CITY OF CHICO PUBLIC WORKS DEPARTMENT

CHICO, CALIFORNIA

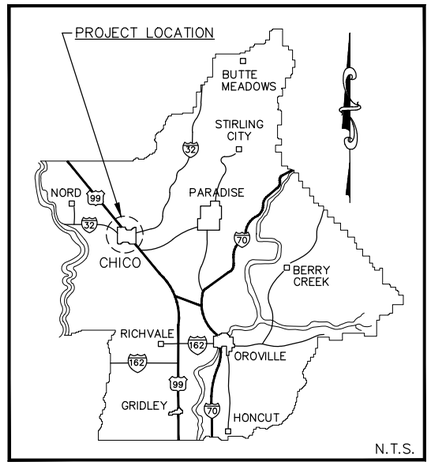
PLANS FOR THE CONSTRUCTION OF :

BRUCE ROAD RECONSTRUCTION

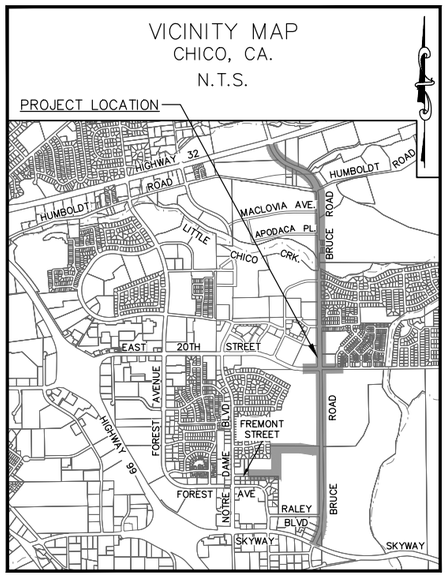
SKYWAY TO STATE ROUTE 32

PROJECT NUMBER

307-000-8800/16038-307-4150



KEY MAP OF BUTTE COUNTY



LOCATION MAP

INDEX OF SHEETS

APPLICABLE STANDARD PLANS:

CITY OF CHICO:

STD. S–1 P.C.C. SIDEWALK DETAILS
STD. S–2 P.C.C. CURB AND GUTTER
STD. S–5A COMMERCIAL DRIVEWAY APPROACH
STD. S–5C CURBED DRIVEWAY ENTRANCE
STD. S–7 36" DROP INLET (CAL–TRANS "G–0")
STD. S–10 STORM DRAIN AND SANITARY SEWER MANHOLE
STD. S–12 APPROVED METHODS OF LAYING PIPE
STD. S–13 TYPICAL METHOD FOR SETTING APPURTENANCES MODIFIED
STD. S–16 STREET POST INSTALLATION DETAILS
STD. S–18E TYPICAL CROSS SECTION – OTHER PUBLIC WAYS
STD. S–21 STREET BARRICADES
STD. S–27 P.C.C. HANDICAPPED RAMP
STD. SL–1 STREET LIGHTS
STD. LS–14 TRENCHING DETAIL
STD. LS–25 TREE AND PAVEMENT LAYOUT IN MEDIAN ISLAND
STD. LS–26 STAMPED CONCRETE BULLNOSE AND MOW BAND

CALTRANS STANDARD PLANS DATED 2018:

STD. A20A PAVEMENT MARKERS AND TRAFFIC LINES
STD. A20B PAVEMENT MARKERS AND TRAFFIC LINES
STD. A20C PAVEMENT MARKERS AND TRAFFIC LINES
STD. A20D PAVEMENT MARKERS AND TRAFFIC LINES
STD. A24A PAVEMENT MARKINGS – ARROWS
STD. A24B PAVEMENT MARKINGS – ARROWS AND SYMBOLS
STD. A24C PAVEMENT MARKINGS – SYMBOLS AND NUMERALS
STD. A24D PAVEMENT MARKINGS – WORDS
STD. A24E PAVEMENT MARKINGS – WORDS, LIMIT AND YIELD LINES
STD. A77U1 MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILING WITHOUT SIDEWALKS DETAIL 1
STD. A77U2 MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILING WITHOUT SIDEWALKS DETAIL 2
STD. A77V1 MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILING WITH SIDEWALKS DETAIL 1
STD. A77V2 MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILING WITH SIDEWALKS DETAIL 2
STD. A87B HOT MIX ASPHALT DIKES
STD. A86 BARBED WIRE AND WIRE MESH FENCES
STD. D78A GUTTER DEPRESSIONS
STD. D78B INLET DEPRESSIONS – CONCRETE SHOULDERS
STD. D78C INLET DEPRESSIONS – HOT MIX ASPHALT SHOULDERS
STD. ES–8A ELECTRICAL SYSTEMS (NON–TRAFFIC PULL BOX)
STD. ES–8B ELECTRICAL SYSTEMS (TRAFFIC PULL BOX)
STD. RSP A77Q1 MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR STRUCTURE APPROACH
STD. RSP A77U4 MIDWEST GUARDRAIL TRANSITION RAILING (TYPE WB–31)

LEGEND

- PROPOSED PATH LIGHT
- PROPOSED STREET LIGHT
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING GAS VALVE
- EXISTING SIGN
- EXISTING SD MANHOLE
- EXISTING SS MANHOLE
- UTILITY POLE
- SURVEY CONTROL POINT
- SURVEY MONUMENT
- STREET LIGHT BOX
- EXISTING CURB INLET
- EXISTING CATCH BASIN
- PROPOSED CURB INLET
- RADIUS DIMENSION: CURB: TO FACE OF CURB SIDEWALK: TO EDGE OF WALK
- EXISTING TREE (XX" IN SIZE)
- EXISTING TREE TO BE REMOVED
- EXISTING TRAFFIC SIGNAL BOX
- EXISTING WATER METER BOX
- PROPOSED MANHOLE
- PROPOSED SIGN
- UNDERDRAIN CONNECTION TO STORM DRAIN PIPE PER DETAIL
- UNDERDRAIN CONNECTION TO STORM DRAIN DROP INLET PER DETAIL
- LANDSCAPE CATCH BASIN PER DETAIL
- 8" DIA. LANDSCAPE DRAIN CLEANOUT PER DETAIL
- EXISTING JOINT TRENCH
- EXISTING ELECTRIC LINE
- EXISTING TELEPHONE LINE
- EXISTING GAS MAIN
- EXISTING WATER MAIN
- EXISTING OVERHEAD UTILITY LINE
- EXISTING FENCE
- EXISTING EDGE OF PAVEMENT
- EXISTING CONCRETE CURB AND GUTTER
- EXISTING STORM DRAIN WITH SIZE
- EXISTING SANITARY SEWER WITH SIZE
- OG MAJOR CONTOUR
- OG MINOR CONTOUR
- EXISTING GRADING FLOWLINE
- TEMPORARY CONSTRUCTION EASEMENT
- PUBLIC SERVICE EASEMENT
- STORM DRAIN EASEMENT
- PROPERTY LINE
- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED GRADE BREAK
- PROPOSED FENCE
- PROPOSED STREET LIGHT CONDUIT
- PROPOSED STREET LIGHT BOX
- PROPOSED TRAFFIC SIGNAL CONDUIT
- PROPOSED TRAFFIC SIGNAL BOX
- PROPOSED UTILITY SLEEVE
- PROPOSED WATER SLEEVE

ABBREVIATIONS

AGGREGATE BASE ..... AB
ANCHOR POLE ..... PA
ANGLE POINT ..... AP
ASPHALT CONCRETE ..... AC
BACK OF WALK ..... BOW
BEGIN CURVE ..... BC
BEGIN VERTICAL CURVE ..... BVC
BOLLARD ..... BD
CABLE TELEVISION ..... CATV
CABLE TELEVISION BOX ..... TVB
CATCH BASIN ..... CB
CENTERLINE CL
CLEAN OUT ..... CO
CITY OF CHICO ..... C.O.C.
COMPOUND CURVE CC
CONCRETE MASONRY UNIT ..... CMU
CONTROL POINT ..... CP
CORRUGATED METAL PIPE ..... CMP
CUBIC YARDS ..... CY
CURB AND GUTTER ..... CG
CURVE # C
DROP INLET ..... DI
EDGE OF PAVEMENT ..... EP
ELECTRIC ..... E
ELECTRICAL CONDUIT ..... E/CNDT
ELECTRIC METER ..... EM
ELECTRICAL PAD MOUNT ..... E/PAD
ELECTRICAL TRANSFORMER ..... E/TRFR
ELECTRICAL VAULT ..... EV
ELECTRICAL VAULT SWITCH GEAR ..... E/SWITCH
ELEVATION ..... ELEV
END CURVE ..... EC
END RETURN ..... ER
END VERTICAL CURVE ..... EVC
EXISTING ..... EX
EXISTING GROUND ..... EG
FACE OF CURB ..... FOC
FEET ..... FT
FIBEROPTIC ..... FO
FINISH GRADE ..... FG
FIRE HYDRANT ..... FH
FLOWLINE ..... FL
GAS ..... G
GAS METER ..... GM
GAUGE ..... GA
GRADE BREAK ..... GB
GUY WIRE ..... GUY
HANDICAP RAMP ..... HCRAMP
HIGH DENSITY POLYETHYLENE ..... HDPE
INTERSECTION ..... INTX
INVERT ELEVATION ..... INV
IRRIGATION CONTROL VALVE ICV
JOINT POLE ..... JP
JOINT TRENCH ..... JT
LATERAL ..... LAT
LEFT ..... LT
LINE # L
LINEAR FEET ..... LF
LIP OF GUTTER ..... LIP
MANHOLE ..... MH
MAXIMUM ..... MAX
MID POINT ..... MP
MID POINT ON CURVE ..... MPOC
MINIMUM ..... MIN
MONUMENT ..... MON
NOT TO SCALE ..... NTS
OFFSET ..... OS
ORIGINAL GROUND ..... OG
OVERHEAD ELECTRIC ..... OH
PACIFIC BELL VAULT ..... PBV
PEDESTRIAN PUSH BUTTON ..... PPB
POINT OF INTERSECTION ..... PI
POINT OF REVERSE CURVATURE ..... PRC
POINT OF TANGENCY ..... PT
POINT OF VERTICAL INTERSECTION ..... PVI
PROPERTY LINE ..... PL
POLYVINYL CHLORIDE ..... PVC
PORTLAND CEMENT CONCRETE ..... PCC
POWER POLE ..... PP
PUBLIC SERVICE EASEMENT ..... PSE
PUBLIC UTILITY EASEMENT ..... PUE
RADIUS ..... R
REINFORCED CONCRETE PIPE ..... RCP
RELATIVE COMPACTION ..... RC
RIGHT ..... RT
RIGHT–OF–WAY ..... ROW
SANITARY SEWER ..... SS
SANITARY SEWER MANHOLE ..... SSMH
SERVICE ..... SERV
SIDEWALK ..... SW
SIGN POST ..... SP
SLOPE ..... S
STANDARD ..... STD
STATION ..... STA
STORM DRAIN ..... SD
STORM DRAIN CATCH BASIN ..... SDCB
STORM DRAIN DROP INLET ..... SDDI
STORM DRAIN MANHOLE ..... SDMH
STREET LIGHT ..... SL
STREET LIGHT BOX ..... SLB
TELEPHONE ..... TEL
TELEPHONE MANHOLE ..... TMH
TEMPORARY CONSTRUCTION EASEMENT ..... T.C.E.
TRAFFIC SIGNAL ..... TS
TRAFFIC SIGNAL BIKE ..... TSBK
TRAFFIC SIGNAL CABLE BOX ..... TSCB
TRAFFIC SIGNAL HAND HOLE ..... TSHH
TRAFFIC SIGNAL INTERCONNECT WIRE ..... TSIW
TRAFFIC SIGNAL TRAFFIC LOOP ..... TSTL
TRANSFORMER ..... TRANS
TRANSFORMER PAD ..... TPAD
TREE ..... T
TOP BACK OF CURB ..... TBC
TOP OF CURB ..... TC
TOE OF SLOPE ..... TOE
TOP OF SLOPE ..... TOP
TYPICAL ..... TYP
UTILITY VAULT ..... UT/V
VALLEY GUTTER ..... VG
WATER ..... W
WATER METER ..... WM
WATER PRESSURE VACUUM BREAKER ..... WPVB
WATER VALVE ..... WV

CULTURAL RESOURCES NOTE:

IF HUMAN REMAINS ARE UNEARTHED DURING CONSTRUCTION, THE CONTRACTOR MUST CEASE WORK WITHIN 100–FEET OF THE DISCOVERY AND NOTIFY THE COUNTY CORONER PER HEALTH AND SAFETY CODE SECTION 7050.5. NO FURTHER DISTURBANCE MAY OCCUR UNTIL THE CORONER HAS MADE THE NECESSARY FINDINGS AS TO THE ORIGINS AND DISPOSITIONS PURSUANT TO PUBLIC RESOURCES CODE SECTION 5097.98.

SHOULD CULTURAL RESOURCES BE ENCOUNTERED, THE SUPERVISING CONTRACTOR SHALL STOP WORK WITHIN 100–FEET OF THE FIND. THE SUPERVISING CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING ANY SUCH FINDINGS TO THE ENGINEER, AND A QUALIFIED ARCHAEOLOGIST WILL BE CONTACTED TO CONDUCT ON–SITE MEETINGS WITH THE CONTRACTOR AND THEIR EMPLOYEES, DETERMINE APPROPRIATE MITIGATION MEASURES, AND MONITOR THE REFERENCE MITIGATION MEASURES.

REGISTERED PROFESSIONAL ENGINEER — PAUL W. RABO — No. 72209 — CIVIL — State of California

PREPARED BY OR UNDER THE SUPERVISION OF:

Paul W. Rabo — DATE: 12–8–23

PAUL W. RABO
R.C.E. No. C 72209
EXP. 06/30/24

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

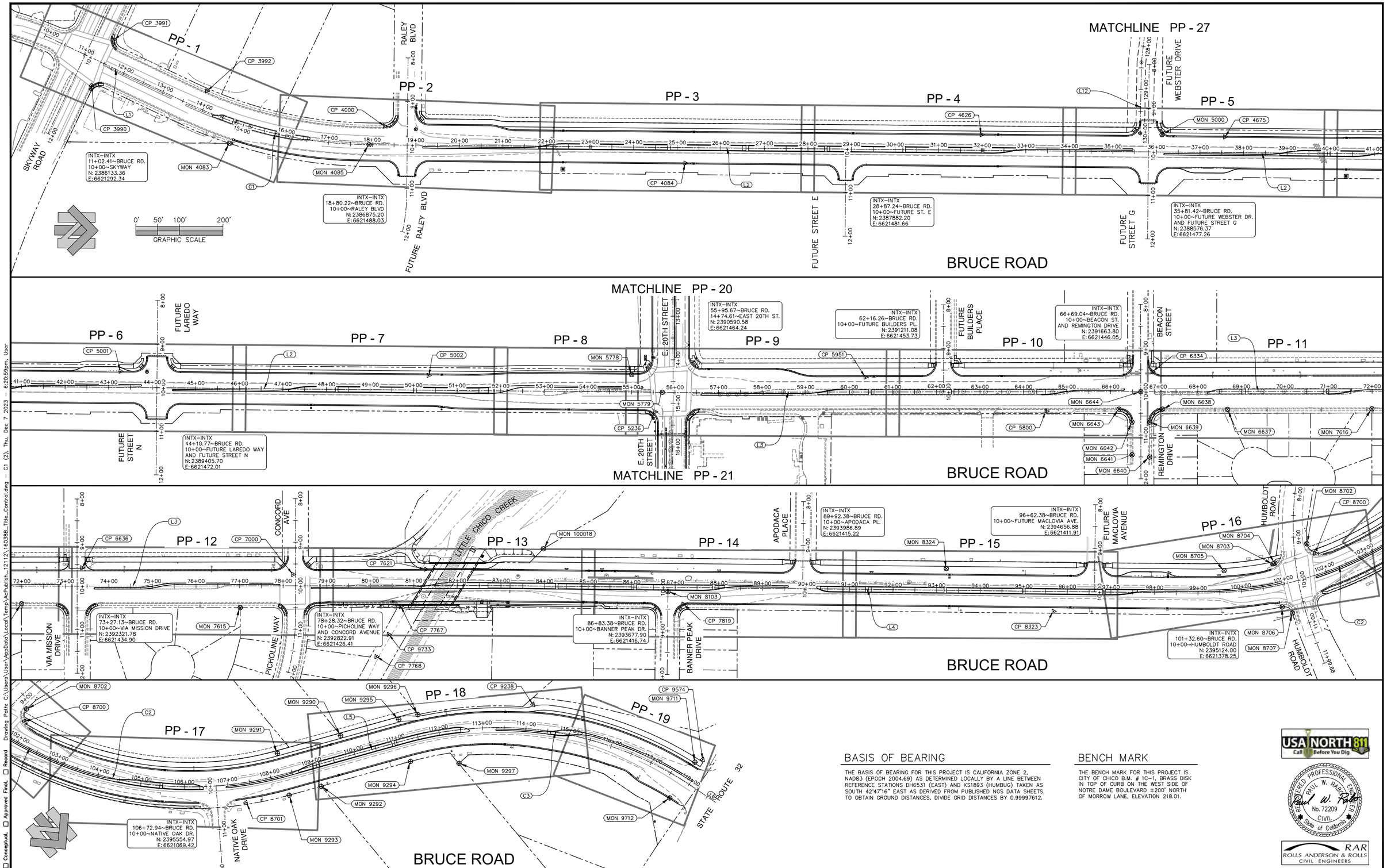
APPROVED BY: — DATE: 12/8/23

BRENDAN OTTOBONI
PUBLIC WORKS DIRECTOR – ENGINEERING
CITY OF CHICO, CALIFORNIA

CITY of CHICO INC. 1872

Drawing Number T–1

Drawing Number T–1



BASIS OF BEARING

THE BASIS OF BEARING FOR THIS PROJECT IS CALIFORNIA ZONE 2, NAD83 (EPOCH 2004.69) AS DETERMINED LOCALLY BY A LINE BETWEEN REFERENCE STATIONS DH6531 (EAST) AND KS1893 (HUMBUG) TAKEN AS SOUTH 42°47'16" EAST AS DERIVED FROM PUBLISHED NGS DATA SHEETS. TO OBTAIN GROUND DISTANCES, DIVIDE GRID DISTANCES BY 0.99997612.

BENCH MARK

THE BENCH MARK FOR THIS PROJECT IS CITY OF CHICO B.M. # 1C–1, BRASS DISK IN TOP OF CURB ON THE WEST SIDE OF NOTRE DAME BOULEVARD ±200' NORTH OF MORROW LANE, ELEVATION 218.01.

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REGISTERED PROFESSIONAL ENGINEER PAUL W. RABE No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

Title: BRUCE ROAD RECONSTRUCTION

Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_12112\160388_Title_Control.dwg – C1 (2), Thu, Dec 7 2023 – 6:20:59pm, User

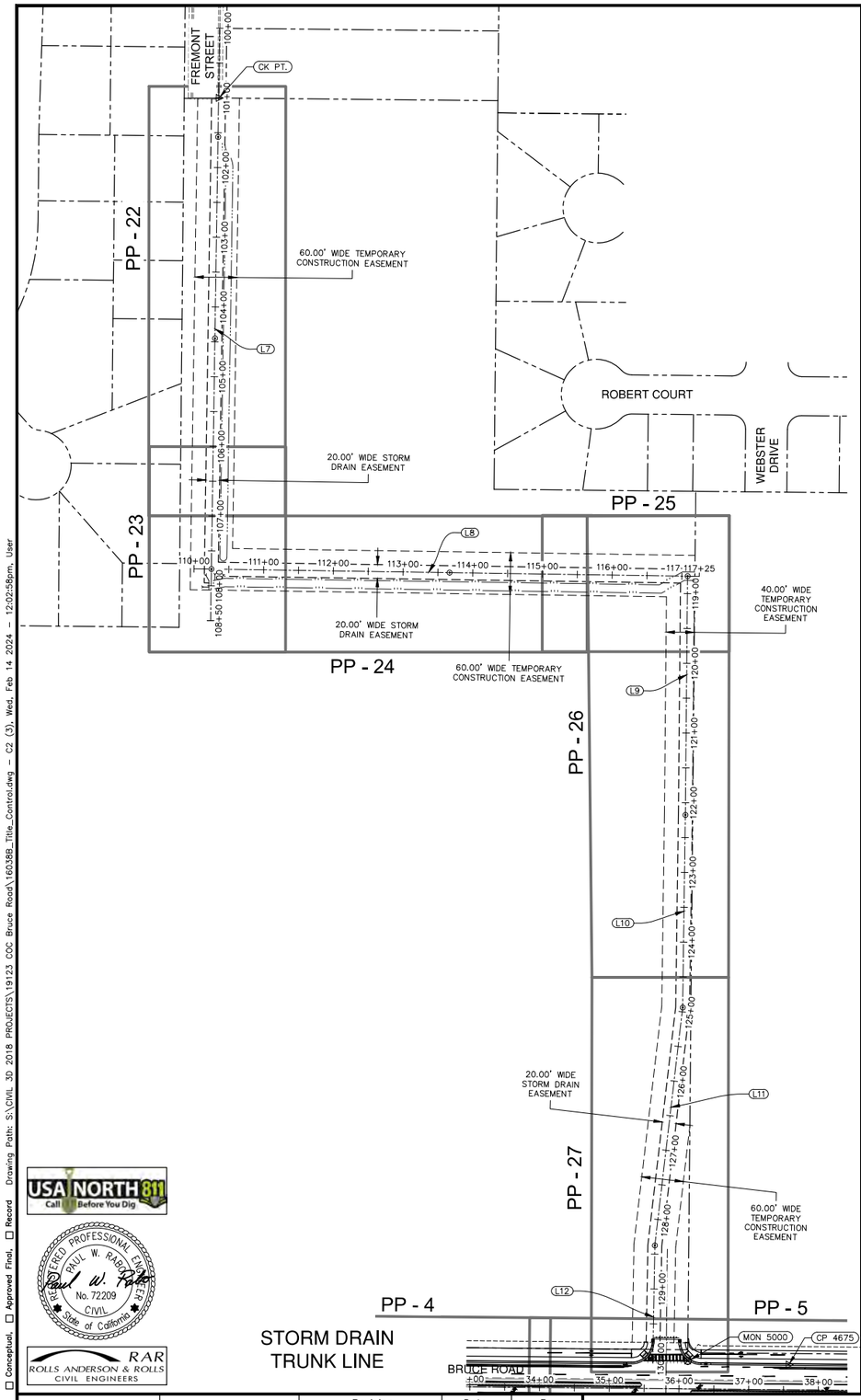
Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

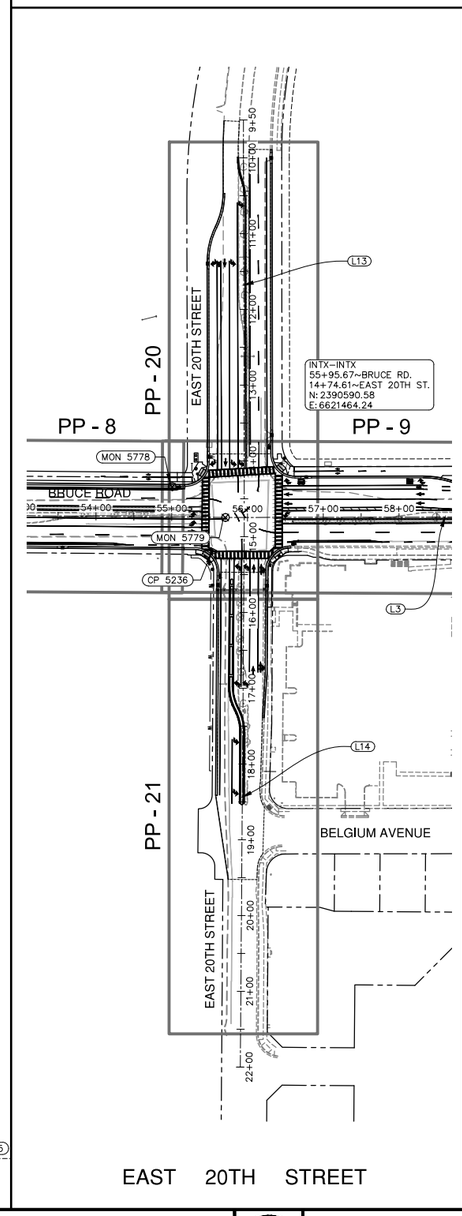
Designed: JIR	Approved:	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

BRUCE ROAD RECONSTRUCTION
CONTROL PLAN / KEY MAP

Project Number:	Drawing Number
16038	C–1
Scale: 1"= 100'	Sheet 2 of 182

Drawing Number C–1





0' 50' 100' 200'
GRAPHIC SCALE

BRUCE ROAD CENTERLINE DATA					
NO.	LENGTH	RADIUS	DIRECTION/DELTA	BEG. N, E	END N, E
C1	433.72'	999.98'	024°51'04"	(2386366.77, 6621398.66)	2386787.60, 6621488.59
C2	920.80'	802.98'	065°42'10"	(2394904.15, 6621410.69)	2395632.36, 6620932.52
C3	698.02'	799.98'	049°59'35"	(2395749.13, 6620667.89)	2396257.89, 6620222.63
L1	358.89'		N24°29'18"E	(2386040.16, 6621249.89)	2386366.77, 6621398.66
L2	3778.16'		N00°21'46"W	(2386787.60, 6621488.59)	2390565.69, 6621464.66
L3	2711.38'		N00°58'15"W	(2390565.69, 6621464.66)	2393276.67, 6621418.72
L4	1627.50'		N00°16'57"W	(2393276.67, 6621418.72)	2394904.15, 6621410.69
L5	289.24'		N66°11'20"W	(2395632.36, 6620932.52)	2395749.13, 6620667.89
L6	82.29'		N16°11'45"W	(2396257.89, 6620222.63)	2396336.91, 6620199.68

STORM DRAIN TRUNKLINE CENTERLINE DATA					
NO.	LENGTH	RADIUS	DIRECTION/DELTA	BEG. N, E	END N, E
L7	850.00'		N89°59'34"E	2387906.00, 6619535.74	2387906.11, 6620385.74
L8	776.04'		N00°01'59"W	2387830.06, 6620311.82	2388606.10, 6620311.37
L9	401.81'		N89°38'49"E	2388588.97, 6620252.10	2388591.44, 6620653.91
L10	276.46'		N89°54'45"E	2388591.44, 6620653.91	2388591.86, 6620930.37
L11	343.49'		S84°13'06"E	2388591.86, 6620930.37	2388557.26, 6621272.11
L12	205.44'		S89°52'03"E	2388557.26, 6621272.11	2388556.78, 6621477.55

EAST 20TH STREET CENTERLINE DATA					
NO.	LENGTH	RADIUS	DIRECTION/DELTA	BEG. N, E	END N, E
L13	537.45'		N88°59'44"E	2390581.38, 6620939.71	2390590.80, 6621477.08
L14	712.55'		N89°31'36"E	2390590.80, 6621477.08	2390596.69, 6622189.60

CONTROL TABLE							
POINT NUMBER	NORTHING	EASTING	ELEV.	STATION	OFFSET	ALIGNMENT	DESCRIPTION
CK PT.	2387906.01	6619635.74	0.00	101+00.00	0.00'	SD TRUNK – STA 100+00 TO 108+50	SURVEY CHECK POINT
3990	2386148.50	6621362.31	230.54	11+45.19	57.40' R	BRUCE RD.	PK NAIL
3991	2386197.86	6621256.54	230.94	11+46.26	59.31' L	BRUCE RD.	PK NAIL
3992	2386413.82	6621371.02	231.76	13+91.71	44.14' L	BRUCE RD.	PK NAIL
4000	2386822.84	6621445.44	235.74	18+28.13	42.93' L	BRUCE RD.	PK NAIL
4084	2387514.20	6621519.86	241.46	25+19.00	35.87' R	BRUCE RD.	3/8" REBAR & CAP
4626	2388193.01	6621443.70	245.39	31+98.28	35.99' L	BRUCE RD.	3/8" REBAR & CAP
4675	2388751.64	6621440.23	249.94	37+56.92	35.92' L	BRUCE RD.	3/8" REBAR & CAP
5001	2389321.84	6621435.70	254.87	43+27.14	36.84' L	BRUCE RD.	3/8" REBAR & CAP
5002	2390028.88	6621434.25	258.65	50+34.17	33.82' L	BRUCE RD.	3/8" REBAR & CAP
5236	2390550.25	6621509.61	259.85	55+55.05	44.84' R	BRUCE RD.	PK NAIL
5800	2391448.08	6621493.93	266.43	64+52.55	44.22' R	BRUCE RD.	PK NAIL
5951	2391031.68	6621422.57	262.40	60+37.42	34.19' L	BRUCE RD.	SPIKE
6334	2391689.82	6621399.38	267.52	66+95.86	46.22' L	BRUCE RD.	3/8" REBAR & CAP
6636	2392332.48	6621392.78	266.64	73+38.53	41.94' L	BRUCE RD.	3/8" REBAR & CAP
7000	2392816.58	6621400.31	269.99	78+22.44	26.20' L	BRUCE RD.	PK NAIL
7621	2393120.86	6621383.73	266.82	81+26.95	37.62' L	BRUCE RD.	3/8" REBAR & CAP
7767	2393065.07	6621470.20	268.71	80+69.71	47.88' R	BRUCE RD.	SPIKE
7768	2393011.17	6621586.00	269.59	80+13.86	162.75' R	BRUCE RD.	SPIKE
7819	2393713.88	6621454.82	271.00	87+19.18	38.25' R	BRUCE RD.	PK NAIL
8323	2394563.51	6621458.14	269.73	95+68.78	45.77' R	BRUCE RD.	3/8" REBAR & CAP
8700	2395161.43	6621315.40	269.38	101+89.65	47.87' L	BRUCE RD.	3/8" REBAR & CAP
8701	2395628.33	6621040.62	264.52	107+35.18	46.01' R	BRUCE RD.	3/8" REBAR & CAP
9238	2395871.77	6620388.33	260.08	114+11.10	56.89' L	BRUCE RD.	3/8" REBAR & CAP
9574	2396216.56	6620167.48	256.76	117+95.22	64.83' L	BRUCE RD.	3/8" REBAR & CAP
9733	2393038.44	6621534.49	269.37	80+41.99	111.72' R	BRUCE RD.	TEMP

MONUMENT TABLE							
POINT NUMBER	NORTHING	EASTING	ELEV.	STATION	OFFSET	ALIGNMENT	DESCRIPTION
5779	2390565.69	6621464.66	260.08	55+70.78	0.00' R	BRUCE RD.	CENTERLINE MONUMENT
6637	2391863.43	6621483.74	266.40	68+68.01	41.06' R	BRUCE RD.	WITNESS CORNER
6638	2391714.42	6621485.46	267.08	67+19.00	40.26' R	BRUCE RD.	WITNESS CORNER
6639	2391685.18	6621515.72	266.72	66+89.24	70.01' R	BRUCE RD.	WITNESS CORNER
6640	2391686.52	6621595.88	266.85	66+89.23	150.19' R	BRUCE RD.	WITNESS CORNER
6641	2391645.98	6621591.36	266.81	66+48.76	144.98' R	BRUCE RD.	WITNESS CORNER
6642	2391644.75	6621516.39	266.68	66+48.81	70.00' R	BRUCE RD.	WITNESS CORNER
6643	2391614.47	6621487.15	266.69	66+19.03	40.25' R	BRUCE RD.	WITNESS CORNER
6644	2391663.81	6621446.06	267.22	66+69.05	0.00' R	BRUCE RD.	CENTERLINE MONUMENT
7615	2392696.74	6621478.44	269.62	77+01.29	49.89' R	BRUCE RD.	WITNESS CORNER
7616	2392194.75	6621477.29	266.00	71+99.39	40.23' R	BRUCE RD.	WITNESS CORNER
8103	2393677.91	6621426.51	270.90	86+83.35	9.77' R	BRUCE RD.	CENTERLINE MONUMENT
8324	2394315.97	6621363.63	268.80	93+21.71	49.97' L	BRUCE RD.	PROPERTY CORNER
8702	2395142.37	6621293.91	270.17	101+78.23	74.59' L	BRUCE RD.	PROPERTY CORNER
8703	2395064.98	6621341.40	269.02	100+83.20	50.55' L	BRUCE RD.	PROPERTY CORNER
8704	2395069.69	6621339.61	269.07	100+88.52	51.24' L	BRUCE RD.	PROPERTY CORNER
8705	2394953.45	6621358.45	270.61	99+62.70	50.22' L	BRUCE RD.	PROPERTY CORNER
8706	2395088.24	6621439.57	268.47	100+84.04	50.33' R	BRUCE RD.	PROPERTY CORNER
8707	2395111.85	6621453.25	269.12	101+02.42	69.16' R	BRUCE RD.	PROPERTY CORNER
9290	2395647.08	6620775.41	262.73	109+80.13	49.96' L	BRUCE RD.	PROPERTY CORNER
9291	2395586.40	6620913.20	263.55	108+29.47	49.84' L	BRUCE RD.	PROPERTY CORNER
9292	2395708.58	6620883.61	263.58	109+05.96	49.99' R	BRUCE RD.	PROPERTY CORNER
9293	2395677.91	6620953.46	264.22	108+29.76	50.14' R	BRUCE RD.	PROPERTY CORNER
9294	2395794.48	6620688.78	261.12	111+18.89	49.92' R	BRUCE RD.	PROPERTY CORNER
9295	2395702.97	6620648.60	261.42	111+18.71	50.02' L	BRUCE RD.	PROPERTY CORNER
9296	2395722.26	6620607.67	261.43	111+61.35	50.05' L	BRUCE RD.	PROPERTY CORNER
9297	2395868.46	6620605.67	260.68	112+36.30	76.38' R	BRUCE RD.	PROPERTY CORNER
9711	2396209.70	6620185.33	252.37	117+83.94	50.02' L	BRUCE RD.	PROPERTY CORNER
9712	2396236.67	6620281.99	251.42	117+78.29	50.17' R	BRUCE RD.	PROPERTY CORNER
100018	2393390.57	6621332.45	264.50	83+96.47	85.71' L	BRUCE RD.	PROPERTY CORNER

BASIS OF BEARING

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BENCH MARK

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USA NORTH 811 Call Before You Dig

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABOTAU No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number C-2

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Title_Control.dwg – C2 (3), Wed, Feb 14 2024 – 12:02:58pm, User

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
CONTROL PLAN / KEY MAP

Project Number: 16038
Drawing Number C-2
Scale: 1"= 100'
Sheet 3 of 182

STAGE CONSTRUCTION

- STAGE 1 - CLOSE SOUTH PORTION OF BRUCE RD. CONSTRUCT SOUTH PORTION OF BRUCE RD. CONSTRUCT STRUCTURE AND APPROACHES
- STAGE 2 - CLOSE NORTH PORTION OF BRUCE RD. CONSTRUCT NORTH PORTION OF BRUCE RD.
- STAGE 3 - CONSTRUCT PORTION OF BRUCE RD UNDER TRAFFIC CONTROL.
- STAGE 4 - CLOSE INTERSECTION OF EAST 20TH ST AND BRUCE RD. CONSTRUCT EAST 20TH INTERSECTION AND LEGS
- STAGE 5 - CLOSE INTERSECTION OF CONCORD AVE AND BRUCE RD. CONSTRUCT CONCORD AVE INTERSECTION. CONSTRUCT REMAINING BANNER PEAK INTERSECTION WHILE MAINTAINING ACCESS TO RESIDENTS.

LEGEND:

- CONSTRUCTION AREA SIGN
- PCMS

PORTABLE CHANGEABLE MESSAGE SIGNS

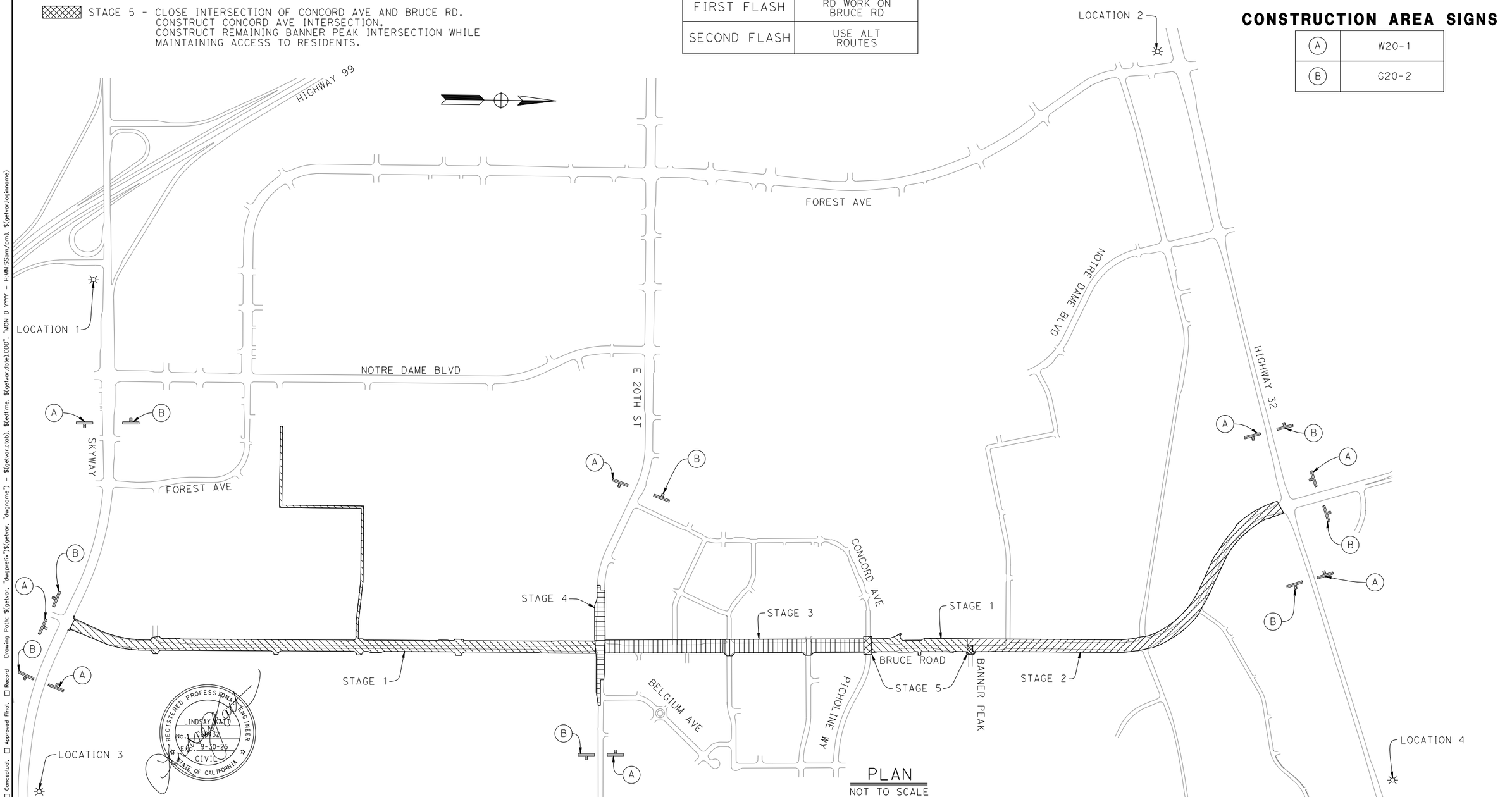
	LOCATION 1, 2, 3, 4
FIRST FLASH	RD WORK ON BRUCE RD
SECOND FLASH	USE ALT ROUTES

NOTES:

1. LOCATIONS OF SIGNS AND PCMS ARE APPROXIMATE. EXACT LOCATIONS TO BE APPROVED BY RESIDENT ENGINEER.
2. RECOMMENDED TRAFFIC HANDLING SHOWN. FINAL TRAFFIC CONTROL PLAN TO BE APPROVED BY RESIDENT ENGINEER.

CONSTRUCTION AREA SIGNS

A	W20-1
B	G20-2



PLAN
NOT TO SCALE

Sheet ___ of ___

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number SC-1

Plan Status: ☐ Conceptual. ☐ Approved Final. ☐ Record Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),DDD", "MON D YYYY - H:MM:SSam/pm), $(getvar,loginname)

Designed: L. KATT	Approved:	Revision	Date	By
Drawn By: A. DANG				
Checked:	Date:			

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BRUCE ROAD RECONSTRUCTION
STAGE CONSTRUCTION

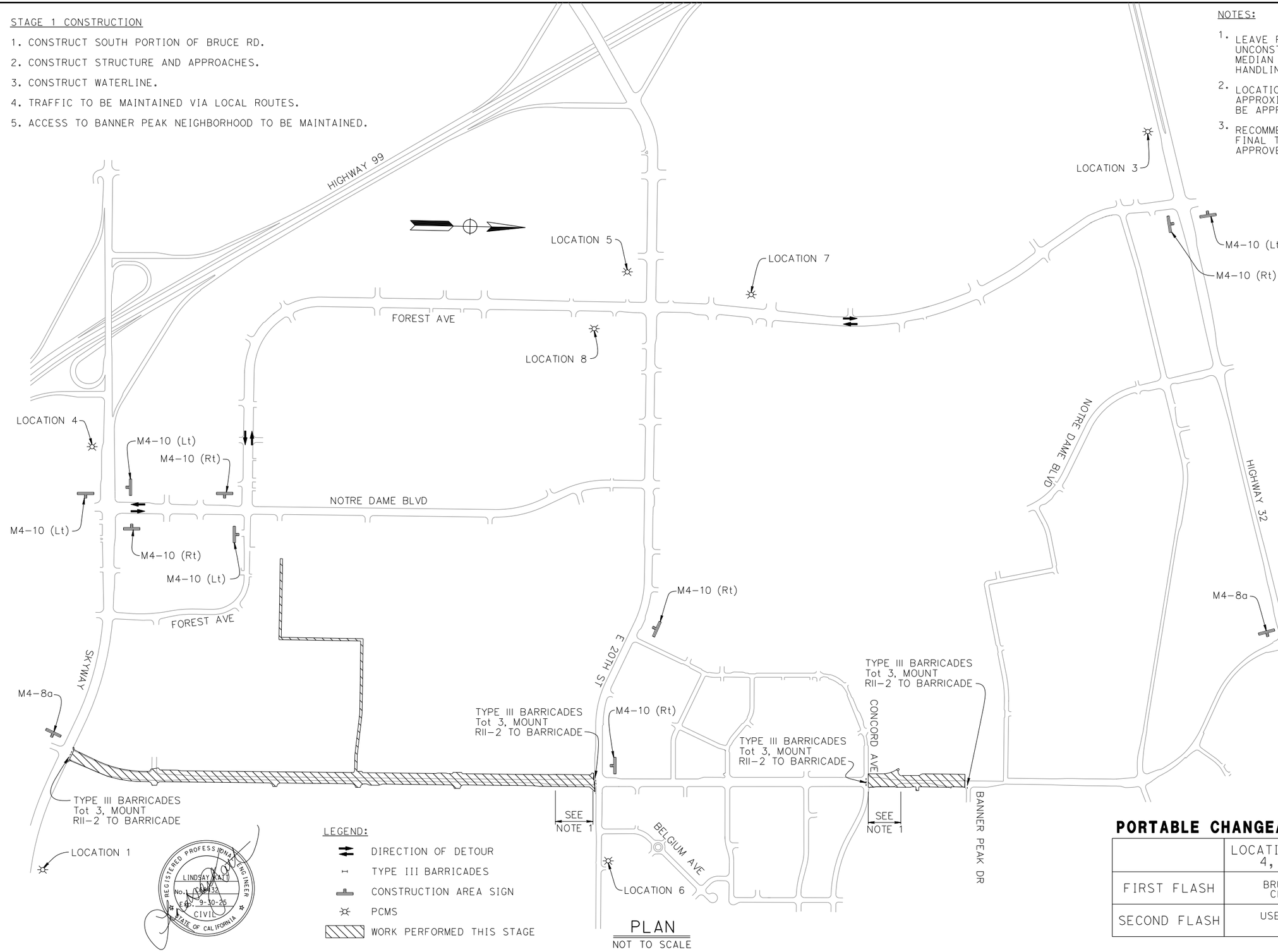
Project Number: 16038	Drawing Number SC-1
Scale: AS NOTED	Sheet 4 of 182

STAGE 1 CONSTRUCTION

1. CONSTRUCT SOUTH PORTION OF BRUCE RD.
2. CONSTRUCT STRUCTURE AND APPROACHES.
3. CONSTRUCT WATERLINE.
4. TRAFFIC TO BE MAINTAINED VIA LOCAL ROUTES.
5. ACCESS TO BANNER PEAK NEIGHBORHOOD TO BE MAINTAINED.

NOTES:

1. LEAVE PORTION OF CONCRETE MEDIAN UNCONSTRUCTED TO ALLOW FOR STAGE 3 MEDIAN CROSSOVER. SEE STAGE 3 TRAFFIC HANDLING SHEETS FOR MORE DETAILS.
2. LOCATIONS OF SIGNS AND PCMS ARE APPROXIMATE. EXACT LOCATIONS TO BE APPROVED BY RESIDENT ENGINEER.
3. RECOMMENDED TRAFFIC HANDLING SHOWN. FINAL TRAFFIC CONTROL PLAN TO BE APPROVED BY RESIDENT ENGINEER.



PLAN
NOT TO SCALE

PORTABLE CHANGEABLE MESSAGE SIGNS

	LOCATION 1, 2, 3 4, 5, & 6	LOCATION 7, 8
FIRST FLASH	BRUCE RD CLOSED	MERIAM PARK ACCESS
SECOND FLASH	USE FOREST AVE	USE E 20TH ST

Sheet ___ of ___

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number TH-1

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar.date).DDD", "WON D YYYY - H:MM:SSam/pm), $(getvar.loginname)

Designed: L. KATT	Approved:	Revision	Date	By
Drawn By: A. DANG				
Checked:	Date:			

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BRUCE ROAD RECONSTRUCTION
TRAFFIC HANDLING STAGE 1

Project Number: 16038

Drawing Number TH-1

Scale: AS NOTED

Sheet 5 of 182

STAGE 2 CONSTRUCTION

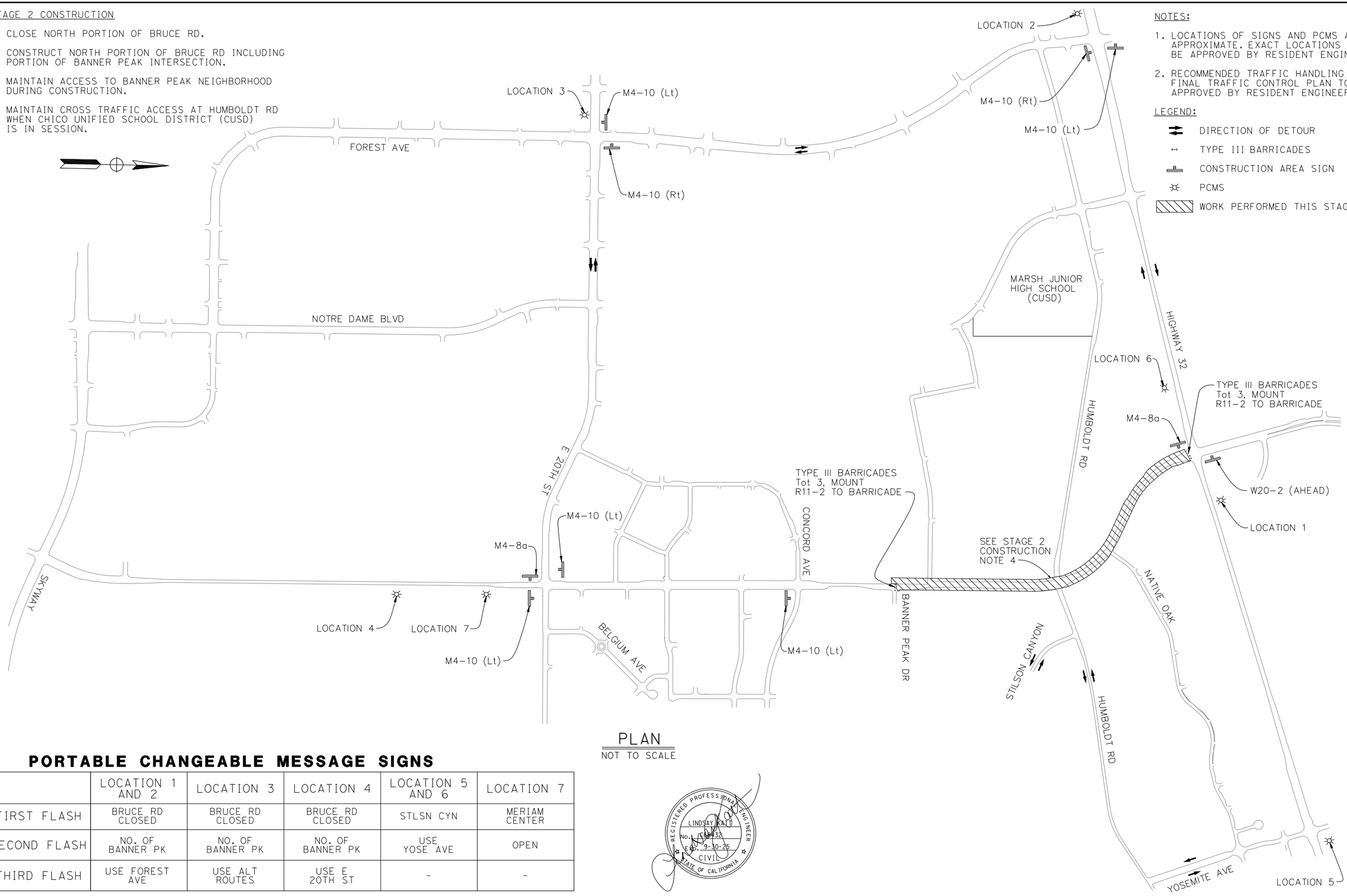
1. CLOSE NORTH PORTION OF BRUCE RD.
2. CONSTRUCT NORTH PORTION OF BRUCE RD INCLUDING PORTION OF BANNER PEAK INTERSECTION.
3. MAINTAIN ACCESS TO BANNER PEAK NEIGHBORHOOD DURING CONSTRUCTION.
4. MAINTAIN CROSS TRAFFIC ACCESS AT HUMBOLDT RD WHEN CHICO UNIFIED SCHOOL DISTRICT (CUSD) IS IN SESSION.

NOTES:

1. LOCATIONS OF SIGNS AND PCMS ARE APPROXIMATE. EXACT LOCATIONS TO BE APPROVED BY RESIDENT ENGINEER.
2. RECOMMENDED TRAFFIC HANDLING SHOWN. FINAL TRAFFIC CONTROL PLAN TO BE APPROVED BY RESIDENT ENGINEER.

LEGEND:

- DIRECTION OF DETOUR
- TYPE III BARRICADES
- CONSTRUCTION AREA SIGN
- PCMS
- WORK PERFORMED THIS STAGE



PLAN
NOT TO SCALE

PORTABLE CHANGEABLE MESSAGE SIGNS

	LOCATION 1 AND 2	LOCATION 3	LOCATION 4	LOCATION 5 AND 6	LOCATION 7
FIRST FLASH	BRUCE RD CLOSED	BRUCE RD CLOSED	BRUCE RD CLOSED	STLSN CYN	MERIAM CENTER
SECOND FLASH	NO. OF BANNER PK	NO. OF BANNER PK	NO. OF BANNER PK	USE YOSE AVE	OPEN
THIRD FLASH	USE FOREST AVE	USE ALT ROUTES	USE E 20TH ST	-	-

REGISTERED PROFESSIONAL ENGINEER
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Designed: L. KATT	Approved:	Revision	Date	By
Drawn By: A. DANG		1 ADDENDUM 1	12/20/23	
Checked:	Date:			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
TRAFFIC HANDLING STAGE 2

Project Number: 16038
Drawing Number TH-2
Scale: AS NOTED
Sheet 6 of 182

Sheet — of —
Title: BRUCE ROAD RECONSTRUCTION
Drawing Number TH-2
Plan Status: ☐ Conceptual. ☐ Approved Final. ☐ Record
Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),DDD", "MON D YYYY - H:MM:SSam/pm), $(getvar,loginname)

NOTES:

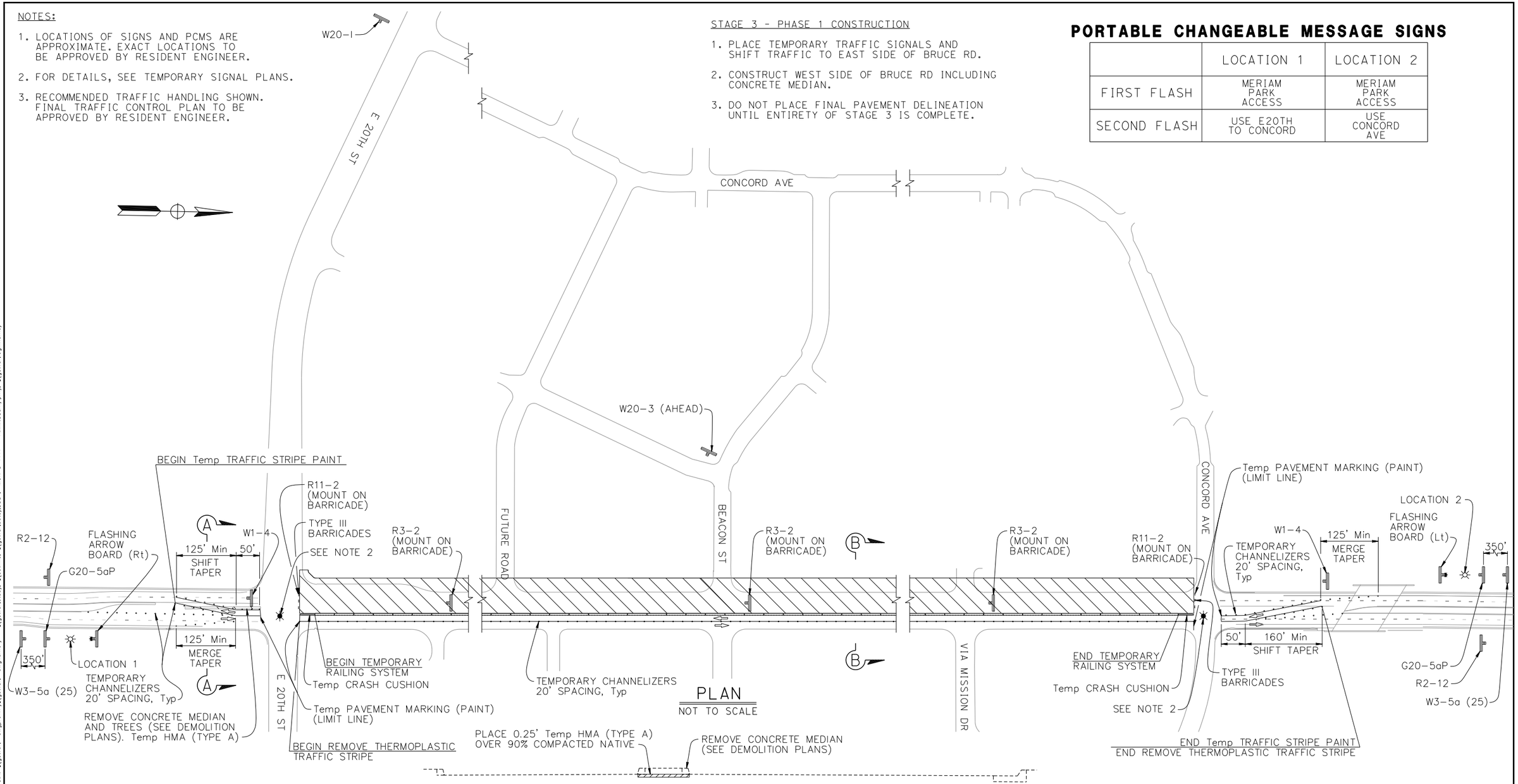
1. LOCATIONS OF SIGNS AND PCMS ARE APPROXIMATE. EXACT LOCATIONS TO BE APPROVED BY RESIDENT ENGINEER.
2. FOR DETAILS, SEE TEMPORARY SIGNAL PLANS.
3. RECOMMENDED TRAFFIC HANDLING SHOWN. FINAL TRAFFIC CONTROL PLAN TO BE APPROVED BY RESIDENT ENGINEER.

STAGE 3 - PHASE 1 CONSTRUCTION

1. PLACE TEMPORARY TRAFFIC SIGNALS AND SHIFT TRAFFIC TO EAST SIDE OF BRUCE RD.
2. CONSTRUCT WEST SIDE OF BRUCE RD INCLUDING CONCRETE MEDIAN.
3. DO NOT PLACE FINAL PAVEMENT DELINEATION UNTIL ENTIRETY OF STAGE 3 IS COMPLETE.

PORTABLE CHANGEABLE MESSAGE SIGNS

	LOCATION 1	LOCATION 2
FIRST FLASH	MERIAM PARK ACCESS	MERIAM PARK ACCESS
SECOND FLASH	USE E20TH TO CONCORD	USE CONCORD AVE



PLAN
NOT TO SCALE

MEDIAN CROSSOVER
SECTION A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE

LEGEND:

- DIRECTION OF TRAFFIC
- TYPE III BARRICADES
- FLASHING ARROW BOARD
- CONSTRUCTION AREA SIGN
- PCMS
- TEMPORARY TRAFFIC SIGNAL
- WORK PERFORMED THIS STAGE

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Drawn By: A. DANG				
Checked:	Date:			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
TRAFFIC HANDLING STAGE 3 PHASE 1

Project Number: 16038
Drawing Number TH-3
Scale: AS NOTED
Sheet 7 of 182

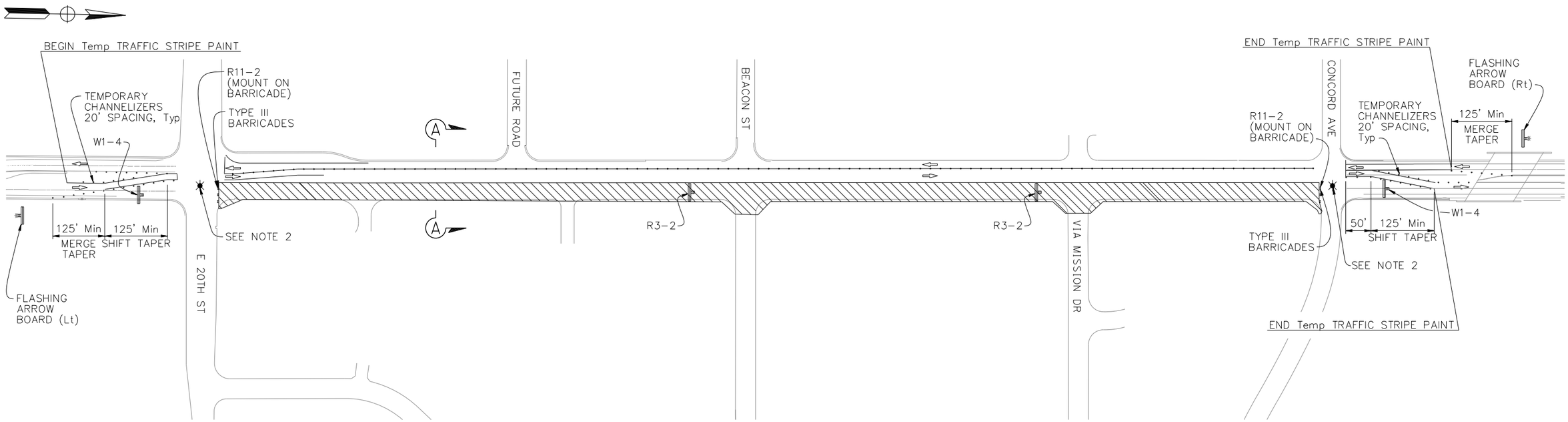
Title: BRUCE ROAD RECONSTRUCTION
Drawing Number TH-3
Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record
Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),D.DD0", "MON D YYYY - H:MM:SSam/pm), $(getvar,loginname)
Sheet ___ of ___

NOTES:

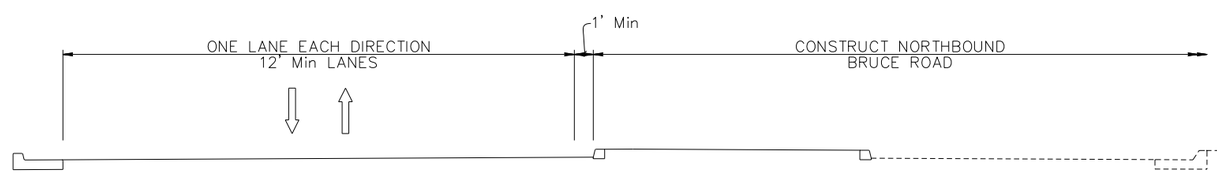
1. LOCATIONS OF SIGNS AND PCMS ARE APPROXIMATE. EXACT LOCATIONS TO BE APPROVED BY RESIDENT ENGINEER.
2. FOR DETAILS, SEE TEMPORARY SIGNAL PLANS.
3. MAINTAIN SPEED LIMIT CHANGE SIGNAGE FROM PHASE 1.
4. RECOMMENDED TRAFFIC HANDLING SHOWN. FINAL TRAFFIC CONTROL PLAN TO BE APPROVED BY RESIDENT ENGINEER.

STAGE 3 - PHASE 2 CONSTRUCTION

1. SHIFT TRAFFIC TO NEWLY CONSTRUCTED WEST SIDE OF BRUCE RD.
2. CONSTRUCT EAST SIDE OF BRUCE RD.



PLAN
NOT TO SCALE



SECTION A-A
NOT TO SCALE

LEGEND:

- DIRECTION OF TRAFFIC
- TYPE III BARRICADES
- FLASHING ARROW BOARD
- CONSTRUCTION AREA SIGN
- TEMPORARY TRAFFIC SIGNAL
- WORK PERFORMED THIS STAGE

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STATE OF CALIFORNIA

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Checked:	Date:			

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BRUCE ROAD RECONSTRUCTION
TRAFFIC HANDLING STAGE 3 PHASE 2

Project Number: 16038
Drawing Number TH-4
Scale: AS NOTED
Sheet 8 of 182

Sheet — of —

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number TH-4

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

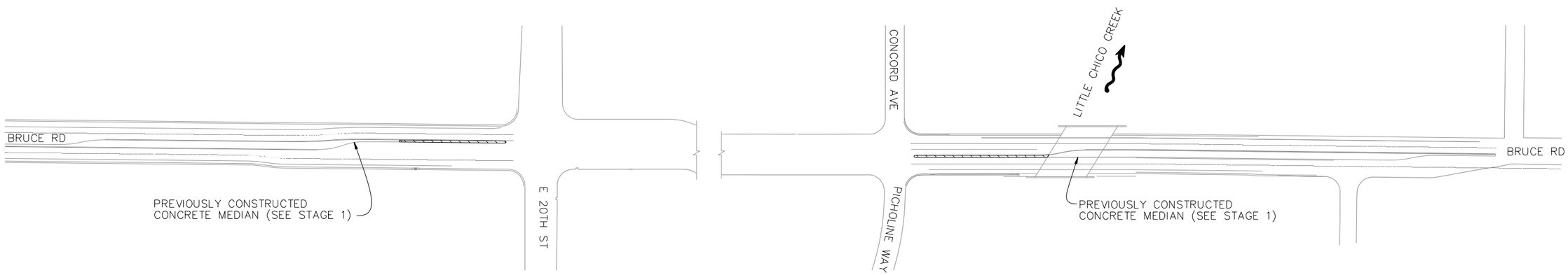
Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar.ctab), $(edtime, $(getvar.date),DDD", "MON D YYYY - H:MM:SSam/pm), $(getvar.loginname)

NOTES:

1. MAINTAIN SPEED LIMIT CHANGE SIGNAGE FROM PHASE 1.
2. RECOMMENDED TRAFFIC HANDLING SHOWN. FINAL TRAFFIC CONTROL PLAN TO BE APPROVED BY RESIDENT ENGINEER.

LEGEND:

WORK PERFORMED THIS STAGE



PLAN
NOT TO SCALE

STAGE 3 - PHASE 3

1. CONSTRUCT REMAINING CONCRETE MEDIANS AT EAST 20TH/BRUCE RD AND CONCORD AVE/BRUCE RD INTERSECTIONS.
2. MAINTAIN AT LEAST ONE LANE IN EACH DIRECTION OF BRUCE RD, MINIMUM 12' LANES.

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Checked:	Date:			

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BRUCE ROAD RECONSTRUCTION
TRAFFIC HANDLING STAGE 3 PHASE 3

Project Number: 16038
Drawing Number TH-5
Scale: AS NOTED
Sheet 9 of 182

Sheet — of —

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number TH-5

Plan Status: ☐ Conceptual. ☐ Approved Final. ☐ Record Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),DDD", "MON D YYYY - H:MM:SSam/pm), $(getvar,loginname)

NOTE:

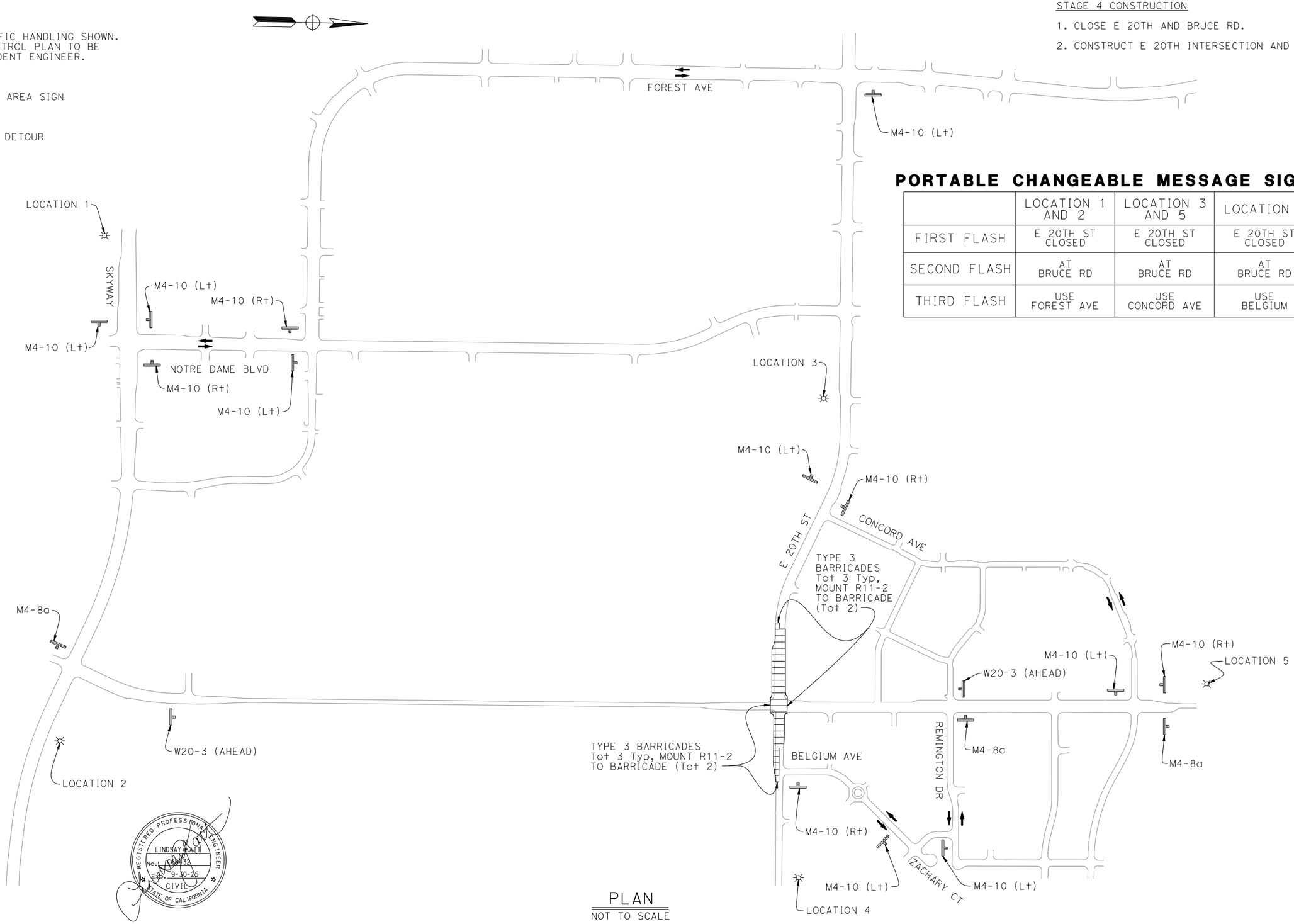
1. RECOMMENDED TRAFFIC HANDLING SHOWN. FINAL TRAFFIC CONTROL PLAN TO BE APPROVED BY RESIDENT ENGINEER.

LEGEND:

- CONSTRUCTION AREA SIGN
- PCMS
- DIRECTION OF DETOUR

STAGE 4 CONSTRUCTION

1. CLOSE E 20TH AND BRUCE RD.
2. CONSTRUCT E 20TH INTERSECTION AND LEGS



PORTABLE CHANGEABLE MESSAGE SIGNS

	LOCATION 1 AND 2	LOCATION 3 AND 5	LOCATION 4
FIRST FLASH	E 20TH ST CLOSED	E 20TH ST CLOSED	E 20TH ST CLOSED
SECOND FLASH	AT BRUCE RD	AT BRUCE RD	AT BRUCE RD
THIRD FLASH	USE FOREST AVE	USE CONCORD AVE	USE BELGIUM

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STATE OF CALIFORNIA

PLAN
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Sheet ___ of ___

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number TH-6

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),DDD", "MON D YYYY - H:MM:SSam/pm), $(getvar,loginname)

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Checked:	Date:			

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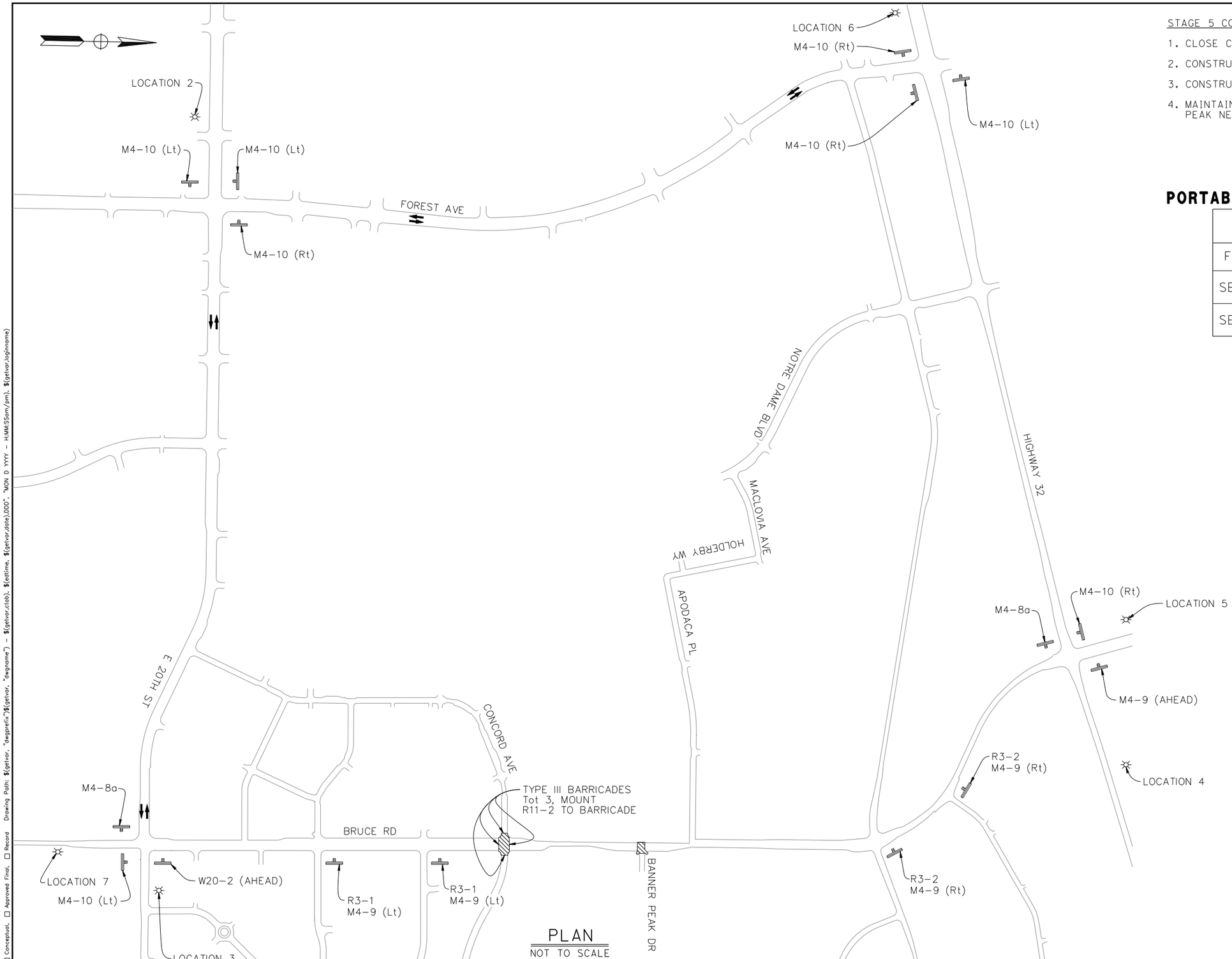
BRUCE ROAD RECONSTRUCTION
TRAFFIC HANDLING STAGE 4

Project Number: 16038	Drawing Number TH-6
Scale: AS NOTED	Sheet 10 of 182



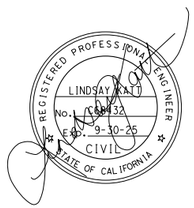
PLAN
NOT TO SCALE

STAGE 5 CONSTRUCTION

1. CLOSE CONCORD AVE/BRUCE RD INTERSECTION.
2. CONSTRUCT CONCORD AVE INTERSECTION.
3. CONSTRUCT REMAINING BANNER PEAK INTERSECTION.
4. MAINTAIN A MINIMUM 11' WIDE ACCESS TO BANNER PEAK NEIGHBORHOOD DURING CONSTRUCTION

PORTABLE CHANGEABLE MESSAGE SIGNS

	LOCATION 1, 2, 3, 4, 5, 6
FIRST FLASH	BRUCE RD CLOSED
SECOND FLASH	AT CONCORD AVE
SECOND FLASH	USE FOREST AVE



NOTE:

1. RECOMMENDED TRAFFIC HANDLING SHOWN. FINAL TRAFFIC CONTROL PLAN TO BE APPROVED BY RESIDENT ENGINEER.

LEGEND:

- DIRECTION OF DETOUR
- CONSTRUCTION AREA SIGN
- PCMS
- WORK PERFORMED THIS STAGE

Sheet __ of __

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number TH-7

Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),DDD", "MON D YYYY - H:MM:SSam/pm), $(getvar,loginname)

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Plan Status:

		Revision	Date	By
Designed: L. KATT	Approved:			
Drawn By: A. DANG				
Checked:	Date:			

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PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
TRAFFIC HANDLING STAGE 5

Project Number: 16038	Drawing Number TH-7
Scale: AS NOTED	Sheet 11 of 182

TRAFFIC HANDLING QUANTITIES

SHEET	STAGE	REMOVE THERMOPLASTIC TRAFFIC STRIPE (N)	TEMPORARY TRAFFIC STRIPE (PAINT) (N)	TEMPORARY PAVEMENT MARKING (PAINT) (N)	TEMPORARY CRASH CUSHION	TEMPORARY RAILING SYSTEM	CHANNELIZER (SURFACE MOUNTED) (N)	FLASHING ARROW BOARD (N)	PORTABLE CHANGEABLE MESSAGE SIGN (N)	CONSTRUCTION AREA SIGNS (N)	TYPE III BARRICADES (N)	TEMPORARY TRAFFIC SIGNAL (N)	TEMPORARY HMA (TYPE A) (N)
		LF	LF	SQFT	EA	LF	EA	EA	EA	EA	EA	EA	TON
SC-1	ALL								4	16			
TH-1	1								8	16	12		
TH-2	2								7	12	6		
TH-3	3	4312	2960	144	2	2120	183	2	2	14	6	2	13
TH-4	3		3731	167			170	2		4	6	2	
TH-5	3												
TH-6	4								5	22	12		
TH-7	5								6	20	12		
TOTAL		4312	6691	311	2	2120	353	4	32	104	54	4	13

(N) - NOT A PAY ITEM

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No. C68432
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STATE OF CALIFORNIA

Sheet __ of __

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number THQ-1

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),DDD", "MON D YYYY - H:MM:SSam/pm), $(getvar,loginname)

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Drawn By: A. DANG				
Checked:	Date:			

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PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
TRAFFIC HANDLING QUANTITIES

Project Number: 16038

Drawing Number THQ-1

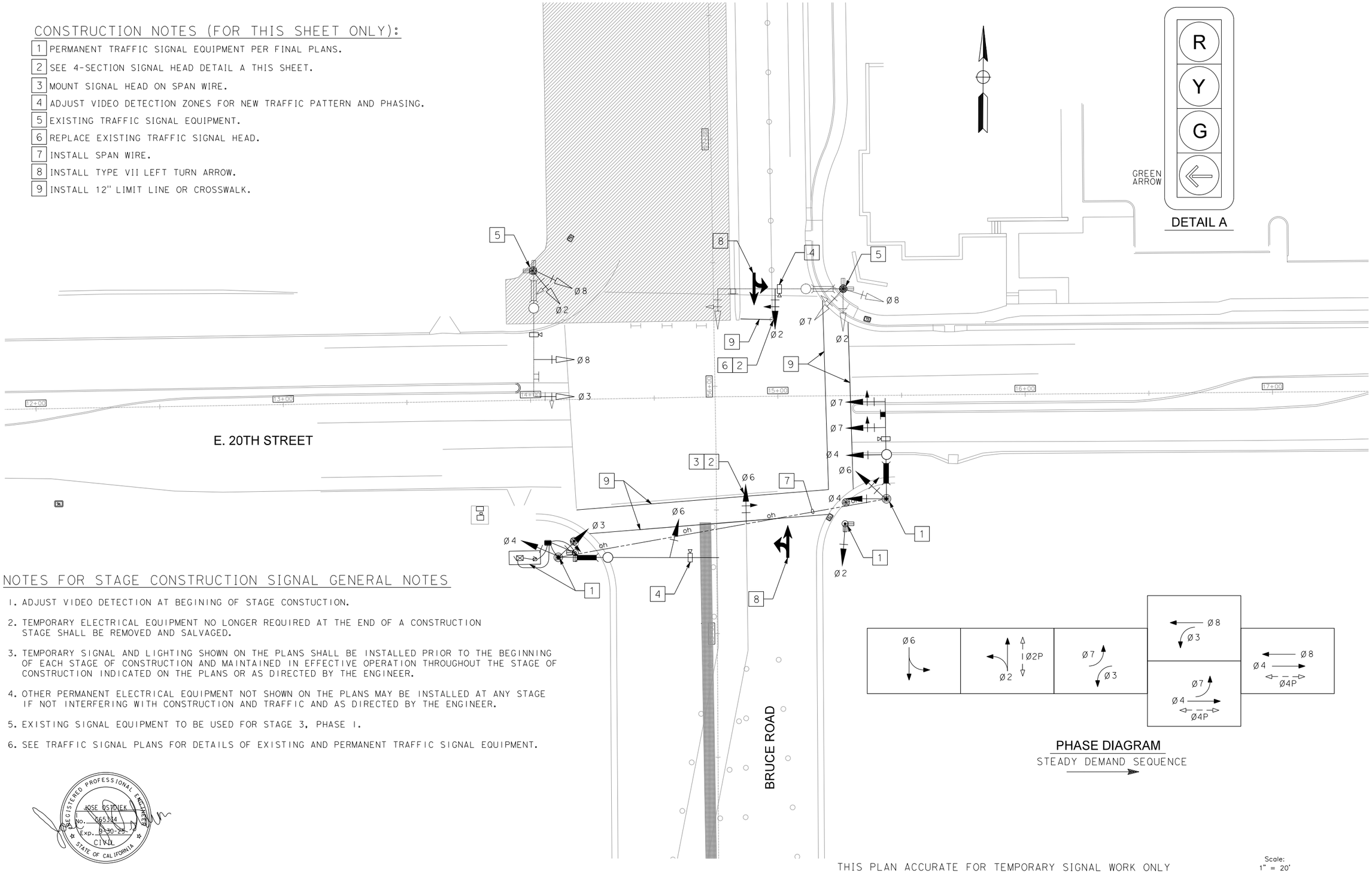
Scale: AS NOTED

Sheet 12 of 182

Sheet 1 of 1

CONSTRUCTION NOTES (FOR THIS SHEET ONLY):

1. PERMANENT TRAFFIC SIGNAL EQUIPMENT PER FINAL PLANS.
2. SEE 4-SECTION SIGNAL HEAD DETAIL A THIS SHEET.
3. MOUNT SIGNAL HEAD ON SPAN WIRE.
4. ADJUST VIDEO DETECTION ZONES FOR NEW TRAFFIC PATTERN AND PHASING.
5. EXISTING TRAFFIC SIGNAL EQUIPMENT.
6. REPLACE EXISTING TRAFFIC SIGNAL HEAD.
7. INSTALL SPAN WIRE.
8. INSTALL TYPE VII LEFT TURN ARROW.
9. INSTALL 12" LIMIT LINE OR CROSSWALK.



NOTES FOR STAGE CONSTRUCTION SIGNAL GENERAL NOTES

1. ADJUST VIDEO DETECTION AT BEGINING OF STAGE CONSTUCTION.
2. TEMPORARY ELECTRICAL EQUIPMENT NO LONGER REQUIRED AT THE END OF A CONSTRUCTION STAGE SHALL BE REMOVED AND SALVAGED.
3. TEMPORARY SIGNAL AND LIGHTING SHOWN ON THE PLANS SHALL BE INSTALLED PRIOR TO THE BEGINNING OF EACH STAGE OF CONSTRUCTION AND MAINTAINED IN EFFECTIVE OPERATION THROUGHOUT THE STAGE OF CONSTRUCTION INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
4. OTHER PERMANENT ELECTRICAL EQUIPMENT NOT SHOWN ON THE PLANS MAY BE INSTALLED AT ANY STAGE IF NOT INTERFERING WITH CONSTRUCTION AND TRAFFIC AND AS DIRECTED BY THE ENGINEER.
5. EXISTING SIGNAL EQUIPMENT TO BE USED FOR STAGE 3, PHASE 1.
6. SEE TRAFFIC SIGNAL PLANS FOR DETAILS OF EXISTING AND PERMANENT TRAFFIC SIGNAL EQUIPMENT.

REGISTERED PROFESSIONAL ENGINEER
JOSE OSTDIEK
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Exp. 9-30-25
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STATE OF CALIFORNIA

THIS PLAN ACCURATE FOR TEMPORARY SIGNAL WORK ONLY

Scale: 1" = 20'

Title:

Drawing Number

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),DDD", "MON D, YYYY - H:MM:SSam/pm), $(getvar,loginname)

Designed: J. OSTDIEK	Approved:	Revision	Date	By	
Drawn By: J. OSTDIEK	Date:				
Checked:					

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PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
STAGE CONSTRUCTION TRAFFIC SIGNAL (STAGE 3 PHASE 1)

Project Number: 16038

Drawing Number E-1

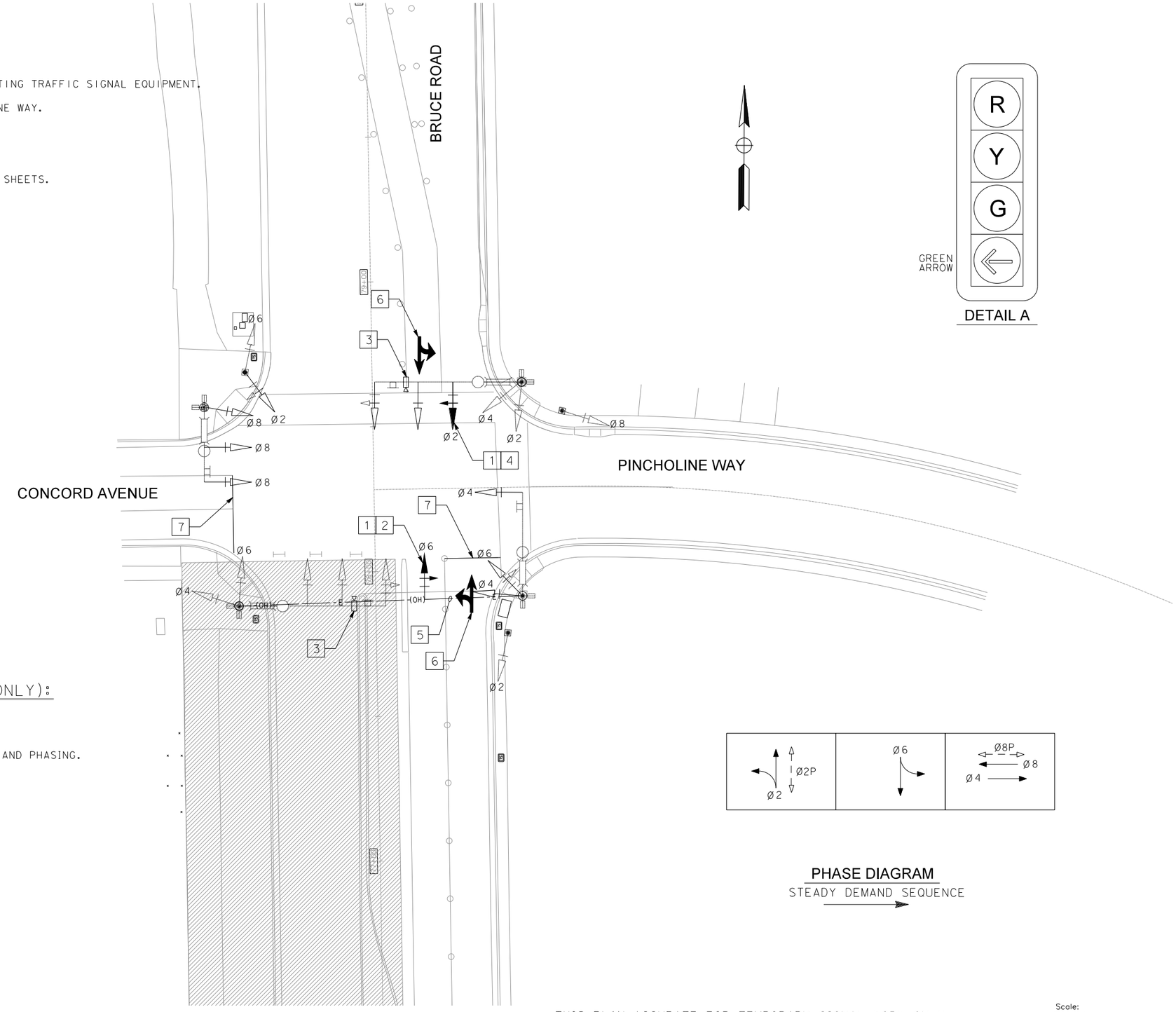
Scale: AS NOTED

Sheet 13 of 182

Sheet 1 of 1

NOTES

1. SEE SHEET E-1 FOR STAGE CONSTRUCTION SIGNAL GENERAL NOTES.
2. SEE AS-BUILT TRAFFIC SIGNAL PLANS FOR PLAN DETAILS OF EXISTING TRAFFIC SIGNAL EQUIPMENT.
3. USE EXISTING LOOP DETECTORS ON CONCORD AVENUE AND PINCHOLINE WAY.
4. MODIFY EXISTING TRAFFIC SIGNAL AS SHOWN.
5. COVER OR REMOVE ANY TRAFFIC SIGNAL HEAD NOT BEING USED.
6. FOR TEMPORARY STRIPING NOT CALLED OUT SEE TRAFFIC HANDLING SHEETS.



CONSTRUCTION NOTES (FOR THIS SHEET ONLY):

1. SEE 4-SECTION SIGNAL HEAD DETAIL A THIS SHEET.
2. MOUNT SIGNAL HEAD ON SPAN WIRE.
3. ADJUST VIDEO DETECTION ZONES FOR NEW TRAFFIC PATTERN AND PHASING.
4. REPLACE EXISTING TRAFFIC SIGNAL HEAD.
5. INSTALL SPAN WIRE.
6. INSTALL TYPE VII LEFT TURN ARROW.
7. INSTALL 12" LIMIT LINE.

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JOSE OSTDIEK
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Exp. 9-30-25
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STATE OF CALIFORNIA

THIS PLAN ACCURATE FOR TEMPORARY SIGNAL WORK ONLY

Scale: 1" = 20'

Title:

Drawing Number

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),DDD", "MON D, YYYY - H:MM:SSam/pm), $(getvar,loginname)

Designed: J. OSTDIEK	Approved:	Revision	Date	By
Drawn By: J. OSTDIEK				
Checked:	Date:			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

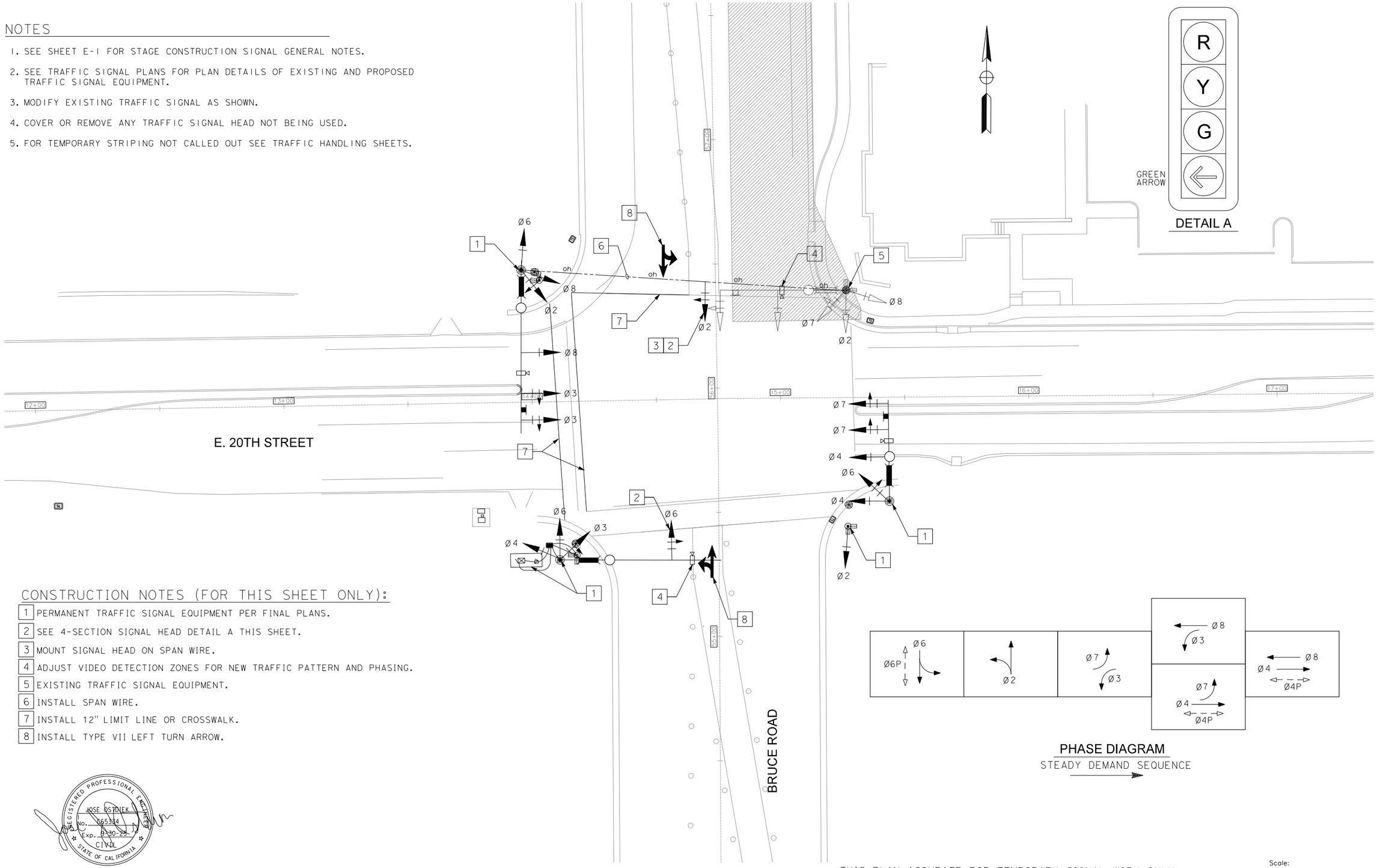
CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
STAGE CONSTRUCTION TRAFFIC SIGNAL (STAGE 3 PHASE 1)

Project Number: 16038	Drawing Number E-2
Scale: AS NOTED	Sheet 14 of 182

NOTES

1. SEE SHEET E-1 FOR STAGE CONSTRUCTION SIGNAL GENERAL NOTES.
2. SEE TRAFFIC SIGNAL PLANS FOR PLAN DETAILS OF EXISTING AND PROPOSED TRAFFIC SIGNAL EQUIPMENT.
3. MODIFY EXISTING TRAFFIC SIGNAL AS SHOWN.
4. COVER OR REMOVE ANY TRAFFIC SIGNAL HEAD NOT BEING USED.
5. FOR TEMPORARY STRIPING NOT CALLED OUT SEE TRAFFIC HANDLING SHEETS.



CONSTRUCTION NOTES (FOR THIS SHEET ONLY):

1. PERMANENT TRAFFIC SIGNAL EQUIPMENT PER FINAL PLANS.
2. SEE 4-SECTION SIGNAL HEAD DETAIL A THIS SHEET.
3. MOUNT SIGNAL HEAD ON SPAN WIRE.
4. ADJUST VIDEO DETECTION ZONES FOR NEW TRAFFIC PATTERN AND PHASING.
5. EXISTING TRAFFIC SIGNAL EQUIPMENT.
6. INSTALL SPAN WIRE.
7. INSTALL 12" LIMIT LINE OR CROSSWALK.
8. INSTALL TYPE VII LEFT TURN ARROW.

REGISTERED PROFESSIONAL ENGINEER
JOSE OSTDIEK
No. 65334
Exp. 9-30-25
CIVIL
STATE OF CALIFORNIA

THIS PLAN ACCURATE FOR TEMPORARY SIGNAL WORK ONLY

Scale: 1" = 20'

Designed: J. OSTDIEK	Approved:	Revision	Date	By
Drawn By: J. OSTDIEK	Date:			
Checked:				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
STAGE CONSTRUCTION TRAFFIC SIGNAL (STAGE 3 PHASE 2)

Project Number: 16038
Drawing Number E-3
Scale: AS NOTED
Sheet 15 of 182

Sheet 1 of 1

Title:

Drawing Number

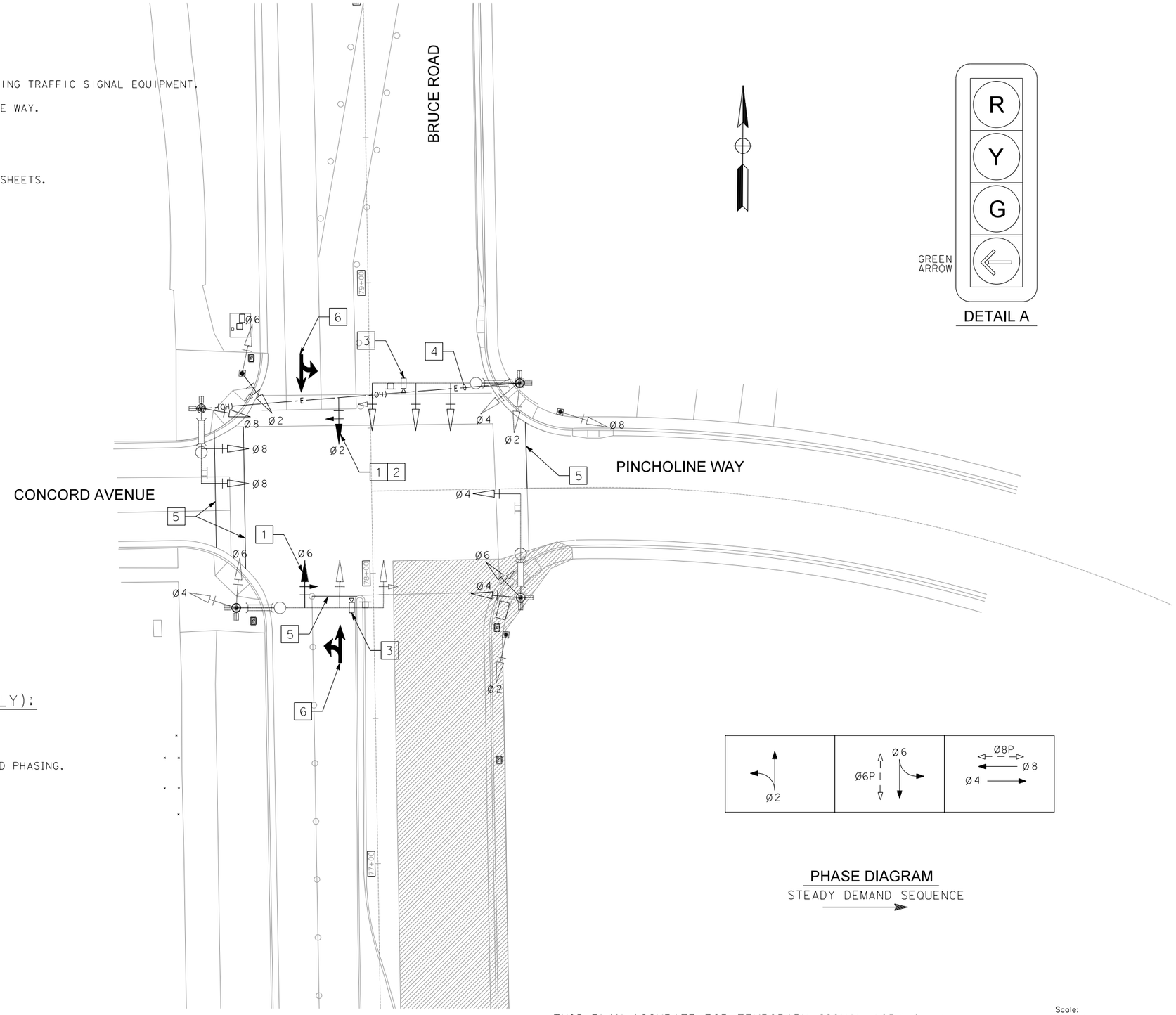
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),DDD", "MON D, YYYY - H:MM:SSam/pm), $(getvar,loginname)

Sheet 1 of 1

NOTES

1. SEE SHEET E-1 FOR STAGE CONSTRUCTION SIGNAL GENERAL NOTES.
2. SEE AS-BUILT TRAFFIC SIGNAL PLANS FOR PLAN DETAILS OF EXISTING TRAFFIC SIGNAL EQUIPMENT.
3. USE EXISTING LOOP DETECTORS ON CONCORD AVENUE AND PINCHOLINE WAY.
4. MODIFY EXISTING TRAFFIC SIGNAL AS SHOWN.
5. COVER OR REMOVE ANY TRAFFIC SIGNAL HEAD NOT BEING USED.
6. FOR TEMPORARY STRIPING NOT CALLED OUT SEE TRAFFIC HANDLING SHEETS.



CONSTRUCTION NOTES (FOR THIS SHEET ONLY):

1. SEE 4-SECTION SIGNAL HEAD DETAIL A THIS SHEET.
2. MOUNT SIGNAL HEAD ON SPAN WIRE.
3. ADJUST VIDEO DETECTION ZONES FOR NEW TRAFFIC PATTERN AND PHASING.
4. INSTALL SPAN WIRE.
5. INSTALL 12" CROSSWALK OR LIMIT LINE.
6. INSTALL TYPE VII LEFT TURN ARROW.

REGISTERED PROFESSIONAL ENGINEER
JOSE OSTDIEK
No. C65334
Exp. 9-30-25
CIVIL
STATE OF CALIFORNIA

THIS PLAN ACCURATE FOR TEMPORARY SIGNAL WORK ONLY

Scale: 1" = 20'

Title:

Drawing Number

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: $(getvar, "dwgprefix")$(getvar, "dwgname") - $(getvar,ctab), $(edtime, $(getvar,date),DDD", "MON D YYYY - HHMMSSam/pm), $(getvar,loginname)

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Drawn By: J. OSTDIEK				
Checked:	Date:			

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CITY OF CHICO INC 1872

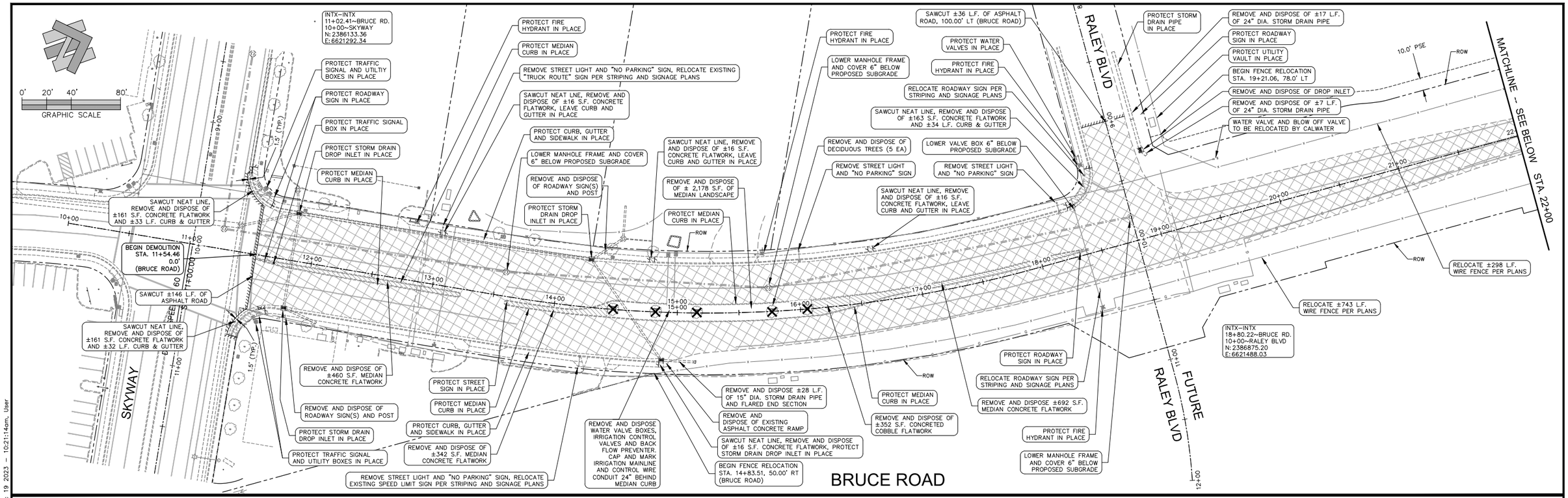
BRUCE ROAD RECONSTRUCTION
STAGE CONSTRUCTION TRAFFIC SIGNAL (STAGE 3 PHASE 2)

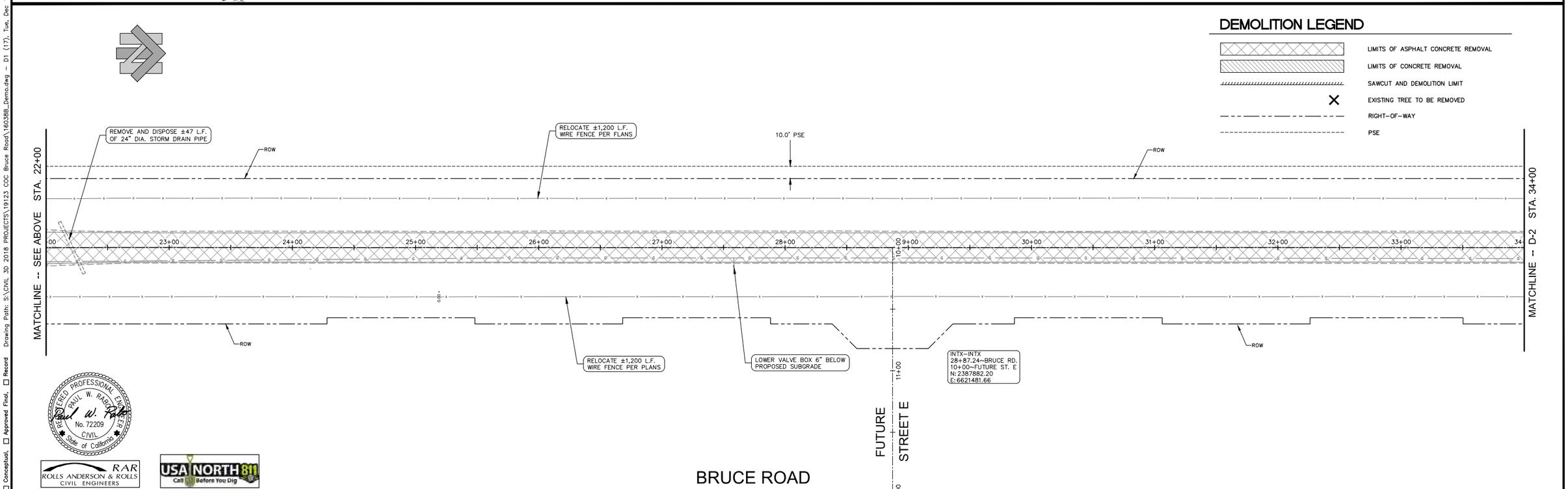
Project Number: 16038

Drawing Number E-4

Scale: AS NOTED

Sheet 16 of 182





REGISTERED PROFESSIONAL ENGINEER PAUL W. RABE No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Drawn By: CAD		ADDENDUM #1	12-19-23	PWR
Checked: PWR	Date: DECEMBER, 2023			

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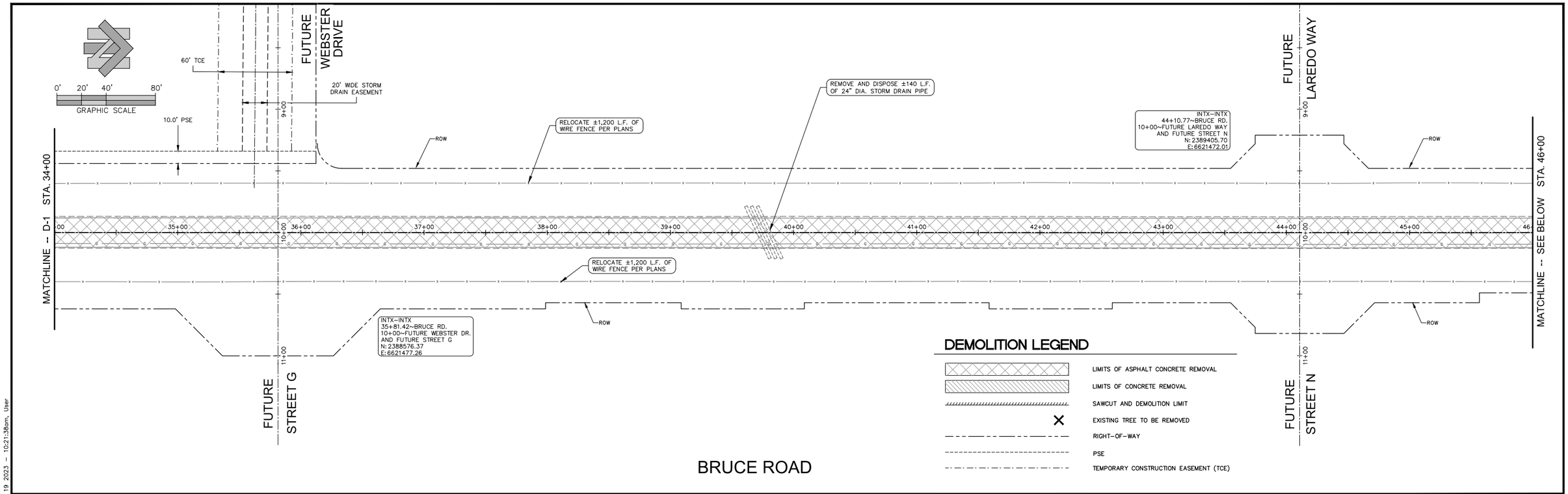
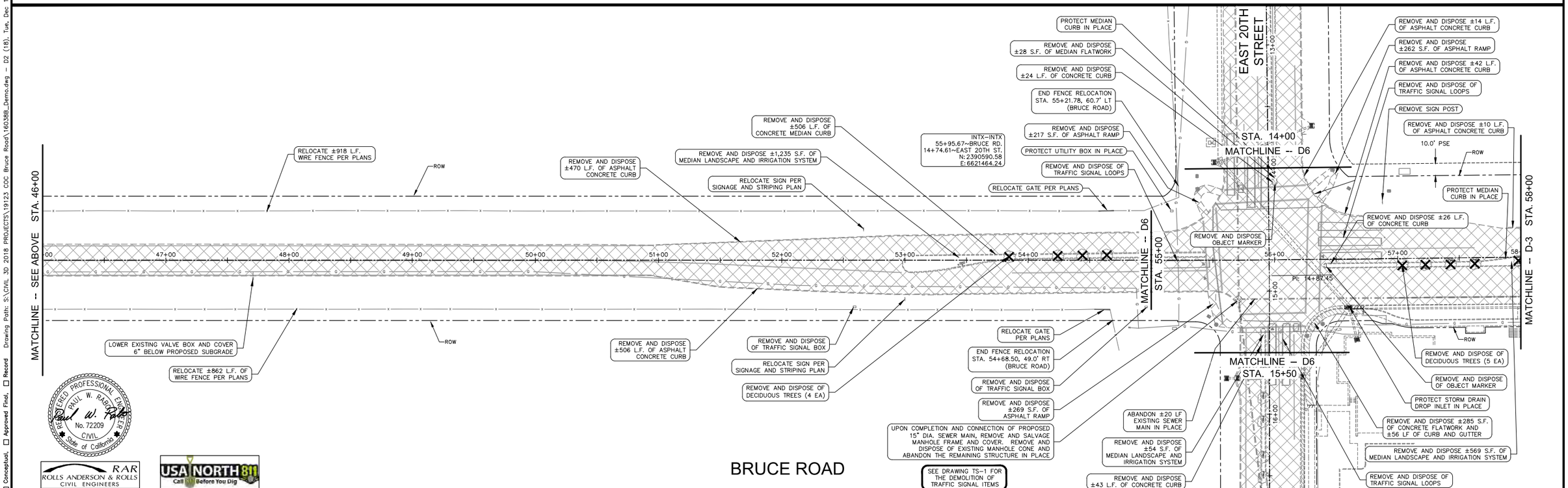
BRUCE ROAD RECONSTRUCTION
DEMOLITION PLAN -BRUCE ROAD STA. 10+00 TO 34+00

Project Number: 16038
Drawing Number D-1
Scale: 1"=40'
Sheet 17 of 182

Title: BRUCE ROAD RECONSTRUCTION
Drawing Number D-1
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record
Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Demo.dwg - D1 (17), Tue, Dec 19 2023 - 10:21:14am, User





REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOLD
No. 72209
CIVIL
State of California

RAR
ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

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Checked: PWR	Date: DECEMBER, 2023			

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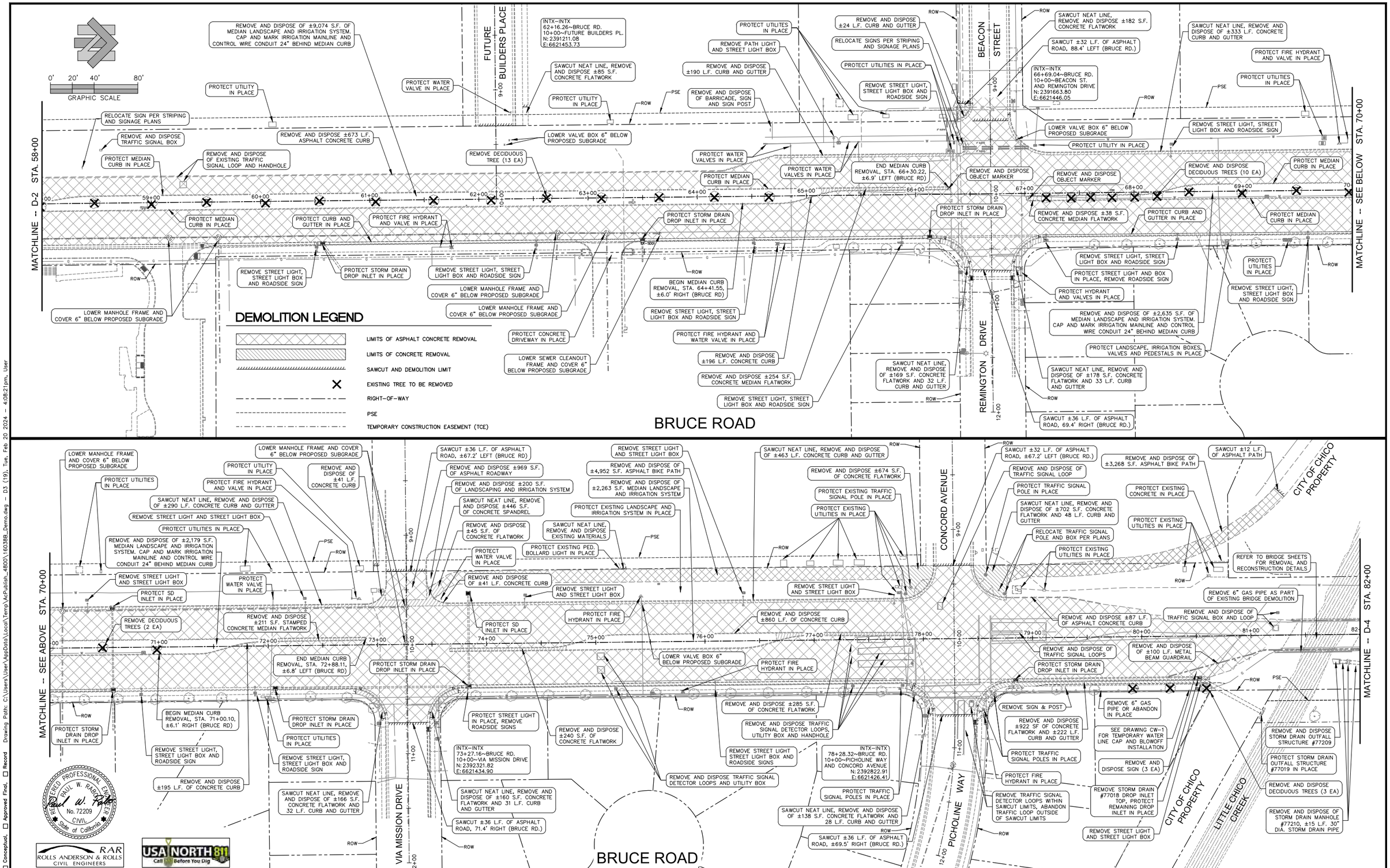
BRUCE ROAD RECONSTRUCTION
DEMOLITION PLAN - BRUCE ROAD STA. 34+00 TO 58+00

Project Number: 16038
Drawing Number D-2
Scale: 1"= 40'
Sheet 18 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-2

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_Demo.dwg - D2 (18), Tue, Dec 19 2023 - 10:21:38am, User



Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-3

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_4800\160398_Demo.dwg – D3 (19), Tue, Feb 20 2024 – 4:08:21pm, User

Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD		ADDENDUM #1	12-19-23	PWR	
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #2	01-09-24	JIR	
		ADDENDUM #5	1-25-24	RAR	

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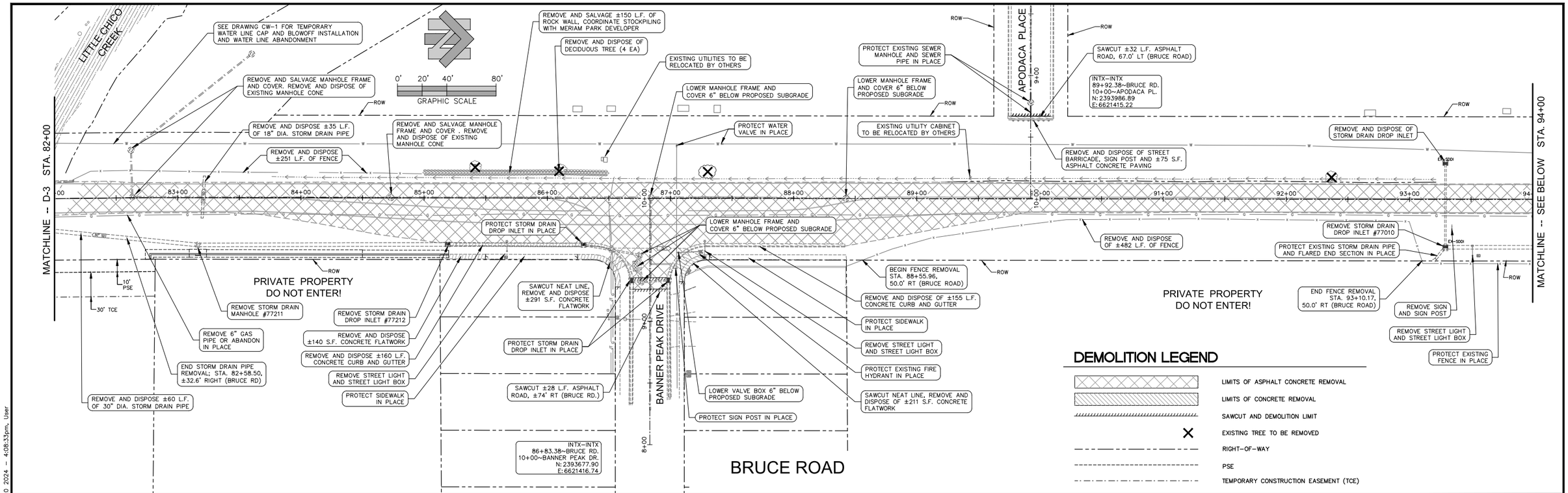
BRUCE ROAD RECONSTRUCTION
DEMOLITION PLAN - BRUCE ROAD STA. 58+00 TO 82+00

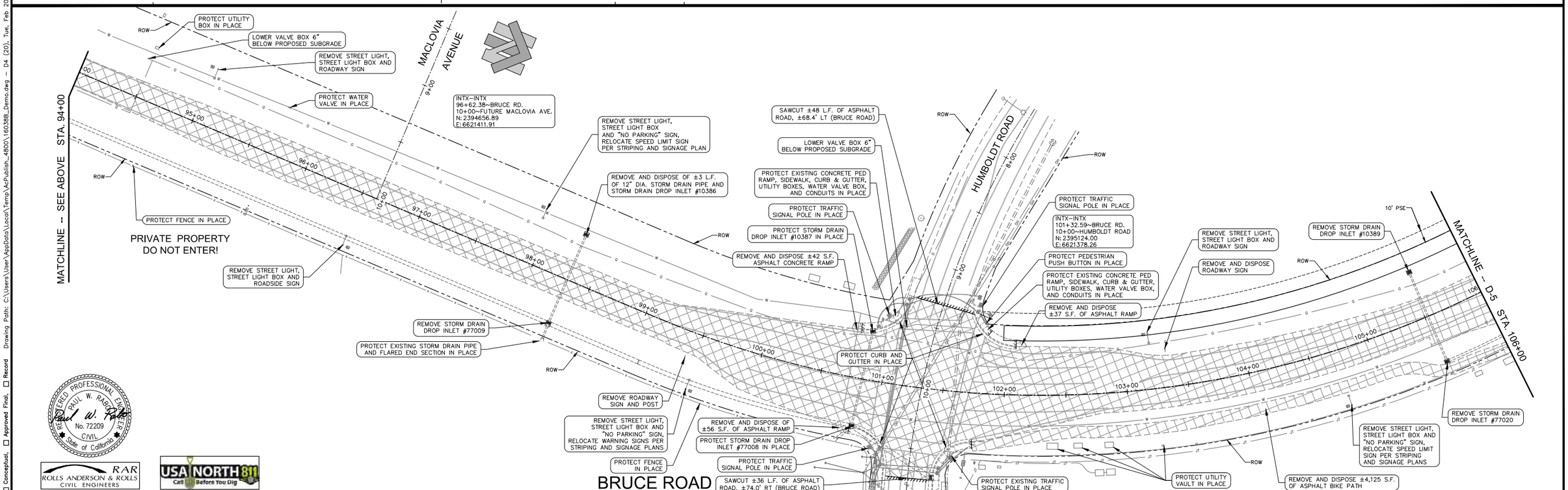
Project Number: 16038

Drawing Number D-3

Scale: 1"= 40'

Sheet 19 of 182





REGISTERED PROFESSIONAL ENGINEER PAUL W. RABE No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #2	01-09-24	JIR
		ADDENDUM #5	1-25-24	RAR

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CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
DEMOLITION PLAN - BRUCE ROAD STA. 82+00 TO 106+00

Project Number: 16038
Scale: 1"= 40'
Drawing Number D-4
Sheet 20 of 182

Drawing Number D-4

Title: BRUCE ROAD RECONSTRUCTION

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_4800\16038_Demo.dwg - D4 (20), Tue, Feb 20 2024 - 4:08:33pm, User

0' 20' 40' 80'
GRAPHIC SCALE

ECOLOGICAL PRESERVE
DO NOT ENTER!

PROTECT FENCE IN PLACE

MATCHLINE -- SEE BELOW STA. 112+00

PSE

REMOVE STORM DRAIN DROP INLET #10401

REMOVE STREET LIGHT, STREET LIGHT BOX AND ROADWAY SIGN

REMOVE STREET LIGHT AND ROADWAY SIGN

ROW

MATCHLINE -- D-4 STA. 106+00

PROTECT CURB AND GUTTER IN PLACE

LOWER VALVE BOX 6" BELOW PROPOSED SUBGRADE

PROTECT WATER VALVE IN PLACE

REMOVE STREET LIGHT AND ROADWAY SIGN

PROTECT FENCE IN PLACE

REMOVE STORM DRAIN DROP INLET #77021

REMOVE STREET LIGHT BOX

PROTECT FENCE IN PLACE

PROTECT UTILITY IN PLACE

REMOVE STREET LIGHT, STREET LIGHT BOX AND ROADWAY SIGN

PROTECT UTILITY IN PLACE

PROTECT CURB AND GUTTER IN PLACE

PROTECT SIGN IN PLACE

INTX-INTX
106+72.94-BRUCE RD.
10+00-NATIVE OAK DR.
N: 2395554.97
E: 6621069.42

REMOVE AND DISPOSE ±379 S.F. OF ASPHALT BIKE PATH

REMOVE AND DISPOSE OF STREET LIGHT BOX

PROTECT WATER VALVE IN PLACE

SAWCUT ±12 L.F. OF ASPHALT PATH

PROTECT FIRE HYDRANT AND SIGN IN PLACE

NATIVE OAK DRIVE

PROTECT EXISTING STREET LIGHT AND STREET LIGHT BOX IN PLACE

SAWCUT ±27 L.F. OF ASPHALT ROAD, ±66.0' RT (BRUCE ROAD)

BRUCE ROAD

DEMOLITION LEGEND

- LIMITS OF ASPHALT CONCRETE REMOVAL
- LIMITS OF CONCRETE REMOVAL
- SAWCUT AND DEMOLITION LIMIT
- EXISTING TREE TO BE REMOVED
- RIGHT-OF-WAY
- PSE

ECOLOGICAL PRESERVE
DO NOT ENTER!

REMOVE STORM DRAIN DROP INLET #10400

PROTECT SIGN IN PLACE

REMOVE STREET LIGHT, STREET LIGHT BOX AND ROADWAY SIGN

REMOVE STREET LIGHT, STREET LIGHT BOX AND "NO PARKING" SIGN, RELOCATE "TRUCK ROUTE" AND SPEED LIMIT SIGN PER STRIPING AND SIGNAGE PLANS

ROW

PROTECT SIGN IN PLACE

REMOVE ±33 L.F. OF ASPHALT CURB

MATCHLINE -- SEE ABOVE STA. 112+00

REMOVE STORM DRAIN DROP INLET TOP, PROTECT REMAINING STRUCTURE IN PLACE

HIGHWAY 32

RELOCATE ROADWAY SIGN AND BEACON PER STRIPING AND SIGNAGE PLAN

REMOVE STREET LIGHT, STREET LIGHT BOX AND ROADWAY SIGN

PROTECT TRAFFIC SIGNAL POLE IN PLACE

SAWCUT ±89 L.F. OF ASPHALT ROAD

END DEMOLITION STA. 118+09.21 (BRUCE ROAD)

RELOCATE TRAFFIC SIGNAL BOX, CONDUITS AND WIRING BEHIND CURB

PROTECT UTILITY IN PLACE

REMOVE AND DISPOSE OF STREET LIGHT BOX

RIGHT-OF-WAY LIMIT STA. 118+19.06 (BRUCE ROAD)

REMOVE STREET LIGHT BOX

RELOCATE TRAFFIC SIGNAL BOX, CONDUITS AND WIRING BEHIND CURB. RECONNECT WIRING TO BEACON ON SIGN POST

REMOVE STREET LIGHT AND STREET LIGHT BOX

REMOVE AND DISPOSE OF STORM DRAIN DROP INLET #77023

SAWCUT ±16 L.F. OF ASPHALT ROAD, REMOVE AND DISPOSE OF ±16 S.F. ASPHALT PAVING

REMOVE STORM DRAIN DROP INLET TOP, PROTECT REMAINING STRUCTURE IN PLACE

REMOVE AND DISPOSE OF ROADWAY SIGN

PROTECT TRAFFIC SIGNAL BOX AND POLE IN PLACE

REMOVE ±46 L.F. OF ASPHALT CURB

PROTECT FENCE IN PLACE

BRUCE ROAD

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOY
No. 72209
CIVIL
State of California

RAR
ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #1	12-19-23	PWR
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

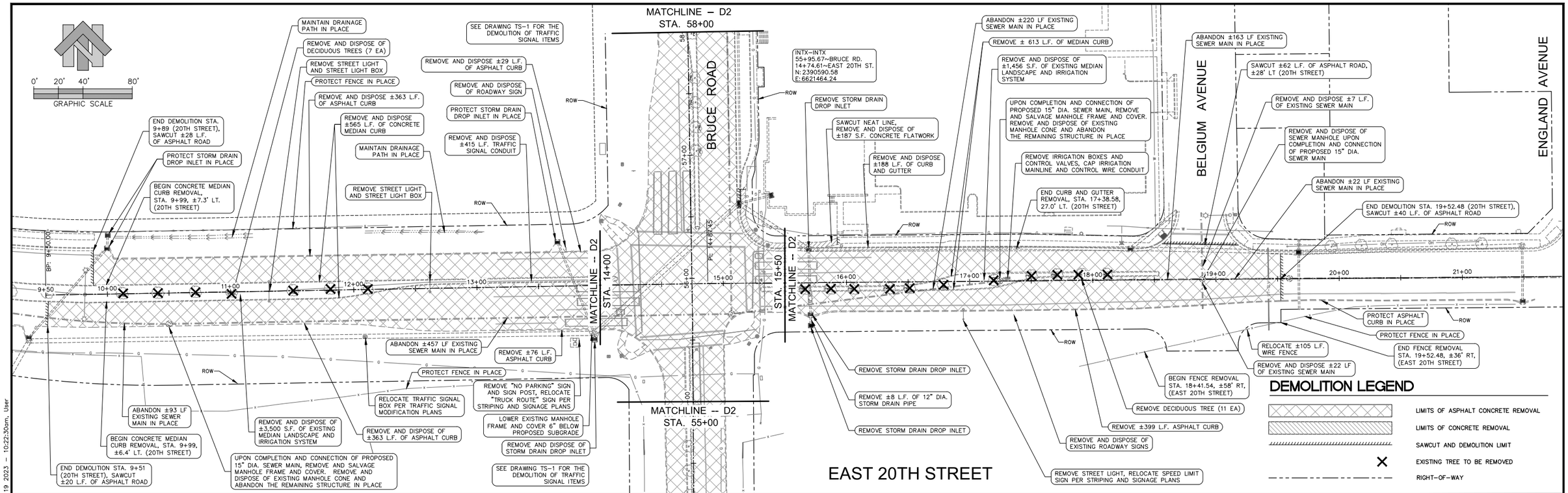
BRUCE ROAD RECONSTRUCTION
DEMOLITION PLAN - BRUCE ROAD STA. 106+00 TO 118+09

Project Number: 16038
Scale: 1"= 40'
Drawing Number D-5
Sheet 21 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-5

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 CDC Bruce Road\16038B_Demo.dwg - D5 (21), Tue, Dec 19 2023 - 10:22:17am, User



GENERAL DEMOLITION NOTES

1. QUANTITIES SHOWN ON THESE PLANS ARE FOR THE CONTRACTORS CONVENIENCE ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES AND REFER TO THE QUANTITIES ON THE BID SCHEDULE FOR MORE INFORMATION.
2. CONTRACTOR SHALL LOWER ALL EXISTING UTILITIES WITHIN THE PROPOSED ROADWAY 6–INCHES BELOW PROPOSED SUBGRADE.
3. CONTRACTOR SHALL SALVAGE TEN (10) EXISTING STREET LIGHTS AND POLES THAT HAVE BEEN IDENTIFIED ON THE PLANS FOR REMOVAL AND DELIVER TO THE CITY OF CHICO OPERATIONS AND MAINTENANCE YARD AT 901 FIR STREET, CHICO, CA. POLES CHOSEN FOR SALVAGE SHALL BE IN GOOD OPERATIONAL CONDITION WITH NO DAMAGE TO THE POLE, POLE BASE OR LIGHT FIXTURE ASSEMBLY. ALL SALVAGED POLES ARE SUBJECT TO ACCEPTANCE INSPECTION BY CITY STAFF PRIOR TO DELIVERY. ALL REMAINING STREET LIGHTS AND STREET LIGHT BOXES SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
4. ALL TREES NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE.
5. ALL LANDSCAPED AND PLANTER AREAS NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE, INCLUDING ALL PLANTS, TREES, LANDSCAPE IRRIGATION PIPING, VALVE BOXES, CONTROLLERS AND METERS.
6. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TRAFFIC SIGNAL LOOPS IDENTIFIED ON THE DEMOLITION PLANS INCLUDING THE REMOVAL AND DISPOSAL OF ALL TRAFFIC SIGNAL LOOPS IN THE LOCALITY OF THE DEMOLITION NOTE AND ALL HAND HOLES, BOXES AND APPURTENANCES RELATIVE TO THE CONNECTION AND OPERATION OF THE SIGNAL LOOPS.
7. CONTRACTOR SHALL REFERENCE THE TRAFFIC SIGNAL MODIFICATION PLANS FOR ADDITIONAL DEMOLITION INFORMATION.
8. CONTRACTOR SHALL REFERENCE THE BRIDGE PLAN SHEETS FOR ADDITIONAL DEMOLITION INFORMATION.
9. CONTRACTOR SHALL REFERENCE THE CALWATER AND PG&E PLANS FOR ADDITIONAL DEMOLITION INFORMATION.
10. THE EXISTING ROCK WALL NORTH OF LITTLE CHICO CREEK IS TO BE REMOVED AND STOCKPILED. THE CONTRACTOR SHALL COORDINATE THE STOCKPILE LOCATION WITH THE MERIAM PARK DEVELOPER PRIOR TO REMOVAL.
11. CONTRACTOR SHALL SALVAGE ALL UNDAMAGED T–POSTS AND BARBED WIRE FROM EXISTING FENCE REMOVAL THROUGH OUT THE PROJECT FOR RE–USE.
12. NO WORK SHALL BE PERFORMED WITHIN CALTRANS RIGHT–OF–WAY WITHOUT PRIOR APPROVAL OF THE CITY OF CHICO AND CALTRANS.
13. ALL WORK, EQUIPMENT STAGING, MATERIAL STAGING AND STOCKPILING SHALL BE PERFORMED WITHIN CITY OF CHICO RIGHT–OF–WAYS.

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOLLI
No. 72209
CIVIL
State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #1	12–19–23	PWR
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY of CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
DEMOLITION PLAN – 20TH STREET STA. 9+50 TO 21+00

Project Number: 16038
Scale: 1"= 40'
Drawing Number D–6
Sheet 22 of 182

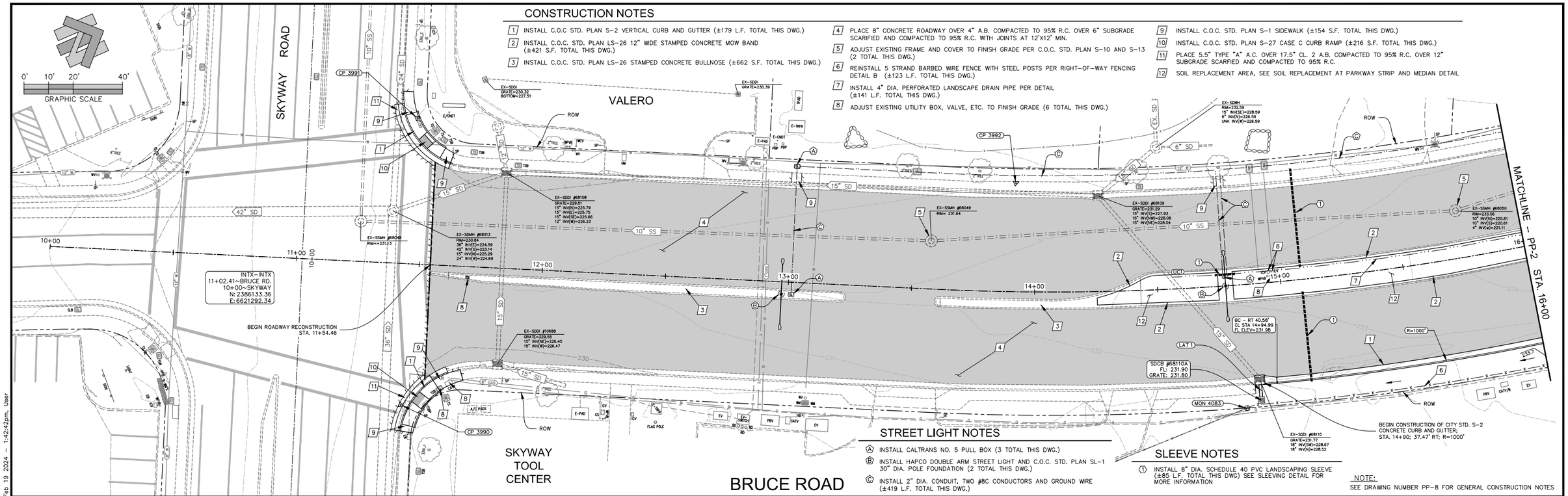
Drawing Number D–6

Title: BRUCE ROAD RECONSTRUCTION

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_Demo.dwg – D6 (22), Tue, Dec 19 2023 – 10:22:30am, User

CONSTRUCTION NOTES

1. INSTALL C.O.C STD. PLAN S-2 VERTICAL CURB AND GUTTER (±179 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN LS-26 12" WIDE STAMPED CONCRETE MOW BAND (±421 S.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±662 S.F. TOTAL THIS DWG.)
4. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
5. ADJUST EXISTING FRAME AND COVER TO FINISH GRADE PER C.O.C. STD. PLAN S-10 AND S-13 (2 TOTAL THIS DWG.)
6. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL B (±123 L.F. TOTAL THIS DWG.)
7. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±141 L.F. TOTAL THIS DWG.)
8. ADJUST EXISTING UTILITY BOX, VALVE, ETC. TO FINISH GRADE (6 TOTAL THIS DWG.)
9. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±154 S.F. TOTAL THIS DWG.)
10. INSTALL C.O.C. STD. PLAN S-27 CASE C CURB RAMP (±216 S.F. TOTAL THIS DWG.)
11. PLACE 5.5" TYPE "A" A.C. OVER 17.5" CL. 2 A.B. COMPACTED TO 95% R.C. OVER 12" SUBGRADE SCARFIED AND COMPACTED TO 95% R.C.
12. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL



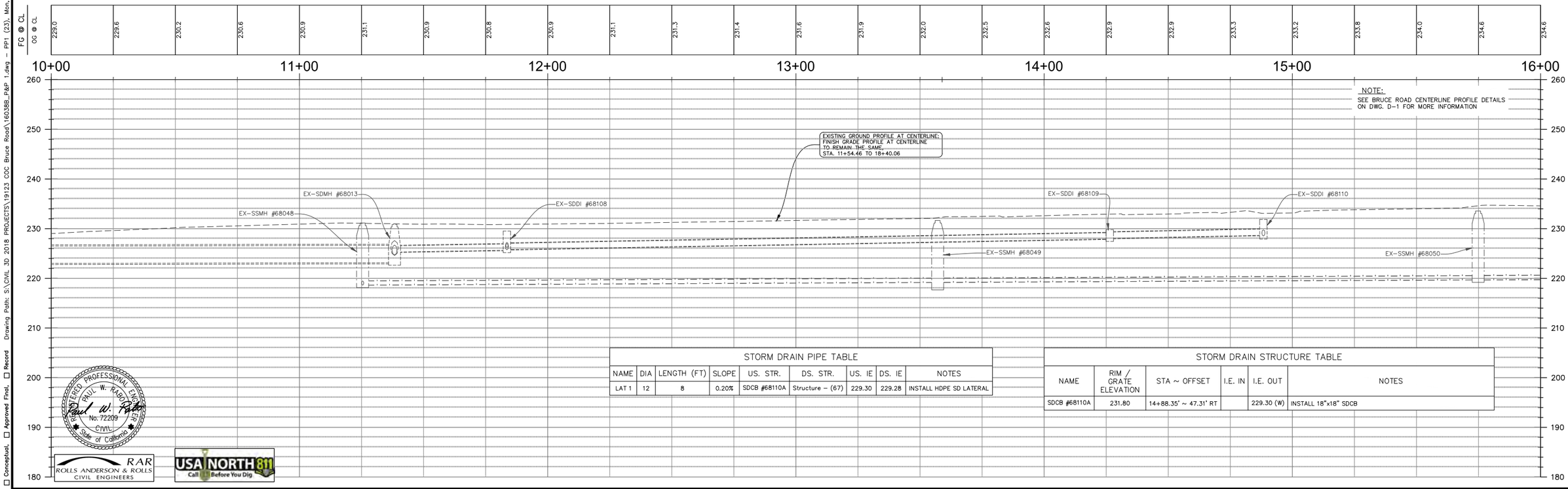
STREET LIGHT NOTES

A. INSTALL CALTRANS NO. 5 PULL BOX (3 TOTAL THIS DWG.)
B. INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
C. INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±419 L.F. TOTAL THIS DWG.)

SLEEVE NOTES

1. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±85 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 1	12	8	0.20%	SDCB #68110A	Structure – (67)	229.30	229.28	INSTALL HDPE SD LATERAL

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDCB #68110A	231.80	14+88.35' ~ 47.31' RT		229.30 (W)	INSTALL 18"x18" SDCB

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABOLD No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed:	JIR	Approved:	Revision	Date	By
Drawn By:	CAD		ADDENDUM #5	1-25-24	RAR
Checked:	PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 10+00 TO 16+00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-1
Sheet 23 of 182

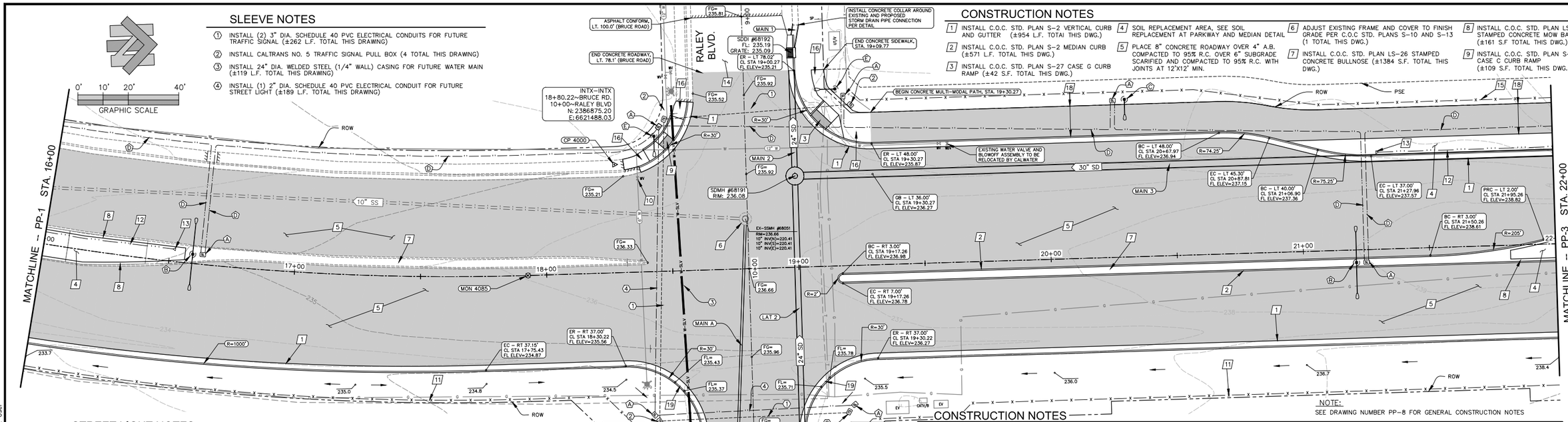
Title: BRUCE ROAD RECONSTRUCTION
Drawing Number PP-1
Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record
Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\160388_P&P 1.dwg – PP1 (23), Mon, Feb 19 2024 – 1:42:42pm, User

SLEEVE NOTES

1. INSTALL (2) 3" DIA. SCHEDULE 40 PVC ELECTRICAL CONDUITS FOR FUTURE TRAFFIC SIGNAL (±262 L.F. TOTAL THIS DRAWING)
2. INSTALL CALTRANS NO. 5 TRAFFIC SIGNAL PULL BOX (4 TOTAL THIS DRAWING)
3. INSTALL 24" DIA. WELDED STEEL (1/4" WALL) CASING FOR FUTURE WATER MAIN (±119 L.F. TOTAL THIS DRAWING)
4. INSTALL (1) 2" DIA. SCHEDULE 40 PVC ELECTRICAL CONDUIT FOR FUTURE STREET LIGHT (±189 L.F. TOTAL THIS DRAWING)

CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±954 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±571 L.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN S-27 CASE G CURB RAMP (±42 S.F. TOTAL THIS DWG.)
4. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY AND MEDIAN DETAIL
5. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
6. ADJUST EXISTING FRAME AND COVER TO FINISH GRADE PER C.O.C STD. PLANS S-10 AND S-13 (1 TOTAL THIS DWG.)
7. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±1384 S.F. TOTAL THIS DWG.)
8. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE MOW BAND (±161 S.F TOTAL THIS DWG.)
9. INSTALL C.O.C. STD. PLAN S-27 CASE C CURB RAMP (±109 S.F. TOTAL THIS DWG.)

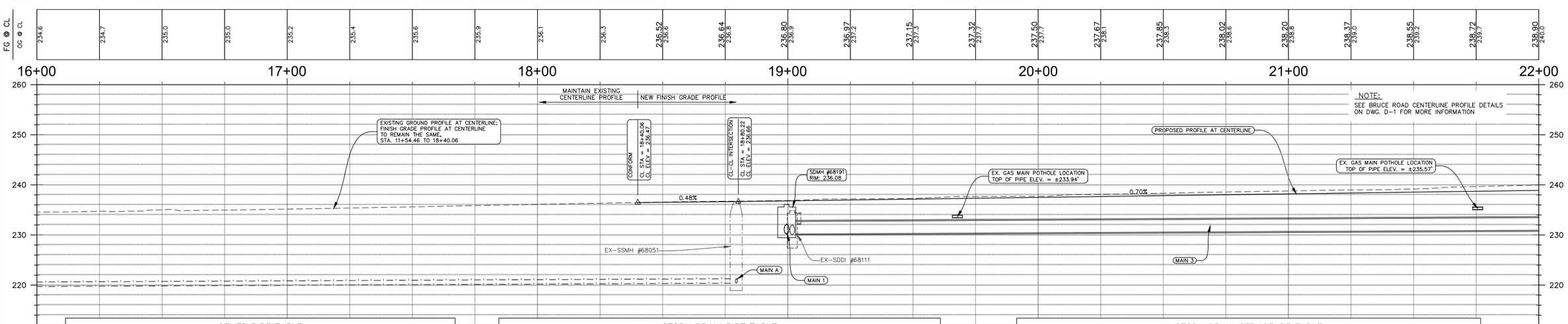


STREET LIGHT NOTES

- (A) INSTALL CALTRANS NO. 5 PULL BOX (7 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (1 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRES (±1003 L.F. TOTAL THIS DWG.)
- (E) INSTALL HAPCO SINGLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)

CONSTRUCTION NOTES

10. ADJUST EXISTING WATER UTILITY BOXES (WV, WM, ETC.) TO FINISHED GRADE PER CALWATER REQUIREMENTS (TYP. ALL)
11. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL B (±637 L.F. TOTAL THIS DWG.)
12. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±120 L.F. TOTAL THIS DWG.)
13. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (2 TOTAL THIS DWG.)
14. PLACE 5.5" TYPE "A" A.C. OVER 17.5" CL. 2 A.B. COMPACTED TO 95% R.C. OVER 12" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
15. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT OF WAY FENCING DETAIL A (±284 L.F. TOTAL THIS DWG)
16. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±317 S.F. TOTAL THIS DWG.)
17. INSTALL C.O.C. STD. PLAN S-21 STREET BARRICADE (1 TOTAL THIS DWG.)
18. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±3248 S.F. TOTAL THIS DWG.)
19. INSTALL C.O.C. STD. PLAN S-27 CASE A CURB RAMP DEPRESSION AND MODIFY GUTTER PAN SLOPE TO 5% OR LESS ADJACENT TO THE FULL WIDTH OF THE RAMP (±94 L.F. TOTAL THIS DWG.)



SEWER PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
MAIN A	10	100	0.20%	10" DIA. SS PIPE STUB	EX-SSMH #68051	220.71	220.51	INSTALL PVC SS PIPE

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 2	24	105	0.30%	SDDI #68190	SDMH #68191	230.43	230.12	INSTALL HDPE SD LATERAL
LAT 3	24	5	0.40%		SDDI #68190	230.45	230.43	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 4	18	38	0.50%	SDDI #68190B	SDDI #68190	231.50	231.31	INSTALL HDPE SD LATERAL
MAIN 1	24	11	0.60%	SDDI #68192		230.05	229.98	INSTALL CLASS 3 RCP SD PIPE
MAIN 2	24	49	0.31%	SDMH #68191	SDDI #68192	230.20	230.05	INSTALL HDPE SD PIPE
MAIN 3	30	339	0.25%	SDDI #68189	SDMH #68191	231.05	230.20	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #68190	235.13	18+99.37' ~ 69.01' RT	230.43 (E)	230.43 (W) 231.31 (S)	INSTALL MODIFIED CITY STD S-7 DROP INLET WITH 24" x 4" OPENING IN NORTH WALL; OPENING INVERT=234.20
SDDI #68190B	235.13	18+61.10' ~ 69.01' RT	231.50 (N)		INSTALL MODIFIED CITY STD S-7 DROP INLET WITH 24" x 4" OPENING IN SOUTH WALL; OPENING INVERT=234.20
SDDI #68192	235.09	18+99.43' ~ 85.06' LT	230.05 (E)	230.05 (W)	INSTALL CITY STD S-7 DROP INLET
SDMH #68191	236.08	18+99.50' ~ 36.17' LT	230.12 (E) 230.20 (N)	230.20 (W)	CONSTRUCT CITY STD S-10 60" DIA. DISCHARGE CONTROL STRUCTURE WITH FLAT TOP PER DETAIL

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call Before You Dig

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #5	1-25-24	RAR
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 16+00 TO 22+00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-2
Sheet 24 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-2

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_1702A\16038_P&P 1.dwg - PP2 (24), Thu, Jan 25 2024 - 6:22:54am, User

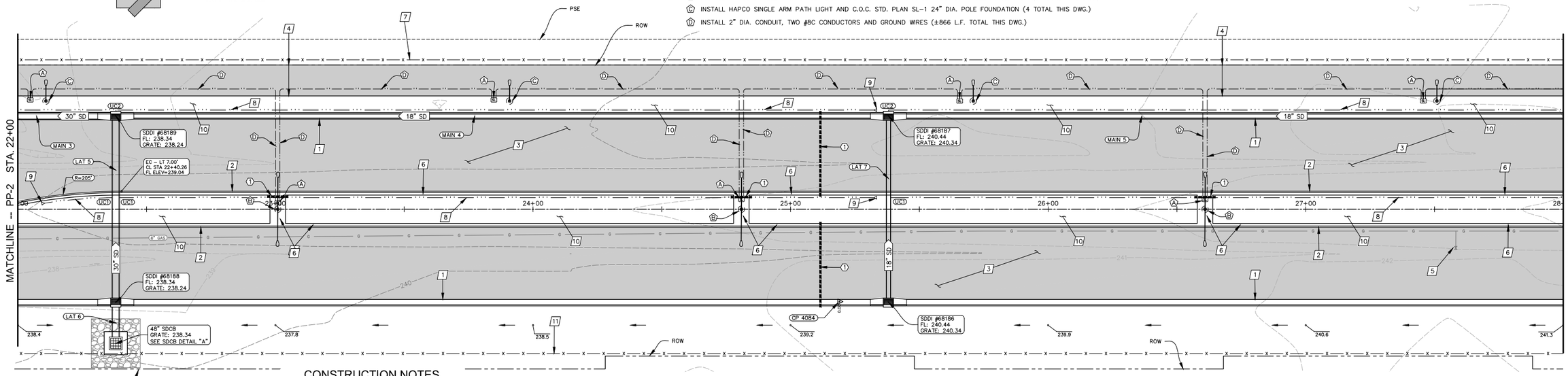
STREET LIGHT NOTES

- (A) INSTALL CALTRANS NO. 5 PULL BOX (7 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (4 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRES (±866 L.F. TOTAL THIS DWG.)

SLEEVE NOTES

- (1) INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±90 L.F. TOTAL THIS DWG.) SEE SLEEVING DETAIL FOR MORE INFORMATION

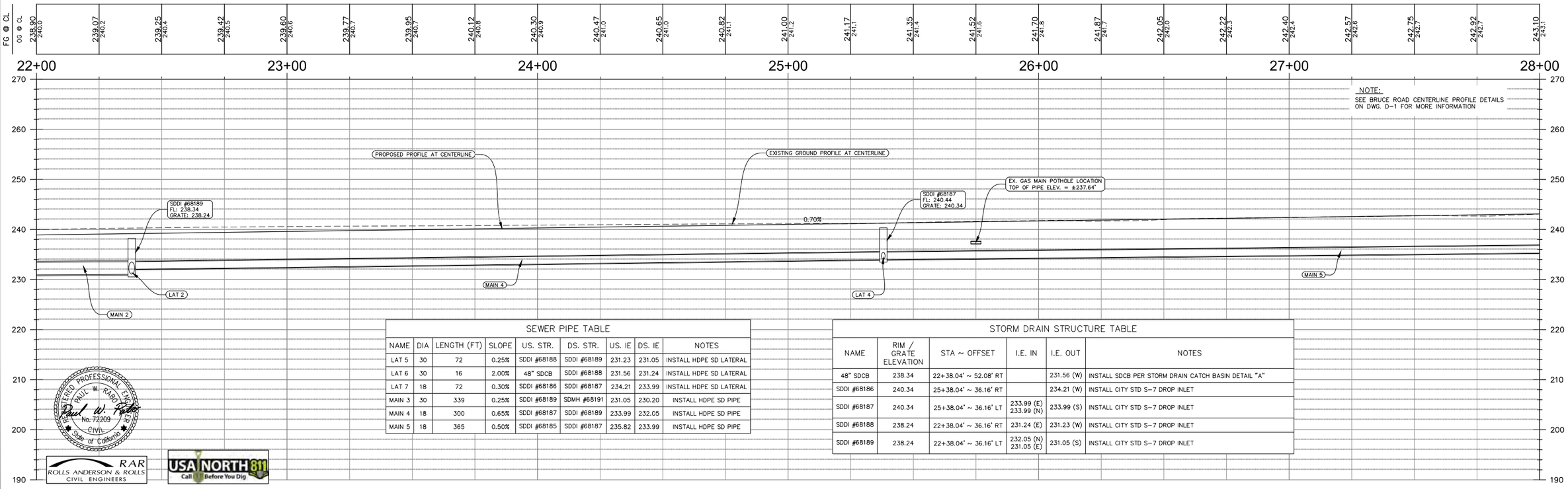
NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±1185 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±1200 L.F. TOTAL THIS DWG.)
3. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±7200 S.F. TOTAL THIS DWG.)
5. ADJUST EXISTING GAS VALVE COVER TO FINISH GRADE PER PG&E REQUIREMENTS (1 TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 12" WIDE STAMPED CONCRETE MOW BAND (±1399 S.F. TOTAL THIS DWG.)
7. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL A (±600 L.F. TOTAL THIS DWG.)
8. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±1178 L.F. TOTAL THIS DWG.)
9. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (3 TOTAL THIS DWG.)
10. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL
11. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL B (±600 L.F. TOTAL THIS DWG.)

BRUCE ROAD



NOTE:
SEE BRUCE ROAD CENTERLINE PROFILE DETAILS ON DWG. D-1 FOR MORE INFORMATION

SEWER PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 5	30	72	0.25%	SDDI #68188	SDDI #68189	231.23	231.05	INSTALL HDPE SD LATERAL
LAT 6	30	16	2.00%	48" SDCB	SDDI #68188	231.56	231.24	INSTALL HDPE SD LATERAL
LAT 7	18	72	0.30%	SDDI #68186	SDDI #68187	234.21	233.99	INSTALL HDPE SD LATERAL
MAIN 3	30	339	0.25%	SDDI #68189	SDMH #68191	231.05	230.20	INSTALL HDPE SD PIPE
MAIN 4	18	300	0.65%	SDDI #68187	SDDI #68189	233.99	232.05	INSTALL HDPE SD PIPE
MAIN 5	18	365	0.50%	SDDI #68185	SDDI #68187	235.82	233.99	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
48" SDCB	238.34	22+38.04' ~ 52.08' RT		231.56 (W)	INSTALL SDCB PER STORM DRAIN CATCH BASIN DETAIL "A"
SDDI #68186	240.34	25+38.04' ~ 36.16' RT		234.21 (W)	INSTALL CITY STD S-7 DROP INLET
SDDI #68187	240.34	25+38.04' ~ 36.16' LT	233.99 (E) 233.99 (N)	233.99 (S)	INSTALL CITY STD S-7 DROP INLET
SDDI #68188	238.24	22+38.04' ~ 36.16' RT	231.24 (E)	231.23 (W)	INSTALL CITY STD S-7 DROP INLET
SDDI #68189	238.24	22+38.04' ~ 36.16' LT	232.05 (N) 231.05 (E)	231.05 (S)	INSTALL CITY STD S-7 DROP INLET

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABO
No. 72209
CIVIL
State of California

RAR
ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

USA NORTH 811
Call Before You Dig

Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD		ADDENDUM #5	1-25-24	RAR	
Checked: PWR	Date: DECEMBER, 2023				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 22+00 TO STA. 28+00

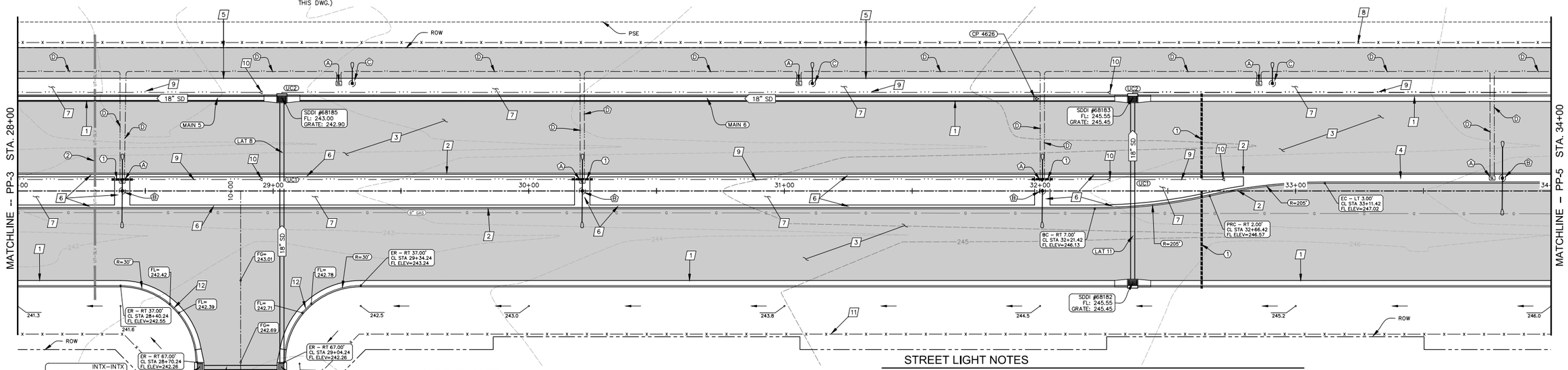
Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-3
Sheet 25 of 182

Title: BRUCE ROAD RECONSTRUCTION
Drawing Number PP-3
Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record
Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\160388_P&P 1.dwg - PP3 (25), Mon, Feb 19 2024 - 1:45:37pm, User

CONSTRUCTION NOTES

0' 10' 20' 40'
GRAPHIC SCALE

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±1188 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±1201 L.F. TOTAL THIS DWG.)
3. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
4. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±379 S.F. TOTAL THIS DWG.)
5. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±7200 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 12" WIDE STAMPED CONCRETE MOW BAND (±1161 S.F. TOTAL THIS DWG.)
7. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL
8. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL A (±600 L.F. TOTAL THIS DWG.)
9. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±1,048 L.F. TOTAL THIS DWG.)
10. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (5 TOTAL THIS DWG.)
11. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL B (±621 L.F. TOTAL THIS DWG.)
12. INSTALL C.O.C. STD. PLAN S-27 CASE A CURB RAMP DEPRESSION AND MODIFY GUTTER PAN SLOPE TO 5% OR LESS ADJACENT TO THE FULL WIDTH OF THE RAMP DEPRESSION
13. INSTALL C.O.C. STD. PLAN S-21 STREET BARRICADE (1 TOTAL THIS DWG.)



SLEEVE NOTES

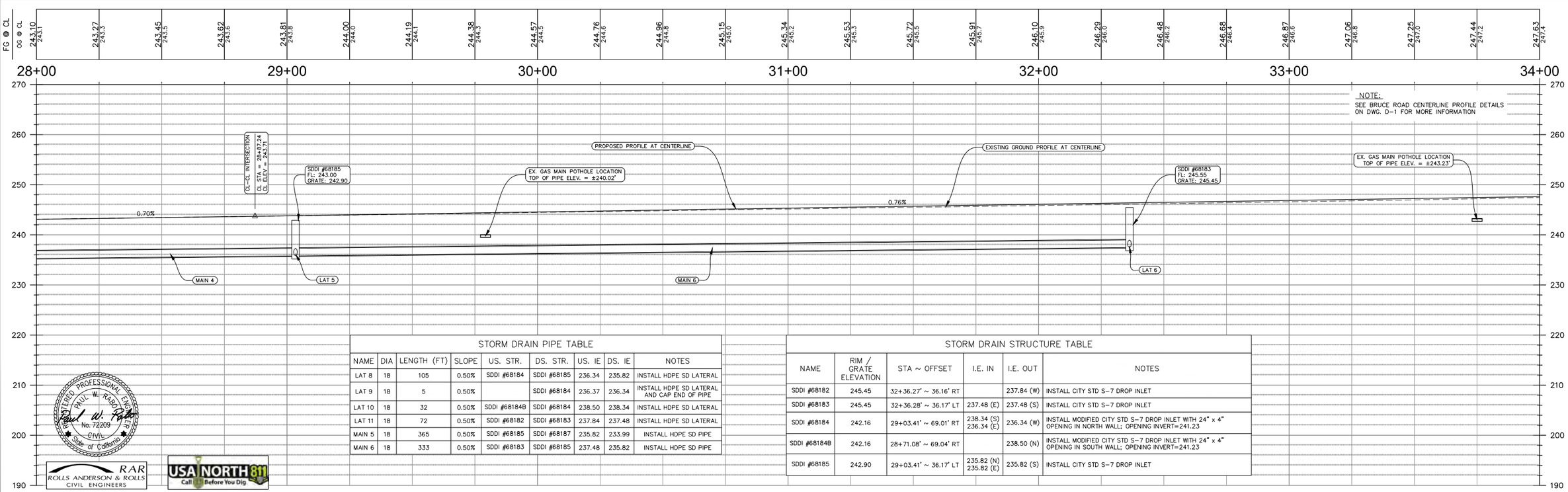
1. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±95 L.F. TOTAL THIS DWG.) SEE SLEEVING DETAIL FOR MORE INFORMATION
2. INSTALL UTILITY SLEEVES PER DETAIL (±138 L.F. OF TRENCH TOTAL THIS DWG.)

BRUCE ROAD

STREET LIGHT NOTES

A. INSTALL CALTRANS NO. 5 PULL BOX (7 TOTAL THIS DWG.)
B. INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (4 TOTAL THIS DWG.)
C. INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
D. INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRES (±938 L.F. TOTAL THIS DWG.)

NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 8	18	105	0.50%	SDDI #68184	SDDI #68185	236.34	235.82	INSTALL HDPE SD LATERAL
LAT 9	18	5	0.50%		SDDI #68184	236.37	236.34	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 10	18	32	0.50%	SDDI #68184B	SDDI #68184	238.50	238.34	INSTALL HDPE SD LATERAL
LAT 11	18	72	0.50%	SDDI #68182	SDDI #68183	237.84	237.48	INSTALL HDPE SD LATERAL
MAIN 5	18	365	0.50%	SDDI #68185	SDDI #68187	235.82	233.99	INSTALL HDPE SD PIPE
MAIN 6	18	333	0.50%	SDDI #68183	SDDI #68185	237.48	235.82	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #68182	245.45	32+36.27' ~ 36.16' RT		237.84 (W)	INSTALL CITY STD S-7 DROP INLET
SDDI #68183	245.45	32+36.28' ~ 36.17' LT	237.48 (E)	237.48 (S)	INSTALL CITY STD S-7 DROP INLET
SDDI #68184	242.16	29+03.41' ~ 69.01' RT	238.34 (S) 236.34 (E)	236.34 (W)	INSTALL MODIFIED CITY STD S-7 DROP INLET WITH 24" x 4" OPENING IN NORTH WALL; OPENING INVERT=241.23
SDDI #68184B	242.16	28+71.08' ~ 69.04' RT		238.50 (N)	INSTALL MODIFIED CITY STD S-7 DROP INLET WITH 24" x 4" OPENING IN SOUTH WALL; OPENING INVERT=241.23
SDDI #68185	242.90	29+03.41' ~ 36.17' LT	235.82 (N) 235.82 (E)	235.82 (S)	INSTALL CITY STD S-7 DROP INLET

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call Before You Dig

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #5	1-25-24	RAR
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 28+00 TO STA. 34+00

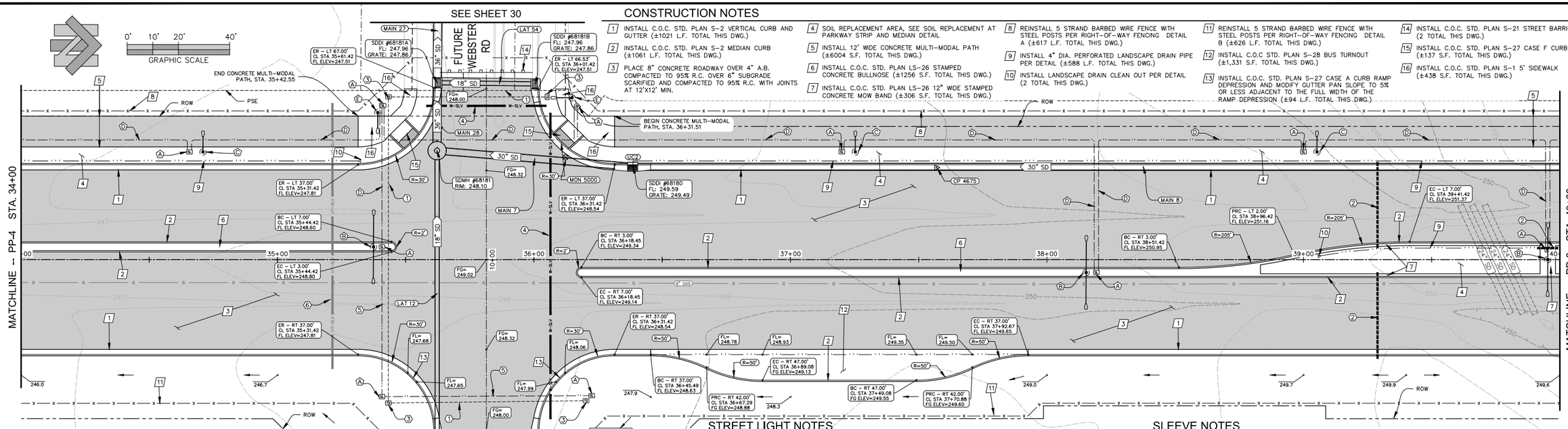
Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-4
Sheet 26 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-4

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: G:\Users\User\AppData\Local\Temp\AcPublish_1702A\16038_P&P 1.dwg – PP4 (26), Thu, Jan 25 2024 – 6:23:19am, User



CONSTRUCTION NOTES

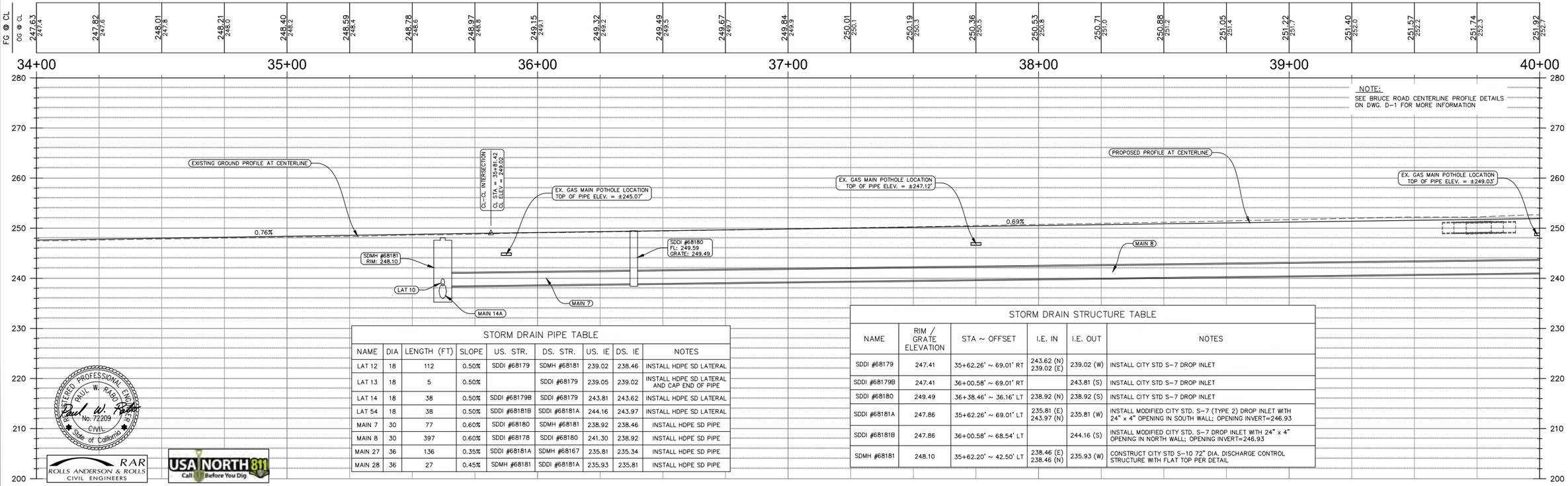
1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±1021 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±1061 L.F. TOTAL THIS DWG.)
3. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
4. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL
5. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±6004 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±1256 S.F. TOTAL THIS DWG.)
7. INSTALL C.O.C. STD. PLAN LS-26 12" WIDE STAMPED CONCRETE MOW BAND (±306 S.F. TOTAL THIS DWG.)
8. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL A (±617 L.F. TOTAL THIS DWG.)
9. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±588 L.F. TOTAL THIS DWG.)
10. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (2 TOTAL THIS DWG.)
11. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL B (±626 L.F. TOTAL THIS DWG.)
12. INSTALL C.O.C STD. PLAN S-28 BUS TURNOUT (±1,331 S.F. TOTAL THIS DWG.)
13. INSTALL C.O.C. STD. PLAN S-27 CASE A CURB RAMP DEPRESSION AND MODIFY GUTTER PAN SLOPE TO 5% OR LESS ADJACENT TO THE FULL WIDTH OF THE RAMP DEPRESSION (±94 L.F. TOTAL THIS DWG.)
14. INSTALL C.O.C. STD. PLAN S-21 STREET BARRICADE (2 TOTAL THIS DWG.)
15. INSTALL C.O.C. STD. PLAN S-27 CASE F CURB RAMP (±137 S.F. TOTAL THIS DWG.)
16. INSTALL C.O.C. STD. PLAN S-1 5' SIDEWALK (±438 S.F. TOTAL THIS DWG.)

STREET LIGHT NOTES

- (A) INSTALL CALTRANS NO. 5 PULL BOX (10 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRES (±1033 L.F. TOTAL THIS DWG.)
- (E) INSTALL HAPCO SINGLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)

SLEEVE NOTES

- (1) INSTALL (2) 3" DIA. SCHEDULE 40 PVC ELECTRICAL CONDUITS FOR FUTURE TRAFFIC SIGNAL (±226 L.F. TOTAL THIS DWG.)
- (2) INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±76 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION
- (3) INSTALL CALTRANS NO. 5 TRAFFIC SIGNAL BOX (4 TOTAL THIS DWG.)
- (4) INSTALL 24" DIA. WELDED STEEL (½" WALL) CASING FOR FUTURE WATER MAIN (±166 L.F. TOTAL THIS DRAWING)
- (5) INSTALL (1) 2" DIA. SCHEDULE 40 PVC ELECTRICAL CONDUIT FOR FUTURE STREET LIGHT (±55 L.F. TOTAL THIS DWG.)
- (6) INSTALL UTILITY SLEEVES PER DETAIL (±104 L.F. OF TRENCH TOTAL THIS DWG.)



STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 12	18	112	0.50%	SDDI #68179	SDMH #68181	239.02	238.46	INSTALL HDPE SD LATERAL
LAT 13	18	5	0.50%		SDDI #68179	239.05	239.02	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 14	18	38	0.50%	SDDI #68179B	SDDI #68179	243.81	243.62	INSTALL HDPE SD LATERAL
LAT 54	18	38	0.50%	SDDI #68181B	SDDI #68181A	244.16	243.97	INSTALL HDPE SD LATERAL
MAIN 7	30	77	0.60%	SDDI #68180	SDMH #68181	238.92	238.46	INSTALL HDPE SD PIPE
MAIN 8	30	397	0.60%	SDDI #68178	SDDI #68180	241.30	238.92	INSTALL HDPE SD PIPE
MAIN 27	36	136	0.35%	SDDI #68181A	SDMH #68167	235.81	235.34	INSTALL HDPE SD PIPE
MAIN 28	36	27	0.45%	SDMH #68181	SDDI #68181A	235.93	235.81	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #68179	247.41	35+62.26' ~ 69.01' RT	243.62 (N) 239.02 (E)	239.02 (W)	INSTALL CITY STD S-7 DROP INLET
SDDI #68179B	247.41	36+00.58' ~ 69.01' RT		243.81 (S)	INSTALL CITY STD S-7 DROP INLET
SDDI #68180	249.49	36+38.46' ~ 36.16' LT	238.92 (N)	238.92 (S)	INSTALL CITY STD S-7 DROP INLET
SDDI #68181A	247.86	35+62.26' ~ 69.01' LT	235.81 (E) 243.97 (N)	235.81 (W)	INSTALL MODIFIED CITY STD. S-7 (TYPE 2) DROP INLET WITH 24" x 4" OPENING IN SOUTH WALL; OPENING INVERT=246.93
SDDI #68181B	247.86	36+00.58' ~ 68.54' LT		244.16 (S)	INSTALL MODIFIED CITY STD. S-7 DROP INLET WITH 24" x 4" OPENING IN NORTH WALL; OPENING INVERT=246.93
SDMH #68181	248.10	35+62.20' ~ 42.50' LT	238.46 (E) 238.46 (N)	235.93 (W)	CONSTRUCT CITY STD S-10 72" DIA. DISCHARGE CONTROL STRUCTURE WITH FLAT TOP PER DETAIL

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call Before You Dig

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #2	01-09-24	JIR
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #5	1-25-24	RAR

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 34+00 TO STA. 40+00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-5
Sheet 27 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-5

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

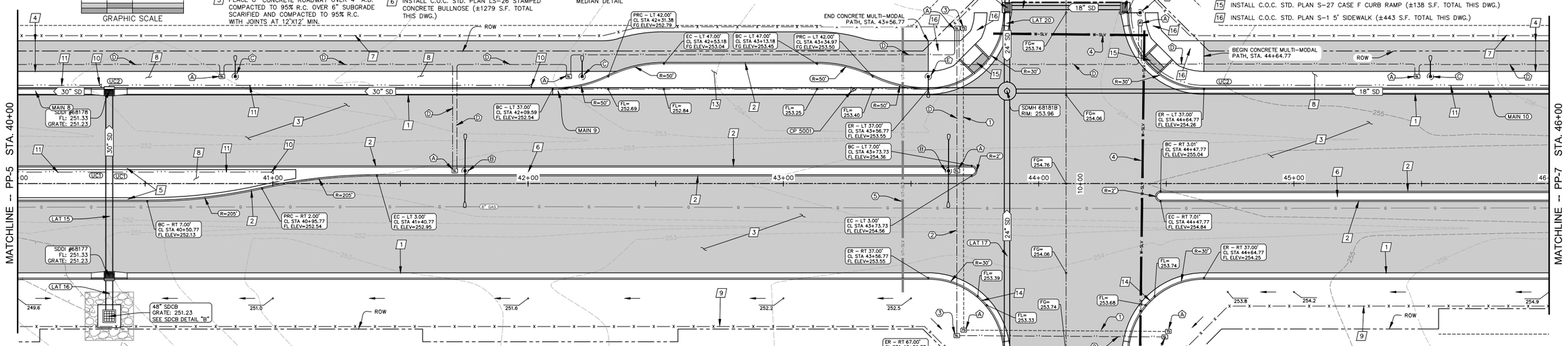
Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_4800\16038_P&P 1.dwg - PP5 (27), Tue, Feb 20 2024 - 4:29:50pm, User

CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±1017 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±1065 L.F. TOTAL THIS DWG.)
3. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±5918 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN LS-26 12" WIDE STAMPED CONCRETE MOW BAND (±224 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±1279 S.F. TOTAL THIS DWG.)
7. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL A AND B (±616 L.F. TOTAL THIS DWG.)
8. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL
9. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL B (±624 L.F. TOTAL THIS DWG.)
10. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (3 TOTAL THIS DWG.)

CONSTRUCTION NOTES

11. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±463 L.F. TOTAL THIS DWG.)
12. INSTALL C.O.C. STD. PLAN S-21 STREET BARRICADE (2 TOTAL THIS DWG.)
13. INSTALL C.O.C STD. PLAN S-28 BUS TURNOUT (±1,331 S.F. TOTAL THIS DWG.)
14. INSTALL C.O.C. STD. PLAN S-27 CASE C CURB RAMP DEPRESSION (±94 L.F. TOTAL THIS DWG.)
15. INSTALL C.O.C. STD. PLAN S-27 CASE F CURB RAMP (±138 S.F. TOTAL THIS DWG.)
16. INSTALL C.O.C. STD. PLAN S-1 5' SIDEWALK (±443 S.F. TOTAL THIS DWG.)



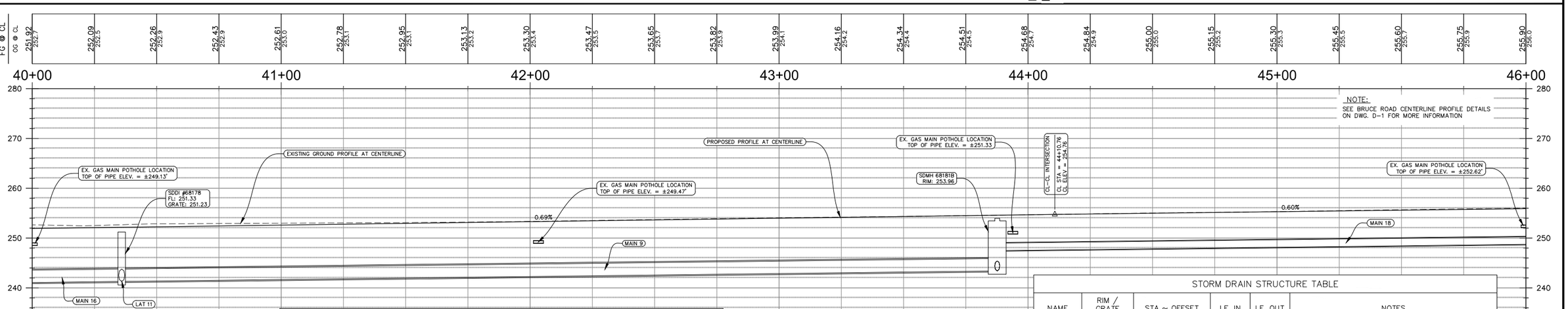
NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES

SLEEVE NOTES

1. INSTALL (2) 3" DIA. SCHEDULE 40 PVC ELECTRICAL CONDUITS FOR FUTURE TRAFFIC SIGNAL (±228 L.F. TOTAL THIS DWG.)
2. INSTALL (1) 2" DIA. SCHEDULE 40 PVC ELECTRICAL CONDUIT FOR FUTURE STREET LIGHT (±55 L.F. TOTAL THIS DWG.)
3. INSTALL CALTRANS NO. 5 TRAFFIC SIGNAL BOX (3 TOTAL THIS DWG.)
4. INSTALL 24" DIA. WELDED STEEL (¼" WALL) CASING FOR FUTURE WATER MAIN (±184 L.F. TOTAL THIS DRAWING)
5. INSTALL UTILITY SLEEVES PER DETAIL (±104 L.F. OF TRENCH TOTAL THIS DWG.)

STREET LIGHT NOTES

A. INSTALL CALTRANS NO. 5 STREET LIGHT BOX (9 TOTAL THIS DWG.)
B. INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
C. INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
D. INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRES (±941 L.F. TOTAL THIS DWG.)
E. INSTALL HAPCO SINGLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)



NOTE:
SEE BRUCE ROAD CENTERLINE PROFILE DETAILS ON DWG. D-1 FOR MORE INFORMATION

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 15	30	72	0.60%	SDDI #68177	SDDI #68178	241.73	241.30	INSTALL HDPE SD LATERAL
LAT 16	30	14	0.60%	48" SDCB	SDDI #68177	241.81	241.73	INSTALL HDPE SD LATERAL
LAT 17	24	105	0.50%	SDDI #67175	SDMH 68181B	243.93	243.41	INSTALL HDPE SD LATERAL
LAT 18	24	5	0.50%		SDDI #67175	243.96	243.93	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 19	18	46	0.50%	SDDI #67175B	SDDI #67175	249.37	249.14	INSTALL HDPE SD LATERAL
LAT 20	24	33	0.50%	SDDI #67176	SDMH 68181B	243.57	243.41	INSTALL HDPE SD LATERAL
LAT 21	18	5	0.50%		SDDI #67176	243.60	243.57	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 22	18	46	0.50%	SDDI #67176B	SDDI #67176	249.60	249.37	INSTALL HDPE SD LATERAL
MAIN 8	30	397	0.60%	SDDI #68178	SDDI #68180	241.30	238.92	INSTALL HDPE SD PIPE
MAIN 9	30	352	0.60%	SDMH 68181B	SDDI #68178	243.41	241.30	INSTALL HDPE SD PIPE
MAIN 10	18	377	0.60%	SDDI #68174	SDMH 68181B	249.75	247.49	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
48" SDCB	251.23	40+35.92' ~ 52.00' RT		241.81 (W)	INSTALL SDCB PER STORM DRAIN CATCH BASIN DETAIL "B"
SDDI #67175	253.07	43+87.60' ~ 69.01' RT	243.93 (E) 249.14 (N)	243.93 (W)	INSTALL MODIFIED CITY STD S-7 DROP INLET WITH 24" X 4" OPENING IN SOUTH WALL; OPENING INVERT=252.14
SDDI #67175B	253.07	44+33.93' ~ 69.01' RT		249.37 (S)	INSTALL MODIFIED CITY STD S-7 DROP INLET WITH 24" x 4" OPENING IN NORTH WALL; OPENING INVERT=252.14
SDDI #67176	253.30	43+87.60' ~ 69.01' LT	249.37 (N) 243.57 (W)	243.57 (E)	INSTALL MODIFIED CITY STD S-7 DROP INLET WITH 24" x 4" OPENING IN SOUTH WALL; OPENING INVERT=252.37
SDDI #67176B	253.30	44+33.93' ~ 69.01' LT		249.60 (S)	INSTALL MODIFIED CITY STD. S-7 DROP INLET WITH 24" x 4" OPENING IN NORTH WALL; OPENING INVERT=252.37
SDDI #68177	251.23	40+35.92' ~ 36.16' RT	241.73 (E)	241.73 (W)	INSTALL CITY STD S-7 DROP INLET
SDDI #68178	251.23	40+35.92' ~ 36.16' LT	241.30 (E) 241.30 (N)	241.30 (S)	INSTALL CITY STD S-7 DROP INLET
SDMH 68181B	253.96	43+87.60' ~ 36.25' LT	243.41 (E) 243.41 (W) 247.49 (N)	243.41 (S)	CONSTRUCT CITY STD. S-10 60" DIA. MANHOLE

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call 811 Before You Dig

Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD		ADDENDUM #2	01-09-24	JIR	
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #5	1-25-24	RAR	

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 40+00 TO STA. 46+00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-6
Sheet 28 of 182

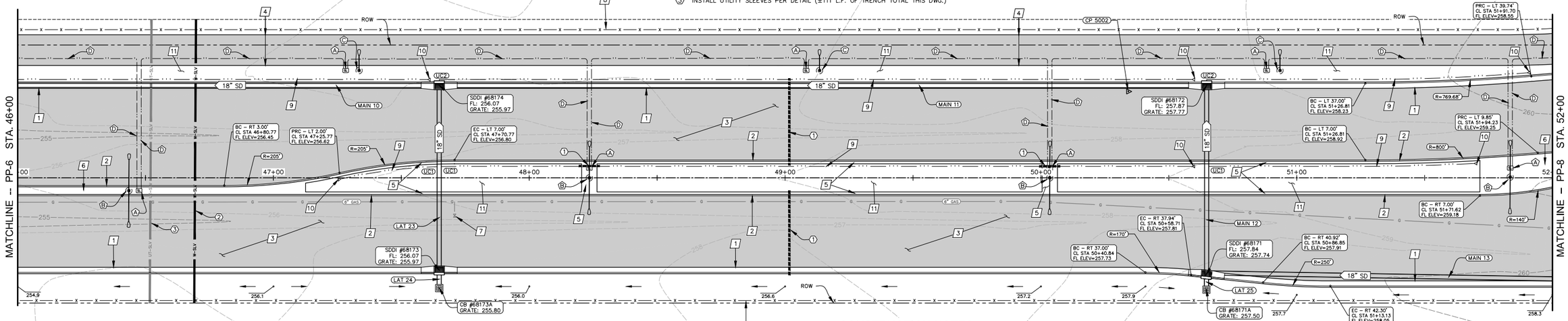
Title: BRUCE ROAD RECONSTRUCTION
Drawing Number PP-6
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record
Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_4800\16038_P&P 1.dwg - PP6 (28), Tue, Feb 20 2024 - 4:30:02pm, User

0' 10' 20' 40'
GRAPHIC SCALE

SLEEVE NOTES

1. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±84 L.F. TOTAL THIS DWG.), SEE LANDSCAPING PLANS FOR MORE INFORMATION
2. INSTALL 24" DIA. WELDED STEEL (¼" WALL) CASING FOR FUTURE WATER MAIN (±111 L.F. TOTAL THIS DWG.)
3. INSTALL UTILITY SLEEVES PER DETAIL (±111 L.F. OF TRENCH TOTAL THIS DWG.)

NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



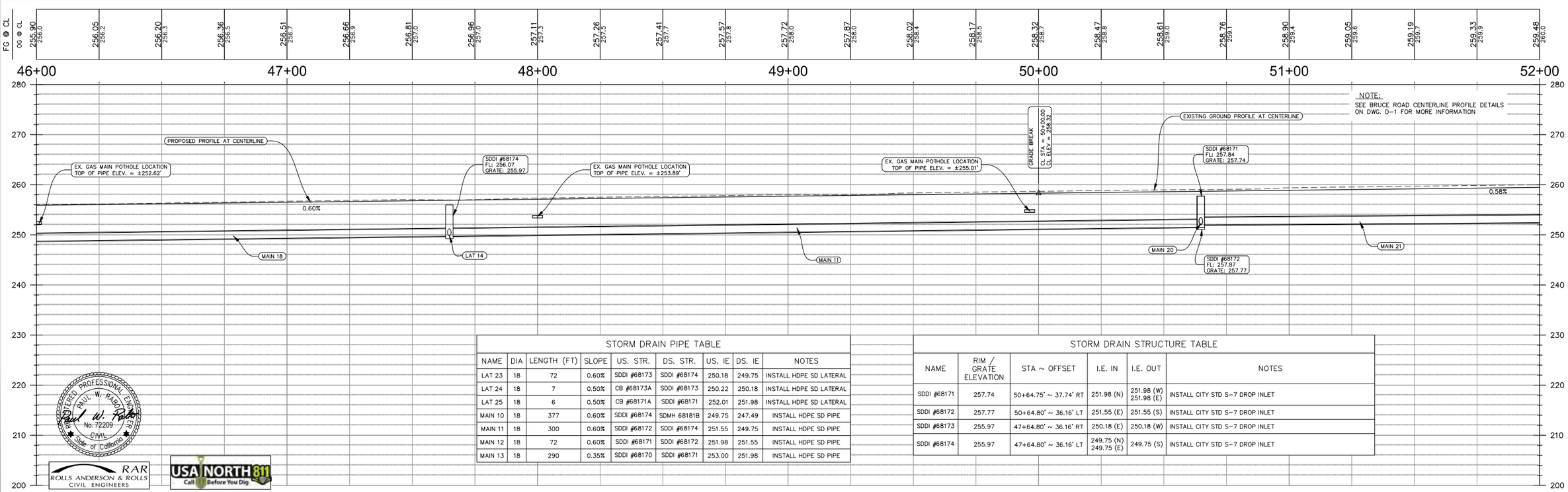
STREET LIGHT NOTES

- (A) INSTALL CALTRANS NO. 5 STREET LIGHT BOX (7 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (4 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRES (±959 L.F. TOTAL THIS DWG.)

CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±1185 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±1201 L.F. TOTAL THIS DWG.)
3. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±7200 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN LS-26 12" WIDE STAMPED CONCRETE MOW BAND (±1056 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±749 S.F. TOTAL THIS DWG.)
7. ADJUST EXISTING GAS VALVE LID TO FINISH GRADE PER PG&E REQUIREMENTS (1 TOTAL THIS DWG.)
8. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL A (±600 L.F. TOTAL THIS DWG.)
9. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL A (±1017 L.F. TOTAL THIS DWG.)
10. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (6 TOTAL THIS DWG.)
11. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL
12. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL B (±600 L.F. TOTAL THIS DWG.)

BRUCE ROAD



NOTE:
SEE BRUCE ROAD CENTERLINE PROFILE DETAILS ON DWG. D-1 FOR MORE INFORMATION

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 23	18	72	0.60%	SDDI #68173	SDDI #68174	250.18	249.75	INSTALL HDPE SD LATERAL
LAT 24	18	7	0.50%	CB #68173A	SDDI #68173	250.22	250.18	INSTALL HDPE SD LATERAL
LAT 25	18	6	0.50%	CB #68171A	SDDI #68171	252.01	251.98	INSTALL HDPE SD LATERAL
MAIN 10	18	377	0.60%	SDDI #68174	SDMH 68181B	249.75	247.49	INSTALL HDPE SD PIPE
MAIN 11	18	300	0.60%	SDDI #68172	SDDI #68174	251.55	249.75	INSTALL HDPE SD PIPE
MAIN 12	18	72	0.60%	SDDI #68171	SDDI #68172	251.98	251.55	INSTALL HDPE SD PIPE
MAIN 13	18	290	0.35%	SDDI #68170	SDDI #68171	253.00	251.98	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #68171	257.74	50+64.75' ~ 37.74' RT	251.98 (N)	251.98 (W) 251.98 (E)	INSTALL CITY STD S-7 DROP INLET
SDDI #68172	257.77	50+64.80' ~ 36.16' LT	251.55 (E)	251.55 (S)	INSTALL CITY STD S-7 DROP INLET
SDDI #68173	255.97	47+64.80' ~ 36.16' RT	250.18 (E)	250.18 (W)	INSTALL CITY STD S-7 DROP INLET
SDDI #68174	255.97	47+64.80' ~ 36.16' LT	249.75 (N) 249.75 (E)	249.75 (S)	INSTALL CITY STD S-7 DROP INLET

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOLDER
No. 72209
CIVIL
State of California

RAR
ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

USA NORTH 811
Call Before You Dig

Title: BRUCE ROAD RECONSTRUCTION

Drawing Path: G:\Users\User\AppData\Local\Temp\AcPublish_1702A\16038_P&P 1.dwg – PP7 (29), Thu, Jan 25 2024 – 6:23:55am, User

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Number PP-7

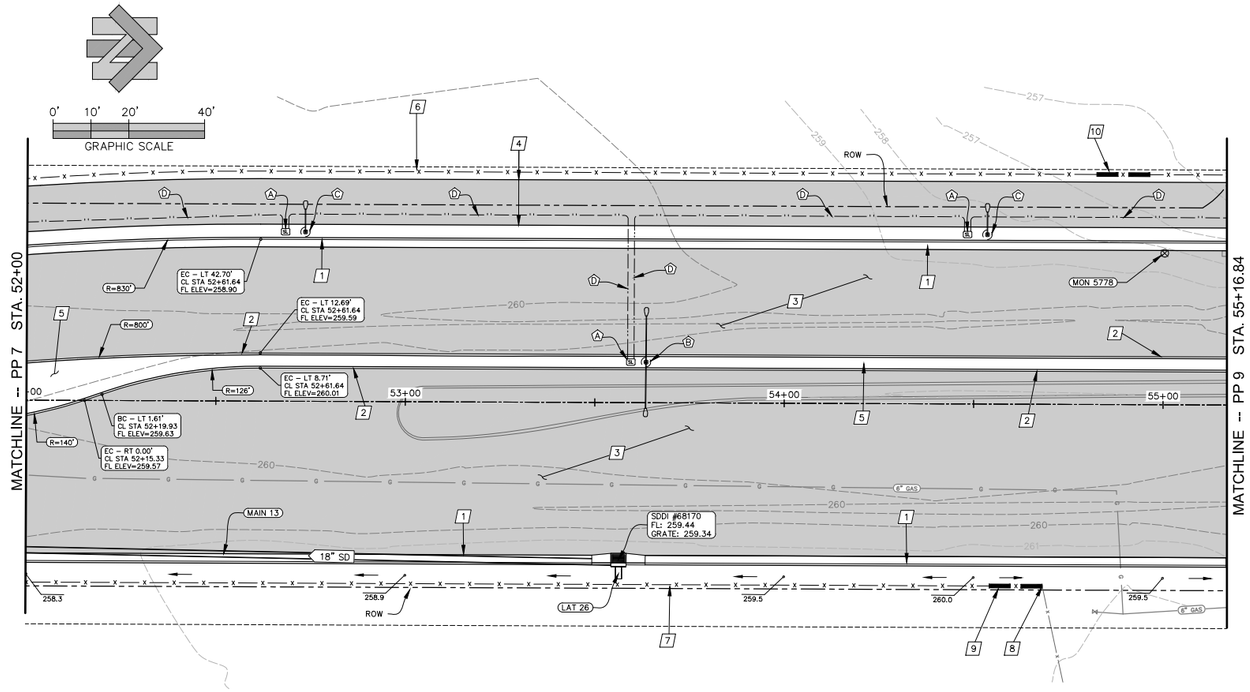
Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #5	1-25-24	RAR
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 46+00 TO STA. 52+00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-7
Sheet 29 of 182



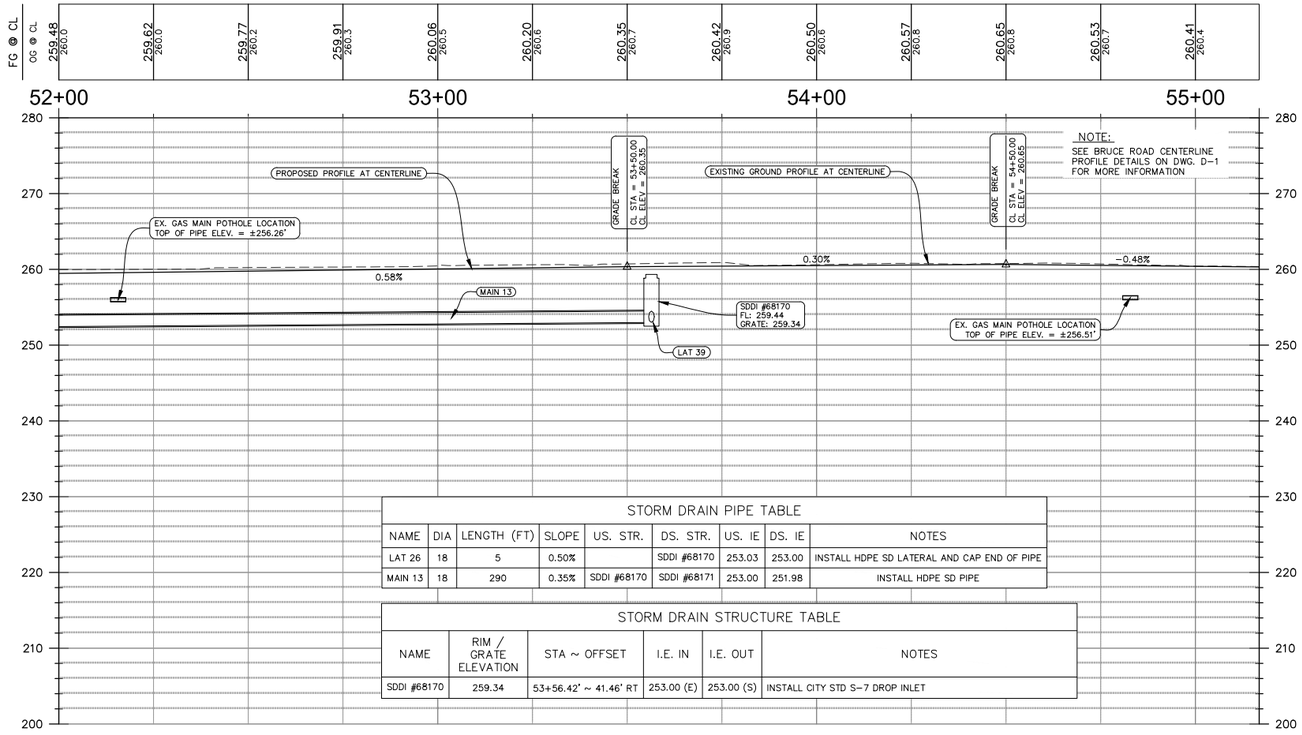
BRUCE ROAD

CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±629 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±630 L.F. TOTAL THIS DWG.)
3. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±3810 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±1198 S.F. TOTAL THIS DWG.)
6. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL A (±322 L.F. TOTAL THIS DWG.)
7. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL B (±268 L.F. TOTAL THIS DWG.)
8. CONNECT TO EXISTING BARBED WIRE FENCE
9. INSTALL 14' WIDE CALTRANS STD. PLAN A86 BARBED WIRE GATE WITH METAL POSTS (BRUCE RD. CL STA. 54+61.40, RT 48.0'). SEE CALTRANS STD. PLANS A86A, A86B AND A86C FOR ADDITIONAL INFORMATION
10. INSTALL 14' WIDE CALTRANS STD. PLAN A86 BARBED WIRE GATE WITH METAL POSTS (BRUCE RD. CL STA. 54+89.20, LT 60.7'). SEE CALTRANS STD. PLANS A86A, A86B AND A86C FOR ADDITIONAL INFORMATION

STREET LIGHT NOTES

- (A) INSTALL CALTRANS NO. 5 STREET LIGHT BOX (3 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (1 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRES (±400 L.F. TOTAL THIS DWG.)



GENERAL CONSTRUCTION NOTES

1. QUANTITIES SHOWN ON THESE PLANS ARE FOR THE CONTRACTORS CONVENIENCE ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES AND REFER TO THE QUANTITIES ON THE BID SCHEDULE FOR MORE INFORMATION.
2. EXISTING TOPOGRAPHIC FEATURES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL REVIEW DEMOLITION PLANS FOR REMOVAL LIMITS.
3. CONTRACTOR SHALL RAISE AND ADJUST ALL EXISTING MANHOLE FRAME AND COVERS, WATER VALVE FRAME AND COVERS, GAS VALVE FRAME AND COVERS, METER BOXES, IRRIGATION BOXES, TRAFFIC SIGNAL BOXES, STREET LIGHT BOXES, ETC. TO FINISH GRADE.
4. PROPOSED FENCE LOCATIONS ARE SHOWN GRAPHICALLY FOR CLARITY. SEE RIGHT-OF-WAY FENCING DETAILS FOR MORE INFORMATION.
5. ALL TREES NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE.
6. ALL LANDSCAPED AND PLANTER AREAS NOT IDENTIFIED FOR REMOVAL SHALL BE PROTECTED IN PLACE, INCLUDING ALL PLANTS, TREES, LANDSCAPE IRRIGATION PIPING, VALVE BOXES, CONTROLLERS AND METERS.
7. CONTRACTOR SHALL REFERENCE THE TRAFFIC SIGNAL MODIFICATION PLANS FOR ADDITIONAL INFORMATION.
8. CONTRACTOR SHALL REFERENCE THE BRIDGE PLAN SHEETS FOR ADDITIONAL INFORMATION
9. CONTRACTOR SHALL REFERENCE THE CALWATER AND PG&E PLANS FOR ADDITIONAL INFORMATION.
10. NO WORK SHALL BE PERFORMED WITHIN CALTRANS RIGHT-OF-WAY WITHOUT PRIOR APPROVAL OF THE CITY OF CHICO AND CALTRANS.
11. ALL WORK, EQUIPMENT STAGING, MATERIAL STAGING AND STOCKPILING SHALL BE PERFORMED WITHIN CITY OF CHICO RIGHT-OF-WAYS.
12. CONTRACTOR SHALL APPLY FOR AND SECURE ALL PERMITS NECESSARY TO PERFORM WORK SHOWN ON THESE PLANS.
13. CONTRACTOR SHALL CONSTRUCT 10-FOOT LONG MINIMUM VERTICAL CURVES IN THE MULTI-MODAL PATH AT POINTS OF GRADE INFLECTION WHERE THE GRADE DIFFERENTIAL EXCEEDS 2%.
14. CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPE FITTINGS AND MATERIALS NECESSARY FOR CONNECTION TO EXISTING AND PROPOSED SANITARY SEWER AND STORM DRAIN SYSTEMS AS SHOWN ON THE PLANS.
15. FINAL LOCATION AND DEPTH OF ALL WATER AND UTILITY SLEEVES SHALL BE COORDINATED WITH RESPECTIVE UTILITY COMPANIES.
16. JOINT TRENCH SHALL CONTAIN 4 (TOTAL) 8" DIA. SCHEDULE 40 PVC SLEEVES (STACKED TWO OVER TWO) WITH 36" MINIMUM COVER. TRENCH WIDTH, BEDDING AND BACKFILL SHALL BE IN ACCORDANCE WITH CITY OF CHICO STANDARDS. CAP AND MARK ENDS OF SLEEVES PER CITY REQUIREMENTS.
17. ALL SUBGRADE WITHIN THE PROJECT GRADING LIMITS SHALL BE SCARIFIED TO A DEPTH OF 6-INCHES, MOISTURE CONDITIONED AND COMPACTED TO 95% RELATIVE COMPACTION PRIOR TO THE PLACEMENT OF ANY FILL MATERIALS, UNLESS OTHERWISE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER.
18. SUBGRADE AND IMPORT MATERIALS WITHIN 6-FEET OF ALL POLE (E.G. MEDIAN LIGHT, PATH LIGHT, SIGNAL) FOUNDATIONS SHALL BE MOISTURE CONDITIONED AND COMPACTED TO 95% RELATIVE COMPACTION.

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 26	18	5	0.50%		SDDI #68170	253.03	253.00	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
MAIN 13	18	290	0.35%	SDDI #68170	SDDI #68171	253.00	251.98	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #68170	259.34	53+56.42' ~ 41.46' RT	253.00 (E)	253.00 (S)	INSTALL CITY STD S-7 DROP INLET

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABO
No. 72209
CIVIL
State of California

RAR
ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

USA NORTH 811
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Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD		ADDENDUM #2	01-09-24	JIR	
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #5	1-25-24	RAR	

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

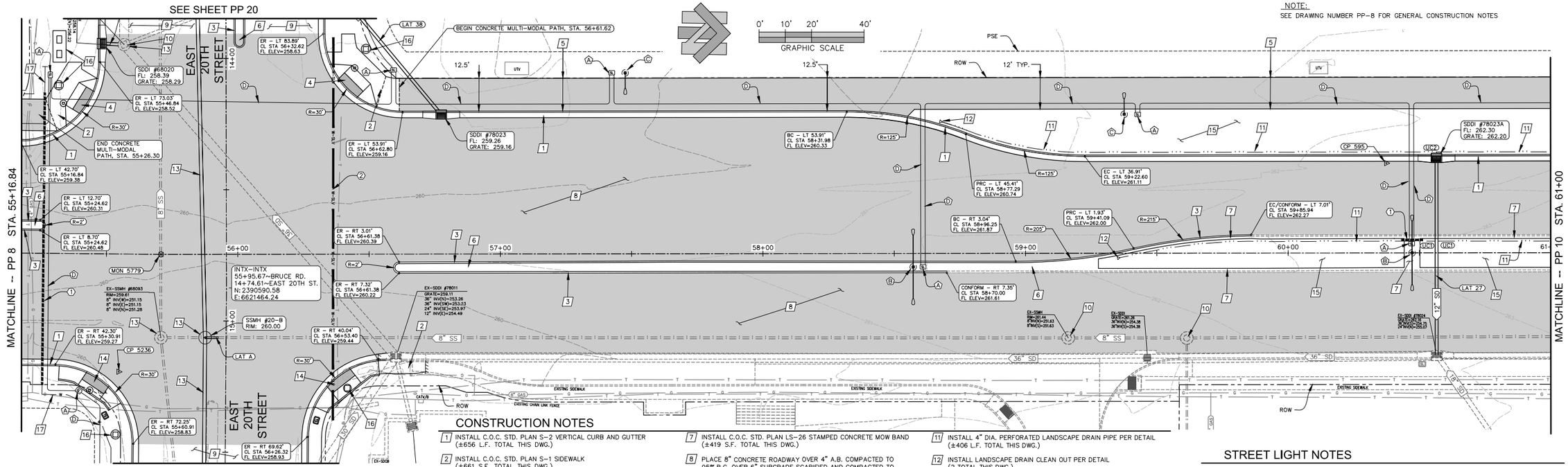
BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA 52+00 TO STA. 55+16.84

Project Number: 16038	Drawing Number PP-8
Scale: 1"= 20'	Sheet 30 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-8

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_4800\16038_P&P 1.dwg - PP8 (30), Tue, Feb 20 2024 - 4:30:14pm, User



NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES

SLEEVE NOTES

1. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±119 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION
2. INSTALL 24" DIA. WELDED STEEL (1/4" WALL) CASING FOR FUTURE WATER MAIN (±91 L.F. TOTAL THIS DRAWING)

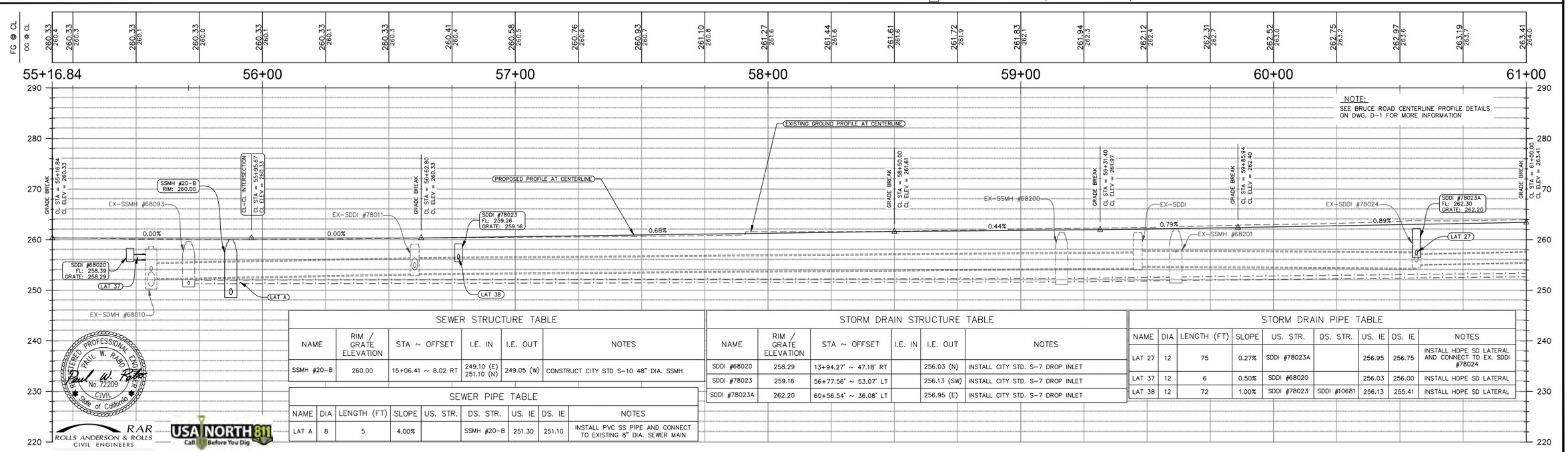
CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±656 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±661 S.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±575 L.F. TOTAL THIS DWG.)
4. INSTALL C.O.C. STD. PLAN S-27 CASE A, DETAIL B, 10' WIDE CURB RAMP (±226 S.F. TOTAL THIS DWG.)
5. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±5478 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±957 S.F. TOTAL THIS DWG.)
7. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE MOW BAND (±419 S.F. TOTAL THIS DWG.)
8. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
9. PLACE 5.5" TYPE "A" A.C. OVER 17.5" CL. 2 A.B. COMPACTED TO 95% R.C. OVER 12" OF SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
10. ADJUST EXISTING FRAME AND COVER TO FINISH GRADE PER C.O.C. STD. PLANS S-10 AND S-13 (3 TOTAL THIS DWG.)
11. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±406 L.F. TOTAL THIS DWG.)
12. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (2 TOTAL THIS DWG.)
13. SEE SHEET 36 AND 37 FOR CONSTRUCTION NOTES
14. INSTALL C.O.C. STD. PLAN S-27 CASE C 10' WIDE CURB RAMP (±336 S.F. TOTAL THIS DWG.)
15. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL
16. SEE TRAFFIC SIGNAL MODIFICATION PLANS FOR ADDITIONAL INFORMATION
17. INSTALL 3" DIA. WATER SERVICE (±165 L.F. TOTAL THIS DWG.)

STREET LIGHT NOTES

- (A) INSTALL CALTRANS NO. 5 PULL BOX (5 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±1025 L.F. TOTAL THIS DWG.)

BRUCE ROAD



NOTE:
SEE BRUCE ROAD CENTERLINE PROFILE DETAILS ON DWG. D-1 FOR MORE INFORMATION

SEWER STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SSMH #20-B	260.00	15+06.41 ~ 8.02 RT	249.10 (E) 251.10 (N)	249.05 (W)	CONSTRUCT CITY STD S-10 48" DIA. SSMH

SEWER PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT A	8	5	4.00%		SSMH #20-B	251.30	251.10	INSTALL PVC SS PIPE AND CONNECT TO EXISTING 8" DIA. SEWER MAIN

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #68020	258.29	13+94.27' ~ 47.18' RT		256.03 (N)	INSTALL CITY STD. S-7 DROP INLET
SDDI #78023	259.16	56+77.56' ~ 53.07' LT		256.13 (SW)	INSTALL CITY STD. S-7 DROP INLET
SDDI #78023A	262.20	60+56.54' ~ 36.08' LT		256.95 (E)	INSTALL CITY STD. S-7 DROP INLET

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 27	12	75	0.27%	SDDI #78023A		256.95	256.75	INSTALL HDPE SD LATERAL AND CONNECT TO EX. SDDI #78024
LAT 37	12	6	0.50%	SDDI #68020		256.03	256.00	INSTALL HDPE SD LATERAL
LAT 38	12	72	1.00%	SDDI #78023	SDDI #10681	256.13	255.41	INSTALL HDPE SD LATERAL

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call 811 Before You Dig

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #5	1-25-24	RAR
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 55+16.84 TO STA. 61+00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-9
Sheet 31 of 182

Drawing Number PP-9

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Title: BRUCE ROAD RECONSTRUCTION

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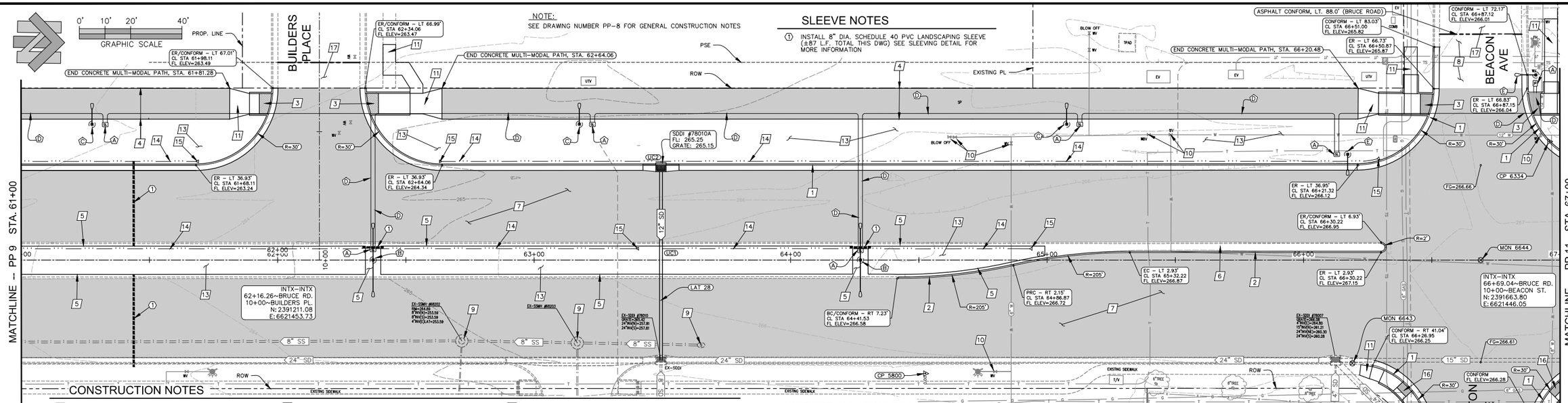


SLEEVE NOTES

1. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±87 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

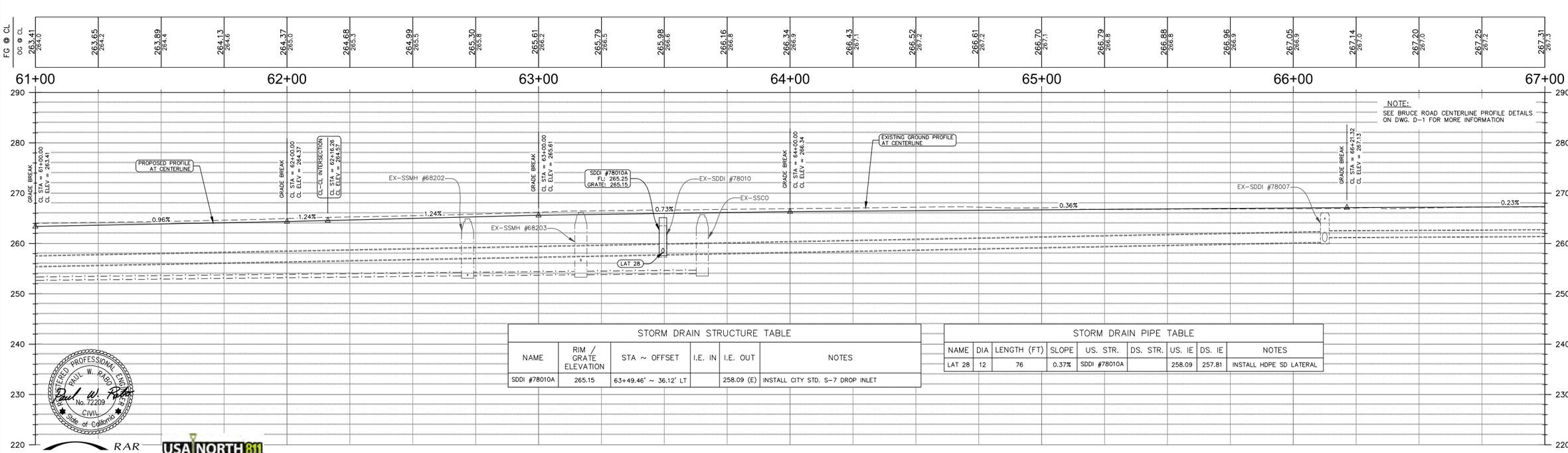
CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±514 L.F. TOTAL THIS DWG.)
2. INSTALL CITY STD. PLAN S-2 MEDIAN CURB (±196 L.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN S-27 CASE F CURB RAMP (±613 S.F. TOTAL THIS DWG.)
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±5260 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE MOW BAND (±951 S.F. TOTAL THIS DWG.)
6. INSTALL STAMPED CONCRETE BULLNOSE PER C.O.C. STD. LS-26 (±423 S.F. TOTAL THIS DWG.)
7. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
8. PLACE 5.5" TYPE "A" A.C. OVER 17.5" CL. 2 A.B. COMPACTED TO 95% R.C. OVER 12" SUBGRADE SCARFIED AND COMPACTED TO 95% R.C.
9. ADJUST EXISTING FRAME AND COVER TO FINISH FRADE PER C.O.C. STD. PLAN S-10 AND S-13 (3 TOTAL THIS DWG.)
10. ADJUST EXISTING WATER UTILITY BOXES (WV, WM, ETC.) TO FINISHED GRADE PER CALWATER REQUIREMENTS (TYP. ALL)
11. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±706 S.F. TOTAL THIS DWG.)
12. INSTALL C.O.C. STD. PLAN S-7 DROP INLET TOP (1 TOTAL THIS DWG.)
13. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL
14. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±922 L.F. TOTAL THIS DWG.)
15. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (5 TOTAL THIS DWG.)
16. INSTALL CITY OF CHICO PLAN S-27 CASE C CURB RAMP (±219 S.F. TOTAL THIS DWG.)
17. GRIND 1.5" OF EXISTING ASPHALT CONCRETE AND PLACE 1.5" OF HMA PER TAPER DETAIL

STREET LIGHT NOTES

- (A) INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (7 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±845 L.F. TOTAL THIS DWG.)
- (E) INSTALL HAPCO SINGLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)

BRUCE ROAD



STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #78010A	265.15	63+49.46' ~ 36.12' LT		258.09 (E)	INSTALL CITY STD. S-7 DROP INLET

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 28	12	76	0.37%	SDDI #78010A		258.09	257.81	INSTALL HDPE SD LATERAL

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call Before You Dig

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #1	12-19-23	PWR
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #5	1-25-24	RAR

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 61+00 TO STA. 67+00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-10
Sheet 32 of 182

Drawing Number PP-10

Title: BRUCE ROAD RECONSTRUCTION

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

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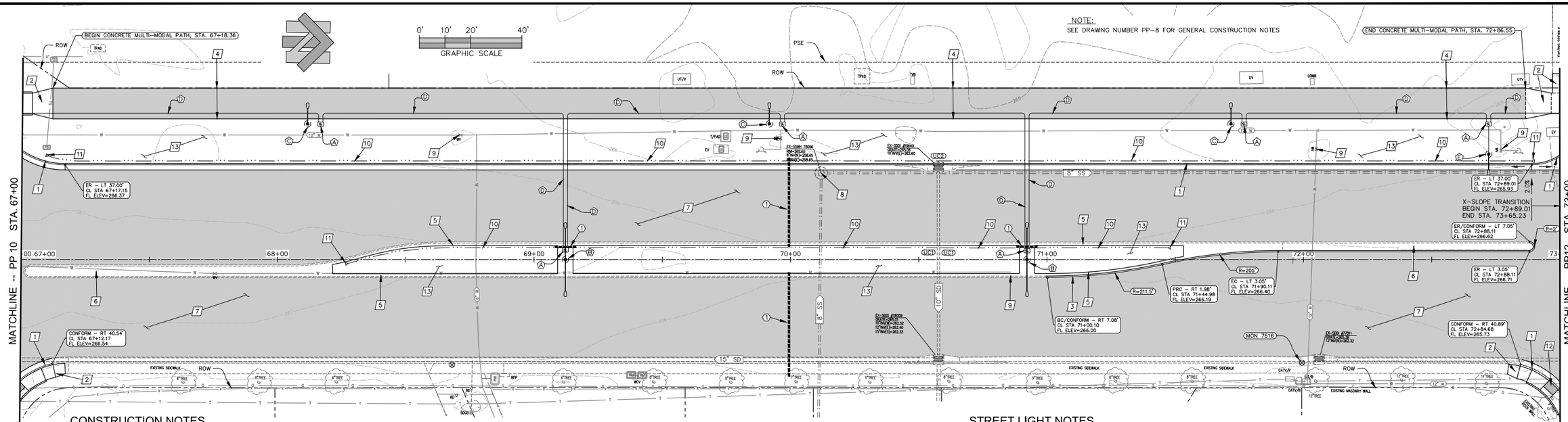


CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±628 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±264 S.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±195 L.F. TOTAL THIS DWG.)
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±6890 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE MOW BAND (±807 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±917 S.F. TOTAL THIS DWG.)
7. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
8. ADJUST EXISTING FRAME AND COVER TO FINISH GRADE PER C.O.C. STD. PLANS S-10 AND S-13 (1 TOTAL THIS DWG.)
9. ADJUST EXISTING WATER UTILITY BOXES (WV, WM, ETC.) TO FINISHED GRADE PER CALWATER REQUIREMENTS (TYP. ALL)
10. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±898 L.F. TOTAL THIS DWG.)
11. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (4 TOTAL THIS DWG.)
12. INSTALL C.O.C. STD. PLAN S-27 CASE C CURB RAMP (±109 S.F. TOTAL THIS DWG.)
13. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL

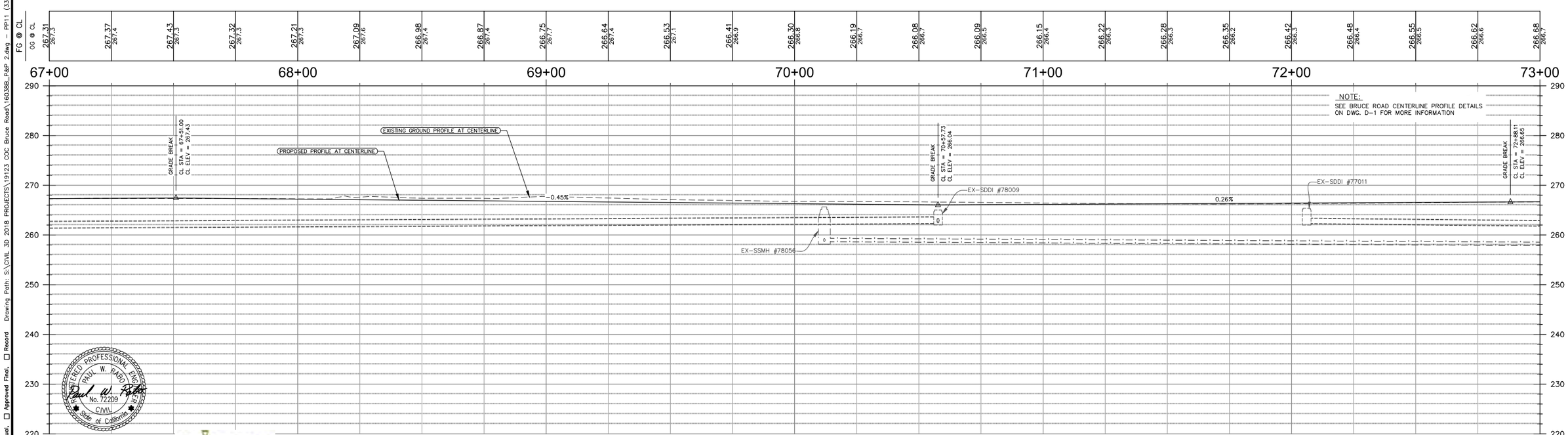
STREET LIGHT NOTES

- (A) INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (6 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±834 L.F. TOTAL THIS DWG.)
- (E) INSTALL HAPCO SINGLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (1 TOTAL THIS DWG.)

SLEEVE NOTES

1. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±92 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

BRUCE ROAD



REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABO
No. 72209
CIVIL
State of California

RAR
ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #5	1-25-24	RAR
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 67+00 TO STA. 73+00

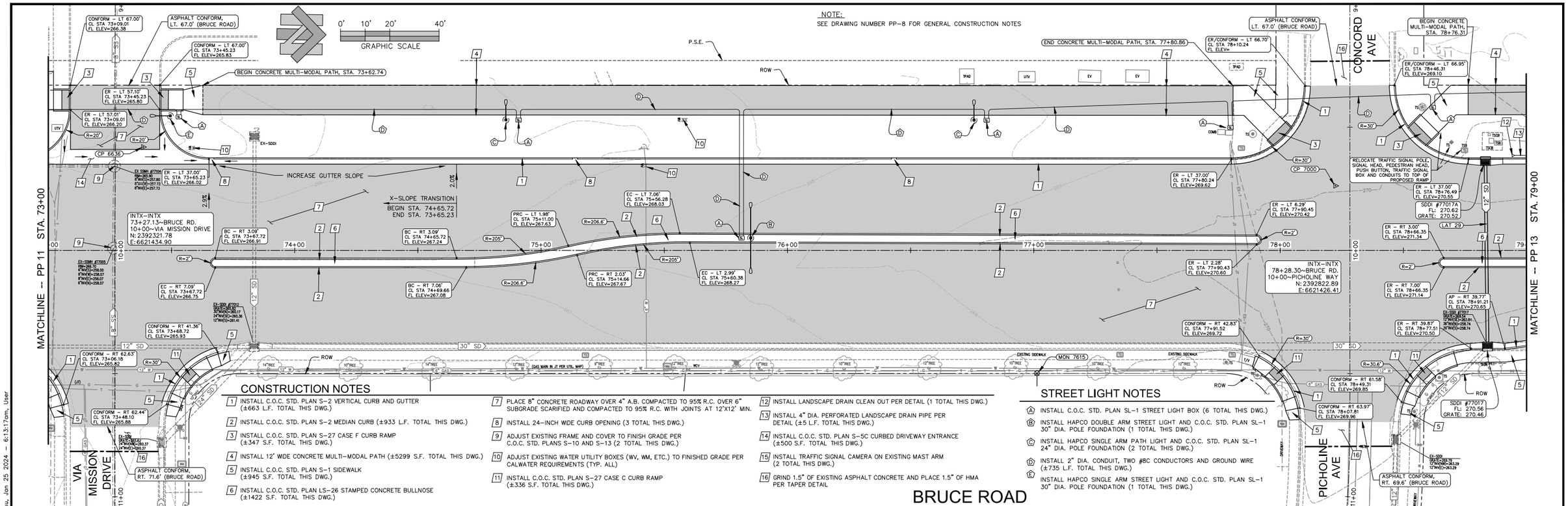
Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-11
Sheet 33 of 182

Drawing Number PP-11

Title: BRUCE ROAD RECONSTRUCTION

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg - PP11 (33), Thu, Jan 25 2024 - 6:13:02am, User

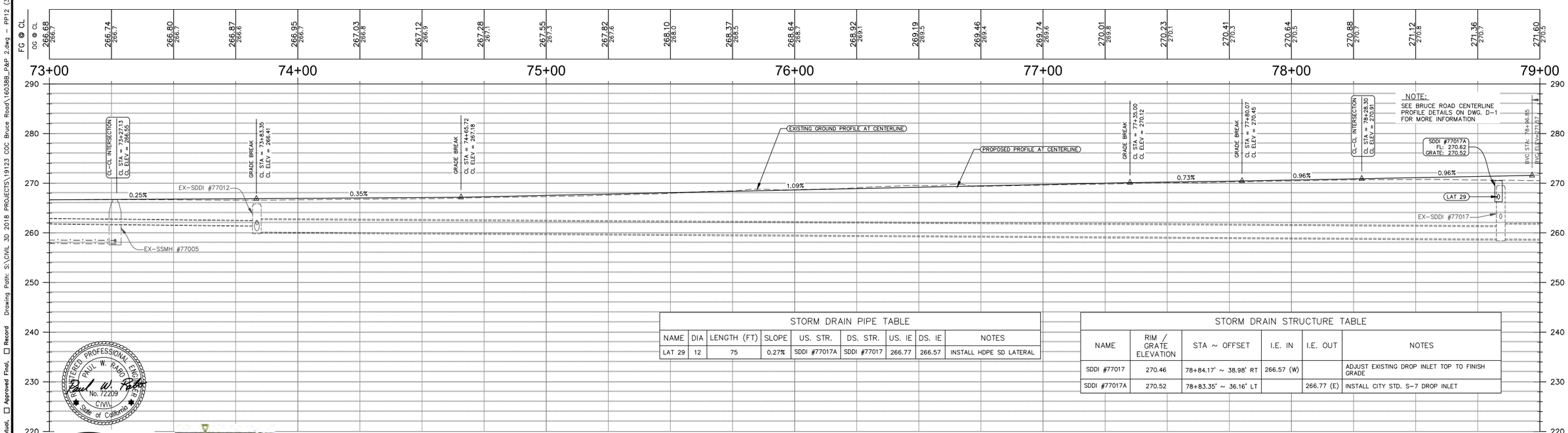


CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±663 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±933 L.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN S-27 CASE F CURB RAMP (±347 S.F. TOTAL THIS DWG.)
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±5299 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±945 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±1422 S.F. TOTAL THIS DWG.)
7. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
8. INSTALL 24-INCH WIDE CURB OPENING (3 TOTAL THIS DWG.)
9. ADJUST EXISTING FRAME AND COVER TO FINISH GRADE PER C.O.C. STD. PLANS S-10 AND S-13 (2 TOTAL THIS DWG.)
10. ADJUST EXISTING WATER UTILITY BOXES (WV, WM, ETC.) TO FINISHED GRADE PER CALWATER REQUIREMENTS (TYP. ALL)
11. INSTALL C.O.C. STD. PLAN S-27 CASE C CURB RAMP (±336 S.F. TOTAL THIS DWG.)
12. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (1 TOTAL THIS DWG.)
13. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±5 L.F. TOTAL THIS DWG.)
14. INSTALL C.O.C. STD. PLAN S-5C CURBED DRIVEWAY ENTRANCE (±500 S.F. TOTAL THIS DWG.)
15. INSTALL TRAFFIC SIGNAL CAMERA ON EXISTING MAST ARM (2 TOTAL THIS DWG.)
16. GRIND 1.5" OF EXISTING ASPHALT CONCRETE AND PLACE 1.5" OF HMA PER TAPER DETAIL

STREET LIGHT NOTES

- (A) INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (6 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (1 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±735 L.F. TOTAL THIS DWG.)
- (E) INSTALL HAPCO SINGLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (1 TOTAL THIS DWG.)



STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 29	12	75	0.27%	SDDI #77017A	SDDI #77017	266.77	266.57	INSTALL HDPE SD LATERAL

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #77017	270.46	78+84.17' ~ 38.98' RT	266.57 (W)		ADJUST EXISTING DROP INLET TOP TO FINISH GRADE
SDDI #77017A	270.52	78+83.35' ~ 36.16' LT		266.77 (E)	INSTALL CITY STD. S-7 DROP INLET

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Title: BRUCE ROAD RECONSTRUCTION

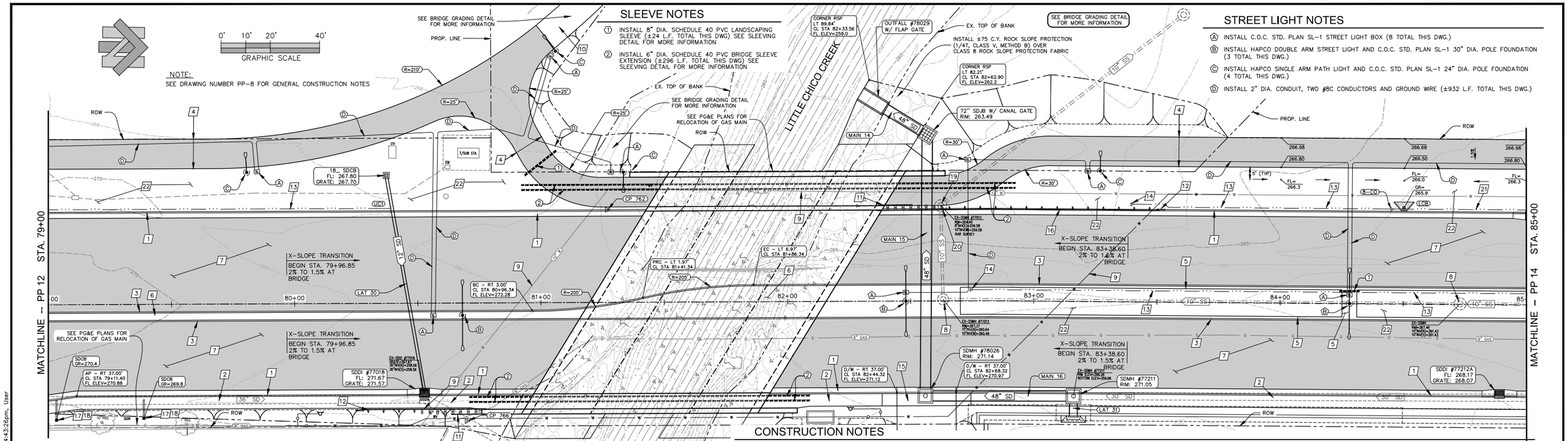
Drawing Number PP-12

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg – PP12 (34), Thu, Jan 25 2024 – 6:13:17am, User

Designed: JIR	Approved:	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: CAD		ADDENDUM #1	12-19-23	PWR	BRUCE ROAD RECONSTRUCTION
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #5	1-25-24	RAR	PLAN AND PROFLE - BRUCE ROAD STA. 73+00 TO STA. 79+00

Project Number: 16038 | Scale: 1"= 20' | Drawing Number PP-12 | Sheet 34 of 182



SLEEVE NOTES

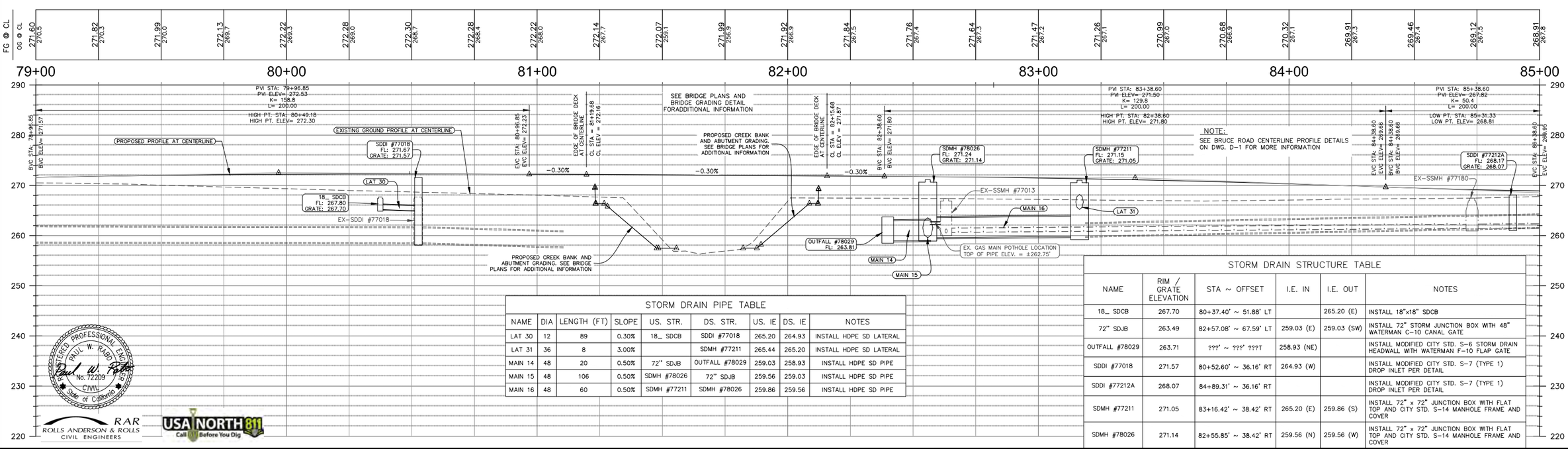
1. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±24 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION
2. INSTALL 6" DIA. SCHEDULE 40 PVC BRIDGE SLEEVE EXTENSION (±296 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

STREET LIGHT NOTES

- (A) INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (8 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (4 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±932 L.F. TOTAL THIS DWG.)

CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±1004 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±2455 S.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±1201 L.F. TOTAL THIS DWG.)
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±7344 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE MOW BAND (±539 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±2386 S.F. TOTAL THIS DWG.)
7. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
8. INSTALL CONCENTRIC CONE AND BARREL EXTENSIONS AS NEEDED TO ADJUST EXISTING FRAME AND COVER TO FINISH GRADE PER C.O.C. STD. PLANS S-10 AND S-13 (2 TOTAL THIS DWG.)
9. SEE CALWATER PLAN SHEETS FOR RELOCATION OF WATER MAIN
10. PLACE 3" TYPE "A" A.C. OVER EXISTING SUBGRADE COMPACTED TO 95% R.C.
11. INSTALL MGS TRANSITION RAILING (TYPE WB-31) PER 2018 CALTRANS STD. RSP A77U4
12. INSTALL LINDSAY MAX TENSION TL-3 TERMINAL END SYSTEM
13. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±527 L.F. TOTAL THIS DWG.)
14. INSTALL LANDSCAPE DRAIN CLEAN OUT PER DETAIL (3 TOTAL THIS DWG.)
15. INSTALL C.O.C. STD. PLAN S-5 RESIDENTIAL DRIVEWAY (±180 S.F. TOTAL THIS DWG.)
16. INSTALL MIDWEST GUARDRAIL SYSTEM PER 2018 CALTRANS STD. PLAN A77U (±63 L.F. TOTAL THIS DWG)
17. INSTALL 6" DIA. SDR 35 PVC SD PIPE, S=0.0050 (±14 L.F. TOTAL THIS DWG.)
18. INSTALL ADS NYLOPLAST UNIVERSAL INLINE DRAIN WITH 12" DOME GRATE
19. INSTALL ECCENTRIC CONE AND BARREL EXTENSIONS AS NEEDED TO ADJUST FRAME AND COVER TO FINISH GRADE PER CITY OF CHICO STD. PLANS S-10 AND S-13. MANHOLE COVER SHALL BE LOCATED ON DOWN STREAM SIDE OF MANHOLE (1 TOTAL THIS DWG.)
20. CONTRACTOR SHALL MODIFY GUARDRAIL AND POSTS PER CALTRANS STANDARDS TO AVOID MANHOLE
21. INSTALL 8" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±50 L.F. TOTAL THIS DWG.)
22. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL



STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 30	12	89	0.30%	18_ SDCB	SDDI #77018	265.20	264.93	INSTALL HDPE SD LATERAL
LAT 31	36	8	3.00%		SDMH #77211	265.44	265.20	INSTALL HDPE SD LATERAL
MAIN 14	48	20	0.50%	72" SDJB	OUTFALL #78029	259.03	258.93	INSTALL HDPE SD PIPE
MAIN 15	48	106	0.50%	SDMH #78026	72" SDJB	259.56	259.03	INSTALL HDPE SD PIPE
MAIN 16	48	60	0.50%	SDMH #77211	SDMH #78026	259.86	259.56	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
18_ SDCB	267.70	80+37.40' ~ 51.88' LT		265.20 (E)	INSTALL 18"x18" SDCB
72" SDJB	263.49	82+57.08' ~ 67.59' LT	259.03 (E)	259.03 (SW)	INSTALL 72" STORM JUNCTION BOX WITH 48" WATERMAN C-10 CANAL GATE
OUTFALL #78029	263.71	???' ~ ???' ???T	258.93 (NE)		INSTALL MODIFIED CITY STD. S-6 STORM DRAIN HEADWALL WITH WATERMAN F-10 FLAP GATE
SDDI #77018	271.57	80+52.60' ~ 36.16' RT	264.93 (W)		INSTALL MODIFIED CITY STD. S-7 (TYPE 1) DROP INLET PER DETAIL
SDDI #77212A	268.07	84+89.31' ~ 36.16' RT			INSTALL MODIFIED CITY STD. S-7 (TYPE 1) DROP INLET PER DETAIL
SDMH #77211	271.05	83+16.42' ~ 38.42' RT	265.20 (E)	259.86 (S)	INSTALL 72" x 72" JUNCTION BOX WITH FLAT TOP AND CITY STD. S-14 MANHOLE FRAME AND COVER
SDMH #78026	271.14	82+55.85' ~ 38.42' RT	259.56 (N)	259.56 (W)	INSTALL 72" x 72" JUNCTION BOX WITH FLAT TOP AND CITY STD. S-14 MANHOLE FRAME AND COVER

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #2	01-09-24	JIR
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #5	1-25-24	RAR

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 79+00 TO STA. 85+00

Project Number: 16038

Drawing Number PP-13

Scale: 1"= 20'

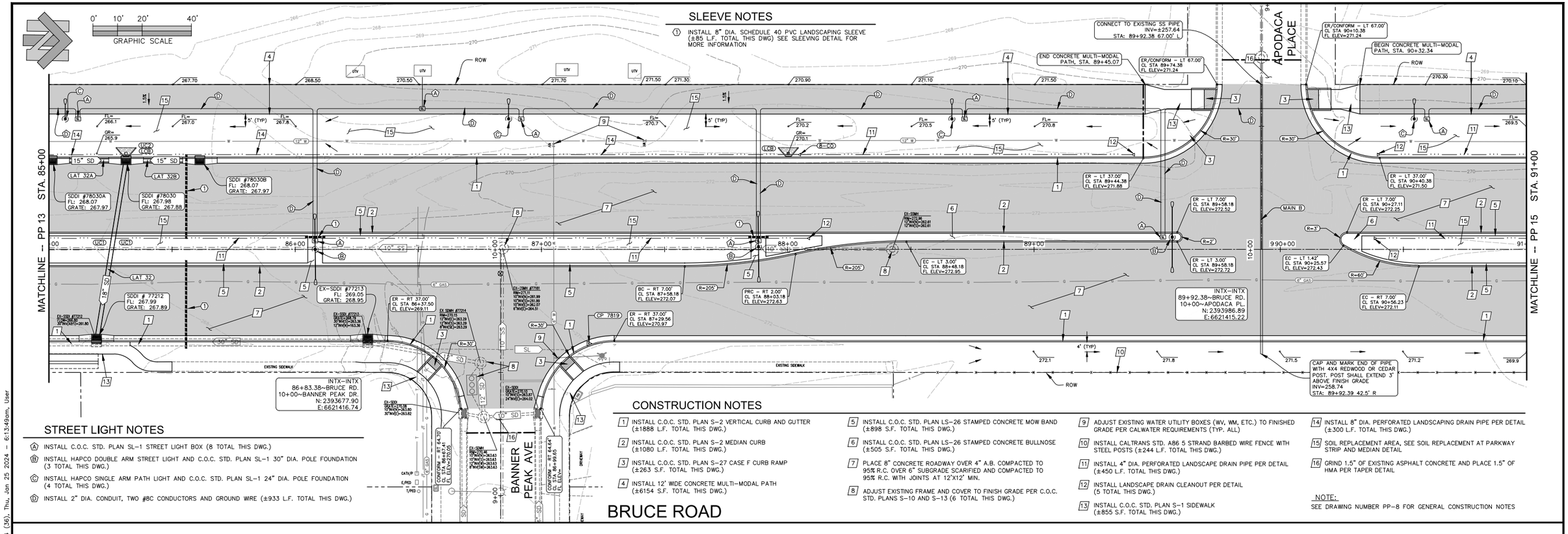
Sheet 35 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-13

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg – PP13 (35), Tue, Feb 20 2024 – 4:43:26pm, User



SLEEVE NOTES

1. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±85 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

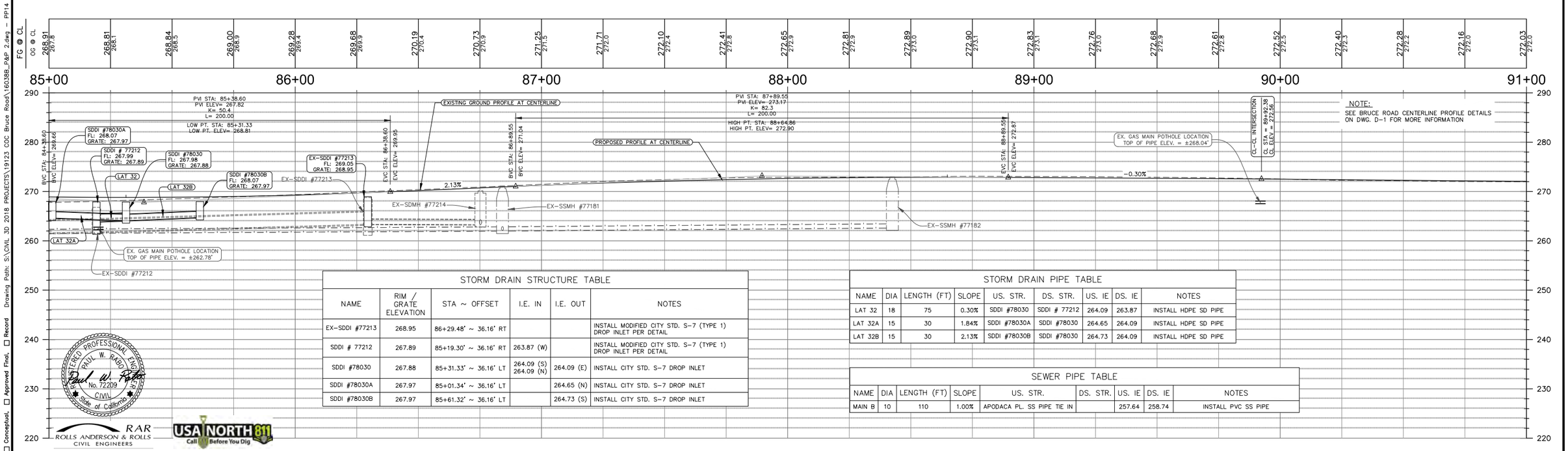
STREET LIGHT NOTES

- A. INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (8 TOTAL THIS DWG.)
- B. INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- C. INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (4 TOTAL THIS DWG.)
- D. INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±933 L.F. TOTAL THIS DWG.)

CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±1888 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±1080 L.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN S-27 CASE F CURB RAMP (±263 S.F. TOTAL THIS DWG.)
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±6154 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE MOW BAND (±898 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±505 S.F. TOTAL THIS DWG.)
7. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
8. ADJUST EXISTING FRAME AND COVER TO FINISH GRADE PER C.O.C. STD. PLANS S-10 AND S-13 (6 TOTAL THIS DWG.)
9. ADJUST EXISTING WATER UTILITY BOXES (WV, WM, ETC.) TO FINISHED GRADE PER CALWATER REQUIREMENTS (TYP. ALL)
10. INSTALL CALTRANS STD. A86 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS (±244 L.F. TOTAL THIS DWG.)
11. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±450 L.F. TOTAL THIS DWG.)
12. INSTALL LANDSCAPE DRAIN CLEANOUT PER DETAIL (5 TOTAL THIS DWG.)
13. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±855 S.F. TOTAL THIS DWG.)
14. INSTALL 8" DIA. PERFORATED LANDSCAPING DRAIN PIPE PER DETAIL (±300 L.F. TOTAL THIS DWG.)
15. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL
16. GRIND 1.5" OF EXISTING ASPHALT CONCRETE AND PLACE 1.5" OF HMA PER TAPER DETAIL

NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



NOTE:
SEE BRUCE ROAD CENTERLINE PROFILE DETAILS ON DWG. D-1 FOR MORE INFORMATION

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
EX-SDDI #77213	268.95	86+29.48' ~ 36.16' RT			INSTALL MODIFIED CITY STD. S-7 (TYPE 1) DROP INLET PER DETAIL
SDDI # 77212	267.89	85+19.30' ~ 36.16' RT	263.87 (W)		INSTALL MODIFIED CITY STD. S-7 (TYPE 1) DROP INLET PER DETAIL
SDDI #78030	267.88	85+31.33' ~ 36.16' LT	264.09 (S) 264.09 (N)	264.09 (E)	INSTALL CITY STD. S-7 DROP INLET
SDDI #78030A	267.97	85+01.34' ~ 36.16' LT		264.65 (N)	INSTALL CITY STD. S-7 DROP INLET
SDDI #78030B	267.97	85+61.32' ~ 36.16' LT		264.73 (S)	INSTALL CITY STD. S-7 DROP INLET

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 32	18	75	0.30%	SDDI #78030	SDDI # 77212	264.09	263.87	INSTALL HDPE SD PIPE
LAT 32A	15	30	1.84%	SDDI #78030A	SDDI #78030	264.65	264.09	INSTALL HDPE SD PIPE
LAT 32B	15	30	2.13%	SDDI #78030B	SDDI #78030	264.73	264.09	INSTALL HDPE SD PIPE

SEWER PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
MAIN B	10	110	1.00%	APODACA PL. SS PIPE TIE IN		257.64	258.74	INSTALL PVC SS PIPE

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #1	12-19-23	PWR
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #5	1-25-24	RAR

CITY OF CHICO
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CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 85+00 TO STA. 91+00

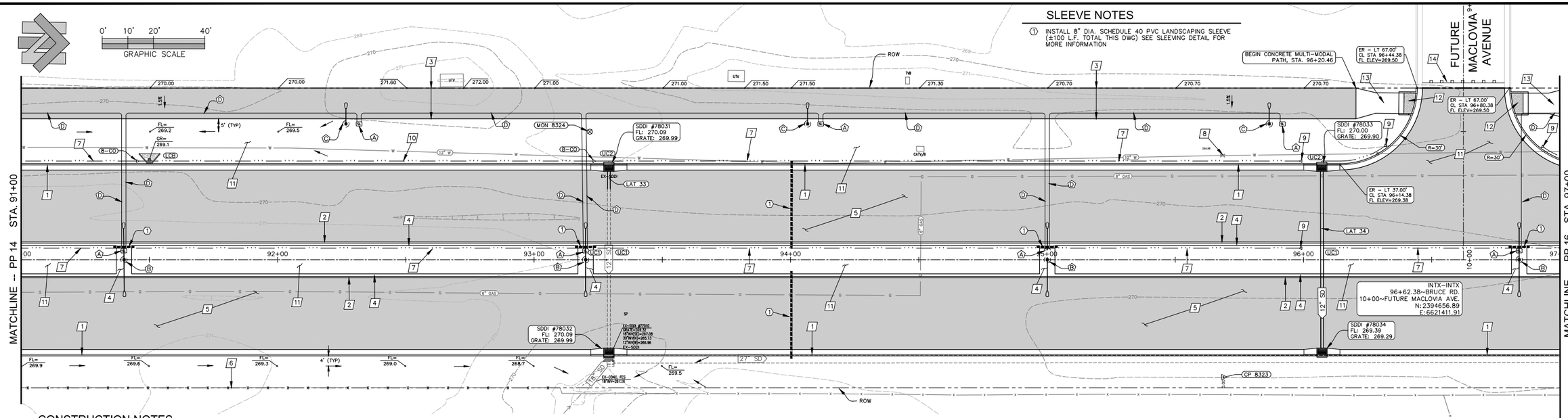
Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-14
Sheet 36 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-14

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg - PP14 (36), Thu, Jan 25 2024 - 6:13:49am, User



SLEEVE NOTES

1. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±100 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

CONSTRUCTION NOTES

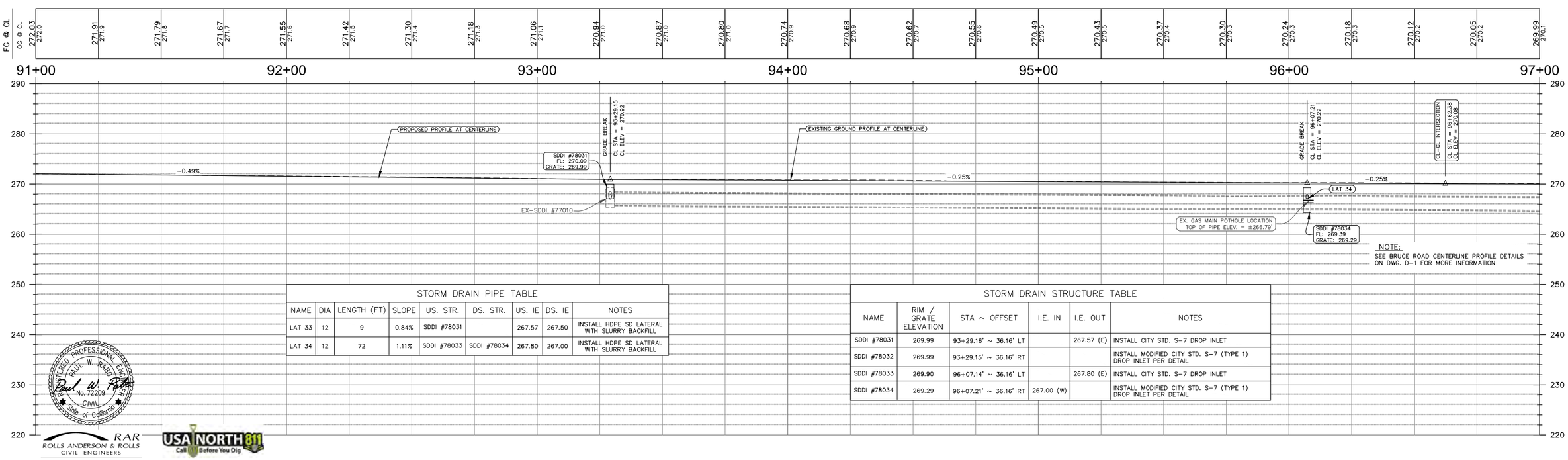
1. INSTALL C.O.C. STD. PLAN S–2 VERTICAL CURB AND GUTTER (±1182 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S–2 MEDIAN CURB (±1200 L.F. TOTAL THIS DWG.)
3. INSTALL 12' WIDE CONCRETE MULTI–MODAL PATH (±6245 S.F. TOTAL THIS DWG.)
4. INSTALL C.O.C. STD. PLAN LS–26 STAMPED CONCRETE MOW BAND (±1463 S.F. TOTAL THIS DWG.)
5. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
6. INSTALL CALTRANS STD. A86 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT OF WAY FENCING DETAIL A (±210 L.F. TOTAL THIS DWG.)
7. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±1,020 L.F. TOTAL THIS DWG.)
8. ADJUST EXISTING WATER UTILITY BOXES (WV, WM, ETC.) TO FINISH GRADE PER CALWATER REQUIREMENTS (TYP. ALL)
9. INSTALL LANDSCAPE DRAIN CLEANOUT PER DETAIL (5 TOTAL THIS DWG.)
10. INSTALL 8" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±180 L.F. TOTAL THIS DWG.)
11. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL
12. INSTALL C.O.C. STD. PLAN S–27 CASE F CURB RAMP (±145 S.F. TOTAL THIS DWG.)
13. INSTALL C.O.C. STD. PLAN S–1 SIDEWALK (±259 S.F. TOTAL THIS DWG.)
14. INSTALL C.O.C. STD. PLAN S–21 STREET BARRICADE (1 TOTAL THIS DWG.)

STREET LIGHT NOTES

- (A) INSTALL C.O.C. STD. PLAN SL–1 STREET LIGHT BOX (7 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL–1 30" DIA. POLE FOUNDATION (4 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL–1 24" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±880 L.F. TOTAL THIS DWG.)

NOTE:
SEE DRAWING NUMBER PP–8 FOR GENERAL CONSTRUCTION NOTES

BRUCE ROAD



NOTE:
SEE BRUCE ROAD CENTERLINE PROFILE DETAILS ON DWG. D–1 FOR MORE INFORMATION

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 33	12	9	0.84%	SDDI #78031		267.57	267.50	INSTALL HDPE SD LATERAL WITH SLURRY BACKFILL
LAT 34	12	72	1.11%	SDDI #78033	SDDI #78034	267.80	267.00	INSTALL HDPE SD LATERAL WITH SLURRY BACKFILL

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #78031	269.99	93+29.16' ~ 36.16' LT		267.57 (E)	INSTALL CITY STD. S–7 DROP INLET
SDDI #78032	269.99	93+29.15' ~ 36.16' RT			INSTALL MODIFIED CITY STD. S–7 (TYPE 1) DROP INLET PER DETAIL
SDDI #78033	269.90	96+07.14' ~ 36.16' LT		267.80 (E)	INSTALL CITY STD. S–7 DROP INLET
SDDI #78034	269.29	96+07.21' ~ 36.16' RT	267.00 (W)		INSTALL MODIFIED CITY STD. S–7 (TYPE 1) DROP INLET PER DETAIL

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #5	1–25–24	RAR
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE – BRUCE ROAD STA. 91+00 + STA. 97+00

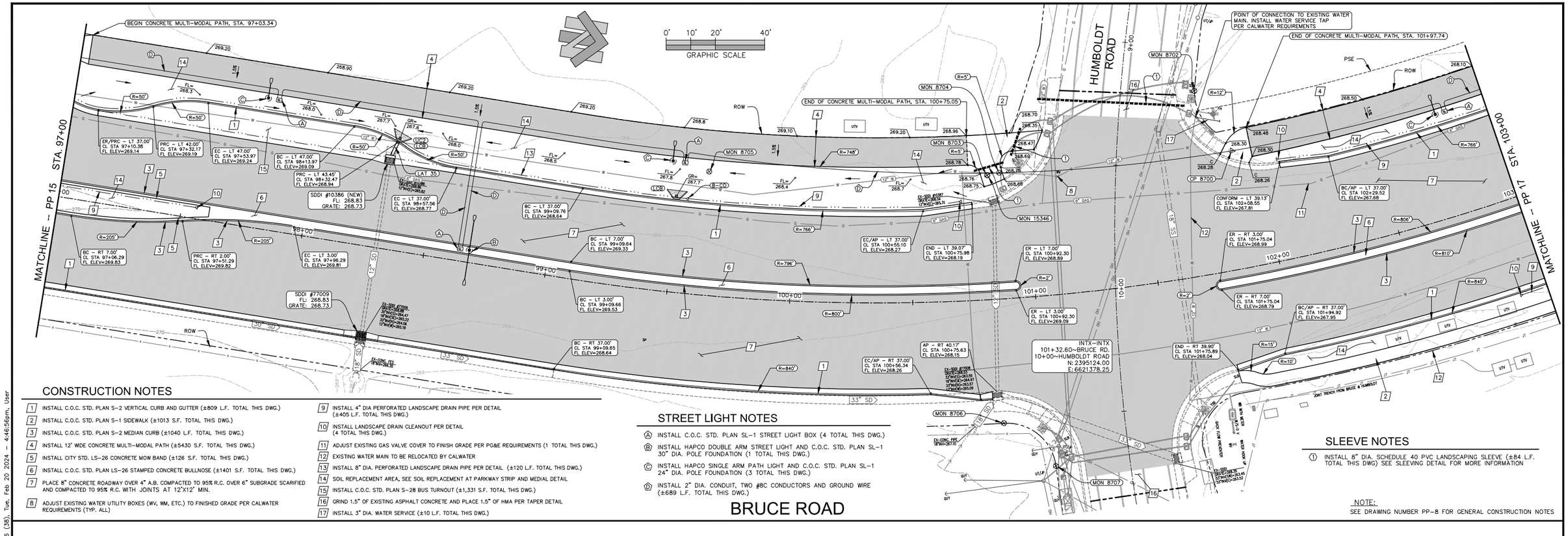
Project Number: 16038
Scale: 1"= 20'
Drawing Number PP–15
Sheet 37 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP–15

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg – PP15 (37), Thu, Jan 25 2024 – 6:14:04am, User



CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±809 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±1013 S.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±1040 L.F. TOTAL THIS DWG.)
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±5430 S.F. TOTAL THIS DWG.)
5. INSTALL CITY STD. LS-26 CONCRETE MOW BAND (±126 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±1401 S.F. TOTAL THIS DWG.)
7. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
8. ADJUST EXISTING WATER UTILITY BOXES (WV, WM, ETC.) TO FINISHED GRADE PER CALWATER REQUIREMENTS (TYP. ALL)
9. INSTALL 4" DIA PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±405 L.F. TOTAL THIS DWG.)
10. INSTALL LANDSCAPE DRAIN CLEANOUT PER DETAIL (4 TOTAL THIS DWG.)
11. ADJUST EXISTING GAS VALVE COVER TO FINISH GRADE PER PG&E REQUIREMENTS (1 TOTAL THIS DWG.)
12. EXISTING WATER MAIN TO BE RELOCATED BY CALWATER
13. INSTALL 8" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±120 L.F. TOTAL THIS DWG.)
14. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAL DETAIL
15. INSTALL C.O.C. STD. PLAN S-28 BUS TURNOUT (±1,331 S.F. TOTAL THIS DWG.)
16. GRIND 1.5" OF EXISTING ASPHALT CONCRETE AND PLACE 1.5" OF HMA PER TAPER DETAIL
17. INSTALL 3" DIA. WATER SERVICE (±10 L.F. TOTAL THIS DWG.)

STREET LIGHT NOTES

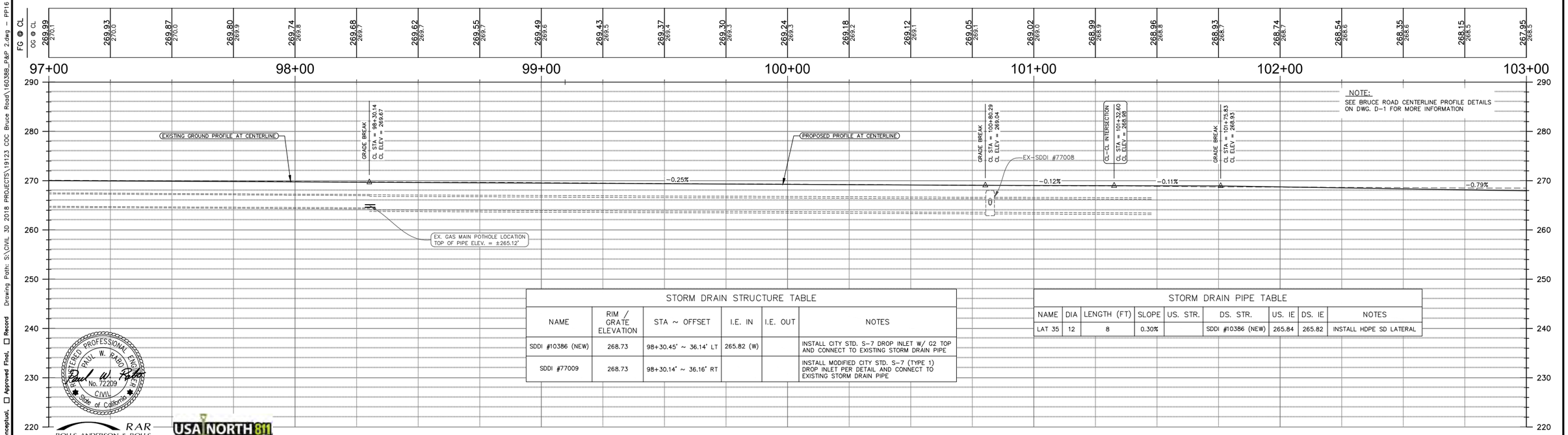
- (A) INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (4 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (1 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±689 L.F. TOTAL THIS DWG.)

BRUCE ROAD

SLEEVE NOTES

(1) INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±84 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #10386 (NEW)	268.73	98+30.45' ~ 36.14' LT	265.82 (W)		INSTALL CITY STD. S-7 DROP INLET W/ G2 TOP AND CONNECT TO EXISTING STORM DRAIN PIPE
SDDI #77009	268.73	98+30.14' ~ 36.16' RT			INSTALL MODIFIED CITY STD. S-7 (TYPE 1) DROP INLET PER DETAIL AND CONNECT TO EXISTING STORM DRAIN PIPE

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 35	12	8	0.30%		SDDI #10386 (NEW)	265.84	265.82	INSTALL HDPE SD LATERAL

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call Before You Dig

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #1	12-19-23	PWR
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #2	01-09-24	JIR
		ADDENDUM #5	1-25-24	RAR

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 97+00 TO STA. 103+00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-16
Sheet 38 of 182

Title: BRUCE ROAD RECONSTRUCTION

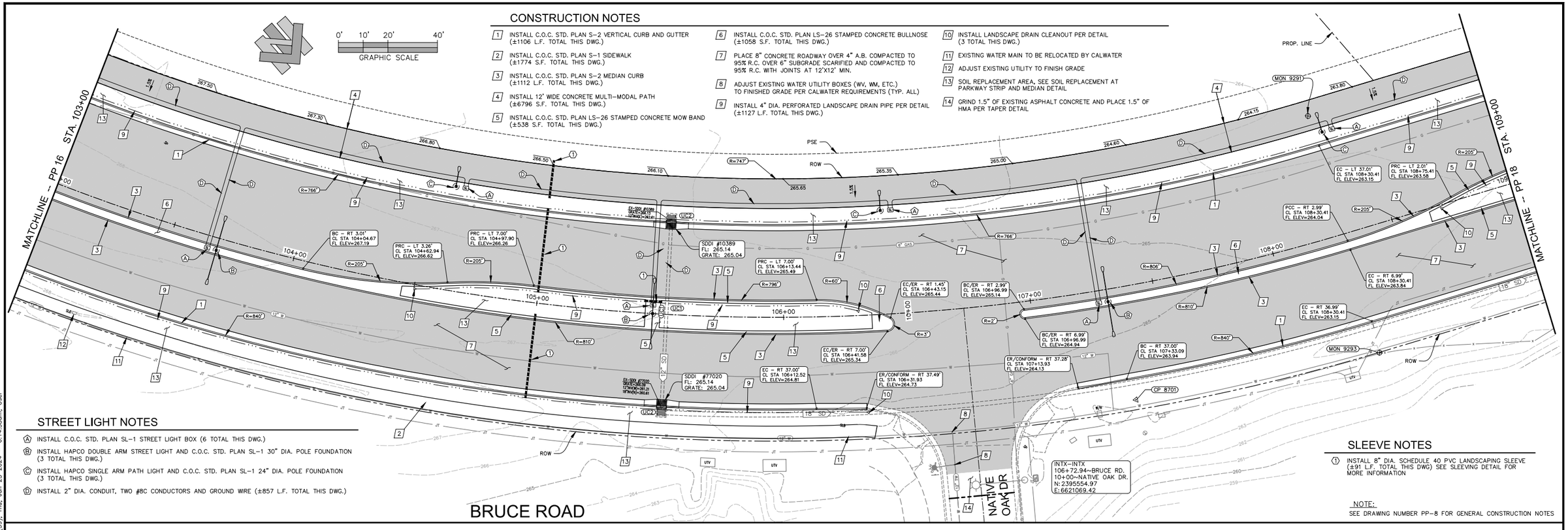
Drawing Number PP-16

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg – PP16 (38), Tue, Feb 20 2024 – 4:46:56pm, User

CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±1106 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±1774 S.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±1112 L.F. TOTAL THIS DWG.)
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±6796 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE MOW BAND (±538 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±1058 S.F. TOTAL THIS DWG.)
7. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
8. ADJUST EXISTING WATER UTILITY BOXES (WV, WM, ETC.) TO FINISHED GRADE PER CALWATER REQUIREMENTS (TYP. ALL)
9. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±1127 L.F. TOTAL THIS DWG.)
10. INSTALL LANDSCAPE DRAIN CLEANOUT PER DETAIL (3 TOTAL THIS DWG.)
11. EXISTING WATER MAIN TO BE RELOCATED BY CALWATER
12. ADJUST EXISTING UTILITY TO FINISH GRADE
13. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL
14. GRIND 1.5" OF EXISTING ASPHALT CONCRETE AND PLACE 1.5" OF HMA PER TAPER DETAIL



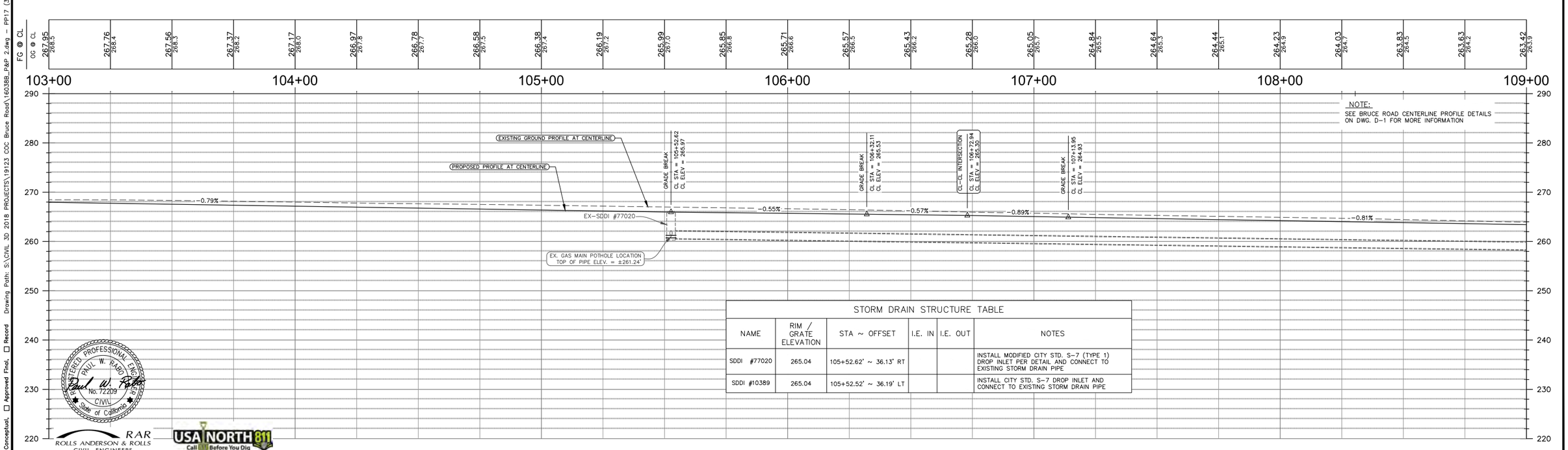
STREET LIGHT NOTES

- (A) INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (6 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±857 L.F. TOTAL THIS DWG.)

SLEEVE NOTES

(1) INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±91 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



NOTE:
SEE BRUCE ROAD CENTERLINE PROFILE DETAILS ON DWG. D-1 FOR MORE INFORMATION

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #77020	265.04	105+52.62' ~ 36.13' RT			INSTALL MODIFIED CITY STD. S-7 (TYPE 1) DROP INLET PER DETAIL AND CONNECT TO EXISTING STORM DRAIN PIPE
SDDI #10389	265.04	105+52.52' ~ 36.19' LT			INSTALL CITY STD. S-7 DROP INLET AND CONNECT TO EXISTING STORM DRAIN PIPE

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #1	12-19-23	PWR
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #5	1-25-24	RAR

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

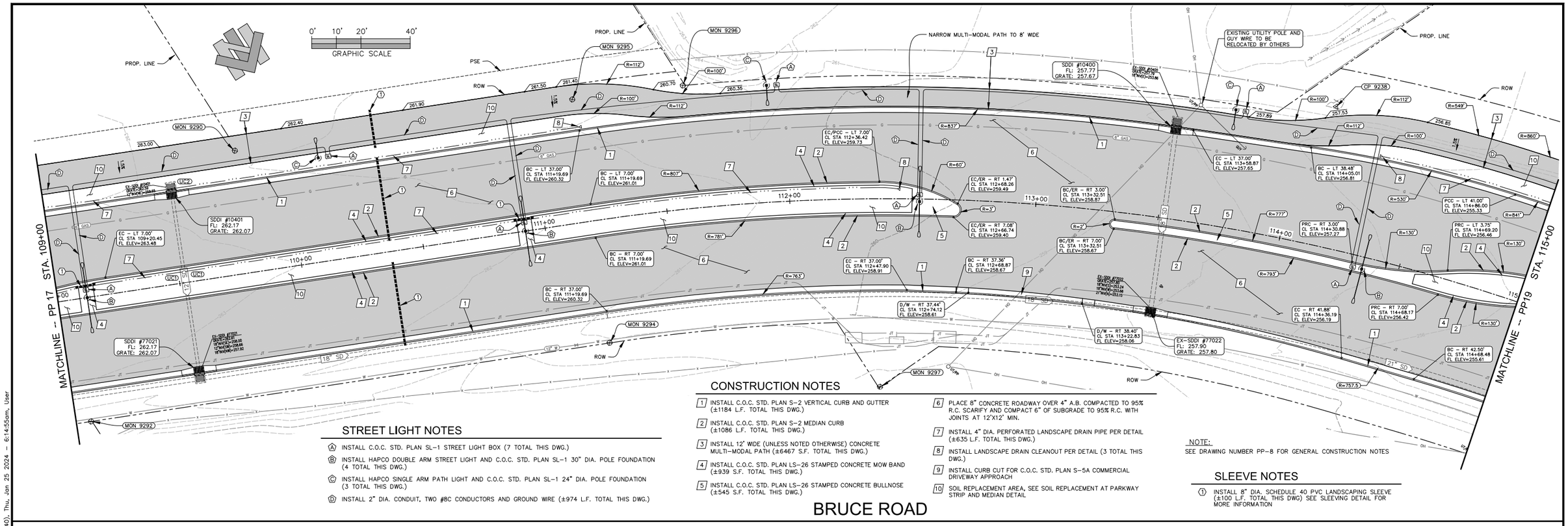
BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 103+00 TO STA. 109+00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-17
Sheet 39 of 182

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg – PP17 (39), Thu, Jan 25 2024 – 6:14:38am, User

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-17



STREET LIGHT NOTES

- (A) INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (7 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (4 TOTAL THIS DWG.)
- (C) INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (3 TOTAL THIS DWG.)
- (D) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±974 L.F. TOTAL THIS DWG.)

CONSTRUCTION NOTES

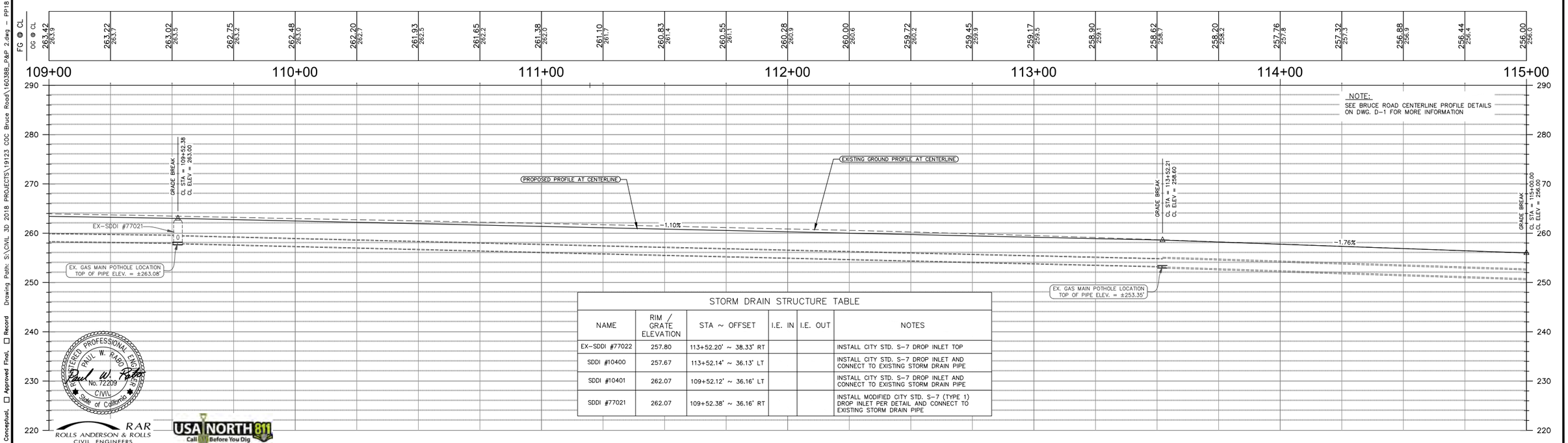
1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±1184 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±1086 L.F. TOTAL THIS DWG.)
3. INSTALL 12' WIDE (UNLESS NOTED OTHERWISE) CONCRETE MULTI-MODAL PATH (±6467 S.F. TOTAL THIS DWG.)
4. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE MOW BAND (±939 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±545 S.F. TOTAL THIS DWG.)
6. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. SCARIFY AND COMPACT 6" OF SUBGRADE TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
7. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±635 L.F. TOTAL THIS DWG.)
8. INSTALL LANDSCAPE DRAIN CLEANOUT PER DETAIL (3 TOTAL THIS DWG.)
9. INSTALL CURB CUT FOR C.O.C. STD. PLAN S-5A COMMERCIAL DRIVEWAY APPROACH
10. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL

NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES

SLEEVE NOTES

(1) INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±100 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

BRUCE ROAD



NOTE:
SEE BRUCE ROAD CENTERLINE PROFILE DETAILS ON DWG. D-1 FOR MORE INFORMATION

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
EX-SDDI #77022	257.80	113+52.20' ~ 38.33' RT			INSTALL CITY STD. S-7 DROP INLET TOP
SDDI #10400	257.67	113+52.14' ~ 36.13' LT			INSTALL CITY STD. S-7 DROP INLET AND CONNECT TO EXISTING STORM DRAIN PIPE
SDDI #10401	262.07	109+52.12' ~ 36.16' LT			INSTALL CITY STD. S-7 DROP INLET AND CONNECT TO EXISTING STORM DRAIN PIPE
SDDI #77021	262.07	109+52.38' ~ 36.16' RT			INSTALL MODIFIED CITY STD. S-7 (TYPE 1) DROP INLET PER DETAIL AND CONNECT TO EXISTING STORM DRAIN PIPE

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABO JR.
No. 72209
CIVIL
State of California

ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Title: BRUCE ROAD RECONSTRUCTION

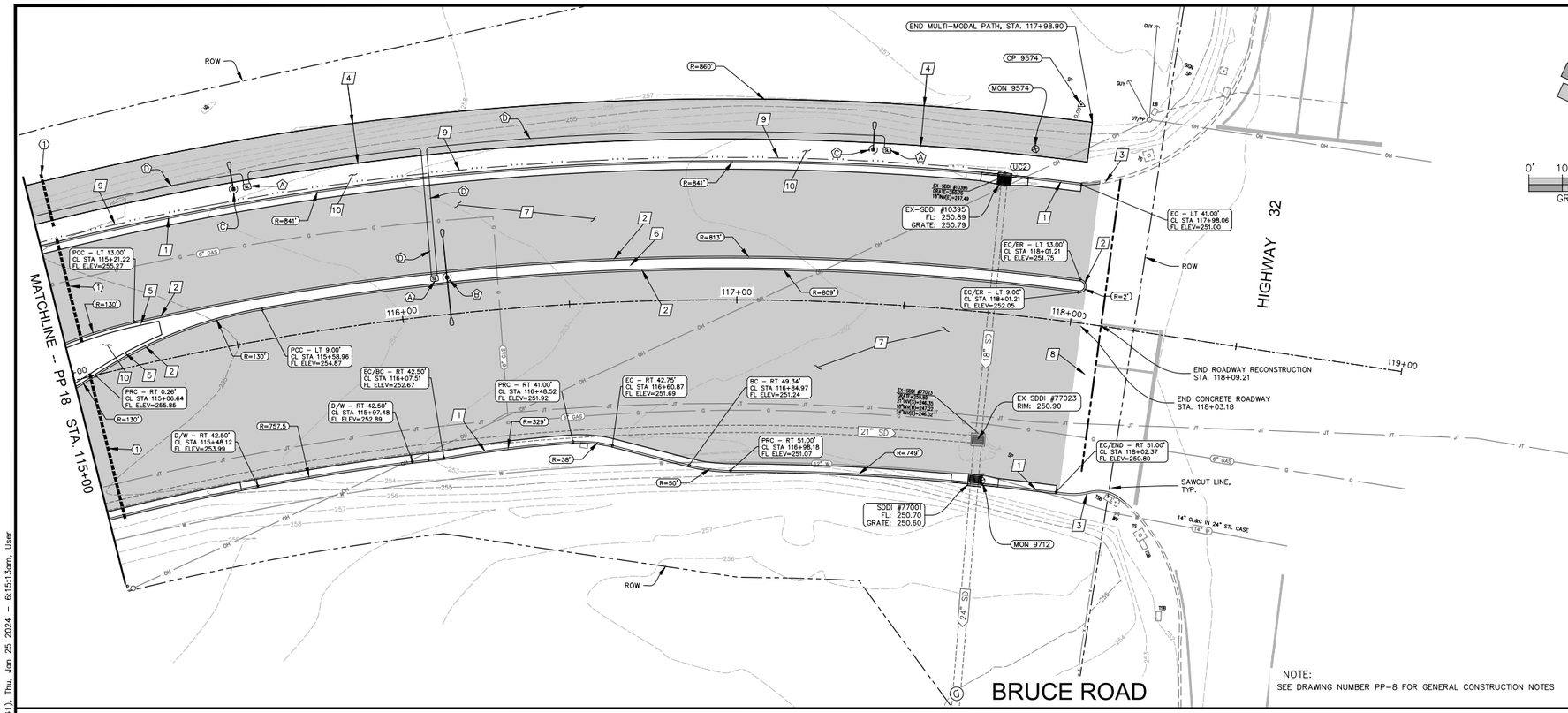
Drawing Number PP-18

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg - PP18 (40), Thu, Jan 25 2024 - 6:14:55am, User

Designed: JIR	Approved:	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: CAD		ADDENDUM #5	1-25-24	RAR	BRUCE ROAD RECONSTRUCTION
Checked: PWR	Date: DECEMBER, 2023				PLAN AND PROFILE - BRUCE ROAD STA. 109+00 TO STA. 115+00

Project Number: 16038 | Drawing Number PP-18 | Scale: 1"= 20' | Sheet 40 of 182



NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES

0' 10' 20' 40'
GRAPHIC SCALE

CONSTRUCTION NOTES

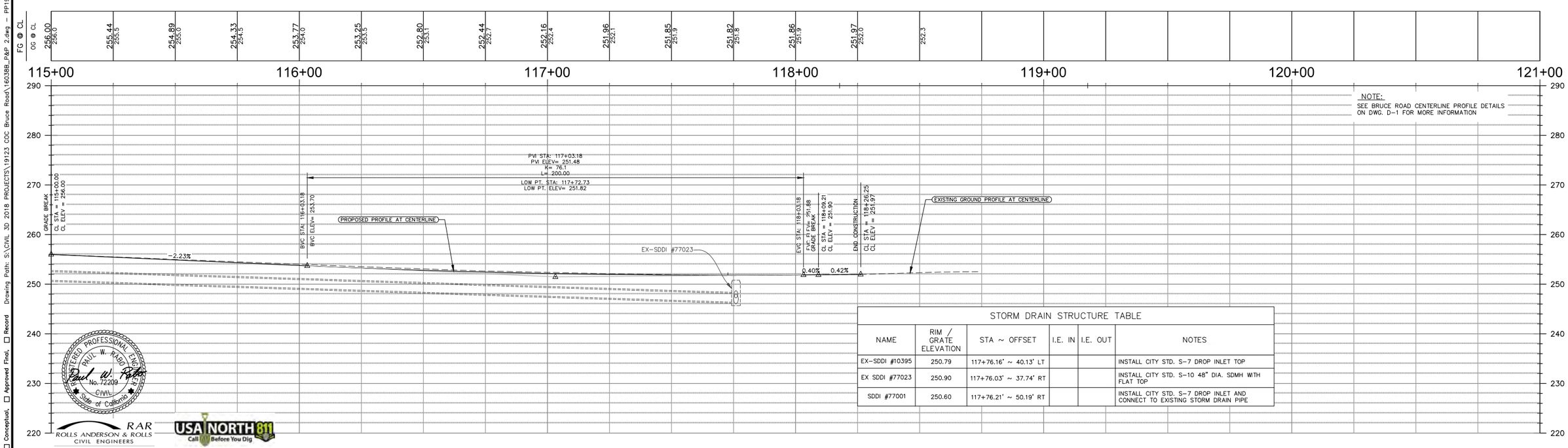
1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±593 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±619 L.F. TOTAL THIS DWG.)
3. INSTALL CALTRANS STD. A87B TYPE "A" H.M.A. DIKE (±35 L.F. TOTAL THIS DWG.)
4. INSTALL 12' WIDE CONCRETE MULTI-MODAL PATH (±3834 S.F. TOTAL THIS DWG.)
5. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE MOW BAND (±65 S.F. TOTAL THIS DWG.)
6. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±858 S.F. TOTAL THIS DWG.)
7. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C. WITH JOINTS AT 12'X12' MIN.
8. PLACE 5.5" TYPE "A" AC ON 17.5" CL. 2 A.B. COMPACTED TO 95% R.C. SCARIFY AND COMPACT TOP 12" OF SUBGRADE TO 95% R.C.
9. INSTALL 4" DIA. PERFORATED LANDSCAPE DRAIN PIPE PER DETAIL (±292 L.F. TOTAL THIS DWG.)
10. SOIL REPLACEMENT AREA, SEE SOIL REPLACEMENT AT PARKWAY STRIP AND MEDIAN DETAIL

SLEEVE NOTES

1. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±78 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

STREET LIGHT NOTES

A. INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (3 TOTAL THIS DWG.)
B. INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (1 TOTAL THIS DWG.)
C. INSTALL HAPCO SINGLE ARM PATH LIGHT AND C.O.C. STD. PLAN SL-1 24" DIA. POLE FOUNDATION (2 TOTAL THIS DWG.)
D. INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±338 L.F. TOTAL THIS DWG.)



NOTE:
SEE BRUCE ROAD CENTERLINE PROFILE DETAILS ON DWG. D-1 FOR MORE INFORMATION

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
EX-SDDI #10395	250.79	117+76.16' ~ 40.13' LT			INSTALL CITY STD. S-7 DROP INLET TOP
EX SDDI #77023	250.90	117+76.03' ~ 37.74' RT			INSTALL CITY STD. S-10 48" DIA. SDMH WITH FLAT TOP
SDDI #77001	250.60	117+76.21' ~ 50.19' RT			INSTALL CITY STD. S-7 DROP INLET AND CONNECT TO EXISTING STORM DRAIN PIPE

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABO
No. 72209
CIVIL
State of California

RAR
ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

USA NORTH 811
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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #5	1-25-24	RAR
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - BRUCE ROAD STA. 115+00 TO STA. 118+09.00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-19
Sheet 41 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-19

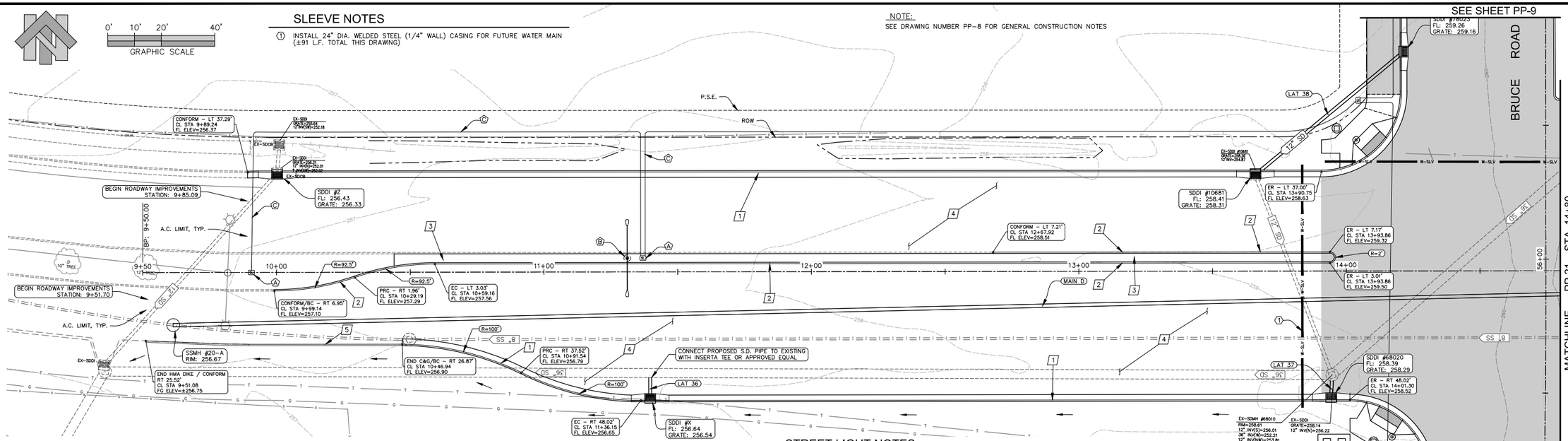
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg - PP19 (41), Thu, Jan 25 2024 - 6:15:13am, User

SLEEVE NOTES

① INSTALL 24" DIA. WELDED STEEL (1/4" WALL) CASING FOR FUTURE WATER MAIN (±91 L.F. TOTAL THIS DRAWING)

NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



CONSTRUCTION NOTES

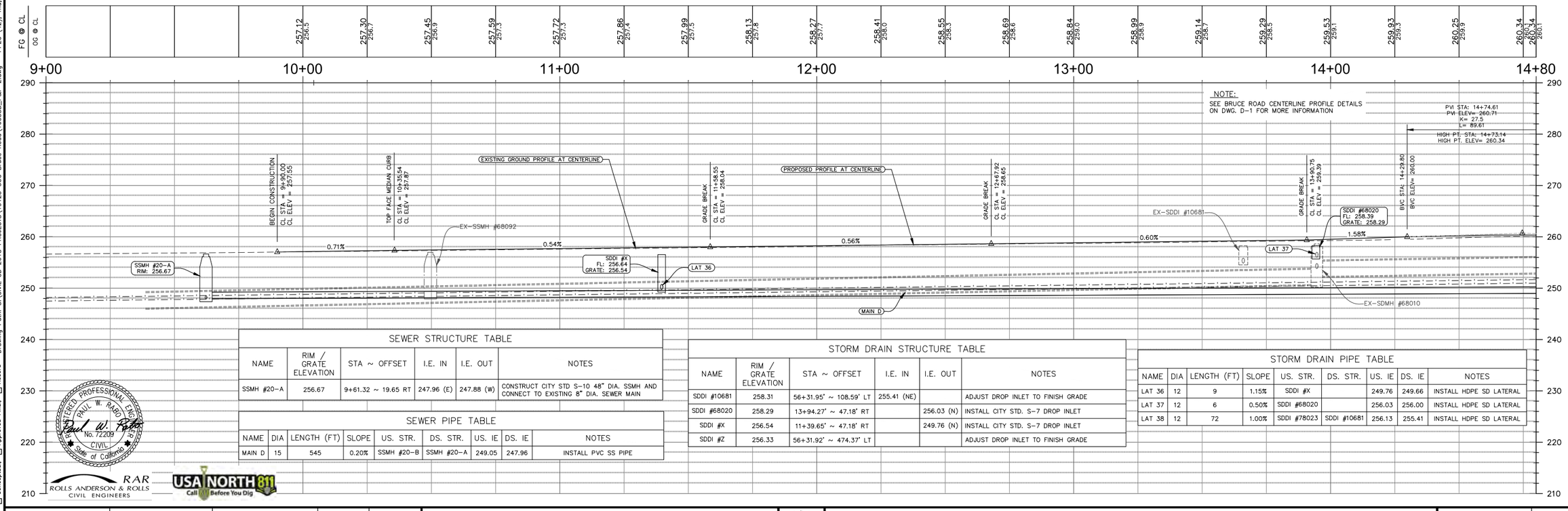
1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±735 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±502 L.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±1124 S.F. TOTAL THIS DWG.)
4. PLACE 5.5" TYPE "A" AC ON 17.5" CL. 2 A.B. COMPACTED TO 95% R.C. SCARIFY AND COMPACT TOP 12" OF SUBGRADE TO 95% R.C.
5. INSTALL CALTRANS STD. A87B TYPE "A" H.M.A. DIKE (±96 L.F. TOTAL THIS DWG.)

STREET LIGHT NOTES

Ⓐ INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (2 TOTAL THIS DWG.)

Ⓑ INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (1 TOTAL THIS DWG.)

Ⓒ INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±541 L.F. TOTAL THIS DWG.)



SEWER STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SSMH #20-A	256.67	9+61.32 ~ 19.65 RT	247.96 (E)	247.88 (W)	CONSTRUCT CITY STD S-10 48" DIA. SSMH AND CONNECT TO EXISTING 8" DIA. SEWER MAIN

SEWER PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
MAIN D	15	545	0.20%	SSMH #20-B	SSMH #20-A	249.05	247.96	INSTALL PVC SS PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #10681	258.31	56+31.95' ~ 108.59' LT	255.41 (NE)		ADJUST DROP INLET TO FINISH GRADE
SDDI #68020	258.29	13+94.27' ~ 47.18' RT		256.03 (N)	INSTALL CITY STD. S-7 DROP INLET
SDDI #X	256.54	11+39.65' ~ 47.18' RT		249.76 (N)	INSTALL CITY STD. S-7 DROP INLET
SDDI #Z	256.33	56+31.92' ~ 474.37' LT			ADJUST DROP INLET TO FINISH GRADE

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 36	12	9	1.15%	SDDI #X		249.76	249.66	INSTALL HDPE SD LATERAL
LAT 37	12	6	0.50%	SDDI #68020		256.03	256.00	INSTALL HDPE SD LATERAL
LAT 38	12	72	1.00%	SDDI #78023	SDDI #10681	256.13	255.41	INSTALL HDPE SD LATERAL

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOTIN
No. 72209
CIVIL
State of California

RAR
ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: CAD		ADDENDUM #5	1-25-24	RAR	BRUCE ROAD RECONSTRUCTION
Checked: PWR	Date: DECEMBER, 2023				PLAN AND PROFILE - 20TH STREET STA. 9+00 STA. 14+80

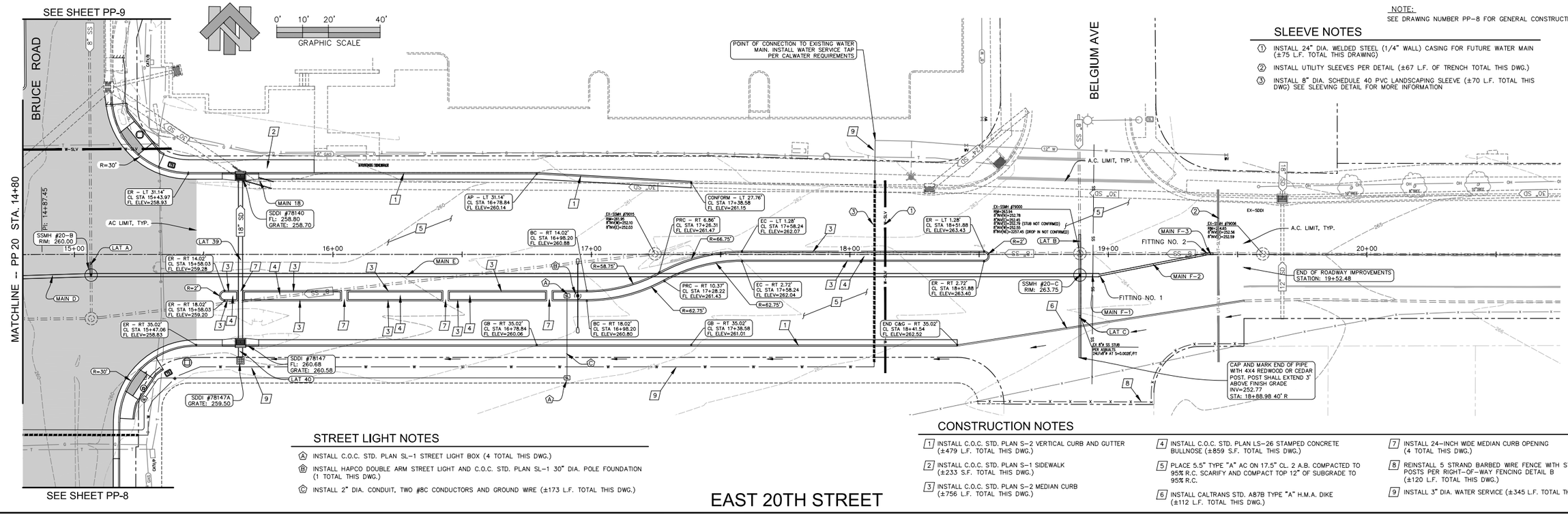
Project Number: 16038 | Drawing Number PP-20 | Scale: 1"= 20' | Sheet 42 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-20

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg - PP20 (42), Thu, Jan 25 2024 - 6:15:29am, User



NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES

SLEEVE NOTES

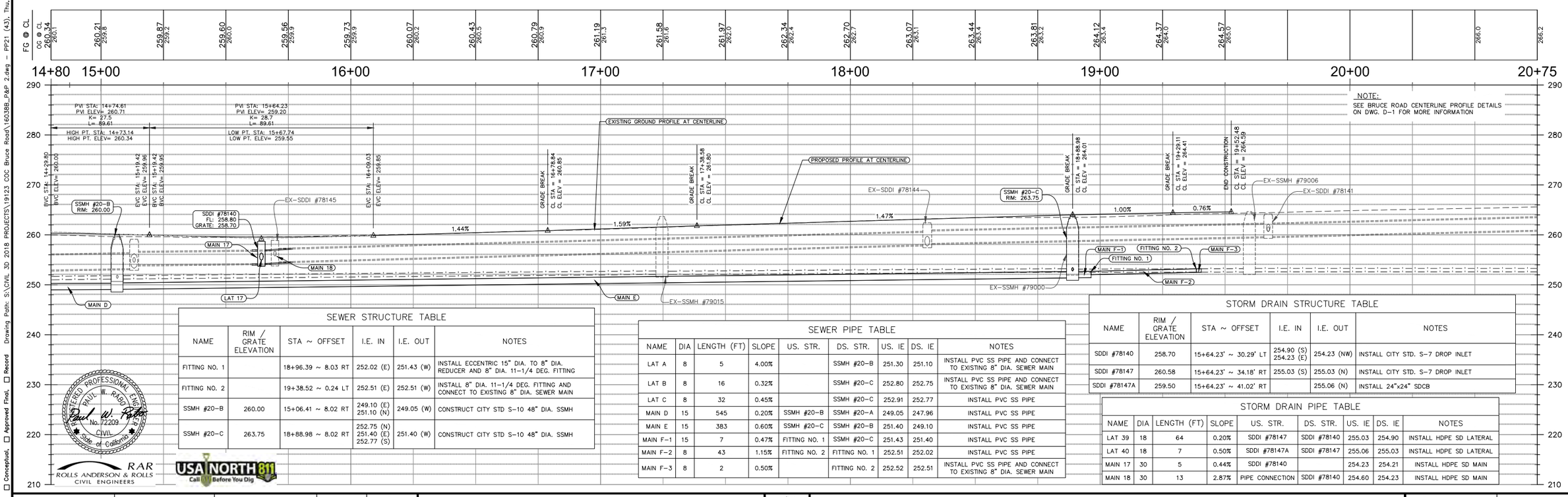
1. INSTALL 24" DIA. WELDED STEEL (1/4" WALL) CASING FOR FUTURE WATER MAIN (±75 L.F. TOTAL THIS DRAWING)
2. INSTALL UTILITY SLEEVES PER DETAIL (±67 L.F. OF TRENCH TOTAL THIS DWG.)
3. INSTALL 8" DIA. SCHEDULE 40 PVC LANDSCAPING SLEEVE (±70 L.F. TOTAL THIS DWG) SEE SLEEVING DETAIL FOR MORE INFORMATION

STREET LIGHT NOTES

- (A) INSTALL C.O.C. STD. PLAN SL-1 STREET LIGHT BOX (4 TOTAL THIS DWG.)
- (B) INSTALL HAPCO DOUBLE ARM STREET LIGHT AND C.O.C. STD. PLAN SL-1 30" DIA. POLE FOUNDATION (1 TOTAL THIS DWG.)
- (C) INSTALL 2" DIA. CONDUIT, TWO #8C CONDUCTORS AND GROUND WIRE (±173 L.F. TOTAL THIS DWG.)

CONSTRUCTION NOTES

1. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB AND GUTTER (±479 L.F. TOTAL THIS DWG.)
2. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK (±233 S.F. TOTAL THIS DWG.)
3. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB (±756 L.F. TOTAL THIS DWG.)
4. INSTALL C.O.C. STD. PLAN LS-26 STAMPED CONCRETE BULLNOSE (±859 S.F. TOTAL THIS DWG.)
5. PLACE 5.5" TYPE "A" AC ON 17.5" CL. 2 A.B. COMPACTED TO 95% R.C. SCARIFY AND COMPACT TOP 12" OF SUBGRADE TO 95% R.C.
6. INSTALL CALTRANS STD. A87B TYPE "A" H.M.A. DIKE (±112 L.F. TOTAL THIS DWG.)
7. INSTALL 24-INCH WIDE MEDIAN CURB OPENING (4 TOTAL THIS DWG.)
8. REINSTALL 5 STRAND BARBED WIRE FENCE WITH STEEL POSTS PER RIGHT-OF-WAY FENCING DETAIL B (±120 L.F. TOTAL THIS DWG.)
9. INSTALL 3" DIA. WATER SERVICE (±345 L.F. TOTAL THIS DWG.)



NOTE:
SEE BRUCE ROAD CENTERLINE PROFILE DETAILS ON DWG. D-1 FOR MORE INFORMATION

SEWER STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
FITTING NO. 1		18+96.39 ~ 8.03 RT	252.02 (E)	251.43 (W)	INSTALL ECCENTRIC 15" DIA. TO 8" DIA. REDUCER AND 8" DIA. 11-1/4 DEG. FITTING
FITTING NO. 2		19+38.52 ~ 0.24 LT	252.51 (E)	252.51 (W)	INSTALL 8" DIA. 11-1/4 DEG. FITTING AND CONNECT TO EXISTING 8" DIA. SEWER MAIN
SSMH #20-B	260.00	15+06.41 ~ 8.02 RT	249.10 (E) 251.10 (N)	249.05 (W)	CONSTRUCT CITY STD S-10 48" DIA. SSMH
SSMH #20-C	263.75	18+88.98 ~ 8.02 RT	252.75 (N) 251.40 (E) 252.77 (S)	251.40 (W)	CONSTRUCT CITY STD S-10 48" DIA. SSMH

SEWER PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT A	8	5	4.00%		SSMH #20-B	251.30	251.10	INSTALL PVC SS PIPE AND CONNECT TO EXISTING 8" DIA. SEWER MAIN
LAT B	8	16	0.32%		SSMH #20-C	252.80	252.75	INSTALL PVC SS PIPE AND CONNECT TO EXISTING 8" DIA. SEWER MAIN
LAT C	8	32	0.45%		SSMH #20-C	252.91	252.77	INSTALL PVC SS PIPE
MAIN D	15	545	0.20%	SSMH #20-B	SSMH #20-A	249.05	247.96	INSTALL PVC SS PIPE
MAIN E	15	383	0.60%	SSMH #20-C	SSMH #20-B	251.40	249.10	INSTALL PVC SS PIPE
MAIN F-1	15	7	0.47%	FITTING NO. 1	SSMH #20-C	251.43	251.40	INSTALL PVC SS PIPE
MAIN F-2	8	43	1.15%	FITTING NO. 2	FITTING NO. 1	252.51	252.02	INSTALL PVC SS PIPE
MAIN F-3	8	2	0.50%		FITTING NO. 2	252.52	252.51	INSTALL PVC SS PIPE AND CONNECT TO EXISTING 8" DIA. SEWER MAIN

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STA ~ OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #78140	258.70	15+64.23' ~ 30.29' LT	254.90 (S) 254.23 (E)	254.23 (NW)	INSTALL CITY STD. S-7 DROP INLET
SDDI #78147	260.58	15+64.23' ~ 34.18' RT	255.03 (S)	255.03 (N)	INSTALL CITY STD. S-7 DROP INLET
SDDI #78147A	259.50	15+64.23' ~ 41.02' RT		255.06 (N)	INSTALL 24"x24" SDCB

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 39	18	64	0.20%	SDDI #78147	SDDI #78140	255.03	254.90	INSTALL HDPE SD LATERAL
LAT 40	18	7	0.50%	SDDI #78147A	SDDI #78147	255.06	255.03	INSTALL HDPE SD LATERAL
MAIN 17	30	5	0.44%	SDDI #78140		254.23	254.21	INSTALL HDPE SD MAIN
MAIN 18	30	13	2.87%	PIPE CONNECTION	SDDI #78140	254.60	254.23	INSTALL HDPE SD MAIN

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call Before You Dig

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD		ADDENDUM #1	12-19-23	PWR
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #5	1-25-24	RAR

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - 20TH STREET STA. 14+80 TO STA. 19+52

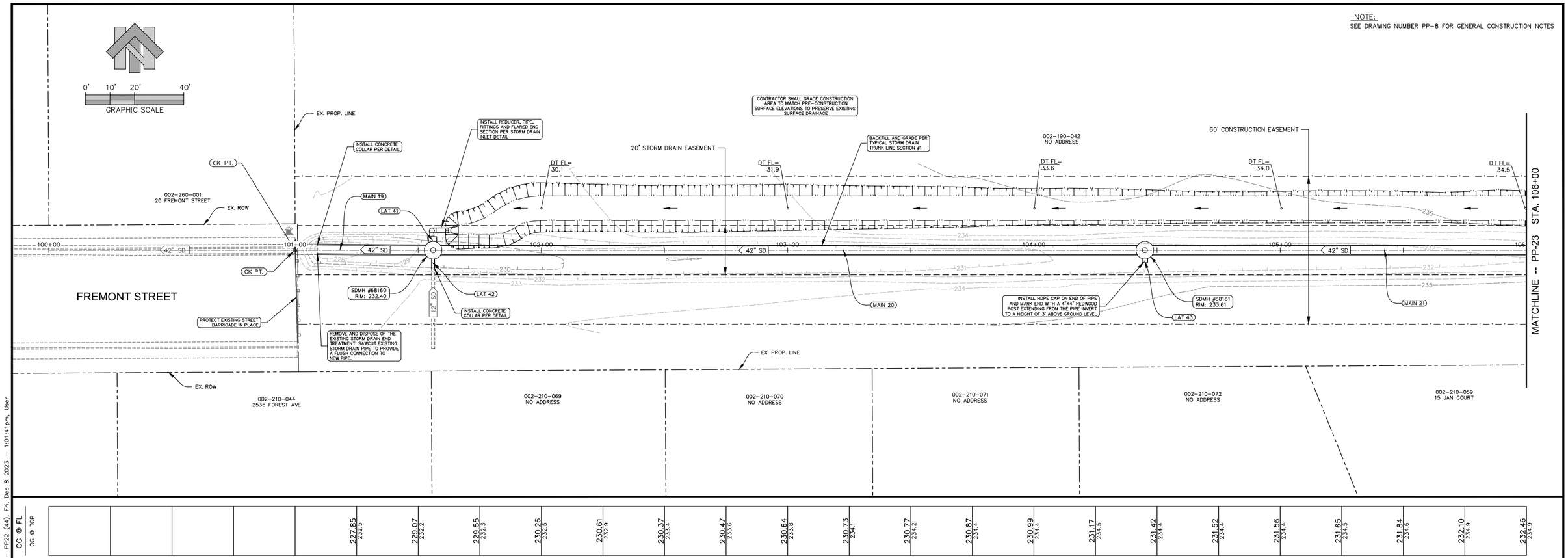
Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-21
Sheet 43 of 182

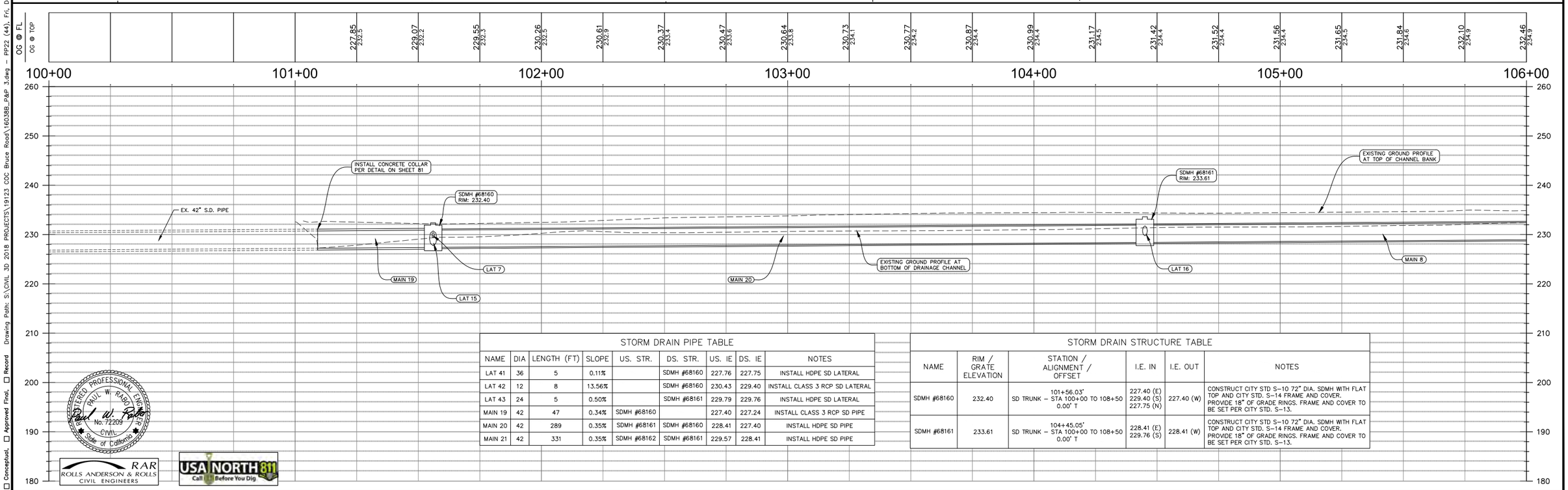
Drawing Number PP-21

Title: BRUCE ROAD RECONSTRUCTION

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 2.dwg – PP21 (43), Thu, Jan 25 2024 – 6:15:44am, User

NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES





STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 41	36	5	0.11%		SDMH #68160	227.76	227.75	INSTALL HDPE SD LATERAL
LAT 42	12	8	13.56%		SDMH #68160	230.43	229.40	INSTALL CLASS 3 RCP SD LATERAL
LAT 43	24	5	0.50%		SDMH #68161	229.79	229.76	INSTALL HDPE SD LATERAL
MAIN 19	42	47	0.34%	SDMH #68160		227.40	227.24	INSTALL CLASS 3 RCP SD PIPE
MAIN 20	42	289	0.35%	SDMH #68161	SDMH #68160	228.41	227.40	INSTALL HDPE SD PIPE
MAIN 21	42	331	0.35%	SDMH #68162	SDMH #68161	229.57	228.41	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STATION / ALIGNMENT / OFFSET	I.E. IN	I.E. OUT	NOTES
SDMH #68160	232.40	101+56.03' SD TRUNK – STA 100+00 TO 108+50 0.00' T	227.40 (E) 229.40 (S) 227.75 (N)	227.40 (W)	CONSTRUCT CITY STD S-10 72" DIA. SDMH WITH FLAT TOP AND CITY STD. S-14 FRAME AND COVER. PROVIDE 18" OF GRADE RINGS. FRAME AND COVER TO BE SET PER CITY STD. S-13.
SDMH #68161	233.61	104+45.05' SD TRUNK – STA 100+00 TO 108+50 0.00' T	228.41 (E) 229.76 (S)	228.41 (W)	CONSTRUCT CITY STD S-10 72" DIA. SDMH WITH FLAT TOP AND CITY STD. S-14 FRAME AND COVER. PROVIDE 18" OF GRADE RINGS. FRAME AND COVER TO BE SET PER CITY STD. S-13.

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABO
No. 72209
CIVIL
State of California

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Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - SD TRUNK LINE STA. 100+00 TO STA. 106+00

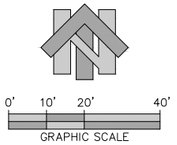
Project Number:
Scale: 1"= 20'
Drawing Number PP-22
Sheet 44 of 182

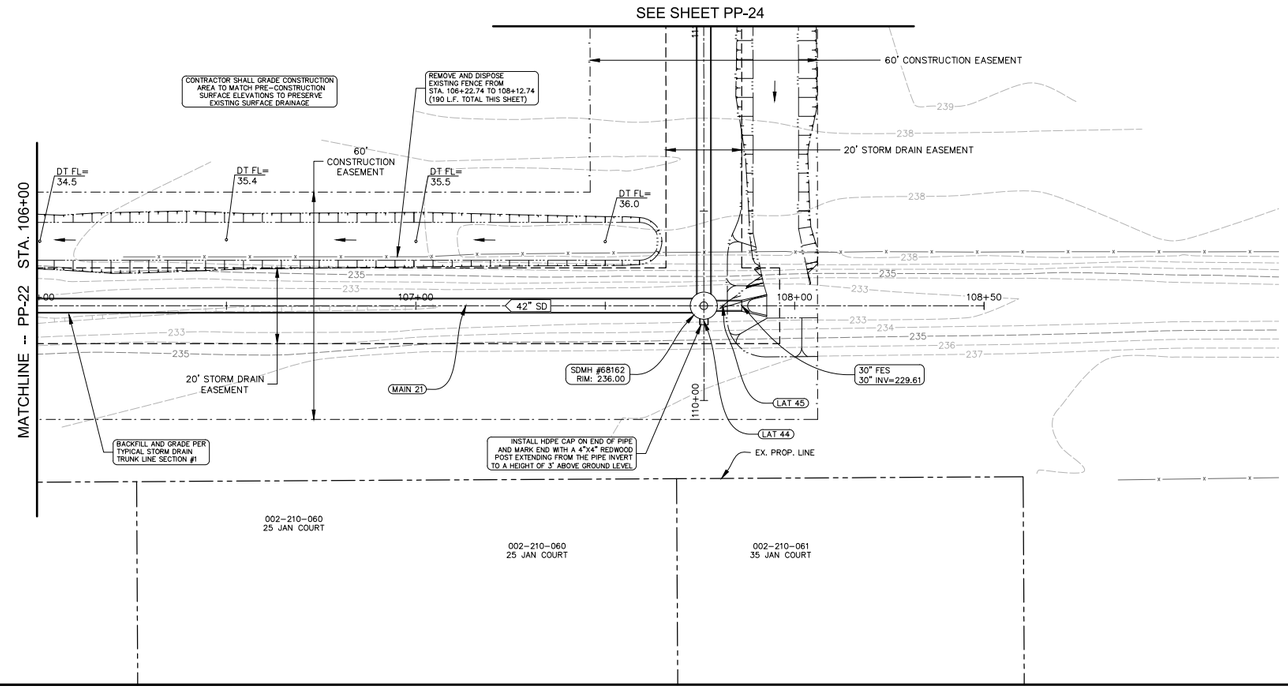
Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-22

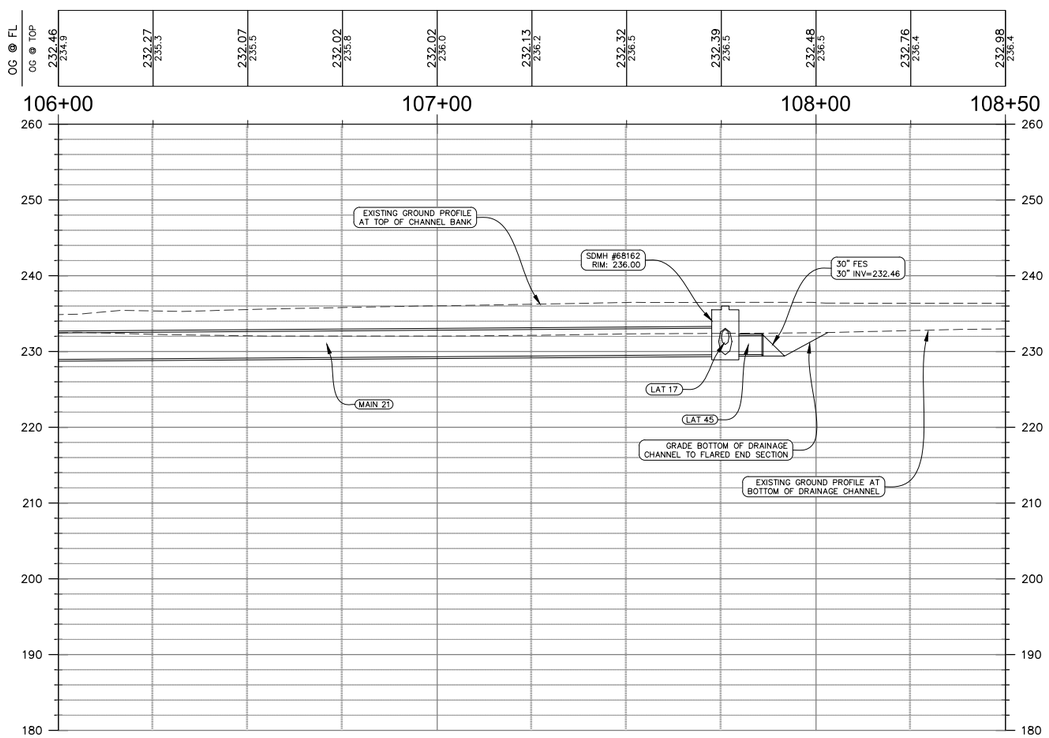
Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\160358_P&P 3.dwg – PP22 (44), Fri, Dec 8 2023 – 1:01:41pm, User





NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STATION / ALIGNMENT / OFFSET	I.E. IN	I.E. OUT	NOTES
30 FES	232.46	107+86.04' SD TRUNK – STA 100+00 TO 108+50 0.00' T		229.61 (W)	NullINSTALL 30" FLARED END SECTION
SDMH #68162	236.00	107+76.04' SD TRUNK – STA 100+00 TO 108+50 0.00' T	230.91 (S) 229.57 (N) 229.57 (E)	229.57 (W)	CONSTRUCT CITY STD S-10 72" DIA. SDMH WITH FLAT TOP AND CITY STD. S-14 FRAME AND COVER. PROVIDE 18" OF GRADE RINGS. FRAME AND COVER TO BE SET PER CITY STD. S-13.

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 44	24	5	0.50%		SDMH #68162	230.93	230.91	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 45	30	10	0.35%	30 FES	SDMH #68162	229.61	229.57	INSTALL HDPE SD LATERAL
MAIN 21	42	331	0.35%	SDMH #68162	SDMH #68161	229.57	228.41	INSTALL HDPE SD PIPE

REGISTERED PROFESSIONAL ENGINEER
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CIVIL
State of California

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Title: BRUCE ROAD RECONSTRUCTION

Drawing Number
PP-23

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 3.dwg – PP23 (45), Fri, Dec 8 2023 – 1:01:51pm, User

Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

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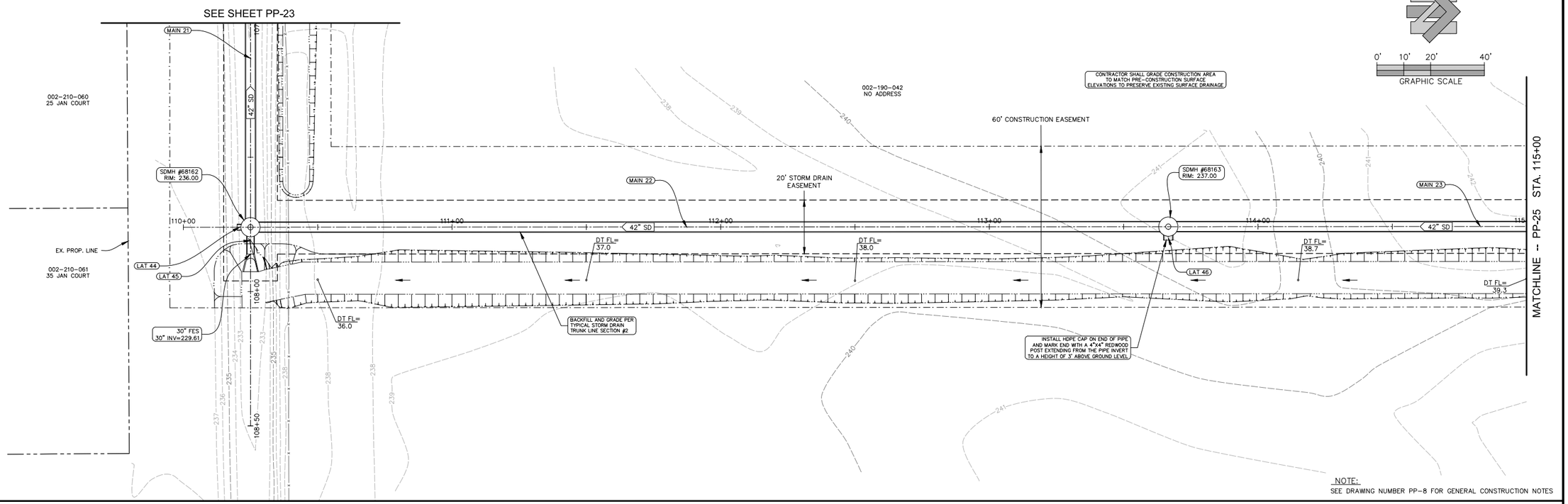
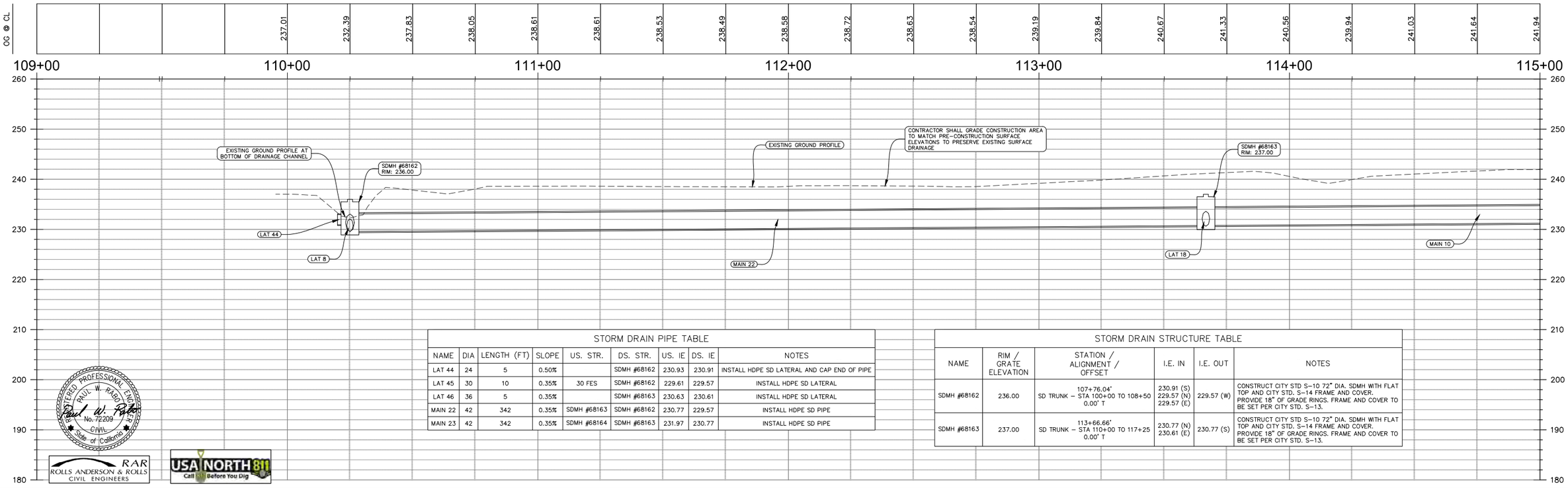
CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - SD TRUNK LINE STA. 106+00 TO STA. 108+50

Project Number: 16038
Drawing Number PP-23
Scale: 1"= 20'
Sheet 45 of 182



NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 44	24	5	0.50%		SDMH #68162	230.93	230.91	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 45	30	10	0.35%	30 FES	SDMH #68162	229.61	229.57	INSTALL HDPE SD LATERAL
LAT 46	36	5	0.35%		SDMH #68163	230.63	230.61	INSTALL HDPE SD LATERAL
MAIN 22	42	342	0.35%	SDMH #68163	SDMH #68162	230.77	229.57	INSTALL HDPE SD PIPE
MAIN 23	42	342	0.35%	SDMH #68164	SDMH #68163	231.97	230.77	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STATION / ALIGNMENT / OFFSET	I.E. IN	I.E. OUT	NOTES
SDMH #68162	236.00	107+76.04' SD TRUNK – STA 100+00 TO 108+50 0.00' T	230.91 (S) 229.57 (N) 229.57 (E)	229.57 (W)	CONSTRUCT CITY STD S-10 72" DIA. SDMH WITH FLAT TOP AND CITY STD. S-14 FRAME AND COVER. PROVIDE 18" OF GRADE RINGS. FRAME AND COVER TO BE SET PER CITY STD. S-13.
SDMH #68163	237.00	113+66.66' SD TRUNK – STA 110+00 TO 117+25 0.00' T	230.77 (N) 230.61 (E)	230.77 (S)	CONSTRUCT CITY STD S-10 72" DIA. SDMH WITH FLAT TOP AND CITY STD. S-14 FRAME AND COVER. PROVIDE 18" OF GRADE RINGS. FRAME AND COVER TO BE SET PER CITY STD. S-13.

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-24

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 3.dwg – PP24 (46), Fri, Dec 8 2023 – 1:02:00pm, User

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

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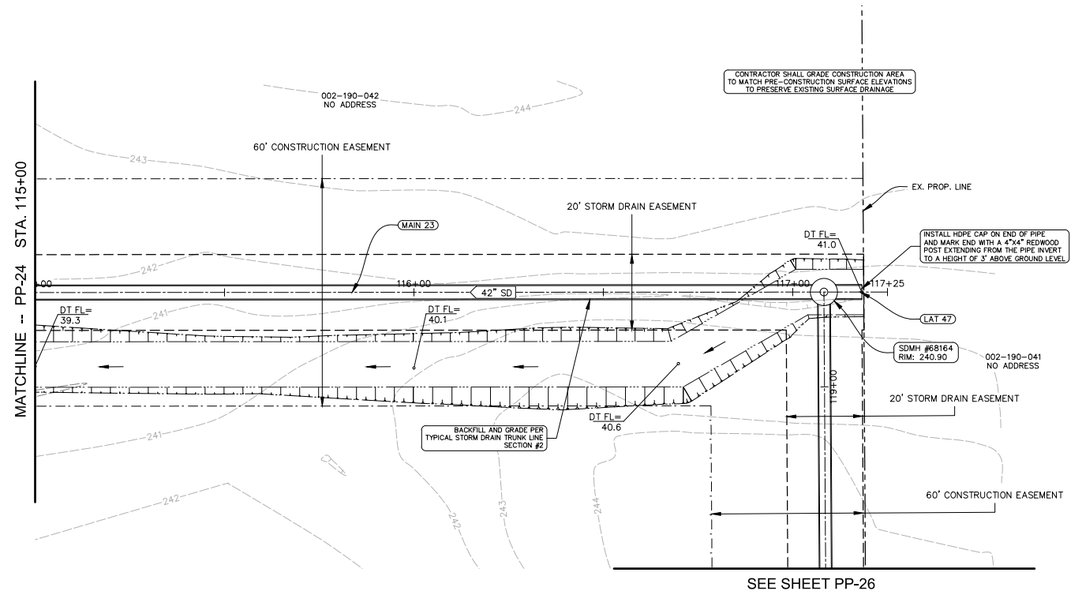
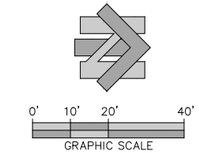
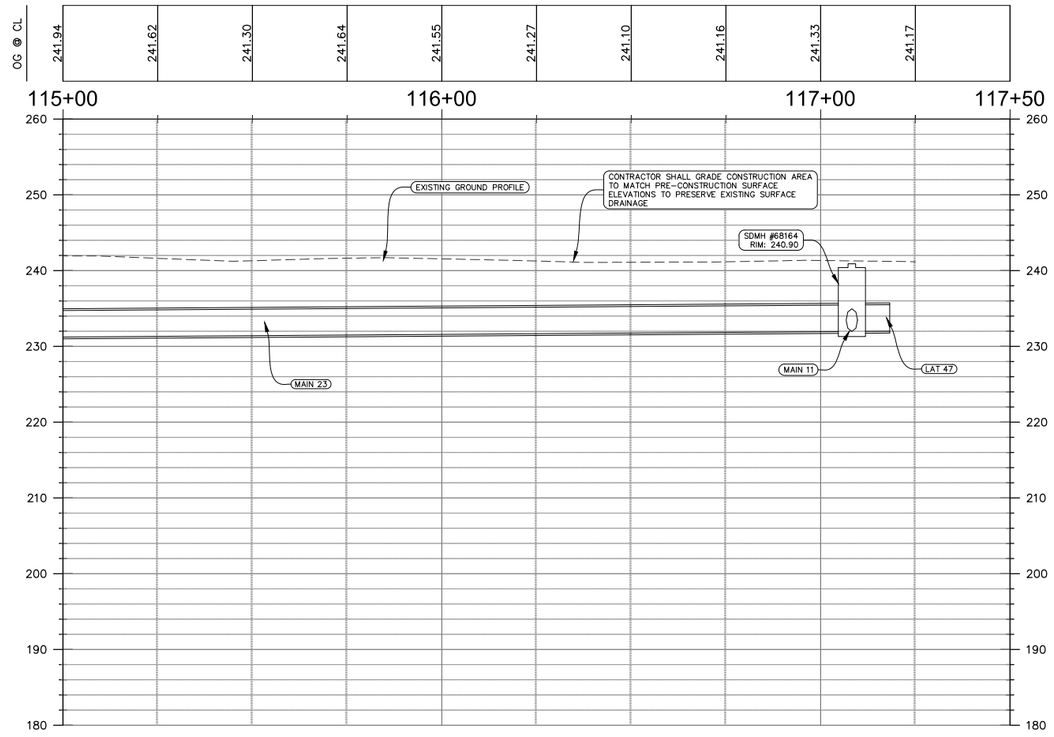
BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - SD TRUNK LINE STA. 110+00 TO STA. 115+00

Project Number: 16038
Scale: 1"= 20'
Drawing Number PP-24
Sheet 46 of 182





NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STATION / ALIGNMENT / OFFSET	I.E. IN	I.E. OUT	NOTES
SDMH #68164	240.90	117+08.23' SD TRUNK – STA 110+00 TO 117+25 0.00' T	231.97 (E) 231.97 (N)	231.97 (S)	CONSTRUCT CITY STD S-10 72" DIA. SDMH WITH FLAT TOP AND CITY STD. S-14 FRAME AND COVER. PROVIDE 18" OF GRADE RINGS. FRAME AND COVER TO BE SET PER CITY STD. S-13.

STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 47	42	10	0.35%		SDMH #68164	232.00	231.97	INSTALL HDPE SD LATERAL
MAIN 23	42	342	0.35%	SDMH #68164	SDMH #68163	231.97	230.77	INSTALL HDPE SD PIPE
MAIN 24	36	343	0.35%	SDMH #68165	SDMH #68164	233.16	231.97	INSTALL HDPE SD PIPE

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOLD
No. 72209
CIVIL
State of California

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ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

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PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

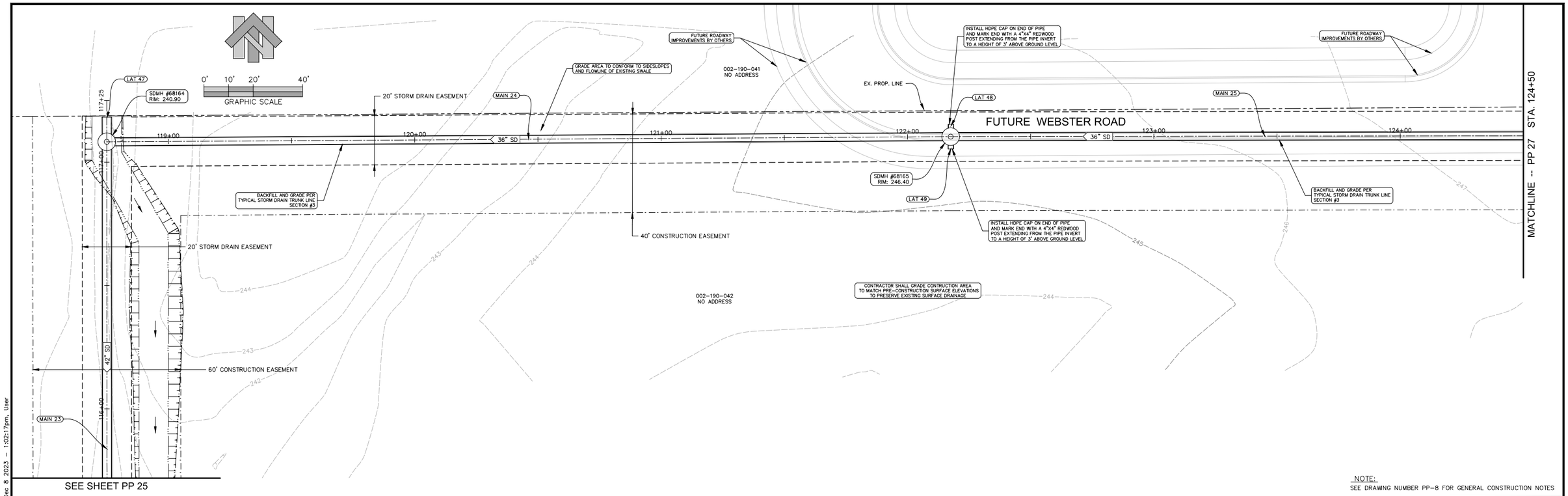
BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - SD TRUNK LINE STA. 115+00 TO STA. 117+25

Project Number: 16038
Drawing Number PP-25
Scale: 1"= 20'
Sheet 47 of 182

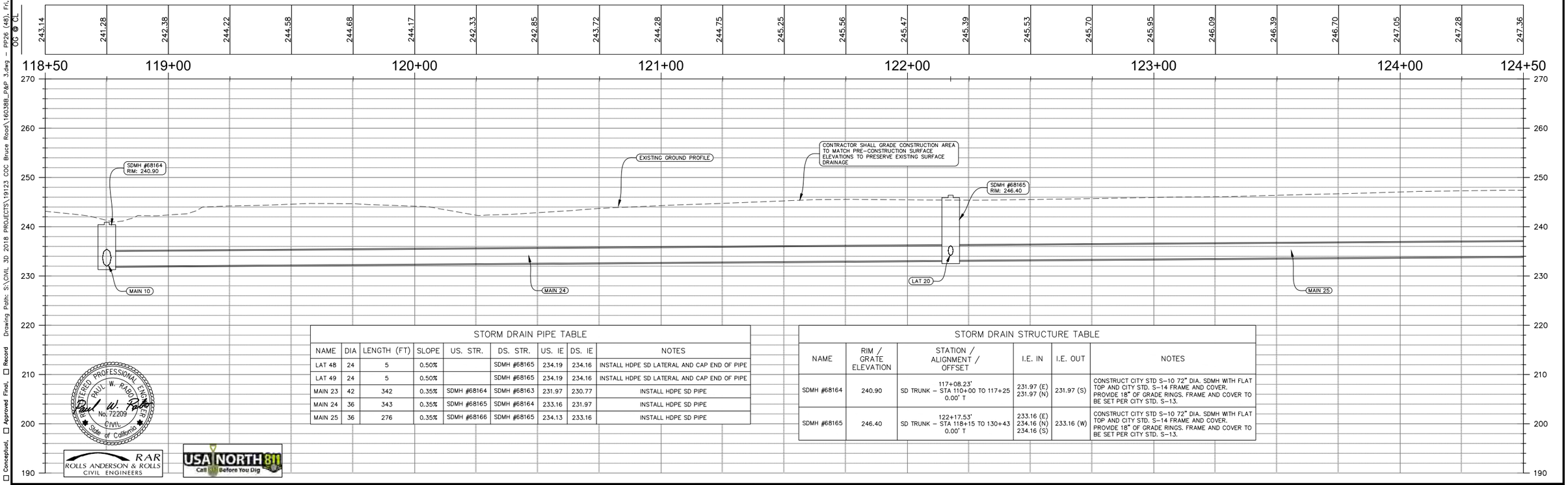
Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-25

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 3.dwg – PP25 (47), Fri, Dec 8 2023 – 1:02:08pm, User



NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 48	24	5	0.50%		SDMH #68165	234.19	234.16	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 49	24	5	0.50%		SDMH #68165	234.19	234.16	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
MAIN 23	42	342	0.35%	SDMH #68164	SDMH #68163	231.97	230.77	INSTALL HDPE SD PIPE
MAIN 24	36	343	0.35%	SDMH #68165	SDMH #68164	233.16	231.97	INSTALL HDPE SD PIPE
MAIN 25	36	276	0.35%	SDMH #68166	SDMH #68165	234.13	233.16	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STATION / ALIGNMENT / OFFSET	I.E. IN	I.E. OUT	NOTES
SDMH #68164	240.90	117+08.23' SD TRUNK – STA 110+00 TO 117+25 0.00' T	231.97 (E) 231.97 (N)	231.97 (S)	CONSTRUCT CITY STD S-10 72" DIA. SDMH WITH FLAT TOP AND CITY STD. S-14 FRAME AND COVER. PROVIDE 18" OF GRADE RINGS. FRAME AND COVER TO BE SET PER CITY STD. S-13.
SDMH #68165	246.40	122+17.53' SD TRUNK – STA 118+15 TO 130+43 0.00' T	233.16 (E) 234.16 (N) 234.16 (S)	233.16 (W)	CONSTRUCT CITY STD S-10 72" DIA. SDMH WITH FLAT TOP AND CITY STD. S-14 FRAME AND COVER. PROVIDE 18" OF GRADE RINGS. FRAME AND COVER TO BE SET PER CITY STD. S-13.

REGISTERED PROFESSIONAL ENGINEER
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CIVIL ENGINEERS

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Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-26

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 3.dwg – PP26 (48), Fri, Dec 8, 2023 – 1:02:17pm, User

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

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CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - SD TRUNK LINE STA. 118+50 TO STA. 124+50

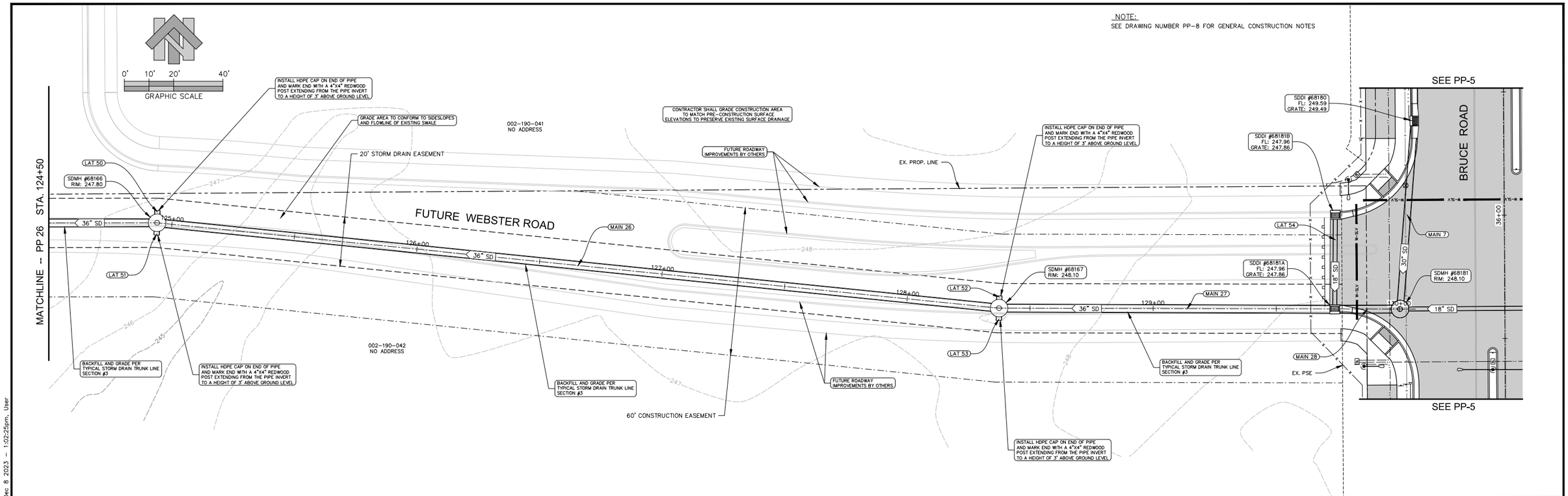
Project Number: 16038

Drawing Number PP-26

Scale: 1"= 20'

Sheet 48 of 182

NOTE:
SEE DRAWING NUMBER PP-8 FOR GENERAL CONSTRUCTION NOTES



STORM DRAIN PIPE TABLE

NAME	DIA	LENGTH (FT)	SLOPE	US. STR.	DS. STR.	US. IE	DS. IE	NOTES
LAT 12	18	112	0.50%	SDDI #68179	SDMH #68181	239.02	238.46	INSTALL HDPE SD LATERAL
LAT 50	24	5	0.50%		SDMH #68166	235.16	235.13	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 51	24	5	0.50%		SDMH #68166	235.16	235.13	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 52	24	5	0.50%		SDMH #68167	236.36	236.34	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 53	24	5	0.50%		SDMH #68167	236.36	236.34	INSTALL HDPE SD LATERAL AND CAP END OF PIPE
LAT 54	18	38	0.50%	SDDI #68181B	SDDI #68181A	244.16	243.97	INSTALL HDPE SD LATERAL
MAIN 7	30	77	0.60%	SDDI #68180	SDMH #68181	238.92	238.46	INSTALL HDPE SD PIPE
MAIN 25	36	276	0.35%	SDMH #68166	SDMH #68165	234.13	233.16	INSTALL HDPE SD PIPE
MAIN 26	36	343	0.35%	SDMH #68167	SDMH #68166	235.34	234.13	INSTALL HDPE SD PIPE
MAIN 27	36	136	0.35%	SDDI #68181A	SDMH #68167	235.81	235.34	INSTALL HDPE SD PIPE
MAIN 28	36	27	0.45%	SDMH #68181	SDDI #68181A	235.93	235.81	INSTALL HDPE SD PIPE

STORM DRAIN STRUCTURE TABLE

NAME	RIM / GRATE ELEVATION	STATION / ALIGNMENT / OFFSET	I.E. IN	I.E. OUT	NOTES
SDDI #68181A	247.86	35+62.26' BRUCE RD. 69.01' LT	235.81 (E) 243.97 (N)	235.81 (W)	INSTALL MODIFIED CITY STD. S-7 (TYPE 2) DROP INLET WITH 24" x 4" OPENING IN SOUTH WALL; OPENING INVERT=246.93
SDDI #68181B	247.86	36+00.58' BRUCE RD. 68.54' LT		244.16 (S)	INSTALL MODIFIED CITY STD. S-7 DROP INLET WITH 24" x 4" OPENING IN NORTH WALL; OPENING INVERT=246.93
SDMH #68166	247.80	124+93.99' SD TRUNK – STA 118+15 TO 130+43 0.00' T	234.13 (E) 235.13 (N) 235.13 (S)	234.13 (W)	CONSTRUCT CITY STD S-10 72" DIA. SDMH WITH FLAT TOP AND CITY STD. S-14 FRAME AND COVER. PROVIDE 18" OF GRADE RINGS. FRAME AND COVER TO BE SET PER CITY STD. S-13.
SDMH #68167	248.10	128+37.48' SD TRUNK – STA 118+15 TO 130+43 0.00' T	235.34 (E) 236.34 (N) 236.34 (S)	235.34 (W)	CONSTRUCT CITY STD S-10 72" DIA. SDMH WITH FLAT TOP AND CITY STD. S-14 FRAME AND COVER. PROVIDE 18" OF GRADE RINGS. FRAME AND COVER TO BE SET PER CITY STD. S-13.
SDMH #68181	248.10	35+62.20' BRUCE RD. 42.50' LT	238.46 (E) 238.46 (N)	235.93 (W)	CONSTRUCT CITY STD S-10 72" DIA. DISCHARGE CONTROL STRUCTURE WITH FLAT TOP PER DETAIL

REGISTERED PROFESSIONAL ENGINEER PAUL W. RASMUSSEN No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Title: BRUCE ROAD RECONSTRUCTION

Drawing Number PP-27

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_P&P 3.dwg – PP27 (49), Fri, Dec 8 2023 – 1:02:25pm, User

Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

CITY OF CHICO
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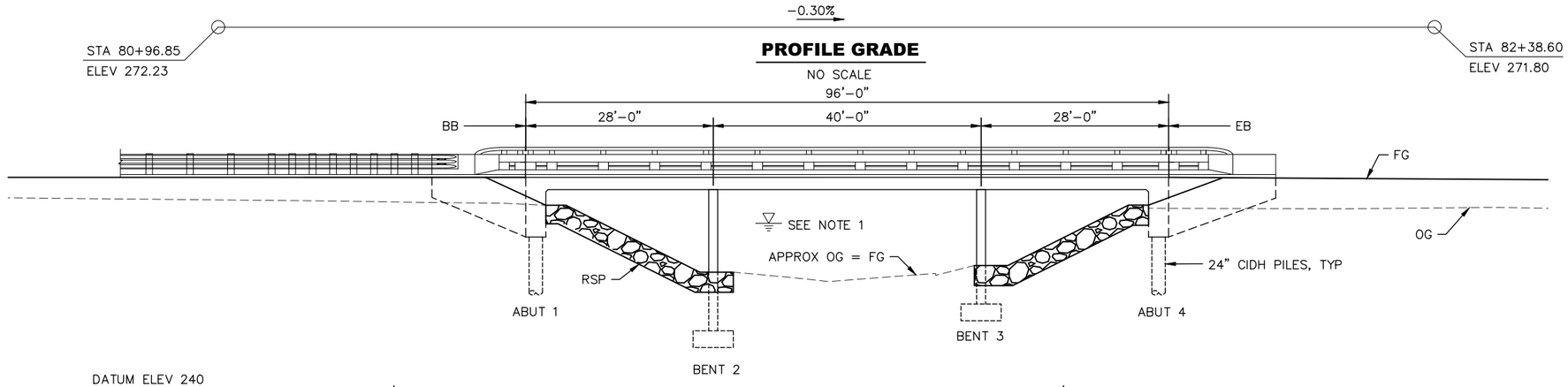
CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
PLAN AND PROFILE - SD TRUNK LINE STA. 124+50 TO STA. 130+50

Project Number: 16038

Drawing Number PP-27

Scale: 1"= 20'



PROFILE GRADE

NO SCALE

STANDARD PLANS DATED 2018

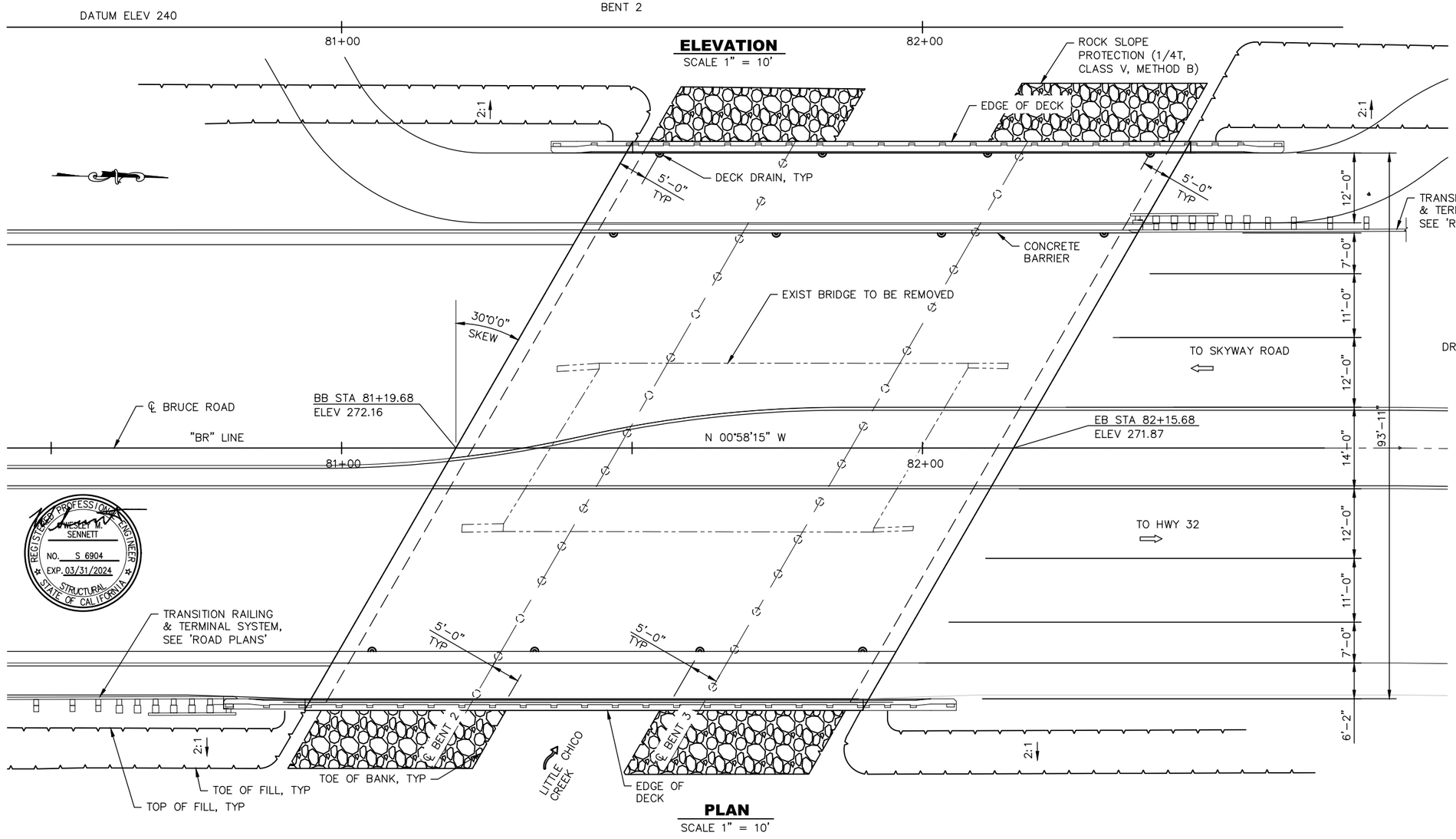
	A3A	ABBREVIATIONS (SHEET 1 OF 3)
	A3B	ABBREVIATIONS (SHEET 2 OF 3)
	A3C	ABBREVIATIONS (SHEET 3 OF 3)
	A10A	LEGEND – LINES AND SYMBOLS (SHEET 1 OF 5)
	A10B	LEGEND – LINES AND SYMBOLS (SHEET 2 OF 5)
	A10C	LEGEND – LINES AND SYMBOLS (SHEET 3 OF 5)
	A10D	LEGEND – LINES AND SYMBOLS (SHEET 4 OF 5)
	A10E	LEGEND – LINES AND SYMBOLS (SHEET 5 OF 5)
	A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
RSP	B0-1	BRIDGE DETAILS
	B7-5	DECK DRAINS
	B11-51	TUBULAR HANDRAILING
RSP	B11-81	CONCRETE BARRIER TYPE 842 DETAILS NO. 1
RSP	B11-82	CONCRETE BARRIER TYPE 842 DETAILS NO. 2
RSP	B11-83	CONCRETE BARRIER TYPE 85 DETAILS NO. 1
RSP	B11-84	CONCRETE BARRIER TYPE 85 DETAILS NO. 2
RSP	B11-85	CONCRETE BARRIER TYPE 85 DETAILS NO. 3

STANDARD PLAN SHEET No.

DETAIL No.

LEGEND

- INDICATES NEW CONSTRUCTION
- INDICATES EXISTING STRUCTURE
- INDICATES DIRECTION OF FLOW
- INDICATES DIRECTION OF TRAFFIC



ELEVATION

SCALE 1" = 10'

PLAN

SCALE 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
WESLEY W. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

INDEX TO PLANS

NOTES:

1. FOR HYDROLOGIC SUMMARY, SEE "FOUNDATION PLAN" SHEET.
2. FOR TYPICAL SECTION AND STAGE CONSTRUCTION DETAILS, SEE "GENERAL PLAN NO. 2" SHEET.
3. FOR RSP DETAILS, SEE "ROCK SLOPE PROTECTION DETAILS" SHEET.

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number S-1

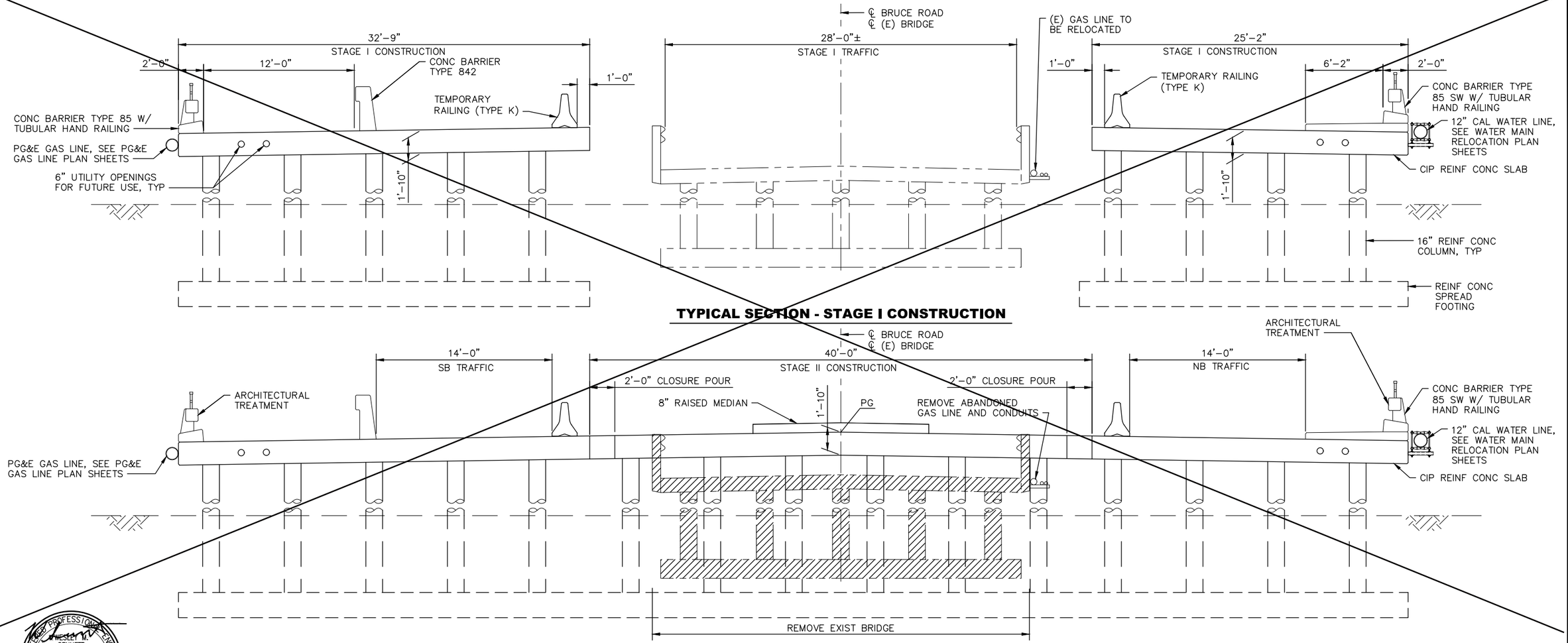
Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 GP.dwg – GP 1, Mon, Dec 4 2023 – 4:47:02pm, kaiwang

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	
Drawn By: K. WANG		65%	11/12/2019	PZ	
Checked: E. MONZON	Date: DECEMBER, 2023	95%	05/28/2020	PZ	
		100%	02/14/2023	KW	

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
GENERAL PLAN NO. 1

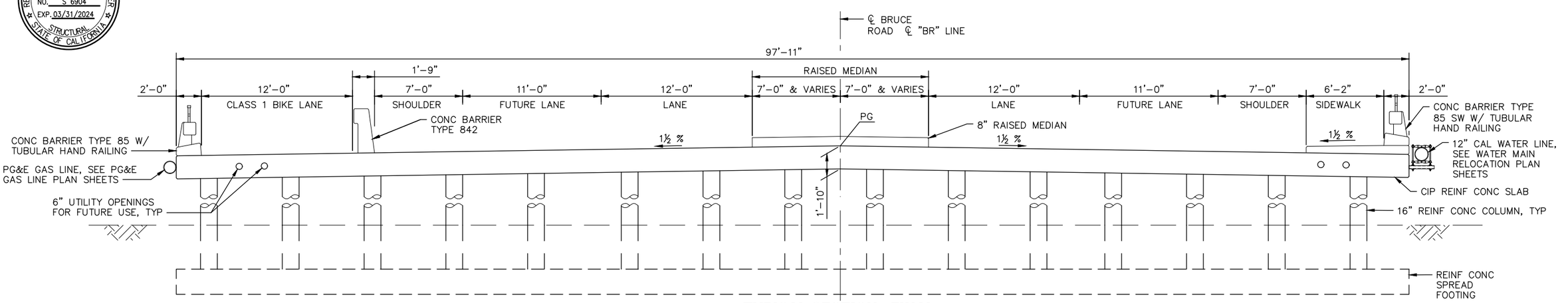
Project Number: 16038	Drawing Number S-1
Scale: 1" = 10'	Sheet 50 of 182



TYPICAL SECTION - STAGE I CONSTRUCTION

TYPICAL SECTION - STAGE II CONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
WESLEY W. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA



TYPICAL SECTION - FINAL

ADDENDUM 2

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By
Drawn By: K. WANG		65%	11/12/2019	PZ
	Date: DECEMBER, 2023	95%	05/28/2020	PZ
Checked: E. MONZON		100%	02/14/2023	KW

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

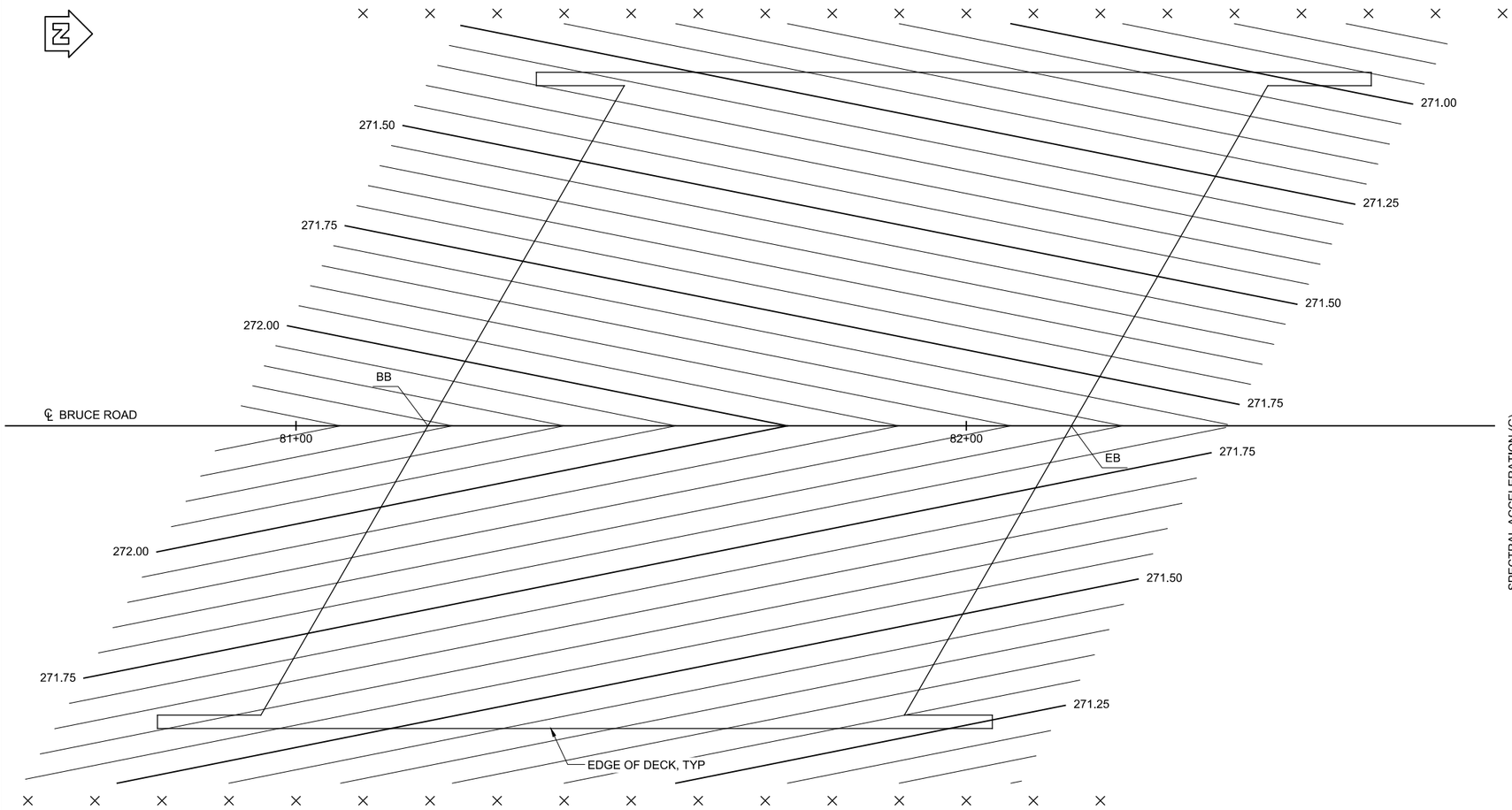
BRUCE ROAD RECONSTRUCTION
GENERAL PLAN NO. 2

Project Number: 16038
Scale: 1/4"= 1'-0'
Drawing Number S-2
Sheet 51 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number S-2

Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 GP.dwg – GP 2, Mon, Dec 4 2023 – 4:46:29pm, kaiwang



DECK CONTOURS

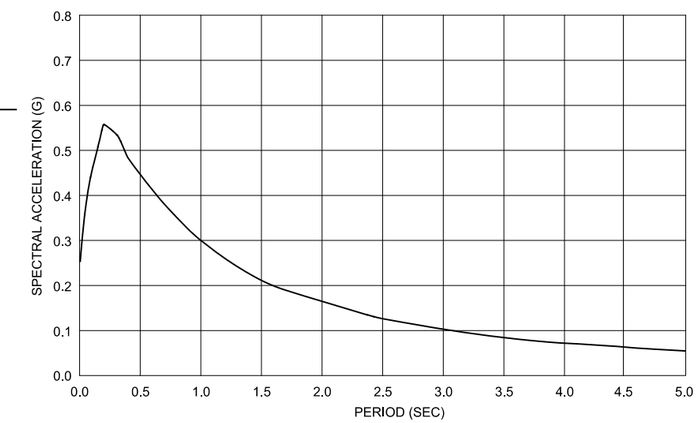
1" = 10'

NOTES:

1. CONTOUR INTERVAL = 0.05 FT
2. CONTOURS DO NOT INCLUDE CAMBER
3. ╳ INDICATES 10' STATION INTERVALS ALONG CENTER LINE

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

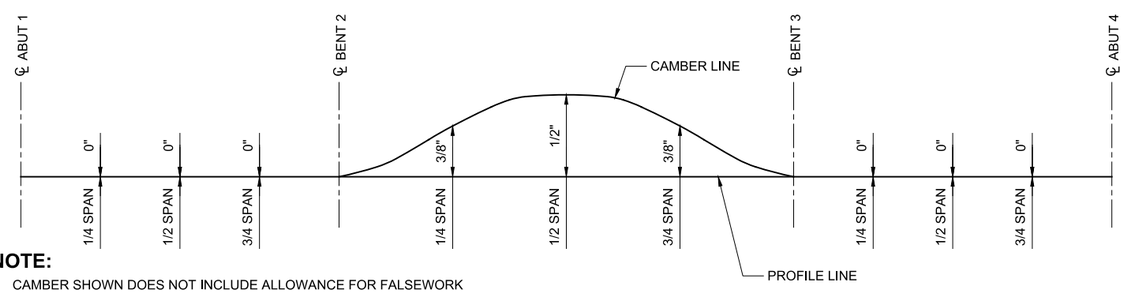
DESIGN:	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION AND THE CALTRANS AMENDMENTS, PREFACE DATED SEPTEMBER 2017
SEISMIC DESIGN:	CALTRANS SEISMIC DESIGN CRITERIA (SDC) VERSION 2.0, APRIL, 2019
DEAD LOAD:	INCLUDES 35 PSF FOR FUTURE WEARING SURFACE.
LIVE LOAD:	HL93 AND PERMIT DESIGN VEHICLE
SEISMIC LOAD:	SHEAR WAVE VELOCITY, V_{S30} = 270 M/S MAXIMUM MAGNITUDE = 6.7 PEAK GROUND ACCELERATION = 0.24g
REINFORCED CONCRETE:	fy = 60,000 PSI f'c = SEE 'CONCRETE STRENGTH AND TYPE LIMITS' n = 8



RESPONSE SPECTRA

CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE



NOTE:

CAMBER SHOWN DOES NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT. CAMBER VALUES ARE SHOWN IN INCHES.

CAMBER DIAGRAM

NO SCALE

LEGEND

- STRUCTURAL CONCRETE, BRIDGE
  f_c' = 3.6 KSI AT 28 DAYS
- STRUCTURAL CONCRETE, BRIDGE FOOTING
  f_c' = 3.6 KSI AT 28 DAYS
- CIDH CONCRETE PILE
  f_c' = 3.6 KSI AT 28 DAYS

REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: K. WANG	Date: DECEMBER, 2023	65%	11/12/2019	PZ	
Checked: E. MONZON		95%	05/28/2020	PZ	
		100%	02/14/2023	KW	

BRUCE ROAD RECONSTRUCTION
GENERAL NOTES AND DECK CONTOURS

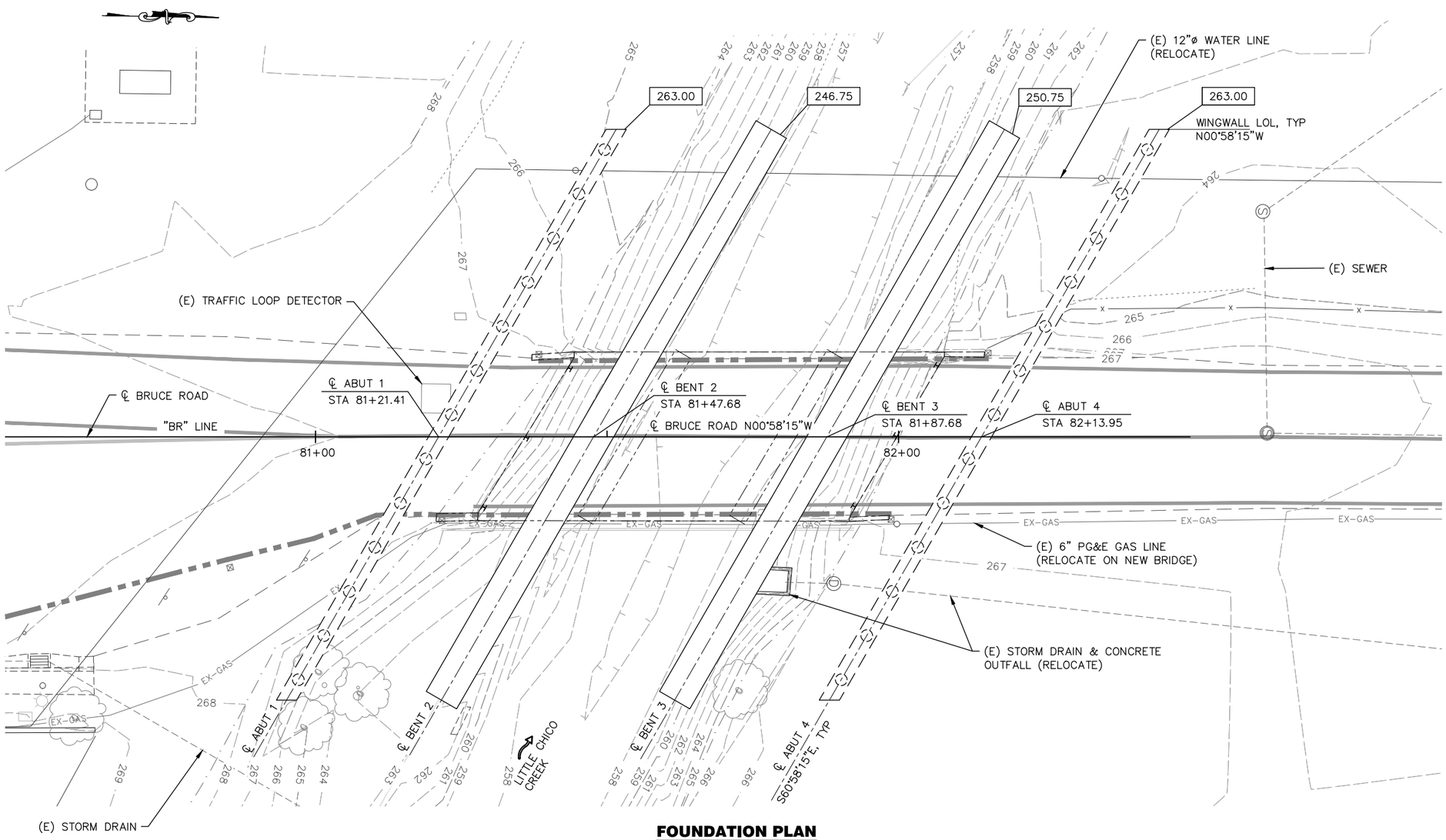
Project Number:	Drawing Number
16038	S-3
Scale: AS SHOWN	Sheet 52 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number S-3

Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record

Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 DETAILS.dwg – GN, Mon, Dec 4 2023 – 4:48:01pm, kelwang



FOUNDATION PLAN

SCALE 1" = 10'

LEGEND

- ○ INDICATES 24" CIDH PILE
- XXXX.XX INDICATES BOTTOM OF FOOTING / BOTTOM OF DIAPHRAGM ELEVATION
- H INDICATES EXISTING HP PILE
- INDICATES EXISTING STRUCTURE

HYDROLOGIC SUMMARY

DRAINAGE AREA: 132.80 SQUARE MILES

	DESIGN
FREQUENCY (YEARS)	200
DISCHARGE (CUBIC FEET PER SECOND)	2,400
WATER SURFACE (ELEVATION AT BRIDGE)	266.43

SCOUR DATA TABLE

SUPPORT NO.	LONG TERM (DEGRADATION AND CONTRACTION) SCOUR ELEVATION (FT)	SHORT TERM (LOCAL) SCOUR DEPTH (FT)
ABUT 1	264.00	N/A
BENT 2	246.75	0.5
BENT 3	250.75	0.5
ABUT 4	260.00	N/A

SPREAD FOOTING DATA TABLE

SUPPORT NO.	SERVICE PERMISSIBLE NET CONTACT STRESS (SETTLEMENT) (KSF)	STRENGTH /CONSTRUCTION FACTORED GROSS NOMINAL BEARING RESISTANCE φ_b=0.45 (KSF)	EXTREME EVENT FACTORED GROSS NOMINAL BEARING RESISTANCE φ_b=1.00 (KSF)
BENT 2	4.2	5.6	12.5
BENT 3	4.2	5.6	12.5

PILE FOOTING DATA TABLE

SUPPORT NO.	PILE TYPE	CUT-OFF ELEVATION (ft)	NOMINAL RESISTANCE (kips)	SPECIFIED TIP ELEVATION (ft)
ABUT 1	24" CIDH	263.25	270	232.08
ABUT 4	24" CIDH	263.25	270	232.08

REGISTERED PROFESSIONAL ENGINEER
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EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number S-4

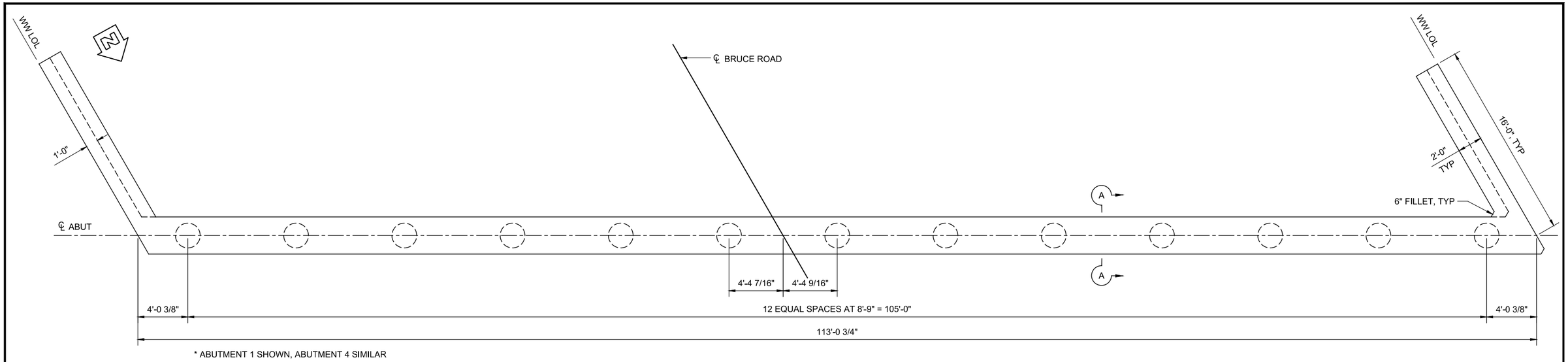
Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record

Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 Foundation.dwg – TN, Mon, Dec 4 2023 – 4:47:35pm, kaiwang

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARMENT
Drawn By: K. WANG		65%	11/12/2019	PZ	
	Date: DECEMBER, 2023	95%	05/28/2020	PZ	
Checked: E. MONZON		100%	02/14/2023	KW	

BRUCE ROAD RECONSTRUCTION
FOUNDATION PLAN

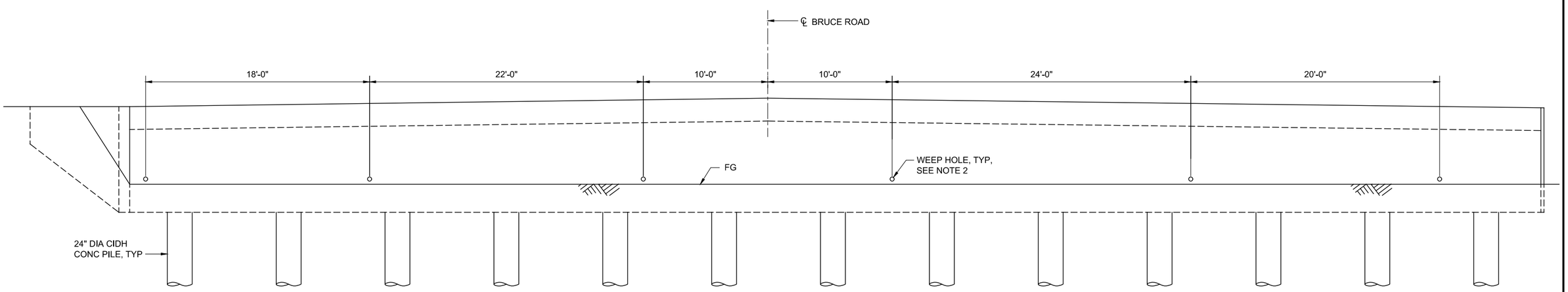
Project Number: 16038
Scale: AS SHOWN
Drawing Number S-4
Sheet 53 of 182



* ABUTMENT 1 SHOWN, ABUTMENT 4 SIMILAR

ABUTMENT PLAN

1/4" = 1'-0'



ABUTMENT ELEVATION

1/4" = 1'-0'

REGISTERED PROFESSIONAL ENGINEER
Wesley W. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

NOTES:

1. FOR SECTION A-A, SEE "ABUTMENT DETAILS" SHEET.
2. WEEP HOLES SHALL BE LOCATED 3" ABOVE FINISHED GRADE.

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: K. WANG		65%	11/12/2019	PZ	
Checked: E. MONZON	Date: DECEMBER, 2023	95%	05/28/2020	PZ	
		100%	02/14/2023	KW	

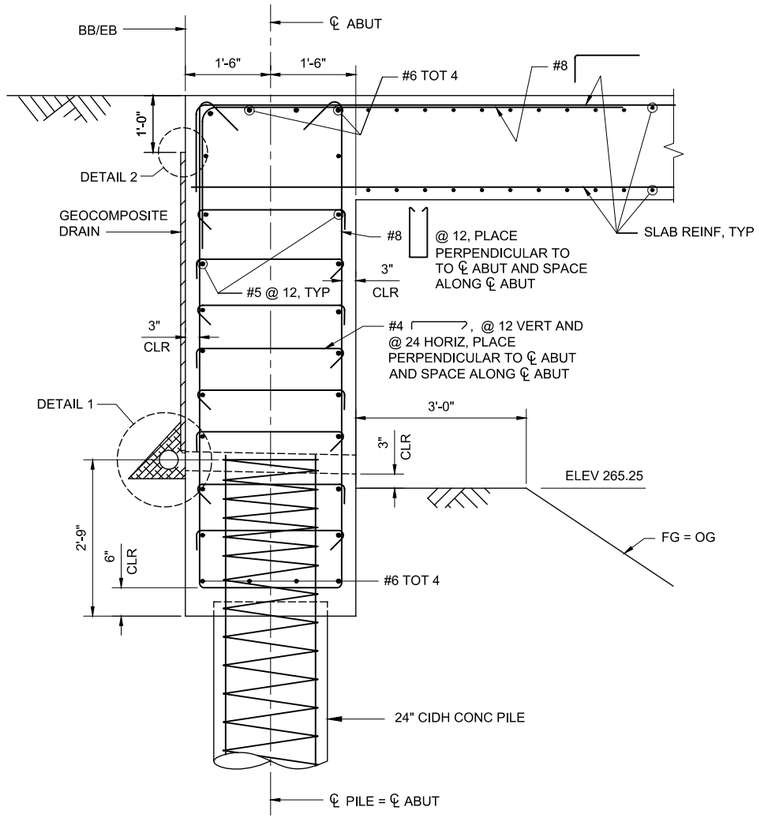
BRUCE ROAD RECONSTRUCTION
ABUTMENT LAYOUT

Project Number: 16038	Drawing Number S-5
Scale: AS SHOWN	Sheet 54 of 182

Title: BRUCE ROAD RECONSTRUCTION

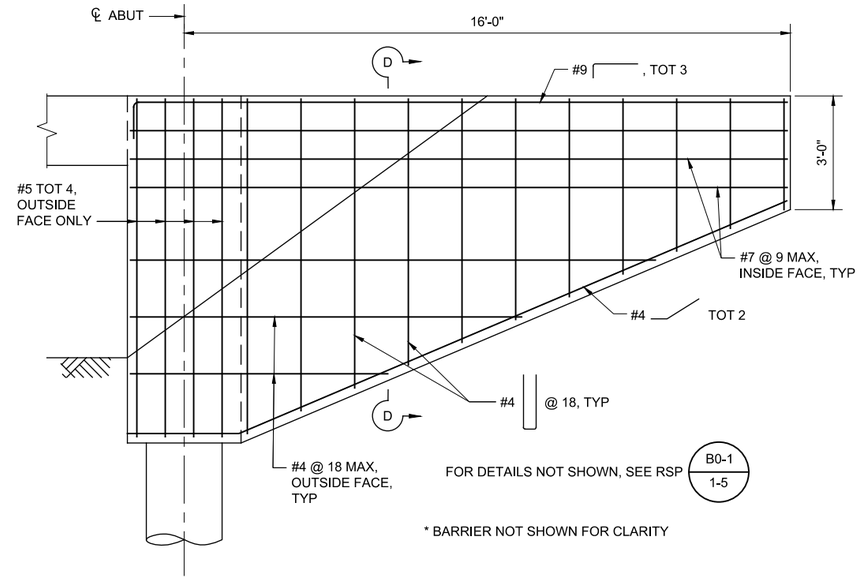
Drawing Number S-5

Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record Drawing Path: P:\539 Bruce Road Chico (NorthStar)\06 CAD\Structure\539 DETAILS.dwg – ABUT LAYOUT, Mon, Dec 4 2023 – 4:48:19pm, kaiwang



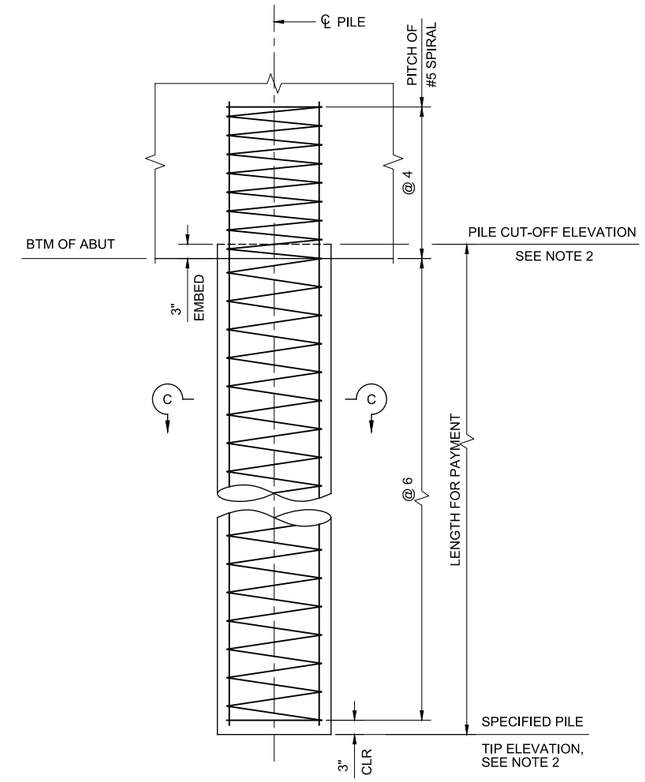
SECTION A-A

3/4" = 1'-0'



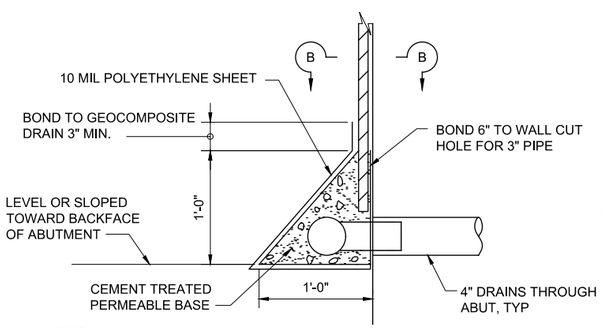
WINGWALL ELEVATION

1/2" = 1'-0'

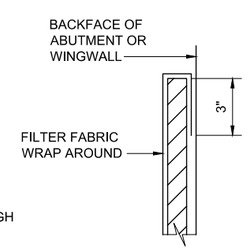


PILE ELEVATION

3/4" = 1'-0'



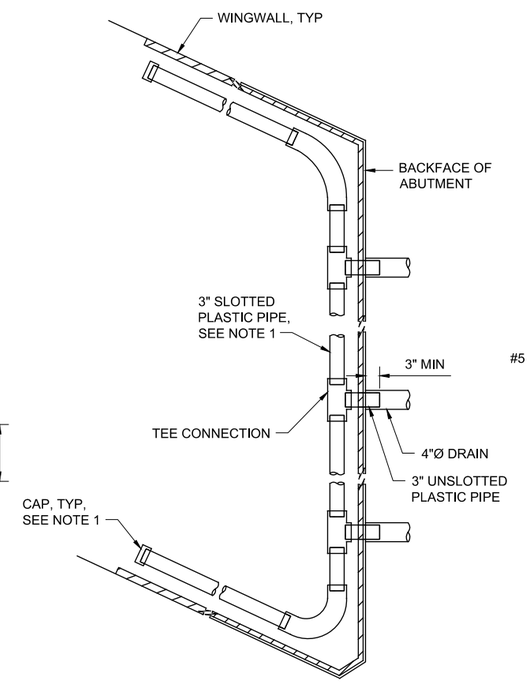
DETAIL 1



DETAIL 2

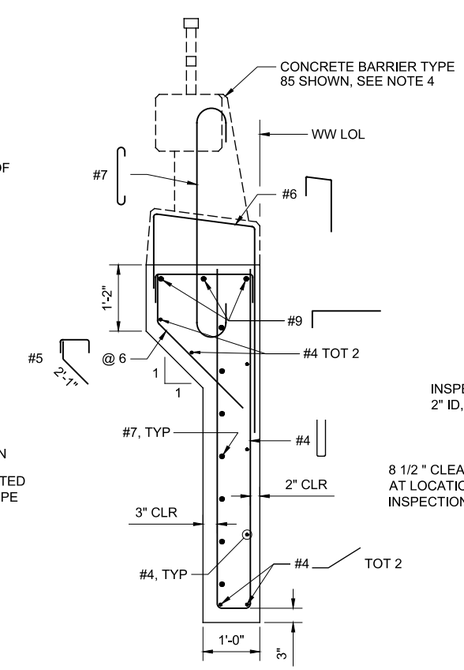
WEEP HOLE AND GEOCOMPOSITE DRAIN

NO SCALE



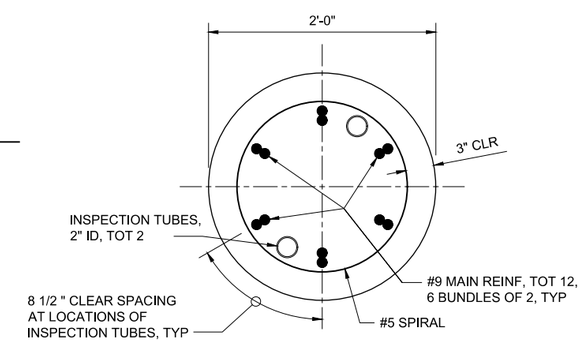
SECTION B-B

3/4" = 1'-0'



SECTION D-D

3/4" = 1'-0'



SECTION C-C

1 1/2" = 1'-0'

NOTES:

1. GEOCOMPOSITE DRAIN, CEMENT TREATED PERMEABLE BASE, AND 3"Ø SLOTTED PLASTIC PIPE CONTINUOUS BEHIND ABUTMENT & WINGWALLS. CAP ENDS OF PIPE. PROVIDE "TEE" CONNECTION AT EACH 4"Ø DRAIN.
2. SEE "FOUNDATION PLAN" SHEET FOR SPECIFIED TIP AND CUT OFF ELEVATIONS.
3. FOR LOCATION OF SECTION A-A, SEE "ABUTMENT LAYOUT" SHEET.
4. SEE "CONCRETE BARRIER TYPE 85SW DETAILS NO.1", "CONCRETE BARRIER TYPE 85SW DETAILS NO.2", AND "CONCRETE BARRIER TYPE 85SW DETAILS NO.3" SHEETS FOR CONCRETE BARRIER TYPE 85SW DETAILS NOT SHOWN.

REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number S-6

Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record

Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 DETAILS.dwg – ABUT DETAILS, Mon, Dec 4 2023 – 4:48:44pm, kaiwang

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	
Drawn By: K. WANG		65%	11/12/2019	PZ	
		95%	05/28/2020	PZ	
Checked: E. MONZON	Date: DECEMBER, 2023	100%	02/14/2023	KW	

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

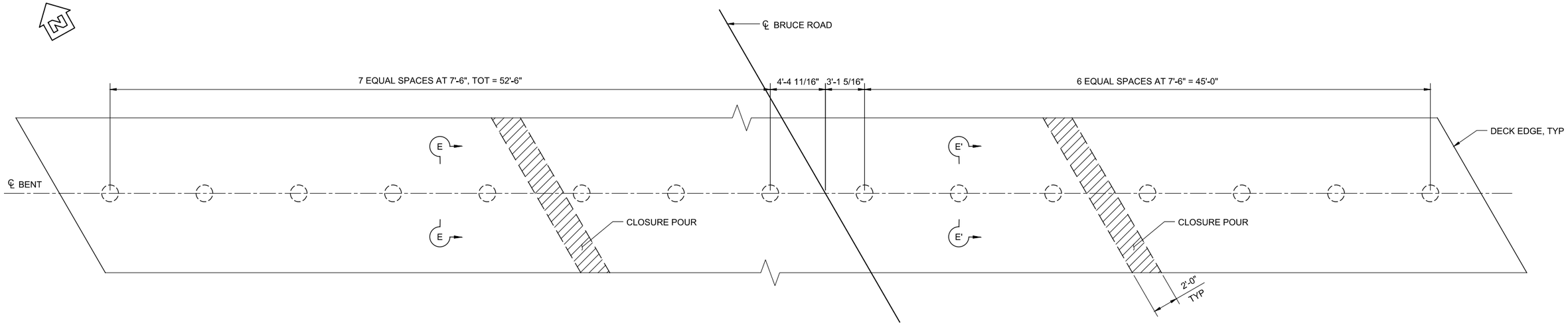
BRUCE ROAD RECONSTRUCTION
ABUTMENT DETAILS

Project Number: 16038

Drawing Number S-6

Scale: AS SHOWN

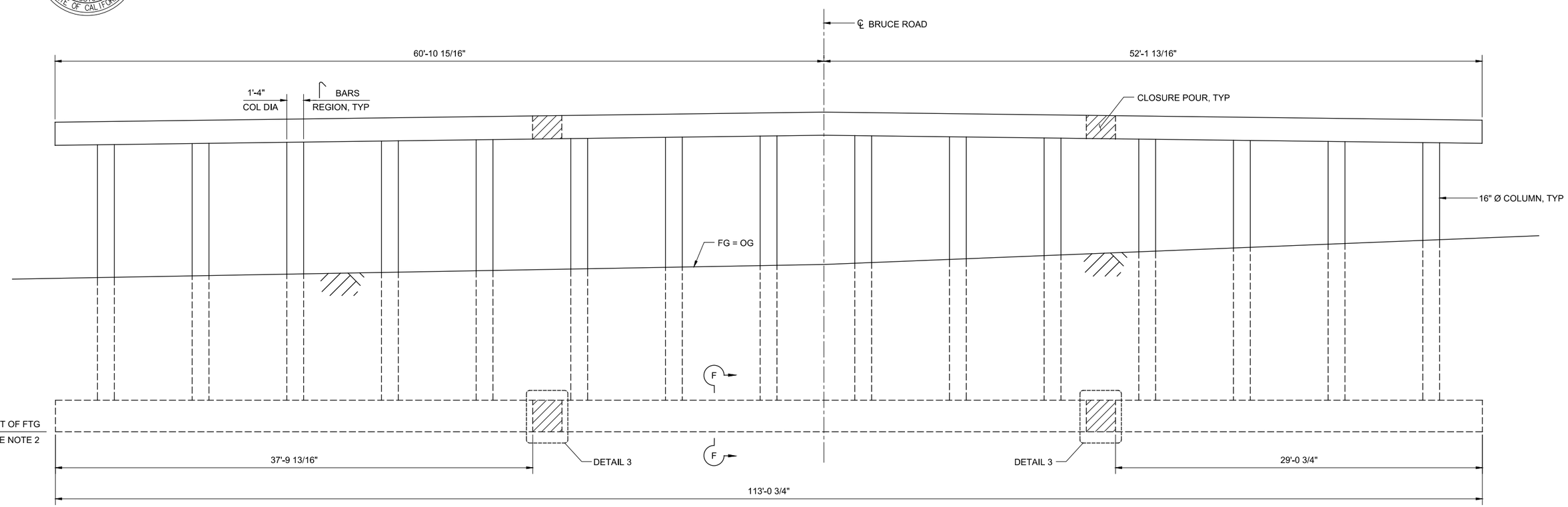
Sheet 55 of 182



PLAN

1/4" = 1'-0'

REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA



NOTE: BENT 2 SHOWN, BENT 3 SIMILAR.

ELEVATION

1/4" = 1'-0'

NOTES:

1. FOR SECTION E-E, SECTION E'-E' AND DETAIL 3, SEE "BENT DETAILS NO. 1" SHEET.
2. FOR SECTION F-F AND FOOTING PLAN, SEE "BENT DETAILS NO. 2" SHEET.
3. SEE "FOUNDATION PLAN" SHEET FOR BOTTOM OF FOOTING ELEVATIONS.

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number S-7

Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record

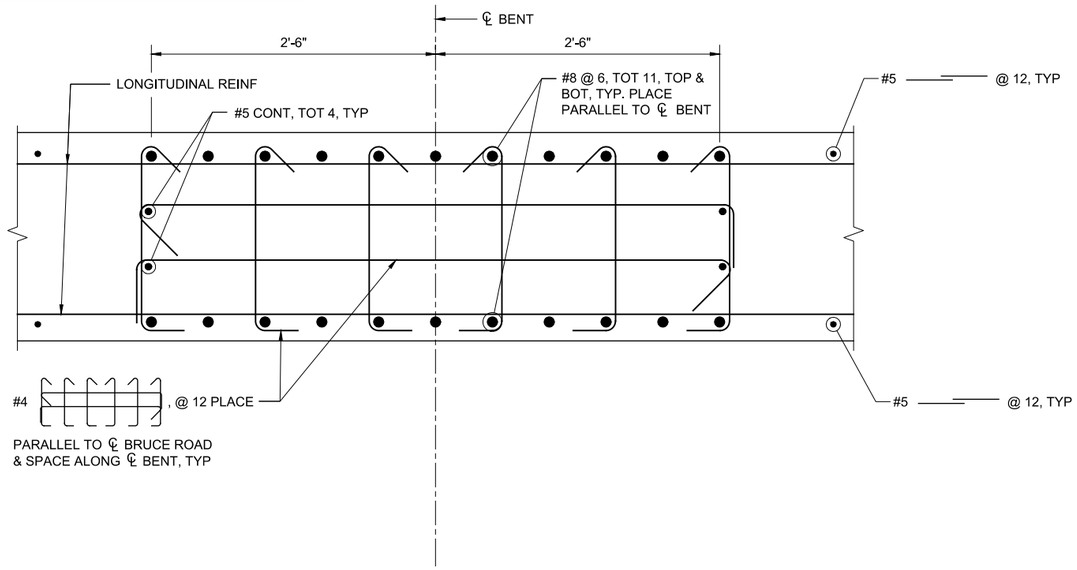
Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 DETAILS.dwg - Bent Layout, Mon, Dec 4 2023 - 4:49:03pm, kaiwong

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: K. WANG		65%	11/12/2019	PZ	
Checked: E. MONZON	Date: DECEMBER, 2023	95%	05/28/2020	PZ	
		100%	02/14/2023	KW	

CITY OF CHICO INC. 1872

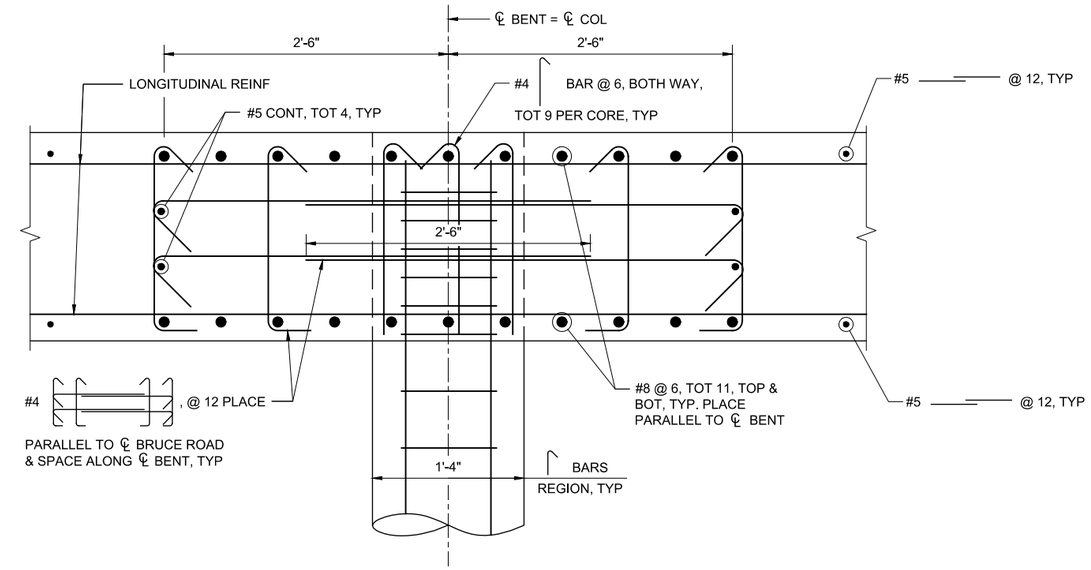
BRUCE ROAD RECONSTRUCTION
BENT LAYOUT

Project Number: 16038	Drawing Number S-7
Scale: AS SHOWN	Sheet 56 of 182



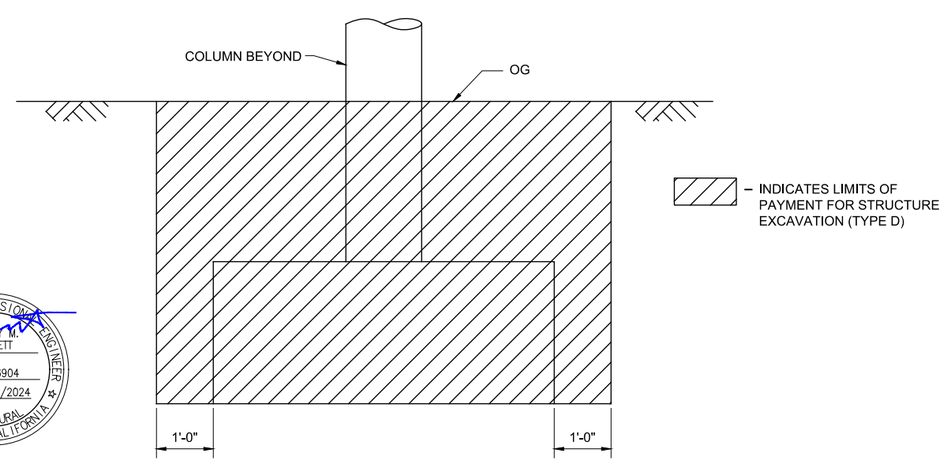
SECTION E-E

1 1/2" = 1'-0'



SECTION E'-E'

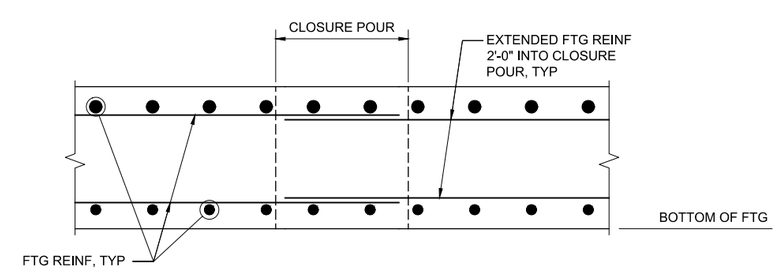
1 1/2" = 1'-0'



REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

LIMITS OF PAYMENT - STRUCTURE EXCAVATION (TYPE D)

NO SCALE



DETAIL 3

3/4" = 1'-0'

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number S-8

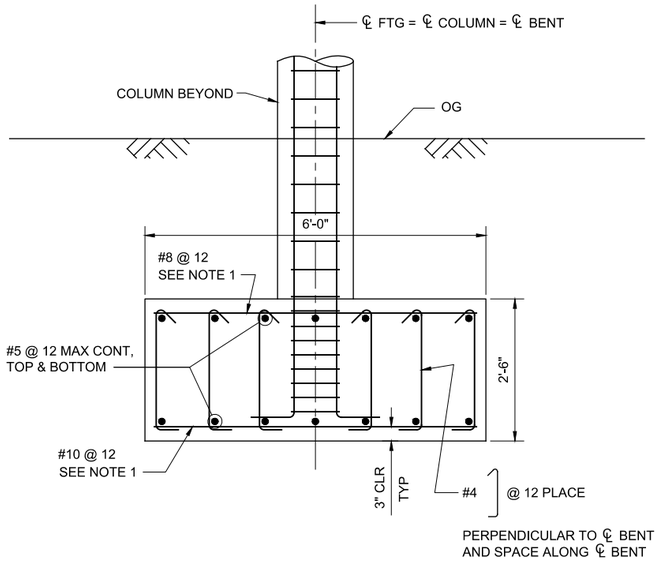
Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record

Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 DETAILS.dwg – Bent Details No. 1, Mon, Dec 4, 2023 – 4:49:22pm, kaiwang

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: K. WANG		65%	11/12/2019	PZ	
Checked: E. MONZON	Date: DECEMBER, 2023	95%	05/28/2020	PZ	
		100%	02/14/2023	KW	

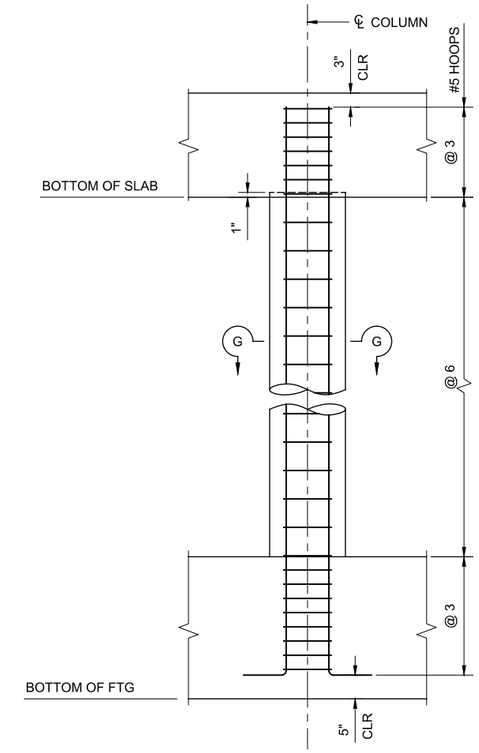
BRUCE ROAD RECONSTRUCTION
BENT DETAILS NO. 1

Project Number: 16038	Drawing Number S-8
Scale: AS SHOWN	Sheet 57 of 182



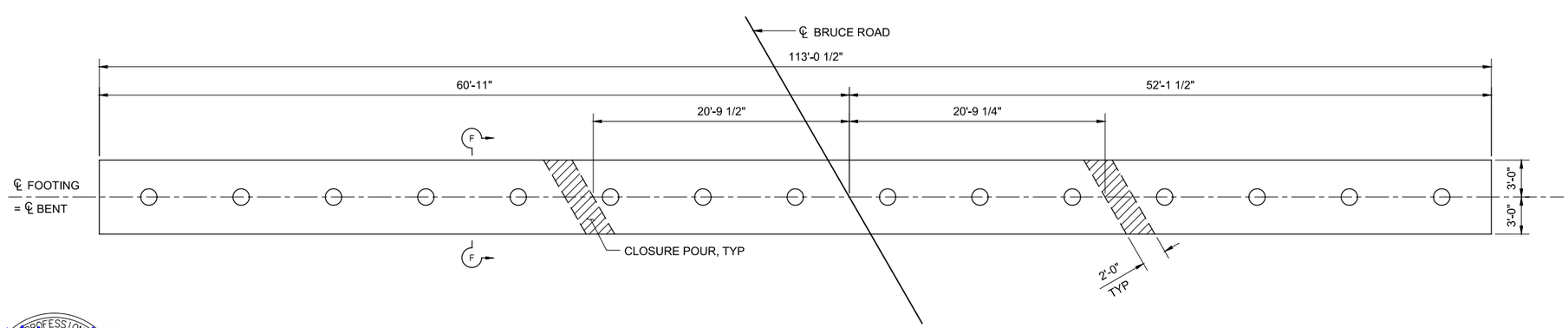
SECTION F-F

3/4" = 1'-0'



COLUMN ELEVATION

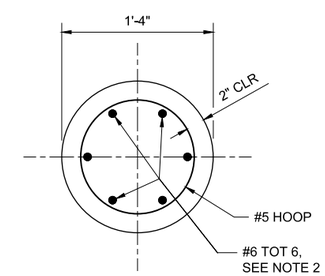
3/4" = 1'-0'



NOTE: BENT 2 SHOWN, BENT 3 SIMILAR.

FOOTING PLAN

3/16" = 1'-0'



SECTION G-G

1 1/2" = 1'-0'

REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

NOTES:

1. PLACE REINF PERPENDICULAR TO ℄ BENT.
2. NO SPLICES ALLOWED.

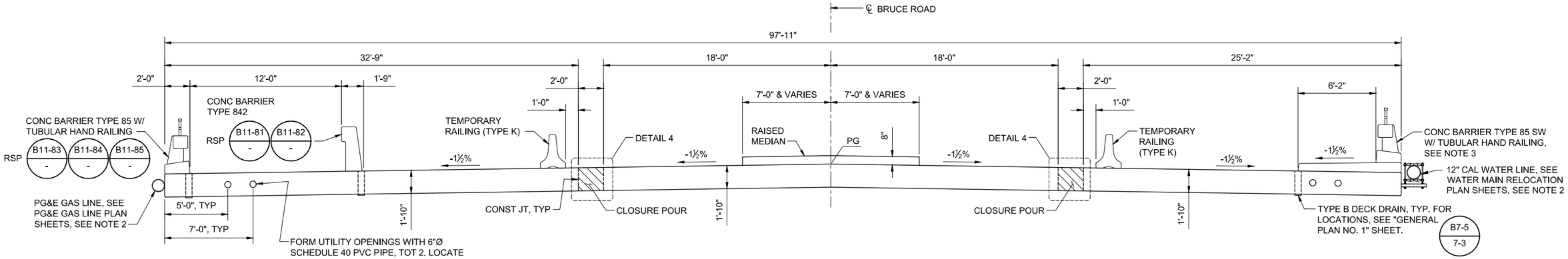
Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: K. WANG	Date: DECEMBER, 2023	65%	11/12/2019	PZ	BRUCE ROAD RECONSTRUCTION BENT DETAILS NO. 2
Checked: E. MONZON		95%	05/28/2020	PZ	Project Number: 16038 / Drawing Number S-9
		100%	02/14/2023	KW	Scale: AS SHOWN / Sheet 58 of 182

Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record

Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 DETAILS.dwg – Bent Details No. 2, Mon, Dec 4 2023 – 4:49:38pm, kaiwang

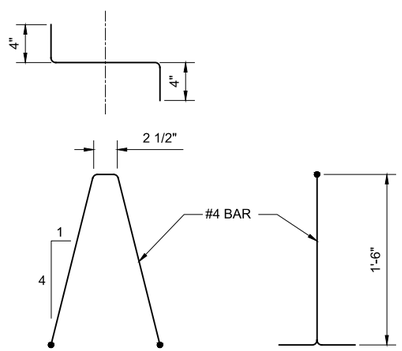
Title: BRUCE ROAD RECONSTRUCTION

Drawing Number S-9



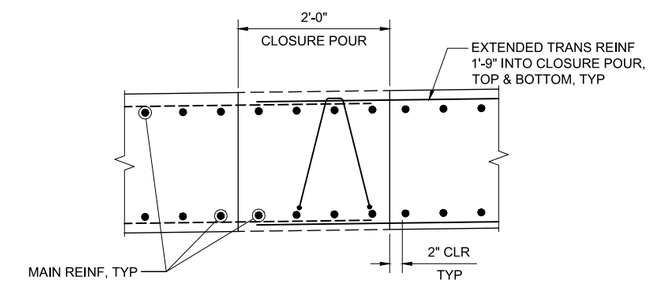
TYPICAL SECTION

1/4" = 1'-0'



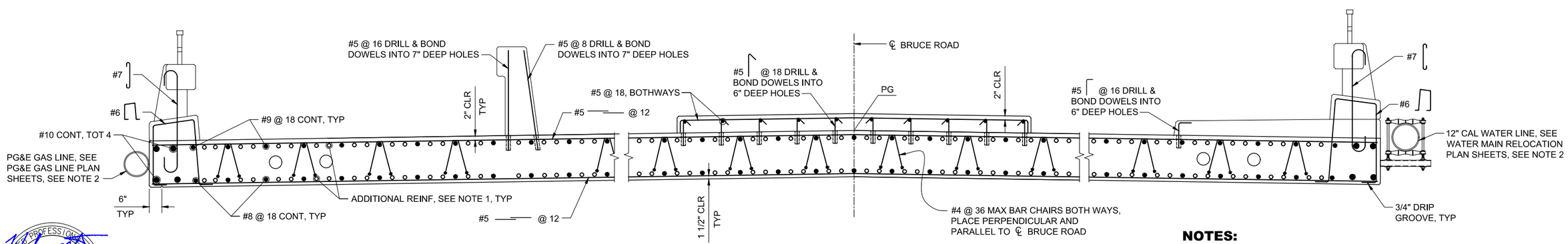
BAR CHAIR DETAIL

1 1/2" = 1'-0'



DETAIL 4 - CLOSURE POUR

1" = 1'-0'



PARTIAL TYPICAL SECTION

1/2" = 1'-0'

REGISTERED PROFESSIONAL ENGINEER
WESLEY W. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

NOTES:

1. FOR LONGITUDINAL ADDITIONAL REINFORCEMENT LAYOUT, SEE "DECK LONGITUDINAL REINFORCEMENT LAYOUT" SHEET.
2. AVOID REINFORCEMENT WHEN INSTALLING CAL WATER LINE AND PG&E GAS LINE CONNECTION.
3. SEE "CONCRETE BARRIER TYPE 85SW DETAILS NO.1", "CONCRETE BARRIER TYPE 85SW DETAILS NO.2", AND "CONCRETE BARRIER TYPE 85SW DETAILS NO.3" SHEETS FOR ADDITIONAL DETAILS NOT SHOWN.

Drawing Number S-10

Title: BRUCE ROAD RECONSTRUCTION

Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 DETAILS.dwg – Typical Section, Mon, Dec 4 2023 – 4:49:57pm, kaiwang

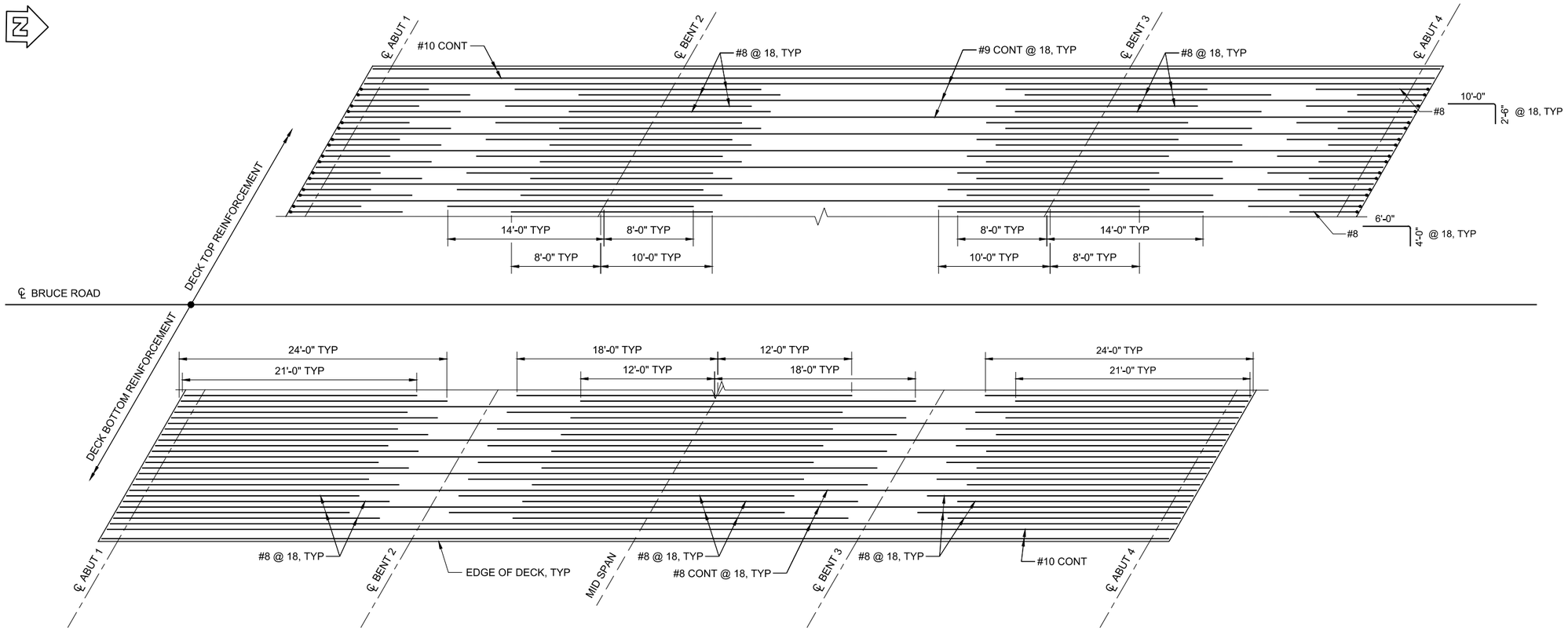
☐ Conceptual, ☒ Approved Final, ☐ Record

Plan Status:

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: K. WANG		65%	11/12/2019	PZ	
	Date: DECEMBER, 2023	95%	05/28/2020	PZ	
Checked: E. MONZON		100%	02/14/2023	KW	

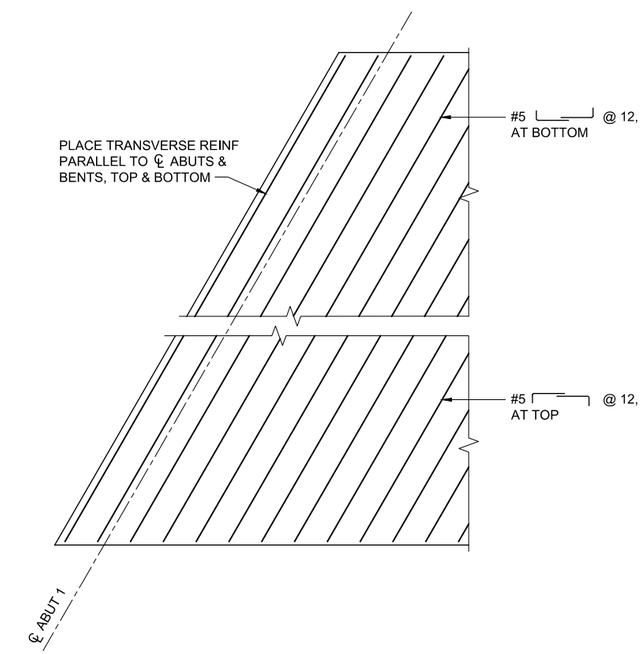
BRUCE ROAD RECONSTRUCTION
TYPICAL SECTION

Project Number: 16038
Drawing Number S-10
Scale: AS SHOWN
Sheet 59 of 182



DECK LONGITUDINAL REINFORCEMENT LAYOUT

3/16" = 1'-0"



TRANSVERSE REINFORCEMENT LAYOUT

NO SCALE

REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number S–11

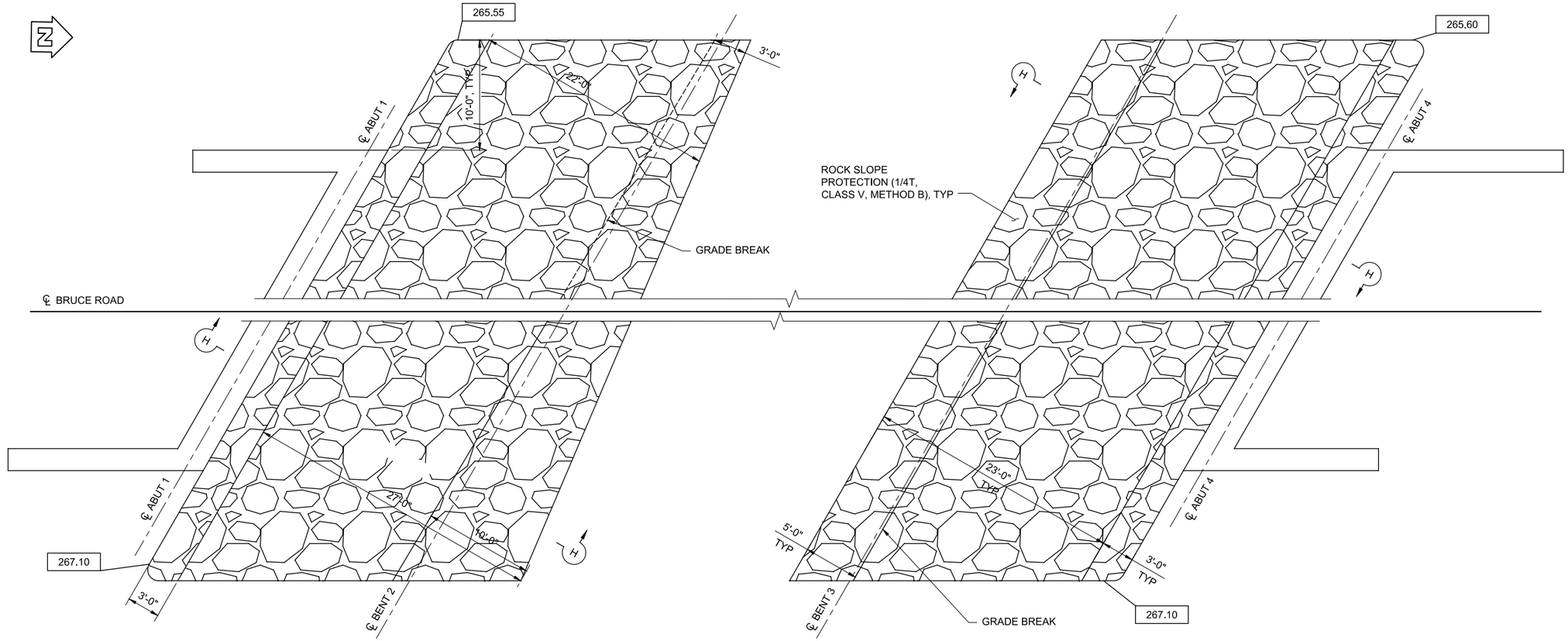
Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record

Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 DETAILS.dwg – Deck Reinf, Mon, Dec 4 2023 – 4:50:17pm, kaiwang

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: K. WANG		65%	11/12/2019	PZ	
Checked: E. MONZON	Date: DECEMBER, 2023	95%	05/28/2020	PZ	
		100%	02/14/2023	KW	

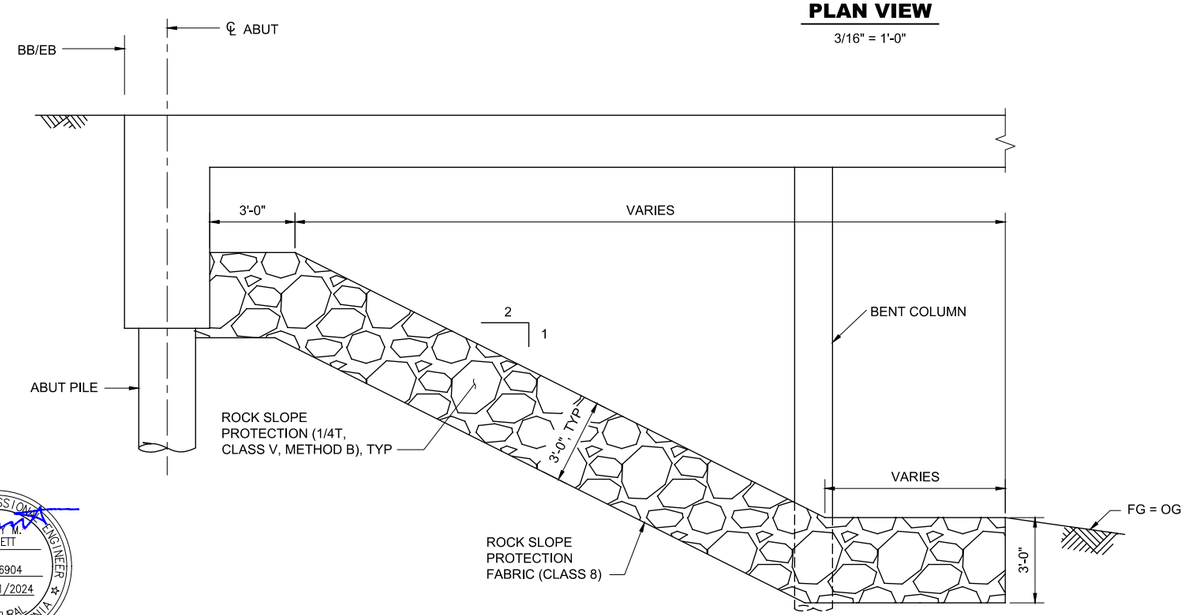
BRUCE ROAD RECONSTRUCTION
DECK LONGITUDINAL REINFORCEMENT LAYOUT

Project Number: 16038	Drawing Number S–11
Scale: AS SHOWN	Sheet 60 of 182



PLAN VIEW

3/16" = 1'-0"



SECTION H-H

3/8" = 1'-0'

REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
NO. S 6904
EXP. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

LEGEND

XXXX.XX — INDICATES BOTTOM OF RSP ELEVATION

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number S-12

Plan Status: ☐ Conceptual, ☒ Approved Final, ☐ Record

Drawing Path: P:\538 Bruce Road Chico (NorthStar)\06 CAD\Structure\538 DETAILS.dwg – RSP, Mon, Dec 4 2023 – 4:50:41pm, kaiwang

Designed: P. ZHAO	Approved: W. SENNETT	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: K. WANG		65%	11/12/2019	PZ	
Checked: E. MONZON	Date: DECEMBER, 2023	95%	05/28/2020	PZ	
		100%	02/14/2023	KW	

BRUCE ROAD RECONSTRUCTION
ROCK SLOPE PROTECTION DETAILS

Project Number: 16038	Drawing Number S-12
Scale: AS SHOWN	Sheet 61 of 182

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED STRUCTURAL ENGINEER

08/12/2022
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
No. S 6904
Exp. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

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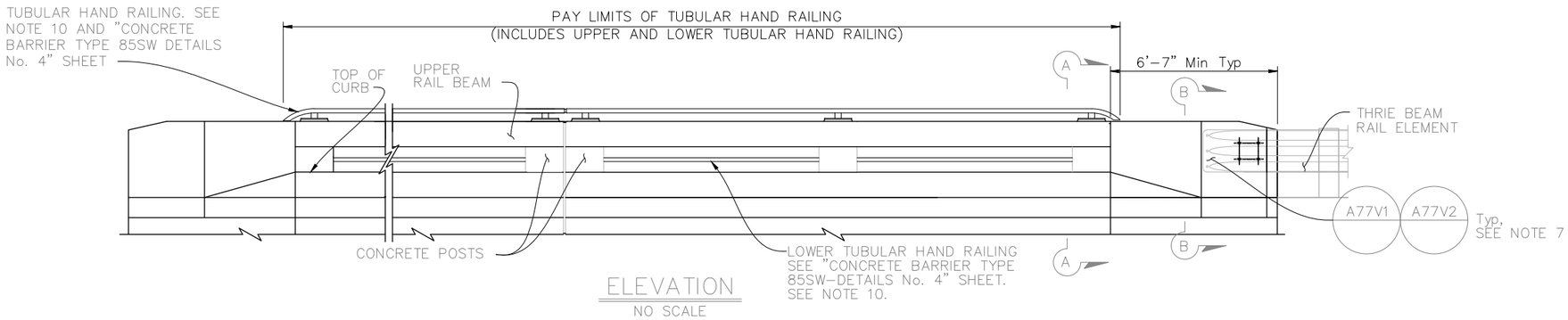
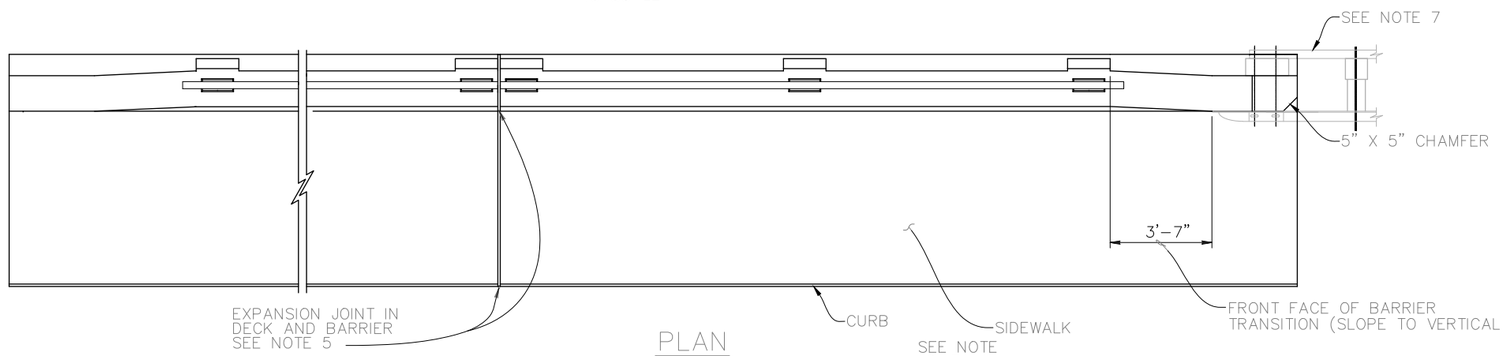
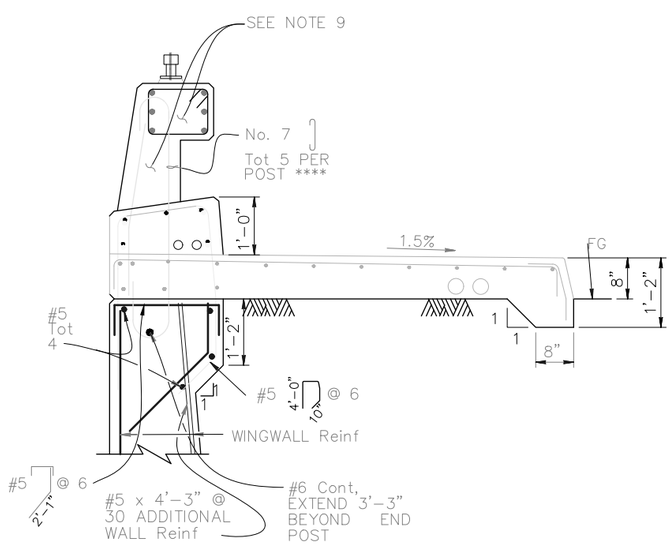


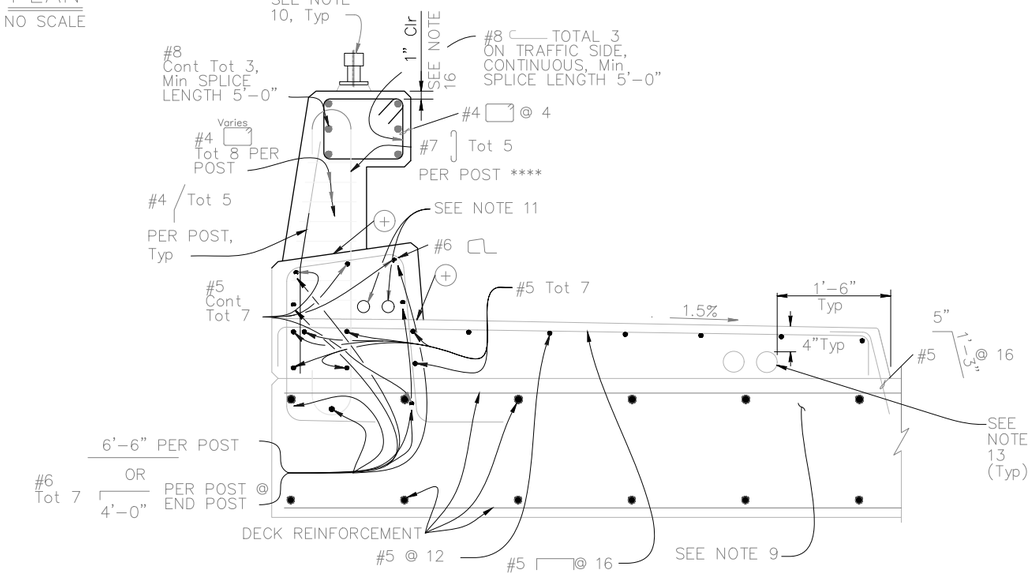
ELEVATION
NO SCALE



PLAN
NO SCALE



TYPE 85SWA
NO SCALE



TYPE 85SW
NO SCALE
⊕ OPTIONAL CONSTRUCTION JOINT

**** #7 AT POST TO EXTEND 6" Min BELOW TOP OF BRIDGE DECK OR TOP OF WALL

NOTES:

1. This barrier is to be used only for posted speeds of 45 MPH or less.
2. Walls are to be backfilled before the barrier is placed.
3. Longitudinal reinforcing steel to stop at all expansion joints.
4. The front face dimensions are to be constant above the finish roadway profile, but the overall height will vary with certain thicknesses of surfacing and roadway cross slopes.
5. Expansion joint to match deck joint.
6. Splicing in longitudinal rail reinforcing must be staggered.
7. For typical metal railing connection details not shown, see Standard Plans A77V1 and A77V2.
8. Chain link railing is not allowed on Type 85 Barriers.
9. For additional reinforcement details, see "CONCRETE BARRIER TYPE 85SW DETAILS No. 2" and "CONCRETE BARRIER TYPE 85SW DETAILS No. 3" sheets.
10. Upper tubular hand railing to extend to where level bench elevation along exterior face of wing wall is within 1'-0" of roadway shoulder FG.
11. The maximum number of conduits is limited to two 1 " Dia and must be placed in front half of the lower beam/curb.
12. For reinforcement not shown, see other details.
13. A minimum of two 4" round openings for future utilities and a maximum of six 4" round openings for a 6'-2" sidewalk. One 4" round opening can be added for each additional 1'-0" of sidewalk width. Utility opening must be a minimum of 6" from face of barrier parapet. Openings are to be sealed at ends and extended 8" minimum past end of sidewalk if not used. Duct forms are to be tied down. For exact number and placement of utility openings see other details. Minimum 2" clear betweew conduits.
14. For dimensions not shown, see "CONCRETE BARRIER TYPE 85SW DETAILS No. 2 and "CONCRETE BARRIER TYPE 85SW DETAILS No. 3 sheets.
15. For sections A-A and B-B, see "CONCRETE BARRIER TYPE 85SW DETAILS No. 2" sheet.
16. 1" clearance, typical for bridge rail except for 2" clearance at traffic face and back side of lower beam (curb).

BRIDGE STANDARD DETAILS

xs16-118-1	July 2021	*The components of the Bridge Standard Details have been prepared under the responsible charge of the Technical Owner, a registered civil engineer in the State of California*
FILE NO.	APPROVAL DATE	

MODIFICATIONS SHOWN:
⚠ MODIFIED DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE No. 12C0106
POST MILE X.X

BRUCE ROAD RECONSTRUCTION

CONCRETE BARRIER TYPE 85SW DETAILS No. 1

Refer to: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-standard-detail-sheets/index.html

DATE PLOTTED => $DATE
FILE => $REQUEST
TIME PLOTTED => $TIME
USERNAME => $USER
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: XXXX
PROJECT NUMBER & PHASE: XXXXXXXXXX1
COUNTY/ROUTE: XXX/XXX
CONTRACT No.: XX-XXXXX4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 4-23-21 7-14-21 07-12-21

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED STRUCTURAL ENGINEER

08/12/2022
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
No. S 6904
Exp. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

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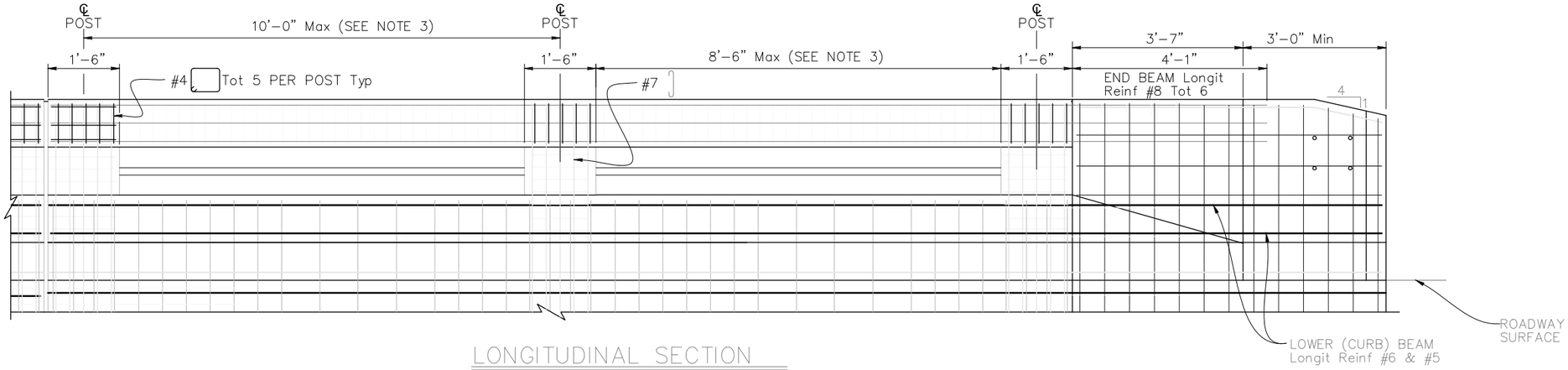


LONGITUDINAL SECTION

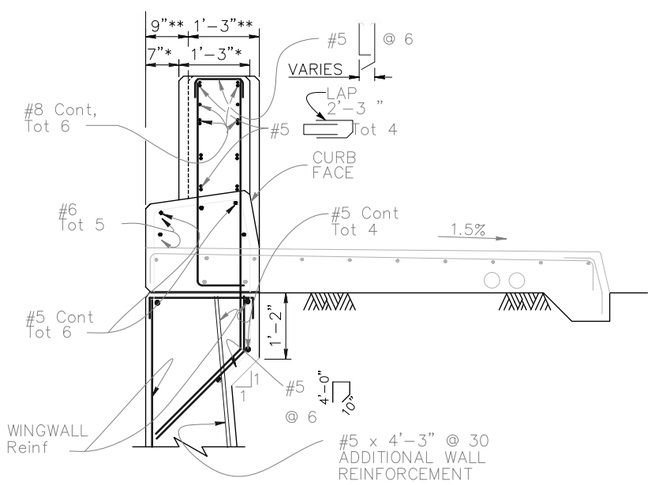
NO SCALE

Notes:

1. Deck or wingwall reinforcing not shown.
2. Upper Tubular Hand Railing not shown for clarity.

NOTES:

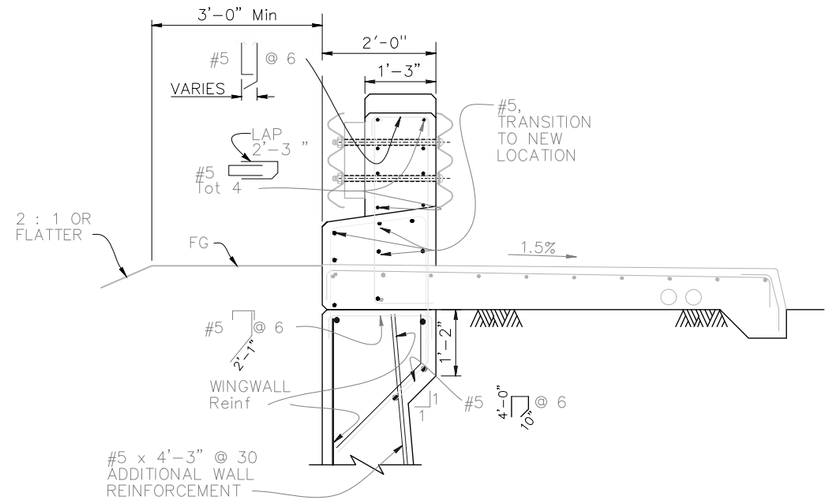
1. For Sections A–A and B–B, see "CONCRETE TYPE 85SW DETAILS No. 1" sheet.
2. Expansion joint to match deck joint.
3. Posts to be spaced equally, typically 10'–0" spacing. Post spacing may be reduced where location of expansion joints or the length of wingwalls will not accommodatethe 10'–0" spacing. Maximum see–through availability is to be strived for, where 10'–0" post spacing cannot be achieved.
4. For reinforcement not shown, see other details.
5. For locations of Section A–A and B–B, see "CONCRETE BARRIER TYPE 85SW DETAILS No. 1" sheet.



SECTION A–A

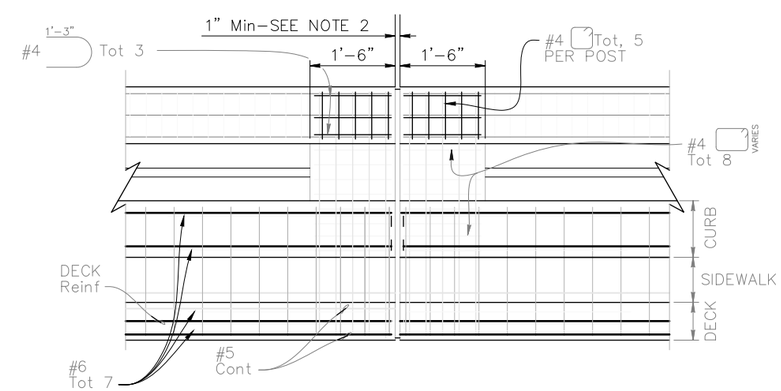
1" = 1'-0"

* BEGIN BARRIER TRANSITION
** END BARRIER TRANSITION



SECTION B–B

1" = 1'-0"



EXPANSION JOINT DETAIL

NO SCALE
SEE NOTE 4

Note: Upper Hand railing not shown for clarity.

BRIDGE STANDARD DETAILS		
xs16-118-2	July 2021	*The components of the Bridge Standard Details have been prepared under the responsible charge of the Technical Owner, a registered civil engineer in the State of California*
FILE NO.	APPROVAL DATE	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE No. 12C0106
POST MILE X.X

BRUCE ROAD RECONSTRUCTION

CONCRETE BARRIER TYPE 85SW DETAILS No. 2

Refer to: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-standard-detail-sheets/index.html

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USERNAME => $USER
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: XXXX
PROJECT NUMBER & PHASE: XXXXXXXXXX1
COUNTY/ROUTE: XXX/XXX
CONTRACT No.: XX–XXXXX4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 6-17-21 7-8-21 7-9-21

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED STRUCTURAL ENGINEER

08/12/2022
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
No. S 6904
Exp. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

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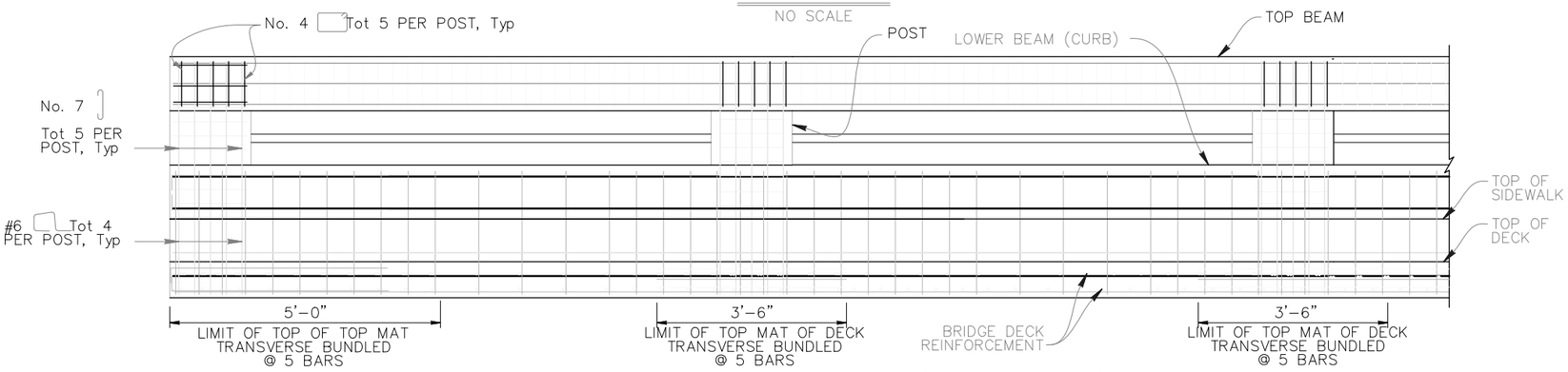
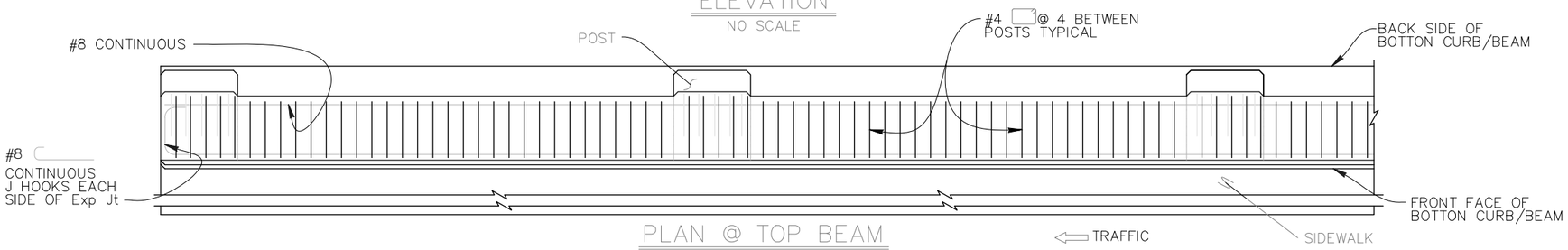
ELEVATION
NO SCALE

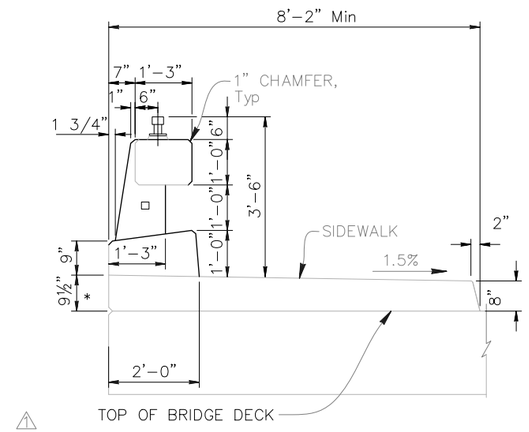


Note: Upper Hand railing not shown for clarity.

ELEVATION
NO SCALE

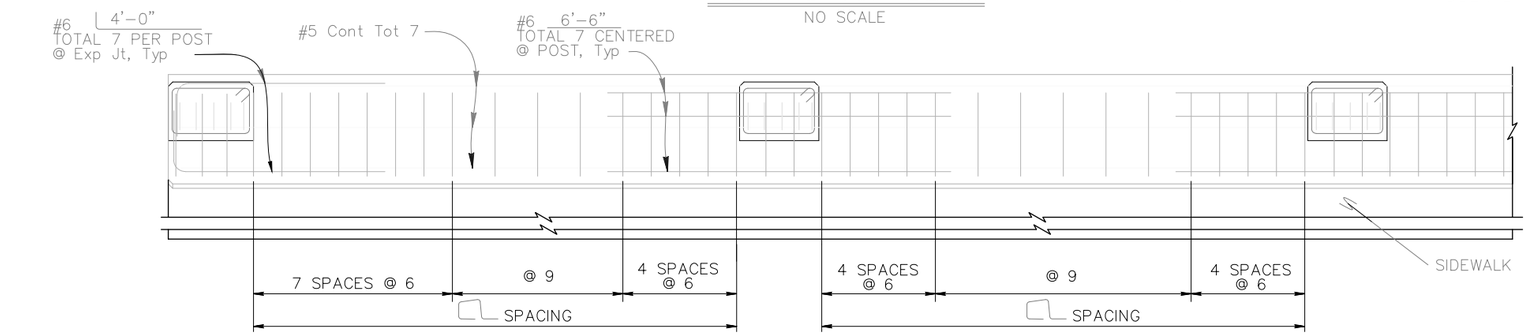


PLAN @ TOP BEAM
NO SCALE



TYPICAL SECTION

*Dimension may vary with bridge cross-slope and with certain thickness of surfacing. See Structural Plans.



PLAN @ LOWER BEAM (CURB)
NO SCALE

BRIDGE STANDARD DETAILS		
x816-118-3	July 2021	*The components of the Bridge Standard Details have been prepared under the responsible charge of the Technical Owner, a registered civil engineer in the State of California*
FILE NO.	APPROVAL DATE	

MODIFICATIONS SHOWN:
⚠ MODIFIED DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE No.	BRUCE ROAD RECONSTRUCTION
12C0106	
POST MILE	CONCRETE BARRIER TYPE 85SW DETAILS No. 3
X.X	

Refer to: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-standard-detail-sheets/index.html

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ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: XXXX
PROJECT NUMBER & PHASE: XXXXXXXXXX1

COUNTY/ROUTE: XXX/XXX
CONTRACT No.: XX-XXXXX4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 4-13-21 7-14-21 7-8-21

SHEET 64 OF 182

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED STRUCTURAL ENGINEER

08/12/2022
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
WESLEY M. SENNETT
No. S 6904
Exp. 03/31/2024
STRUCTURAL
STATE OF CALIFORNIA

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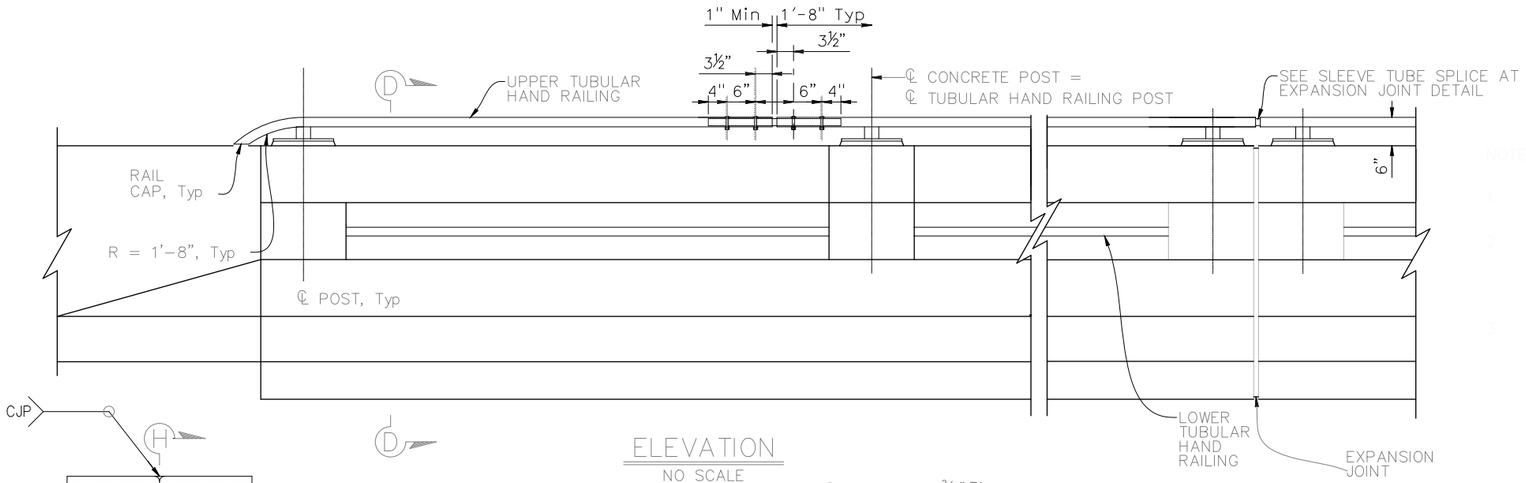

ELEVATION
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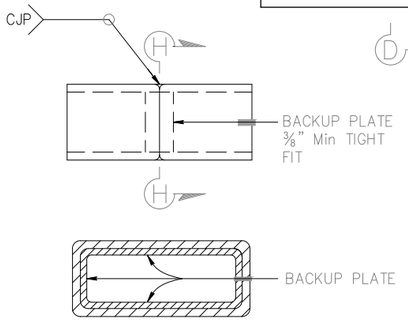
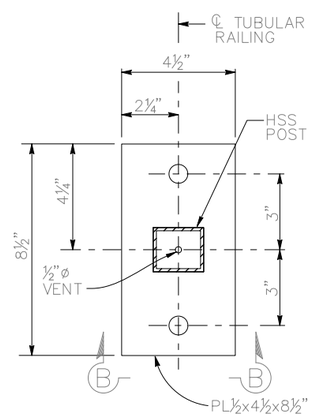
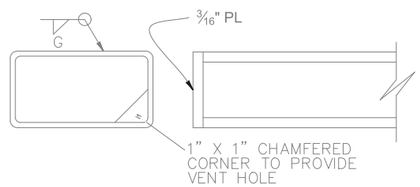


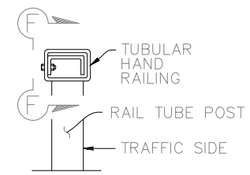
SECTION H–H
ALTERNATIVE TUBE WELDED STANDARD SPLICE
FOR SPLICES NOT AT EXPANSION JOINTS
NO SCALE



PLAN
NO SCALE



RAIL CAP
NO SCALE



SECTION
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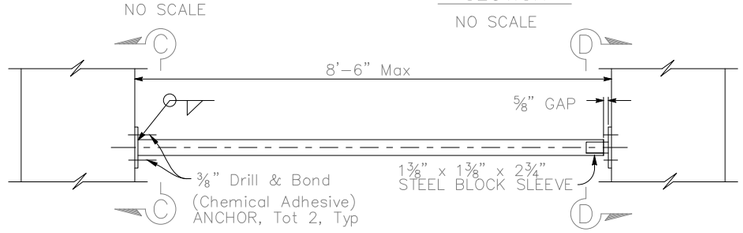

LOWER HAND RAIL DETAIL
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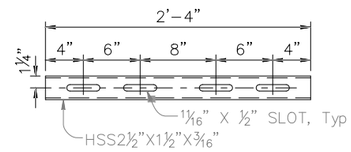
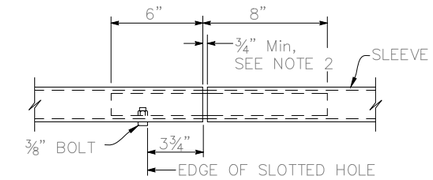
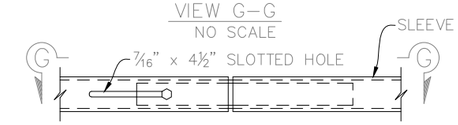


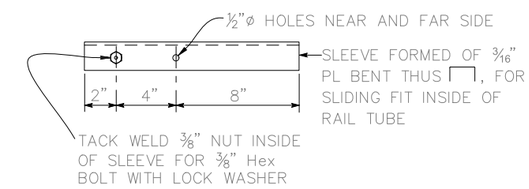
STANDARD SLEEVES DETAILS
NO SCALE



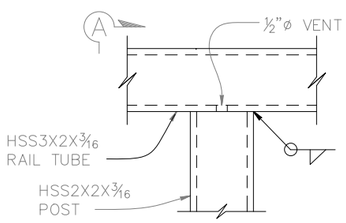
VIEW G–G
NO SCALE



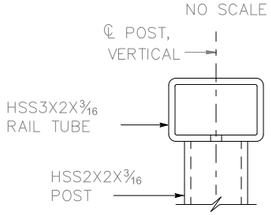
VIEW F–F
NO SCALE



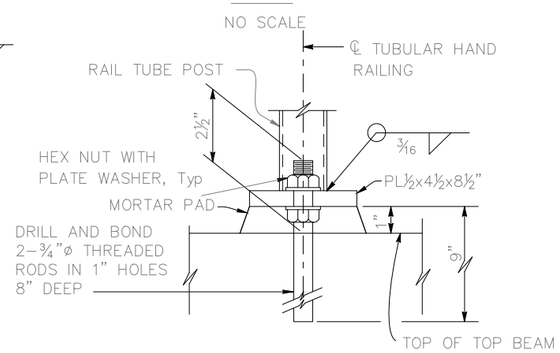
SLEEVE TUBE SPLICE AT EXPANSION JOINT DETAIL
NO SCALE



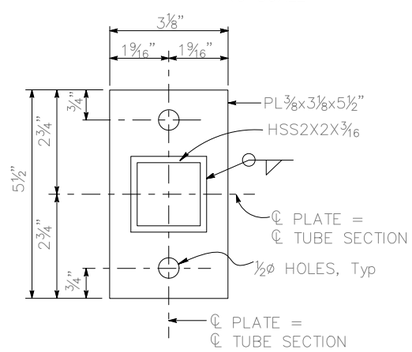
ELEVATION
NO SCALE



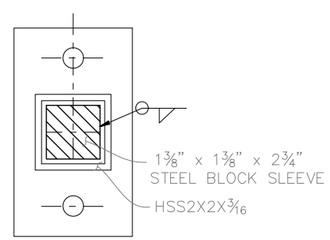
SECTION A–A
NO SCALE



ELEVATION
SECTION B–B



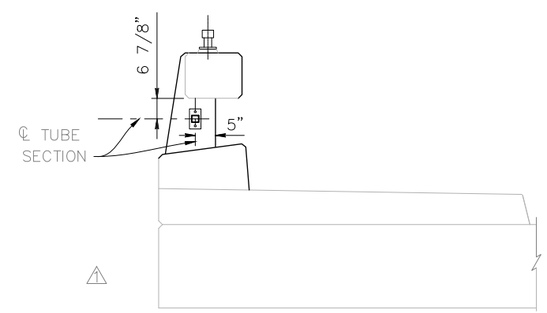
SECTION C–C



SECTION D–D

See Section C–C for details not shown
NO SCALE

TUBULAR HAND RAILING DETAILS
NO SCALE



SECTION E–E
NO SCALE

BRIDGE STANDARD DETAILS		
xs16-118-4	July 2021	*The components of the Bridge Standard Details have been prepared under the responsible charge of the Technical Owner, a registered civil engineer in the State of California*
FILE NO.	APPROVAL DATE	

MODIFICATIONS SHOWN:
⚠ MODIFIED DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE No.	12C0106
POST MILE	X.X

BRUCE ROAD RECONSTRUCTION

CONCRETE BARRIER TYPE 85SW DETAILS No. 4

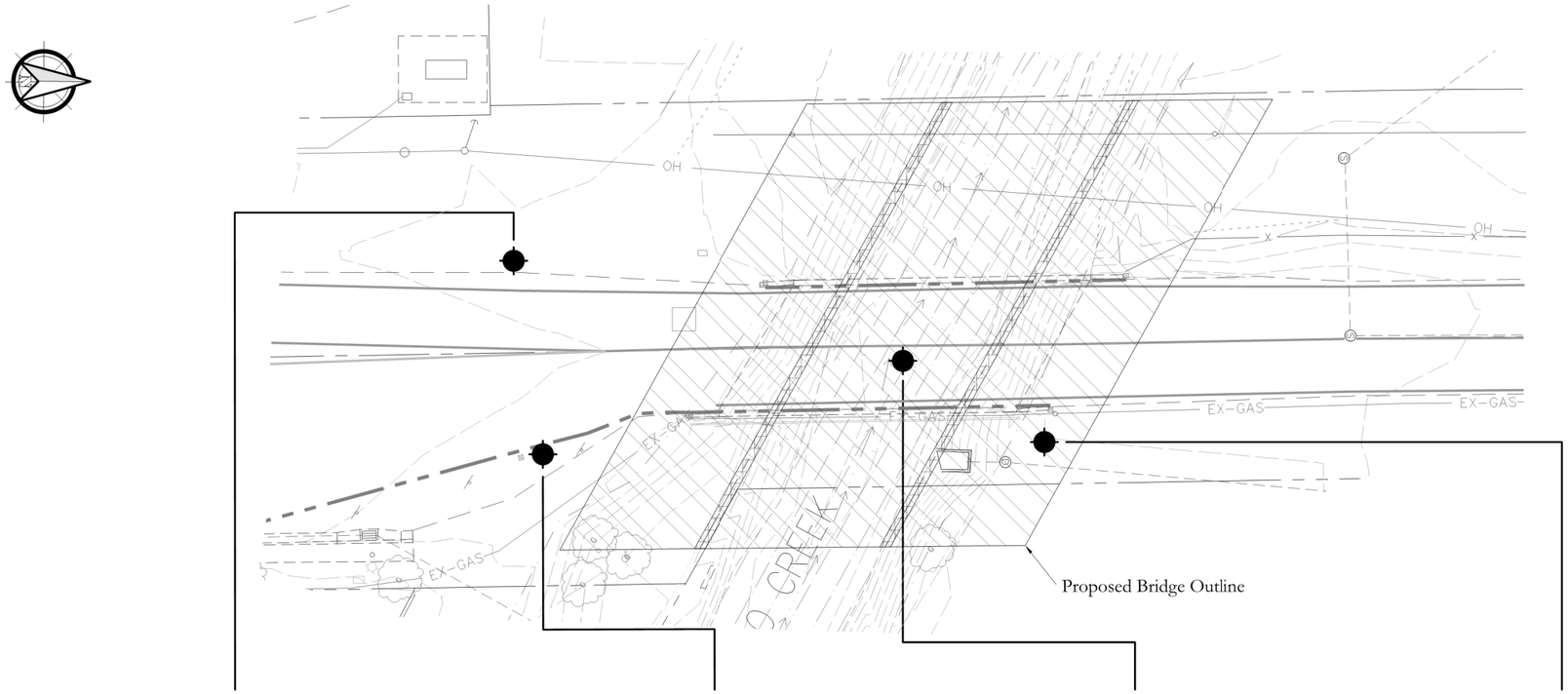
Refer to: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-standard-detail-sheets/index.html

DATE PLOTTED => $DATE
FILE => $REQUEST
TIME PLOTTED => $TIME
USERNAME => $USER
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: XXXX
PROJECT NUMBER & PHASE: XXXXXXXXXX1
COUNTY/ROUTE: XXX/XXX
CONTRACT No.: XX–XXXXX4

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
4-13-21		7-8-21	7-9-21	65	182



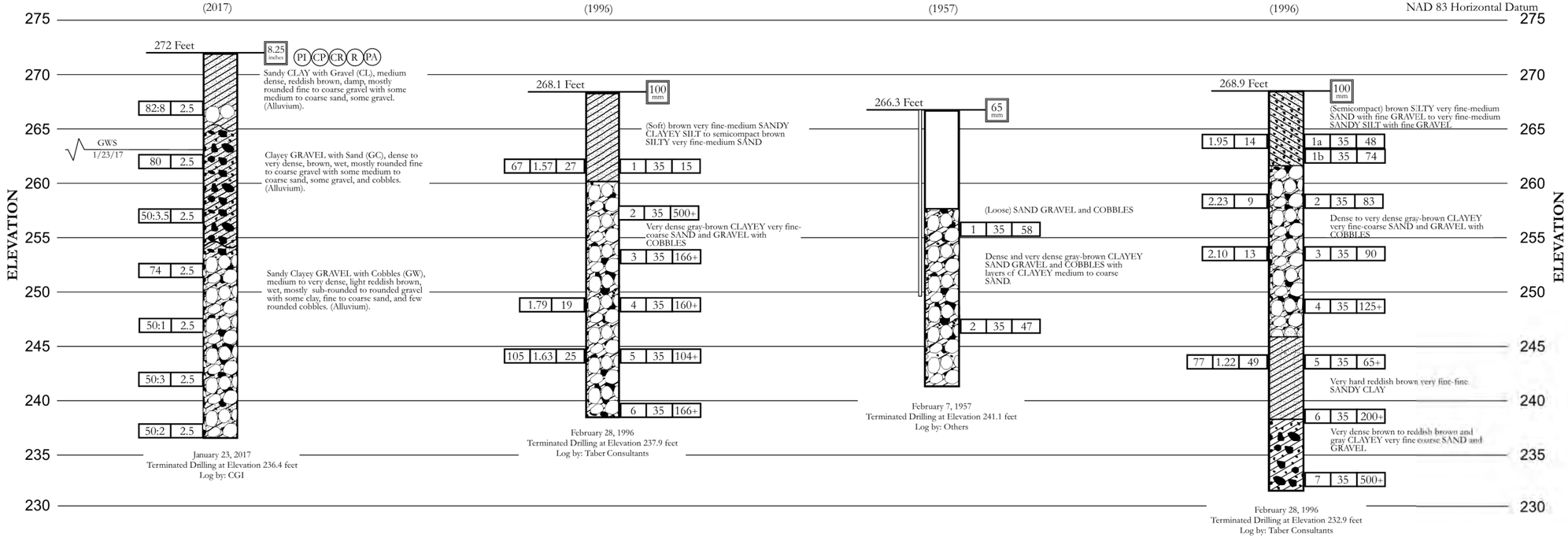
PLAN
1"=60'

Joshua D. Smith
Professional Geologist
PROFESSIONAL GEOLOGIST JOSHUA D SMITH No. 9321 STATE OF CALIFORNIA

The City of Chico or its agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

1. This LOTB for DH-2 was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010 Edition), for Borings B-1 (1957), B-2 & B-3 (1996) refer to Legend of Boring Operations.
2. Field classification of soils was in accordance with ASTM D2488;
3. Standard Penetration tests were performed in accordance with ASTM D1586 using a 140-pound hammer with a 30" drop. Standard Penetration test sampler: ID=1.4"; OD=2". Modified California sampler: ID=2.5"; OD=3";
4. Groundwater surface (GWS) elevations on borings indicated on the Log of Test Boring sheets reflect the fluid levels in the borings on the specified date. Groundwater surfaces are subject to seasonal fluctuation and may occur at higher elevations depending on the conditions at any particular time;
5. Electronic media was provided by NorthStar Structures (2016).

Elevation Reference:
NAVD 88 Vertical Datum
NAD 83 Horizontal Datum



REGISTERED GEOTECHNICAL ENGINEER AZEDINE BAHCOUL GE 2847 GEOTECHNICAL STATE OF CALIFORNIA

2/16/2023
DATE

USA NORTH 811 Call 811 Before You Dig

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number LOTB 1

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path:

Designed:	Approved:	Revision	Date	By
Drawn By: JS				
Checked: AB	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION - LOG OF TEST BORING NO. 1

Project Number: 16038
Drawing Number LOTB 1
Scale: AS NOTED

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

GROUP SYMBOLS AND NAMES

Graphic/Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND
GP	Poorly graded GRAVEL Poorly graded GRAVEL with SAND
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GM	SILTY GRAVEL SILTY GRAVEL with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL
SP	Poorly graded SAND Poorly graded SAND with GRAVEL
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SM	SILTY SAND SILTY SAND with GRAVEL
SC	CLAYEY SAND CLAYEY SAND with GRAVEL
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL
PT	PEAT
	COBBLES COBBLES and BOULDERS BOULDERS

Graphic/Symbol	Group Names
CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (CTM 216)
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Expansion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 2216)
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Load Index (ASTM D 5731)
- (PM) Pressure Meter
- (PP) Pocket Penetrometer
- (R) R-Value (CTM 301)
- (SE) Sand Equivalent (CTM 217)
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (TV) Pocket Torvane
- (UC) Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)
- (VS) Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE

Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS

Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE

Description		Size
Boulder		> 12"
Cobble		3" to 12"
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

REGISTERED PROFESSIONAL ENGINEER AZEDDINE BAHLOUL GE 2847 GEOTECHNICAL STATE OF CALIFORNIA

2/16/2023
DATE

USA NORTH 811 Call Before You Dig

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number LOTB 2

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path:

Designed:	Approved:	Revision	Date	By
Drawn By: JS				
Checked: AB	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION - LOG OF TEST BORING NO. 2

Project Number: 16038

Drawing Number LOTB 2

Scale:

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

CEMENTATION

Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

BOREHOLE IDENTIFICATION

Symbol	Hole Type	Description
Size	A	Auger Boring
Size	R P	Rotary drilled boring Rotary percussion boring (air)
Size	R	Rotary drilled diamond core
Size	HD HA	Hand driven (1-inch soil tube) Hand Auger
●	D	Dynamic Cone Penetration Boring
▲	CPT	Cone Penetration Test (ASTM D 5778-95)
⬚	O	Other

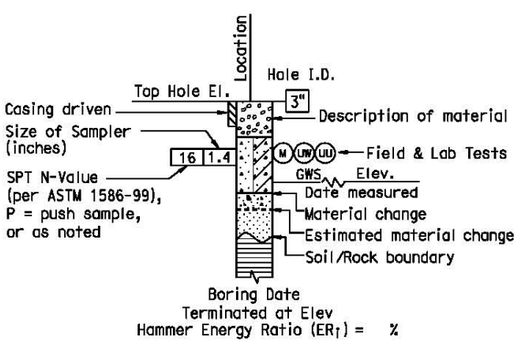
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

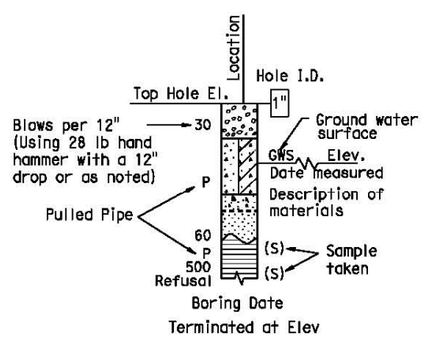
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

PLASTICITY OF FINE-GRAINED SOILS

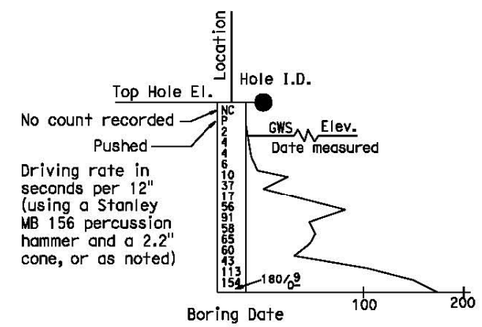
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



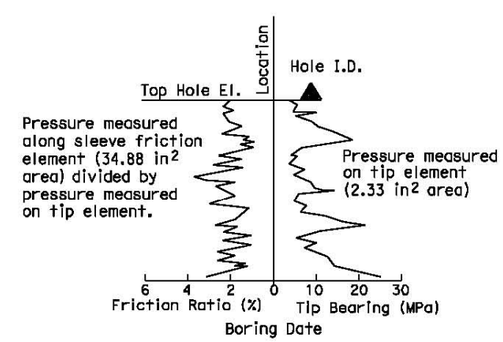
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

REGISTERED GEOTECHNICAL ENGINEER AZEEDINE BAALOUL GE 2847 STATE OF CALIFORNIA

2/16/2023
DATE

USA NORTH 811 Call Before You Dig

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number LOTB 3

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path:

Designed:	Approved:	Revision	Date	By
Drawn By: JS				
Checked: AB	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION - LOG OF TEST BORING NO. 3

Project Number: 16038

Scale:

Drawing Number LOTB 3

Sheet 68 of 182

CALIFORNIA WATER SERVICE

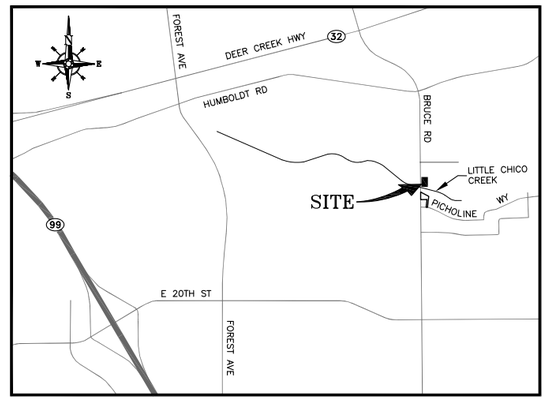
CHICO DISTRICT
BRUCE ROAD BRIDGE AT LITTLE CHICO CREEK
WATER MAIN RELOCATION PLANS
CHICO, CA 95928

BASIS OF BEARINGS
THE BASIS OF BEARING FOR THIS SURVEY IS CALIFORNIA COORDINATE SYSTEM ZONE 2, NAD83 (EPOCH 2004.69) AS DETERMINED LOCALLY BY A LINE BETWEEN REFERENCE STATIONS DH6531 (EAST) AND KS1893 (HUMBUG) TAKEN AS SOUTH 42°47'16" EAST AS DERIVED FROM PUBLISHED NGS DATA SHEETS. TO OBTAIN GROUND DISTANCES, DIVIDE GRID DISTANCES BY 0.99997612.

BENCH MARK
CITY OF CHICO B.M. # 1C-1 BRASS DISK IN TOP OF CURB ON THE WEST SIDE OF NOTRE DAME BOULEVARD 200'± NORTH OF MORROW LANE, ELEV. 218.01

DATE OF SURVEY
JUNE, 2008

UTILITY STATEMENTS
THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.



VICINITY MAP
N.T.S.
CHICO – DISTRICT

BILL OF MATERIALS
(SUPPLIED BY OWNER)

QUANTITY	DESCRIPTION
250'±	12" DUCTILE IRON PIPE
115'±	12.75" O.D. CL&C STEEL PIPE (PIECE MARKED "A"; 23'-0" LONG)
2	12.75" O.D. CL&C STEEL SINGLE OFFSET (PIECE MARKED "B")
2	12" EBAA FORCE BALANCED FLEXTEND, FLANGED
2	12" GATE VALVE, PO W/ RESTRAINED GASKETS
2	12" ELL 45°, PO W/ RESTRAINED GASKETS
2	12" ELL 22.5°, PO W/ RESTRAINED GASKETS
2	12" RESTRAINED FLANGE ADAPTER
2	12" SLIP ON WELDED FLANGE
4	12" FLEX COUPLING, DI x AC
3	12" SOLID SLEEVE, MJ (10" SLEEVE)
1	48" x 96" FRP VAULT W/ TORSION ASSIST LID
2	2" AIR RELEASE VALVE ASSEMBLY
2	12"X6" TEE, PO X FLG W/ RESTRAINED GASKETS
20'±	6" DUCTILE IRON PIPE
2	6" GATE VALVE, FLG
2	6" 90° ELBOW, FLG X PO W/ RESTRAINED GASKETS
2	6" FIRE HYDRANT ASSEMBLY (SEE CWT-380 FOR BALANCE OF MATERIALS)
4	FIRE HYDRANT BARRICADE (PER CW-822-R1)
4	VALVE CAN AND COVER ASSEMBLY
6	STEEL BUTT STRAP ASSEMBLY
AS REQ'D	RING GASKETS, MACHINE BOLTS, & FLANGES
AS REQ'D	TRACER WIRE #12AWG SOLID COPPER
AS REQ'D	LINEGAURD TAPE
AS REQ'D	POLYWRAP TUBING
AS REQ'D	PVC TAPE
AS REQ'D	METAL GUARD #301
AS REQ'D	RES-BIT WRAP

REFERENCE LIST ONLY – CONTRACTOR TO VERIFY AND OBTAIN ANY ADDITIONAL MATERIAL REQUIRED TO COMPLETE THE PROJECT.

DRAWING INDEX

DWG. NUMBER	SHEET	REV	DRAWING TITLE	CAD FILE NO.
CW-1	63 OF 94	–	TITLE SHEET, DRAWING INDEX & VICINITY MAP – CIVIL	CH-6042-G-01
CW-2	64 OF 94	–	GENERAL CIVIL NOTES	CH-6042-G-02
CW-3	65 OF 94	–	CALLOUTS & LEGENDS	CH-6042-G-03
CW-4	66 OF 94	–	PIPING PLAN AND DETAILS	CH-6038-C-04
CW-5	67 OF 94	–	PIPING DETAILS I	CH-6038-C-05
CW-6	68 OF 94	–	PIPING DETAILS II	CH-6038-C-06
CW-7	69 OF 94	–	PIPING DETAILS III	CH-6038-C-07
CW-8	70 OF 94	–	PIPING DETAILS IV	CH-6038-C-08
CW-9	71 OF 94	–	PIPE SUPPORT DETAILS	CH-6036-S-01

SUMMARY
INSTALL:

140' – 12.75" CL&C STEEL PIPE

250' – 12" DUCTILE IRON PIPE

2 – AIR RELEASE VALVE ASSEMBLIES

1 – EXPANSION JOINT ASSEMBLY BURIED

1 – EXPANSION JOINT ASSEMBLY IN VAULT

2 – FIRE HYDRANT ASSEMBLIES

ABANDON:

300' – 12" AC PIPE

60' – 14" CL&C STEEL PIPE

2 – 1" AIR RELEASE ASSEMBLIES

USA NORTH 811 Call Before You Dig

REGISTERED PROFESSIONAL ENGINEER JAMES T. GARDINER 2/17/23 No. C48280 CIVIL STATE OF CALIFORNIA

CALIFORNIA WATER SERVICE ™

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number CW-1

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: G:\Capital_Projects_CAD Team Files\104_Chico\00125631_CH_BRUCE-RD_BRIDGE MRP\WIP\CH-6042-G.dwg – Layout-G1, Fri, Feb 17 2023 – 3:15:40pm, jnorthrop

Designed: J.N.	Approved: J.T.G.	Revision	Date	By	
Drawn By: L.A./R.L.	Date: FEBRUARY 2023				
Checked: J.T.G.					

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
WATER MAIN INSTALLATION - TITLE SHEET

Project Number: 16038

Drawing Number CW-1

Scale: AS NOTED

GENERAL NOTES:

1. CONTRACTOR SHALL BECOME FAMILIAR WITH PROJECT SURROUNDINGS, WORKING CONDITIONS, AND SITE LIMITATIONS AND SHALL INCLUDE ALLOWANCES IN THEIR BID TO COVER ANY PROJECT CONSTRAINTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO AND COMPLYING WITH LOCAL GOVERNING AGENCY PERMIT RESTRICTIONS, WHICH MAY AFFECT ALLOWABLE WORKING HOURS AND NOISE LEVELS.
3. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY APPLICABLE LOCAL GOVERNING AGENCY AND SHALL SUBMIT A TRAFFIC CONTROL PLAN PER CALTRANS STANDARDS TO GOVERNING AGENCY (AS REQUIRED) PRIOR TO CONSTRUCTION.
4. WORK REQUIRING TRAFFIC CONTROL SHALL BE CONDUCTED BETWEEN THE HOURS OF 8:30 A.M. AND 3:30 P.M., MONDAY THRU FRIDAY, OR AS OTHERWISE AUTHORIZED BY LOCAL GOVERNING AGENCY REPRESENTATIVE.
5. CONTRACTOR SHALL APPLY NPDES BEST MANAGEMENT PRACTICES TO PREVENT CHLORINATED WATER AND SEDIMENT FROM ENTERING NAVIGABLE WATERWAYS. CONTRACTOR TO SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), INCLUDING DUST CONTROL, TO OWNER FOR APPROVAL WITHIN 5 WORKING DAYS OF AWARD OF CONTRACT AND PRIOR TO ANY SOIL DISTURBANCE. SEE SPECIFICATIONS FOR DETAILS.
6. CONTRACTOR TO CONTACT "UNDERGROUND SERVICE ALERT" 48 HOURS PRIOR TO ANY EXCAVATION.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXACT LOCATION AND DEPTH OF ALL EXISTING UTILITIES.
8. TRENCHES TO BE SHORED IN ACCORDANCE WITH CALIFORNIA OSHA REGULATIONS.
9. PLACE A CONTINUOUS WIRE AND STRIP OF DETECTOR TAPE OVER ALL PIPES AND EXTEND UP INTO ALL VALVE BOXES. TRACER WIRE IS REQUIRED ON ALL PIPE. (SEE DWG. CW-850-R4).
10. SEE DWG. CW-435-R4 FOR TYPICAL THRUST BLOCK INSTALLATION.
11. FACILITIES SEPARATION:
    - A. WATER MAIN SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY FROM AND ONE FOOT VERTICALLY ABOVE ANY PIPELINE CONVEYING SEWAGE (UNTREATED, PRIMARY, OR SECONDARY), DISINFECTED SECONDARY RECYCLED WATER, OR HAZARDOUS FLUIDS.
    - B. WATER MAIN SHALL BE INSTALLED 4 FEET HORIZONTALLY FROM AND ONE FOOT VERTICALLY ABOVE ANY PIPELINE CONVEYING TERTIARY RECYCLED WATER OR STORM DRAINAGE.
    - C. AT CROSSINGS, WATER MAIN SHALL BE CONSTRUCTED NO LESS THAN 45 DEGREES TO AND AT LEAST ONE FOOT VERTICALLY ABOVE ANY PIPELINES INDICATED IN 11.A AND 11.B.
    - D. NO CONNECTION JOINTS SHALL BE MADE IN THE WATER MAIN WITHIN EIGHT HORIZONTAL FEET OF CROSSING OF ANY PIPELINES INDICATED IN 11.A AND 11.B (OR 10 FEET IF CROSSING UNDER).
    - E. WATER MAIN SHALL NOT BE INSTALLED WITHIN 100 HORIZONTAL FEET OF ANY SANITARY LANDFILL, WASTEWATER DISPOSAL POND, OR HAZARDOUS WASTE DISPOSAL SITE.
    - F. WATER MAIN SHALL NOT BE INSTALLED WITHIN 25 HORIZONTAL FEET OF ANY CESSPOOL, SEPTIC TANK, SEWAGE LEACH FIELD, SEEPAGE PIT, UNDERGROUND HAZARDOUS MATERIAL STORAGE TANK, OR GROUNDWATER RECHARGE PROJECT SITE.
    - G. ALL SEPARATION DISTANCES ARE BASED FROM EDGE TO EDGE OF PIPES.
    - H. PROPOSED MAIN SHALL BE INSTALLED ABOVE EXISTING HOUSE SEWER LATERALS. IF BELOW FOLLOW NOTE 11D.
12. WHEN ASSEMBLING A PVC C-900 PIPE TO AN IRON FITTING (PUSH-ON OR MECHANICAL JOINT), REMOVE ALL BUT ½ INCH OF THE FACTORY-MADE BEVEL FROM THE SPIGOT END OF THE PIPE PRIOR TO INSTALLATION.
13. USE PVC ±1 DEGREE AND ±5 DEGREES HIGH DEFLECTION CPLGS TO ACHIEVE PROPER RADIUS FOR CURVES. DO NOT DEFLECT PIPE AT FITTINGS.
14. VALVE CANS AND COVERS SHALL BE PLACED OVER ALL VALVES. COVERS SHALL BE SET TO EXISTING FINISHED GRADE AND RESET IF NECESSARY ONCE THE STREET IS AT FINAL GRADE. (SEE DWGS. CW-14-R6 & CW-439-R6).
15. NO VALVE COVERS ARE TO LIE IN SIDEWALKS, CROSS GUTTER, CURB OR DRIVEWAYS. EACH SERVICE SHOULD ALSO BE LOCATED TO PROVIDE PROTECTION TO THE METER BOX FROM VEHICLE TRAFFIC AND PARKING.
16. PROTECT UNDERGROUND FLEXIBLE COUPLINGS, BARE STEEL, MJ x MJ SLEEVES, AND ALL BOLTS (INCLUDING STAINLESS STEEL) AS FOLLOWS:
    - A. THE ENTIRE AREA OF THE FITTING MUST BE DRY AND FREE OF DUST, DIRT, AND OTHER FOREIGN MATTER. RUST OR OTHER FOREIGN MATTER MUST BE REMOVED BY SCRAPING OR WIRE BRUSHING. WIPING WITH A DRY CLEAN CLOTH MAY BE NECESSARY TO REMOVE THE PARTICLES FROM BRUSH CLEANING. ANY OIL OR GREASE MUST BE REMOVED BY USING A LOS RESIDUE, VOLATILE PETROLEUM SOLVENT BEFORE APPLICATION OF GREASE AND WRAPPING.
    - B. THE EXPOSED AREA SHOULD BE COATED WITH A HEAVY COATING OF METAL COATING OF METALGUARD 301 GREASE BY THE GLOVE METHOD TO A THICKNESS OF AT LEAST 1/4 INCH.
    - C. FIRMLY WRAP THE ENTIRE GREASE AREA WITH ONE LAYER, HALF-LAPPED, OF A WOVEN GLASS FILAMENT MESH (RES OR BIT WRAP, 4 INCHES WIDE).
    - D. APPLY A SECOND LAYER OF METALGUARD 301 GREASE ON TOP OF THE GLASS FILAMENT BY THE GLOVE METHOD TO A THICKNESS OF AT LEAST 1/4 INCH.
    - E. FIRMLY WRAP THE ENTIRE GREASE AREA WITH A SECOND LAYER, HALF-LAPPED, OF THE WOVEN GLASS FILAMENT MESH.
    - F. COVER THE ENTIRE MESH WRAPPED AREA OF THE FITTING WITH A THIRD AND FINAL COATING AT LEAST 1/4 INCH THICK OF METALGUARD 301 GREASE BY THE GLOVE METHOD.
    - G. FIRMLY APPLY 2 LAYERS OF POLYWRAP, HALF-LAPPED, OVER ALL AREAS OF THE COATED AND WRAPPED FITTING. BACKFILLING MAY FOLLOW IMMEDIATELY AFTER THIS WRAPPING.
17. TRENCH BACKFILL AND PAVING SHALL CONFORM TO TRENCH SECTION DETAILS AND ALL GOVERNING AGENCY REQUIREMENTS.
18. NEW PIPELINE SHALL BE INSTALLED WITH 4 FEET OF COVER, EXCEPT WHERE SPECIFIED OTHERWISE.
19. CONTRACTOR SHALL LIMIT DAILY TRENCHING OPERATIONS TO THE LENGTH OF PIPE THAT CAN BE INSTALLED AND BACKFILLED THAT DAY. RESTORE TRAFFIC LANES AT THE END OF EACH WORKDAY.
20. CONTRACTOR SHALL INSTALL NEW MAIN AND ADJUST FROM NOMINAL LINE AND GRADE TO MATCH THE EXISTING FACILITIES AT ALL LOCATIONS. THE CONTRACTOR SHALL INSTALL A TEMPORARY CAP, BLOWOFF AND BACKFLOW DEVICE AT TIE-IN LOCATIONS FOR TESTING (SEE DWGS. CW-122-R5 & CW-638-R1). CONTRACTOR WILL TIE THE NEW MAIN FROM THIS LOCATION.
21. THE NEW PIPELINE SHALL BE TESTED AT 150 PSI FOR A PERIOD OF 4 HOURS. SEE SPECIFICATIONS TO DETERMINE EXACT TESTING REQUIREMENTS.
22. TIE-INS TO BE MADE AT A TIME THAT IS CONVENIENT TO CALIFORNIA WATER SERVICE COMPANY AND IN COMPLIANCE WITH THE LOCAL GOVERNING AGENCY PERMIT GUIDELINES. THE ADDITIONAL COST DUE TO OVERTIME PAY SHALL BE AT CALIFORNIA WATER SERVICE COMPANY'S EXPENSE.
23. CONTRACTOR SHALL PROVIDE MISC. MATERIAL REQUIRED TO COMPLETE THE TIE-IN SUCH AS, BUT NOT LIMITED TO: PROTECTION COATING MATERIAL FOR PIPE AND FITTINGS, LINEGUARD TAPE, CONCRETE FOR THRUST BLOCKS, EMBEDMENT BACKFILL AROUND AND OVER THE PIPE, FINAL BACKFILL TO MEET COMPACTION REQUIREMENTS, AND PAVEMENT REPLACEMENT.
24. CONTRACTOR SHALL BE RESPONSIBLE TO ABANDON ALL PIPE ENDS BY PLUGGING WITH BRICK AND MORTAR. ABANDON ALL GATE VALVES BY REMOVING COVER, CUT CASING DOWN TO SUBGRADE, AND BACKFILL VALVE CASING WITH CONCRETE SLURRY TO REMOVE VOIDS. REPLACE BASE ROCK AND PERMANENT PAVEMENT AS NECESSARY. WHEN REMOVING EXISTING FITTINGS, CONTRACTOR SHALL ALSO REMOVE EXISTING CONCRETE THRUST BLOCK.
25. SPOILS SHALL NOT REMAIN ON-SITE. DISPOSAL OF ALL PROJECT-GENERATED SPOILS SHALL BE AT A FACILITY LICENSED AND CLASSIFIED TO ACCEPT THE MATERIALS. CONTRACTOR TO PROVIDE OWNER WITH A FORMAL RECEIPT FROM THE ACCEPTING FACILITY. ALL MATERIALS THAT WILL REQUIRE TESTING PRIOR TO DISPOSAL SHALL BE SAMPLED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISPOSAL FACILITY IN ADVANCE OF THE NEED FOR DISPOSAL.
26. THE LIST OF MATERIALS FOR THIS PROJECT IS FOR CALIFORNIA WATER SERVICE COMPANY ESTIMATING AND REFERENCE PURPOSES ONLY, AND IS NOT INTENDED AS A FULL TAKE-OFF OF ALL MATERIALS REQUIRED TO COMPLETE THE PROJECT PER CALIFORNIA WATER SERVICE COMPANY STANDARD SPECIFICATIONS.
27. AT TIE-INS, CONTRACTOR SHALL SPRAY OR SWAB ALL FITTINGS WITH CHLORINE SOLUTION FOR DISINFECTION PRIOR TO FINAL CONNECTIONS.
28. CONTRACTOR TO ENSURE AIR IN THE PIPELINE IS REMOVED USING EXISTING OUTLETS SUCH AS FIRE HYDRANTS AND BLOW-OFF. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AIR RELEASES IF EXISTING OUTLETS ARE INSUFFICIENT.
29. ALL WORK SHALL COMPLY WITH CAL WATER SPECIFICATIONS FOR MATERIALS, INSTALLATION, DISINFECTION AND DE-CHLORINATION PER LATEST REVISION OF DRAWING CW-863-R6.

(◎) = INDICATED FIRE HYDRANT (DISTRICT)

30. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL SURVEYING AND STAKING REQUIRED TO INSTALL THE PIPELINE/EQUIPMENT AT THE LINE AND GRADE ESTABLISHED IN THE PROJECT PLANS.
31. REMOVAL AND PROPER DISPOSAL OF MATERIAL SHALL COMPLY WITH CURRENT FEDERAL AND STATE REGULATIONS. CONTRACTOR SHALL TAKE PRECAUTIONS FOR WORKER SAFETY AND ENSURE PROPER LEGAL DISPOSAL OF ALL MATERIALS OFF-SITE.
32. CONTRACTOR SHALL PREPARE AND MAINTAIN A COMPLETE SET OF RECORD DRAWINGS (AS-BUILTS) AND MUST SHOW ALL FIELD CHANGES AND WORK PERFORMED IN ITS ENTIRETY. CONTRACTOR SHALL MARK THE AS-BUILTS TO SHOW THE ACTUAL INSTALLATION WHERE THE INSTALLATION VARIES FROM THE PLANS, AS ORIGINALLY SHOWN. SUITABILITY OF AS-BUILTS WILL BE DETERMINED BY THE ENGINEER AT THE COMPLETION OF THE PROJECT.

PIPELINE CROSSING INFORMATION:

NOTE:

AT WATER MAIN CROSSINGS IN CONFLICT WITH OTHER FACILITIES: WHEN THE WATER MAIN IS IN CONFLICT WITH EXISTING FACILITIES OR PROPOSED FACILITIES THAT REQUIRE MORE THAN A 2 FOOT ADJUSTMENT FROM THE NOMINAL 4 FEET OF COVER, A FABRICATED STEEL CEMENT MORTAR LINED AND CEMENT MORTAR COATED OFFSET SHALL BE INSTALLED AT THE CROSSING PER CWS CO. STANDARDS.

(1) EXISTING 36" STORM DRAIN
FINISHED GRADE = 271.66'
INV. = 258.39'

FIELD VERIFY DEPTH AND LOCATION OF THE EXISTING 36" STORM DRAIN PRIOR TO INSTALLATION. INSTALL 12" DUCTILE IRON PIPE OVER THE EXISTING STORM DRAIN WITH A MINIMUM 1' OF VERTICAL SEPARATION AND 8" MINIMUM HORIZONTAL JOINT SEPARATION.

(2) PROP. 36" STORM DRAIN
FINISHED GRADE = 271.00'
INV. = 259.66'

FIELD VERIFY DEPTH AND LOCATION OF THE EXISTING 36" STORM DRAIN PRIOR TO INSTALLATION. INSTALL 12" DUCTILE IRON PIPE OVER THE EXISTING STORM DRAIN WITH A MINIMUM 1' OF VERTICAL SEPARATION AND 8" MINIMUM HORIZONTAL JOINT SEPARATION.

(3) EX. 10" SEWER
FINISHED GRADE = 271.50'
INV. = 260.88'

FIELD VERIFY DEPTH AND LOCATION OF THE EXISTING 10" SEWER PRIOR TO INSTALLATION. INSTALL 12" DUCTILE IRON PIPE OVER THE EXISTING SEWER WITH A MINIMUM 1' OF VERTICAL SEPARATION AND 8" MINIMUM HORIZONTAL JOINT SEPARATION.

SITE AND GRADING NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO AND COMPLYING WITH LOCAL GOVERNING AGENCY PERMIT RESTRICTIONS, WHICH MAY AFFECT ALLOWABLE WORKING HOURS AND NOISE LEVELS.
2. CONTRACTOR SHALL BECOME FAMILIAR WITH PROJECT SURROUNDINGS, WORKING CONDITIONS, AND SITE LIMITATIONS AND WILL INCLUDE ALLOWANCES IN THEIR BID TO COVER ANY PROJECT CONSTRAINTS.
3. CONTRACTOR SHALL APPLY CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA) BEST MANAGEMENT PRACTICES TO PREVENT WATER AND SEDIMENT FROM ENTERING NAVIGABLE WATERWAYS. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND INSTALLING THE APPLICABLE AND APPROPRIATE BMP's IDENTIFIED IN THE CASQA – STORMWATER BEST MANAGEMENT PRACTICES HANDBOOK AVAILABLE ONLINE AT WWW.CABMPHANDBOOKS.COM. SOME OF THE REQUIRED PRACTICES MAY OR MAY NOT BE SHOWN ON THIS SITE PLAN. SEE NOTES 15 AND 16.
4. CONTRACTOR TO CONTACT "UNDERGROUND SERVICES ALERT" 48 HOURS PRIOR TO ANY EXCAVATION.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXACT LOCATION AND DEPTH OF ALL EXISTING UTILITIES.
6. THE LIST OF MATERIALS FOR THIS PROJECT IS FOR REFERENCE PURPOSES ONLY, AND IS NOT INTENDED AS A FULL TAKE-OFF OF ALL MATERIALS REQUIRED TO COMPLETE THE PROJECT AS PER CWS CO. STANDARD SPECIFICATIONS.
7. ASPHALT CONCRETE TO BE TYPE III, CLASS C2, GRADE PG 64-10 PER PWSI (PUBLIC WORKS STANDARDS, INC.) STANDARD SPECIFICATIONS (THE "GREENBOOK"). PLACE ASPHALT ON CL 2 AGGREGATE BASE (AB) COMPACTED TO 95% RELATIVE COMPACTION.
8. THERE SHALL BE MINIMUM OF 8" OF CLASS 2 AGGREGATE BASE (AB) UNDER ANY PROPOSED FOUNDATION OR PAVEMENT COMPACTED TO 95% RELATIVE COMPACTION.
9. MAINTENANCE AREA SHALL BE GRADED TO 4" BELOW PROPOSED FINAL ELEVATIONS AND THEN SCARIFIED, WATERED AND COMPACTED TO 85% RELATIVE COMPACTION PER ASTM D1557. PLACE 4" OF CLASS 2 A.B. COMPACTED TO 90% RELATIVE COMPACTION. THE ENTIRE SITE, EXCEPT STEEP SLOPES AND EQUIPMENT AREAS, IS TO BE CONSIDERED MAINTENANCE AREA.
10. CONTRACTOR SHALL GRADE THE SITE TO FINAL ELEVATIONS SHOWN FOR PROPER SURFACE DRAINAGE. FINAL GRADING SHALL ALLOW SURFACE DRAINAGE TO AVOID DRAINAGE TO THE ADJACENT PROPERTIES. FINAL GRADES MAY BE ADJUSTED AS NEEDED IN THE FIELD TO BALANCE CUTS AND FILLS.
11. IMPORT FILL:
    - A) IMPORTED FILL MATERIAL FOR BUILDING AND DRIVEWAY SHALL CONSIST OF ESSENTIALLY GRANULAR, SILTY SANDS WITH LOW EXPANSION POTENTIAL AND FREE OF GRASSES, WEEDS, ROCKS, DEBRIS AND SOLUBLE SULFATES IN EXCESS OF 1,000 PARTS PER MILLION. IMPORT SOIL SHALL MEET THE FOLLOWING CRITERIA:
      MAXIMUM % PASSING #200 SIEVE 50
      MAXIMUM LIQUID LIMIT 14
      MINIMUM R-VALUE 50
      MAXIMUM EXPANSION PRESSURE 10PSF
      (TEST METHOD: CALIFORNIA TEST 301)
    - B) IMPORT FILL FOR REMAINING PORTION OF SITE SHALL BE SANDY LOAM SUITABLE FOR PLANTING.
    - C) IMPORTED FILL SHOULD BE FREE OF ORGANIC MATERIAL AND IT SHOULD CONTAIN NO MATERIAL LARGER THAN 4 INCHES AND HAVE A PLASTICITY INDEX OF LESS THAN 16.
13. THE EXCAVATED ON-SITE MATERIAL IS SUITABLE AS COMPACTED FILL PROVIDED IT IS FREE OF ORGANIC MATTER AND MATERIAL LARGER THAN 4 INCHES IN DIAMETER.
14. FILL SHOULD BE PLACED IN HORIZONTAL LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, MOISTURE CONDITIONED TO AT LEAST OPTIMUM CONTENT, AND COMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION BENEATH ALL STRUCTURES, AND 90 PERCENT RELATIVE COMPACTION ELSEWHERE. A SITE SPECIFIC GEOTECHINCAL REPORT, IF AVAILABLE SHALL OVERRIDE/AMEND SUCH REQUIREMENTS.
15. CONSTRUCTION OPERATIONS DUST SHALL BE CONTROLLED. WASTEWATER GENERATED DURING CONSTRUCTION SHALL NOT BE DISCHARGED TO THE STORM DRAIN SYSTEM. THIS INCLUDES WASTE FROM PAINTING, SAW CUTTING, CONCRETE WORK ETC. THE CONTRACTOR SHALL MAKE ARRANGEMENTS TO ELIMINATE DISCHARGES TO THE STORM DRAIN SYSTEM AND THE EXISTING SUMP, IF NECESSARY PROVIDE AN AREA FOR ON-SITE WASHING ACTIVITIES DURING CONSTRUCTIONS. MATERIALS THAT COULD CONTAMINATE STORM RUNOFF SHALL BE STORED IN AREAS WHICH ARE DESIGNATED TO PREVENT EXPOSURE TO RAINFALL AND TO NOT ALLOW STORM WATER TO RUN ONTO THE AREA.
16. PAVEMENT CLEANING-FLUSHING OF STREETS/PARKING LOTS TO REMOVE DIRT AND CONSTRUCTION DEBRIS IS PROHIBITED UNLESS SEDIMENT CONTROLS ARE USED. PREFERABLY, AREAS REQUIRED CLEANING SHOULD BE SWEPT.
17. SPOILS SHALL NOT REMAIN ON-SITE. DISPOSAL OF ALL PROJECT GENERATED SPOILS SHALL BE AT A FACILITY LICENSED AND CLASSIFIED TO ACCEPT THE MATERIALS. CONTRACTOR TO PROVIDE OWNER WITH A FORMAL RECEIPT FROM THE ACCEPTING FACILITY. ALL MATERIALS THAT WILL REQUIRE TESTING PRIOR TO DISPOSAL SHALL BE SAMPLED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISPOSAL FACILITY IN ADVANCE OF THE NEED FOR DISPOSAL.
18. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH 2018 C.B.C., 2018 C.F.C., AND MOST CURRENT NFPA AND NEC AWWA E101 & C600.
19. SITE CONTRACTOR MUST SHARE THE SITE WITH OWNER'S OTHER CONTRACTORS.

FOUNDATION NOTES:

1. GENERAL

THE CONTRACTOR SHALL COMPARE THIS DRAWING WITH EXISTING CONDITIONS AT THE SITE, AND WITH ALL OTHER APPLICABLE DRAWINGS. HE SHALL VERIFY MEASUREMENTS OF ALL EXISTING FEATURES AFFECTING HIS WORK, AND SHALL REPORT ANY DISCREPANCIES TO THE CALIFORNIA WATER SERVICE COMPANY ENGINEER FOR CLARIFICATION AND ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS SHOWN ON THIS DRAWING WITH THE REQUIREMENTS OF EXISTING CONDITIONS AND ALL RELATED NEW EQUIPMENT.

FOUNDATION PREPARATION: AREAS TO RECEIVE FILL SHALL BE SCARIFIED TO A DEPTH OF SIX INCHES AND WATERED TO PROVIDE A MOISTURE CONTENT COMMENSURATE WITH EFFICIENT DENSIFICATION, AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557. THERE SHALL BE A MINIMUM OF 8" CLASS 2 AGGREGATE BASE (AB) UNDER ANY PROPOSED FOUNDATION COMPACTED TO 95% MDD.

THE AGGREGATE BASE, FORMS AND SUBGRADE SHALL BE THOROUGHLY WETTED BEFORE PLACEMENT OF CONCRETE.

2. CONCRETE

ALL CONCRETE SHALL DEVELOP A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS OF AGE. MINIMUM CEMENT SHALL BE 5-1/2 SACKS PER CUBIC YARD. MAXIMUM SLUMP SHALL BE 3". UNLESS OTHERWISE NOTED, ALL EXPOSED HORIZONTAL AND VERTICAL EDGES AND CORNERS SHALL HAVE 3/4" x 3/4" CHAMFERS. ALL REINFORCING BARS, ANCHOR BOLTS, INSERTS, AND OTHER EMBEDDED HARDWARE SHALL BE ACCURATELY SET AND SECURELY HELD IN PLACE TO MAINTAIN POSITIONS DURING PLACEMENT OF CONCRETE. THE LEVEL BEARING AREA AT THE TOP OF THE FOUNDATION SHALL RECEIVE A HARD STEEL TROWEL FINISH, SMOOTH AND LEVEL. THE APRON SHALL HAVE A LIGHT BROOM FINISH.

CONCRETE PAD SHALL BE WATER CURED CONTINUOUSLY FOR 7 DAYS. UNLESS OTHERWISE NOTED.

NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

CONCRETE INSPECTION TO BE PERFORMED BY CWS CO.

3. REINFORCING STEEL

ALL BARS SHALL BE GRADE 40 DEFORMED BARS CONFORMING TO ASTM A615. REINFORCING BAR BENDS AND STANDARD HOOKS SHALL CONFORM TO ACI 318, LATEST EDITION. ALL BENDS SHALL BE STANDARD HOOKS UNLESS OTHERWISE SHOWN. BARS 20 FEET AND SHORTER IN LENGTH SHALL BE IN SINGLE LENGTH RUNS WITHOUT SPLICES. BARS LONGER THAN 20 FEET IN LENGTH SHALL BE IN SINGLE LENGTH RUNS OR MAY BE SPLICED WITH 48 BAR DIAMETER LAPS (2'-0" FOR #4 BARS). SPLICES IN ADJACENT BAR RUNS SHALL BE WELL STAGGERED.

4. SPECIAL INSPECTION

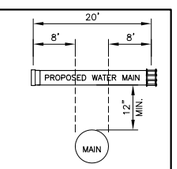
PERIODIC SPECIAL INSPECTION MUST BE PERFORMED WHERE REQUIRED FOR CONCRETE AND ANCHOR BOLTS IN ACCORDANCE WITH SECTIONS 1704.4 AND 1704.13 OF THE 2006 IBC, WHEREBY SPECIAL INSPECTION IS DEFINED IN SECTION 1702.1 OF THE 2006 IBC.

SPECIAL NOTE

THE FOUNDATION MUST BE SQUARE, AND THE ANCHOR BOLTS MUST BE ACCURATELY PLACED PLUMB. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOUNDATION. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANCHORING THE EQUIPMENT AND ENSURING PROPER POSITIONING OF THE ANCHOR BOLTS IN THE FOUNDATION.

CROSSING (TYPICAL)

- USE SOLID STICK OF PIPE CENTERED.
- NO CONNECTION JOINTS SHALL BE MADE IN THE WATER MAIN WITHIN EIGHT (8) HORIZONTAL FEET OF THE CROSSING.
- MINIMUM ONE FOOT (1') VERTICAL SEPARATION BETWEEN BOTTOM OF MAIN AND TOP OF SEWER.



TYP. SEWER & STORM DRAIN CROSSINGS
SCALE: N.T.S.

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REGISTERED PROFESSIONAL ENGINEER
JAMES T. GARDINER
2/17/23
No. C48280
CIVIL
STATE OF CALIFORNIA

CALIFORNIA WATER SERVICE ™

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number CW-2

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: G:\Capital_Projects_CAD Team Files\104_Chico\00125631_CH_BRUCE-RD_BRIDGE MRP\WIP\CH-6042-G.dwg - Layout-G2, Fri, Feb 17 2023 - 3:16:14pm, jnorthrop

Designed: J.N.	Approved: J.T.G.	Revision	Date	By
Drawn By: L.A./R.L.				
Checked: J.T.G.	Date: FEBRUARY 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
WATER MAIN INSTALLATION - GENERAL NOTES

Project Number: 16038
Drawing Number CW-2
Scale: AS NOTED
Sheet 70 of 182

ABBREVIATIONS

AB	–	AGGREGATE BASE
ABAND	–	ABANDONED
ABM	–	AIR BLOWN MORTAR
ABS	–	ACRYLONITRILE–BUTADIENE–STYRENE
AC	–	ASPHALT CONCRETE
ACP	–	ASBESTOS CEMENT PIPE
AISI	–	AMERICAN IRON & STEEL INSTITUTE
ALIGN	–	ALIGNMENT
AMP	–	AMPERES
ANSI	–	AMERICAN NATIONAL STANDARDS INSTITUTE
APN	–	ASSESSORS PARCEL NUMBER
APPROX	–	APPROXIMATE
ARV	–	AIR RELEASE VALVE
ASA	–	AMERICAN STANDARD ASSOCIATION
ASTM	–	AMERICAN SOCIETY FOR TESTING MATERIALS
AWG	–	AMERICAN WIRE GAGE
AWWA	–	AMERICAN WATER WORKS ASSOCIATION
BC	–	BEGIN CURVE
BM	–	BENCH MARK
BOC	–	BACK OF CURB
BT	–	BACKHOE TRENCH
BW	–	BOTH WAYS
C	–	CENTERLINE
CB	–	CATCH BASIN (INLET)
CCCL	–	CEMENT MORTAR COATED & LINED STEEL PIPE
CCEM	–	CEMENT CONDUIT
CCTL	–	CORROSION CONTROL TEST LEADS
CCP	–	CONCRETE CYLINDER PIPE
CFM	–	CUBIC FEET PER MINUTE
CI	–	CAST IRON
CIP	–	CAST IRON PIPE
CL	–	CENTERLINE
CL	–	CLEARANCE
CL&C	–	CEMENT LINED AND COATED
CLR	–	CLEAR
CMC	–	CEMENT MORTAR COAT
CML	–	CEMENT MORTAR LINE
CMP	–	CORRUGATED METAL PIPE
CMU	–	CONCRETE MASONRY UNIT
CO	–	CLEAN OUT
CONC	–	CONCRETE
CONT	–	CONTINUOUS
CP	–	CEMENT PIPE
CPC	–	PLASTIC CONDUIT
CPLG	–	COUPLING
CSP	–	CORRUGATED STEEL PIPE
CTP	–	CABLE TELEVISION POLE
CTV	–	CABLE TV
CU FT	–	CUBIC FEET
CU YD	–	CUBIC YARD
CWS	–	CALIFORNIA WATER SERVICE
CYL	–	CYLINDER
CIPP	–	CAST–IN–PLACE PIPE
DDW	–	DEPARTMENT OF DRINKING WATER
DET	–	DETAIL
Ø	–	DIAMETER
DIA	–	DIAMETER
DICL	–	DUCTILE IRON CEMENT LINED
DI	–	DUCTILE IRON PIPE
DIP	–	DUCTILE IRON PIPE
DPDT	–	DOUBLE POLE DOUBLE THROW
D/S	–	DOWNSTREAM
DWG	–	DRAWING
DWR	–	DEPARTMENT OF WATER RESOURCES
(E)	–	EXISTING
EC	–	END CURVE
EL	–	ELEVATION
ELEC	–	ELECTRICAL
ELEV	–	ELEVATION
ELL	–	ELBOW JOINT
EOP	–	EDGE OF PAVEMENT
EP	–	ELECTRICAL PANEL
EX	–	EXISTING
EXIST	–	EXISTING
FBE	–	FLANGE BOTH END
FF	–	FACE OF FLANGE
FF	–	FINISHED FLOOR
FG	–	FINISH GRADE
FF	–	FULL FORCE
FH	–	FIRE HYDRANT
FIP	–	FEMALE IRON PIPE
FKCL	–	FIBERGLASS–KRAFT WRAP CEMENT LINED
FL	–	FLOWLINE
FLG	–	FLANGE
FOC	–	FACE OF CURB
FOE	–	FLANGE ON END
FOF	–	FACE OF FLANGE
FP	–	FEEDER PRESSURE
FPT	–	FEMALE PIPE THREAD
FS	–	FINISH SURFACE
FT	–	FEET
GA	–	GAGE
GALV	–	GALVANIZED
GB	–	GRADE BREAK
GFI	–	GROUND FAULT INTERRUPTER
GPM	–	GALLONS PER MINUTE
H	–	HEIGHT
HC	–	HOUSE CONNECTION (SANITARY)
HMW/PE	–	HIGH MOLECULAR WEIGHT POLYETHYLENE
HORIZ	–	HORIZONTAL
HP	–	HORSEPOWER
IBC	–	INTERNATIONAL BUILDING CODE
ID	–	INSIDE DIAMETER
IF	–	INSIDE FACE
IL	–	INDUCTIVE LOOP
IN	–	INCH
INSUL	–	INSULATION
INV	–	INVERT
IP	–	IRON PIPE
IPS	–	IRON PIPE SIZE
JT	–	JOINT TRENCH
KV	–	KILO VOLT
L	–	LENGTH
LB	–	CONDUIT FITTING ELBOW
LG	–	LONG
LLV	–	LONG LEG VERTICAL
LT	–	LEFT
MAINT	–	MAINTENANCE
MAX	–	MAXIMUM
MCD	–	MULTIPLE CONDUITS
MH	–	MANHOLE
MIP	–	MALE IRON PIPE
MIN	–	MINIMUM
MJ	–	MECHANICAL JOINT
MON	–	MONUMENT
MPT	–	MALE PIPE THREAD
MW	–	MONITORING WELL
(N)	–	NEW/PROPOSED
N	–	NEW/PROPOSED
N	–	NITROGEN
N/A	–	NOT APPLICABLE
NC	–	NORMALLY CLOSED
NCS	–	NATIONAL CAD STANDARD
NE	–	NORTHEAST
NEC	–	NATIONAL ELECTRIC CODE
NEMA	–	NATIONAL ELECTRICAL MANUFACTURERS ASSOC
NO	–	NORMALLY OPEN
NO.	–	NUMBER
NPT	–	NATIONAL PIPE THREAD
NRS	–	NON–RISING STEM
NTS	–	NOT TO SCALE
N.T.S.	–	NOT TO SCALE
NW	–	NORTHWEST
OC	–	ON CENTER
O.C.	–	ON CENTER
OD	–	OUTSIDE DIAMETER/DIMENSION
O.D.	–	OUTSIDE DIAMETER/DIMENSION
OF	–	OUTSIDE FACE
OH	–	OVERHEAD
OHE	–	OVERHEAD ELECTRIC
OIL	–	OIL/PETROLEUM LINE
OTO	–	OUT TO OUT (OUTSIDE DIA)
OW	–	OBSERVATION WELL
ℙ	–	PROPERTY LINE
PBC	–	PORTABLE BOOSTER CONNECTION
PBE	–	PLAIN BOTH ENDS
PCC	–	PORTLAND CEMENT CONCRETE
PCCP	–	PRESTRESSED CONCRETE CYLINDER PIPE
PE	–	PLAIN END
PG&E	–	PACIFIC GAS AND ELECTRIC
PI	–	POINT OF INTERSECTION
PK	–	PARKER–KALON SURVEY NAIL
PL	–	PLASTIC LINE
PL	–	PROPERTY LINE
PO	–	PUSH–ON
POE	–	PLAIN ON END
POT	–	POINT ON TANGENT
PP	–	POWER POLE
PRC	–	POINT OF REVERSE CURVE
PRV	–	PRESSURE REDUCING VALVE
PRV	–	PRESSURE RELIEF VALVE
PSI	–	POUND PER SQUARE INCH
PT&T	–	PACIFIC TELEPHONE AND TELEGRAPH
PUE	–	PUBLIC UTILITY EASEMENT
PV	–	PRECAST VAULT
PVC	–	POLYVINYL CHLORIDE (PIPE)
PVMT	–	PAVEMENT
PW	–	PUMPING WELL
R	–	RADIUS
RCB	–	REINFORCED CONCRETE BOX
RCP	–	REINFORCED CONCRETE PIPE
RE	–	REDUCER
RE	–	REFERENCE ELECTRODE
REBAR	–	REINFORCING BAR
REINF	–	REINFORCED
REQ'D	–	REQUIRED
RR	–	RAILROAD
RRT	–	RAILROAD TIES
RT	–	RIGHT
RTU	–	REMOTE TERMINAL UNIT
R/W	–	RIGHT OF WAY
S	–	SLOPE
SCHED	–	SCHEDULE
SCVWD	–	SANTA CLARA VALLEY WATER DISTRICT
SD	–	STORM DRAIN
SDMH	–	STORM DRAIN MANHOLE
SE	–	SOUTHEAST
SF	–	SQUARE FEET
SHT	–	SHEET
SJMW	–	SAN JOSE MUNICIPAL WATER
SJWC	–	SAN JOSE WATER COMPANY
SOMCL	–	STANDARD OIL MASTIC CEMENT LINED
SPECS	–	SPECIFICATIONS
SPRR	–	SOUTHERN PACIFIC RAILROAD
SQ	–	SQUARE
SQ FT	–	SQUARE FEET
SOW	–	SLIP–ON WELD FLANGE
SS	–	SANITARY SEWER
SSMH	–	SANITARY SEWER MANHOLE
SSTL	–	STAINLESS STEEL
ST	–	STREET
STA	–	STATION
STD	–	STANDARD
STD BLK	–	STANDARD STEEL PIPE
STL	–	STEEL
STRD	–	STRANDED
SUM	–	SUBSURFACE UTILITY MAPPING
SW	–	SOUTHWEST
SYM	–	SYMMETRICAL
T	–	TELEPHONE
T	–	THICKNESS OF PLATE OR DIMENSION OF WELD
TBM	–	TEMPORARY BENCH MARK
TC	–	TELEMETRY CABLE
TCA	–	TEMPORARY CONSTRUCTION AREA
TCE	–	TEMPORARY CONSTRUCTION EASEMENT
TCS	–	TELEMETRY CABLE SPLICE
TDH	–	TOTAL DYNAMIC HEAD
TEL	–	TELEPHONE
THW	–	THERMAL PLASTIC MOISTURE AND HEAT RESISTANT
THWN	–	THERMAL PLASTIC WITH NYLON COATING MOISTURE AND HEAT RESISTANT
TOB	–	TOP OF BANK
TOC	–	TOP OF CURB
TOE	–	TOE OF SLOPE
TON	–	TOP OF NUT
TOS	–	TOP OF SLOPE
TP	–	TEST PIT LOCATION
TR	–	TAPE WRAPPED
TS	–	TRAFFIC SIGNAL
TYP	–	TYPICAL
UG	–	UNDERGROUND
UMC	–	UNIFORM MECHANICAL CODE
UPC	–	UNIFORM PLUMBING CODE
UPRR	–	UNION PACIFIC RAILROAD
U/S	–	UPSTREAM
USGS	–	UNITED STATES GEOLOGICAL SURVEY
V	–	VOLTAGE
VAC	–	VOLTAGE ALTERNATING CURRENT
VBE	–	VICTAULIC BOTH ENDS
VCD	–	VACANT CONDUIT
VCP	–	VITRIFIED CLAY PIPE
VIF	–	VERIFY IN FIELD
VERT	–	VERTICAL
VOE	–	VICTAULIC ON END
VOL	–	VOLUME
W	–	WATER
W	–	WIDTH
WP	–	WORK POINT
WSP	–	WELDED STEEL PIPE
WSCL	–	WRAPPED STEEL CEMENT LINED
WV	–	WATER VALVE
WWF	–	WELDED WIRE FABRIC
W/	–	WITH
&	–	AND
@	–	AT
℄	–	CENTERLINE
ø	–	DIAMETER
ℙ	–	PROPERTY LINE

SYMBOLS LEGEND

PIPELINE

EXISTING | PROPOSED

AIR RELIEF VALVE
ALTITUDE VALVE
BLOWOFF
BUTTERFLY VALVE
WELL
CATCH BASIN
CHLORINE
CLEANOUT
CHECK VALVE
COUPLING – FLEX
COUPLING – FLEX
COUPLING – PVC CLOSURE
COUPLING – SOLID SLEEVE
FLEX EXPANSION JOINT
FLEX–TEND EXPANSION JOINT
FLOW METER/MAG METER
GATE VALVE
NC — GATE VALVE NORMALLY CLOSED — NC
HYDRANT
ORIFICE PLATE
PIPE CAP
PIPE CROSS
PIPE ELBOW – 11.25°
PIPE ELBOW – 22.5°
PIPE ELBOW – 45°
PIPE ELBOW – 90°
PIPE TEE
PLUG
PBC — PORTABLE BOOSTER CONNECTION — PBC
PRESSURE REDUCING/RELIEF VALVE
REDUCER
SINGLE POST SIGN
STATIC MIXER
SURGE VALVE
TERMINATION
WATER QUALITY TAP

LINETYPE LEGEND

EXISTING | PROPOSED

BLOCK WALL
BUILDING
CCTV
CONCRETE
CONTOURS – MAJOR
CONTOURS – MINOR
EASEMENT
ELEC CONDUIT
ELEC EQUIPMENT
ELEC OVERHEAD LINES — OHE
ELEC UNDERGROUND — OHE
ELEC WIRES
FENCE – BARBED WIRE
FENCE – ALUMINIM
FENCE – CHAIN LINK — X
FENCE – PRIVACY
FENCE – WOOD
FENCE – WROUGHT IRON
FIBER OPTIC LINE
FIRE SERVICE LINE
GRADE BREAKLINES — GB
NATURAL GAS UNDERGROUND — G
PROPERTY LINE
RAILROAD TRACK
RIGHT–OF–WAY
ROAD – CENTERLINE
SS PIPE — SS
SS REINFORCED PIPE — FM
SLOPE
SD PIPE — SD
SD REINFORCED PIPE
STRUCTURE
TANK
TELEPHONE
TOE OF SLOPE — TOE
TOP OF SLOPE — TOS
TRAFFIC STRIPE
WATER LINE — W
WATER LINE – CENTERLINE

CAL WATER BLOCKS

N, NE, E, SE, S, SW, W, NW — NORTH ARROW

2 — REVISION DELTA SYMBOL

0.5" PS TYP — REVISION CLOUD (0.5" ARC LENGTH IN PAPER SPACE SCALE. SCALE UP ACCORDINGLY IF PLACED IN MODEL SPACE)

HATCHES

AGGREGATE BASE
(E) STRUCTURE
ASPHALT OR SIDEWALK
GRAVEL
CONCRETE
LANDSCAPING
EARTH / DIRT

CONTROL POINTS

CP#	NORTHING	EASTING	ELEV	DESCRIPTION
CPXX	0000.00	0000.00	00.00'	EXAMPLE
CPXX	0000.00	0000.00	00.00'	EXAMPLE

MONUMENT NOTES

MON#	DESCRIPTION
MXXX	EXAMPLE: FD. IRON SPIKE IN __ CONC. MON., PER TRACT NO.___, VOL.
MXXX	EXAMPLE: FD. CONC. MON. PER CALTRANS __.

SURVEY

BENCHMARK
TBM — TEMPORARY BENCH MARK
DRAINAGE FLOW DIRECTION (1% SLOPE MIN.)
EL. 98.82 — EXISTING GRADE SPOT ELEVATION
FG 100.62 — FINISH GRADE – PROPOSED
FF 100.62 — FINISHED FLOOR OR FOUNDATION PROPOSED
HORIZONTAL CONTROL
HORIZONTAL VERTICAL CONTROL
POTHOLE
VERTICAL CONTROL

DETAIL AND SECTION DESIGNATION

* IF SECTION OR DETAIL APPEARS ON THE SAME DRAWING AS THE CALLOUT, THE DRAWING REFERENCE IN REPLACED WITH A DASH (–)

1 / C–04 — DETAIL NUMBER; DETAIL DESCRIPTION; C–04 INDICATES DRAWING ON WHICH DETAIL APPEARS*

PIPE CROSSING

DETAIL # / C–02 — TITLE — SCALE: — DETAIL NUMBER; C–02 INDICATES DRAWING ON WHICH DETAIL WAS REFERENCED*

A / C–03 — SECTION LETTER; DRAWING ON WHICH SECTION APPEARS*

SECTION A / C–02 — TITLE — SCALE: — SECTION LETTER; DRAWING ON WHICH SECTION WAS CUT*

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REGISTERED PROFESSIONAL ENGINEER JAMES T. GARDINER 2/17/23 No. C48280 CIVIL STATE OF CALIFORNIA

CALIFORNIA WATER SERVICE ™

Title: BRUCE ROAD RECONSTRUCTION

Drawing Path: C:\Users\jnorthrop\Desktop\CH-6042-G.dwg – Layout-G3, Fri, Feb 17 2023 – 3:58:17pm, jnorthrop

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Number CW–3

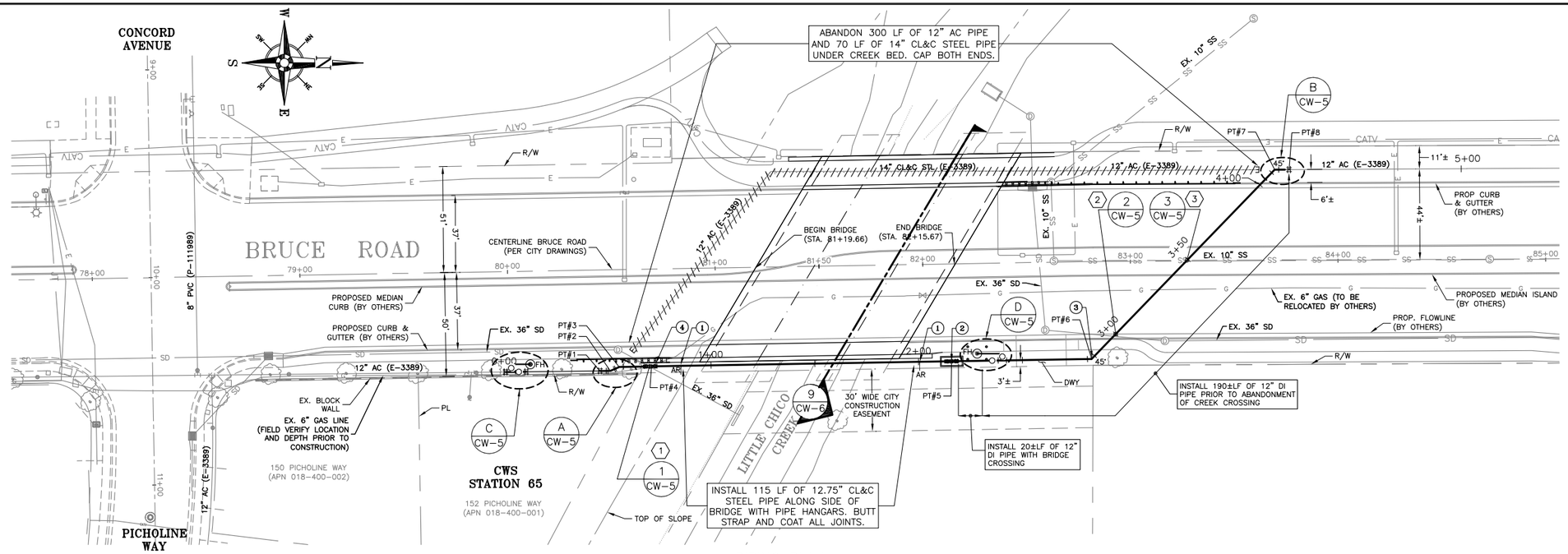
Designed: J.N.	Approved: J.T.G.	Revision	Date	By
Drawn By: L.A./R.L.	Date: FEBRUARY 2023			
Checked: J.T.G.				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

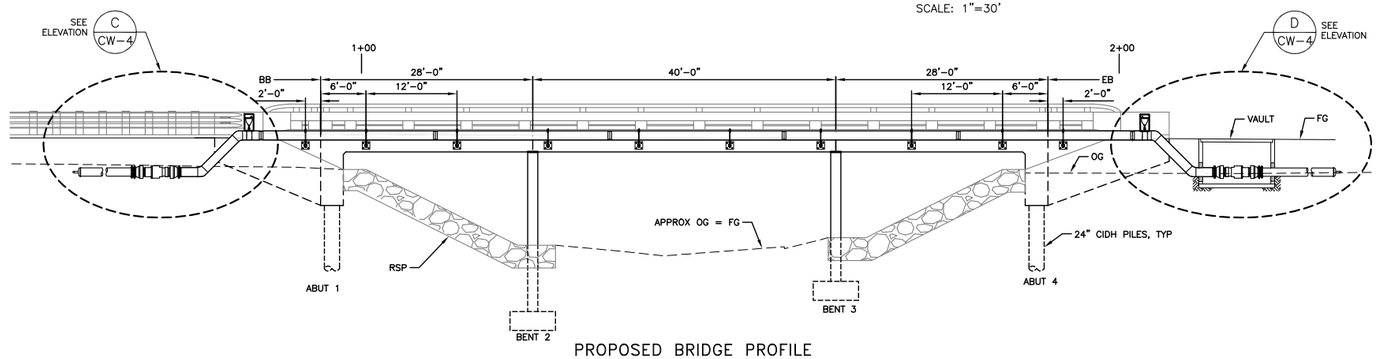
BRUCE ROAD RECONSTRUCTION
WATER MAIN INSTALLATION – CALLOUTS AND LEGEND

Project Number: 16038
Scale: AS NOTED
Drawing Number CW–3
Sheet 71 of 182



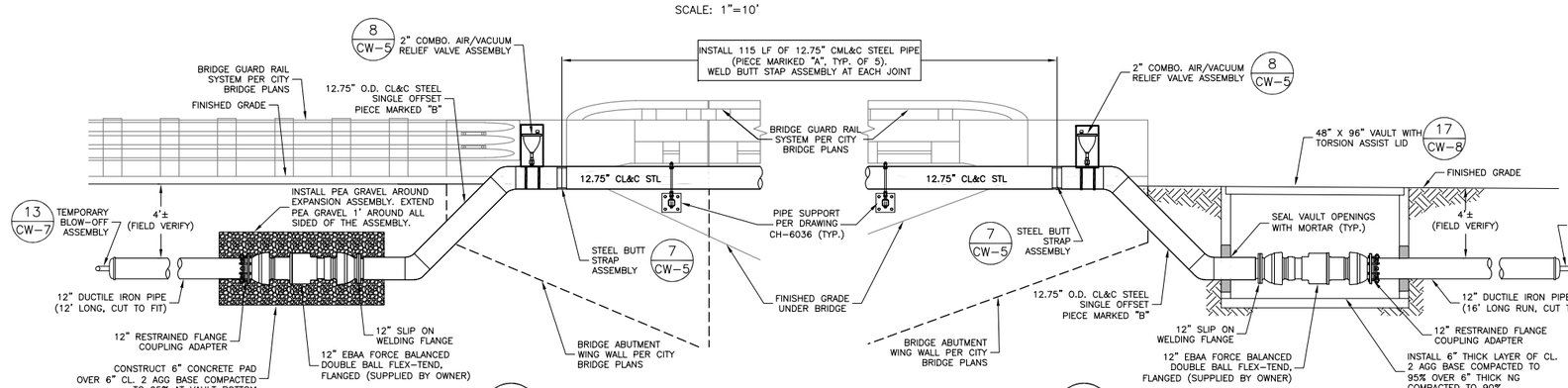
PIPING PLAN

SCALE: 1"=30'



PROPOSED BRIDGE PROFILE

SCALE: 1"=10'



ELEVATION C CW-4 VIEW N.T.S.

ELEVATION D CW-4 VIEW N.T.S.

SEQUENCE OF WORK:

1. INSTALL 190 LF OF 12" DI PIPE AND ASSOCIATED FITTINGS ON THE NORTH SIDE OF THE EXISTING BRIDGE FROM THE TEMPORARY BLOWOFF SHOWN IN DETAIL B ON SHEET CW-5 TO THE TEMPORARY BLOWOFF ASSEMBLY SHOWN IN DETAIL D ON SHEET CW-5. PIPE TO BE PRESSURE TESTED AND DISINFECTED.
2. INSTALL 6" FIRE HYDRANT ASSEMBLY AND 12" ISOLATION GATE VALVE ON SOUTH SIDE OF THE EXISTING BRIDGE PER DETAIL C ON SHEET CW-5.
3. INSTALL TIE-IN DETAIL B ON SHEET CW-5 AND CAP 12" AC LINE TO BE ABANDONED.
4. INSTALL TEMPORARY BLOWOFF SHOWN IN DETAIL A ON SHEET CW-5 AND CAP 12" AC LINE TO BE ABANDONED.
5. INSTALL CL&C STEEL PIPE ALONG SIDE OF BRIDGE WITH PIPE HANGARS.
6. INSTALL VERTICAL CL&C STEEL OFFSETS, AIR RELEASE ASSEMBLIES, SEISMIC EXPANSION ASSEMBLIES, VAULTS, 12" DUCTILE IRON PIPE, AND TEMPORARY BLOWOFFS SHOWN IN DETAIL C & D ON SHEET CW-4. PIPE TO BE PRESSURE TESTED AND DISINFECTED.
7. INSTALL TIE IN DETAIL A ON SHEET CW-5.
8. CONNECT 12" DI PIPING ON NORTH SIDE OF THE BRIDGE PER TIE-IN DETAIL D ON SHEET CW-5.

CONSTRUCTION NOTES:

1. INSTALL AIR RELEASE VALVE ASSEMBLY PER DETAIL 8 ON SHEET CW-5. (TYPICAL OF 2)
2. INSTALL SEISMIC EXPANSION ASSEMBLY IN CONCRETE UTILITY VAULT PER DETAIL D ON SHEET CW-4.
3. INSTALL 12" 45° ELBOW, PO W/ RESTRAINED GASKETS AND THRUST BLOCK
4. INSTALL SEISMIC EXPANSION ASSEMBLY AND BACKFILL WITH PEA GRAVEL PER DETAIL C ON SHEET CW-4.

NOTES:

1. 12.75" O.D. CL&C STEEL PIPE TO BE CONNECTED AT EACH JOINT WITH A STEEL BUTT STRAP ASSEMBLY PER DETAIL 7 ON SHEET CW-5.
2. BUTT STRAP ASSEMBLIES ON CL&C STEEL PIPE TO BE CEMENT MORTAR COATED PER THE DETAIL 6 ON SHEET CW-5.
3. CONTRACTOR TO INSTALL AIR RELEASE VALVE ASSEMBLY(S) AT HIGH POINT ON THE OFFSET TRANSITION PIPING ON EACH SIDE OF THE PROPOSED BRIDGE PER DETAIL 8 ON SHEET CW-5. AIR RELEASE VALVE ASSEMBLIES TO HAVE PROTECTIVE LOCKABLE ENCLOSURES TO PREVENT VANDALISM TO ASSEMBLY COMPONENTS.
4. CONTRACTOR TO FURNISH AND INSTALL PIPE SUPPORTS ALONG BRIDGE PER DETAIL ON THE PIPE SUPPORT DRAWING. REFERENCE DWG. CW-9 (BY ZFA STRUCTURAL ENGS.)
5. ALL BELOW GROUND FITTINGS REQUIRE THRUST BLOCKS TO BE CONSTRUCTED PER CAL WATER STANDARD DRAWING CW-435-R4. SEE DETAIL 15 ON SHEET CW-7.
6. ALL PIPING, FITTINGS, VALVES, AND OTHER MATERIALS SHALL COMPLY WITH SPECIFICATIONS ESTABLISHED IN CAL WATER STANDARD DRAWING CW-863-R7.
7. CONTRACTOR SHALL PROVIDE: MISC. MATERIAL REQUIRED TO COMPLETE THE TIE-IN SUCH AS, BUT NOT LIMITED TO: PROTECTION COATING MATERIAL FOR PIPE & FITTINGS, LINEGUARD TAPE, CONCRETE FOR THRUST BLOCKS, EMBEDMENT BACKFILL AROUND AND OVER THE PIPE, FINAL BACKFILL TO MEET COMPACTION REQUIREMENTS, AND PAVEMENT REPLACEMENT.
8. CONTRACTOR SHALL FURNISH THE OWNER A COMPLETE SET OF RECORD DRAWINGS SHOWING DIMENSIONS OF ALL PIPING AND ASSOCIATED APPURTENANCES INSTALLED PER THIS PLAN.
9. CONTRACTOR TO INSTALL TEMPORARY BLOW-OFF ASSEMBLIES AT EACH END OF THE BRIDGE FOR PRESSURE TESTING AND DISINFECTION PURPOSES. BLOW-OFFS NOT SHOWN FOR CLARITY.

CITY NOTE:

CITY OF CHICO BM # C19 – BRASS DISK IN TOP OF CURB ON THE WEST SIDE OF NOTRE DAME BOULEVARD 200'± NORTH OF MORROW LANE, ELEV. 218.064 (FORMER BM # 1C-1, 218.01)

HORIZONTAL POINT TABLE

POINT #	NORTHING	EASTING	DESCRIPTION
1	2393039.11	6621471.45	BEGIN TIE-IN A
2	2393044.11	6621471.39	22.5° ELBOW
3	2393048.33	6621469.52	22.5° ELBOW
4	2393063.88	6621469.24	CENTER OF EBBA
5	2393208.39	6621466.80	CENTER OF VAULT
6	2393275.85	6621465.66	45° ELBOW
7	2393363.98	6621374.49	45° ELBOW
8	2393370.94	6621374.46	END TIE-IN B

USA NORTH 811 Call 811 Before You Dig

REGISTERED PROFESSIONAL ENGINEER JAMES T. GARDINER 2/17/23 No. C48280 CIVIL STATE OF CALIFORNIA

CALIFORNIA WATER SERVICE

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number CW-4

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: G:\Capital_Projects_CAD Team Files\104_Chico\00125831_CH_BRUCE-RD_BRIDGE_MRP\WIP\CH-6038-C.dwg – SHT C4, Fri, Feb 17 2023 – 3:01:32pm, jnorthrop

Designed: J.N.	Approved: J.T.G.	Revision	Date	By
Drawn By: L.A./R.L.				
Checked: J.T.G.	Date: FEBRUARY 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

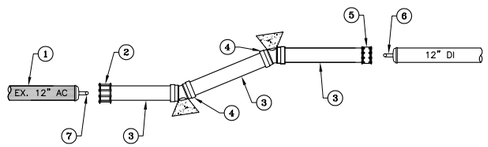
CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
WATER MAIN INSTALLATION - PIPING PLAN AND DETAILS

Project Number: 16038

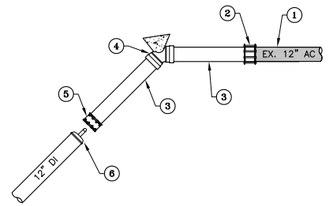
Drawing Number CW-4

Scale: AS NOTED



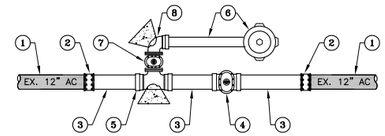
1. EXISTING MAIN, 12" AC PIPE
2. 1 – 12" FLEX COUPLING (ACRB X DI)
3. 15' – 12" DUCTILE IRON PIPE (3 PIECES, CUT TO FIT)
4. 2 – 12" ELL 22.5°, PO w/ RESTRAINED GASKETS
5. 1 – 12" SOLID SLEEVE, MJ (10" SLEEVE)
6. 1 – TEMPORARY CAP AND BLOW OFF ASSEMBLY
7. 1 – TEMPORARY CAP AND BLOW OFF ASSEMBLY TO BE INSTALLED DURING PIPE ABANDONMENT AND REMOVED FOR FINAL TIE–IN.

DETAIL A/CW–4 TIE–IN DETAIL
N.T.S.



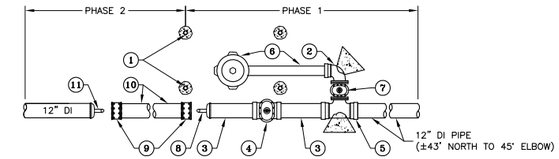
1. EXISTING MAIN, 12" AC PIPE
2. 1 – 12" FLEX COUPLING (ACRB X DI)
3. 15' – 12" DUCTILE IRON PIPE (2 PIECES, CUT TO FIT)
4. 1 – 12" ELL 45°, PO w/ RESTRAINED GASKETS
5. 1 – 12" SOLID SLEEVE, MJ (10" SLEEVE)
6. 1 – TEMPORARY CAP AND BLOW OFF ASSEMBLY

DETAIL B/CW–4 TIE–IN DETAIL
N.T.S.



1. EXISTING MAIN, 12" AC PIPE
2. 2 – 12" FLEX COUPLING (ACRB x DI)
3. 10' – 12" DUCTILE IRON PIPE (3 PIECES, CUT TO FIT)
4. 1 – 12" GATE VALVE, PO w/ RESTRAINED GASKETS
5. 1 – 12"x6" TEE, PO X FLG W/ RESTRAINED GASKETS
6. 1 – 6" FIRE HYDRANT ASSEMBLY AND ASSOCIATED APPURTENANCES PER CW380
7. 1 – 6" GATE VALVE, FLG
8. 1 – 6" ELL, 90°, FLG X PO W/ RESTRAINED GASKETS

DETAIL C/CW–4 VALVE CUT IN DETAIL
N.T.S.



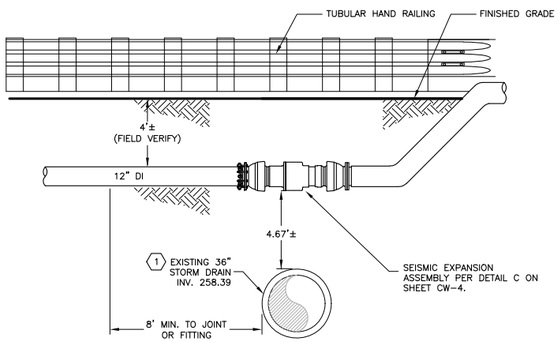
PHASE 1:

1. 4 – PROTECTIVE BOLLARDS PER CW822
2. 1 – 6" ELL, 90° FLG X PO W/ RESTRAINED GASKETS
3. 20' – 12" DUCTILE IRON PIPE (2 PIECES, CUT TO FIT)
4. 1 – 12" GATE VALVE, PO w/ RESTRAINED GASKETS
5. 1 – 12"x6" TEE, PO X FLG W/ RESTRAINED GASKETS
6. 1 – 6" FIRE HYDRANT ASSEMBLY AND ASSOCIATED APPURTENANCES PER CW380
7. 1 – 6" GATE VALVE, FLG
8. 1 – TEMPORARY CAP AND BLOW OFF ASSEMBLY (TO BE REMOVED WITH PH. 2 TIE–IN)

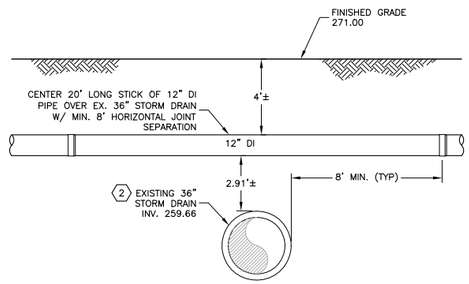
PHASE 2:

9. 2 – 12" SOLID SLEEVE, MJ (10" SLEEVE)
10. 10' – 12" DI PIPE (CUT TO FIT)
11. 1 – TEMPORARY CAP AND BLOW OFF ASSEMBLY TO BE INSTALLED WITH BRIDGE PIPING INSTALLATION AND REMOVED FOR FINAL TIE–IN

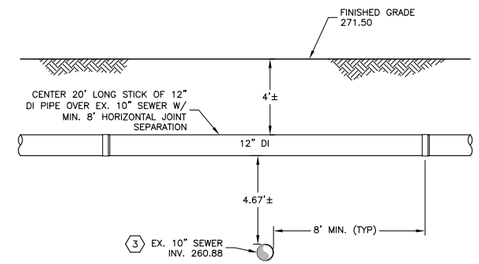
DETAIL D/CW–4 TIE–IN WITH FH
N.T.S.



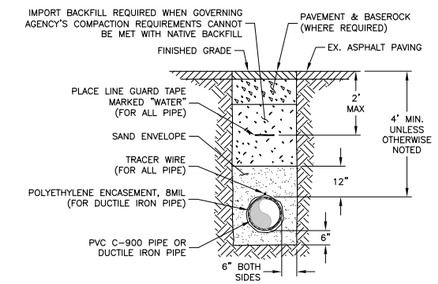
ELEVATION 1/CW–4 CROSSING
STA 00+70.9
N.T.S.



ELEVATION 2/CW–4 CROSSING
STA 3+00
N.T.S.



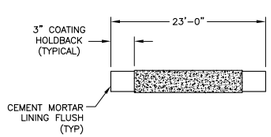
ELEVATION 3/CW–4 CROSSING
STA 3+50
N.T.S.



NOTE:

1. ALL EXCESS SPOIL IN TRACT IS TO REMAIN TRENCHSIDE AND ALL EXCESS SPOIL OFF TRACT IS TO BE REMOVED.
2. ALL VALVE CASINGS AND COVERS SHALL BE RAISED TO FINISHED GRADE AFTER PERMANENT PAVEMENT HAS BEEN PLACED.

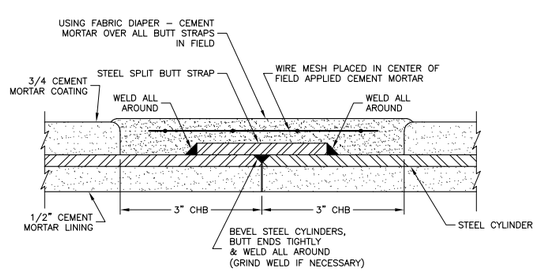
CWS STD DETAIL 4/– TRENCH SECTION DETAIL
CWS STD–DD 1.3–1
N.T.S.



PIECE MARKED "A"
N.T.S.

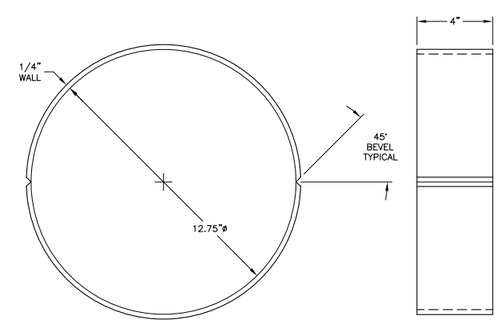
PIPE					
PIECE "MARKED"	QTY	STEEL CYL.(OD)	SCH.	CML	CMC
A	5	12.75"	20	1/2"	3/4"

CEMENT MORTAR LINING, CML
CEMENT MORTAR COATING, CMC

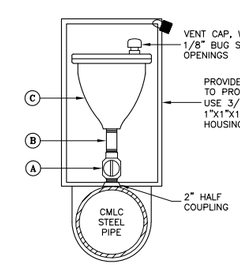


WELDING NOTES:

1. ALL WELDING TO BE DONE PER AWWA C206 WHICH REFERENCES AWS D1.1 WELDERS AND WELDING OPERATORS TO BE QUALIFIED BY TESTS AS PRESCRIBED BY AWS D1.1.
2. FILLET WELDS TO BE THE MAXIMUM SIZE ALLOWED BY AWS D1.1 SECTION 2.4.2.9.
3. GROOVE WELDS TO BE SIZED PER AWS D1.1 FIGURE 3.3.



NOTE:
STEEL SPLIT BUTT STRAP FOR 12.75" OD STEEL PIPE



INSTALLATION TO ABOVE GROUND PIPE PROFILE VIEW
N.T.S.

NOTES

1. ALL PIPE FITTINGS IN CONTACT WITH POTABLE WATER SHALL BE LEAD FREE AND COMPLIANT TO NSF–61/SECTION 8.
2. LOCATE ASSEMBLY OUTSIDE OF EXISTING OR PROPOSED TRAVELED WAYS.
3. FIRE HYDRANT BARRICADES ARE OPTIONAL FOR INSTALLATIONS BEHIND IMPROVED CURBS. (TO BE DETERMINED BY CWS). SEE LATEST REVISION OF DRAWING CW–822.
4. A VENTED COVER MAY BE PLACED OVER VALVE IF REQUIRED FOR AESTHETICS OR SAFETY.
5. IF MAIN IS UNDER CATHODIC PROTECTION, AN INSULATOR IS REQUIRED.

PARTS LIST (ABOVE GROUND INSTALLATION)		
ITEM#	QTY.	DESCRIPTION
A	1	2" BALL VALVE, F.I.P. x M.I.P. MUELLER B–20285N, FORD B81–77–NL, A.Y. McDONALD 76109
B	1	2" x 6" NIPPLE LEAD FREE BRASS (ADJUST LENGTH OF NIPPLES ACCORDINGLY)
C	1	2" APCO COMBINATION AIR VALVE MODEL 145C, OPERATING PRESSURE 80 PSI, WITH MUSHROOM VENT CAP INCLUDING BUG SCREEN WITH MIN. 1/8" OPENINGS.

CWS STD DETAIL 5/– CL&C FABRICATION DETAIL
CWS STD DD 1.1–6
N.T.S.

CWS STD DETAIL 6/– CEMENT MORTAR COATED ABOVE GROUND BUTT STRAPS
BOTTOM LINE OF TITLE
N.T.S.

CWS STD DETAIL 7/CW–4 STEEL SPLIT BUTT STRAP
CWS STD DD 1.2–3
N.T.S.

CWS STD DETAIL 8/CW–4 2" COMBINATION AIR RELIEF
CWS STD–950.R3
N.T.S.

USA NORTH 811 Call 811 Before You Dig

REGISTERED PROFESSIONAL ENGINEER JAMES T. GARDINER 2/17/23 No. C48280 CIVIL STATE OF CALIFORNIA

CALIFORNIA WATER SERVICE ™

Designed: J.N.	Approved: J.T.G.	Revision	Date	By
Drawn By: L.A./R.L.				
Checked: J.T.G.	Date: FEBRUARY 2023			

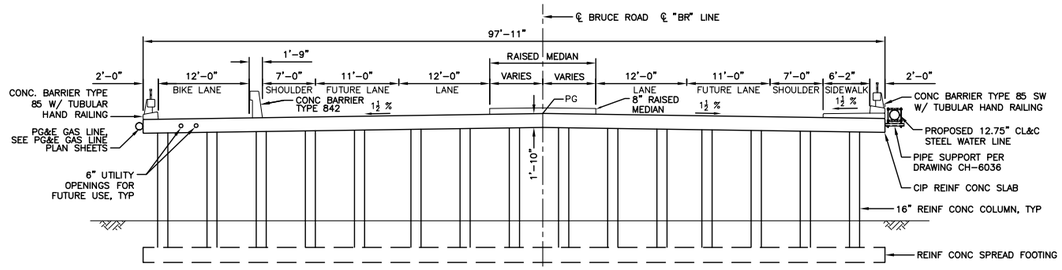
CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

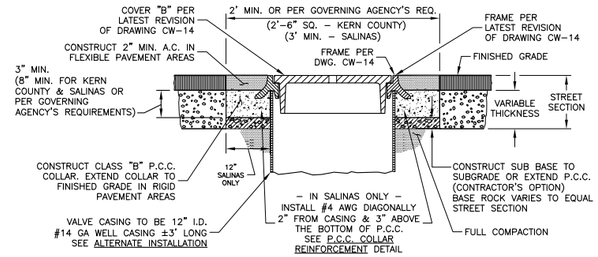
BRUCE ROAD RECONSTRUCTION
WATER MAIN INSTALLATION – PIPING DETAILS I

Project Number: 16038
Drawing Number CW–5
Scale: AS NOTED
Sheet 73 of 182

Title: BRUCE ROAD RECONSTRUCTION
Drawing Path: G:\Capital_Projects_CAD Team Files\104_Chico\00125631_CH_BRUCE-RD_BRIDGE MRP\WIP\CH-6038-C.dwg – SHT C5, Fri, Feb 17 2023 – 3:03:26pm, jnorthrop
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record
Drawing Number CW–5

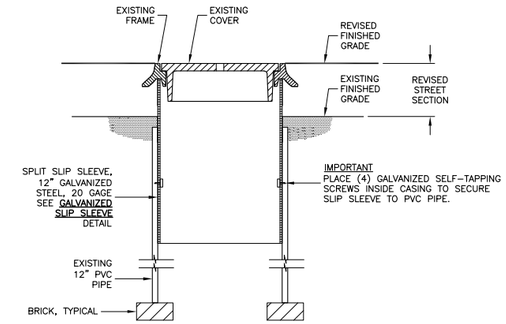


SECTION 9 / CW-4 PROPOSED BRIDGE CROSS SECTION LOOKING NORTH @ STA 81+50
(SEE STRUCTURAL BY OTHERS)
SCALE: 1" = 10'

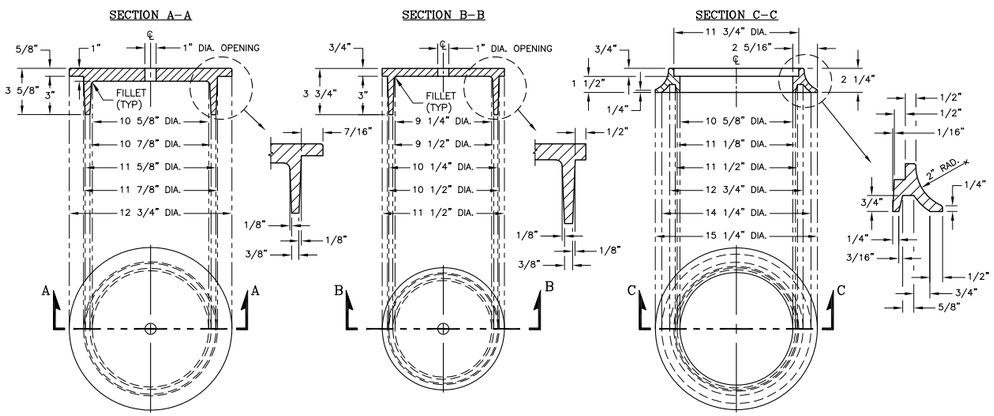


STANDARD PAVED AREA INSTALLATION
N.T.S.

NOTE:
TO EXTEND AN EXISTING STANDARD PAVED INSTALLATION: REMOVE FRAME, ADD STANDARD CAST FRAME RISER PER LATEST REVISION OF DRAWING CW-14, OR TACK WELD ADDITIONAL STEEL CASING AS REQUIRED, REPLACE FRAME.



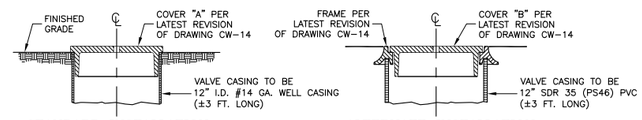
EXISTING PAVED AREA PVC CASING AND SLIP SLEEVE EXTENSION
N.T.S.



COVER "A"
(FOR UNPAVED AREAS)

COVER "B"
(FOR PAVED AREAS)

FRAME DETAIL FOR COVER "B"
(IN PAVED AREAS)

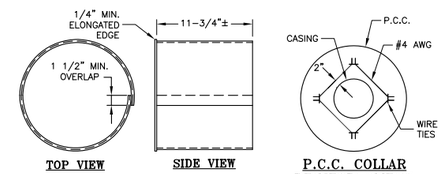


STANDARD INSTALLATION
(IN UNPAVED AREAS)

NOTE:
TO EXTEND AN EXISTING STANDARD UNPAVED INSTALLATION: REMOVE COVER, TACK WELD ADDITIONAL STEEL CASING AS REQUIRED, AND REPLACE COVER.

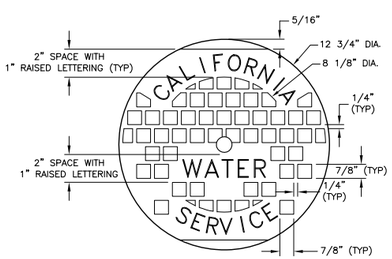
ALTERNATE INSTALLATION
(IN PAVED AREAS)

NOTE:
TO EXTEND PVC CASING IN PAVED AREA: SEE EXISTING PAVED AREA PVC CASING AND SLIP SLEEVE EXTENSION DETAIL.

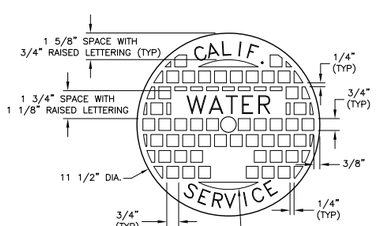


TOP VIEW
SIDE VIEW

P.C.C. COLLAR REINFORCEMENT
(SALINAS ONLY)
N.T.S.

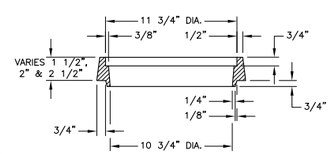


TOP VIEW OF COVER "A"



TOP VIEW OF COVER "B"

NOTE:
LETTERING AND DETAILS SHALL BE RAISED 1/8" ABOVE FACE OF COVER "A" AND "B".

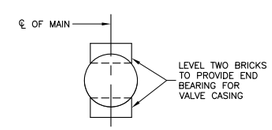


TYPICAL CENTER SECTION OF FRAME RISER
(FOR PAVED AREAS)

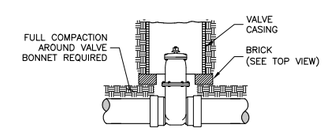
NOTES:

1. Frame, cover and casing extensions to be of good quality domestic cast iron, free from flaws and blow holes, and of sufficient strength to resist breakage by street traffic.
2. Castings to be true, and if necessary to be trimmed on emery wheel to prevent rocking of cover in any position in the frame.
3. See latest revision of drawing CW-439 for valve cover, casing, and frame installation details.
4. Cover "A" does not have a matching cast frame.

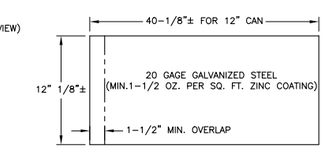
CWS STD DETAIL CW-14-R6 | 10 – | VALVE COVER AND FRAME FABRICATION DETAILS FOR PAVED AND UNPAVED AREAS
N.T.S.



VALVE CASING FOOTING TOP VIEW
N.T.S.



VALVE CASING FOOTING SIDE VIEW
N.T.S.



GALVANIZED SLIP SLEEVE
N.T.S.

CWS STD DETAIL CW-439-R6 | 11 – | VALVE CASING, COVER AND FRAME INSTALLATION DETAILS
N.T.S.

USA NORTH 811 Call 811 Before You Dig

REGISTERED PROFESSIONAL ENGINEER JAMES T. GARDNER 2/17/23 No. C48280 CIVIL STATE OF CALIFORNIA

CALIFORNIA WATER SERVICE ™

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number CW-6

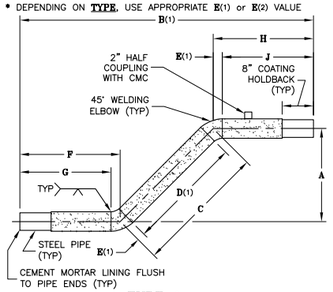
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: G:\Capital_Projects_CAD Team Files\104_Chico\00125631_CH_BRUCE-RD_BRIDGE MRP\WIP\CH-6038-C.dwg - SHT C6, Fri, Feb 17 2023 - 3:04:14pm, jnorthrop

Designed: J.N.	Approved: J.T.G.	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: L.A./R.L.	Date: FEBRUARY 2023				BRUCE ROAD RECONSTRUCTION WATER MAIN INSTALLATION - PIPING DETAILS II
Checked: J.T.G.					

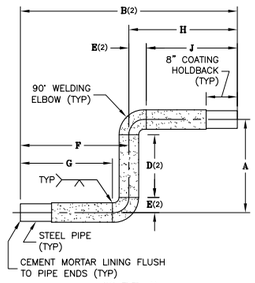
Project Number: 16038 | Drawing Number CW-6 | Scale: AS NOTED | Sheet 74 of 182

PIECE MARKED	TYPE (1 or 2)	QTY	A	B(1) F+A+H	B(2) F+H	C A/.707	D(1) C−2E(1)	D(2) A−2E(2)	F	*G F−E	H	*J H−E
"B"	1	2	4'−10"	10'−10"	–	6'−10"	5'−7"	–	3'−0"	2'−5"	3'−0"	2'−5"

* DEPENDING ON TYPE, USE APPROPRIATE E(1) or E(2) VALUE



TYPE 1
45° SINGLE OFFSET



TYPE 2
90° SINGLE OFFSET

NOTES:

1. STEEL CYLINDER PER A.S.A. WITH ASTM A53 TEST PRESSURE AND ASTM A36 PHYSICAL PROPERTIES.
2. COATING SHALL BE REINFORCED WITH 14 GAUGE WIRE MESH OR 14 GAUGE WIRE SPIRALLY WOUND IN CENTER OF COATING PER LATEST REVISION OF AWWA STANDARD C205.
3. WELDING FITTINGS SHALL BE ASTM A234 GRADE B.
4. STEEL PIPE WITH 25.75" OD SHALL BE MANUFACTURED & TESTED PER LATEST REVISION OF AWWA STANDARD C200.

PIECE MARKED	QTY.	PIPE STEEL CYL. (OD)	PIPE SCHED.	CML	CMC	ELBOW SCHED.	ELBOW 45° ELBOW E(1)	ELBOW 90° ELBOW E(2)
		6.63"	40	3/8"	3/4"	40	3.75"	6.0"
		8.63"	20	3/8"	3/4"	40	5.00"	8.0"
		10.75"	20	1/2"	3/4"	40	6.25"	10.0"
"B"	2	12.75"	20	1/2"	3/4"	.375"	7.50"	12.0"
		14.0"	10	1/2"	3/4"	30	8.75"	14.0"
		16.0"	10	1/2"	3/4"	30	10.00"	16.0"
		18.0"	10	1/2"	3/4"	.375"	11.25"	18.0"
		20.0"	10	1/2"	3/4"	20	12.50"	20.0"
		25.75"	.25"	1/2"	3/4"	.375"	**	**

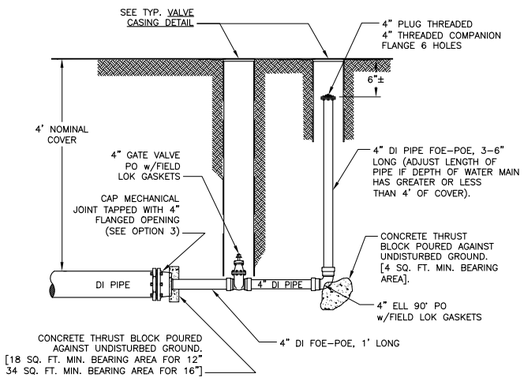
** FABRICATE MITER WELDED ELBOW PER AWWA C−208
CML = CEMENT MORTAR LINING
CMC = CEMENT MORTAR COATING

CWS STD DETAIL 12 CW−4 — CEMENT MORTAR LINED & COATED STEEL SINGLE OFFSET WITH 45° & 90° ELBOWS (CWT−579−R5)
N.T.S.

NOTE:
1. ALL PIPE FITTINGS IN CONTACT WITH WATER SHALL BE LEAD FREE (<0.25% LEAD) AND COMPLIANT TO NSF−61/SECTION 8.

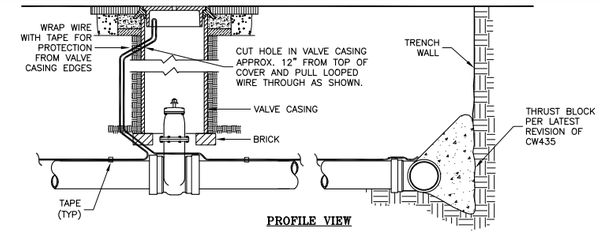
OPTIONS: THESE OPTIONS MAY BE REQUIRED BY CWS CO. AT THEIR DISCRETION.

1. IN LIEU OF CAP WITH FLANGED OPENING FOR 12" PIPE, 12" x 4" REDUCER PO WITH FIELD LOK GASKETS MAY BE USED.

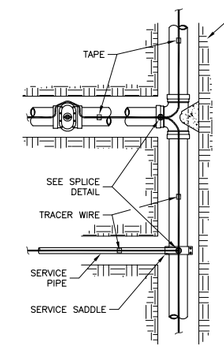


4" BLOW−OFF ASSEMBLY FOR 12" TO 16" PIPE
N.T.S.

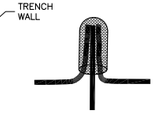
CWS STD DETAIL 13 CW−4 — STANDARD BLOWOFF ASSEMBLY
N.T.S.



PROFILE VIEW



PLAN VIEW



SPLICE DETAIL FOR CUT WIRES

STEPS:

1. STRIP 1" OF INSULATION FROM END OF EACH WIRE.
2. TWIST WIRES TOGETHER WITH PLIERS.
3. PLACE SPLICE CAP OVER TWISTED WIRES AND CRIMP WITH CRIMPING TOOL.
4. BEND CRIMP FLAT WITH WIRE.
5. WRAP SPLICED CONNECTION WITH RUBBER MOLDING TAPE, COMPLETELY COVERING BARE WIRE.

—OR—

USE WATERTIGHT DIRECT BURY TWIST−ON ENCLOSURES OR APPROVED EQUAL AND INSTALL PER MANUFACTURER'S INSTRUCTIONS.

NOTES:

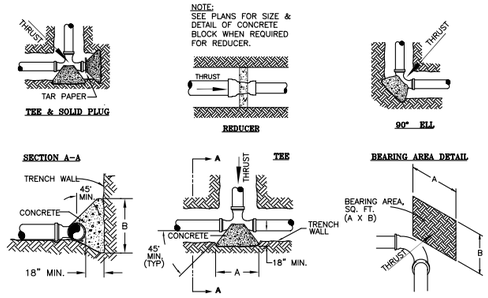
1. CONTRACTOR SHALL USE CARE TO PREVENT DAMAGE TO TRACER WIRE DURING INSTALLATION.
2. ALL WIRE SHALL BE SOLID COPPER WITH 45 MILS OF HIGH MOLECULAR WEIGHT POLYETHYLENE (HMWPE) INSULATION, UL LISTED, RATED FOR DIRECT BURIAL, MINIMUM SIZE AWG 12. COLOR BLUE FOR POTABLE WATER AND PURPLE FOR RECLAIMED WATER.
3. TRACER WIRES SHALL BE INTER−CONNECTED AT TEES, CROSSES, PE SERVICES, AND CUT WIRES WITH SPLICE CONNECTORS.
4. ENOUGH SLACK OF TRACER WIRE SHALL BE EXTENDED INTO VALVE CASING AND METER BOX FOR FUTURE ACCESS. LOOPED WIRE SHALL BE PULLED INTO VALVE CASING AS SHOWN ON "PROFILE VIEW" ABOVE. TRACER WIRE SHALL BE TAPED TO BLOW OFF ASSEMBLY AT DEAD ENDS AND TO ANGLE METER STOP AT END OF SERVICE CONNECTIONS.
5. CONTINUITY TESTS SHALL BE CONDUCTED WHEN REQUIRED BY A CAL WATER REPRESENTATIVE.
6. TRACER WIRE SHALL BE REQUIRED ON ALL MAINS.

CWS STD DETAIL 14 – — STANDARD INSTALLATION DETAILS FOR TRACER WIRE ON MAINS
N.T.S.

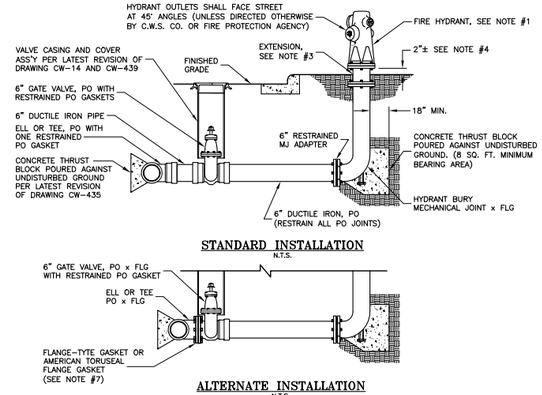
THRUST BLOCK SCHEDULE

PIPE SIZE	FITTING	TYPE OF SOIL: SOFT CLAY (1000 P.S.F.) MIN. BEARING AREA (SQ. FT.)	SOFT CLAY DIMENSION (FEET) A	SOFT CLAY DIMENSION (FEET) B	SAND (2000 P.S.F.) MIN. BEARING AREA (SQ. FT.)	SAND DIMENSION (FEET) A	SAND DIMENSION (FEET) B	ROCK (3000 P.S.F.) MIN. BEARING AREA (SQ. FT.)	ROCK DIMENSION (FEET) A	ROCK DIMENSION (FEET) B
6"	PLUG, CAP	6	3	2	3	2	1.5	2	2	1
	90° ELL	8	3.2	2.5	4.1	2.7	1.5	3	2	1.5
	45° ELL	4.4	2.2	2	2.3	1.5	1.5	1.5	1.5	1
	22 1/2° ELL	2.3	1.5	1.5	1	1	1	1	1	1
	TEE W/ 6"OUTLET	6	3	2	3	2	1.5	2	2	1
12"	PLUG, CAP	24	6	4	12	4	3	7.5	3	2.5
	90° ELL	32.5	6.5	5	16.1	4.6	3.5	10.8	3.6	3
	45° ELL	17.5	5	3.5	8.8	3.5	2.5	6	3	2
	22 1/2° ELL	9	3.6	2.5	4.6	2.3	2	3	2	1.5
	TEE W/12"OUTLET	24	6	4	12	4	3	7.5	3	2.5

NOTE:
1. THRUST BLOCKS DESIGNED FOR A MAXIMUM OF 150 PSI WATER PRESSURE
2. ALL CONCRETE SHALL CONTAIN 6 SACKS OF CEMENT PER CUBIC YARD.
3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
4. KEEP ALL CONCRETE CLEAR OF THE JOINTS ON ALL FITTINGS.
5. FORMS ARE REQUIRED ON ALL THRUST BLOCKS AND TO BE SUPPLIED BY CONTRACTOR. ALL FITTINGS TO BE WRAPPED WITH POLYETHELENE PRIOR TO POURING THRUST BLOCKS.



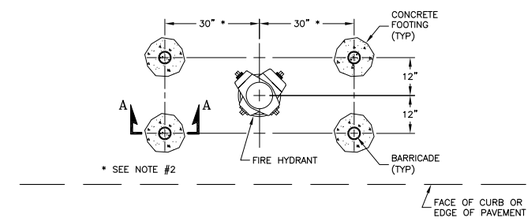
CWS STD DETAIL 15 – — TYPICAL THRUST BLOCK INSTALLATION CWT−435−R4
N.T.S.

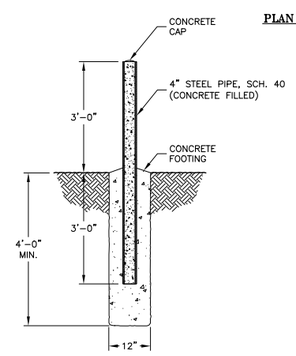


NOTES:

1. FIRE HYDRANT SHALL BE CLOW 960 WITH 4−1/2" AND 2−1/2" OUTLETS.
2. ALL FIRE HYDRANT MATERIALS SHALL COMPLY WITH LATEST C.W.S. CO. MATERIAL SPECIFICATIONS.
3. A HYDRANT EXTENSION MAY BE REQUIRED TO ADJUST FOR FINISHED GRADE.
4. FOR WET BARREL HYDRANTS THIS DIMENSION IS FROM FINISHED GRADE TO BURY'S FLANGE OR EXTENSION'S FLANGE WHEN AN EXTENSION IS REQUIRED.
5. PUSH−ON, FLANGED FITTING JOINTS, AND/OR THREADED−FLANGED RISERS MAY BE REQUIRED IN CERTAIN FIRE PROTECTION DISTRICTS. VERIFY WITH C.W.S. CO. REPRESENTATIVE ALL FIRE HYDRANT MATERIAL PRIOR TO THE INSTALLATION. (IN STOCKTON VERIFY WITH THE FIRE PROTECTION AGENCY THAT HAS JURISDICTION.)
6. FIRE HYDRANT BARRICADES SHALL BE REQUIRED WHEN A VERTICAL OR ROLLED CURB DOES NOT EXIST, OR WHEN THE FIRE HYDRANT NEEDS TO BE PROTECTED FROM MOVING VEHICLES, PER LATEST REVISION OF DRAWING CW−822.
7. ALL MACHINE BOLTS AND NUTS SHALL BE 304 STAINLESS STEEL, EXCEPT FOR BREAK−OFF BOLTS.
8. A 90° ELBOW WITH RESTRAINED PUSH ON JOINTS MAY BE REQUIRED FOR THE FIRE HYDRANT INSTALLATION WHEN SPACE IS LIMITED AND THE HYDRANT LEAD MUST RUN PARALLEL TO THE MAIN OR THE LOCATION OF THE FIRE HYDRANT REQUIRES THE BEND.
9. PROTECT ALL UNDERGROUND BOLTS AND NUTS PER C.W.S. CO. STANDARD COATING SPECIFICATION.
10. A BREAK−OFF CHECK VALVE MAY BE REQUIRED IN SLOPED TERRAIN AS SPECIFIED BY DISTRICT PERSONNEL. USE CLOW MODEL LB400 OR APPROVED EQUAL.

CWS STD DETAIL 16 – — TYPICAL FIRE HYDRANT INSTALLATION CWT−380−R16
N.T.S.





NOTE:

1. ALL HYDRANTS WHICH REQUIRE BARRICADES SHALL BE PLACED AS SHOWN.
2. THE EXACT LOCATION OF BARRICADES MAY BE CHANGED BY CWS REPRESENTATIVE IN THE FIELD.
3. THE STEEL PIPE ABOVE GROUND SHALL BE PAINTED A MIN. OF 2 COATS OF ZINC CHROMATE PRIMER (YELLOW).

CWS STD DETAIL 17 CW−4 — FIRE HYDRANT BARRICADE DETAIL CW−822−R1
N.T.S.

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REGISTERED PROFESSIONAL ENGINEER JAMES T. GARDINER 2/17/23 No. C48280 CIVIL STATE OF CALIFORNIA

CALIFORNIA WATER SERVICE ™

Designed: J.N.	Approved: J.T.G.	Revision	Date	By
Drawn By: L.A./R.L.				
Checked: J.T.G.	Date: FEBRUARY 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

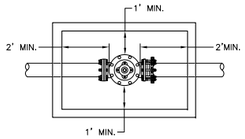
CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
WATER MAIN INSTALLATION - PIPING DETAILS III

Project Number: 16038
Scale: AS NOTED
Drawing Number CW−7
Sheet 75 of 182

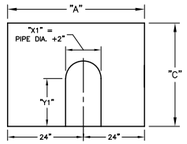
Title: BRUCE ROAD RECONSTRUCTION
Drawing Path: G:\Capital_Projects_CAD Team Files\104_Chico\00125631_CH_BRUCE-RD_BRIDGE MRP\WIP\CH-6038-C.dwg – SHT C7, Fri, Feb 17 2023 – 3:09:44pm, jnorthrop
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record
Drawing Number CW−7
Sheet 69 of 94

SPACING REQUIREMENTS FOR VALVES



(TYPE 1)

MOUSE HOLE DETAIL



(TYPE 1)

STANDARD SIZES

SPECIFY QUANTITY	INSIDE DIMENSIONS		SPECIFY	
	A–WIDTH	B–LENGTH	C–DEPTH	*LOAD RATING
	36"	60"		
	48"	48"		
	48"	60"		
	48"	72"		
	48"	78"		
1	48"	96"	78"	20k

* SPECIFY LOAD RATING REQUIRED
10K–PEDESTRIAN ONLY
20K–INCIDENTAL TRAFFIC

NOTE: CHECK ARMORCAST CATALOG FOR CUSTOM SIZES TO FIT TYPE 2 INSTALLATIONS.

MOUSE HOLE SIZES

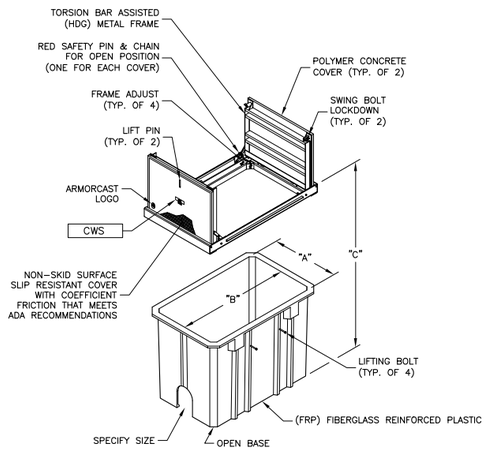
X1	16"
Y1	22"

RECOMMENDED INSTALLATION PROCEDURE

1. COMPACT AND LEVEL THE BOTTOM OF THE EXCAVATION.
2. PLACE 6 TO 8–INCH LAYER OF COMPACTED CRUSHED AGGREGATE BASE.
3. PLACE THE VAULT OVER THE COMPACTED CRUSHED AGGREGATE BASE.
4. BRACE THE INSIDE OF VAULT WITH A 2"x4" WOOD IN THREE PLACES ALONG THE LONGEST SIDEWALLS (SIDE WALL). PLACE THE THREE BRACES PERPENDICULAR TO THE LONGEST WALLS AT THE BOTTOM OF VAULT, CENTER OF VAULT AND TOP OF VAULT.
5. BRACE THE INSIDE OF VAULT WITH A 2"x4" WOOD IN TWO PLACES ALONG THE SHORTEST WALLS (END WALL). PLACE THE TWO BRACES PERPENDICULAR TO END WALLS AT THE BOTTOM OF VAULT, CENTER OF VAULT AND TOP OF VAULT. BRACING CAN BE MOVED TO AVOID CONFLICT WITH SIDEWALL BRACING.
6. BACKFILL AROUND THE VAULT UP TO THE FRAME WITH 12 "THICK CONCRETE (MIN 3500 PSI) AND ACHIEVE AT LEAST 95% COMPACTION.
7. BACKFILL IN APPROXIMATELY HORIZONTAL EVENLY DISTRIBUTED LAYERS AND COVER THE FULL LENGTH AND WIDTH OF THE ENTIRE AREA TO BE FILLED BEFORE THE NEXT HIGHER LAYER OF MATERIAL IS PLACED.
8. ALLOW CONCRETE TO CURE FOR A MINIMUM OF THREE DAYS BEFORE REMOVAL OF BRACING AND FINAL PAVING.

THE ABOVE MINIMUM RECOMMENDED INSTALLATION PROCEDURE IS PROVIDED FOR INFORMATION ONLY. CONTRACTORS SHALL FOLLOW THE LOCAL AGENCY'S REQUIREMENTS FOR INSTALLATION AND ALL APPLICABLE CODES.

NOTE:
VAULT MUST BE LOCATED BEHIND THE CURB, OUTSIDE THE TRAVELED WAY. IF VAULT MUST BE LOCATED IN TRAVELED WAY, A CONCRETE UTILITY VAULT WITH MANHOLE COVER SHALL BE USED.



CWS STD DETAIL | 18 CW–4 | POLYMER VAULT WITH TORSION ASSITED COVER

CWT–953–R5
N.T.S.

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number CW–8

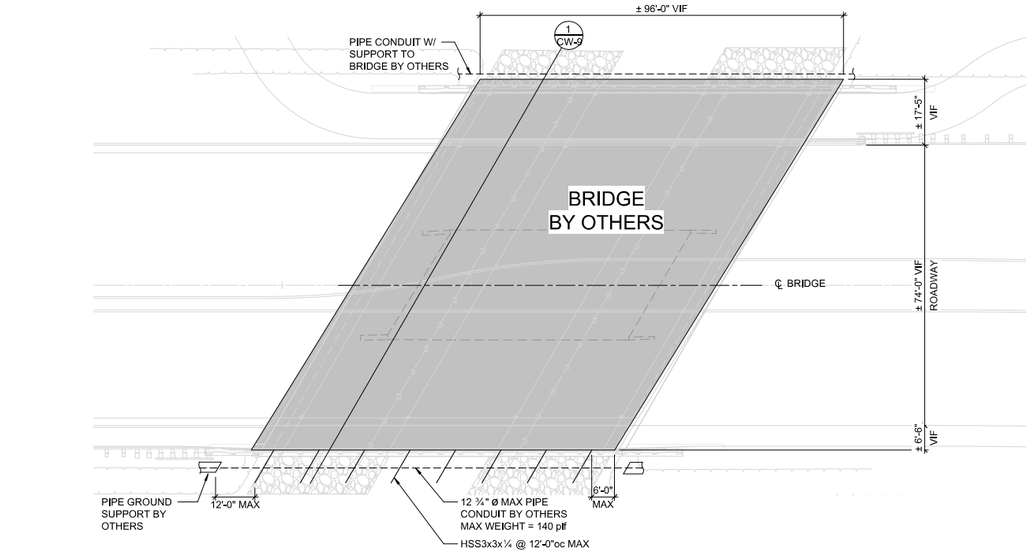
☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: G:\Capital_Projects_CAD Team Files\104_Chico\06125631_CH_BRUCE-RD_BRIDGE MRP\WIP\CH-6038-C.dwg – SHT C8, Fri, Feb 17 2023 – 3:10:18pm, jnorthrop

Plan Status:

Designed: J.N.	Approved: J.T.G.	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: L.A./R.L.					BRUCE ROAD RECONSTRUCTION WATER MAIN INSTALLATION – PIPING DETAILS IV
Checked: J.T.G.	Date: FEBRUARY 2023				

Project Number: 16038 | Drawing Number CW–8
Scale: AS NOTED | Sheet 76 of 182

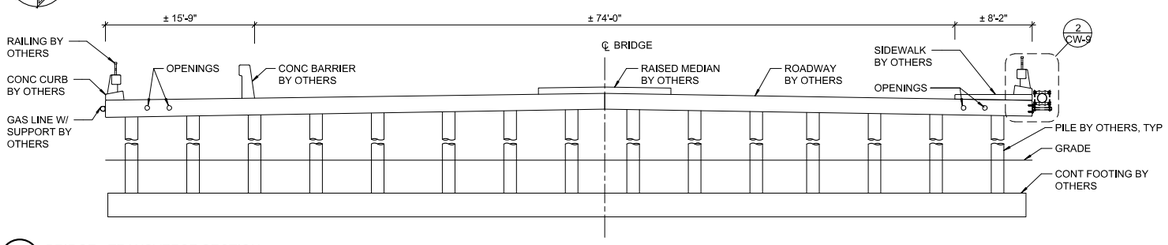
REGISTERED PROFESSIONAL ENGINEER JAMES T. GARDINER 2/17/23 No. C48280 CIVIL STATE OF CALIFORNIA



NORTH

BRIDGE - PLAN

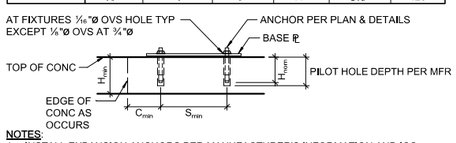
1" = 20'-0"



1 BRIDGE - TRANSVERSE SECTION

1/8" = 1'-0"

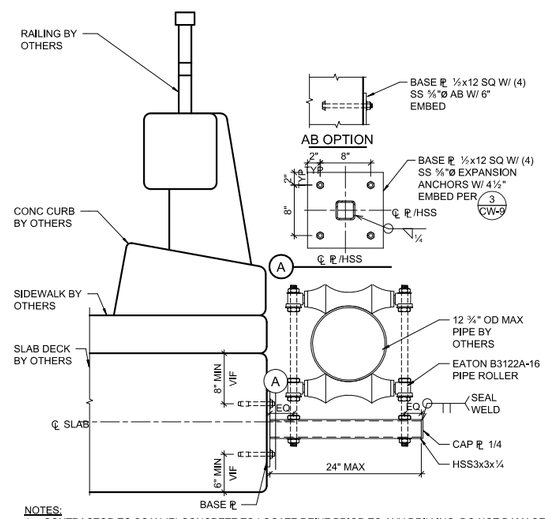
STAINLESS STL EXPANSION ANCHORS IN 2500 PSI MIN CONC						
ANCHOR TYPE	ANCHOR & PILOT HOLE DIA	MIN NOMINAL EMBED H_{nom}	MIN EDGE DISTANCE C_{min}	MIN SPACING S_{min}	MIN CONC THICKNESS H_{min}	INSTALL TORQUE (FT-LB)
SIMPSON STRONG-BOLT 2 (ICC-ESR 3037)	⅜"	1¾"	6"	10"	3¼"	30
	½"	2¾"	6½"	8"	4½"	65
	⅝"	3⅜"	4"	8"	5½"	80
	¾"	4⅛"	6"	6½"	6¾"	150
HILTI KB-TZ2 (ICC-ESR 4266)	⅜"	1⅞"	5"	8"	3¼"	30
	½"	2½"	2¾"	5½"	4"	40
	⅝"	3¼"	4"	7"	5"	60
	¾"	4"	5"	11"	5½"	125



NOTES:
1. INSTALL EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705 AND THE REQUIREMENTS OF THE ICC REPORTS.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A REASONABLE CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.

3 EXPANSION ANCHOR IN CONCRETE

3/4" = 1'-0"



NOTES:
1. CONTRACTOR TO SCAN (E) CONCRETE TO LOCATE REINF PRIOR TO ANY DRILLING. DO NOT DAMAGE (E) REINF.
2. CAST-IN-PLACE ANCHORS MAY BE USED IN LIEU OF EXPANSION BOLTS AS NOTED, AT CONTRACTOR'S OPTION.
3. SUPPORTS TO BE INSTALLED AT 12'-0" oc MAX.

2 PIPE SUPPORT

1" = 1'-0"

PLAN NOTES:

1. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL AND CIVIL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
2. MATERIALS SHALL BE PER STRUCTURAL SPECIFICATIONS.
3. STRUCUTRAL STEEL SHALL BE GALVANIZED A992 OR A572 OR EQUAL.

PLAN LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
		INDICATES EXTENT OF NEW BRIDGE.
		INDICATES STEEL COLUMN.
		INDICATES EXISTING FRAMING.
		INDICATES EXISTING FOUNDATION.

D STRUCTURAL SPECIFICATIONS

STRUCTURAL STEEL

1. STEEL GRADES:
   C SHAPES, L SHAPES & PLATES..... ASTM A36, A572 GRADE 50 OR A529 GRADE 50 UNO
   SQUARE AND RECTANGULAR HSS ..... ASTM A500 GRADE C F_y=50KSI
   ANCHOR RODS ..... ASTM F1554 GRADE 36 UNO
   ANCHOR ROD NUTS..... ASTM A563 GRADE A
   ANCHOR ROD WASHERS..... ASTM F436 TYPE 1
2. WORKMANSHIP AND DETAILS SHALL CONFORM TO THE AISC SPECIFICATIONS AND THE CBC UNLESS NOTED OTHERWISE.
3. BOLT HOLES SHALL BE 1/16" LARGER IN DIAMETER THAN THE BOLT. ANCHOR BOLT HOLES SHALL BE ⅛" LARGER IN DIAMETER THAN THE ANCHOR BOLT.
4. WELDING ELECTRODES SHALL MEET AWS REQUIREMENTS AND ELECTRODES SHALL BE E70XX FOR SHIELDED METAL ARC, F7XX-EXXX FOR SUBMERGED ARC (SHOP WELDS ONLY), ER70S-X FOR GAS METAL ARC AND E7XT-XX FOR FLUX CORE (UNLESS NOTED OTHERWISE).
5. ALL STRUCTURAL WELDS SHALL BE INSPECTED AND CERTIFIED BY A QUALIFIED TESTING AGENCY. CERTIFICATION SHALL BE SUBMITTED TO THE ARCHITECT AND THE BUILDING DEPARTMENT.
6. TEMPORARY SHORING AND BRACING SHALL BE USED AND SHALL BE ADEQUATE FOR ALL LOADS TO WHICH IT MAY BE SUBJECTED. LEAVE TEMPORARY BRACING AND SHORING IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY, AND UNTIL FINAL FRAMING CONSTRUCTION IS COMPLETED.
7. HIGH STRENGTH GROUT: ASTM C1107, NON-SHRINK, NON-METALLIC AGGREGATE TYPE, CAPABLE OF DEVELOPING MINIMUM COMPRESSIVE STRENGTH OF 7,000 PSI AT 28 DAYS WHEN PLACED IN A FLUID STATE. PROVIDE "MASTERFLOW 928" MANUFACTURED BY BASF.
8. UNPAINTED STEEL FRAMING WITH EXTERIOR EXPOSURE SHALL BE HOT-DIP GALVANIZED PER ASTM A123 CLASS 55 MINIMUM OR OTHERWISE FINISHED WITH A HIGH-PERFORMANCE (E.G. EPOXY OR URETHANE) EXTERIOR COATING SYSTEM (PRIMER AND TOP COAT) APPROVED BY THE ENGINEER. PROVIDE VENT HOLES PER ASTM A385 AT CLOSED SECTIONS (SUCH AS HSS). SUBMIT PROPOSED LOCATION OF VENT HOLES FOR REVIEW BY ENGINEER. ALL CONNECTION HARDWARE AT EXTERIOR EXPOSURE FRAMING SHALL BE HOT-DIP GALVANIZED PER ASTM A153 OR F2329. ASTM F3125 GRADE A325 HIGH-STRENGTH BOLT ASSEMBLIES MAY BE MECHANICALLY GALVANIZED PER ASTM B695 CLASS 55 OR HOT-DIP GALVANIZED PER ASTM F2329. MATING BOLTS AND NUTS SHALL RECEIVE THE SAME ZINC-COATING PROCESS. REPAIR ALL UNCOATED, DAMAGED, OR ALTERED GALVANIZED SURFACES PER ASTM A780.
9. WELDING OF THREADED STUDS, HEADED STUDS, AND DEFORMED BAR ANCHORS SHALL BE FULL-FUSION ARC WELDS CONFORMING TO AWS D1.1.
10. CONTRACTOR TO SUBMIT SHOP DRAWINGS PRIOR TO FABRICATION FOR REVIEW. GENERAL CONTRACTOR TO REVIEW SUBMITTALS PRIOR TO SUBMISSION TO ARCHITECT/ENGINEER.

E SUPERSTRUCTURE CONSTRUCTION NOTES

1. IN PREPARING THE PROJECT PLANS, THE SOURCE OF INFORMATION WAS BASED ON THE BRIDGE PLANS PREPARED BY, CITY OF CHICO COMMUNITY SERVCES DEPARTMENT, DATED MAY 25, 2020. THE CONTRACTOR SHALL VERIFY ALL EXISTING JOB CONDITIONS, REVIEW THE PLANS AND VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH ANY WORK. DRAWINGS FOR THE BRIDGE CONSTRUCTION ARE AVAILABLE FOR REVIEW.
2. ALL WORK NOT INDICATED AS BY OTHERS SHALL BE ASSUMED TO BE NEW (N).
3. ANY REMOVAL, CUTTING, DRILLING, ETC OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE. SMALL TOOLS SHALL BE USED IN ORDER NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BRIDGE STRUCTURE. IF STRUCTURAL MEMBERS OR MECHANICAL, ELECTRICAL, OR ARCHITECTURAL ELEMENTS NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED AND PRIOR APPROVAL SHALL BE OBTAINED BEFORE REMOVAL OF THE MEMBERS.

ABBREVIATIONS

AB	ANCHOR BOLT	MAX	MAXIMUM	REINF	REINFORCING
@	AT	MFR	MANUFACTURER	SQ	SQUARE
℄	CENTERLINE	MIN	MINIMUM	SS	SELECT STRUCTURAL or STAINLESS STEEL
CONC	CONCRETE	(N)	NEW		
CONT	CONTINUOUS	N/A	NOT APPLICABLE	STL	STEEL
DIA or ø	DIAMETER	NO or #	NUMBER	TYP	TYPICAL
EMBED	EMBEDMENT	oc	ON CENTER	UNO	UNLESS NOTED OTHERWISE
EQ	EQUAL	OD	OUTSIDE DIAMETER	VIF	VERIFY IN FIELD
(E)	EXISTING	OVS	OVERSIZED	W/	WITH
HSS	HOLLOW STRUCTURAL SECTION	ℙ	PLATE or PROPERTY LINE	W/O	WITHOUT
		PLF	POUNDS PER LINEAR FOOT		

A DESIGN CRITERIA

DESIGN CRITERIA: 2019 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC)
2017 AASHTO BRIDGE DESIGN SPECIFICATIONS
VEHICULAR LOAD: TWO LANES H20+S16-44
LANE LOAD: 670 PLF
IMPORTANCE: TYPICAL OPERATIONAL IMPORTANCE
WIND DATA: BASE WIND VELOCITY IN MPH: 100
STREAM DATA: MAX VELOCITY: 7 FEET PER SECOND
EARTHQUAKE DATA: OPERATIONAL CATEGORY: OTHER
SITE CLASS: D
MAPPED SPECTRAL RESPONSE ACCELERATIONS:
PGA = 0.33; S_S = 0.745; S_1 = 0.308
S_{DS} = 0.598; S_{D1} = 0.409

SCOPE: SUPPORT OF NEW WATER PIPE ON SIDE OF NEW BRIDGE BY OTHERS

B GENERAL NOTES

1. DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK. ALL DIMENSIONS RELATED TO EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AND ANY DISCREPANCIES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
2. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
3. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
4. REFER TO EXISTING DRAWINGS FOR SIDEWALK SLABS AND DIMENSIONS.
5. COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
6. SHORING AND BRACING DESIGN, MATERIALS AND INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AND SHALL BE ADEQUATE FOR ALL LOADS. LEAVE IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL FINAL STRUCTURAL CONSTRUCTION IS COMPLETED.
7. SPECIAL INSPECTIONS REQUIRED PER C/CW-9 AND THE TESTING AND INSPECTION FORM.

C SPECIAL INSPECTION BY OWNERS TESTING AGENCY

SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED BY AN APPROVED AGENCY IN ACCORDANCE WITH CBC CHAPTER 17 AND THE STATEMENT OF SPECIAL INSPECTIONS AS REQUIRED BY CBC SECTIONS 1704.2.3 AND 1704.3 FOR BUILDING STRUCTURAL ELEMENTS SUMMARIZED AS FOLLOWS:

1. **SHOP FABRICATION OF STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES** PER CBC SECTION 1704.2.5 OR ALTERNATIVELY, APPROVED FABRICATORS SHALL SUBMIT A CERTIFICATE OF COMPLIANCE PER CBC SECTION 1704.2.5.1
2. **STRUCTURAL STEEL CONSTRUCTION** PER CBC SECTIONS 1705.2, 1705.12.1, 1705.13.1, AND TABLE 1705.2.3 INCLUDING MATERIAL IDENTIFICATION, SHOP AND FIELD WELDING, AND INSTALLATION OF HIGH-STRENGTH BOLTS.
3. **SPECIAL CASES** PER CBC SECTION 1705.1.1 AND PRODUCT ICC REPORTS FOR ALL STRUCTURAL MATERIALS AND SYSTEMS REQUIRED TO BE INSTALLED IN ACCORDANCE WITH ADDITIONAL MANUFACTURER'S INSTRUCTIONS THAT PRESCRIBE REQUIREMENTS NOT CONTAINED IN THE CBC OR REFERENCED STANDARDS INCLUDING POST-INSTALLED ANCHOR BOLTS IN CONCRETE AND CMU, AND PRE-MANUFACTURED SHEAR PANELS AND BRACED FRAMES.

ZFA STRUCTURAL ENGINEERS
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zfa job no. 22287

REGISTERED PROFESSIONAL ENGINEER — MICKEY C. KELLOGG — No. 5851 — STRUCTURAL — STATE OF CALIFORNIA

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number CW-9

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Designed: AAL	Approved:	Revision	Date	By
Drawn By: AAL				
Checked: MCK	Date: 6/23/22			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
WATER MAIN INSTALLATION - PIPE SUPPORT DETAILS

Project Number: 16038
Scale: As indicated
Drawing Number CW-9

TRAFFIC SIGNAL MODIFICATION PLANS

BRUCE ROAD & E. 20TH STREET

GENERAL NOTES, LEGEND, AND ABBREVIATIONS APPLICABLE TO TRAFFIC SIGNAL MODIFICATION PLANS, SHEETS TS-1 THROUGH TS-3, ONLY.

GENERAL NOTES :

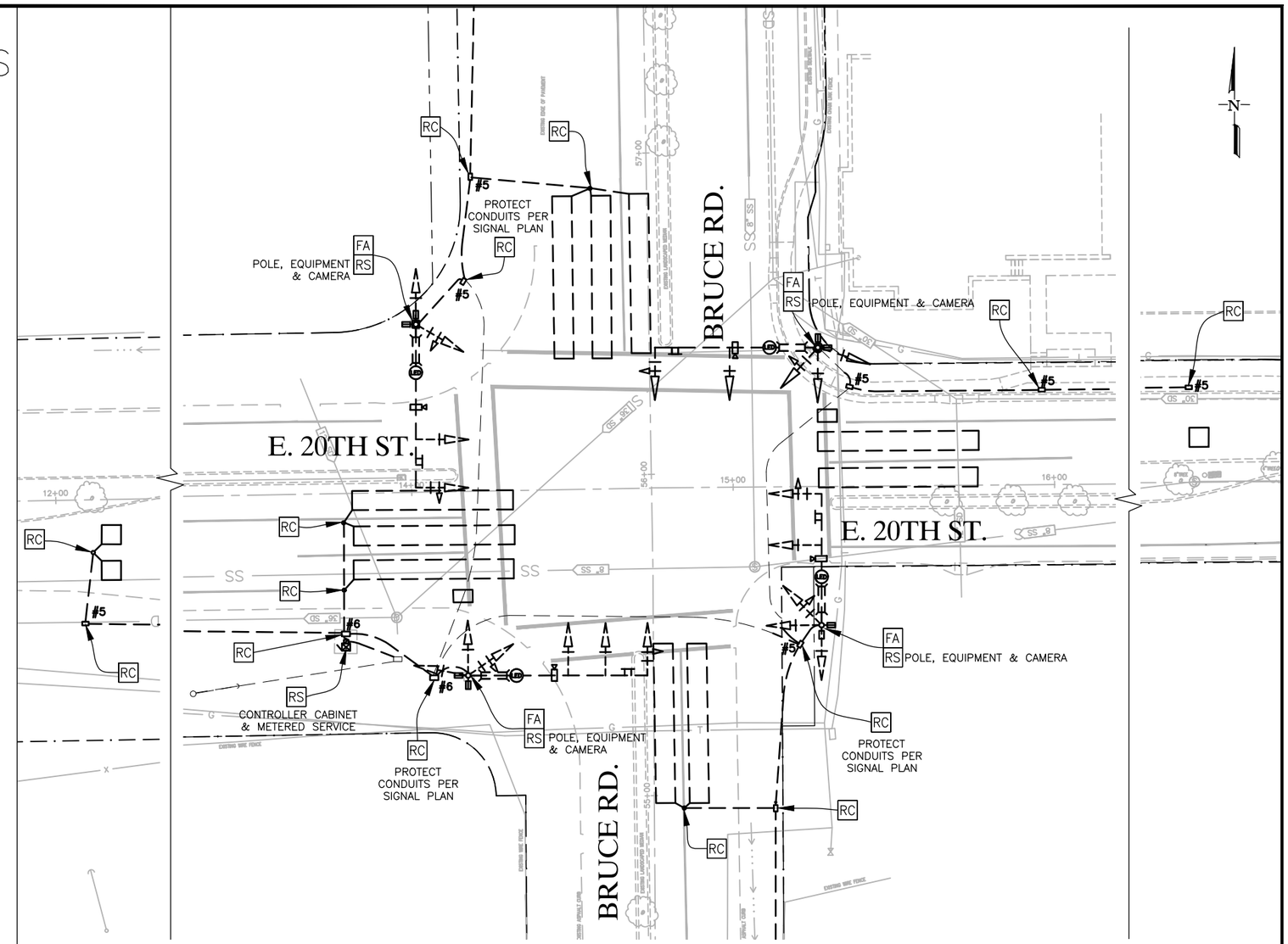
1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CITY OF CHICO IMPROVEMENT STANDARDS AND SPECIFICATIONS, CALTRANS STANDARD PLANS (2018 EDITION), CALTRANS STANDARD SPECIFICATIONS (2018 EDITION), AND CALTRANS TRANSPORTATION ELECTRICAL EQUIPMENT SPECIFICATIONS (TEES) AND ERRATA NO.1-3 (2009). ALL SIGNAL EQUIPMENT AND MATERIALS SHALL BE LISTED IN THE CALTRANS AUTHORIZED MATERIALS LIST WHEN A CATEGORY FOR THAT MATERIAL/ITEM EXISTS.
2. THE PRECISE LOCATIONS OF UNDERGROUND UTILITIES ARE UNKNOWN, CALL FOR UTILITY LOCATES AT LEAST 48 HOURS PRIOR TO DIGGING AND PROCEED WITH CAUTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING SUBSTRUCTURES, WHETHER SHOWN OR NOT, AND TO NOTIFY ALL UTILITY COMPANIES TO VERIFY IN THE FIELD THE LOCATION OF THEIR INSTALLATIONS AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL SUBSTRUCTURES FROM DAMAGE, AS WELL AS ANY OTHER PUBLIC INFRASTRUCTURE. THE EXPENSE TO REPAIR OR FOR REPLACEMENT SHALL BE BORNE BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR AND/OR REPLACE ALL FACILITIES AND FEATURES DAMAGED BY THE CONTRACTOR'S ACTIVITIES, INCLUDING LANDSCAPING AND IRRIGATION SYSTEMS, TO THEIR PRE-CONSTRUCTION CONDITION AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DOCUMENT AND NOTIFY THE ENGINEER OF DAMAGED EQUIPMENT AND/OR FACILITIES PRIOR TO BEGINNING WORK.
4. CLEAN EXISTING PULL BOXES TO REMAIN AND INSTALL DRAIN ROCK BEFORE INSTALLING NEW CABLE AT LOCATIONS WHERE RE-CABLING IS SHOWN ON THE PLANS. NO DIRECT PAYMENT.
5. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL INCIDENTAL ITEMS AND PERFORM ALL WORK AS NECESSARY TO COMPLETE FULLY FUNCTIONAL TRAFFIC SIGNAL SYSTEMS. PAYMENT FOR INCIDENTAL ITEMS SHALL BE INCLUDED WITHIN THE BID ITEMS OUTLINED IN THE OFFICIAL BID SCHEDULE.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROCESSING AND OBTAINING ALL SERVICE APPLICATIONS AND PERMITS. COORDINATE ALL CONNECTIONS/DISCONNECTIONS WITH THE OWNING UTILITY. NO DIRECT PAYMENT.
7. THE FINAL LOCATION OF ALL POLES, PULL BOXES, CABINETS, AND CONDUIT RUNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. CONDUIT RUNS SHOWN IN THE PLANS ARE SCHEMATIC FOR THE PURPOSE OF PLAN LEGIBILITY.
8. ALL CONDUIT RUNS TERMINATING IN A PULL BOX SHALL HAVE A MINIMUM OF SIX INCHES OF CLEARANCE FROM THE BOTTOM OF THE LID, AND SHALL RISE A MINIMUM OF THREE INCHES ABOVE THE TOP OF THE DRAIN ROCK/GROUT. ALL NEW CONDUIT RUNS SHALL HAVE A PULL TAPE.
9. PULLBOXES LOCATED OUTSIDE OF PAVED AREAS SHALL BE MARKED WITH A K-2 PULLBOX MARKER PER CALTRANS STANDARD PLAN A73A WITH NON-REFLECTIVE GREEN INDICATOR TAPE. NO DIRECT PAYMENT.

LEGEND:

NEW	EXISTING	
■	▨	PULL BOX
⊠	⊠	TRAFFIC SIGNAL CONTROLLER CABINET
□	⬚	VEHICLE DETECTOR LOOP
●	○	TRAFFIC SIGNAL POLE
— — —	— — —	CONDUIT
◪	◪	METERED SERVICE
		THRU SIGNAL HEAD
		TURN SIGNAL HEAD
		PEDESTRIAN SIGNAL HEAD
		SIGN
		INTERNALLY ILLUMINATED STREET NAME SIGN
		VIDEO DETECTION CAMERA
▨		VIDEO DETECTION ZONE
RC		EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
RS		REMOVE AND SALVAGE EQUIPMENT
RL		RELOCATE EQUIPMENT
FA		FOUNDATION TO BE ABANDONED
PEU		PHOTOELECTRIC UNIT
#		CONSTRUCTION NOTE
#		CONDUIT RUN

ABBREVIATIONS:

ABB.	MEANING
AWG	AMERICAN WIRE GAUGE
APS	ACCESSIBLE PEDESTRIAN SIGNAL
CON	CONDUCTOR
DLC	DETECTOR LEAD IN CABLE
EP	EDGE OF PAVEMENT
EX.	EXISTING
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN
IMSA	INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION
LED	LIGHT EMITTING DIODE
MA	MAST ARM
MAX	MAXIMUM
MIN	MINIMUM
MMU	MALFUNCTION MANAGEMENT UNIT
OHP	OVERHEAD POWER
PB	PULLBOX
PCC	PORTLAND CEMENT CONCRETE
Q	QUADRANT
SPEC	SPECIFICATION
SW	SIDEWALK
TBD	TO BE DETERMINED
TYP	TYPICAL
ø	PHASE

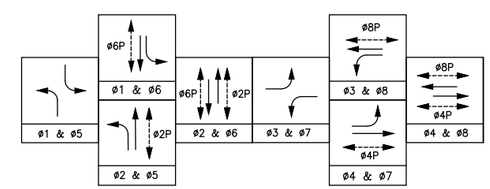


DEMOLITION NOTES:

REMOVE ABANDONED MAST ARM POLE FOUNDATIONS TO 24" BELOW FINISHED GRADE.

ABANDON CONDUIT AND REMOVE CONDUCTORS NOT USED IN THE FINAL CONFIGURATION.

20 0 20 40
1" = 20'
GRAPHIC SCALE
(34" X 22" SHEETS)



EXISTING PHASE DIAGRAM

FLASHING OPERATION: ALL RED

PREPARED BY:

HEADWAY TRANSPORTATION
2240 ST. GEORGE LN
SUITE 1
CHICO, CA 95926
(530) 897-0199

REGISTERED PROFESSIONAL ENGINEER
RICHARD J. LEITHNER
No. 78605
Exp. 9/30/23
CIVIL
STATE OF CALIFORNIA

2/16/2023
DATE

USA NORTH 811 Call 811 Before You Dig

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number TS-1

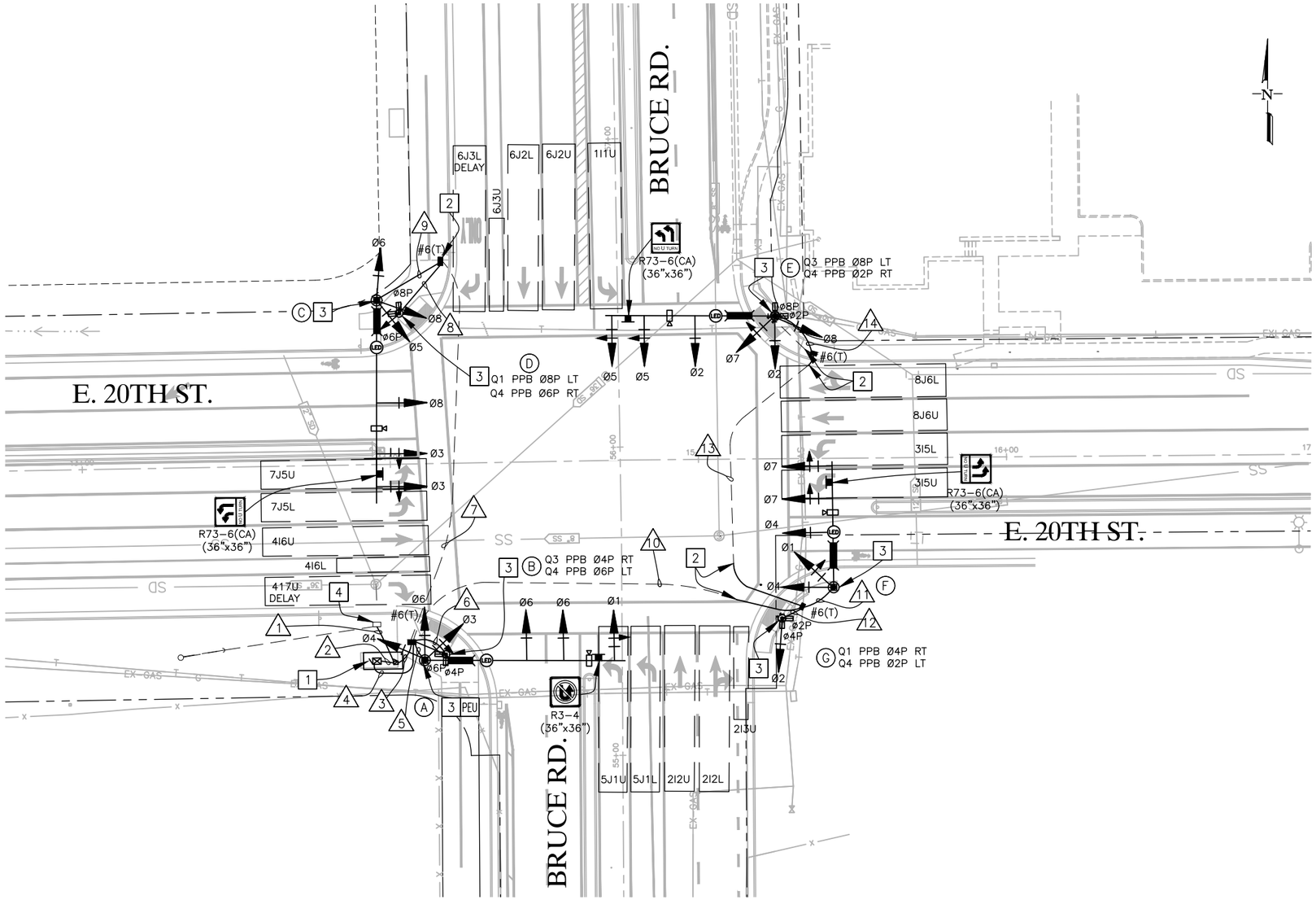
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

			Revision	Date	By
Designed:	RP	Approved:			
Drawn By:	RP				
Checked:	LC	Date: FEBRUARY, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
BRUCE RD / 20TH ST TRAFFIC SIGNAL DEMOLITION PLAN AND NOTES

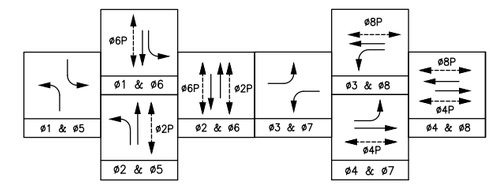
Project Number: 16038	Drawing Number TS-1
Scale: 1"= 20'	Sheet 78 of 182



CONSTRUCTION NOTES (THIS SHEET ONLY):

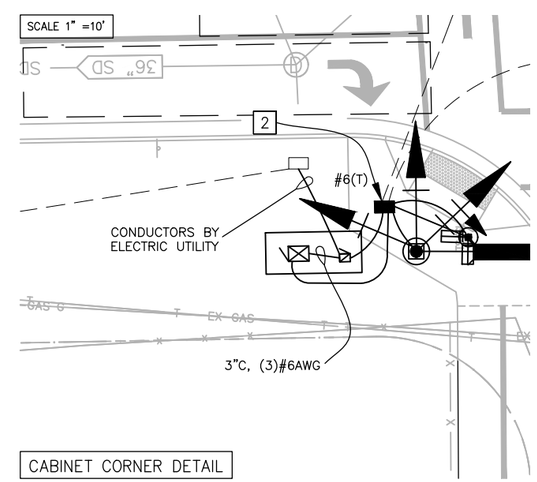
1. INSTALL NEW CONTROLLER CABINET AND METERED SERVICE PEDESTAL TO NEW FOUNDATIONS. MATCH NEW CABINET BOLT PATTERN. CONSTRUCT 5'X12' PCC PAD SURROUNDING SERVICE AND CONTROLLER CABINETS. INSTALL NEW CONDUCTORS THROUGHOUT PER CONDUCTOR & CONDUIT SCHEDULE.
2. INTERCEPT EXISTING CONDUIT AND EXTEND TO NEW PULLBOX.
3. FURNISH AND INSTALL NEW POLE ON NEW FOUNDATION AND EQUIPMENT PER POLE SCHEDULE. FURNISH AND INSTALL NEW CONDUIT TO PULL BOX PER CITY OF CHICO STD. S-17, TYPE "A" ALT #1 AND CONDUIT & CONDUCTOR SCHEDULE ON TS-3.
4. RESET PULLBOX TO FINISH GRADE.

ES-3C DETAIL A



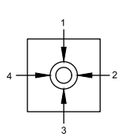
EXISTING PHASE DIAGRAM (TO REMAIN)

FLASHING OPERATION: ALL RED



CABINET CORNER DETAIL

20 0 20 40
1" = 20' GRAPHIC SCALE
(34" X 22" SHEETS)



QUADRANT
SIGNAL EQUIPMENT LOCATION (TOP VIEW)

PREPARED BY:

HEADWAY TRANSPORTATION
2240 ST. GEORGE LN
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CHICO, CA 95926
(530) 897-0199

REGISTERED PROFESSIONAL ENGINEER RICHARD REYTMAN No. 78605 Exp. 9/30/23 CIVIL STATE OF CALIFORNIA

2/16/2023
DATE

Designed: RP	Approved:	Revision	Date	By
Drawn By: RP				
Checked: LC	Date: FEBRUARY, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
BRUCE RD / 20TH ST TRAFFIC SIGNAL MODIFICATION PLANS

Project Number: 16038
Scale: AS NOTED
Drawing Number TS-2
Sheet 79 of 182

Title: BRUCE ROAD RECONSTRUCTION

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Number TS-2

CONDUCTOR & CONDUIT SCHEDULE

AWG/ CABLE	CONDUIT RUN / CONDUIT SIZE	1 3"	2 3"	3 3"	4 (4)3"	5 (2)3"	6 3"	7 4"	8 3"	9 (2)3"	10 4"	11 (2)3"	12 3"	13 4"	14 (2)3"
(25)#14 AWG + (1)#10 AWG CABLE	SIGNAL CABLE	EXISTING CONDUCTORS			5	1		1		1	3	1	1	1	1
(10)#14 AWG + (1)#10 AWG CABLE	SIGNAL CABLE				2		1	1	1						
#10 AWG	LUMINAIRES/IISNS			4		2		2		2	2	2		2	2
#8 AWG	GROUND				1	1	1	1	1	1	1	1	1	1	1
#6 AWG	SERVICE		3												
#14 AWG	PHOTOELECTRIC UNIT			3		3									
VIDEO DETECTOR CABLE	VIDEO				4	1		1		1	2	1		1	1
TOTAL	ALL CONDUCTORS & CABLES		3	7	12	8	2	6	2	5	8	5	2	5	5
	PERCENT CONDUIT FILL		2%	2%	15%	10%	5%	9%	5%	6%	22%	6%	10%	6%	6%

ALL CABLE AND CONDUCTORS SHOWN ARE TO BE FURNISHED NEW AND INSTALLED BY THE CONTRACTOR. SHADED CONDUIT RUN NUMBER INDICATES EXISTING CONDUIT RUN.

POLE & EQUIPMENT SCHEDULE

LOC	STANDARD TYPE	STANDARD MAST	STANDARD LUM. ARM	VEHICLE SIGNALS Ø	VEHICLE SIGNALS TYPE	VEHICLE SIGNALS MTG	PED SIGNALS Ø	PED SIGNALS TYPE	PED SIGNALS MTG	PED PUSH BUTTON Ø	PED PUSH BUTTON QUAD	PED PUSH BUTTON ARROW	NOTES
A	61-5-100	65'	15'	1 6 6 3 6 4	1W3C 1W3C 1W3C 1W3C 1W3C 1W3C	MAT MAS MAS SV-3-TA	–	–	–	–	–	–	FURNISH AND INSTALL NEW MUTCD R3-4 SIGN ON MAST ARM PER CALTRANS STANDARD PLAN ES-7N. FURNISH AND INSTALL NEW VIDEO DETECTION CAMERA ON MAST ARM RISER PER CALTRANS STANDARD PLAN ES-7R. FURNISH AND INSTALL IISNS ON MAST ARM. FURNISH AND INSTALL NEW PHOTOELECTRIC UNIT AT TOP OF POLE. ES-7H / ELEV B
B	1-A (7')	–	–	–	–	–	4P 6P	1W2L 1W2L	TP-2-T	4P 6P	3 4	RT LT	ES-7B / DET A-1
C	61-5-100	65'	15'	3 3 8 5 8 6	1W3C 1W3C 1W3C 1W3C 1W3C 1W3C	MAT MAS MAS SV-3-TA	–	–	–	–	–	–	FURNISH AND INSTALL R73-6(CA) SIGN ON MAST ARM PER CALNTRANS STANDARD PLAN ES-7N. FURNISH AND INSTALL NEW VIDEO DETECTION CAMERA ON MAST ARM RISER PER CALTRANS STANDARD PLAN ES-7R. FURNISH AND INSTALL IISNS ON MAST ARM. ES-7H / ELEV B
D	1-A (7')	–	–	–	–	–	6P 8P	1W2L 1W2L	TP-2-T	6P 8P	4 1	RT LT	ES-7B / DET A-1
E	29-5-100	55'	15'	5 5 2 7 2 8	1W3C 1W3C 1W3C 1W3C 1W3C 1W3C	MAT MAS MAS SV-3-TA	2P 8P	1W2L 1W2L	SP-2-T	2P 8P	4 3	RT LT	FURNISH AND INSTALL R73-6(CA) SIGN ON MAST ARM PER CALTRANS STANDARD PLAN ES-7N. FURNISH AND INSTALL NEW VIDEO DETECTION CAMERA ON MAST ARM RISER PER CALTRANS STANDARD PLAN ES-7R. FURNISH AND INSTALL IISNS ON MAST ARM. ES-7G / DET B
F	29-5-100	40'	15'	7 7 4 1 4	1W3C 1W3C 1W3C 1W3C 1W3C	MAT MAS MAS SV-2-TA	–	–	–	–	–	–	FURNISH AND INSTALL R73-6(CA) SIGN ON MAST ARM PER CALTRANS STANDARD PLAN ES-7N. FURNISH AND INSTALL NEW VIDEO DETECTION CAMERA ON MAST ARM PER CALTRANS STANDARD PLAN ES-7R. FURNISH AND INSTALL IISNS ON MAST ARM. ES-7G / ELEV B
G	1-A (10')	–	–	2	1W3C	TV-1-T	2P 4P	1W2L 1W2L	SP-2-T	2P 4P	4 1	LT RT	ES-7B / DET A-1

ALL POLES AND EQUIPMENT SHOWN ARE TO BE FURNISHED NEW AND INSTALLED BY THE CONTRACTOR.

IISNS SCHEDULE

POLE NO.	STREET NAME
A	E. 20th St.
C	Bruce Rd.
E	E. 20th St.
F	Bruce Rd.

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PREPARED BY:

HEADWAY TRANSPORTATION
2240 ST. GEORGE LN
SUITE 1
CHICO, CA 95926
(530) 897-0199

REGISTERED PROFESSIONAL ENGINEER RYBERRO PETTIKAT No. 78605 Exp. 9/30/23 CIVIL STATE OF CALIFORNIA

2/16/2023
DATE

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number TS-3

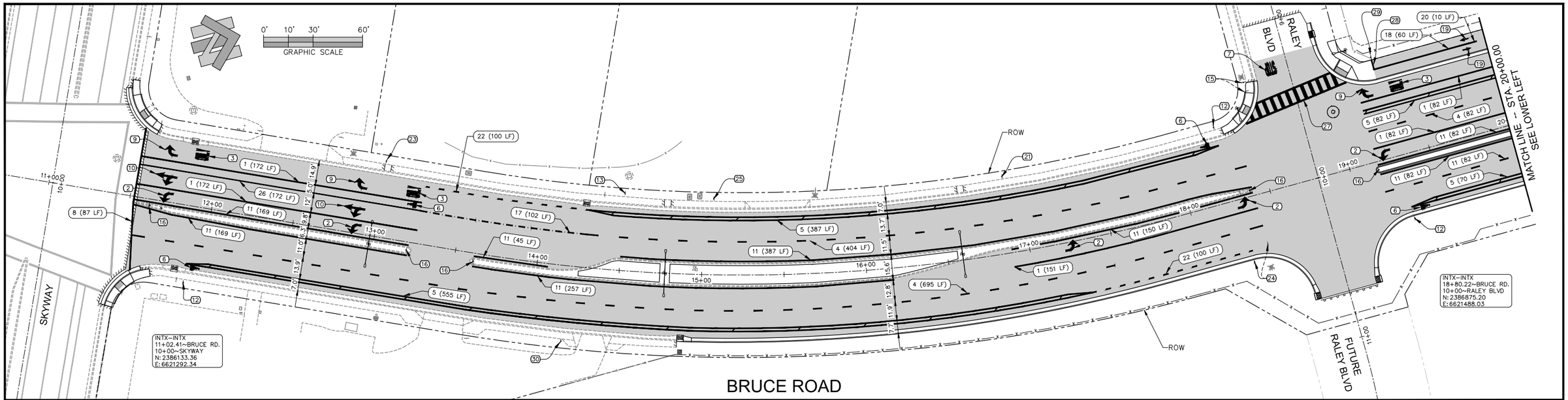
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Designed: RP	Approved:	Revision	Date	By	
Drawn By: RP					
Checked: LC	Date: FEBRUARY, 2023				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
BRUCE RD / 20TH ST TRAFFIC SIGNAL SCHEDULES

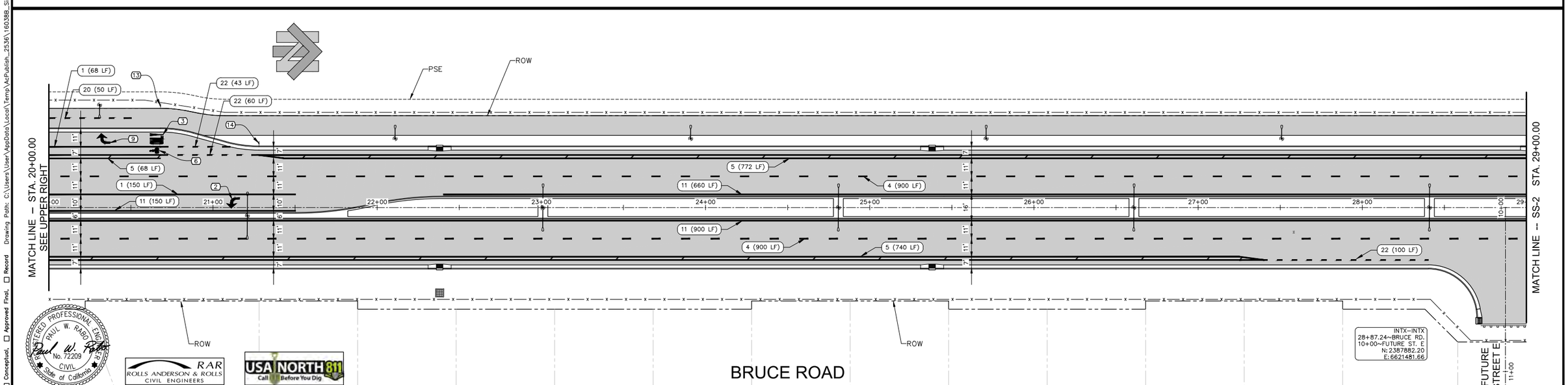
Project Number: 16038
Scale:
Drawing Number TS-3
Sheet 80 of 182



BRUCE ROAD

STRIPING AND SIGNAGE NOTES

1. INSTALL CALTRANS STD. PLAN A20D DETAIL 38 TRAFFIC LINE (877 L.F. ± TOTAL THIS DRAWING)
2. INSTALL CALTRANS STD. PLAN A24A TYPE IV (L) ARROW (6 TOTAL THIS DRAWING),
3. INSTALL CALTRANS STD. PLAN A24E "ONLY" PAVEMENT MARKING (4 TOTAL THIS DRAWING)
4. INSTALL CALTRANS 2015 STD. PLAN A20A DETAIL 13 TRAFFIC LINE (3063 L.F.± TOTAL THIS DRAWING)
5. INSTALL WHITE BIKE LANE BUFFER STRIPING (2674 L.F.± TOTAL THIS DRAWING), SEE SHEET 103 FOR DETAIL.
6. INSTALL CALTRANS STD. PLAN A24C "BIKE LANE SYMBOL WITH PERSON" PAVEMENT MARKING OVER GREEN BACKGROUND (5 TOTAL THIS DRAWING)
7. INSTALL CALTRANS STD. PLAN A24D "STOP" PAVEMENT MARKING (1 TOTAL THIS DRAWING)
8. INSTALL CALTRANS STD. PLAN A24E LIMIT LINE (87 L.F.± TOTAL THIS DRAWING)
9. INSTALL CALTRANS STD. PLAN A24A TYPE IV (R) ARROW (4 TOTAL THIS DRAWING)
10. INSTALL CALTRANS STD. PLAN A24A TYPE VII (L) ARROW (2 TOTAL THIS DRAWING)
11. INSTALL CALTRANS STD. PLAN A20B DETAIL 26 TRAFFIC LINE (3051 L.F.± TOTAL THIS DRAWING)
12. INSTALL R3-17 "BIKE LANE" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (3 TOTAL THIS DRAWING)
13. INSTALL R3-7R "RIGHT LANE MUST TURN RIGHT" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (2 TOTAL THIS DRAWING)
14. INSTALL R4-4 "BEGIN RIGHT TURN LANE YIELD TO BIKERS" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
15. INSTALL RELOCATED STREET AND STOP SIGNS OVER R81(CA) "BIKE LANE" OVER M6-1 "ARROW RIGHT" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
16. INSTALL CALTRANS STD. PLAN A73A TYPE K-1 (CA) SURFACE MOUNT FLEXIBLE MARKER (5 TOTAL THIS DRAWING)
17. INSTALL CALTRANS STD. PLAN A20C DETAIL 37B TRAFFIC LINE (102 L.F. ± TOTAL THIS DRAWING)
18. INSTALL 4" WIDE SOLID YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (60 L.F.± TOTAL THIS DRAWING)
19. INSTALL CALTRANS STD. PLAN A24A BIKE LANE ARROW PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (2 TOTAL THIS DRAWING)
20. INSTALL 4" WIDE BROKEN YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (60 L.F.± TOTAL THIS DRAWING)
21. INSTALL W74(CA) "THRU TRAFFIC MERGE LEFT" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
22. INSTALL CALTRANS STD. PLAN A20D DETAIL 39A TRAFFIC LINE (403 L.F.± TOTAL THIS DRAWING)
23. INSTALL SALVAGED "TRUCK ROUTE" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
24. INSTALL RELOCATED SIGNS ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
25. INSTALL W73A(CA) "RIGHT LANE TURNS RIGHT AHEAD" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
26. INSTALL CALTRANS STD. PLAN A20D DETAIL 39 TRAFFIC LINE (172 L.F.± TOTAL THIS DRAWING)
27. INSTALL C.O.C. STD. PLAN NO. 1 LADDER CROSSWALK (296 S.F.± TOTAL THIS DRAWING)
28. INSTALL 8" WHITE STOP BAR PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (6 L.F. ± TOTAL THIS DRAWING)
29. INSTALL 18" X 18" R1-1 "STOP" SIGN OVER R44A(CA) "NO MOTOR VEHICLES" SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
30. INSTALL RELOCATED SPEED LIMIT SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)



BRUCE ROAD

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call Before You Dig

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

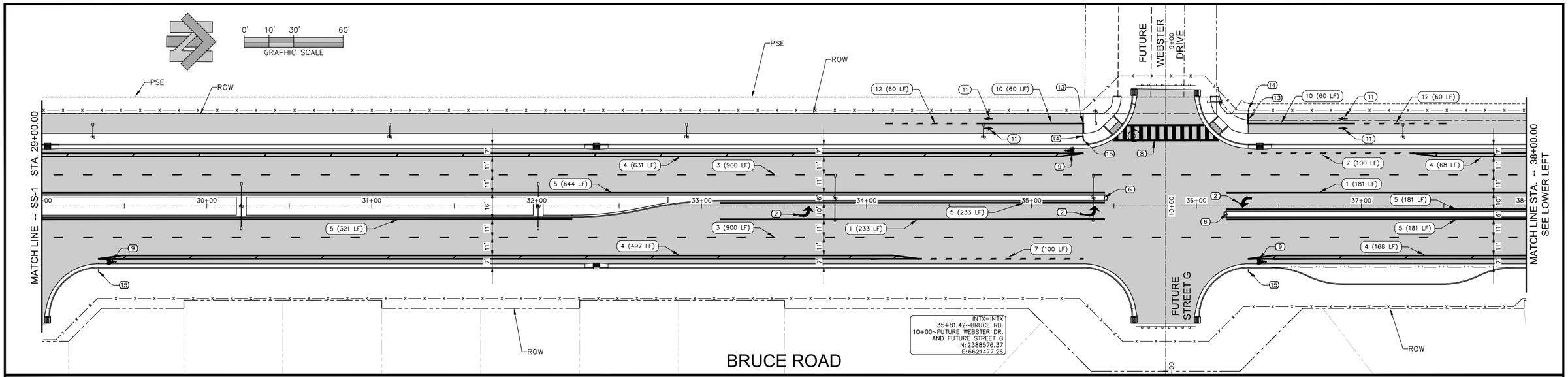
BRUCE ROAD RECONSTRUCTION
STRIPING AND SIGNAGE - BRUCE ROAD STA. 11+00 TO 29+00

Project Number: 16038	Drawing Number SS-1
Scale: 1"= 30'	Sheet 81 of 182

Title: BRUCE ROAD RECONSTRUCTION

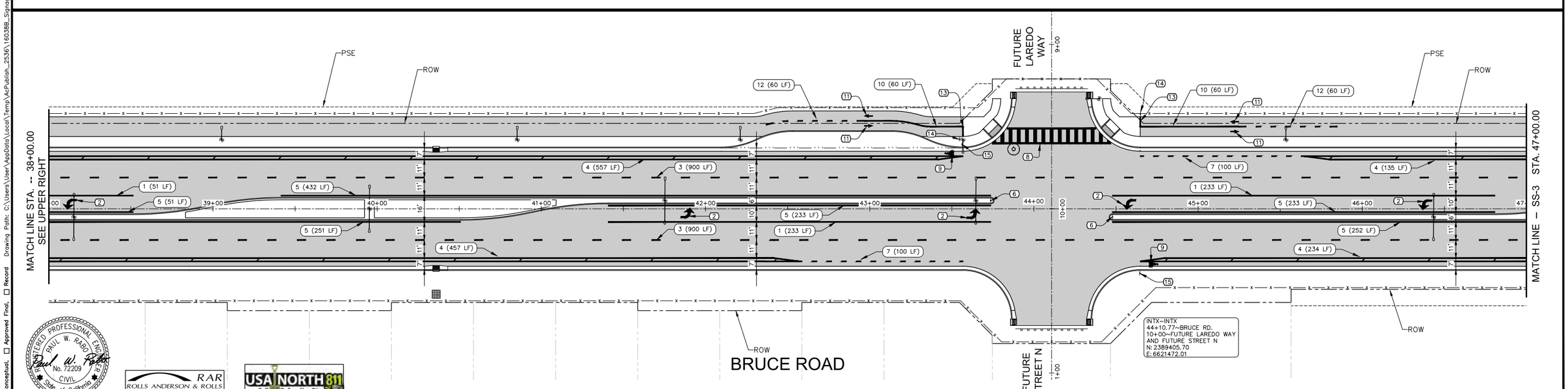
Drawing Number SS-1

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_2536\16038_Signage.dwg – SS1 (81), Fri, Dec 8 2023 – 10:59:09am, User



STRIPING AND SIGNAGE NOTES

1. INSTALL CALTRANS STD. PLAN A20D DETAIL 38 TRAFFIC LINE (931 L.F. ± TOTAL THIS DRAWING)
2. INSTALL CALTRANS STD. PLAN A24A TYPE IV (L) ARROW (8 TOTAL THIS DRAWING)
3. INSTALL CALTRANS 2015 STD. PLAN A20A DETAIL 13 TRAFFIC LINE (3600 L.F.± TOTAL THIS DRAWING)
4. INSTALL WHITE BIKE LANE BUFFER STRIPING, (2747 L.F.± TOTAL THIS DRAWING), SEE SHEET 103 FOR DETAIL
5. INSTALL CALTRANS STD. PLAN A20B DETAIL 26 TRAFFIC LINE (3012 L.F.± TOTAL THIS DRAWING)
6. INSTALL CALTRANS STD. PLAN A73A TYPE K-1 (CA) SURFACE MOUNT FLEXIBLE MARKER (4 TOTAL THIS DRAWING)
7. INSTALL CALTRANS STD. PLAN A20D DETAIL 39A TRAFFIC LINE (400 L.F.± TOTAL THIS DRAWING)
8. INSTALL C.O.C. STD. PLAN NO. 1 LADDER CROSSWALK (622 S.F.± TOTAL THIS DRAWING)
9. INSTALL CALTRANS STD. PLAN A24C "BIKE LANE SYMBOL WITH PERSON" PAVEMENT MARKING OVER GREEN BACKGROUND (5 TOTAL THIS DRAWING)
10. INSTALL 4" WIDE SOLID YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (240 L.F.± TOTAL THIS DRAWING)
11. INSTALL CALTRANS STD. PLAN A24A BIKE LANE ARROW PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (8 TOTAL THIS DRAWING)
12. INSTALL 4" WDE BROKEN YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (240 L.F.± TOTAL THIS DRAWING)
13. INSTALL 8" WHITE STOP BAR PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (24 L.F. ± TOTAL THIS DRAWING)
14. INSTALL 18" X 18" R1-1 "STOP" SIGN OVER R44A(CA) "NO MOTOR VEHICLES" SIGN ON CITY STD. S-16 SIGN POST (4 TOTAL THIS DRAWING)
15. INSTALL R3-17 "BIKE LANE" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (5 TOTAL THIS DRAWING)



REGISTERED PROFESSIONAL ENGINEER PAUL W. RABOLI No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

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CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
STRIPING AND SIGNAGE - BRUCE ROAD STA. 29+00 TO 47+00

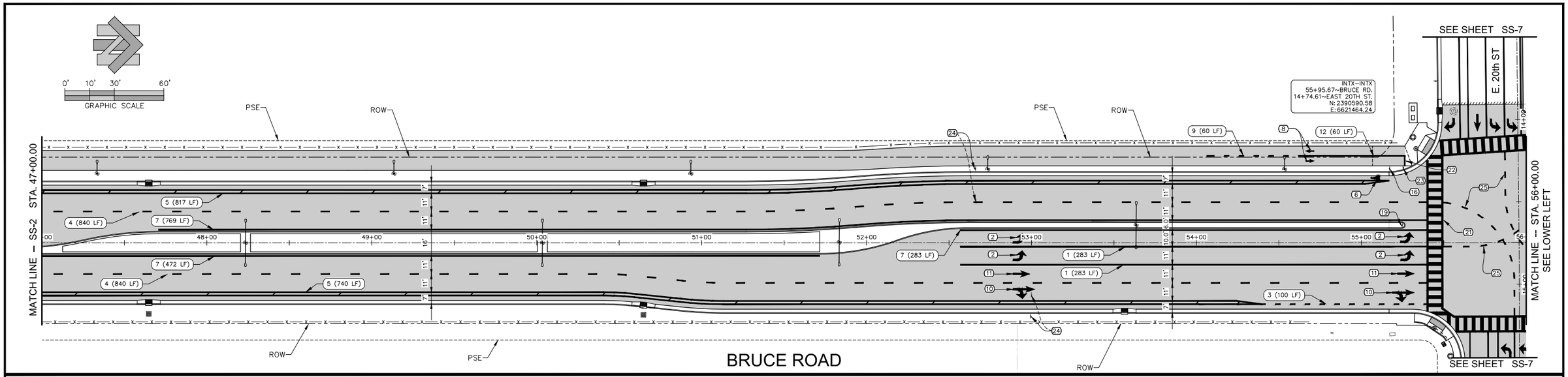
Project Number: 16038	Drawing Number SS-2
Scale: 1"= 30'	Sheet 82 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number SS-2

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_2536\16038_Signage.dwg - SS2 (82), Fri, Dec 8 2023 - 10:59:16am, User



STRIPING AND SIGNAGE NOTES

1. INSTALL CALTRANS STD. PLAN A20D DETAIL 38 TRAFFIC LINE (1440 L.F. ± TOTAL THIS DRAWING)
2. INSTALL CALTRANS STD. PLAN A24A TYPE IV (L) ARROW (6 TOTAL THIS DRAWING)
3. INSTALL CALTRANS STD. PLAN A20D DETAIL 39A TRAFFIC LINE (550 L.F. ± TOTAL THIS DRAWING)
4. INSTALL CALTRANS 2015 STD. PLAN A20A DETAIL 13 TRAFFIC LINE (3203 L.F.± TOTAL THIS DRAWING)
5. INSTALL WHITE BIKE LANE BUFFER STRIPING (2448 L.F.± TOTAL THIS DRAWING), SEE SHEET 103 FOR DETAIL
6. INSTALL CALTRANS STD. PLAN A24C "BIKE LANE SYMBOL WITH PERSON" PAVEMENT MARKING OVER GREEN BACKGROUND (6 TOTAL THIS DRAWING)
7. INSTALL CALTRANS STD. PLAN A20B DETAIL 26 TRAFFIC LINE (3085 L.F.± TOTAL THIS SHEET)
8. INSTALL CALTRANS STD. PLAN A24A BIKE LANE ARROW PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (8 TOTAL THIS DRAWING)
9. INSTALL 4" WIDE BROKEN YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (240 L.F. ± TOTAL THIS DRAWING)
10. INSTALL CALTRANS STD. PLAN A24A TYPE VII (R) ARROW (2 TOTAL THIS DRAWING)
11. INSTALL CALTRANS STD. PLAN A24A TYPE I 18' ARROW (6 TOTAL THIS DRAWING)
12. INSTALL 4" WIDE SOLID YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (240 L.F.± TOTAL THIS DRAWING)
13. INSTALL CALTRANS STD. PLAN A24A TYPE IV (R) ARROW (2 TOTAL THIS DRAWING)
14. INSTALL CALTRANS STD. PLAN A24E "ONLY" PAVEMENT MARKING (2 TOTAL THIS DRAWING)
15. INSTALL CALTRANS STD. PLAN A20D DETAIL 39 TRAFFIC LINE (186 L.F.± TOTAL THIS DRAWING)
16. INSTALL R3-17 "BIKE LANE" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (5 TOTAL THIS DRAWING)
17. INSTALL R4-4 "BEGIN RIGHT TURN LANE YIELD TO BIKERS" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
18. INSTALL R3-7R "RIGHT LANE MUST TURN RIGHT" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
19. INSTALL CALTRANS STD. PLAN A73A TYPE K-1 (CA) SURFACE MOUNT FLEXIBLE MARKER (2 TOTAL THIS DRAWING)
20. INSTALL 4" WHITE CROSS STRIPING AT 10-FOOT O.C. (110 L.F.± TOTAL THIS DRAWING)
21. INSTALL C.O.C. STD. PLAN NO. 1 LADDER CROSSWALK (1213 S.F.± TOTAL THIS DRAWING)
22. INSTALL 8" WHITE STOP BAR PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (24 L.F. ± TOTAL THIS DRAWING)
23. INSTALL 18" X 18" R1-1 "STOP" SIGN OVER R44A(CA) "NO MOTOR VEHICLES" SIGN ON CITY STD. S-16 SIGN POST (4 TOTAL THIS DRAWING)
24. INSTALL RELOCATED SIGN(S) ON CITY STANDARD S-16 SIGN POST (2 TOTAL THIS DRAWING)
25. INSTALL CALTRANS STD. PLAN A20D DETAIL 40 TRAFFIC LINE (300 L.F.± TOTAL THIS DRAWING)

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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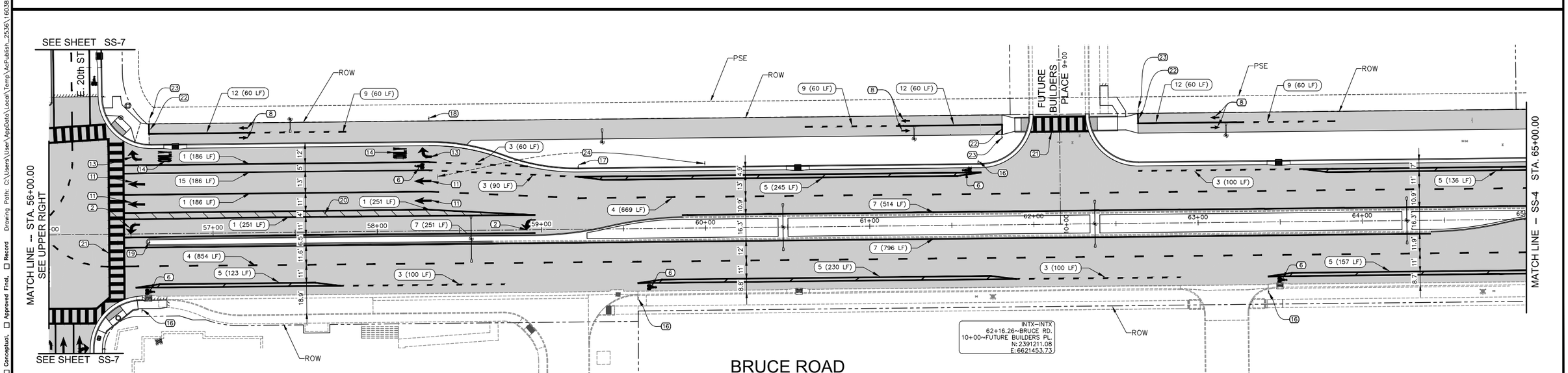

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

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PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

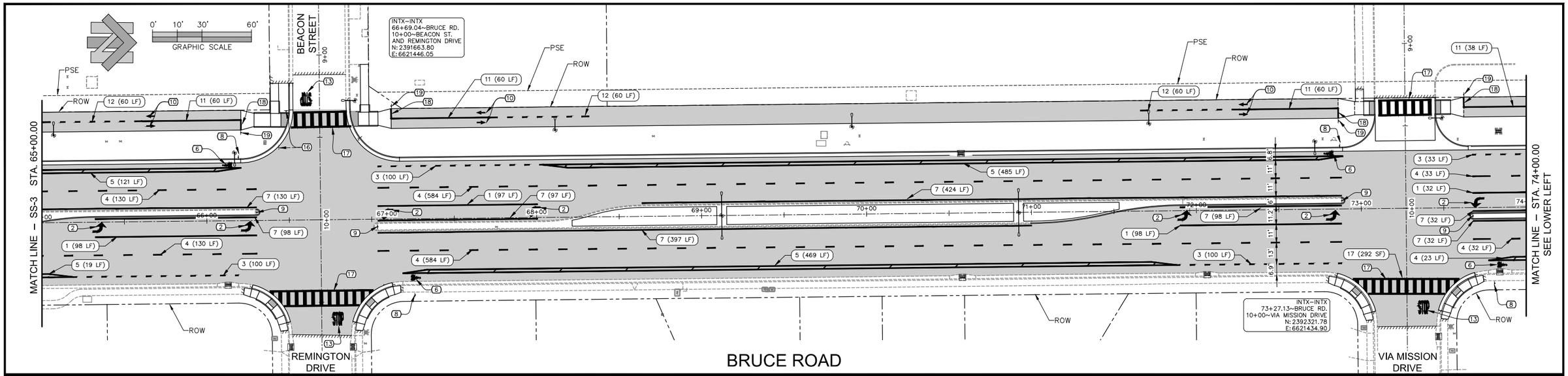
BRUCE ROAD RECONSTRUCTION
STRIPING AND SIGNAGE - BRUCE ROAD STA. 47+00 TO 65+00

Project Number: 16038	Drawing Number SS-3
Scale: 1"= 30'	Sheet 83 of 182

Title: BRUCE ROAD RECONSTRUCTION

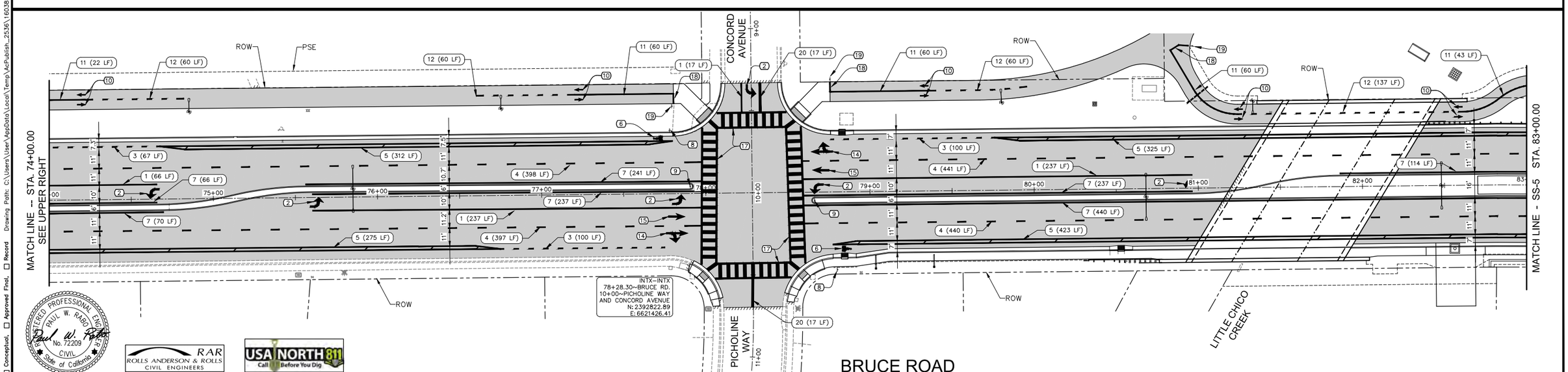
Drawing Number SS-3

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_2536\16038B_Signage.dwg – SS3 (83), Fri, Dec 8 2023 – 10:59:24am, User



STRIPING AND SIGNAGE NOTES

1. INSTALL CALTRANS STD. PLAN A20D DETAIL 38 TRAFFIC LINE (882 L.F. ± TOTAL THIS DRAWING)
2. INSTALL CALTRANS STD. PLAN A24A TYPE IV (L) ARROW (13 TOTAL THIS DRAWING)
3. INSTALL CALTRANS STD. PLAN A20D DETAIL 39A TRAFFIC LINE (600 L.F.± TOTAL THIS DRAWING)
4. INSTALL CALTRANS 2015 STD. PLAN A20A DETAIL 13 TRAFFIC LINE (3169 L.F.± TOTAL THIS DRAWING)
5. INSTALL WHITE BIKE LANE BUFFER STRIPING (2452 L.F.± TOTAL THIS DRAWING), SEE SHEET 103 FOR DETAIL
6. INSTALL CALTRANS STD. PLAN A24C "BIKE LANE SYMBOL WITH PERSON" PAVEMENT MARKING OVER GREEN BACKGROUND (6 TOTAL THIS DRAWING)
7. INSTALL CALTRANS STD. PLAN A20B DETAIL 26 TRAFFIC LINE (2713 L.F.± TOTAL THIS DRAWING)
8. INSTALL R3-17 "BIKE LANE" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (6 TOTAL THIS DRAWING)
9. INSTALL CALTRANS STD. PLAN A73A TYPE K-1 (CA) SURFACE MOUNT FLEXIBLE MARKER (6 TOTAL THIS DRAWING)
10. INSTALL CALTRANS STD. PLAN A24A BIKE LANE ARROW PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (16 TOTAL THIS DRAWING)
11. INSTALL 4" WIDE SOLID YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (463 L.F.± TOTAL THIS DRAWING)
12. INSTALL 4" WIDE BROKEN YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (497 L.F.± TOTAL THIS DRAWING)
13. INSTALL CALTRANS STD. PLAN A24D "STOP" PAVEMENT MARKING (3 TOTAL THIS DRAWING)
14. INSTALL CALTRANS STD. PLAN A24A TYPE VII (R) ARROW (2 TOTAL THIS DRAWING)
15. INSTALL CALTRANS STD. PLAN A24A TYPE I 18' ARROW (2 TOTAL THIS DRAWING)
16. INSTALL RELOCATED SIGNS ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
17. INSTALL C.O.C. STD. PLAN NO. 1 LADDER CROSSWALK (2158 S.F.± TOTAL THIS DRAWING)
18. INSTALL 8" WHITE STOP BAR PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (48 L.F. ± TOTAL THIS DRAWING)
19. INSTALL 18" X 18" R1-1 "STOP" SIGN OVER R44A(CA) "NO MOTOR VEHICLES" SIGN ON CITY STD. S-16 SIGN POST (7 TOTAL THIS DRAWING)
20. INSTALL CALTRANS STD. PLAN A20A DETAIL 21 TRAFFIC LINE (34 L.F.± TOTAL THIS DRAWING)



REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

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CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
STRIPING AND SIGNAGE - BRUCE ROAD STA. 65+00 TO 83+00

Project Number: 16038

Drawing Number SS-4

Scale: 1"= 30'

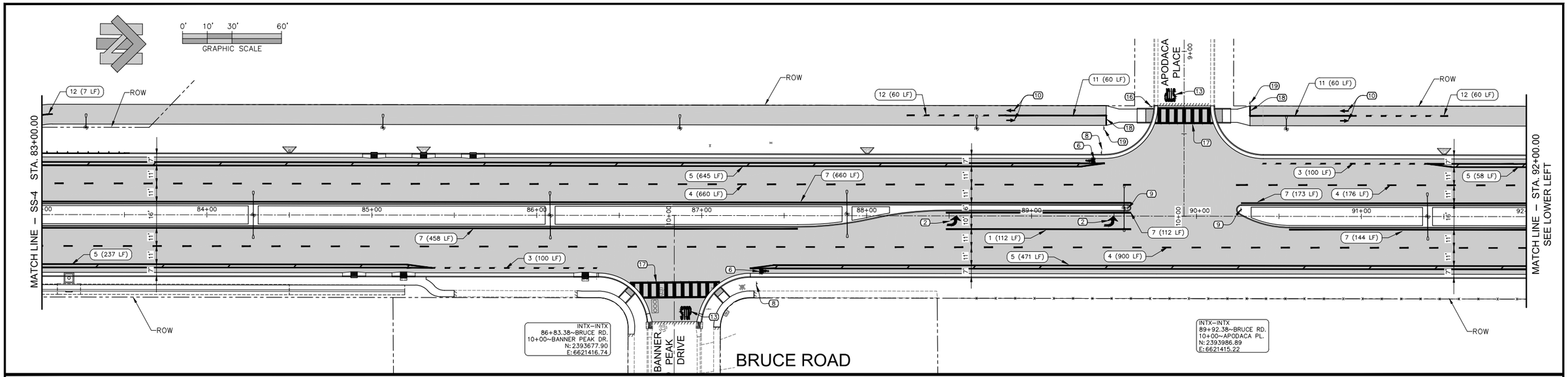
Sheet 84 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number SS-4

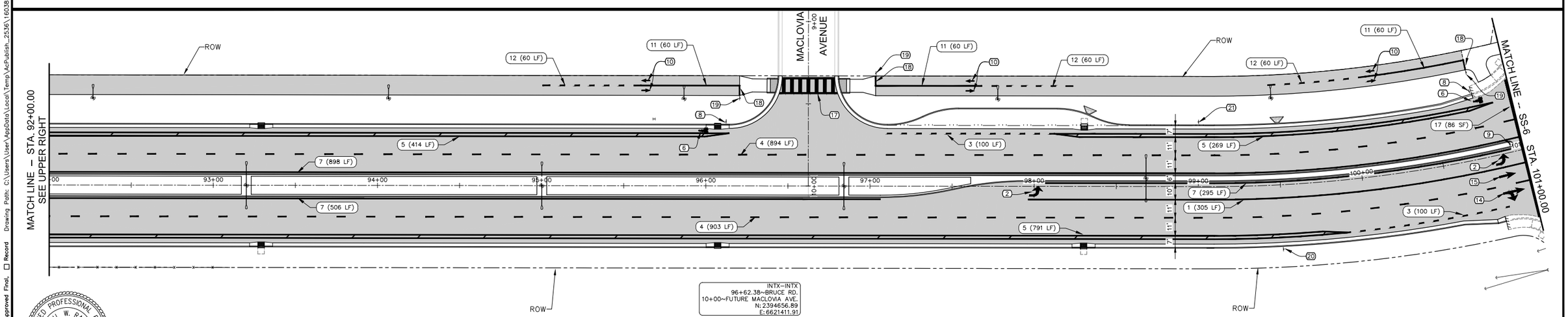
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_2536\16038B_Signage.dwg – SS4 (84), Fri, Dec 8 2023 – 10:59:31am, User



STRIPING AND SIGNAGE NOTES

1. INSTALL CALTRANS STD. PLAN A20D DETAIL 38 TRAFFIC LINE (417 L.F. ± TOTAL THIS DRAWING)
2. INSTALL CALTRANS STD. PLAN A24A TYPE IV (L) ARROW (4 TOTAL THIS DRAWING)
3. INSTALL CALTRANS STD. PLAN A20D DETAIL 39A TRAFFIC LINE (400 L.F.± TOTAL THIS DRAWING)
4. INSTALL CALTRANS 2015 STD. PLAN A20A DETAIL 13 TRAFFIC LINE (3533 L.F.± TOTAL THIS DRAWING)
5. INSTALL WHITE BIKE LANE BUFFER STRIPING (2885 L.F.± TOTAL THIS DRAWING), SEE SHEET 103 FOR DETAIL
6. INSTALL CALTRANS STD. PLAN A24C "BIKE LANE SYMBOL WITH PERSON" PAVEMENT MARKING OVER GREEN BACKGROUND (4 TOTAL THIS DRAWING)
7. INSTALL CALTRANS STD. PLAN A20B DETAIL 26 TRAFFIC LINE (3246 L.F.± TOTAL THIS DRAWING)
8. INSTALL R3-17 "BIKE LANE" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (4 TOTAL THIS DRAWING)
9. INSTALL CALTRANS STD. PLAN A73A TYPE K-1 (CA) SURFACE MOUNT FLEXIBLE MARKER (3 TOTAL THIS DRAWING)
10. INSTALL CALTRANS STD. PLAN A24A BIKE LANE ARROW PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (10 TOTAL THIS DRAWING)
11. INSTALL 4" WIDE SOLID YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (300 L.F.± TOTAL THIS DRAWING)
12. INSTALL 4" WIDE BROKEN YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (307 L.F.± TOTAL THIS DRAWING)
13. INSTALL CALTRANS STD. PLAN A24D "STOP" PAVEMENT MARKING (2 TOTAL THIS DRAWING)
14. INSTALL CALTRANS STD. PLAN A24A TYPE VII (R) ARROW (1 TOTAL THIS DRAWING)
15. INSTALL CALTRANS STD. PLAN A24A TYPE I 18' ARROW (1 TOTAL THIS DRAWING)
16. INSTALL R-1 "STOP SIGN" ROADSIDE SIGN WITH STREET NAME SIGNS ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
17. INSTALL C.O.C. STD. PLAN NO. 1 LADDER CROSSWALK (599 S.F.± TOTAL THIS DRAWING)
18. INSTALL 8" WHITE STOP BAR PER "BIKE PATH STOP DETAIL" ON SHEET 37 (30 L.F. ± TOTAL THIS DRAWING)
19. INSTALL 18" X 18" R1-1 "STOP" SIGN OVER R44A(CA) "NO MOTOR VEHICLES" SIGN ON CITY STD. S-16 SIGN POST (5 TOTAL THIS DRAWING)
20. INSTALL RELOCATED CURVE WARNING SIGNS ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
21. INSTALL RELOCATED SPEED LIMIT SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)



REGISTERED PROFESSIONAL ENGINEER PAUL W. RABOW No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call 811 Before You Dig

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
STRIPING AND SIGNAGE - BRUCE ROAD STA. 83+00 TO 101+00

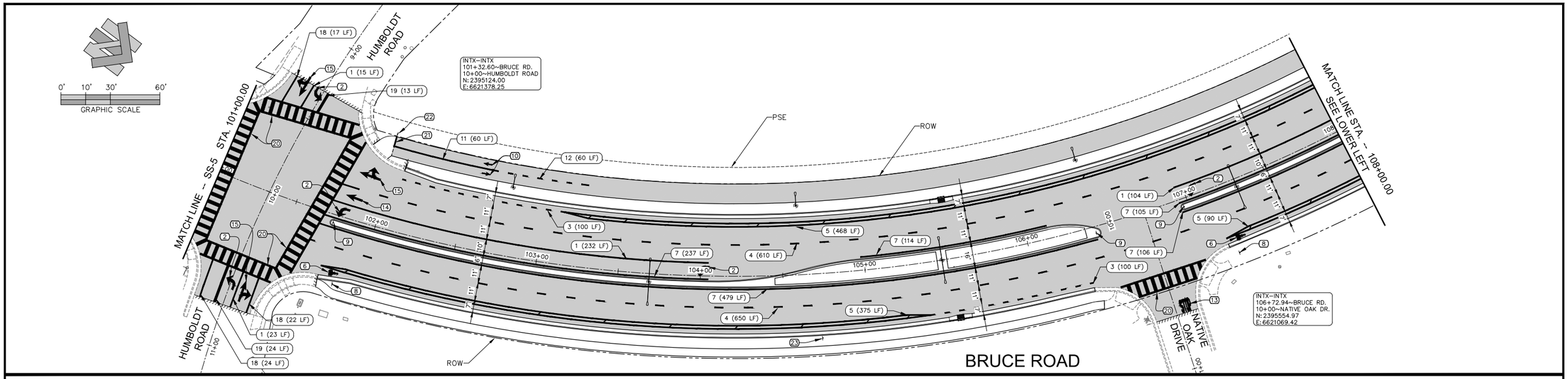
Project Number: 16038	Drawing Number SS-5
Scale: 1"= 30'	Sheet 85 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number SS-5

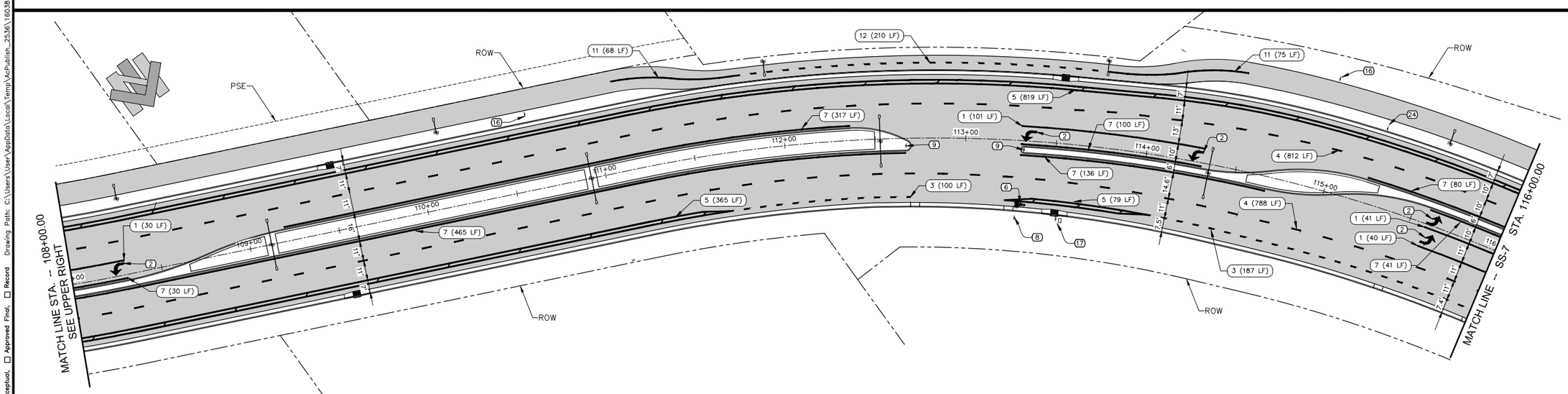
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_2536\16038_Signage.dwg – SS5 (85), Fri, Dec 8 2023 – 10:59:38am, User



STRIPING AND SIGNAGE NOTES

1. INSTALL CALTRANS STD. PLAN A20D DETAIL 38 TRAFFIC LINE (586 L.F. ± TOTAL THIS DRAWING)
2. INSTALL CALTRANS STD. PLAN A24A TYPE IV (L) ARROW (10 TOTAL THIS DRAWING)
3. INSTALL CALTRANS STD. PLAN A20D DETAIL 39A TRAFFIC LINE (487 L.F.± TOTAL THIS DRAWING)
4. INSTALL CALTRANS 2015 STD. PLAN A20A DETAIL 13 TRAFFIC LINE (2860 L.F.± TOTAL THIS DRAWING)
5. INSTALL WHITE BIKE LANE BUFFER STRIPING, (2196 L.F.± TOTAL THIS DRAWING), SEE SHEET 103 FOR DETAIL
6. INSTALL CALTRANS STD. PLAN A24C "BIKE LANE SYMBOL WITH PERSON" PAVEMENT MARKING OVER GREEN BACKGROUND (3 TOTAL THIS DRAWING)
7. INSTALL CALTRANS STD. PLAN A20B DETAIL 26 TRAFFIC LINE (2210 L.F.± TOTAL THIS DRAWING)
8. INSTALL R3-17 "BIKE LANE" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (3 TOTAL THIS DRAWING)
9. INSTALL CALTRANS STD. PLAN A73A TYPE K-1 (CA) SURFACE MOUNT FLEXIBLE MARKER (5 TOTAL THIS DRAWING)
10. INSTALL CALTRANS STD. PLAN A24A BIKE LANE ARROW PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (2 TOTAL THIS DRAWING)
11. INSTALL 4" WIDE SOLID YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (203 L.F.± TOTAL THIS DRAWING)
12. INSTALL 4" WIDE BROKEN YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (270 L.F.± TOTAL THIS DRAWING)
13. INSTALL CALTRANS STD. PLAN A24D "STOP" PAVEMENT MARKING (1 TOTAL THIS DRAWING)
14. INSTALL CALTRANS STD. PLAN A24A TYPE I 18' ARROW (1 TOTAL THIS DRAWING)
15. INSTALL CALTRANS STD. PLAN A24A TYPE VII (R) ARROW (3 TOTAL THIS DRAWING)
16. INSTALL W5-4A (18"x18") PATH NARROWS SIGN ON CITY STD. S-16 SIGN POST (2 TOTAL THIS DRAWING)
17. INSTALL RELOCATED BEACON AND W3-3 SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
18. INSTALL CALTRANS STD. PLAN A20D DETAIL 39 TRAFFIC LINE (63 L.F.± TOTAL THIS DRAWING)
19. INSTALL CALTRANS STD. PLAN A20A DETAIL 22 TRAFFIC LINE (37 L.F.± TOTAL THIS DRAWING)
20. INSTALL C.O.C. STD. PLAN NO. 1 LADDER CROSSWALK (1783 S.F.± TOTAL THIS DRAWING)
21. INSTALL 8" WHITE STOP BAR PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (6 L.F. ± TOTAL THIS DRAWING)
22. INSTALL 18" X 18" R1-1 "STOP" SIGN OVER R44A(CA) "NO MOTOR VEHICLES" SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
23. INSTALL RELOCATED SPEED LIMIT SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
24. INSTALL RELOCATED "TRUCK ROUTE" AND SPEED LIMIT SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)



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REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY of CHICO INC 1872

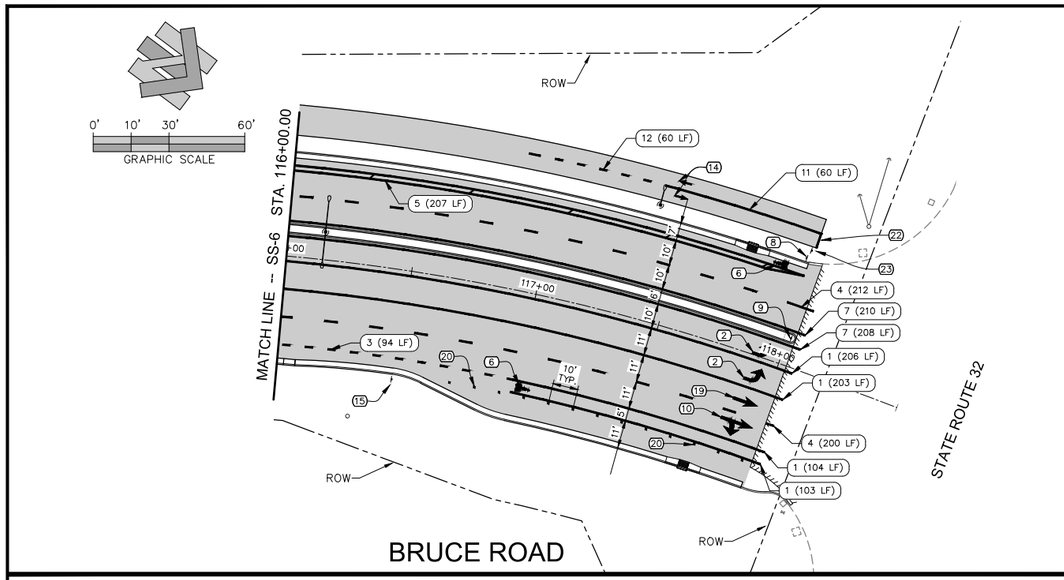
BRUCE ROAD RECONSTRUCTION
STRIPING AND SIGNAGE - BRUCE ROAD STA. 101+00 TO 116+00

Project Number: 16038	Drawing Number SS-6
Scale: 1"= 30'	Sheet 86 of 182

Title: BRUCE ROAD RECONSTRUCTION

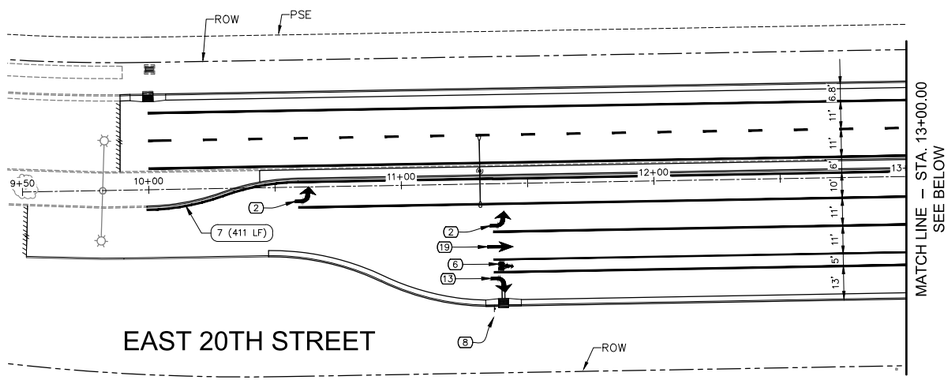
Drawing Number SS-6

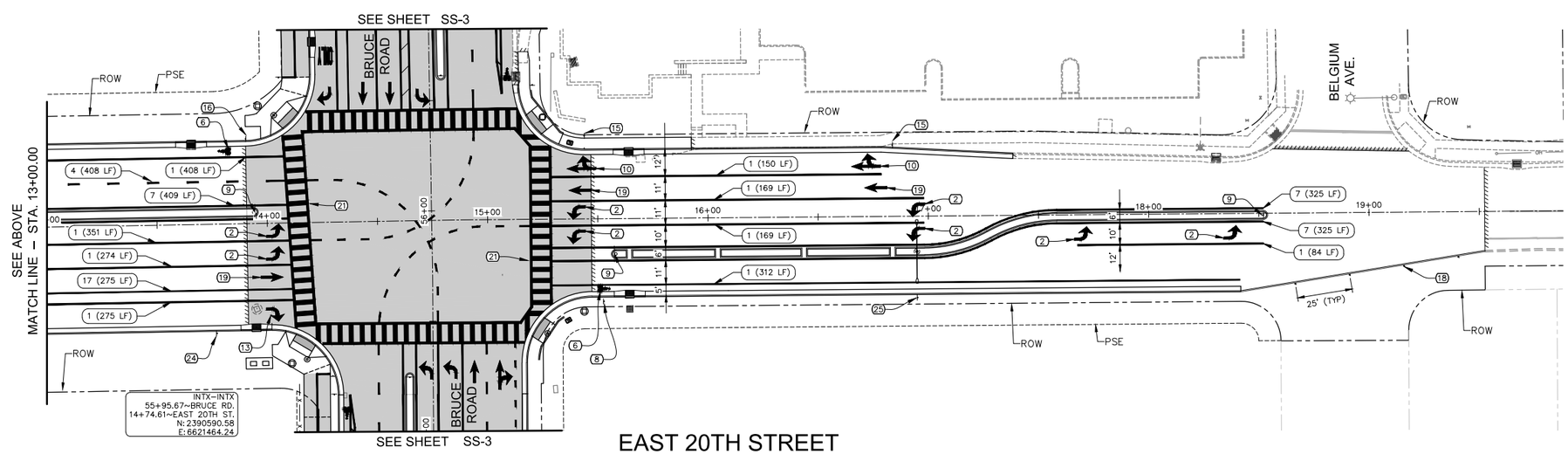
Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_2536\16038_Signage.dwg – SS6 (86), Fri, Dec 8 2023 – 10:59:46am, User



STRIPING AND SIGNAGE NOTES

1. INSTALL CALTRANS STD. PLAN A20D DETAIL 38 TRAFFIC LINE (2808 L.F. ± TOTAL THIS DRAWING)
2. INSTALL CALTRANS STD. PLAN A24A TYPE IV (L) ARROW (12 TOTAL THIS DRAWING)
3. INSTALL CALTRANS STD. PLAN A20D DETAIL 39A TRAFFIC LINE (94 L.F.± TOTAL THIS DRAWING)
4. INSTALL CALTRANS 2015 STD. PLAN A20A DETAIL 13 TRAFFIC LINE (820 L.F.± TOTAL THIS DRAWING)
5. INSTALL WHITE BIKE LANE BUFFER STRIPING (207 L.F.± TOTAL THIS DRAWING), SEE SHEET 103 FOR DETAIL
6. INSTALL CALTRANS STD. PLAN A24C "BIKE LANE SYMBOL WITH PERSON" PAVEMENT MARKING OVER GREEN BACKGROUND (5 TOTAL THIS DRAWING)
7. INSTALL CALTRANS STD. PLAN A20B DETAIL 26 TRAFFIC LINE (1888 L.F.± TOTAL THIS DRAWING)
8. INSTALL R3-17 "BIKE LANE" ROADSIDE SIGN ON CITY STD. S-16 SIGN POST (2 TOTAL THIS DRAWING)
9. INSTALL CALTRANS STD. PLAN A73A TYPE K-1 (CA) SURFACE MOUNT FLEXIBLE MARKER (4 TOTAL THIS DRAWING)
10. INSTALL CALTRANS STD. PLAN A24A TYPE VII (R) ARROW (3 TOTAL THIS DRAWING)
11. INSTALL 4" WIDE SOLID YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (60 L.F.± TOTAL THIS DRAWING)
12. INSTALL 4" WIDE BROKEN YELLOW TRAFFIC LINE PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (60 L.F.± TOTAL THIS DRAWING)
13. INSTALL CALTRANS STD. PLAN A24A TYPE IV (R) ARROW (2 TOTAL THIS DRAWING)
14. INSTALL CALTRANS STD. PLAN A24A BIKE LANE ARROW PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (2 TOTAL THIS DRAWING)
15. INSTALL ROADSIDE SIGN R3-6 "TURN AND THROUGH" ON CITY STD. S-16 SIGN POST (3 TOTAL THIS DRAWING)
16. INSTALL EXISTING "35 MPH" SIGN OVER R3-17 "BIKE LANE" ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
17. INSTALL CALTRANS STD. PLAN A20D DETAIL 39 TRAFFIC LINE (275 L.F.± TOTAL THIS DRAWING)
18. INSTALL CALTRANS STD. PLAN A73C FLEXIBLE POST EMBEDDED CHANNELIZER (4 TOTAL THIS DRAWING)
19. INSTALL CALTRANS STD. PLAN A24A TYPE I 18' ARROW (5 TOTAL THIS DRAWING)
20. INSTALL CALTRANS STD. PLAN A73C CLASS 1 SURFACE MOUNTED FLEXIBLE POST DELINEATOR (13 TOTAL THIS DRAWING)
21. INSTALL C.O.C. STD. PLAN NO. 1 LADDER CROSSWALK (881 ±S.F. TOTAL THIS DRAWING)
22. INSTALL 8" WHITE STOP BAR PER "BIKE PATH STOP STRIPING DETAIL" ON SHEET 103 (6 L.F. ± TOTAL THIS DRAWING)
23. INSTALL 18" X 18" R1-1 "STOP" SIGN OVER R44A(CA) "NO MOTOR VEHICLES" SIGN ON CITY STD. S-16 SIGN POST (1 TOTAL THIS DRAWING)
24. INSTALL RELOCATED "TRUCK ROUTE" SIGN ON CITY STD. S-16 SIGN POST
25. INSTALL RELOCATED SPEED LIMIT SIGN ON CITY STD. S-16 SIGN POST





REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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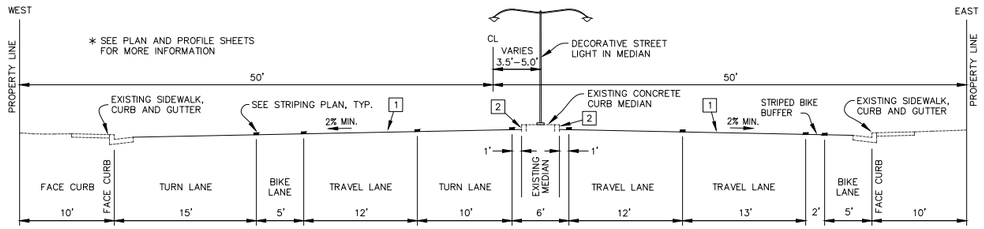
Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
STRIPING AND SIGNAGE - BRUCE ROAD STA. 116+00 TO 118+09; 20TH STREET STA. 10+00 TO 19+00

Project Number: 16038
Scale: 1"= 30'
Drawing Number SS-7
Sheet 87 of 182

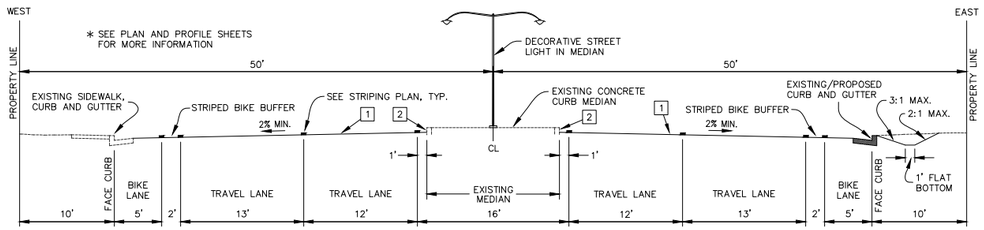
Title: BRUCE ROAD RECONSTRUCTION
Drawing Number SS-7
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record
Drawing Path: C:\Users\User\AppData\Local\Temp\AcPublish_2536\16038_Signage.dwg – SS7 (87), Fri, Dec 8, 2023 – 10:59:56am, User



A BRUCE ROAD TYPICAL
STA. 11+54.46 TO STA. 14+50.19
NTS

ROAD SECTION CONSTRUCTION DETAILS

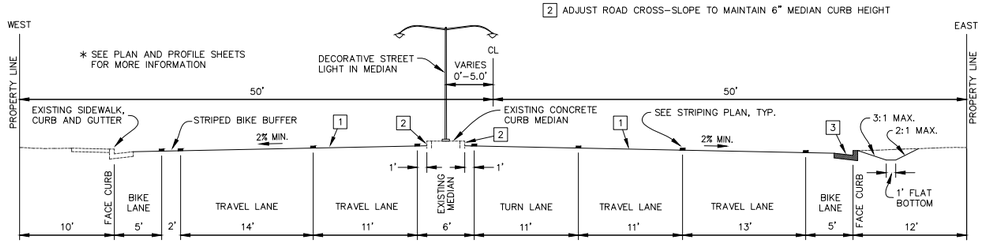
1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. ADJUST ROAD CROSS-SLOPE TO MAINTAIN 6" MEDIAN CURB HEIGHT



B BRUCE ROAD TYPICAL
STA. 14+50.19 TO STA. 16+16.21
NTS

ROAD SECTION CONSTRUCTION DETAILS

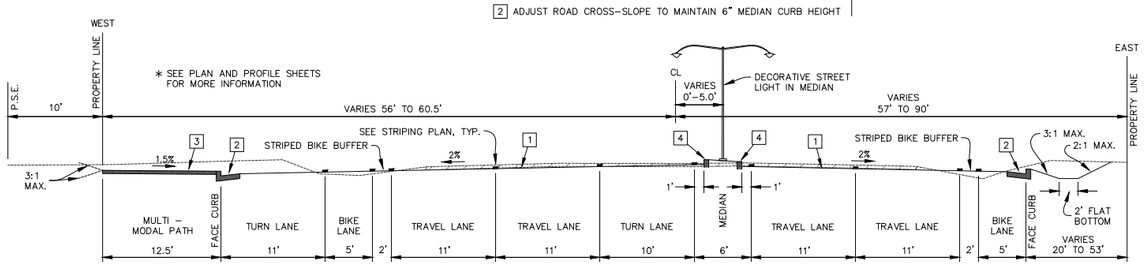
1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. ADJUST ROAD CROSS-SLOPE TO MAINTAIN 6" MEDIAN CURB HEIGHT



C BRUCE ROAD TYPICAL
STA. 16+16.21 TO STA. 18+80.22
NTS

ROAD SECTION CONSTRUCTION DETAILS

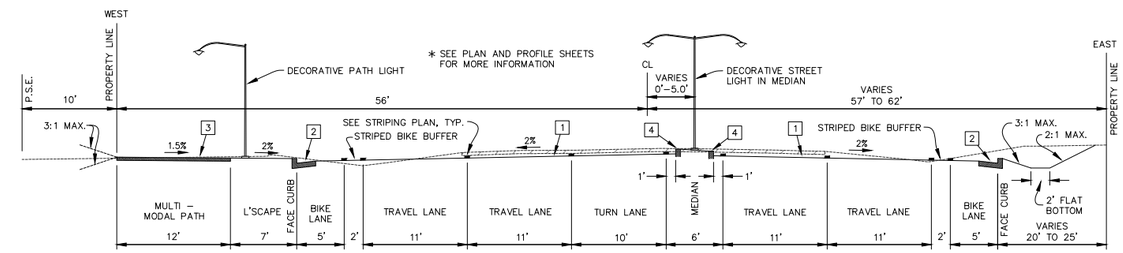
1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. ADJUST ROAD CROSS-SLOPE TO MAINTAIN 6" MEDIAN CURB HEIGHT
3. INSTALL C.O.C. STANDARD PLAN S-2 VERTICAL CURB & GUTTER



D BRUCE ROAD TYPICAL
STA. 18+80.22 TO STA. 21+27.96
NTS

ROAD SECTION CONSTRUCTION DETAILS

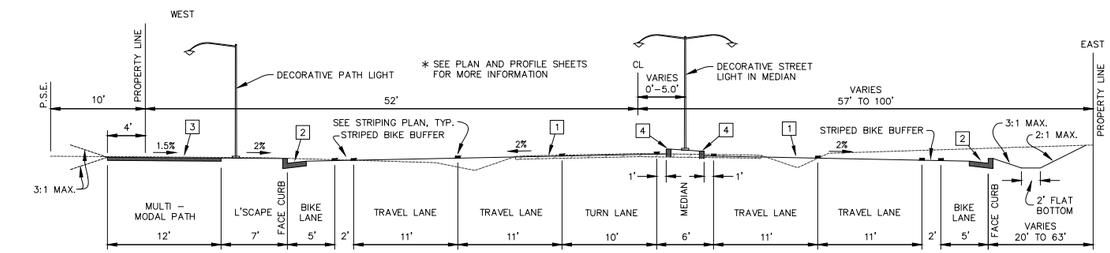
1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



E BRUCE ROAD TYPICAL
STA. 21+27.96 TO STA. 22+40.26
NTS

ROAD SECTION CONSTRUCTION DETAILS

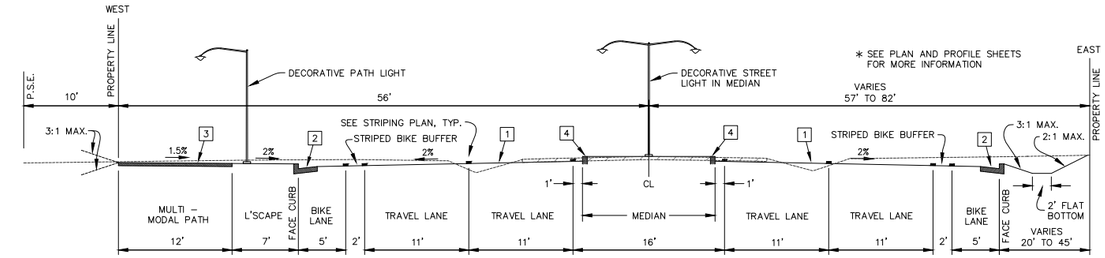
1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



F BRUCE ROAD TYPICAL
STA. 35+81.42 TO STA. 39+41.42
STA. 44+10.77 TO STA. 47+70.77
NTS

ROAD SECTION CONSTRUCTION DETAILS

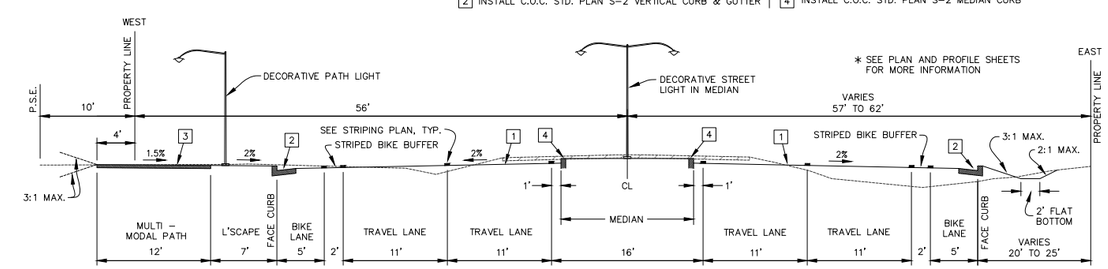
1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



G BRUCE ROAD TYPICAL
STA. 22+40.26 TO STA. 32+21.42
NTS

ROAD SECTION CONSTRUCTION DETAILS

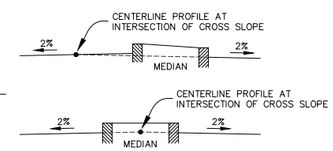
1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



H BRUCE ROAD TYPICAL
STA. 39+41.42 TO STA. 40+50.77
NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



BRUCE ROAD
CENTERLINE PROFILE DETAILS NTS

REGISTERED PROFESSIONAL ENGINEER — PAUL W. RABOLLS — No. 72209 — CIVIL — State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 — Call 811 Before You Dig

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-1

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Detail 1.dwg – D1 (88), Fri, Dec 8 2023 – 11:18:10am, User

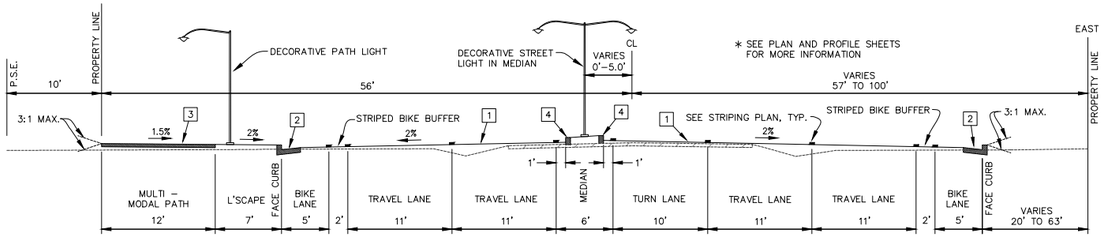
Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
TYPICAL STREET SECTIONS

Project Number: 16038	Drawing Number D-1
Scale: NONE	Sheet 88 of 182



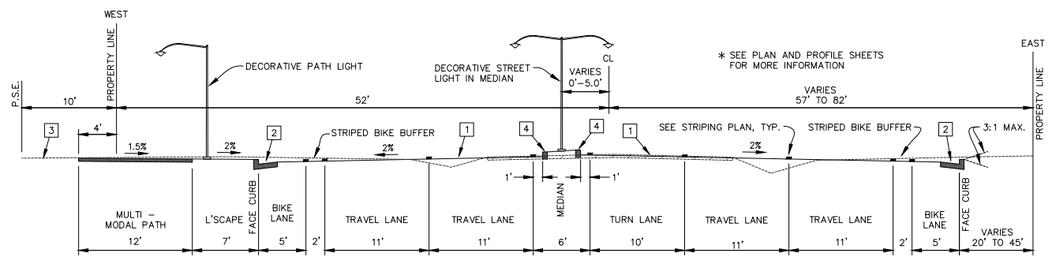
I BRUCE ROAD TYPICAL

8TA. 32+21.42 TO 8TA. 35+81.42

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



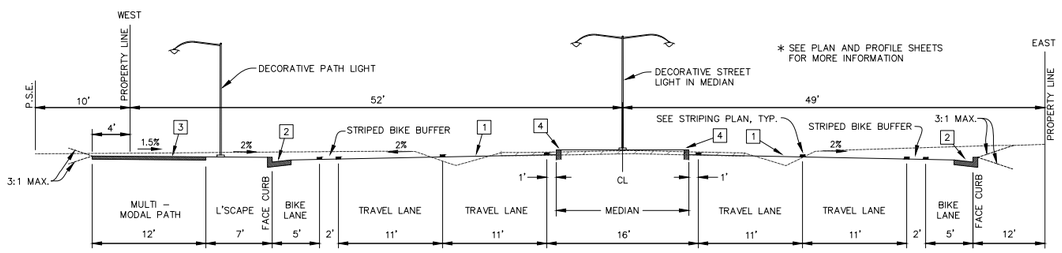
J BRUCE ROAD TYPICAL

8TA. 40+50.70 TO 8TA. 44+10.77

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



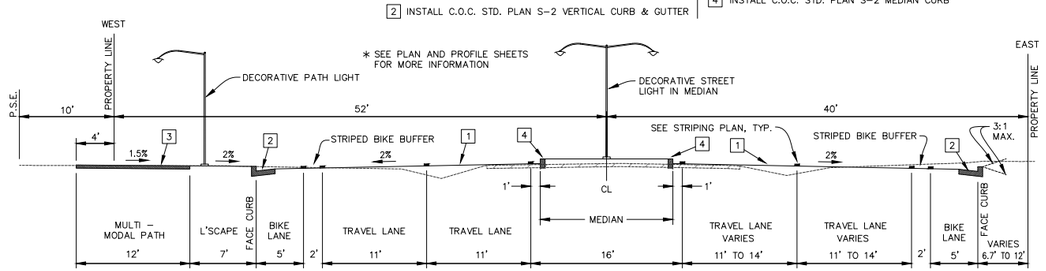
K BRUCE ROAD TYPICAL

8TA. 47+70.77 TO 8TA. 50+40.84

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



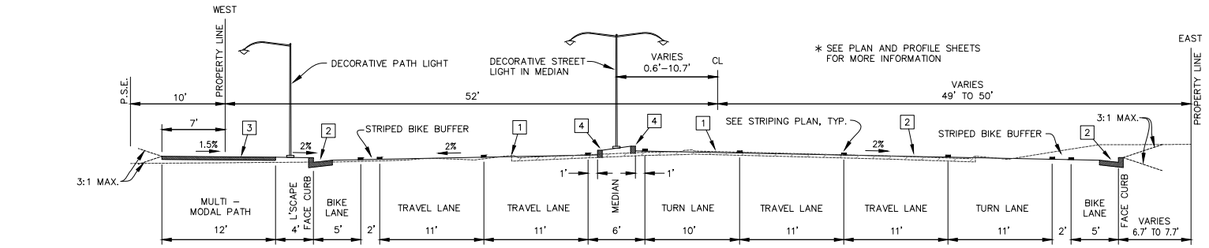
L BRUCE ROAD TYPICAL

8TA. 50+40.84 TO 8TA. 51+71.62

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



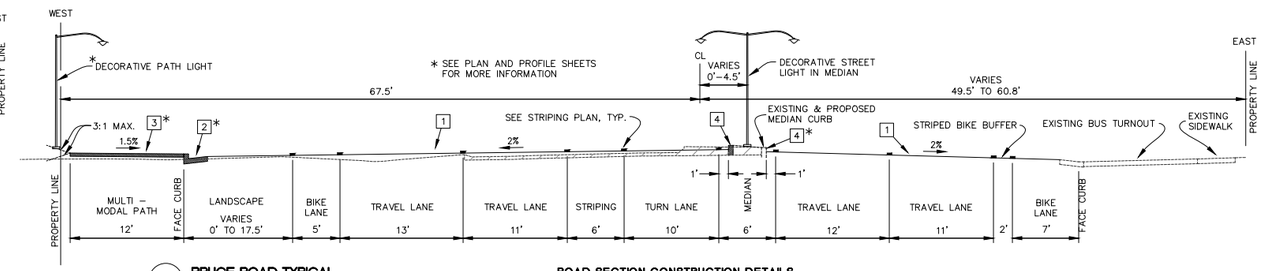
M BRUCE ROAD TYPICAL

8TA. 51+71.62 TO 8TA. 55+95.67

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



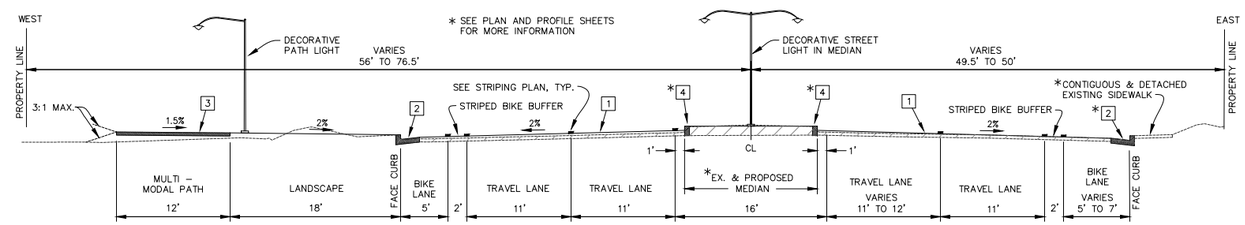
N BRUCE ROAD TYPICAL

8TA. 55+95.67 TO 8TA. 59+85.94

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



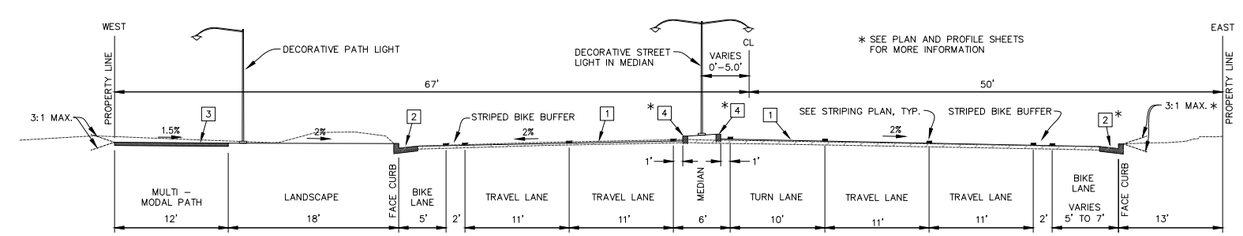
O BRUCE ROAD TYPICAL

8TA. 59+85.94 TO 8TA. 64+41.53
8TA. 68+63.92 TO 8TA. 71+00.10
8TA. 85+12.66 TO 8TA. 87+58.18
8TA. 89+92.38 TO 8TA. 97+06.29

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



P BRUCE ROAD TYPICAL

8TA. 64+41.53 TO 8TA. 66+69.05
8TA. 71+00.10 TO 8TA. 73+27.16
8TA. 76+93.82 TO 8TA. 78+28.33
8TA. 87+58.18 TO 8TA. 89+92.38
8TA. 97+06.29 TO 8TA. 101+32.60

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABOLT No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

BRUCE ROAD RECONSTRUCTION
TYPICAL STREET SECTIONS

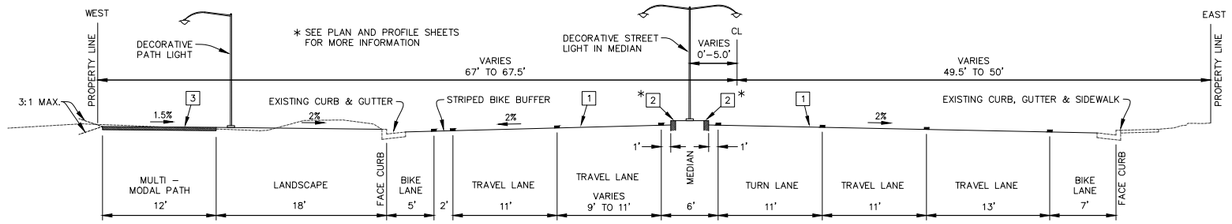
Project Number: 16038
Drawing Number D-2
Scale: NONE
Sheet 89 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-2

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 CCC Bruce Road\16038B_Detail 1.dwg - D2 (89), Fri, Dec 8 2023 - 11:18:16am, User



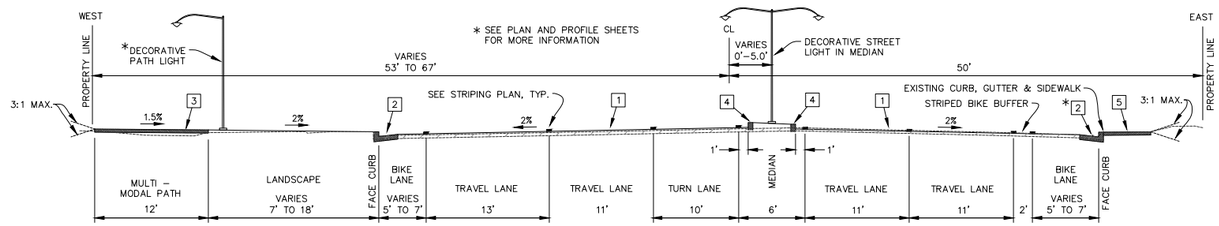
Q BRUCE ROAD TYPICAL

STA. 66+69.05 TO STA. 68+63.92
STA. 71+00.10 TO STA. 73+27.16

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.



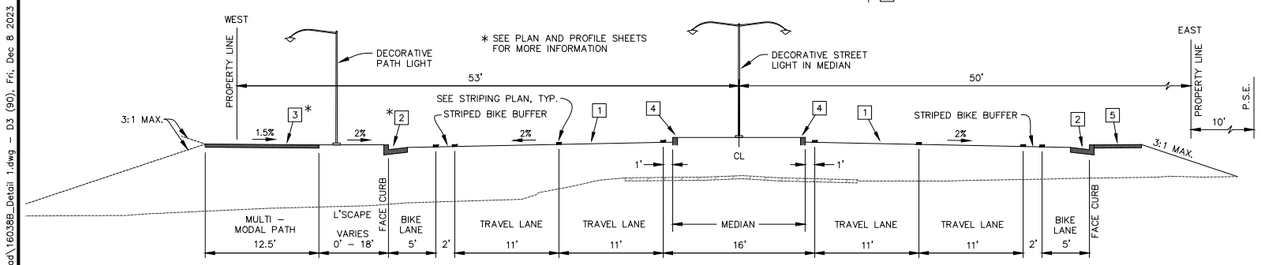
R BRUCE ROAD TYPICAL

STA. 66+69.05 TO STA. 68+63.92
STA. 73+27.16 TO STA. 75+56.28

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB
5. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK



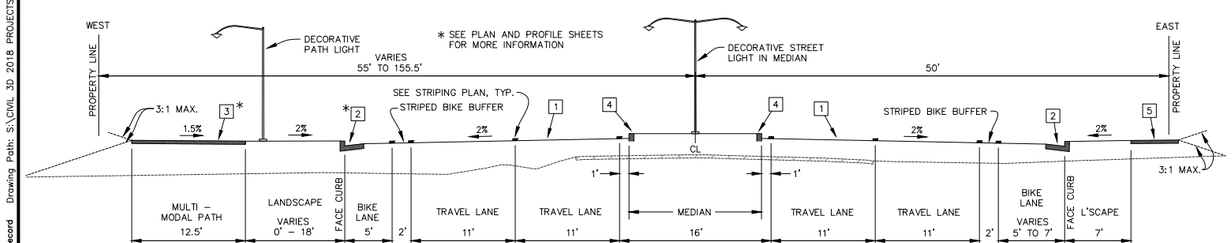
S BRUCE ROAD TYPICAL

STA. 81+86.34 TO STA. 83+00.58

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB
5. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK



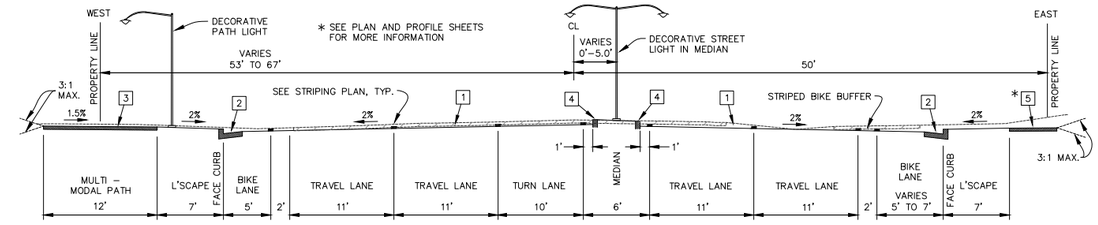
T BRUCE ROAD TYPICAL

STA. 83+00.58 TO STA. 85+12.66

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB
5. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK



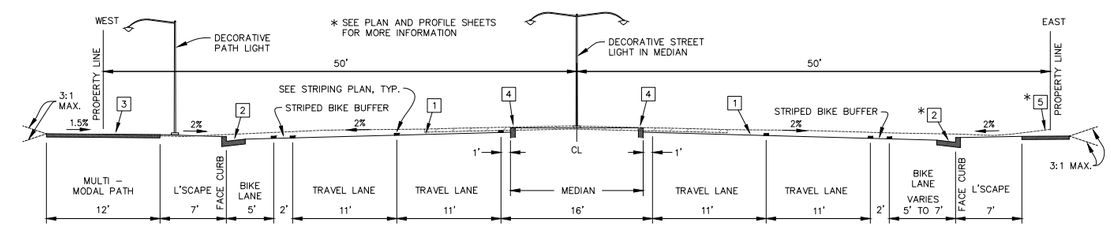
U BRUCE ROAD TYPICAL

STA. 101+32.60 TO STA. 104+97.90
STA. 106+72.94 TO STA. 109+20.45

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB
5. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK



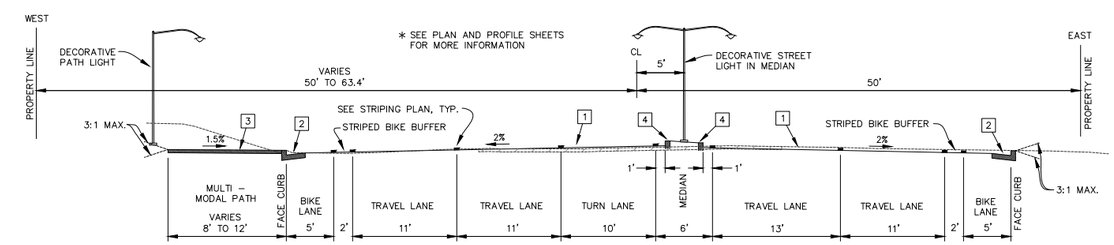
V BRUCE ROAD TYPICAL

STA. 104+97.90 TO STA. 106+72.94
STA. 109+20.45 TO STA. 111+12.99

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



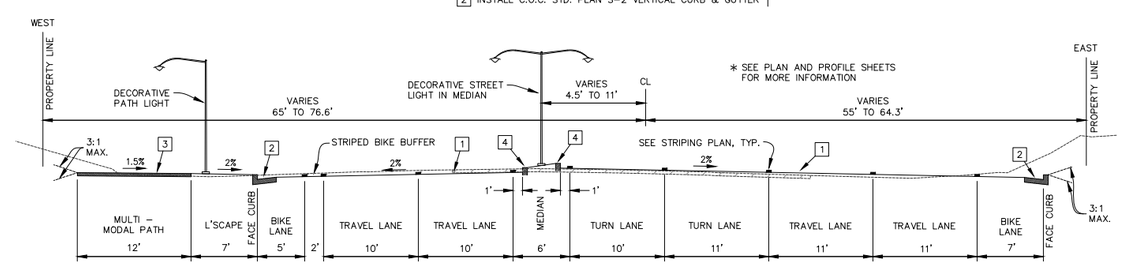
W BRUCE ROAD TYPICAL

STA. 113+00.00 TO STA. 115+00.00

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



X BRUCE ROAD TYPICAL

STA. 115+00.00 TO STA. 116+48.42

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-3

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Detail 1.dwg – D3 (90), Fri, Dec 8 2023 – 11:18:26am, User

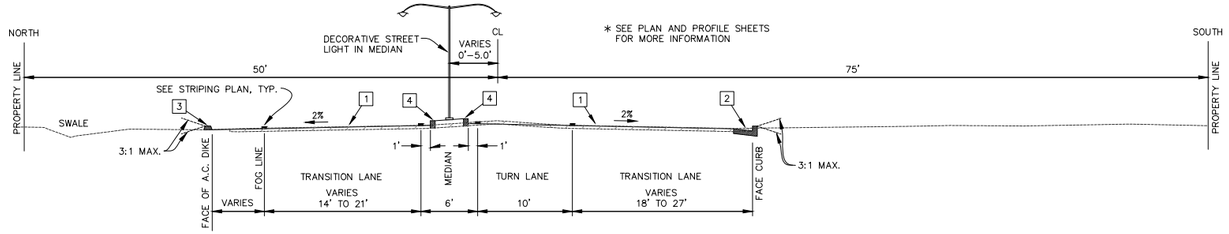
Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
TYPICAL STREET SECTIONS

Project Number: 16038	Drawing Number D-3
Scale: NONE	Sheet 90 of 182



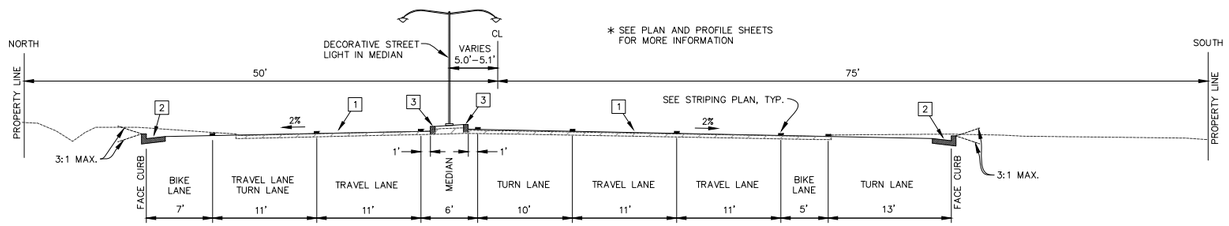
AA E. 20TH STREET TYPICAL

STA. 9+90.28 TO STA. 11+36.15

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. INSTALL CALTRANS TYPE A HMA DIKE
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



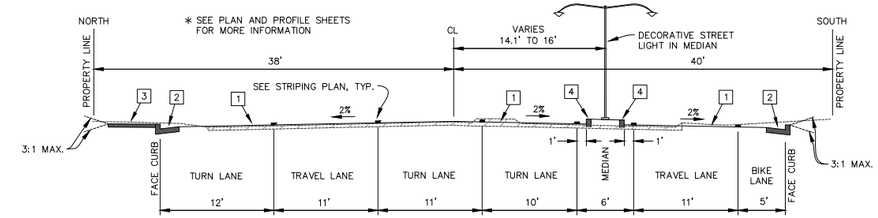
BB E. 20TH STREET TYPICAL

STA. 11+36.15 TO STA. 14+74.61

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



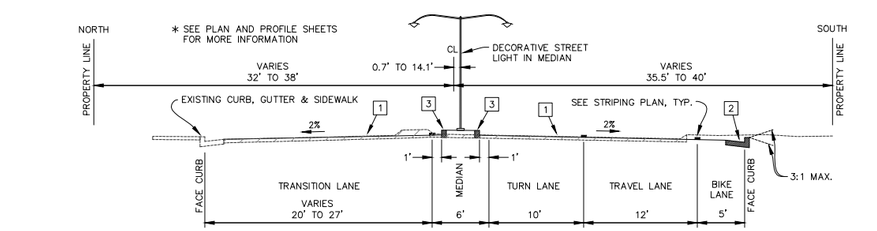
CC E. 20TH STREET TYPICAL

STA. 14+74.61 TO STA. 17+28.22

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. INSTALL C.O.C. STD. PLAN S-1 SIDEWALK
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



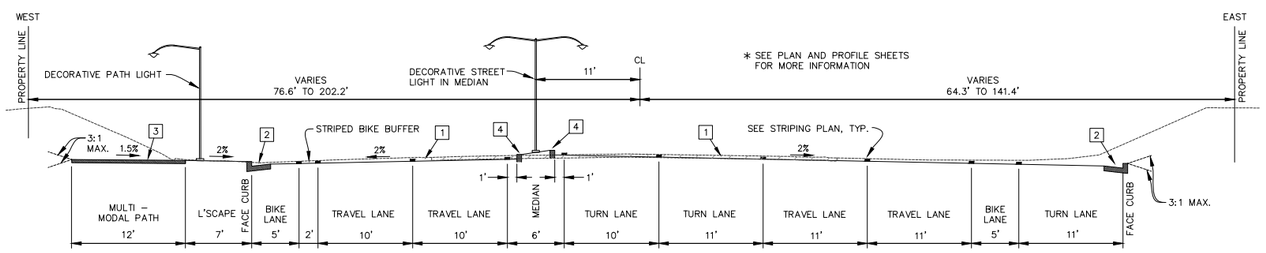
DD E. 20TH STREET TYPICAL

STA. 17+28.22 TO STA. 19+52.47

NTS

ROAD SECTION CONSTRUCTION DETAILS

1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



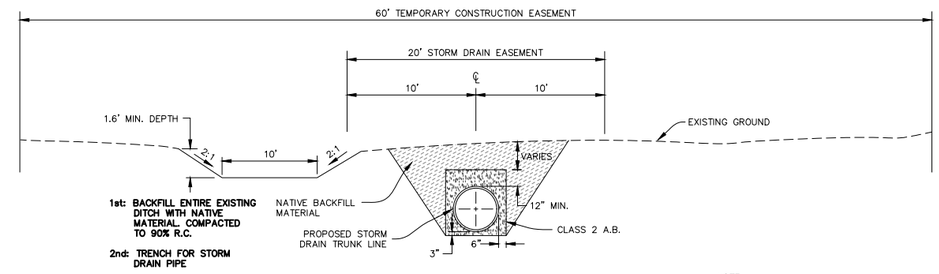
Y BRUCE ROAD TYPICAL

STA. 116+48.42 TO STA. 118+09.21

NTS

ROAD SECTION CONSTRUCTION DETAILS

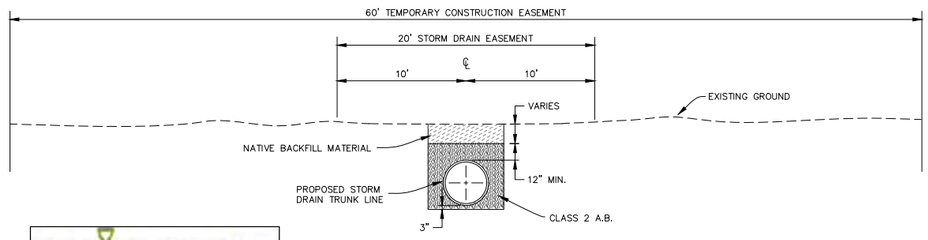
1. PLACE 8" CONCRETE ROADWAY OVER 4" A.B. COMPACTED TO 95% R.C. OVER 6" SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
2. INSTALL C.O.C. STD. PLAN S-2 VERTICAL CURB & GUTTER
3. PLACE 5" CONCRETE OVER 6" NATIVE SUBGRADE SCARIFIED AND COMPACTED TO 95% R.C.
4. INSTALL C.O.C. STD. PLAN S-2 MEDIAN CURB



TYPICAL STORM DRAIN TRUNK LINE SECTION #1

NOT TO SCALE

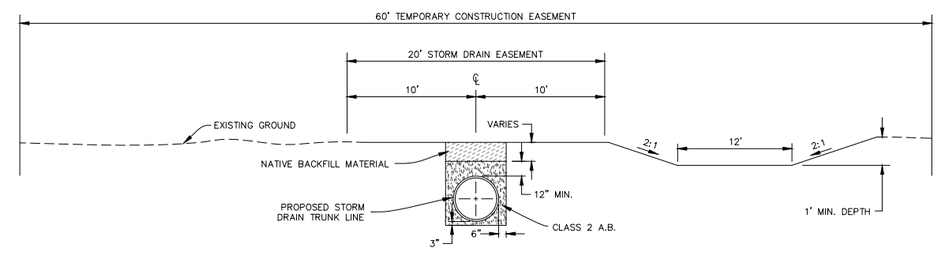
NOTE:
PIPE BEDDING AND TRENCH BACKFILL MATERIALS AND COMPACTION SHALL CONFORM TO THE PROJECT GEOTECHNICAL REPORT PREPARED BY NV5 DATED DECEMBER, 2019.



TYPICAL STORM DRAIN TRUNK LINE SECTION #3

NOT TO SCALE

NOTE:
PIPE BEDDING AND TRENCH BACKFILL MATERIALS AND COMPACTION SHALL CONFORM TO THE PROJECT GEOTECHNICAL REPORT PREPARED BY NV5 DATED DECEMBER, 2019.



TYPICAL STORM DRAIN TRUNK LINE SECTION #2

NOT TO SCALE

NOTE:
PIPE BEDDING AND TRENCH BACKFILL MATERIALS AND COMPACTION SHALL CONFORM TO THE PROJECT GEOTECHNICAL REPORT PREPARED BY NV5 DATED DECEMBER, 2019.

REGISTERED PROFESSIONAL ENGINEER — PAUL W. RABO — No. 72209 — CIVIL — State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

USA NORTH 811 Call 811 Before You Dig

Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

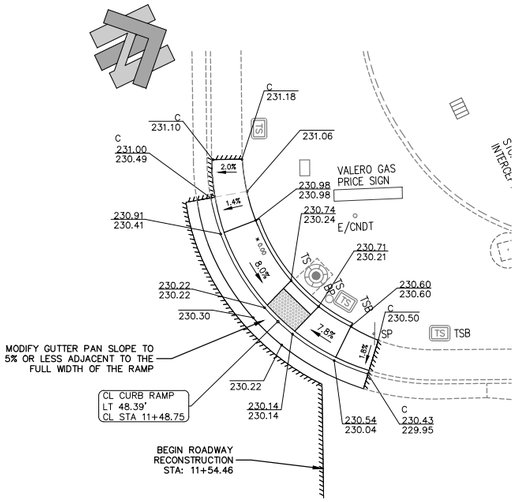
BRUCE ROAD RECONSTRUCTION
TYPICAL STREET SECTIONS AND DETAILS

Project Number: 16038	Drawing Number D-4
Scale: NONE	Sheet 91 of 182

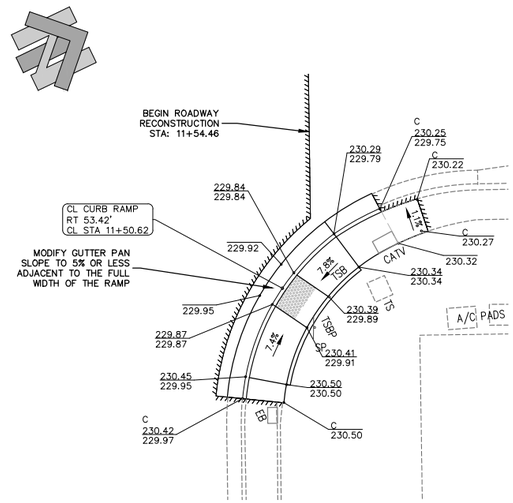
Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-4

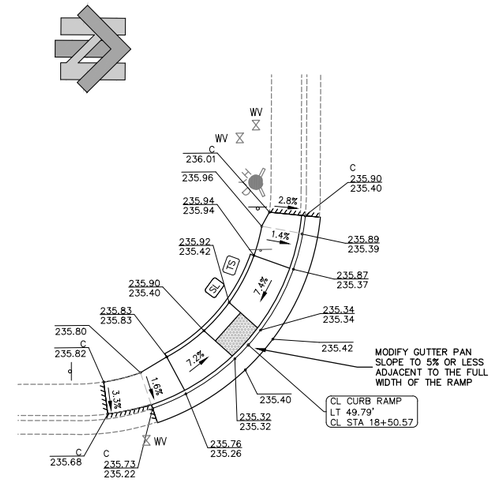
Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Detail 1.dwg – D4 (91), Fri, Dec 8 2023 – 11:18:33am, User



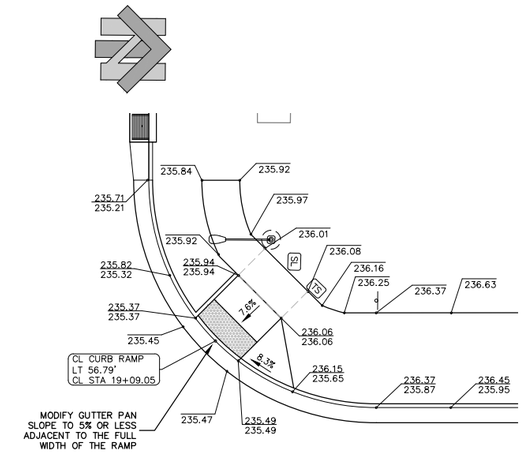
PEDESTRIAN RAMP GRADING DETAIL
NORTHWEST CORNER OF BRUCE ROAD & SKYWAY
SCALE: 1"=10'



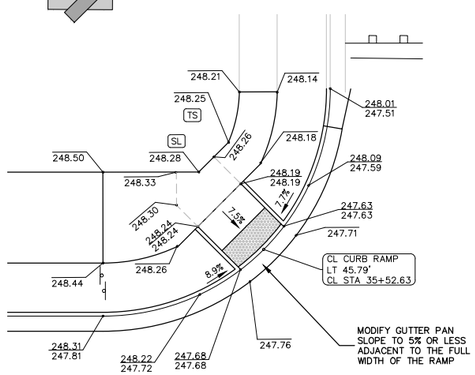
PEDESTRIAN RAMP GRADING DETAIL
NORTHEAST CORNER OF BRUCE ROAD & SKYWAY
SCALE: 1"=10'



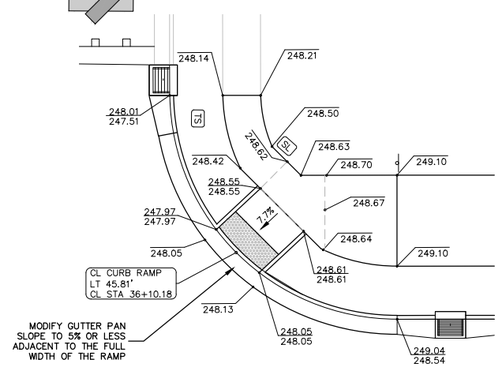
PEDESTRIAN RAMP GRADING DETAIL
SOUTHWEST CORNER OF BRUCE ROAD & RALEY BLVD.
SCALE: 1"=10



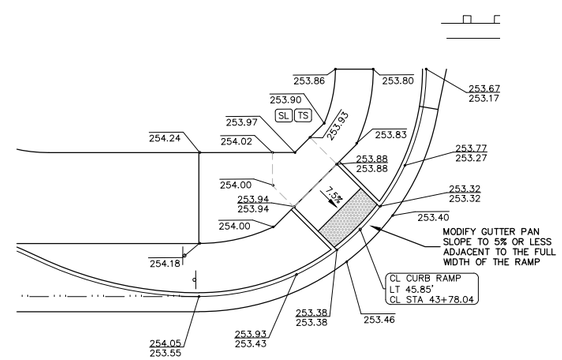
PEDESTRIAN RAMP GRADING DETAIL
NORTHWEST CORNER OF BRUCE ROAD & RALEY BLVD.
SCALE: 1"=10'



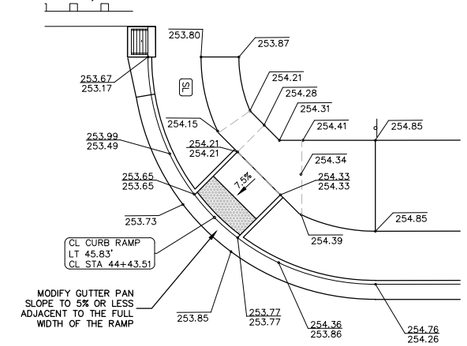
PEDESTRIAN RAMP GRADING DETAIL
SOUTHWEST CORNER OF BRUCE ROAD & FUTURE WEBSTER ROAD
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
NORTHWEST CORNER OF BRUCE ROAD & FUTURE WEBSTER ROAD
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
SOUTHWEST CORNER OF BRUCE ROAD & FUTURE LAREDO WAY
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
NORTHWEST CORNER OF BRUCE ROAD & FUTURE LAREDO WAY
SCALE: 1"=10'

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
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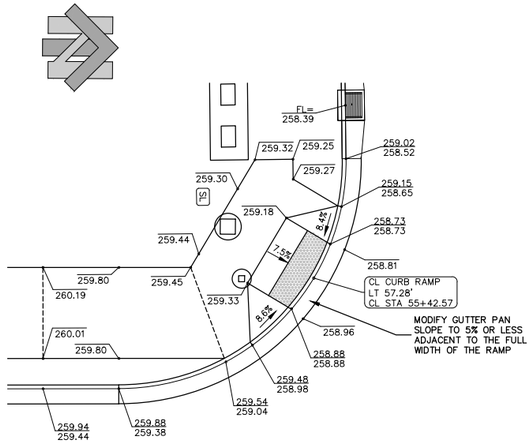
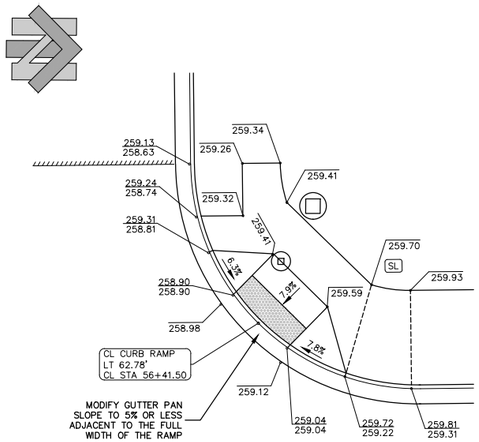
BRUCE ROAD RECONSTRUCTION
CURB RAMP DETAILS

Project Number: 16038
Drawing Number D-5
Scale: NONE
Sheet 92 of 182

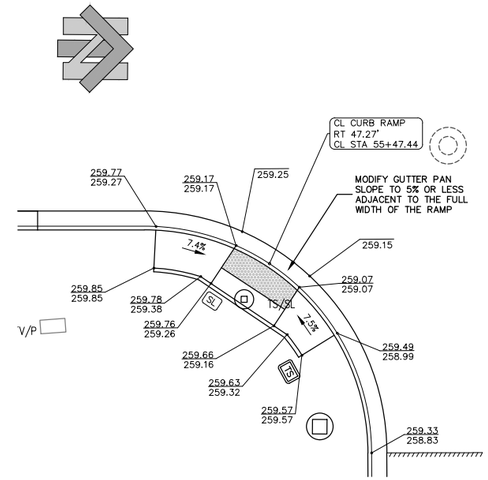
Title: BRUCE ROAD RECONSTRUCTION
Drawing Number D-5
Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record
Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_Detail 1.dwg - D5 (92), Fri, Dec 8 2023 - 11:19:37am, User



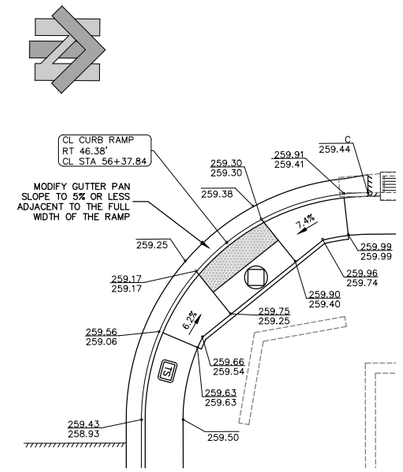
PEDESTRIAN RAMP GRADING DETAIL
SOUTHWEST CORNER OF BRUCE ROAD & E. 20TH STREET
SCALE: 1"=10'



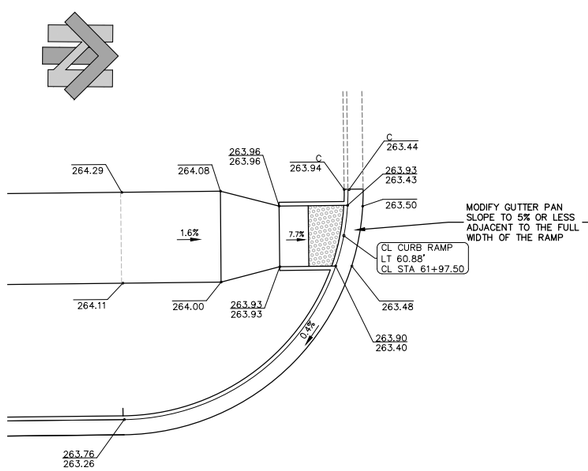
PEDESTRIAN RAMP GRADING DETAIL
NORTHWEST CORNER OF BRUCE ROAD & E. 20TH STREET
SCALE: 1"=10'



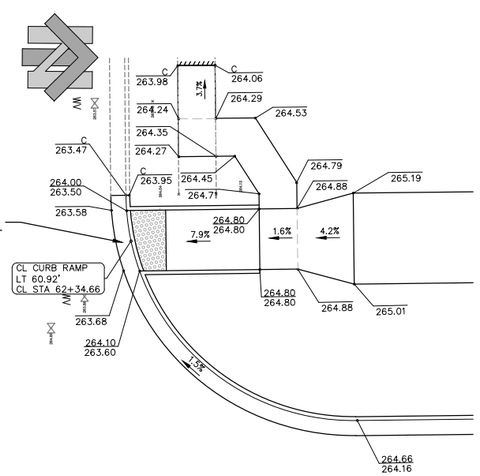
PEDESTRIAN RAMP GRADING DETAIL
SOUTHEAST CORNER OF BRUCE ROAD & E. 20TH STREET
SCALE: 1"=10'



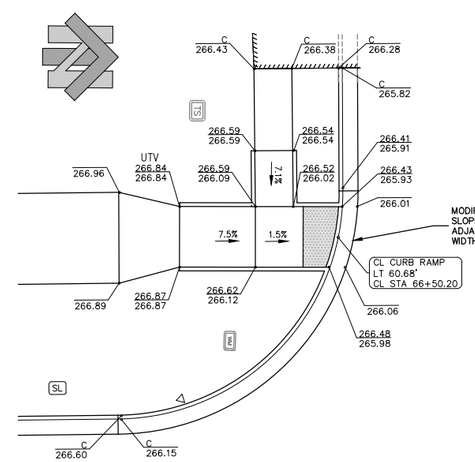
PEDESTRIAN RAMP GRADING DETAIL
NORTHEAST CORNER OF BRUCE ROAD & E. 20TH STREET
SCALE: 1"=10'



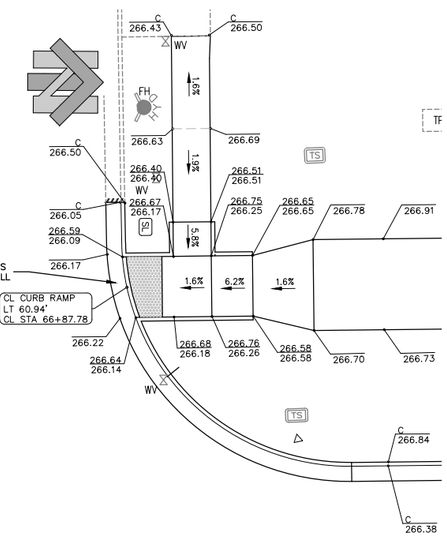
PEDESTRIAN RAMP GRADING DETAIL
SOUTHWEST CORNER OF BRUCE ROAD & BUILDERS PLACE
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
NORTHWEST CORNER OF BRUCE ROAD & BUILDERS PLACE
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
SOUTHWEST CORNER OF BRUCE ROAD & BEACON AVENUE
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
NORTHWEST CORNER OF BRUCE ROAD & BEACON AVENUE
SCALE: 1"=10'

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABO
No. 72209
CIVIL
State of California

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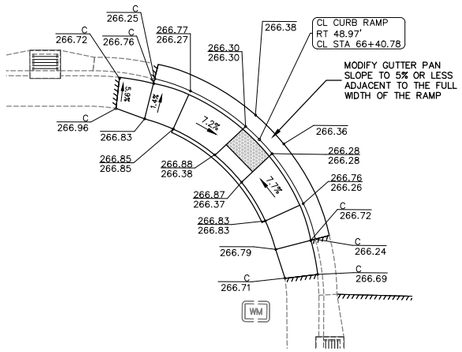
BRUCE ROAD RECONSTRUCTION
CURB RAMP DETAILS

Project Number: 16038	Drawing Number D-6
Scale: NONE	Sheet 93 of 182

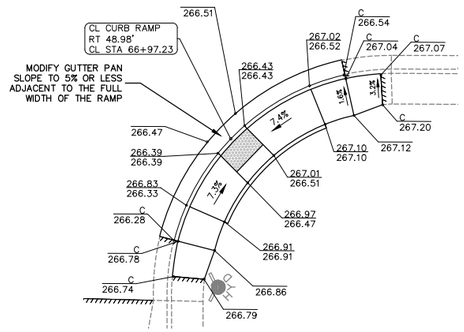
Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-6

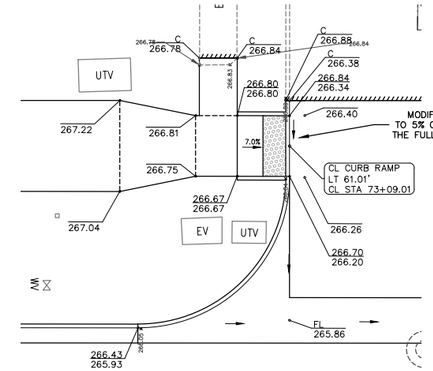
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\160388_Detail 1.dwg – D6 (93), Fri, Dec 8 2023 – 11:20:41am, User



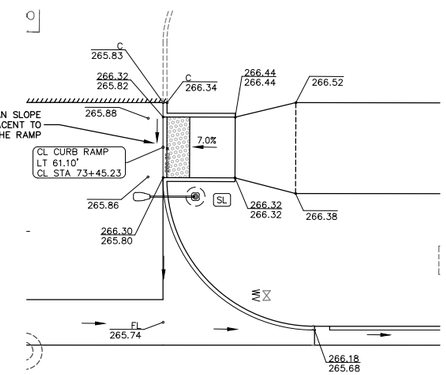
PEDESTRIAN RAMP GRADING DETAIL
SOUTHEAST CORNER OF BRUCE ROAD & REMINGTON DRIVE
SCALE: 1"=10'



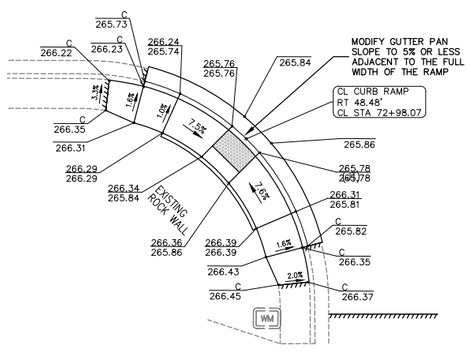
PEDESTRIAN RAMP GRADING DETAIL
NORTHEAST CORNER OF BRUCE ROAD & REMINGTON DRIVE
SCALE: 1"=10'



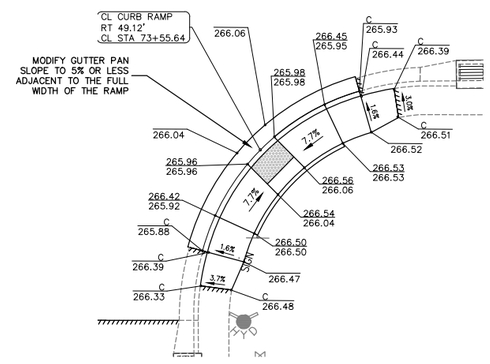
PEDESTRIAN RAMP GRADING DETAIL
SOUTHWEST CORNER OF BRUCE ROAD & VIA MISSION DRIVE
SCALE: 1"=10'



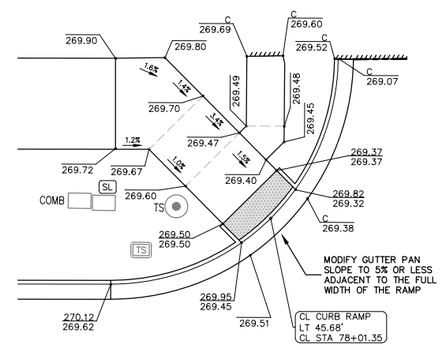
PEDESTRIAN RAMP GRADING DETAIL
NORTHWEST CORNER OF BRUCE ROAD & VIA MISSION DRIVE
SCALE: 1"=10'



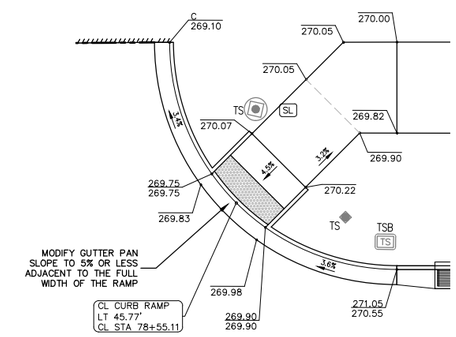
PEDESTRIAN RAMP GRADING DETAIL
SOUTHEAST CORNER OF BRUCE ROAD & VIA MISSION DRIVE
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
NORTHEAST CORNER OF BRUCE ROAD & VIA MISSION DRIVE
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
SOUTHWEST CORNER OF BRUCE ROAD & CONCORD AVENUE
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
NORTHWEST CORNER OF BRUCE ROAD & CONCORD AVENUE
SCALE: 1"=10'

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABO
No. 72209
CIVIL
State of California

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Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

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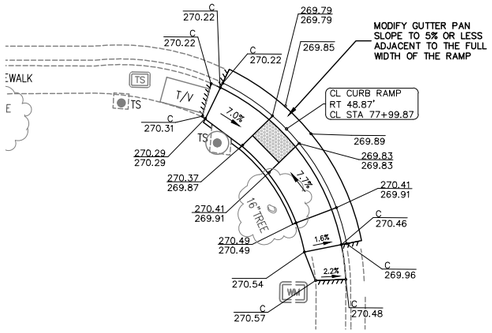
BRUCE ROAD RECONSTRUCTION
CURB RAMP DETAILS

Project Number: 16038	Drawing Number D-7
Scale: NONE	Sheet 94 of 182

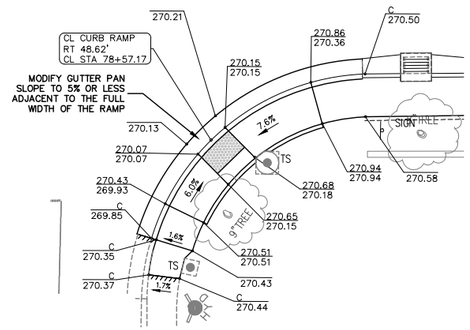
Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-7

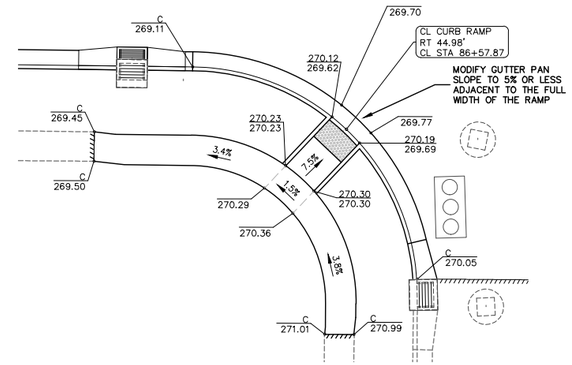
Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Detail 1.dwg – D7 (94), Fri, Dec 8 2023 – 11:29:23am, User



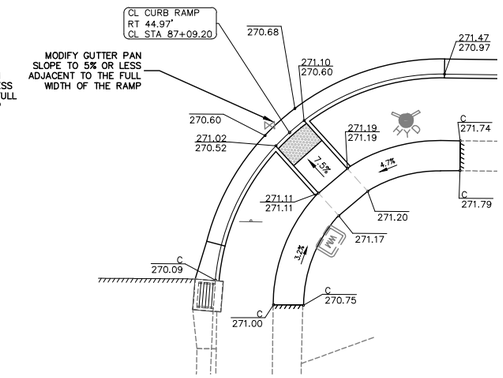
PEDESTRIAN RAMP GRADING DETAIL
SOUTHEAST CORNER OF BRUCE ROAD & PICHOLINE WAY
SCALE: 1"=10'



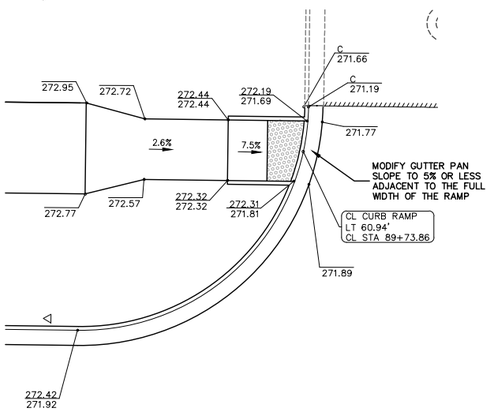
PEDESTRIAN RAMP GRADING DETAIL
NORTHEAST CORNER OF BRUCE ROAD PICHOLINE WAY
SCALE: 1"=10'



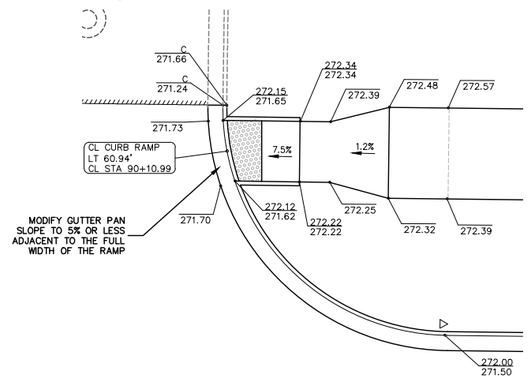
PEDESTRIAN RAMP GRADING DETAIL
SOUTHEAST CORNER OF BRUCE ROAD & BANNER PEAK DRIVE
SCALE: 1"=10'



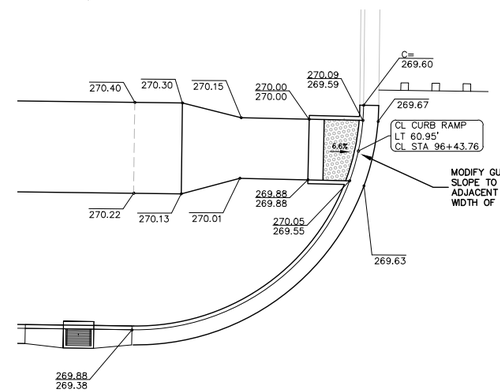
PEDESTRIAN RAMP GRADING DETAIL
NORTHEAST CORNER OF BRUCE ROAD & BANNER PEAK DRIVE
SCALE: 1"=10'



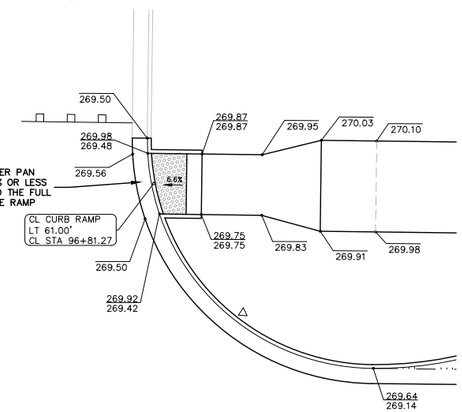
PEDESTRIAN RAMP GRADING DETAIL
SOUTHWEST CORNER OF BRUCE ROAD & APODACA PLACE
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
NORTHEAST CORNER OF BRUCE ROAD & APODACA PLACE
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
SOUTHEAST CORNER OF BRUCE ROAD & MACLOVIA AVENUE
SCALE: 1"=10'



PEDESTRIAN RAMP GRADING DETAIL
NORTHEAST CORNER OF BRUCE ROAD & MACLOVIA AVENUE
SCALE: 1"=10'

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABOLI No. 72209 CIVIL State of California

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Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

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CITY OF CHICO INC. 1872

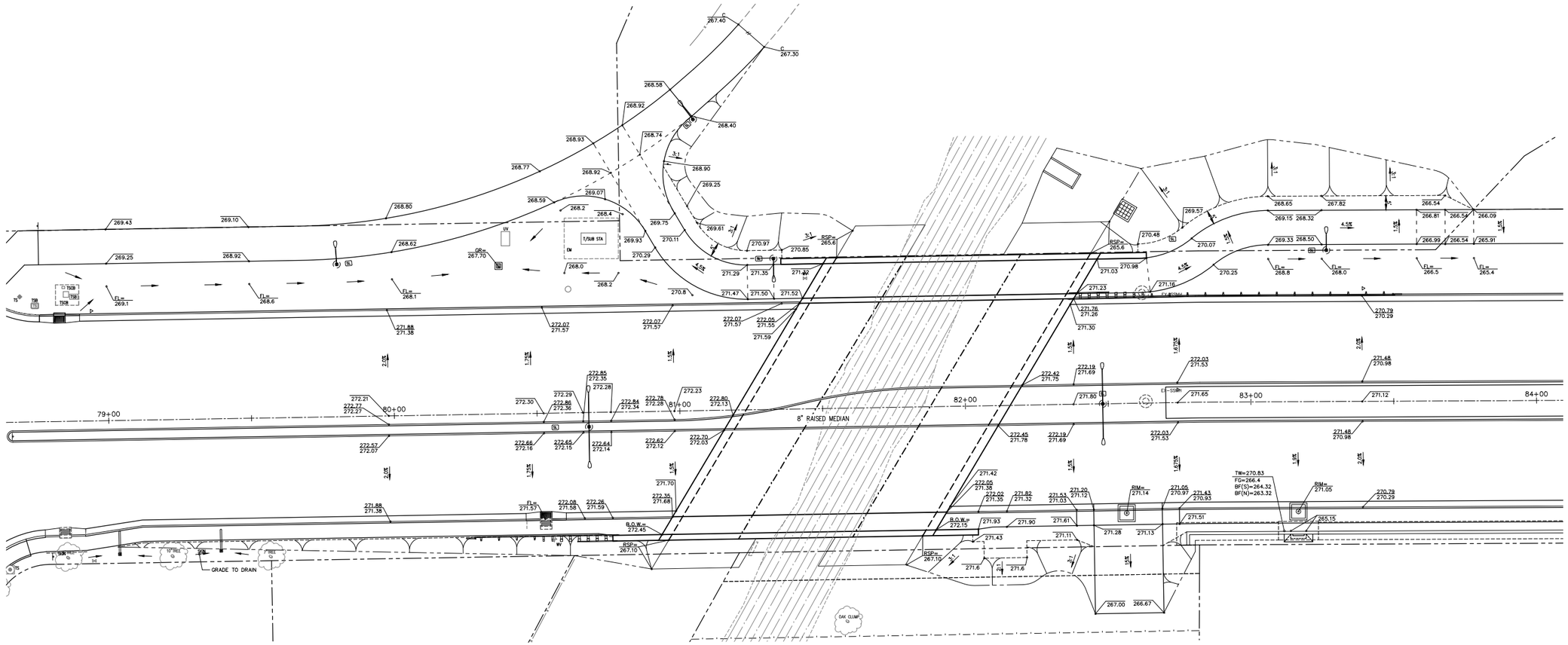
BRUCE ROAD RECONSTRUCTION
CURB RAMP DETAILS

Project Number: 16038	Drawing Number D-8
Scale: NONE	Sheet 95 of 182

Title: BRUCE ROAD RECONSTRUCTION

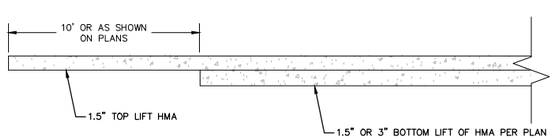
Drawing Number D-8

Plan Status: ☐ Conceptual. ☐ Approved Final. ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_Detail 1.dwg - D8 (95), Fri, Dec 8 2023 - 11:39:27am, User



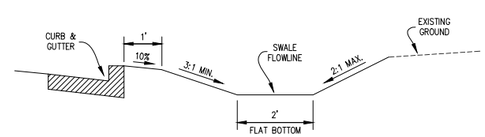
LITTLE CHICO CREEK BRIDGE GRADING DETAIL

SCALE: 1"=20'



10' TAPER DETAIL

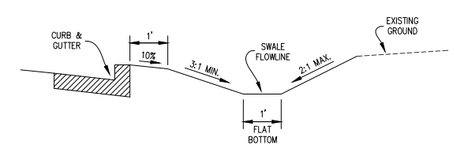
NO SCALE



ROADSIDE SWALE DETAIL

BRUCE ROAD: STA. 19+00 TO 43+50

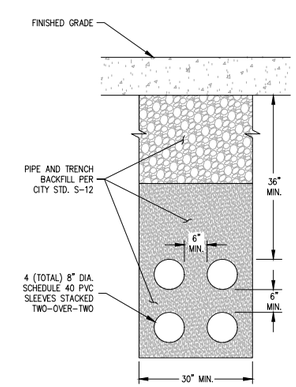
NO SCALE



ROADSIDE SWALE DETAIL

BRUCE ROAD: STA. 14+75 TO 19+00
BRUCE ROAD: STA. 43+50 TO 55+60
EAST 20TH STREET: STA. 9+50 TO 19+50

NO SCALE



JOINT TRENCH DETAIL

NO SCALE

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOLI
No. 72209
CIVIL
State of California

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Drawn By: CAD		ADDENDUM #1	12-19-23	PWR	
Checked: PWR	Date: DECEMBER, 2023	ADDENDUM #2	01-09-24	JIR	

CITY OF CHICO INC. 1872

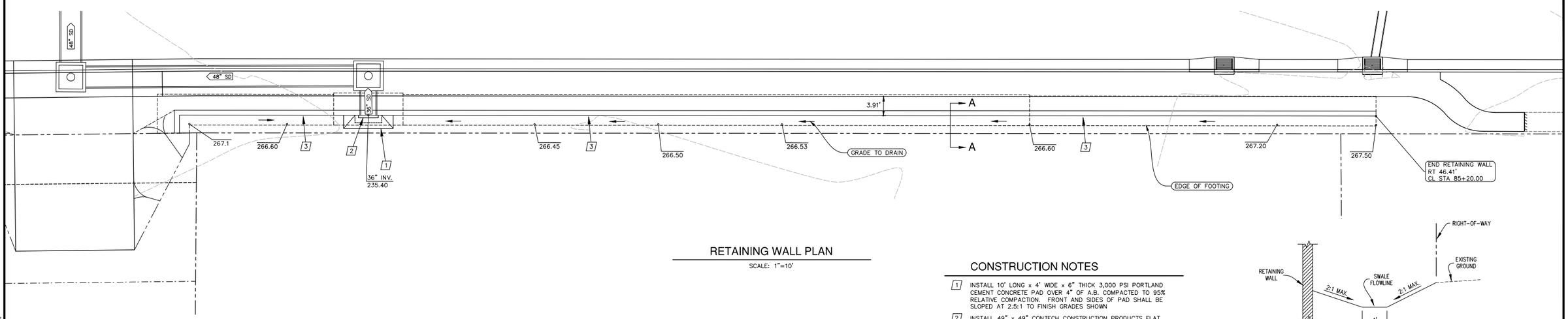
BRUCE ROAD RECONSTRUCTION
BRIDGE FINISH GRADING DETAIL

Project Number: 16038	Drawing Number D-9
Scale: NONE	Sheet 96 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-9

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Detail 2.dwg – D9 (96), Tue, Feb 20 2024 – 4:59:51pm, User

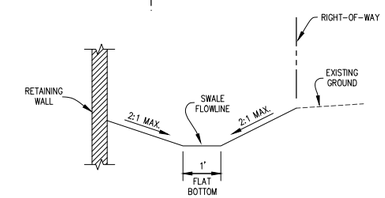


RETAINING WALL PLAN

SCALE: 1"=10'

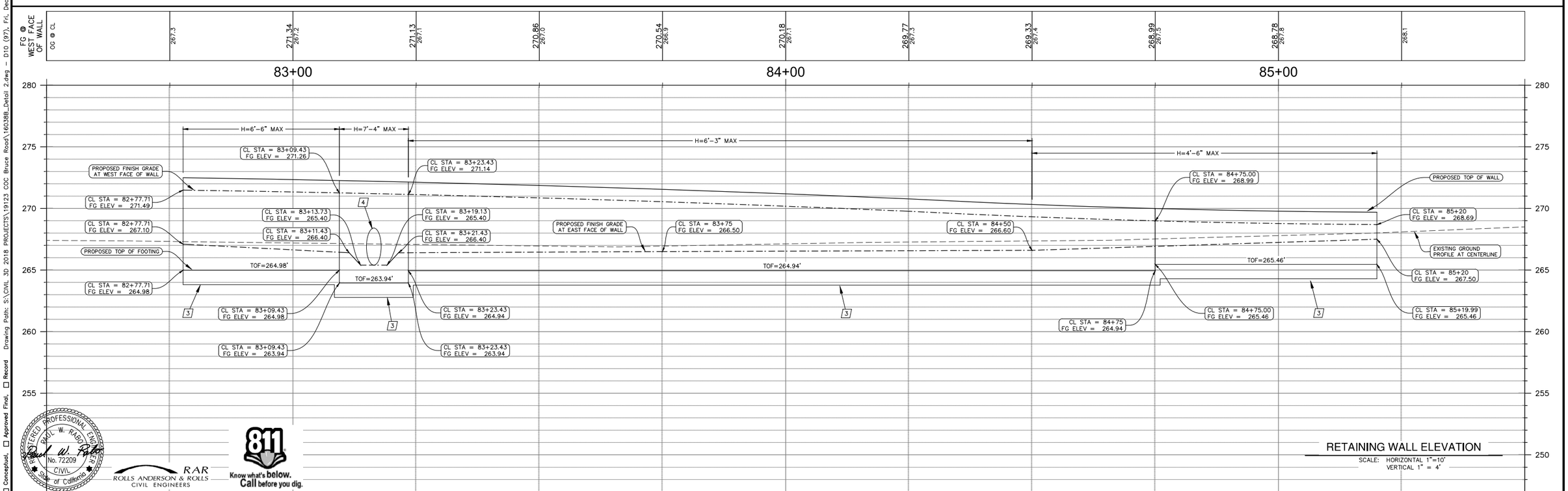
CONSTRUCTION NOTES

1. INSTALL 10' LONG x 4' WIDE x 6" THICK 3,000 PSI PORTLAND CEMENT CONCRETE PAD OVER 4" OF A.B. COMPACTED TO 95% RELATIVE COMPACTION. FRONT AND SIDES OF PAD SHALL BE SLOPED AT 2.5:1 TO FINISH GRADES SHOWN
2. INSTALL 49" x 49" CONTECH CONSTRUCTION PRODUCTS FLAT ROOF RECTANGULAR RACK, OR APPROVED EQUAL. RACK SHALL BE ATTACHED TO RETAINING WALL PER MANUFACTURER'S RECOMMENDATIONS. SEE TRASH RACK DETAIL
3. INSTALL RETAINING WALL PER PER CALTRANS STD. PLANS B0-3, B3-3A, B3-5 AND B3-6 (±237 L.F. TOTAL THIS DWG.)
4. UTILITY OPENING FOR 36" STORM DRAIN PIPE



SECTION A-A
SWALE DETAIL

NO SCALE



RETAINING WALL ELEVATION

SCALE: HORIZONTAL 1"=10'
VERTICAL 1" = 4'

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOZZI
No. 72209
CIVIL
State of California

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Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-10

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Detail 2.dwg - D10 (97), Fri, Dec 8 2023 - 11:59:10am, User

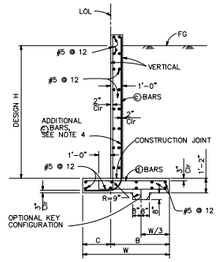
Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

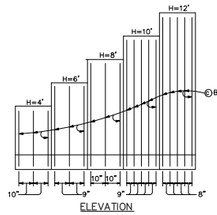
BRUCE ROAD RECONSTRUCTION
RETAINING WALL PLAN AND ELEVATION

Project Number: 16038	Drawing Number D-10
Scale: NONE	Sheet 97 of 182



SPREAD FOOTING SECTION

Place concrete in toe against undisturbed material, except as permitted by the Engineer.



ELEVATION

SYMBOLS:

Ser – service limit state I
Str – strength limit state I
Ext I – extreme event limit state I
Ext II – extreme event limit state II
B' – effective footing width (ft)
qo – net bearing stress (ksf), OG assumed to be FG at toe
qo – gross uniform bearing stress (ksf)

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 8th Edition with California Amendments, Preface dated April 2019

LS: Variable live load surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 2" of concrete (25 psf) considered

CT: 54 kip transverse force applied at 32" above FS, distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40".

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL BACKFILL: $\phi = 34°$, $\gamma = 120$ pcf

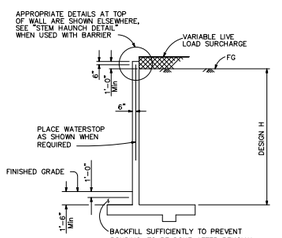
SOIL FOR BASE FRICTION: $\phi = 32°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: $f'c = 3{,}600$ psi, $fy = 60{,}000$ psi

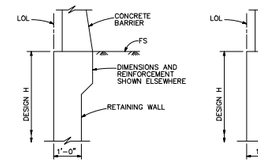
LOAD COMBINATIONS AND LIMIT STATES:

Service I: Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I: Q = αDC+βEVmin(H+1.75LS
Extreme I: Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE
Extreme II: Q = 1.00DC+1.00EV+1.00EH+0.5LS+1.0CT

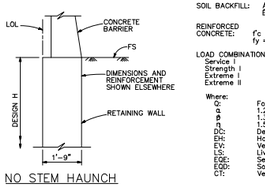
Where:
Q: Force Effects
α: 1.25 or 0.90, Whichever Controls Design
β: 1.35 or 1.00, Whichever Controls Design
η: 1.50 or 0.90, Whichever Controls Design
DC: Dead Load of Structure Components
EH: Horizontal Earth Fill Pressure
EV: Vertical Earth Pressure from Earth Fill Weight
LS: Live Load Surcharge
EQE: Seismic Earth Pressure
EQD: Soil and Structural and Nonstructural Components Inertia
CT: Vehicular Collision Force



DESIGN SECTION



STEM HAUNCH DETAIL



NO STEM HAUNCH ALTERNATIVE

NOTES:

1. For details not shown and drainage notes, see B3-5
2. For wall stem joint details, see B0-3 (3-3), B0-3 (3-4)
3. At ⓒbars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.
4. Provide #6 @ 8" ⓒbars in addition to tabulated ⓒbars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall location.

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'
W	6'-0"	6'-3"	6'-6"	7'-4"	8'-2"
C	2'-0"	2'-0"	2'-0"	2'-4"	2'-7"
B	4'-0"	4'-3"	4'-6"	5'-0"	5'-7"
ⓒBARS	#6 @ 10	#6 @ 9	#7 @ 10	#7 @ 9	#7 @ 8
ⓣBARS	#5 @ 10	#5 @ 9	#6 @ 10	#7 @ 9	#7 @ 8
Ser: B', q' o	6.0, 0.8	5.6, 1.1	5.2, 1.5	5.7, 1.7	6.2, 2.0
Str: B', q o	4.5, 1.4	3.2, 1.9	2.5, 3.0	2.8, 3.4	3.1, 3.9
Ext I: B', q o	4.4, 1.2	4.1, 1.7	3.7, 2.4	4.1, 2.8	4.4, 3.2
Ext II: B', q o	1.1, 4.7	1.6, 4.3	2.0, 4.3	3.4, 3.3	4.6, 3.1

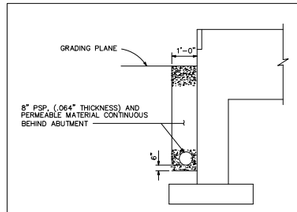
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 1A
(CASE 1)

NO SCALE

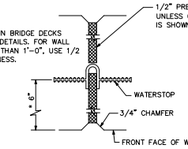
B3-3A

2022 STANDARD PLAN B3-3A

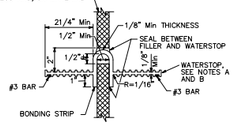


BRIDGE DETAIL 3-5
8" PSP AND PERMEABLE MATERIAL

* FOR PLACEMENT IN BRIDGE DECKS SEE JOINT SEAL DETAILS. FOR WALL THICKNESS LESS THAN 1'-0", USE 1/2 THE WALL THICKNESS.



BRIDGE DETAIL 3-4
WALL EXPANSION JOINT

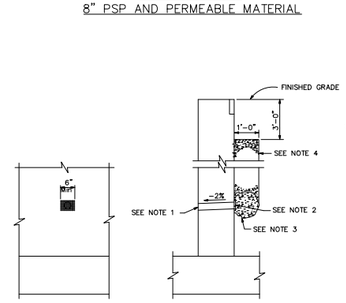


BRIDGE DETAIL 3-6
WATERSTOP

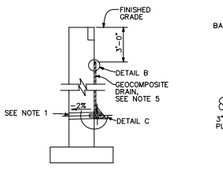
NOTES:

A. Holes will be permitted in the outer 1/2" of the web for wire, rings, etc. Tie web to #3 reinforcing bars @ 12 maximum intervals to support the waterstop in proper position during concrete placement. Alternative detail may be submitted for approval of the Engineer.

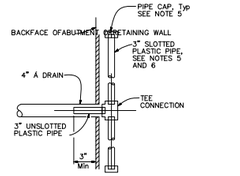
B. Waterstop to have 5 or more pairs of raised ribs to provide 0.1 square inch minimum rib cross-section area on each half of the waterstop.



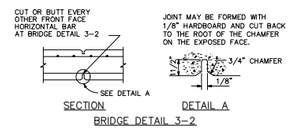
BRIDGE DETAIL 3-1
WEEP HOLE, PERVIOUS BACKFILL AND GEOCOMPOSITE DRAIN



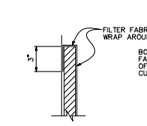
WALL SECTION



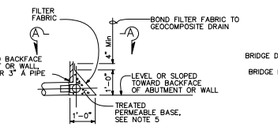
SECTION A-A



BRIDGE DETAIL 3-2
WEAKENED PLANES

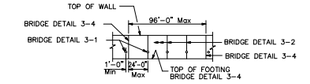


DETAIL B



DETAIL C

BRIDGE DETAIL 3-7



BRIDGE DETAIL 3-3
WALL EXPANSION JOINTS AND WEAKENED PLANES

NOTES:

1. 4" Ø Drains at intermediate sag points and 25'-0" maximum center to center. For walls adjacent to sidewalks or curbs, provide 4" plastic pipe under the sidewalk to discharge thru curb face. Exposed wall drains shall be located 3"± above finished grade.
2. 6" square aluminum or galvanized steel wire 1/4" mesh hardware cloth, minimum wire diameter 0.025". Anchor firmly to backface.
3. One cubic foot pervious backfill material in a nonwoven filter fabric, securely tied.
4. Pervious backfill material continuous behind retaining wall or abutment.
5. Geocomposite drain, treated permeable base and 3" Ø slotted plastic pipe continuous behind retaining wall or abutment. Cap ends of pipe. Provide "Tee" connection at each 4" Ø drain.
6. Connect the low end of plastic pipe to the main outlet pipe as applicable.

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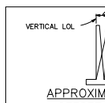
BRIDGE DETAILS

NO SCALE

B0-3

2022 STANDARD PLAN B0-3

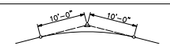


APPROXIMATE WALL OFFSET VALUES

Values for offsetting forms to be determined by the Engineer.

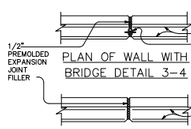
TABLE A

H	OFFSET
4'-12'	H/200
14'-16'	H/160
18'-20'	H/140
22'-24'	H/130
26'-36'	21/2"



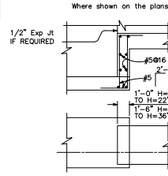
20'-0" VC AT TOP OF WALL SLOPE CHANGE

Where shown on the plans

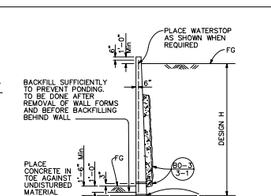


PLAN OF WALL WITH BRIDGE DETAIL 3-4

PLAN OF WALL WITH EXPANSION JOINT ONLY



FOOTING STEP



DESIGN AND DRAINAGE

DESIGN CONDITIONS:

Design "H" may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in table

Return wall not required unless shown elsewhere

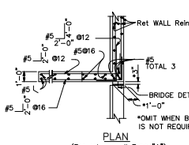
DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments

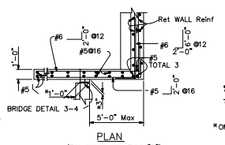
LIVE LOAD: Surcharge on level ground surface

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

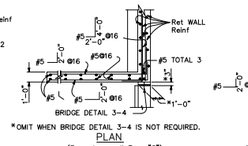
REINFORCED CONCRETE: $fy = 60{,}000$ psi, $fc' = 3{,}600$ psi



PLAN
(For return wall Type "A")

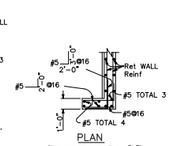


PLAN
(For return wall Type "B")

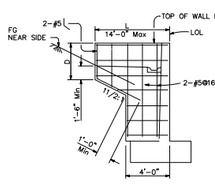


*OMIT WHEN BRIDGE DETAIL 3-4 IS NOT REQUIRED.

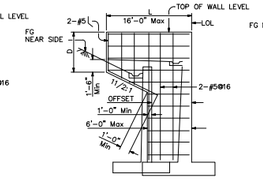
PLAN
(For return wall Type "C")



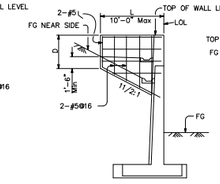
PLAN
(For return wall Type "D")



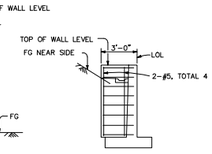
ELEVATION
RETURN WALL TYPE "A"
Use where H=8' or less



ELEVATION
RETURN WALL TYPE "B"
Use where H=10' or more on offset walls



ELEVATION
RETURN WALL TYPE "C"
Use where H=10' or more on straight walls



ELEVATION
RETURN WALL TYPE "D"
Use where H=6' or less

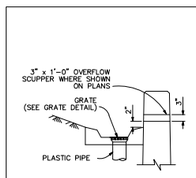
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS No. 1

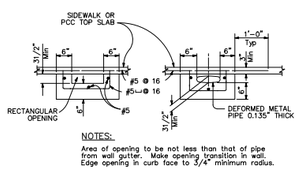
NO SCALE

B3-5

2022 STANDARD PLAN B3-5



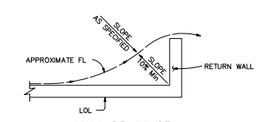
WALL DRAIN DETAIL



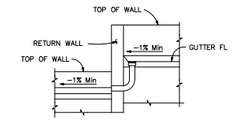
NOTES:

Area of opening to be not less than that of pipe from wall gutter. Make opening transition in wall. Edge opening in curb face to 3/4" minimum radius.

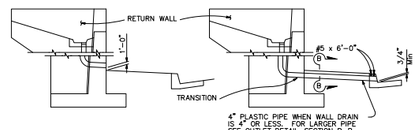
OUTLET DETAIL – SECTION B-B



WALL DRAINAGE
WHERE GUTTER NOT REQUIRED

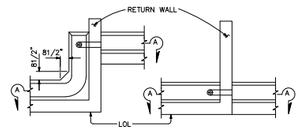


SECTION A-A



RETAINING WALL, FACE OF WALL OUTLET

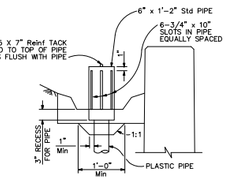
RETAINING WALL, GUTTER OUTLET



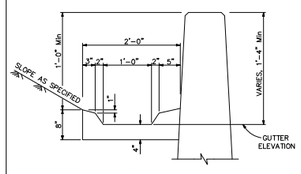
PLAN–OFFSET WALL

PLAN–CONTINUOUS WALL

DRAIN THROUGH RETURN WALL

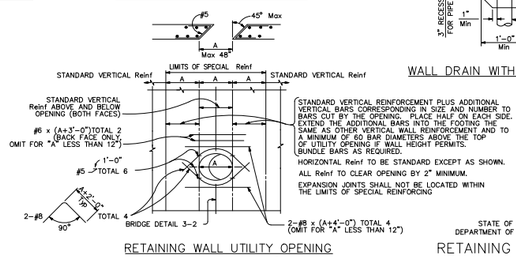


WALL DRAIN WITH PIPE DOME



TYPICAL GUTTER DETAIL

GRATE DETAIL
Sizes to fit standard hubs



STANDARD VERTICAL REINFORCEMENT PLUS ADDITIONAL VERTICAL BARS CORRESPONDING IN SIZE AND NUMBER TO BARS CUT BY THE OPENING. PLACE HALF ON EACH SIDE. EXTEND THE ADDITIONAL BARS INTO THE FOOTING THE SAME AS OTHER VERTICAL WALL REINFORCEMENT AND TO A MINIMUM OF 60 BAR DIAMETERS ABOVE THE TOP OF UTILITY OPENING IF WALL HEIGHT PERMITS. BUNDLE BARS AS REQUIRED.

HORIZONTAL Reinf TO BE STANDARD EXCEPT AS SHOWN.

ALL Reinf TO CLEAR OPENING BY 2" MINIMUM.

EXPANSION JOINTS SHALL NOT BE LOCATED WITHIN THE LIMITS OF SPECIAL REINFORCING

RETAINING WALL UTILITY OPENING

Max size of opening (A) = 48"
To be used in conjunction with sheet B3-2

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS No. 2

NO SCALE

B3-6

2022 STANDARD PLAN B3-6

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-11

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Detail 2.dwg – D11 (98), Fri, Dec 8 2023 – 11:59:18am, User

Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

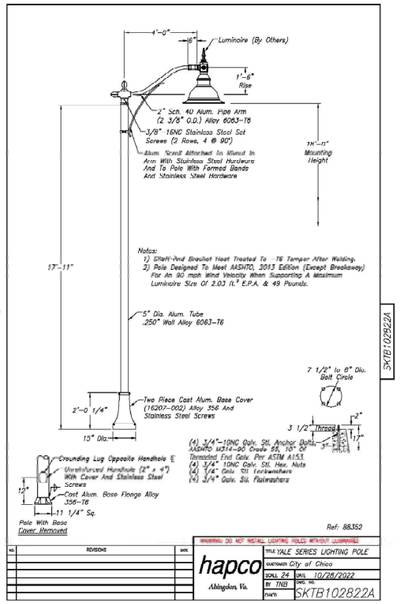
Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

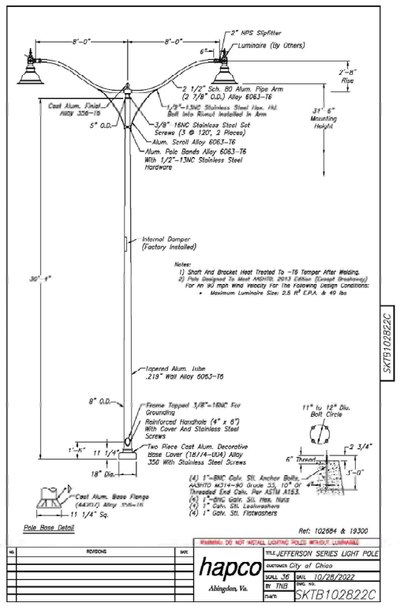
BRUCE ROAD RECONSTRUCTION
DETAILS

Project Number: 16038
Drawing Number D-11
Scale: NONE
Sheet 98 of 182

4' MAST ARM



8' MAST ARM



Chico Bruceville Road Type S1 18' path light 4' Arm (Referenceal 83753-1)

EPA: 2.02 sq ft / weight: 48 lb (21.8 kg)
Note: 3D image may not represent color or option selected. Logos above include link, click to access.

Qty	Luminaire
1	DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX

Description of Components:

Hood: A die cast A300.1 aluminum dome complete with a cast-in technical ring with latch and hinge. The mechanism shall offer tool-free access to the inside of the luminaire. An embedded memory-retentive gasket shall ensure weatherproofing.

Housing: In a round shape, this housing is made of cast 356 aluminum, c/w a watertight grommet, mechanically assembled to the bracket with four bolts 3/8 16 UNC. This suspension system permits for a full rotation of the luminaire in 90 degree increments.

Light Engine: LEDgine composed of 6 main components: **Heat Sink / Lens / LED Module / Optical System / Driver** Electrical components are RoHS compliant.

Heat Sink: Heat Sink: Made of die cast A360 aluminum optimising the LEDs efficiency and life, complete with a cast in skirt and technical ring. Product does not use any cooling device with moving parts (only passive cooling device)

Lens: Made of extra-lime clear tempered flat glass lens, mechanically assembled and sealed onto the lower part of the heat sink

LED Module: Composed of 32 high-performance white LEDs. Color temperature as per ANSI/NEMA bin Neutral White, 4000 Kelvin nominal (3985K +/- 275K or 3710K to 4260K). CRI 70 Min. 75 Typical.

Optical System: (LE2F). IES type II (asymmetrical). Composed of high-performance optical grade PMMA acrylic refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. Optical system is rated IP00. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Street side indicated 0% uplight and U0 per IESNA TM-15.

Chico Bruceville Road Type S1 18' path light 4' Arm (Referenceal 83753-1)

Driver: High power factor of 90% minimum. Electronic driver, operating range 50/60 Hz. **Auto-adjusting universal voltage input from 120 to 277 VAC rated for both application line to line or line to neutral, Class 1,** THD of 20% max. Maximum ambient operating temperature from -40F(-40C) to 130F(55C) degrees. **Driver comes with dimming compatible 0-10 volts. Power consumption of 17 watts.**

The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built-in driver surge protection of 2.5kV (min).

Driver Options: (DMG). Dimming compatible 0-10 volts. For applicable warranty, certification and operation guide see Lumec dimmable luminaire specification document for unapproved device installed by other. To get document, click on this link. Specification document or go on web site on this address: https://www.signify.com/fr-dam/signify/en-us/brands/lumec/Lumec-un-approved-control-device-installed-by-others-7_d.pdf

Surge Protector: Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2, Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Adaptor: (SMA). Made of cast 356 aluminum, complete with a block connector, mechanically assembled to the bracket. Can be mounted on a 1.66"(42mm) to 2.38"(60mm) outside diameter bracket arm tubing that slip fits 6.5" (165mm) long inside the adaptor, permits an adjustment of ± 5°.

Chico Bruceville Road Type S1 18' path light 4' Arm (Referenceal 83753-1)

Miscellaneous

Description of Components:

Wiring: Gauge (#14) TEW/AWM 1015 or 1230 wires. 6" (152mm) minimum exceeding from luminaire.

Hardware: All exposed screws shall be complete with Ceramic primer-seal basecoat to reduce seizing of the parts and offers a high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

Finish: Color to be **black textured RAL9005TX (DKTX)** and in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D823 standard and humidity proof in accordance with the ASTM D2247 standard.

The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

LED products manufacturing standard: The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product

Quality Control: The manufacturer must provide a written confirmation of its ISO 9001 and ISO 14001 International Quality Standards Certification.

Vibration Resistance: The DM550 meets the **ANSI C136.31, 2010**, American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications. (Tested for 3G over 100 000 cycles)

Web site information details: / Office Certification

Chico Bruceville Road Type S1 18' path light 4' Arm (Referenceal 83753-1)

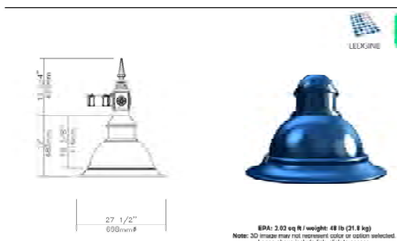
LED Wattage and Lumen Values: 3000K Osmos LED pendant - large (DM55x)

Ordering Code	Watts	Nominal Lumens	Color Temp.	Avg Lumens Wattage (W)	Type I LEF Delivered	Type I LEF Emit. Rating	Type I LEF Efficiency (lm/W)	Type II LEF Delivered	Type II LEF Emit. Rating	Type II LEF Efficiency (lm/W)	Type III LEF Delivered	Type III LEF Emit. Rating	Type III LEF Efficiency (lm/W)	Type IV LEF Delivered	Type IV LEF Emit. Rating	Type IV LEF Efficiency (lm/W)
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	17	2,200	4000K	17	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	21	2,700	4000K	21	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	25	3,200	4000K	25	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	29	3,600	4000K	29	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	34	4,000	4000K	34	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	40	5,000	4000K	40	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	46	5,700	4000K	46	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	50	6,300	4000K	50	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	55	7,000	4000K	55	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107

LED Wattage and Lumen Values: 4000K Osmos LED pendant - large (DM55x)

Ordering Code	Watts	Nominal Lumens	Color Temp.	Avg Lumens Wattage (W)	Type I LEF Delivered	Type I LEF Emit. Rating	Type I LEF Efficiency (lm/W)	Type II LEF Delivered	Type II LEF Emit. Rating	Type II LEF Efficiency (lm/W)	Type III LEF Delivered	Type III LEF Emit. Rating	Type III LEF Efficiency (lm/W)	Type IV LEF Delivered	Type IV LEF Emit. Rating	Type IV LEF Efficiency (lm/W)
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	17	2,200	4000K	17	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	21	2,700	4000K	21	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	25	3,200	4000K	25	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	29	3,600	4000K	29	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	34	4,000	4000K	34	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	40	5,000	4000K	40	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	46	5,700	4000K	46	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	50	6,300	4000K	50	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	55	7,000	4000K	55	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107

Chico Bruceville Road Type S3 Twin 8' Arm (Referenceal 83751-1)



EPA: 3.02 sq ft / weight: 48 lb (21.8 kg)
Note: 3D image may not represent color or option selected. Logos above include link, click to access.

Qty	Luminaire
1	DMS50-55W48LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX

Description of Components:

Hood: A die cast A300.1 aluminum dome complete with a cast-in technical ring with latch and hinge. The mechanism shall offer tool-free access to the inside of the luminaire. An embedded memory-retentive gasket shall ensure weatherproofing.

Housing: In a round shape, this housing is made of cast 356 aluminum, c/w a watertight grommet, mechanically assembled to the bracket with four bolts 3/8 16 UNC. This suspension system permits for a full rotation of the luminaire in 90 degree increments.

Light Engine: LEDgine composed of 6 main components: **Heat Sink / Lens / LED Module / Optical System / Driver** Electrical components are RoHS compliant.

Heat Sink: Heat Sink: Made of die cast A360 aluminum optimising the LEDs efficiency and life, complete with a cast in skirt and technical ring. Product does not use any cooling device with moving parts (only passive cooling device)

Lens: Made of extra-lime clear tempered flat glass lens, mechanically assembled and sealed onto the lower part of the heat sink

LED Module: Composed of 48 high-performance white LEDs. Color temperature as per ANSI/NEMA bin Neutral White, 4000 Kelvin nominal (3985K +/- 275K or 3710K to 4260K). CRI 70 Min. 75 Typical.

Optical System: (LE2F). IES type II (asymmetrical). Composed of high-performance optical grade PMMA acrylic refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. Optical system is rated IP00. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Street side indicated 0% uplight and U0 per IESNA TM-15.

Chico Bruceville Road Type S3 Twin 8' Arm (Referenceal 83751-1)

Driver: High power factor of 90% minimum. Electronic driver, operating range 50/60 Hz. **Auto-adjusting universal voltage input from 120 to 277 VAC rated for both application line to line or line to neutral, Class 1,** THD of 20% max. Maximum ambient operating temperature from -40F(-40C) to 130F(55C) degrees. **Driver comes with dimming compatible 0-10 volts.**

The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built-in driver surge protection of 2.5kV (min).

Driver Options: (DMG). Dimming compatible 0-10 volts. For applicable warranty, certification and operation guide see Lumec dimmable luminaire specification document for unapproved device installed by other. To get document, click on this link. Specification document or go on web site on this address: https://www.signify.com/fr-dam/signify/en-us/brands/lumec/Lumec-un-approved-control-device-installed-by-others-7_d.pdf

Surge Protector: Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2, Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Adaptor: (SMA). Made of cast 356 aluminum, complete with a block connector, mechanically assembled to the bracket. Can be mounted on a 1.66"(42mm) to 2.38"(60mm) outside diameter bracket arm tubing that slip fits 6.5" (165mm) long inside the adaptor, permits an adjustment of ± 5°.

Chico Bruceville Road Type S3 Twin 8' Arm (Referenceal 83751-1)

Miscellaneous

Description of Components:

Wiring: Gauge (#14) TEW/AWM 1015 or 1230 wires. 6" (152mm) minimum exceeding from luminaire.

Hardware: All exposed screws shall be complete with Ceramic primer-seal basecoat to reduce seizing of the parts and offers a high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

Finish: Color to be **black textured RAL9005TX (DKTX)** and in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D823 standard and humidity proof in accordance with the ASTM D2247 standard.

The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

LED products manufacturing standard: The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product

Quality Control: The manufacturer must provide a written confirmation of its ISO 9001 and ISO 14001 International Quality Standards Certification.

Vibration Resistance: The DM550 meets the **ANSI C136.31, 2010**, American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications. (Tested for 3G over 100 000 cycles)

Web site information details: / Office Certification

Chico Bruceville Road Type S3 Twin 8' Arm (Referenceal 83751-1)

LED Wattage and Lumen Values: 3000K Osmos LED pendant - large (DM55x)

Ordering Code	Watts	Nominal Lumens	Color Temp.	Avg Lumens Wattage (W)	Type I LEF Delivered	Type I LEF Emit. Rating	Type I LEF Efficiency (lm/W)	Type II LEF Delivered	Type II LEF Emit. Rating	Type II LEF Efficiency (lm/W)	Type III LEF Delivered	Type III LEF Emit. Rating	Type III LEF Efficiency (lm/W)	Type IV LEF Delivered	Type IV LEF Emit. Rating	Type IV LEF Efficiency (lm/W)
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	17	2,200	4000K	17	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	21	2,700	4000K	21	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	25	3,200	4000K	25	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	29	3,600	4000K	29	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	34	4,000	4000K	34	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	40	5,000	4000K	40	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	46	5,700	4000K	46	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	50	6,300	4000K	50	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	55	7,000	4000K	55	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107

LED Wattage and Lumen Values: 4000K Osmos LED pendant - large (DM55x)

Ordering Code	Watts	Nominal Lumens	Color Temp.	Avg Lumens Wattage (W)	Type I LEF Delivered	Type I LEF Emit. Rating	Type I LEF Efficiency (lm/W)	Type II LEF Delivered	Type II LEF Emit. Rating	Type II LEF Efficiency (lm/W)	Type III LEF Delivered	Type III LEF Emit. Rating	Type III LEF Efficiency (lm/W)	Type IV LEF Delivered	Type IV LEF Emit. Rating	Type IV LEF Efficiency (lm/W)
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	17	2,200	4000K	17	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110	1,863	R3-U0-B3	110
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	21	2,700	4000K	21	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109	2,286	R3-U0-B3	109
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	25	3,200	4000K	25	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108	2,709	R3-U0-B3	108
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	29	3,600	4000K	29	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107	3,047	R3-U0-B3	107
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	34	4,000	4000K	34	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100	3,386	R3-U0-B3	100
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	40	5,000	4000K	40	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106	4,233	R3-U0-B3	106
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	46	5,700	4000K	46	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105	4,827	R3-U0-B3	105
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	50	6,300	4000K	50	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108	5,420	R3-U0-B3	108
DMS50-[35W]2LFDMX-[079]-[43]-LF5-120-DMG-SMA-BKTX	55	7,000	4000K	55	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107	5,880	R3-U0-B3	107

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-12

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_Detail 2.dwg – D12 (99), Fri, Dec 8 2023 – 11:59:18am, User

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABOLD No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

811 Know what's below. Call before you dig.

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD	Date: DECEMBER, 2023			
Checked: PWR				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

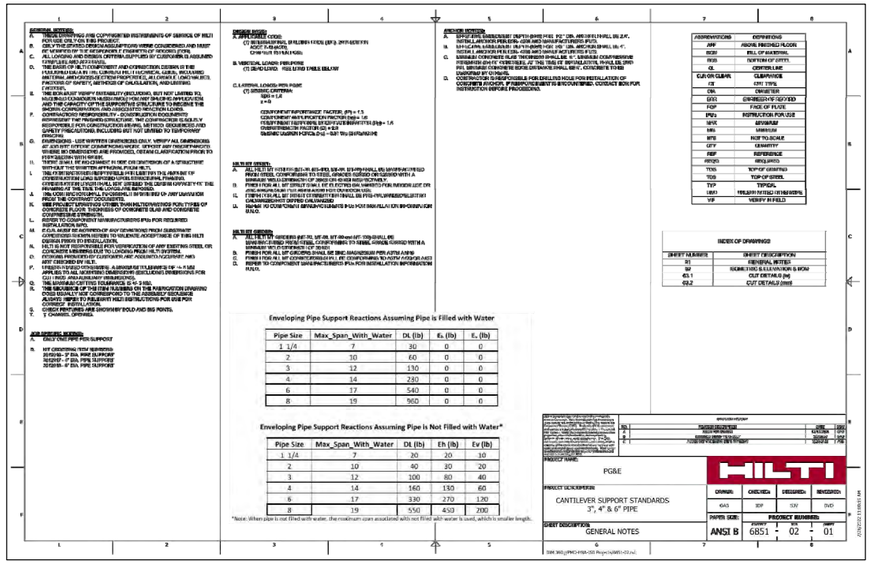
BRUCE ROAD RECONSTRUCTION
PATH AND STREET LIGHTING DETAILS

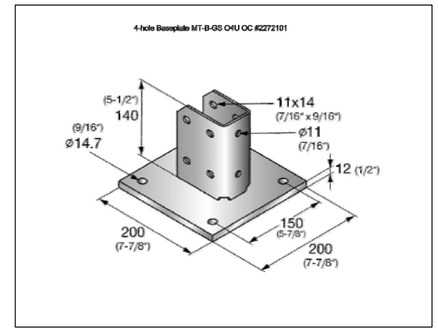
Project Number: 16038

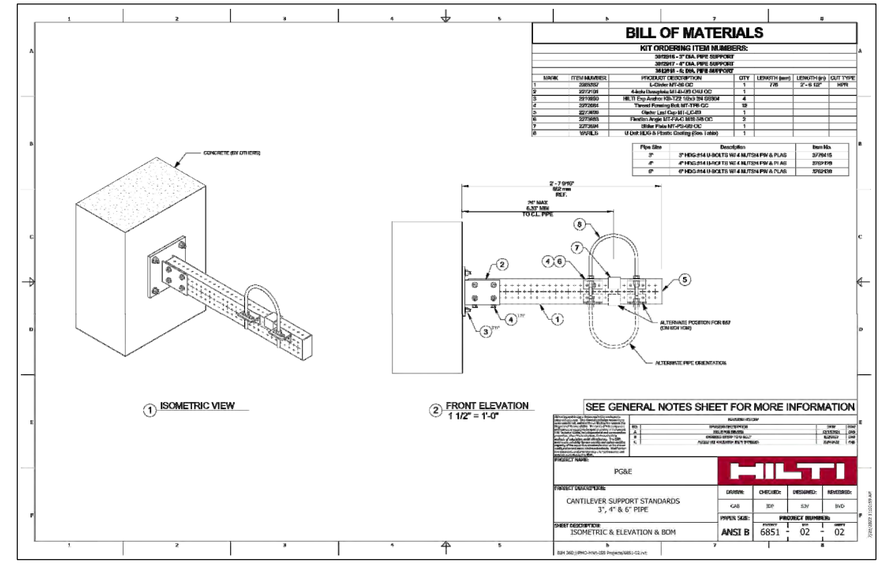
Drawing Number D-12

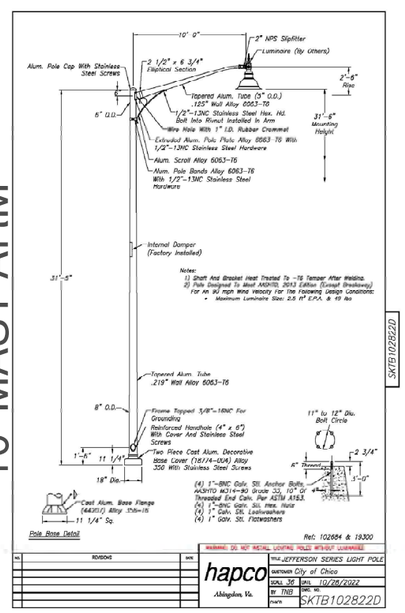
Scale: NONE

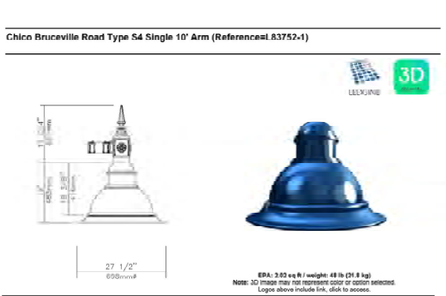
Sheet 99 of 182











Chico Bruceville Road Type S4 Single 10' Arm (Reference#:83752-1)

EPA: 3.03 sq ft / weight: 48 lb (21.8 kg)
Note: 3D image may not represent color or option selected. Logo above include link, click to access.

Qty		
1	Luminaire	DM550-55W481 FT4K G2L1 F1F-120-DMG-SMA-RKTX

Description of Components:

Hood: A die cast A360.1 aluminum dome complete with a cast-in technical ring with latch and hinge. The mechanism shall offer tool-free access to the inside of the luminaire. An embedded memory-retentive gasket shall ensure weatherproofing.

Housing: In a round shape, this housing is made of cast 356 aluminum, c/w a watertight grommet, mechanically assembled to the bracket with four bolts 3/8-16 UNC. This suspension system permits for a full rotation of the luminaire in 90 degree increments.

Light Engine: LEDgine composed of 6 main components: **Heat Sink / Lens / LED Module / Optical System / Driver** Electrical components are RoHS compliant.

Heat Sink: Heat Sink: Made of die cast A360 aluminum optimizing the LEDs efficiency and life, complete with a cast in skirt and technical ring. Product does not use any cooling device with moving parts (only passive cooling device)

Lens: Made of extra-lime clear tempered flat glass lens, mechanically assembled and sealed onto the lower part of the heat sink

LED Module: Composed of 48 high-performance white LEDs. Color temperature as per ANSI/NEMA bin Neutral White, 4000 Kelvin nominal (3985K +/- 275K or 3710K to 4260K), CRI 70 Min. 75 Typical.

Optical System: (LESF). IES type III (asymmetrical). Composed of high-performance optical grade PMMA acrylic refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. Optical system is rated IP66. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Street side indicated.0% uplight and U0 per IESNA TM-15.

Chico Bruceville Road Type S4 Single 10' Arm (Reference#:83752-1)

Driver: High power factor of 90% minimum. Electronic driver, operating range 50/60 Hz. **Auto-adjusting universal voltage input from 120 to 277 VAC rated for both application line to line or line to neutral, Class 1**, THD of 20% max Maximum ambient operating temperature from -40F(-40C) to 130F(55C) degrees. **Driver comes with dimming compatible 0-10 volts.**

The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built-in driver surge protection of 2.5kV (min).

Driver Options. (DMG). Dimming compatible 0-10 volts. For applicable warranty, certification and operation guide see Lumec dimmable luminaire specification document for unapproved device installed by other. To get document, click on this link: Specification document or go on web site this address: https://www.signify.com/b-dam/signify/en-ca/brands/lumec/Lumec-ur-approved-control-device-installed-by-others-7_0.pdf

Surge Protector: Surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line Ground, Line Neutral and Neutral Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

Adaptor: (SMA). Made of cast 356 aluminum, complete with a block connector, mechanically assembled to the bracket. Can be mounted on a 1.66"(42mm) to 2.38"(60mm) outside diameter bracket arm tubing that clip fits 6.5" (165mm) long inside the adaptor, permits an adjustment of ± 5°.

Chico Bruceville Road Type S4 Single 10' Arm (Reference#:83752-1)

Miscellaneous

Description of Components:

Wiring: Gauge (#14) TEW/AWM 1015 or 1230 wires. 6" (152mm) minimum exceeding from luminaire.

Hardware: All exposed screws shall be complete with Ceramic primer-seal basecoat to reduce seizing of the parts and offers a high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

Finish: Color to be **black textured RAL9005TX (DKTX)** and in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard.

The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

LED products manufacturing standard: The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

Quality Control: The manufacturer must provide a written confirmation of its ISO 9001 and ISO 14001 International Quality Standards Certification.

Vibration Resistance: The DM550 meets the **ANSI C136.31. 2010**, American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications. (Tested for 30 over 100 000 cycles)

Web site information details: / cULus Certification

Chico Bruceville Road Type S4 Single 10' Arm (Reference#:83752-1)

LED Wattage and Lumen Values: 4000K Bivins LED product large (DM550s)

Drawing Code	Total LEDs	Average Measured Watts	Avg Correlated Temperature (K)	Type AWM		Type UWM		Type LWM		Type GWM	
				Delivered Lumens	BUG Rating	Delivered Lumens	BUG Rating	Delivered Lumens	BUG Rating	Delivered Lumens	BUG Rating
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	12	14.6	3985	1,722	B2-U0-G1	1,722	B2-U0-G1	1,722	B2-U0-G1	1,722	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	24	29.2	3985	3,444	B2-U0-G1	3,444	B2-U0-G1	3,444	B2-U0-G1	3,444	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	36	43.8	3985	5,166	B2-U0-G1	5,166	B2-U0-G1	5,166	B2-U0-G1	5,166	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	48	58.3	3985	6,888	B2-U0-G1	6,888	B2-U0-G1	6,888	B2-U0-G1	6,888	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	60	72.9	3985	8,610	B2-U0-G1	8,610	B2-U0-G1	8,610	B2-U0-G1	8,610	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	12	14.6	3710	1,694	B2-U0-G1	1,694	B2-U0-G1	1,694	B2-U0-G1	1,694	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	24	29.2	3710	3,388	B2-U0-G1	3,388	B2-U0-G1	3,388	B2-U0-G1	3,388	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	36	43.8	3710	5,082	B2-U0-G1	5,082	B2-U0-G1	5,082	B2-U0-G1	5,082	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	48	58.3	3710	6,776	B2-U0-G1	6,776	B2-U0-G1	6,776	B2-U0-G1	6,776	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	60	72.9	3710	8,470	B2-U0-G1	8,470	B2-U0-G1	8,470	B2-U0-G1	8,470	B2-U0-G1

LED Wattage and Lumen Values: 4000K Bivins LED product large (DM550s)

Drawing Code	Total LEDs	Average Measured Watts	Avg Correlated Temperature (K)	Type AWM		Type UWM		Type LWM		Type GWM	
				Delivered Lumens	BUG Rating	Delivered Lumens	BUG Rating	Delivered Lumens	BUG Rating	Delivered Lumens	BUG Rating
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	12	14.6	4000K	1,722	B2-U0-G1	1,722	B2-U0-G1	1,722	B2-U0-G1	1,722	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	24	29.2	4000K	3,444	B2-U0-G1	3,444	B2-U0-G1	3,444	B2-U0-G1	3,444	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	36	43.8	4000K	5,166	B2-U0-G1	5,166	B2-U0-G1	5,166	B2-U0-G1	5,166	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	48	58.3	4000K	6,888	B2-U0-G1	6,888	B2-U0-G1	6,888	B2-U0-G1	6,888	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	60	72.9	4000K	8,610	B2-U0-G1	8,610	B2-U0-G1	8,610	B2-U0-G1	8,610	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	12	14.6	4000K	1,694	B2-U0-G1	1,694	B2-U0-G1	1,694	B2-U0-G1	1,694	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	24	29.2	4000K	3,388	B2-U0-G1	3,388	B2-U0-G1	3,388	B2-U0-G1	3,388	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	36	43.8	4000K	5,082	B2-U0-G1	5,082	B2-U0-G1	5,082	B2-U0-G1	5,082	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	48	58.3	4000K	6,776	B2-U0-G1	6,776	B2-U0-G1	6,776	B2-U0-G1	6,776	B2-U0-G1
DM550-055W481-FT4K-G2L1-F1F-120-DMG-SMA-RKTX	60	72.9	4000K	8,470	B2-U0-G1	8,470	B2-U0-G1	8,470	B2-U0-G1	8,470	B2-U0-G1

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-13

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Detail 2.dwg – D13 (100), Fri, Dec 8 2023 – 11:59:20am, User

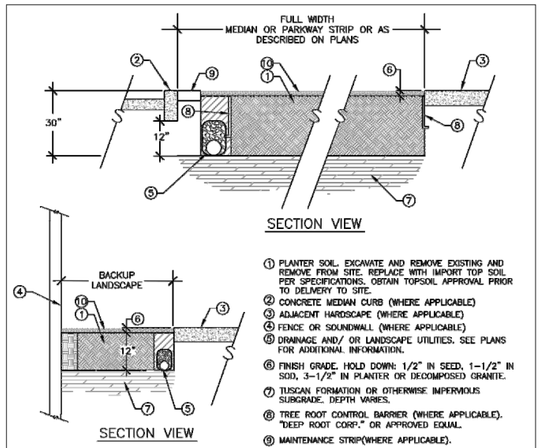
REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

811 Know what's below. Call before you dig.

Designed: JIR	Approved:	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: CAD	Date: DECEMBER, 2023				BRUCE ROAD RECONSTRUCTION STREET LIGHTING AND GAS LINE BRIDGE ANCHOR DETAILS
Checked: PWR					

Project Number: 16038 | Drawing Number D-13 | Scale: NONE | Sheet 100 of 182



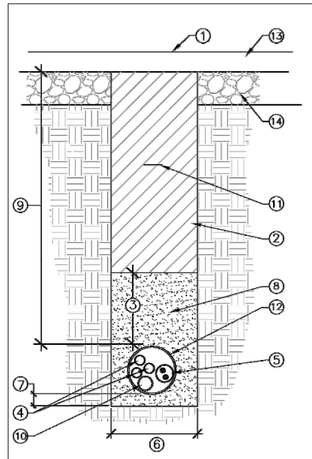
1. PLANTER SOIL. EXCAVATE AND REMOVE EXISTING AND REMOVE FROM SITE. REPLACE WITH IMPORT TOP SOIL PER SPECIFICATIONS. OBTAIN TOPSOIL APPROVAL PRIOR TO DELIVERY TO SITE.
2. CONCRETE MEDIAN CURB (WHERE APPLICABLE)
3. ADJACENT HARDSCAPE (WHERE APPLICABLE)
4. FENCE OR SOUNDWALL (WHERE APPLICABLE)
5. DRAINAGE AND/ OR LANDSCAPE UTILITIES. SEE PLANS FOR ADDITIONAL INFORMATION.
6. FINISH GRADE. HOLD DOWN: 1/2" IN SEED, 1-1/2" IN SOD, 3-1/2" IN PLANTER OR DECOMPOSED GRANITE.
7. TUSCAN FORMATION OR OTHERWISE IMPERVIOUS SUBGRADE. DEPTH VARIES.
8. TREE ROOT CONTROL BARRIER (WHERE APPLICABLE). "DEEP ROOT CORP." OR APPROVED EQUAL.
9. MAINTENANCE STRIP(WHERE APPLICABLE).
10. TOP DRESSING. SEE PLANS AND SPECIFICATIONS.

NOTES:

1. COMPACT TO 85% RELATIVE DENSITY AND ALLOW FOR SETTLING.
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A SOILS ANALYSIS OF IMPORT TOPSOIL FROM AN ANALYTICAL LABORATORY AND SHALL AMEND THE SOIL PER THE LABORATORY RECOMMENDATIONS. SOIL SAMPLING SHALL BE CONDUCTED IN ACCORDANCE WITH LABORATORY PROTOCOL, INCLUDING PROTOCOLS REGARDING ADEQUATE SAMPLING DEPTH FOR THE INTENDED PLANTS. THE SOIL ANALYSIS SHALL INCLUDE:
   - A. SOIL TEXTURE
   - B. INFILTRATION RATE DETERMINED BY LABORATORY TEST OR SOIL TEXTURE INFILTRATION RATE TABLE
   - C. PH
   - D. TOTAL SOLUBLE SALTS
   - E. SODIUM
   - F. ORGANIC MATTER
   - G. WATER PENETRATION OF SOIL DUE TO CHEMICAL CHARACTERISTICS
   - H. SOIL MACRONUTRIENTS
   - I. SOIL MICRONUTRIENTS
   - J. RECOMMENDATIONS FOR LANDSCAPES STATED IN RATES OF COMMONLY AVAILABLE AMENDMENTS (CUBIC YARDS OR WEIGHT PER 1,000 SF)
   - K. TEST LPT 4 FROM SUNLAND ANALYTICAL LAB OR EQUAL
3. REMOVE ALL DEBRIS, CONCRETE POUR-OVER, ASPHALT, ROAD BASE, AND ROCKS OVER 2" IN DIAMETER. REMOVE ANY SOIL CONTAMINATED BY BUILDING CONSTRUCTION DEBRIS SUCH AS PAINT, CONCRETE, STUCCO, ETC. AND DISPOSE OF OFF-SITE.
4. CONFIRM EXACT LOCATIONS OF ALL UTILITIES PRIOR TO THE START OF WORK.

SOIL REPLACEMENT DETAIL AT IMPERVIOUS SUBSURFACE

NO SCALE



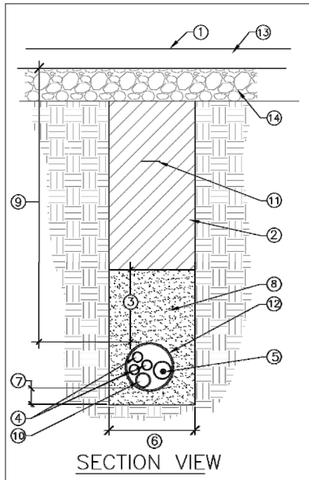
1. FINISH SURFACE OF PAVING.
2. TRENCH BACKFILL PER SPECIFICATIONS.
3. SIX INCHES SAND FILL COVER, ABOVE MAINLINE.
4. PVC SCHEDULE 40 LATERAL LINE.
5. CONTROL WIRES OR DECODER CABLE IN GRAY SCHEDULE 40 PVC CONDUIT. SIZE PER PLAN, 2" DIAM. MIN.
6. 6" OR AS NEEDED TO PROVIDE FOR A MINIMUM 4" CLEARANCE BETWEEN PIPES.
7. 2" MINIMUM SAND BEDDING BELOW PIPE.
8. SAND BACKFILL PER SPECIFICATIONS.
9. 18" MINIMUM COVER BENEATH NON VEHICULAR PAVING.
10. PVC MAINLINE.
11. 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL.
12. IRRIGATION SLEEVE PER IRRIGATION PLAN. SIZE PER PLAN, 4" MINIMUM.
13. PEDESTRIAN PAVING PER CITY STANDARDS.
14. PAVING SUBGRADE PER CITY STANDARDS.

NOTES:

1. SIDES OF TRENCH WILL BE DUG SQUARE AND CLEAN OF ALL SHARP MATERIAL.
2. ALLOW FOR SETTLING.
3. SEE TRANSITION TO SLEEVING BENEATH PAVING DETAIL FOR ADDITIONAL INFORMATION.

TRENCHING DETAIL BENEATH PAVING (NON-VEHICULAR)

NO SCALE



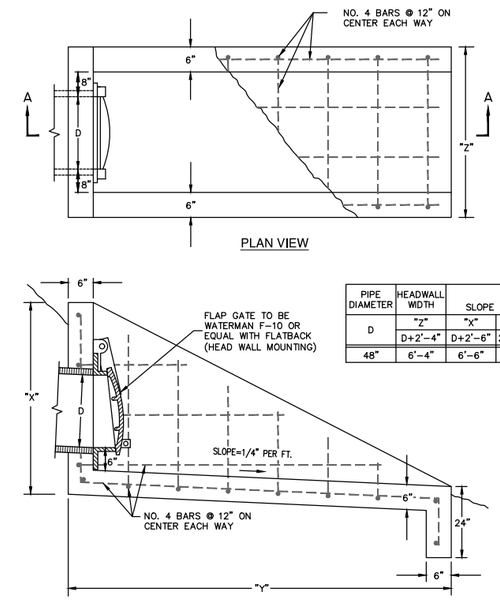
1. FINISH SURFACE.
2. TRENCH BACKFILL PER SPECIFICATIONS.
3. SIX INCHES SAND FILL COVER, ABOVE MAINLINE.
4. PVC SCHEDULE 40 LATERAL LINE.
5. CONTROL WIRES OR DECODER CABLE IN GRAY SCHEDULE 40 PVC CONDUIT. SIZE PER PLAN, 2" DIAM. MIN.
6. 6" OR AS NEEDED TO PROVIDE FOR A MINIMUM 4" CLEARANCE BETWEEN PIPES.
7. 2" MINIMUM SAND BEDDING BELOW PIPE.
8. SAND BACKFILL PER SPECIFICATIONS.
9. 24" MINIMUM COVER BENEATH VEHICULAR PAVING.
10. PVC MAINLINE.
11. 3" DETECTABLE TAPE. CHRISTY MODEL TA-DT-03-B-IRR OR EQUAL.
12. IRRIGATION SLEEVE PER IRRIGATION PLAN. SIZE PER PLAN, 4" MINIMUM.
13. VEHICULAR PAVING PER CITY STANDARDS.
14. PAVING SUBGRADE PER CITY STANDARDS.

NOTES:

1. SIDES OF TRENCH WILL BE DUG SQUARE AND CLEAN OF ALL SHARP MATERIAL.
2. ALLOW FOR SETTLING.
3. SEE TRANSITION TO SLEEVING BENEATH PAVING DETAIL FOR ADDITIONAL INFORMATION.

TRENCHING DETAIL BENEATH PAVING (VEHICULAR)

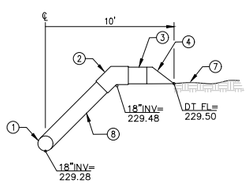
NO SCALE



PIPE DIAMETER	HEADWALL WIDTH	SLOPE = 2:1		
D	"Z"	"X"	"Y"	
	D+2'-4"	D+2'-6"	2(D+2'-6")	
48"	6'-4"	6'-6"	13'-0"	

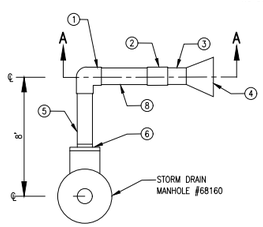
MODIFIED CITY STD. S-6 STORM DRAIN HEADWALL

NO SCALE



SECTION A-A

NO SCALE



1. INSTALL 18" HDPE 90° TEE
2. INSTALL 18" DIA. HDPE 45° ANGLE
3. INSTALL 2 L.F.± 18" DIA. HDPE S.D. PIPE, S=0.0020
4. INSTALL 18" DIA. HDPE FES
5. INSTALL 8 L.F.± 18" DIA. HDPE S.D. PIPE, S=0.0020
6. INSTALL 36"x18" DIA. HDPE REDUCER; 18"INV=229.26, 36"INV=227.76
7. CHANNEL FLOWLINE
8. INSTALL 5 L.F.± 18" DIA. HDPE S.D. PIPE, S=0.0500

STORM DRAIN INLET DETAIL

NO SCALE

LOAD TRANSFER DOWEL SIZE AND SPACING FOR CONSTRUCTION AND CONTRACTION JOINTS (IF REQUIRED)*

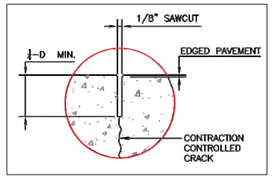
PAVEMENT THICKNESS (INCHES)	IMPERIAL BAR SIZE	DOWEL DIA. (INCHES)	CONSTRUCTION JOINT DOWEL LENGTH (INCHES)	CONTRACTION JOINT DOWEL LENGTH (INCHES)
LESS THAN 5"	NOT REQUIRED			
5-6	#6	0.75	10	13
7	#8	1.0	13	16
8	#8	1.0	13	16
9-11	#10	1.25	15	18

* TABLE BASED ON ACI 360R-10. MAXIMUM JOINT OPENING OF 0.20 INCHES. DOWEL SPACING IS 12" ON CENTER. SPACINGS ARE BASED ON DOWELS IN DIRECT CONTACT WITH A THIN BOND BREAKER (GREASE). CAREFULLY ALIGN AND SUPPORT DOWELS DURING CONCRETE OPERATIONS. MISALIGNED DOWELS MAY LEAD TO CRACKING. TOTAL DOWEL LENGTH INCLUDES ALLOWANCES MADE FOR JOINT OPENING AND MINOR ERRORS IN POSITIONING DOWELS.

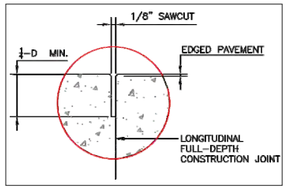
DOWEL INSTALLATION - BUTT JOINT
CONTRACTOR'S OPTION

METHOD A: DRILL HOLES ⅛" DIA. LARGER THAN BAR, FILL HOLE WITH EPOXY RESIN AND INSTALL COATED DOWEL. GREASE EXPOSED HALF.

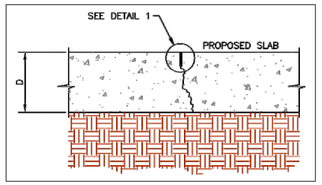
METHOD B: SET DOWELS THROUGH HOLES IN FORMS.



DETAIL 1

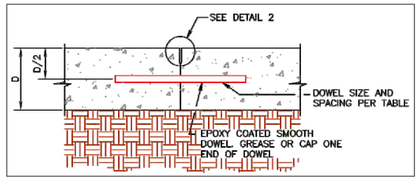


DETAIL 2



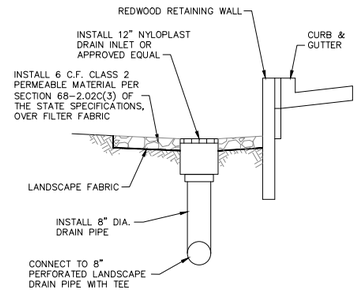
PAVEMENT CONTRACTION JOINT, UNDOWELED

NO SCALE



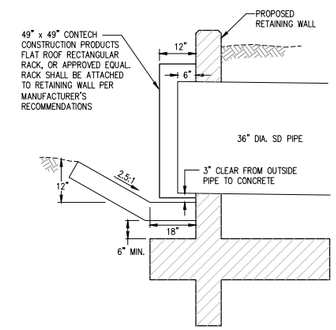
SMOOTH DOWEL CONSTRUCTION JOINT

NO SCALE



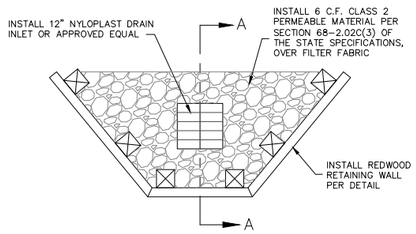
SECTION A - A

NO SCALE



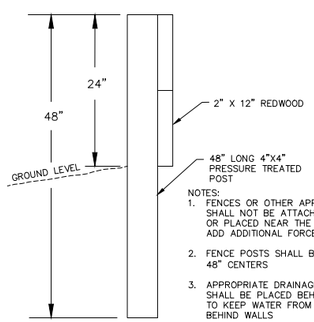
TRASH RACK DETAIL

NO SCALE



LANDSCAPE CATCH BASIN DETAIL

NO SCALE



NOTES:

1. FENCES OR OTHER APPURTENANCES SHALL NOT BE ATTACHED TO THE WALL OR PLACED NEAR THE WALL IF THEY ADD ADDITIONAL FORCES TO THE WALL
2. FENCE POSTS SHALL BE PLACED AT 48" CENTERS
3. APPROPRIATE DRAINAGE SYSTEMS SHALL BE PLACED BEHIND THE WALLS TO KEEP WATER FROM BUILDING UP BEHIND WALLS

REDWOOD RETAINING WALL DETAIL

NO SCALE

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOLLS
No. 72209
CIVIL
State of California

RAR
ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

811 Know what's below. Call before you dig.

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-14

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_Detail 2.dwg - D14 (101), Fri, Dec 8 2023 - 11:59:22am, User

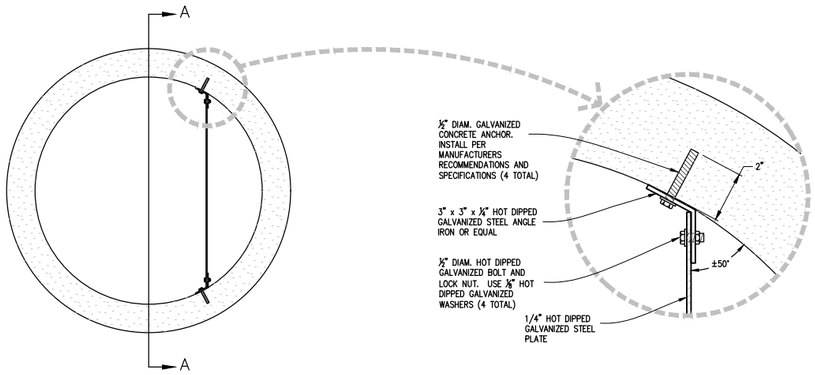
Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

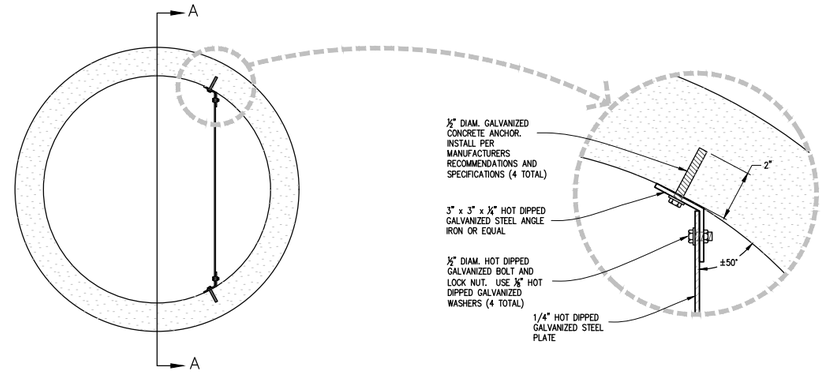
CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
DETAILS

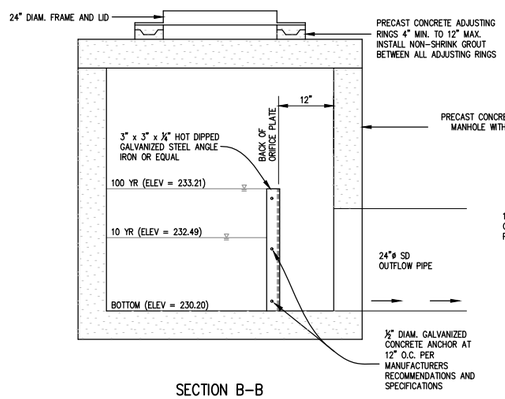
Project Number: 16038	Drawing Number D-14
Scale: NONE	Sheet 101 of 182



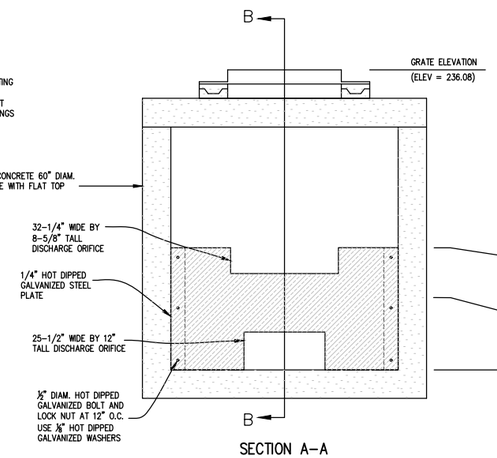
PLAN VIEW



PLAN VIEW



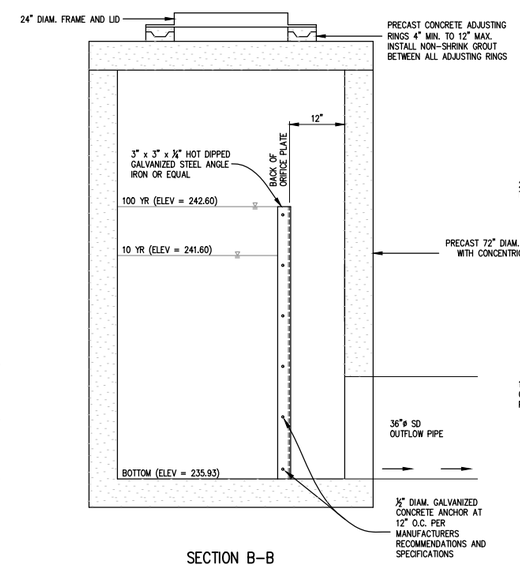
SECTION B–B



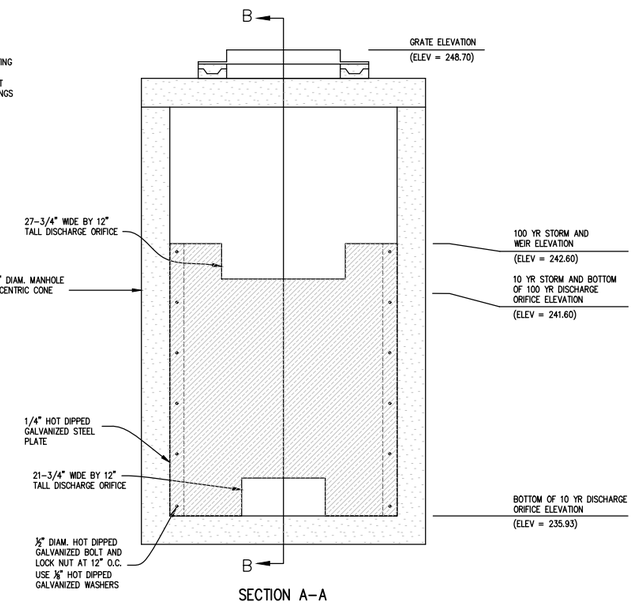
SECTION A–A

DISCHARGE CONTROL STRUCTURE #68191
(STA. 18+99.50)

NO SCALE



SECTION B–B



SECTION A–A

DISCHARGE CONTROL STRUCTURE #68181
(STA. 35+62.20)

NO SCALE

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABO No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

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PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

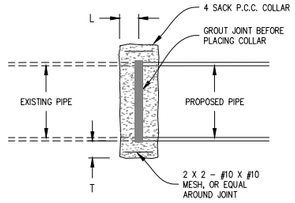
BRUCE ROAD RECONSTRUCTION
DETAILS

Project Number: 16038	Drawing Number D–15
Scale: NONE	Sheet 102 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D–15

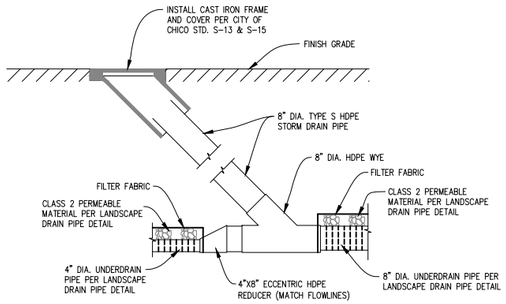
Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Detail 2.dwg – D15(102), Fri, Dec 8 2023 – 11:59:30am, User



D	L	T
12"	12"	4"
18"	12"	5"
24"	12"	6"
30"	18"	7"
36"	18'	9"
42"	18"	9"
48"	18"	10"

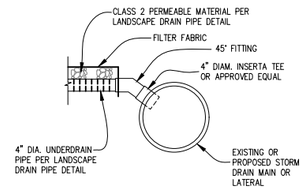
CONCRETE COLLAR DETAIL

NO SCALE



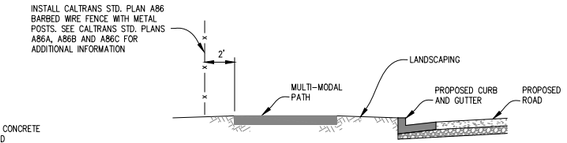
LANDSCAPE DRAIN CLEANOUT DETAIL (8-INCH DIA.)

NO SCALE



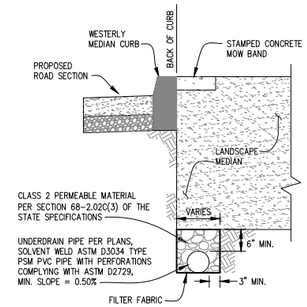
LANDSCAPE DRAIN TO PIPE CONNECTION DETAIL

NO SCALE



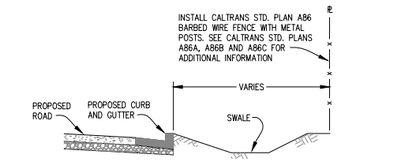
RIGHT-OF-WAY FENCING DETAIL "A"

NO SCALE



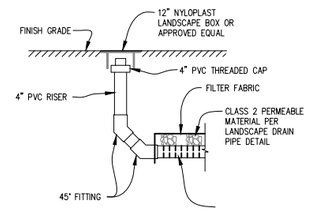
LANDSCAPE DRAIN PIPE DETAIL

NO SCALE



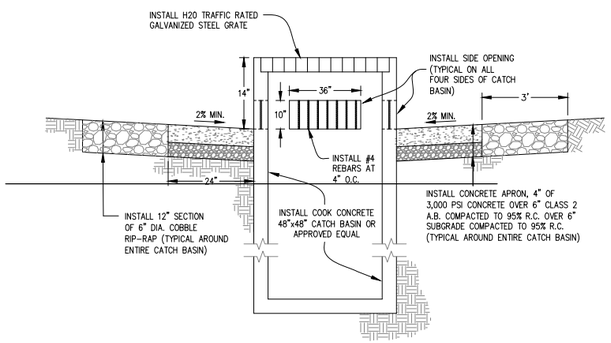
RIGHT-OF-WAY FENCING DETAIL "B"

NO SCALE



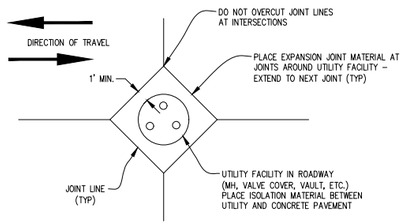
LANDSCAPE DRAIN CLEANOUT DETAIL (4-INCH DIA.)

NO SCALE



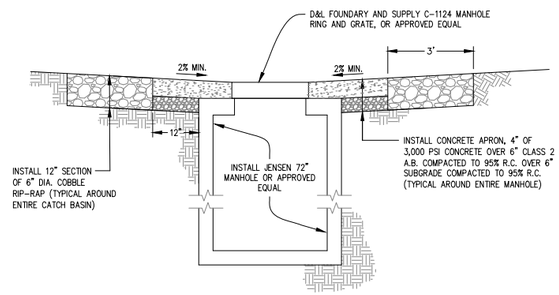
CATCH BASIN DETAIL "A"

NO SCALE



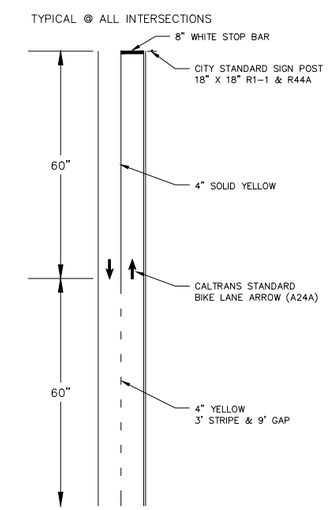
UTILITY FACILITY JOINTING

NO SCALE



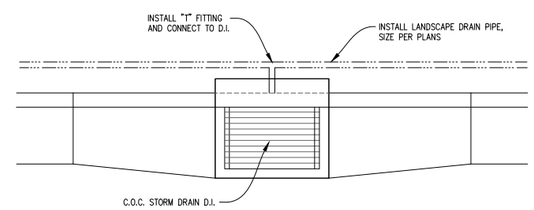
MANHOLE DETAIL "C"

NO SCALE



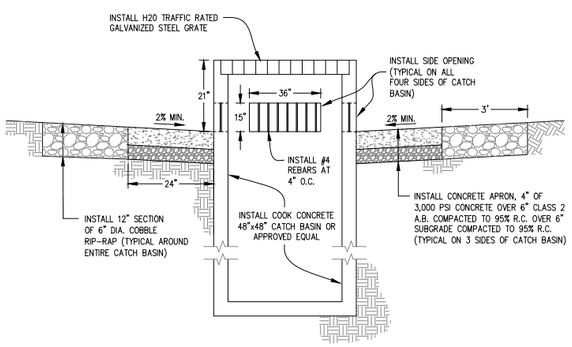
BIKE PATH STOP STRIPING DETAIL

NO SCALE



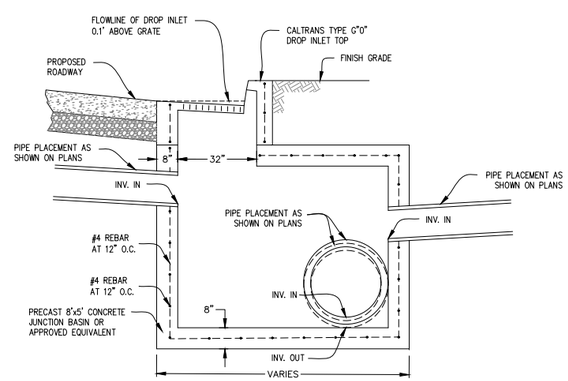
LANDSCAPE DRAIN PIPE TO DROP INLET CONNECTION DETAIL

NO SCALE



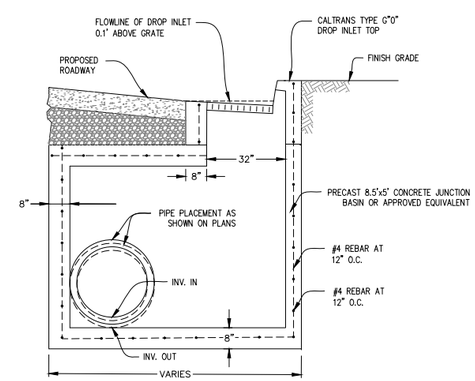
CATCH BASIN DETAIL "B"

NO SCALE



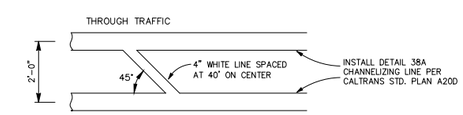
MODIFIED CITY STD. S-7 (TYPE 1) DI

NO SCALE



MODIFIED CITY STD. S-7 (TYPE 2) DI

NO SCALE



BIKE LANE BUFFER STRIPING DETAIL

NO SCALE

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABOLD No. 72209 CIVIL State of California

ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Title: BRUCE ROAD RECONSTRUCTION

Drawing Number D-16

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Detail 2.dwg – D16 (103), Fri, Dec 8 2023 – 11:59:32am, User

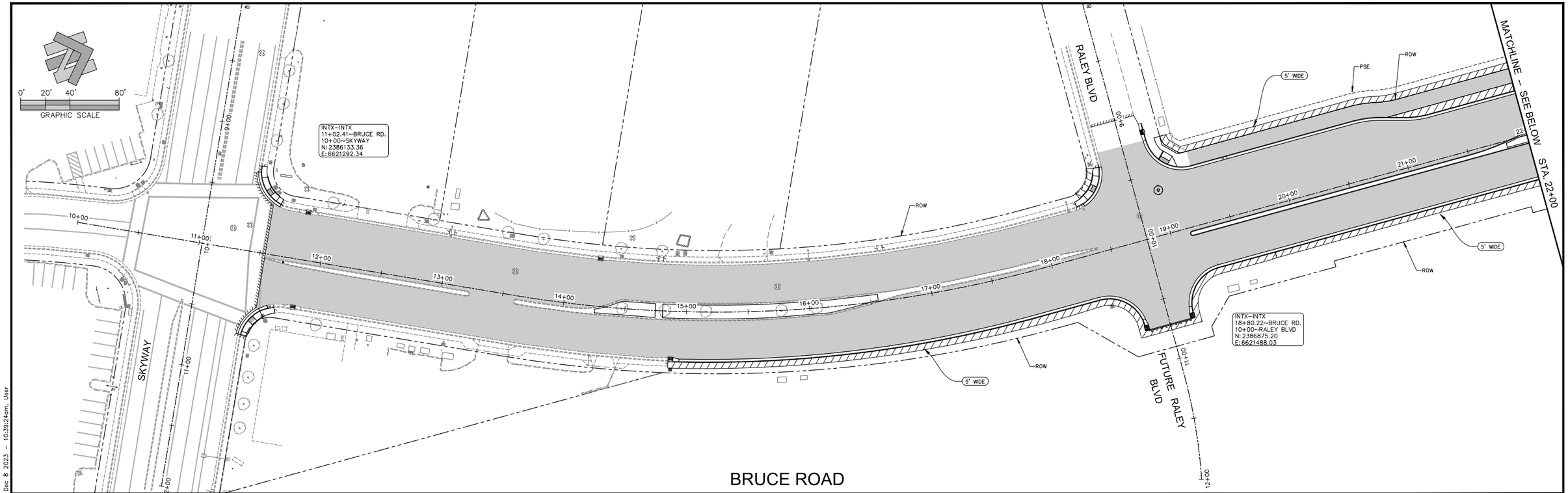
Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

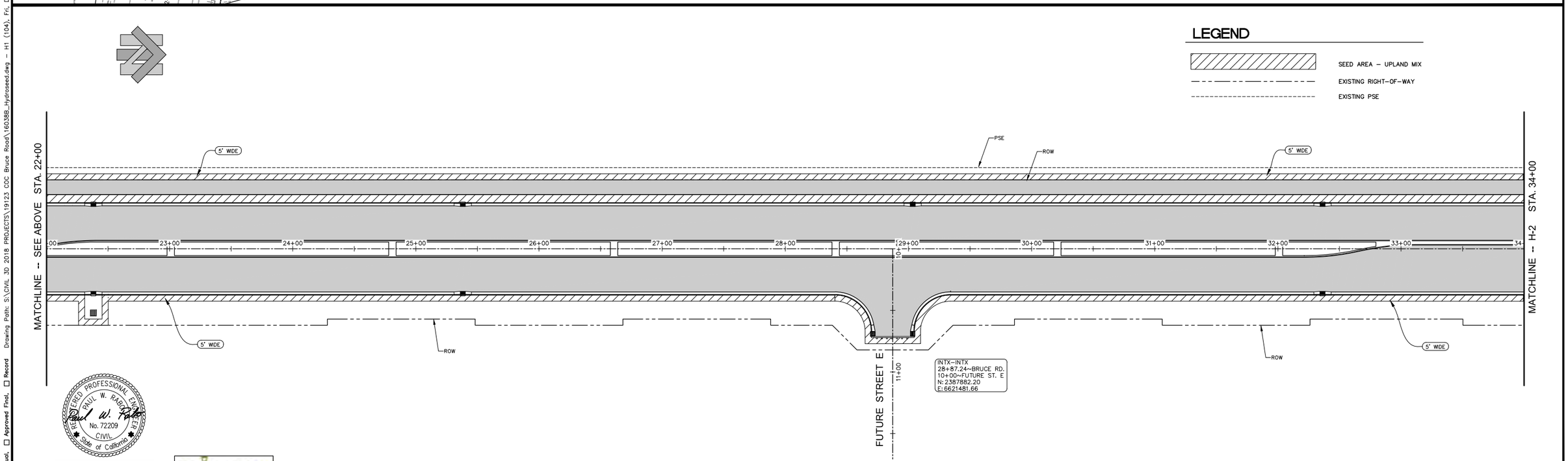
CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
DETAILS

Project Number: 16038	Drawing Number D-16
Scale: NONE	Sheet 103 of 182





REGISTERED PROFESSIONAL ENGINEER PAUL W. RASOR No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
SEEDING LOCATION - BRUCE ROAD STA. 10+00 TO 34+00

Project Number: 16038

Drawing Number H-1

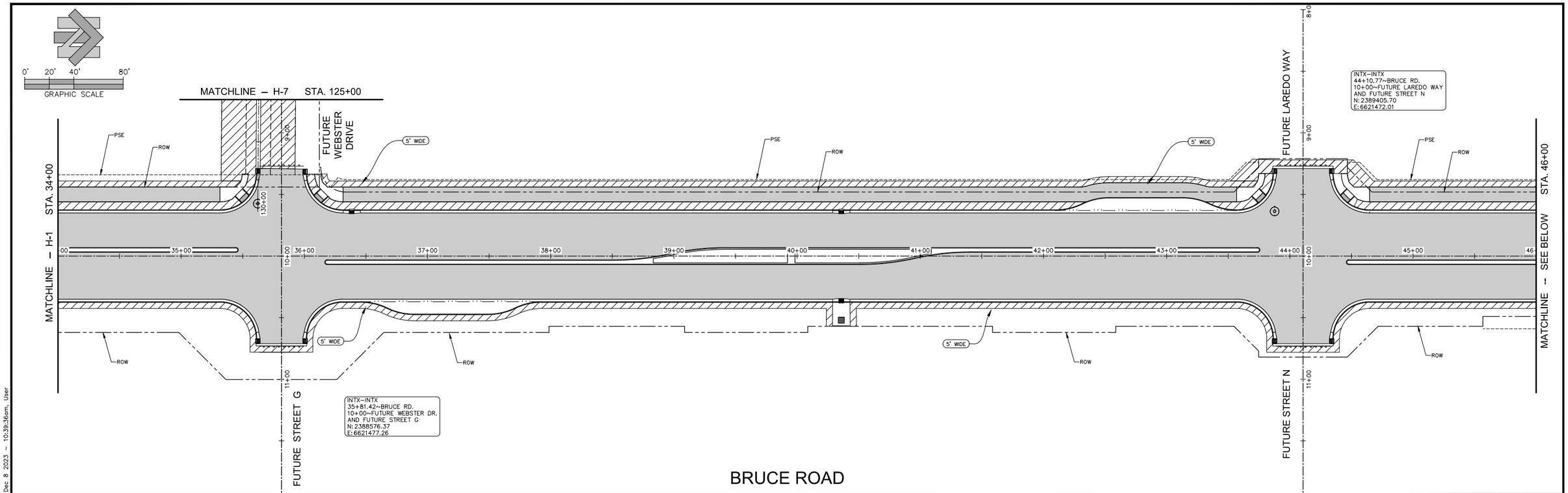
Scale: 1" = 40'

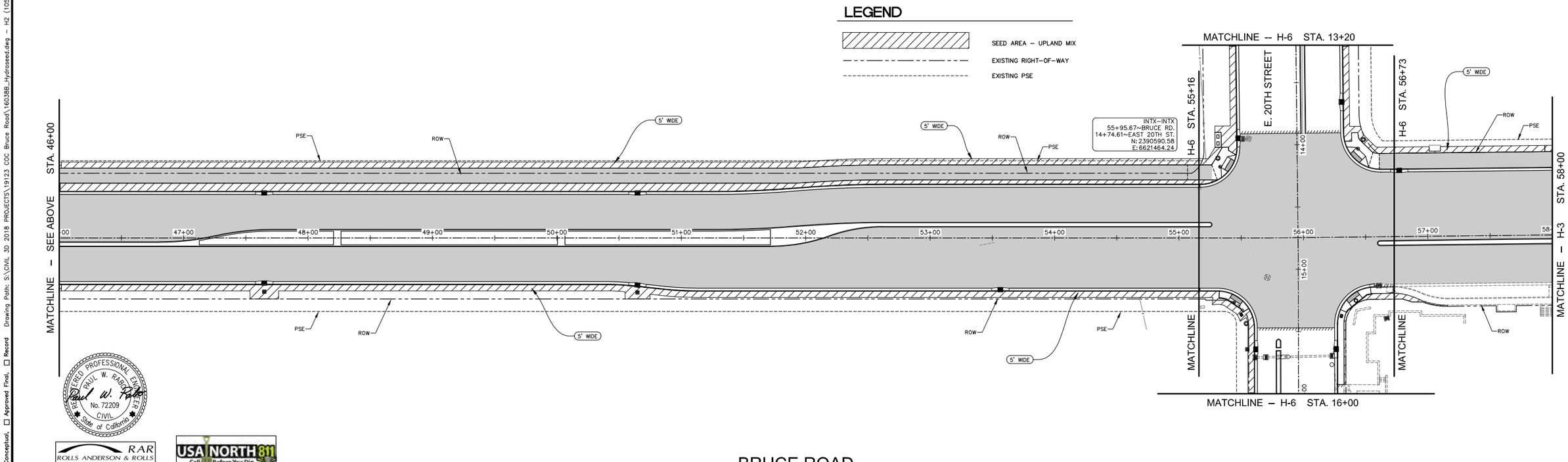
Sheet 104 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number H-1

Plan Status: ☐ Conceptual. ☐ Approved Final. ☐ Record. Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_Hydroseed.dwg - H1 (104), Fri, Dec 8 2023 - 10:39:24am, User





Title: BRUCE ROAD RECONSTRUCTION

Drawing Number H-2

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 CCC Bruce Road\16038B_Hydroseed.dwg – H2 (105), Fri, Dec 8 2023 – 10:39:36am, User

Designed: JIR	Approved:	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

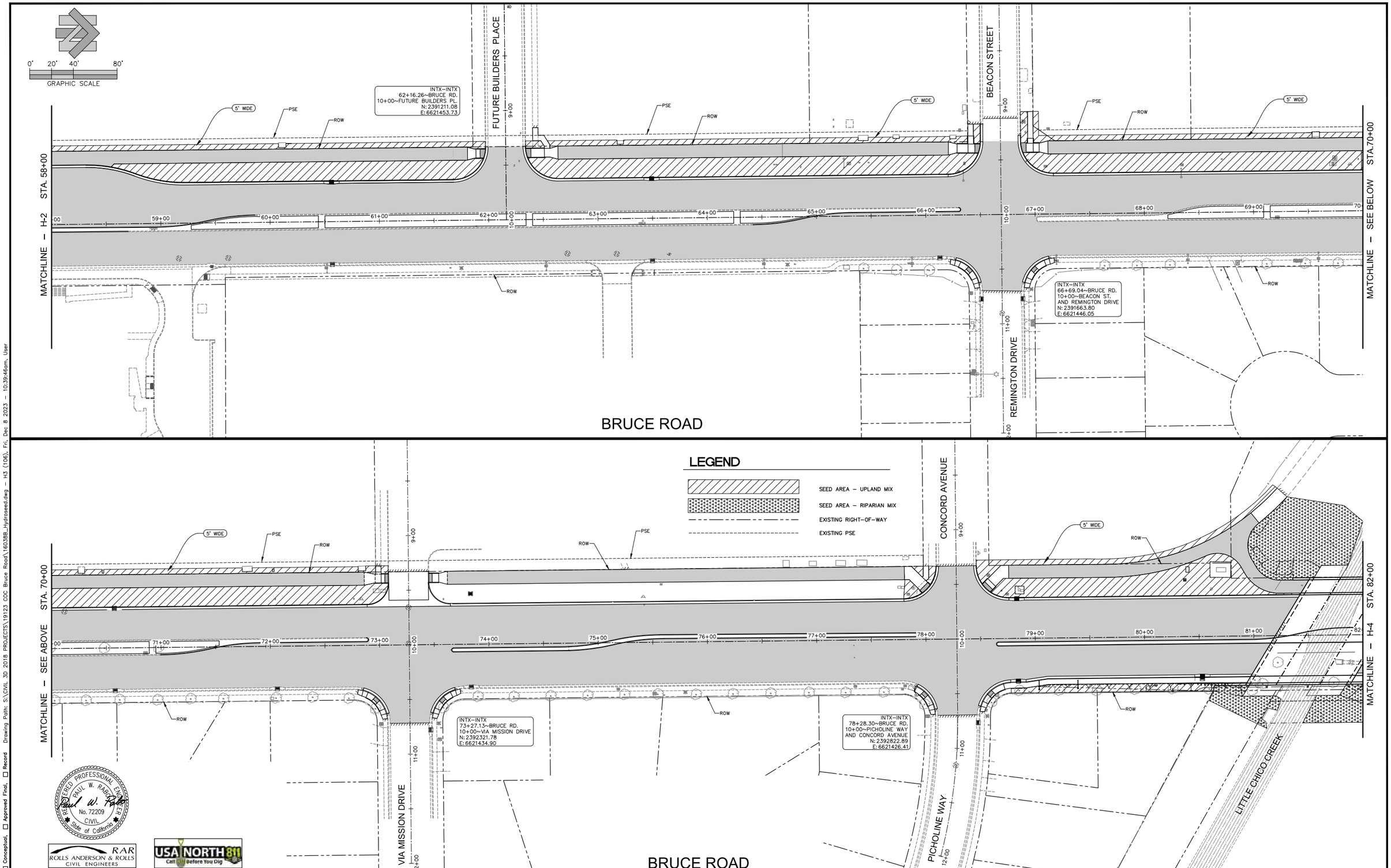
BRUCE ROAD RECONSTRUCTION
SEEDING LOCATION - BRUCE ROAD STA. 34+00 TO 58+00

Project Number: 16038

Scale: 1"= 40'

Drawing Number H-2

Sheet 105 of 182



REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOW
No. 72209
CIVIL
State of California

RAR
ROLLS ANDERSON & ROLLS
CIVIL ENGINEERS

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Title: BRUCE ROAD RECONSTRUCTION

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038B_Hydroseed.dwg - H3 (106), Fri, Dec 8 2023 - 10:39:46am, User

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

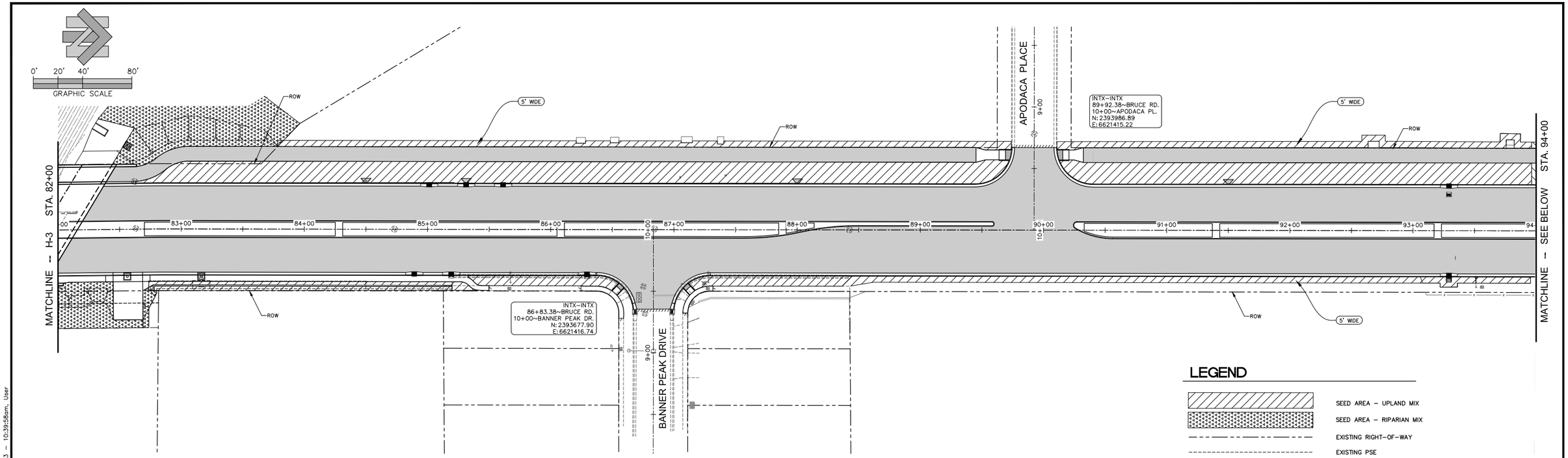
Drawing Number H-3

Designed: JIR	Approved:	Revision	Date	By	CITY OF CHICO PUBLIC WORKS DEPARTMENT
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

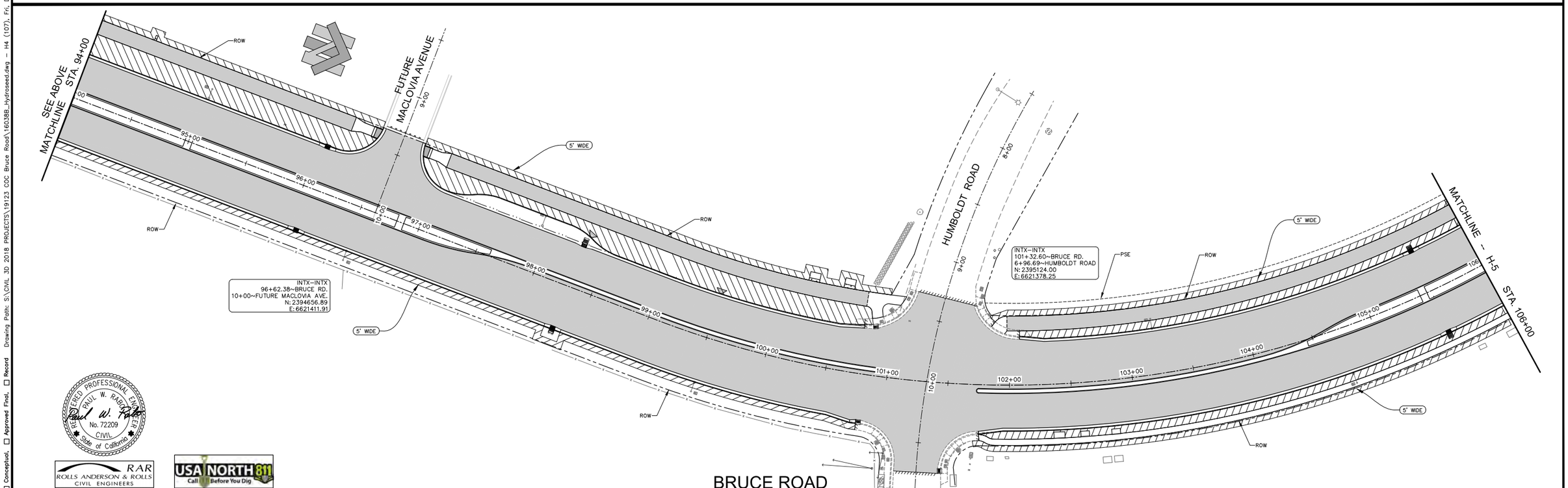
CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
SEEDING LOCATION - BRUCE ROAD STA. 58+00 TO 82+00

Project Number: 16038	Drawing Number H-3
Scale: 1"= 40'	Sheet 106 of 182



BRUCE ROAD



BRUCE ROAD

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number H-4

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record

Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 CDC Bruce Road\16038B_Hydroseed.dwg - H4 (107), Fri, Dec 8 2023 - 10:39:58am, User

Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

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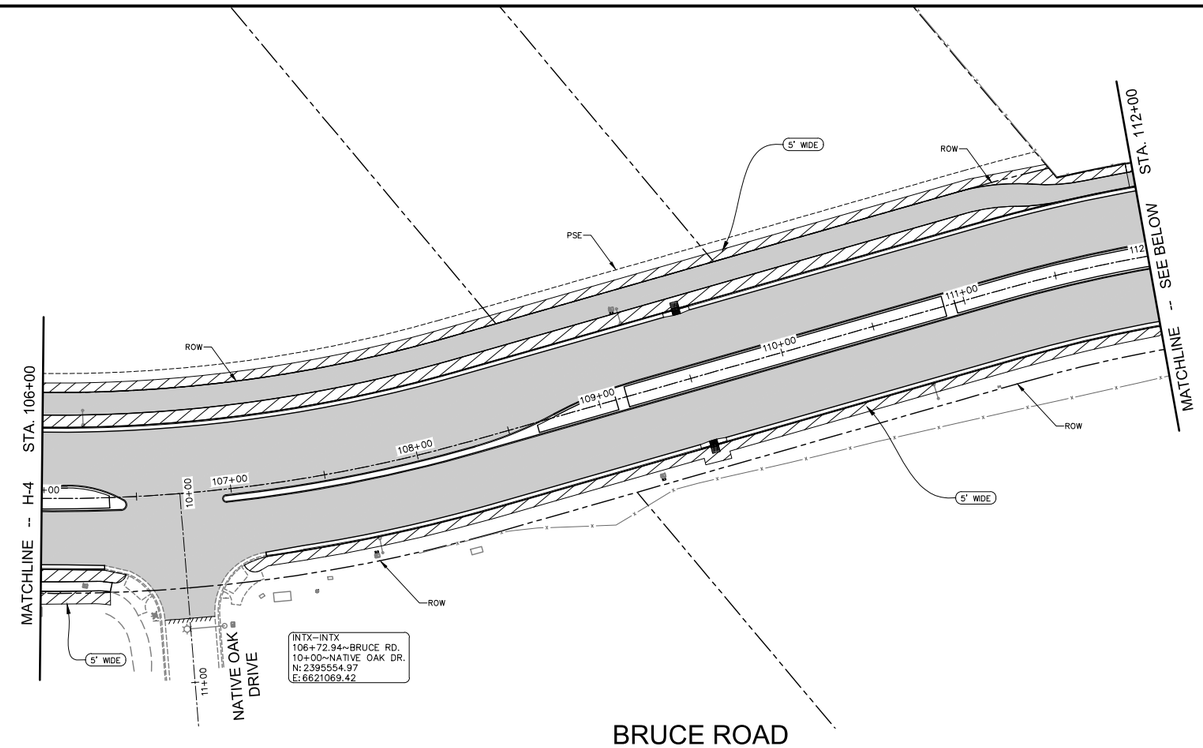
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
SEEDING LOCATION - BRUCE ROAD STA. 82+00 TO 106+00

Project Number: 16038	Drawing Number H-4
Scale: 1"= 40'	Sheet 107 of 182

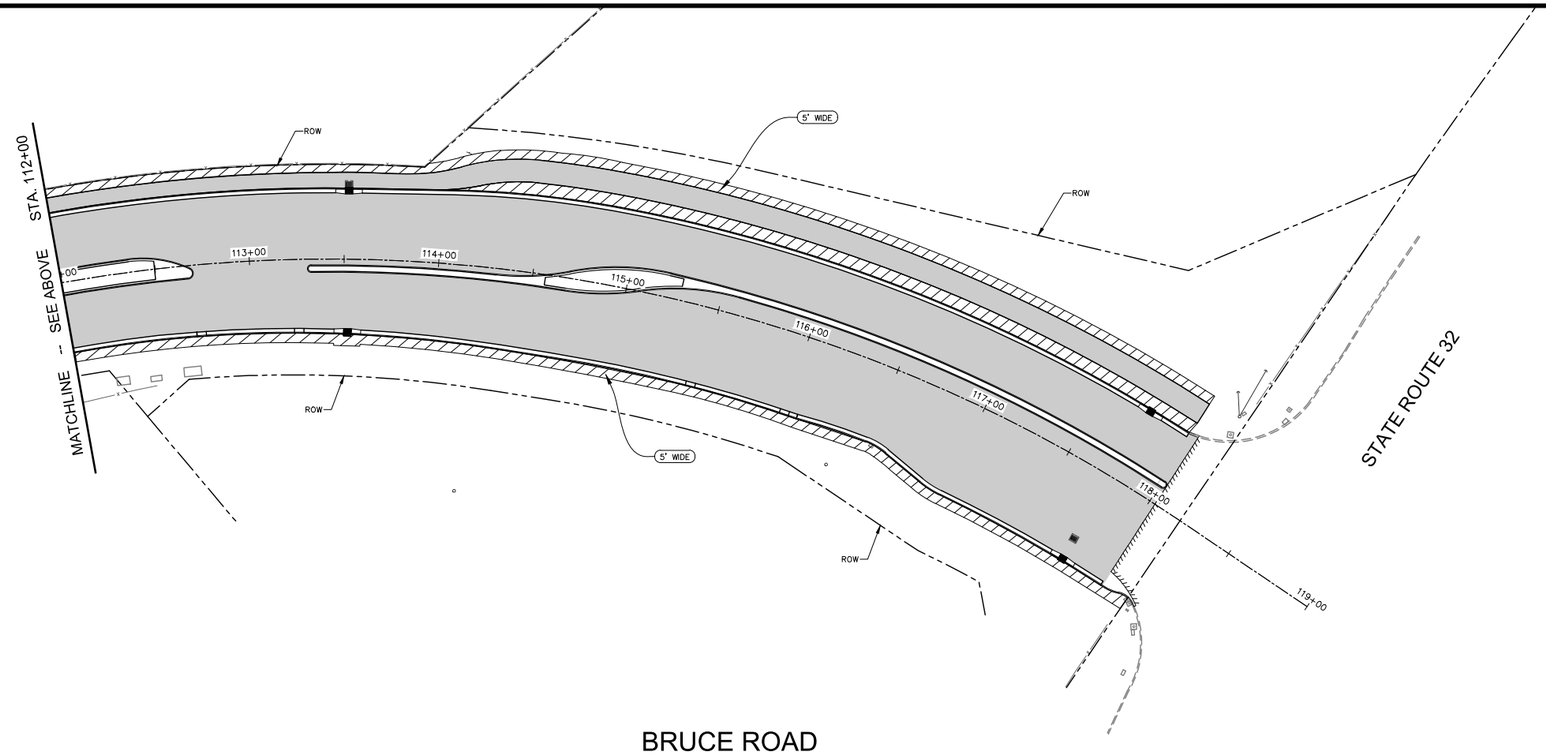
0' 20' 40' 80'
GRAPHIC SCALE



BRUCE ROAD

LEGEND

- SEED AREA - UPLAND MIX
- EXISTING RIGHT-OF-WAY
- EXISTING PSE



BRUCE ROAD

REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABOLD
No. 72209
CIVIL
State of California

RAR
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Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

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BRUCE ROAD RECONSTRUCTION
SEEDING LOCATION - BRUCE ROAD STA. 106+00 TO 118+09

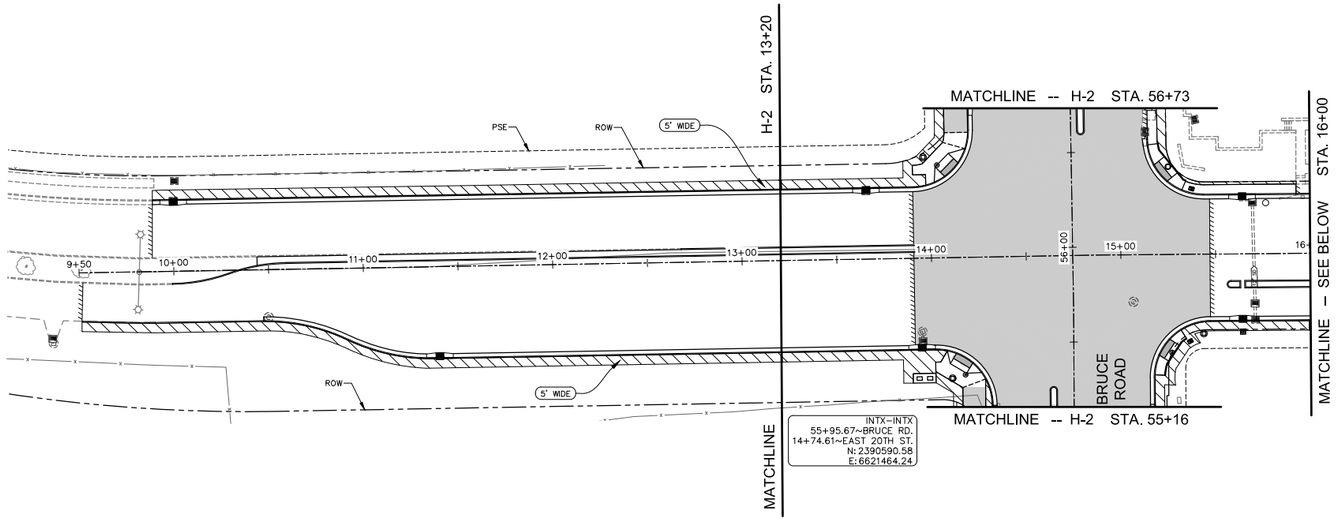
Project Number: 16038
Scale: 1"= 40'
Drawing Number H-5
Sheet 108 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number H-5

Plan Status: ☐ Conceptual, ☐ Approved Final, ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_Hydroseed.dwg - H5 (108), Fri, Dec 8, 2023 - 1:28:07pm, User

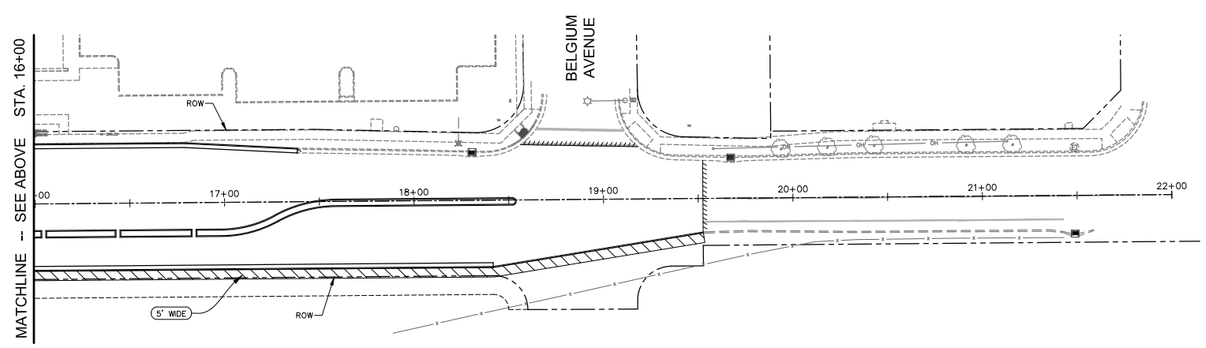
0' 20' 40' 80'
GRAPHIC SCALE



EAST 20TH STREET

LEGEND

- SEED AREA – UPLAND MIX
- EXISTING RIGHT-OF-WAY
- EXISTING PSE



EAST 20TH STREET

REGISTERED PROFESSIONAL ENGINEER PAUL W. RABOLLI No. 72209 CIVIL State of California

RAR ROLLS ANDERSON & ROLLS CIVIL ENGINEERS

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Designed: JIR	Approved:	Revision	Date	By	
Drawn By: CAD					
Checked: PWR	Date: DECEMBER, 2023				

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC 1872

BRUCE ROAD RECONSTRUCTION
SEEDING LOCATION - 20TH STREET STA. 9+50 TO 19+53

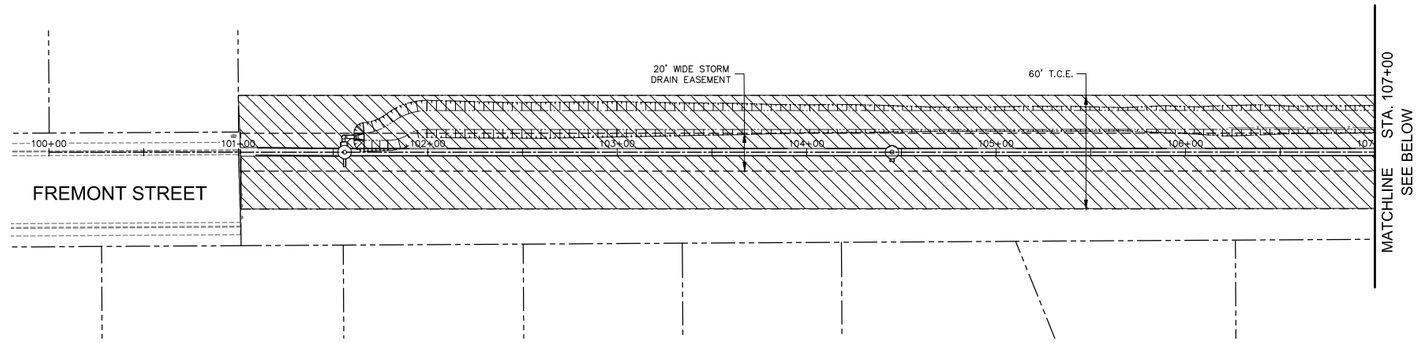
Project Number: 16038
Scale: 1"= 40'
Drawing Number H-6
Sheet 109 of 182

Drawing Number H-6

Title: BRUCE ROAD RECONSTRUCTION

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_Hydroseed.dwg – H6 (109), Fri, Dec 8 2023 – 10:40:18am, User

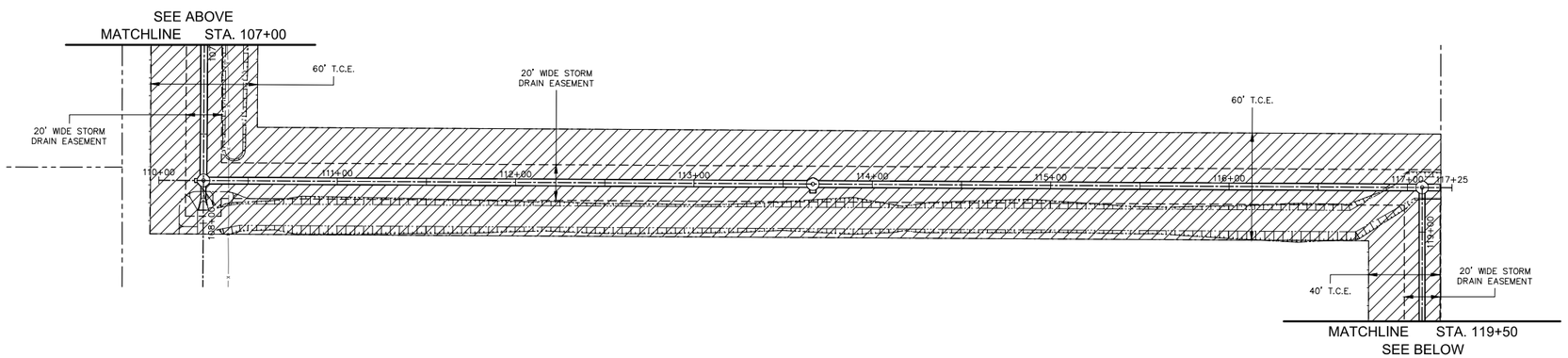
0' 20' 40' 80'
GRAPHIC SCALE



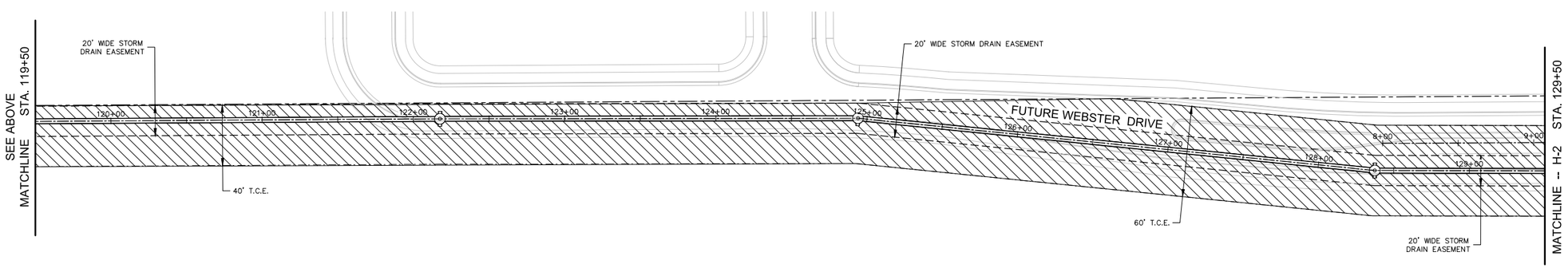
LEGEND

- SEED AREA – UPLAND MIX
- EXISTING RIGHT-OF-WAY
- EXISTING PSE

STORM DRAIN TRUNK LINE



STORM DRAIN TRUNK LINE



REGISTERED PROFESSIONAL ENGINEER
PAUL W. RABE
No. 72209
CIVIL
State of California

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CIVIL ENGINEERS

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STORM DRAIN TRUNK LINE

Designed: JIR	Approved:	Revision	Date	By
Drawn By: CAD				
Checked: PWR	Date: DECEMBER, 2023			

CITY OF CHICO
PUBLIC WORKS DEPARTMENT

CITY OF CHICO INC. 1872

BRUCE ROAD RECONSTRUCTION
SEEDING LOCATION - SD TRUNK LINE STA. 100+00 TO 129+50

Project Number: 16038	Drawing Number H-7
Scale: 1"= 40'	Sheet 110 of 182

Title: BRUCE ROAD RECONSTRUCTION

Drawing Number H-7

Plan Status: ☐ Conceptual ☐ Approved Final ☐ Record Drawing Path: S:\CIVIL 3D 2018 PROJECTS\19123 COC Bruce Road\16038_Hydroseed.dwg – H7 (110), Fri, Dec 8 2023 – 10:40:33am, User