

# Union/Patsaouras Plaza Busway Station

Design Build Contract No. C0970

Advanced Conceptual Engineering
Volume III – Project Definition Documents – Technical Documents

**Preliminary Engineering Drawings** 

Issued for bid May 7, 2012



# **Prime Consultant**

STV Incorporated 1055 West 7<sup>th</sup> Street, Ste 3150 Los Angeles, Ca 90017

# **Station Planning Architecture**

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# **Geotechnical Engineering**

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# **Lighting Design**

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# LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

# UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970

# NOT FOR CONSTRUCTION VICINITY MAP NO SCALE SITE PLAN NO SCALE **PROJECT** PROJECT LOCATION UNION/PATSAOURAS PLAZA UNION/PATSAOURAS PLAZA BUSWAY STATION SIGNED M.PARTENHEIMER C0970 LOS ANGELES COUNTY **DESIGN BUILD CONTRACT No. C0970** METROPOLITAN TRANSPORTATION AUTHORITY M PARTENHEIME AS NOTED PROJECT TITLE. VICINITY MAP AND SITE PLAI T-01 ADVANCED CONCEPTUAL ENGINEERING Metro 4/8/2011 1 OF 80

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4/8/2011



LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970	
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NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

| FILE/JOB NUMBER | CO970 | SCALE | NONE | DWG. NO. | T-O2 | SHEET | 2 OF 80 | O | WG.

### **ABBREVIATIONS** LACOW LOS ANGELES COUNTY WATER WORKS DMH DRAINAGE MANHOLE HORIZONTAL ALIGNMENT BSCF BUSWAY STATION COMMUNICATION FACILITY DML LACSD LOS ANGELES COUNTY SANITATION DISTRICT DEMOLITION **BSMT** BASEMENT BEGINNING OF CURVE BC DN DOWN LACTC LOS ANGELES COUNTY TRANSPORTATION COMMISSION (NOW LACMTA) BRDG OR BR BRIDGE CS PC CIRCULAR CURVE TO SPIRAL DU DW DUCT LADOT CITY OF LOS ANGELES. DEPARTMENT OF TRANSPORTATION RRG BEARING POINT OF CIRCULAR CURVE DOMESTIC WATER CITY OF LOS ANGELES, DEPARTMENT OF WATER AND POWER LADWP BRK BRICK POINT OF INTERSECTION OF TWO TANGENTS PΙ DWG DRAWING LAUSD LOS ANGELES UNIFIED SCHOOL DISTRICT BUR CA BURIED CABLE EC END OF CURVE DWL DOWEL LOS ANGELES WATER DEPARTMENT (NOW DWPWS) LAWD BOTTOM OF WALL, BACK OF WALL, OR BASE WIDTH BW TS TANGENT TO SPIRAL DWLG DOWELLING LEVEL 3 COMMUNICATIONS LEVEL 3 в то в BACK TO BACK SC SS SPIRAL TO CIRCULAR CURVE DWY DRIVEWAY NEW VERIZON BUSINESS MCI SPIRAL TO SPIRAL LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY ST CC MTA or METRO SPIRAL TO TANGENT OR SHORT TANGENT С CURB OR CONDUIT EAST, EASTING OR ELECTRICAL METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA MWD CABLE OR COMPRESSED AIR CA CENTER OF CIRCULAR CURVE FΑ PUC PUBLIC UTILITIES COMMISSION CRUSHED AGGREGATE BASE CAB FASTBOUND OR FND BRIDGE LC LONG CHORD EΒ QWEST DC CB CATCH BASIN EC FND CURVE DEGREE OF CURVE SBC SBC CALIFORNIA TELEPHONE ECR END CURB RETURN CENTRAL ANGLE OF CIRCULAR CURVE CBD CENTRAL BUSINESS DISTRICT SCE SOUTHERN CALIFORNIA EDISON COMPANY E/E EF CC-B CONCRETE CONDUIT-TYPE B EAST OF EAST RIGHT-OF-WAY LINE EXTERNAL DISTANCE SOUTHERN CALIFORNIA GAS COMPANY (NOW THE GAS COMPANY) SCG CC-C CONCRETE CONDUIT-TYPE C FACH FACE TOTAL INTERSECTION ANGLE SCWCO SOUTHERN CALIFORNIA WATER COMPANY ELECTRIC HANDHOLE FHH CD CURB DRAIN DISTANCE FROM TS TO PC ALONG TANGENT SOUTHERN PACIFIC PIPELINE COMPANY ELEVATOR OR ELEVATION SO PAC P CE CONCRETE ENCASED EL, ELEV TOTAL LENGTH OF CURVE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION CF ELEC ELECTRIC OR ELECTRICAL SPPWC CURB FACE TOTAL LENGTH OF CIRCULAR CURVE Lc SPRINT SPRINT NEXTEL CFS CUBIC FEET PER SECOND **ELECT** ELECTRIC (REF) TOTAL LENGTH OF SPIRAL Ls C&G CURB AND GUTTER STD OIL CO STANDARD OIL COMPANY OF CALIFORNIA **FMRANKMENT FMR** LENGTH OF SPIRAL IN Ls IN CENTER OF GRAVITY CGS ELECTRICAL MANHOLE EMH LENGTH OF SPIRAL OUT THE GAS COMPANY Ls OUT CHEM CHEMICAL TM-CATV TIMES MIRROR CABLE TELEVISION (NOW SIMMONS CABLE TELEVISION) E0 or E/0 EAST OF LT LONG TANGENT CAST IRON OR CURB INLET CI END OF ROAD EOR UNIFORM BUILDING CODE OFFSET DISTANCE FROM TANGENT TO PC, SPIRAL THROW UBC CICLP, CIP(CL) CAST IRON CEMENT LINED PIPE EΡ EDGE OF PAVEMENT OR END PLATFORM POB POINT OF REGINNING UP or UPRR UNION PACIFIC RAILROAD CAST IRON PIPE EQ EQUAL. EQUATION OR EQUALITY USC & GS UNITED STATES COAST AND GEODETIC SURVEY POE POINT OF ENDING CIRCUM CIRCUMFERENCE ES EXTRA STRENGTH WESTERN UNION TELEGRAPH COMPANY (NOW ATS PART OF MCI) POS POINT ON SPIRAL WUT CAST IRON SOIL PIPE (EXTRA STRENGTH) CISP(ES) ETC FT CFTFRA POT or PT POINT ON TANGENT **MISCELLANEOUS** CONSTRUCTION JOINT EW FACH WAY POINT ON CIRCULAR CURVE Rc RADIUS OF CIRCULAR CURVE POC AND CL CURB LINE OR CLASS E/W EAST OF WEST RIGHT-OF-WAY LINE Tc TANGENT LENGTH OF CIRCULAR CURVE CENTERLINE ΑT € or C/L or CL EX / EXIST / (E) EXISTING Ts TANGENT DISTANCE FROM TS OR ST TO PI AGGREGATE BASE CHAIN LINK FENCE CH EXP **EXPANSION** OS SPIRAL ANGLE CLG ABAND ABANDONED CEILING TANGENT DISTANCE FROM TS TO SC OR ST TO CS EXT **EXTERIOR** CLEARANCE OR CLEAR CLR ACRYLONITRILE-BUTADIENE-STYRENE ARS TANGENT OFFSET TO SC OR CS CMB CRUSHED MISCELLANEOUS BASE ABUT ARUTMENT PRC POINT OF REVERSE CIRCULAR CURVE FILL. FIBER CORRUGATED METAL PIPE ASPHALT CONCRETE OR ASBESTOS CEMENT AC FΑ FIRE ALARM VERTICAL ALIGNMENT CMU CONCRETE MASONRY UNIT OR ALTERNATING CURRENT FIELD BOOK, FIRE ALARM BOX FB CLEANOUT, COUNTY, OR COMPANY CO HIGHEST POINT OF VERTICAL CURVE ACC ASPHALT CEMENT CONDUIT FAC FIRE ALARM CONDUIT COL COLUMN LOWEST POINT OF VERTICAL CURVE L0 ACD ASPHALTIC CONCRETE DUCT FC FIRE CONNECTION COMM COMMUNICATION VC VERTICAL CURVE ACL AUXILIARY CONTROL LINE FD FIBER DUCT, FLOOR DRAIN, FIRE DEPARTMENT OR FOUND CONC CONCRETE BVC BEGINNING OF VERTICAL CURVE ACP ASBESTOS CEMENT PIPE FDN FOUNDATION CONC BL CONCRETE BLOCK PVI POINT OF VERTICAL INTERSECTION AGGR AGGREGATE FE FLANGED END COND CONDUIT EVC END OF VERTICAL CURVE AHD AHEAD CONN CONNECT, CONNECTION, OR CONNECTOR FF FINISHED FLOOR OR FAR FACE PVRC POINT OF VERTICAL REVERSE CURVE CONSTRUCT OR CONSTRUCTION FFE FINISH FLOOR ELEVATION ALUMINUM CONST AL PVC POINT OF VERTICAL CURVE CONT CONTINUED, CONTINUOUS, OR CONTINUATION FG FINISH GRADE ALIGN ALIGNMENT PVT POINT ON VERTICAL TANGENT COORD COORDINATE FΗ FIRE HYDRAN1 APP APPROVED (REF) LVC LENGTH OF VERTICAL CURVE COP COR COPPER FIN FINISH APPROX..APP APPROXIMATE OR APPROXIMATELY МО MIDDLE ORDINATE CORNER FL FLOW LINE, FUEL APPV APPROVED G1 GRADE IN (TO VERTICAL CURVE) CORRUGATE OR CORRUGATED CORR FLG FLANGE APWA AMERICAN PUBLIC WORKS ASSOCIATION G2 GRADE OUT (TO VERTICAL CURVE) CP CONCRETE PIPE OR CEMENT PIPE OR CLOSURE POUR FLP FLOW LINE PIPE AS AGGREGATE SUB-BASE CPC CORRUGATED PLASTIC CONDUIT LPNT LOW POINT FLR FLOOR ASB **ASBESTOS** CS CENTER OF STRAND FIBER OPTIC CABLE UTILITY COMPANY / AGENCY ABBREVIATIONS F0 ASPH ASPHALT C/S CSG COMMUNICATIONS/SIGNALS FΡ FIRE PROTECTION AASHTO AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AVE AVENUE CASING FPS FEET PER SECOND ACI AMERICAN CONCRETE INSTITUTE CONCRETE SIDEWALK AWG AMERICAN WIRE GAUGE (GAGE) CSW FR ΑF U.S. AIR FORCE CTA CENTRAL TANGENT ANGLE A/R AS REQUIRED FS FIRE SERVICE, FINISHED SURFACE, OR FAR SIDE ARCO ATLANTIC RICHFIELD COMPANY СТВ CEMENT TREATED BASE FT FOOT OR FEET (NOW FOUR CORNERS PIPELINE COMPANY) CU FT CUBIC FOOT "B1" BRT LINE DESIGNATION F TO I FACE TO FACE CUBIC INCH ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS CU IN BB BILLBOARD OR BEGIN BRIDGE FWL FIRE WATER LINE CUBIC YARD ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS CU YD BCOP BARE COPPER FWY FREEWAY AT&T AMERICAN TELEPHONE AND TELEGRAPH COMPANY CULV CHI VERT RCR BEGIN CURB RETURN CENTER TO CENTER RED LINE TUNNEL BLAST RELIEF SHAFT C TO C RRS BEG BEGIN OR BEGINNING G GAS OR GAS LINE CT COURT CALTRANS STATE OF CALIFORNIA. BF BOTTOM FACE GA GAUGE (GAGE) DEPARTMENT OF TRANSPORTATION BACKFLOW PREVENTER GALVANIZE OR GALVANIZED **BFP** D, d DEPTH GALV COLA CITY OF LOS ANGELES BIT BITUMINOUS D. DU. DCT DUCT GAL(S) GALLON(S) CITY OF LOS ANGELES, DEPARTMENT OF WATER AND POWER. WATER SERVICES **DWPWS** DUCT BANK RACK DR GRADE BREAK CITY OF LOS ANGELES, DEPARTMENT OF WATER AND POWER, POWER SERVICES GB **DWPPS** DEF DEFLECTION "BK(X)" BIKEWAY LINE DESIGNATION GM GAS METER FHWA FEDERAL HIGHWAY ADMINISTRATION DEG DEGREES GND BASELINE, BUILDING LINE, OR BLOCK FTA FEDERAL TRANSPORTATION ADMINISTRATION BL DEPARTMENT DEPT GENERAL PACKAGE, GAUGE PLATE OR GRADING PLAN GP BLDG BUILDING GENERAL PETROLEUM (NOW MOBIL OIL) GP DESC DESCRIPTION GR GRADE, GROUND BLVD BOULEVARD GSD CITY OF LOS ANGELES, GENERAL SERVICES DIVISION DET GRS GALVANIZED RIGID STEEL GTE GENERAL TELEPHONE COMPANY BM BENCH MARK DUCTILE IRON , DROP INLET GSC GALVANIZED STEEL CONDUIT BOC BOTTOM OF CURB CITY OF LOS ANGELES LA DIAM OR Ø DIAMETER GV GATE VALVE. GAS VALVE BUS OPERATIONS CONTROL CENTER LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS BOCC LACDPW DIAG DIAGRAM GW GUY WIRE LACFCD LOS ANGELES COUNTY FLOOD CONTROL DISTRICT BOTTOM OF PIPE DIM DIMENSION LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY BOS BOTTOM OF SLOPE LACMTA DUCTILE IRON PIPF ΠIP BRT BUS RAPID TRANSIT LACO COUNTY OF LOS ANGELES DISTRICT OR DISTANCE NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

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	05/07/12			ISSUED FOR BID	STV Incorporated
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REV.	DATE	BY	APP.	DESCRIPTION	www.stvinc.com

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DRAWN BY M.PARTENHEIMER	
CHECKED R.CAMPBELL	١,
DATE 4/16/2012	

Metro	LOS ANGELES METROPOLITA	
MENO	RECOMMENDED	DATE

LES COUNTY	UNION/PATSAOURAS PLAZA BUSWAY STATION
LITAN TRANSPORTATION AUTHORITY	DESIGN BUILD CONTRACT No. C0970

DATE

OURAS PLAZA BUSWAY STATION
BUILD CONTRACT No. CO970

SCALE

NONE

ABBREVIATIONS
SHEET 1 OF 2

SHEET 3 OF 80

# ABBREVIATIONS

			A	DDNEVIA I	10110				
Н	HEIGHT, HIGH PRESSURE	N 00 #	AUUUDED		RTW	RIGHT TRAVELED WAY	T) /	TELEVISION	
H HAP	HEIGHT, HIGH PRESSURE HORIZONTAL ANGLE POINT	No OR #	NUMBER		RIW	RIGHT TRAVELED WAY	TV TVCC	TRANSPORTED VITRIFIED CLAY CONDUIT	
HB	HOSE BIBB	NRCP	NON-REINFORCED CONCRETE PIPE		S	SOUTH, SLOPE, OR SIGN	TVM	TICKET VENDING MACHINE	
HC HB	SANITARY SEWER HOUSE CONNECTION	NS (2	NEAR SIDE		SA	SERVICE AISLE			
HH	HANDHOLE	N/S	NORTH OF SOUTH RIGHT-OF-WAY LINE		SAV	STAND ALONE VALIDATOR	T/W	TOP OF WALL	
HORIZ	HORIZONTAL	NTS	NOT TO SCALE		SB	SOUTHBOUND OR SPLICE BOX	TYP	TYPICAL	
HOV	HIGH OCCUPANCY VEHICLE						110	LINDEDODOCCINO OD LINDED CONCEDITOTION	
HOV HP		OC	ON CENTER(S) OR OVERCROSSING		SCC	STEEL CYLINDER CONCRETE (PIPE)	UC	UNDERCROSSING OR UNDER CONSTRUCTION	
• • • • • • • • • • • • • • • • • • • •	HORSE POWER, HEEL PLATE OR HIGH POINT	OD	OUTSIDE DIAMETER		SCL	SECONDARY CONTROL LINE	UD	UNDERDRAIN	
HR	HEADROOM OR HOUR	OFC	ORANGEBURG FIBER CONDUIT		SCWD	SINGLE CREOSOTED WOOD DUCT	UG	UNDERGROUND	
HS	HIGH STRENGTH STEEL	OG	ORIGINAL GROUND		SD	STORM DRAIN	UNK	UNKNOWN	
HWY	HIGHWAY	OH	OVERHEAD		SDMH	STORM DRAIN MAINTENANCE HOLE	UP	UNDERPASS, COMBINATION POWER/TELEPHONE POLE,	UNION PACIFIC (RAILROAD)
		OP	OVERPASS		SEC	SECONDS	UPRR	UNION PACIFIC RAILROAD	
ID	INSIDE DIAMETER	ORL	ORNAMENTAL LIGHTING		SECT	SECTION	UNO	UNLESS NOTED OTHERWISE	
I. D.	IDENTIFIER				SF	SITE FINISH PLAN OR SQUARE FEET			
IFC	ISSUED FOR CONSTRUCTION	Р	PIPE		SFV	SAN FERNANDO VALLEY	٧	VALVE OR VELOCITY	
IN OR "	INCH OR INCHES	PA	PUBLIC ADDRESS		SG	SUB GRADE	VAC	VACUUM	
INV	INVERT	PAM. PEM	POLYETHYLENE MEDIUM PRESSURE GAS LINE		SHLD	SHOULDER	VAP	VERTICAL ANGLE POINT	
IP	IRON PIPE	PB	PULL BOX		SHT	SHEET	VAR	VARIES OR VARIABLE	
		PCC	PORTLAND CEMENT CONCRETE OR POINT OF COMPOUND CU	I IDVATI IDE	SIG	SIGNAL	VCC	VITRIFIED CLAY CONDUIT	
JT	JOINT	PCCP	PRE-STRESSED CONCRETE CYLINDER PIPE	ONVATORE	SIM	SIMILAR	VCD	VITRIFIED CLAY DUCT	
JS	JUNCTION STRUCTURE	PCL	PRIMARY CONTROL LINE		SIP	SUPPORT IN PLACE	VCP	VITRIFIED CLAY PIPE	
00	SONOTION STRUCTURE				SL	STREET LIGHT	VCP(ES)		
K	KIP OR KIPS	PCS	PIECES		SLC	STREET LIGHT CONDUIT		VITRIFIED CLAY PIPE (EXTRA STRENGTH)	
KSF	KIPS PER SQUARE FOOT	PD	PAPER DUCT		SLPB	STREET LIGHT PULL BOX	VCT	VITRIFIED CLAY TILE	
KF KF	KIP-FOOT	PE	POLYETHYLENE OR PLAIN END		SMH	SEWER MANHOLE	VERT	VERTICAL VERTICAL	
KF KV	KILOVOLT	PED	PEDESTRIAN PROFILE OR PLACE				V.I.F.	VERIFY IN FIELD	
K V KLF		PG	PROFILE GRADE OR PAGE		S/N	SOUTH OF NORTH RIGHT-OF-WAY LINE	VLT	VAULT	
r L t	KIPS PER LINEAR FOOT	PGL	PROFILE GRADE LINE		SP	SPACE, SPACING, SITE PLAN, OR SOUTHERN PACIFIC (RAILROAD)			
		PITO	POINT OF INTERSECTION OF TURNOUT		SPEC	SPECIFICATION(S)	W	WEST OR WATER	
L	LINE, LINING, OR LENGTH	PIV	POST INDICATOR VALUE		SPR	SPRINKLER	w/	WITH	
LA	LOS ANGELES	PL	PLACE		SQ	SQUARE	WB	WESTBOUND	
LACFCD	LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	Р	PROPERTY LINE		s/s	SOUTH OF SOUTH RIGHT-OF-WAY LINE	WD	WATER DETECTOR	
LAT	LATERAL	PLD	PLASTIC DUCT		SS	SANITARY SEWER OR STOP SIGN OR STAINLESS STEEL	W/E	WEST OF EAST RIGHT-OF-WAY LINE	
LBS OR #	POUND(S)	PLT	PLASTIC TILE		SSD	SANDSTONE CEMENT DUCT	WG	WHITE GAS	
LF	LINEAR FOOT (FEET)	PM	PARKING METER		SSMH	SANITARY SEWER MAINTENANCE HOLE	WHH	WATER HANDHOLE	
LG	LONG OR LENGTH	PO	PUSH-ON JOINT		ST	STREET	WHSE	WAREHOUSE	
LGT	LIGHT	POC	POINT OF CONNECTION		STA	STATION	WI	WROUGHT IRON	
LH	LEFT HAND	POL	POLICE		STD	STANDARD OR SEWER TILED DUCT	W	WIDTH	
LIN FT	LINEAR FEET	PP	POWER POLE OR PAPER PIPE		STL	STEEL	W WIP	WROUGHT IRON PIPE	
LJ	LEADED JOINT	PPD	PAPER PIPE DUCT				*****		
LN	LANE	PROD	PRODUCT		STM	STEAM	WL	WATER LEVEL	
LOC	LOCATE, LOCATED, OR LOCATION	PROP	PROPERTY OR PROPOSED		STOR	STORAGE	WLN	WATER LINE	
					STP	STEEL PIPE	WM	WATER METER	
LOL	LAYOUT LINE	PROP OR (P)	PROPOSED		STR	STRAIGHT	WMH	WATER MAINTENANCE HOLE	
LP	LOW PRESSURE OR LOW POINT	PSF	POUNDS PER SQUARE FOOT		STRUCT	STRUCTURE	WS	WATER SERVICES	
LPT	LOW POINT	PS	POWER SERVICES		STY	STYRENENE	W/0	WEST OF, WITHOUT	
LT	LEFT	PSI	POUNDS PER SQUARE INCH		SUB	SUBMITTED	WP	WORKING POINT OR WORK POINT	
LTG	LIGHTING	PSP	PAINT SHOP		SUPV	SUPERVISE OR SUPERVISOR	WSP	WELDED STEEL PIPE	
LTW	LEFT TRAVELED WAY	PT(S)	POINTS(S)		SURF	SURFACE	WSP(L)	WELDED STEEL PIPE (CEMENT LINED)	
		PUE	PUBLIC UTILITY EASEMENT		SW	SWITCH OR SIDEWALK	WTR	WATER	
M	MAIN, MEDIUM PRESSURE	PV	PLUG VALVE		SWK	SIDEWALK	WTW	WALL TO WALL	
MAINT	MAINTENANCE	PVC	POLYVINYL CHLORIDE		SYM	SYMMETRICAL	wv	WATER VALVE	
MAX	MAXIMUM	PVCC	POLYVINYL CHLORIDE CONDUIT			** == * · · · · ·	WW	WASTEWATER	
MCD	MULTIPLE CONCRETE DUCT	PVCP	POLYVINYL CHLORIDE PIPE		TAN	TANGENT	ww WWF	WELDED WIRE FABRIC	
MCWD	MULTIPLE CREOSOTED WOOD DUCTS	PVMT	PAVEMENT		T&B	TOP AND BOTTOM			
MECH	MECHANICAL	PWR	POWER		TC	TILE CONDUIT. TOP OF CURB	W/W	WEST OF WEST RIGHT-OF-WAY LINE	
MH	MAINTENANCE HOLE	1 11/1	, onen		TD	TILE DUCT OR TILE DRAIN		ODOGO DDAW	
MIN	MINIMUM. MINUTES	QTY	QUANTITY		TEL	TELEPHONE	X-DRAIN	CROSS DRAIN	
MISC	MISCELLANEOUS		· ·				X-ING	CROSSING	
MJ	MECHANICAL JOINT	QUAD	QUADRANT		TELE	TELESCOPING TEMPORATURE OR TEMPORARY	X-SECT	CROSS SECTION	
MI MI	MORTAR LINED	5	DADILIO		TEMP	TEMPERATURE OR TEMPORARY			
ML & C	MORTAR LINED & COATED	R	RADIUS		TERM	TERMINAL			
		RAC	RUBBERIZED ASPHALT CONCRETE		TF	TOP OF FACE			
MOD	MODIFIED	RCB	REINFORCED CONCRETE BOX (CULVERT)		TG	TOP OF GRADE, TOP OF GRATE, OR TELEGRAPH			
MPH	MILES PER HOUR	RCP	REINFORCED CONCRETE PIPE		THEO	THEORETICAL			
MSE	MECHANICALLY STABILIZED EMBANKMENT	RD	ROAD		THK	THICK OR THICKNESS			
MTC	MULTI-TILE CONDUIT	RECT	RECTANGLE OR RECTIFIER		TL	TRAFFIC LIGHT			
MTD	MULTI-TILE DUCT	REF	REFERENCE		TMH	TELEPHONE MAINTENANCE HOLE			
MVP	MAINTENANCE VEHICLE PULLOUT	REINF	REINFORCE, REINFORCED, OR REINFORCEMENT		TOC OR TC	TOP OF CURB			
		REQ'D	REQUIRED OR REQUIRE		TOP	TOP OF PIPE			
N	NORTH	RET	RETAINING		TOS	TOP OF SLOPE			
N/A	NOT APPLICABLE	RET W	RETAINING WALL		TP	POLICE TELEPHONE			
NB	NORTHBOUND	REV	REVISE, REVISED, OR REVISION		TRD	TRANSIT DUCT			
NF	NEAR FACE	REV RGS OR GRS	REVISE, REVISED, OR REVISION RIGID GALVANIZED STEEL OR GALVANIZED RIGID STEEL		TRPB	TRANSIT SHELTER PULLBOX			
NIC	NOT IN CONTRACT	RGS OR GRS RH			TS	TRAFFIC SIGNAL			
N/N	NORTH OF NORTH RIGHT-OF-WAY LINE		RIGHT HAND		TSC	TRAFFIC SIGNAL CONDUIT			
•		ROW or R/W	RIGHT OF WAY		TSCB	TRAFFIC SIGNAL CONTROL BOX			
N/0	NORTH OF	RR 	RAILROAD		TSPB	TRAFFIC SIGNAL PULLBOX			
		RT	RIGHT		IJFD	INALLIC SICIPAL FULLDUA	NOTE	THE DWO IS NOT 20"	
				_			NOIE	E: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE	-
+		STV	DESIGNE	IED M.PARTENHEIMER		LOO ANGELED COUNTY	UNIC	ON/PATSAOURAS PLAZA BUSWAY STATION	FILE/JOB NUMBER CO970
+++-		$ \square$ $\square$ $\square$ $\square$ $\square$ $\square$	DRAWN			LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION ALITHORITY	. 1	DESIGN BUILD CONTRACT No. C0970	SCALE

	05/07/12			ISSUED FOR BID
	10/15/10			ADVANCED CONCEPTUAL ENGINEERING
REV.	DATE	BY	APP.	DESCRIPTION





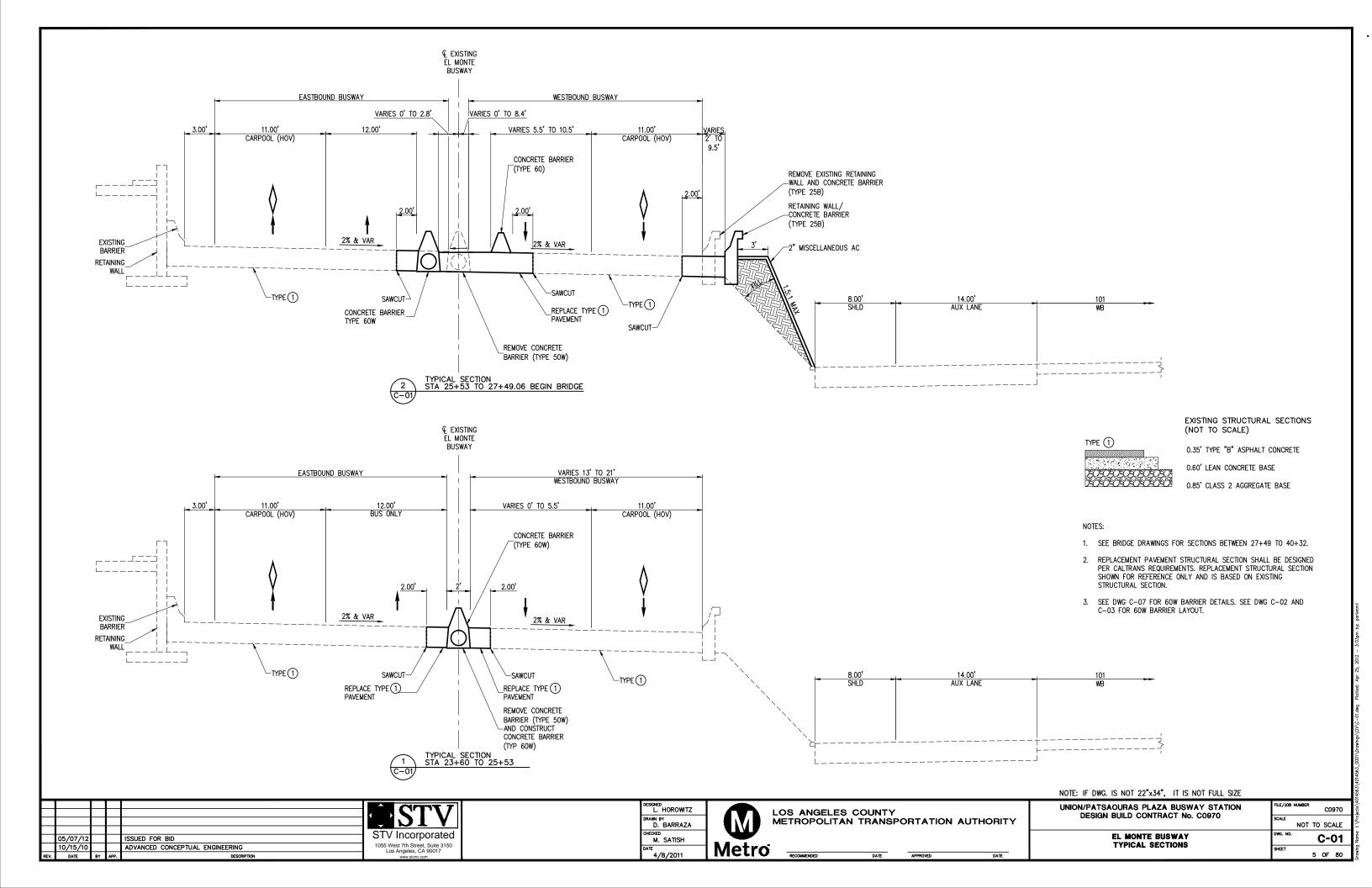
:R	
	Metro

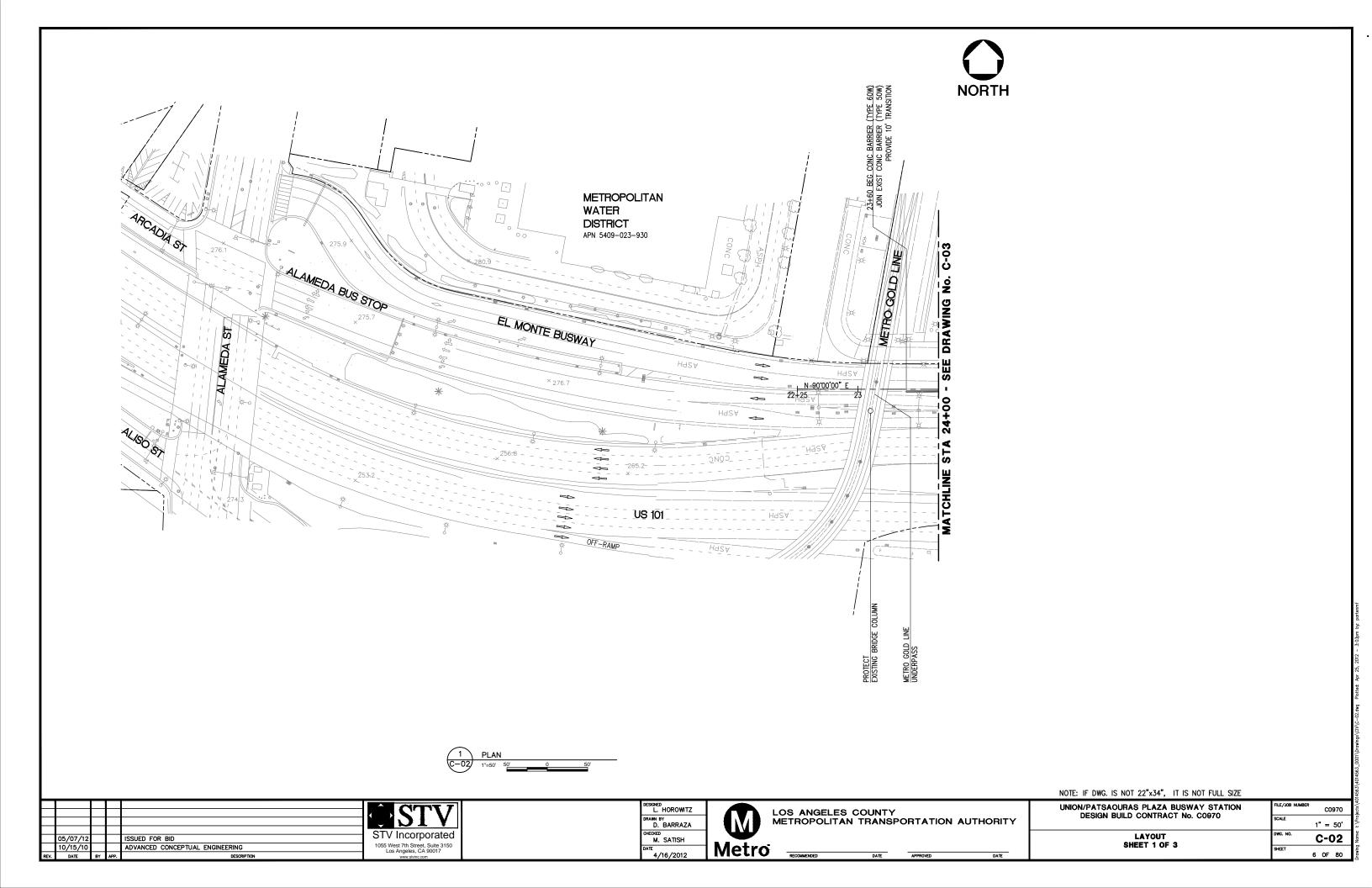
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY

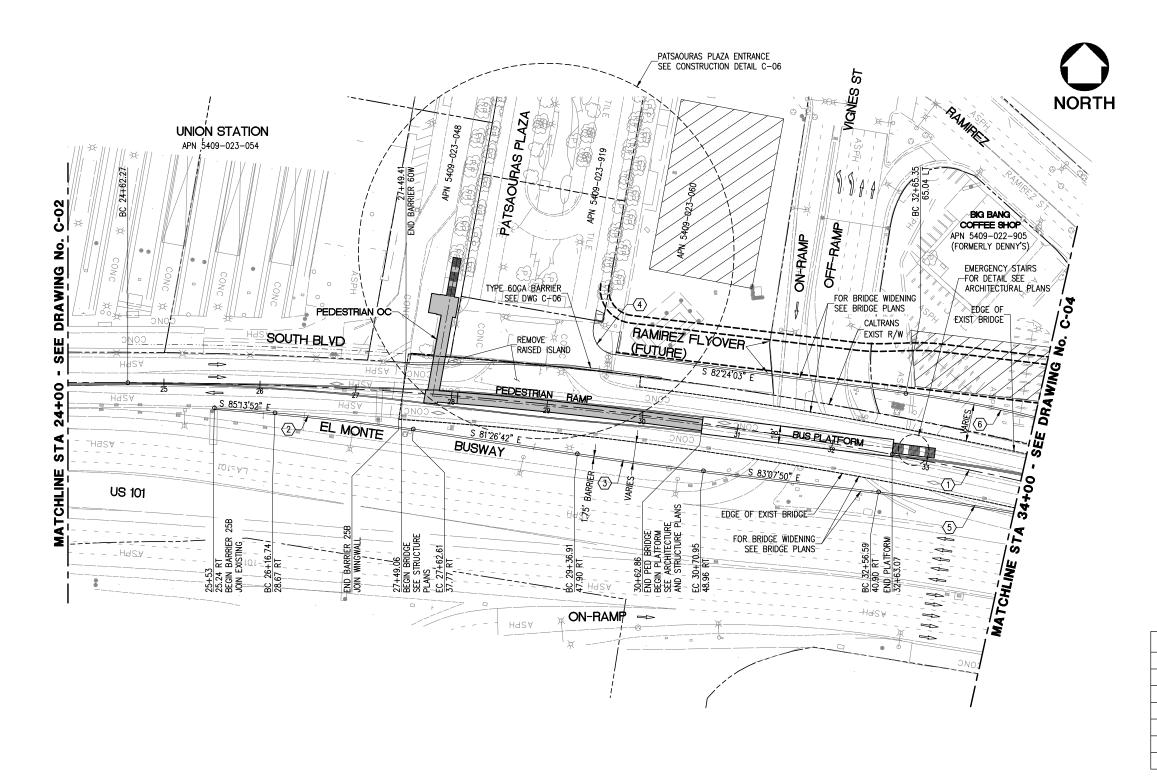
JNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970	
ABBREVIATIONS SHEET 2 OF 2	

RECOMMENDED

D DATE APPR







# **LEGEND**

POTENTIAL STAGING AREA

1. A PORTION OF THE PARCELS APN 5409-022-905 (FORMERLY DENNY'S RESTAURANT) AND 5409-023-060 AS SHOWN ON THIS SHEET ARE ANTICIPATED TO BE MADE AVAILABLE TO THE CONTRACTOR FOR SOME STAGING OF CONSTRUCTION ACTIVITIES AND STORAGE OF MATERIALS. SPECIFIC LOCATION AND SIZE OF CONTRACTOR'S FACILITIES AND RELATED ACCESS ROUTES SHALL BE COORDINATED WITH METRO.

	CURVE TABLE					
	DELTA	RADIUS	LENGTH	TANGENT		
1	13*26'35"	4300.00	1008.90	506.78		
2	03*47'10"	2195.00	145.05	72.55		
3	01°41'08"	4505.00	132.53	66.27		
4	92"15'47"	25.00	40.26	26.01		
(5)	03*26'08"	2549.00	153.08	76.56		
6	12"13'54"	1201.00	256.39	128.69		



				CTV Incorporated
	05/07/12		ISSUED FOR BID	STV Incorporated
	10/15/10		ADVANCED CONCEPTUAL ENGINEERING	1055 West 7th Street, Suite 3150 Los Angeles, CA 90017
2004		-	 	Los Angoles, CA 30017

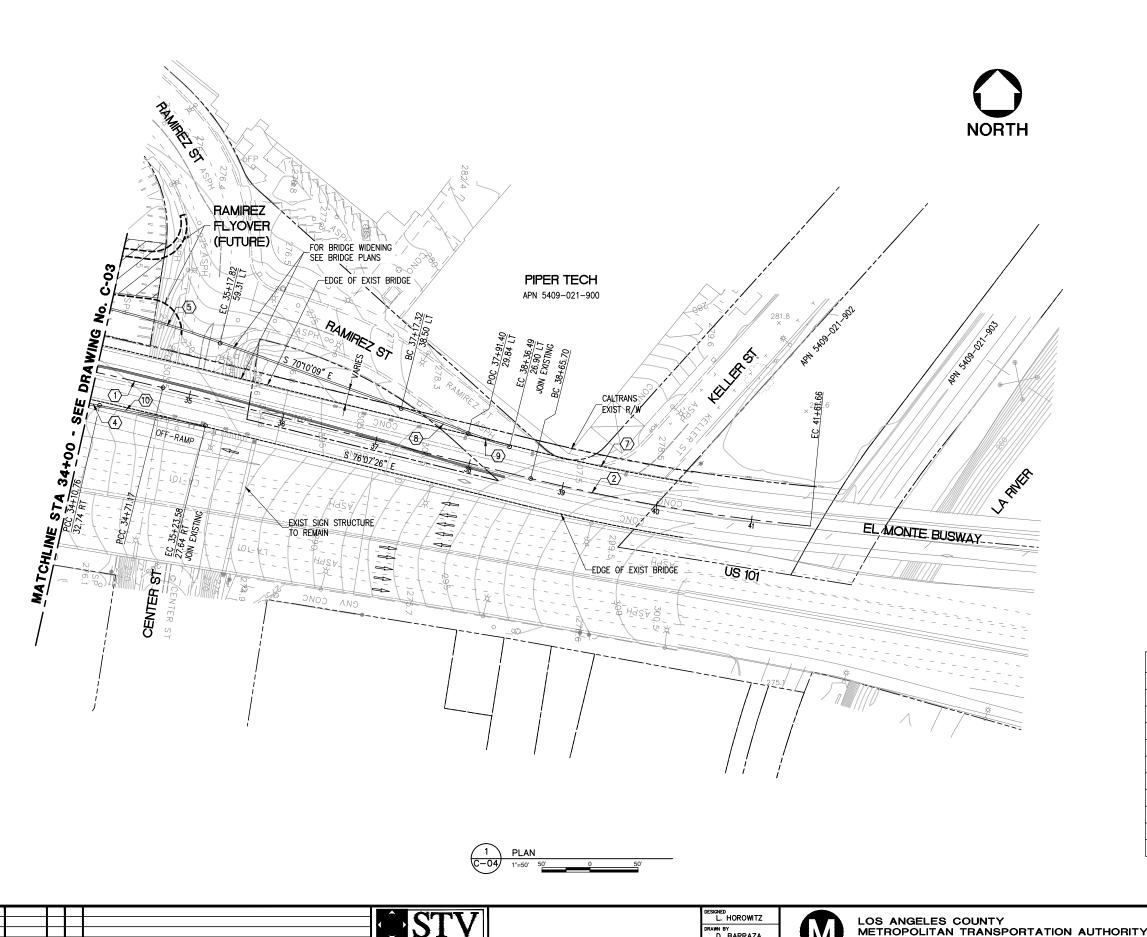
DESIGNED  L. HOROWITZ
D. BARRAZA
CHECKED M. SATISH
DATE 4/8/2011

Metro	LOS ANGELES METROPOLITAN	
AICEL O	RECOMMENDED	DA

LOS ANGELES ( METROPOLITAN		PORTATION	AUTHORITY	
PECOMMENDED	DATE	APPROVED	DATE	

NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE	
UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970	
LAYOUT Sheet 2 of 3	

FILE/JOB NUMBER	C0970
SCALE	1" = 50'
DWG. NO.	C-03
SHEET	7 OF 80



<u>LEGEND</u>

/// P

POTENTIAL STAGING AREA

	CURVE TABLE					
	DELTA	RADIUS	LENGTH	TANGENT		
1	13*26'35"	4300.00	1008.90	506.78		
2	08*28'43"	2000.00	295.96	148.25		
(3)	NOT USED					
4	03*26'28"	2549.00	153.08	76.56		
(5)	12*13'54"	1201.00	256.39	128.69		
6	NOT USED					
7	NOT USED					
8	01*25'29"	3000.00	74.59	37.30		
9	07'17'50"	355.00	45.21	22.64		
(10)	01°04'20"	6000.00	112.29	56.15		

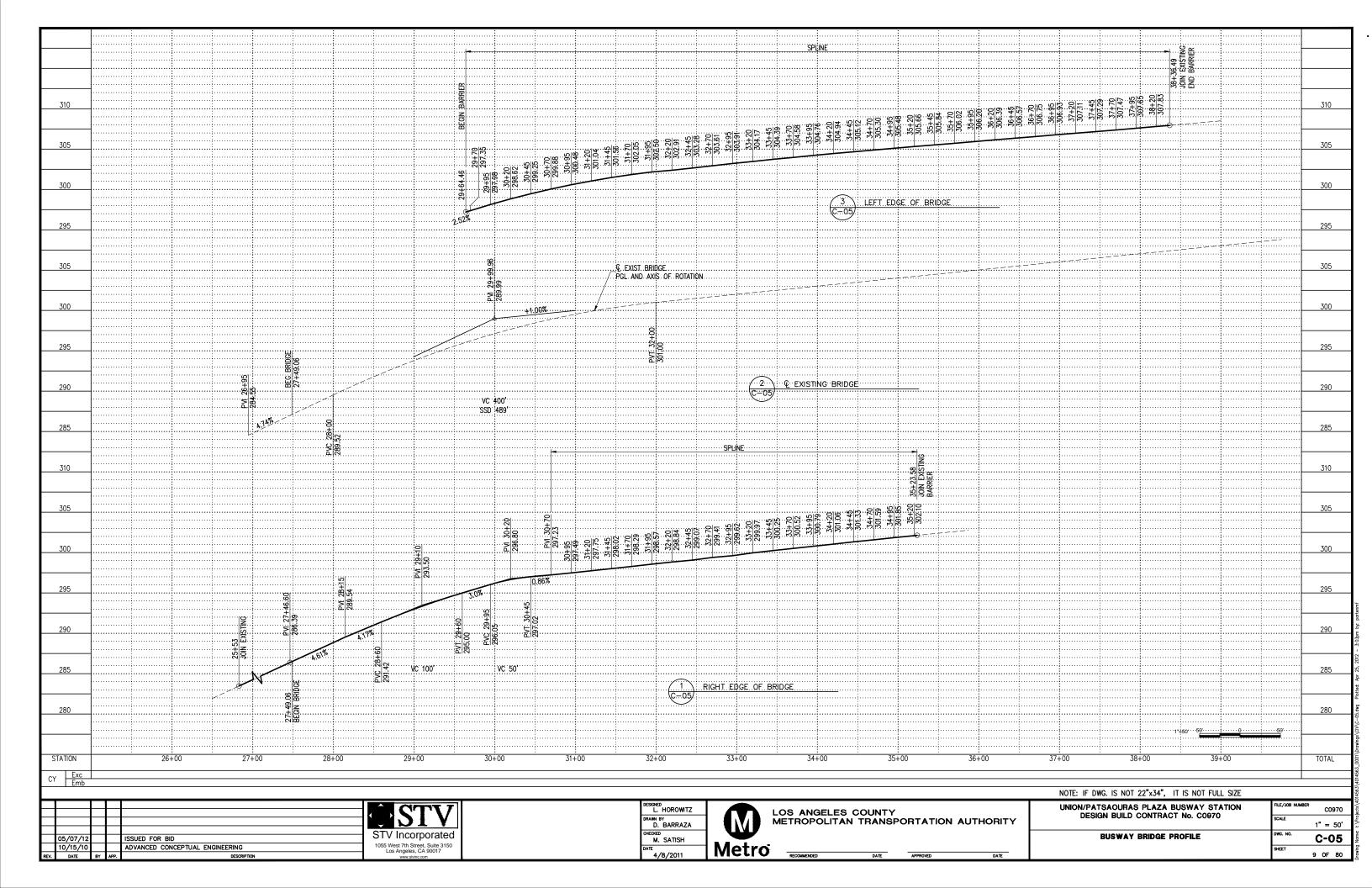
NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

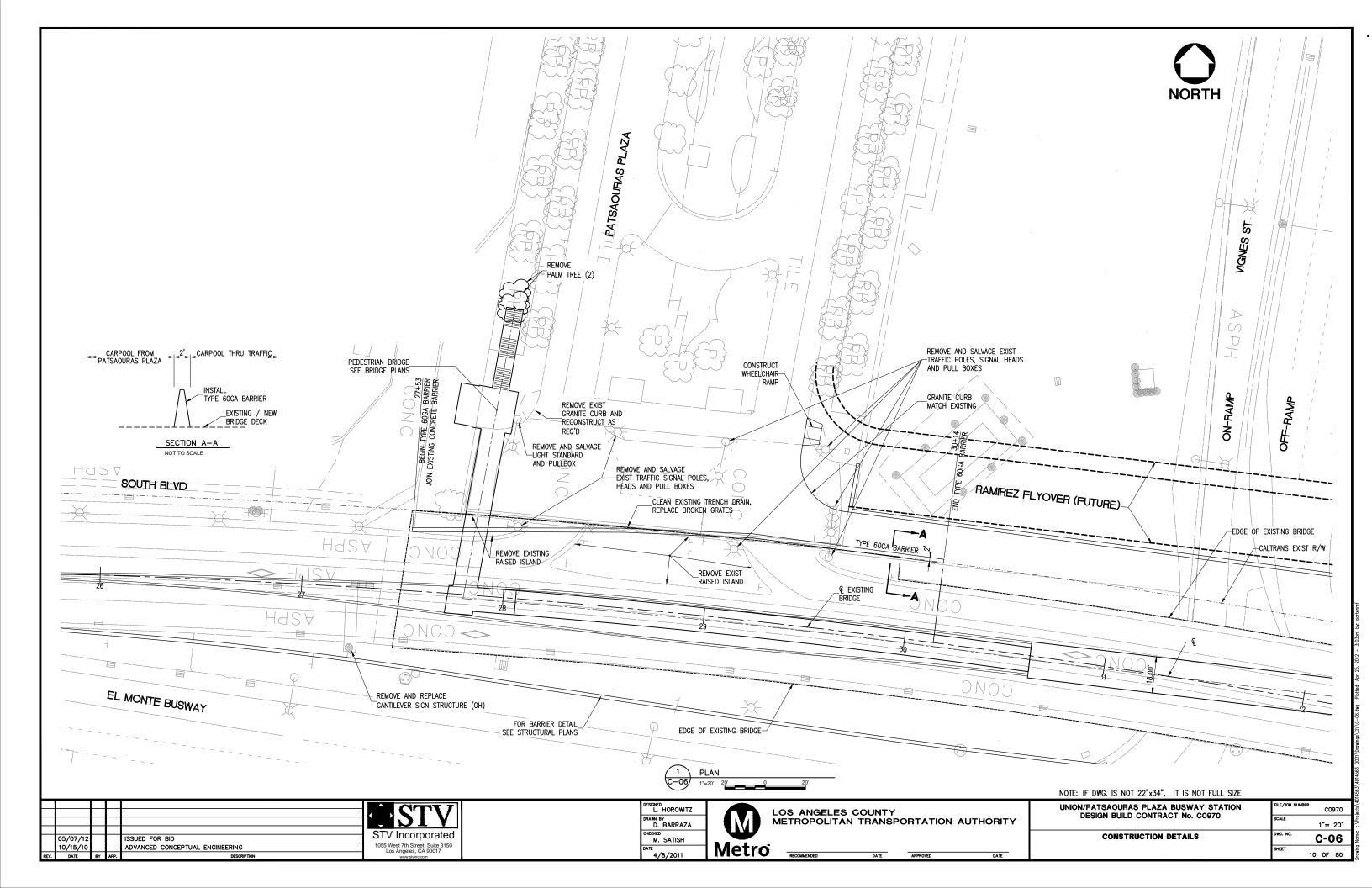
1" = 50'

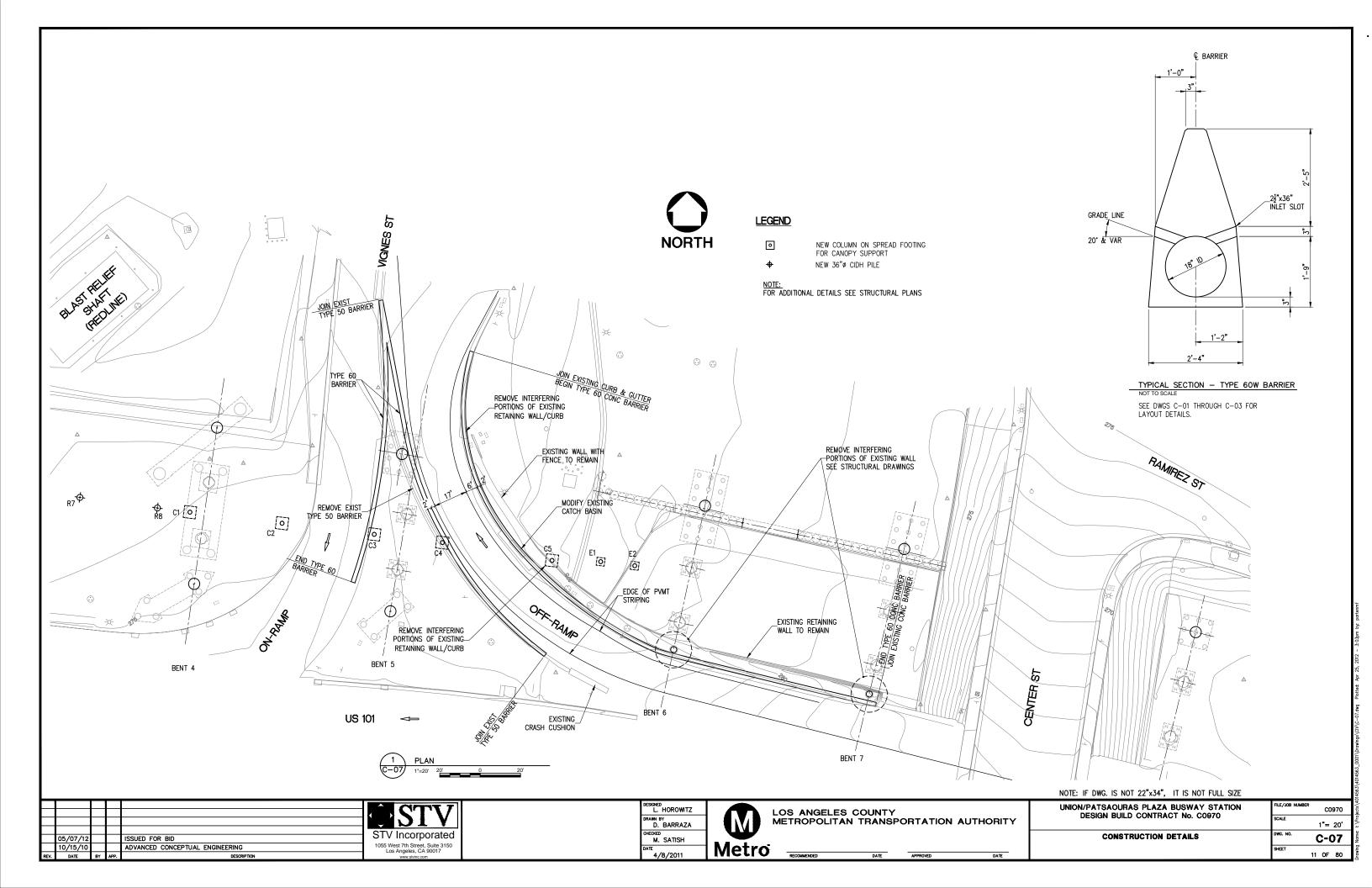
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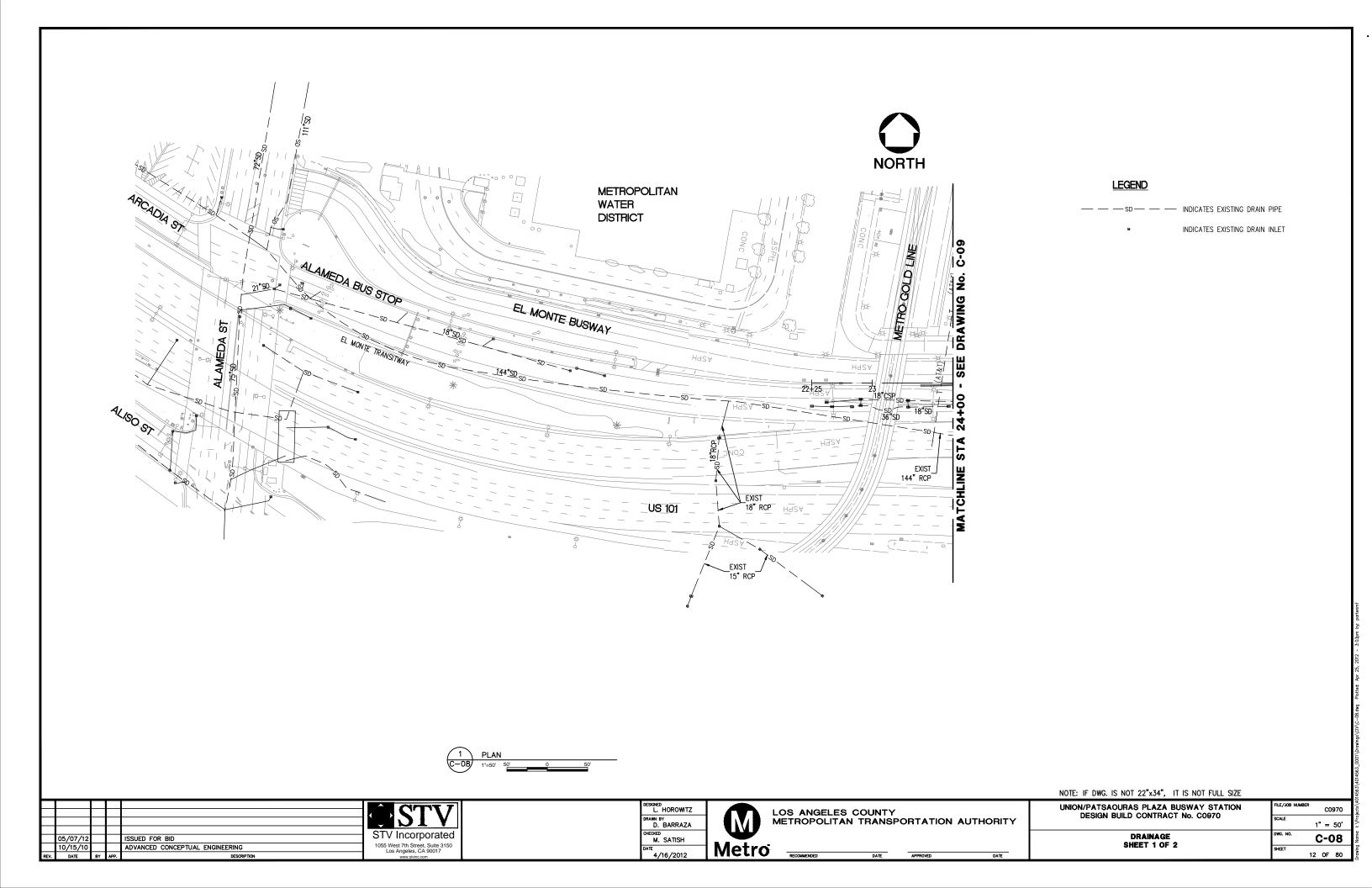
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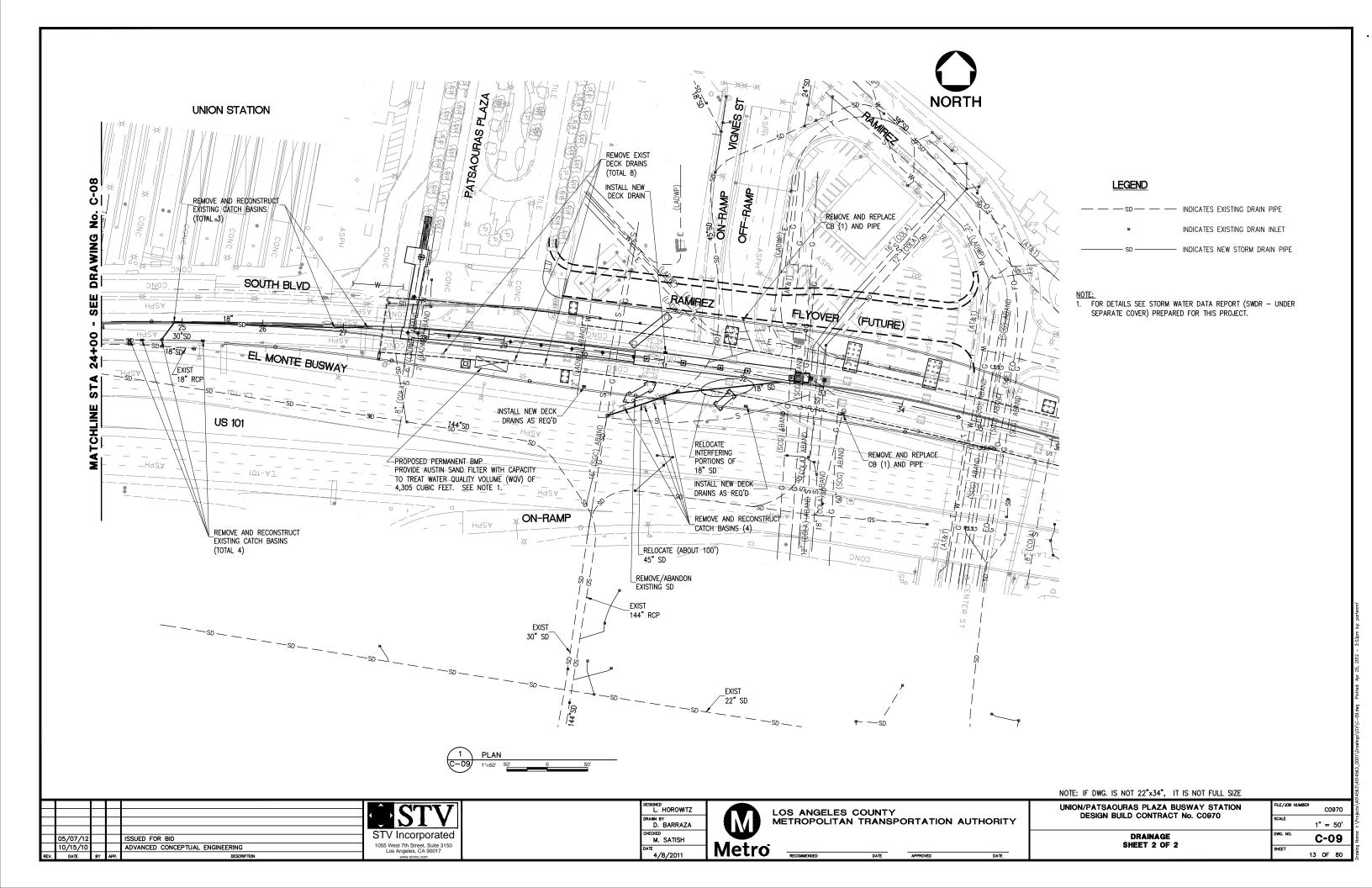
	CTV	DESIGNED L. HOROWITZ	LOS ANGELES COUNTY	UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970
	A DIA	D. BARRAZA	METROPOLITAN TRANSPORTATION AUTHORITY	DESIGN BOILD CONTRACT No. 00870
05/07/12 ISSUED FOR BID	STV Incorporated	CHECKED M. SATISH	•	LAYOUT
10/15/10	1055 West 7th Street, Suite 3150 Los Angeles, CA 90017 www.stvinc.com	pate 4/8/2011 Metr		SHEET 3 OF 3
	•			

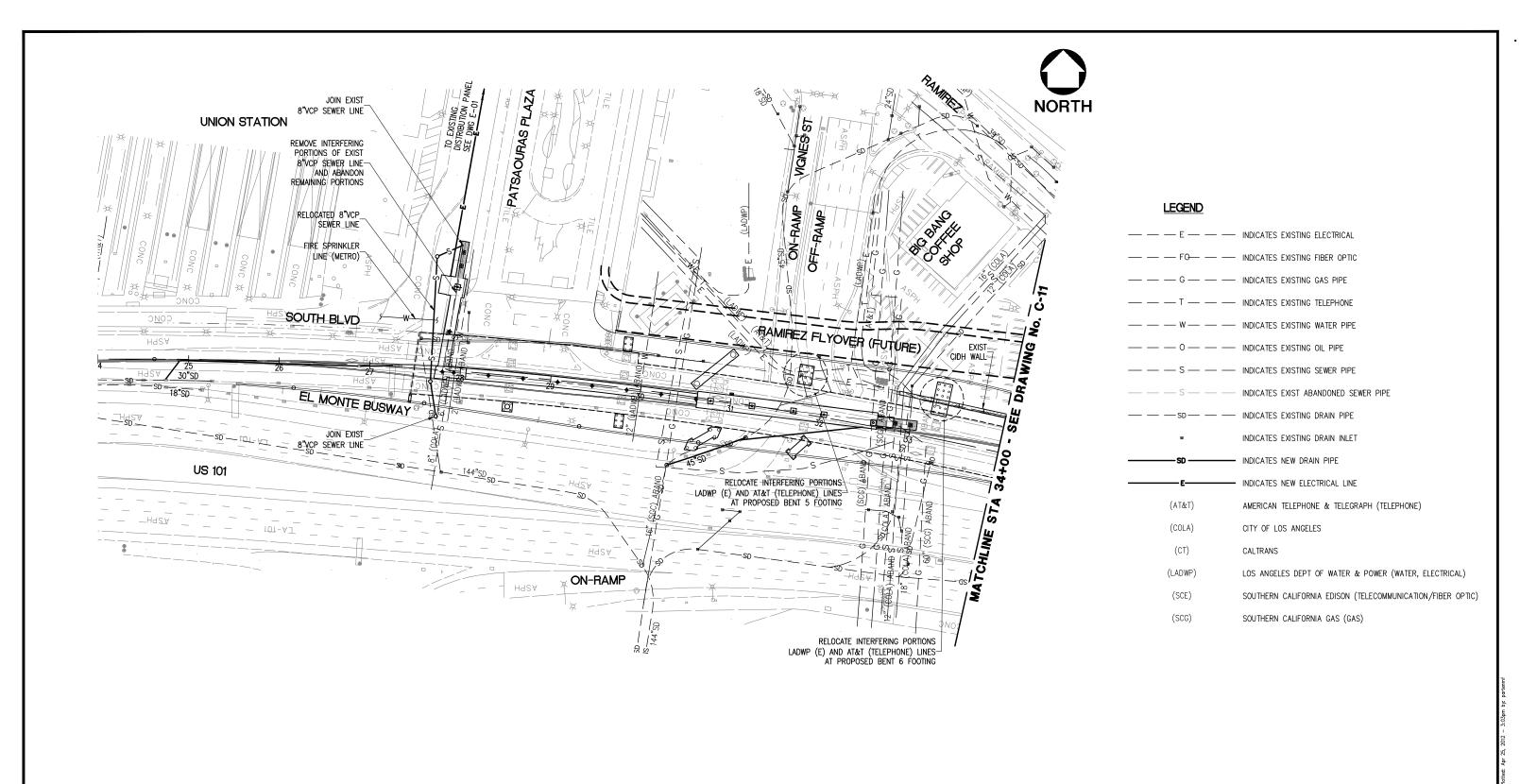














VTZ	
STV Incorporated	
1055 West 7th Street, Suite 3150 Los Angeles, CA 90017	l

ISSUED FOR BID

10/15/10

ADVANCED CONCEPTUAL ENGINEERING

DESIGNED L. HOROWITZ	
D. BARRAZA	1
CHECKED M. SATISH	_
DATE 4/8/2011	N

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1	Metro	

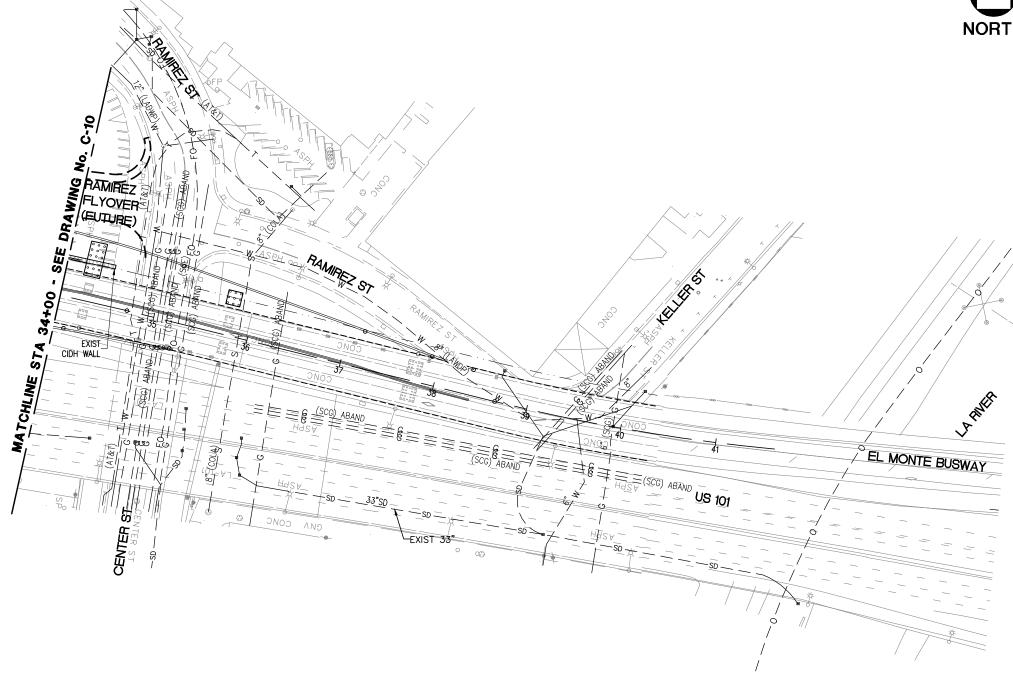
LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

DATE

NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE		
UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970		
UTILITIES SHEET 1 OF 2		

FILE/JOB NUMBER	C0970
SCALE	1" = 50'
DWG. NO.	C-10
SHEET	14 OF 80





# <u>LEGEND</u>

(SCG)

${\rm E}$	INDICATES EXISTING ELECTRICAL
— — FO— — —	INDICATES EXISTING FIBER OPTIC
	INDICATES EXISTING GAS PIPE
	INDICATES EXISTING TELEPHONE
	INDICATES EXISTING WATER PIPE
	INDICATES EXISTING OIL PIPE
s	INDICATES EXISTING SEWER PIPE
s	INDICATES EXIST ABANDONED SEWER PIPE
— — SD— — —	INDICATES EXISTING DRAIN PIPE
В	INDICATES EXISTING DRAIN INLET
(AT&T)	AMERICAN TELEPHONE & TELEGRAPH (TELEPHONE)
(COLA)	CITY OF LOS ANGELES
(CT)	CALTRANS
(LADWP)	LOS ANGELES DEPT OF WATER & POWER (WATER, ELECTRICAL)
(SCE)	SOUTHERN CALIFORNIA EDISON (TELECOMMUNICATION/FIBER OPTIC)

SOUTHERN CALIFORNIA GAS (GAS)



NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE DESIGNED
L. H
DRAWN BY
D. E
CHECKED
M. S
DATE
4/8

STV Incorporated

1055 West 7th Street, Suite 3150
Los Angeles, CA 90017

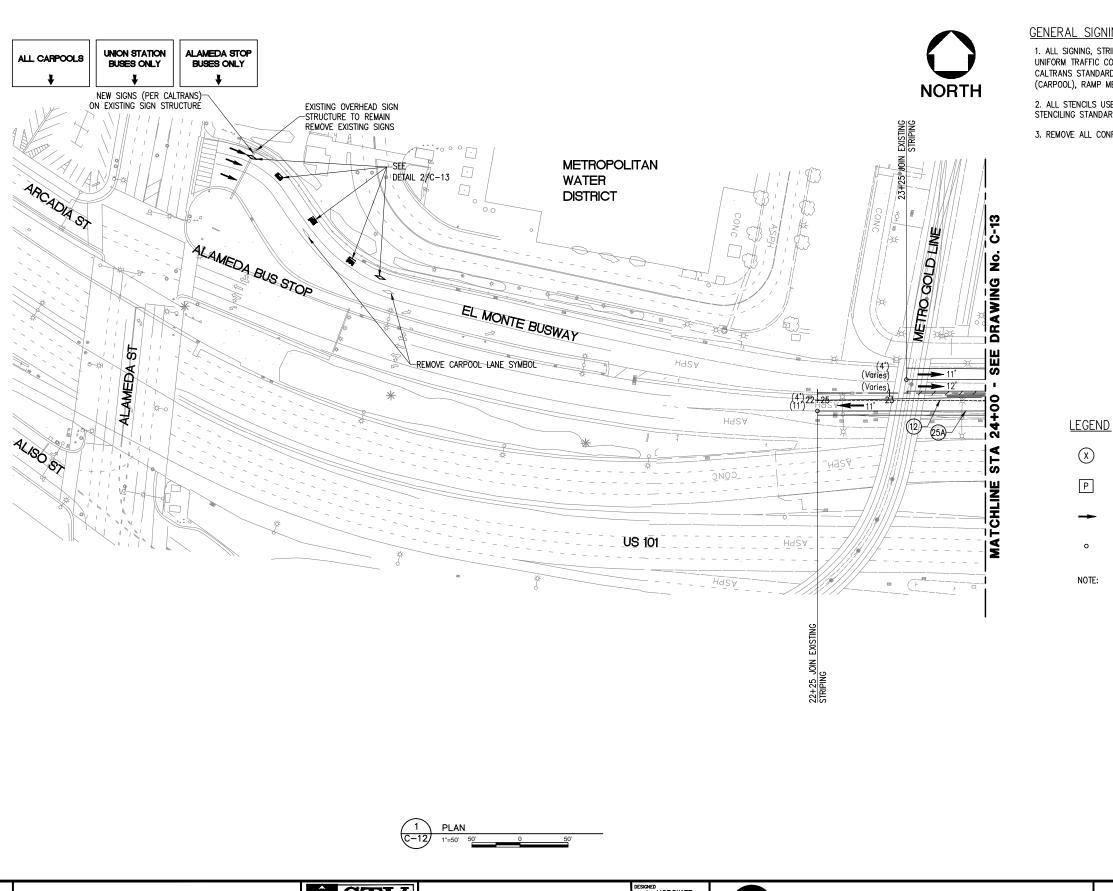
www.stbirc.com ISSUED FOR BID
ADVANCED CONCEPTUAL ENGINEERING 05/07/12 10/15/10 DATE E

HOROWITZ	
BARRAZA	
SATISH	
8/2011	Metro

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORIT	ΓY
s.	

UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970	
UTILITIES Sheet 2 of 2	

FILE/JOB NUMBER	C0970
SCALE	1" = 50'
DWG. NO.	C-11
SHEET	15 OF 80



STV Incorporated

1055 West 7th Street, Suite 3150 Los Angeles, CA 90017

ISSUED FOR BID

10/15/10

ADVANCED CONCEPTUAL ENGINEERING

GENERAL SIGNING AND STRIPING NOTES:

1. ALL SIGNING, STRIPING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), DATED 2010. CALIFORNIA MUTCD SUPPLEMENT, THE LATEST CALTRANS STANDARD PLANS A10A THROUGH A24E, CALTRANS HIGH OCCUPANCY VEHICLE (HOV) GUIDELINES (CARPOOL), RAMP METER DESIGN MANUAL, AND SPECIFICATIONS.

2. ALL STENCILS USED FOR INSTALLING PAVEMENT MARKINGS MUST CONFORM TO THE LATEST CALTRANS STENCILING STANDARDS A24A THROUGH A24E.

3. REMOVE ALL CONFLICTING PAVEMENT STRIPING AND MARKINGS

DETAIL NUMBER PER MUTCD STD.

INSTALL PAVEMENT MARKING PER STD.

DIRECTION OF TRAFFIC

STRIPING BEGIN CURVE (BC) OR END CURVE (EC)

PAVEMENT MARKINGS/SYMBOLS SHALL BE THERMOPLASTIC PAINT

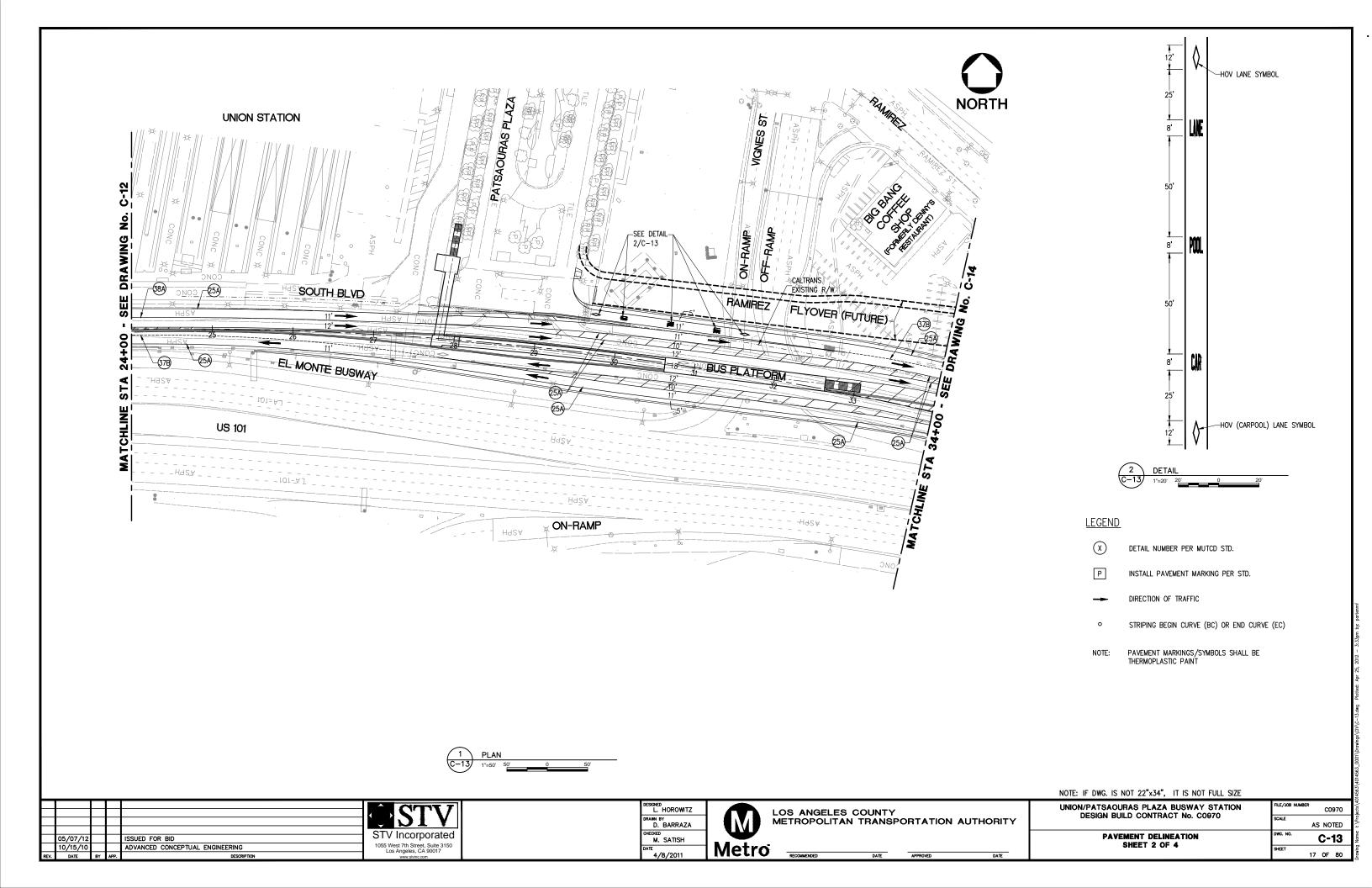
NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

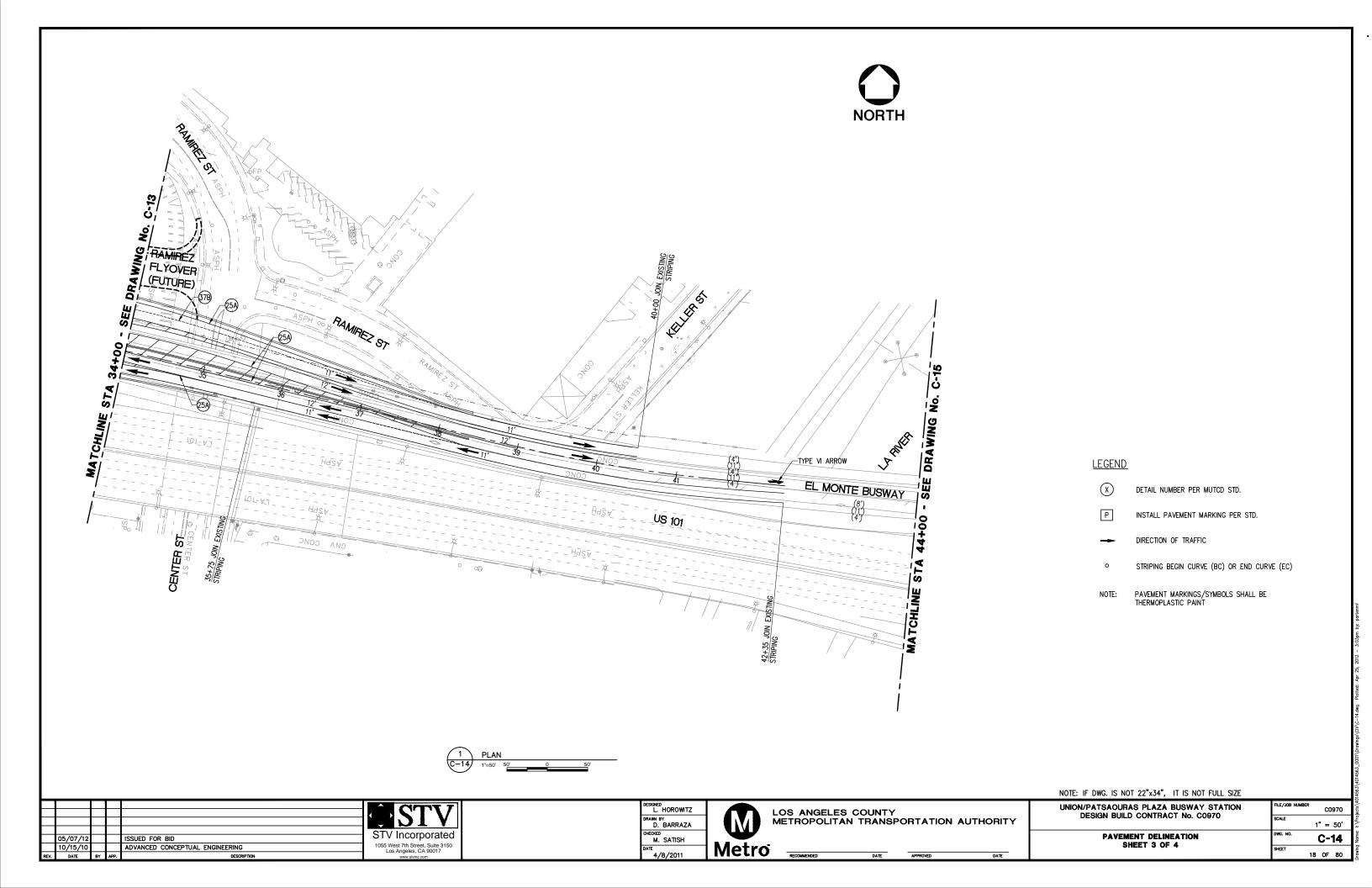
SHEET 1 OF 4

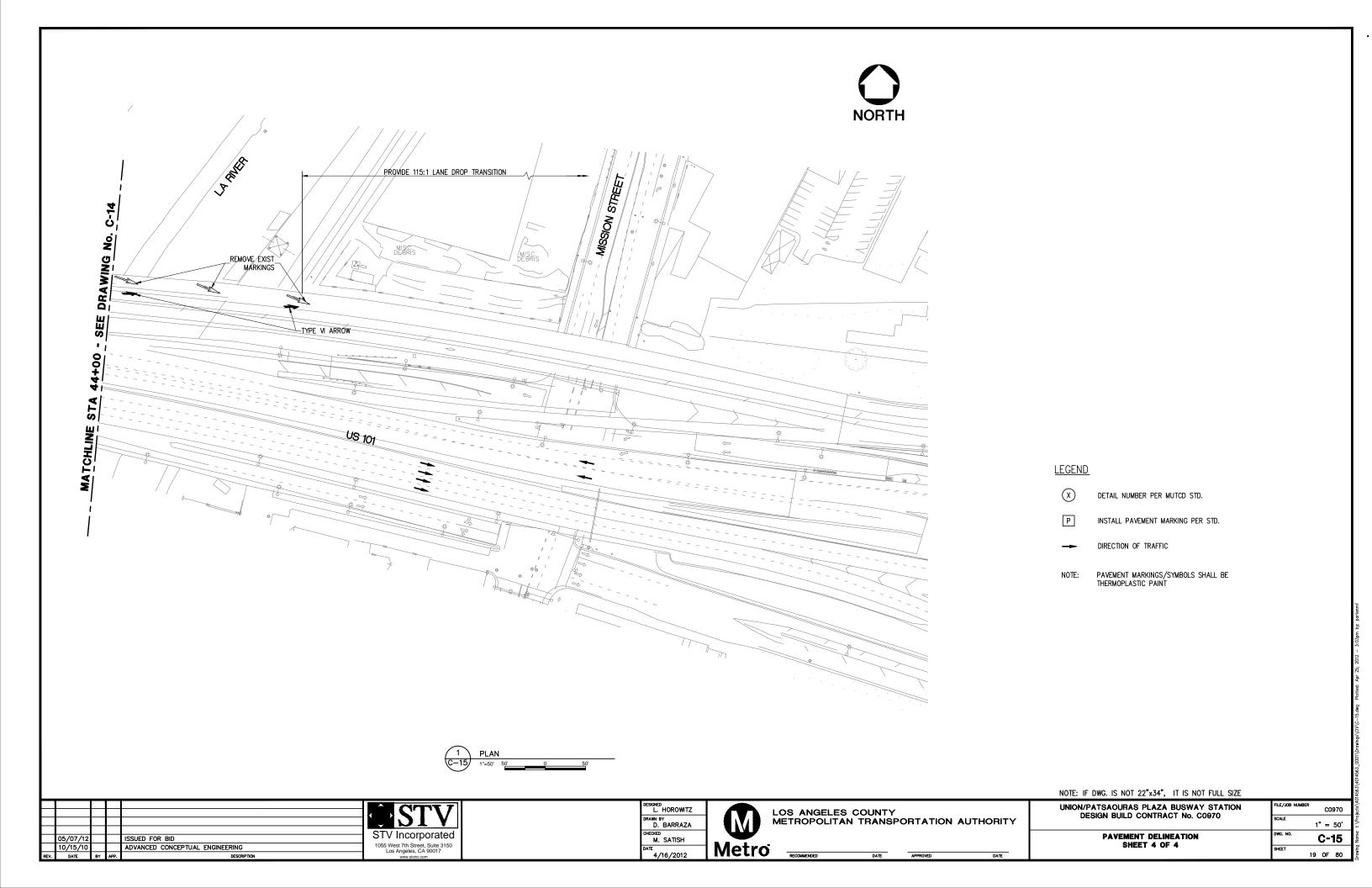
ESIGNED L. HOROWITZ LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY RAWN BY D. BARRAZA M. SATISH Metro 4/16/2012

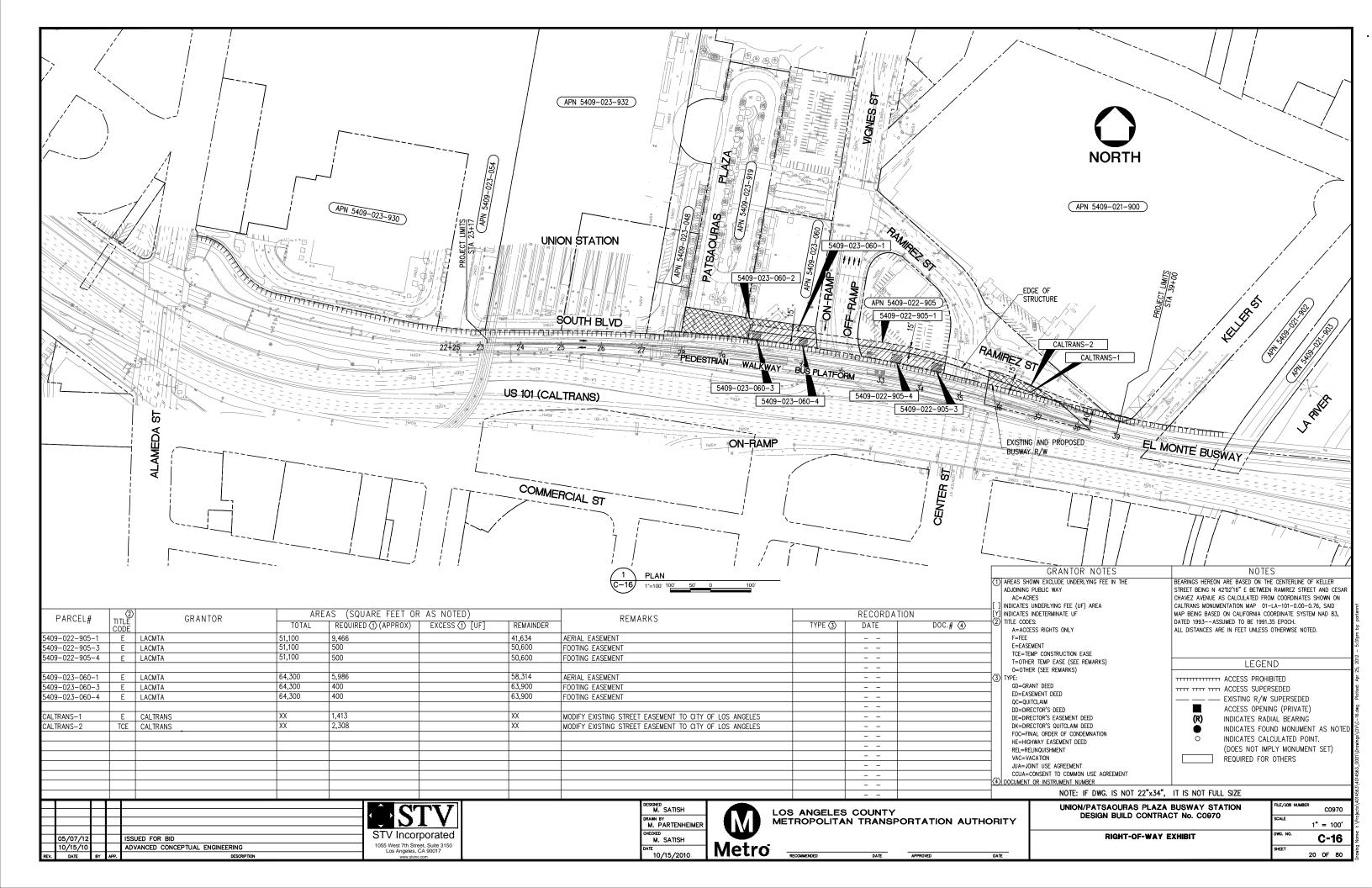
UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970 C0970 1" = 50' PAVEMENT DELINEATION C-12

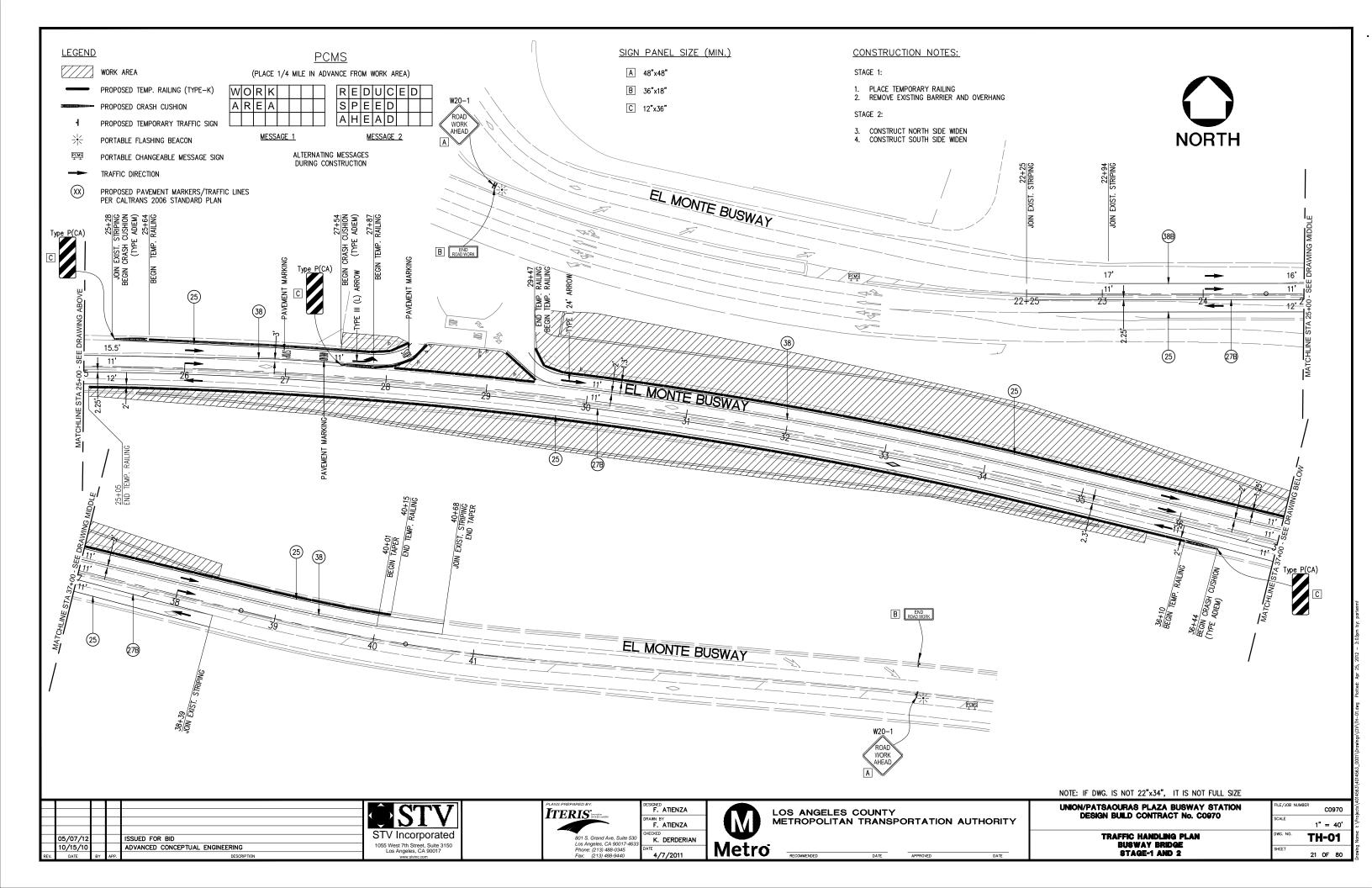
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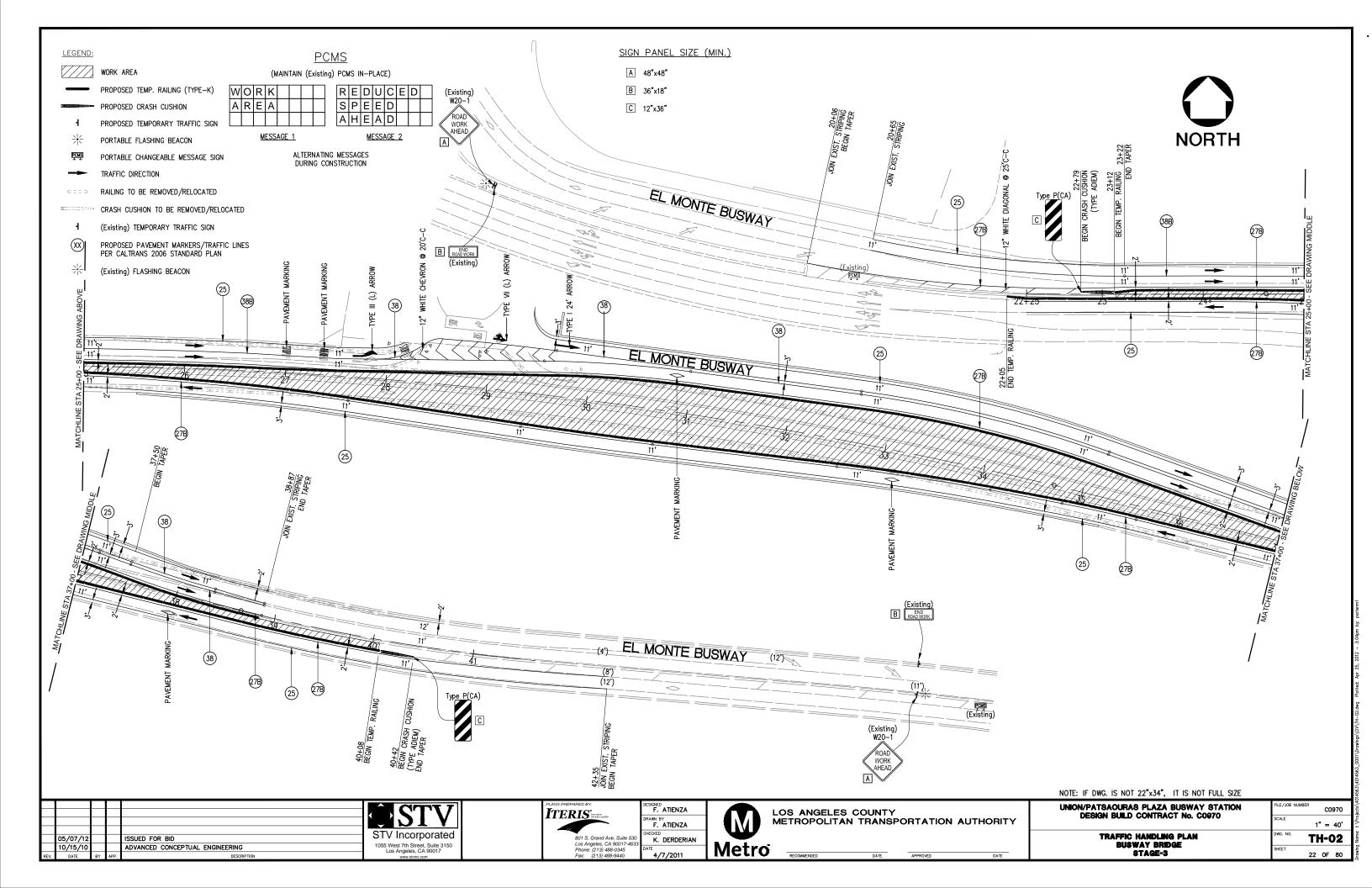


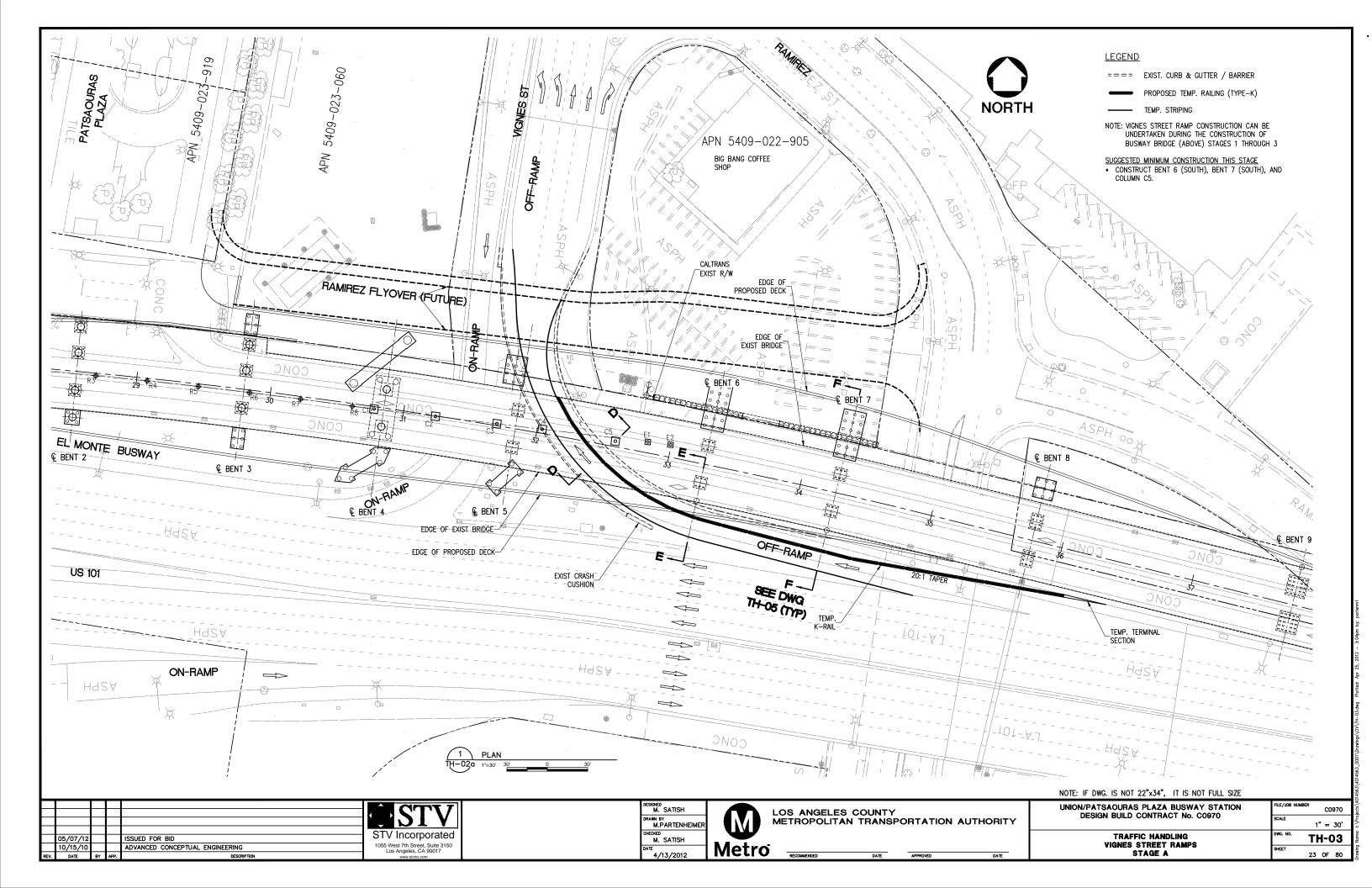


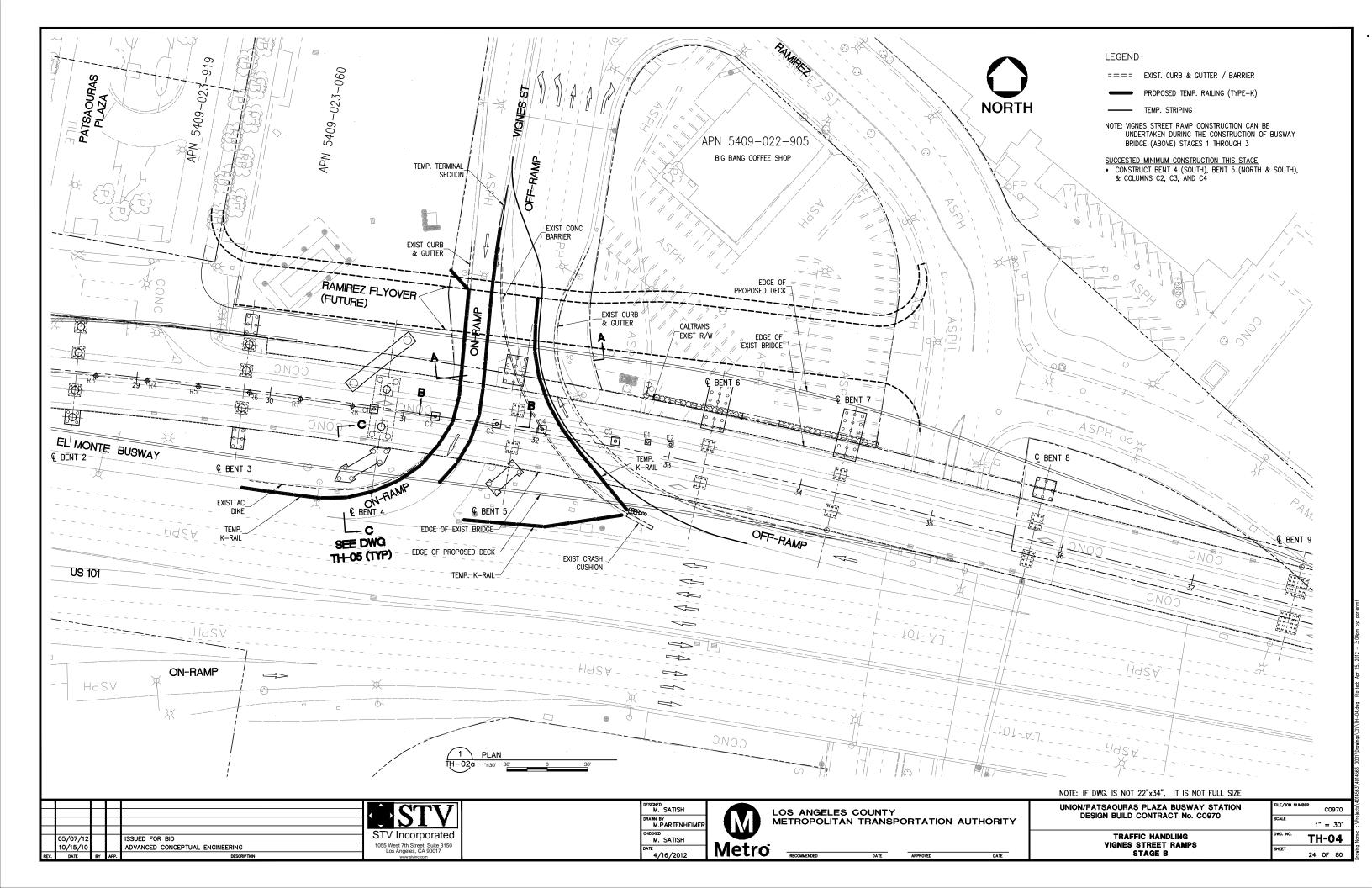


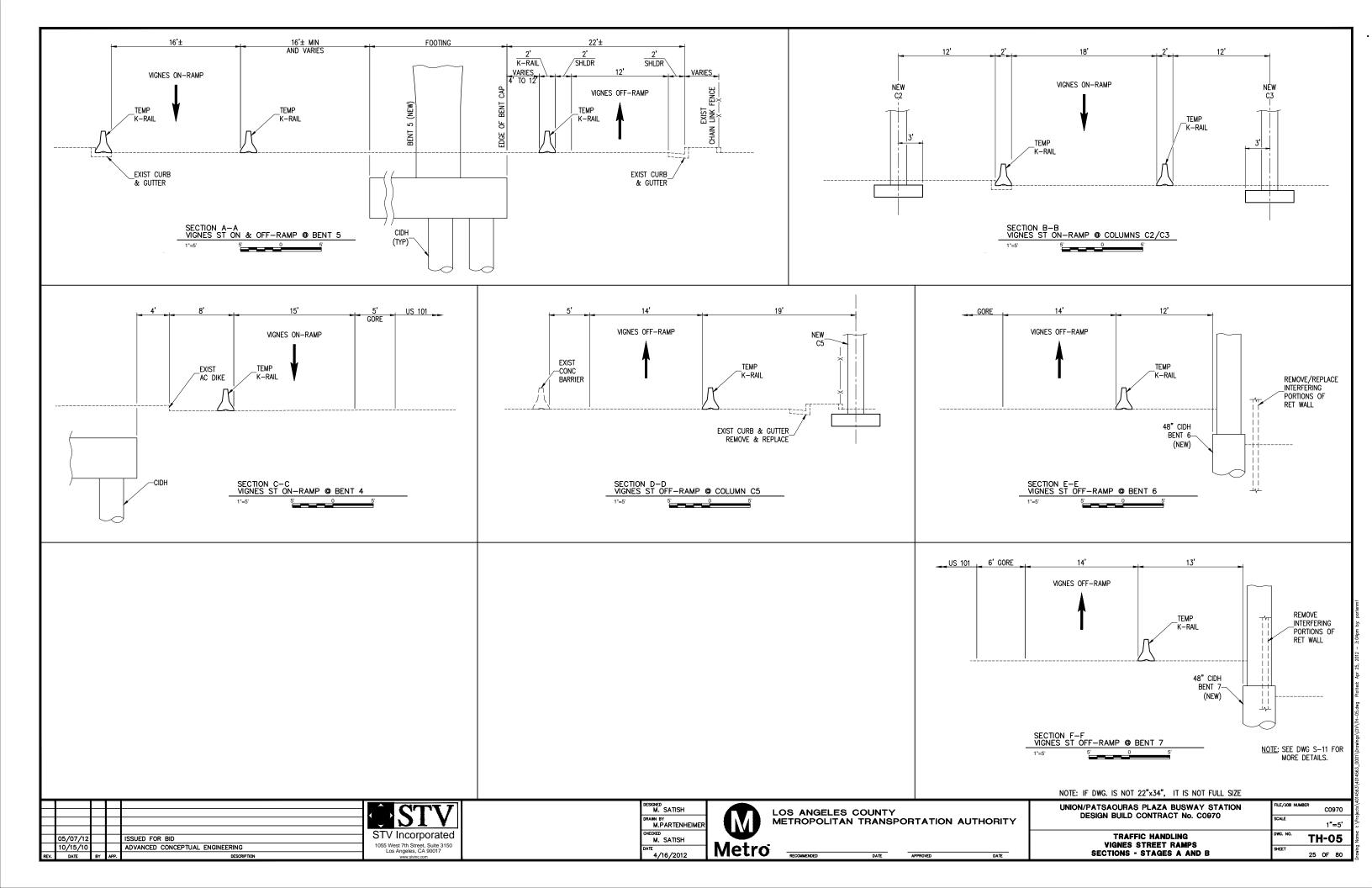


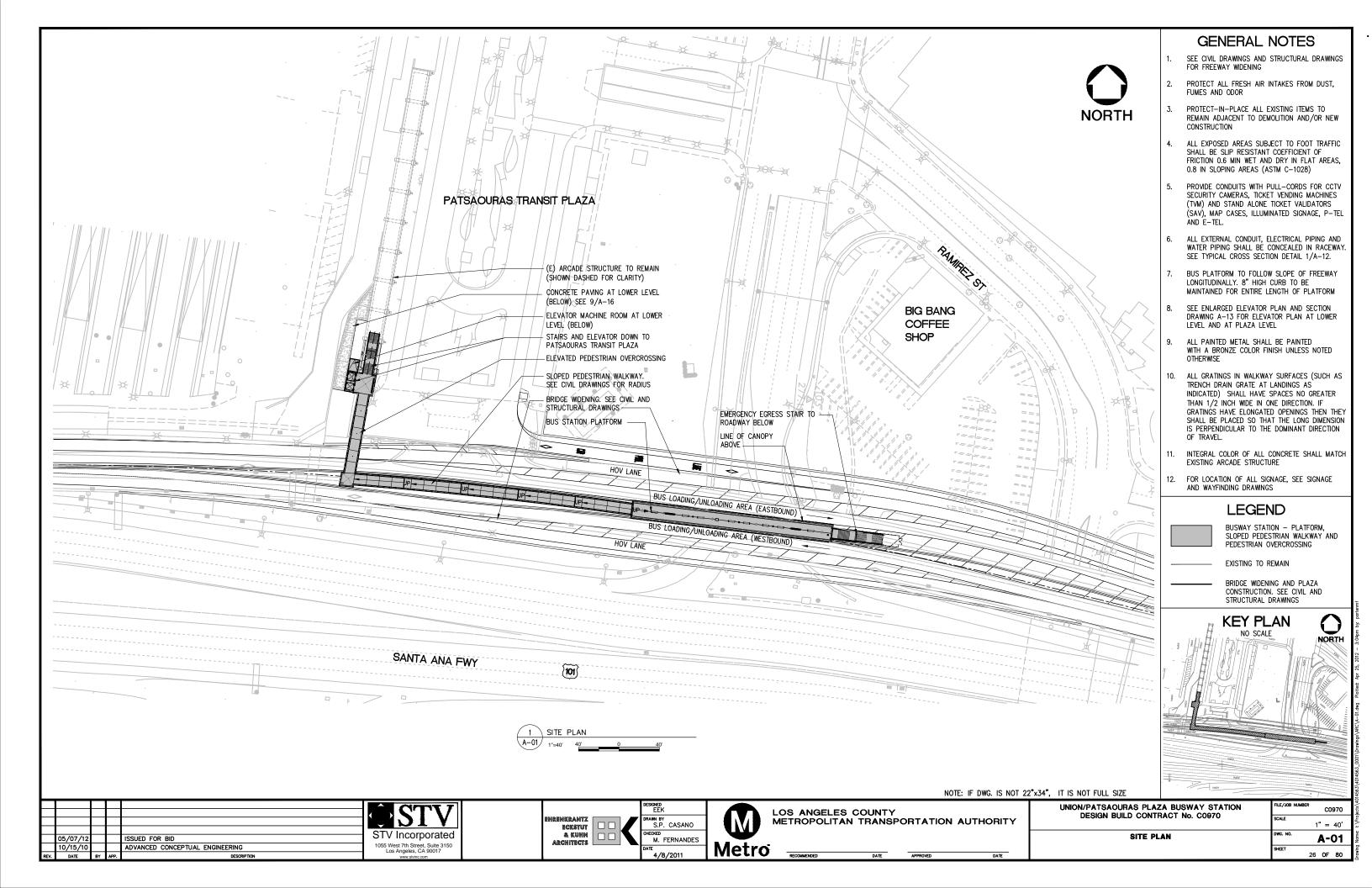


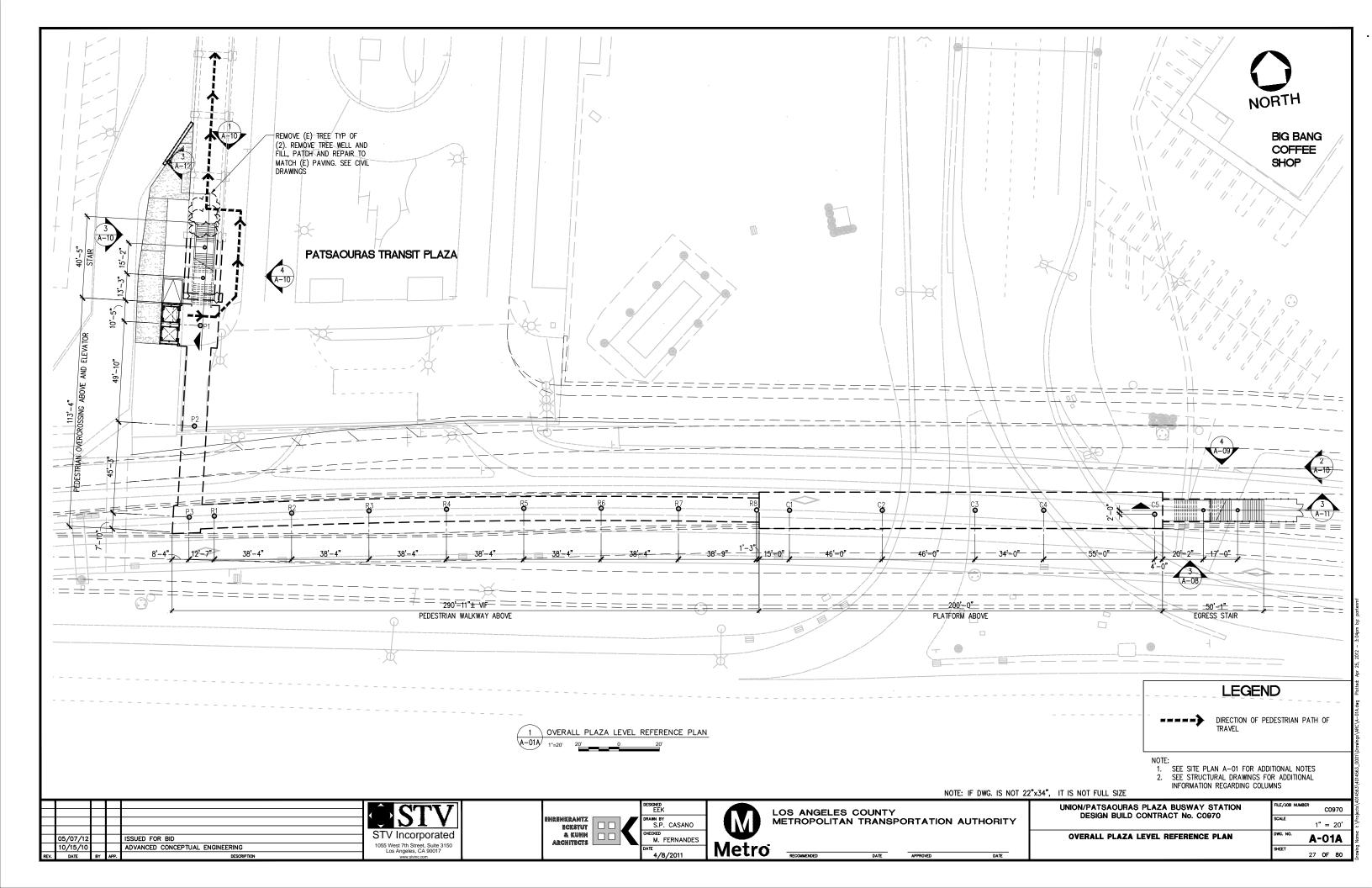


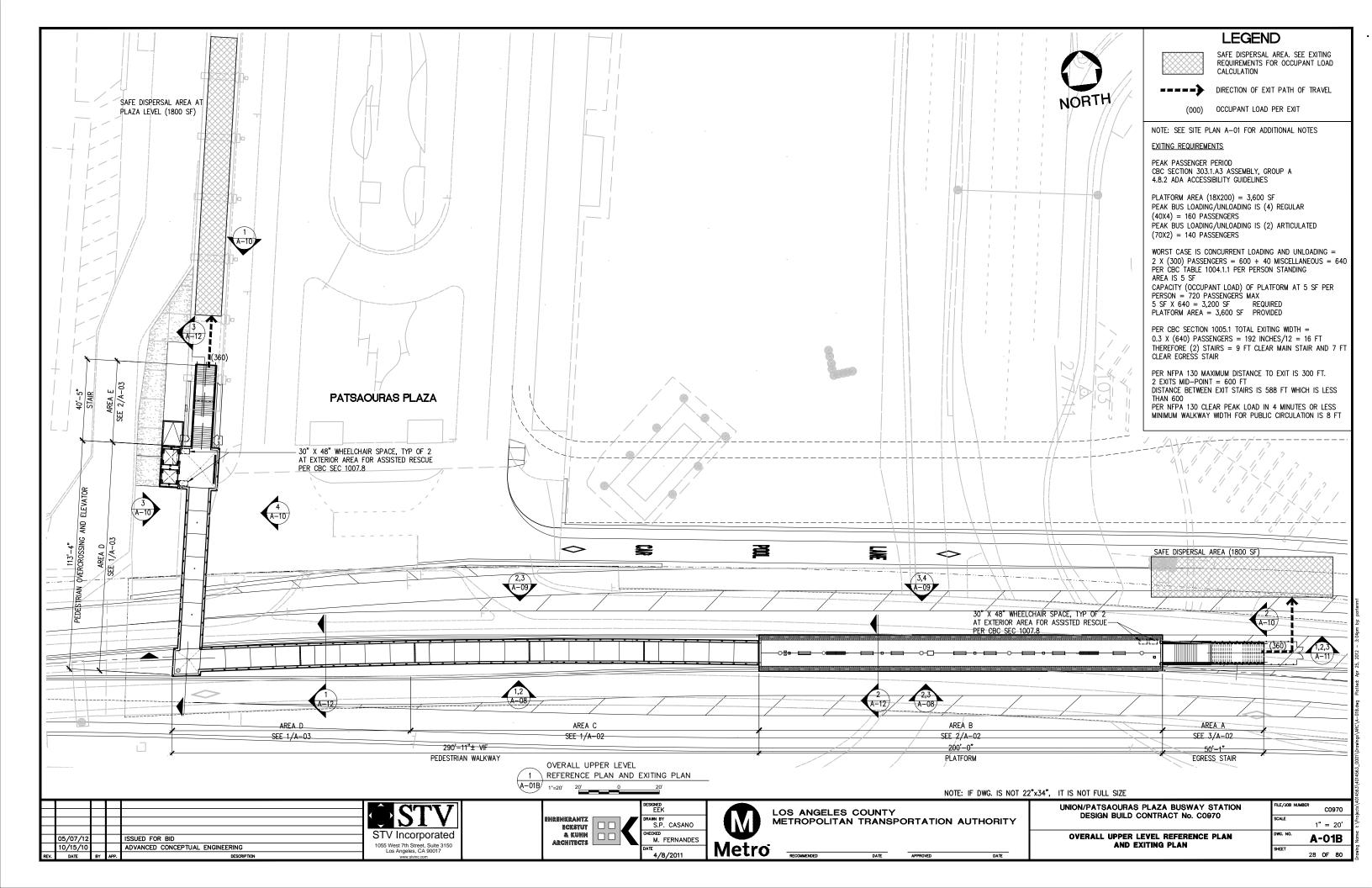


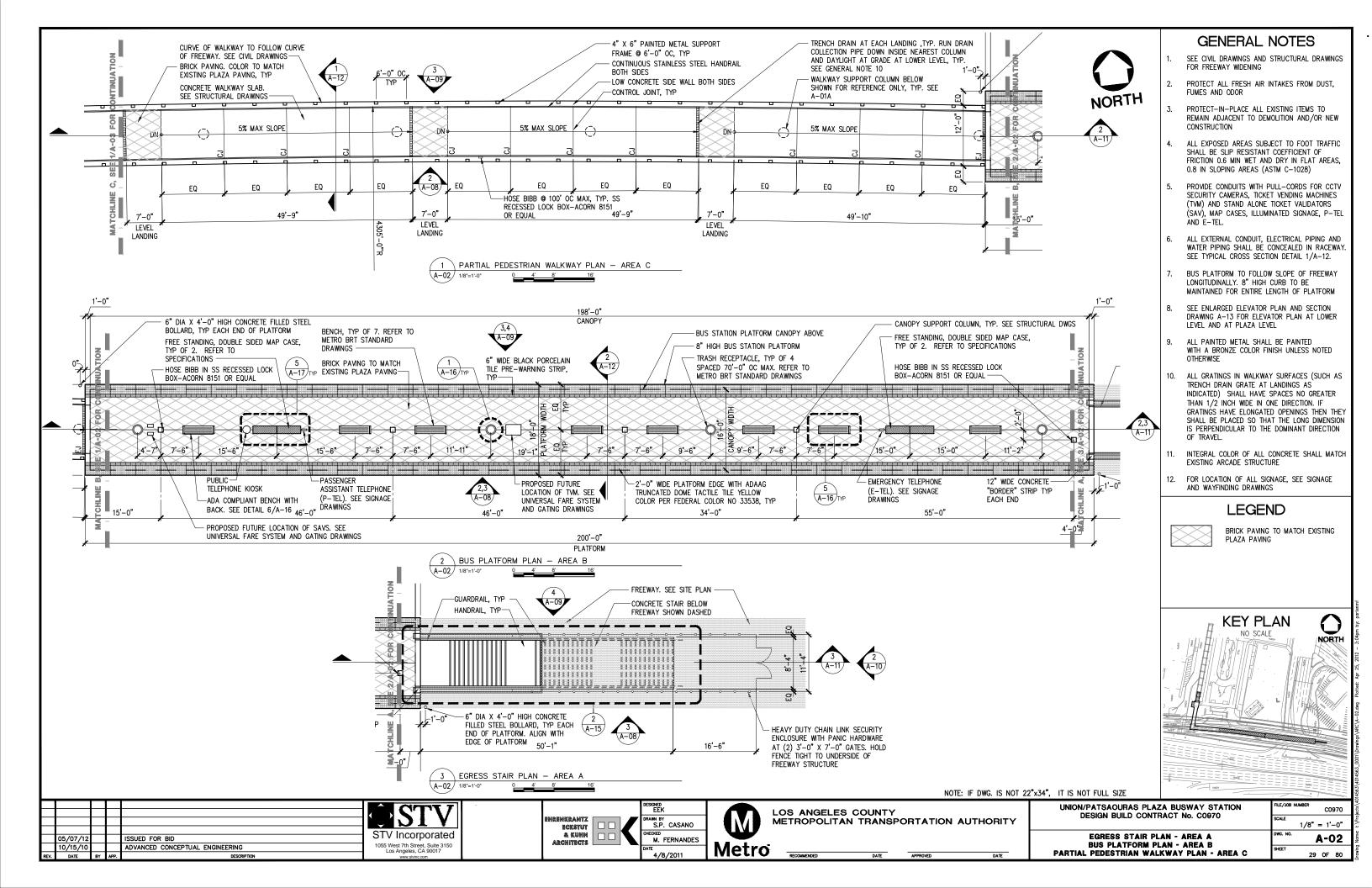


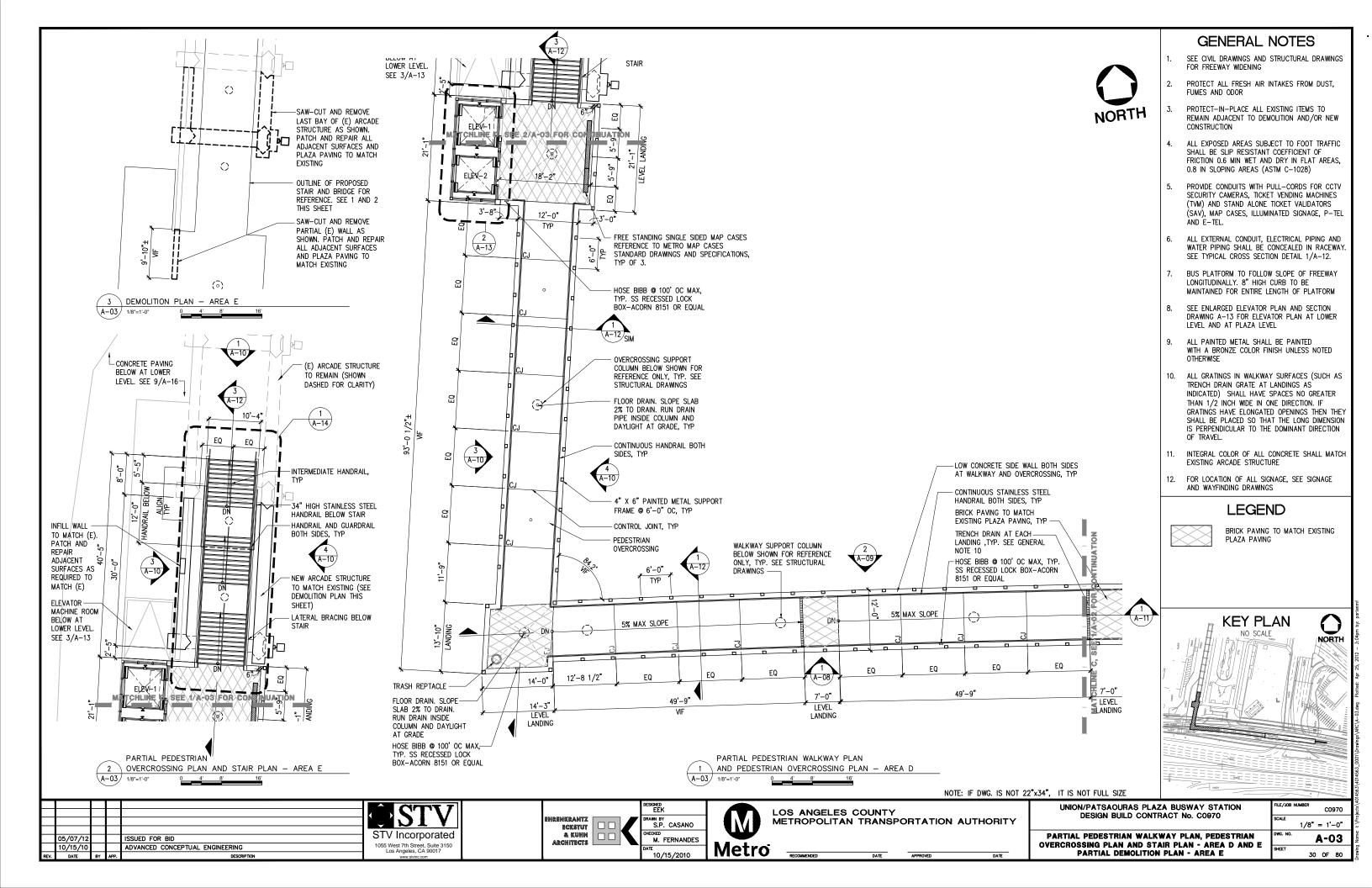


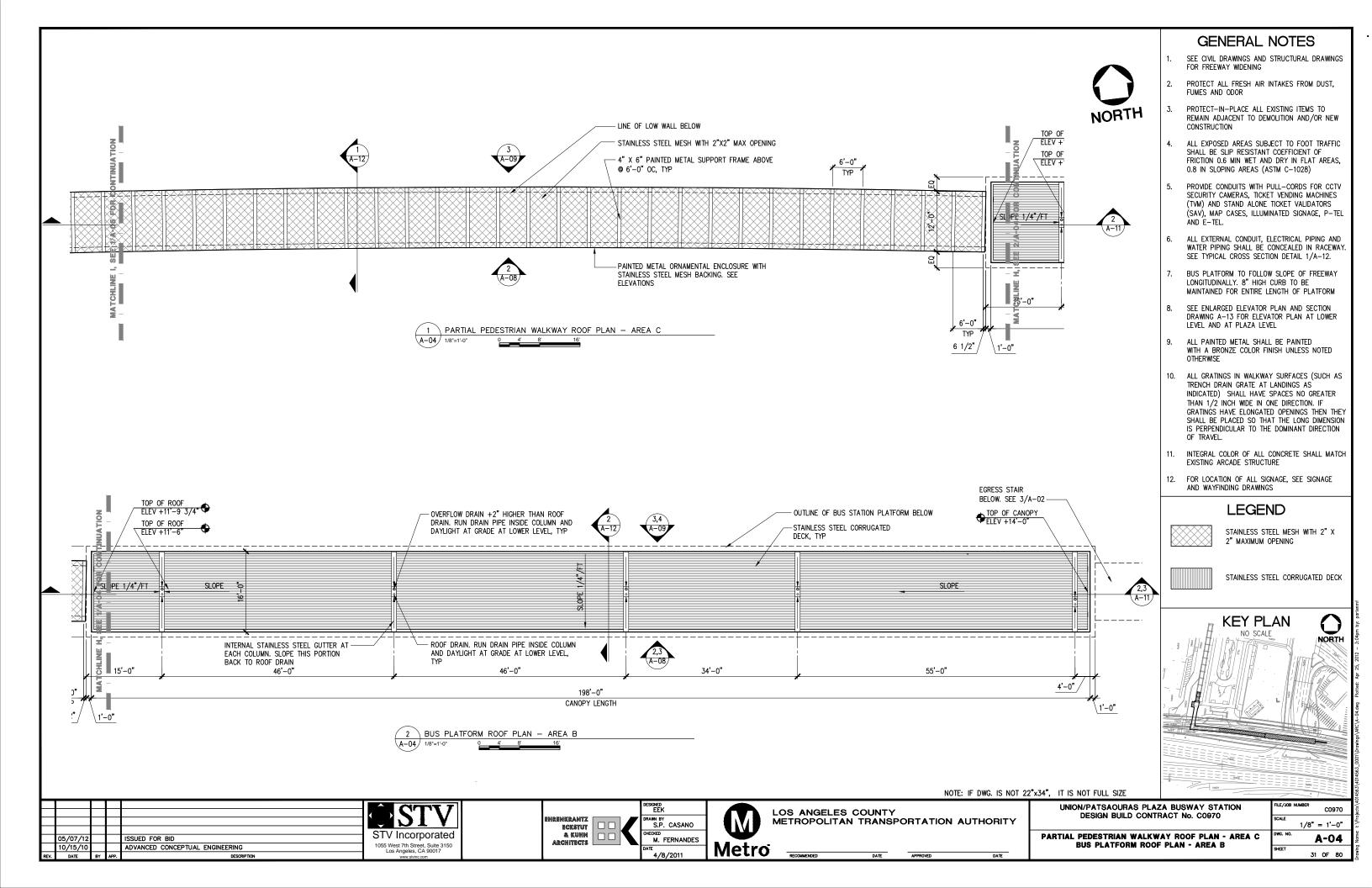


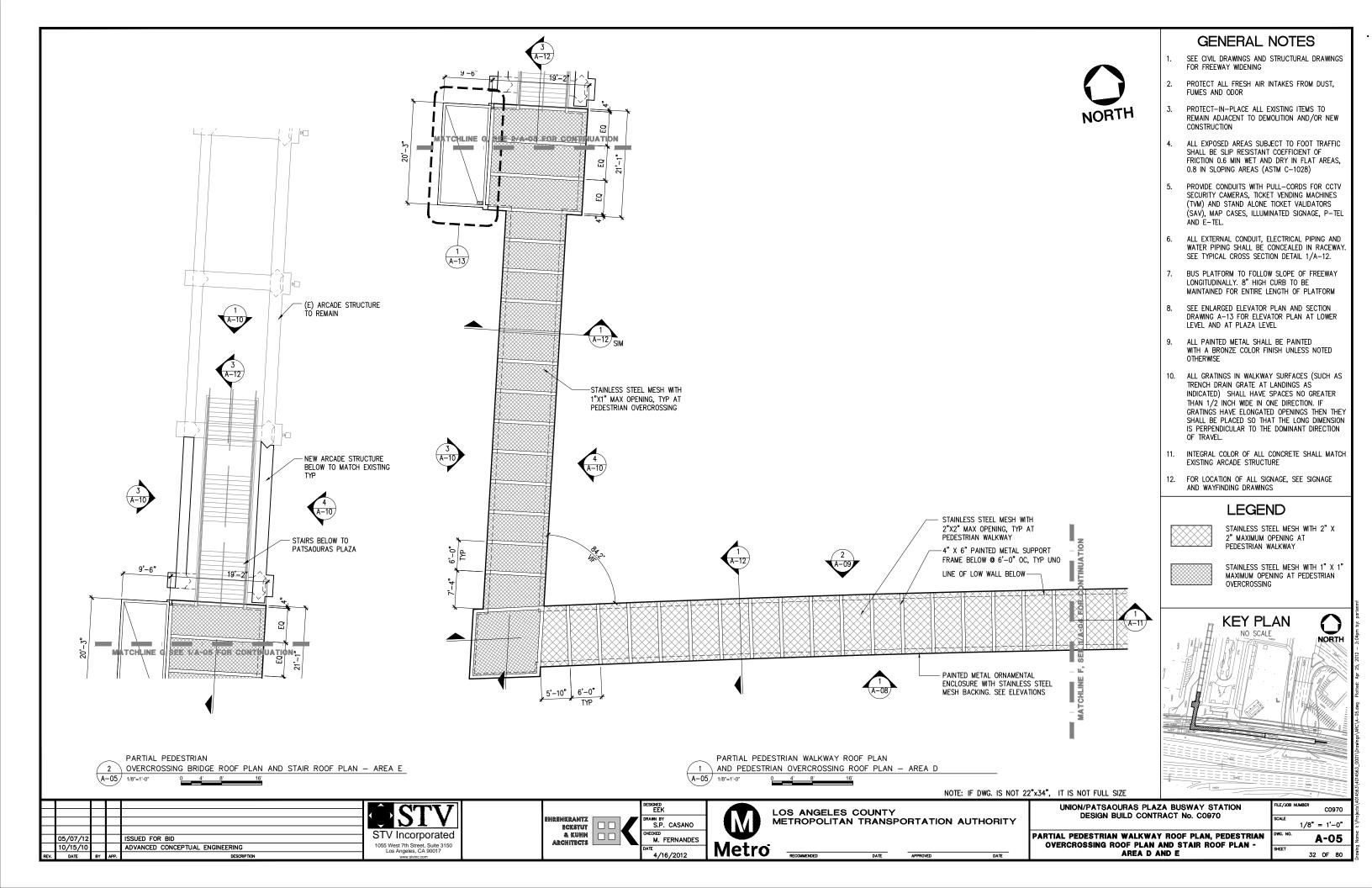


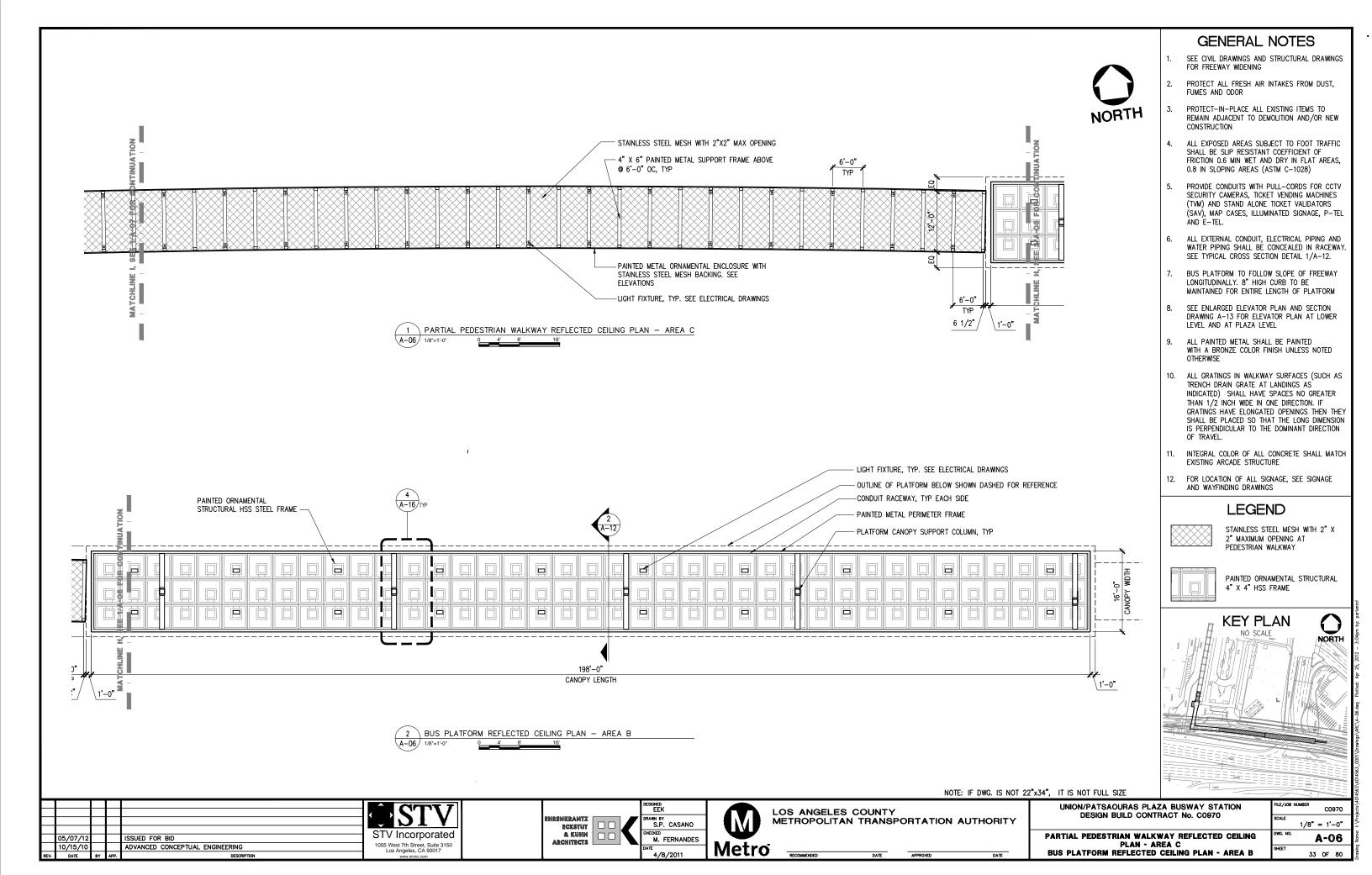


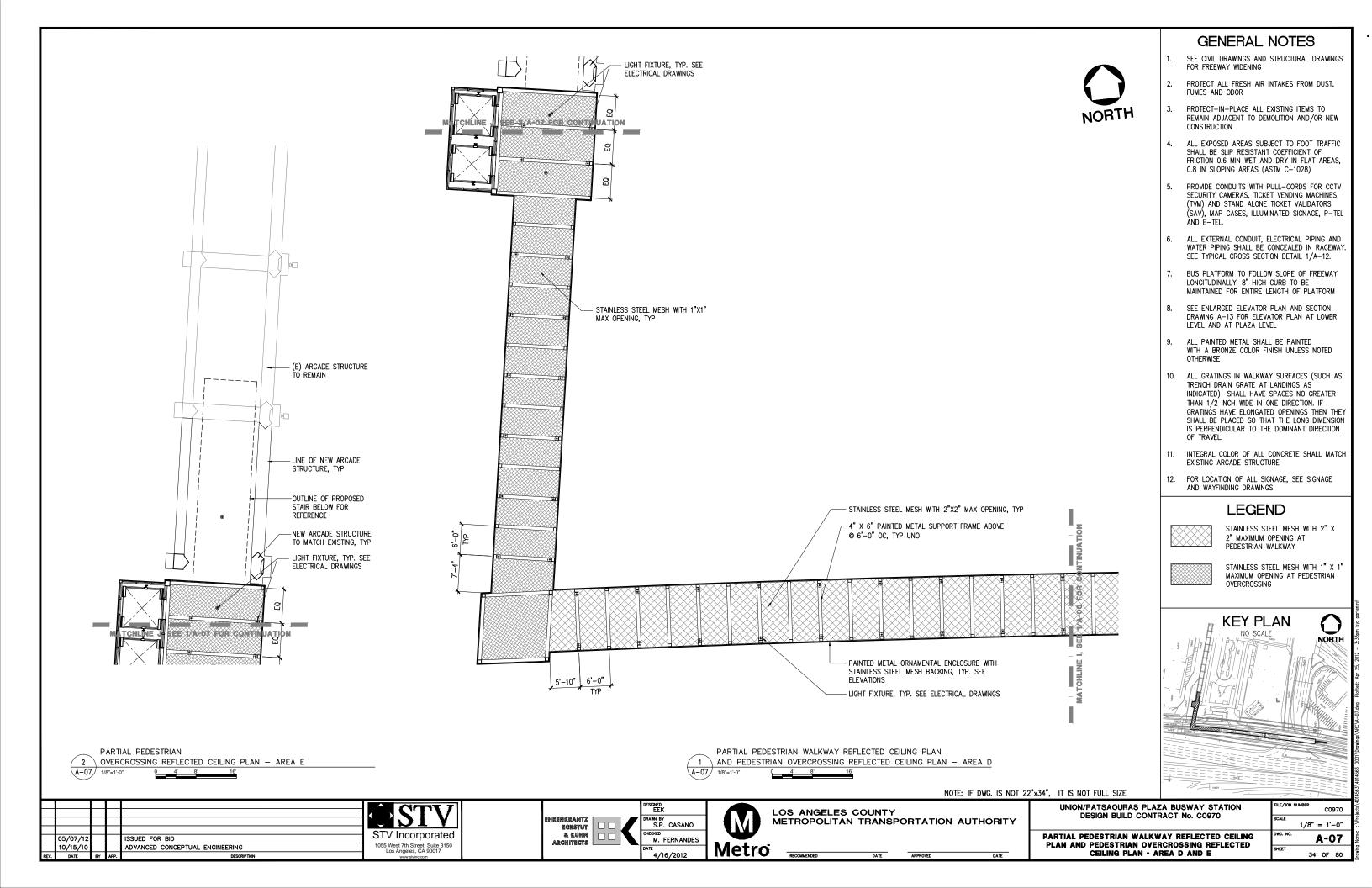


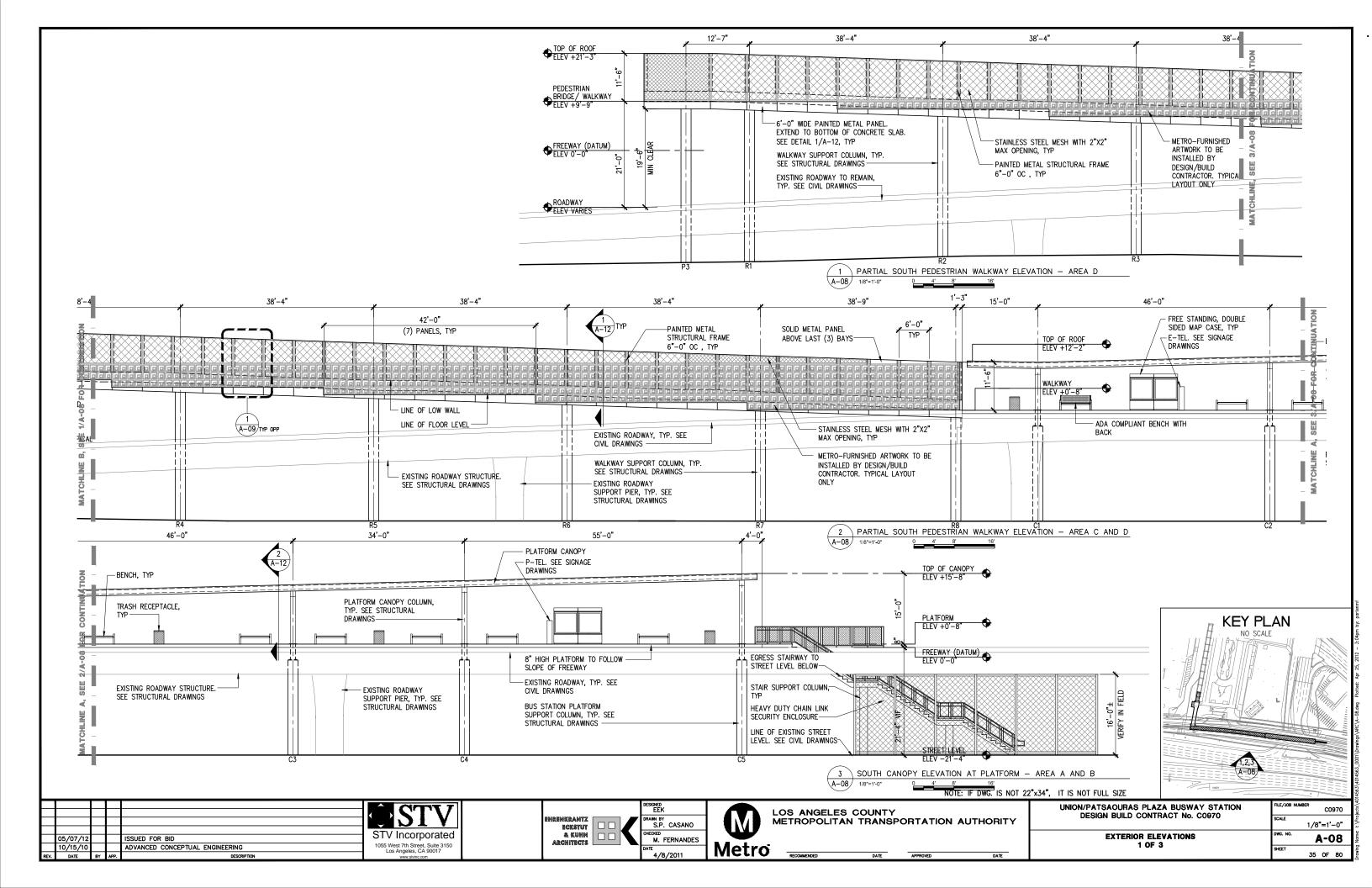


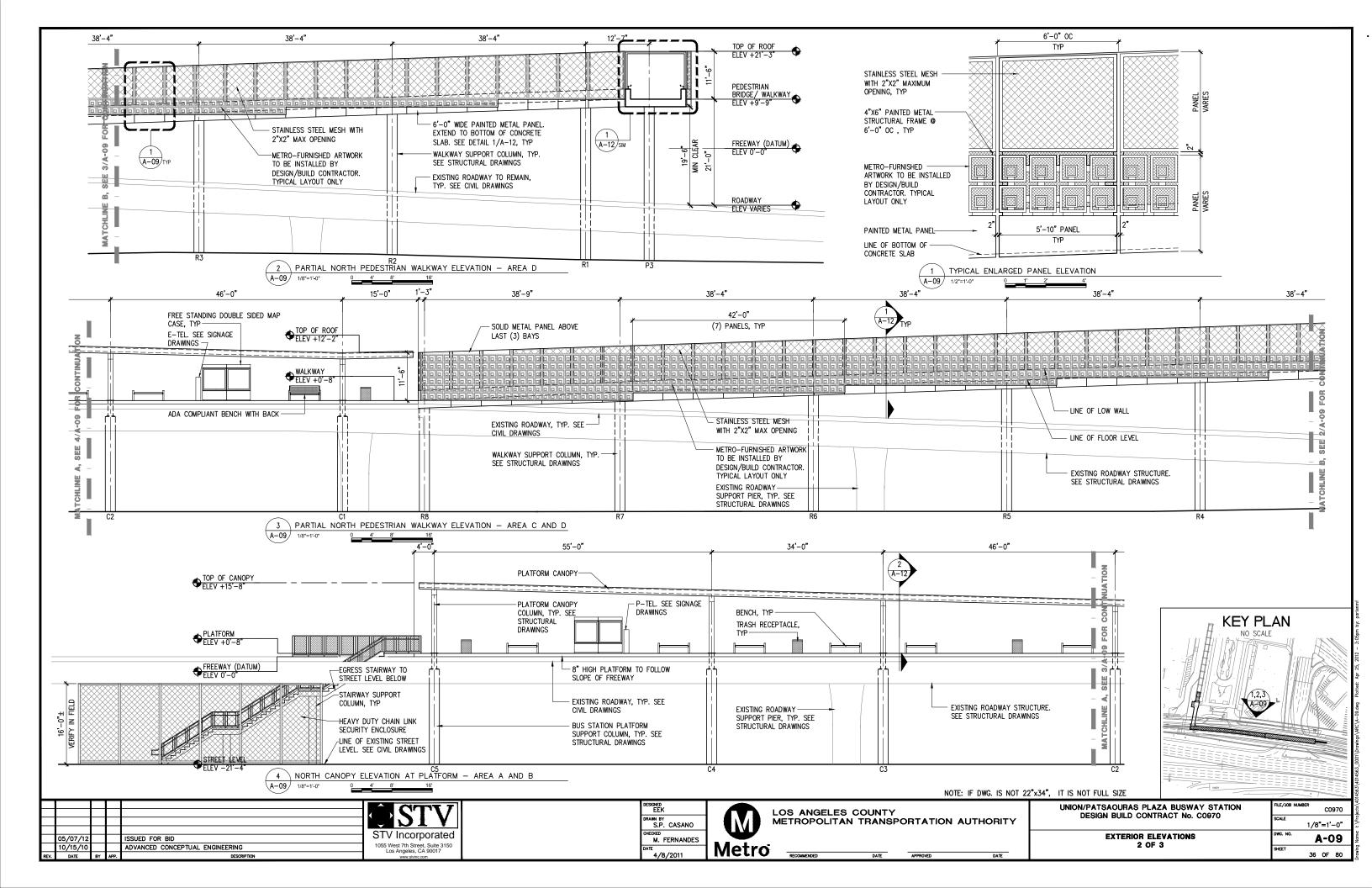


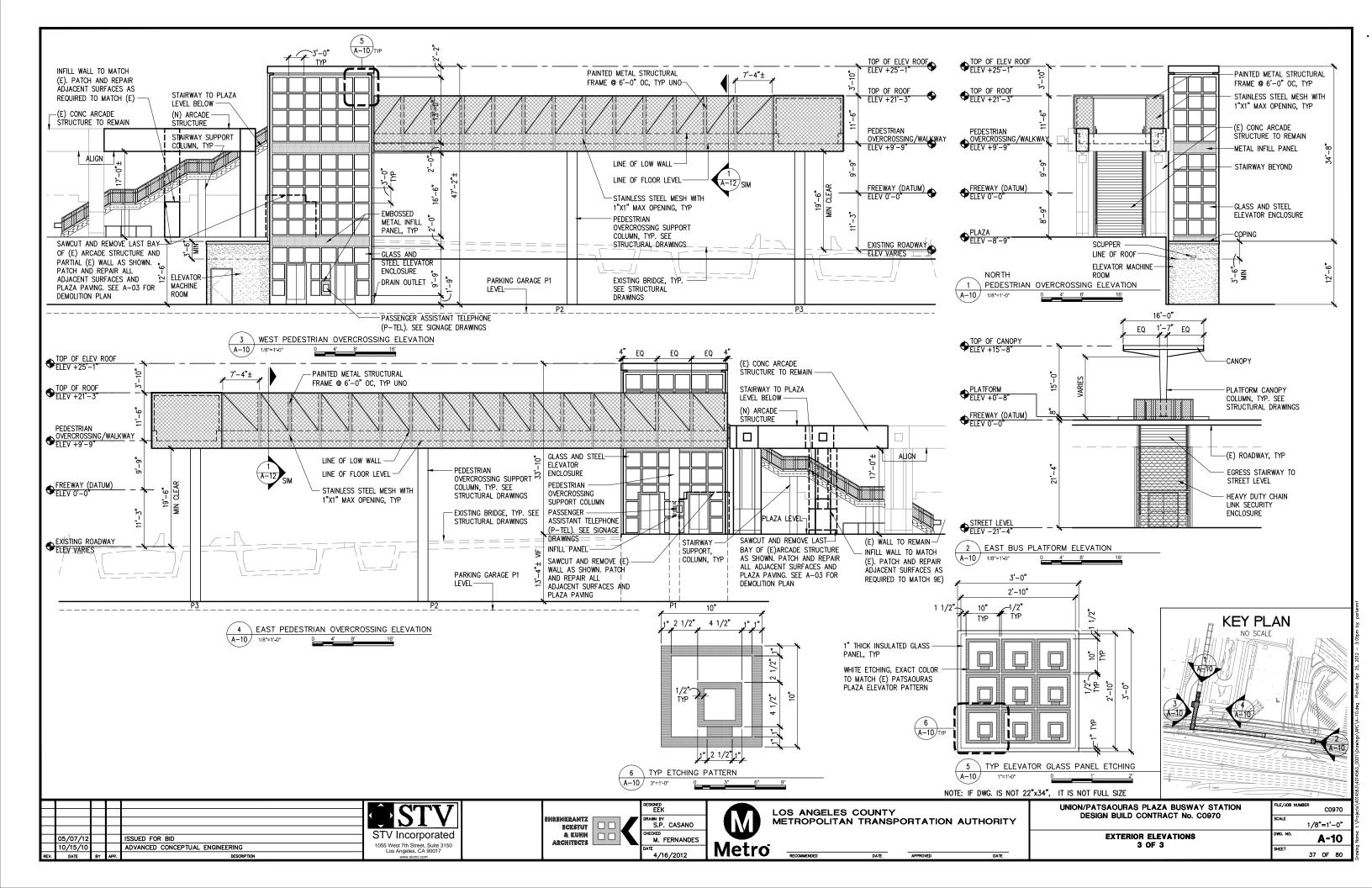


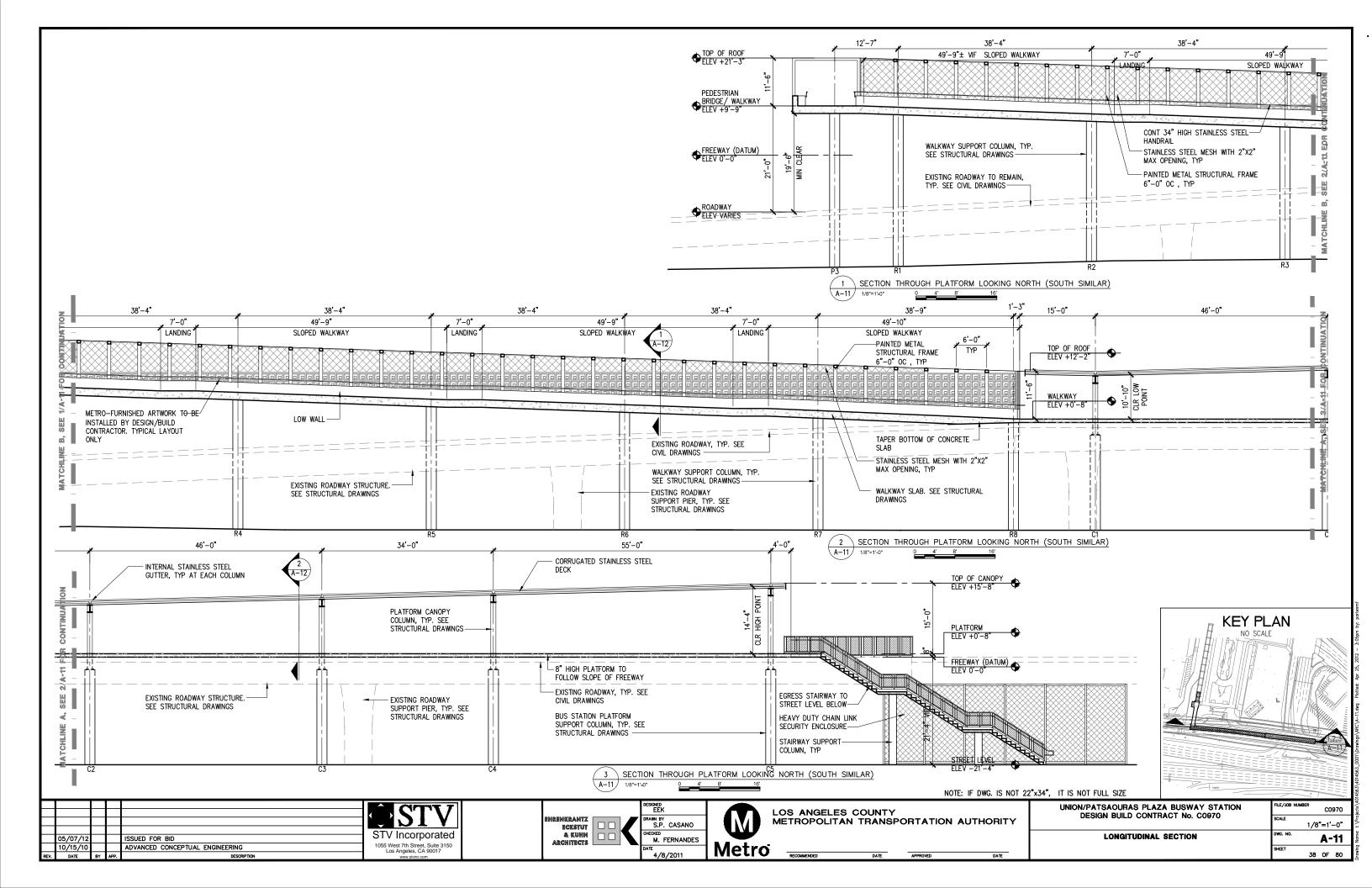


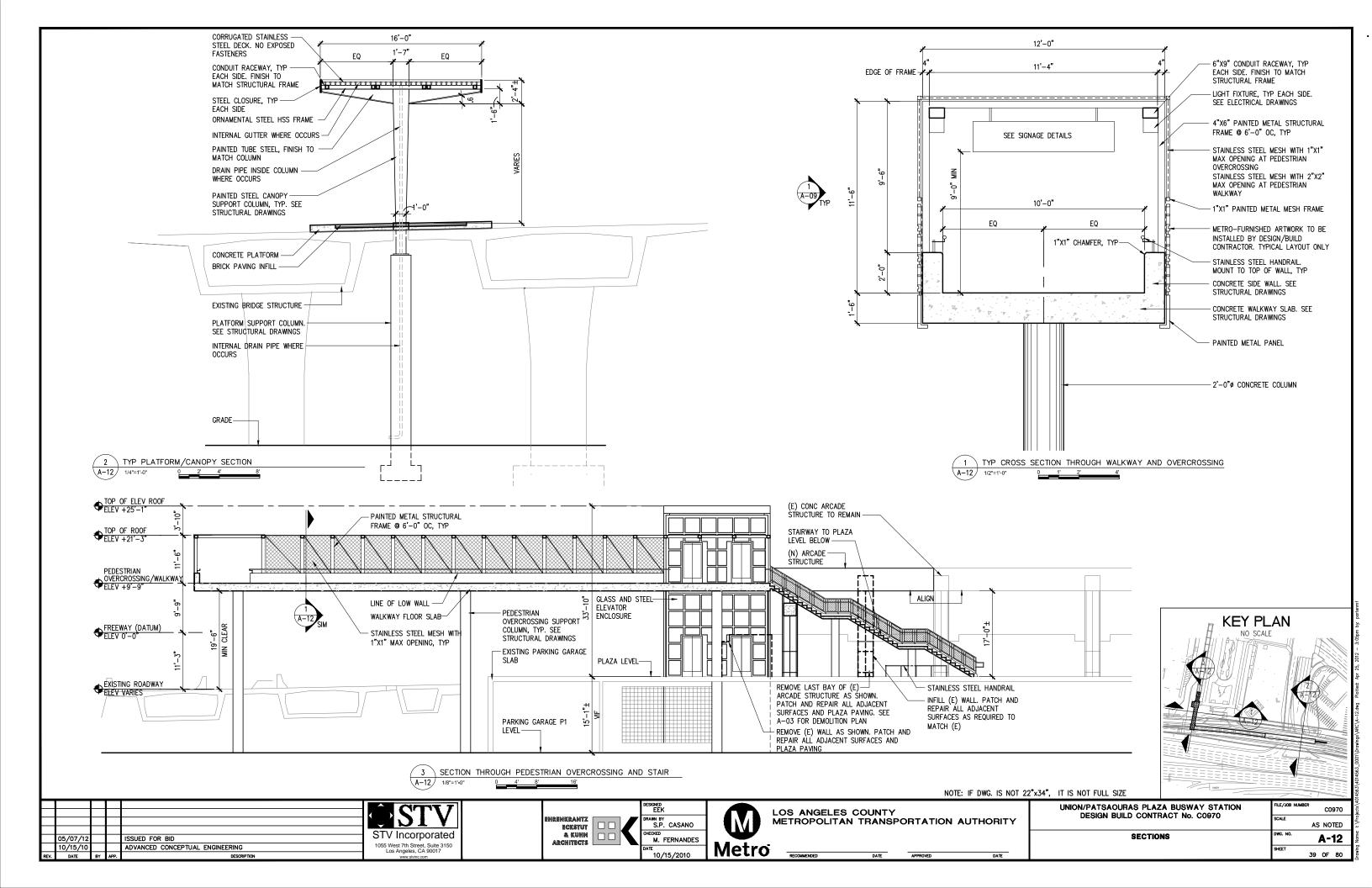


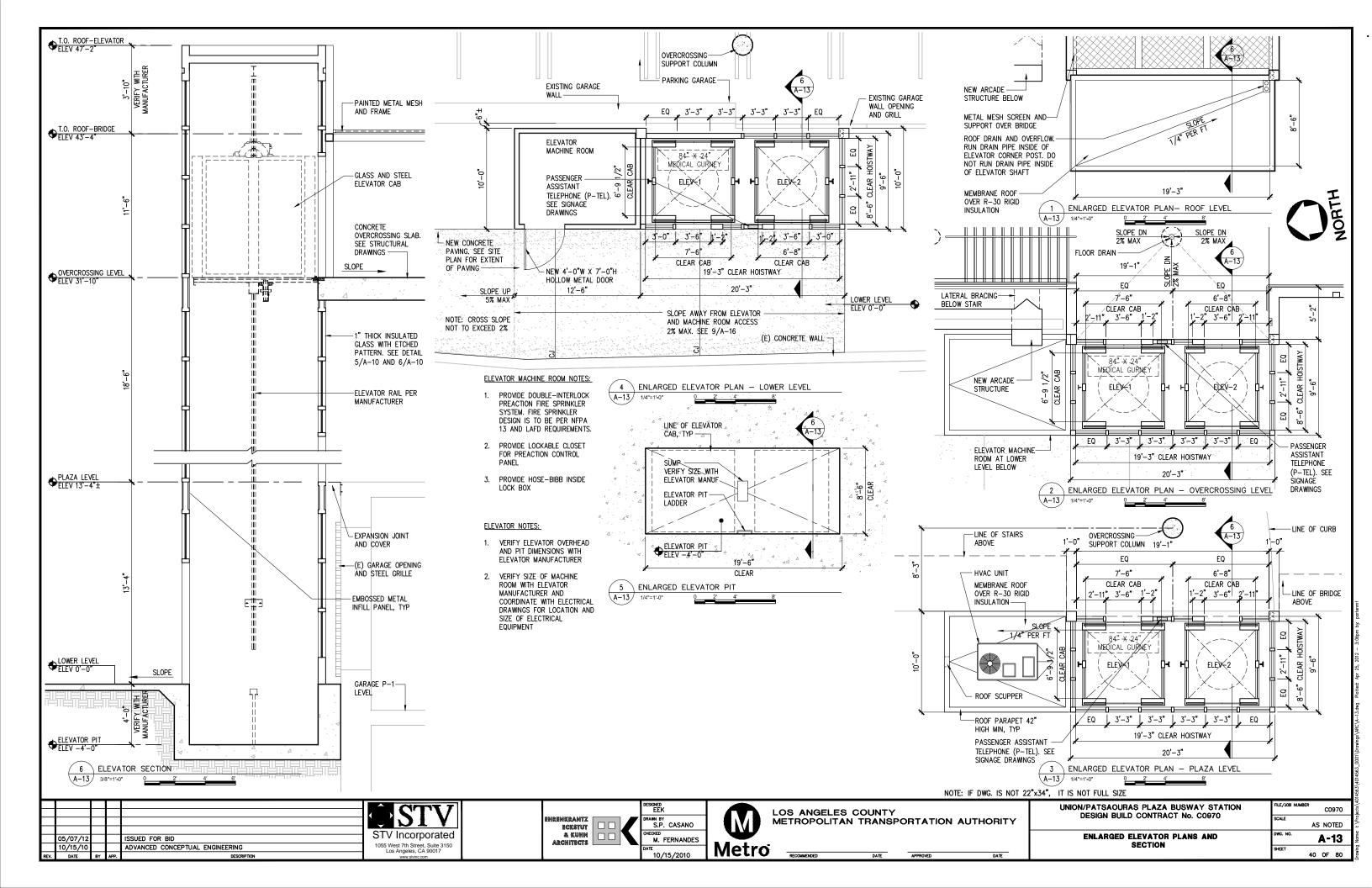


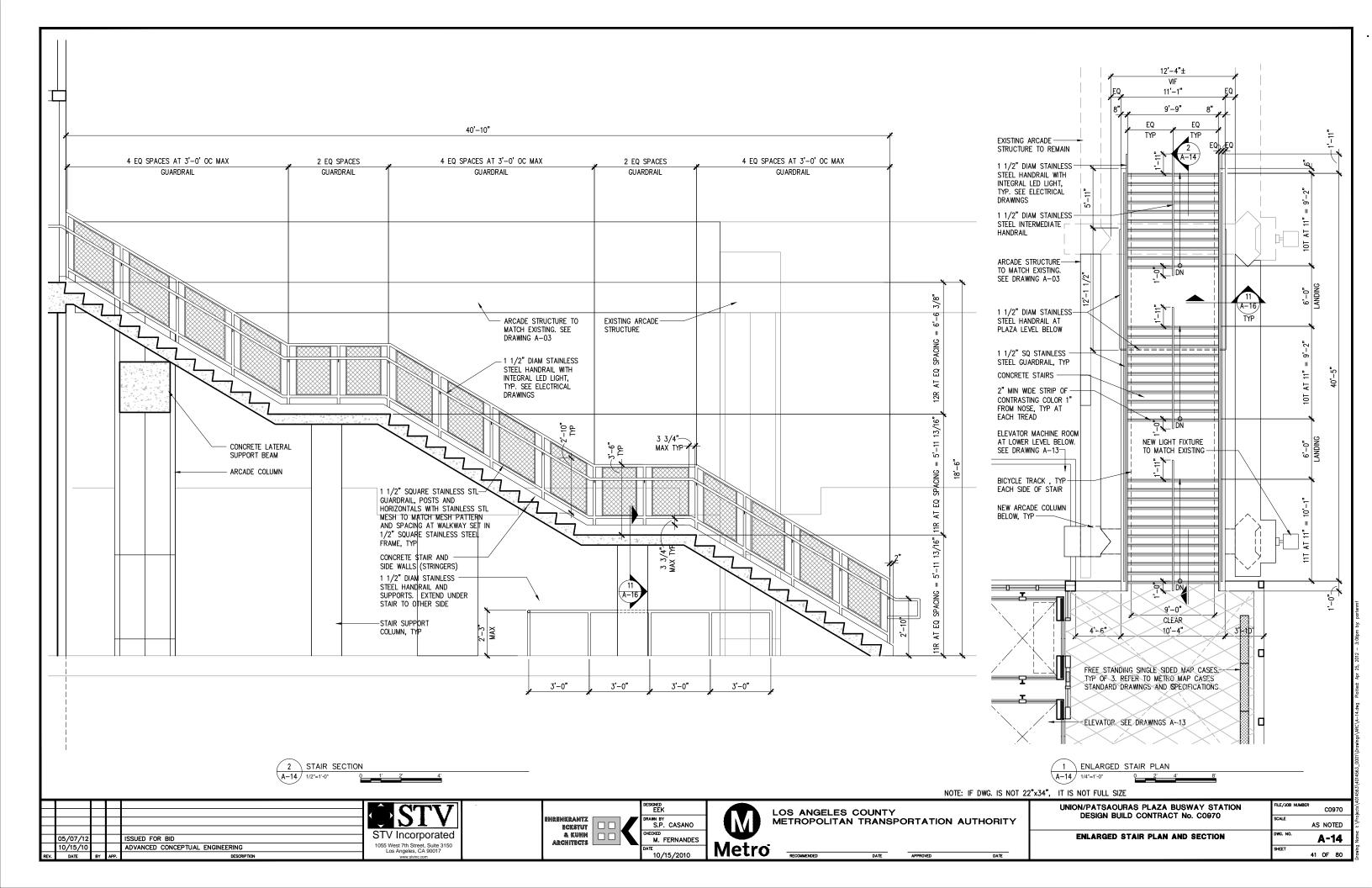


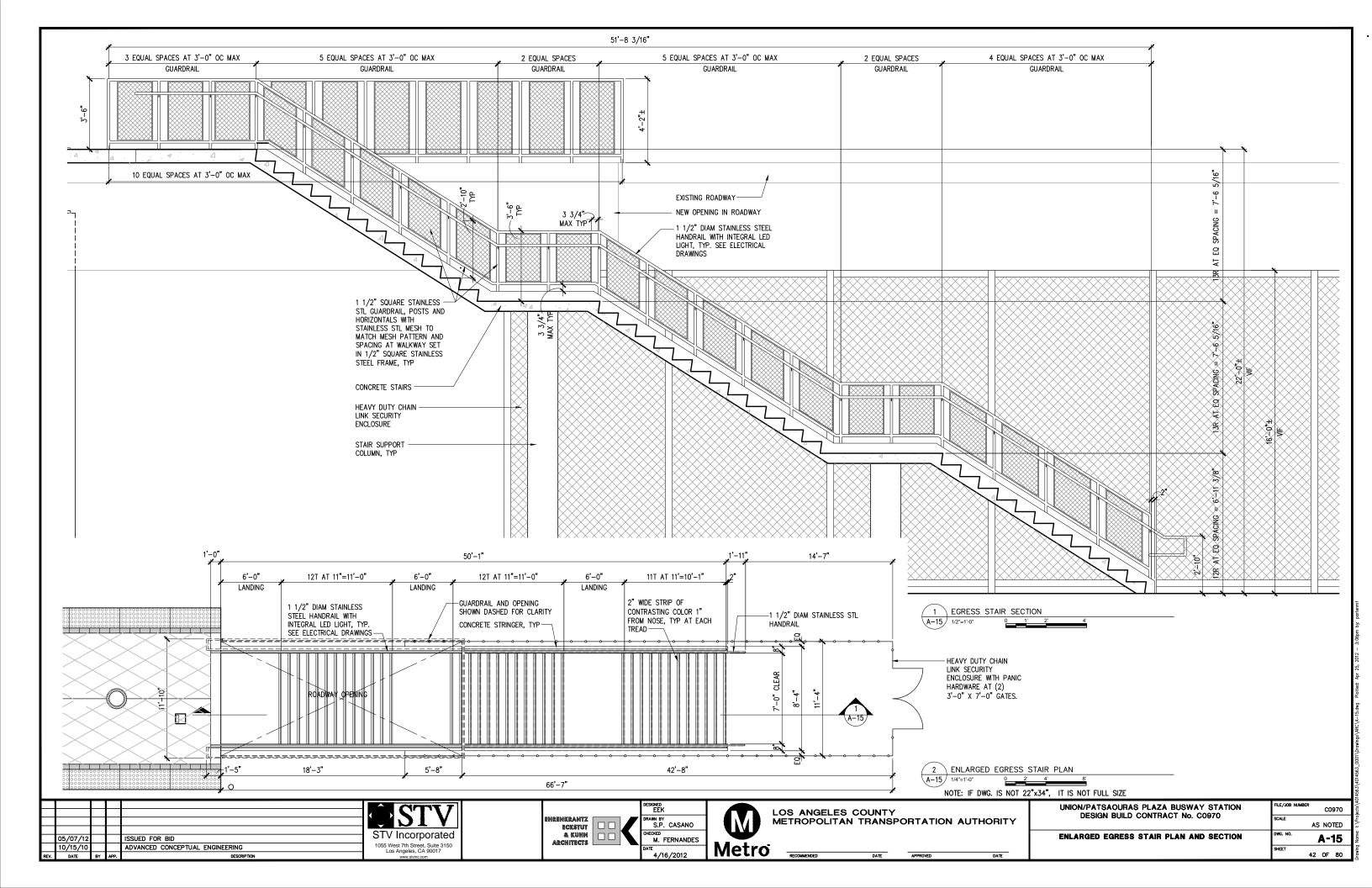


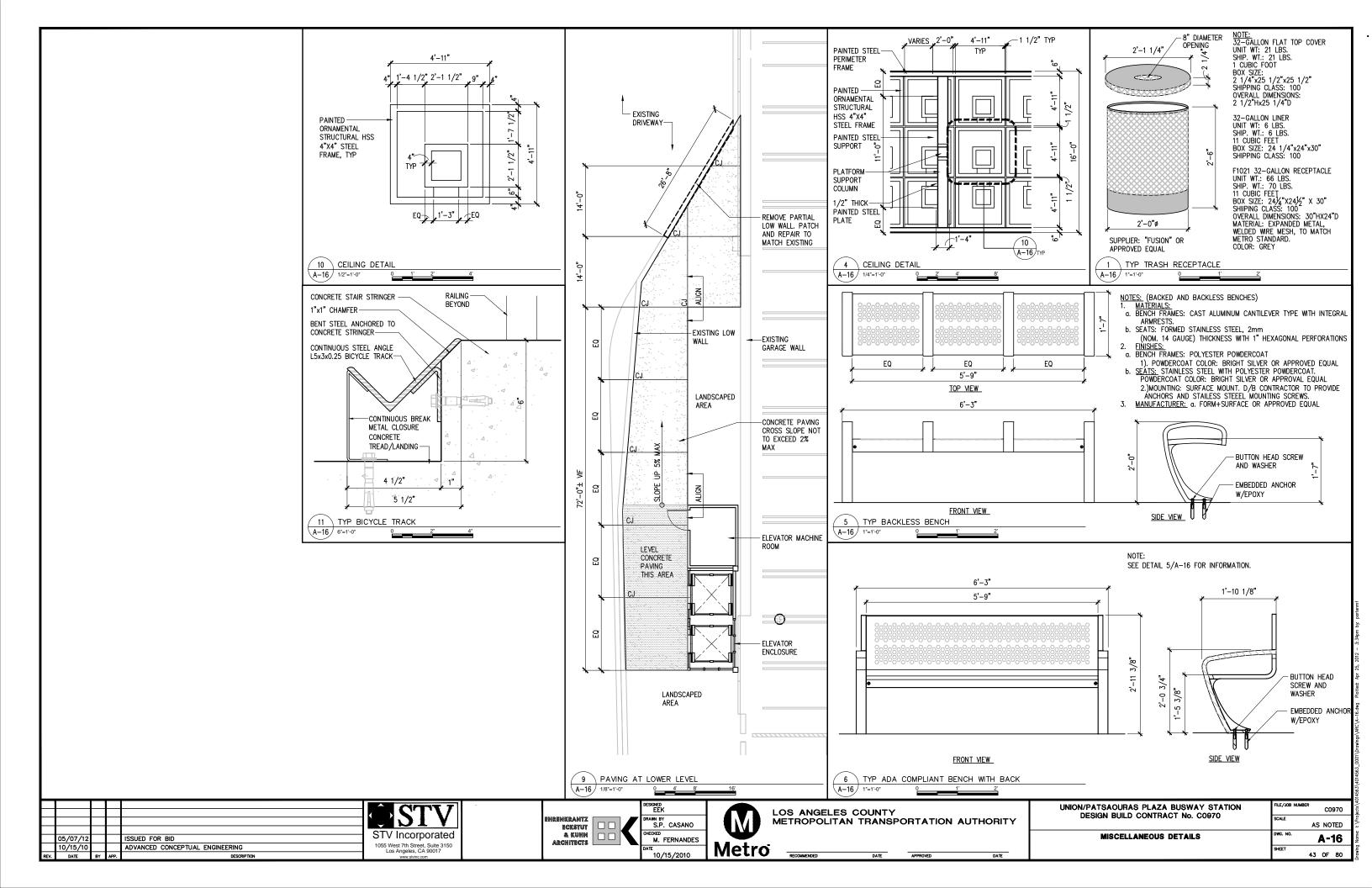


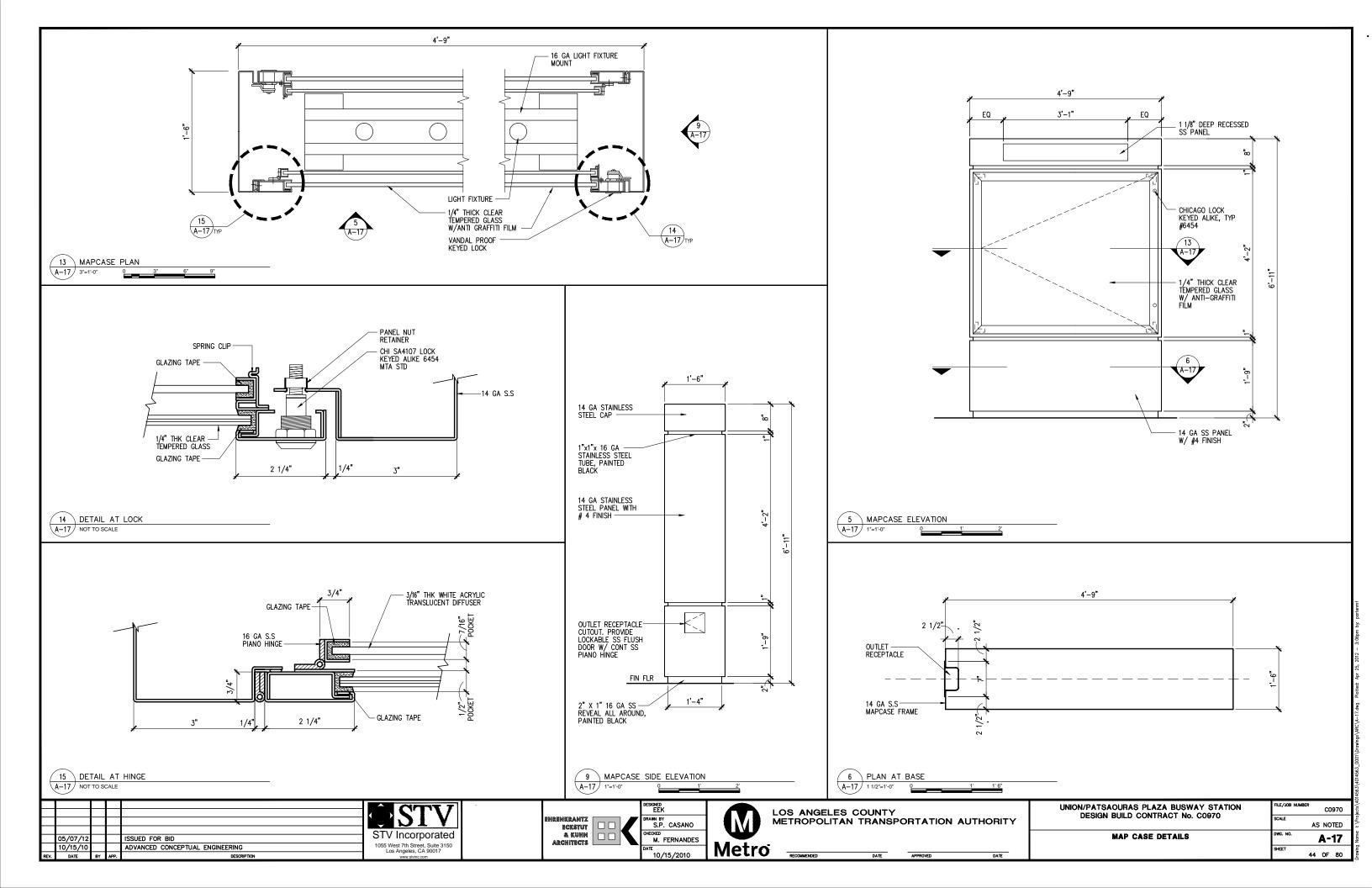


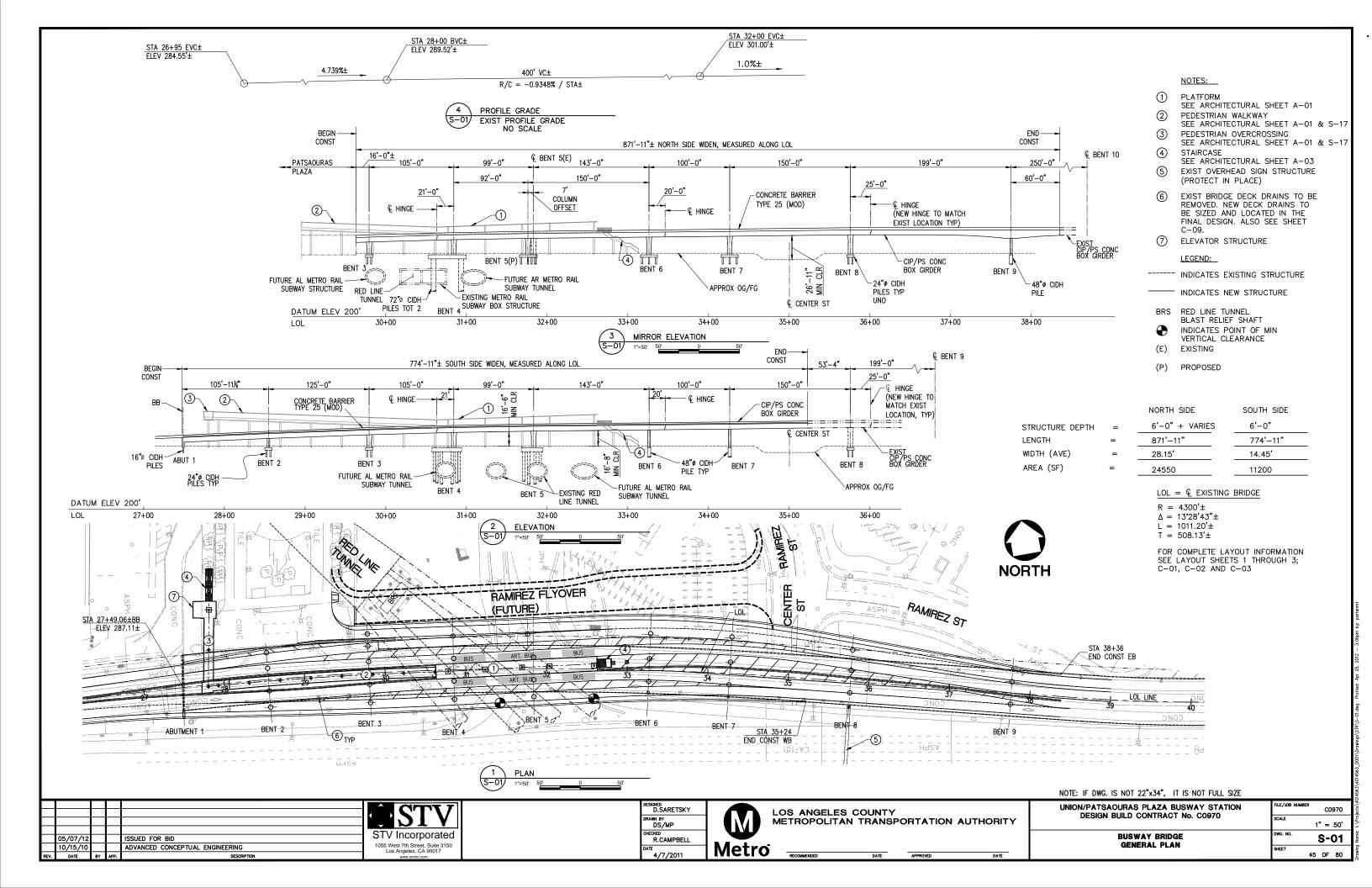












## BRIDGE GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

### DESIGN:

- AASHTO LRFD Bridge Design Specifications, Latest Caltrans
   Approved Edition with California Amendments.
- 2. Metro Design Criteria Section 5.

#### SPECIFICATIONS:

State of California Department of Transportation (Caltrans) Standard Specifications Latest Edition

#### SEISMIC DESIGN:

- Caltrans Seismic Design Criteria Latest Edition.
   Metro Supplemental Seismic Design Criteria for ODE and MDE.

## DEAD LOAD:

Includes 35 psf for future wearing surface.

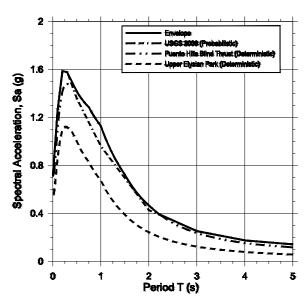
## LIVE LOADING:

HL93 and permit design load.

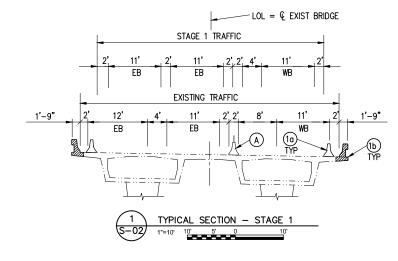
# PRELIMINARY CALTRANS SEISMIC LOADING

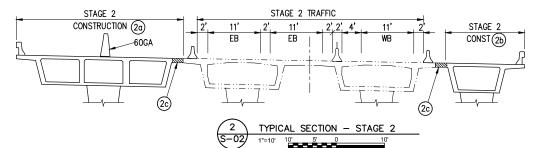
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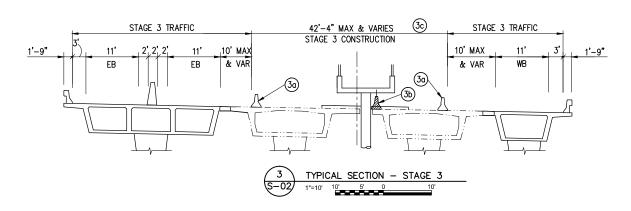
Based on Preliminary Foundation Report dated August 4, 2010 by Diaz Yourman & Associates



Horizontal Acceleration Response Spectrum, 5-percent Damping







INDICATES EXISTING CONCRETE TO BE REMOVED

CLOSURE POUR (CP)

EXIST TYPE 50C BARRIER

### STAGE 1 CONSTRUCTION

- (1a) PLACE TEMP RAILING TYPE K
- (1b) REMOVE EXIST BARRIER AND OVERHANG

## STAGE 2 CONSTRUCTION

- (2a) CONSTRUCT NORTH SIDE WIDEN
- (2b) CONSTRUCT SOUTH SIDE WIDEN
- (2c) PLACE CLOSURE POUR AND TYPE 60GA BARRIER

# STAGE 3 CONSTRUCTION

- (30) REPOSITION TEMP RAILING TYPE K
- (3b) DEMO EXIST TYPE 50 BARRIER
- (3c) CONSTUCT MEDIAN BUS PLATFORM & PED RAMP

05/07/12         ISSUED FOR BID         STV Incorporated           10/15/10         ADVANCED CONCEPTUAL ENGINEERING         1055 West 7th Street, Suite 3150 Los Angeles, CA 90017						<b>STV</b>
10/15/10         ADVANCED CONCEPTUAL ENGINEERING         1055 West 7th Street, Suite 3150 Los Angeles, CA 90017		05 (07 (40			LIBOUED FOR DID	STV Incorporated
Los Angeles, CA 90017						1055 West 7th Street, Suite 3150
REV. DATE BY APP. DESCRIPTION www.stvinc.com	REV.		BY	APP.		

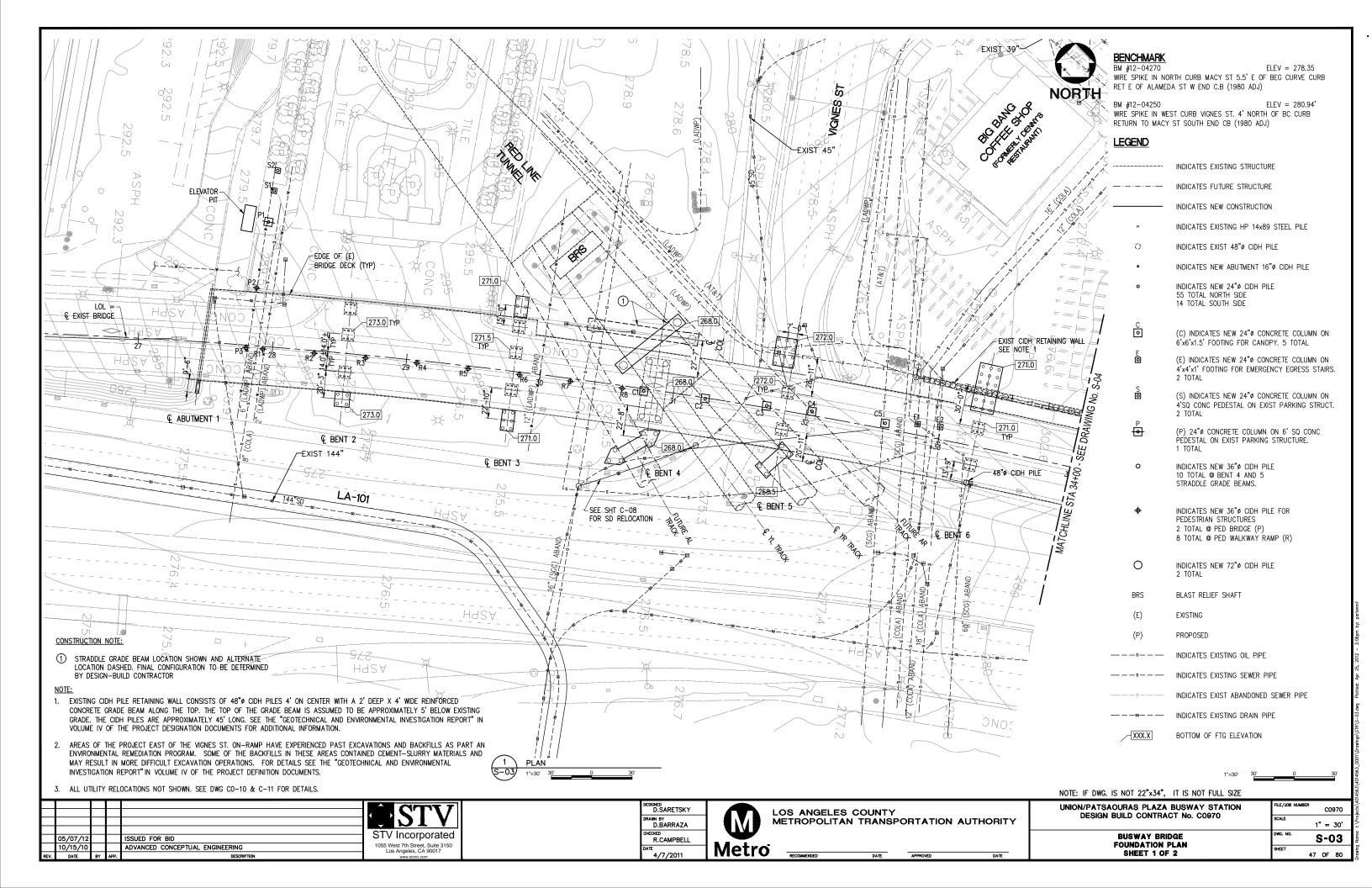
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CHECKED R.CAMPBELL
DATE 4/7/2011

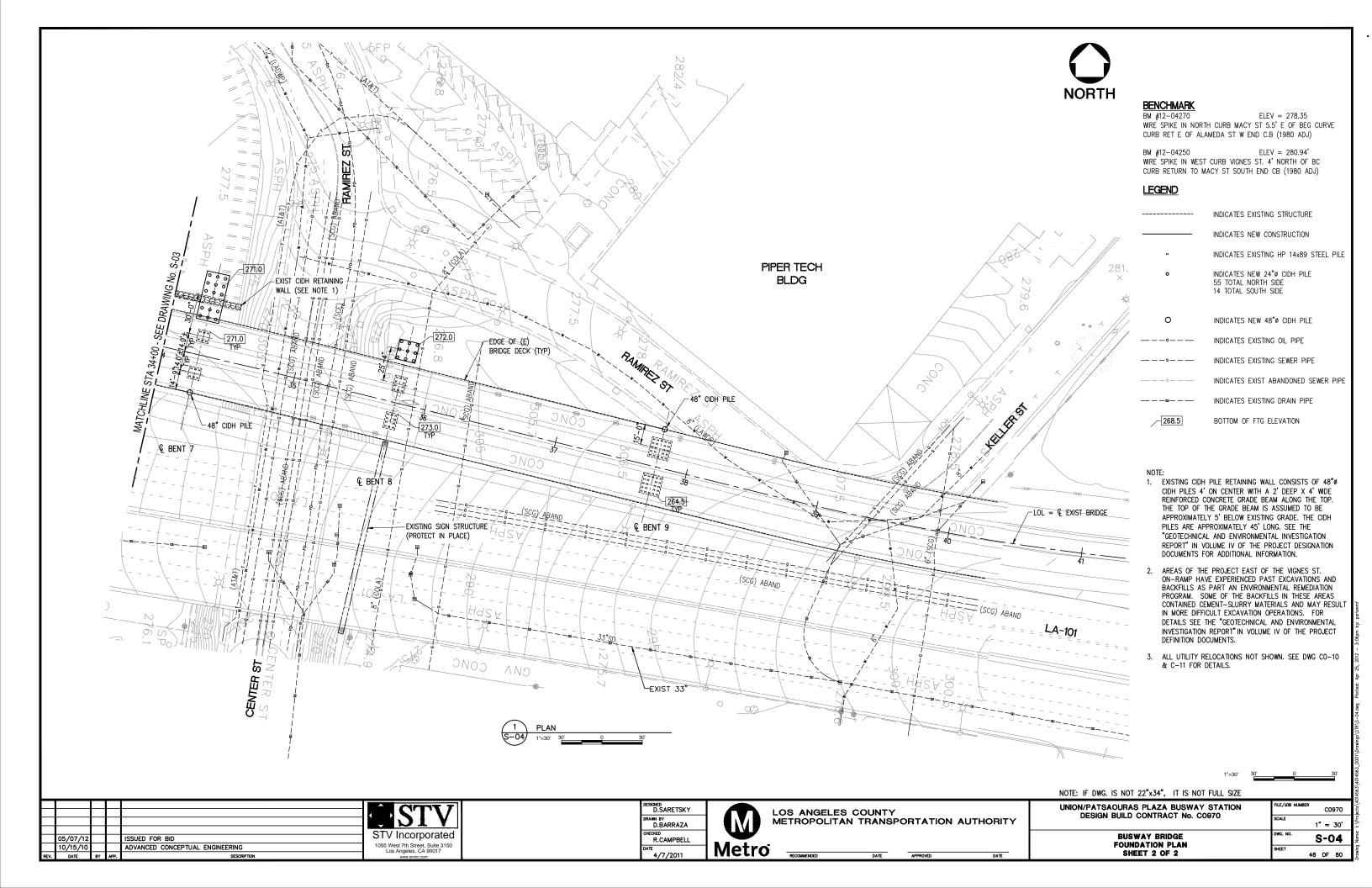
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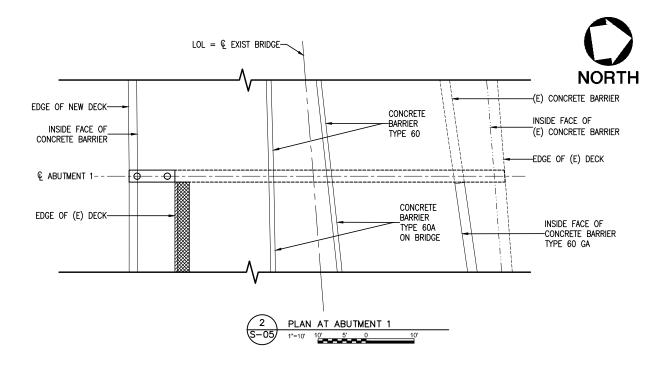
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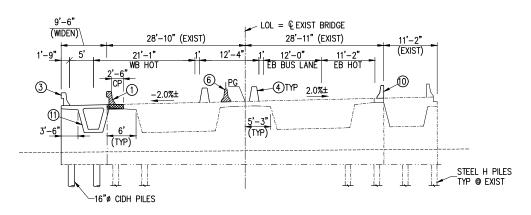
DESIGN BUILD CONTRA	CT No. C0970
UNION/PATSAOURAS PLAZA	BUSWAY STATION
NOTE: IF DWG. IS NOT 22 x34,	II IS NOT FULL SIZE

C0970 NONE BUSWAY BRIDGE GENERAL NOTES & BRIDGE STAGE CONSTRUCTION S-02 46 OF 80









ELEVATION AT ABUTMENT 1 (LOOKING WEST)

## LEGEND:

LIMITS OF BRIDGE REMOVAL

CLOSURE POUR

CP = CLOSURE POUR

# NOTES:

REMOVE EXISTING BARRIER AND 3' OF DECK OVERHANG
 CONCRETE BARRIER TYPE 25 (MOD)
 CONCRETE BARRIER TYPE 60A
 REMOVE EXISTING CONCRETE BARRIER TYPE 50A(MOD)
 EXISTING CONCRETE BARRIER
 TO DEEP CIP/RC BOX GIRDER

NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

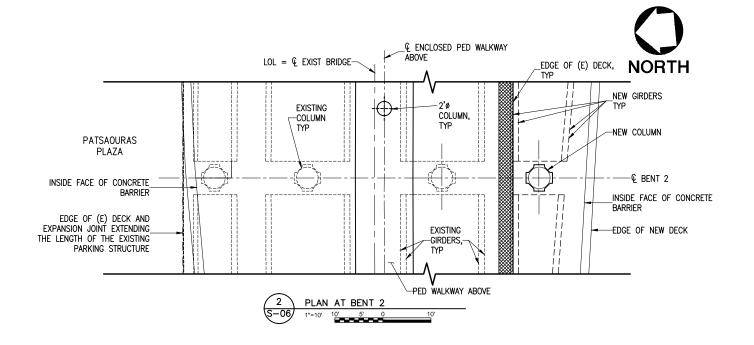
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	05/07/12			ISSUED FOR BID	STV Incorporated
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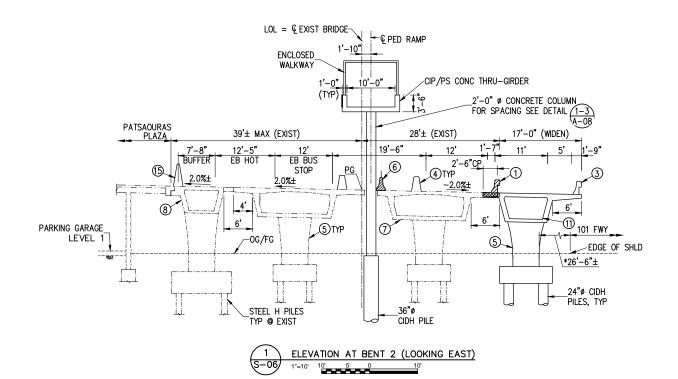
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DRAWN BY M.PARTENHEIMER	
CHECKED R.CAMPBELL	
DATE 4/7/2011	

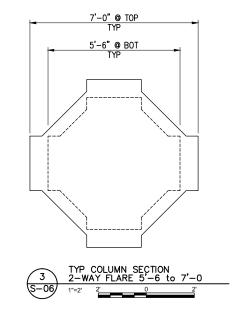
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IAICELO	RECOMMENDED	DATE	APPROVED	DATE

UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970
BUSWAY BRIDGE Abutment 1 Layout

TILLY GOD NOMBLE	C0970
SCALE	1" = 10'
DWG. NO.	S-05
SHEET	49 OF 80







LEGEND:

LIMITS OF BRIDGE REMOVAL

CLOSURE POUR

CP = CLOSURE POUR

NOTES:

\* MEASURED PERPENDICULAR TO BENT

\* MEASURED PERPENDICULAR TO BENT

① REMOVE EXISTING BARRIER AND 3' OF DECK OVERHANG

③ CONCRETE BARRIER TYPE 25 (MOD)

4) CONCRETE BARRIER TYPE 60A

⑤ 2-WAY FLARED COLUMN 5'-6" TO 7'-0" (SEE DETAIL \$\frac{3}{S-06}\$)

6) REMOVE EXISTING CONCRETE BARRIER TYPE 50A(MOD)

7) EXISTING 6' DEEP CIP/RC BOX GIRDER

8) EXISTING 6' DEEP CIP/PS BOX GIRDER

(11) 6' DEEP CIP/RC BOX GIRDER (15) CONCRETE BARRIER TYPE 60GA

NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

					A DI A
					STV Incorporated
	05/07/12			ISSUED FOR BID	•
	10/15/10			ADVANCED CONCEPTUAL ENGINEERING	1055 West 7th Street, Suite 3150 Los Angeles, CA 90017
REV.	DATE	BY	APP.	DESCRIPTION	www.stvinc.com

7.7	D.SARETSKY
Y	DRAWN BY M.PARTENHEIMER
ated	CHECKED R.CAMPBELL
e 3150 I7	DATE 4/7/2011

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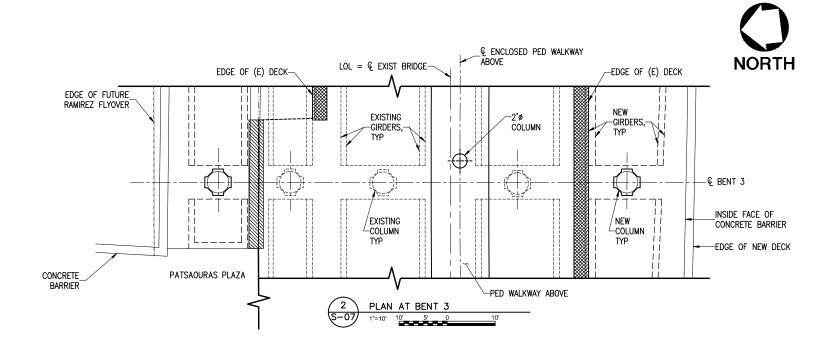
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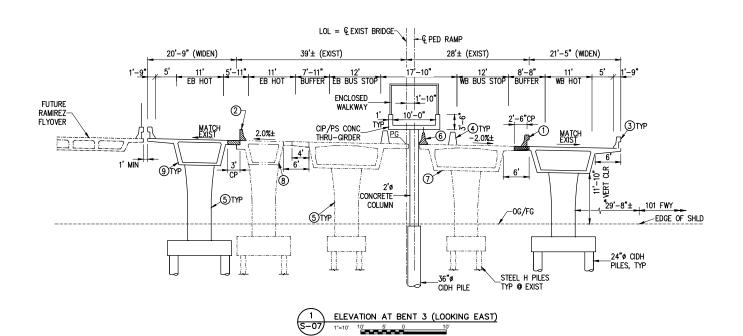
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UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970
BUSWAY BRIDGE Bent 2 Layout

EA I OUI		
F BRIDGE LAYOUT	DWG. NO.	S-06
NTRACT No. C0970	SCALE	1" = 10'
LAZA BUSWAT STATION	FILE/JOB NUMBER	C0970

50 OF 80





LEGEND:

LIMITS OF BRIDGE REMOVAL

CLOSURE POUR

CP = CLOSURE POUR

NOTES:

\* MEASURED PERPENDICULAR TO BENT

\* MEASURED PERPENDICULAR TO BENT

1 REMOVE EXISTING BARRIER AND 3' OF DECK OVERHANG

2) REMOVE EXISTING CONCRETE BARRIER TYPE 27

3) CONCRETE BARRIER TYPE 25 (MOD)

4) CONCRETE BARRIER TYPE 60A

5) 2-WAY FLARED COUMN 5'-6" TO 7'-0" (SEE DETAIL \$\frac{3}{S-06}\$)

6) REMOVE EXISTING CONCRETE BARRIER TYPE 50A(MOD)

7) EXISTING 6' DEEP CIP/RC BOX GIRDER

8) EXISTING 6' DEEP CIP/PS BOX GIRDER

9) 6' DEEP CIP/PS BOX GIRDER

NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

					VT2
	05/07/12			ISSUED FOR BID	STV Incorporated
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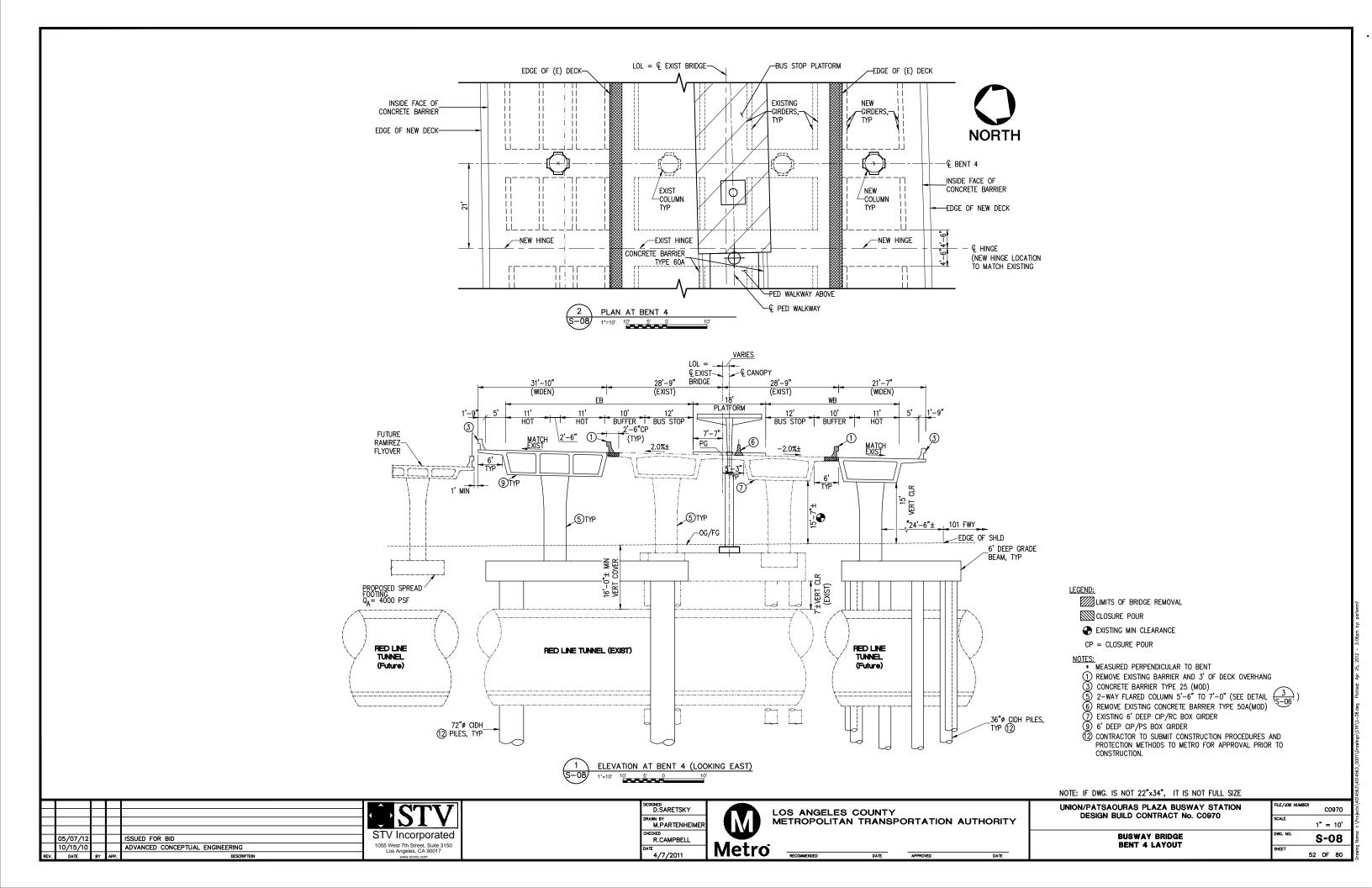
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DRAWN BY M.PARTENHEIMER
CHECKED R.CAMPBELL
DATE 4/7/2011

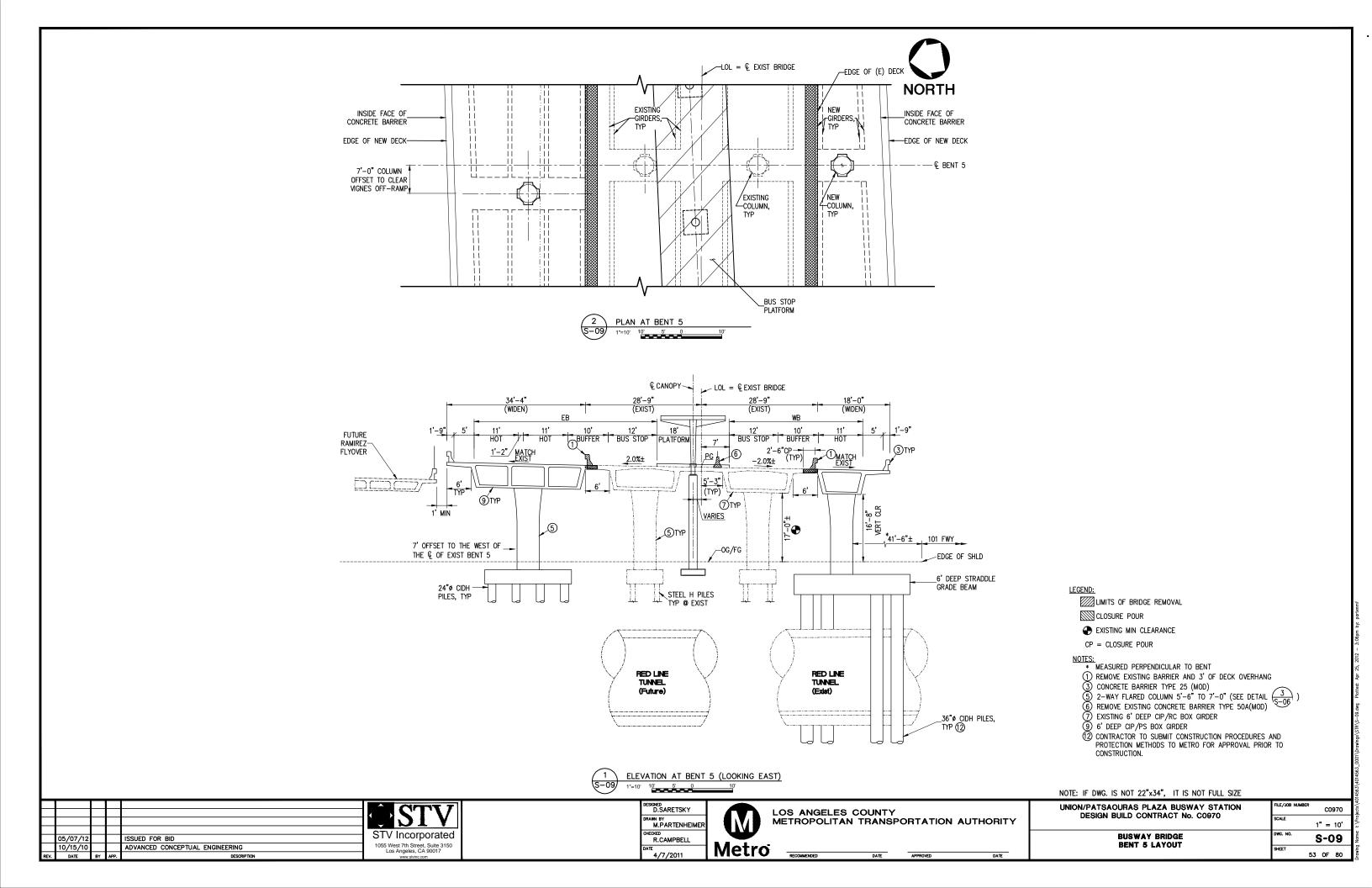
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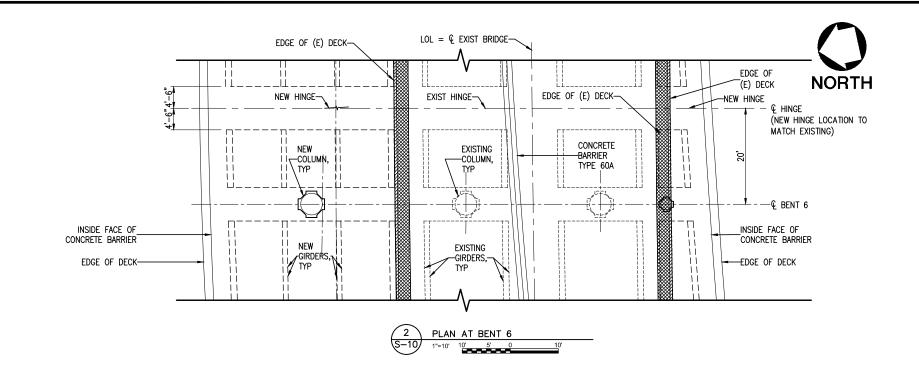
UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970	
BUSWAY BRIDGE BENT 3 LAYOUT	

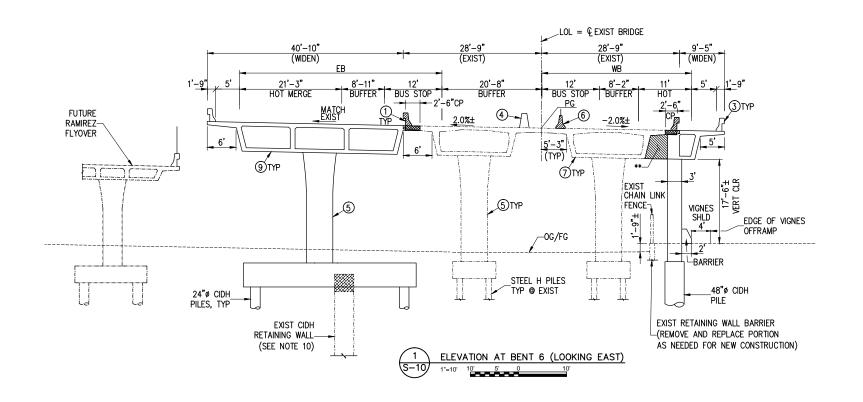
FILE/JOB NUMBER	C0970
SCALE	1" = 10'
DWG. NO.	S-07
SHEET	E1 OF 80

FILE/JOB NUMBER









### LEGEND:

LIMITS OF BRIDGE REMOVAL

CLOSURE POUR

LIMITS OF CIDH PILE RETAINING WALL REMOVAL

CP = CLOSURE POUR

NOTES:

\* MEASURED PERPENDICULAR TO BENT \*\* EXTEND BENT CAP

1 REMOVE EXISTING BARRIER AND 3' OF DECK OVERHANG

3 CONCRETE BARRIER TYPE 25 (MOD)

4 CONCRETE BARRIER TYPE 60A

5 2-WAY FLARED COLUMN 5'-6" TO 7'-0" (SEE DETAIL

6 REMOVE EXISTING CONCRETE BARRIER TYPE 50A(MOD)

7 EXISTING 6' DEEP CIP/RC BOX GIRDER

9 6' DEEP CIP/PS BOX GIRDER

(10) EXISTING CIDH PILE RETAINING WALL CONSIST OF 48" Ø CIDH PILES 4' ON

CENTER WITH A 2' DEEP X 4' WIDE REINFORCED CONCRETE GRADE BEAM
ALONG THE TOP. THE TOP OF THE GRADE BEAM IS ASSUMED TO BE
APPROXIMATELY 5' BELOW EXISTING GRADE. THE CIDH PILES ARE APPROMATELY
45' DEEP. SEE REFERENCE DRAWNGS FOR ADDITIONAL INFORMATION.

NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

BENT 6 LAYOUT

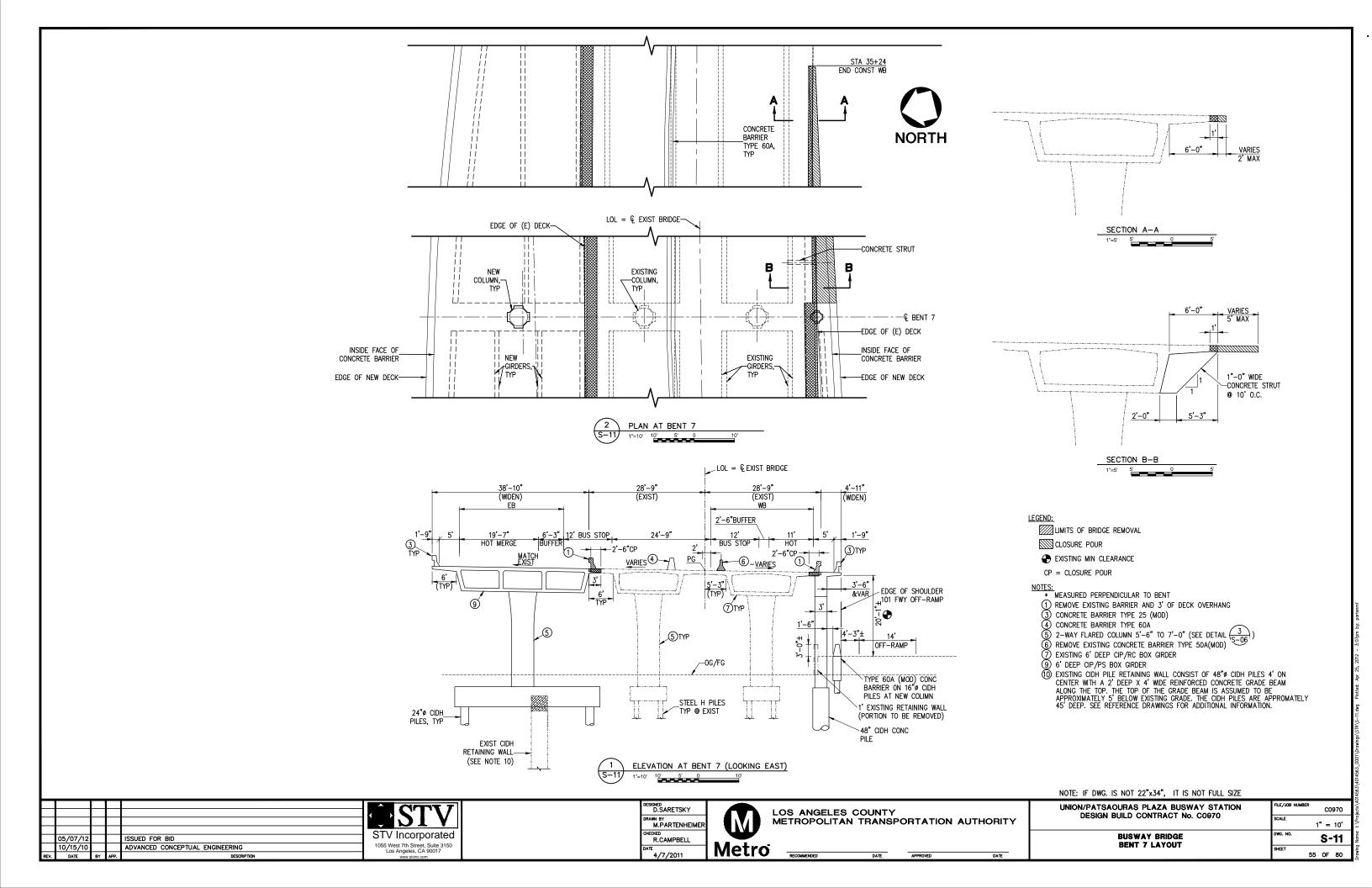
					STV
	05/07/12			ISSUED FOR BID	STV Incorporated
	10/15/10			ADVANCED CONCEPTUAL ENGINEERING	1055 West 7th Street, Suite 3150 Los Angeles, CA 90017
REV.	DATE	BY	APP.	DESCRIPTION	www.stvinc.com

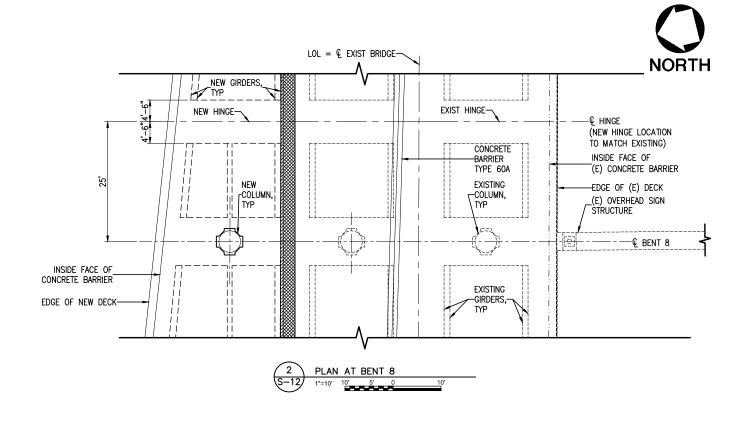
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DRAWN BY M.PARTENHEIMER
CHECKED R.CAMPBELL
DATE 4/7/2011

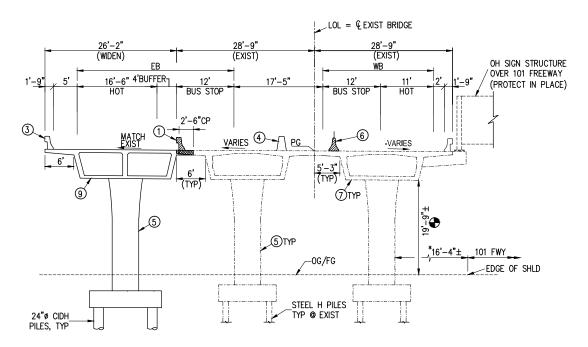
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UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970	
BUSWAY BRIDGE	

FILE/JOB NUMBE	R C0970
SCALE	1" = 10'
DWG. NO.	S-10
SHEET	54 OF 80







ELEVATION AT BENT 8 (LOOKING EAST)

LEGEND:

LIMITS OF BRIDGE REMOVAL

CLOSURE POUR

**EXISTING MIN CLEARANCE** 

CP = CLOSURE POUR

- NOTES:

  \* MEASURED PERPENDICULAR TO BENT
- \* MEASURED PERPENDICULAR TO BENT

  (1) REMOVE EXISTING BARRIER AND 3' OF DECK OVERHANG

  (3) CONCRETE BARRIER TYPE 25 (MOD)

  (4) CONCRETE BARRIER TYPE 60A

  (5) 2-WAY FLARED COLUMN 5'-6" TO 7'-0" (SEE DETAIL \$\frac{3}{\\$\\$-06}\$)

  (6) REMOVE EXISTING CONCRETE BARRIER TYPE 50A(MOD)

  (7) EXISTING 6' DEEP CIP/RC BOX GIRDER

  (9) 6' DEEP CIP/PS BOX GIRDER

NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

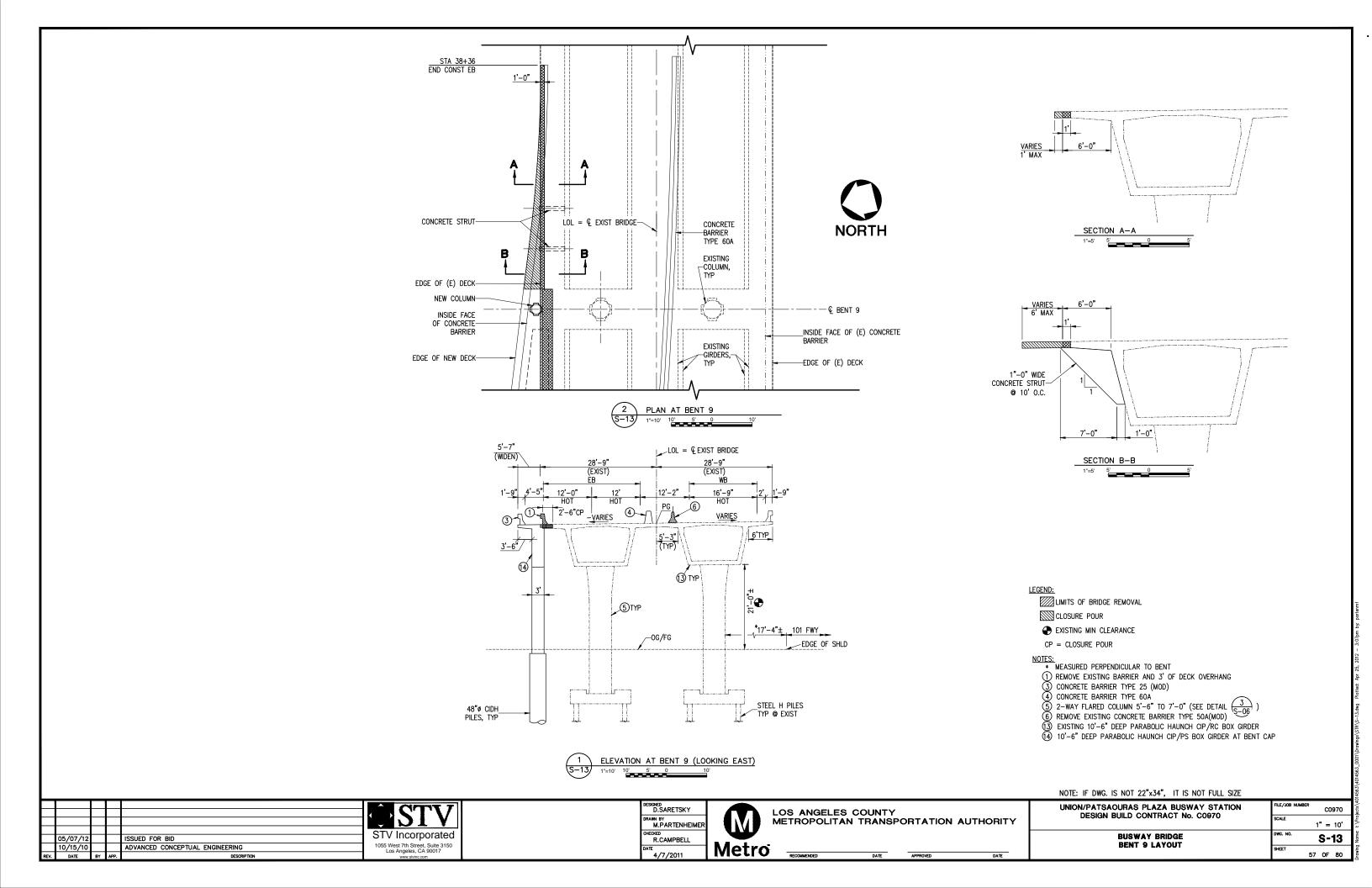
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	05/07/12			ISSUED FOR BID	STV Incorporated	C	CHECKED R.CAMPBELL
	10/15/10			ADVANCED CONCEPTUAL ENGINEERING	1055 West 7th Street, Suite 3150 Los Angeles, CA 90017	<u> </u>	DATE
REV.	DATE	BY	APP.	DESCRIPTION	www.stvinc.com		4/7/2011

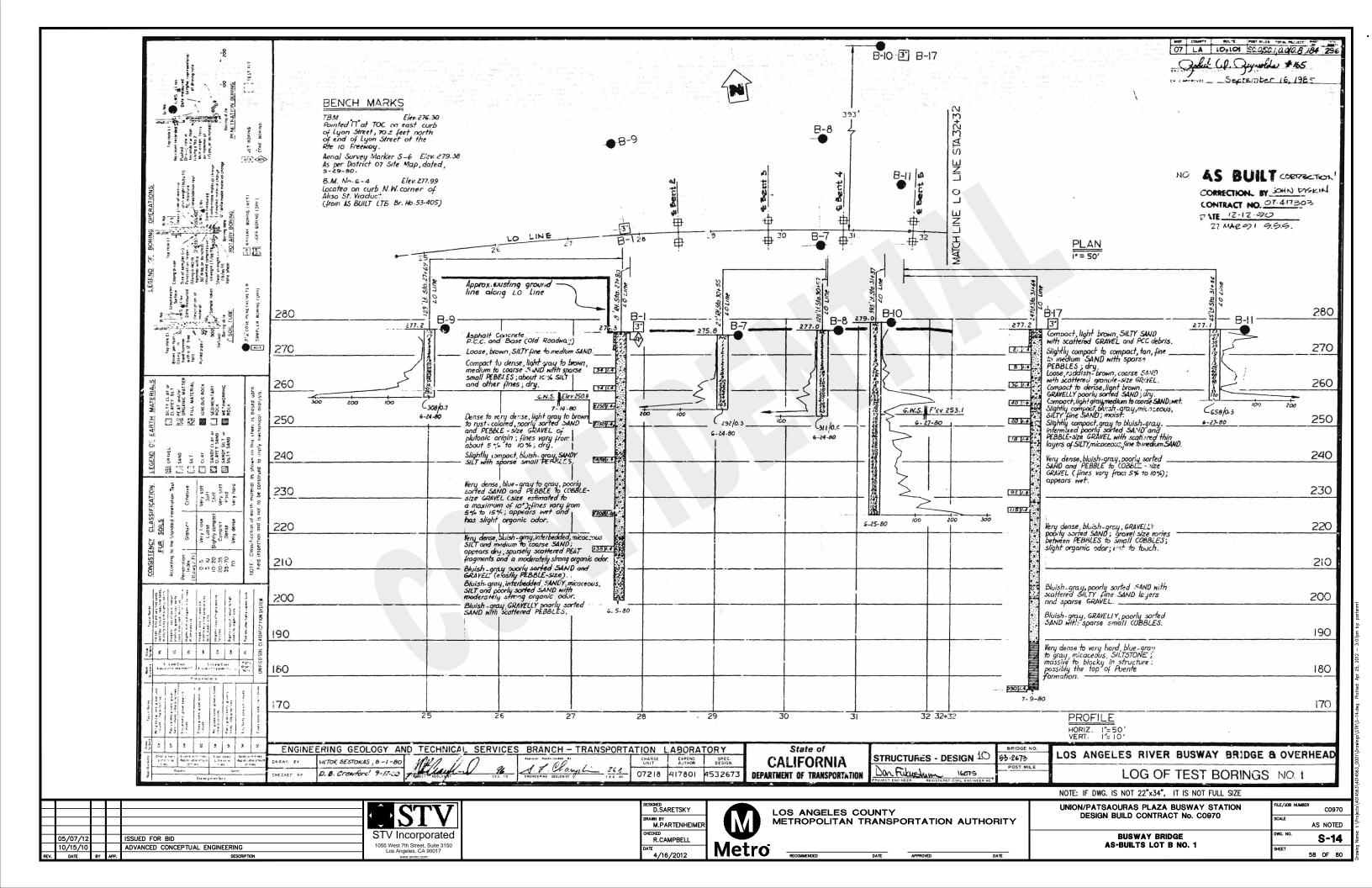
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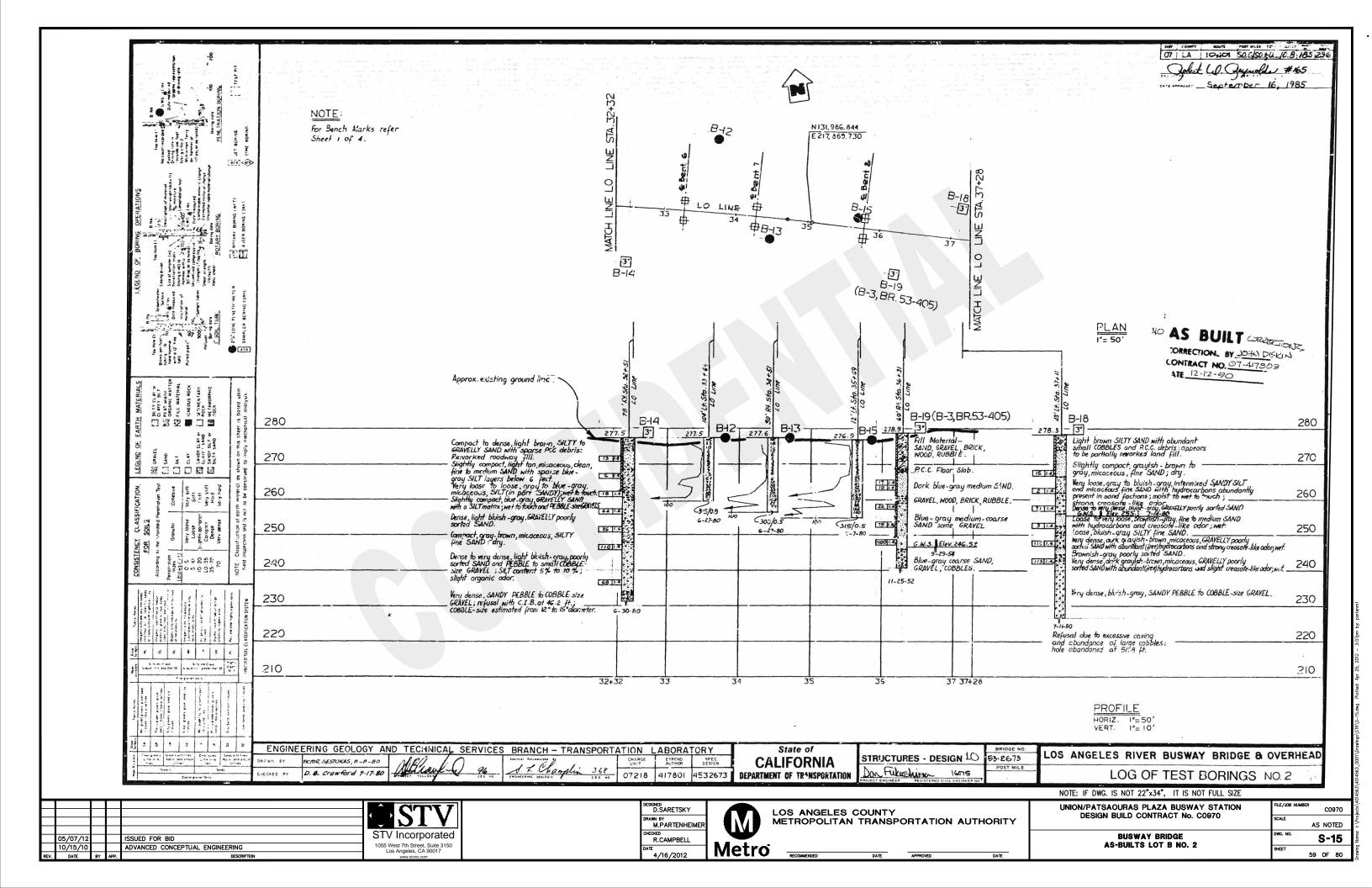
UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970	
BUSWAY BRIDGE Bent 8 Layout	

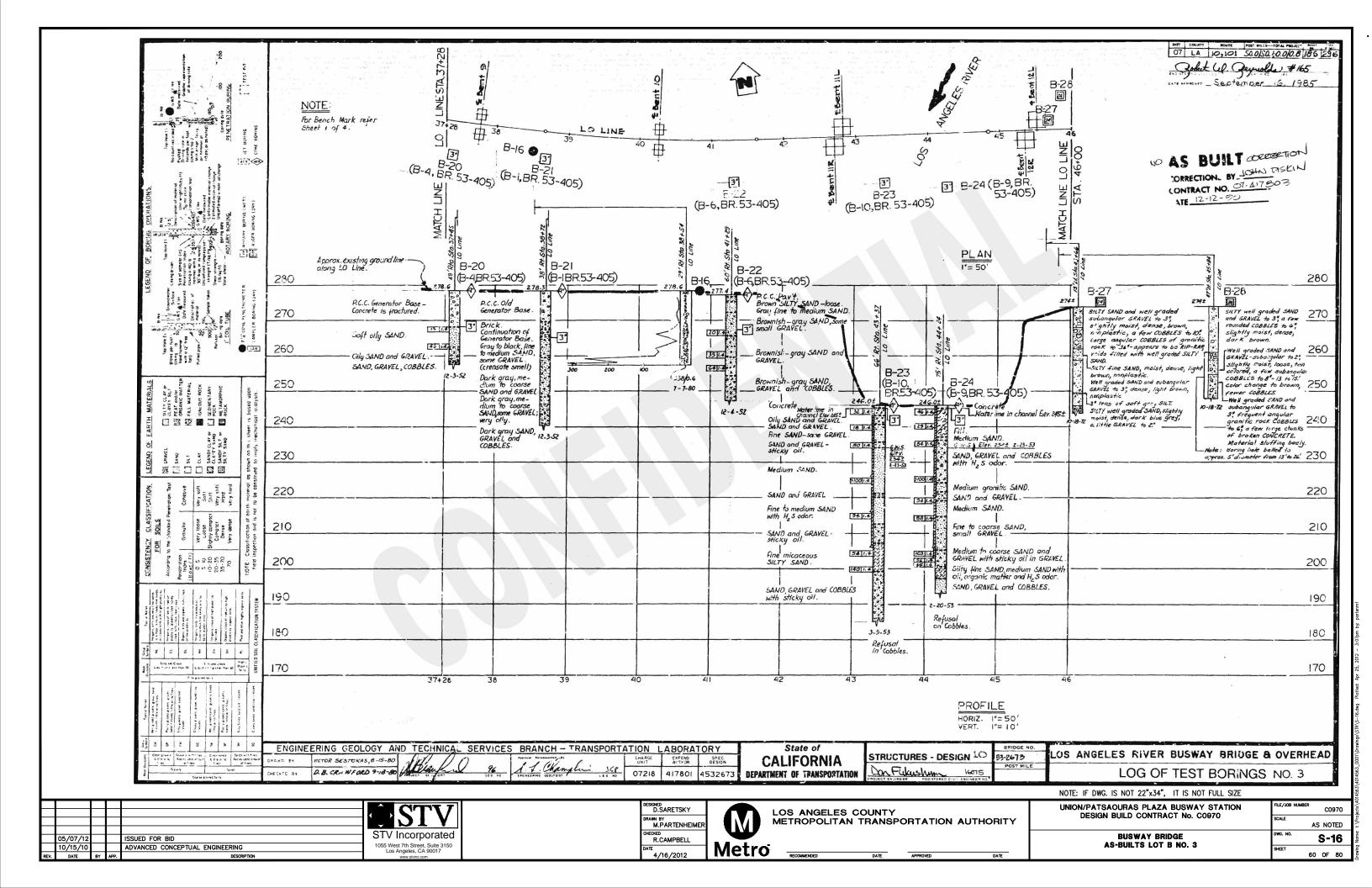
1" = 10' S-12 56 OF 80

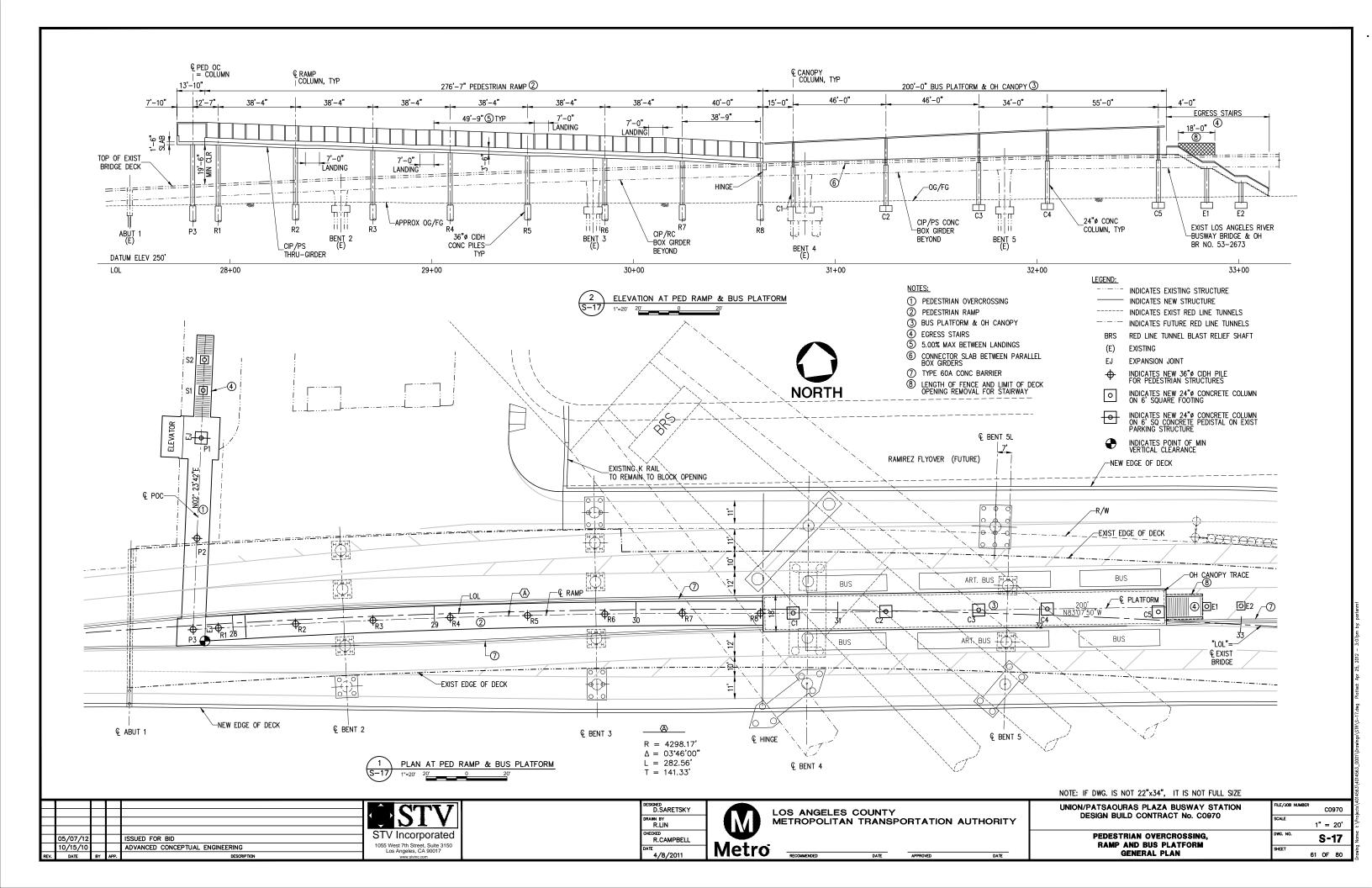
C0970

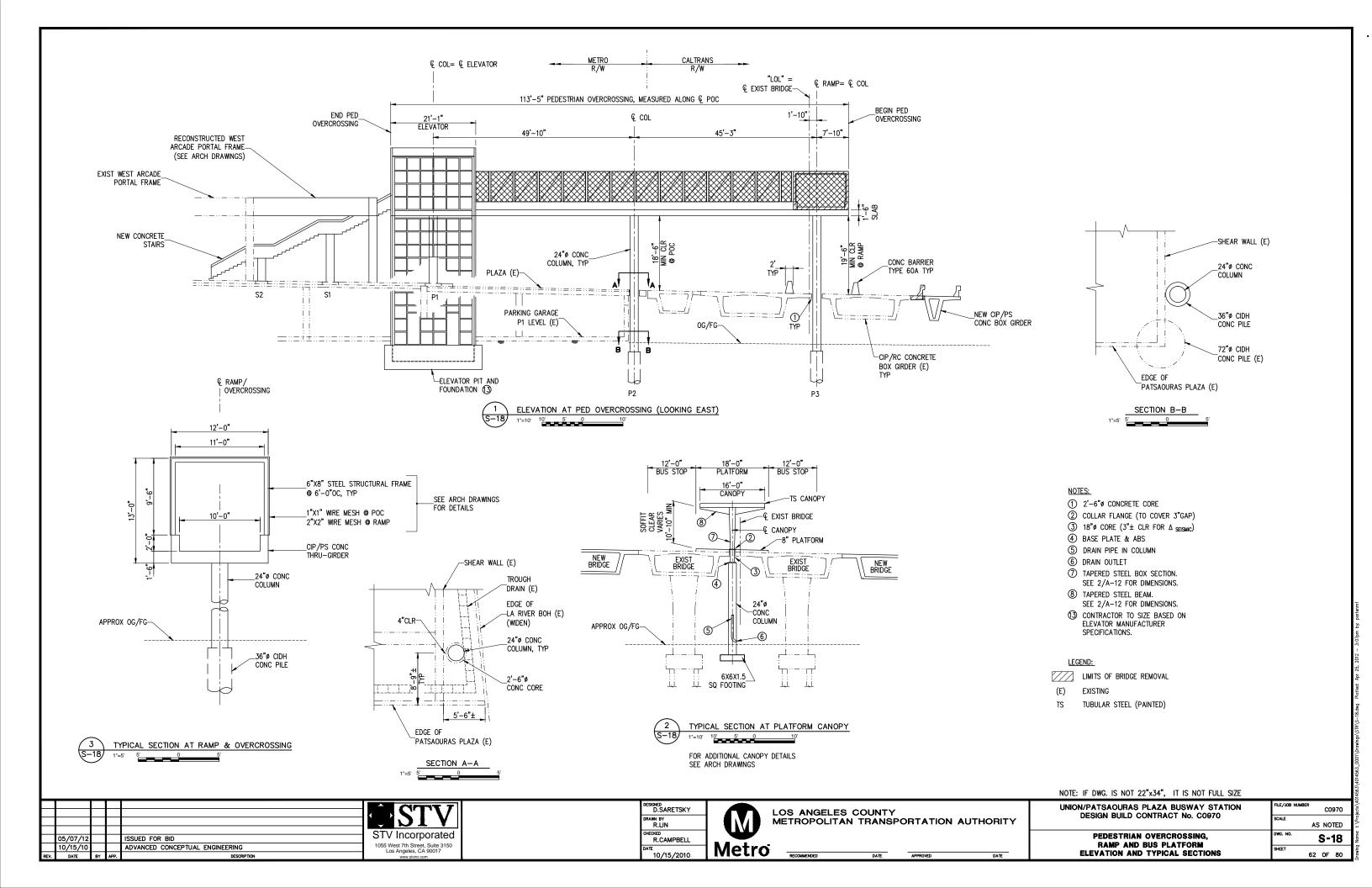


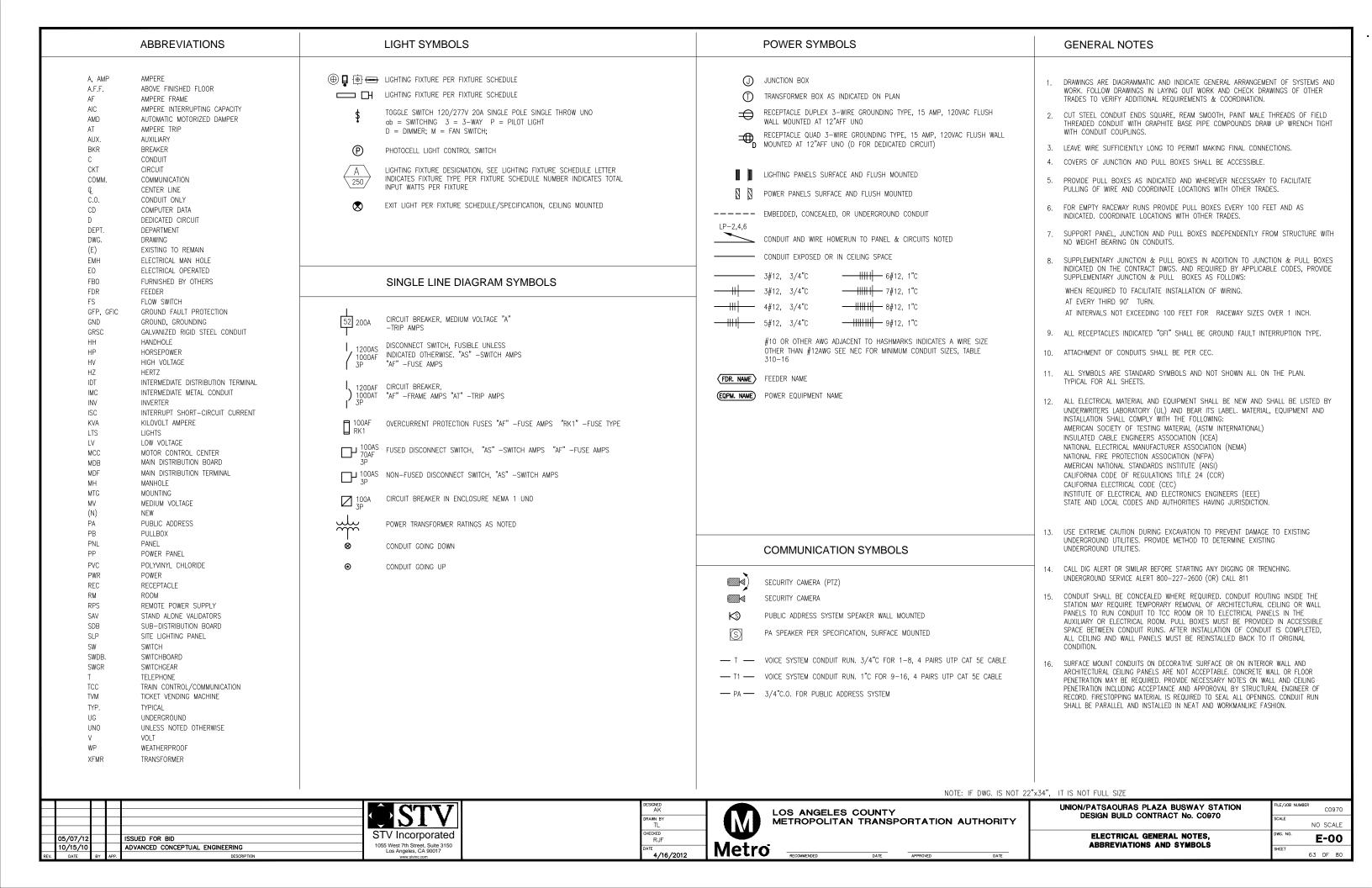


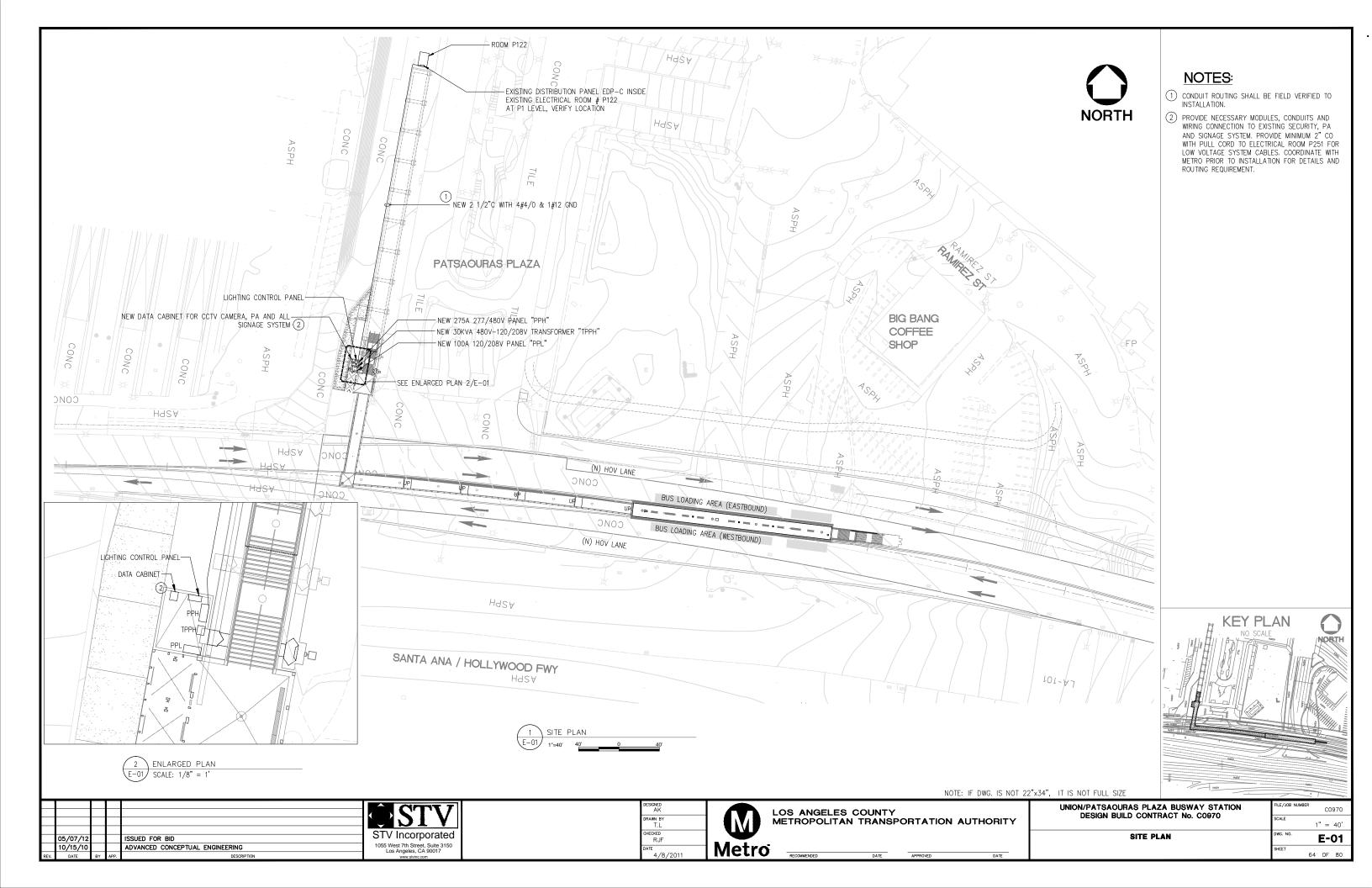


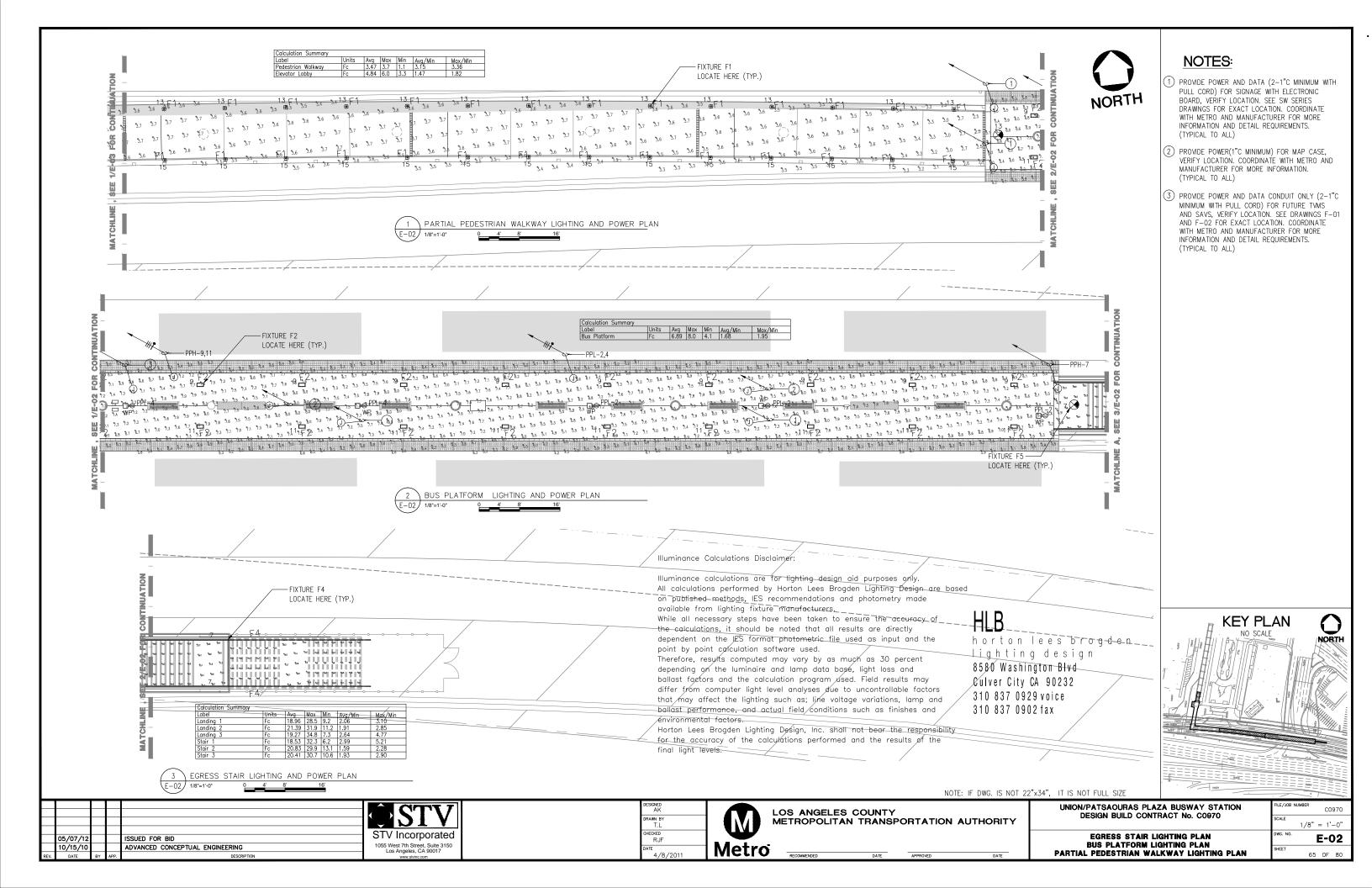




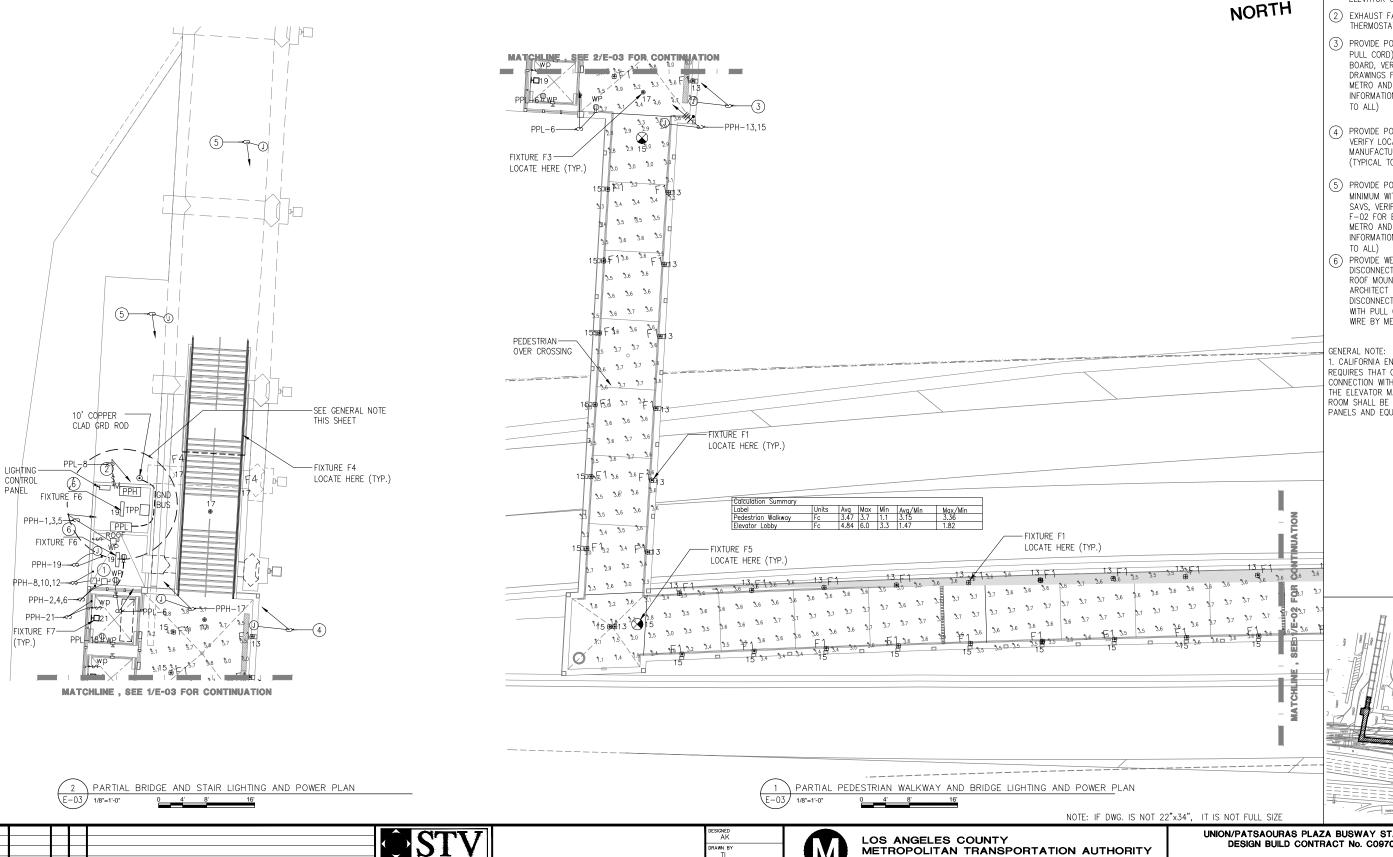












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4/16/2012

Metro

STV Incorporated

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ISSUED FOR BID

ADVANCED CONCEPTUAL ENGINEERING

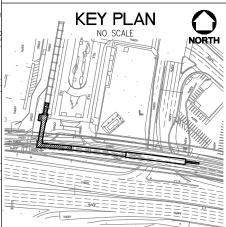
5/07/12

10/15/10

## NOTES:

- 1 100AS-100AF-480V 30 DISCONNECT SWITCH FOR ELEVATOR. PROVIDE 1½"C WITH 4#3, 1#8 GND. VERIFY LOCATION AND REQUIREMENTS WITH THE FLEVATOR CONTRACTOR PRIOR TO ROUGH-IN.
- 2 EXHAUST FAN SHALL BE CONTROLLED BY THERMOSTAT IN THE MACHINE ROOM.
- 3 PROVIDE POWER AND DATA (2-1"C MINIMUM WITH PULL CORD) FOR SIGNAGE WITH ELECTRONIC BOARD, VERIFY LOCATION. SEE SW SERIES DRAWINGS FOR EXACT LOCATION. COORDINATE WITH METRO AND MANUFACTURER FOR MORE INFORMATION AND DETAIL REQUIREMENTS. (TYPICAL
- (4) PROVIDE POWER(1"C MINIMUM) FOR MAP CASE, VERIFY LOCATION. COORDINATE WITH METRO AND MANUFACTURER FOR MORE INFORMATION. (TYPICAL TO ALL)
- (5) PROVIDE POWER AND DATA CONDUIT ONLY (2-1"C MINIMUM WITH PULL CORD) FOR FUTURE TVMS AND SAVS, VERIFY LOCATION. SEE DRAWINGS F-01 AND F-02 FOR EXACT LOCATION. COORDINATE WITH METRO AND MANUFACTURER FOR MORE INFORMATION AND DETAIL REQUIREMENTS. (TYPICAL
- 6 PROVIDE WEATHER PROOF 30A 480V 3 POLE DISCONNECT SWITCH WITH 15 AMPS FUSE FOR ROOF MOUNTED HVAC UNIT, SEE DETAIL ON ARCHITECT DRAWING SHEET A-13 AND VERIFY DISCONNECT SWITCH LOCATION. PROVIDE 3/4" CO WITH PULL CORD TO THERMOSTAT FOR CONTROL, WIRE BY MECHANICAL.

. CALIFORNIA ENERGY CODE (CEC) SECTION 620.37 REQUIRES THAT ONLY WIRING USED DIRECTLY IN CONNECTION WITH THE ELEVATORS WILL BE ALLOWED IN THE ELEVATOR MACHINE ROOM. SEPARATE ELECTRICAL ROOM SHALL BE PROVIDED FOR ALL OTHER ELECTRICAL PANELS AND EQUIPMENT.

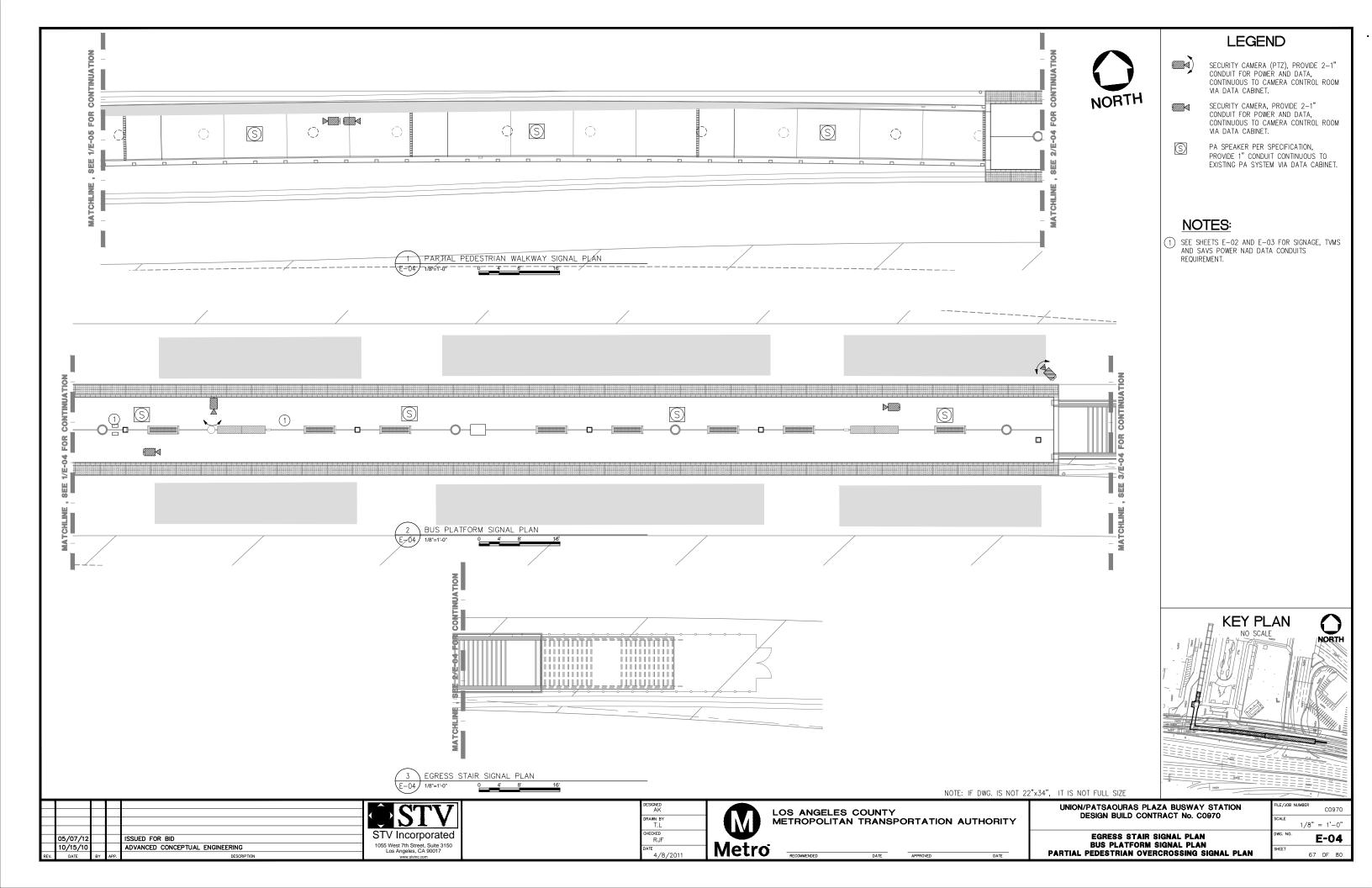


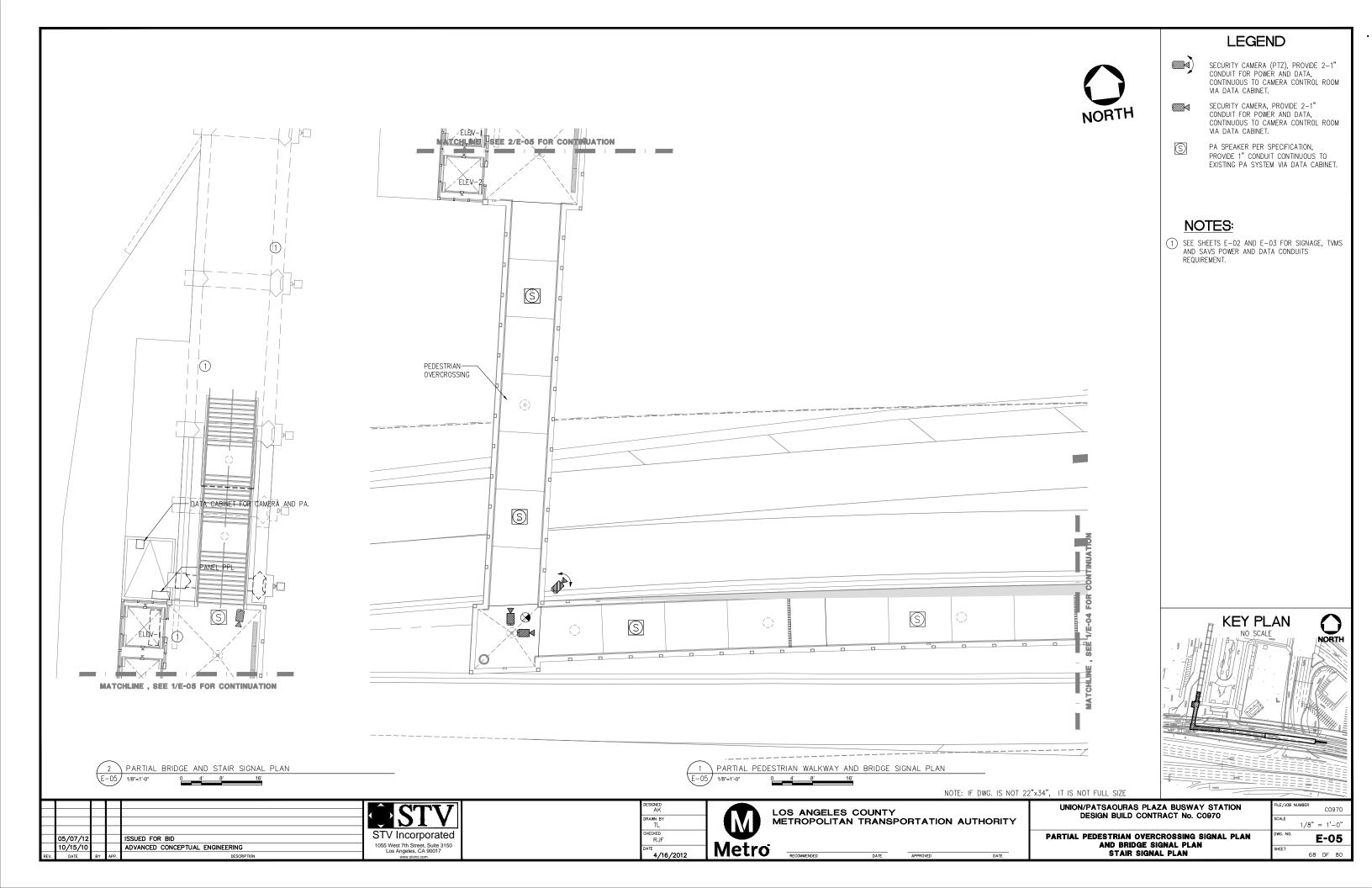
UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970 PARTIAL PEDESTRIAN WALKWAY LIGHTING PLAN

AND BRIDGE LIGHTING PLAN

STAIR LIGHTING PLAN

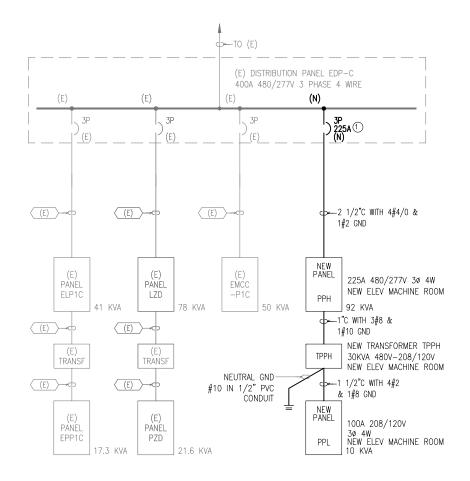
C0970 1/8" = 1'-0"E-03 66 OF 80





	VOLTAGE:	48	30/277										M.	AIN:	225	A		
	3-PHASE, 4-WIRE					ATION:			E ROOM	4			В	US:	225	Α		
	MOUNTING:	SU	JRFACE		SO	URCE:	EDP	-C										
t LCL	Load	LTS	RECMISC	Α	В	С	Bkr	ø	Bkr	Α	В	С	LTS	RECMIS	C Load	l	LCL	J
0	HVAC ON ROOF			2000			15A	•	100A	10606					NEW ELEVATOR	# 1	0	Ť
0	_				2000		_	•	- 1		10606				-		0	T
0	-					2000	3P	•	3P			10606			_		0	T
0	LTS			2000			20A	•	100A	10606					NEW ELEVATOR	# 2	0	T
0	LTS				2000		20A	•	-		10606				-		0	Т
0	LTS					2000	20A	•	3P			10606			-		0	T
0	LTS			2000			20A	•	45A	3500					TRANSFORMER T	PPH	0	T
0	LTS				2000		20A	•	I – I		3500				-		0	Т
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				6100	6000	6000				24712	24712	24712						
								onn	KVA=	92.	44							
	Phase A Conn Load:				812	Cal			rrent=	111		Amps/	phc	ise				
Į	Phase B Conn Load:			30	812				KVA=	3.1								
Į	Phase C Conn Load:			30	812	0.504												
						∠5%			KVA= KVA =	95.5								
					1.411	N. FEED				95.5		AMPS						

		PATSAUOURAS PLAZA	BUS	WAY	STA	TION				NEV	V PANE	L PPL										
		VOLTAGE:	20	08/1	20										M.	AIN:		100		Α		
		3-PHASE, 4-WIRE						ATION:			E ROOM	И			В	US:		100		Α		
		MOUNTING:	SI	JRFA	CE		SC	URCE:	TPP	Ή						SC			2259	9 A		
ckt	LCL	Load	LTS	REC	MISC	Α	В	С	Bkr	ø	Bkr	Α	В	С	LTS	REC	MISC		Load		LCL	.ckt
1	0	NEW CCTV CAMERA				1000			20A	•	20A	500						NEW OUTLE	ETS		0	2
3		NEW CCTV CAMERA					1000		20A	•	20A		500					NEW OUTLE			0	4
5		NEW CCTV CAMERA						1000	20A		20A			1000				NEW OUTLE	ETS		0	6
7	0	SINGAGE				500			20A	•	20A	500						EXH-FAN			0	8
9	0	SIGNAGE					500		20A	•	20A		500					MAPCASE			0	10
11	0	SIGNAGE						500	20A	•	20A			500				MAPCASE			0	12
13	0	SIGNAGE				500			20A	•	20A	500						MAPCASE			0	14
15	0	SIGNAGE					500		20A	•	20A		500					MAPCASE			0	16
17	0	SPARE							20A	•	20A			180		1		ELEV. PIT F	RECEPT	TCAL	0	18
19	0	SPARE							20A	•	20A							SPARE			0	20
21	0	SPARE							20A	•	20A							SPARE			0	20 22 24
23	0	SPARE							20A	•	20A							SPARE			0	24
25	0	SPARE							20A	•	20A							SPARE			0	26
27	0	SPARE							20A	•	20A							SPARE			0	28 30
29	0	SPARE							20A	•	20A							SPARE			0	30
						2000	2000	1500				1500	1500	1500								
		Phase A Conn Load:				35	00		C	onn	KVA=	1	10									
	Ī	Phase B Conn Load:				35	500	Ca		4 (1)	rrent=		27	Amps/	bhc phc	ise						
	ı	Phase C Conn Load:				.30	000	Cu				-	.,									
	·								25%	LCL	KVA=											
								25%	LGST	MTR	KVA=		_									
									FEED	ER	KVA =											
							MI	N. FEED	ER AM	иРΑ	CITY =	2	27	AMPS								



# ESTIMATED LOAD ON DISTRIBUTION PANEL EDP-C

 CONNECTED LOAD ON PANEL ELP1C
 41 KVA

 CONNECTED LOAD ON PANEL LZD
 78 KVA

 CONNECTED LOAD ON EMCC-P1C
 50 KVA

 CONNECTED LOAD ON NEW PANEL PPH
 92 KVA

 NEW TOTAL CONNECTED LOAD
 261 KVA

92 KVA 92 KVA 261 KVA 313 Amp © 480V 3 phase 313 x 1.25 = 391 Amp which is under 400A

NOTE:

1. PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE.

NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

					<b>\$STV</b>
	05/07/12			ISSUED FOR BID	STV Incorporated
	10/15/10			ADVANCED CONCEPTUAL ENGINEERING	1055 West 7th Street, Suite 3150 Los Angeles, CA 90017
REV.	DATE	BY	APP.	DESCRIPTION	www.stvinc.com

DESIGNED AK	
DRAWN B	Y
CHECKED RJF	-
DATE 4/	16/2012

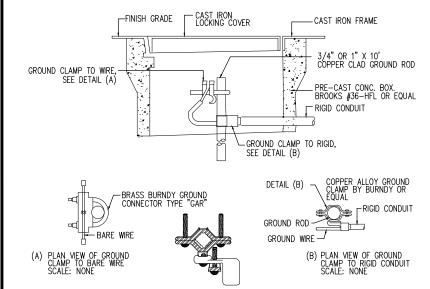


LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY
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UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970	FIL
DESIGN BOILD CONTRACT No. 00970	SC
ONE LINE DIAGRAM AND PANEL SCHEDULE	DW

00970 NO SCALE

69 OF 80



#### NOTES:

- 1. SAWCUT EXISTING CONCRETE SLAB (A.C.PAVING @ EXTERIOR LOCATIONS) MINIMUM 6" LARGER THAN BOX ALL AROUND.
- 2. FOR INTERIOR INSTALLATIONS, CORE DRILL 1" DIA. HOLE THROUGH SLAB FOR GROUND ROD AND LEAVE 6" EXPOSED AFF FOR GROUND WIRE CONNECTION. REPACK HOLE AROUND GROUND ROD.
- 3. GROUND ROD RESISTANCE TO GROUND NOT TO EXCEED 5 OHMS. IF 5 OHMS EXCEEDED INSTALL 2ND GROUND ROD NO LESS THAN 10 FEET APART, RODS TO BE CONNECTED IN PARALLEL.

# GROUND ROD AND CONCRETE BOX DETAIL (TYPICAL SCALE: NO SCALE

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		LIGHTING FIXTURE SCHEDULE	-				
TYPF	DESCRIPTION	MANUFACTURER/CATALOG NO		LAMP DATA		INPLIT	SYMBOLS
111 2	BESONI HON		QTY.	LAMPING	BALLAST	INPUT VOLTS	01MB020
F1	SURFACE MOUNTED COMPACT FLUORESCENT AREA LIGHT LOCATION: PEDESTRIAN CANOPY	BEGA 2639P-FINISH-VOLTS OR APPROVED EQUAL ALTERNATES	1	42 WATT T4 TRIPLE TUBE COMPACT FLUORESCENT (OSRAM CF42DT/E/IN/835)	INTEGRAL HPF ELECTRONIC	277	
F2	SURFACE MOUNTED COMPACT FLUORESCENT DOWNLIGHT LOCATION: BUS LOADING	GARDCO 101-MT-242TRF-VOLTS-FINISH-SL OR APPROVED EQUAL ALTERNATES	2	42 WATT T4 TRIPLE TUBE COMPACT FLUORESCENT (OSRAM CF42DT/E/IN/835)	INTEGRAL HPF ELECTRONIC	277	•
F2 ADD ALTERNATE	WALL MOUNTED INDUCTION LAMP DOWNLIGHT LOCATION: BUS LOADING	EVERLAST EFL_ED_100W_VOLTS_FINISH OR APPROVED EQUAL	1	100 WATT INDUCTION LAMP (OSRAM ICE100/835/2P/ECO)	INTEGRAL HPF ELECTRONIC	277	
F3	8" APERTURE SURFACE MOUNTED COMPACT FLUORESCENT DOWNLIGHT LIGHT LOCATION: PEDESTRIAN CANOPY	KIRLIN LIGHTING FSR-09047-70-FINISH-SG-80-89-PM OR APPROVED EQUAL ALTERNATES	1	42 WATT T4 TRIPLE TUBE COMPACT FLUORESCENT (OSRAM CF42DT/E/IN/835)	INTEGRAL HPF ELECTRONIC	277	(h)
F3 ADD ALTERNATE	8" APERTURE SURFACE MOUNTED COMPACT FLUORESCENT DOWNLIGHT LIGHT LOCATION: PEDESTRIAN CANOPY	KIRLIN LIGHTING QSR-12083-43-31-FINISH-80-89-PM OR APPROVED EQUAL ALTERNATES	1	55 WATT INDUCTION LAMP (PHILIPS QL55W/830TWIST BASE)	INTEGRAL HPF ELECTRONIC	277	•
F4	POST MOUNTED LED INTEGRATED INTO ARCHITECTURAL RAILING LOCATION: STAIR	INTENSE LIGHTING IVR-2-FINISH-P-RAIL-HT-HO-35-30AS OR APPROVED EQUAL ALTERNATES	1	4.2 WATT/FT. LED 3500K WARM WHITE HO (270 LUMENS/FT)	INTEGRAL ELCTRONIC DRIVER	277	
F5	EMERGENCY EXIT LIGHT WITH BATTERY PACK HIGH ABUSE, COLD WEATHER AND WET LOCATION TYPE LOCATION: STAIR, PEDESTRIAN OVER CROSSING	LITHONIA LIGHTING LV-S-W-1-R-120/277-UM-ELNSD LDC12/48-4X OR APPROVED EQUAL ALTERNATES	1	5.0/4.0 LED EMERGENCY LED RED	-	277	$\otimes$
F6	SURFACE MOUNTED ENCLOSED, VANDAL-RESISTANT AND FULLY-GASKETED FLUORESCENT FIXTURE	LITHONIA LIGHTING VRI—2—32—MVOLT OR APPROVED EQUAL	2	32 WATT COMPACT FLUORESCENT	HPF ELECTRONIC	277	
F7	WALL MOUNTED VANDAL RESISTANT FIXTURE, SEAMLESS, ONE—PIECE, CLOSED CELL NEOPRENE RUBBER GASKET AND STAINLESS STEEL TAMPER—PROOF SCREW. UL LISTED FOR WET LOCATIONS.	KENALL LIGHTING S711D-C-DB-26Q-1-277 OR APPROVED EQUAL	1	28 WATT COMPACT FLUORESCENT	-	277	П

## GENERAL NOTES:

- 1. FIXTURE TYPES SPECIFIED ARE INDICATED TO ESTABLISH A LEVEL OF QUALITY. ALTERNATE TYPES MAY BE SUBMITTED FOR APPROVAL.
- 2. PROVIDE ALL LIGHTING FIXTURES AS SHOWN WITH ALL LAMPS, COMPLETELY WIRED, CONTROLLED AND SECURELY ATTACHED TO SUPPORTS.
- 3. WHERE BOTH NARRATIVE AND/OR PICTORIAL FIXTURE DESCRIPTIONS ARE PROVIDED, THE WRITTEN DESCRIPTION SHALL TAKE PRÉCEDENCE AND PREVAIL.
- 4. THE LIGHTING FIXTURES AND WORKMANSHIP MUST BE IN ACCORDANCE WITH AND MEET THE STANDARDS AND REGULATIONS OF THE FOLLOWING:
- A) UNDERWRITERS LABORATORIES
- B) NATIONAL ELECTRICAL CODE
- C) LOCAL BUILDING AND LIFE SAFETY CODE AGENCIES
- 5. ALL FIXTURES AND WORKMANSHIP SHALL BE GUARANTEED FREE OF DEFECTS AND FULLY OPERATIONAL FOR A MINIMUN OF ONE YEAR AFTER THE ACCEPTANCE OF THE PROJECT BY THE OWNER. ANY FIXTURES OR WORKMANSHIP (EXCLUDING LAMPS) FOUND TO BE DEFECTIVE DURING THE WARRANTY PERIOD WILL BE EITHER FIXED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- 6. LOCATIONS OF FIXTURES ARE SHOWN DIAGRAMMATICALLY. VERIFY EXACT LOCATION AND SPACING WITH PLANS AND DESIGNER AT THE SITE DURING INSTALLATION. NOTIFY OWNER ABOUT FIELD VARIANCE WITH CONTRACT DOCUMENTS BEFORE COMMENCING INSTALLATION.
- 7. PROVIDE ADEQUATE AND STURDY SUPPORT FOR EACH LIGHTING FIXTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING WEIGHT AND MOUNTING METHOD OF ALL FIXTURES AND FURNISH AND INSTALL SUITABLE SUPPORTS.
- 8. AT THE COMPLETION OF CONSTRUCTION, CLEAN LENSES AND REFLECTORS OF ALL LIGHTING FIXTURES SO AS TO RENDER THEM FREE OF ANY MATERIAL, SUBSTANCE OR FILM FOREIGN TO THE FIXTURE. BLEMISHED, DAMAGED OR UNSATISFACTORY FIXTURES SHALL BE REPLACED IN A SATISFACTORY MANNER.
- 9. REPLACE ALL BURNED-OUT LAMPS AND INOPERATIVE BALLASTS IN ALL FIXTURES BEFORE BUILDING IS ACCEPTED BY THE OWNER SO THAT ALL LIGHTING FIXTURES WILL BE IN FIRST CLASS OPERATING
- 10. CONTRACTOR TO REVIEW EXISTING CIRCUITING, VERIFY NEW LOADS AND PANEL CAPACITY. CONTRACTOR SHALL NOTIFY OWNER IF A CONFLICT BETWEEN DESIGN DOCUMENTS AND FIELD CONDITIONS OCCURS.
- 11. TYPICAL FIXTURE MOUNTING DETAIL PER MANUFACTURER DRAWINGS. SITE LIGHTING FIXTURE TO BE CONNECTED TO LIGHTING PANEL VIA LIGHTING CONTROL PANEL

RAWN BY

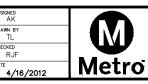
HECKED RJF

12. COORDINATE SIGNAGE LOCATIONS WITH AND ATTACHEMENTS TO ENSURE CLEAR SIGHT LINES AND LACK OF CONFLICTS WITH LIGHT FIXTURES, CAMERAS AND OTHER MOUNTED ELEMENTS.

NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

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_					AIOIA
_	05 /07 /40			JOSUED FOR DID	STV Incorporate
	05/07/12			ISSUED FOR BID	•
	10/15/10			ADVANCED CONCEPTUAL ENGINEERING	1055 West 7th Street, Suite 315 Los Angeles, CA 90017
REV.	DATE	BY	APP.	DESCRIPTION	www.stvinc.com

<b>\$STV</b>	
STV Incorporated	
1055 West 7th Street, Suite 3150 Los Angeles, CA 90017 www.stvinc.com	





LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION	AUTHORITY

τ,	IT IS NOT FOLL SIZE					
	UNION/PATSAOURAS PLAZA BUSWAY STATION	FILE/JOB NUMBER	2	CO	970	•
	DESIGN BUILD CONTRACT No. C0970	SCALE	NC	SC	ALE	
	DETAILS	DWG. NO.	ı	Ξ-(	7	
	DETAILO	SHEET	70	OF	80	

CERTIFICA	TE OF CO	MPLIANCE	(Part	1 of 2)				OLTG-1-C
PROJECT HAME	INION /PATSAOLIR	AS PLAZA BUSWAY STS	TION					07-16-10
PROJECT ADDRESS	JNION STATION P							07 10 10
PRINCIPAL DESIGNER - LICI	HTING AUNG KHIN	TISHOONS TENEN			TELEPHONE (213)	236	0165	Building Permit #
DOCUMENTATION AUTHOR	THOMAS LWIN				TELEPHONE		0443	Checked by/Date Enforcement Agency Use
GENERAL NFO					(213)	430-	0443	Enforcement Agency Use
		OOR LIGHTING ZONE (/ONE )	Г	LZ1	□LZt [	7LZ3	_	LZ4
FUNCTION TYPE		OR LIGHTING	OUTDOO	A SIGNS		<u></u>		OR SIGNS
PHASE OF CONSTRUCT	TICH NEW C	ONSTRUCTION	ADDITIO	NB		Ī	ALT	ERATIONS .
	F COMPLIANCE							
Regulations. This ce	rtificate applies only t	lighting system specifications o building lighting requirement	9.	.,	tle 24, Parts	1 and	6 of t	ne California Code of
	reparer hereby certifie	s that the documentation is a	ccurate and	complete.				
DOCUMENTATION AUTHOR	THOMAS LWIN	SIGNATURE						07-16-10
is consistent with the application. The proper	other compliance for	fies that the proposed outdoorms and worksheets, with the a designed to meet the lighting i. 6. Process of one:	specifications	, and with	any othercalc	ulation:	s submi	ted with this permit
I hereby affirm to responsible for in architect.	hat I am eligible under ts preparation; and the	the provisions of Division 3 of at I am licensed in the State	the Business of of California o	and Professi as a civil e	ons Code to s ngineer or ele	ign this ctrical	this do engineer	cument as the person c, or I am a licensed
I affirm that I a documentt as t	m eligible under the p he person responsible	rovisions of Division 3 of the for its preparation; and tha	Business and t I am a lice	Professions ensed contr	Code by Sec actor perform	tion 5! ning th	537.2 oi nis work	6737.3 to sign this
structure or type	e of work described a	ovisions of Division 3 of the Bu s exempt pursuant to Busines Professions Code are printed i	s and Profes	sions Code	Sections5537	is docu , 5538	mentbed and 6	ause it pertains to a 737.1.
PRINCIPAL LIGHTING DESIGNER-NAM		SIGNATURE	ii idii iii die	DATE 07-16-				E-16225
	NONO KINA			07 10	10			L 10223
INSTRUCTIONS	TO APPLICANT	OUTDOOR LIGHTING	COMPLIA	NCE &	WORKSHI	ET8		
		s and all Energy Efficiency Sta ifornia Energy Commission.	andards comp	oliance form	s, please ref	er to t	he	
OLTG-1-C		oliance. Required on plans for ed in schedules on the plans.	all submittals	s for outdo	or lighting. P	art 2 d	of 2	
	1. Use LTG-1-C if	OLTG-1-C may be used for the project consists solely of the project consists of indoc ghting.	f indoor sign:	3	or indoor sign	ns, but	no	
	Use OLTG-1-C     Use OLTG-1-C     other indoor lig	if the project consists solely if the project consists of out- hting.	of outdoor si door lighting,	gns and indoor	or outdoor :	signs, I	but no	
OLTG-2-C	LIGHTING COMPLIAN (Except for Signs)	CE SUMMARY. Applicable Parts	required for	ALL outdoo	r lighting allo	wances		
☑ OLTG-3-C	AREA CALCULATIONS	WORKSHEETS. Applicable part	s required fo	r all outdoo	r area calcul	ations.		
OLTG-4-C	SIGN LIGHTING COM indoor and outdoor	PLIANCE. Required for all inter signs.	mally and ext	ernally illun	ninated signs,	for bo	oth	
2005 Nonresidenti	al Compliance Form	n		Apr	ii 2005			

r general site illumi r local ordinances or r specific applicatio	Countdoor Lighting Meets Allowed indition on OLTG-2-C Part 1 of 4 or for security multipliers on OLTG-2-C Part 1, other than vehicle service stations with autions canopies on OLTG-2-C Part 4 of 4	2 of 4	3 of 4
r general site illumi r local ordinances or r specific applicatio r vehicle service st	ination on OLTG-2-C Part 1 of 4  or for security multipliers on OLTG-2-C Part ans, other than vehicle service stations with a	2 of 4	3 of 4
r local ordinances or specific application	or for security multipliers on OLTG-2-C Parl		3 of 4
r specific applicatio	ons, other than vehicle service stations with a		3 of 4
r vehicle service st		canopies on OLTG-2-C Part	3 of 4
	ations canopies on OLTG-2-C Part 4 of 4		
OLTG-4-C			
Plane Show the Block for Mandato	het Outdoor Lighting Meets Outdoory Measure	oor Lighting Controls	and Equipment
een determined in	accordance with § 130(c)1		
naires with lamps or § 132(a)	rated over 100 watts either have a lamp eff	icacy of at least 60 lumens	per watt or are
ed greater than 17 e Cutoff Requireme	75 watts in hardscape areas, including parkir ents of § 132(b)	ng lots, building entrances, co	anopies, and all
loor lighting meets	the Control Requirements of § 132(c)1		
s, garages, canopie	es, and outdoor sales areas meet the Multi-L	evel Lighting Requirements o	f § 132(c)2
CONTROLS			
	CONTROL TYPE Auto Time Switch/Photosensor, etc	AREA CONTROLLED	NOTE TO FIELD
onel f	Programable Lighting Control Panel	9700	
-			
	been determined in incires with lamps or \$ 132(a) lamps of \$ 132(a	been determined in accordance with § 130(c)1  singless with lomps rated over 100 watts either have a lamp eff or § 132(a)  ted greater than 175 watts in hardscape areas, including parkin ed Cutoff Requirements of § 132(b)  spoor lighting meets the Control Requirements of § 132(c)1  spoor, garages, canopies, and outdoor sales areas meet the Multi-t  C CONTROL  CONTROL  Auto Time Switch/Photosensor, etc	been determined in accordance with \$ 130(c)1  innaires, with lamps roted over 100 watts either have a lamp efficacy of at least 60 lumens or \$ 132(a)  ted greater than 175 watts in hardscape areas, including parking lots, building entrances, or clutif Requirements of \$ 132(b)  spoor lighting meets the Control Requirements of \$ 132(c)1  spoor, garages, canopies, and outdoor sales areas meet the Multi-Level Lighting Requirements of CONTROL  CONTROL  CONTROL  CONTROL  Auto Time Switch/Photosensor, etc.  AREA CONTROLLED

April 2005

JECT NAME UNION/PA	TSAOURAS PLAZA BUSWA	Y STSTION					DATE 07-16-
lardecape - Method (1)							U
. Hardecape for automotive	vehicular use, including	perking lots, dri	lveways and sit	e roads			
A	В	C	D		E	F	G
	Actual Paved Area plus 5'		Area (sf) to Subtrac	t from with	hin illuminated Area	1	
List Specific Application (Table 147-B)	perimeter of adjacent unpoved land. Includes planters and landscaped areas less than 10' wide taht are enclosed by hardscape on at least 3 sides	Area between poles or luminaires that are greater than 6 mounting height (if Applicable)	Overlapping Areas of Another Application or Luminaire	Building Areas	Areas Obstructed By Sign or Other Structure	Sub Total of areas to Subtract (C+D+E+F)	Illuminated Area (B-G)
	-	-	-	-	-	0	-
3. Hardscape for automotive	vehicular use, including	parking lots, dri	veways and sit	e roads			
A	В	С	D	E	F	Ð	н
List Specific Application (Table 147–B)	Actual Paved Area plus 5' perimeter of adjacent unpaved land. Includes planters and landscaped areas less than 10' wide taht are enclosed by hardscape on at least 3 sides	Area between poles or luminaires that are greater than 6 mounting height distance (if Applicable)	Area (sf) to Subtrac Overlapping Areas of Another Application or Luminaire	t from with Building Areas	Areas Obstructed By Sign or Other Structure	Sub Total of areas to Subtract (C+D+E+F)	Illuminated Area (B-G)
PEDESTRIAN CROSS	5000	-	-	-	-	0	5000
STATION PLATFORM	3000	-	-	-	-	0	3000
STAIRS AND ELEV	1700	-	-	-	-	0	1700
Checklist	**************************************	ed only one lighting	applications are consi		the actual use of th		luminaire that

ROJECT HAME UNIC	N/PATSAC	URAS PI	.AZA BUSW	AY STST	ON								DATE	07-	16-10
JGHTING POWER ALL	OWANCE	8-LOCA	L ORDINA	NCE (T	VBLE 14	7-C) OR SECURIT	Y MUL	TIPLIER	S (TABL	E 147-	D)				
		Allotte	d Watts			Luminaire			Lamps	/Belles	ts	ı	installe	d Watt	•
A	В	С	D	E	F	G	н	-	J	K	L	М	N	0	P
Lighting Lighting applications Category	Area (sf) or Length (If)	Allotted LPD W/sf or W/lf	Security Multiplier If Applicable or "147-C"	Allotted Watts (BxCxD) or (BxC)	Code for Luminaire Type	Description	Cutoff Designation	Lamp Type	Number of Lamps per Luminaire	Watts per Lamp	Number of Ballast per Luminaire	Watts Per Luminaire	> If CEC Default	Number of Luminaires	Watts (MxO)
PEDESTRIAN CROSS	5000	.25	2	2500	F1	BEGA 2639P	-	CF	1	42	1	42	<b>\</b>	60	252
STATION PLATFORM	3000	.25	2	1500	F2	GARDCO 101	-	CF	2	42	1	84	7	20	1680
STAIRS AND ELEV	1700	.25	2	850	F3	KIRLIN LIGHTING	-	CF	1	42	1	42	>	2	84
					F4	INTENSE LIGHTING	-	LED	-	ı	-	4.2/FT	>	58	244
	-														
	_							-							_
	+							-							
			L	4850				I							455
Checklist	lot	al Allow	ed Watts	4000								Total In	stalled	Watts	452
EXCEPTION 1 to §147(c)	1B - THere	is a law t	hrough a loca	l ordinance	requiring	specific light levels, and	therefore,	the power	r allowances	in Table	147-C wer	e used.			

NOTE: IF DWG. IS NOT 22"x34", IT IS NOT FULL SIZE

					<b>STV</b>
	05/07/12			ISSUED FOR BID	STV Incorporated
	10/15/10			ADVANCED CONCEPTUAL ENGINEERING	1055 West 7th Street, Suite 3150 Los Angeles, CA 90017
REV.	DATE	BY	APP.	DESCRIPTION	www.stvinc.com



2005 Nonresidential Compliance Form





LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

UNION/PATSAOURAS PLAZA BUSWAY STATION DESIGN BUILD CONTRACT No. C0970	
TITLE 24 CALCULATION	

C0970 NO SCALE E-08

71 OF 80

