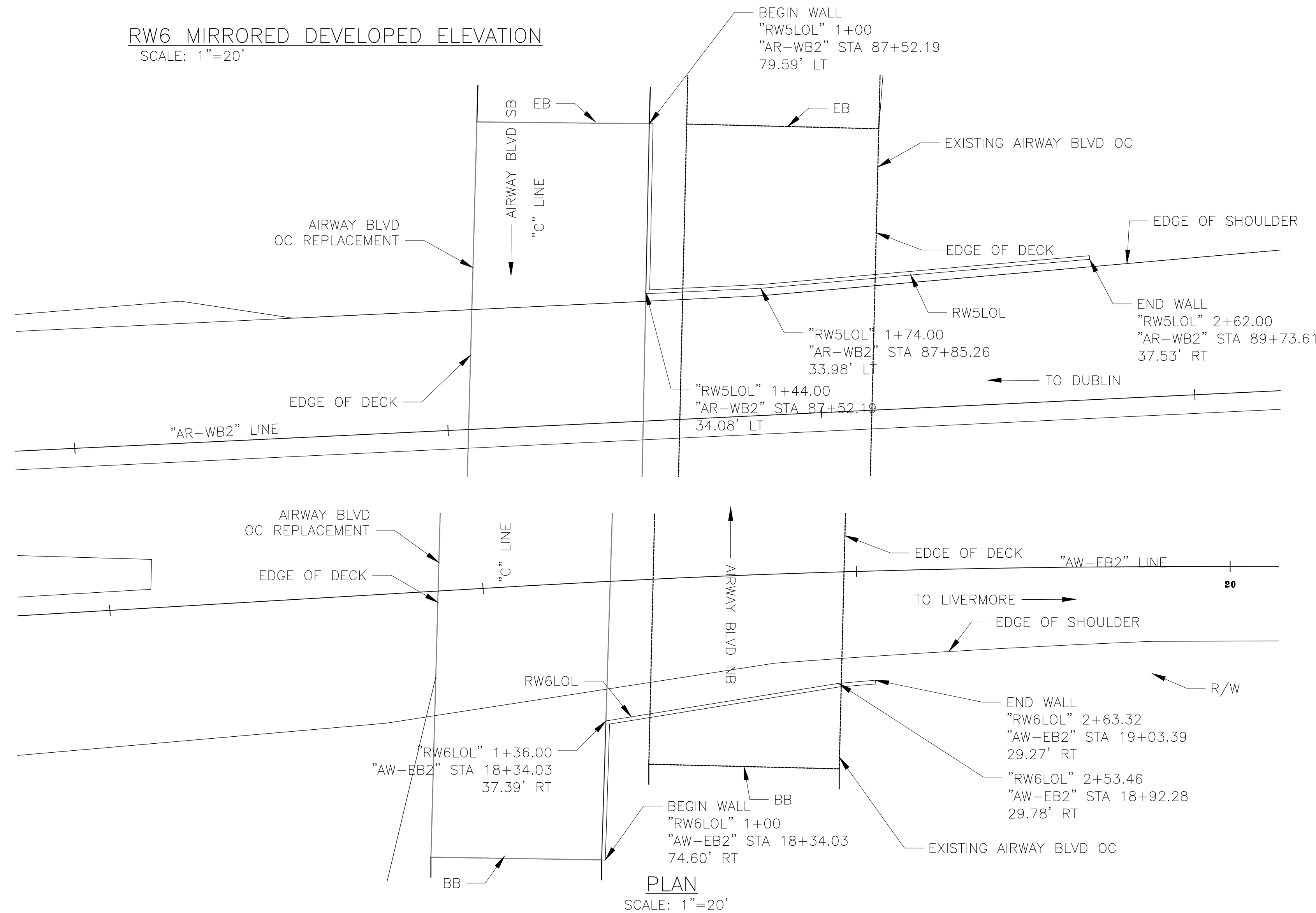


RW6 MIRRORED DEVELOPED ELEVATION
SCALE: 1"=20'



NOTE: RETAINING WALL 5 SHOWN,
RETAINING WALL 6 SIMILAR

TYPICAL SECTION
SCALE: 1"=10'



PLAN
SCALE: 1"=20'

0 20160624 10% PRELIMINARY ENGINEERING
 06/24/2016
 H. LEE
 K. MCMILLEN
 Y. REN
 D. HUNT
 06/24/2016

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:	H. LEE
DRAWN:	K. MCMILLEN
CHECKED:	Y. REN
APPROVED:	D. HUNT
DATE:	06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9400
Fax (415) 957-9999
www.arup.com

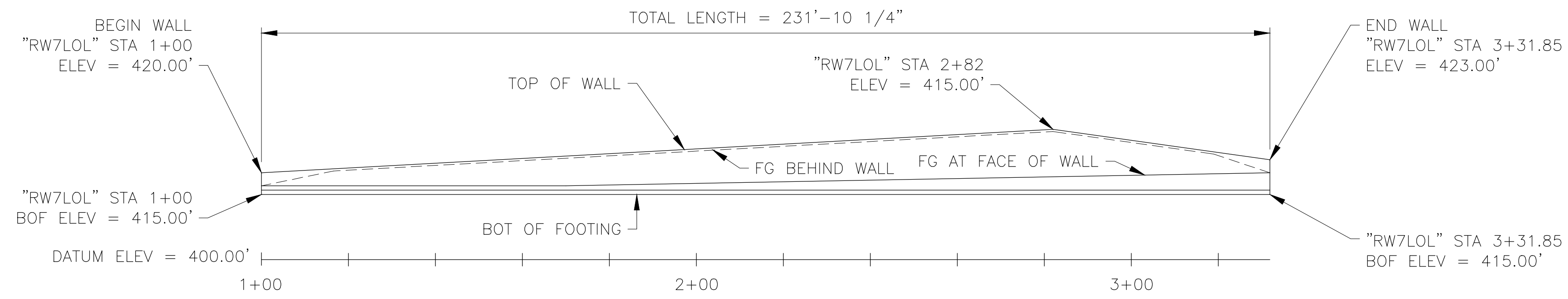
Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

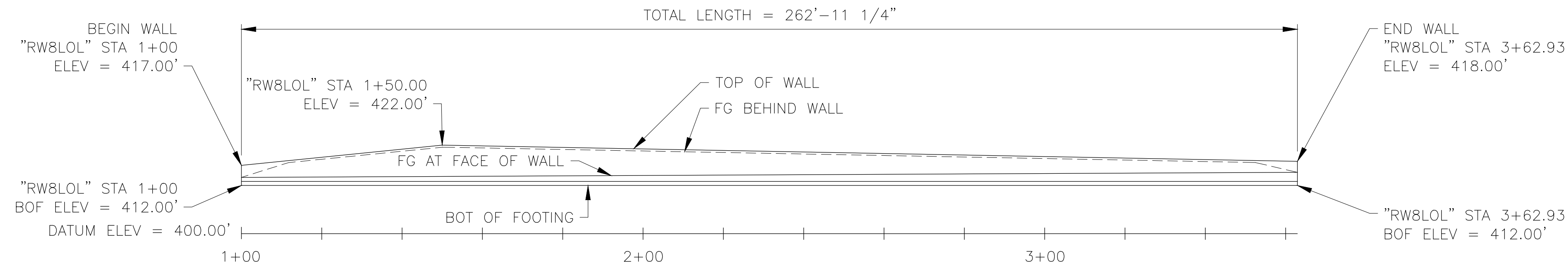
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

AIRWAY BLVD OC
RETAINING WALL 5 & 6

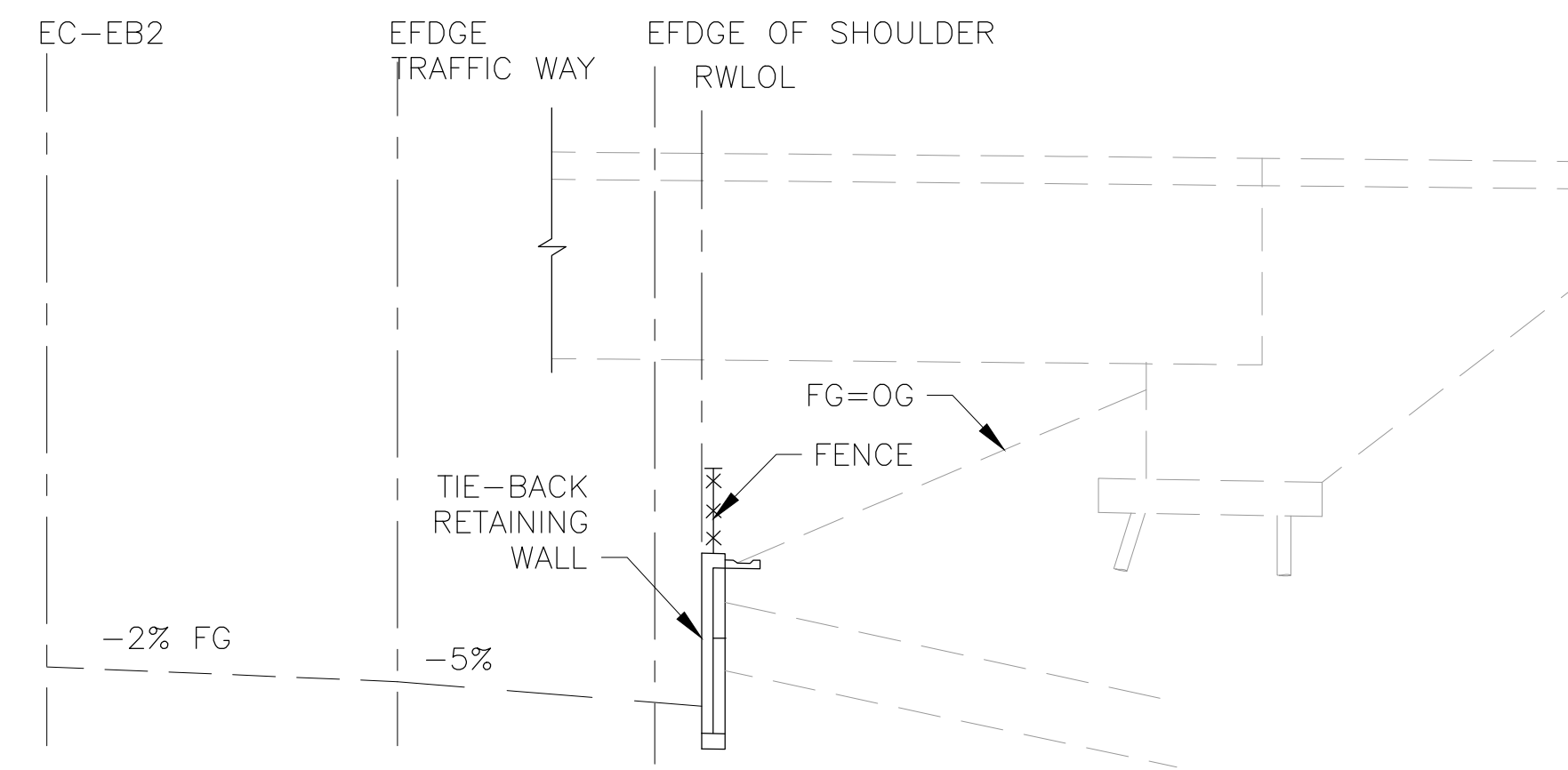
CADD FILENAME	3ST-107.DWG
SIZE: SCALE	D AS NOTED
CONTRACT NO.	8CT008
REV.	0
CONTRACT SHEET NO.	3ST-107
PAGE NO.	037



RW7 ELEVATION
SCALE: 1"=20'

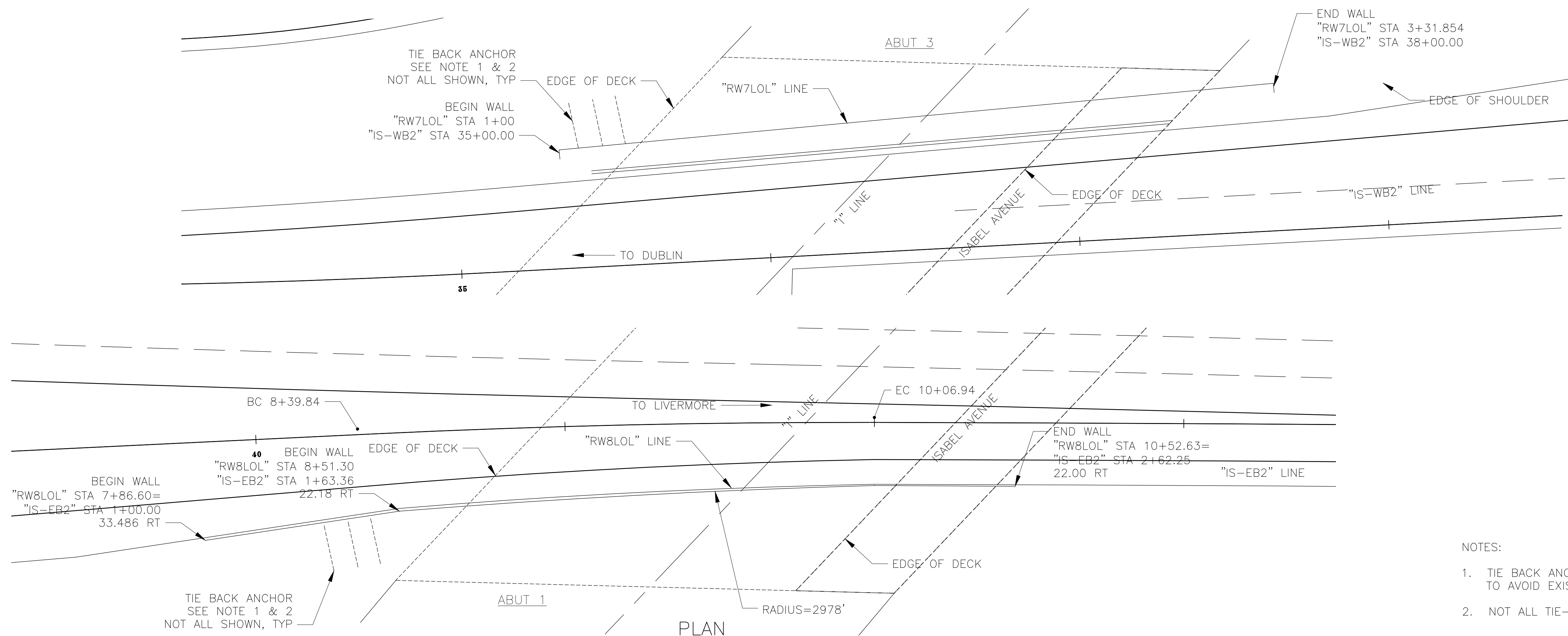


RW8 MIRRORED DEVELOPED ELEVATION
SCALE: 1"=20'



TYPICAL SECTION
SCALE: 1"=10

NOTE: RETAINING WALLS 7 SHOWN, RETAINING WALLS 8 SIMILAR



PLAN
SCALE: 1"=20'

- NOTES:
1. TIE BACK ANCHOR TO BE ARRANGED TO AVOID EXIST PILES AT BRIDGE ABUTS.
 2. NOT ALL TIE-BACK ANCHORS SHOWN.

Jul. 13, 2017 2:50pm J:\S-F\23000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\DMU\Structure\3ST-108.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: H. LEE
DRAWN: K. MCMILLEN
CHECKED: Y. REN
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9999
www.arup.com

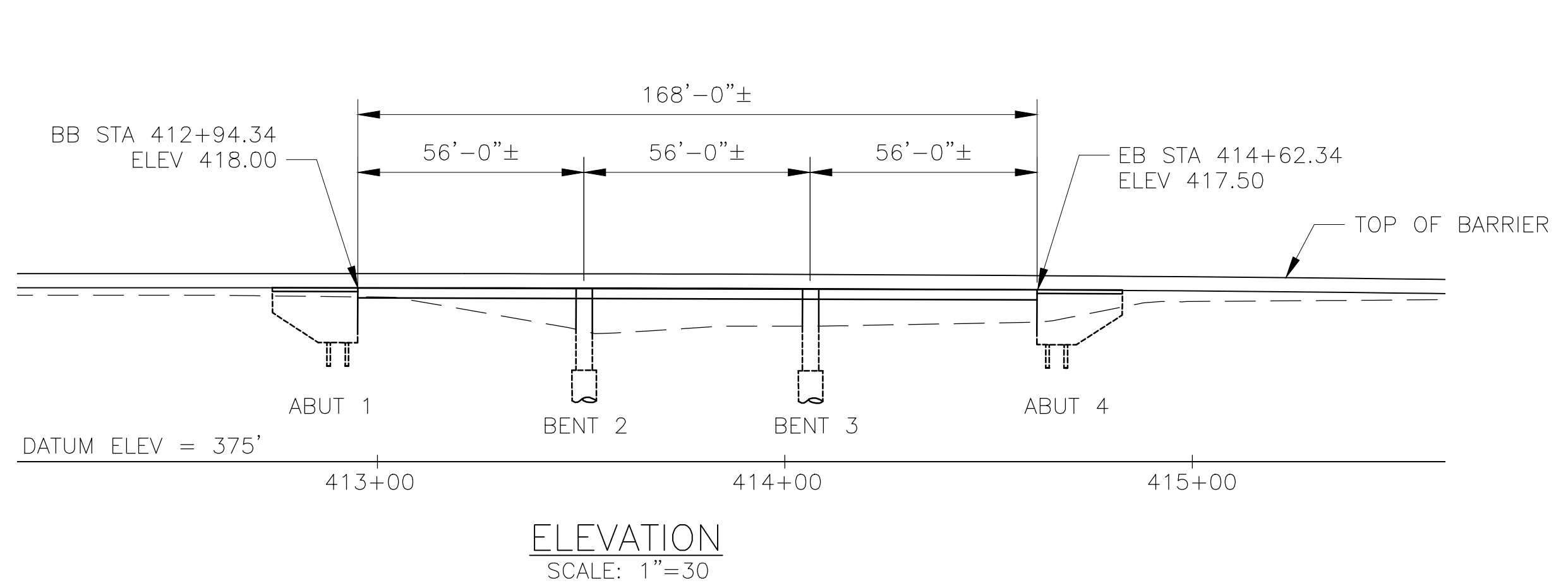
Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

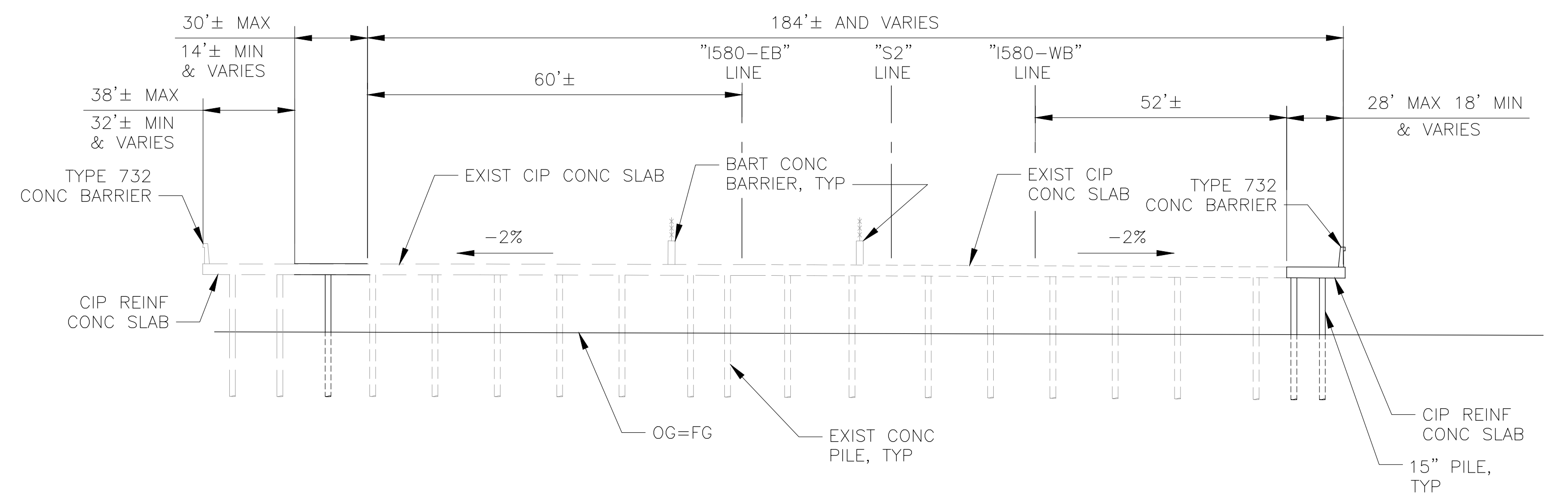
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

ISABEL AVE 84/580 SEPERATION
RETAINING WALL 7 & 8

CADD FILENAME 3ST-108.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3ST-108	PAGE NO. 038



ELEVATION
SCALE: 1"=30'



TYPICAL SECTION
SCALE: 1"=20'



PLAN
SCALE: 1"=30'

NOTE:
EXISTING STRUCTURE TO BE ANALYSED DURING 35% DESIGN FOR STRUCTURE COMPETENCY

Jul 13, 2017 2:25:38pm JAS-F:\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\EMU\Structure\3ST-109.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: H. LEE
DRAWN: K. MCMILLEN
CHECKED: Y. REN
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9096
www.arup.com

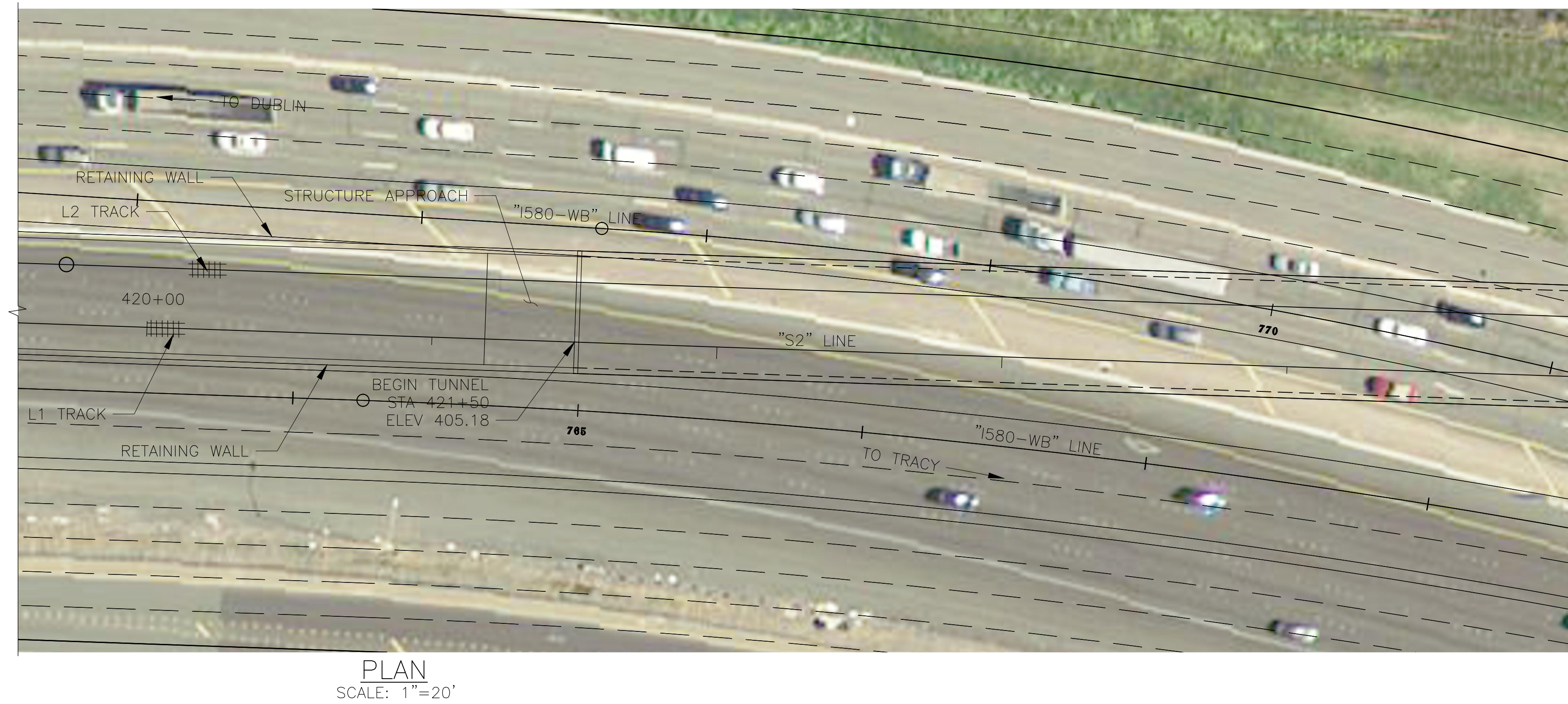
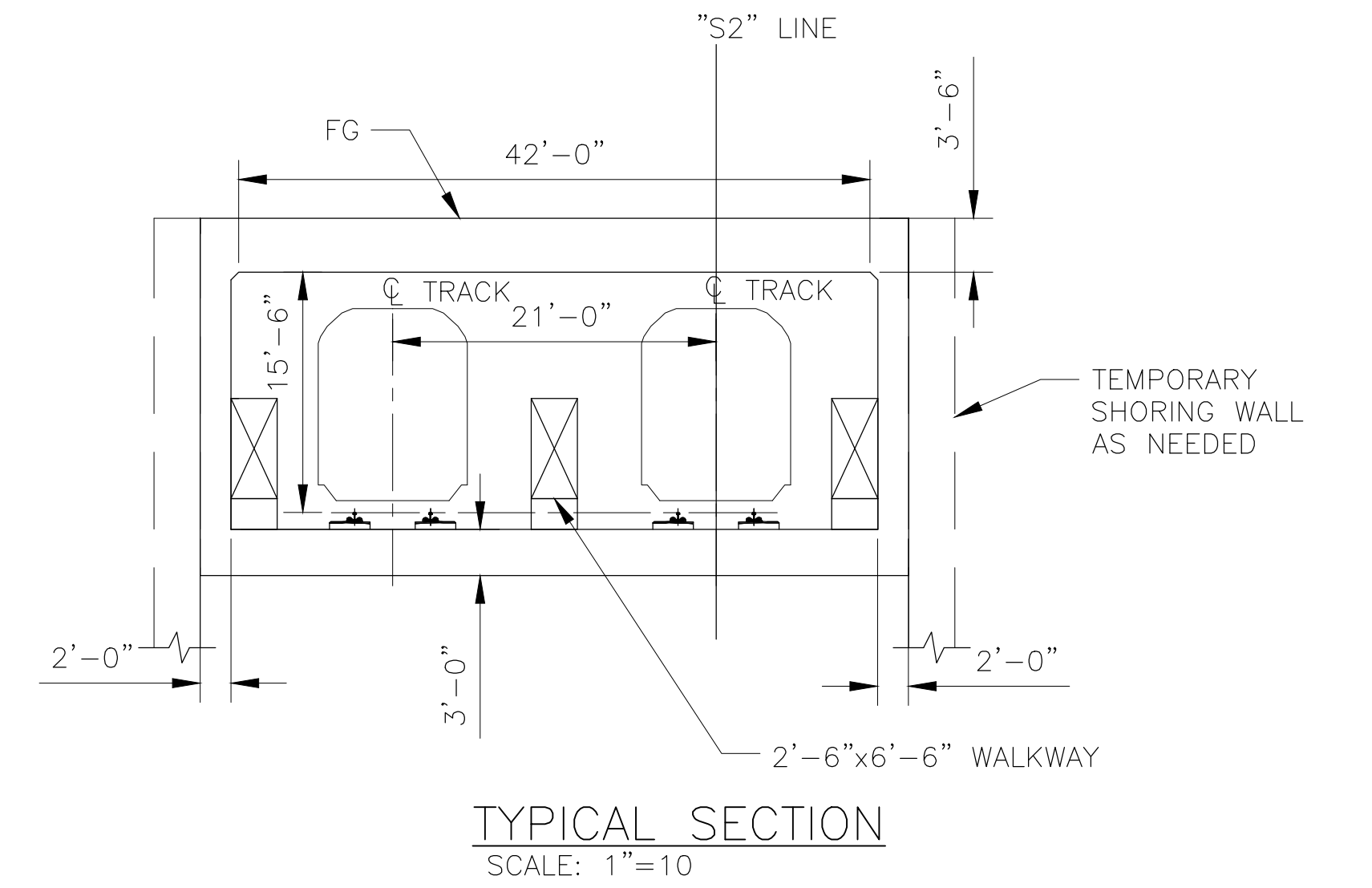
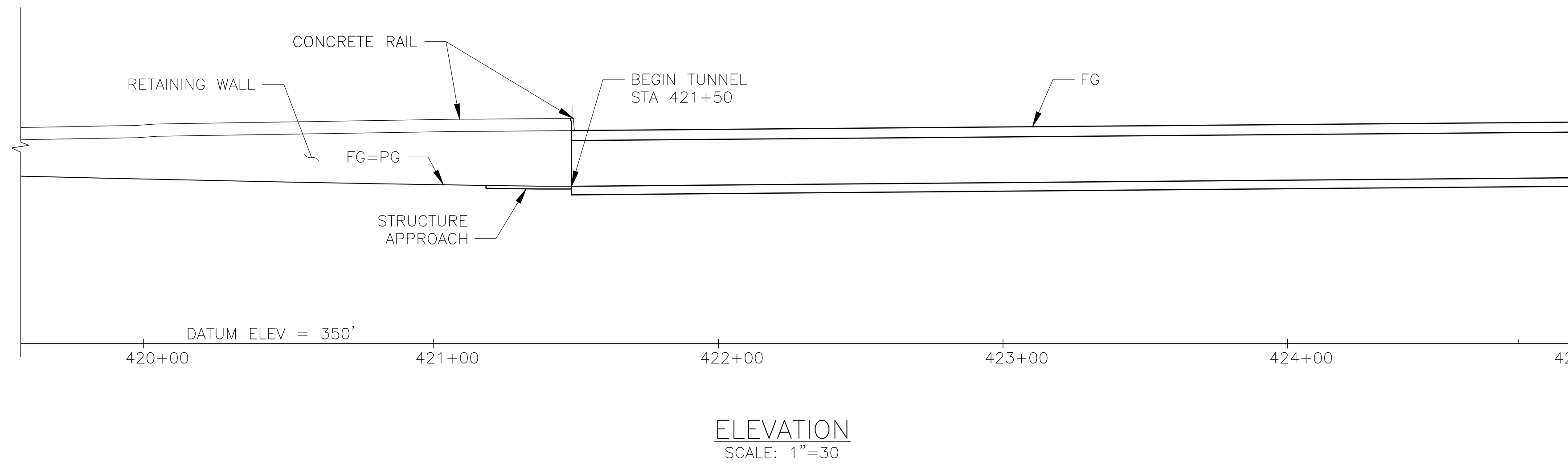
Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

ARROYO LAS POSITAS
CREEK BRIDGE

CADD FILENAME 3ST-109.DWG	REV. 0
SIZE: SCALE D AS NOTED	PAGE NO. 039
CONTRACT NO. 8CT008	
CONTRACT SHEET NO. 3ST-109	



MATCH LINE
SEE CONTRACT SHT. NO. 3ST-111

MATCH LINE
SEE CONTRACT SHT. NO. 3ST-111

Jul. 13, 2017 2:57pm JAS-F:\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\EMU\Structure\3ST-110.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: H. LEE
DRAWN: K. MCMILLEN
CHECKED: Y. REN
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9096
www.arup.com

Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

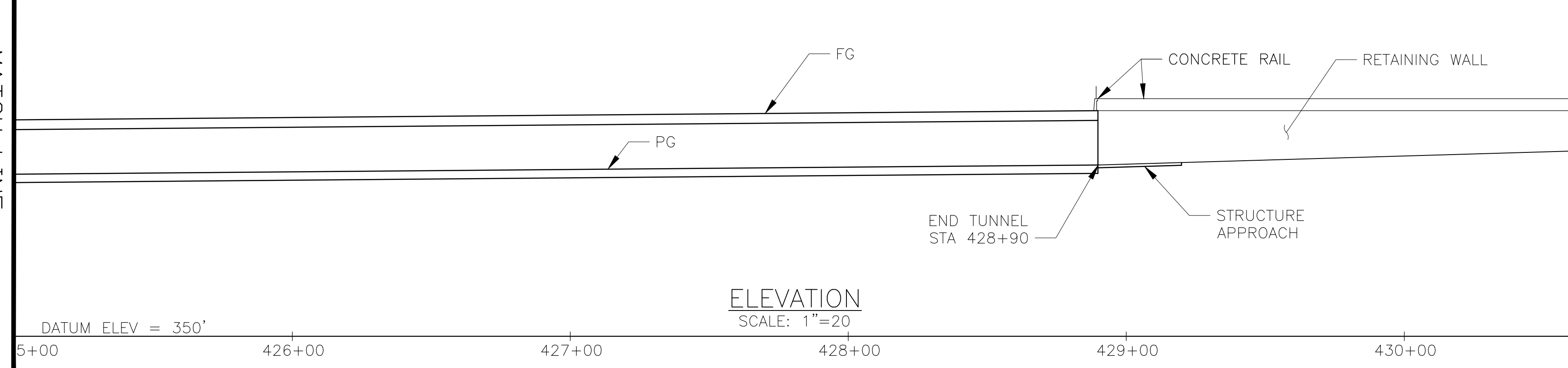
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

1-580 TUNNEL
SHEET 1 OF 2

CADD FILENAME 4ST-109.DWG	
SIZE: SCALE D AS NOTED	REV. 0
CONTRACT NO. 8CT008	PAGE NO. 040
CONTRACT SHEET NO. 3ST-110	

SEE CONTRACT SHT. NO. 4ST-109

MATCH LINE



SEE CONTRACT SHT. NO. 4ST-109

MATCH LINE



Jul 13, 2017 10:30pm J:\S-F\230000\237865-00\4 Internal Project Drawings\Drawings\Sheets\DMU EMUS Structures\3ST-111.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING						

DESIGNED: H. LEE
DRAWN: K. MCMILLEN
CHECKED: Y. REN
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9096
www.arup.com

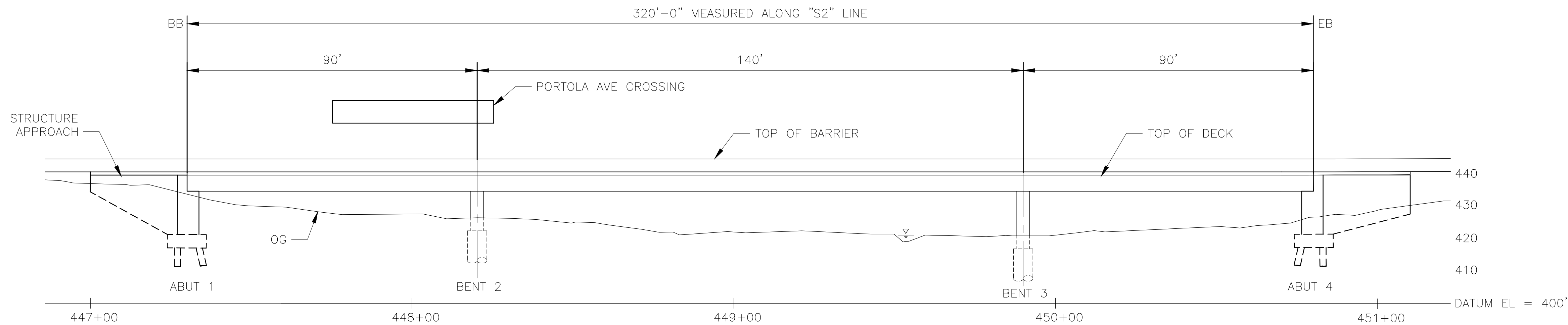
Anil Verma Associates, Inc.
1570 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

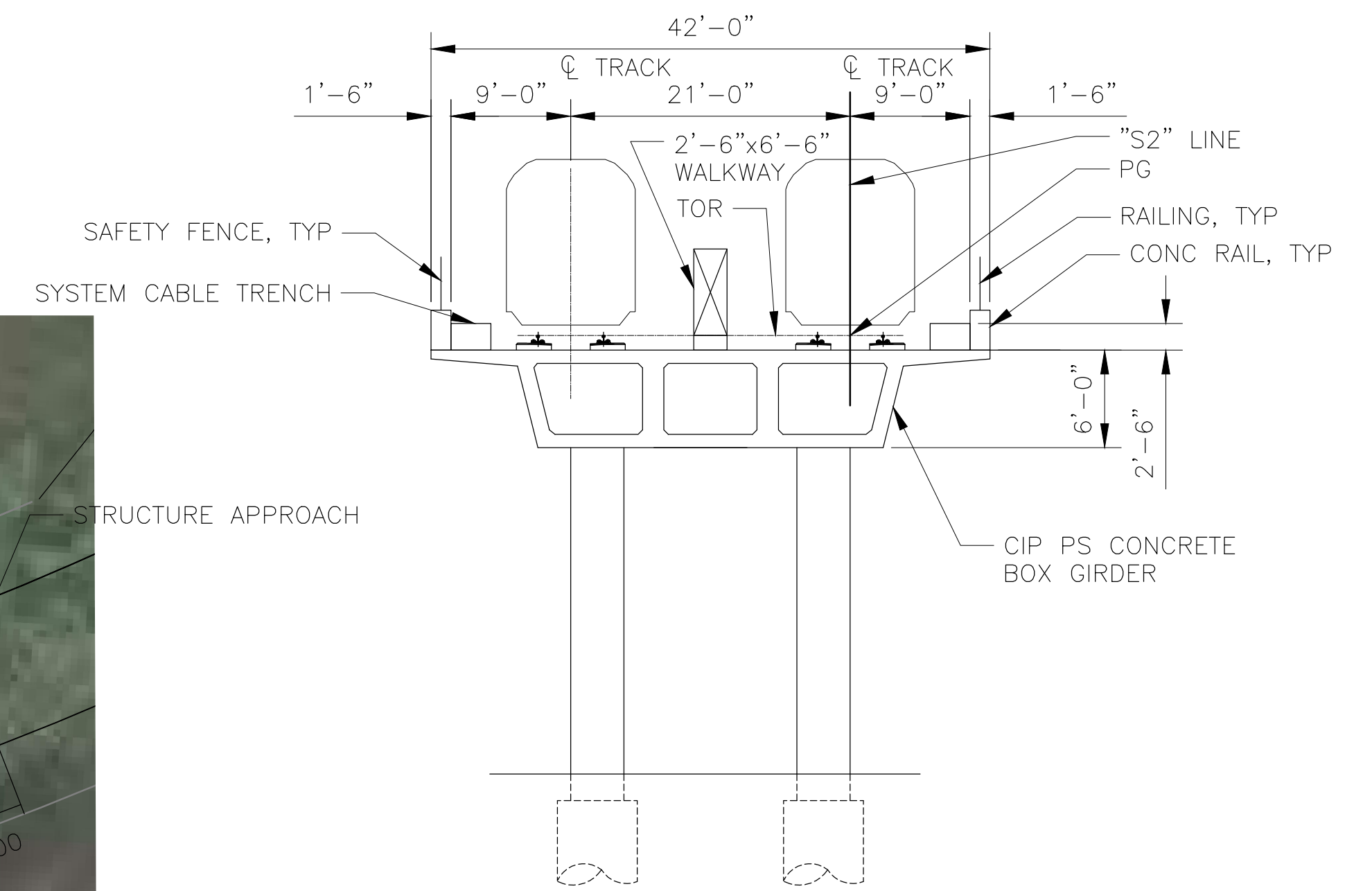
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

1-580 TUNNEL
SHEET 2 OF 2

CADD FILENAME 3ST-111.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3ST-111	PAGE NO. 041



ELEVATION
SCALE: 1"=20'



TYPICAL SECTION
SCALE: 1"=10'



PLAN
SCALE: 1"=20'

Jul 13, 2017 3:03pm J:\S-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\DMUAStructure\3ST-112.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED: H. LEE
DRAWN: K. MCMILLEN
CHECKED: Y. REN
APPROVED: D. HUNT
DATE: 06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Arup North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9096
www.arup.com

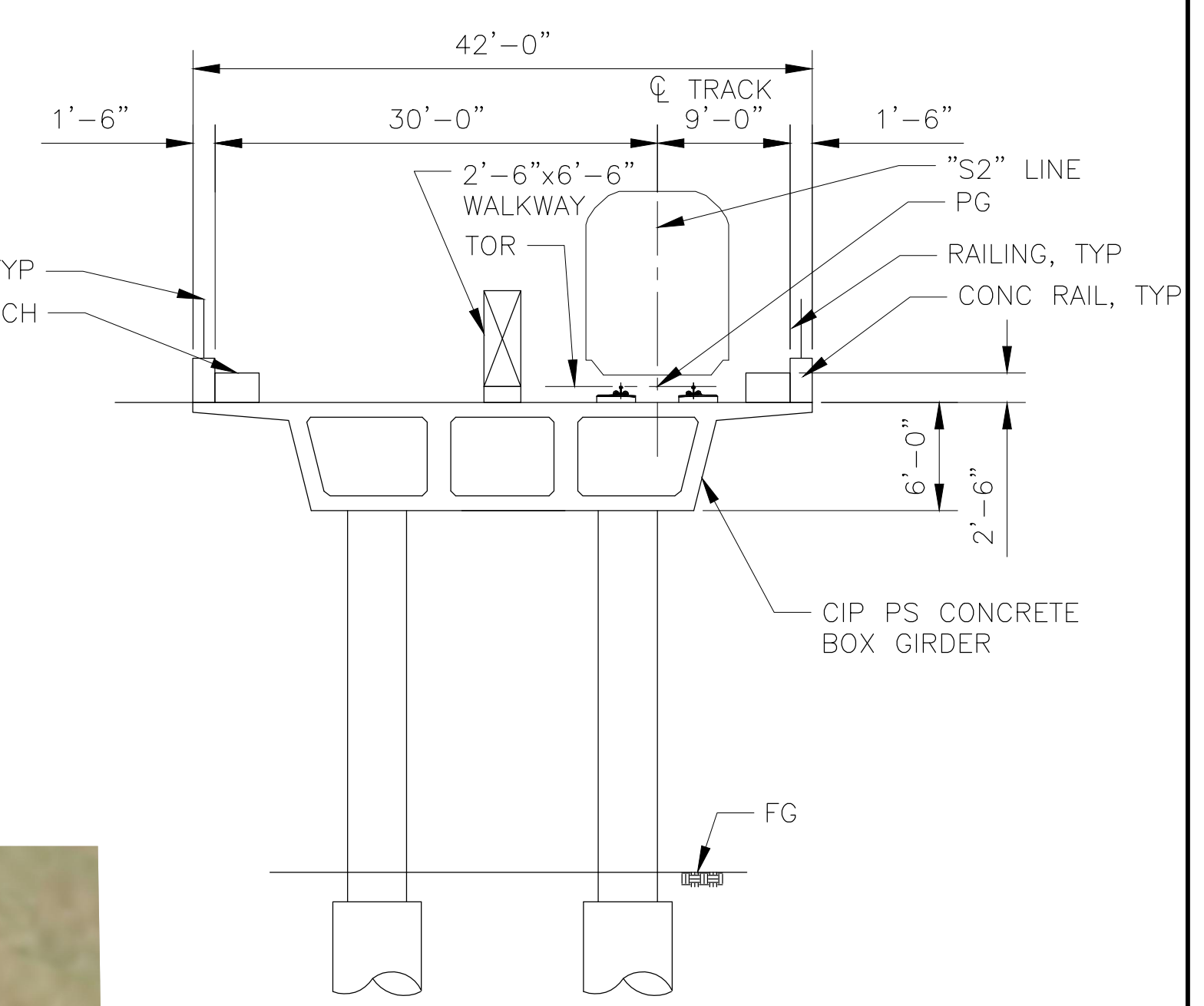
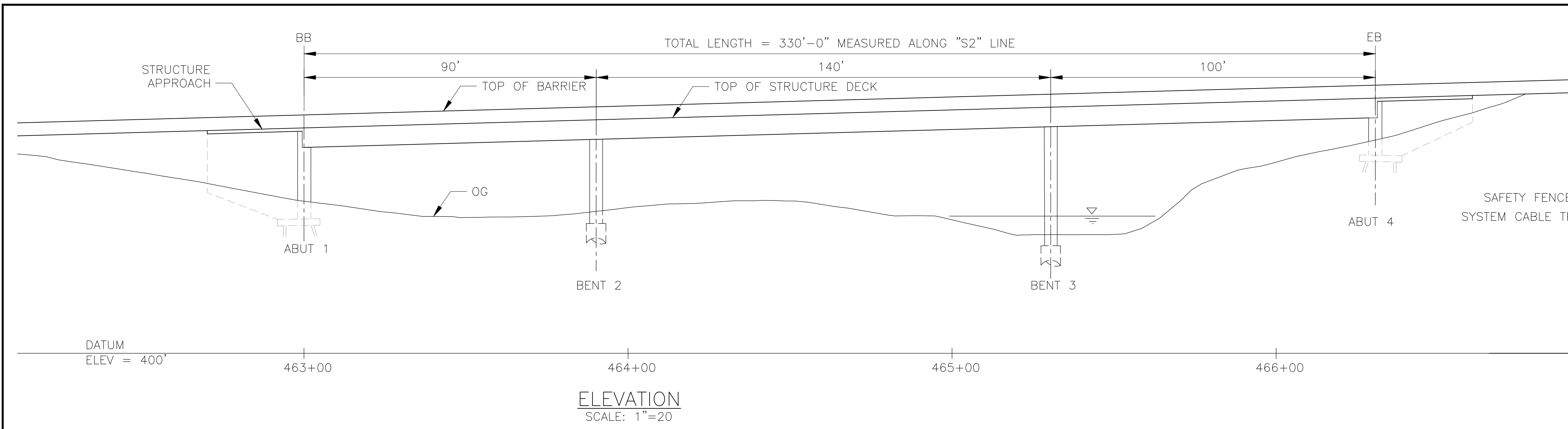
Anil Verma Associates, Inc.
1510 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

LAS POSITAS CREEK BRIDGE

CADD FILENAME 3ST-112.DWG	REV. 0
SIZE: SCALE D AS NOTED	CONTRACT NO. 8CT008
CONTRACT SHEET NO. 3ST-112	PAGE NO. 042



TYPICAL SECTION
SCALE: 1"=10'



PLAN
SCALE: 1"=20'

Jul 13, 2017 3:05pm J:\S-F\230000\237865-00\4 Internal Project Data\4-03 Drawings\Drawings\Sheets\DMU\DMU\Structure\3ST-113.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160624				10% PRELIMINARY ENGINEERING

DESIGNED:
H. LEE
DRAWN:
K. MCMILLEN
CHECKED:
Y. REN
APPROVED:
D. HUNT
DATE:
06/24/2016

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

ARUP North America Ltd.
560 Mission Street, 7th Floor
San Francisco, CA 94105, USA
Tel (415) 957-9445
Fax (415) 957-9096
www.arup.com

Anil Verma Associates, Inc.
1570 Broadway, Suite 908
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU
STRUCTURES**

CAYETANO CREEK BRIDGE

CADD FILENAME 3ST-113.DWG	
SIZE: SCALE D AS NOTED	REV. 0
CONTRACT NO. 8CT008	PAGE NO. 043
CONTRACT SHEET NO. 3ST-113	

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2: DMU/EMU
DUBLIN/PLEASANTON STATION**

CONTRACT DRAWINGS

FUNDING AGENCIES / PARTNERS:

CITY OF LIVERMORE
CITY OF DUBLIN
CITY OF PLEASANTON
ALAMEDA COUNTY
CALTRANS
LAVTA
MTC
ACTC
SAN JOAQUIN RTD
ALTAMONT CORRIDOR EXPRESS

10% PRELIMINARY ENGINEERING

CONTRACT NO. 08CT008

DATE: 31 JULY 2017

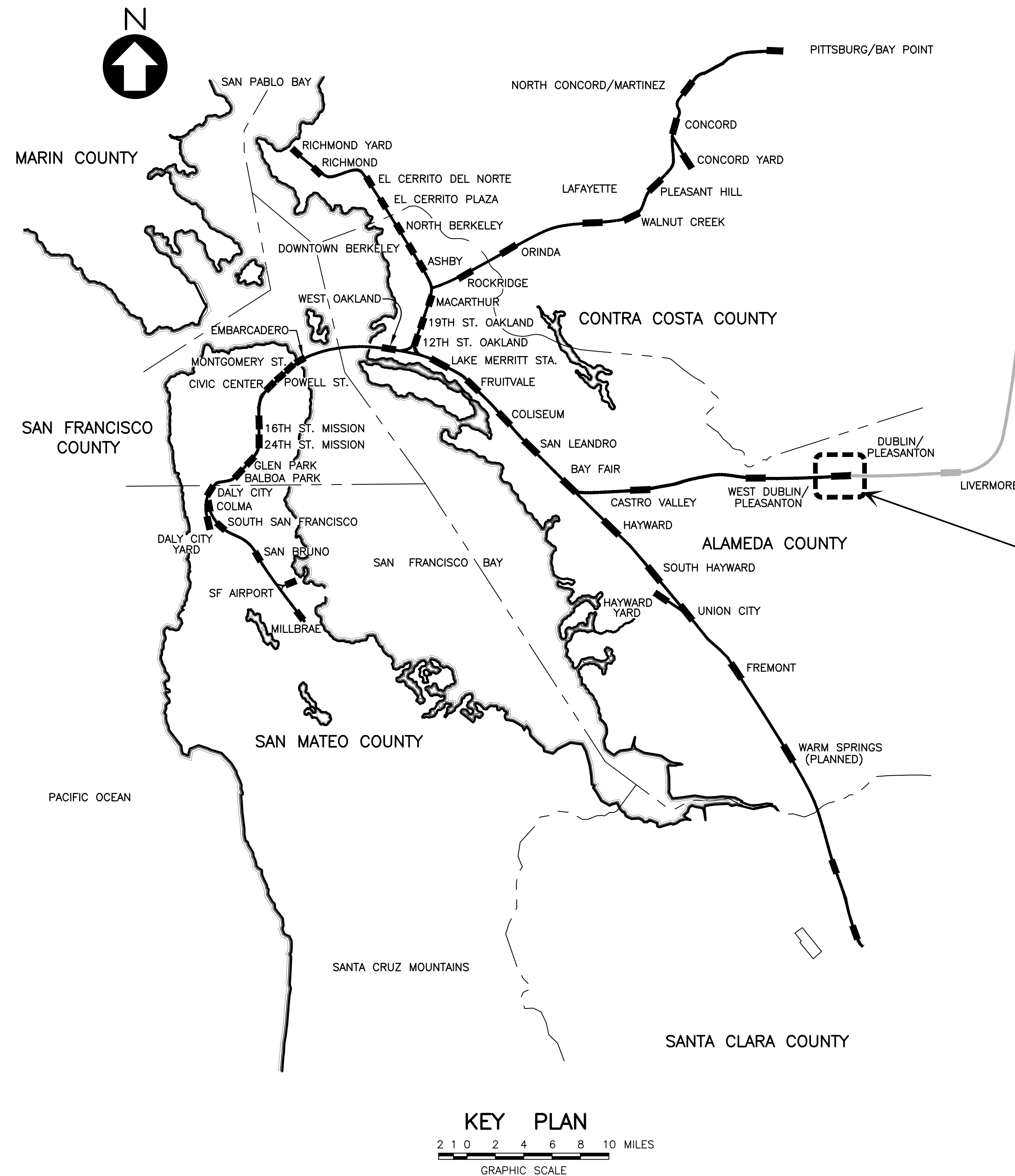
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

BART TO LIVERMORE EXTENSION

ALTERNATIVE 2 DMU/EMU

DUBLIN/ PLEASANTON STATION

CONTRACT NUMBER 08CT008



**DUBLIN/ PLEASANTON STATION
PLANNED EXTENSION**

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

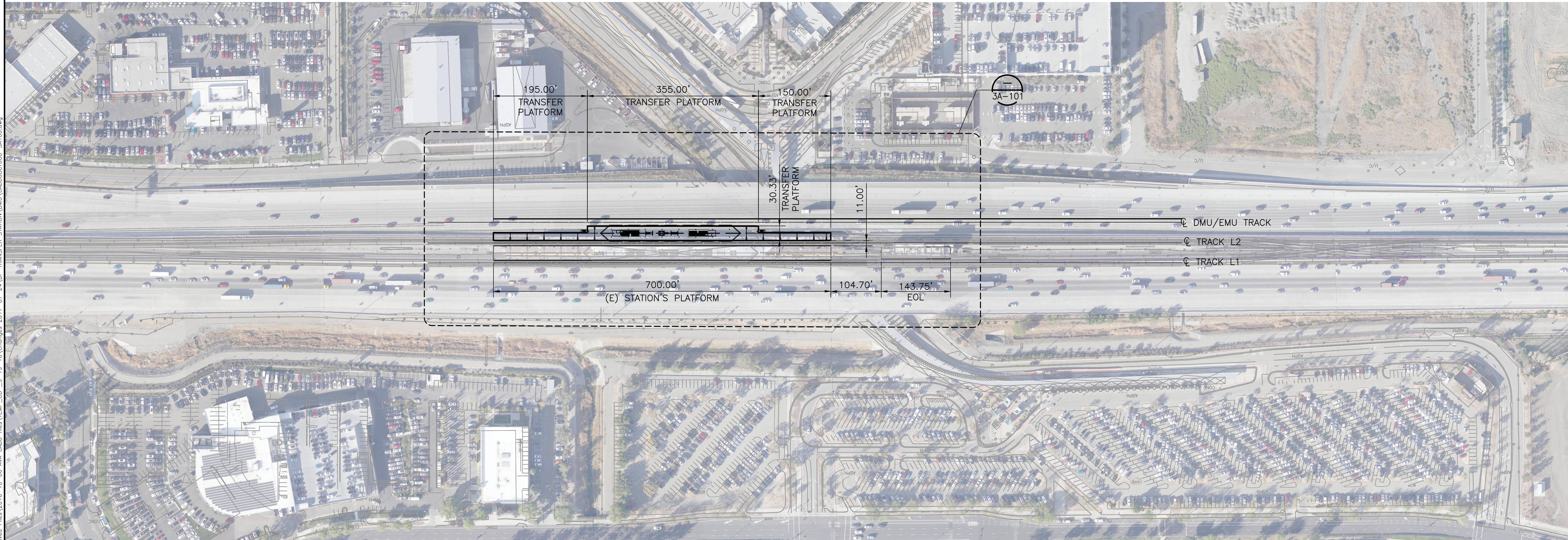
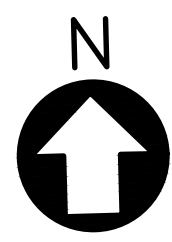
DESIGNED:
C. GUTERRES
DRAWN:
C. GUTERRES
CHECKED:
G. FITCHEN
APPROVED:
R. BARLAAN
DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT	
Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

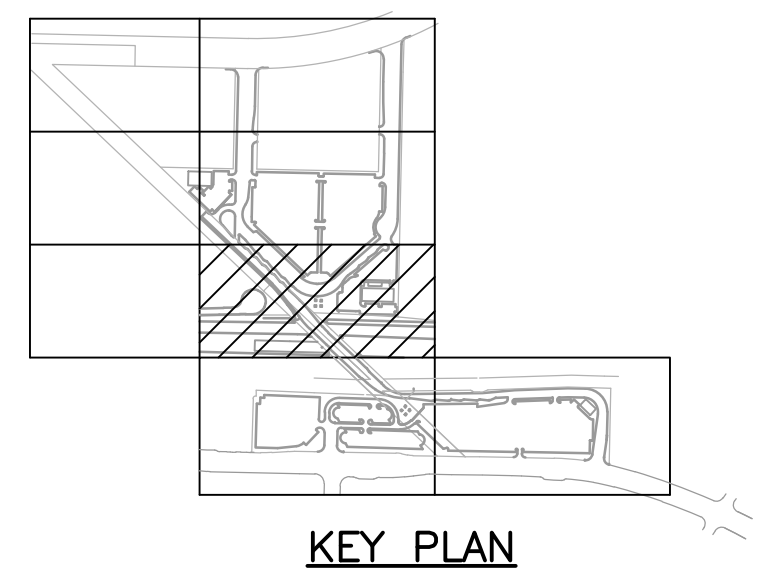
BART TO LIVERMORE EXTENSION	
ALTERNATIVE 2 DMU/EMU	
DUBLIN/PLEASANTON STATION	
LOCATION MAP	

CADD FILENAME CADD08CT008-3G001.dwg	
SIZE: SCALE D	NTS
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3G001	PAGE NO. 044

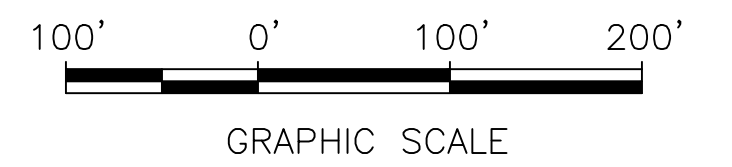
Jul 25, 2017 9:14am \\globeballanup.com\americas\jlobbe\5-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD files\TEMP_CD_9-19-16\Changes 2017-07-24\DP TRANSFER STATION DMU\CADD08CT008-3G001.dwg



OVERALL PLAN
1"=100' A101
A102



KEY PLAN



GRAPHIC SCALE

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
C. GUTERRES
DRAWN:
C. GUTERRES
CHECKED:
G. FITCHEN
APPROVED:
R. BARLAAN
DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

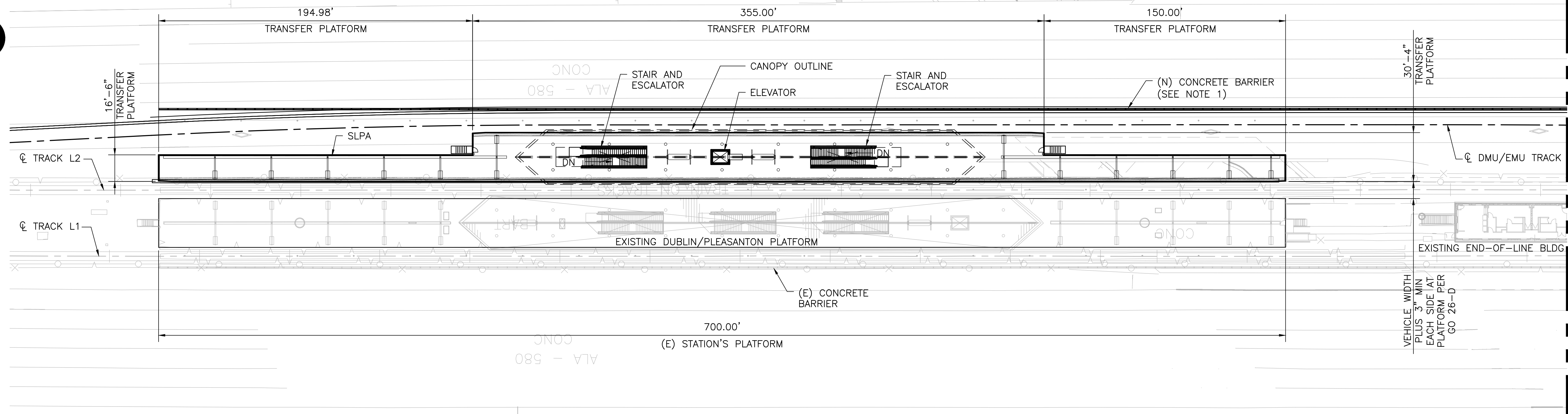
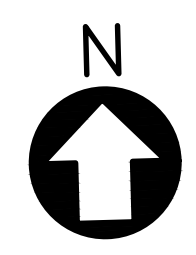
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 DMU/EMU
DUBLIN/PLEASANTON STATION**

OVERALL PLAN

CADD FILENAME CADD08CT008-3A100.dwg	
SIZE: SCALE D 1"=100'	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A100	PAGE NO. 045

Jul 25, 2017 - 9:07am \\global\arup.com\americas\jobs\5-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-08 AVA_CADD_files\TEMP_CD_9-19-16\Changes_2017-07-24\DP_TRANSFER STATION DMU_CADD08CT008-3A100.dwg

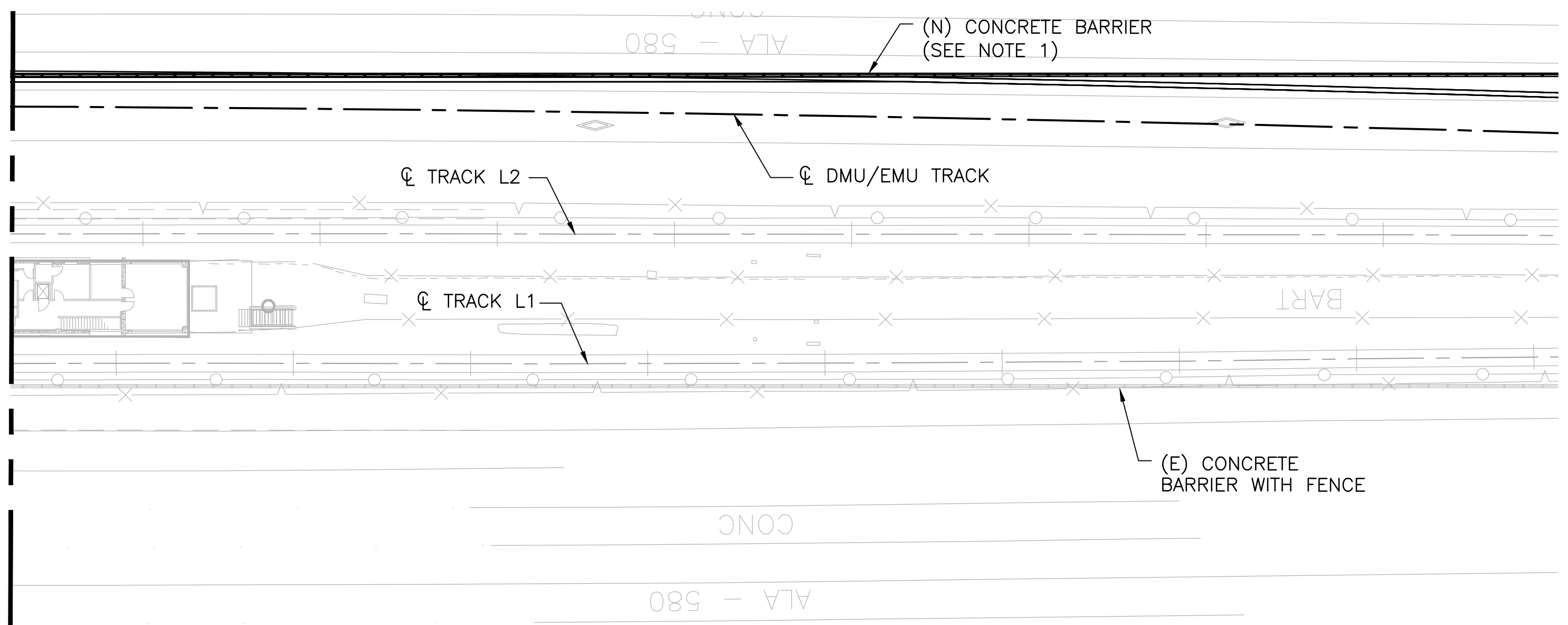
Jul 25, 2017 - 9:09am \\global\arup.com\americas\lobes\5-F\230000\237865-00\2_Client (AVA)\2-02_Received Files\2016-10-06_AVA_CADD_files\TEMP_CD_9-19-16\Changes_2017-07-24\DP_TRANSFER STATION.DMU.CADD08CT008-3A101.dwg



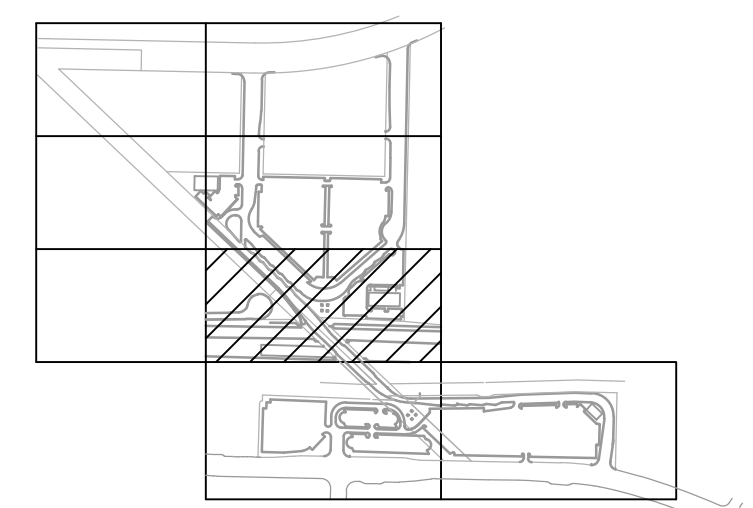
MATCH LINE
 SEE LOWER LEFT

NOTE:
 1. SOUND ABSORBING MATERIAL SHOULD BE INTEGRATED WITH THE SOUND WALL.

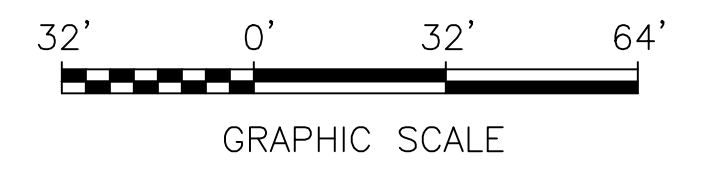
SITE PLAN
 1/32"=1'-0" A100



MATCH LINE
 SEE UPPER RIGHT



KEY PLAN



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
 C. GUTERRES
 DRAWN:
 C. GUTERRES
 CHECKED:
 G. FITCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

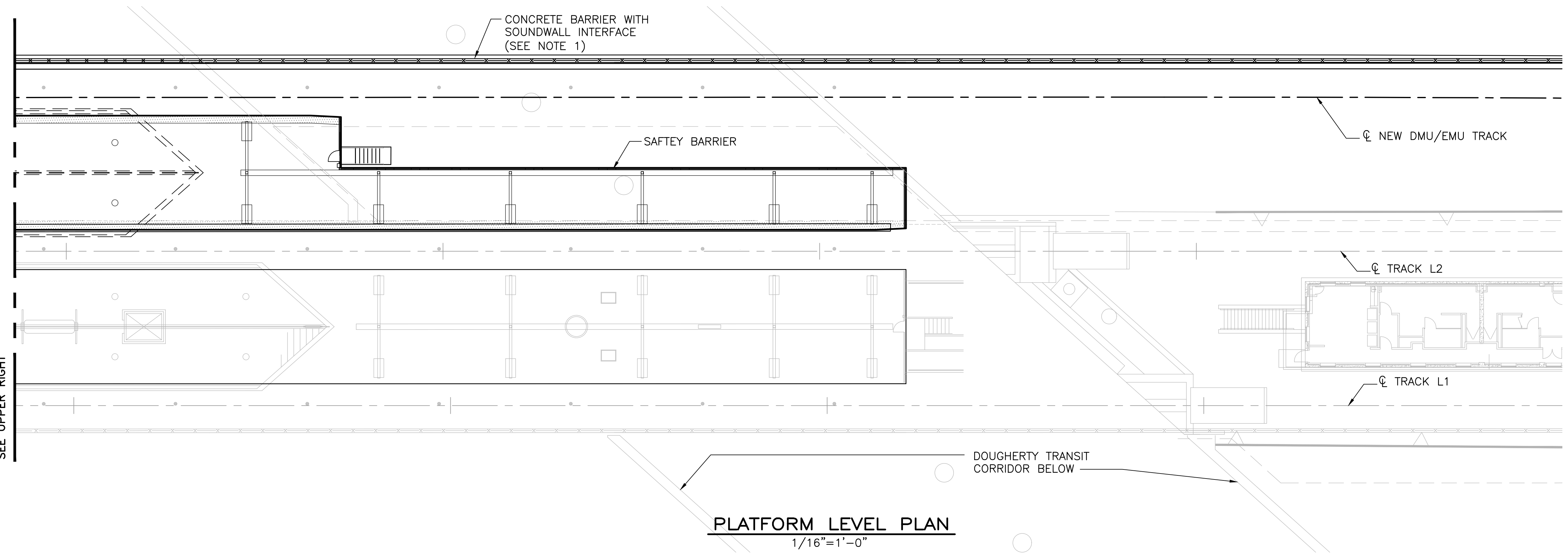
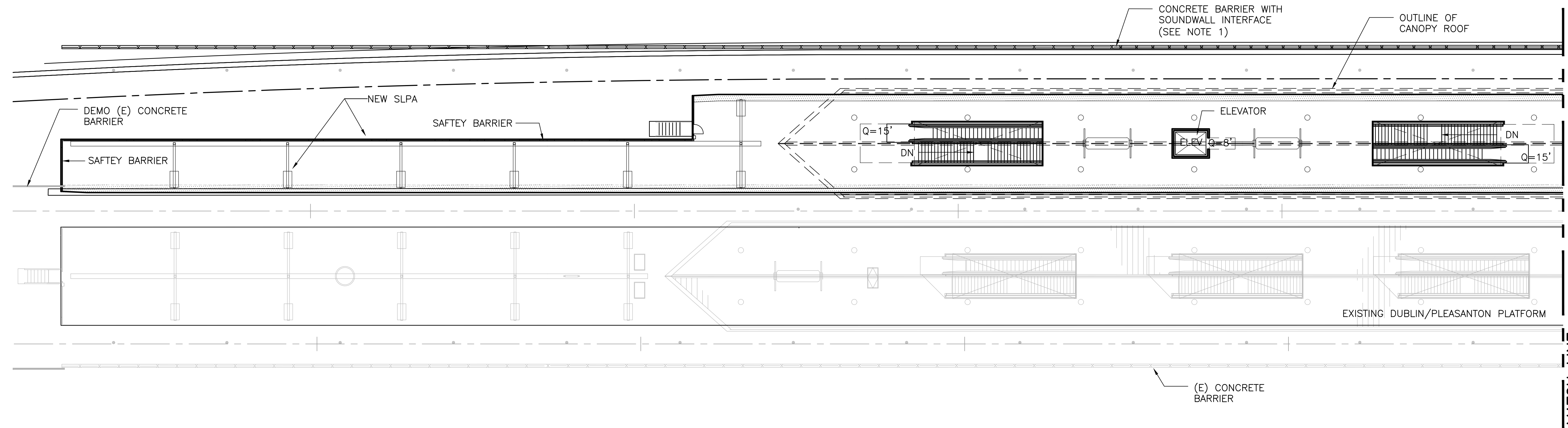
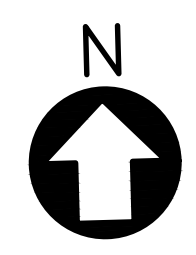
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 DMU/EMU
 DUBLIN/PLEASANTON STATION**

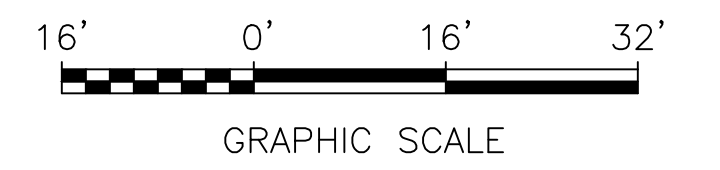
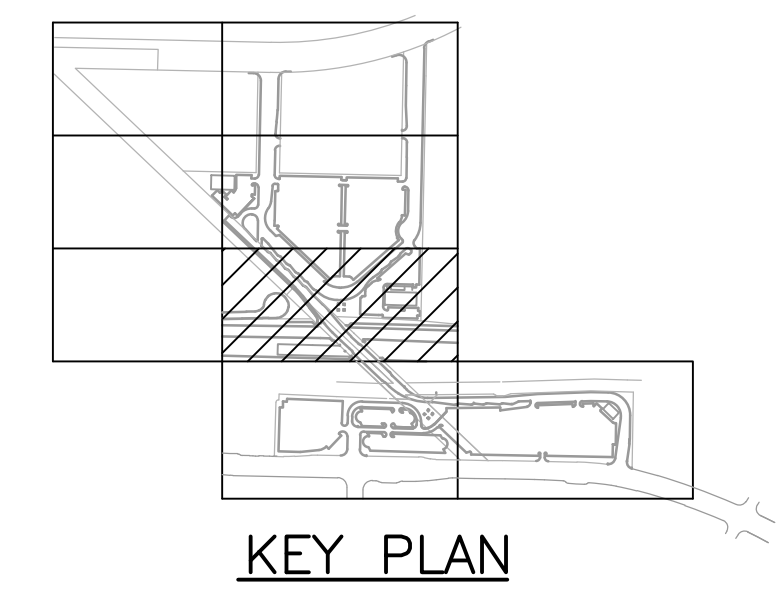
SITE PLAN

CADD FILENAME CADD08CT008-3A101.dwg	
SIZE: SCALE D 1/32"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A101	PAGE NO. 046

Jul 25, 2017 9:10am \\global\arup.com\americas\lobes\5-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-08 AVA_CADD_files\TEMP_CD_9-19-16\Changes_2017-07-24\DP_TRANSFER_STATION\DMU_CADD\08CT008-3A102.dwg



NOTE:
 1. SOUND ABSORBING MATERIAL SHOULD BE INTEGRATED WITH THE SOUND WALL.



MATCH LINE
SEE UPPER RIGHT

MATCH LINE
SEE LOWER LEFT

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
C. GUTERRES
 DRAWN:
C. GUTERRES
 CHECKED:
G. FITCHEN
 APPROVED:
R. BARLAAN
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

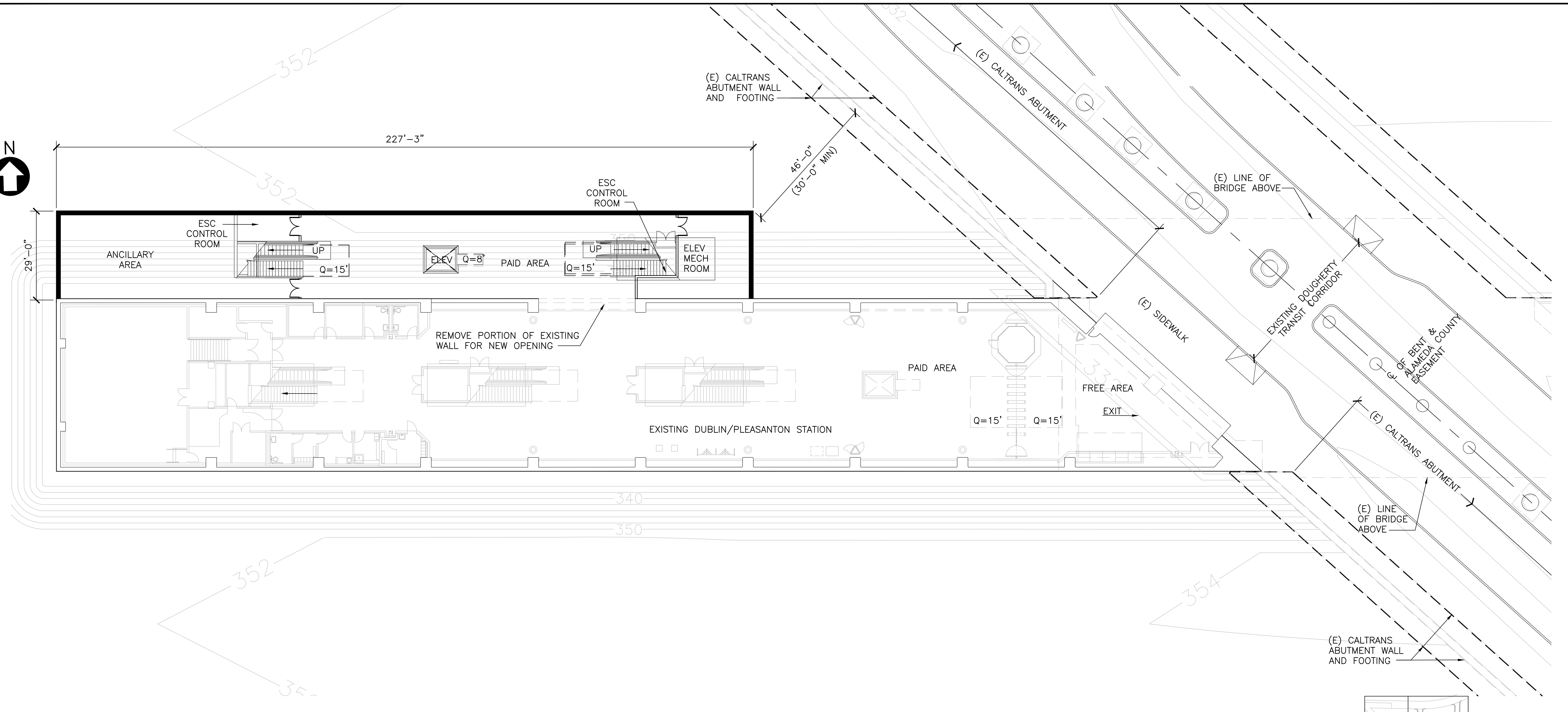
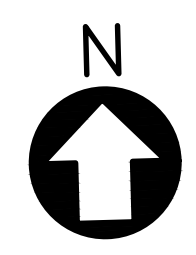
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 DMU/EMU
 DUBLIN/PLEASANTON STATION**

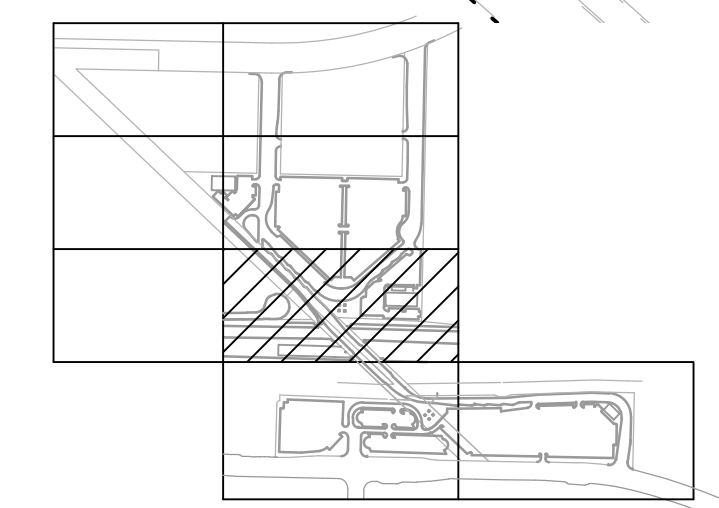
PLATFORM LEVEL PLAN

CADD FILENAME CADD08CT008-3A102.dwg	
SIZE: SCALE D 1/16"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A102	PAGE NO. 047

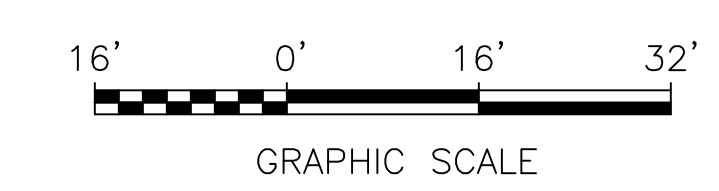
Jul 25, 2017 - 9:11am \\global\arup.com\americas\lobes\5-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD files\TEMP_CD_9-19-16\Changes 2017-07-24\IP TRANSFER STATION DMU CADD\08CT008-3A103.dwg



CONCOURSE LEVEL PLAN
 1/16"=1'-0"



KEY PLAN



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
 C. GUTERRES
 DRAWN:
 C. GUTERRES
 CHECKED:
 G. FITCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

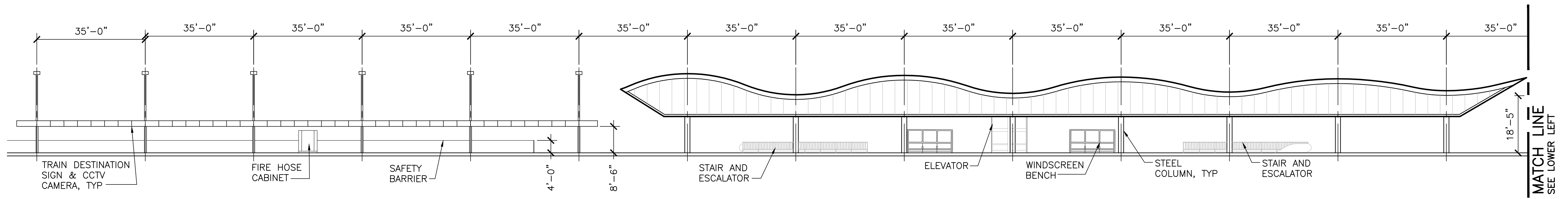
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 DMU/EMU
 DUBLIN/PLEASANTON STATION**

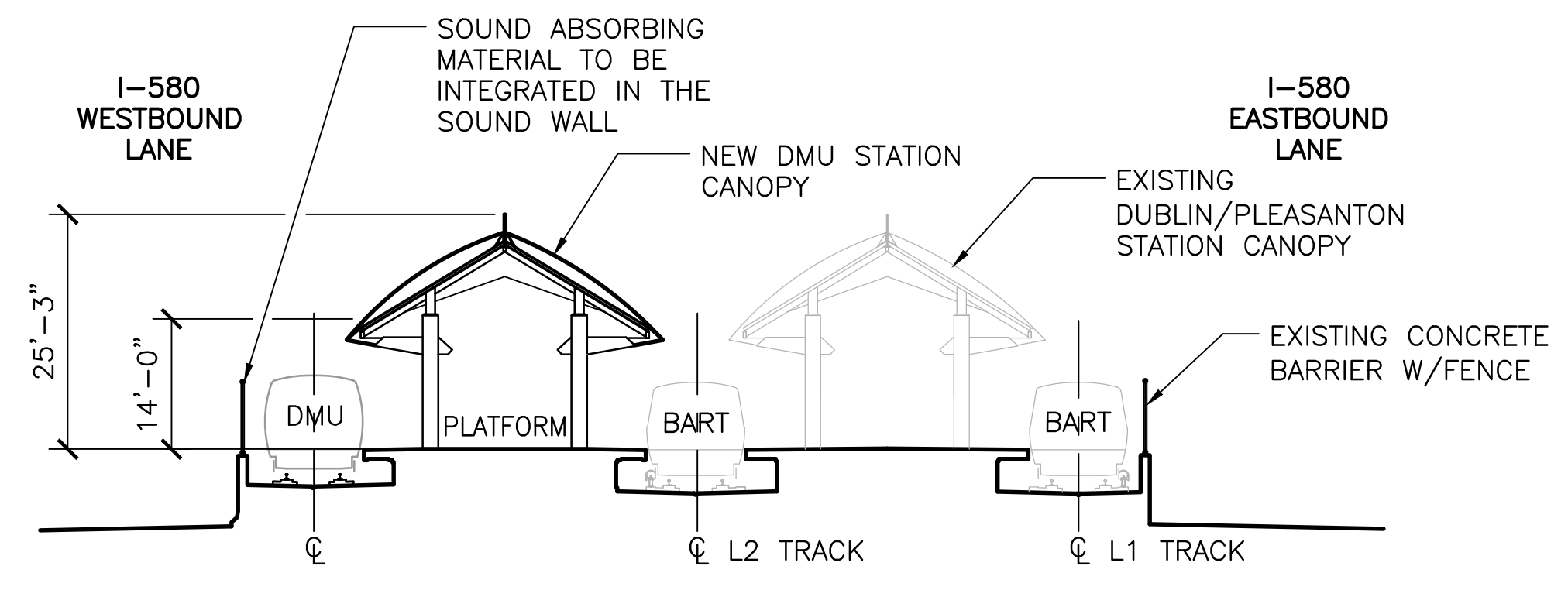
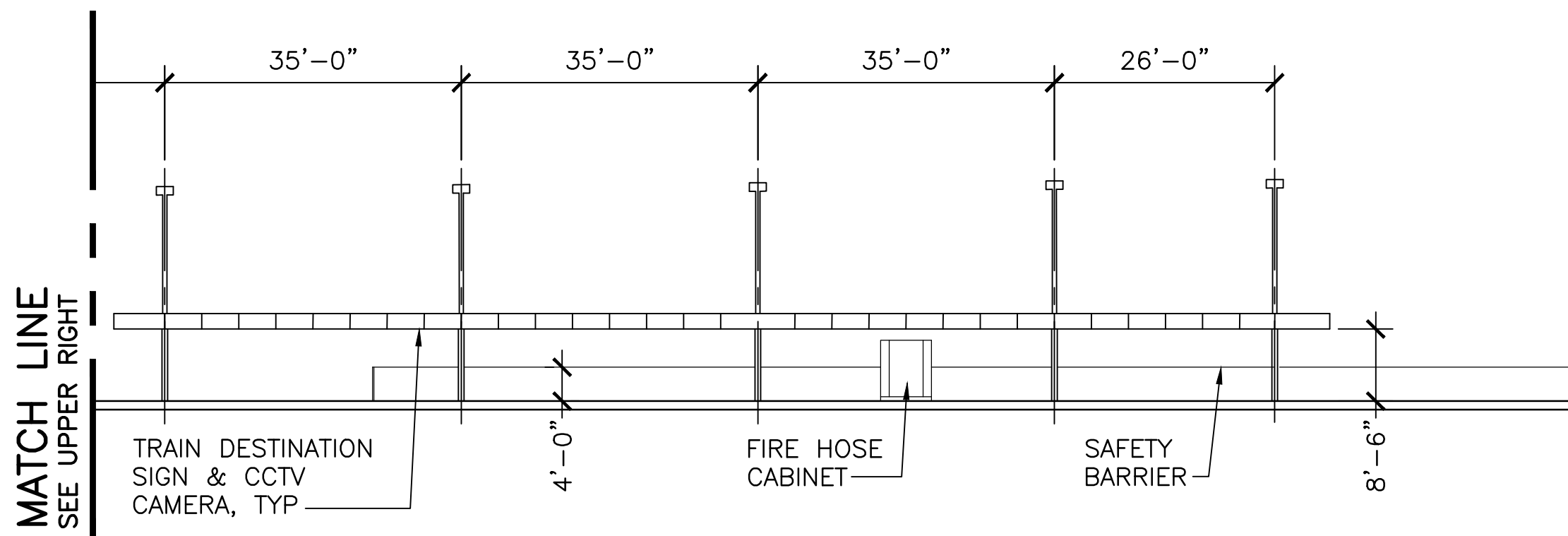
CONCOURSE LEVEL PLAN

CADD FILENAME CADD08CT008-3A103.dwg	
SIZE: SCALE D 1/16"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A103	PAGE NO. 048

Jul 25, 2017 9:12am \\global\pup.com\americas\jobs\5-F\230000\237865-002 Client (AVA)\2-02 Received Files\2016-10-08 AVA_CADD_files\TEMP_CD_9-19-16\Changes_2017-07-24_LP_TRANSFER STATION.DMU.CADD08CT008-3A305.dwg



SOUTH ELEVATION
 1/16"=1'-0"



EAST ELEVATION
 1/16"=1'-0"

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
 C. GUTERRES
 DRAWN:
 C. GUTERRES
 CHECKED:
 G. FITCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

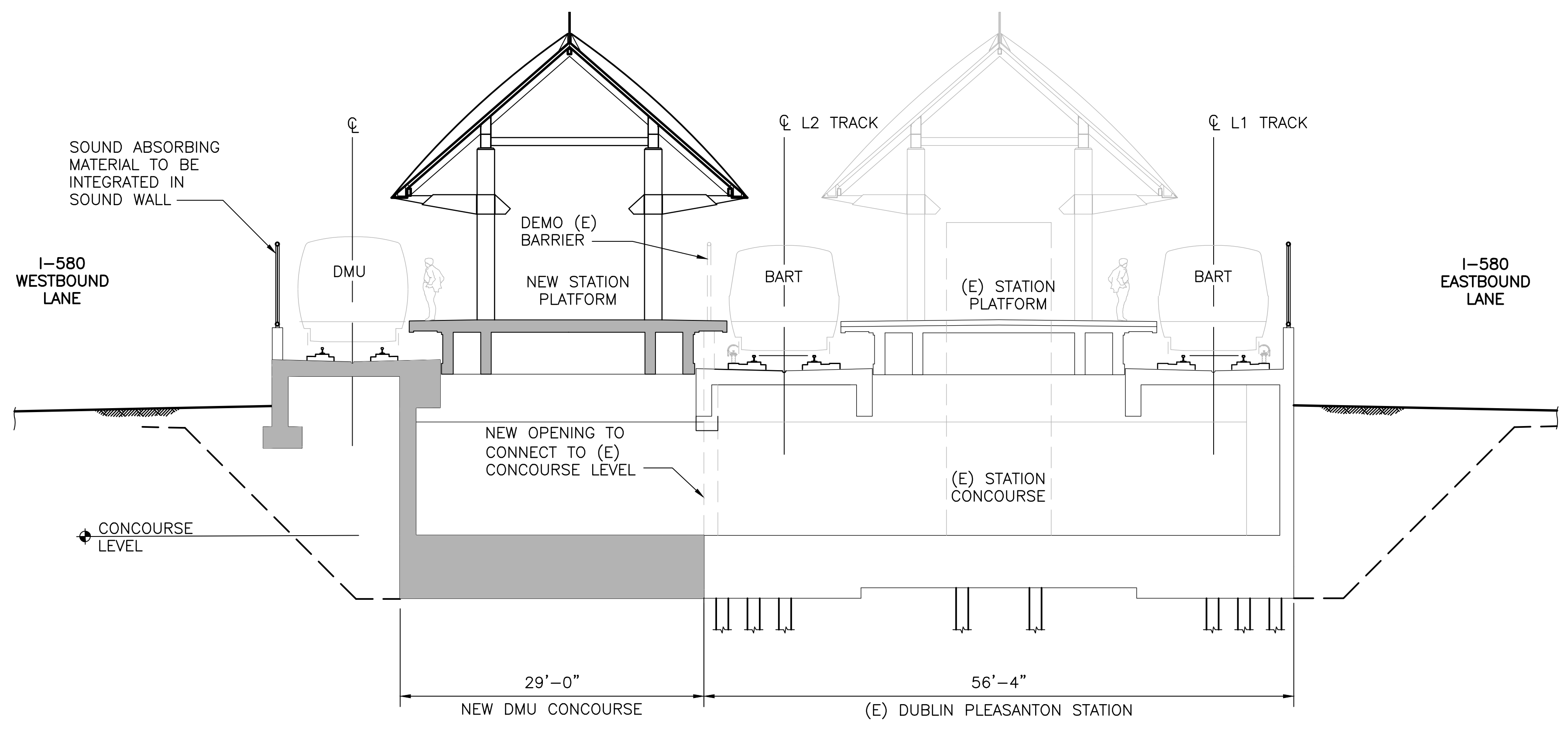
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 DMU/EMU
 DUBLIN/PLEASANTON STATION**

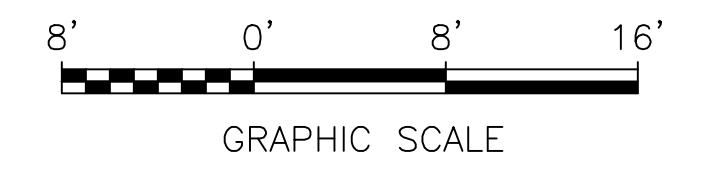
ELEVATIONS

CADD FILENAME CADD08CT008-3A305.dwg	
SIZE: SCALE D 1/16"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A305	PAGE NO. 049

Jul 25, 2017 - 9:13am \\globalarup.com\americas\jobs\5-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA_CADD_files\TEMP_CD_9-19-16\Changes_2017-07-24\DP_TRANSFER_STATION_DMU_CADD08CT008-3A401.dwg
 from: sudhousen



TRANSVERSE SECTION
 1/8"=1'-0"



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
 C. GUTERRES
 DRAWN:
 C. GUTERRES
 CHECKED:
 G. FITCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 DMU/EMU
 DUBLIN/PLEASANTON STATION**

TRANSVERSE SECTION

CADD FILENAME CADD08CT008-3A401.dwg	
SIZE: SCALE	REV.
D 1/8"=1'-0"	0
CONTRACT NO. 08CT008	PAGE NO. 050
CONTRACT SHEET NO. 3A401	

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2: DMU/EMU
ISABEL STATION**

CONTRACT DRAWINGS

FUNDING AGENCIES / PARTNERS:

CITY OF LIVERMORE
CITY OF DUBLIN
CITY OF PLEASANTON
ALAMEDA COUNTY
CALTRANS
LAVTA
MTC
ACTC
SAN JOAQUIN RTD
ALTAMONT CORRIDOR EXPRESS

10% PRELIMINARY ENGINEERING

CONTRACT NO. 08CT008

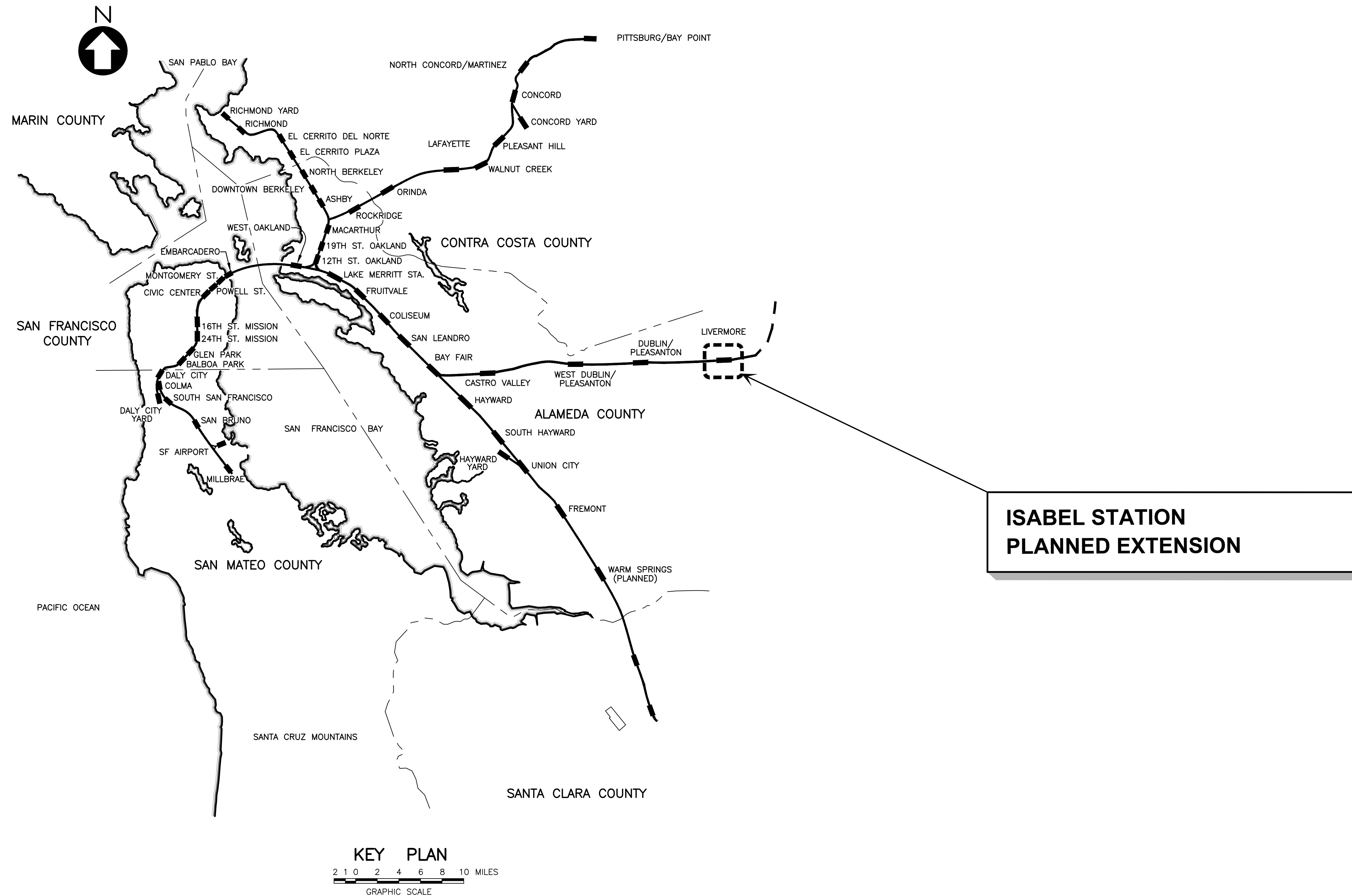
DATE: 31 JULY 2017

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

BART TO LIVERMORE EXTENSION

ALTERNATIVE 2: DMU/EMU - ISABEL STATION

CONTRACT NUMBER 08CT008



**ISABEL STATION
PLANNED EXTENSION**

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
R. GUTIERREZ
DRAWN:
R. GUTIERREZ
CHECKED:
G. FITSCHEN
APPROVED:
R. BARLAAN
DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

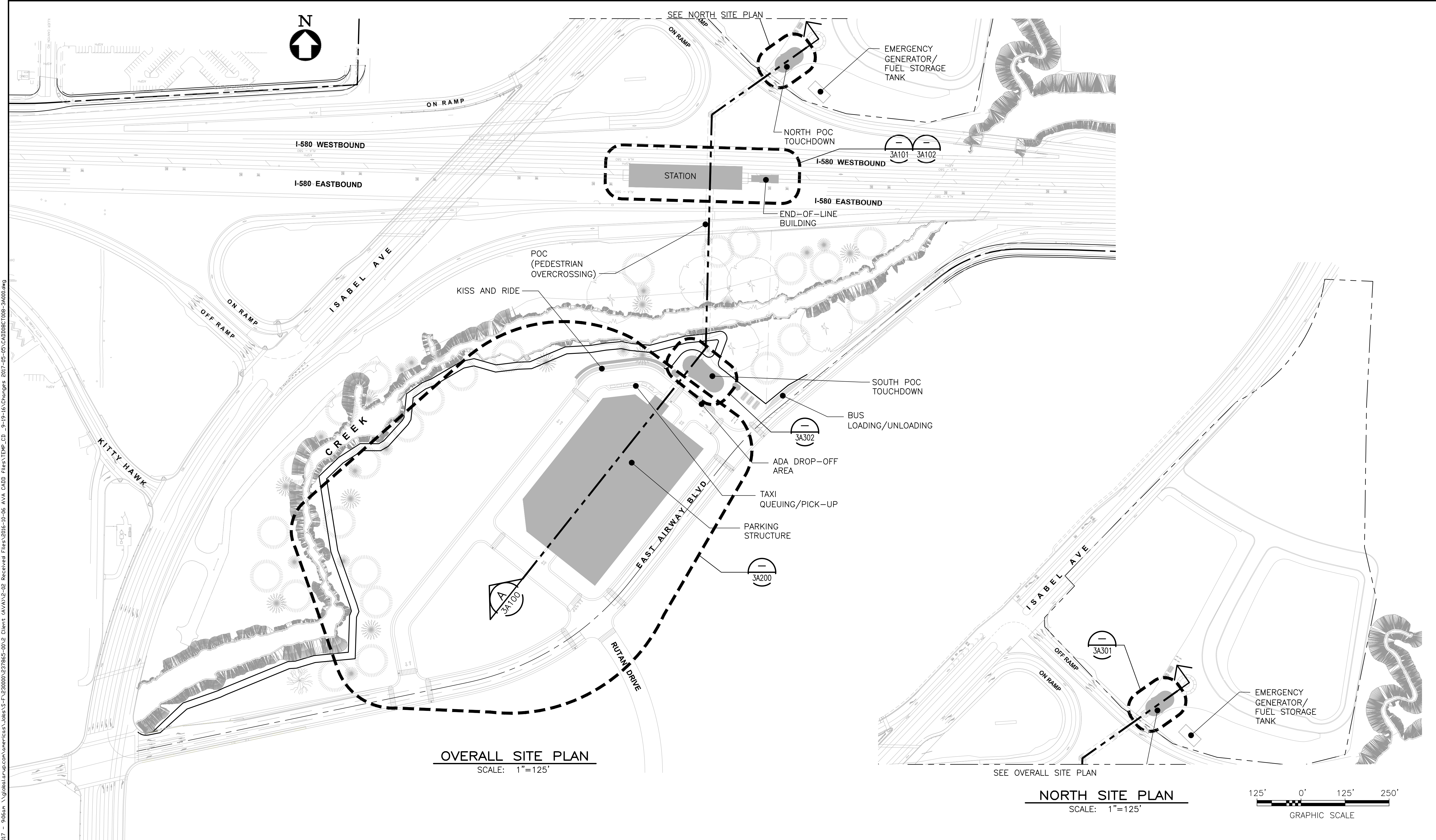
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**

LOCATION MAP

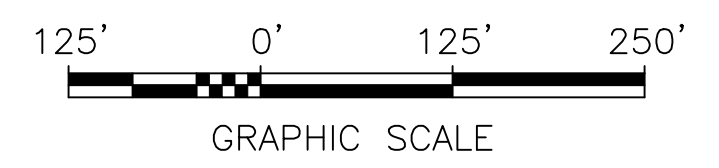
CADD FILENAME 08CT008-3G001.DWG	
SIZE: D	SCALE AS SHOWN
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3G001	PAGE NO. 051

Jul 25, 2017 11:36am \\global.southcoast.com\americas\subs\SF\230000\237865-00\2 Client (AWA)\2-02 Received Files\2016-10-06 AIA CADD Files\TEMP_CD_9-19-16\Changes 2017-07-24\Isabel Station\DMU-EMU-ALTERNATIVE\CADD\08CT008-3G001.dwg



OVERALL SITE PLAN
SCALE: 1"=125'

NORTH SITE PLAN
SCALE: 1"=125'



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:	
DRAWN:	
CHECKED:	
APPROVED:	
DATE:	20170406

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

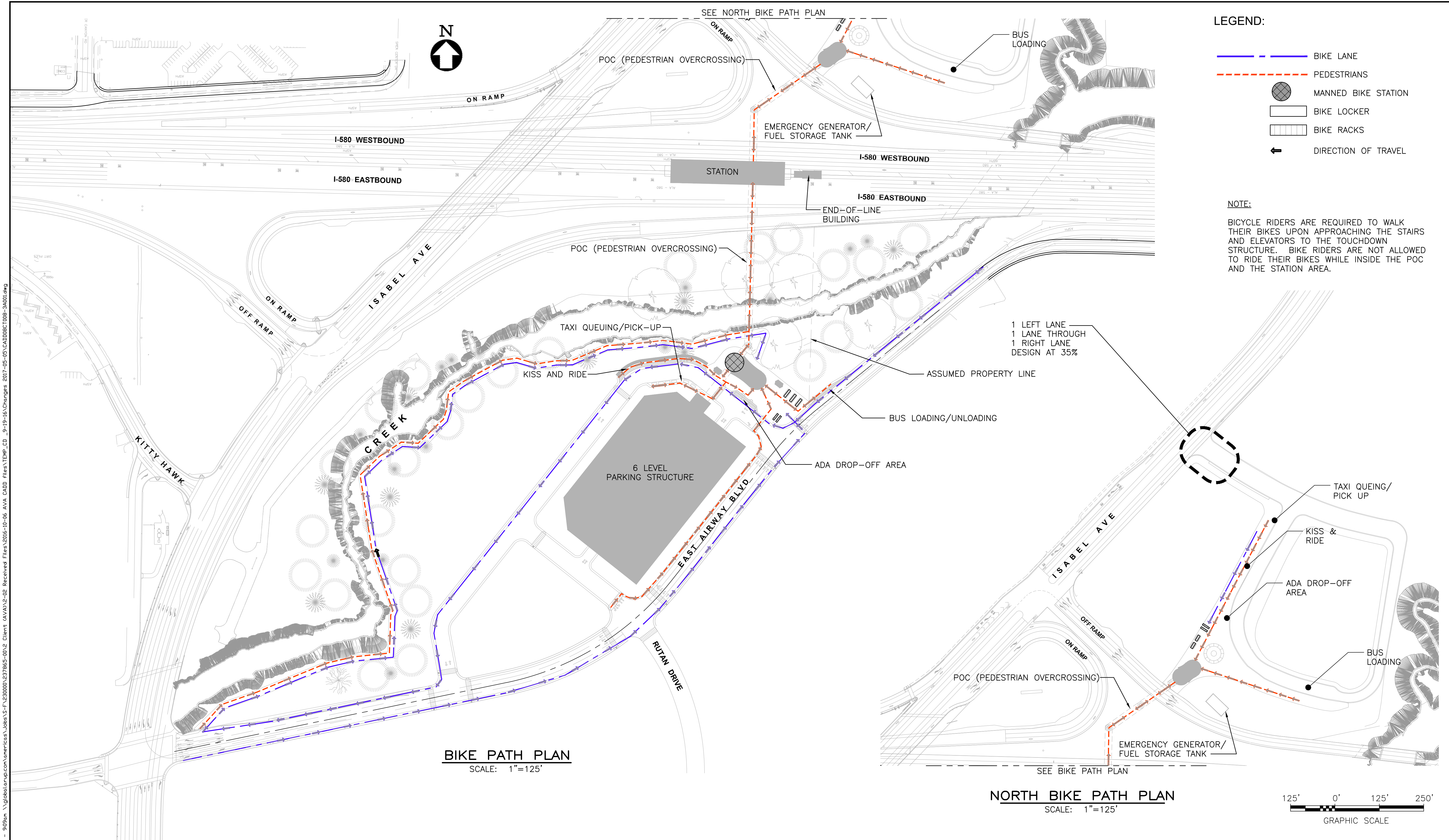
 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**

OVERALL SITE PLAN

CADD FILENAME	08CT008-3A000
SIZE: SCALE	D 1"=1500'
CONTRACT NO.	08CT008
REV.	0
CONTRACT SHEET NO.	3A000
PAGE NO.	052

Jul 28, 2017 - 9:06am \\global-arup.com\americas\Jobs\S-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\Changes 2017-05-05\CADD\08CT008-3A000.dwg



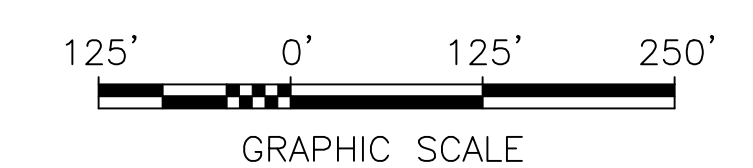
LEGEND:

- BIKE LANE
- PEDESTRIANS
- MANNED BIKE STATION
- BIKE LOCKER
- BIKE RACKS
- DIRECTION OF TRAVEL

NOTE:
 BICYCLE RIDERS ARE REQUIRED TO WALK THEIR BIKES UPON APPROACHING THE STAIRS AND ELEVATORS TO THE TOUCHDOWN STRUCTURE. BIKE RIDERS ARE NOT ALLOWED TO RIDE THEIR BIKES WHILE INSIDE THE POC AND THE STATION AREA.

BIKE PATH PLAN
 SCALE: 1"=125'

NORTH BIKE PATH PLAN
 SCALE: 1"=125'



Jul 28, 2017 - 9:09am \\global-arup.com\americas\Jobs\S-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\Changes 2017-05-05\CADD\08CT008-3A001.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:	
DRAWN:	
CHECKED:	
APPROVED:	
DATE:	20170406

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

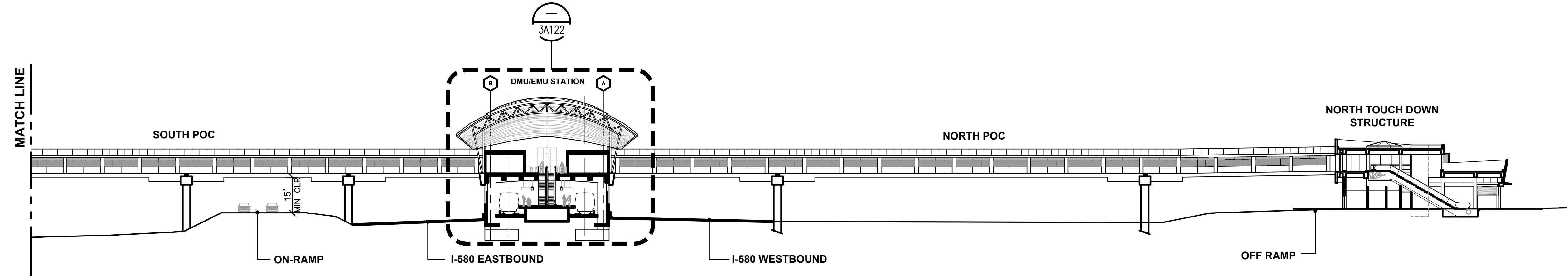
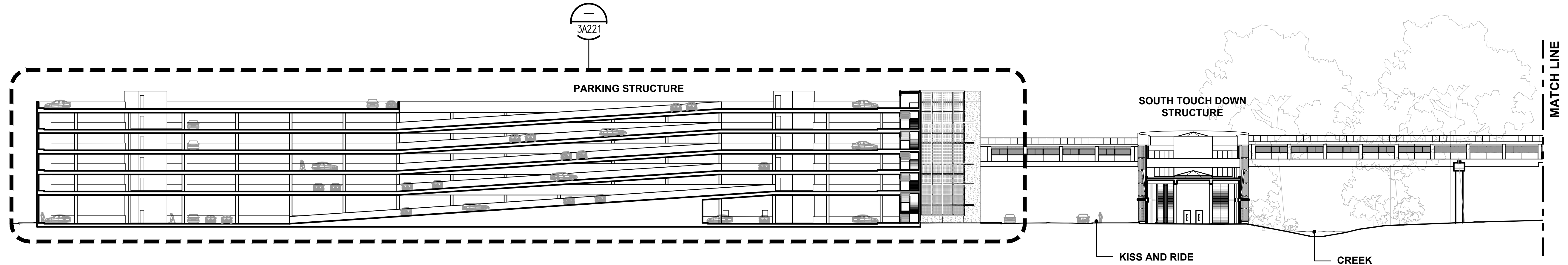
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

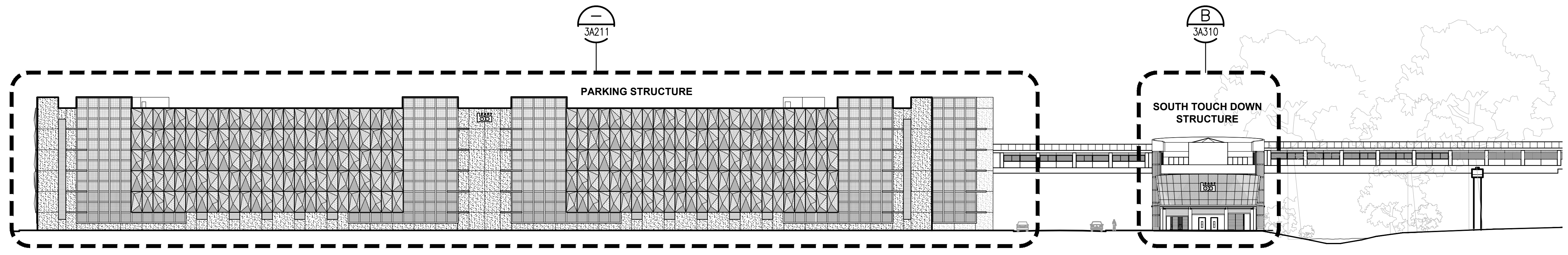
**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**

BIKE PATH PLAN

CADD FILENAME 08CT008-3A001	
SIZE: SCALE D 1"=1500'	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A001	PAGE NO. 053



SITE SECTION
SCALE: 1/32"=1'-0"



SITE ELEVATION
SCALE: 1/32"=1'-0"



Jul 25, 2017 - 10:40am \\global\arup.com\server\cos\jokes\j_s-f\20000\237865-00\2 Client: (AVA)\2-02 Received Files\2016-10-06 AVA CAD\1 Files\TEMP_CD_9-9-16 Changes 2017-07-24 Isabel Station\DMU-EMU ALTERNATIVE\CADD\08-3A100.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
R. CUTIERREZ
 DRAWN:
B. LIWANAG
 CHECKED:
G. FITSCHEN
 APPROVED:
R. BARLAAN
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

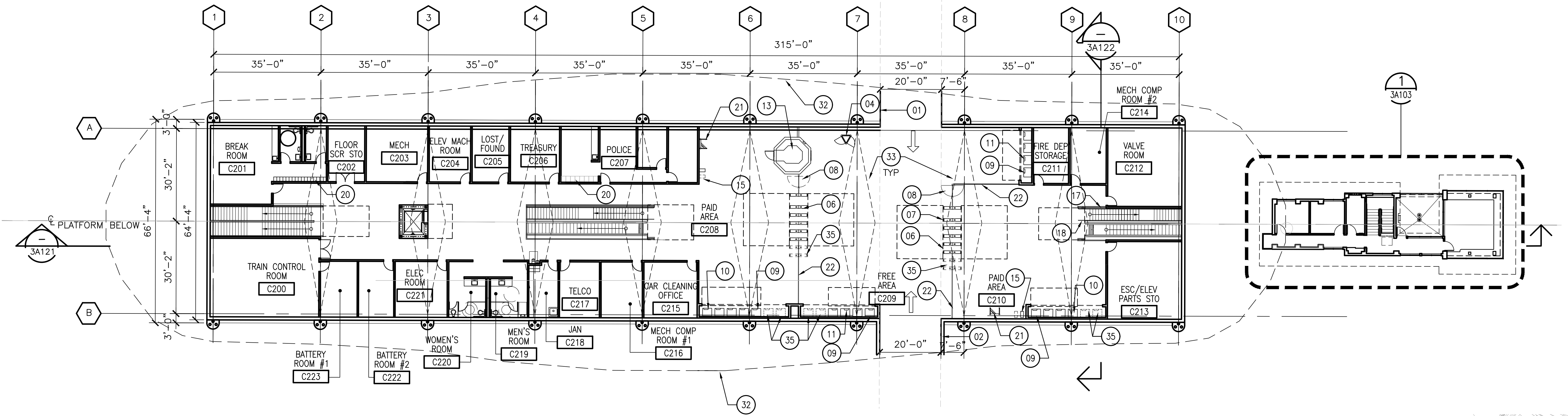
 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**
 SITE SECTION AND ELEVATION

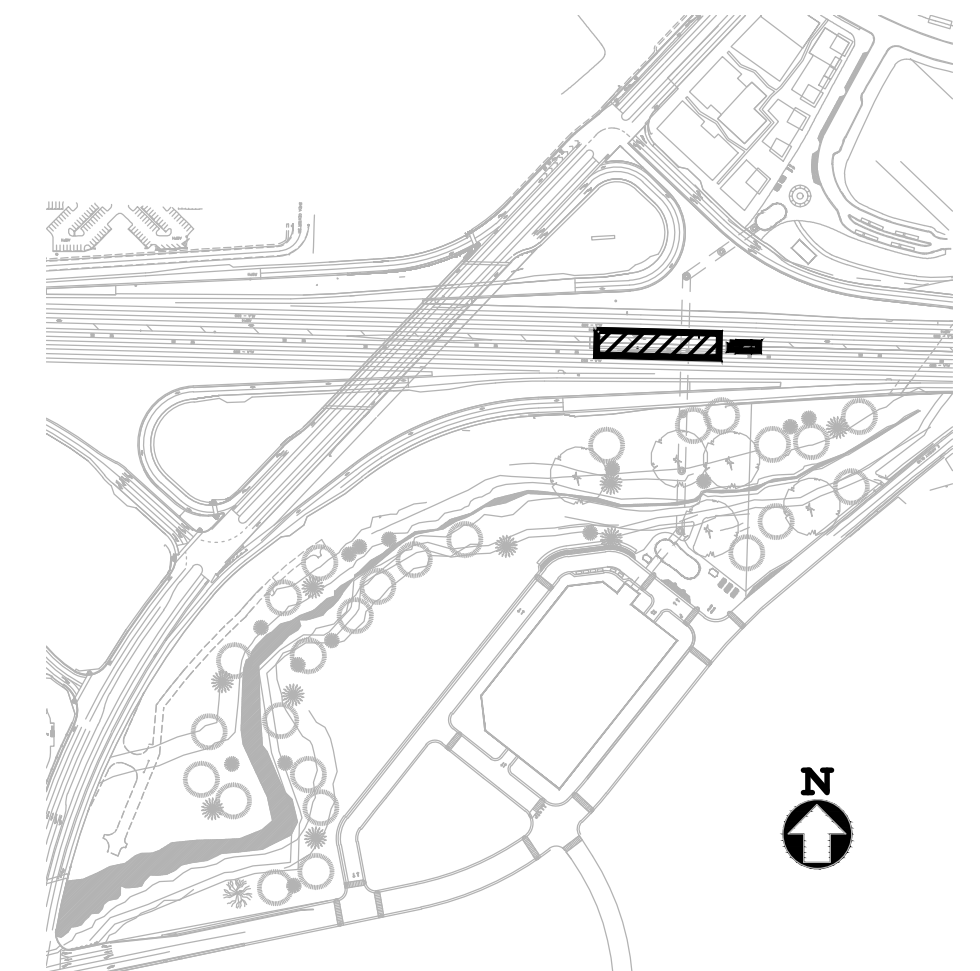
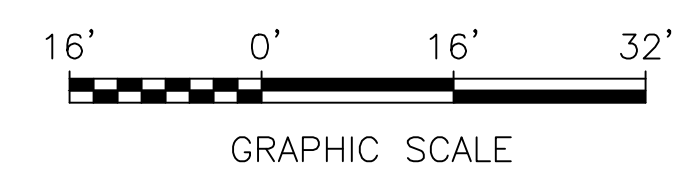
CADD FILENAME 08CT008-3A100	
SIZE: SCALE D 1/32"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A100	PAGE NO. 054

KEY NOTES			
01	LINE OF NORTH POC	11	TVM- TICKET VENDING MACHINE
02	LINE OF SOUTH POC	13	STATION AGENT'S BOOTH
03	LINE OF CANOPY ABOVE	15	PVM-PARKING VALIDATION MACHINE
04	INFO KIOSK-THREE SIDED	17	ST STL GUARDRAIL
05	TRASH RECEPTACLE	18	ST STL HANDRAIL
06	FARE GATES, PER BFS	19	DRINKING FOUNTAIN
07	ACCESSIBLE FARE GATE, PER BFS	20	LOCKERS
08	SERVICE GATE, PER BFS	21	PUBLIC PAY PHONE
09	BBC- BILL-TO-BILL CHANGER, PER BFS	22	5' HIGH BARRIER, PER BFS
10	AFM- ADD FARE MACHINE, PER BFS	32	LINE OF ROOF ABOVE
		33	LINE OF SKY LIGHT ABOVE
		35	SPARE EQUIPMENT

NOTE:
BICYCLE PARKING WILL BE LOCATED AT THE ENTRANCE OF EACH POC. THERE WILL BE NO PROVISION FOR BIKE PARKING IN THE CONCOURSE PAID AREA.



CONCOURSE FLOOR PLAN
SCALE: 1/16"=1'-0"



KEY PLAN

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
R. GUTIERREZ
DRAWN:
R. GUTIERREZ
CHECKED:
G. FITSCHEN
APPROVED:
R. BARLAAN
DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**

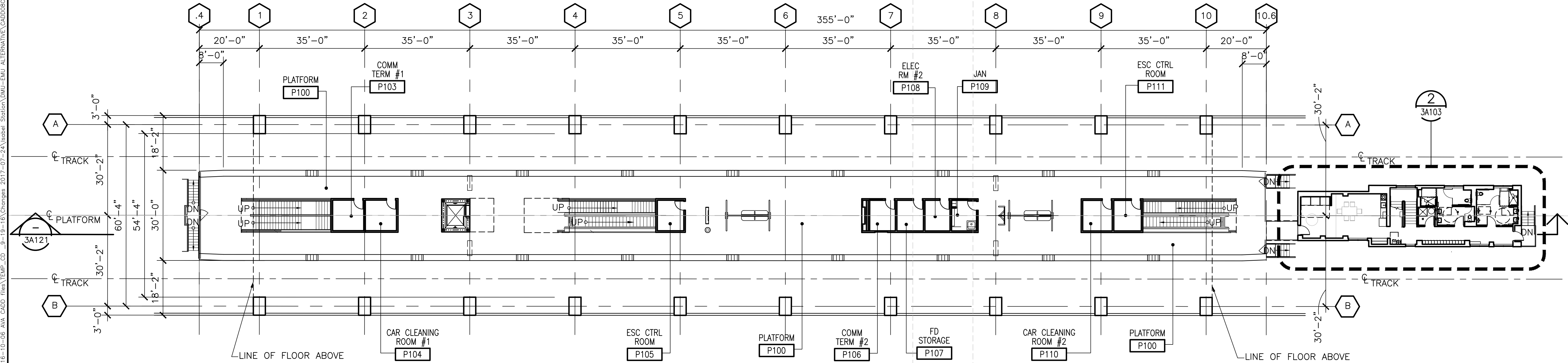
CONCOURSE FLOOR PLAN

CADD FILENAME 08CT008-3A101	REV. NO. 0
SIZE: SCALE D 1/16"=1'-0"	CONTRACT NO. 08CT008
CONTRACT SHEET NO. 3A101	PAGE NO. 055

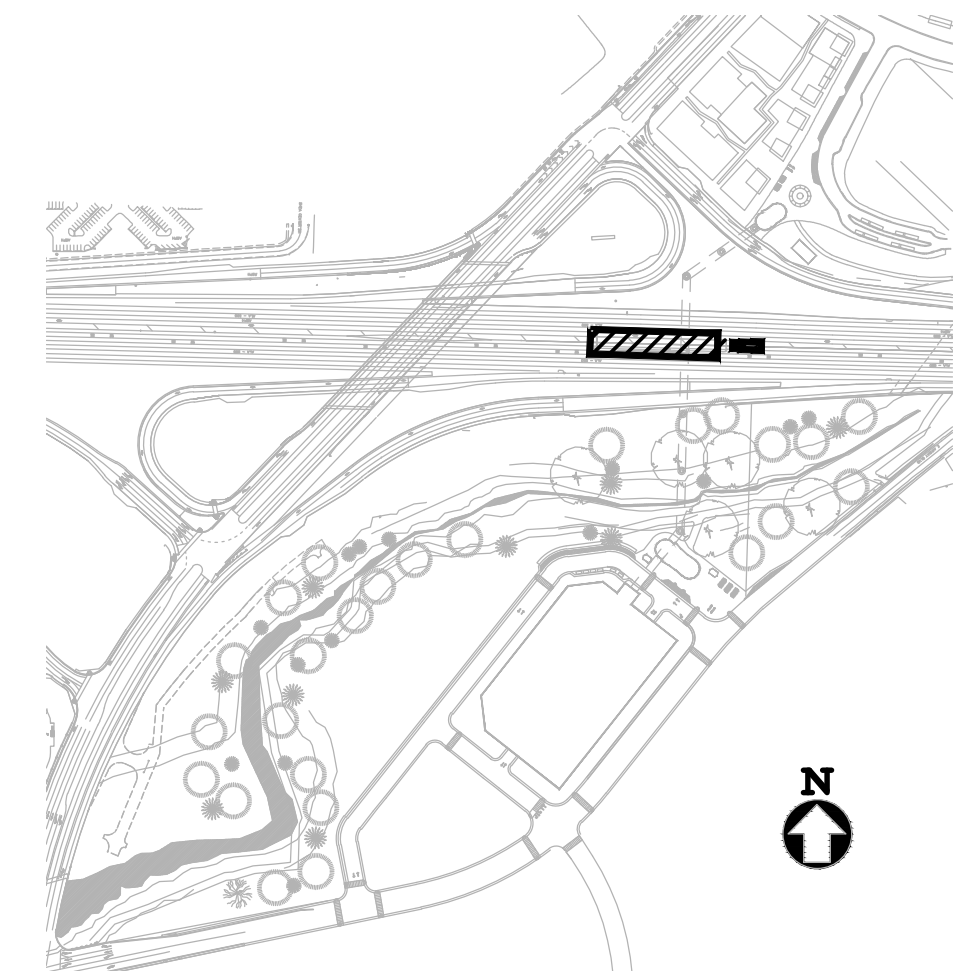
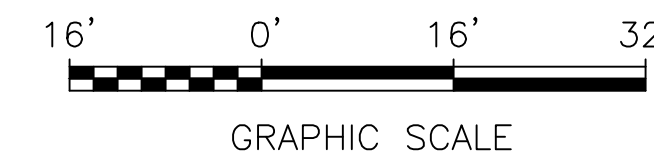
Jul 25, 2017 - 10:43am \\global.srp.com\americas\jobs\5-F\230000\237865-00\2 Client: (AWA)\2-02 Received Files\2016-10-06 AIA CADD Files\TEMP_CD_9-19-16\Changes 2017-07-24\Isabel Station\DMU-EMU-ALTERNATIVE\CADD\08CT008-3A101.dwg



Jul 25, 2017 - 10:47am \\global-arup.com\americas\lubs\l-f\230000\237865-00\2 Client (AWA)\2-02 Received Files\2016-10-06 AIA CAD Files\TEMP_CD_9-9-16 Changes 2017-07-24\Isabel Station\DMU-EMU ALTERNATIVE CADD\08CT008-3A102.dwg



PLATFORM FLOOR PLAN
SCALE: 1/16"=1'-0"



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
R. GUTIERREZ
DRAWN:
R. GUTIERREZ
CHECKED:
G. FITSCHEN
APPROVED:
R. BARLAAN
DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

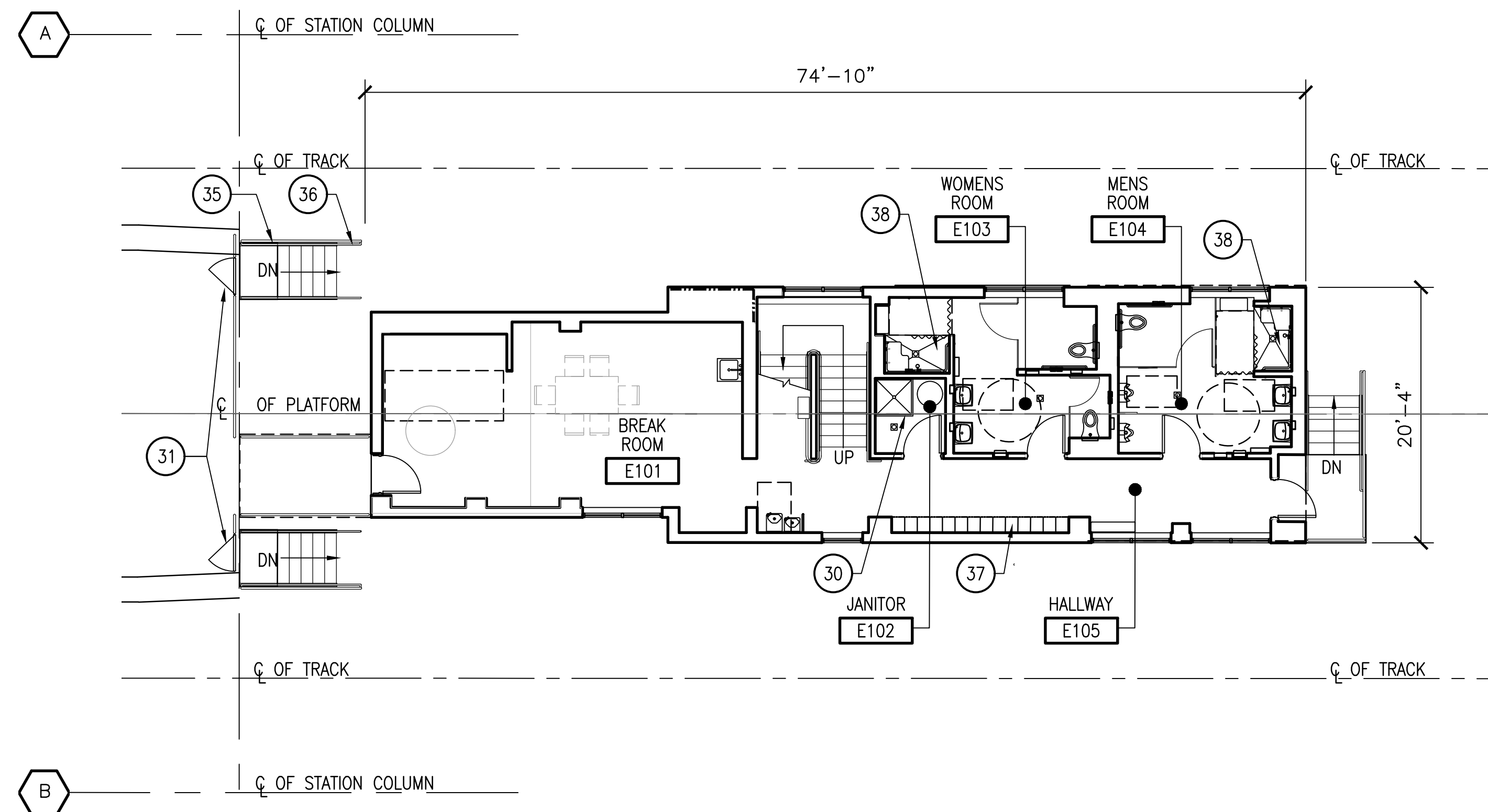
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**

PLATFORM FLOOR PLAN

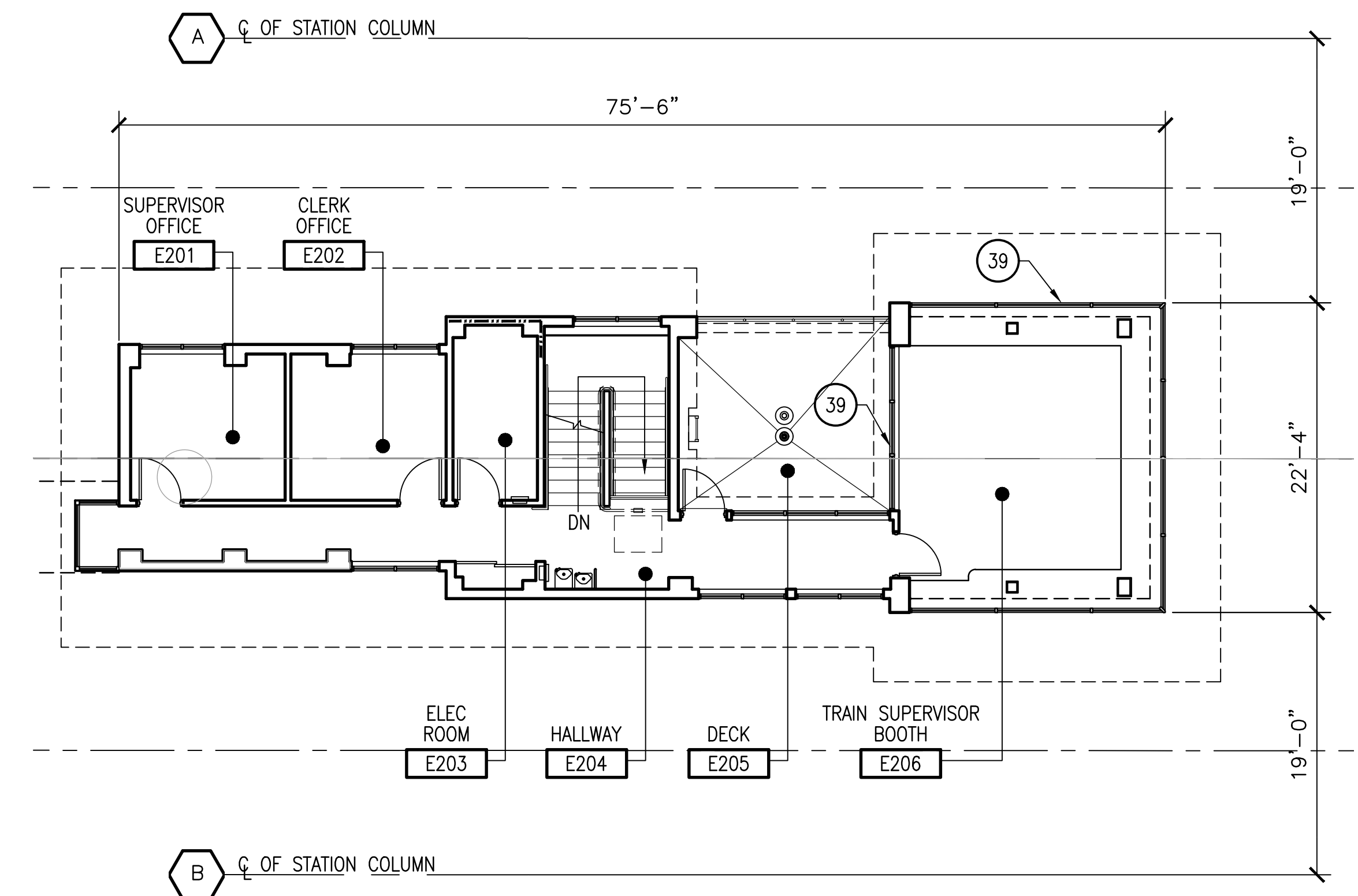
CADD FILENAME 08CT008-3A102	
SIZE: SCALE D 1/16"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A102	PAGE NO. 056

KEY NOTES

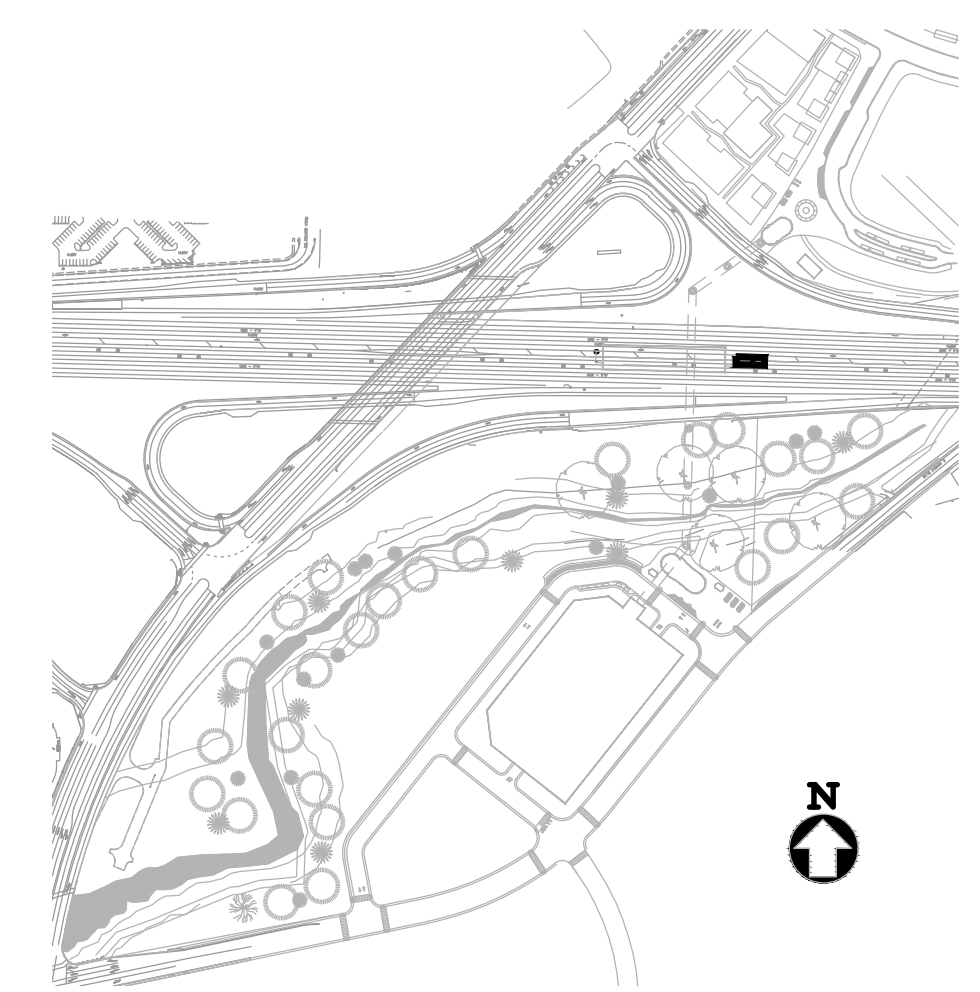
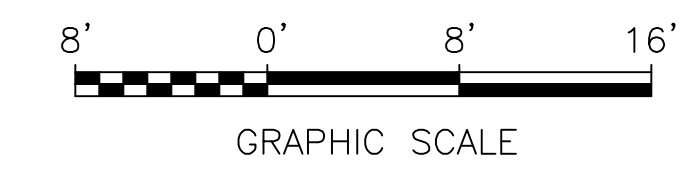
- (30) FLOOR SINK
- (31) END OF PLATFORM GATE
- (35) GALV STL GUARDRAIL
- (36) GALV STL HANDRAIL
- (37) EMPLOYEE LOCKERS
- (38) EMPLOYEE SHOWER
- (39) ALUM FRAMED STOREFRONT



END-OF-LINE PLATFORM LEVEL (1)
SCALE: 1/8" = 1'-0"
3A103



END-OF-LINE 2ND LEVEL (2)
SCALE: 1/8" = 1'-0"
3A103



KEY PLAN

eron.audhausen Jul 28, 2017 - 11:27am \\globalarup.com\americas\Jobs\S-F\230000\237665-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD files\TEMP_CD_9-19-16\Changes 2017-07-24\Isabel Station\DMU-EMU ALTERNATIVE\CADD\08CT008-3A103.dwg

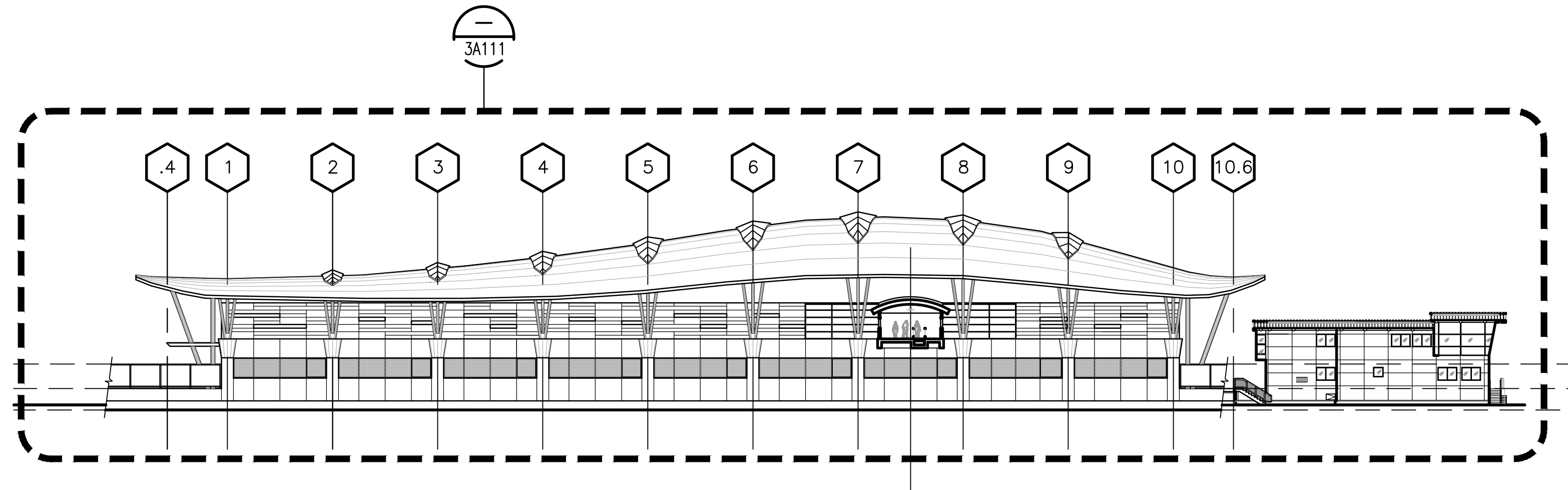
REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED: R. GUTIERREZ
DRAWN: R. GUTIERREZ
CHECKED: G. FITSCHEN
APPROVED: R. BARLAAN
DATE: 20160531

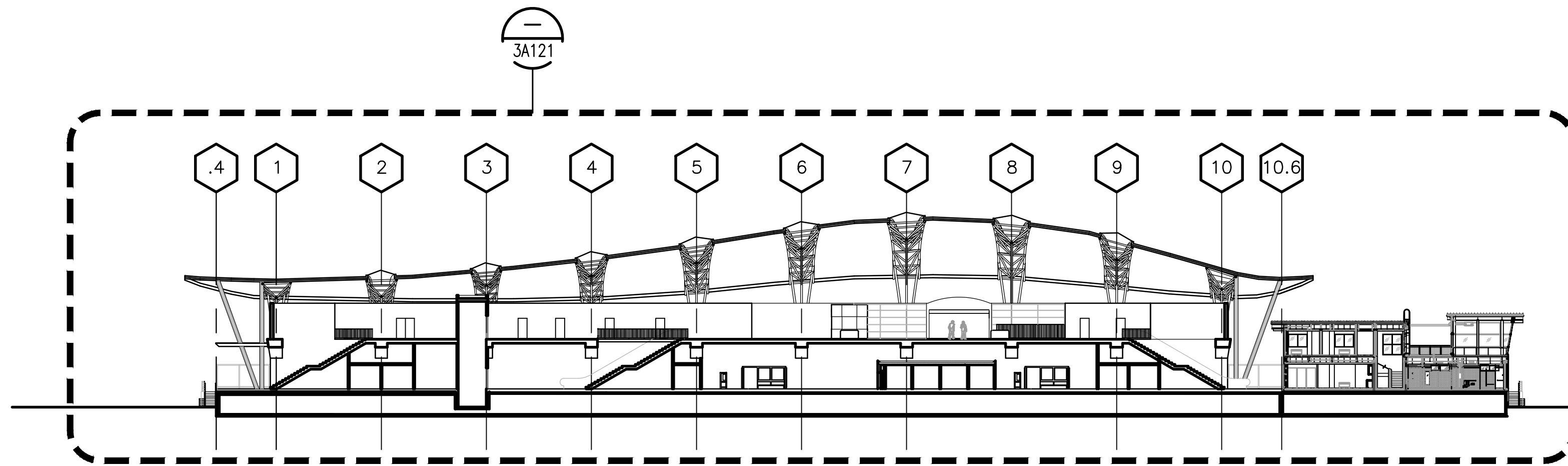
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121	 Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121
SUBMITTED _____	APPROVED _____

BART TO LIVERMORE EXTENSION ALTERNATIVE 2 - DMU/EMU ISABEL STATION		CADD FILENAME 08CT008-3A103
END-OF-LINE FACILITY FLOOR PLANS		SIZE: SCALE D 1/8"=1'-0"
CONTRACT NO. 08CT008	REV. 0	
CONTRACT SHEET NO. 3A103	PAGE NO. 057	



SOUTH ELEVATION 1
 SCALE: 1/32" = 1'-0" 3A110



LONGITUDINAL SECTION 2
 SCALE: 1/32" = 1'-0" 3A110




Jul 25, 2017 - 10:57am \\globalarup.com\americas\jobs\S-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\Changes 2017-07-24\Isabel Station\DMU-EMU ALTERNATIVE\CADD\08CT008-3A110.dwg


REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
 R. GUTIERREZ
 DRAWN:
 B. LIWANAG
 CHECKED:
 G. FITSCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



Anil Verma Associates, Inc.
 1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121



Anil Verma Associates, Inc.
 1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

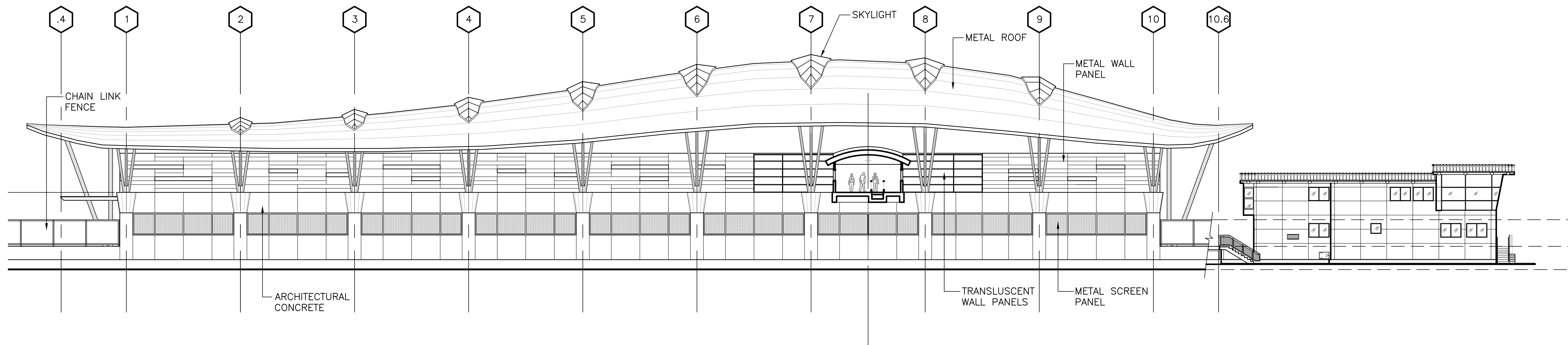
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**

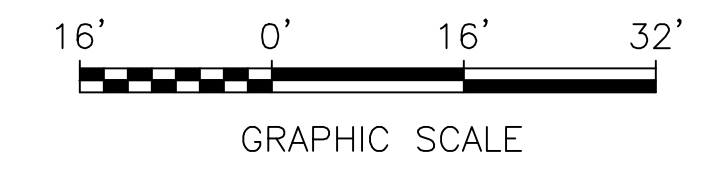
KEY ELEVATION
AND SECTION

CADD FILENAME 08CT008-3A110	
SIZE: SCALE D 1/32"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A110	PAGE NO. 058

Jul 25, 2017 - 10:58am \\global\pup.com\americas\Jobs\S-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16 Changes 2017-07-24 Isabel Station\DMU-EMU ALTERNATIVE\CADD\08CT008-3A111.dwg



SOUTH ELEVATION
 SCALE: 1/16"=1'-0" 3A111



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
 R. GUTIERREZ
 DRAWN:
 B. LIWANAG
 CHECKED:
 G. FITSCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

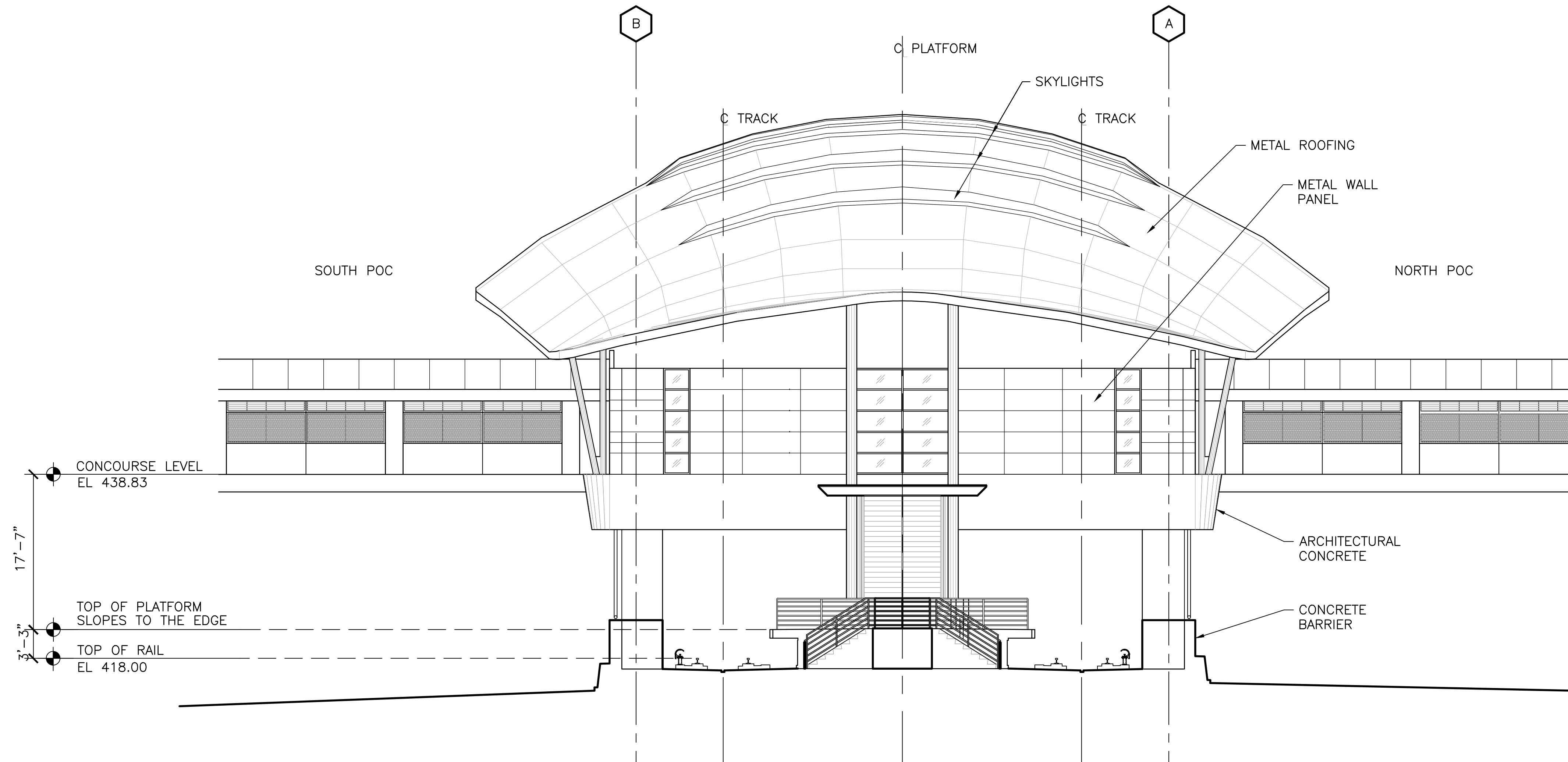
Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

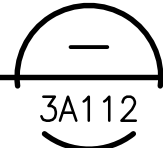
**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**
 SOUTH ELEVATION

CADD FILENAME 08CT008-3A111	
SIZE: D	SCALE 1/16"=1'-0"
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A111	PAGE NO. 059

Jul 25, 2017 - 10:59am \\global\pup.com\americas\Jobs\3-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\Changes 2017-07-24\Isabel Station\DMU-EMU ALTERNATIVE\CADD\08CT008-3A112.dwg



WEST ELEVATION
 SCALE: 1/8" = 1'-0"



REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
 R. GUTIERREZ
 DRAWN:
 B. LIWANAG
 CHECKED:
 G. FITSCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

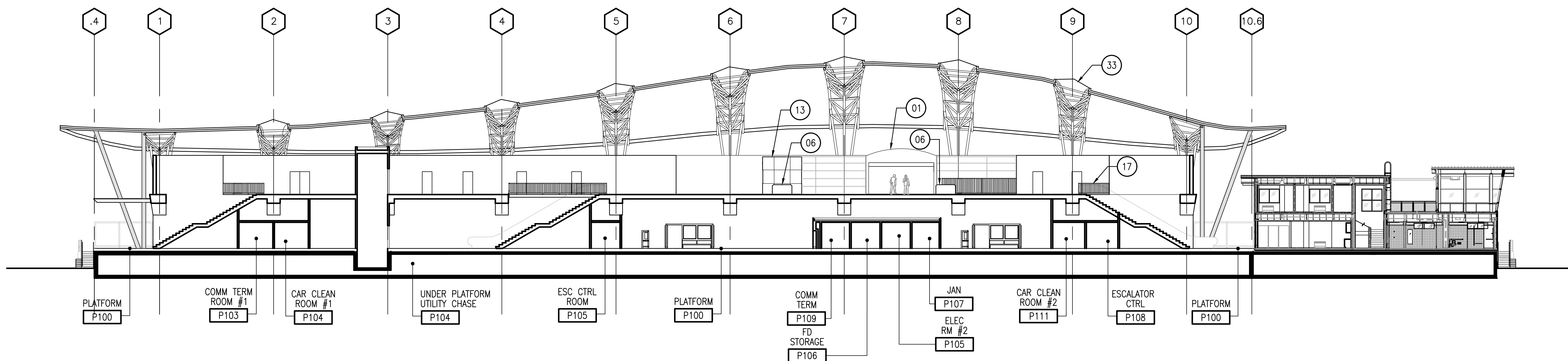
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**
 WEST ELEVATION

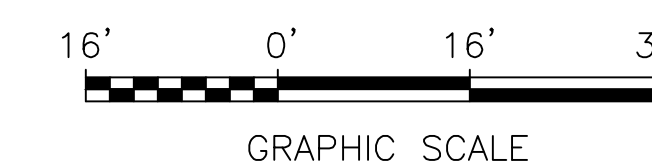
CADD FILENAME 08CT008-3A112	
SIZE: D	SCALE 1/8"=1'-0"
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A112	PAGE NO. 060

KEY NOTES

- 01 NORTH POC
- 06 FARE GATES, PER BFS
- 13 STATION AGENTS BOOTH
- 17 ST STL GUARDRAIL
- 22 5' HIGH BARRIER, PER BFS
- 33 SKY LIGHT



LONGITUDINAL SECTION 
SCALE: 1/16" = 1'-0" 3A121





Jul 25, 2017 - 11:00am \\gislab\p.com\americas\jobs\AS-F\230000\237865-00_2 Client: GAVAN\S-02 Received Files\2016-10-06 AVA CAD\1 Files\TEMP_CD_5-19-16\Changes 2017-07-24\Isabel Station\DMU-EMU ALTERNATIVE\CADD\BCT008-3A121.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
R. GUTIERREZ
 DRAWN:
B. LIWANAG
 CHECKED:
G. FITSCHEN
 APPROVED:
E. BARLAAN
 DATE:
20160531

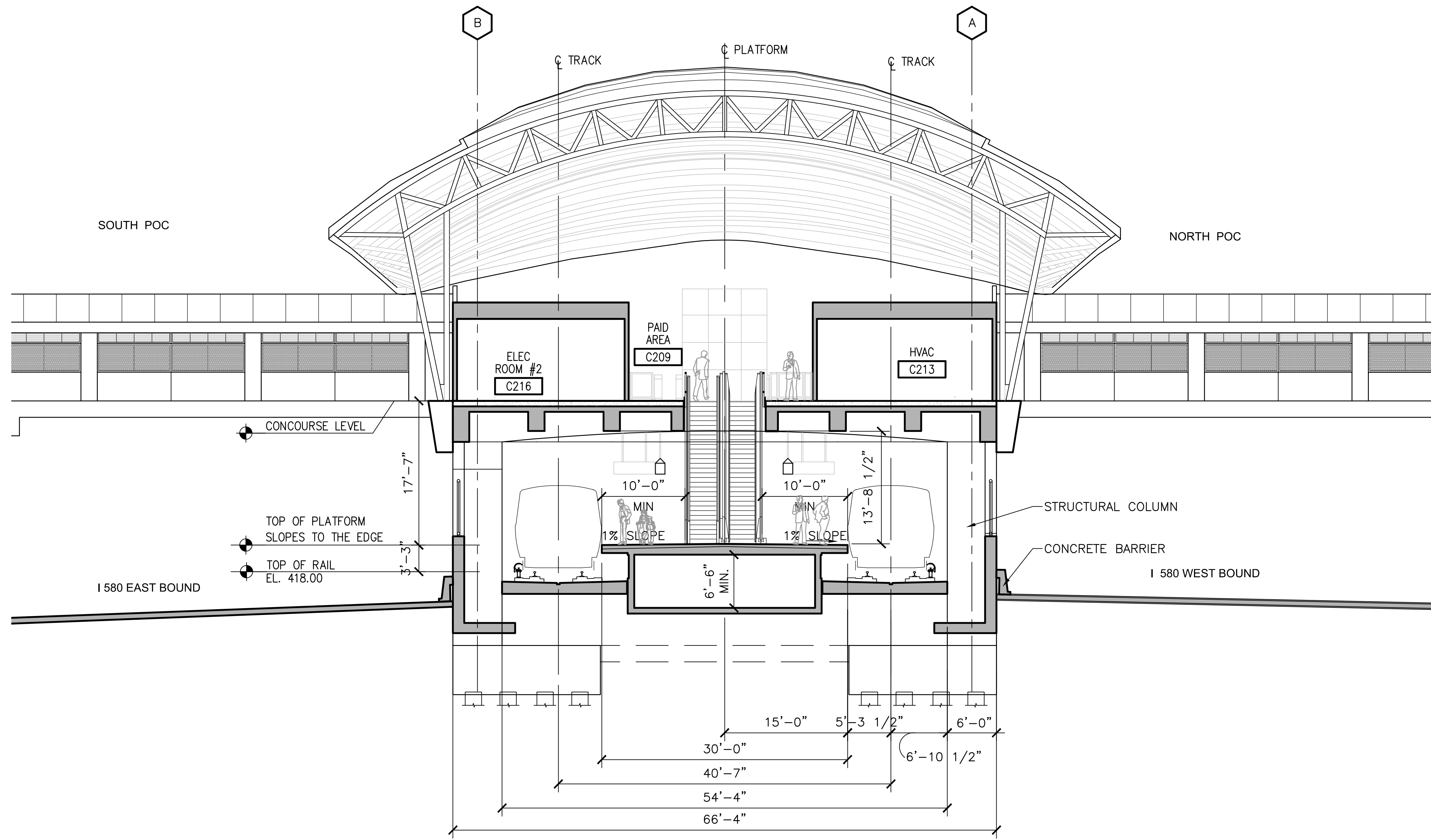
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

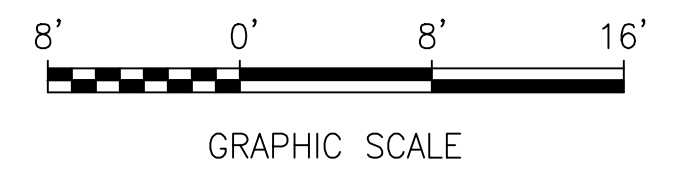
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**
 LONGITUDINAL SECTION

CADD FILENAME 08CT008-3A121	
SIZE: SCALE D 1/16"=1'-0"	REV. 0
CONTRACT NO. 08CT008	PAGE NO. 061
CONTRACT SHEET NO. 3A121	

Jul 25, 2017 - 11:04am \\globalarup.com\americas\jobs\sf\230000\237865-00\2 Client: (AVAS)\5-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\Changes 2017-07-24\1506el Station\DMU-EMU ALTERNATIVE\CADD\08CT008-3A122.dwg



CROSS SECTION
 SCALE: 1/8" = 1'-0"



REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
 R. GUTIERREZ
 DRAWN:
 B. LIWANAG
 CHECKED:
 G. FITSCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

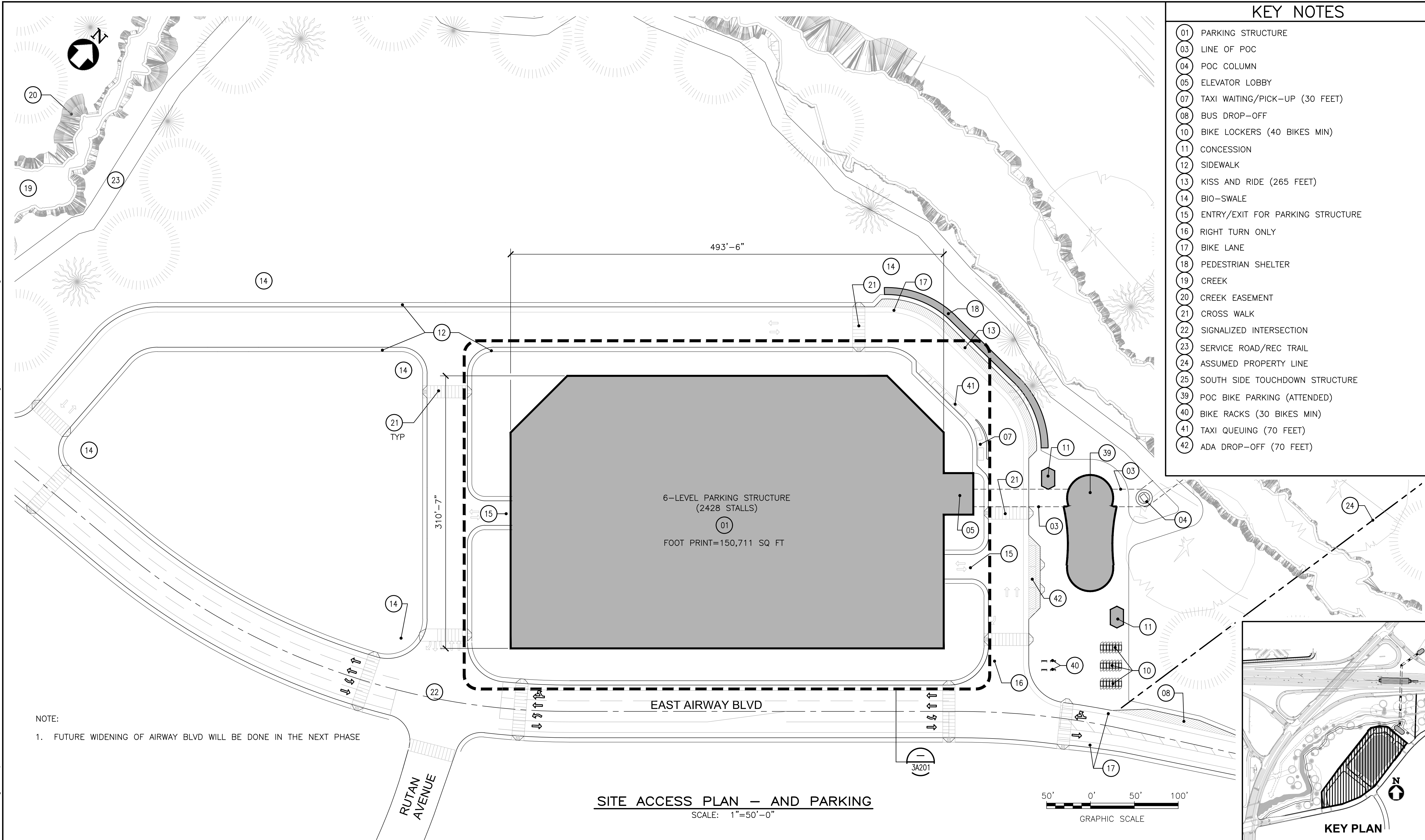
**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**

CROSS SECTION

CADD FILENAME 08CT008-3A122	
SIZE: SCALE D 1/8"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A122	PAGE NO. 062

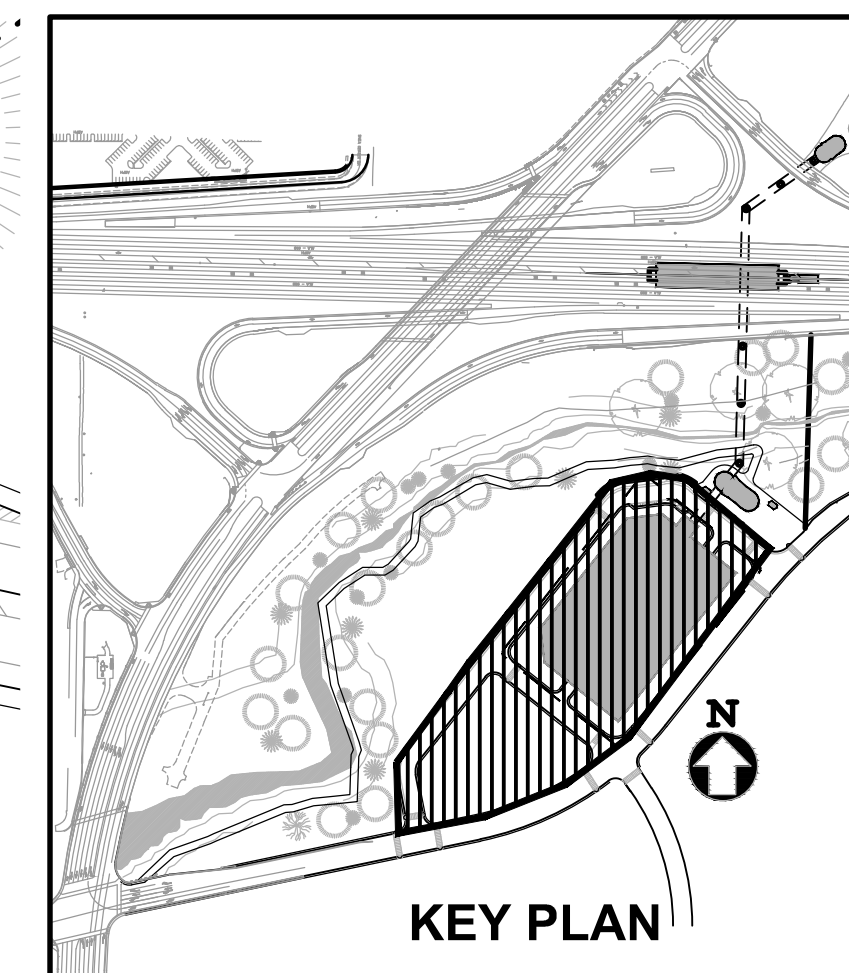
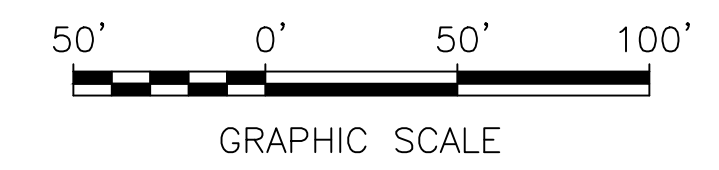
KEY NOTES

- 01 PARKING STRUCTURE
- 03 LINE OF POC
- 04 POC COLUMN
- 05 ELEVATOR LOBBY
- 07 TAXI WAITING/PICK-UP (30 FEET)
- 08 BUS DROP-OFF
- 10 BIKE LOCKERS (40 BIKES MIN)
- 11 CONCESSION
- 12 SIDEWALK
- 13 KISS AND RIDE (265 FEET)
- 14 BIO-SWALE
- 15 ENTRY/EXIT FOR PARKING STRUCTURE
- 16 RIGHT TURN ONLY
- 17 BIKE LANE
- 18 PEDESTRIAN SHELTER
- 19 CREEK
- 20 CREEK EASEMENT
- 21 CROSS WALK
- 22 SIGNALIZED INTERSECTION
- 23 SERVICE ROAD/REC TRAIL
- 24 ASSUMED PROPERTY LINE
- 25 SOUTH SIDE TOUCHDOWN STRUCTURE
- 39 POC BIKE PARKING (ATTENDED)
- 40 BIKE RACKS (30 BIKES MIN)
- 41 TAXI QUEUING (70 FEET)
- 42 ADA DROP-OFF (70 FEET)



NOTE:
1. FUTURE WIDENING OF AIRWAY BLVD WILL BE DONE IN THE NEXT PHASE

SITE ACCESS PLAN - AND PARKING
SCALE: 1"=50'-0"



REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
R. GUTIERREZ
DRAWN:
R. GUTIERREZ
CHECKED:
G. FITSCHEN
APPROVED:
R. BARLAAN
DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

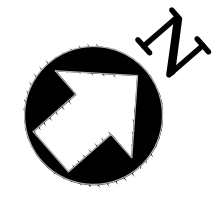
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**

SITE ACCESS PLAN
AND PARKING

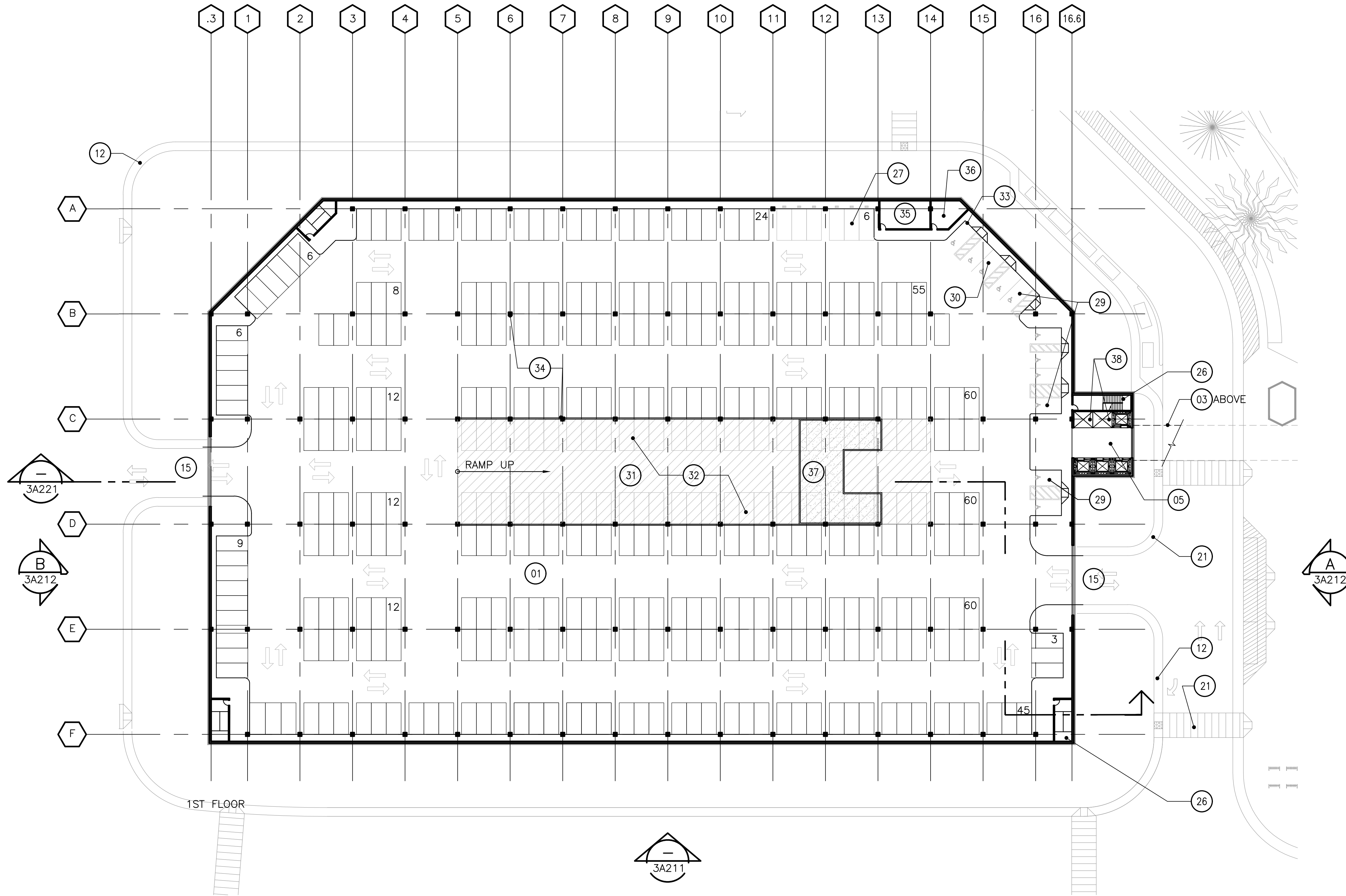
CADD FILENAME 08CT008-3A200	
SIZE: SCALE D 1"=50'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A200	PAGE NO. 063

Jul 28, 2017 - 9:13am \\globalrup.com\americas\Jobs\S-F\230000\37865-00\2 Client (AVAA)\P-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\Changes 2017-05-05-05\CADD\08CT008-3A200.dwg

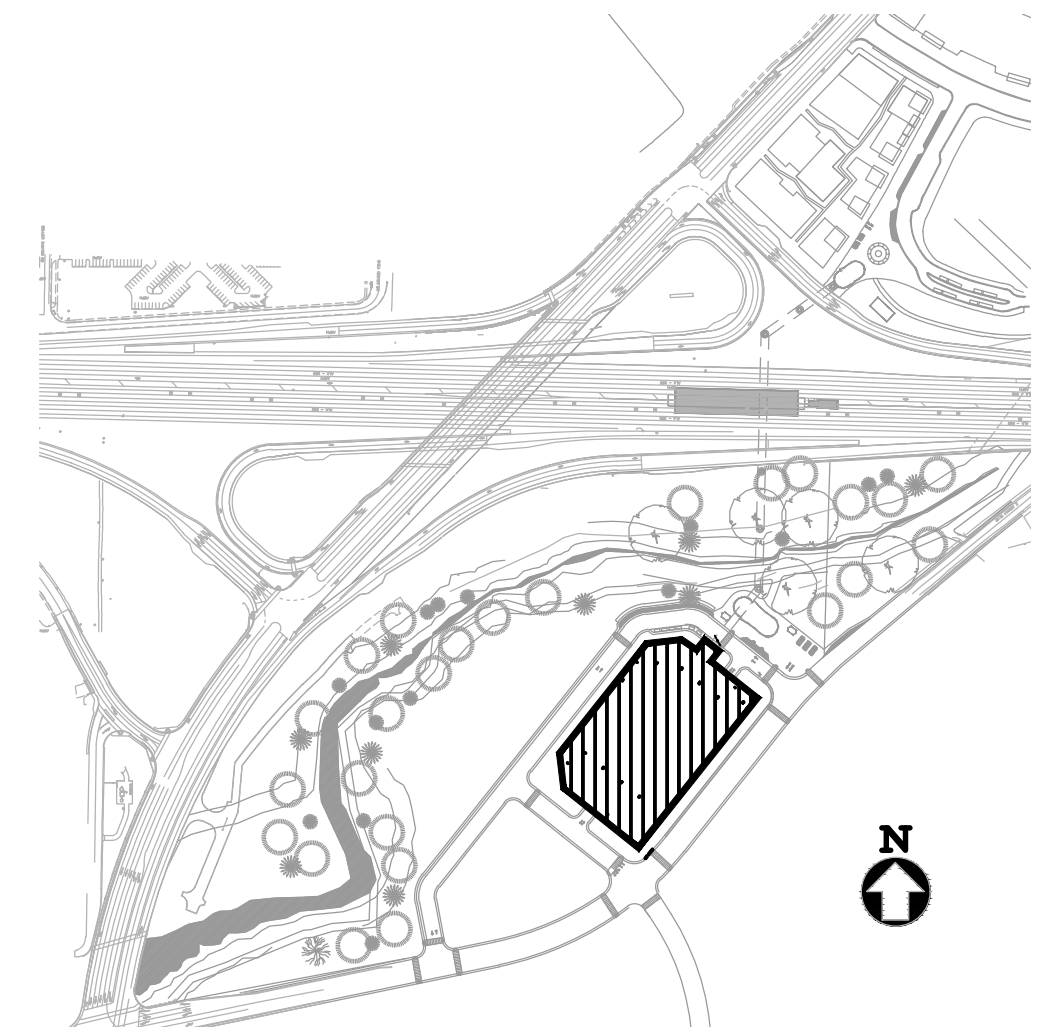
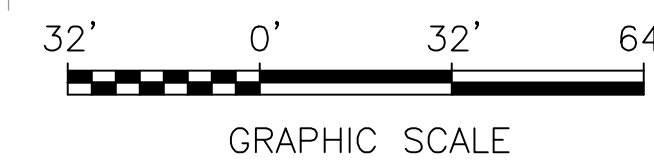


KEY NOTES

- 01 PARKING STRUCTURE
- 03 LINE OF POC
- 05 ELEVATOR LOBBY
- 12 SIDEWALK
- 15 ENTRY/EXIT FOR PARKING STRUCTURE
- 21 CROSS WALK
- 26 STAIRS TO NEXT FLOOR
- 27 ELECTRIC VEHICLE CHARGING STATION
- 29 VAN ACCESSIBLE PARKING
- 30 ACCESSIBLE PARKING
- 31 RAMP TO THE NEXT FLOOR
- 32 PARKING SPACES ALONG RAMP
- 33 6" HIGH CURB, 3'-0" MIN WIDTH
- 34 COLUMN
- 35 ELEVATOR MACHINE ROOM
- 36 ELECTRICAL ROOM
- 37 STORAGE AREA UNDER RAMP
- 38 FUTURE ELEVATOR



1ST FLOOR PLAN
SCALE: 1/32"=1'-0"



KEY PLAN

Jul 25, 2017 - 11:03am \\global\p.com\americas\jobs\S-F\230000\237865-00\2 Client: GAVAN\S-02 Received Files\2016-10-06_AVA CAD\B Files\TEMP_CD_9-19-16_Changes_2017-07-24\Isabel Station\DMU-EMU ALTERNATIVE CAD\BCT008-3A201.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
R. GUTIERREZ
 DRAWN:
B. LIWANAG
 CHECKED:
G. FITSCHEN
 APPROVED:
R. BARLAAN
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

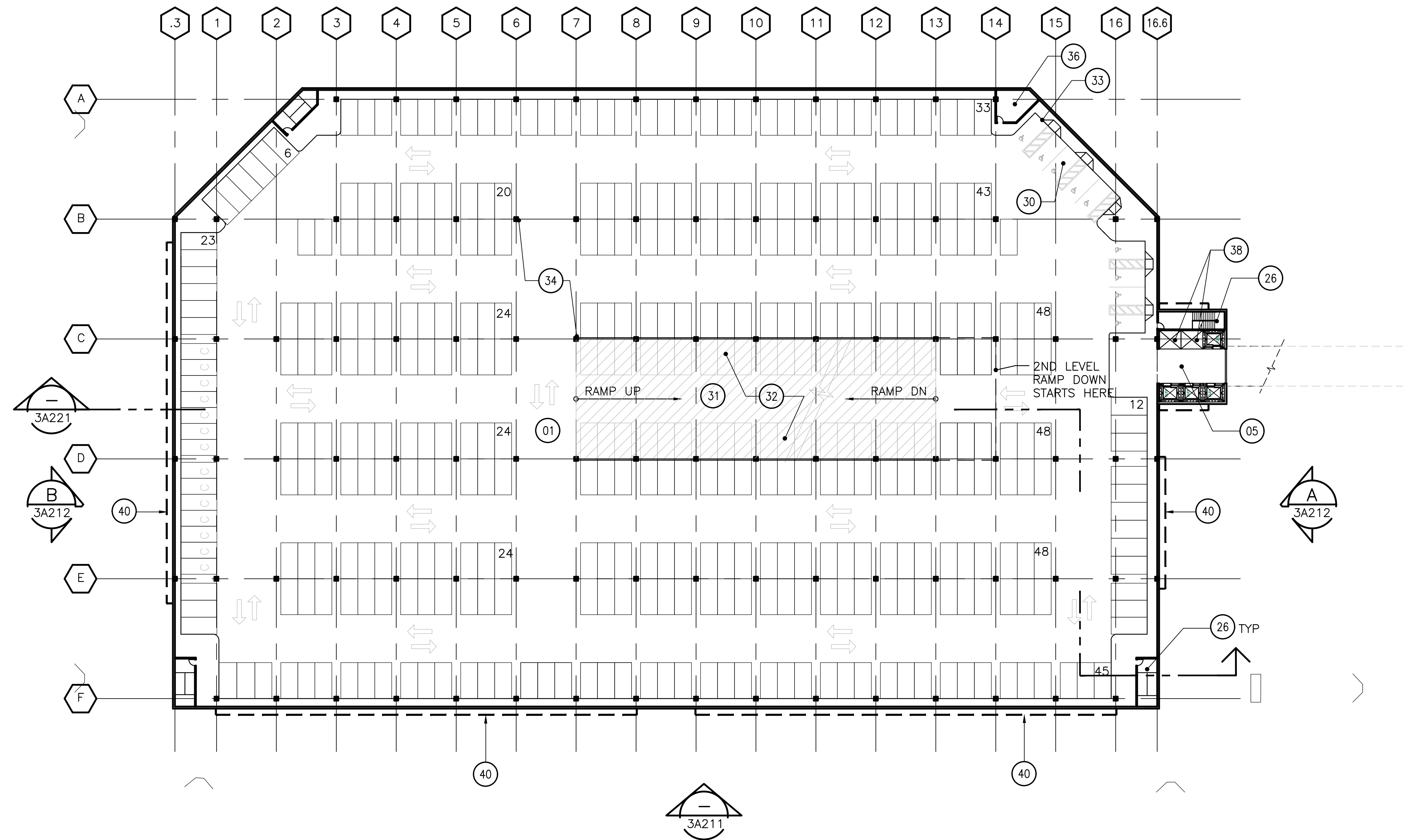
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**
 PARKING STRUCTURE
1ST FLOOR PLAN

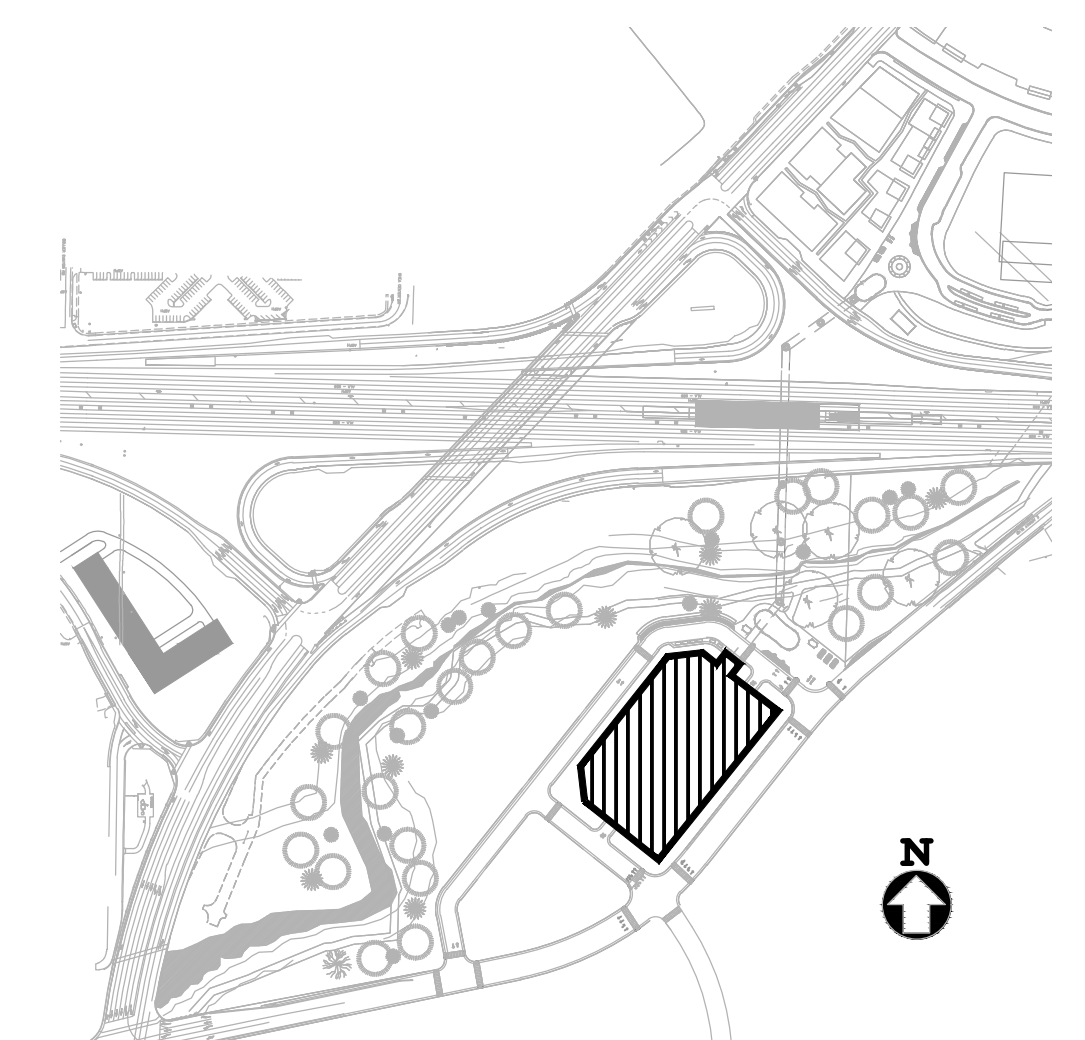
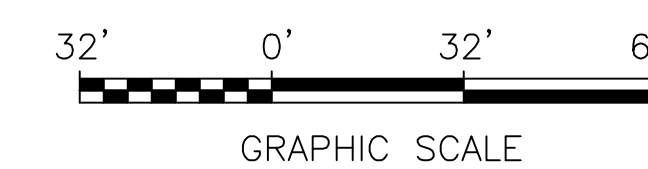
CADD FILENAME 08CT008-3A201	
SIZE: SCALE D	1/32"=1'-0"
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A201	PAGE NO. 064

KEY NOTES

- 01 PARKING STRUCTURE
- 05 ELEVATOR LOBBY
- 26 STAIRS TO NEXT FLOOR
- 30 ACCESSIBLE PARKING
- 31 RAMP TO THE NEXT FLOOR
- 32 PARKING SPACES ALONG RAMP
- 33 6" HIGH CURB, 3'-0" MIN WIDTH
- 34 COLUMN
- 36 ELECTRICAL ROOM
- 38 FUTURE ELEVATOR
- 40 DECORATIVE METAL SCREEN PANELS



TYPICAL 2ND, 3RD AND 5TH LEVEL FLOOR PLAN
SCALE: 1/32"=1'-0"



KEY PLAN

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
R. CUTIERREZ
DRAWN:
B. LIWANAG
CHECKED:
G. FITSCHEN
APPROVED:
R. BARLAAN
DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**

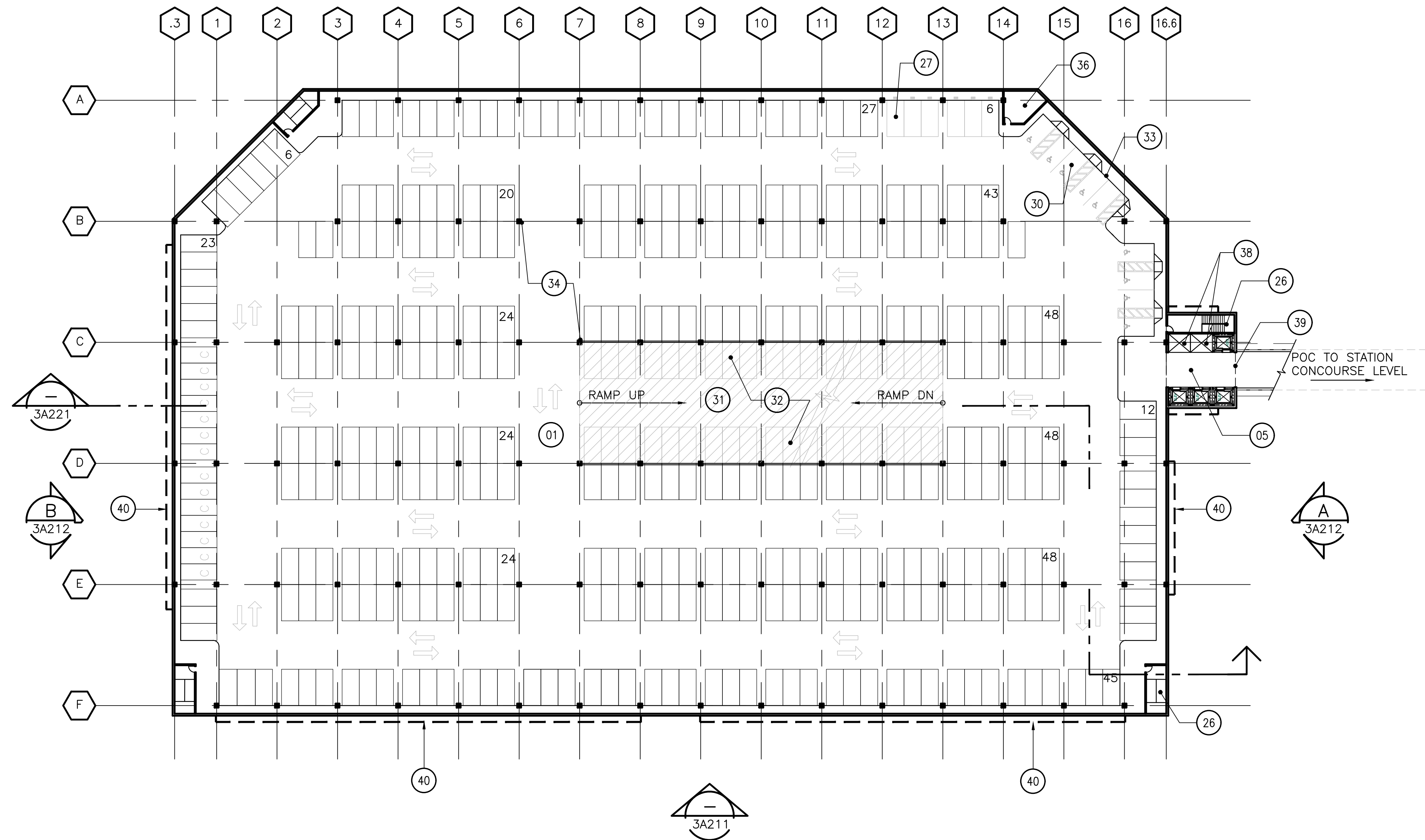
PARKING STRUCTURE
TYPICAL 2ND, 3RD AND 5TH LEVEL FLOOR PLAN

CADD FILENAME 08CT008-3A202	
SIZE: SCALE D 1/32"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A202	PAGE NO. 065

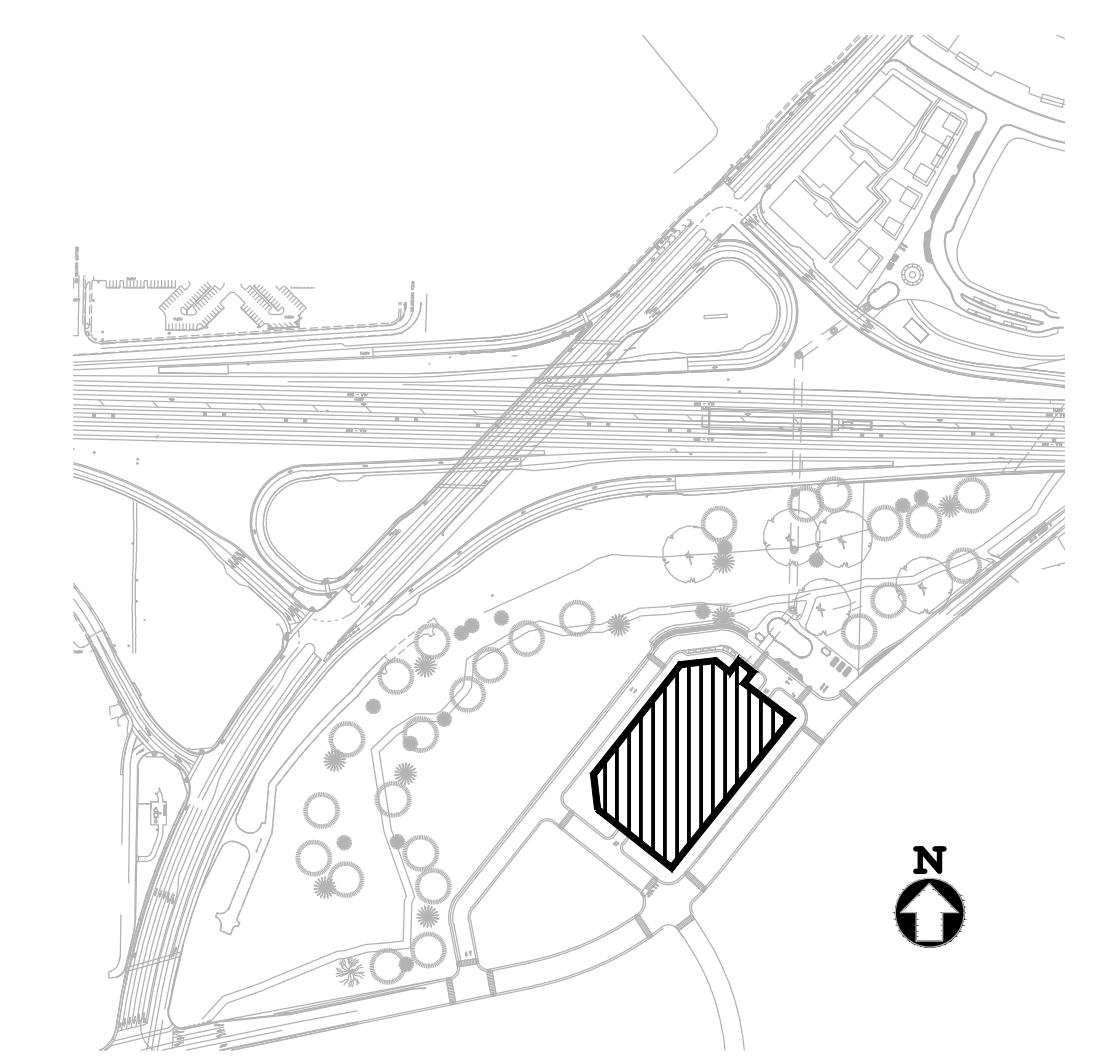
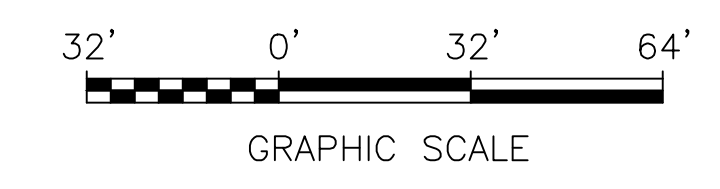
Jul 25, 2017 - 11:55am \\global.srp.com\americas\jobs\AS-F\230000\237865-00-2 Client: GAVAN\S-02 Received Files\2016-10-06_AVA_CADD_files\TEMP_CD_5-19-16_Changes_2017-07-24\Isabel_Station\DMU-EMU_ALTERNATIVE_CADD\08CT008-3A202.dwg

KEY NOTES

- (01) PARKING STRUCTURE
- (05) ELEVATOR LOBBY
- (26) STAIRS TO NEXT FLOOR
- (27) ELECTRIC VEHICLE CHARGING STATION
- (30) ACCESSIBLE PARKING
- (31) RAMP TO THE NEXT FLOOR
- (32) PARKING SPACES ALONG RAMP
- (33) 6" HIGH CURB, 3'-0" MIN WIDTH
- (34) COLUMN
- (36) ELECTRICAL ROOM
- (38) FUTURE ELEVATOR
- (39) OVERHEAD COILING GRILLE DOOR
- (40) DECORATIVE METAL SCREEN PANELS



4TH LEVEL FLOOR PLAN
SCALE: 1/32"=1'-0"



KEY PLAN

Jul 25, 2017 - 11:18am \\global.srp.com\americas\jobs\AS-F\230000\237865-00-2 Client: GAVAN\S-02 Received Files\2016-10-06_AVA_CADD_files\TEMP_CD_5-19-16_Changes_2017-07-24\Isabel_Station\DMU-EMU_ALTERNATIVE\CADD\BCT008-3A203.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
R. GUTIERREZ
 DRAWN:
B. LIWANAG
 CHECKED:
G. FITSCHEN
 APPROVED:
R. BARLAAN
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____

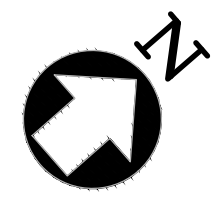
Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**

PARKING STRUCTURE
4TH LEVEL FLOOR PLAN

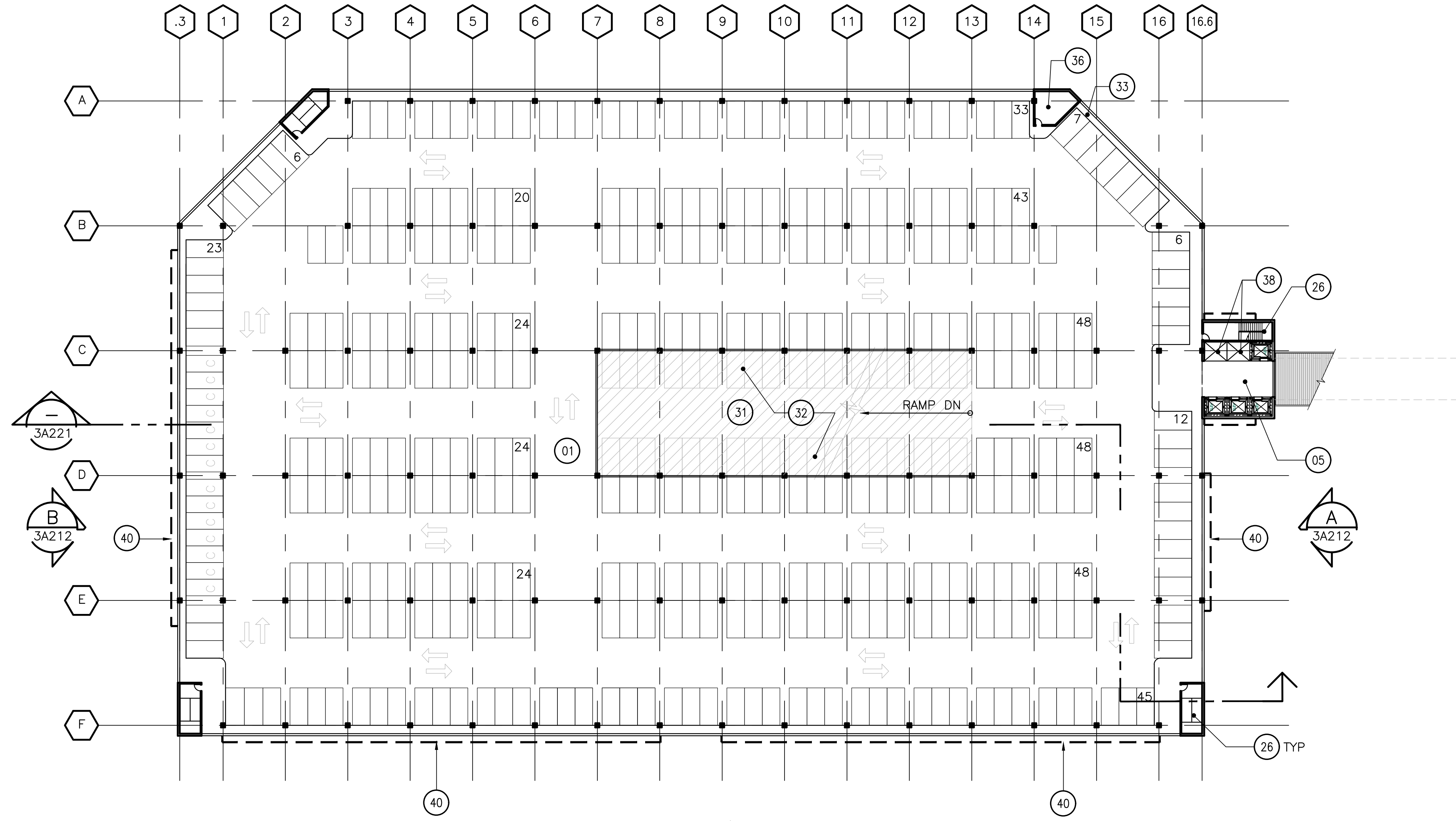
CADD FILENAME 08CT008-3A203	
SIZE: SCALE D 1/32"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A203	PAGE NO. 066



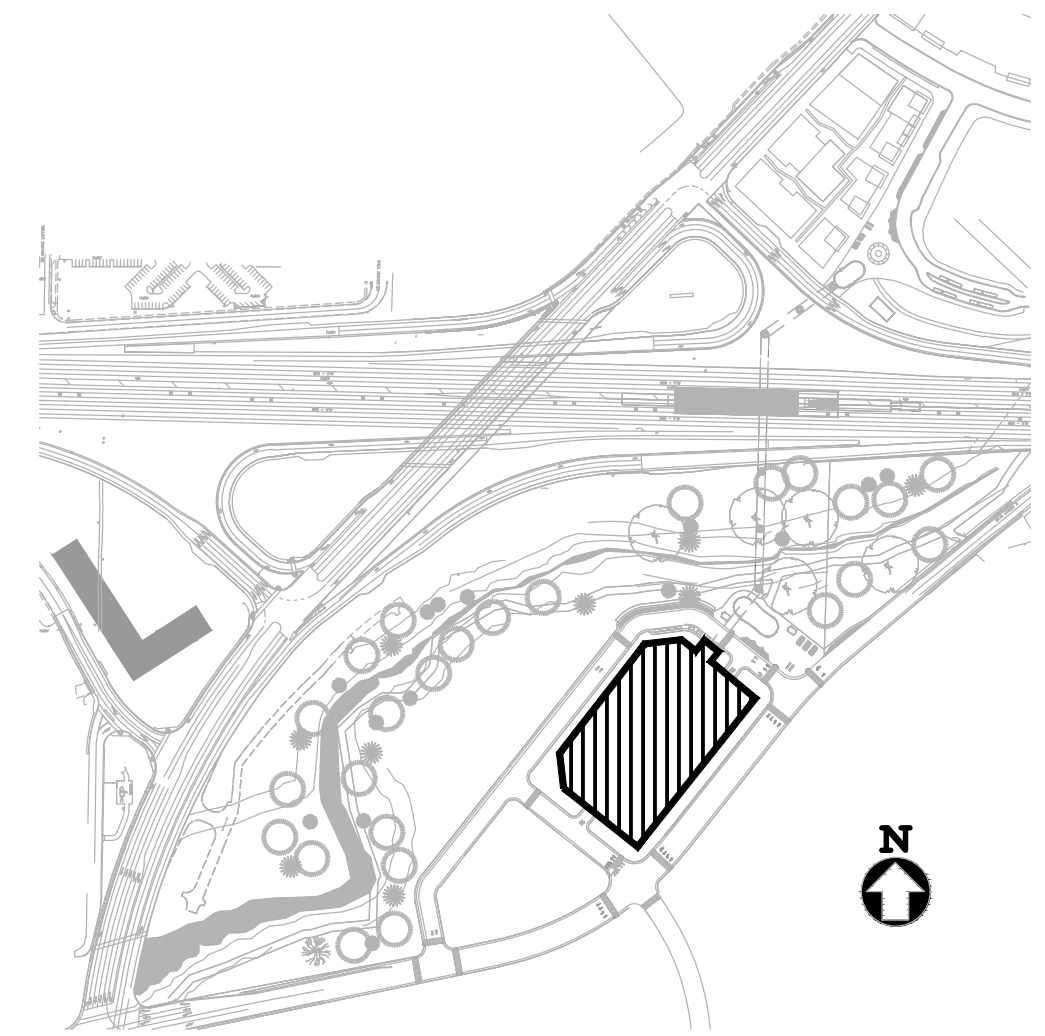
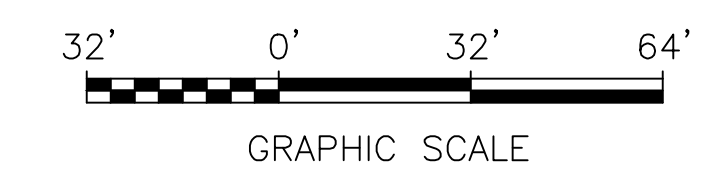
KEY NOTES

- 01 PARKING STRUCTURE
- 05 ELEVATOR LOBBY
- 26 STAIRS TO NEXT FLOOR
- 31 RAMP TO THE NEXT FLOOR
- 32 PARKING SPACES ALONG RAMP
- 33 6" HIGH CURB, 3'-0" MIN WIDTH
- 36 ELECTRICAL ROOM
- 38 FUTURE ELEVATOR
- 40 DECORATIVE METAL SCREEN PANEL

NOTE:
1. POTENTIAL LOCATION OF SOLAR PANEL AT THIS LEVEL.



ROOF LEVEL FLOOR PLAN
SCALE: 1/32"=1'-0"



KEY PLAN

Jul 25, 2017 - 11:52am \\globalarup.com\americas\jobs\SF\230000\237865-00\2 Client: GAVAN\2-02 Received Files\2016-10-06 AVA CAD\ Files\TEMP_CD_9-19-16\Changes 2017-07-24\Isabel Station\DMU-EMU ALTERNATIVE\CADD\08CT008-3A204.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
R. CUTIERREZ
 DRAWN:
B. LIWANAG
 CHECKED:
G. FITSCHEN
 APPROVED:
R. BARLAAN
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

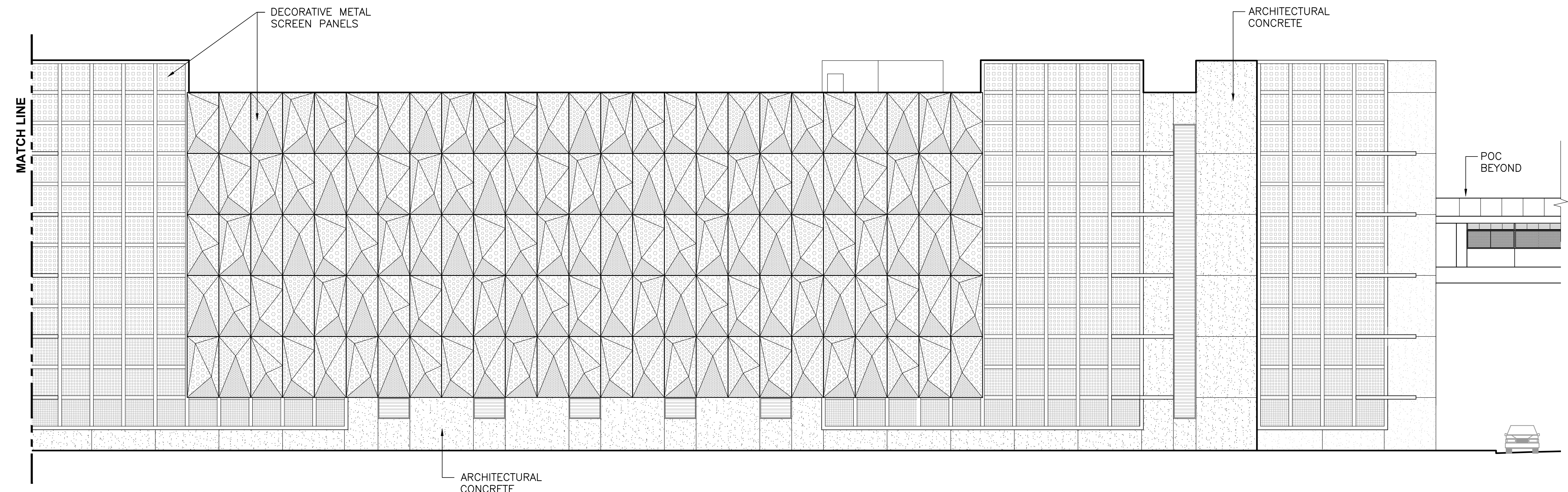
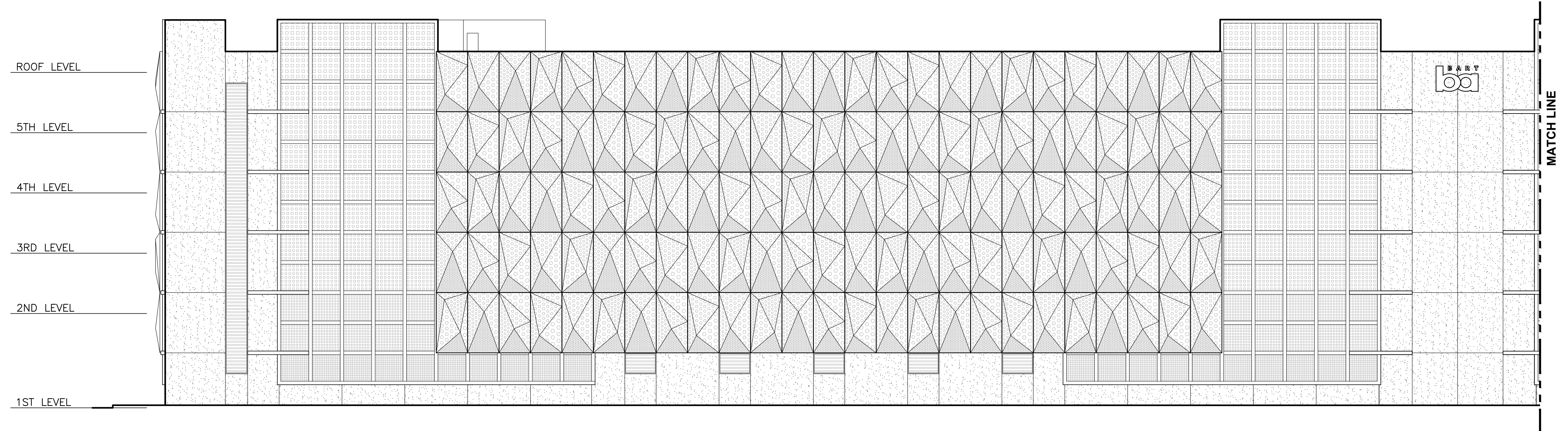
APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**

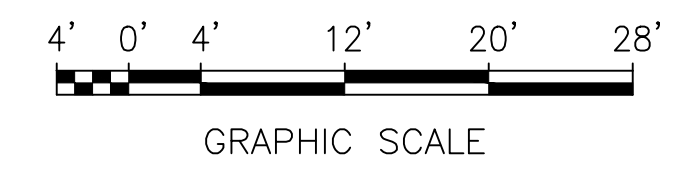
PARKING STRUCTURE
ROOF LEVEL FLOOR PLAN

CADD FILENAME 08CT008-3A204	REV. 0
SIZE: SCALE D 1/32"=1'-0"	CONTRACT NO. 08CT008
CONTRACT SHEET NO. 3A204	PAGE NO. 067

Jul 25, 2017 - 11:22am \\global\arup.com\americas\jokes\j\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-16 AVA CAD\1 Files\TEMP_CD_9-19-16\Changes 2017-07-24\Isabel Station\DMU\EMU ALTERNATIVE CAD\08CT008-3A211.dwg



EXTERIOR ELEVATION — SOUTHEAST
 SCALE: 3/32" = 1'-0"



REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
 R. GUTIERREZ
 DRAWN:
 B. LIWANAG
 CHECKED:
 G. FITSCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

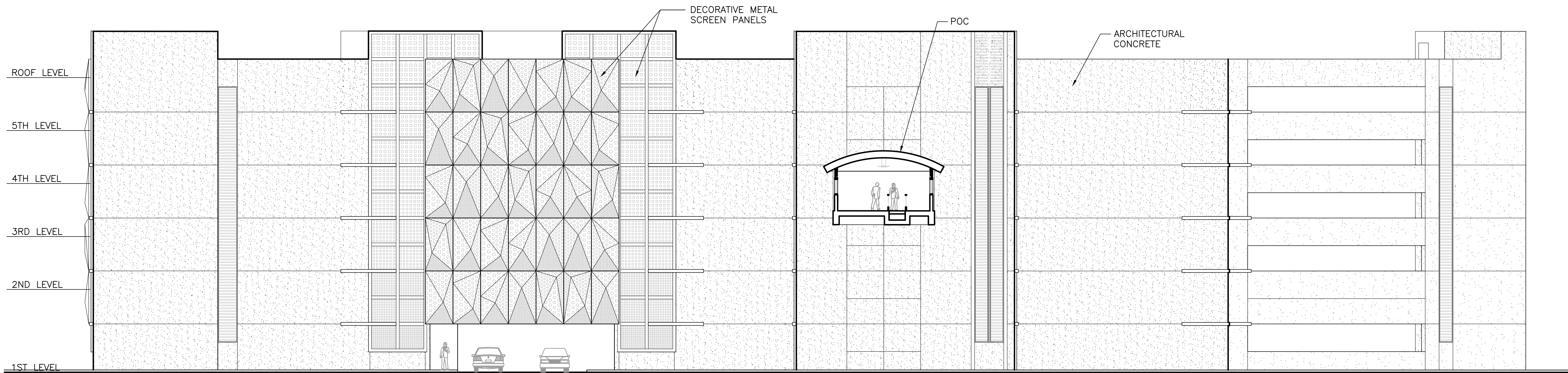
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

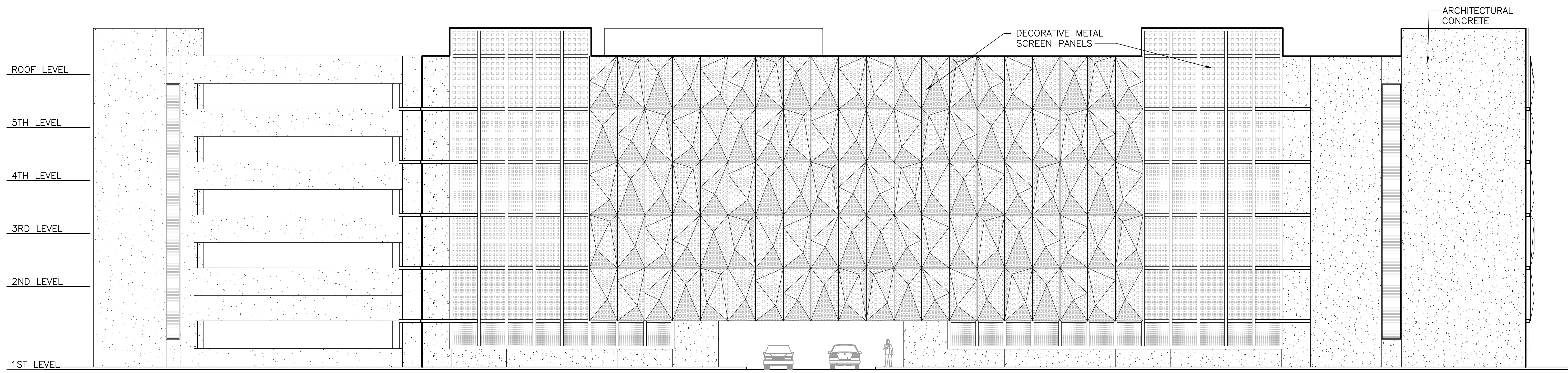
**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**
 PARKING STRUCTURE
 EXTERIOR ELEVATION — SOUTHEAST

CADD FILENAME 08CT008-3A211	
SIZE: SCALE D	3/32"=1'-0"
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A211	PAGE NO. 068

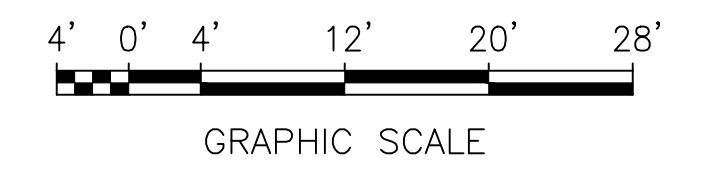
Jul 25, 2017 - 11:23am \\global\pup.com\server\cos\jokes\sf\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CAD\1 Files\TEMP_CD_9-19-16\Changes 2017-07-24\Isabel Station\DMU-EMU ALTERNATIVE 2\08CT008-3A212.dwg



EXTERIOR ELEVATION – NORTHEAST (A)
 SCALE: 3/32" = 1'-0"
 3A212



EXTERIOR ELEVATION – SOUTHWEST (B)
 SCALE: 3/32" = 1'-0"
 3A212



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
 R. GUTIERREZ
 DRAWN:
 B. LIWANAG
 CHECKED:
 G. FITSCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
 1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
 1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

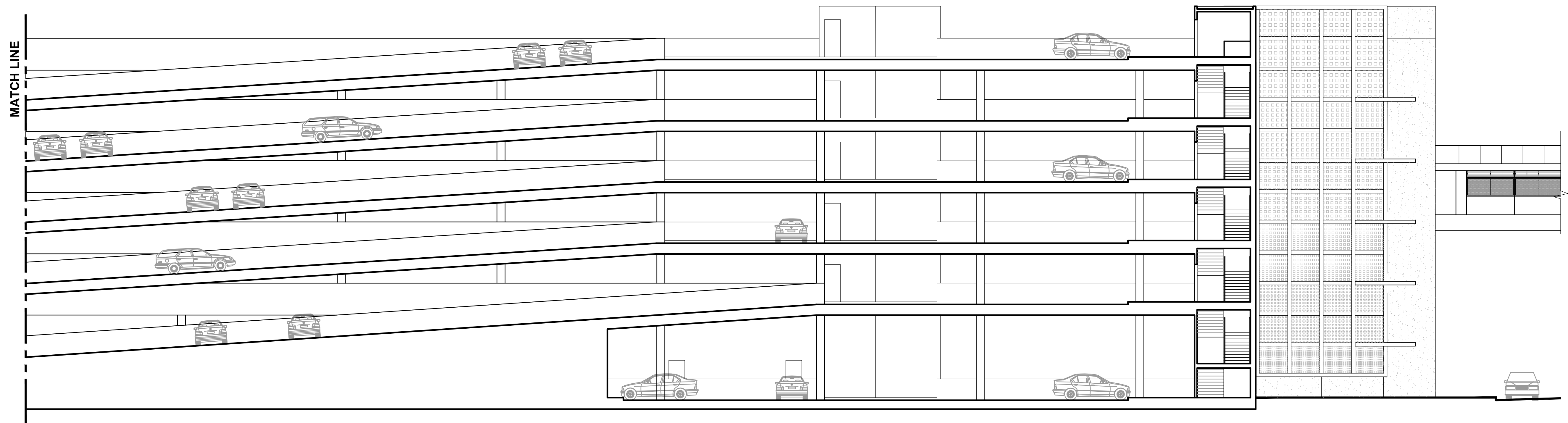
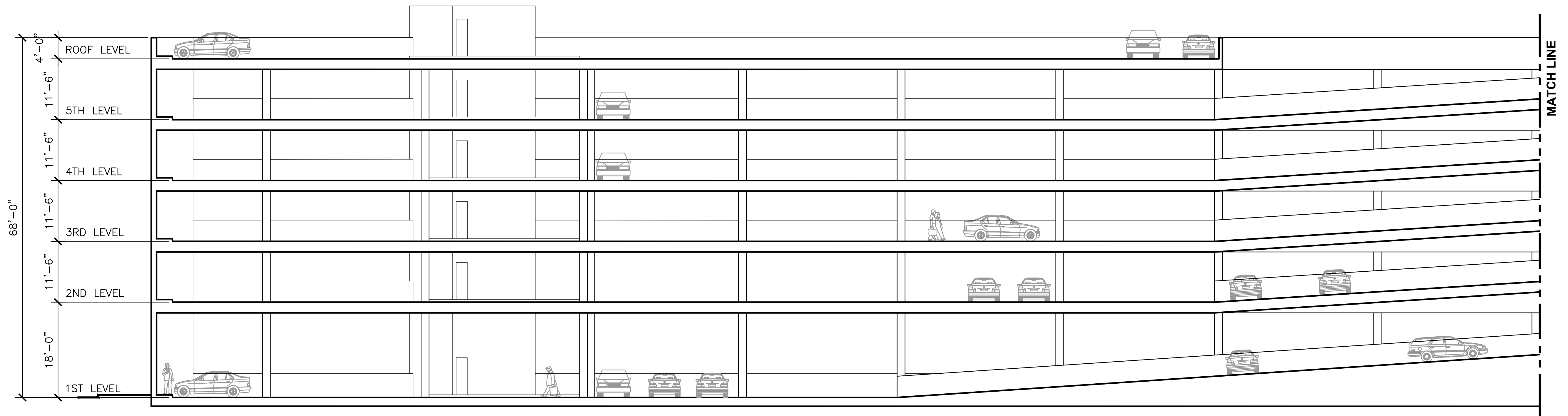
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**

PARKING STRUCTURE
 EXTERIOR ELEVATION – NORTHEAST
 AND SOUTHWEST

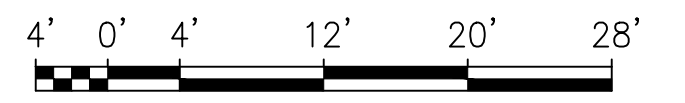
CADD FILENAME 08CT008-3A212	
SIZE: SCALE D 3/32"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A212	PAGE NO. 069

Jul 25, 2017 - 11:24am \\globalarup.com\americas\jokes\F\20000\237865-00\2 Client: (AVA)\2-02 Received Files\2016-10-06_AVA_CADD_Files\TEMP_CD_9-19-16_Changes_2017-07-24_Isabel_Station\DMU-EMU_ALTERNATIVE\CADD\08CT008-3A221.dwg



LONGITUDINAL SECTION

SCALE: 3/32" = 1'-0"



GRAPHIC SCALE

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
 R. GUTIERREZ
 DRAWN:
 B. LIWANAG
 CHECKED:
 G. FITSCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
 1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
 1970 Broadway, Suite 608 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

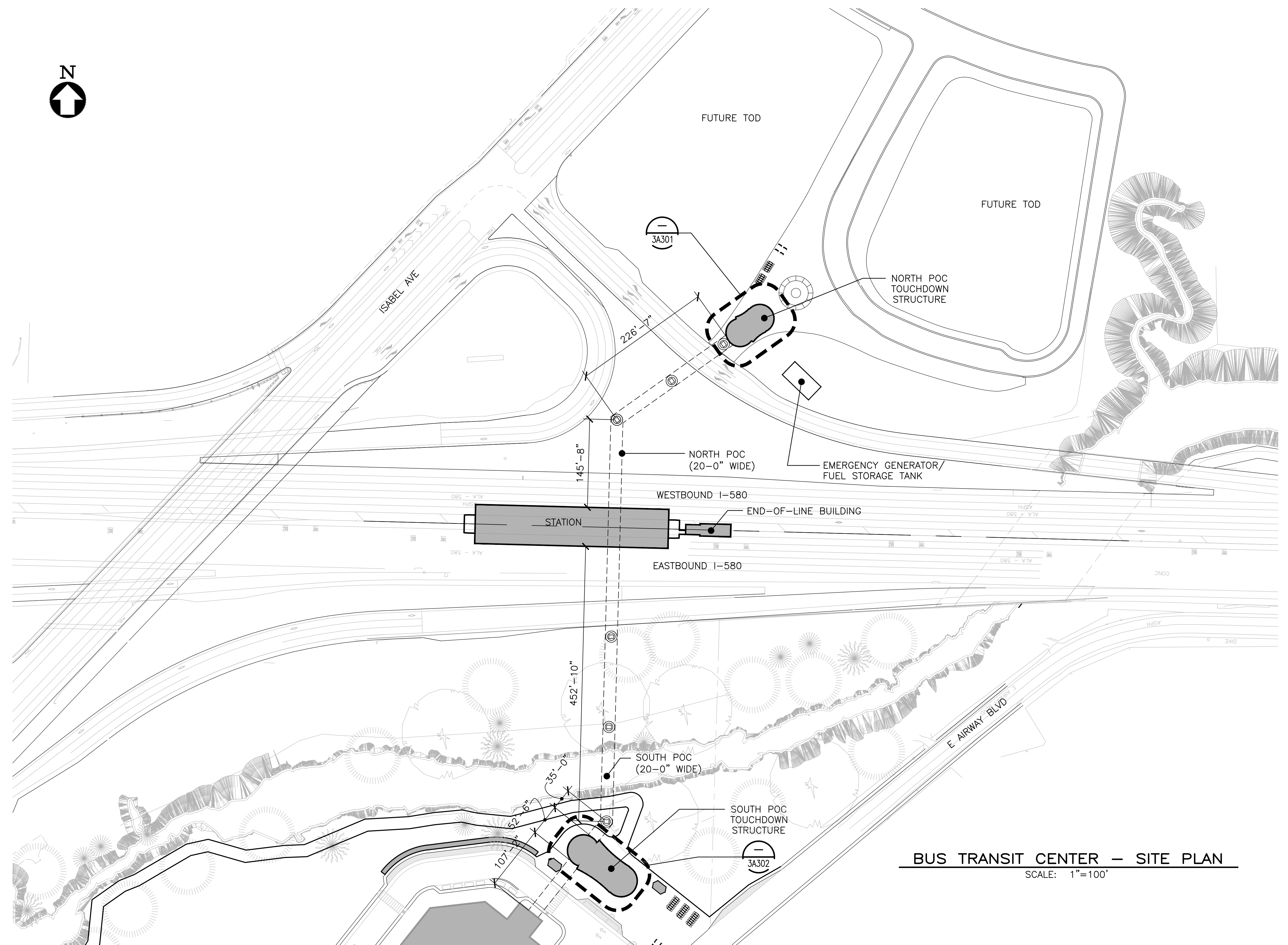
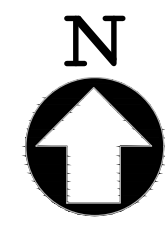
SUBMITTED _____

APPROVED _____

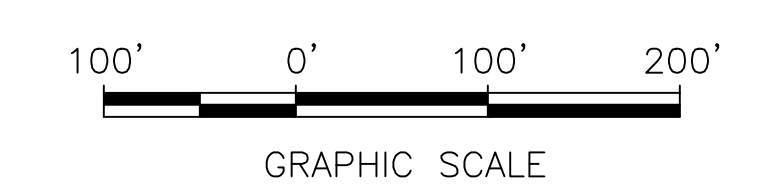
**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**

PARKING STRUCTURE
 LONGITUDINAL SECTION

CADD FILENAME 08CT008-3A221	
SIZE: D	SCALE 3/32"=1'-0"
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A221	PAGE NO. 070



BUS TRANSIT CENTER — SITE PLAN
SCALE: 1"=100'



Jul 28, 2017 - 9:15am \\globalarup.com\americas\jobs\F\230000\37865-00\2 Client (AVAA)\E-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\Changes 2017-05-05\CADD\08CT008-3A300.dwg
 eronsu@housen

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

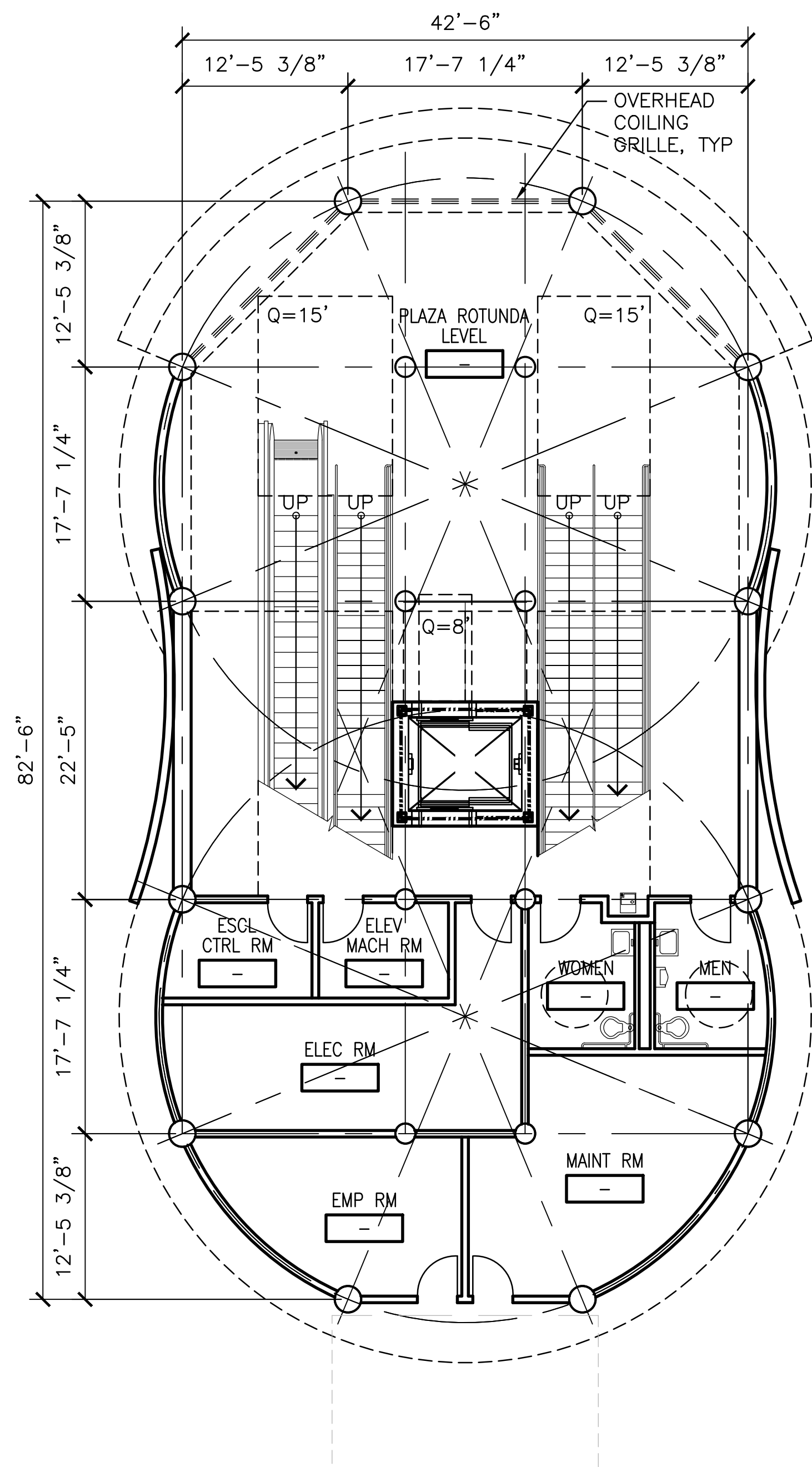
DESIGNED:	
DRAWN:	
CHECKED:	
APPROVED:	
DATE:	20170406

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

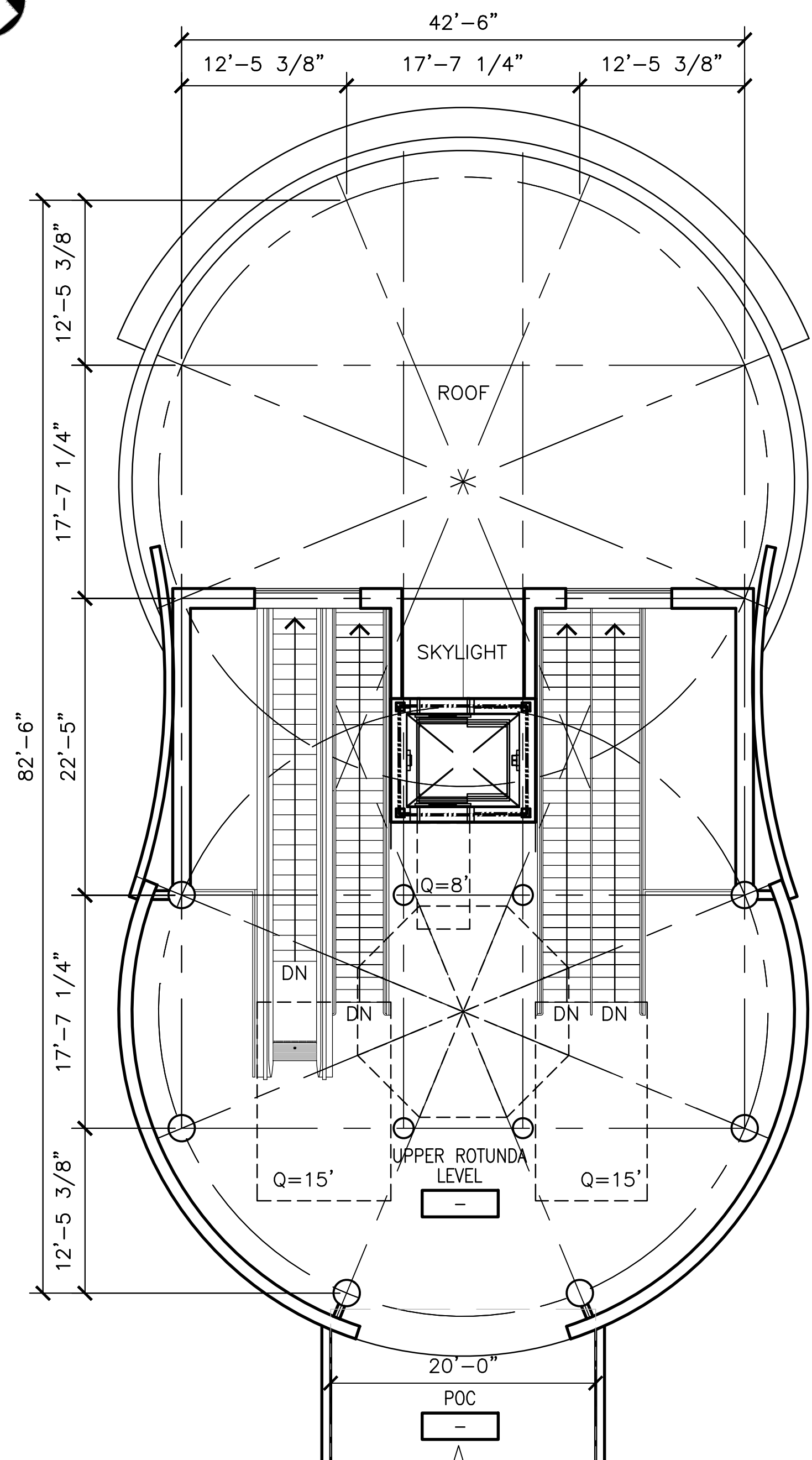
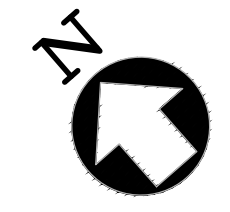
 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

BART TO LIVERMORE EXTENSION ALTERNATIVE 2 - DMU/EMU ISABEL STATION		CADD FILENAME 08CT008-3A300
BUS TRANSIT CENTER SITE PLAN		SIZE: SCALE D 1"=100'
CONTRACT NO. 08CT008	REV. 0	
CONTRACT SHEET NO. 3A300	PAGE NO. 071	

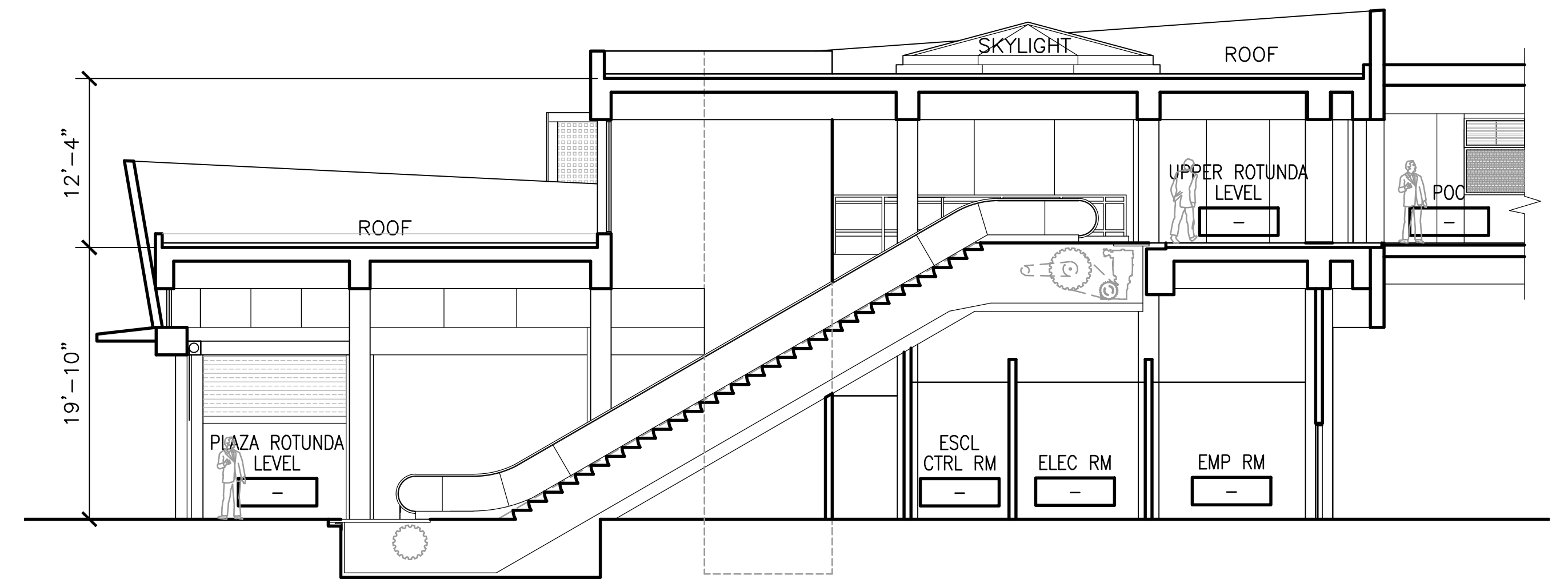
Jul 28, 2017 - 10:56am \\global-ar-up.com\americas\jobs\SF\230000\237865-00\2 Client (AVAY)2-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\Changes_2017-07-24\Isabel Station\DMU\EMU ALTERNATIVE\CADD\08CT008-3A301.dwg



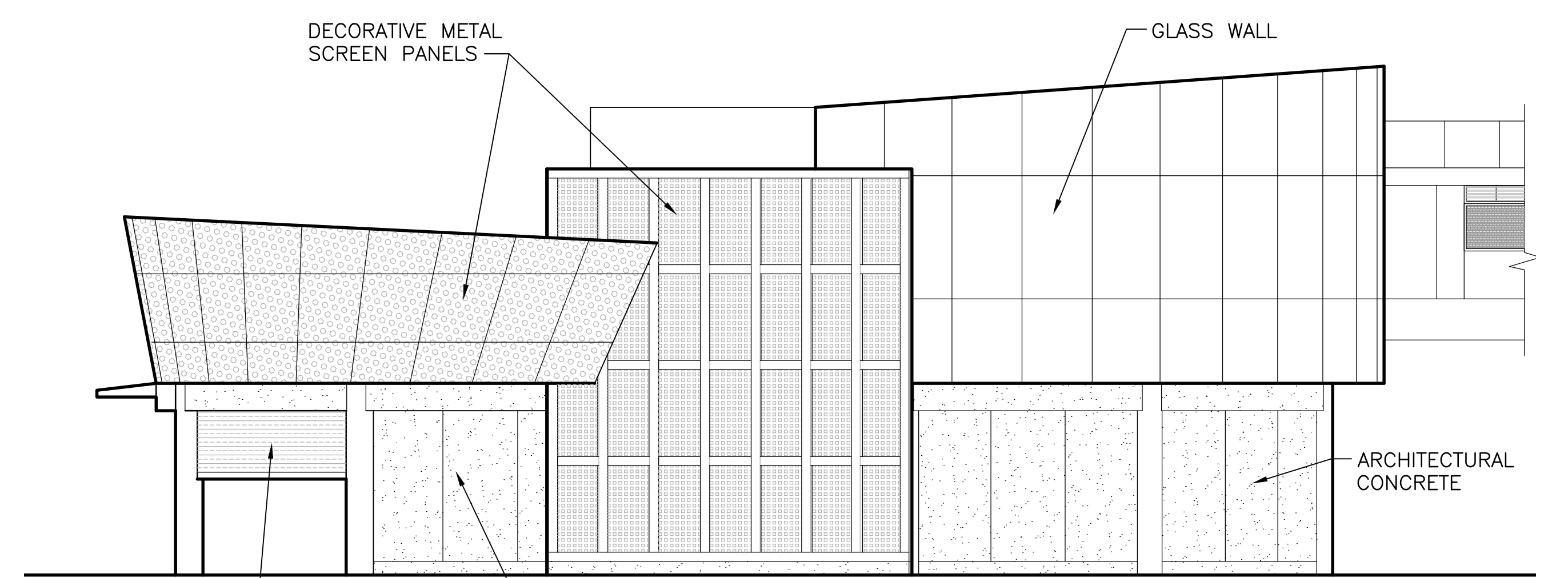
FLOOR PLAN - PLAZA LEVEL A
SCALE: 1/8" = 1'-0" 3A301



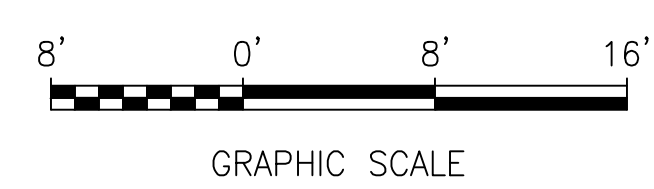
FLOOR PLAN - UPPER LEVEL B
SCALE: 1/8" = 1'-0" 3A301



LONGITUDINAL SECTION C
SCALE: 1/8" = 1'-0" 3A301



WEST ELEVATION D
SCALE: 1/8" = 1'-0" 3A301



KEY PLAN

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
B LIWANAG
 DRAWN:
C GUTERRES
 CHECKED:
G FITSCHEN
 APPROVED:
R BARLAAAN
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

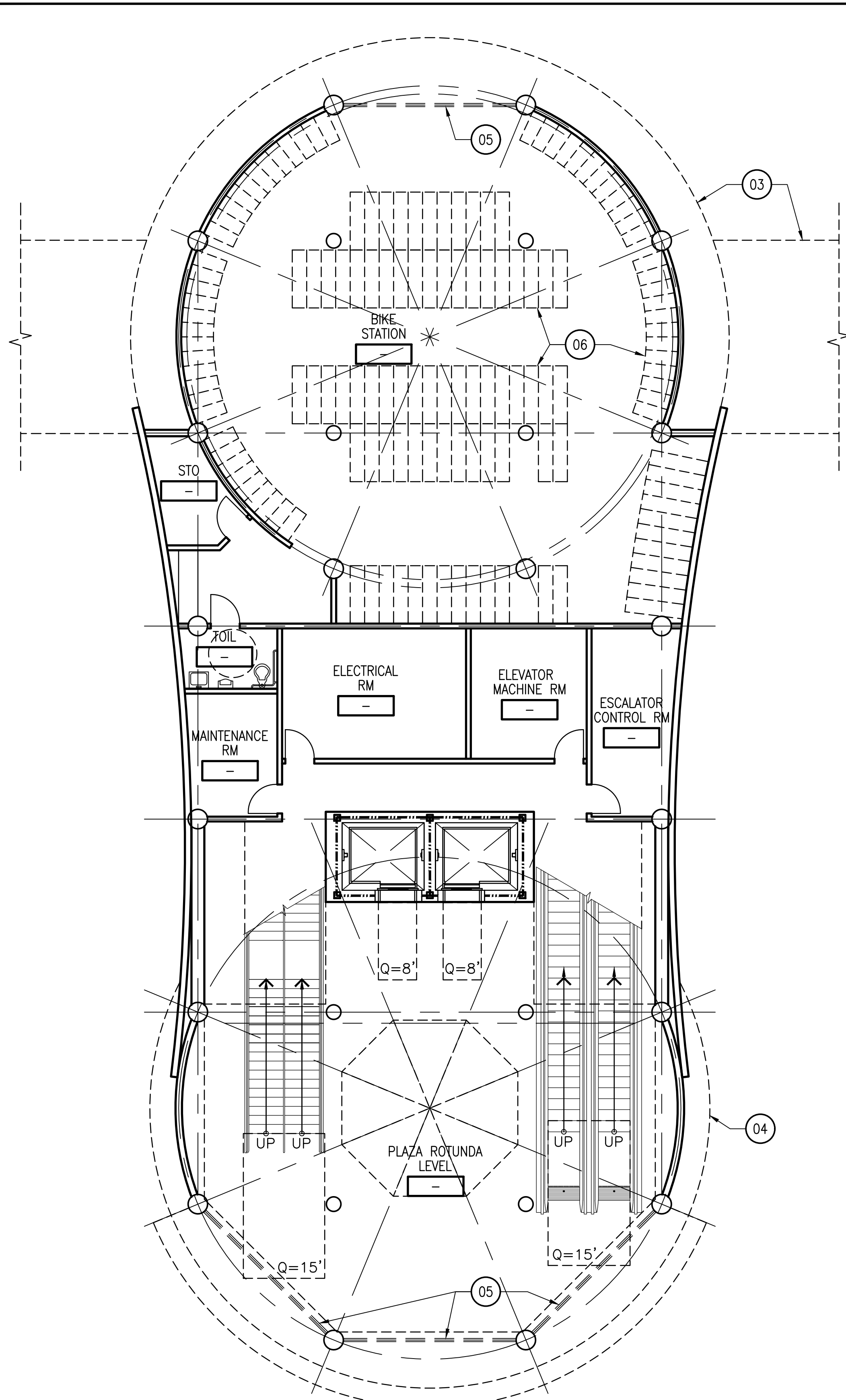
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
ISABEL STATION**

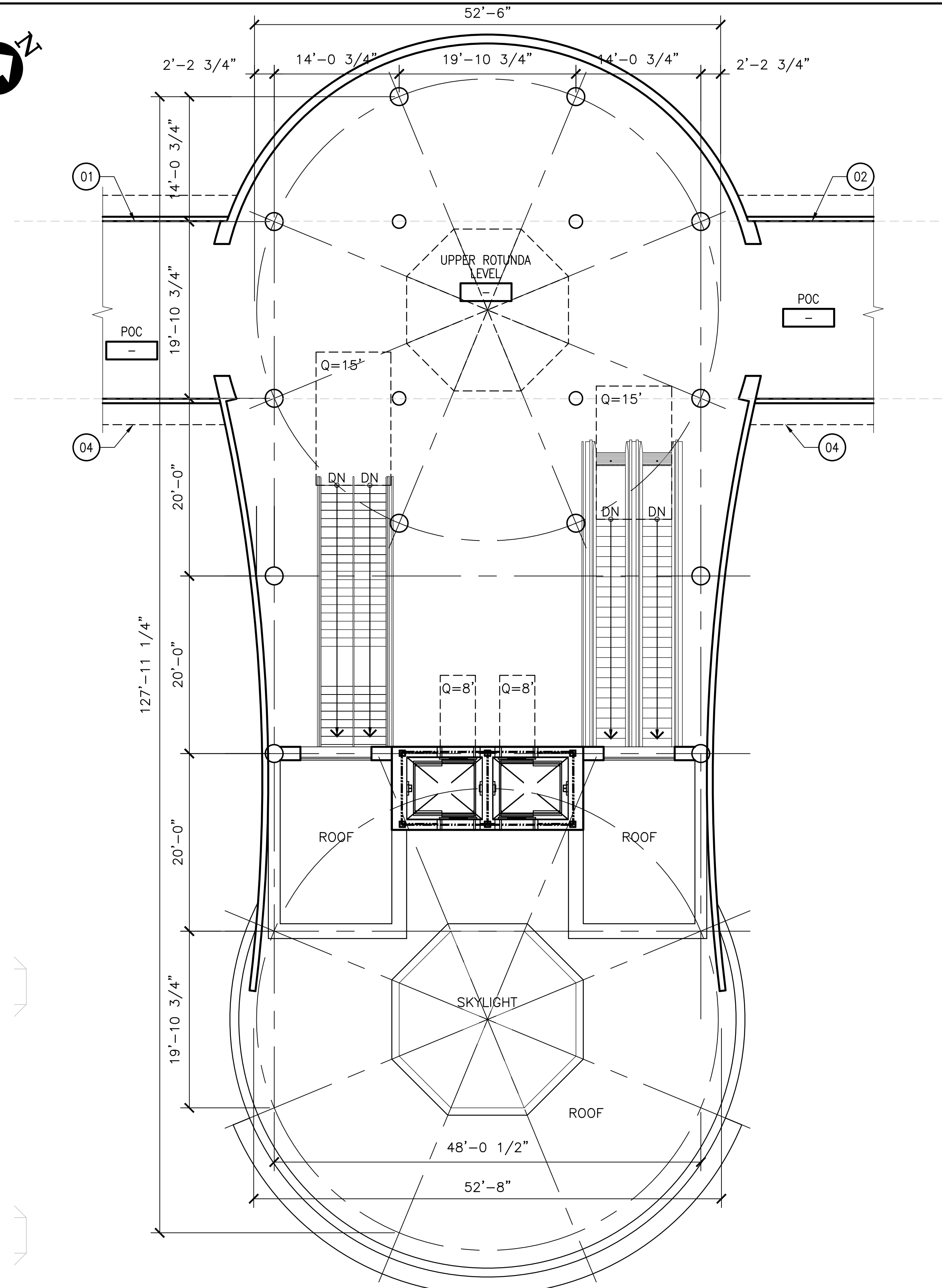
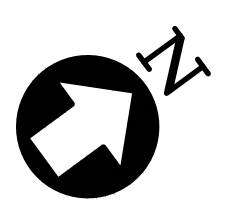
NORTH POC TOUCH DOWN STRUCTURE
FLOOR PLANS, ELEVATION AND SECTION

CADD FILENAME 08CT008-3A301	
SIZE: SCALE D 1/8"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A301	PAGE NO. 072

Jul 25, 2017 - 11:34am \\global\pup.com\americas\james.s.f.\230000\237865-00\2 Client: (AVA)\2-02 Received Files\2016-10-06 AVA CAD\ Files\TEMP_CD_9-19-16\Changes 2017-07-24\Isabel Station\DMU-EMU ALTERNATIVE 2\08CT008-3A302.dwg
 eron.southwestern

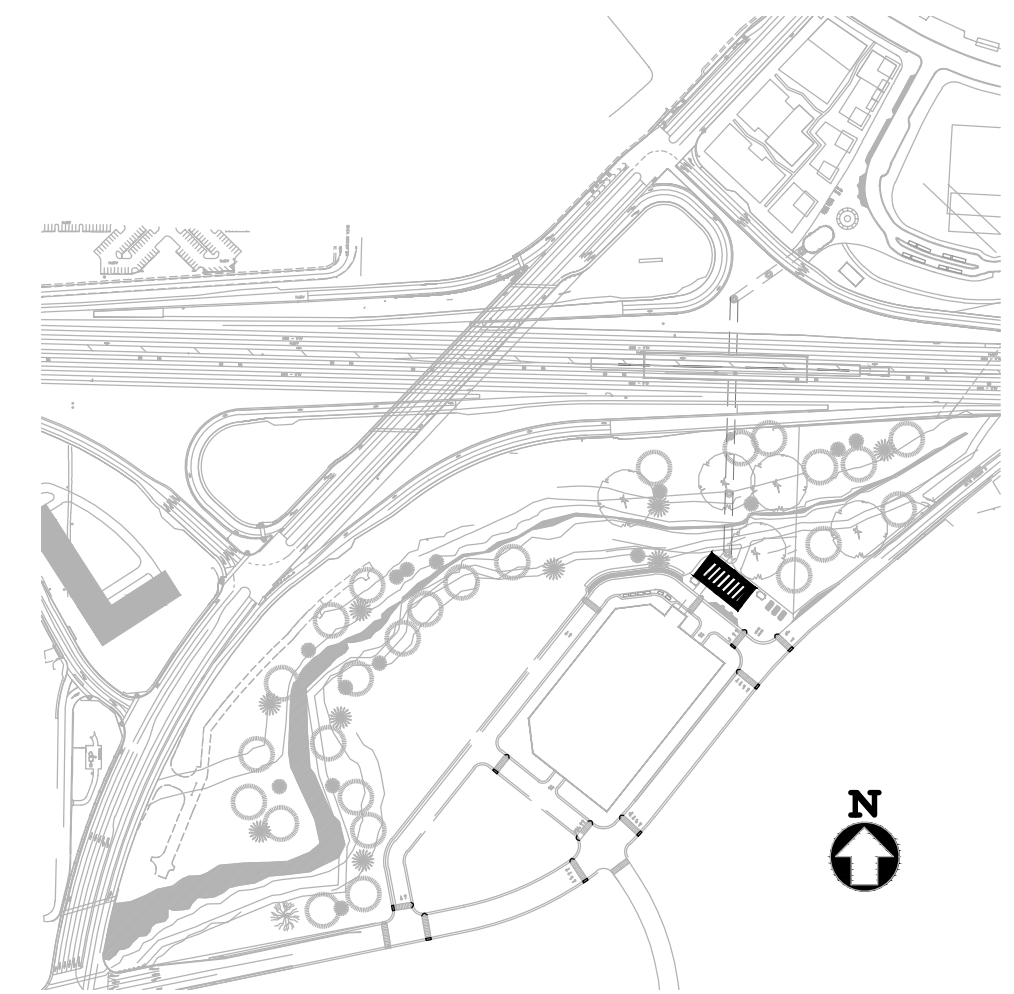


FLOOR PLAN — PLAZA LEVEL **A**
 SCALE: 1/8" = 1'-0"
 3A302



FLOOR PLAN — UPPER LEVEL **B**
 SCALE: 1/8" = 1'-0"
 3A302

- KEY NOTES**
- 01 POC TO PARKING STRUCTURE
 - 02 POC TO STATION CONCOURSE
 - 03 LINE OF FLOOR ABOVE
 - 04 LINE OF ROOF ABOVE
 - 05 OVERHEAD COILING GRILLE
 - 06 BIKE RACK



REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED: B. LIWANAG
DRAWN: R. GUTIERREZ
CHECKED: G. FITSCHEN
APPROVED: R. BARLAAN
DATE: 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

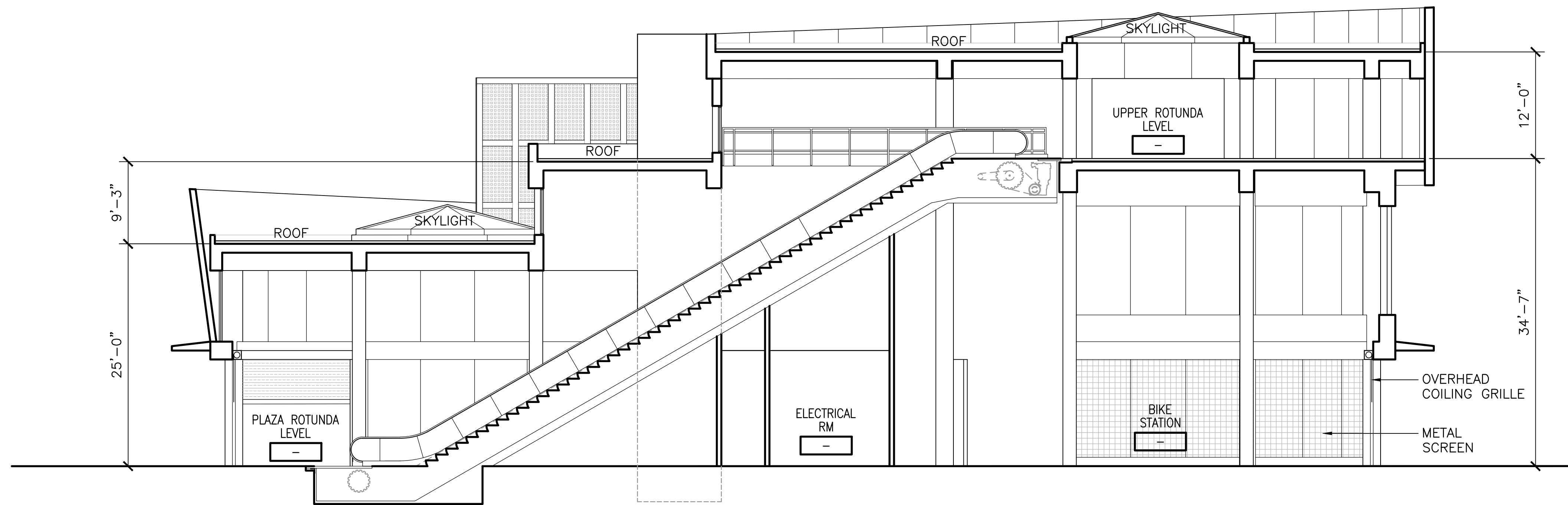
 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**

SOUTH POC TOUCH DOWN STRUCTURE
 FLOOR PLANS

CADD FILENAME 08CT008-3A302	REV. 0
SIZE: SCALE D 1/8"=1'-0"	CONTRACT NO. 08CT008
CONTRACT SHEET NO. 3A302	PAGE NO. 073

Jul 25, 2017 - 11:35am \\global\arup.com\americas\james.s.f\230000\237865-00\2 Client: (AVA)\2-02 Received Files\2016-10-06 AVA CAD\1 Files\TEMP_CD_9-9-16\Changes 2017-07-24\Isabel Station\DMU-EMU ALTERNATIVE\CADD\08-3A310.dwg



LONGITUDINAL SECTION

SCALE: 1/8" = 1'-0"

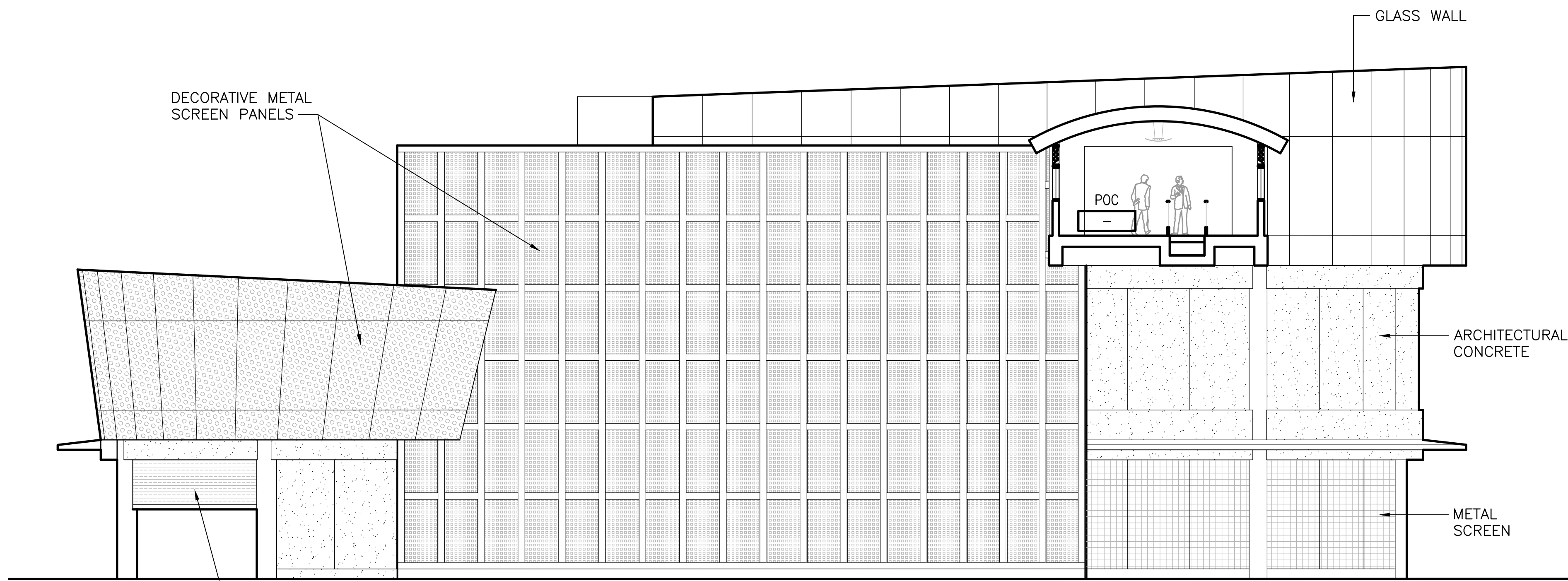
A
3A310



SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

B
3A310



EAST ELEVATION

SCALE: 1/8" = 1'-0"

C
3A310



GRAPHIC SCALE

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
B. LIWANAG
 DRAWN:
R. GUTIERREZ
 CHECKED:
G. FITSCHEN
 APPROVED:
R. BARLAAN
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 ISABEL STATION**
 SOUTH POC TOUCH DOWN STRUCTURE
 LONGITUDINAL SECTION, SOUTH & EAST ELEVATIONS

CADD FILENAME 08CT008-3A310	REV. 0
SIZE: SCALE D 1/8"=1'-0"	CONTRACT NO. 08CT008
CONTRACT SHEET NO. 3A310	PAGE NO. 074

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2: DMU/EMU
STORAGE AND MAINTENANCE FACILITY**

CONTRACT DRAWINGS

FUNDING AGENCIES / PARTNERS:

CITY OF LIVERMORE
CITY OF DUBLIN
CITY OF PLEASANTON
ALAMEDA COUNTY
CALTRANS
LAVTA
MTC
ACTC
SAN JOAQUIN RTD
ALTAMONT CORRIDOR EXPRESS

10% PRELIMINARY ENGINEERING

CONTRACT NO. 08CT008

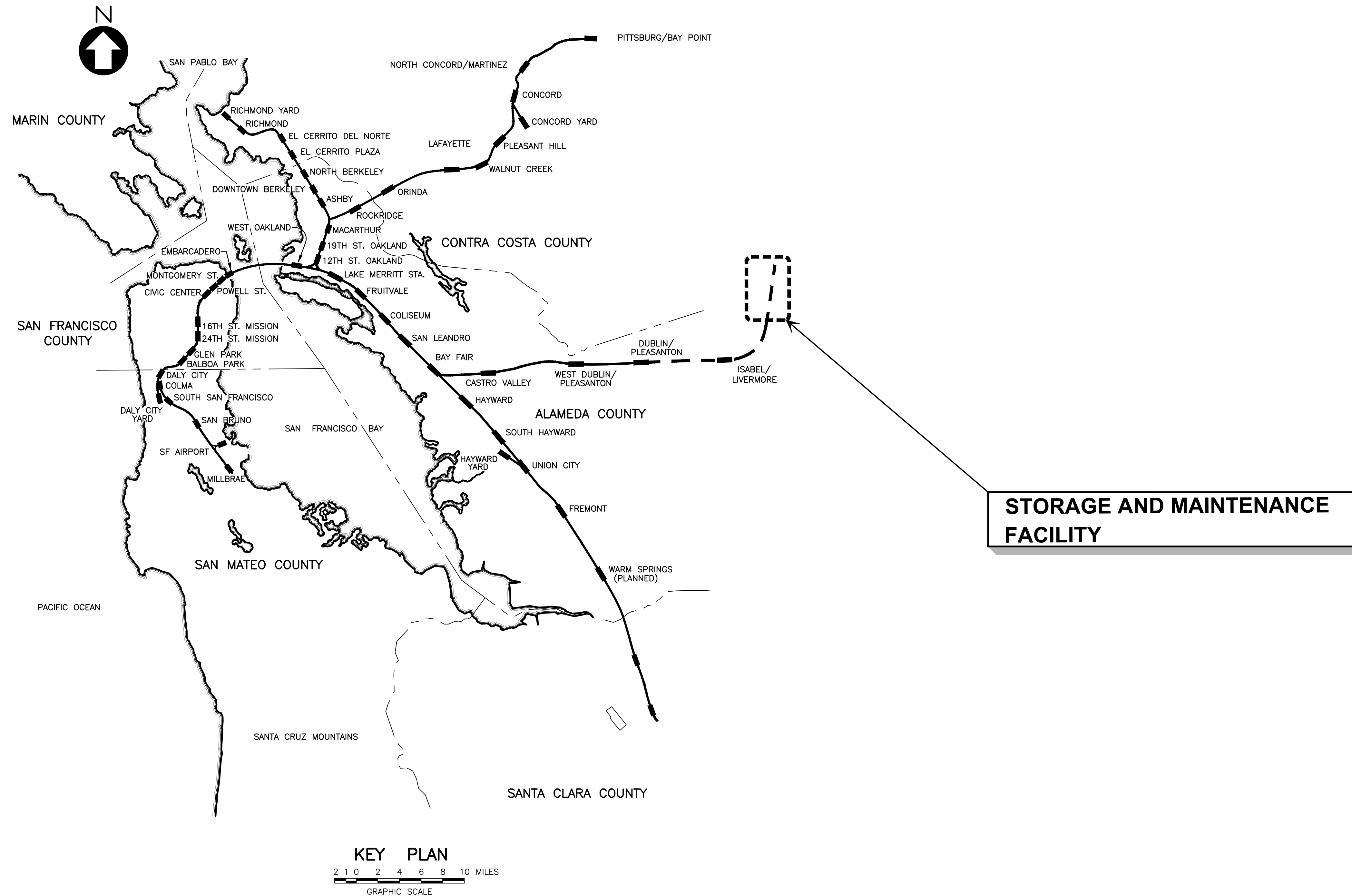
DATE: 31 JULY 2017

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

BART TO LIVERMORE EXTENSION

ALTERNATIVE 2: DMU/EMU - STORAGE AND MAINTENANCE FACILITY

CONTRACT NUMBER 08CT008



Jul 14, 2017 - 12:29pm \\globalarup.com\americas\jobs\F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\CADD08CT008-3G001.dwg
 by:mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
B. LIWANAG
 DRAWN:
C. GUTERRES
 CHECKED:
G. FITSCHEN
 APPROVED:
R. BARLAAN
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT	
 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 908 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 908 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

BART TO LIVERMORE EXTENSION	
ALTERNATIVE 2 - DMU/EMU	
MAINTENANCE FACILITY	
LOCATION MAP	

CADD FILENAME CADD08CT008-3G001	
SIZE: 1/8" = 1" NO SCALE	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3G001	PAGE NO. 075

Jul 25, 2017 - 11:39am \\global.sanjour.com\americas\ubs\S-F\230000\237865-00\2 Client (AWA)\2-02 Received Files\2016-10-06 AIA CADD Files\TEMP_CD_9-19-16\Changes 2017-07-24\Maintenance Facilities\CADD\08CT008-3A001.dwg
 from.sauhansen



PERSPECTIVE VIEW





AERIAL VIEW

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
 R. GUTIERREZ
 DRAWN:
 B. LIWANAG
 CHECKED:
 G. FITSCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

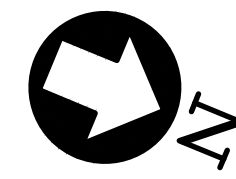
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

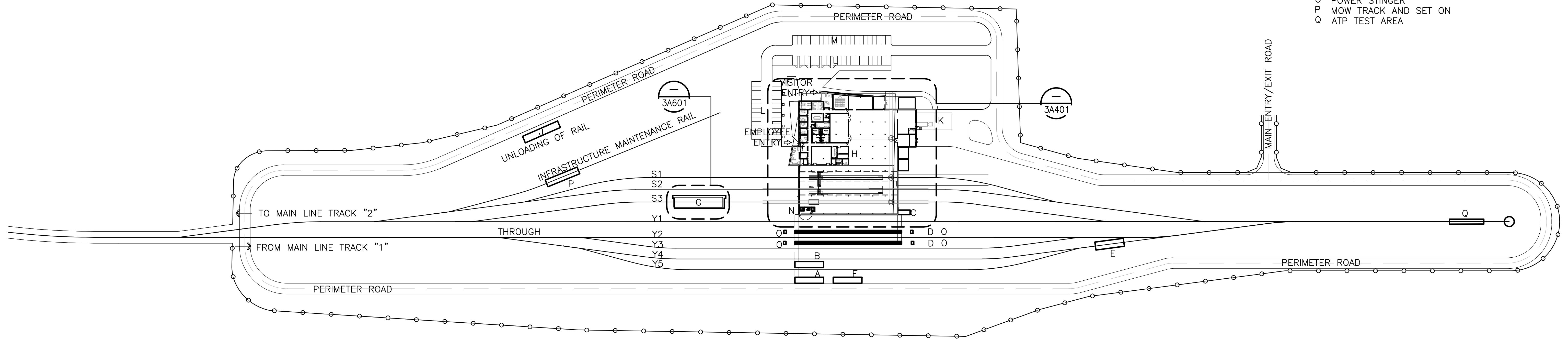
**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 MAINTENANCE FACILITY**

PERSPECTIVE AND AERIAL VIEWS

CADD FILENAME 08CT008-3A001	
SIZE: D	SCALE NTS
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A001	PAGE NO. 076



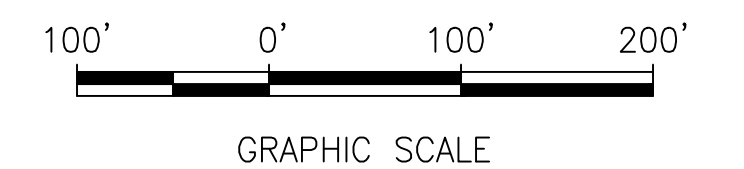
- LEGEND:**
- A FUEL TANK AND PUMPS
 - B DISTRIBUTED FUEL & SAND DISPENSING
 - C VEHICLE CLEANING SUPPLIES, EQUIPMENT, WASTE
 - D VEHICLE CLEANING PLATFORM
 - E VEHICLE WASH
 - F SAND
 - G BLOWDOWN
 - H VEHICLE MAINTENANCE BUILDING
 - J MOW MATERIALS STORAGE
 - K LOADING DOCK
 - L STAFF PARKING
 - M VISITOR PARKING
 - N TOWER/OPERATIONS CONTROL
 - O POWER STINGER
 - P MOW TRACK AND SET ON
 - Q ATP TEST AREA



SITE KEY PLAN
SCALE: 1"=100'

NOTE:
FENCING SHALL BE PROVIDED AROUND THE MAINTENANCE FACILITY AND DOWN THE TRACK RIGHT OF WAY TO ISABEL STATION.

MAINTENANCE YARD AREA IN ACRES = 32
MAINTENANCE BUILDING AREA = 51,255.00 SF



Jul 28, 2017 - 9:16am \\global.drup.com\americas\Jobs\S-F\230000\237865-00\2 Client (AWA)\2-02 Received Files\2016-10-06 AIA CADD files\TEMP_CD_9-19-16\Changes 2017-05-05\CADD08CT008-3A400.dwg
 eron.sudhausen

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
B. LIWANAG
 DRAWN:
C. GUTERRES
 CHECKED:
G. FITSCHEN
 APPROVED:
R. BARLAAN
 DATE:
20160531

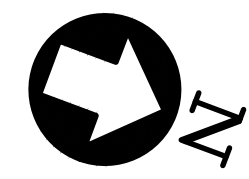
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 1600 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1970 Broadway, Suite 1600 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

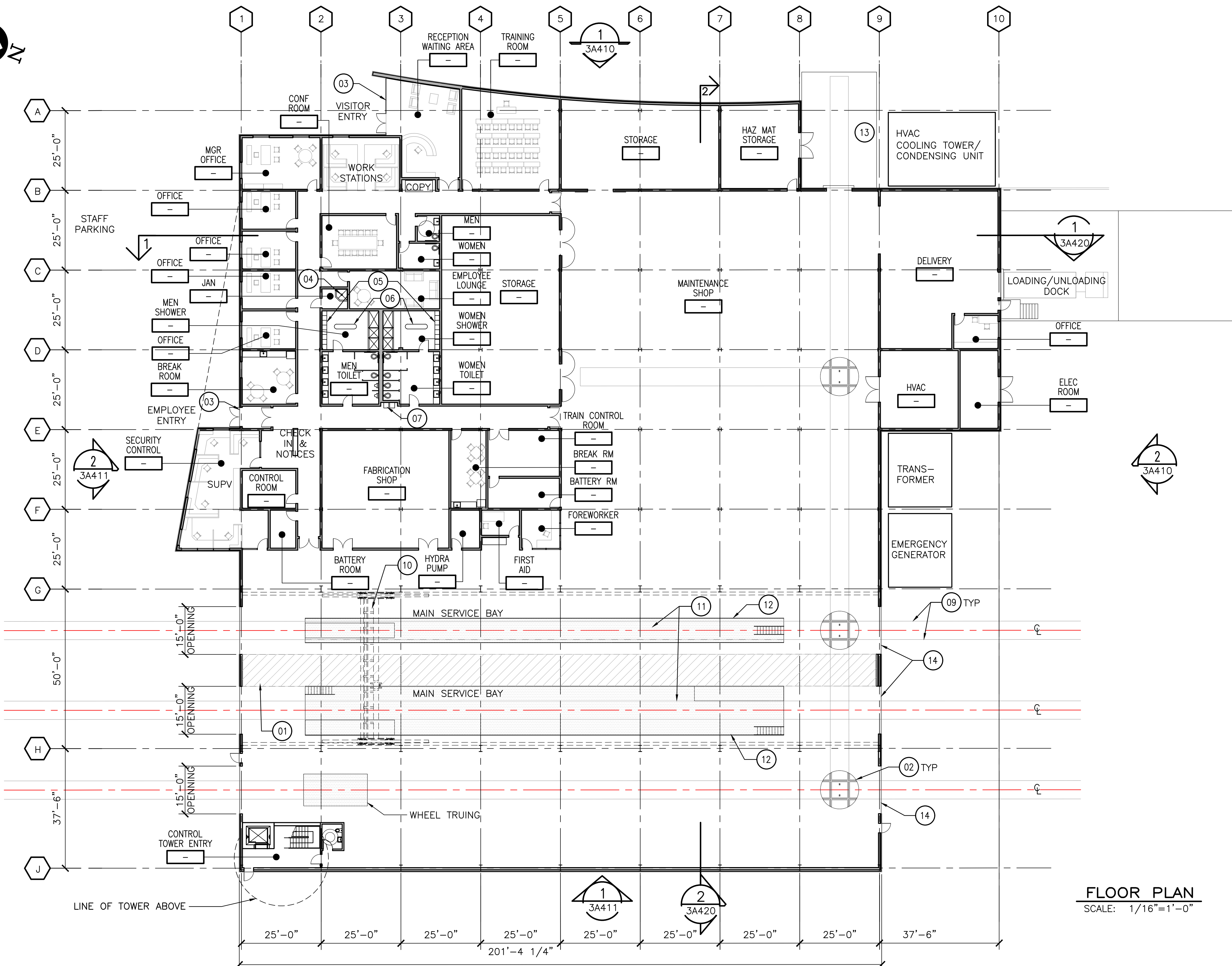
BART TO LIVERMORE EXTENSION ALTERNATIVE 2 - DMU/EMU STORAGE AND MAINTENANCE FACILITY SITE KEY PLAN		CADD FILENAME CADD08CT008-3A400
SIZE: SCALE D 1"=100'-0"		CONTRACT NO. 08CT008
CONTRACT SHEET NO. 3A400	PAGE NO. 077	REV. 0



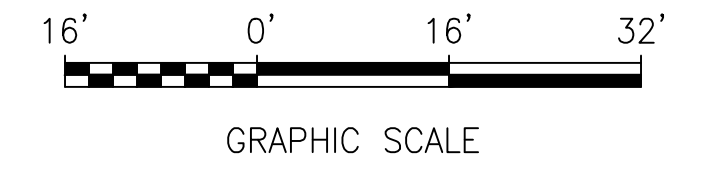
KEY NOTES

- 01 CATWALK
- 02 TURN TABLE
- 03 ALUMINUM STOREFRONT
- 04 FLOOR SINK
- 05 LOCKERS
- 06 BENCH
- 07 DRINKING FOUNTAIN
- 08 CLERESTORY WINDOW
- 09 SERVICE TRACKS
- 10 OVERHEAD CRANE
- 11 SERVICE PIT
- 12 SAFETY RAILING
- 13 CONCRETE PAD DRAIN TO OIL WATER SEPARATOR
- 14 OVERHEAD COILING DOOR

TOTAL OCCUPANCY LOAD PER CBC = 500 OCCUPANTS



FLOOR PLAN
SCALE: 1/16"=1'-0"



Jul 27, 2017 - 4:39pm \\global.drup.com\americas\Jobs\S-F\230000\237865-00\2 Client (AWA)\2-02 Received Files\2016-10-06 AIA CADD files\TEMP_CD_9-19-16\Changes 2017-07-24\Maintenance Facilities\CADD08CT008-3A401.dwg

DESIGNED:
B.LIWANAG
DRAWN:
C.GUTERRES
CHECKED:
G.FITSCHEN
APPROVED:
R.BARLAAN
DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1979 Broadway, Suite 500 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1979 Broadway, Suite 500 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

BART TO LIVERMORE EXTENSION ALTERNATIVE 2 - DMU/EMU MAINTENANCE FACILITY

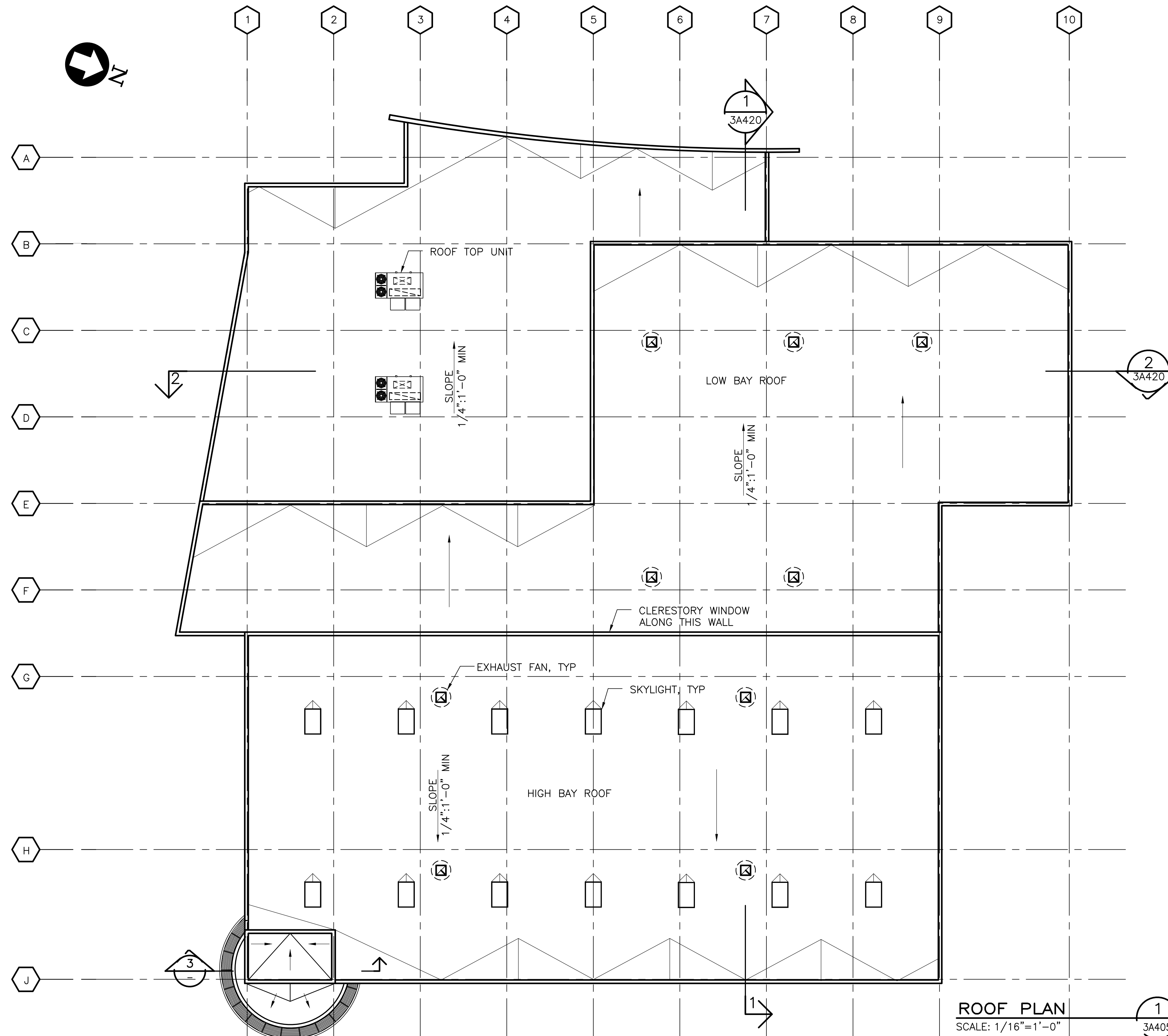
MAINTENANCE BUILDING
FLOOR PLAN

CADD FILENAME CADD08CT008-3A400	
SIZE: SCALE D 1/16"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A401	PAGE NO. 078

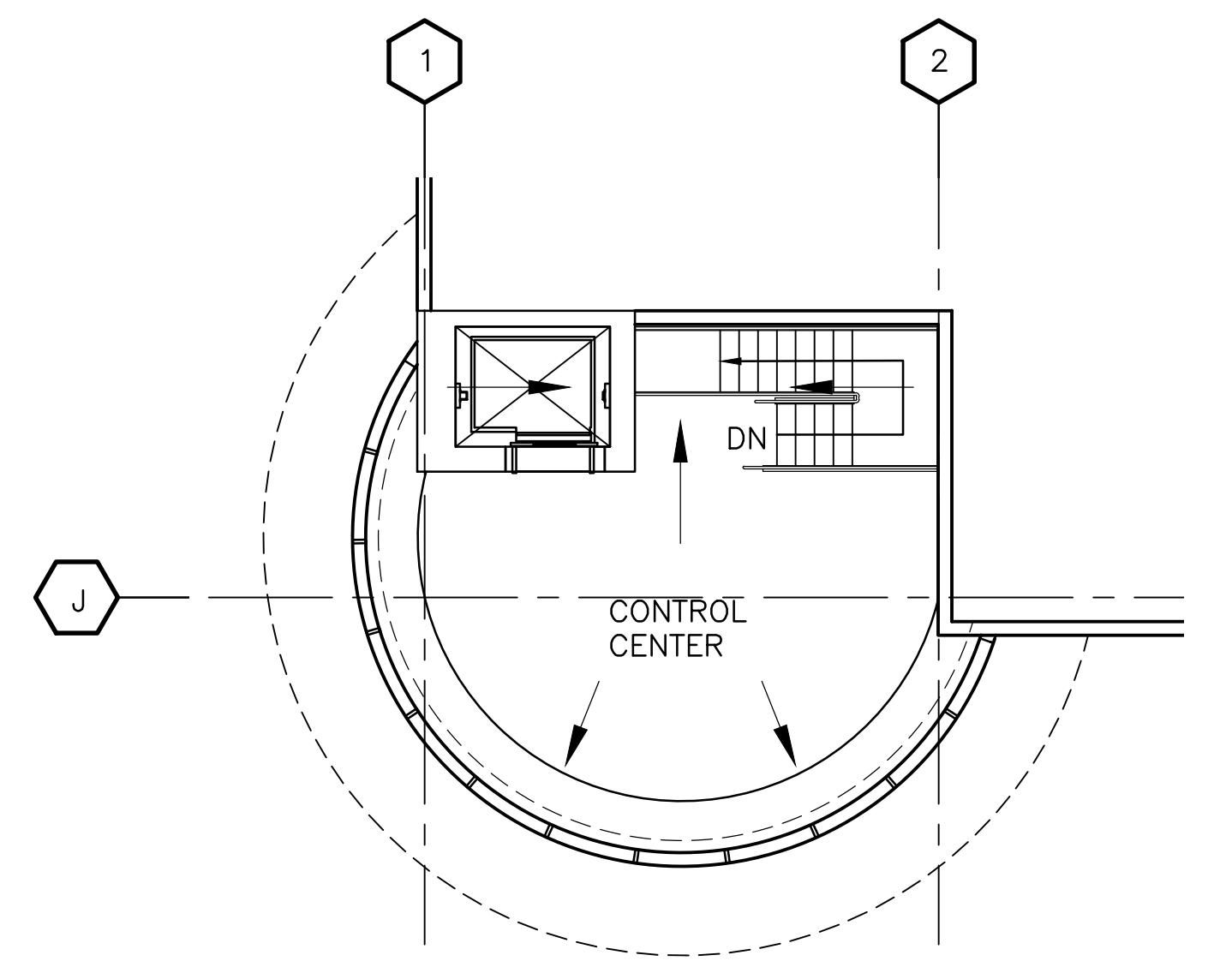
REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

SUBMITTED _____ APPROVED _____

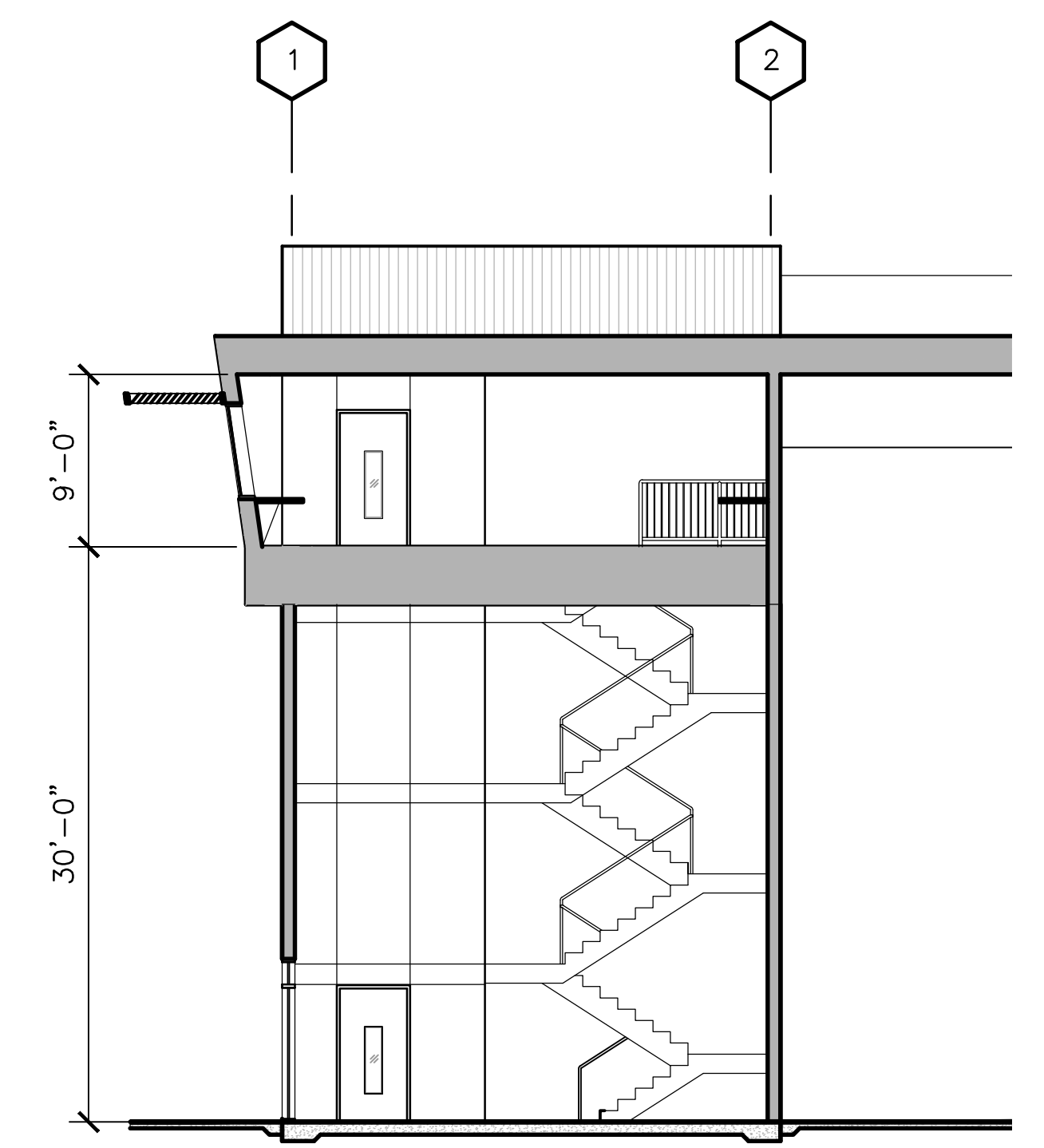
Jul 27, 2017 - 5:04pm \\global.drup.com\americas\Jobs\S-F\230000\237865-00\2 Client (AWA)\2-02 Received Files\2016-10-06 AIA CADD files\TEMP_CD_9-19-16\Changes 2017-07-24\Maintenance Facilities\CADD08CT008-3A405.dwg



ROOF PLAN
SCALE: 1/16"=1'-0"
3A405



TOP FLOOR PLAN (CONTROL TOWER)
SCALE: 1/8"=1'-0"
3A405



SECTION (CONTROL TOWER)
SCALE: 1/8"=1'-0"
3A405

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
B.LIWANAG
DRAWN:
C.GUTERRES
CHECKED:
G.FITSCHEN
APPROVED:
R.BARLAAN
DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 1600
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

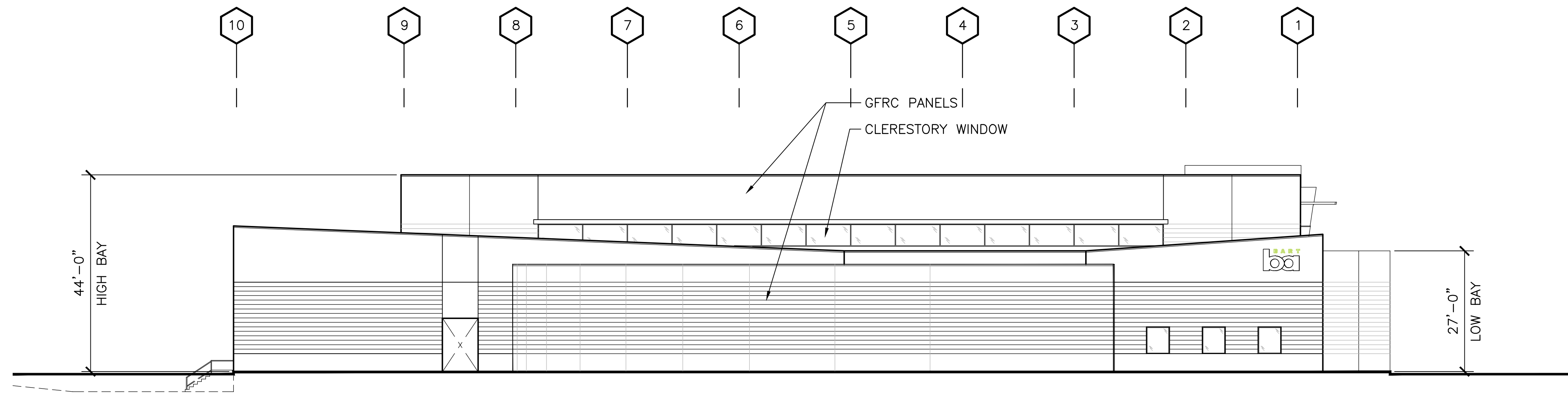
Anil Verma Associates, Inc.
1970 Broadway, Suite 1600
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

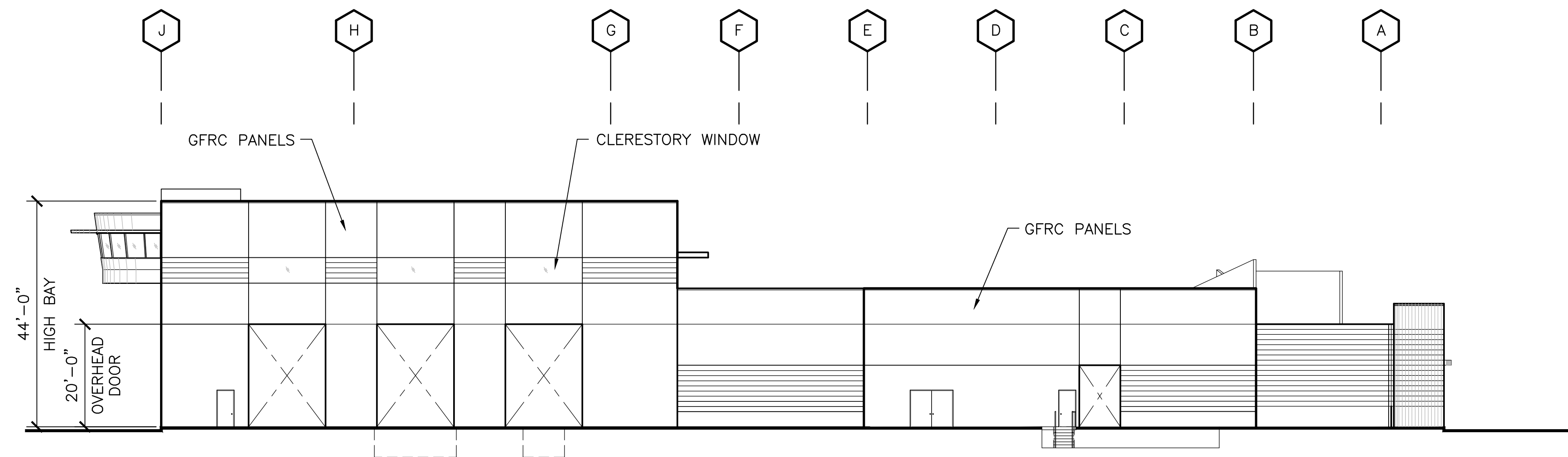
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
MAINTENANCE FACILITY**

MAINTENANCE_BUILDING
ROOF_PLAN

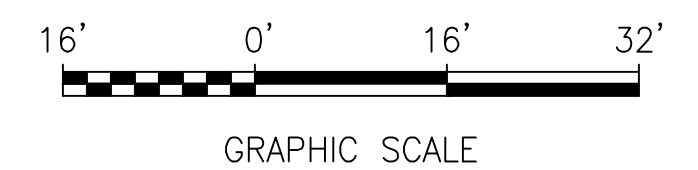
CADD FILENAME CADD08CT008-3A405	
SIZE: SCALE D 1/16"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A405	PAGE NO. 079



WEST ELEVATION 1
 SCALE: 1/16"=1'-0" 3A410



NORTH ELEVATION 2
 SCALE: 1/16"=1'-0" 3A410




Jul 27, 2017 5:02pm \\global.orup.com\americas\Jobs\S-F\230000\237865-00\2 Client (AWA)\2-02 Received Files\2016-10-06 AWA CADD files\TEMP_CD_9-19-16\Changes 2017-07-24\Maintenance Facilities\CADD08CT008-3A410.dwg


REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
 B. LIWANAG
 DRAWN:
 C. GUTERRES
 CHECKED:
 G. FITSCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



Anil Verma Associates, Inc.
4910 Broadway, Suite 500 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121



Anil Verma Associates, Inc.
4910 Broadway, Suite 500 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

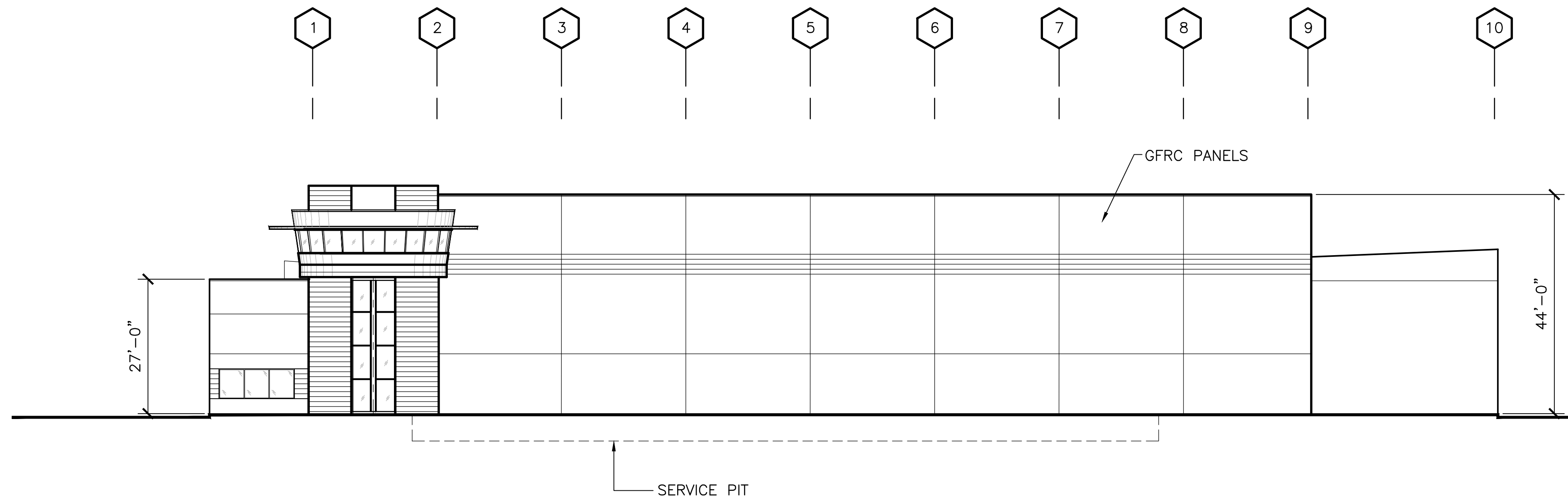
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 MAINTENANCE FACILITY**

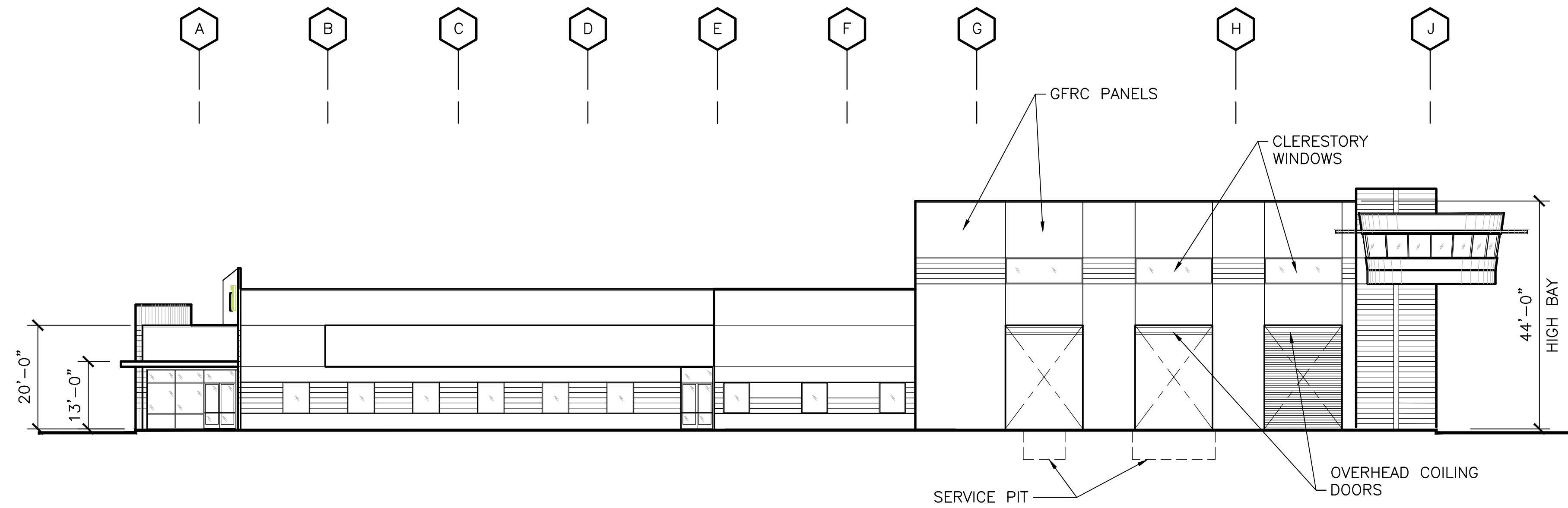
MAINTENANCE_BUILDING
 EXTERIOR_ELEVATIONS
 SHEET_1_OF_2

CADD FILENAME CADD08CT008-3A410	
SIZE: SCALE D 1/16"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A410	PAGE NO. 080

Jul 27, 2017 - 5:01 pm \\global.orup.com\americas\Jobs\S-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD files\TEMP_CD_9-19-16\Changes 2017-07-24\Maintenance Facilities\CADD08CT008-3A411.dwg
 eron.sudhausen



EAST ELEVATION ①
 SCALE: 1/16"=1'-0"
 3A411



SOUTH ELEVATION ②
 SCALE: 1/16"=1'-0"
 3A411



REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
 B. LIWANAG
 DRAWN:
 C. GUTERRES
 CHECKED:
 G. FITSCHEN
 APPROVED:
 R. BARLAAN
 DATE:
 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

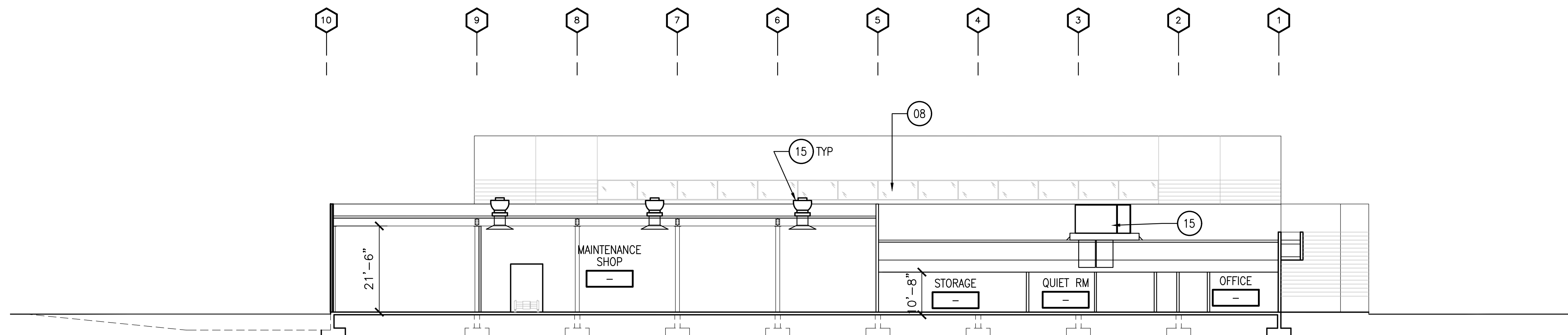
 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 1900 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 1900 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 - DMU/EMU
 MAINTENANCE FACILITY**
 MAINTENANCE_BUILDING
 EXTERIOR_ELEVATIONS
 SHEET_2_OF_2

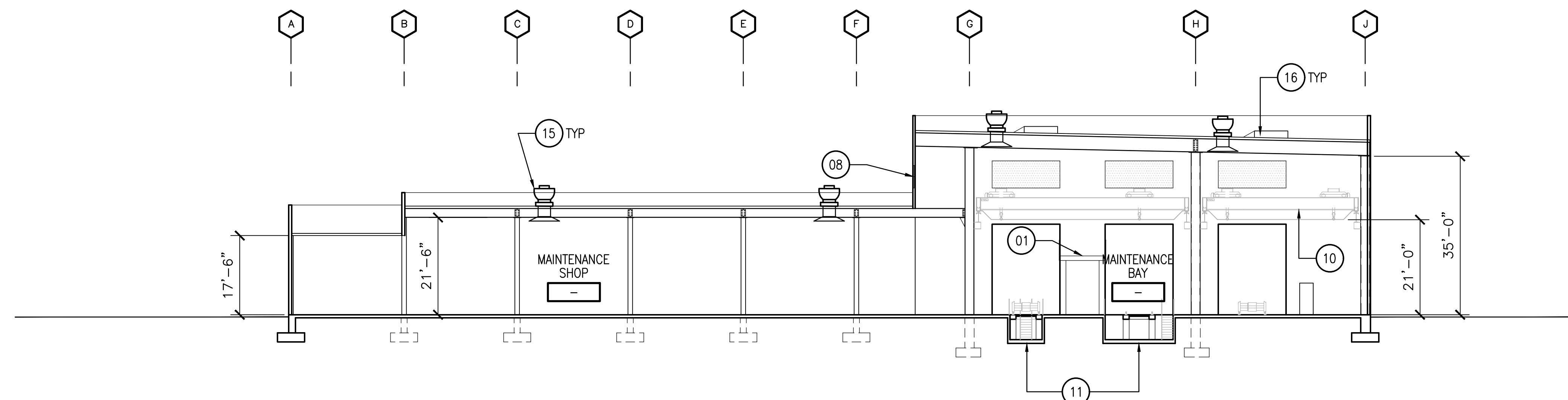
CADD FILENAME CADD08CT008-3A411	
SIZE: SCALE D 1/16"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A411	PAGE NO. 081

KEY NOTES

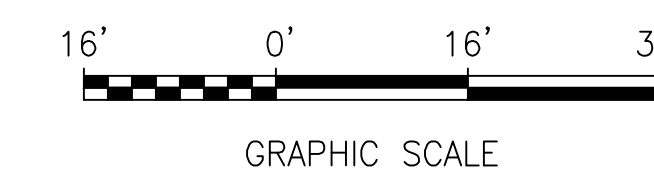
- 01 CATWALK
- 08 CLERESTORY WINDOWS
- 10 OVERHEAD CRANE
- 11 SERVICE PIT
- 15 MECHANICAL EQUIPMENT
- 16 SKYLIGHT



SECTION 1
SCALE: 1/16"=1'-0"
3A420



SECTION 2
SCALE: 1/16"=1'-0"
3A420



Jul 28, 2017 - 8:37am \\global.orup.com\americas\jobs\S-F\230000\237865-00\2 Client (AWA)\2-02 Received Files\2016-10-06 AWA CADD files\TEMP_CD_9-19-16\Changes 2017-07-24\Maintenance Facilities\CADD08CT008-3A420.dwg
 eron.sudhausen

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
B. LIWANAG
 DRAWN:
C. GUTERRES
 CHECKED:
G. FITSCHEN
 APPROVED:
R. BARLAAN
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 1600 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1970 Broadway, Suite 1600 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

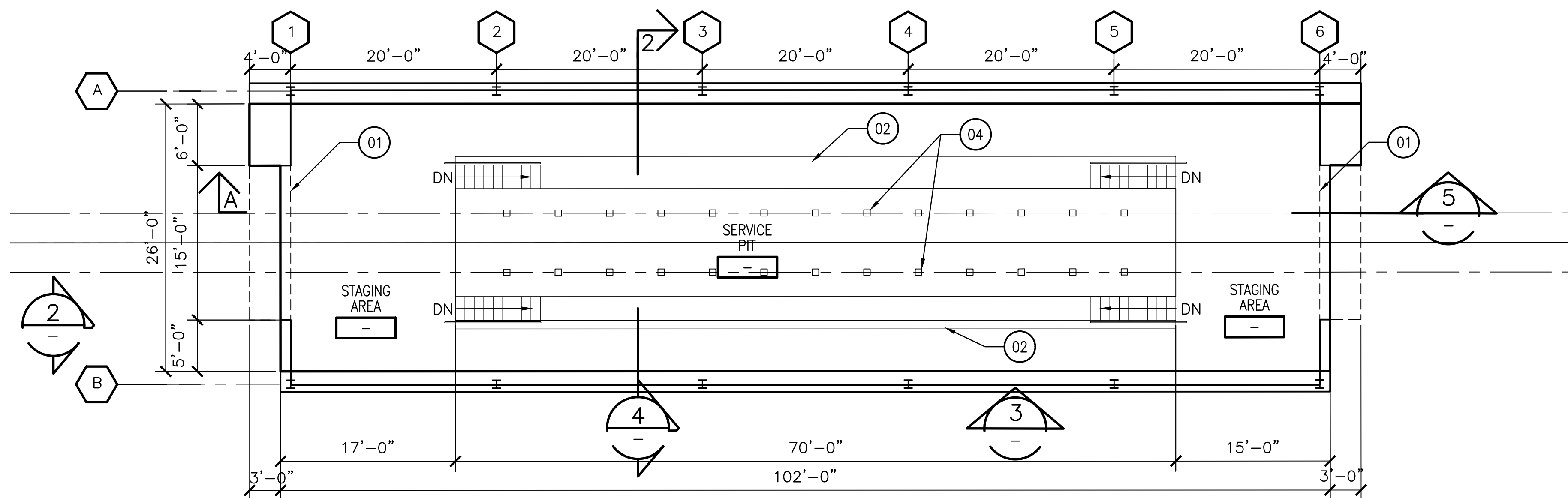
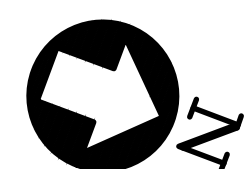
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
MAINTENANCE FACILITY**

MAINTENANCE_BUILDING
BUILDING_SECTIONS

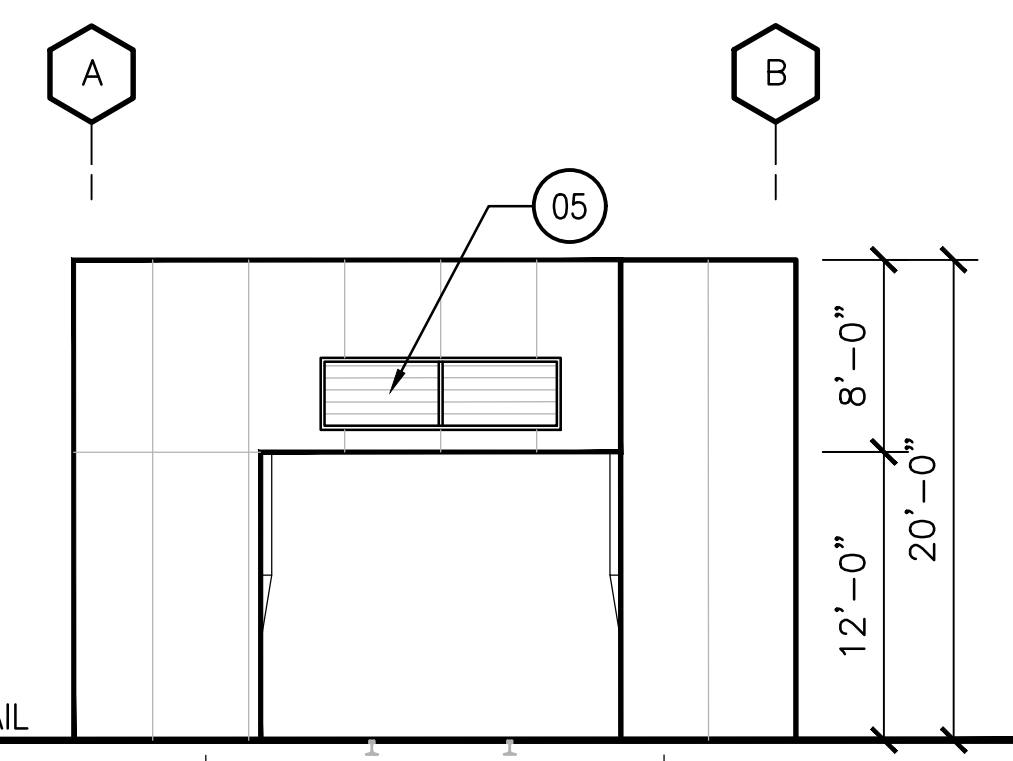
CADD FILENAME CADD08CT008-3A420	
SIZE: SCALE D 1/16"=1'-0"	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. 3A420	PAGE NO. 082

KEY NOTES

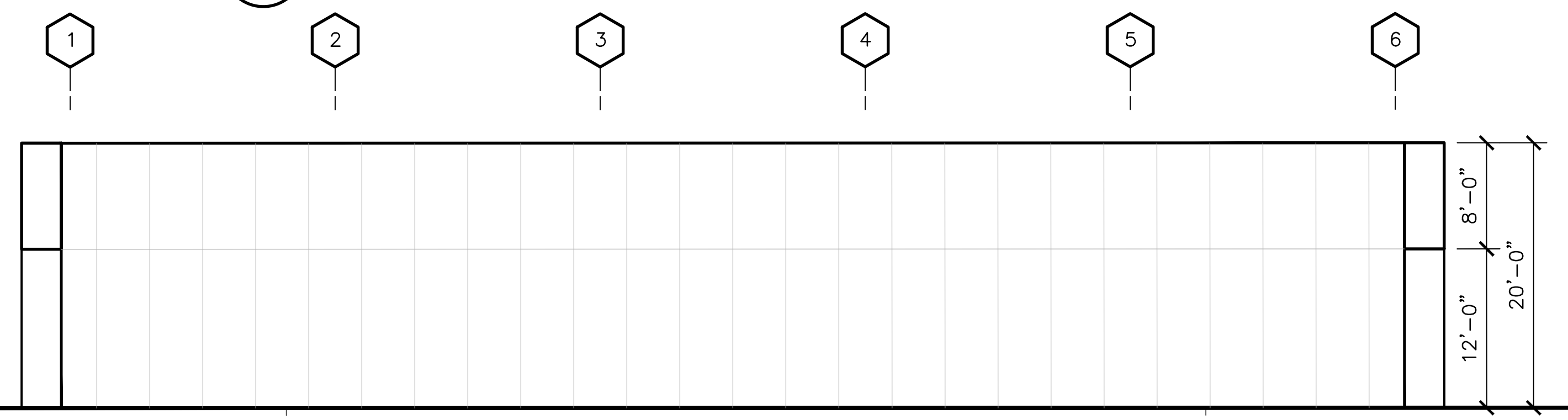
- 01 ROLL-UP DOOR
- 02 MECHANICAL EQUIPMENT
- 03 GUARD RAIL
- 04 RAIL SUPPORT
- 05 LOUVERS



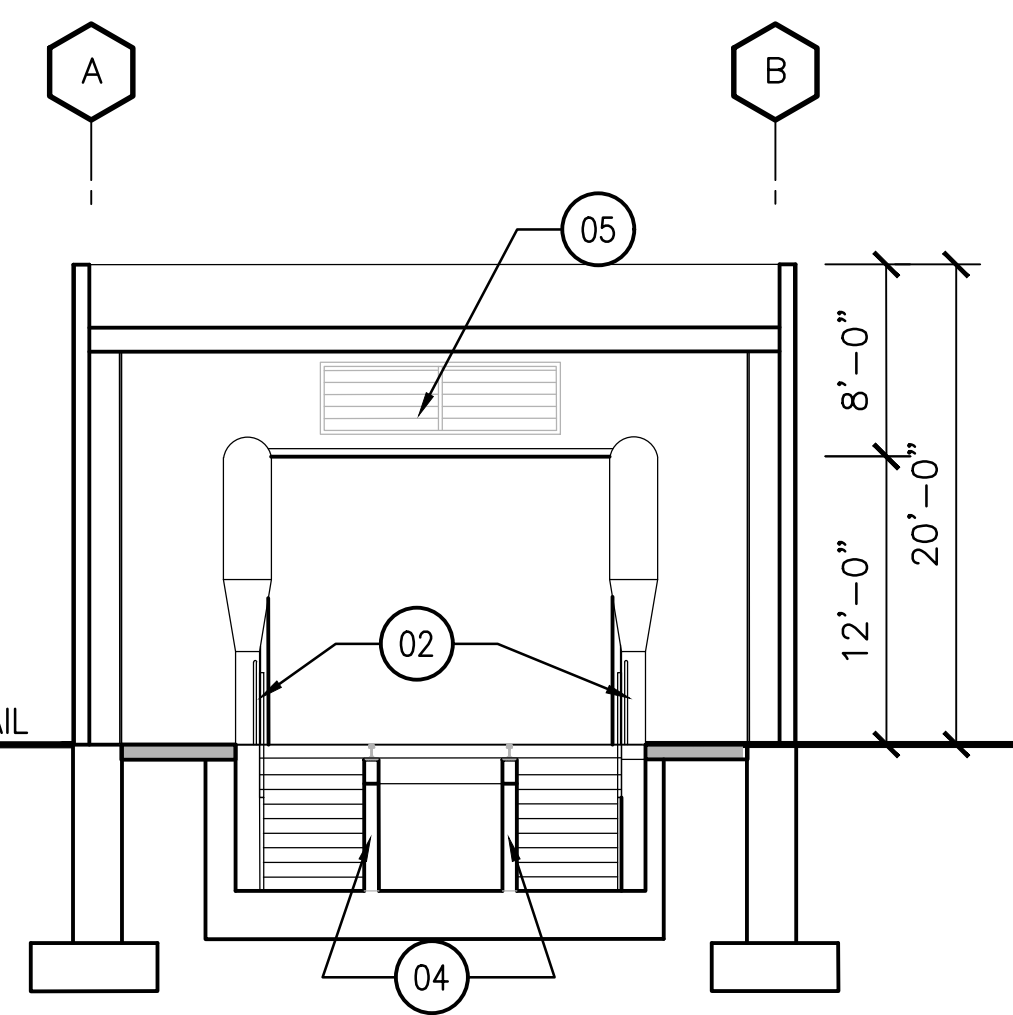
GROUND FLOOR PLAN
SCALE: 1/8"=1'-0"
3A601



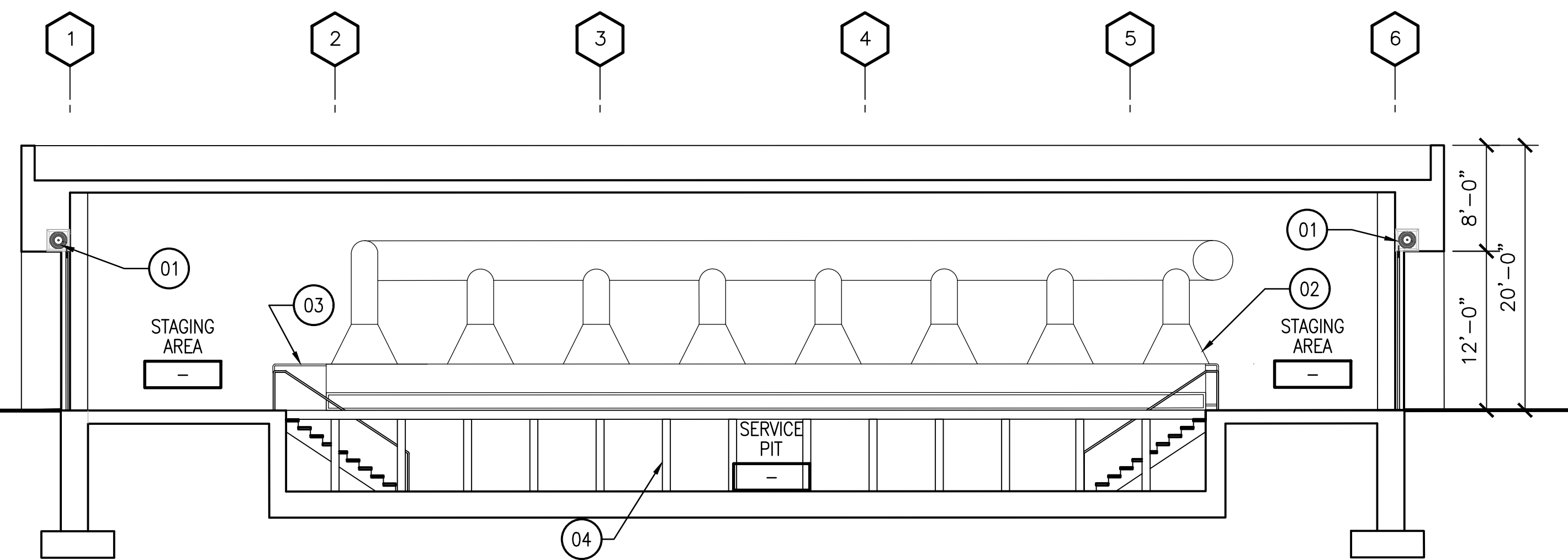
ELEVATION
SCALE: 1/8"=1'-0"
3A601



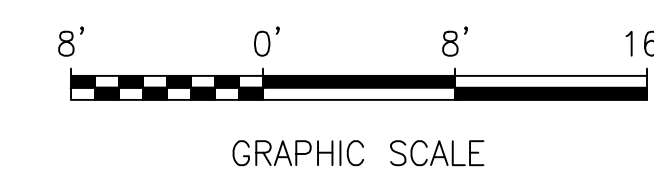
ELEVATION
SCALE: 1/8"=1'-0"
3A601



SECTION
SCALE: 1/8"=1'-0"
3A601



SECTION
SCALE: 1/8"=1'-0"
3A601



eron.sudhausen Jul 28, 2017 - 8:47am \\global.drup.com\americas\jobs\S-F\230000\237865-00\2 Client (AWA)\2-02 Received Files\2016-10-06 AIA CADD files\TEMP_CD_9-19-16\Changes 2017-07-24\Maintenance Facilities\CADD08CT008-3A601.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
B.LIWANAG
 DRAWN:
C.GUTERRES
 CHECKED:
G.FITSCHEN
 APPROVED:
R.BARLAAN
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
6719 Broadway, Suite 500
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
6719 Broadway, Suite 500
Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

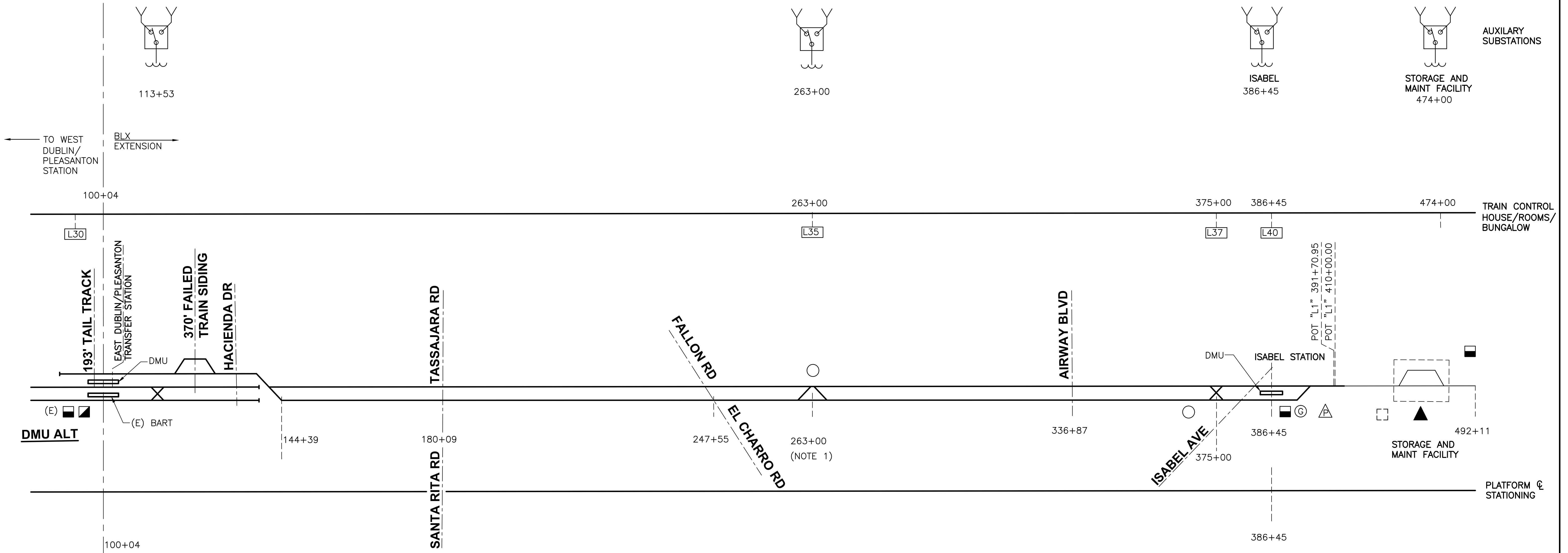
**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 - DMU/EMU
MAINTENANCE FACILITY**

BLOW_DOWN_STRUCTURE
FLOOR_PLANS,ELEVATIONS,AND_SECTIONS

CADD FILENAME CADD08CT008-3A601	REV. 0
SIZE: SCALE D 1/8"=1'-0"	CONTRACT SHEET NO. 3A601
CONTRACT NO. 08CT008	PAGE NO. 083

NOTE:

1. THE CROSSOVERS LOCATIONS ARE APPROXIMATE AND THE FINAL LOCATIONS OF DOUBLE CROSSOVERS ARE UNDER DEVELOPMENT.



LEGEND:

- SIGNALLING BUNGALOW
- ◇ AUXILIARY SUBSTATION
- ▲ MAINTENANCE BUILDING
- TRAIN CONTROL ROOM
- ⊙ PERMANENT STANDBY GENERATOR
- CONTROL TOWER
- △ PARKING STRUCTURE
- ▭ MAINTENANCE FACILITY

Jul 31, 2017 - 12:06pm \\globalarup.com\americas\jobs\S-F\230000\237865-00.2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\CADD08CT008-TP101.dwg
 syle.mcmillen

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED:
N. SHAH
 DRAWN:
T. GARSHASEBI
 CHECKED:
L. DURRANT
 APPROVED:
N. SHAH
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1570 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1570 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

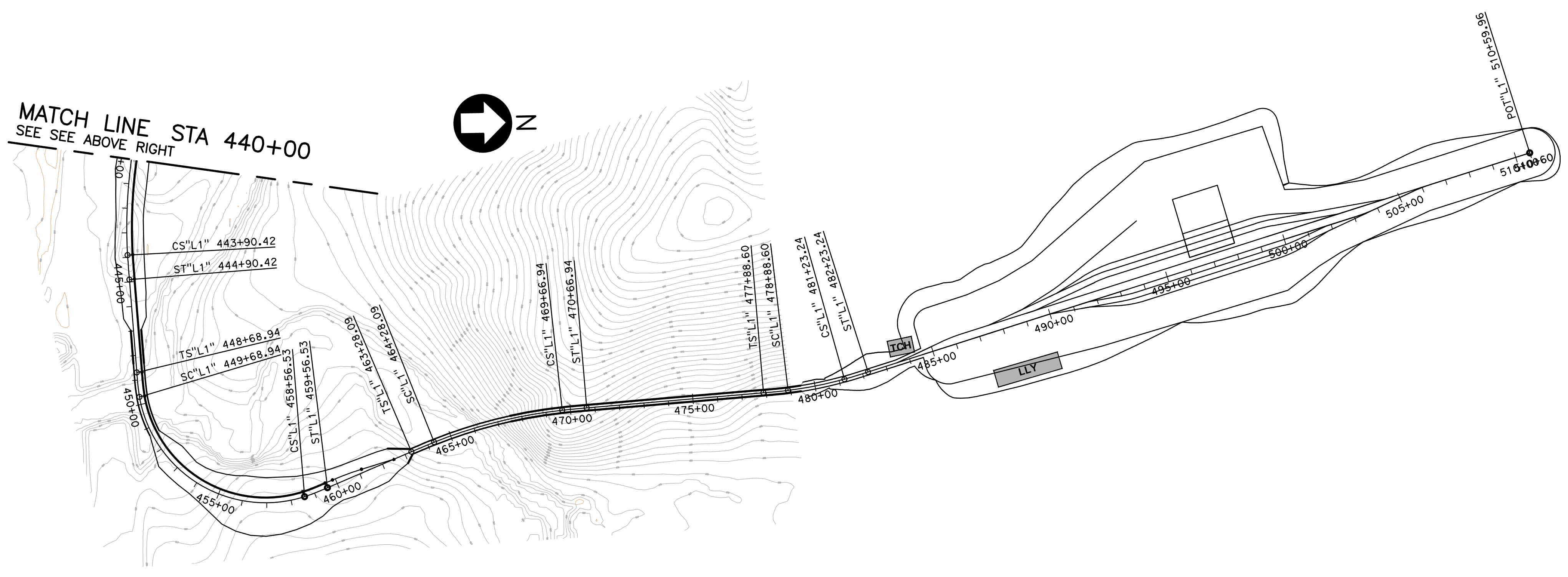
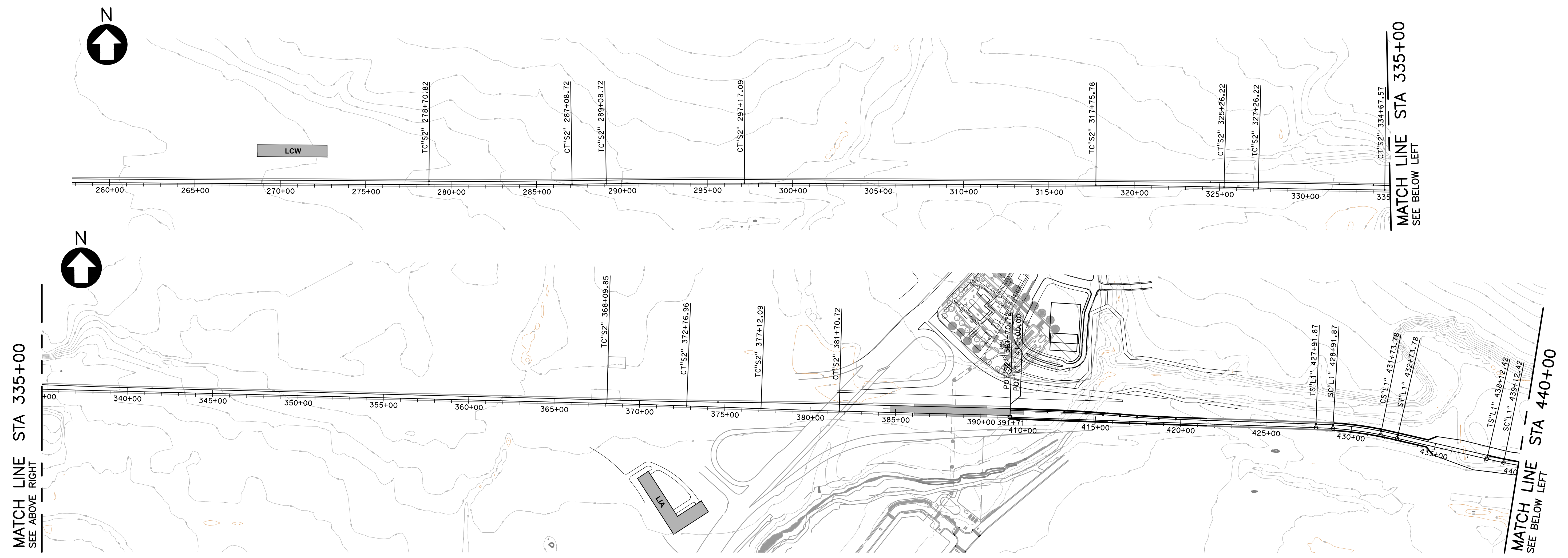
SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 DMU
LINE, TRACK, STATIONS AND SYSTEMS**

MASTER SCHEMATIC

CADD FILENAME CADD08CT008-TP101.dwg	
SIZE: ISCALE D NTS	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. TP101	PAGE NO. 084

\\global\arup.com\americas\johes\5-F\230000\237865-00\2_Client (AVA)\2-02_Received Files\2016-10-06_AVA_CADD_files\TEMP_CD_9-19-16\Changes_2017-07-24\System\EMU\CADD08CT008-TP101.dwg



REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
N. SHAH
DRAWN:
T. GARSHASEBI
CHECKED:
L. DURRANT
APPROVED:
N. SHAH
DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 808 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

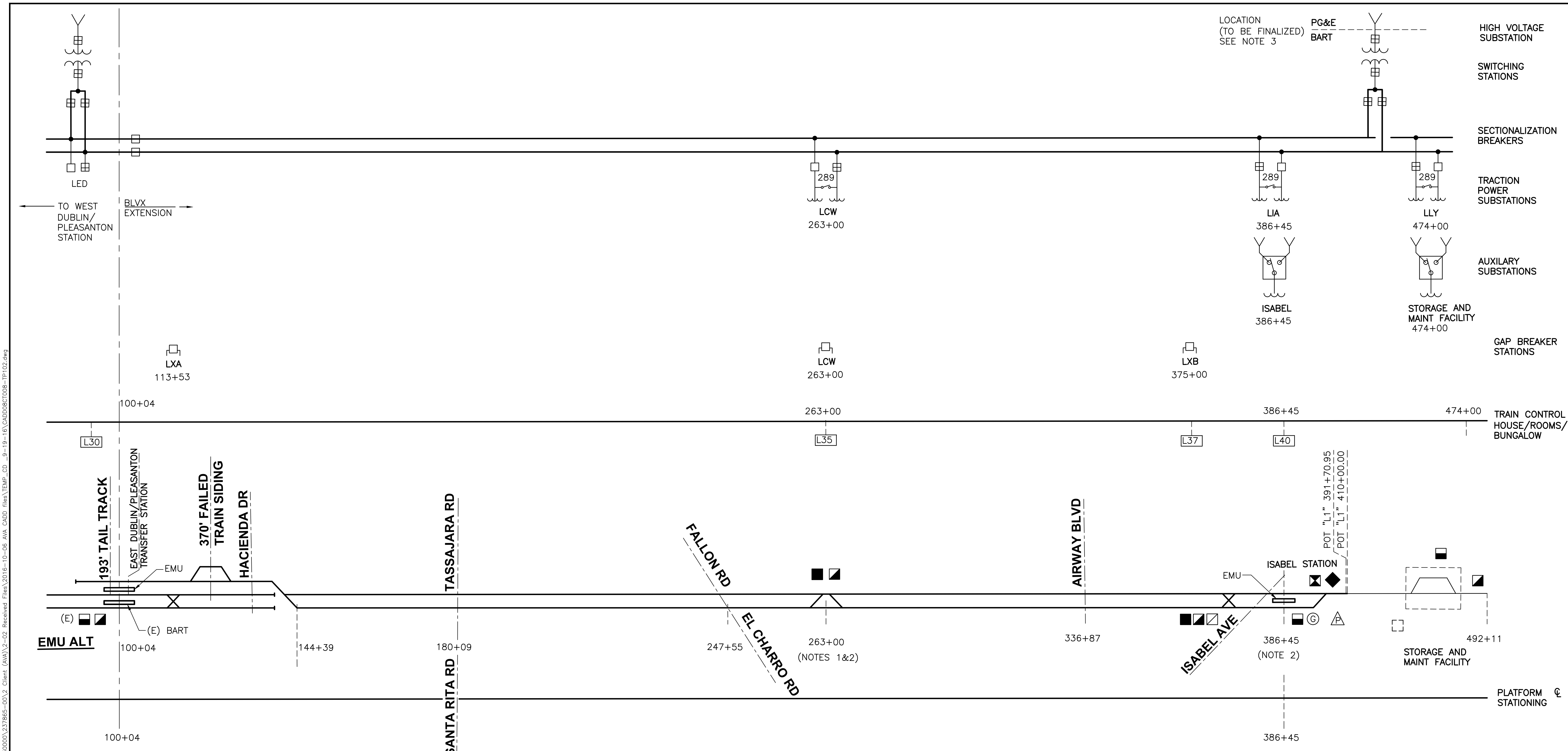
Anil Verma Associates, Inc.
1970 Broadway, Suite 808 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 EMU
LINE, TRACK, STATIONS AND SYSTEMS**

WAYSIDE FACILITY (EMU)
FACILITY LOCATIONS

CADD FILENAME CADD08CT008-TP101.dwg	
SIZE: SCALE D NTS	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. TP101	PAGE NO. 087



- LEGEND:**
- SIGNALLING BUNGALOW
 - TCH
 - ▧ GAP BREAKER
 - ▨ TPSS
 - ◇ AUXILIARY SUBSTATION
 - ▲ MAINTENANCE BUILDING
 - ◆ 115/34.5 KV HIGH VOLTAGE SUBSTATION
 - 34.5 KV SECTIONALIZING STATION
 - ⊠ 34.5 KV SWITCHING STATION
 - TRAIN CONTROL ROOM
 - ⊙ PERMANENT STANDBY GENERATOR
 - CONTROL TOWER
 - △ PARKING STRUCTURE
 - ⊞ AC BREAKER (CLOSE)
 - AC BREAKER (OPEN)
 - 289 AC SWITCH (NO LOAD)
 - ▭ MAINTENANCE FACILITY

- NOTE:**
1. THE CROSSOVERS LOCATIONS ARE APPROXIMATE AND THE FINAL LOCATIONS OF DOUBLE CROSSOVERS ARE UNDER DEVELOPMENT.
 2. A LOAD FLOW ANALYSIS WILL BE NEEDED TO DETERMINE THE LOCATION OF SUBSTATIONS.
 3. THE LOCATION OF PG&E HIGH VOLTAGE SUBSTATION SERVICE VOLTAGE LEVEL TO BE FINALIZED DURING 35% PHASE (ASSUMED AT NEAR ISABEL STATION).

REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING

DESIGNED: N. SHAH
DRAWN: T. GARSHASEBI
CHECKED: L. DURRANT
APPROVED: N. SHAH
DATE: 20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 EMU
LINE, TRACK, STATIONS AND SYSTEMS**

MASTER SCHEMATIC

CADD FILENAME CADD08CT008-TP102.dwg	SIZE: SCALE D NTS
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. TP102	PAGE NO. 088

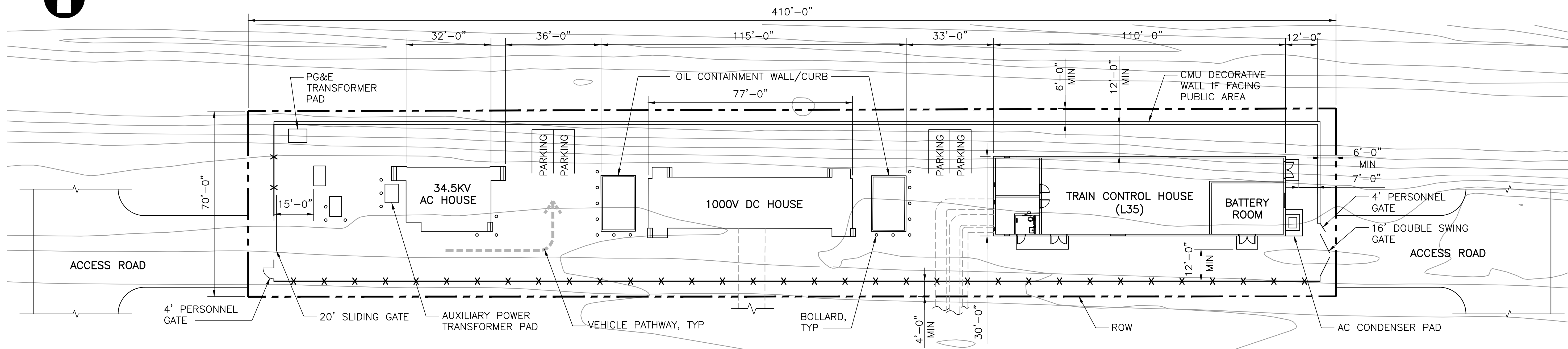
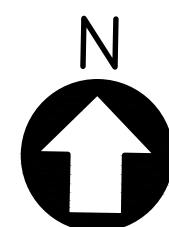
Jul 31, 2017 12:11pm \\globalarup.com\americas\jobs\F\230000\237865-00.2 Client (AVA)\2-02 Received Files\2016-10-06 AVA CADD Files\TEMP_CD_9-19-16\CADD08CT008-TP102.dwg

LEGEND:

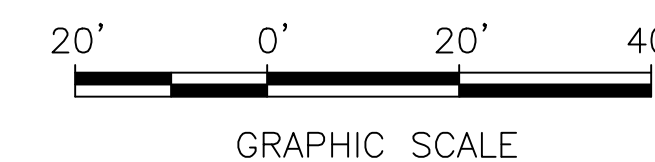
- SITE BOUNDARY
- x - x - x - FENCE-CHAIN LINK

GENERAL NOTES:

1. THE SITE PLANS SHOW PRESCRIPTIVE REQUIREMENTS AND PRELIMINARY DESIGN FOR EACH SITE. CONTRACTOR SHALL COMPLETE THE DESIGN, FOLLOWING THE GENERAL ARRANGEMENT AND ORIENTATION OF FACILITIES INCLUDING BUT NOT LIMITED TO ACCOMMODATING MINIMUM CLEARANCES, PROVIDING SITE ACCESS AND ENCLOSING THE SITE WITH WALL OR FENCE AS INDICATED ON PLAN. EXCEPT AS NOTED ON PLANS, CLEARANCE OF WALL/FENCE TO SITE BOUNDARY LINE-4 FT (ALONG THE GUIDEWAY/TRACKWAY), AND 6 FT (ALONG PRIVATE PROPERTY).
2. THE MINIMUM NUMBER OF VEHICLE PARKING SPACES WITHIN THE FACILITY IS 4 SPACES, EXCEPT AS NOTED ON SITE PLANS.
 - 1) LOCATE MINIMUM NUMBER OF PARKING SPACES IN COORDINATION WITH THE VEHICAL PATHWAY REQUIREMENTS.
3. THE WALL ENCLOSING THE SITE SHALL BE CONCRETE MASONRY UNITS (CMU) WALL, 9 FT HIGH, CONSISTING OF 8 FT HIGH EXPANDED METAL MESH PANELS TOPPED WITH 3 STRAND BARBED WIRES, 12 INCHES HIGH ON INCLINED OR VERTICAL EXTENSION ARMS AS DESIGNATED ON PLAN.
4. THE MAXIMUM SPACING OF BOLLARDS SHALL BE 3'-6" ON CENTERS. THEIR EXACT LOCATION SHALL BE COORDINATED WITH THE ORIENTATION OF THE EQUIPMENT ACCESS.
5. OIL CONTAINMENT WALL/CURB FOR TRACTION POWER SUBSTATION TRANSFORMER SHALL BE REINFORCED CONCRETE.
6. THE EXACT LOCATION OF THE WAYSIDE FACILITIES WILL BE FINALIZED UPON INPUT FROM ARUP/BART.
7. THE DRAWING APPLIES FOR THE WAYSIDE FACILITIES NEAR DOUBLE CROSSOVERS, ONE NEAR L35.



SITE PLAN
SCALE: 1"=20'



Jul 25, 2017 - 2:18pm \\globalarup.com\americas\jobs\5-F\230000\237865-00\2_Client (AVA)\2-02_Received Files\2016-10-06_AVA_CADD_files\TEMP_CD_9-19-16\Changes_2017-07-24\System\EMU\CADD08CT008-TP103.dwg
 from: sudhousen

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
N. SHAH
 DRAWN:
T. GARSHASEBI
 CHECKED:
L. DURRANT
 APPROVED:
N. SHAH
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

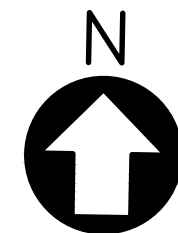
Anil Verma Associates, Inc.
1970 Broadway, Suite 608 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BART TO LIVERMORE EXTENSION
ALTERNATIVE 2 EMU
LINE, TRACK, STATIONS AND SYSTEMS**

WAYSIDE FACILITY-SITE PLAN
TRAIN CONTROL HOUSE (L35) AND TPSS (LCW)

CADD FILENAME CADD08CT008-TP103.dwg	
SIZE: SCALE D 1"=20'	
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. TP103	PAGE NO. 089

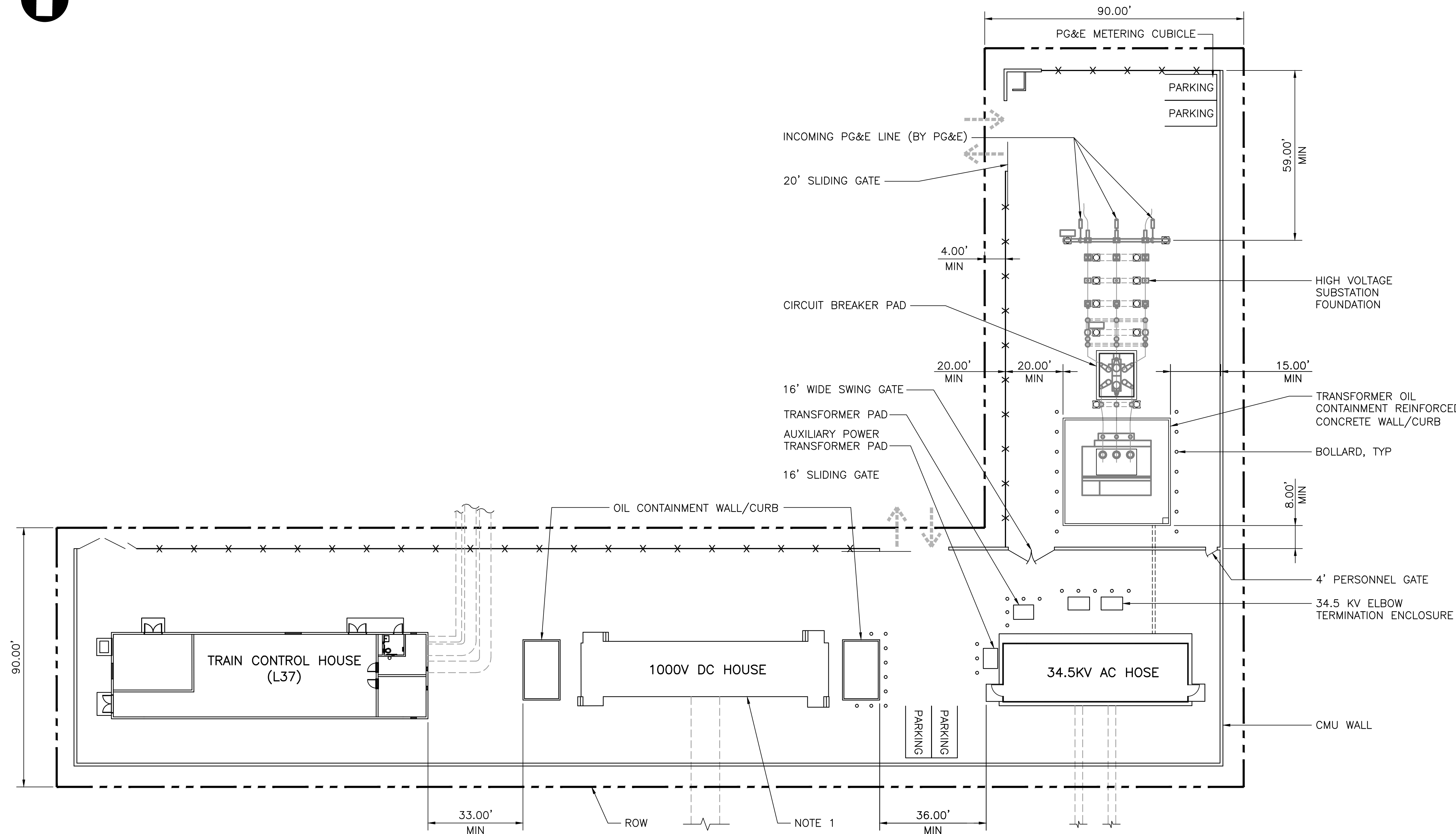


LEGEND:

- — — — — RIGHT OF WAY
- x — x — x — FENCE—CHAIN LINK

NOTE:

1. TYPICAL EMU VOLTAGE IS 750V DC OR 750V AC. OTHER VOLTAGES SUCH AS 1500V DC OR 1500V AC STANDARD. A LOAD FLOW ANALYSIS WILL BE NEEDED TO DETERMINE THE LOCATION OF SUBSTATIONS. THE VOLTAGE TYPE, DC OR AC WILL BE SELECTED DURING THE NEXT DESIGN PHASE.



SITE PLAN
SCALE: 1"=20'

Jul 25, 2017 - 2:20pm \\global\arup.com\americas\lobes\5-F\230000\237865-00\2 Client (AVA)\2-02 Received Files\2016-10-08 AVA_CADD_files\TEMP_CD_9-19-16\Changes 2017-07-24\System\EMU\CADD08CT008-TP104.dwg

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
0	20160531				10% PRELIMINARY ENGINEERING						

DESIGNED:
N. SHAH
 DRAWN:
T. GARSHASEBI
 CHECKED:
L. DURRANT
 APPROVED:
N. SHAH
 DATE:
20160531

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>	 Anil Verma Associates, Inc. <small>1970 Broadway, Suite 608 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</small>
SUBMITTED _____	APPROVED _____

**BART TO LIVERMORE EXTENSION
 ALTERNATIVE 2 EMU
 LINE, TRACK, STATIONS AND SYSTEMS**
 WAYSIDE FACILITY—SITE PLAN
 HIGH VOLTAGE SUBSTATION (LHV) AND TPSS (LIA)

CADD FILENAME CADD08CT008-TP104.dwg	
SIZE: SCALE D	1"=20'
CONTRACT NO. 08CT008	REV. 0
CONTRACT SHEET NO. TP104	PAGE NO. 090

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



**BART TO LIVERMORE EXTENSION
REFERENCE DRAWINGS
EXISTING UTILITY MAP**

CONTRACT DRAWINGS

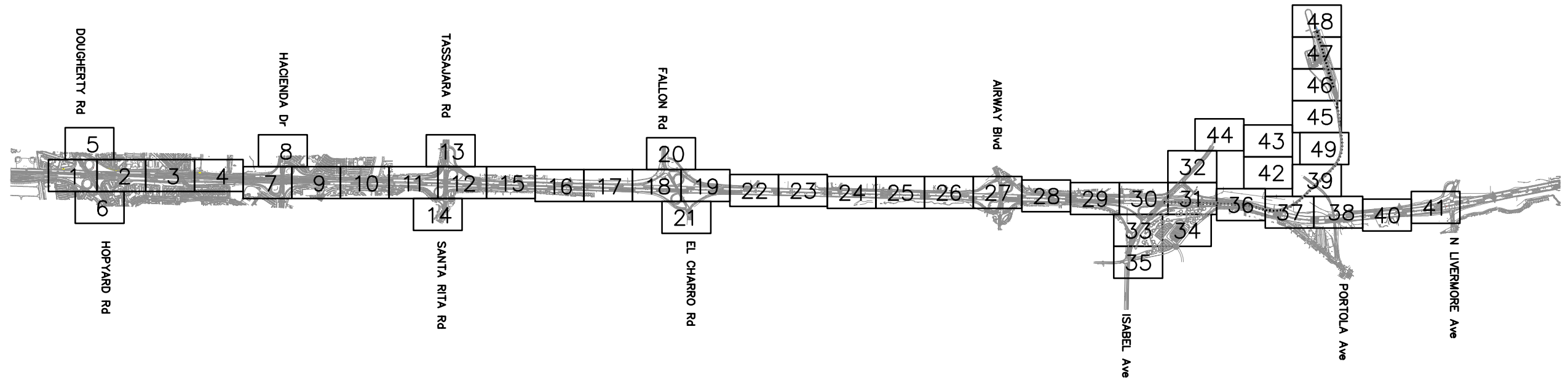
FUNDING AGENCIES / PARTNERS:

CITY OF LIVERMORE
CITY OF DUBLIN
CITY OF PLEASANTON
ALAMEDA COUNTY
CALTRANS
LAVTA
MTC
ACTC
SAN JOAQUIN RTD
ALTAMONT CORRIDOR EXPRESS

10% PRELIMINARY ENGINEERING

CONTRACT NO. 08CT008

DATE: 31 JULY 2017



F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD/Layout-Index.dwg 01.08.2016 8:22am By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

<p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	<p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

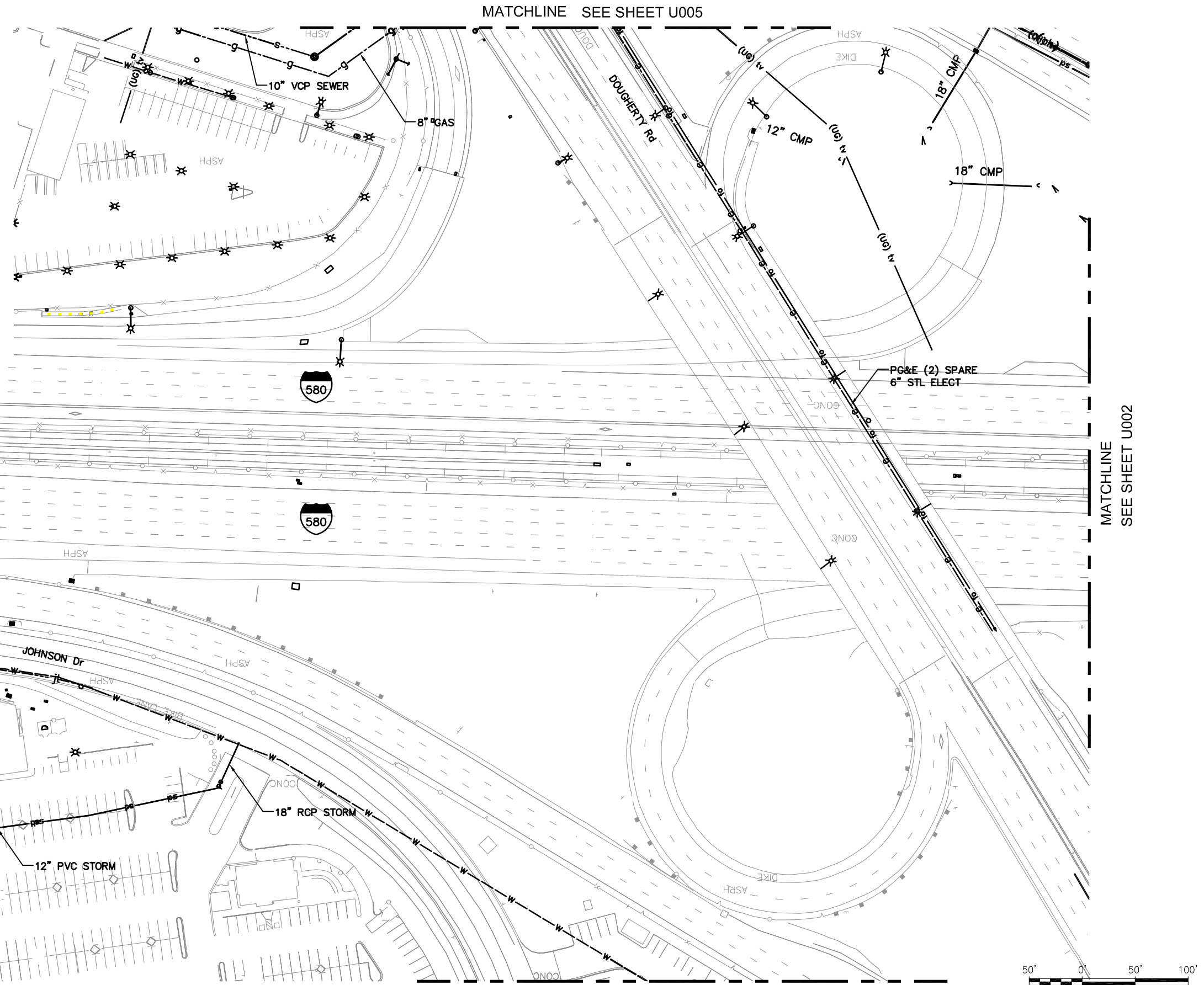
EXISTING UTILITY MAP
00 of 49

CADD FILENAME Layout-Index.dwg	
SIZE: SCALE D	1" = 50'
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U000	PAGE NO. 000



LEGEND:

- e—e—e— EXISTING ELECTRIC LINE
- e—(oh)— EXISTING ELECTRIC LINE OVERHEAD
- gs---gs--- EXISTING GAS LINE
- g—g—g— EXISTING NATURAL GAS LINE
- s---s--- EXISTING SEWER LINE
- tv---tv--- EXISTING TV LINE
- tc---tc--- EXISTING TELECOM LINE
- t---t--- EXISTING TELEPHONE LINE
- w—w—w— EXISTING WATER LINE
- fo—(UG)— EXISTING FIBER OPTIC LINE
- jt---jt--- EXISTING JOINT TRENCH
- rcw—rcw— EXISTING RECYCLED WATER LINE
- sd---sd--- EXISTING STORM DRAIN
- ////////// ABANDON



MATCHLINE SEE SHEET U005

MATCHLINE SEE SHEET U002

MATCHLINE SEE SHEET U006



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-01.dwg 12/22/2015 2:20pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
01 of 49

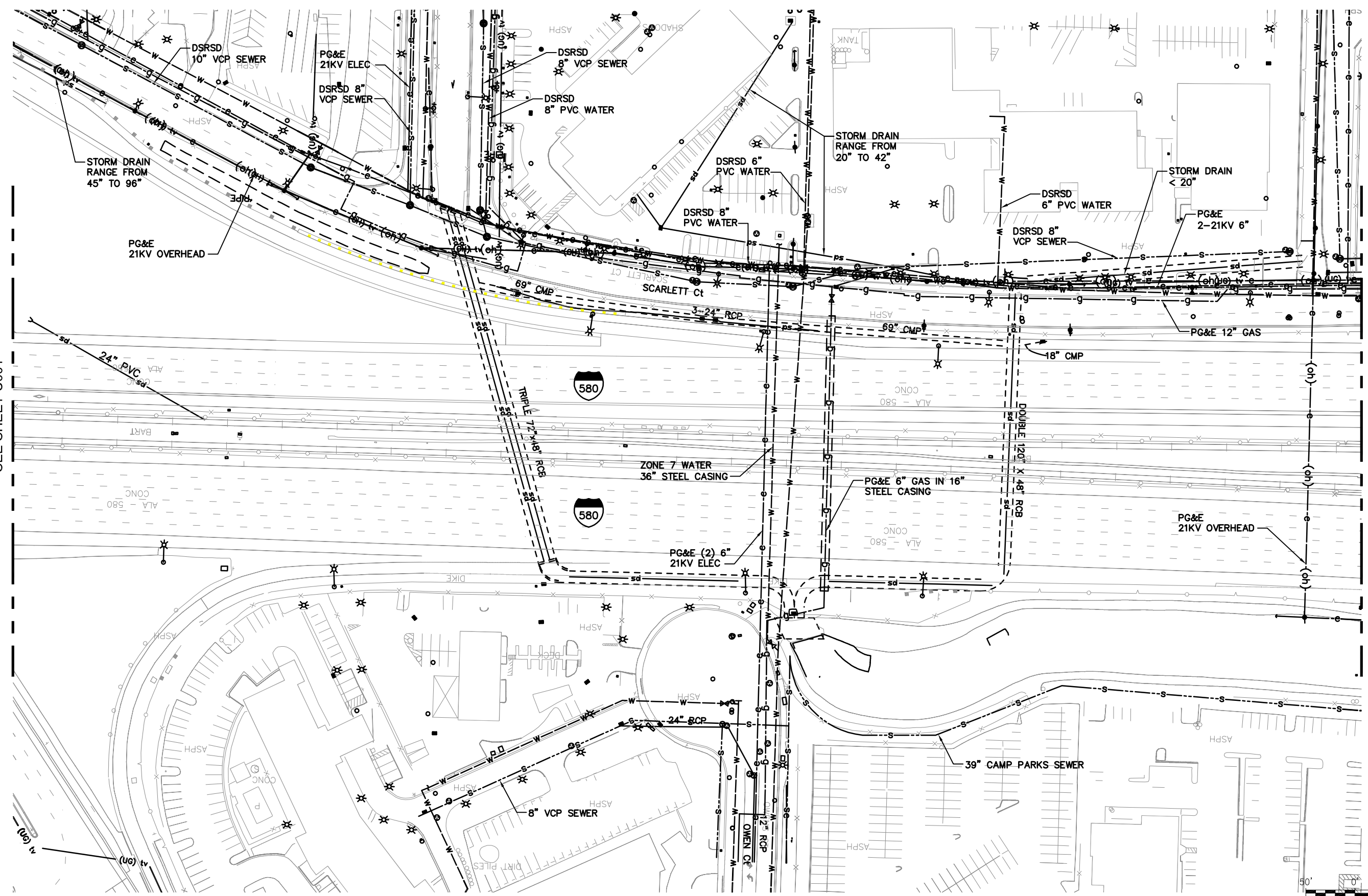
CADD FILENAME Layout-01.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U001	PAGE NO. 001

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-02.dwg 12/22/2015 2:20pm By: philip



MATCHLINE
SEE SHEET U001

MATCHLINE
SEE SHEET U003



GRAPHIC SCALE

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

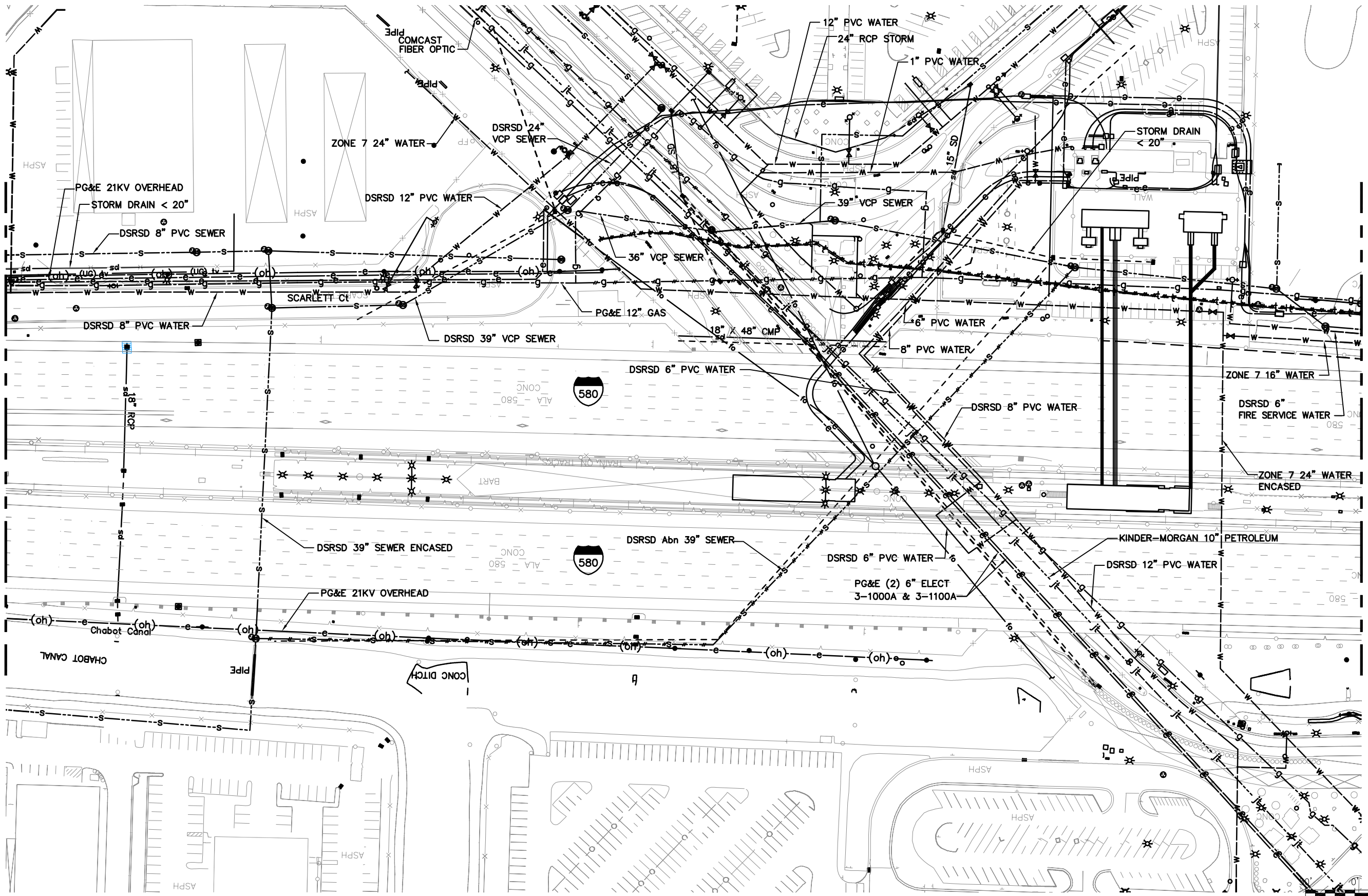
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
02 of 49

CADD FILENAME Layout-02.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U002	PAGE NO. 002



MATCHLINE
SEE SHEET U002

MATCHLINE
SEE SHEET U004



GRAPHIC SCALE
 CADD FILENAME: Layout-03.dwg
 SIZE: SCALE: 1" = 50'
 CONTRACT NO. 08CT008
 CONTRACT SHEET NO. U003
 REV. A
 PAGE NO. 003

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-03.dwg 12/22/2015 4:14pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
 DRAWN:
P. CHEUNG
 CHECKED:
M. JOHNSON
 APPROVED:
T. WINTCH
 DATE:
20151019

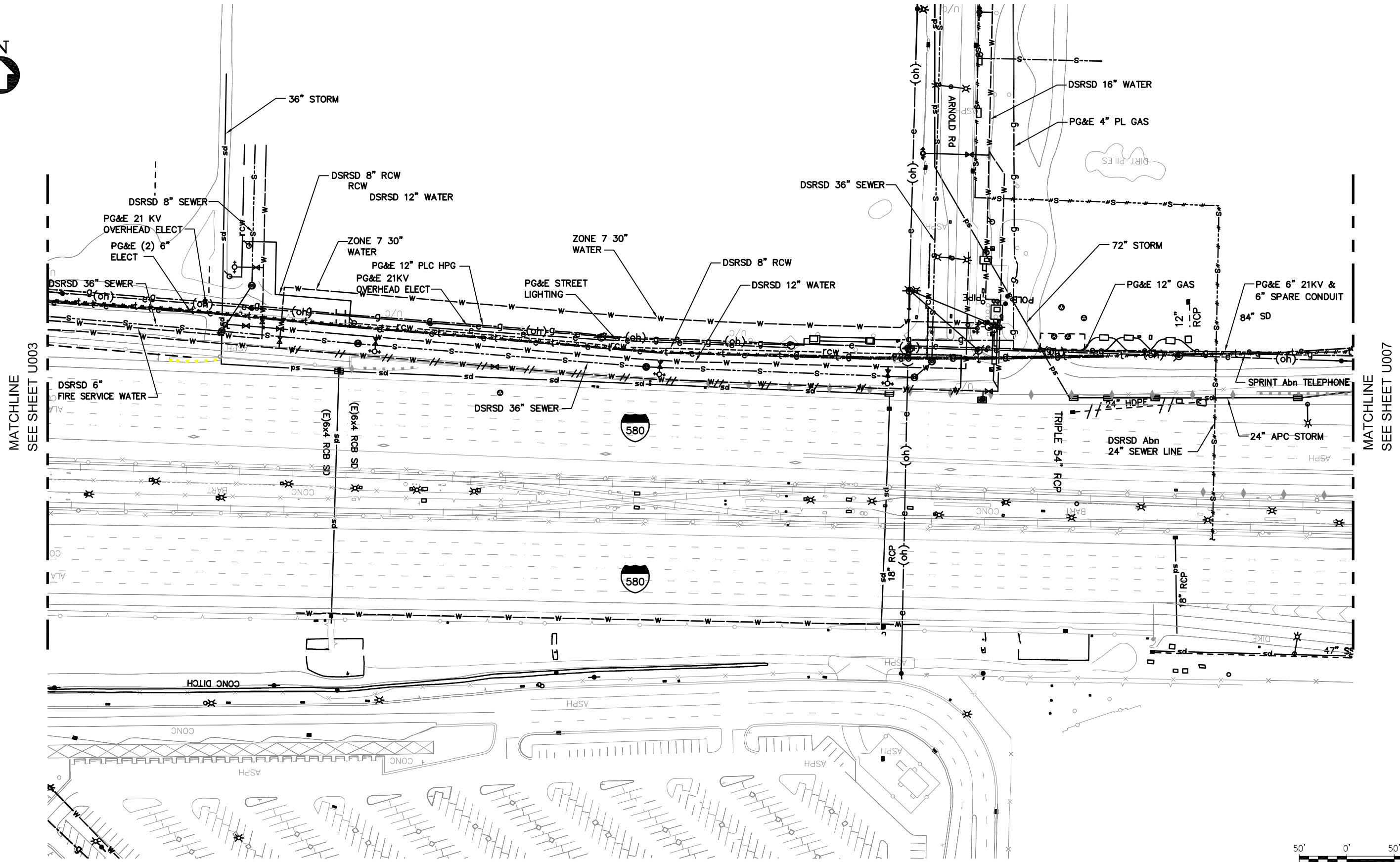
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
 2950 Buskirk Avenue, Ste 122
 Walnut Creek, CA 94597

Anil Verma Associates, Inc.
 1970 Broadway, Suite 668 Oakland, CA 94612
 Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

BLX
BART TO LIVERMORE EXTENSION
 EXISTING UTILITY MAP
 03 of 49



MATCHLINE
SEE SHEET U003

MATCHLINE
SEE SHEET U007



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD_Layout-04.dwg 12/22/2015 4:15pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

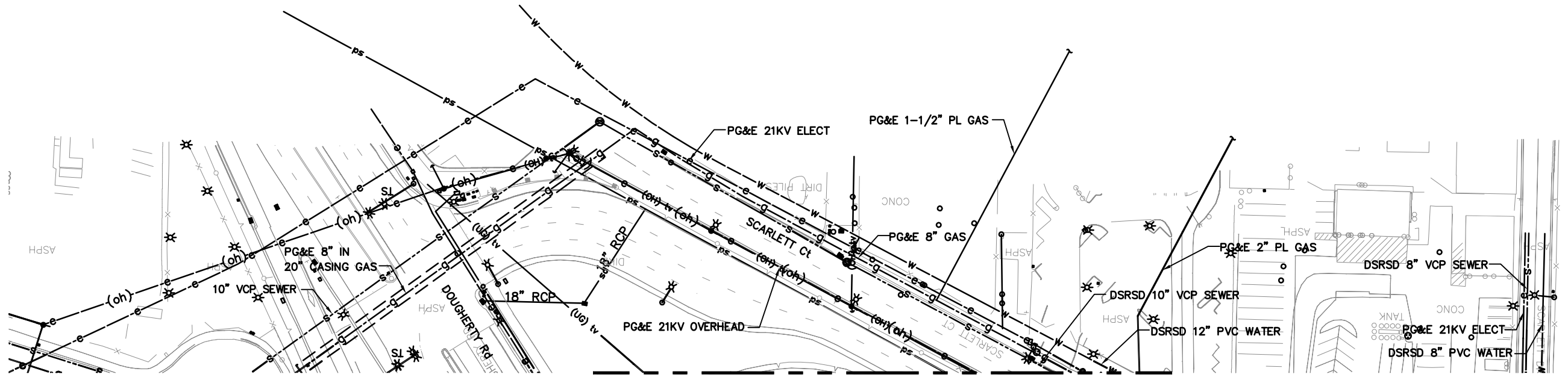
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
04 of 49

CADD FILENAME Layout-04.dwg		REV.
SIZE: SCALE D 1" = 50'		A
CONTRACT NO. 08CT008	PAGE NO. 004	
CONTRACT SHEET NO. U004		



MATCHLINE
SEE SHEET U001





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-05.dwg 12/22/2015 2:22pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

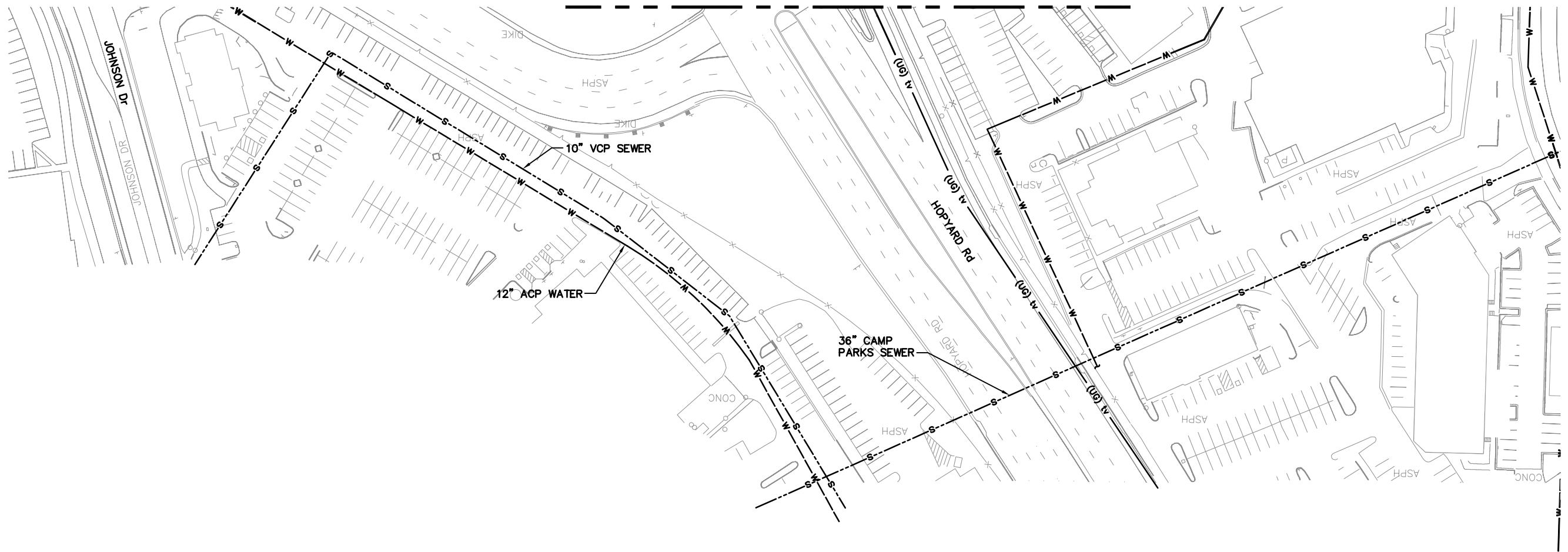
**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
05 of 49

CADD FILENAME Layout-05.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U005	PAGE NO. 005



MATCHLINE
SEE SHEET U001





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD\Layout-06.dwg 12/22/2015 2:22pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

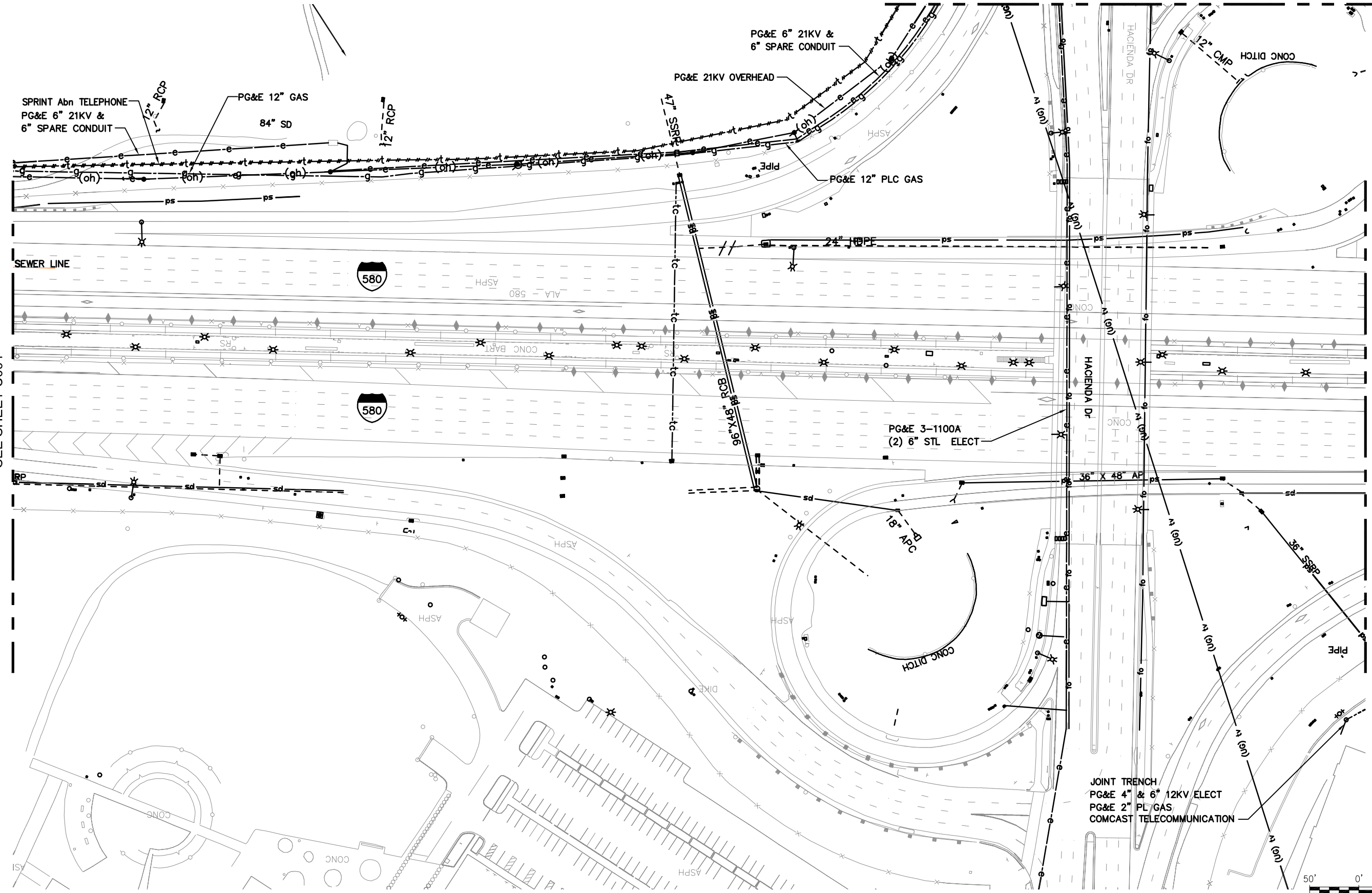
**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
06 of 49

CADD FILENAME Layout-06.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U006	PAGE NO. 006



MATCHLINE SEE SHEET U008



MATCHLINE
SEE SHEET U004

MATCHLINE
SEE SHEET U009

JOINT TRENCH
PG&E 4" & 6" 12KV ELECT
PG&E 2" PL GAS
COMCAST TELECOMMUNICATION



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-07.dwg 12/22/2015 2:23pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

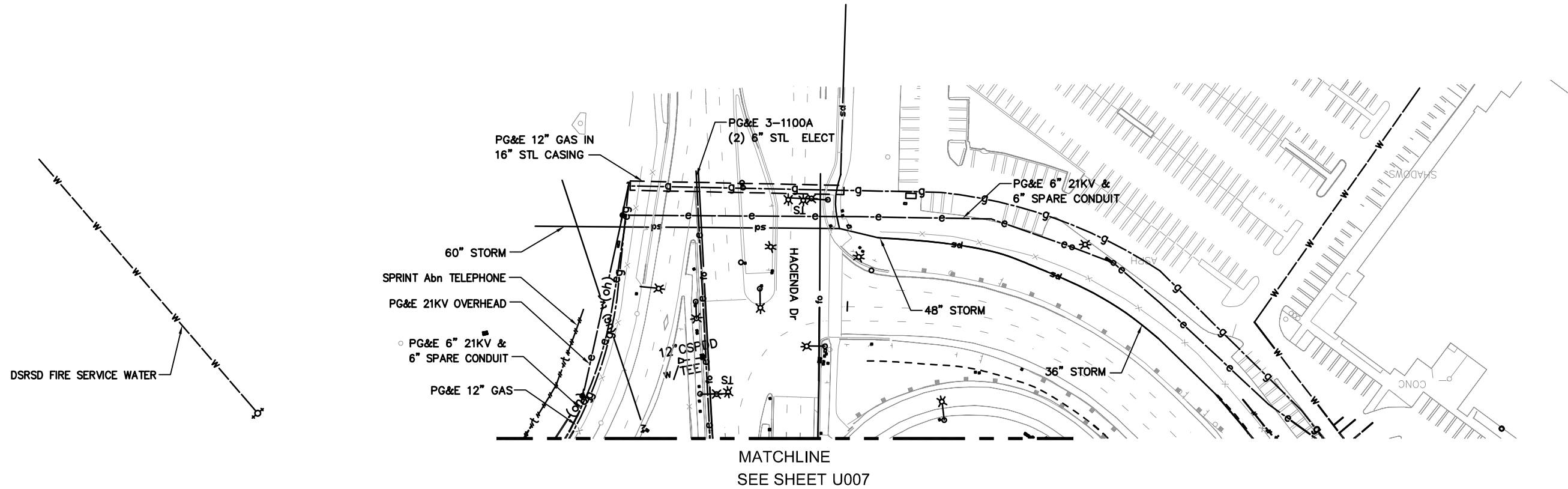
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
07 of 49

CADD FILENAME Layout-07.dwg		REV.
SIZE: SCALE D 1" = 50'		A
CONTRACT NO. 08CT008	PAGE NO. 007	





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-08.dwg 12/22/2015 4:18pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
08 of 49

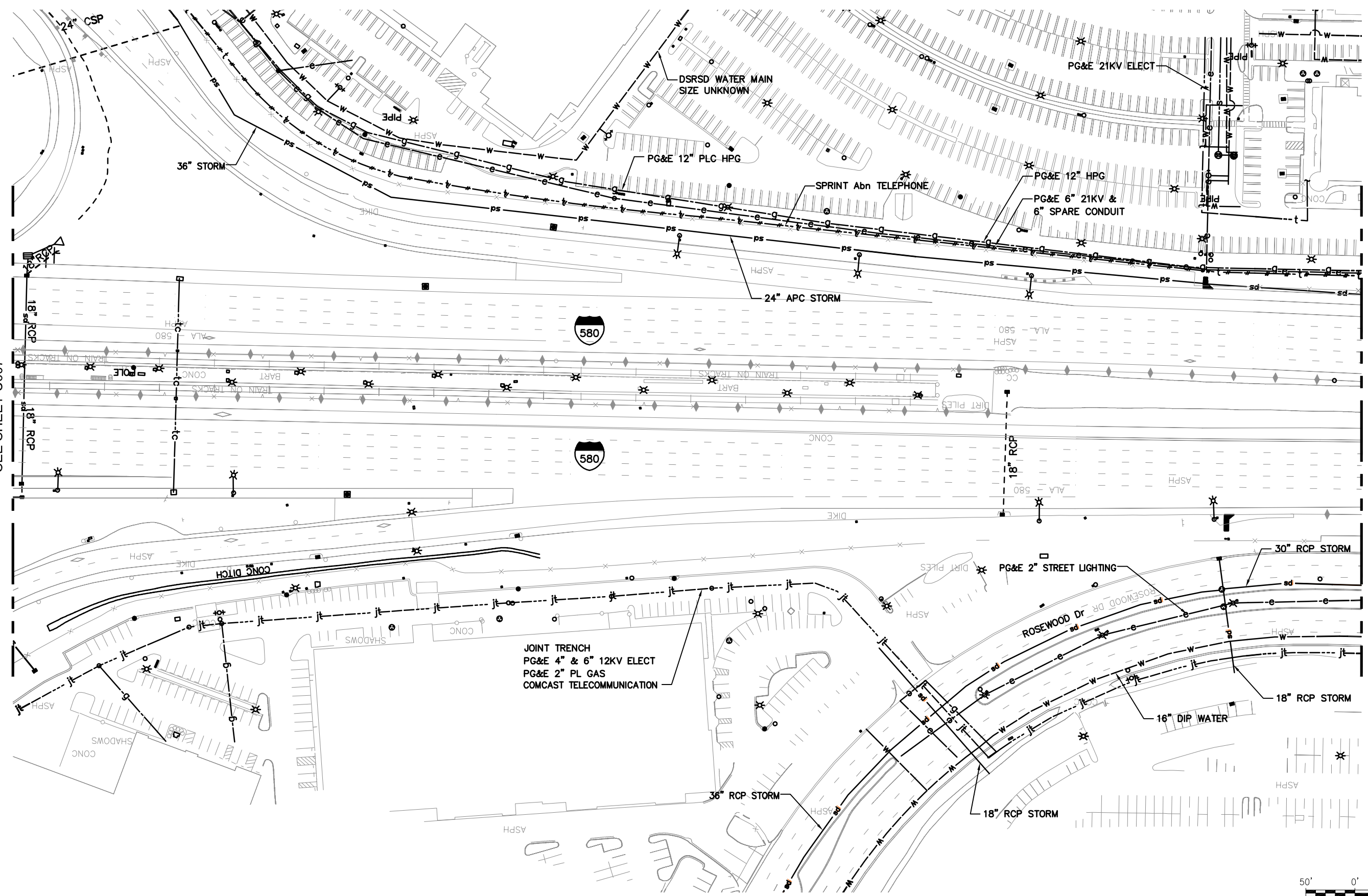
CADD FILENAME Layout-08.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U008	PAGE NO. 008

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD_Layout-09.dwg 12/22/2015 4:18pm By: philip



MATCHLINE
SEE SHEET U007

MATCHLINE
SEE SHEET U010



GRAPHIC SCALE

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

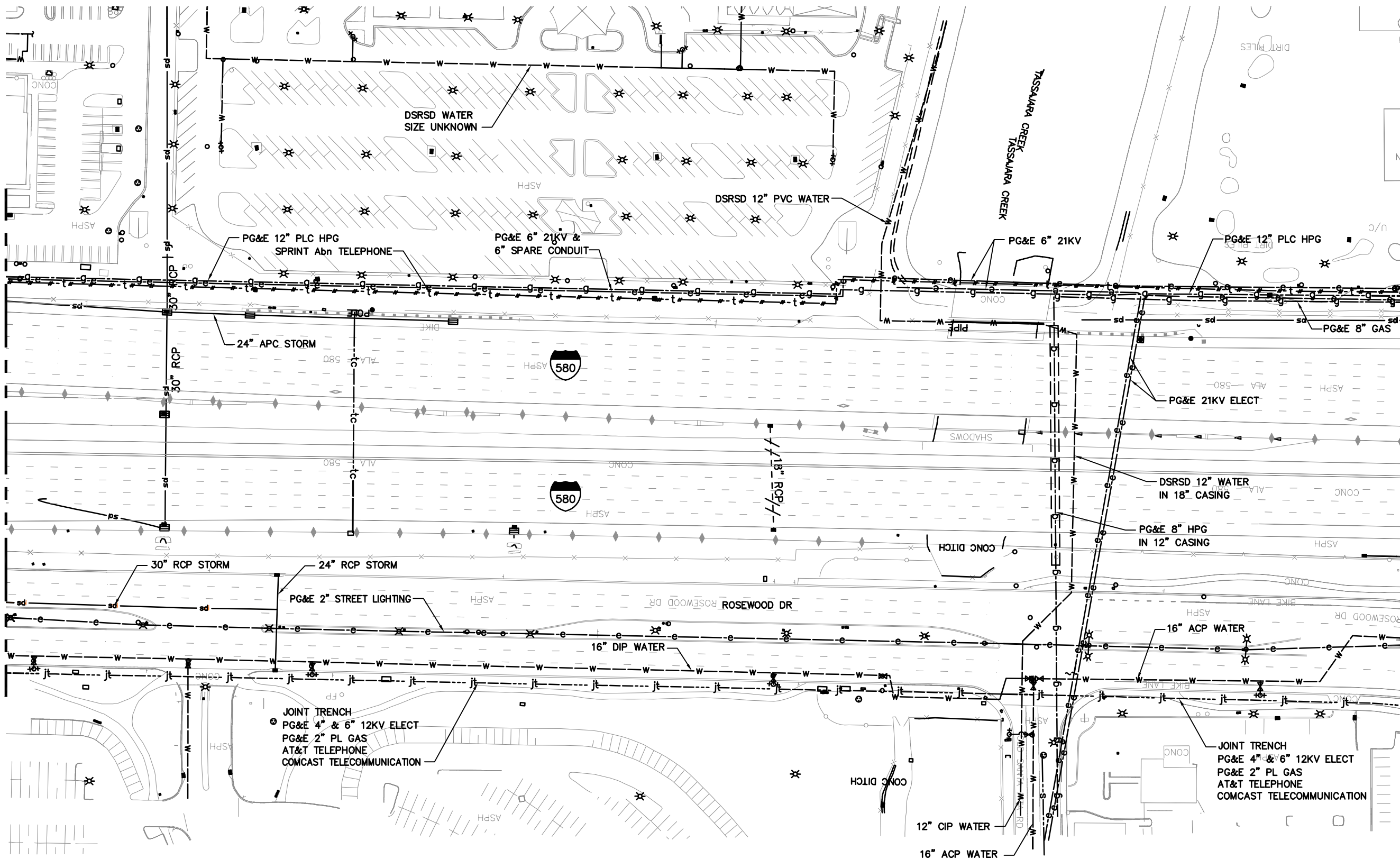
EXISTING UTILITY MAP
09 of 49

CADD FILENAME Layout-09.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U009	PAGE NO. 009



MATCHLINE
SEE SHEET U009

MATCHLINE
SEE SHEET U011




GRAPHIC SCALE

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD_Layout-10.dwg 12/22/2015 2:25pm By: philip


REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597



Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

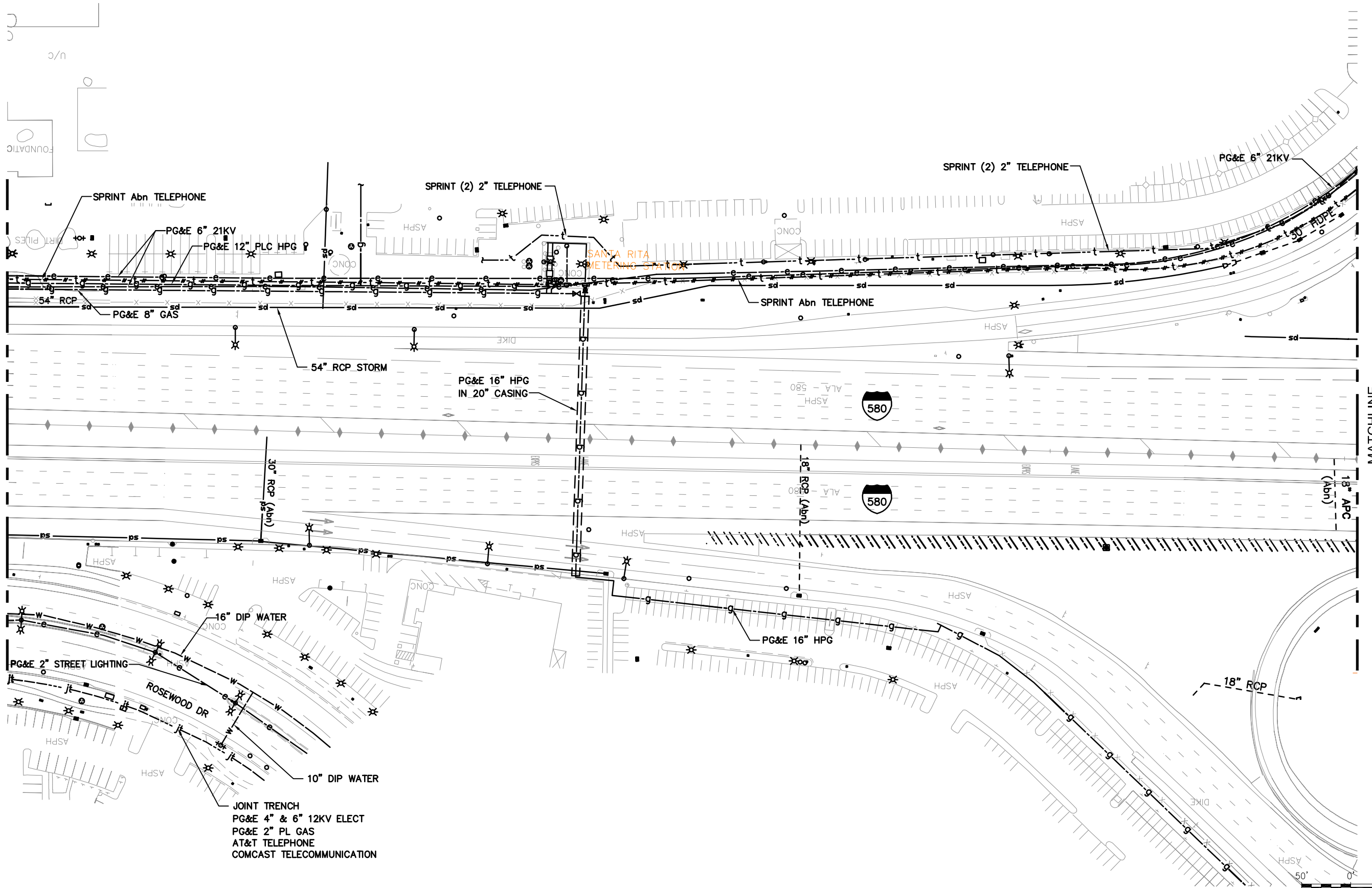
EXISTING UTILITY MAP
10 of 49

CADD FILENAME Layout-10.dwg		REV.
SIZE: SCALE D 1" = 50'		A
CONTRACT NO. 08CT008	PAGE NO. 010	



MATCHLINE
SEE SHEET U010

MATCHLINE
SEE SHEET U012



JOINT TRENCH
PG&E 4" & 6" 12KV ELECT
PG&E 2" PL GAS
AT&T TELEPHONE
COMCAST TELECOMMUNICATION



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-11.dwg 12/22/2015 2:25pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
11 of 49

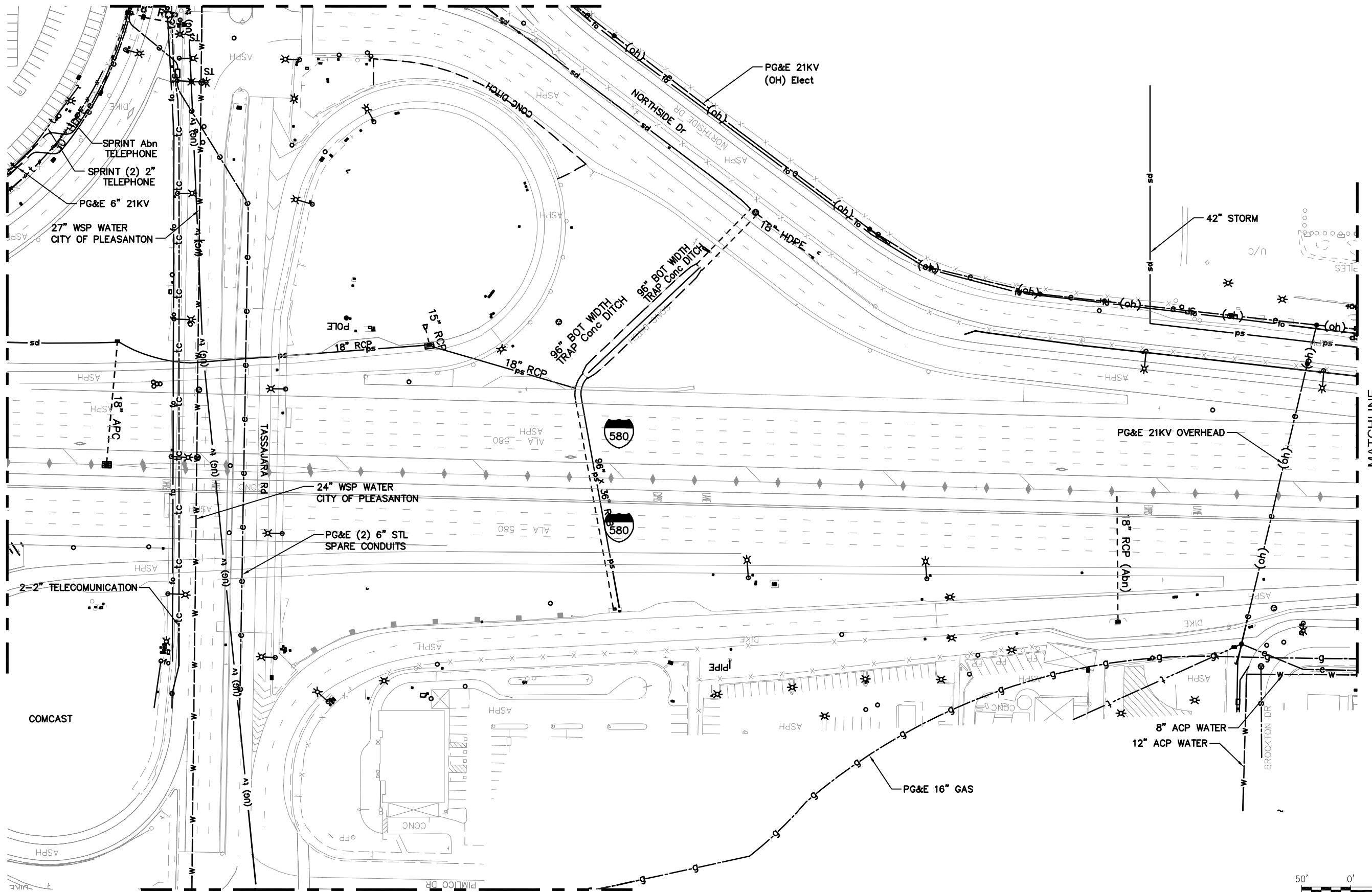
CADD FILENAME Layout-11.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U011	PAGE NO. 011

MATCHLINE SEE SHEET U013



MATCHLINE
SEE SHEET U011

MATCHLINE
SEE SHEET U015



MATCHLINE SEE SHEET U014

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD_Layout-12.dwg 12/22/2015 2:26pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

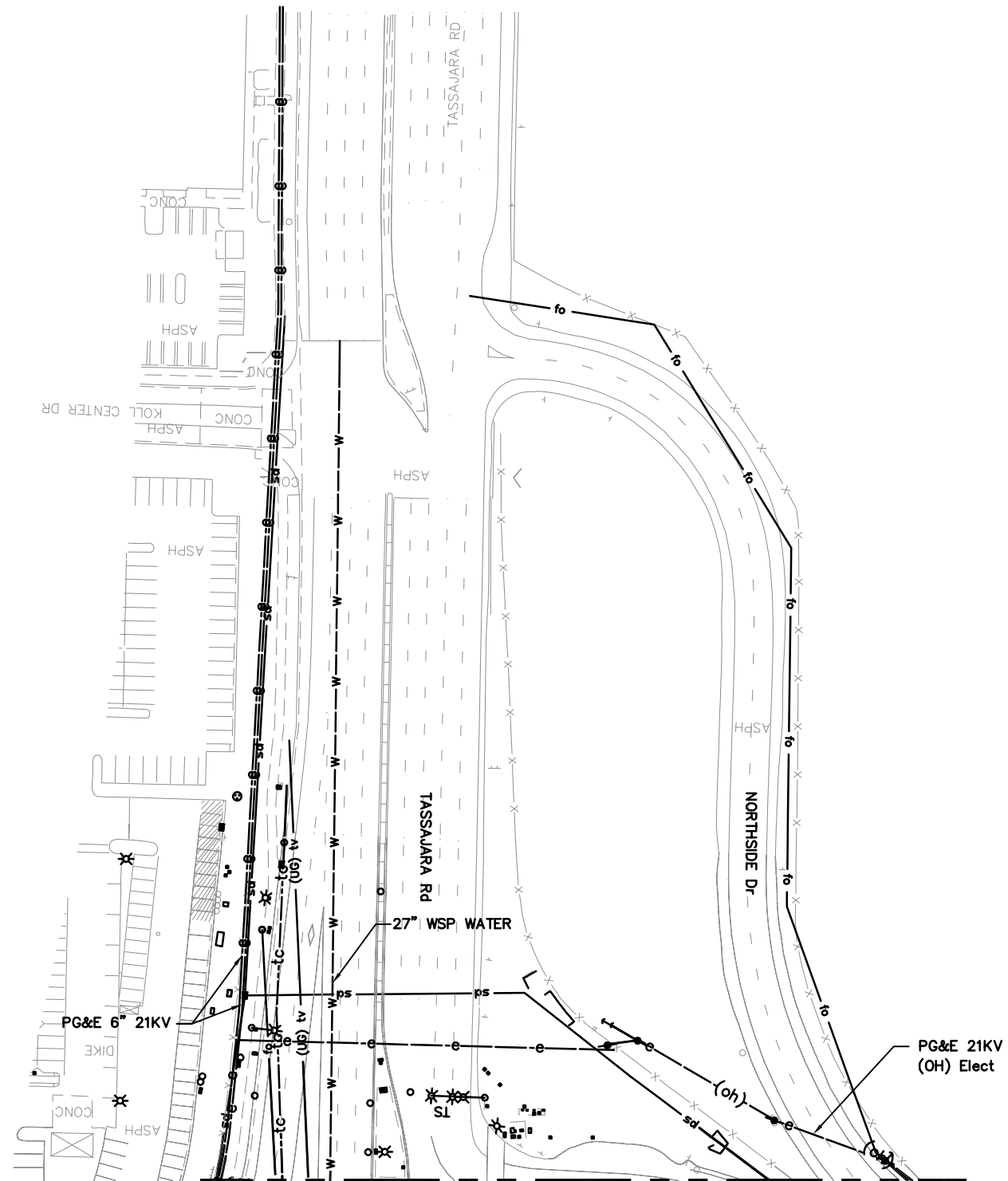
**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
12 of 49

CADD FILENAME Layout-12.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U012	PAGE NO. 012



GRAPHIC SCALE



MATCHLINE
SEE SHEET U012



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-13.dwg 12/22/2015 2:27pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

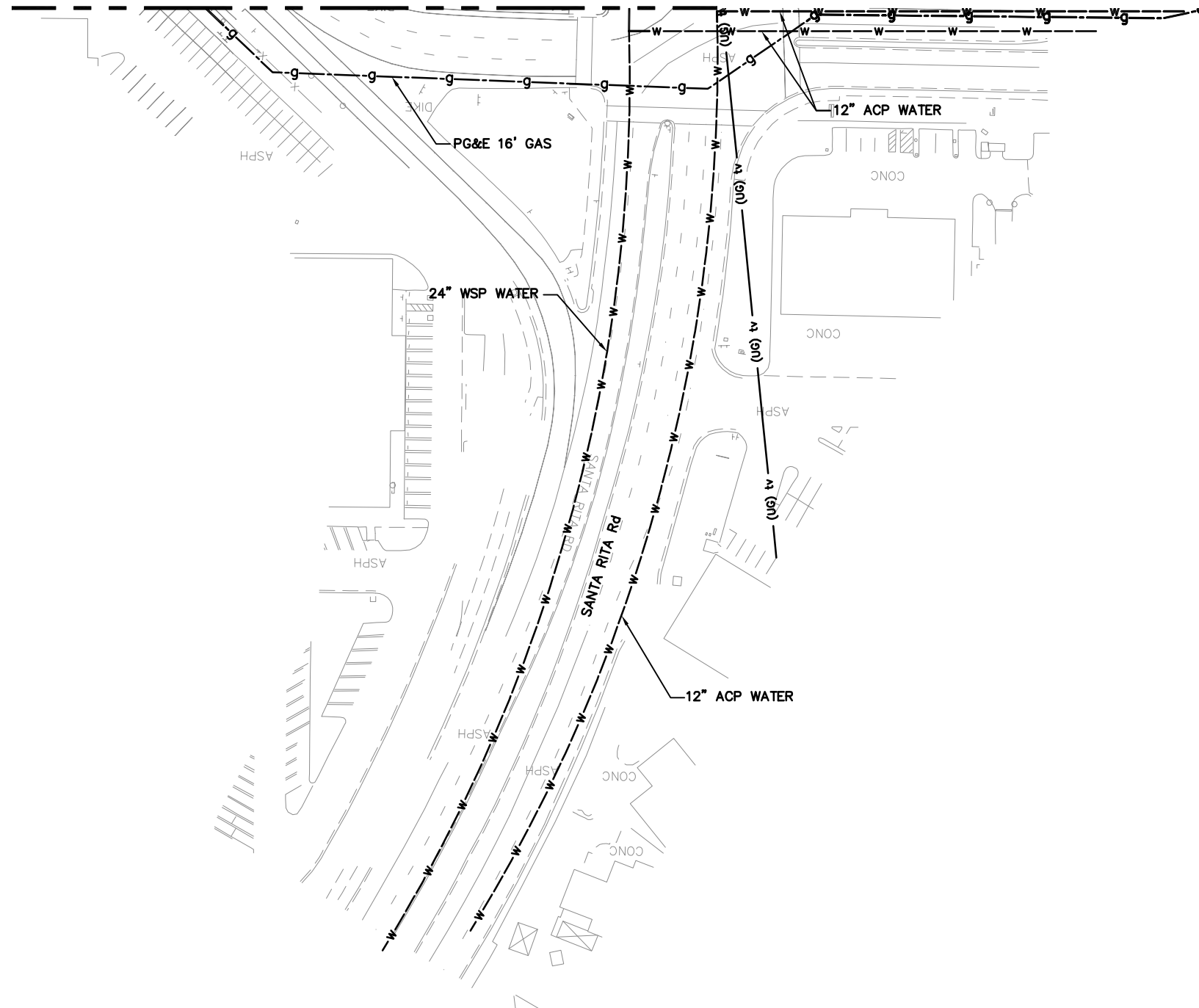
**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
13 of 49

CADD FILENAME Layout-13.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U013	PAGE NO. 013



MATCHLINE
SEE SHEET U012




GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-14.dwg 12/22/2015 2:27pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

 **Anil Verma Associates, Inc.**
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

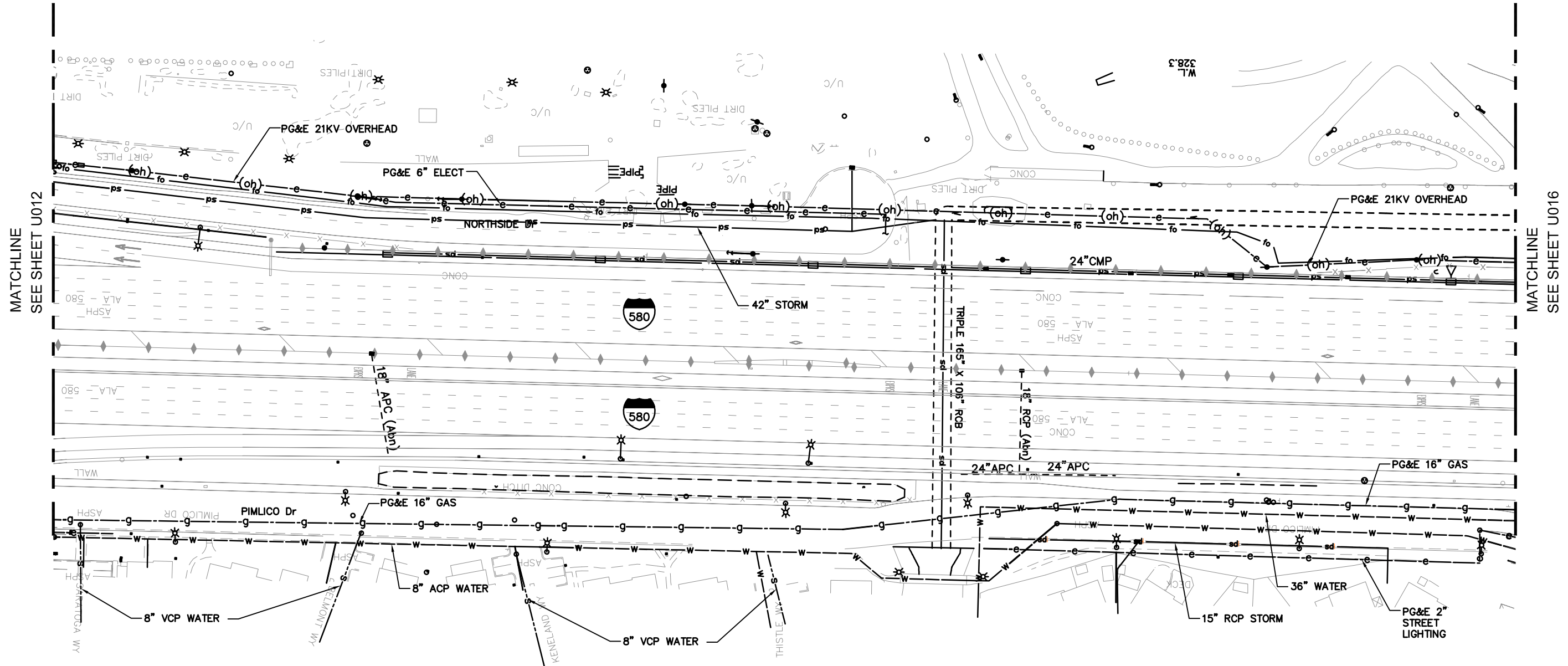
SUBMITTED _____

APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
14 of 49

CADD FILENAME Layout-14.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U014	PAGE NO. 014



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-15.dwg 12/22/2015 2:28pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

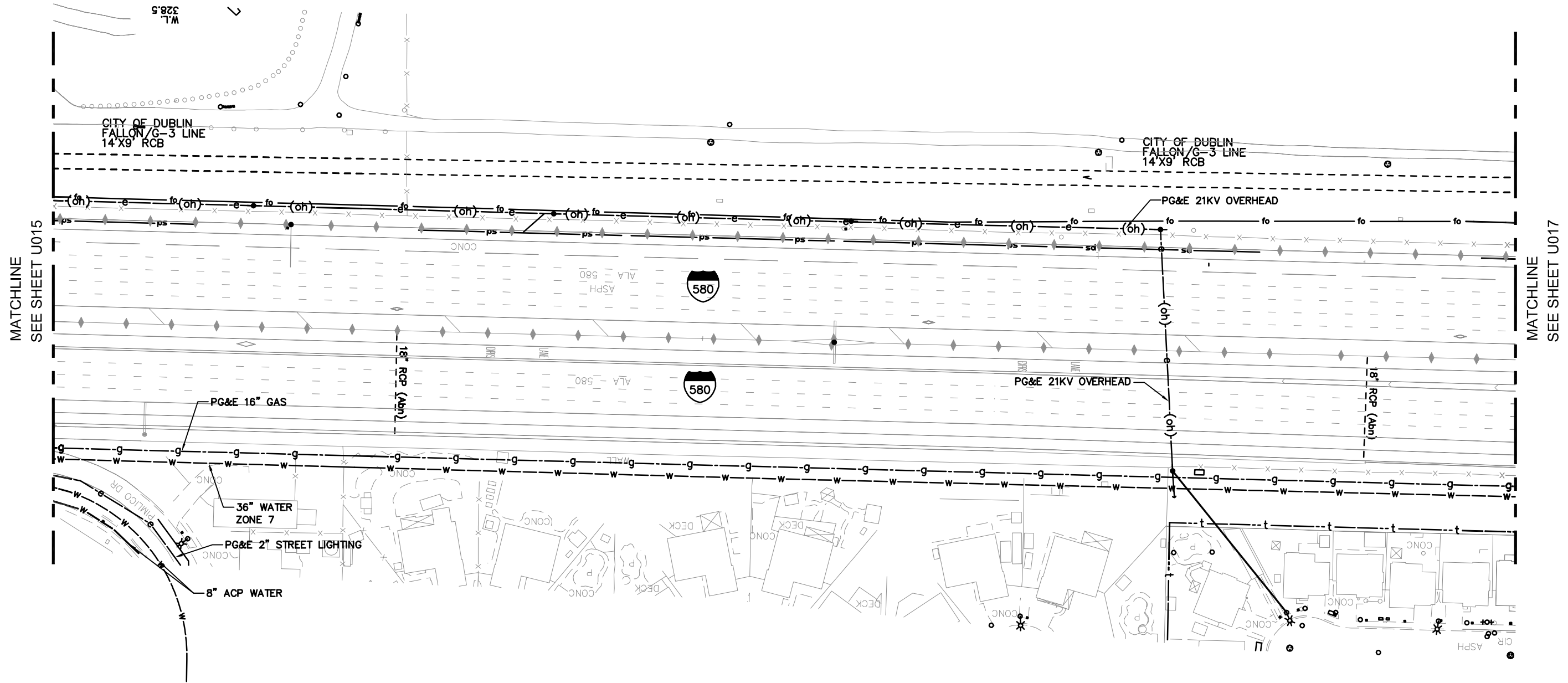
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
15 of 49

CADD FILENAME Layout-15.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U015	PAGE NO. 015




GRAPHIC SCALE

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD_Layout-16.dwg 12/22/2015 2:28pm By: philip


REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597



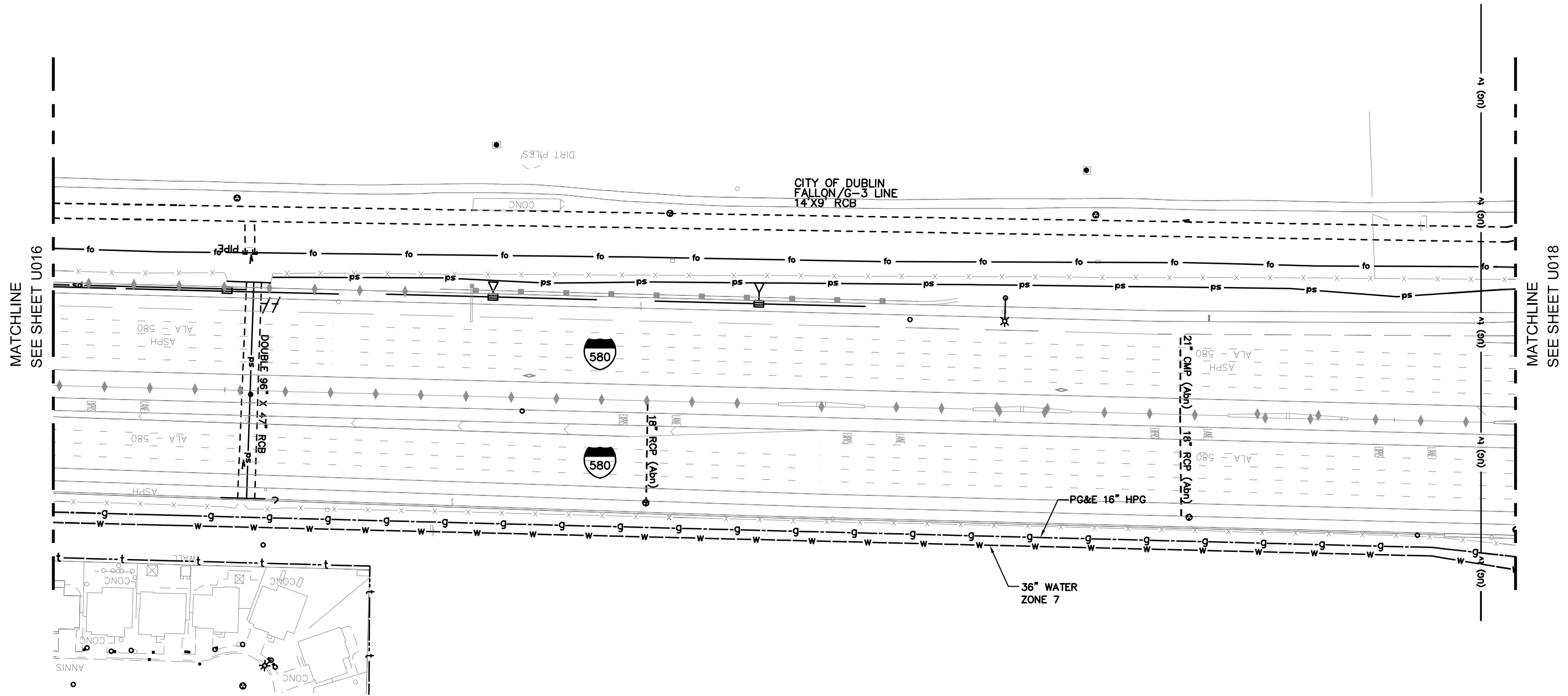
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
16 of 49

CADD FILENAME Layout-16.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U016	PAGE NO. 016




GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-17.dwg 12.22.2015 2:29pm By: philip


REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT



QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597



Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
17 of 49

CADD FILENAME Layout-17.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U017	PAGE NO. 017



MATCHLINE SEE SHEET U020

MATCHLINE SEE SHEET U017

MATCHLINE SEE SHEET U019

MATCHLINE SEE SHEET U021



GRAPHIC SCALE

CITY OF DUBLIN
FALLON/G-3 LINE
14' X 9' RCB

DIRT PILES

20" PVC
DSRDS CWR

20" WSP
DSRDS WATER

PG&E (2) 6" STL ELECT

72" x 24" RCB

72" x 24" RCB

20" PVC DSRSD CWR

PG&E 16" GAS

36" WATER
ZONE 7



EL CHARD Rd

CHARD RD

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

BLX BART TO LIVERMORE EXTENSION

EXISTING UTILITY MAP
18 of 49

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____

APPROVED _____

CADD FILENAME Layout-18.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U018	PAGE NO. 018

DESIGNED: P. CHEUNG
DRAWN: P. CHEUNG
CHECKED: M. JOHNSON
APPROVED: T. WINTCH
DATE: 20151019

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-18.dwg 12/22/2015 2:30pm By: philip

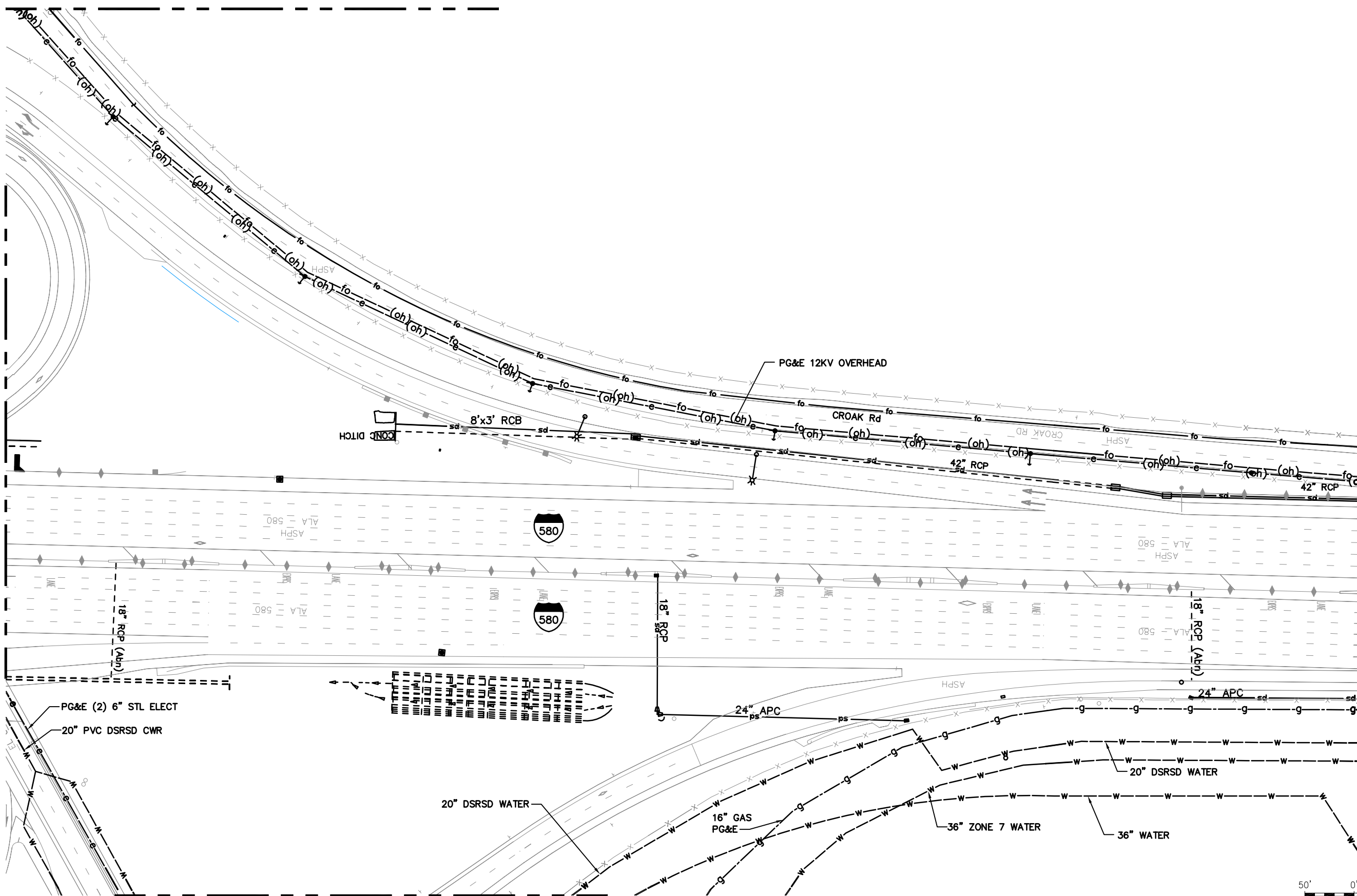
REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

MATCHLINE SEE SHEET U020

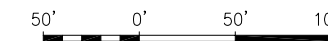


MATCHLINE
SEE SHEET U018

MATCHLINE
SEE SHEET U022



MATCHLINE SEE SHEET U021



GRAPHIC SCALE

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____

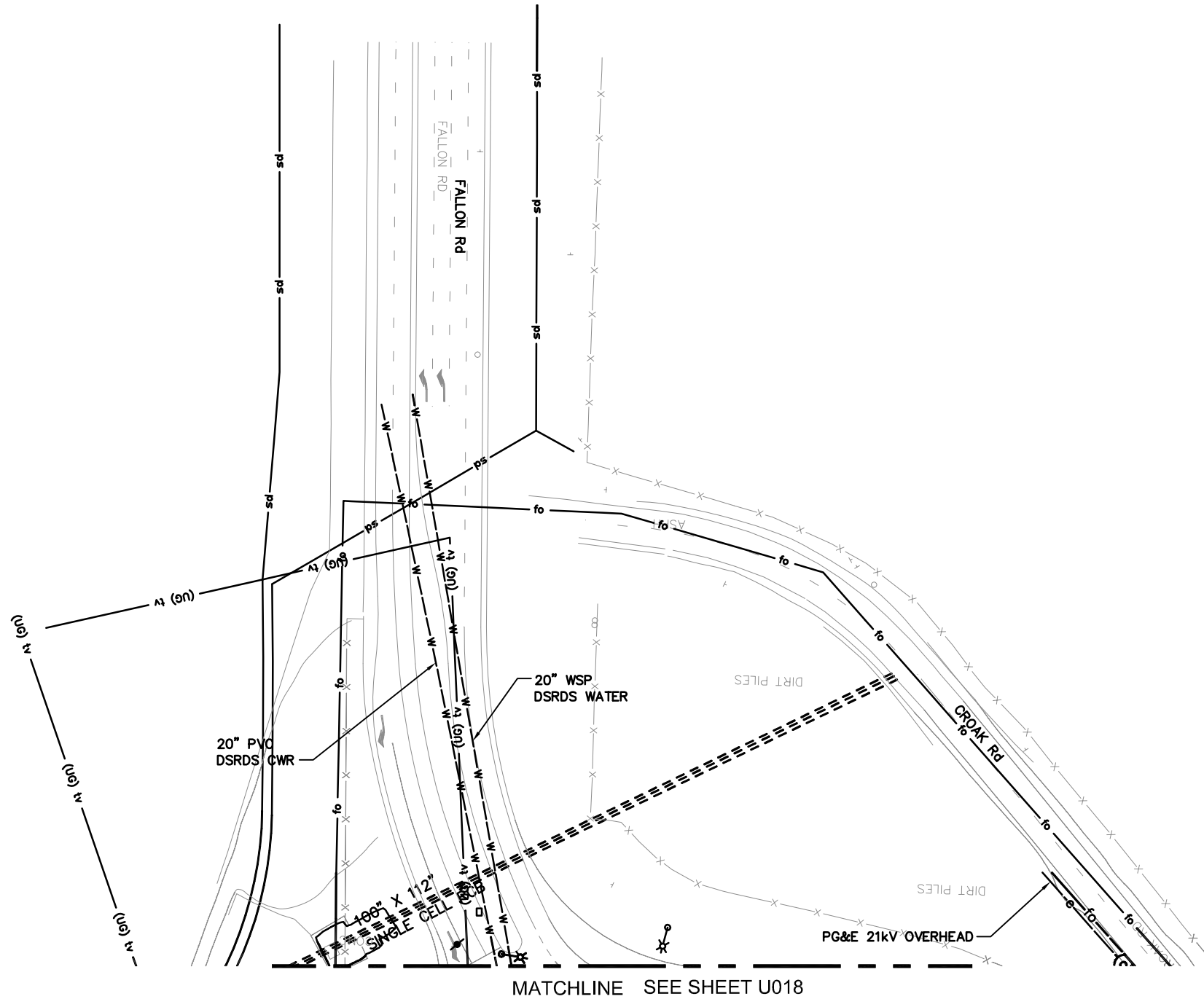
APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
19 of 49

CADD FILENAME Layout-19.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U019	PAGE NO. 019

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-19.dwg 12/22/2015 2:30pm By: philip



MATCHLINE SEE SHEET U018





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-20.dwg 12/22/2015 2:31pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597	 Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121
SUBMITTED _____	APPROVED _____

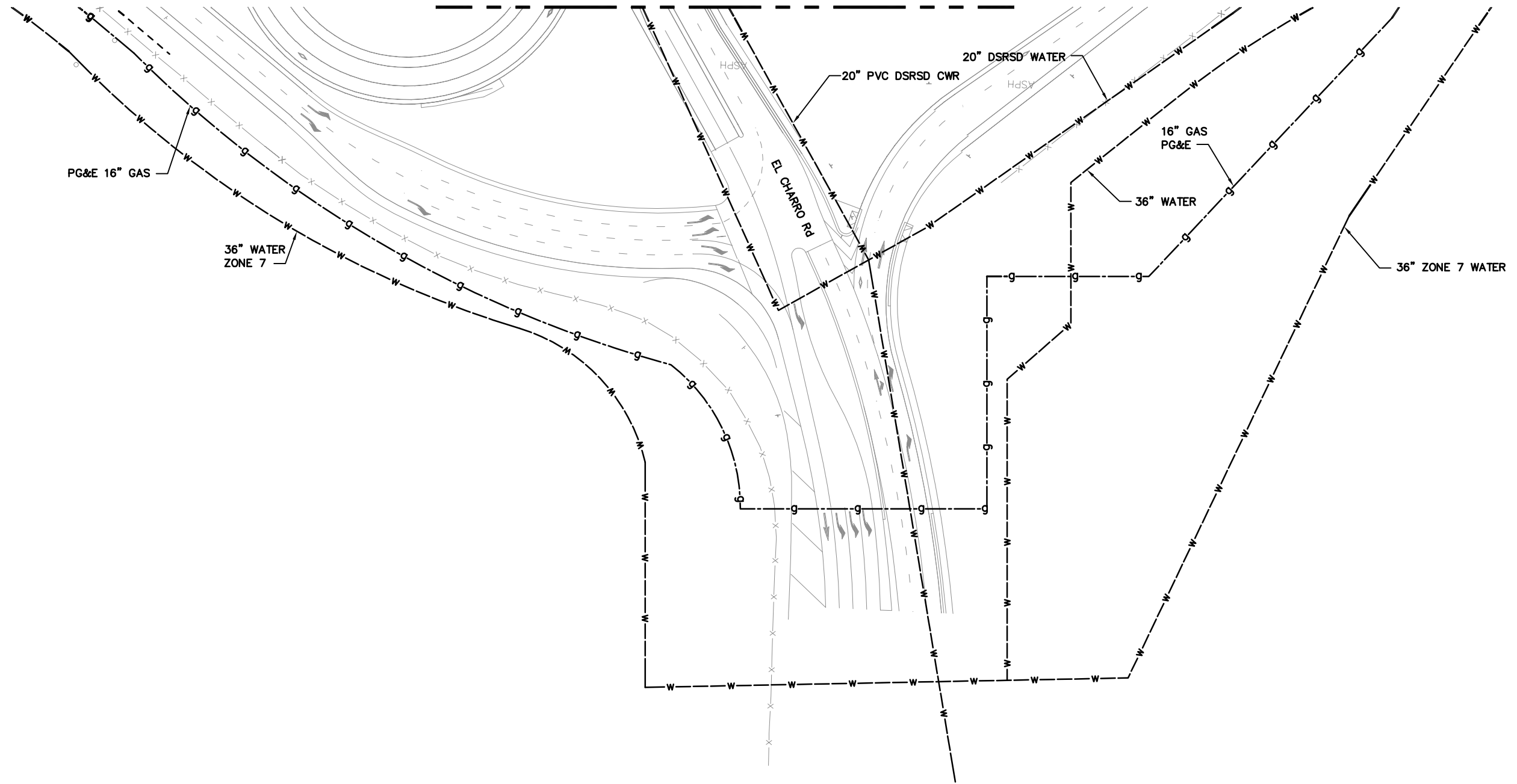
**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
20 of 49

CADD FILENAME Layout-20.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U020	PAGE NO. 020



MATCHLINE SEE SHEET U018





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-21.dwg 12/22/2015 2:31pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

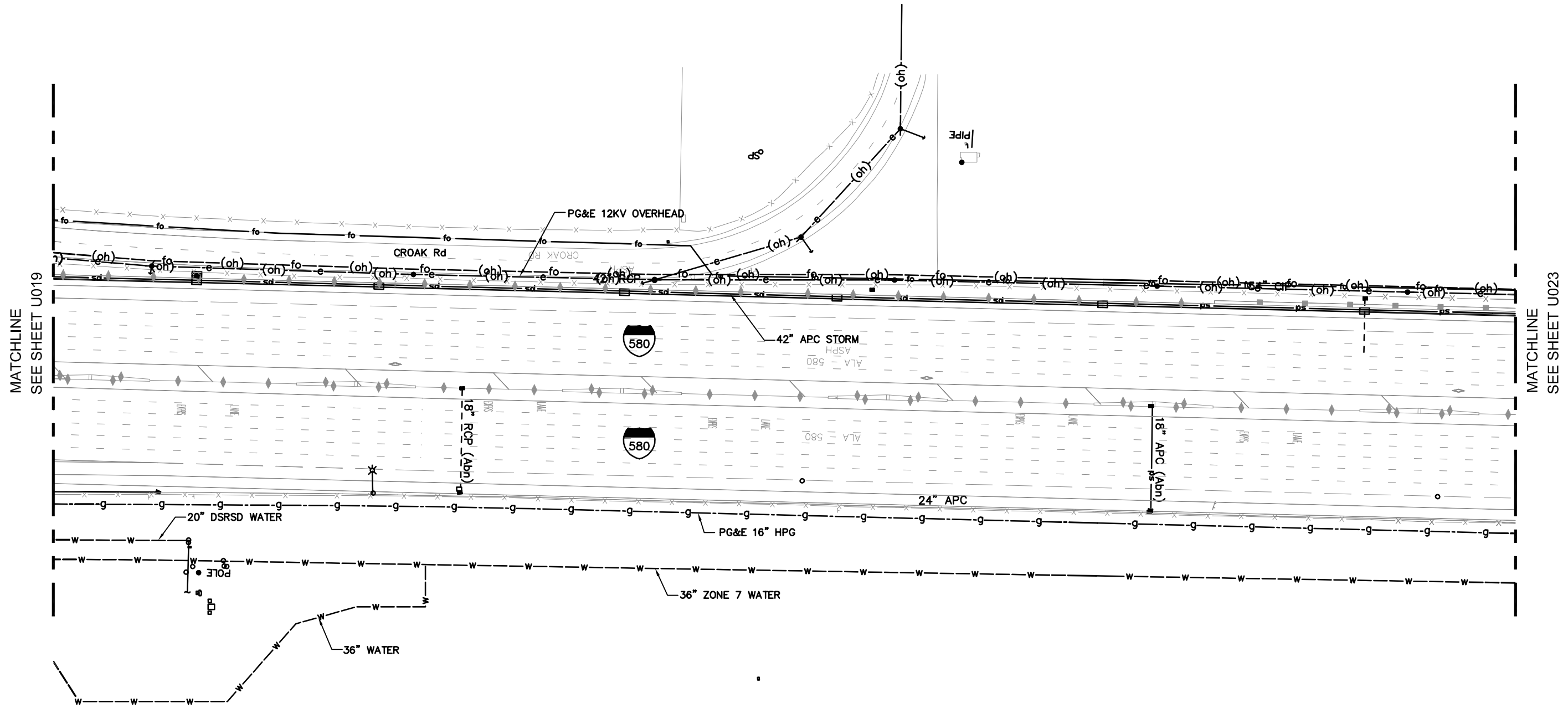
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
21 of 49

CADD FILENAME Layout-21.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U021	PAGE NO. 021



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-22.dwg 12/22/2015 2:32pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

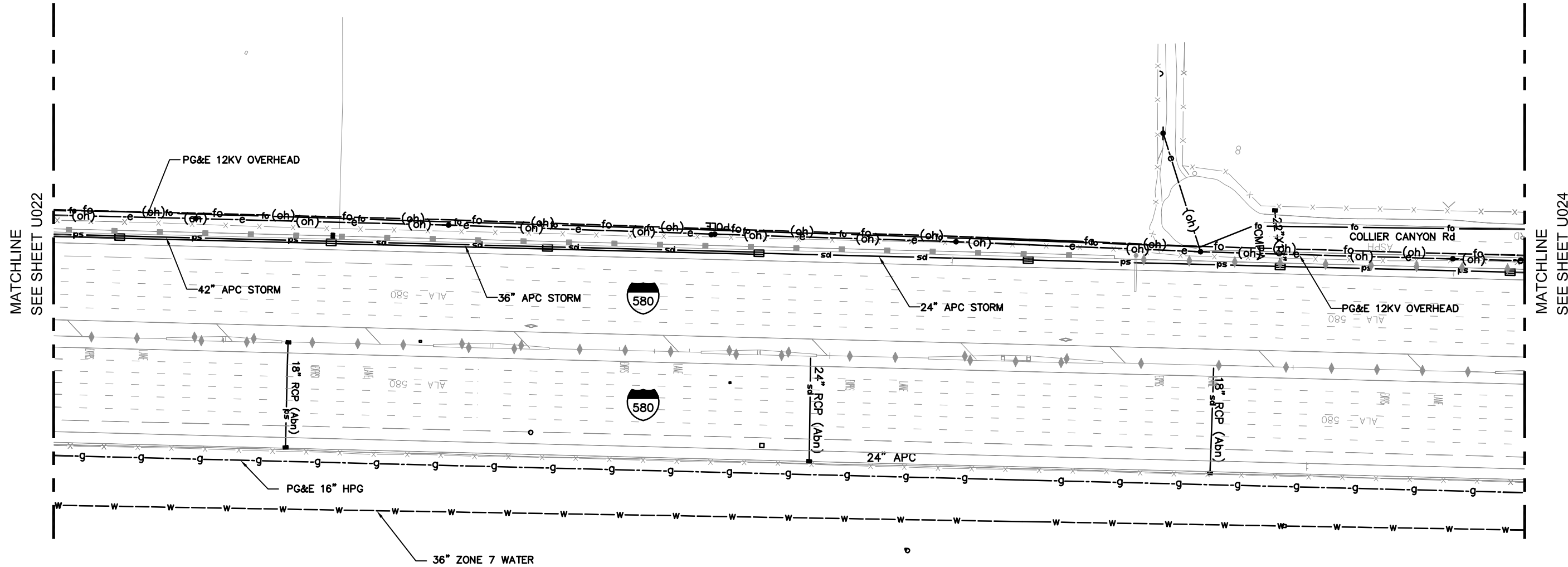
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
22 of 49

CADD FILENAME Layout-22.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U022	PAGE NO. 022





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-23.dwg 12/22/2015 2:33pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

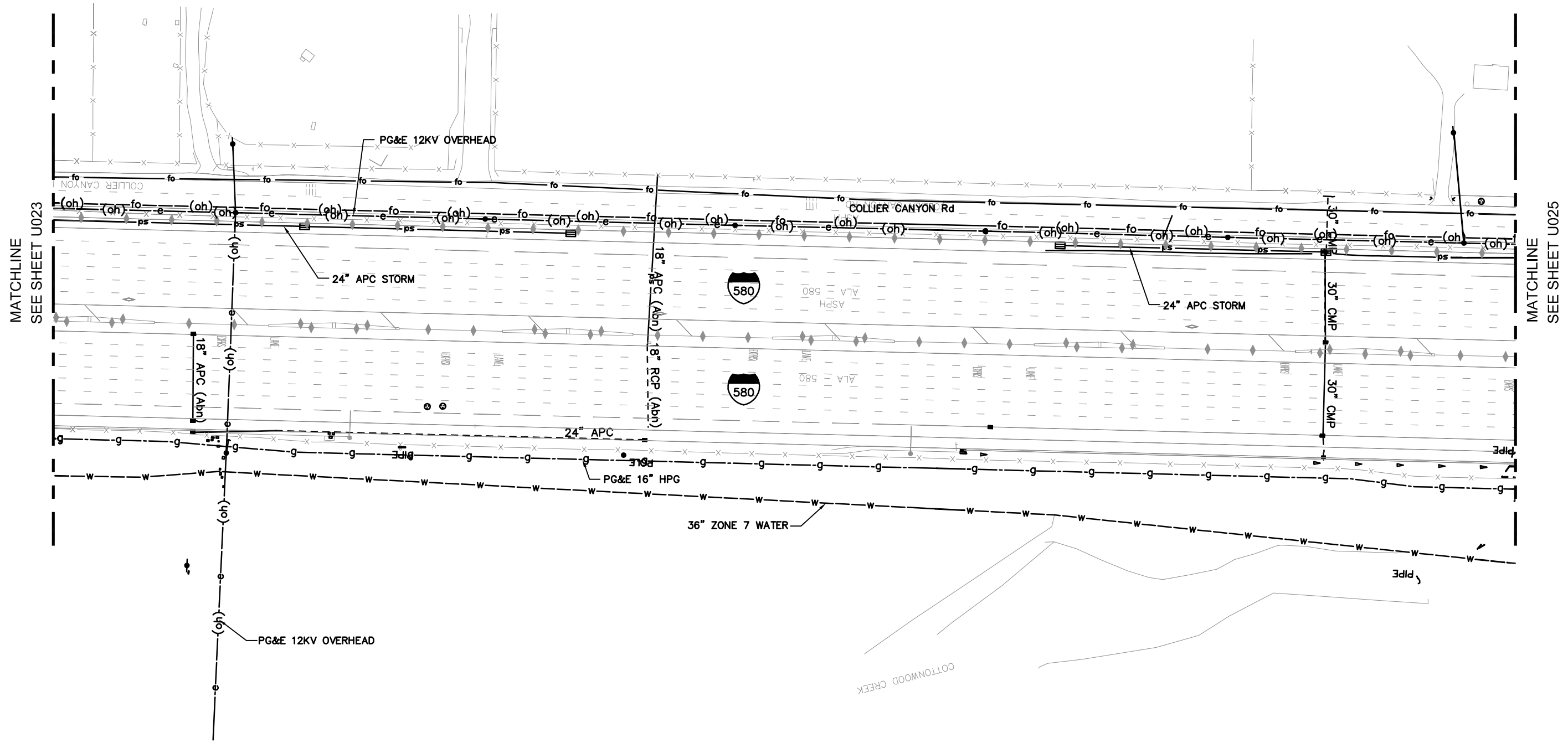
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
23 of 49

CADD FILENAME Layout-23.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U023	PAGE NO. 023



MATCHLINE
SEE SHEET U023

MATCHLINE
SEE SHEET U025



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD/Layout-24.dwg 12/22/2015 2:33pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

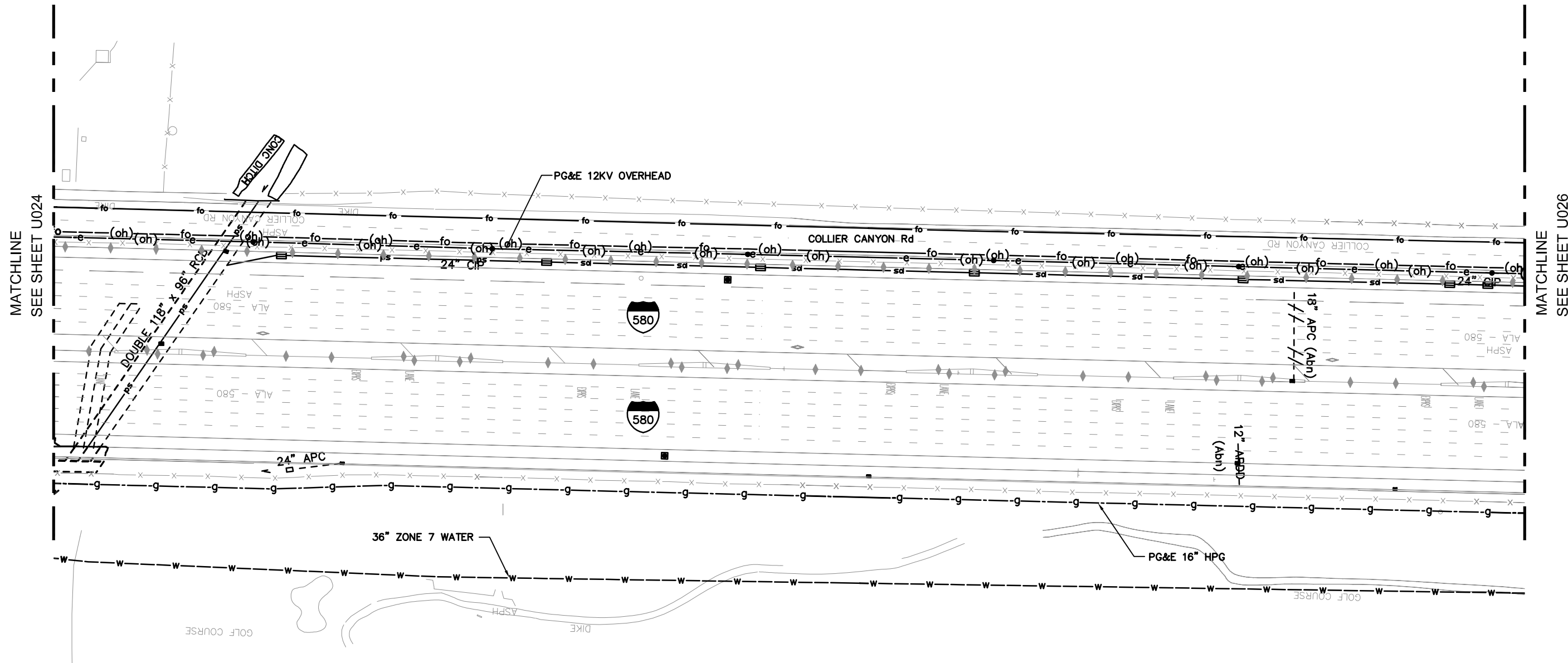
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
24 of 49

CADD FILENAME Layout-24.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U024	PAGE NO. 024



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-25.dwg 12/22/2015 2:34pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

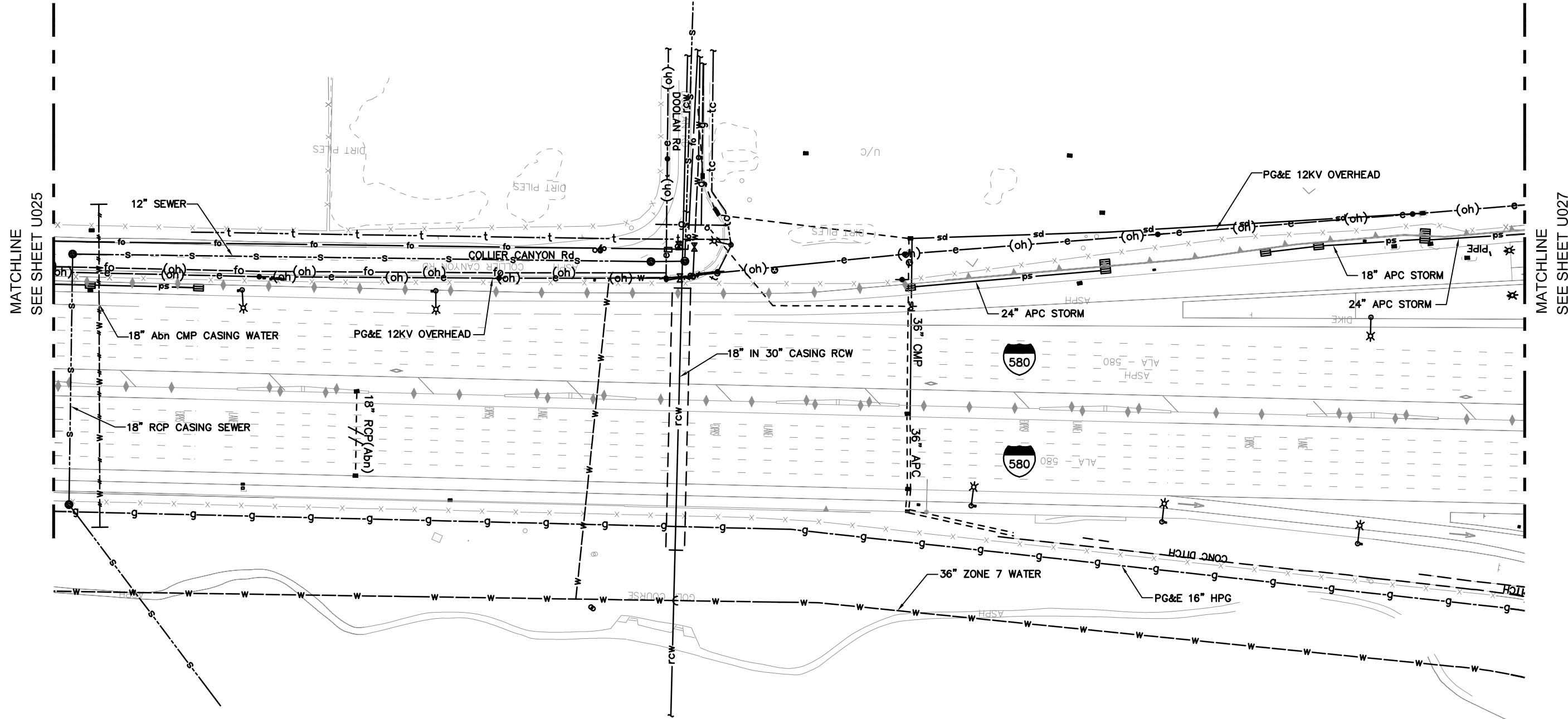
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
25 of 49

CADD FILENAME Layout-25.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U025	PAGE NO. 025



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-26.dwg 12/22/2015 2:34pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

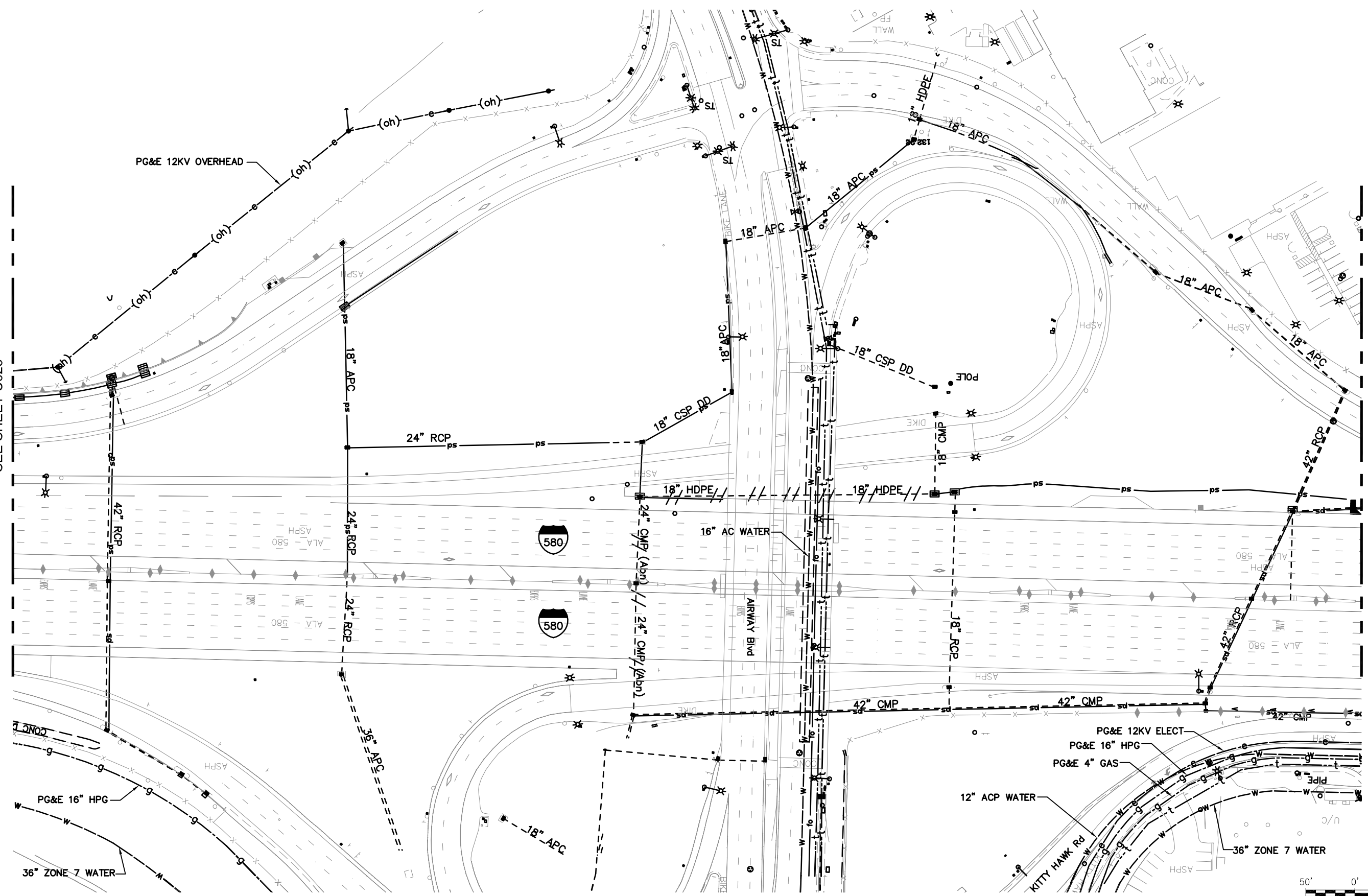
EXISTING UTILITY MAP
26 of 49

CADD FILENAME Layout-26.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U026	PAGE NO. 026



MATCHLINE
SEE SHEET U026

MATCHLINE
SEE SHEET U028



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD_Layout-27.dwg 12/22/2015 2:35pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

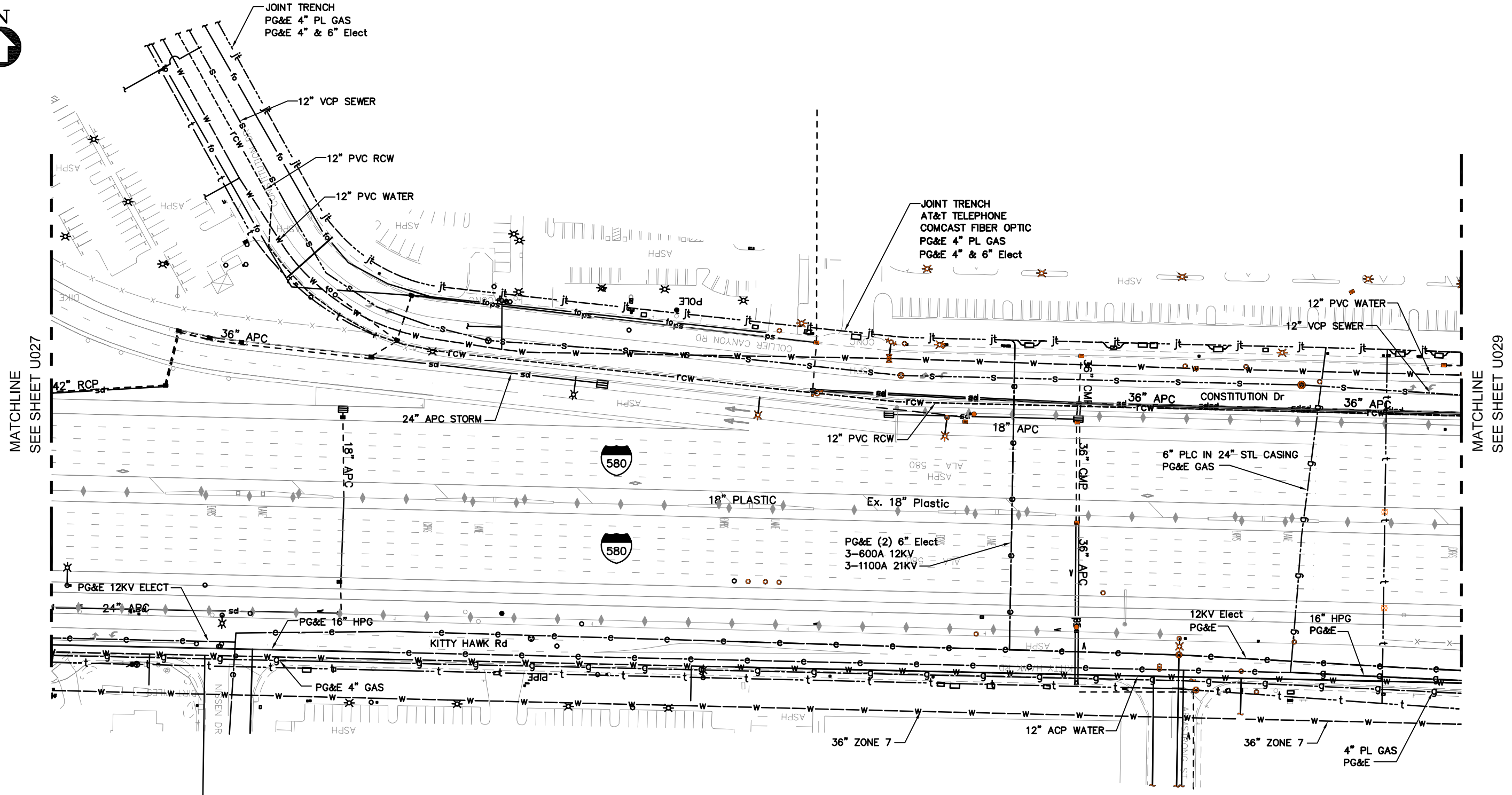
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
27 of 49

CADD FILENAME Layout-27.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U027	PAGE NO. 027



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-28.dwg 12/22/2015 2:36pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

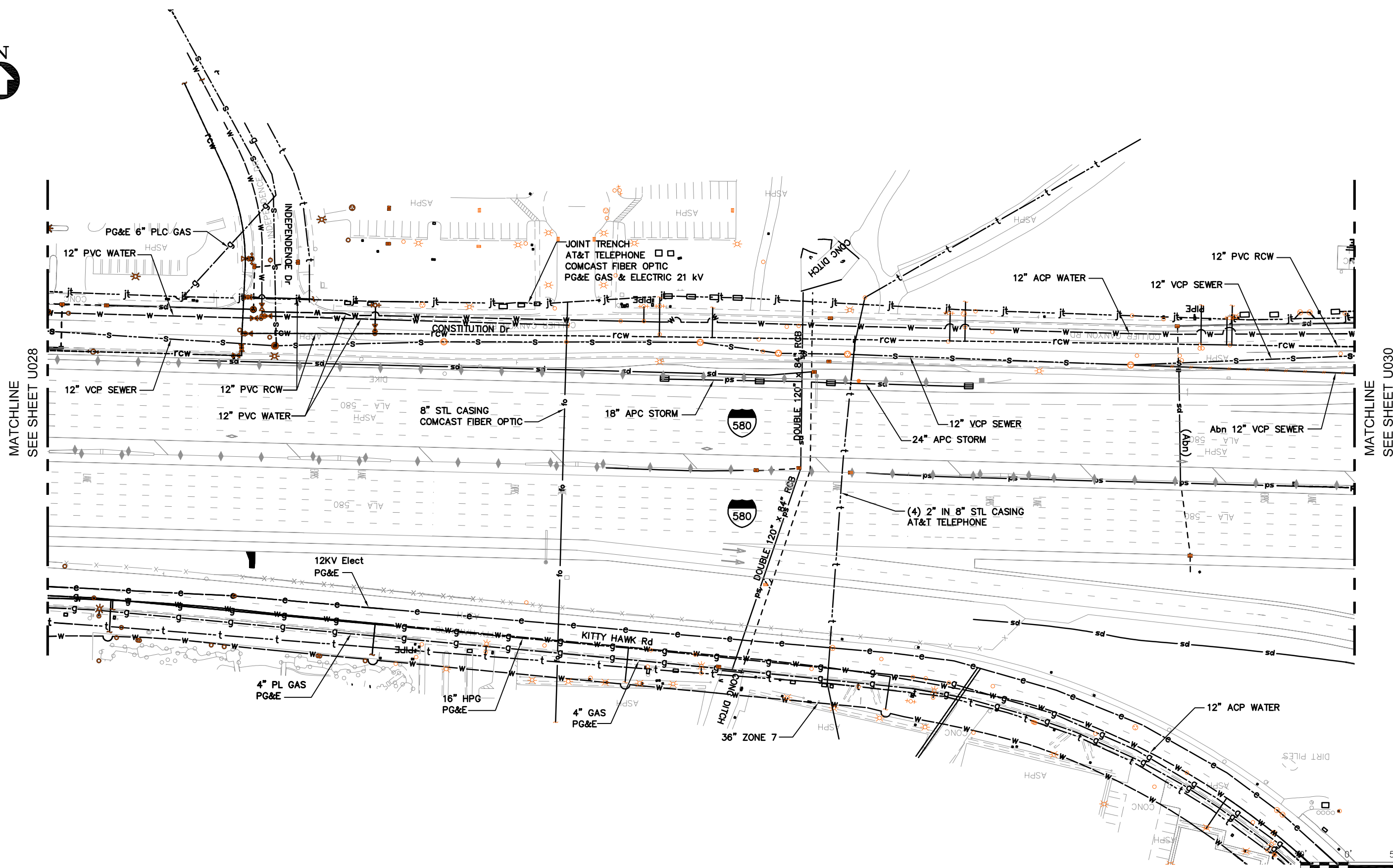
Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

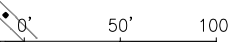
EXISTING UTILITY MAP
28 of 49

CADD FILENAME Layout-28.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U028	PAGE NO. 028



MATCHLINE
SEE SHEET U028

MATCHLINE
SEE SHEET U030



GRAPHIC SCALE



CADD FILENAME	Layout-29.dwg
SIZE: SCALE	D 1" = 50'
CONTRACT NO.	08CT008
CONTRACT SHEET NO.	U029
REV.	A
PAGE NO.	029

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD_Layout-29.dwg 12/22/2015 2:36pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

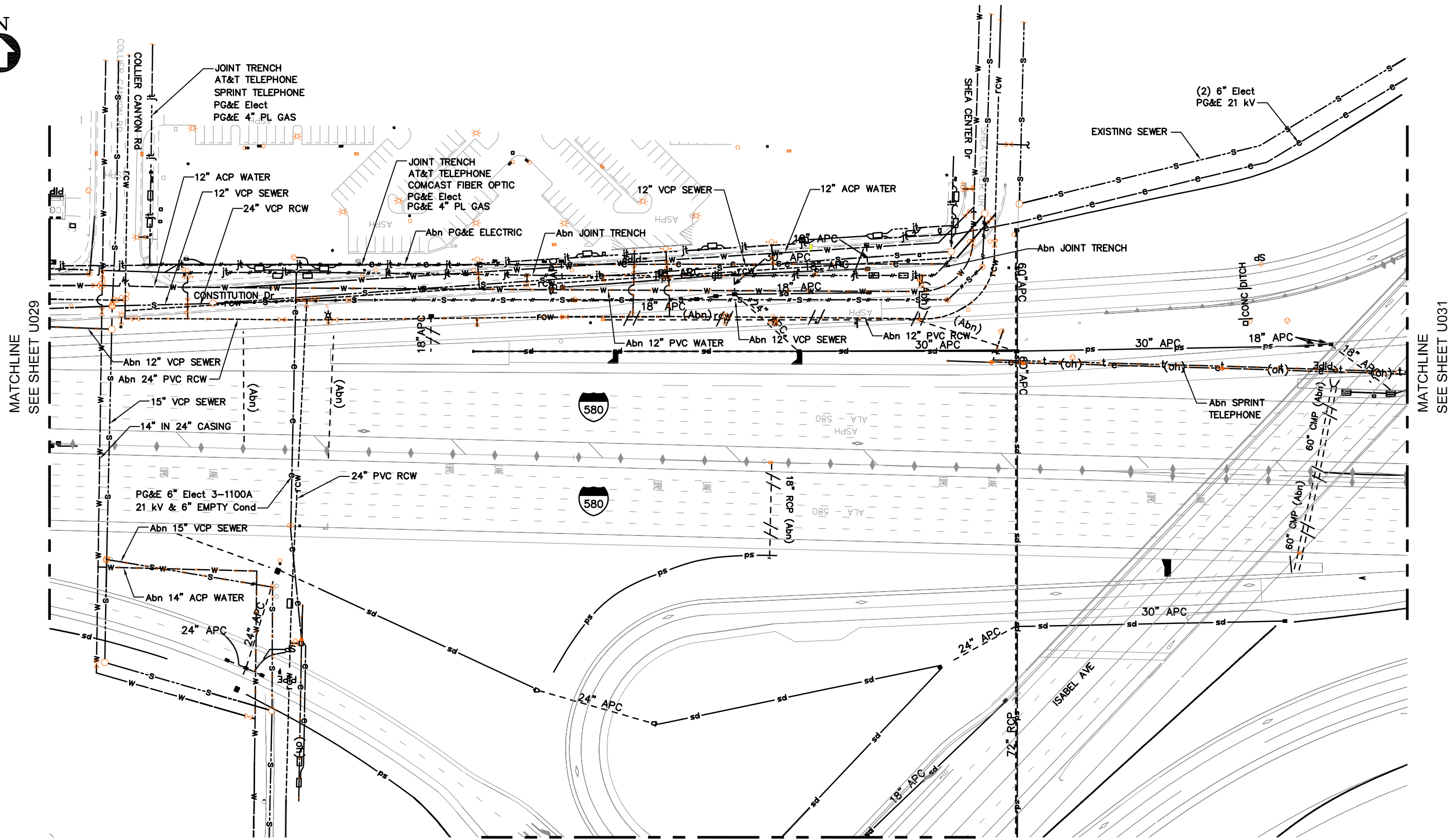
DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
29 of 49



MATCHLINE
SEE SHEET U029

MATCHLINE
SEE SHEET U031

MATCHLINE
SEE SHEET U033



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD_Layout-30.dwg 12/22/2015 2:37pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

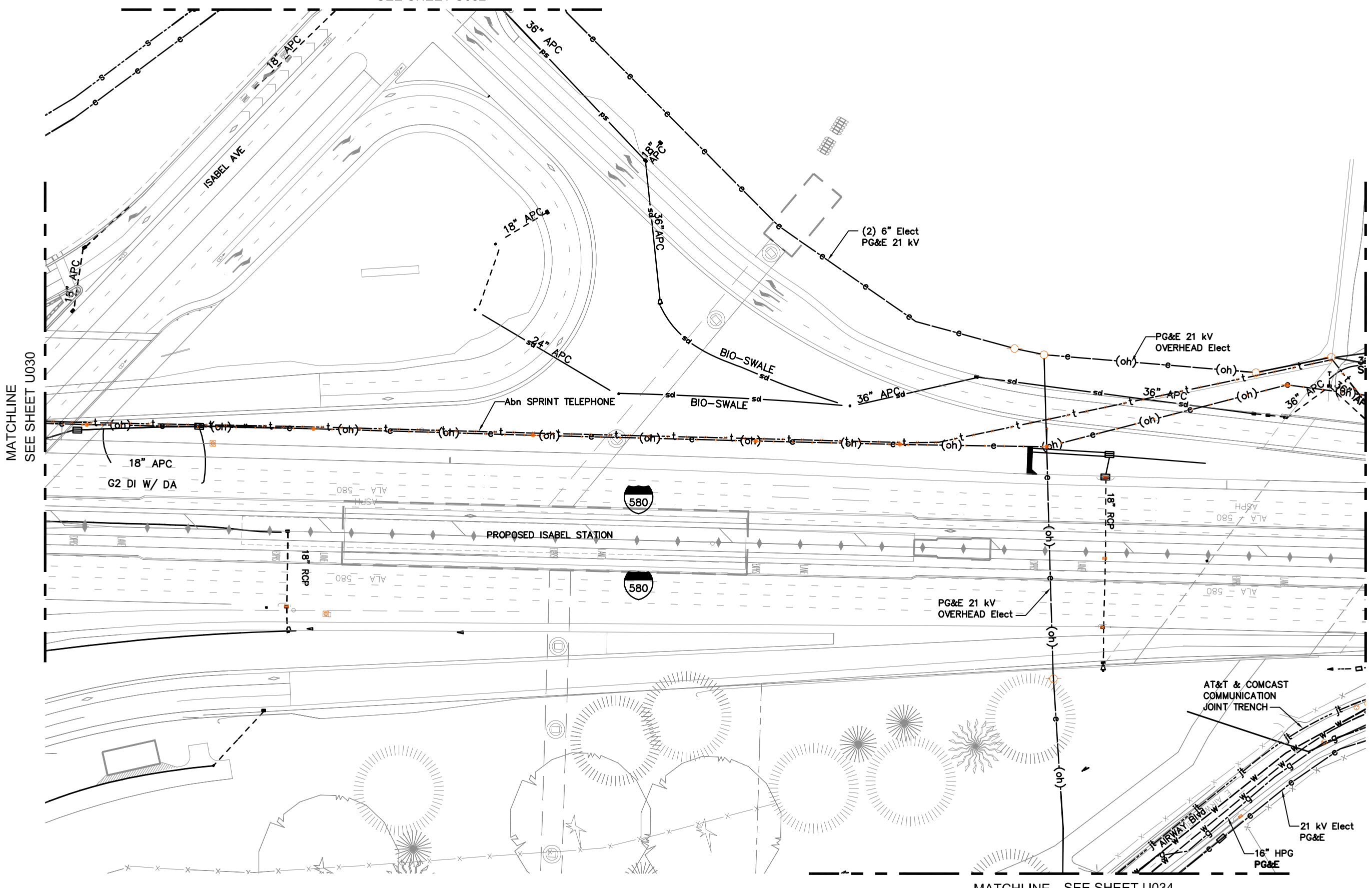
SUBMITTED _____ APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
30 of 49

CADD FILENAME Layout-30.dwg	REV.
SIZE: SCALE D 1" = 50'	A
CONTRACT NO. 08CT008	PAGE NO. 030
CONTRACT SHEET NO. U030	

MATCHLINE SEE SHEET U032



MATCHLINE SEE SHEET U030

MATCHLINE SEE SHEET U036

MATCHLINE SEE SHEET U034

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-31.dwg 12/22/2015 2:38pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

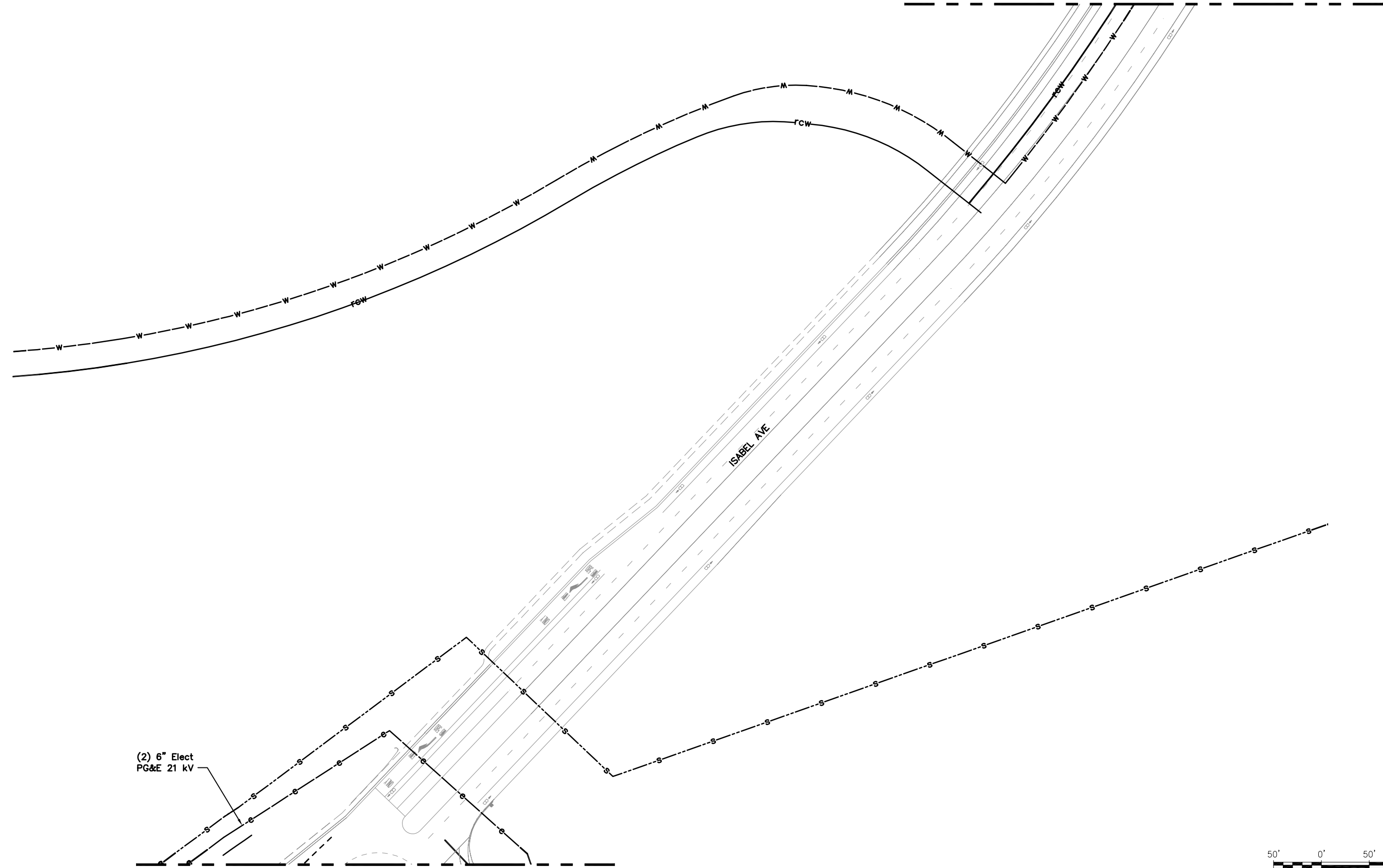
**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
31 of 49

CADD FILENAME Layout-31.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U031	PAGE NO. 031



MATCHLINE SEE SHEET U044



(2) 6" Elect
PG&E 21 kV

MATCHLINE SEE SHEET U031





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-32.dwg 12/22/2015 2:38pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED: P. CHEUNG
DRAWN: P. CHEUNG
CHECKED: M. JOHNSON
APPROVED: T. WINTCH
DATE: 20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

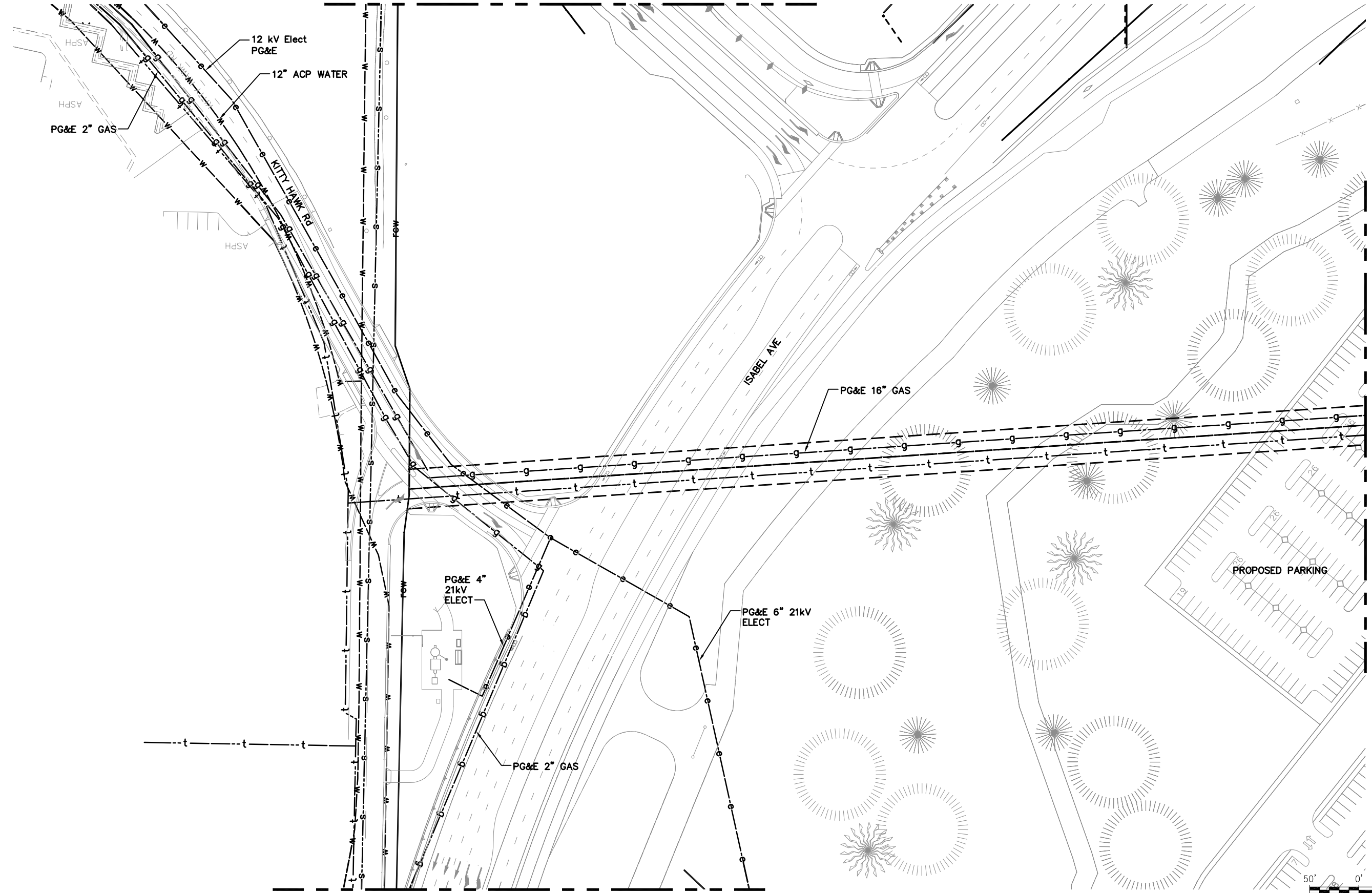
 QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597	 Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
32 of 49

CADD FILENAME Layout-32.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U032	PAGE NO. 032

MATCHLINE SEE SHEET U030



MATCHLINE SEE SHEET U034

MATCHLINE SEE SHEET U035



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD/Layout-33.dwg 12/22/2015 2:39pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
33 of 49

CADD FILENAME Layout-33.dwg	REV.
SIZE: SCALE D 1" = 50'	A
CONTRACT NO. 08CT008	PAGE NO. 033
CONTRACT SHEET NO. U033	



MATCHLINE SEE SHEET U031

MATCHLINE SEE SHEET U033

16" HPG
PG&E

21 kV Elect
PG&E

PROPOSED
PARKING
STRUCTURE




GRAPHIC SCALE

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD/Layout-34.dwg 12/22/2015 2:40pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

 **Anil Verma Associates, Inc.**
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____

APPROVED _____

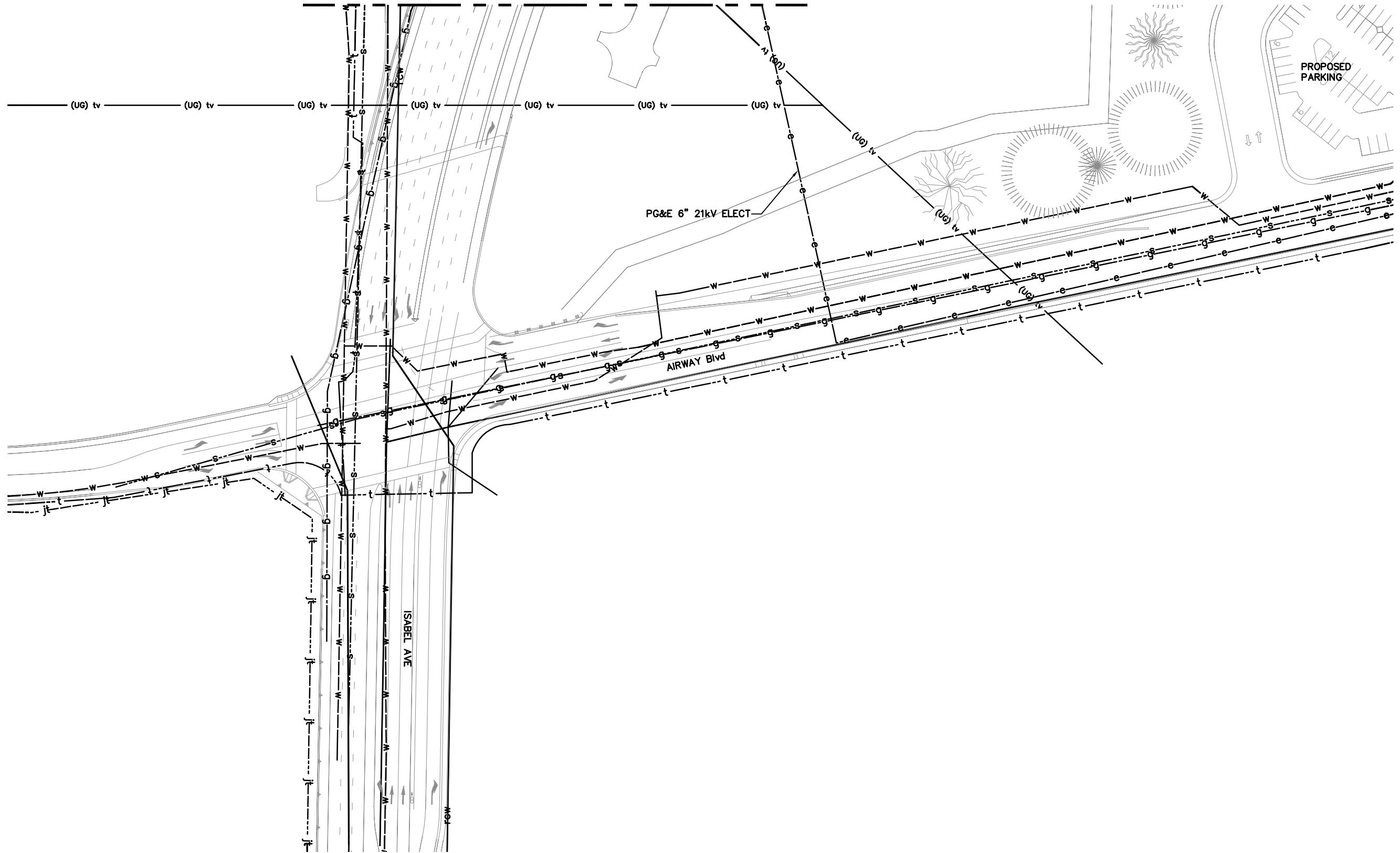
**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
34 of 49

CADD FILENAME Layout-34.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U034	PAGE NO. 034



MATCHLINE SEE SHEET U033





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-35.dwg 12/22/2015 2:40pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

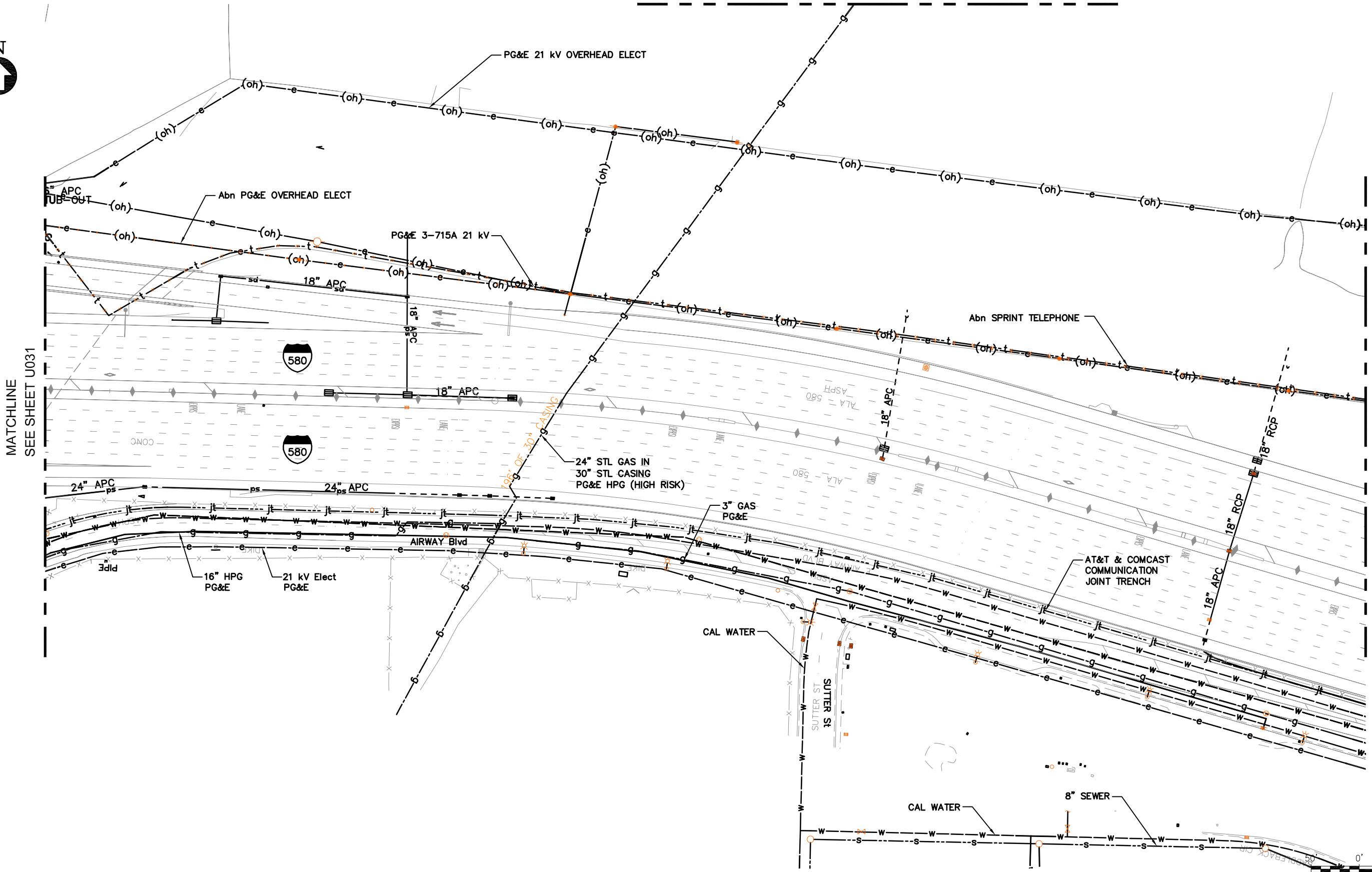
 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
35 of 49

CADD FILENAME Layout-35.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U035	PAGE NO. 035

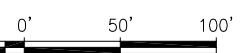
MATCHLINE SEE SHEET U042



MATCHLINE SEE SHEET U031

MATCHLINE SEE SHEET U037

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-36.dwg 12/22/2015 2:41pm By: philip



GRAPHIC SCALE	
CADD FILENAME	Layout-36.dwg
SIZE: SCALE	D 1" = 50'
CONTRACT NO.	08CT008
CONTRACT SHEET NO.	U036
REV.	A
PAGE NO.	036

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____

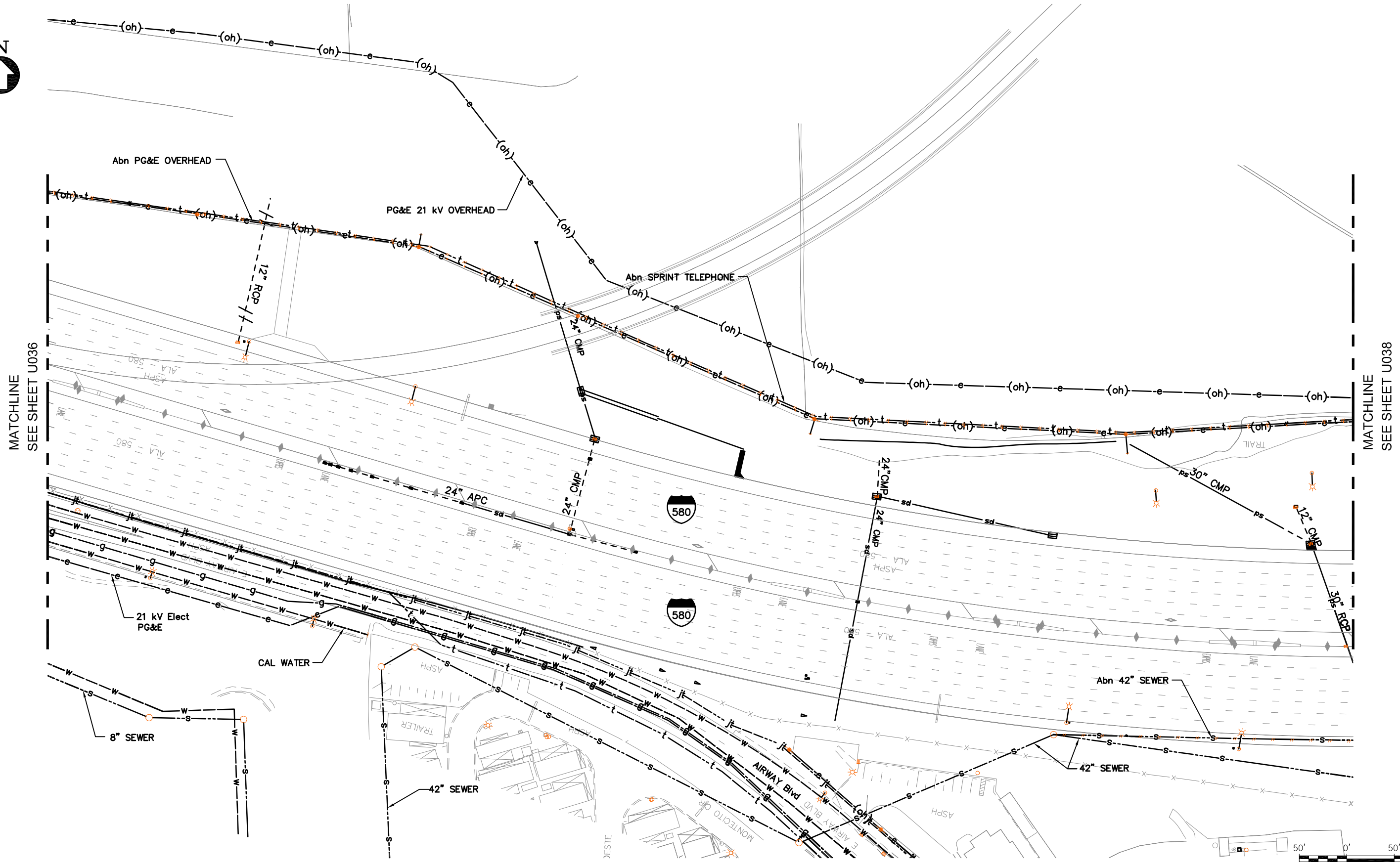
APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
36 of 49

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:	P. CHEUNG
DRAWN:	P. CHEUNG
CHECKED:	M. JOHNSON
APPROVED:	T. WINTCH
DATE:	20151019



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-37.dwg 12/22/2015 4:58pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
37 of 49

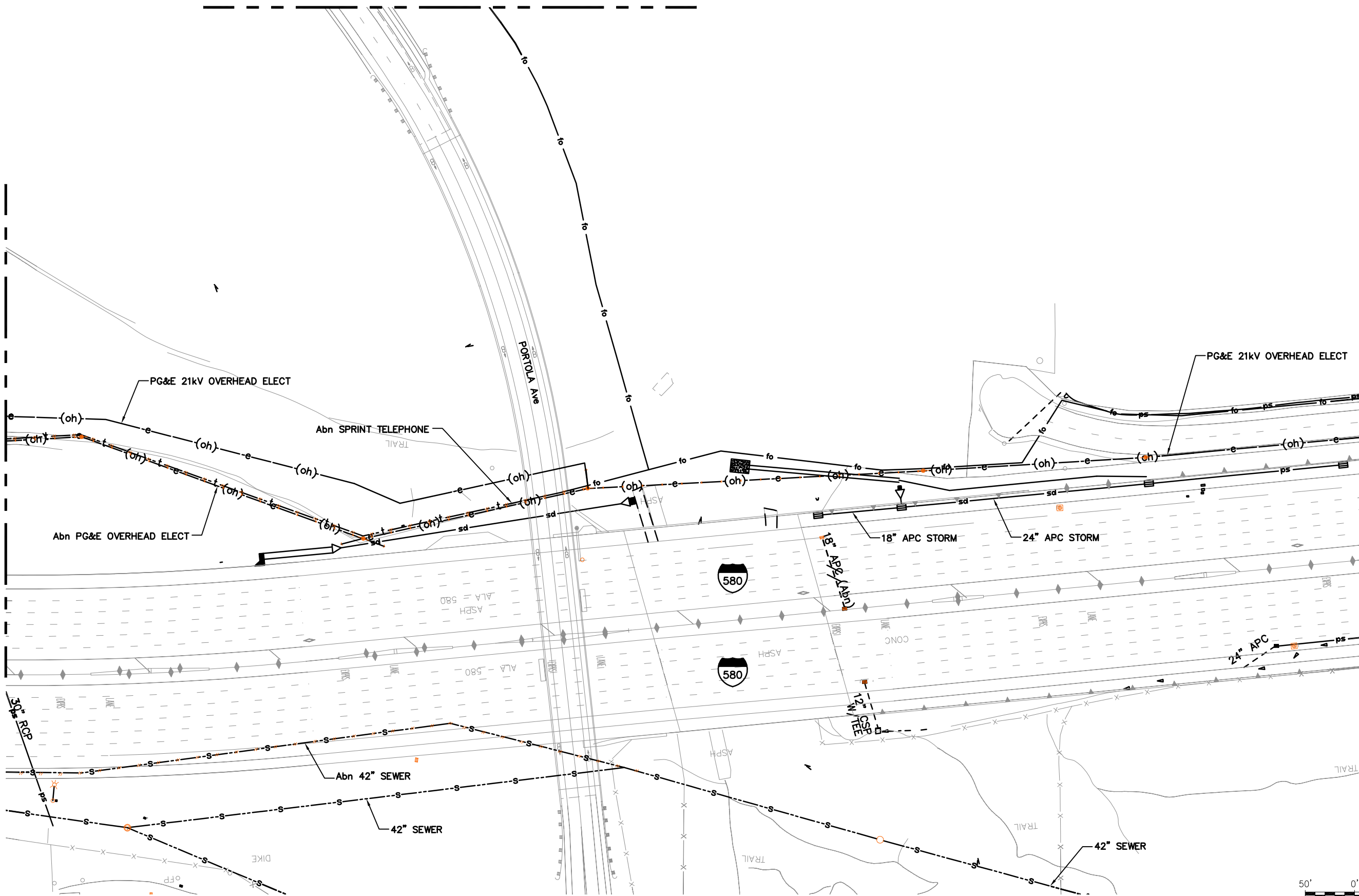
CADD FILENAME Layout-37.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U037	PAGE NO. 037

MATCHLINE SEE SHEET U039



MATCHLINE
SEE SHEET U037

MATCHLINE
SEE SHEET U040



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD_Layout-38.dwg 12/22/2015 2:42pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
38 of 49

CADD FILENAME Layout-38.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U038	PAGE NO. 038



MATCHLINE SEE SHEET U042

MATCHLINE SEE SHEET U049

PROPOSED TRACK

PORTOLA Ave

MATCHLINE SEE SHEET U038





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-39.dwg 12/22/2015 4:59pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
39 of 49

CADD FILENAME Layout-39.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U039	PAGE NO. 039





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-40.dwg 12/22/2015 2:44pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
--	--

SUBMITTED _____ APPROVED _____

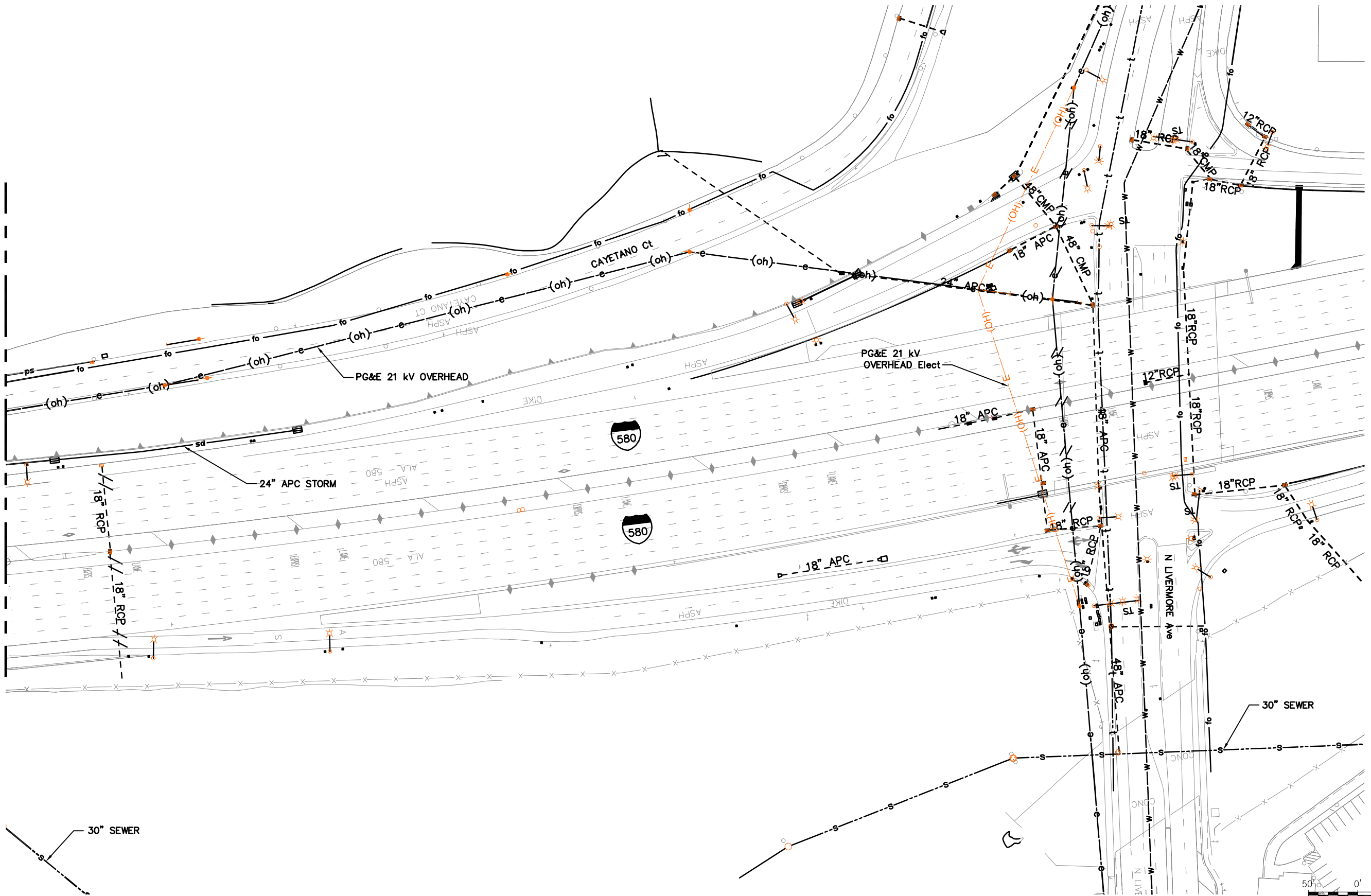
**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
40 of 49

CADD FILENAME Layout-40.dwg	REV.
SIZE: SCALE D 1" = 50'	A
CONTRACT NO. 08CT008	PAGE NO. 040
CONTRACT SHEET NO. U040	



MATCHLINE
SEE SHEET U040



GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-41.dwg 12/22/2015 2:44pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

SUBMITTED _____

Anil Verma Associates, Inc.
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

APPROVED _____

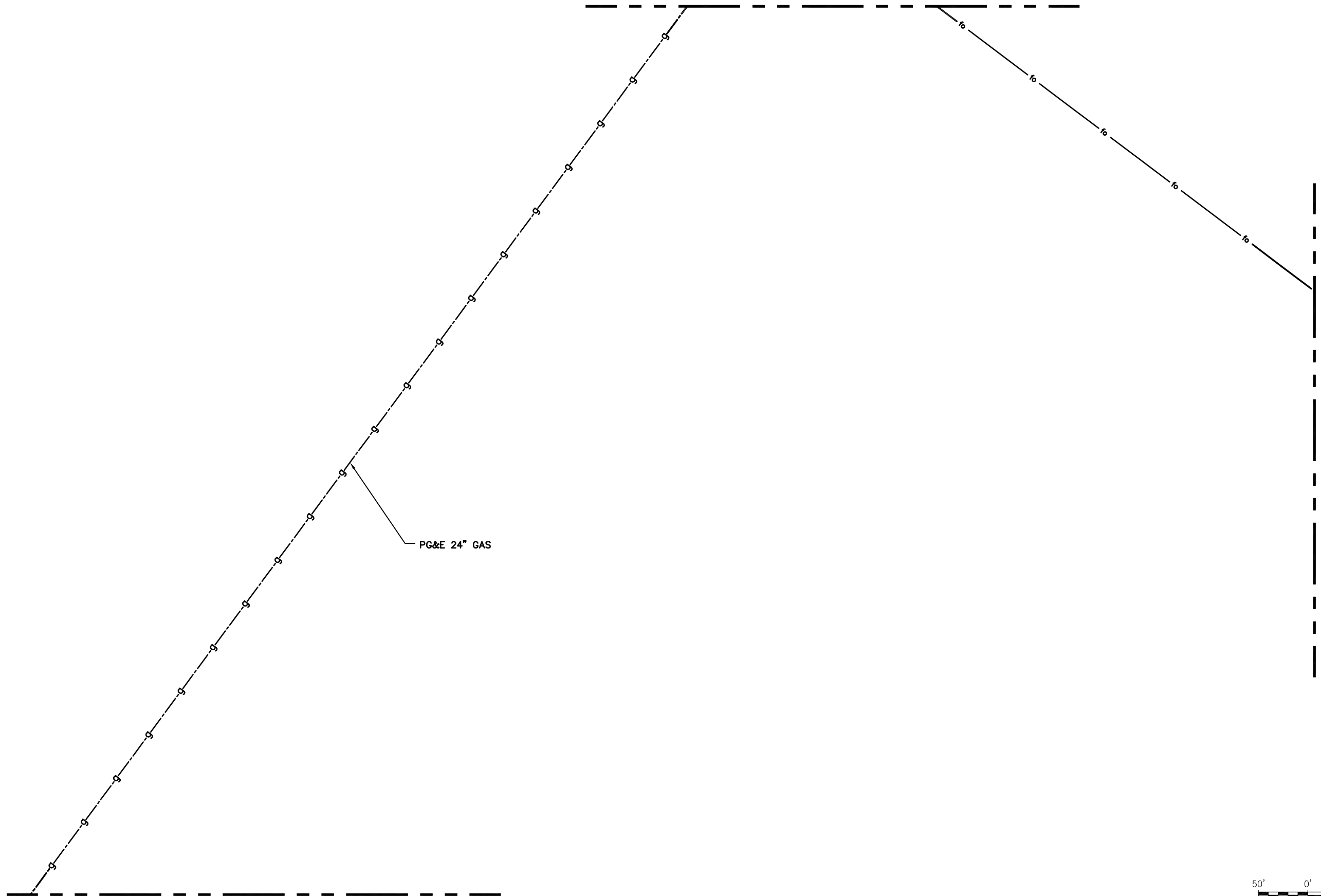
**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
41 of 49

CADD FILENAME Layout-41.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U041	PAGE NO. 041



MATCHLINE SEE SHEET U043



MATCHLINE
SEE SHEET U039

MATCHLINE SEE SHEET U036





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-42.dwg 12/22/2015 2:45pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

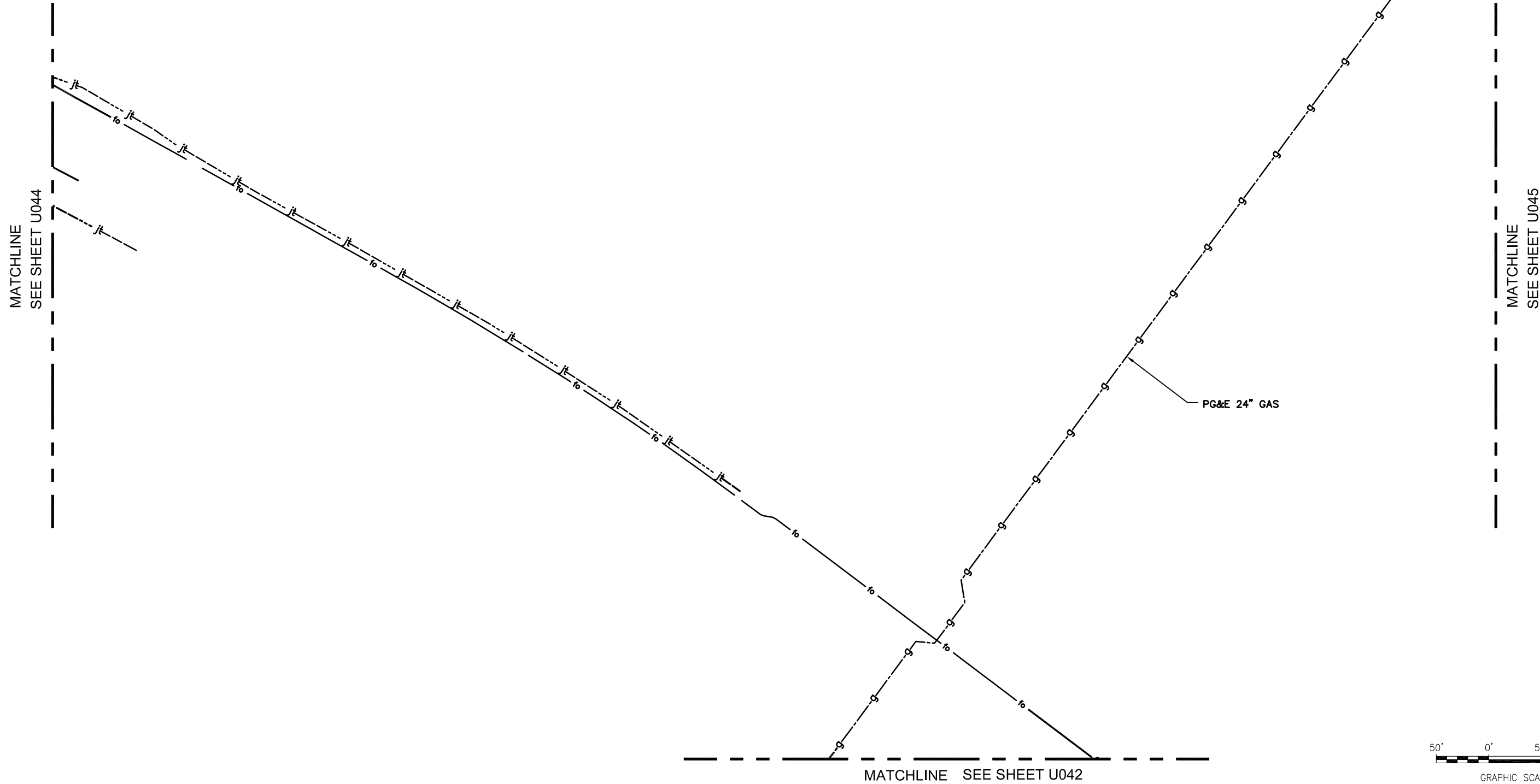
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597	 Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
42 of 49

CADD FILENAME Layout-42.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U042	PAGE NO. 042

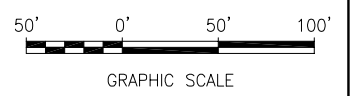


PG&E 24" GAS

MATCHLINE
SEE SHEET U044

MATCHLINE
SEE SHEET U045

MATCHLINE SEE SHEET U042





F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-43.dwg 12/22/2015 2:46pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

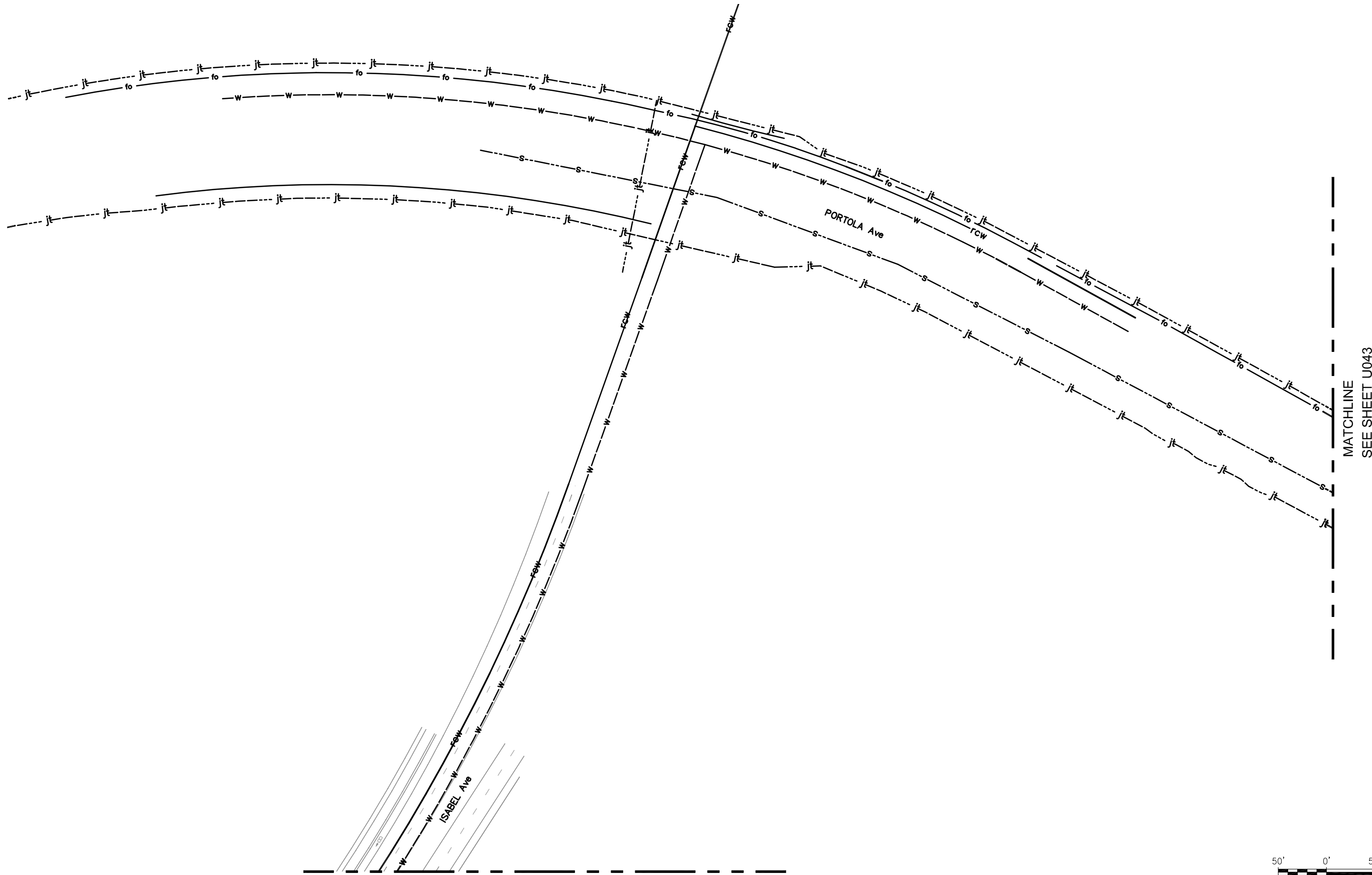
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
43 of 49

CADD FILENAME Layout-43.dwg	REV.
SIZE: SCALE D 1" = 50'	A
CONTRACT NO. 08CT008	PAGE NO. 043
CONTRACT SHEET NO. U043	



MATCHLINE
SEE SHEET U043

MATCHLINE SEE SHEET U032





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-44.dwg 12/22/2015 2:46pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
44 of 49

CADD FILENAME Layout-44.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U044	PAGE NO. 044

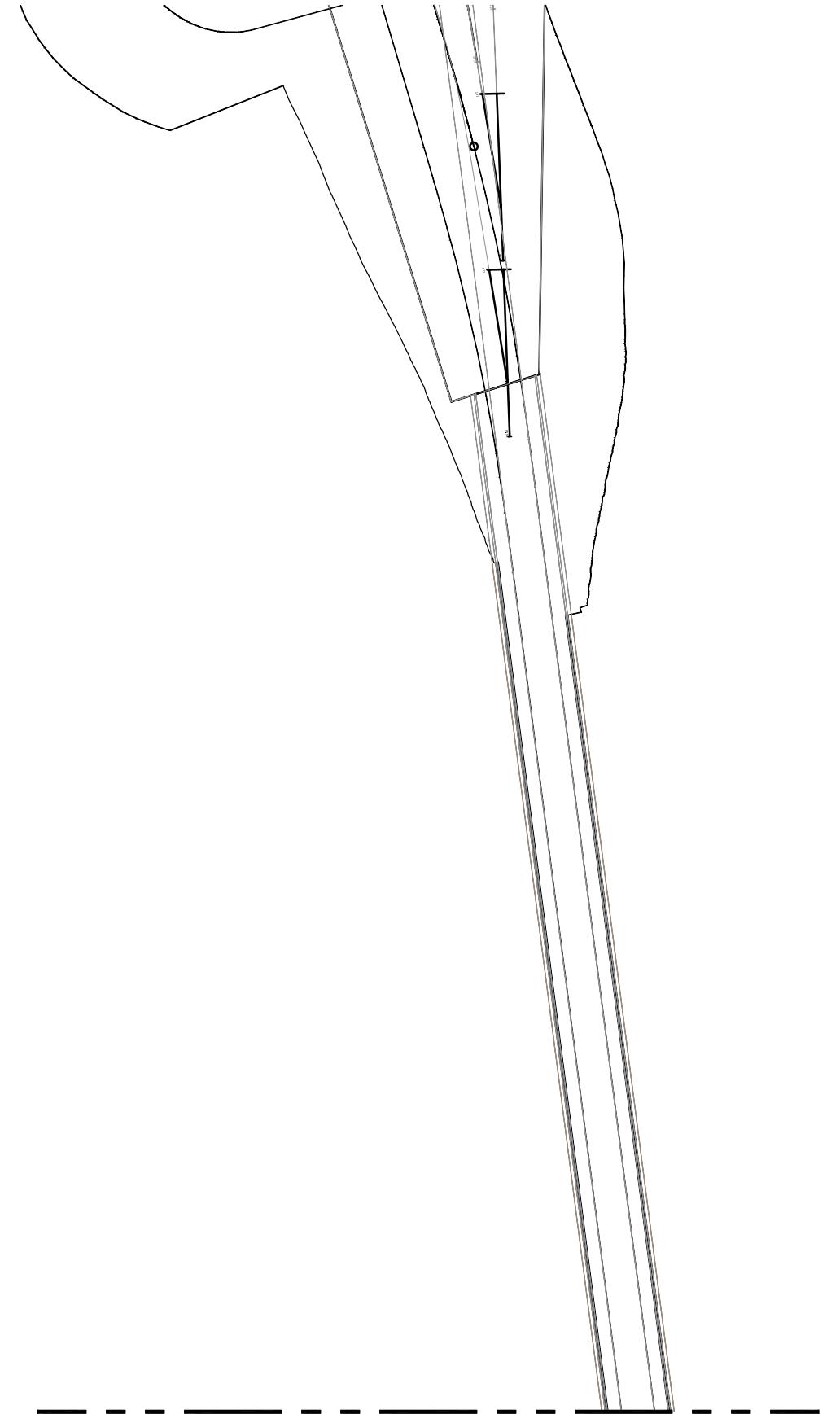
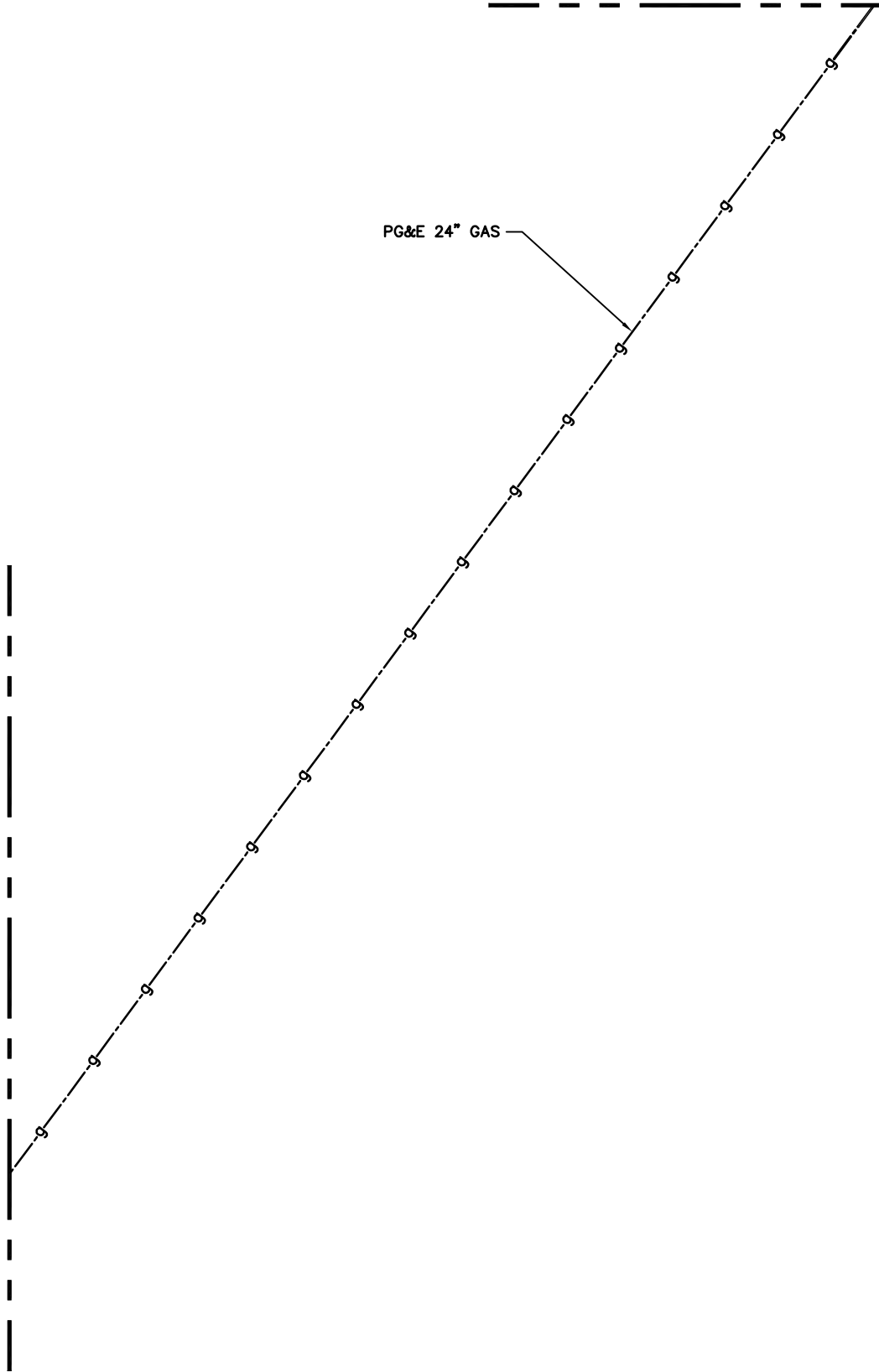
F:\CCO_Client\BART\A47-100_Livermore_Conceptual_Engineering_for_EIR\CAD/Layout-45.dwg 12/22/2015 5:01pm By: philipc



MATCHLINE SEE SHEET U046

PG&E 24" GAS

MATCHLINE
SEE SHEET U043





GRAPHIC SCALE

MATCHLINE SEE SHEET U049

REV.	DATE	BY	SUB	APP.	DESCRIPTION	REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING						

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
45 of 49

CADD FILENAME Layout-45.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U045	PAGE NO. 045

MATCHLINE SEE SHEET U047



PROPOSED STORAGE AND MAINTENANCE FACILITIES

PG&E 24" GAS





MATCHLINE SEE SHEET U045

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-46.dwg 12/22/2015 2:48pm By: philipc

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

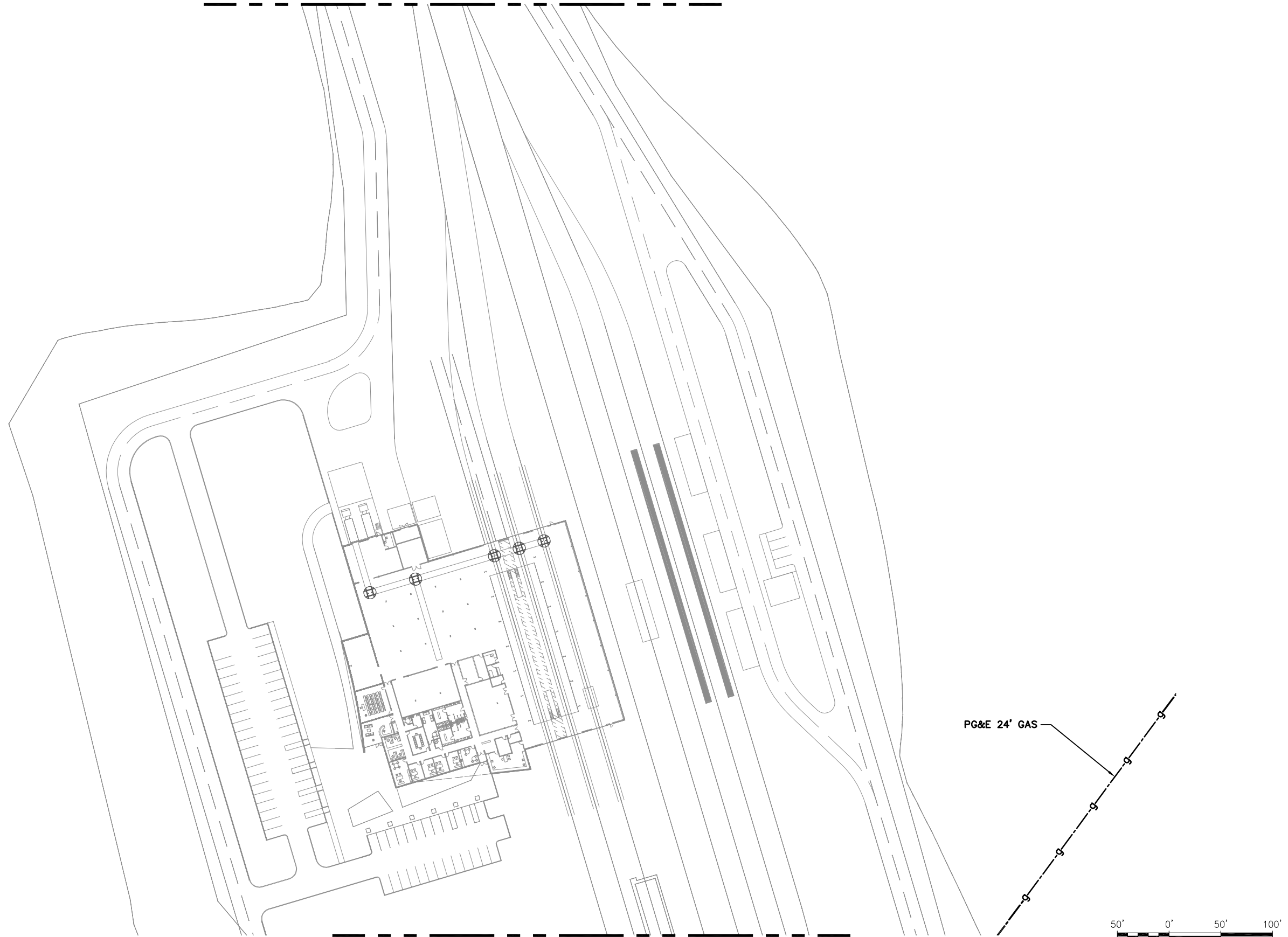
EXISTING UTILITY MAP
46 of 49

CADD FILENAME Layout-46.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U046	PAGE NO. 046

MATCHLINE SEE SHEET U048



PROPOSED STORAGE AND MAINTENANCE FACILITIES



GRAPHIC SCALE



MATCHLINE SEE SHEET U046

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-47.dwg 12/22/2015 2:48pm By: philipc

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

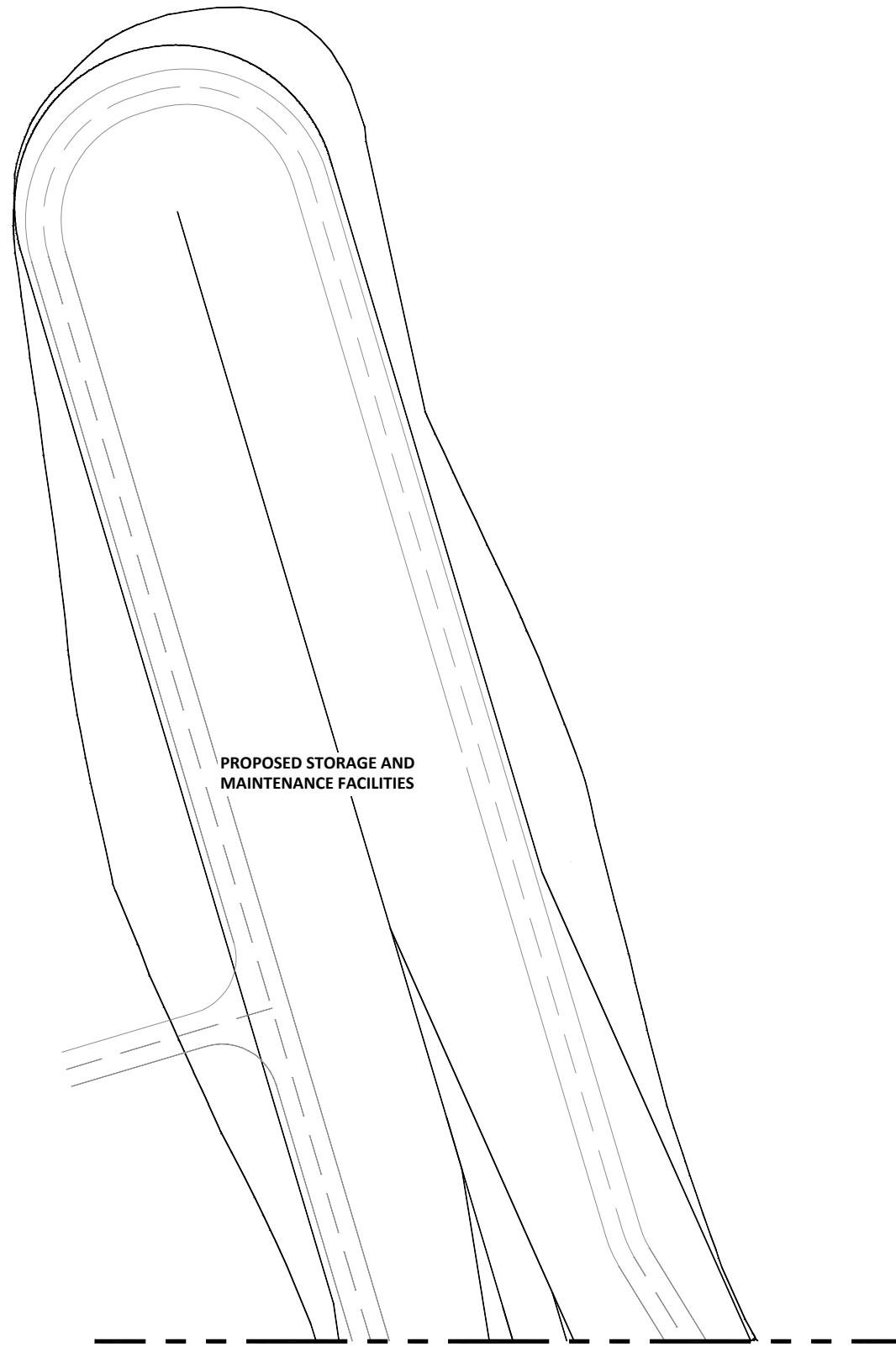
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 <p>QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597</p>	 <p>Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121</p>
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
47 of 49

CADD FILENAME Layout-47.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U047	PAGE NO. 048



PROPOSED STORAGE AND
MAINTENANCE FACILITIES

MATCHLINE SEE SHEET U047




GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-48.dwg 12/22/2015 2:49pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 QUINCY ENGINEERING, INC
2950 Buskirk Avenue, Ste 122
Walnut Creek, CA 94597

 **Anil Verma Associates, Inc.**
1970 Broadway, Suite 668 Oakland, CA 94612
Phone: (510) 834-4118 Fax: (510) 834-4121

SUBMITTED _____

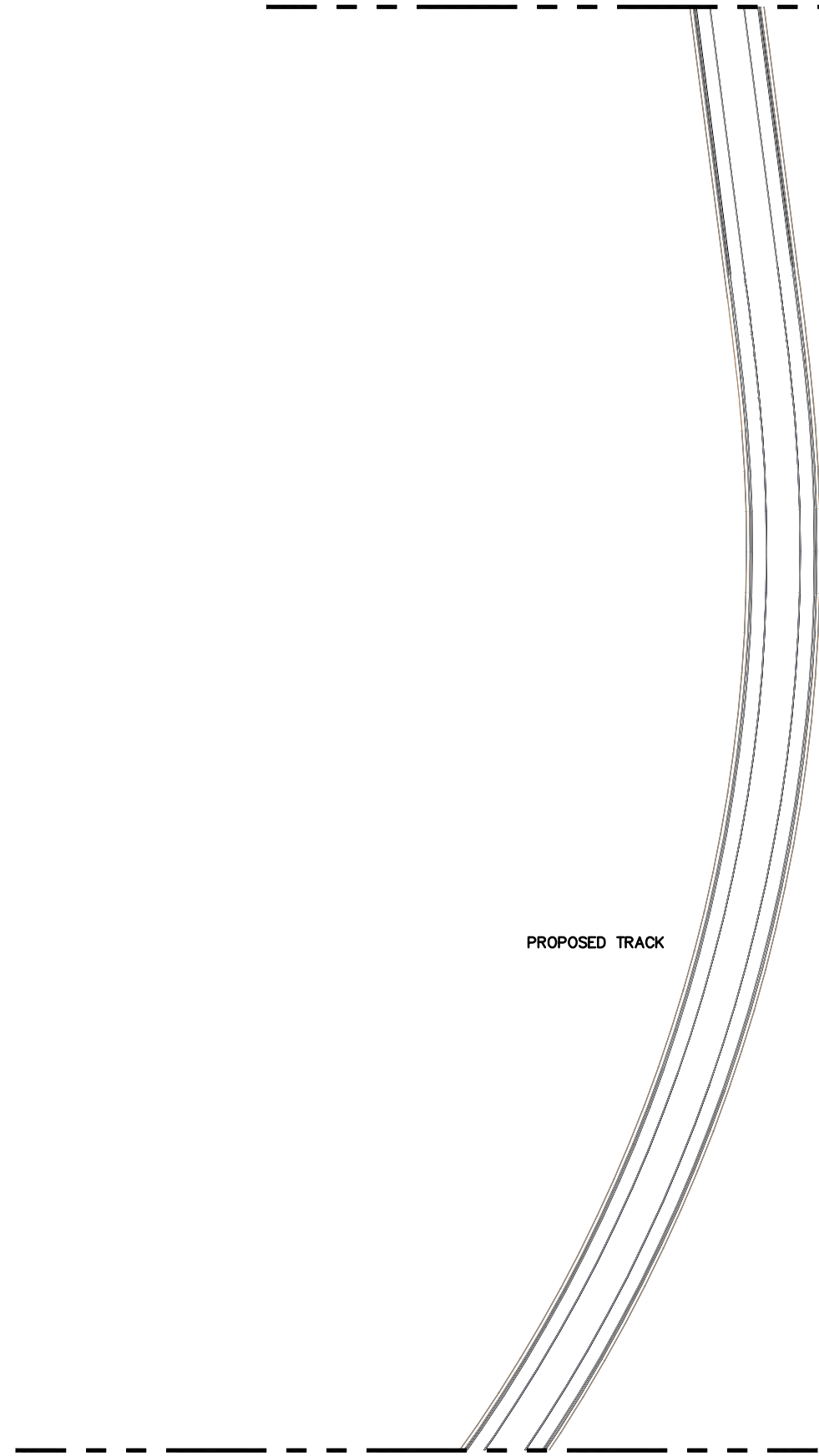
APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
48 of 49

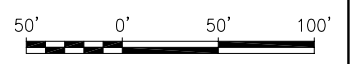
CADD FILENAME Layout-48.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U048	PAGE NO. 050

MATCHLINE SEE SHEET U045



PROPOSED TRACK

MATCHLINE SEE SHEET U039





GRAPHIC SCALE

F:\CCO_Client\BART\A47-100 Livermore Conceptual Engineering for EIR\CAD\Layout-49.dwg 12/22/2015 4:53pm By: philip

REV.	DATE	BY	SUB	APP.	DESCRIPTION
A	20151026				PRELIMINARY ENGINEERING

DESIGNED:
P. CHEUNG
DRAWN:
P. CHEUNG
CHECKED:
M. JOHNSON
APPROVED:
T. WINTCH
DATE:
20151019

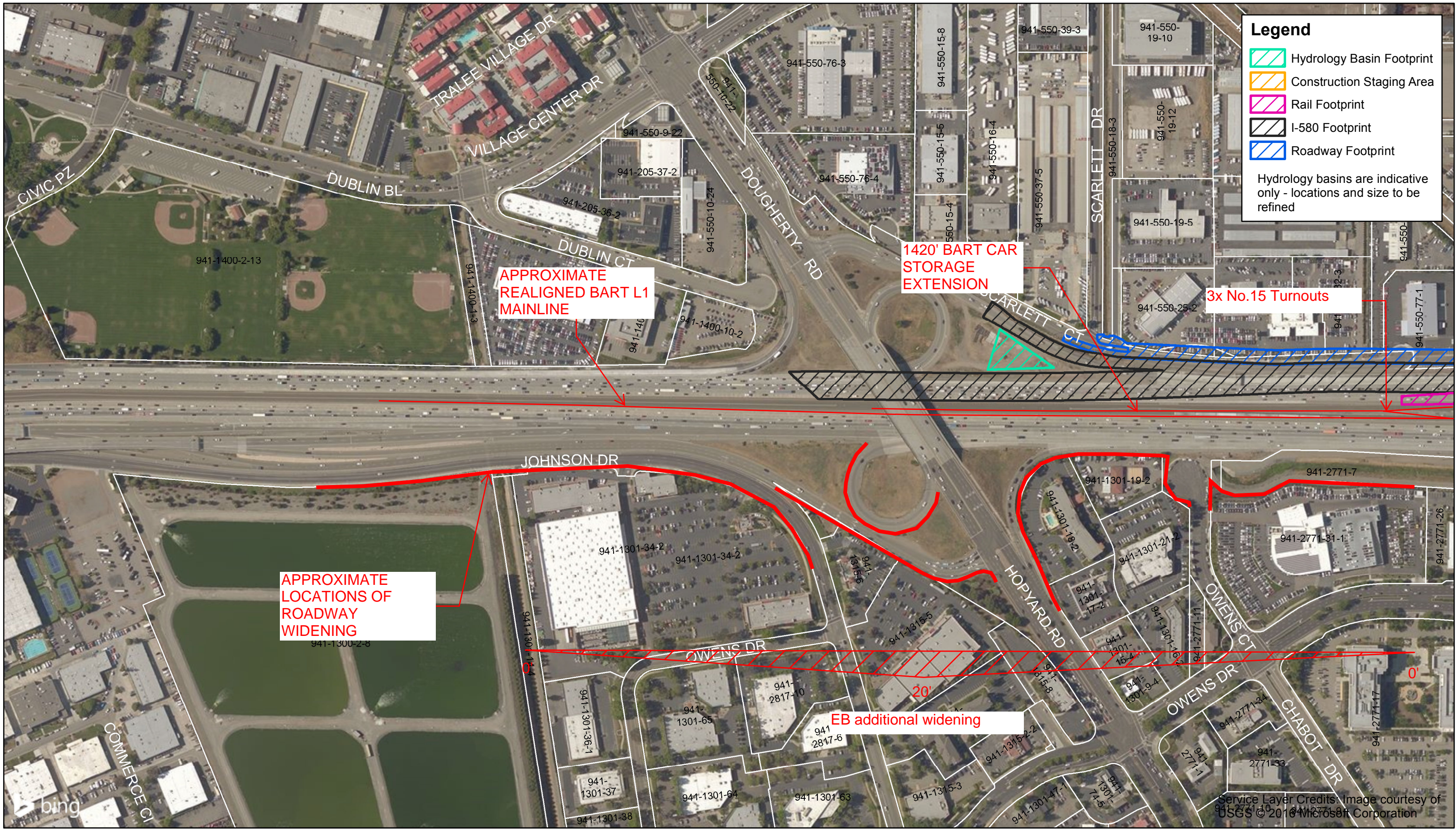
SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT

 QUINCY ENGINEERING, INC 2950 Buskirk Avenue, Ste 122 Walnut Creek, CA 94597	 Anil Verma Associates, Inc. 1970 Broadway, Suite 668 Oakland, CA 94612 Phone: (510) 834-4118 Fax: (510) 834-4121
SUBMITTED _____	APPROVED _____

**BLX
BART TO LIVERMORE EXTENSION**

EXISTING UTILITY MAP
49 of 49

CADD FILENAME Layout-49.dwg	
SIZE: SCALE D 1" = 50'	
CONTRACT NO. 08CT008	REV. A
CONTRACT SHEET NO. U049	PAGE NO. 051



Legend

- Hydrology Basin Footprint
- Construction Staging Area
- Rail Footprint
- I-580 Footprint
- Roadway Footprint

Hydrology basins are indicative only - locations and size to be refined

APPROXIMATE LOCATIONS OF ROADWAY WIDENING

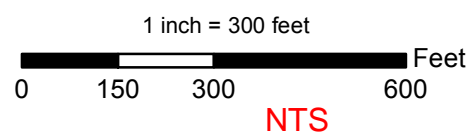
1420' BART CAR STORAGE EXTENSION

3x No. 15 Turnouts

EB additional widening

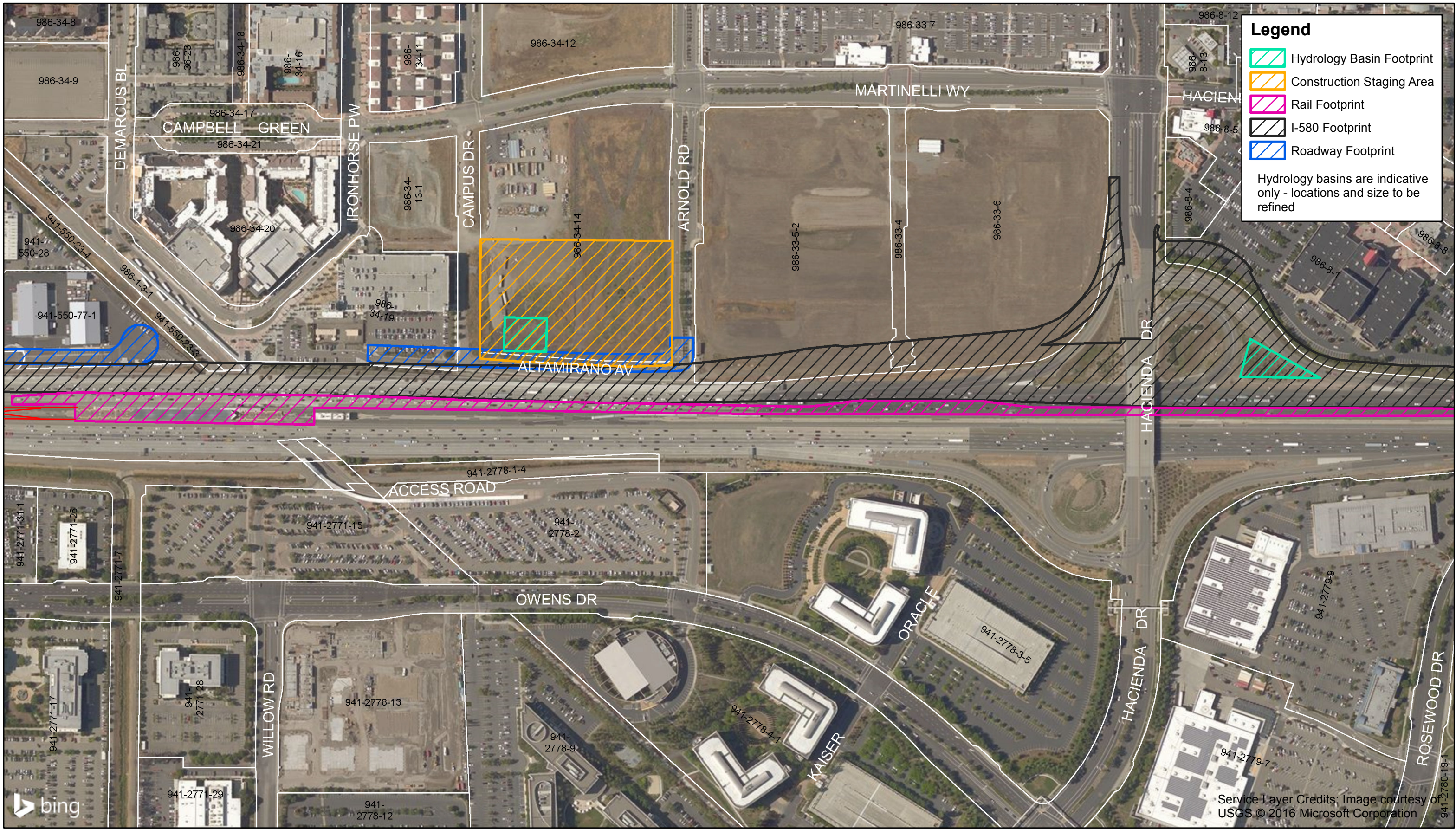
NOT FOR PUBLIC DISTRIBUTION/CONFIDENTIAL
PRELIMINARY FOR DISCUSSION ONLY

TURNOUT LOCATIONS MAY BE AFFECTED BY BART MAINLINE HRZ AND VERT CURVES








SKETCH - DMU ADDITIONAL WIDENING FOR 20 CAR BART STORAGE - SOUTH-ROUGH ESTIMATE
GW 9/12/2016

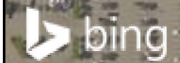
Service Layer Credits: Image courtesy of USGS © 2016 Microsoft Corporation



Legend

-  Hydrology Basin Footprint
-  Construction Staging Area
-  Rail Footprint
-  I-580 Footprint
-  Roadway Footprint

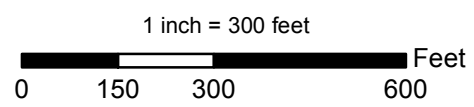
Hydrology basins are indicative only - locations and size to be refined



Service Layer Credits: Image courtesy of USGS © 2016 Microsoft Corporation



NOT FOR PUBLIC DISTRIBUTION/CONFIDENTIAL
PRELIMINARY FOR DISCUSSION ONLY



**San Francisco Bay Area Rapid Transit
BART to Livermore Extension
Alternative 2 - DMU**