

# COUNTY OF SAN MATEO CALIFORNIA

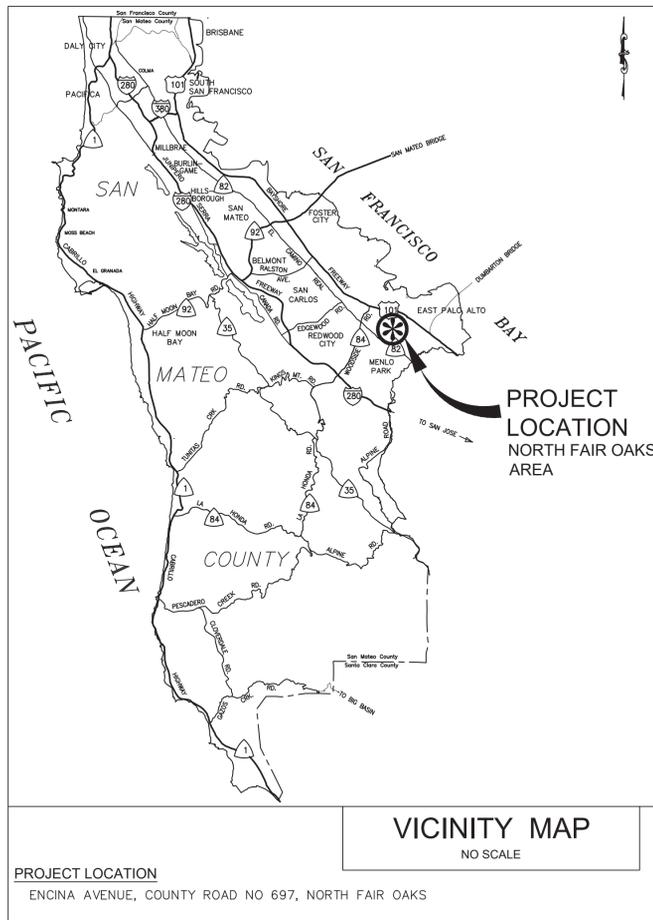
## RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END

TOTAL PROJECT LENGTH APPROXIMATELY 0.33 MILES

COUNTY PROJECT NO. RW935, PROJECT FILE NO. E5044000  
TO BE SUPPLEMENTED BY STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS DATED 2018 AND ADOPTED BY SAN MATEO COUNTY, FEBRUARY 11, 2020, BY RESOLUTION NO. 077277



APPROVED:  
DATE: APRIL 15, 2022  
*Ann Mader Stillman*  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023



**LEGEND:**

	SD	STORM DRAIN LINE
	SD	STORM DRAIN LINE
	SS	SANITARY SEWER LINE "ACTIVE"
	SS	SANITARY SEWER LINE "ACTIVE" PROFILE
	SS	SANITARY SEWER LINE (Abn)
	SS	SANITARY SEWER LINE (Abn) PROFILE
	W	WATER LINE "ACTIVE"
	W	WATER LINE "ACTIVE" PROFILE
	W	ACP WATER LINE (Abn)
	W	ACP WATER LINE (Abn) PROFILE
	G	GAS LINE (Abn)
	G	GAS LINE (Abn) PROFILE
	G	GAS LINE "ACTIVE"
	G	GAS LINE "ACTIVE" PROFILE
	JT	JOINT COMMUNICATION LINE (EX)
	JT	JOINT COMMUNICATION LINE (EX) PROFILE
	E	UNDERGROUND ELECTRICAL LINE "ACTIVE"
	OH	OVERHEAD ELECTRICAL & COMMUNICATION (ATT & COMCAST) LINE "ACTIVE"
	TV	UNDERGROUND COMCAST LINE "ACTIVE"
	UG	UNDERGROUND COMMUNICATION
		COUNTY/TOWN BOUNDARY
		RIGHT OF WAY
		EXISTING EASEMENT TO BE REPLACED
		PROPOSED EASEMENT
		CONSTRUCTION CENTERLINE
		SURVEY TIE
		2'-FT VALLEY GUTTER
		6-INCH CONCRETE BAND
		EXISTING EDGE OF PAVEMENT - (ATHERTON)
		HEADER BOARD
		INFILTRATION GALLERY PERIMETER
		NATIVE BACKFILL
		MISCELLANEOUS ASPHALT CONCRETE
		0.25'-FT ASPHALT CONCRETE
		DEEP LIFT AREAS (0.50' DEEP ASPHALT CONCRETE)
		CLASS 2 AGGREGATE BASE - AB (CL. 2) (GRAVEL)
		CLASS 3 CONCRETE
		CEMENT TREATED NATIVE (CTN)
		2" WASHED, CRUSHED STONE

**LEGEND:**

	TREE
	FENCE
	CLASS 1 FLEXIBLE OBJECT MARKER
	NAIL AND WASHER
	(XXX.XX) = EXISTING ELEVATION
	(XXX.XX) = PROPOSED ELEVATION
	+0.00 / (00.00) 00.00 = STATION (EXIST ELE) PR ELE AT EDGE OF PAVEMENT
	WATER METER
	WATER VALVE
	GAS VALVE
	JOINT UTILITY POLE
	TELEPHONE POLE
	GUY WIRE ANCHOR
	SANITARY SEWER MANHOLE
	SANITARY SEWER CLEANOUT
	SANITARY SEWER FLUSHING INLET
	STORM DRAIN MANHOLE
	UNDERDRAIN
	BUBBLE-UP BOX
	UNKNOWN MANHOLE
	FIRE HYDRANT
	FIRE HYDRANT MARKERS
	MAILBOX
	SIGN
	MONUMENT
	BENCHMARK
	DRIVEWAY NUMBER
	HOUSE NUMBER ADDRESS
	DETAIL NUMBER AND SHEET
	PROJECT SURVEY CONTROLS
	111 POINT NUMBER
	100.00 ELEVATION
	PEN X DESCRIPTOR
	60D 6-INCH NAIL
	FD CUT X FOUND
	MAG MAG NAIL
	MAG&TT MAG NAIL & TOWILL TAG
	PEN X PENETRATION X
	W/CHSR WITH CHISELED
	NEW SANITARY SEWER LATERAL LOCATION (PROFILE)
	EX SANITARY SEWER LATERAL LOCATION (PROFILE)
	PAVE ROAD WITH 3-IN AC (TYPE A HMA, 1/2" MAXIMUM) AND 12-IN CLASS 2 AB

**ABBREVIATIONS:**

AB (CL.2)	AGGREGATE BASE (CLASS 2)
Abn	ABANDON
AC	ASPHALT CONCRETE
AC (TYPE A HMA)	ASPHALT CONCRETE (TYPE A HOT MIX ASPHALT)
ACP	ASBESTOS CONCRETE PIPE
AGG	AGGREGATE
AV	AVENUE
BC	BACK OF CURB
BLB BOX	BUBBLE-UP BOX
BW	BACK OF WALK
CATV	CABLE TV
CONC	CONCRETE
C & G	CURB AND GUTTER
CL	CENTERLINE OR CLASS
CTN	CEMENT TREATED NATIVE
D	AVERAGE WIDTH OF DRIVEWAY RAMP
DI	DRAINAGE INLET, DROP INLET
DIP	DUCTILE IRON PIPE
D/W	DRIVEWAY
E	ELECTRICAL
ELE	ELEVATION
ETW	EDGE OF TRAVEL WAY
EP	EDGE OF PAVEMENT
EX, EXIST	EXISTING
FD	FOUND
FG	FINISHED GROUND
FH	FIRE HYDRANT
FL	FLOW LINE
FL	GAS LINE
GB	GRADE BREAK
GV	GAS VALVE
ID	INSIDE DIAMETER
IG	INFILTRATION GALLERY
INV	INVERT
JP	JOINT UTILITY POLE
LG, LIP	LIP OF GUTTER
LT, L	LEFT
LH	SANITARY SEWER LAMPHOLE
MAX	MAXIMUM
MB	MAILBOX
MB (#)	MAILBOXES (QUANTITY)
MIN	MINIMUM
MPH	MILES PER HOUR
N'S	NAIL & SHINER
O.G.	ORIGINAL GROUND, ON GRADE
PBMH	SBC/PAC BELL MANHOLE
PCC	PORTLAND CONCRETE CEMENT
PK	PARKER-KALON NAIL
PNT	POINT
PR	PROPOSED
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INFLECTION
RCP	REINFORCED CONCRETE PIPE
RT, R	RIGHT
R/W, ROW	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SH	SHEET
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSFI	SANITARY SEWER FLUSHING INLET
SSMH	SANITARY SEWER MANHOLE
ST	STREET
STA	STATION
T	TELEPHONE
TB	TOP OF BANK
TC	TOP OF CURB
TD	TOP OF DIKE
TG	TOP OF GRATE
TS	TOP OF SIDEWALK
TYP	TYPICAL
UD	UNDER DRAIN
UND	UNDERGROUND
UNK	UNKNOWN
VCP	VITRIFIED CLAY PIPE
VG	VALLEY GUTTER
VM	WATER METER
VV	WATER VALVE
WV	WALKWAY
WV	DIAMETER

**NOTES:**

- CONTRACTOR SHALL CONFINE HIS OPERATIONS AND ACTIVITIES WITHIN THE PROJECT LIMITS, CONSISTING OF ROAD RIGHT-OF-WAY, RIGHTS OF ENTRY AND/OR PROJECT CONFORMS, AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.
- CONTINUOUS DUST CONTROL SHALL BE PROVIDED AS REQUIRED BY SECTION 17-2 OF THE SPECIAL PROVISIONS AND AS DIRECTED BY THE ENGINEER.
- LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE UTILITIES TO DETERMINE EXACT LOCATIONS AND DEPTHS. CONTRACTOR SHALL CALL USA NORTH 811 (USA) UNDERGROUND SERVICE ALERT A MINIMUM OF FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY EXCAVATION OR TRENCHING WORK. USA MAY BE CONTACTED EITHER ON-LINE AT USANORTH811.ORG OR BY PHONE BY DIALING (800) 227-2600 OR 811. WHEN CALLING, BE PREPARED TO GIVE LOCATION AND NATURE OF WORK, START DATE, COMPANY NAME, ADDRESS AND TELEPHONE NUMBER.
- PLANS MAY NOT SHOW ALL EXISTING WATER, GAS OR SANITARY SEWER LATERALS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION AND PRESERVATION OF ALL SUCH FACILITIES WHICH ARE NOT TO BE RELOCATED.
- CONTRACTOR IS ADVISED THAT EXCAVATION MAY CONFLICT WITH SANITARY SEWER LATERALS, GAS LINES, WATER LINES AND OTHER UNDERGROUND UTILITIES. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- DRIVEWAY OPENINGS AND CONFORM LOCATIONS SHOWN ARE APPROXIMATE ONLY. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. SURFACED SHOULDER CONFORM LIMITS ARE AS INDICATED AT 3 FEET FROM OUTSIDE EDGE OF THE GUTTER CONCRETE BAND OR HEADER BOARD, UNLESS DIRECTED OTHERWISE BY THE ENGINEER OR OTHERWISE NOTED ON THE PLANS.
- NO TREES, VEGETATION OR IMPROVEMENTS (INCLUDING FENCES) SHALL BE REMOVED WITHOUT THE PRIOR WRITTEN CONSENT AND APPROVAL OF THE ENGINEER. VEGETATION AND IMPROVEMENTS WHICH ARE DESIGNATED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. REFER TO PROJECT SPECIAL PROVISIONS SECTION 17 "CLEARING AND GRUBBING" REGARDING REQUIREMENTS FOR ADVANCE NOTIFICATION OF PROPERTY OWNERS.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 5-1.26 OF THE STANDARD SPECIFICATIONS. THE SURVEY AND ASSOCIATED STAKING SHALL BE IN CONFORMANCE WITH SECTION 100, CONSTRUCTION STAKING OF THE SPECIAL PROVISIONS.
- WHEN DIRECTED BY THE ENGINEER, CUT AND FILL SLOPE RATIOS SHALL BE VARIED TO AVOID TREES OR OTHER EXISTING IMPROVEMENTS.
- CONTRACTOR SHALL EXERCISE CARE WHEN EXCAVATING NEAR TREES AND ROOTS OF TREES TO REMAIN. SEE SECTION 19 OF THE SPECIAL PROVISIONS.
- ANY DAMAGE, AS A RESULT OF THE CONTRACTOR'S OPERATION, TO PAVEMENT AND BASE MATERIAL THAT IS TO REMAIN SHALL BE REPAIRED, OR REMOVED AND REPLACED WITH SAME TYPE OF MATERIAL OR APPROVED EQUAL, AS DIRECTED BY THE ENGINEER, AND AT THE SOLE EXPENSE OF THE CONTRACTOR. THE ENGINEER SHALL BE THE SOLE JUDGE OF THE ADEQUACY OF THE COMPLETED REMEDIAL WORK.
- CONTRACTOR'S ATTENTION IS DIRECTED TO THE CONSTRUCTION CENTERLINE ALIGNMENTS LISTED BELOW:  
'E' LINE - ENCINA AVENUE (BETWEEN MIDDLEFIELD ROAD AND END).  
'O' LINE - OAK DRIVE (BETWEEN NINTH (9TH) AVENUE AND SAN BENITO AVENUE).  
'E-SS' LINE - SANITARY SEWER LINE ON ENCINA AVENUE (BETWEEN SANITARY SEWER MANHOLE SSMH 5492 AND SANITARY SEWER MANHOLE SSMH 4262).  
'O-SS' LINE - SANITARY SEWER LINE ON OAK DRIVE (BETWEEN SANITARY SEWER MANHOLE SSMH 5482 AND SANITARY SEWER MANHOLE SSMH 5485).

**APPLICABLE STANDARD PLANS:**

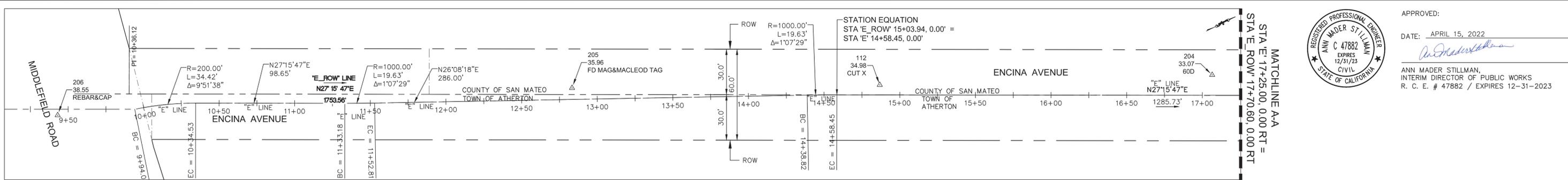
CALTRANS  
A24D, A24E

**SHEET INDEX:**

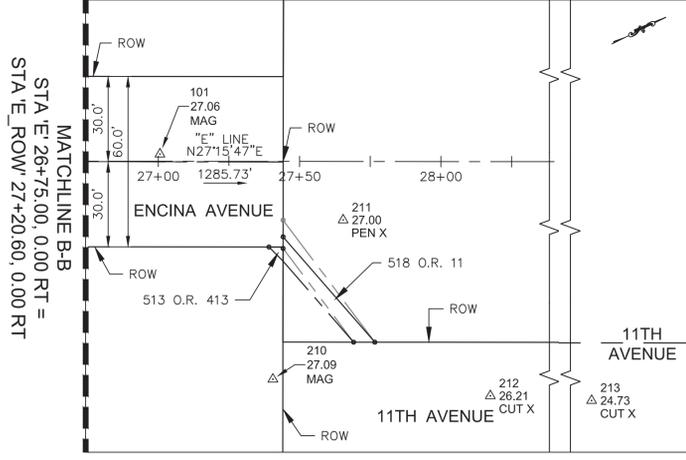
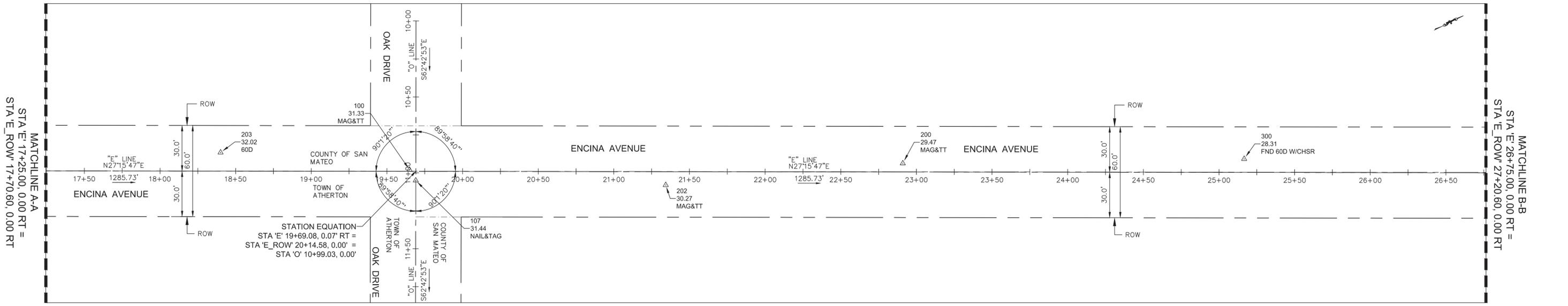
- TITLE SHEET \ GENERAL NOTES
- SURVEY CONTROL PLAN
- TYPICAL SECTION
- ROAD - PLAN AND PROFILE
- INTERSECTION DETAIL
- SANITARY SEWER - PLAN AND PROFILE
- DRIVEWAY DETAILS
- TRANSITION DETAILS
- INFILTRATION GALLERIES 1-4
- MISCELLANEOUS DETAILS
- SANITARY SEWER DETAILS AND MISCELLANEOUS DETAILS
- SANITARY SEWER DETAILS



DESIGNED BY: JS		RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END		SCALE: NONE
CHECKED BY: WN		TITLE SHEET / GENERAL NOTES		DATE: 04-15-2022
DRAWN BY: JS		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		1
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES				SHEET 1 OF 25



APPROVED:  
 DATE: APRIL 15, 2022  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



**NOTES TO CONTRACTOR:**

- (1) THIS PLAN REFLECTS MONUMENTATION DESIGNATED BY THE COUNTY OF SAN MATEO LAND SURVEYS AND MAPPING SECTION TO CONTROL CONSTRUCTION SURVEYS ANTICIPATED IN CONNECTION WITH THIS PROJECT.
- (2) THE CONTRACTOR SHALL EMPLOY OR ENGAGE A PROFESSIONAL LAND SURVEYOR, LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA, COMPETENT TO PRACTICE IN THE ENDEAVOR IN WHICH HE/SHE WILL BE ENGAGED, TO BE IN RESPONSIBLE CHARGE OF ALL SURVEYING AND RELATED LAYOUT WORK WHICH THE CONTRACTOR IS REQUIRED TO PERFORM IN ORDER TO CONSTRUCT THE INTENDED IMPROVEMENTS IN CONFORMANCE WITH DESIGN. (RESPONSIBLE CHARGE REQUIREMENTS PURSUANT TO STATE OF CALIFORNIA CODE OF REGULATIONS, TITLE 16, CHAPTER 5, STATE OF CALIFORNIA, SECTION 404.2 "DEFINITION OF RESPONSIBLE CHARGE FOR LAND SURVEYORS," AND SECTION 415 "PRACTICE WITHIN AREA OF COMPETENCE.")
- (3) THE CONTRACTOR SHALL SUBMIT A LETTER FROM THE PROFESSIONAL LAND SURVEYOR OR ENGINEER LICENSED TO PRACTICE LAND SURVEYING, INDICATING HIS/HER EMPLOYMENT BY THE CONTRACTOR IN RESPONSIBLE CHARGE. THIS LETTER SHALL BE SIGNED AND BEAR THE PROFESSIONAL SEAL OF THE INDIVIDUAL (NOT THE COMPANY) ENGAGED IN THAT CAPACITY. THIS LETTER SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK ALONG WITH A COPY TO THE COUNTY OF SAN MATEO LAND SURVEYOR.
- (4) THE CONTRACTOR, HAVING ENGAGED OR EMPLOYED A PROFESSIONAL LAND SURVEYOR AND RELATED SUPPORT STAFF, IS RESPONSIBLE FOR SURVEY LAYOUT WORK, DEFINED HEREIN AS CONTRACTORS LINE AND GRADE. LINE AND GRADE POINTS SHALL BE SET FROM THE CONSTRUCTION CONTROL POINTS PROVIDED BY THE COUNTY OF SAN MATEO LAND SURVEYOR (UNDER THE DIRECTION OF THE ENGINEER), AND SHALL ALSO SERVE AS THE CONTRACTOR'S PRESERVATION AND/OR PERPETUATION OF THAT CONTROL. THESE POINTS SHALL BE SET WITH PRECISION AND METHODS COMMENSURATE WITH THE TOLERANCES REQUIRED BY THE INTENDED CONSTRUCTION.
- (5) THE CONTRACTOR SHALL CHECK AND VERIFY THE INTERNAL INTEGRITY OF THE PROJECT CONTROL AND CONSTRUCTION CONTROL TO ITS OWN SATISFACTION AND SHALL NOTIFY THE ENGINEER OF ANY APPARENT DISCREPANCY PRIOR TO USE FOR LAYOUT OF LINE AND GRADE POINTS.
- (6) COUNTY OF SAN MATEO MONUMENTS AND CONTROL POINTS ARE TO BE PROTECTED FROM DAMAGE AND PRESERVED BY THE CONTRACTOR. IN THE EVENT THAT SURVEY CONTROL POINTS ARE LOST, DESTROYED, OR COVERED BY WORK PERFORMED IN CONJUNCTION WITH THIS CONTRACT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING THE DAMAGED OR DESTROYED CONTROL POINT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FULL REPLACEMENT COSTS INCLUDING BUT NOT LIMITED TO, CORNER RECORD, MATERIAL AND LABOR.

**BASIS OF BEARING:**

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (CCS83), ZONE III, NORTH AMERICAN DATUM OF 1983 (NAD83) (GSR5-EP06H-2017-50) AS DETERMINED LOCALLY BY A LINE BETWEEN CALIFORNIA SPATIAL REFERENCE NETWORK (CSRN) STATIONS

**DATUM:**

HORIZONTAL: NORTH AMERICAN DATUM OF 1983 (2011) 2010.00  
 VERTICAL: NORTH AMERICAN VERTICAL DATUM OF 1988  
 COORDINATE SYSTEM: CA ZONE III

POINT NUMBER	POINT ELEVATION (FT)	NORTHING	EASTING	DESCRIPTION	STATION 'E_ROW' LINE	OFFSET 'E_ROW' LINE	STATION 'E' LINE	OFFSET 'E' LINE	NOTE
100	31.33'	1999024.5547	6068939.6162	MAG&TT	STA 'E_ROW' 20+10.45	1.02 LT	STA 'E' 19+64.95	0.96 LT	PRIMARY CONTROL POINT
101	27.06'	1999679.2429	6069275.1045	MAG	STA 'E_ROW' 27+46.09	2.70 LT	STA 'E' 27+00.59	2.53 LT	PRIMARY CONTROL POINT
107	31.44'	1999025.0009	6068947.7614	NAIL&TAG	STA 'E_ROW' 20+14.57	6.01 RT	STA 'E' 19+69.08	6.08 RT	PRIMARY CONTROL POINT
112	34.98'	1998602.0545	6068715.5960	CUT X	STA 'E_ROW' 15+32.26	6.62 LT	STA 'E' 14+86.77	6.62 LT	PRIMARY CONTROL POINT
200	29.47'	1999316.5020	6069084.7970	MAG&TT	STA 'E_ROW' 23+36.47	5.70 LT	STA 'E' 22+90.97	5.59 LT	PRIMARY CONTROL POINT
202	30.27'	1999170.6018	6069025.9224	MAG&TT	STA 'E_ROW' 21+79.80	8.79 RT	STA 'E' 21+34.31	8.89 RT	PRIMARY CONTROL POINT
203	32.02'	1998918.6558	6068872.4023	60D	STA 'E_ROW' 18+85.52	12.26 LT	STA 'E' 18+40.03	12.21 LT	PRIMARY CONTROL POINT
204	33.07'	1998800.4675	6068810.1847	60D	STA 'E_ROW' 17+51.96	13.43 LT	STA 'E' 17+06.47	13.39 LT	PRIMARY CONTROL POINT
205	35.96'	1998420.1737	6068624.4991	FD MAG&MACLEOD TAG	STA 'E_ROW' 13+28.86	4.28 LT	STA 'E' 12+83.48	7.53 LT	PRIMARY CONTROL POINT
206	38.55'	1998109.5689	6068485.0759	REBAR&CAP			STA 'E' 9+43.05	3.91 RT	PRIMARY CONTROL POINT
210	27.09'	1999678.5440	6069363.8870	MAG	STA 'E_ROW' 27+86.13	76.54 RT	STA 'E' 27+40.63	76.71 RT	PRIMARY CONTROL POINT
211	27.00'	1999726.2960	6069325.3550	PEN X			STA 'E' 27+65.43	20.59 RT	PRIMARY CONTROL POINT
212	26.21'	1999744.3140	6069404.2520	CUT X			STA 'E' 28+17.58	82.48 RT	PRIMARY CONTROL POINT
213	24.73'	2000057.7730	6069567.1450	CUT X					PRIMARY CONTROL POINT
300	28.31'	1999518.5325	6069185.3268	FND 60D W/CHSR	STA 'E_ROW' 25+62.10	8.89 LT	STA 'E' 25+16.61	8.74 LT	PRIMARY CONTROL POINT

**SURVEYOR'S NOTES:**

- (1) HORIZONTAL COORDINATES SHOWN ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE III, NAD83 (GSR5 EPOCH 2017.50). ALL MEASURED DISTANCES SHOWN ARE US SURVEY FOOT GRID DISTANCES, UNLESS OTHERWISE NOTED. TO OBTAIN GROUND DISTANCES DIVIDE GRID DISTANCES BY A COMBINATION FACTOR OF 1.000055503 DERIVED AT POINT 100, GEOID 12B (CONUS).
- (2) HORIZONTAL COORDINATES AND ELEVATIONS FOR ALL PROJECT CONTROL STATIONS WERE DETERMINED BY GPS CONTROL SURVEY CONDUCTED ON USING TRIMBLE GPS RECEIVERS, MODEL S5, GPS MEASUREMENTS WERE ADJUSTED BY CORRECTLY-WEIGHTED LEAST SQUARES METHODS USING STAR\*NET-PRO VERSION 9. ADJUSTMENT WAS CONSTRAINED TO NAD83 (2010) POSITIONS. USE STATED POSITIONS FOR CONTROL FOR DATUM REALIZATION.
- (3) (IF APPLICABLE) ORTHOMETRIC HEIGHT OR ELEVATION FOR THIS PROJECT WAS DETERMINED BY

**COUNTY LAND SURVEYOR'S STATEMENT:**

THIS SURVEY CONTROL PLAN HAS BEEN EXAMINED BY ME, OR BY A PROFESSIONAL LAND SURVEYOR UNDER MY DIRECTION, PURSUANT TO SEC. 8726 OF THE BUSINESS AND PROFESSIONS CODE OF THE STATE OF CALIFORNIA. I HEREBY STATE THAT THE INFORMATION SHOWN HEREON HAS BEEN GEOSPATIALLY CORRECTED TO THE SAN MATEO COUNTY CONTROL SYSTEM, THAT THE EXISTING MONUMENTATION SHOWN HEREON IS A SUFFICIENT BASIS FROM WHICH THE CONSTRUCTION LINES AND GRADES CAN BE SET, AND THAT THE MONUMENT DESCRIPTIONS ARE SUFFICIENT TO ALLOW FOR RECOVERY AND IDENTIFICATION BY SOMEONE WHO IS UNFAMILIAR WITH THE AREA. I HAVE ALSO EXAMINED THE ASSOCIATED ELECTRONIC FILES FOR THIS SURVEY CONTROL PLAN AND, TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THESE FILES ACCURATELY REPRESENT THE SAME INFORMATION SHOWN HEREON.



JOHN T. MAY LS 8570  
 SURVEYOR / EXPIRES 03-31-2023  
 DATE: APRIL 15, 2022

**FIELD BOOKS:**

ENCINA AVENUE ALIGNMENT 68: FB 759-3 PAGES: (53-54)  
 MIDDLEFIELD ROAD ALIGNMENT: FB 726 PAGE: (31),  
 FB 726 PAGES (32-35), FB 759-3 PAGE (72)  
 ANGLES - BM'S 68: FB 759-1 PAGE: (15)  
 FAIR OAKS AREA 1996 AERIAL SURVEYS EDISON WAY,  
 MIDDLEFIELD ROAD & 2002 BKF AERIAL SURVEY: FB 778-9  
 PAGE: (64)

**DEEDS / EASEMENT:**

513 O.R. 413, EASTBURN TO COUNTY (1931)  
 518 O.R. 11 TIEDEMANN TO COUNTY (1931)

**ABBREVIATIONS:**

- 60D 6-INCH NAIL
- CUT X CUT X
- FD FOUND
- MAG MAG NAIL
- MAG&TT MAG NAIL & TOWLL TAG
- PEN X PENETRATION X
- W/CHSR WITH CHISELED

**LEGEND:**

- △ = PROJECT SURVEY CONTROLS
- 111 POINT NUMBER
- 100.00 ELEVATION
- PEN X DESCRIPTOR

**REFERENCE MAPS:**

SURVEYOR'S REC VOL3, P 169  
 51-RSM-PG004  
 58-PM-PG-031  
 67-PM-PG039  
 72-PM-PG004-005



DESIGNED BY: JS		RECONSTRUCTION OF ENCINA AVENUE		SCALE: 1IN = 30FT
CHECKED BY: WN		FROM MIDDLEFIELD ROAD TO END		DATE: 04-15-2022
DRAWN BY: JS		SURVEY CONTROL PLAN		FILE NO.: 1/5044
ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		
REVISION	DATE	FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		SHEET 2 OF 25

FILENAME: J:\CONJOBS\19933- SAN MATEO COUNTY FW\05 - ENCINA AVE TOPO\OFFICE\CAD\ES044002.DWG (1--5044002)





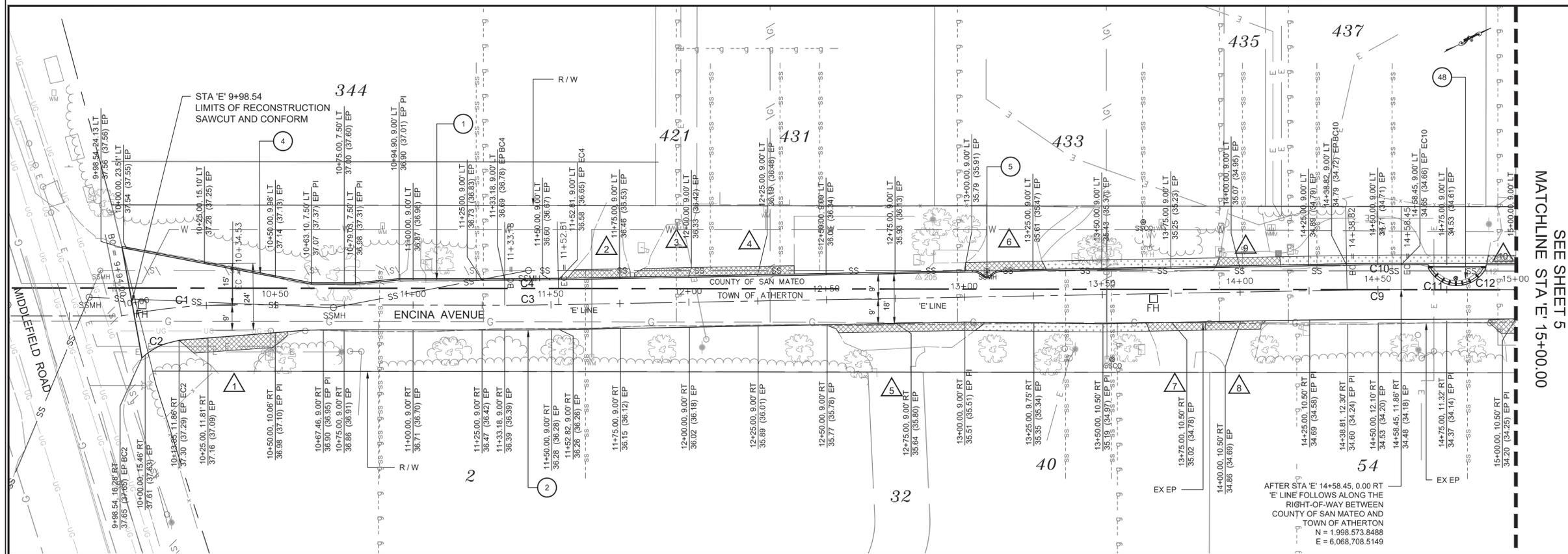
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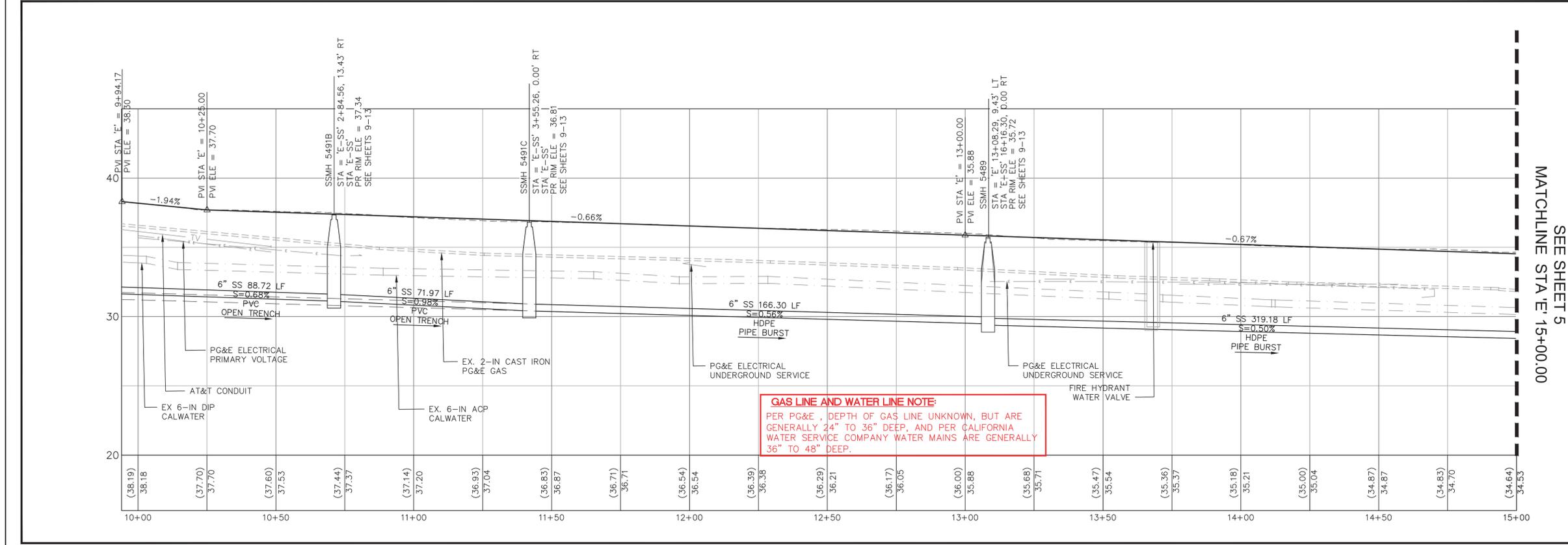
- SD STORM DRAIN LINE (EX / PR)
- SS SANITARY SEWER MAIN (EX / PR)
- SS SANITARY SEWER LATERAL (EX)
- W WATER LINE (EX)
- G GAS LINE (EX)
- G GAS SERVICE LATERAL (EX)
- ABANDON GAS (EX)
- E UNDERGROUND ELECTRICAL LINE (EX)
- TV UNDERGROUND TV LINE (EX)
- OH OVERHEAD LINE (EX)  
ELECTRICAL, TV, COMMUNICATION
- UG UNDERGROUND COMMUNICATION LINE "ACTIVE"
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- 6-INCH CONCRETE BAND
- EXISTING EDGE OF PAVEMENT (ATHERTON)
- HEADER BOARD
- △ DRIVEWAY CONFORM NO.
- Native Backfill
- Miscellaneous Asphalt Concrete
- 0.25-FT ASPHALT CONCRETE
- Deep Lift Areas (0.50' Deep Asphalt Concrete)
- Class 2 Aggregate Base - AB (CL. 2) (GRAVEL)
- Class 3 Concrete
- 2" Washed, Crushed Stone

**DETAILS**

- 1 6" CONCRETE BAND (A/14)
- 2 PRESSURE TREATED HEADER BOARD (B/14)
- 4 6" CONCRETE BAND TRANSITION AT TREE (A/15)
- 5 6" CONCRETE BAND TRANSITION AT MANHOLE (B/15)
- 48 SLOPE-FACED CONCRETE CURB AT ROUNDABOUTS AND CHICANES (A/22)



PLAN SCALE 1 IN = 20 FT



CENTERLINE PROFILE SCALE  
 1 IN = 20 FT HORIZONTAL  
 1 IN = 4 FT VERTICAL

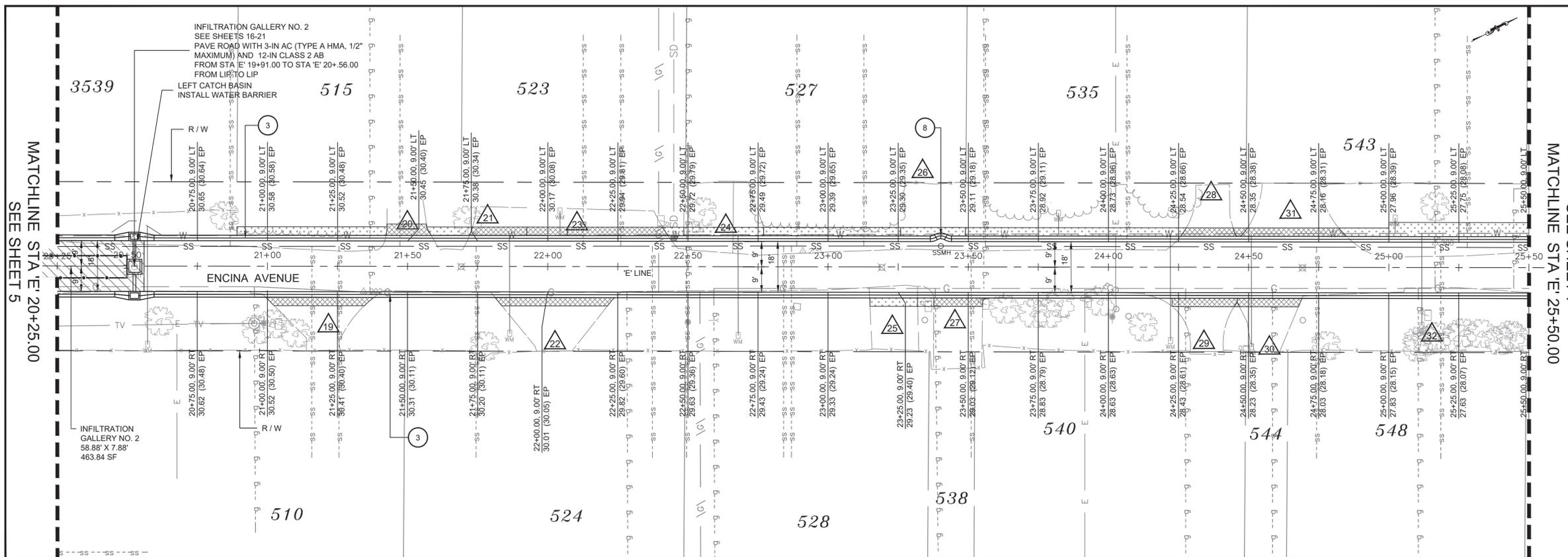
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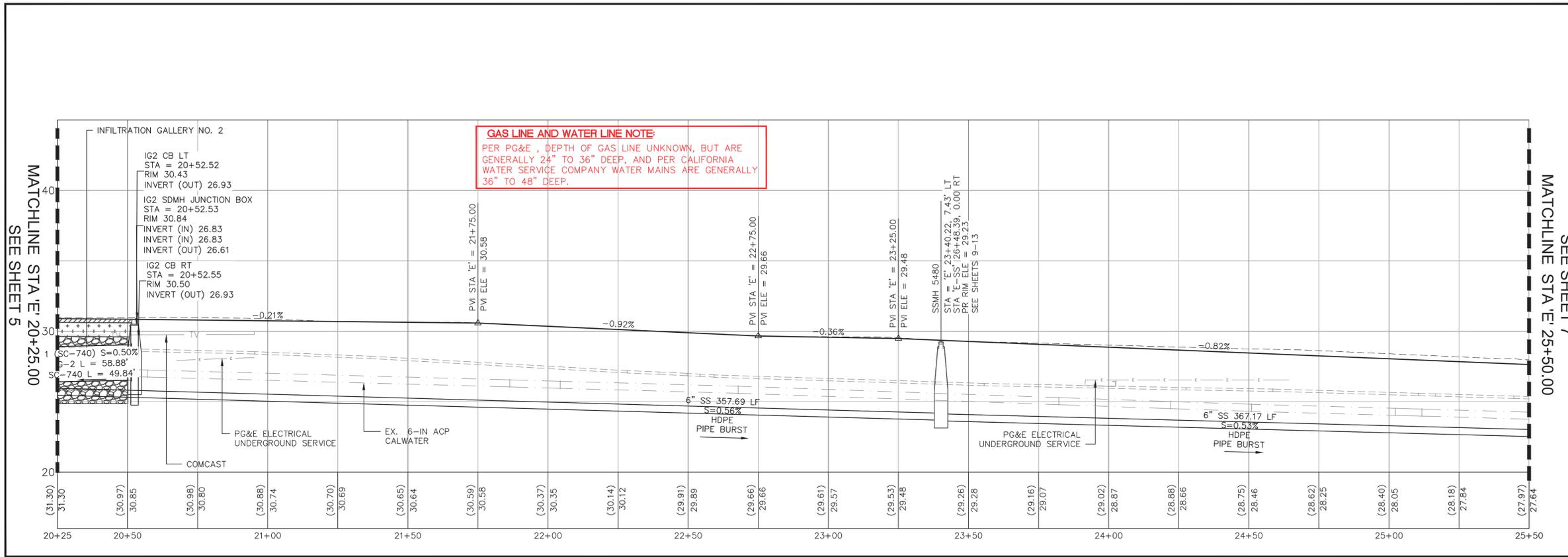
DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END	SCALE: 1IN = 20FT
CHECKED BY: WN	ROAD - PLAN & PROFILE 1/4	DATE: 04-15-2022
DRAWN BY: JS	ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS, COUNTY SAN MATEO	FILE NO: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR, REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		0 1 2 3 4
		4 SHEET 4 OF 25

FILENAME: F:\USERS\DESIGN\C:\D\ENCINA\_ENCINA\_AVE\_RECON\1\0\_DWG\ES04004-7.DWG (1-5044004)





PLAN SCALE 1 IN = 20 FT



CENTERLINE PROFILE SCALE  
1 IN = 20 FT HORIZONTAL  
1 IN = 4 FT VERTICAL



APPROVED:  
DATE: APRIL 15, 2022  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

LEGEND:

- SD DRAIN LINE (EX / PR)
- SS SANITARY SEWER MAIN (EX / PR)
- SS SANITARY SEWER LATERAL (EX)
- W WATER LINE (EX)
- G GAS LINE (EX)
- G GAS SERVICE LATERAL (EX)
- ABANDON GAS (EX)
- E UNDERGROUND ELECTRICAL LINE (EX)
- TV UNDERGROUND TV LINE (EX)
- OH OVERHEAD LINE (EX)  
ELECTRICAL, TV, COMMUNICATION

- COUNTY/TOWN BOUNDARY
- RIGHT OF WAY
- CONSTRUCTION CENTERLINE
- SURVEY TIE
- 2-FT VALLEY GUTTER
- 6-INCH CONCRETE BAND
- EXISTING EDGE OF PAVEMENT (ATHERTON)
- HEADER BOARD
- ▲ DRIVEWAY CONFORM NO.

- Native Backfill
- Miscellaneous Asphalt Concrete
- 0.25-FT ASPHALT CONCRETE
- DEEP LIFT AREAS (0.50' DEEP ASPHALT CONCRETE)
- CLASS 2 AGGREGATE BASE - AB (CL. 2) (GRAVEL)
- CLASS 3 CONCRETE
- 2" WASHED, CRUSHED STONE
- PAVE ROAD WITH 3-IN AC (TYPE A HMA, 1/2" MAXIMUM) AND 12-IN CLASS 2 AB

DETAILS

- 3 CONCRETE VALLEY GUTTER
- 8 CONCRETE VALLEY GUTTER TRANSITION AT MANHOLE
- C 14
- E 15

MATCHLINE STA. 'E' 20+25.00  
SEE SHEET 5

MATCHLINE STA. 'E' 25+50.00  
SEE SHEET 7

MATCHLINE STA. 'E' 20+25.00  
SEE SHEET 5

MATCHLINE STA. 'E' 25+50.00  
SEE SHEET 7



DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END ROAD - PLAN & PROFILE 3/4	SCALE: 1IN = 20FT
CHECKED BY: WN		DATE: 04-15-2022
DRAWN BY: JS		FILE NO.: 1/5044
INTERIM	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		6 SHEET 6 OF 25

FILENAME: F:\USERS\DESIGN\C3D\ENCINA\_ENCINA.AVE RECON\10.DWG (1-5044006)



APPROVED:

DATE: APRIL 15, 2022

ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

LEGEND:

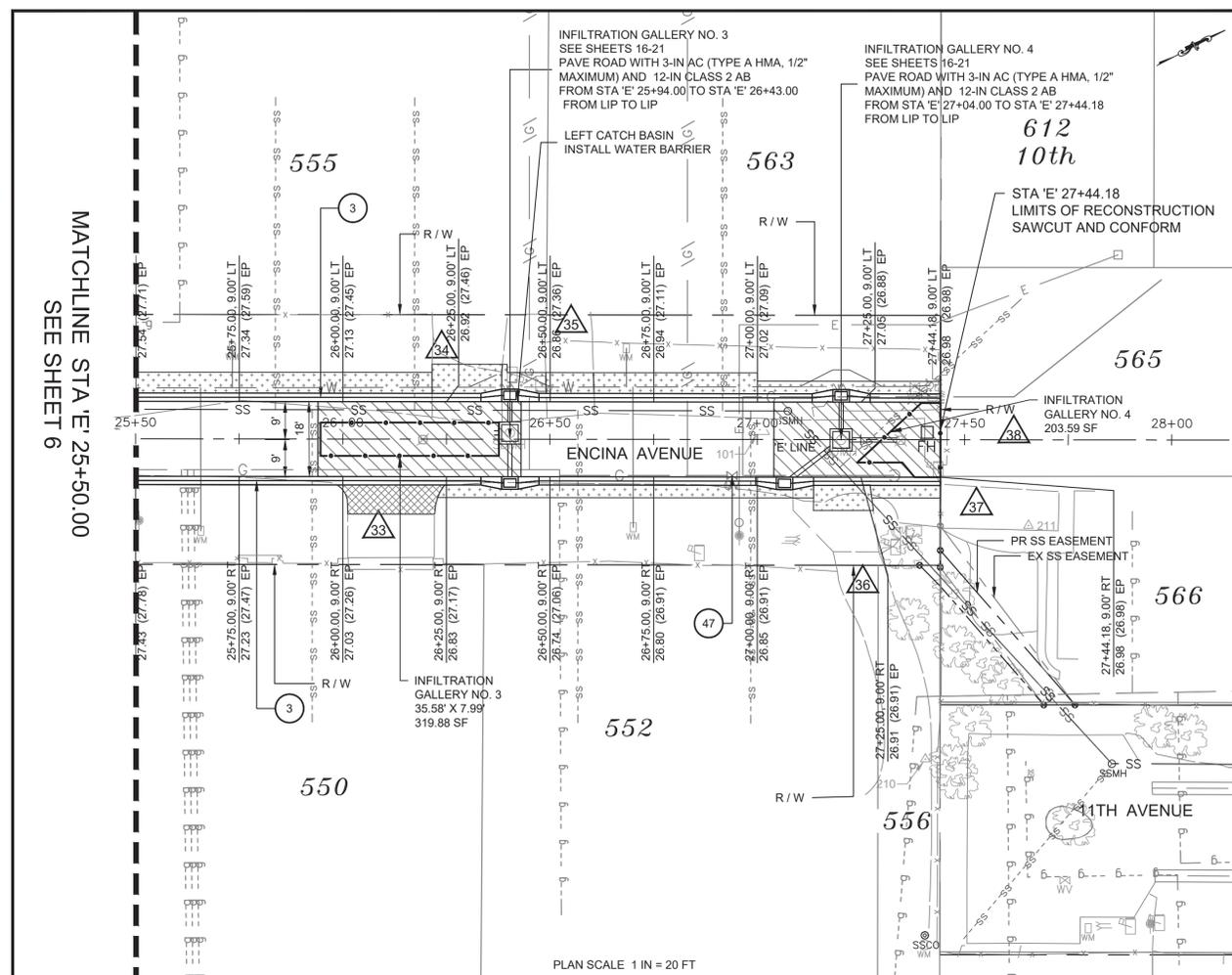
- STORM DRAIN LINE (EX / PR)
- SANITARY SEWER MAIN (EX / PR)
- SANITARY SEWER LATERAL (EX)
- WATER LINE (EX)
- GAS LINE (EX)
- GAS SERVICE LATERAL (EX)
- ABANDON GAS (EX)
- UNDERGROUND ELECTRICAL LINE (EX)
- UNDERGROUND TV LINE (EX)
- OVERHEAD LINE (EX)  
ELECTRICAL, TV, COMMUNICATION

- COUNTY/TOWN BOUNDARY
- RIGHT OF WAY
- CONSTRUCTION CENTERLINE
- SURVEY TIE
- 2-FT VALLEY GUTTER
- 6-INCH CONCRETE BAND
- EXISTING EDGE OF PAVEMENT - (ATHERTON)
- HEADER BOARD
- DRIVEWAY CONFORM NO.

- NATIVE BACKFILL
- MISCELLANEOUS ASPHALT CONCRETE
- 0.25-FT ASPHALT CONCRETE
- DEEP LIFT AREAS (0.50' DEEP ASPHALT CONCRETE)
- CLASS 2 AGGREGATE BASE - AB (CL. 2) (GRAVEL)
- CLASS 3 CONCRETE
- 2" WASHED, CRUSHED STONE
- PAVE ROAD WITH 3-IN AC (TYPE A HMA, 1/2" MAXIMUM) AND 12-IN CLASS 2 AB

DETAILS

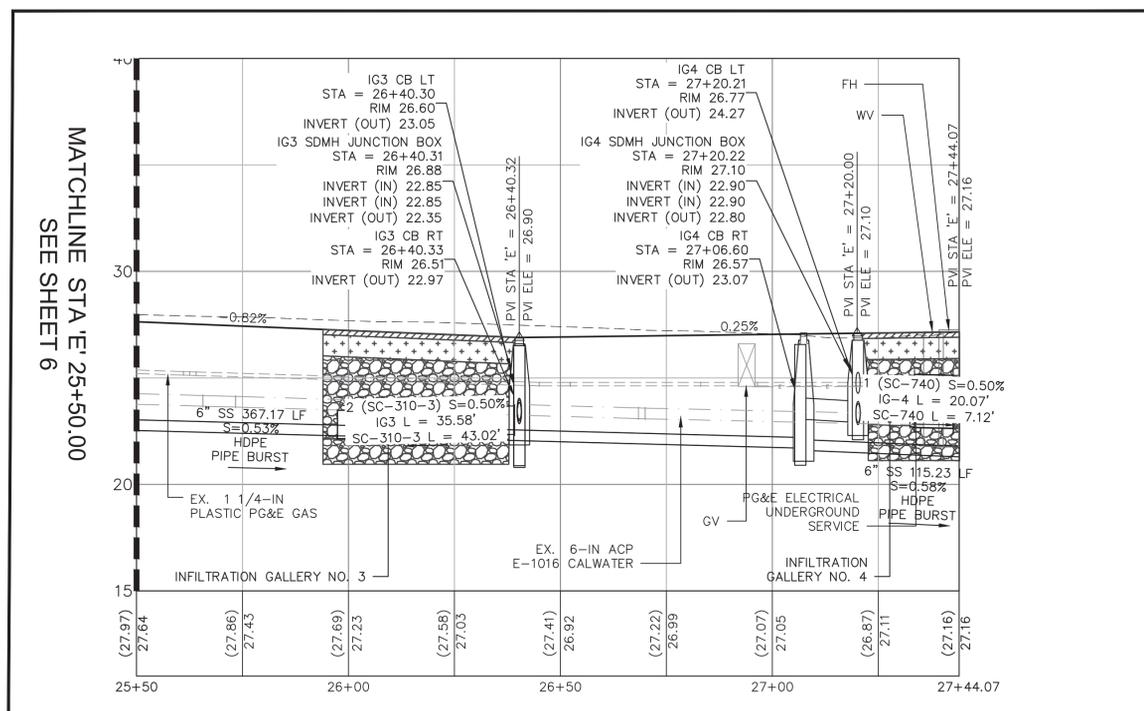
- CONCRETE VALLEY GUTTER
- PG&E TYPICAL INSTALLATION OF TRAFFIC VALVE DETAIL K-41-1
- 



CURVE TABLE*							
CURVE	LOCATION	LENGTH	RADIUS	DELTA	FROM STATION, OFFSET SIDE	TO STATION	SHEET
C1	CENTERLINE	40.53'	200.00'	11' 36' 35"	STA 'E' 9+94.00, 0.00' RT	STA 'E' 10+34.53, 0.00' RT	4
C2	RIGHT EP	33.88'	23.00'	91' 52' 52"	STA 'E' 9+98.51, 16.28' RT	STA 'E' 10+13.85, 11.86' RT	4

CURVE TABLE*							
CURVE	LOCATION	LENGTH	RADIUS	DELTA	FROM STATION, OFFSET SIDE	TO STATION	SHEET
C3	CENTERLINE	19.63'	1,000.00'	1' 07' 29"	STA 'E' 11+33.18, 0.00' RT	STA 'E' 11+52.81, 0.00' RT	4
C4	LEFT EP	19.46'	990.92'	1' 07' 30"	STA 'E' 11+33.18, 9.00' LT	STA 'E' 11+52.81, 9.00' LT	4

CURVE TABLE*							
CURVE	LOCATION	LENGTH	RADIUS	DELTA	FROM STATION, OFFSET SIDE	TO STATION	SHEET
C9	CENTERLINE	19.63'	1,000.00'	1' 07' 29"	STA 'E' 14+35.82, 0.00' RT	STA 'E' 14+58.45, 0.00' RT	4
C10	LEFT EP	19.81'	1,009.00'	1' 07' 29"	STA 'E' 14+38.82, 9.00' RT	STA 'E' 14+58.45, 9.00' RT	4



**GAS LINE AND WATER LINE NOTE:**  
PER PG&E, DEPTH OF GAS LINE UNKNOWN, BUT ARE GENERALLY 24" TO 36" DEEP, AND PER CALIFORNIA WATER SERVICE COMPANY WATER MAINS ARE GENERALLY 36" TO 48" DEEP.



DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END ROAD - PLAN & PROFILE 4/4	SCALE: 1IN = 20FT
CHECKED BY: WN		DATE: 04-15-2022
DRAWN BY: JS		FILE NO: 1/5044
ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	
REVISION	DATE	
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		7 SHEET 7 OF 25

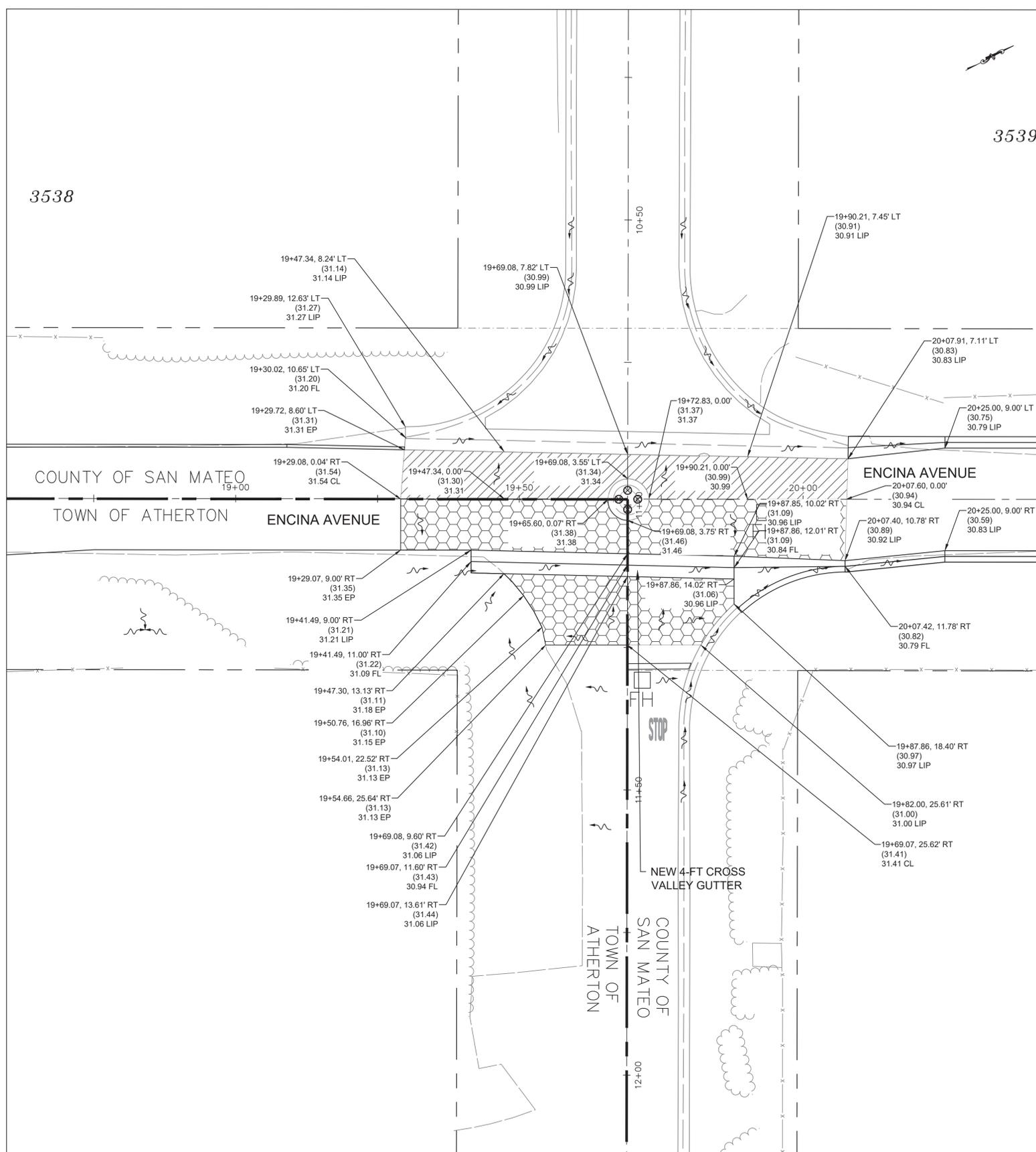
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APPROVED:

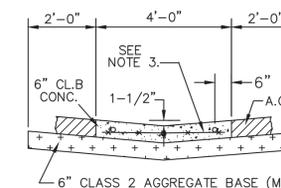
DATE: APRIL 15, 2022

*Ann Mader Stillman*  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



INTERSECTION OF ENCINA AVENUE AND OAK DRIVE  
 PLAN AND GRID DATA

SCALE 1 INCH = 10 FEET



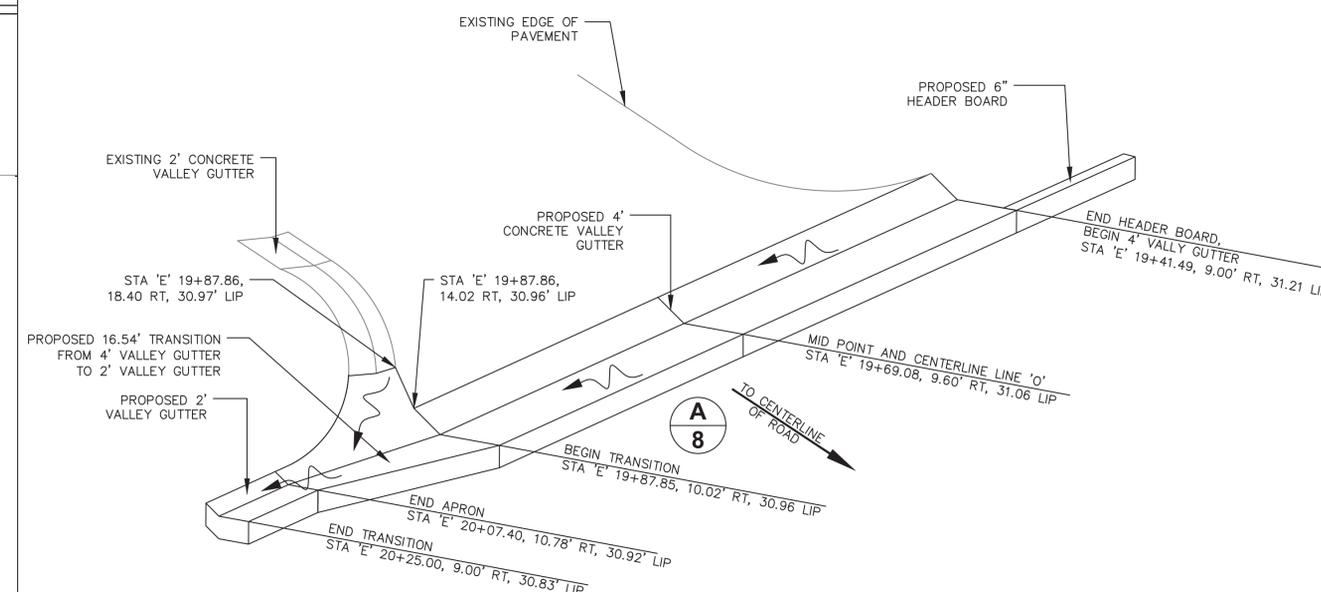
CONCRETE VALLEY GUTTER

NOTES:

1. APRON TO BE 6" MIN. THICK CL.B P.C.C. OVER MIN. 6" COMPACTED CL.2 AGG. BASE.
2. REINFORCEMENT SHALL CONSIST OF 6"X 6"-#10/#10 WELDED WIRE FABRIC.
3. CONCRETE VALLEY GUTTER AND APRONS SHALL BE INSTALLED PRIOR TO PAVING. PLACE 1/2" DIAMETER X 18" LONG DOWELS, AT EXPANSION JOINTS, AS SHOWN.
4. PLACE 1/4" THICK EXPANSION JOINTS FULL WIDTH 20' ON CENTER. DEEP SCORE AT 10' INTERVALS BETWEEN EXPANSION JOINTS.

LEGEND:

- PLANE AND RESURFACE  
0.25'-FT ASPHALT CONCRETE
- DEEP LIFT AREAS (0.50' DEEP  
ASPHALT CONCRETE)
- CLASS 2 AGGREGATE BASE -  
AB (CL. 2) (GRAVEL)
- CLASS 3 CONCRETE



NOTES:

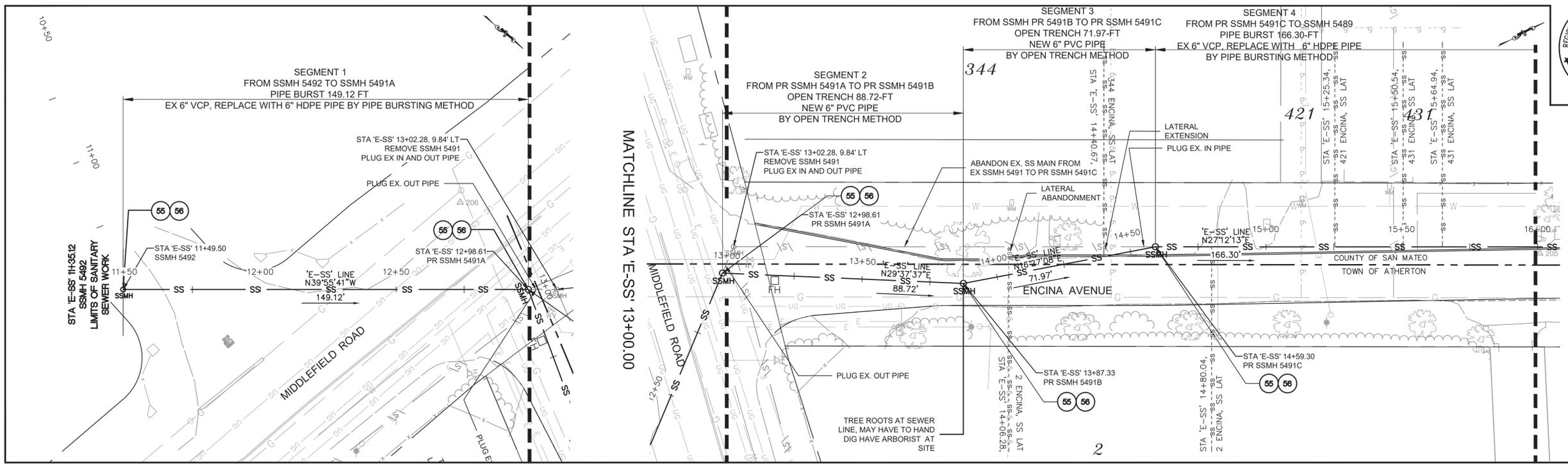
- 1.) ALL CONCRETE TO BE CLASS 3 CONCRETE.
- 2.) ALL NOTES PERTAINING TO CONCRETE VALLEY GUTTER AND 6" CONCRETE BAND SHALL APPLY.
- 3.) REINFORCEMENT SHALL CONSIST OF 6" X 6" - #10/#10 WELDED WIRE FABRIC.
- 4.) PLACE 1/2" DIAMETER X 18" LONG DOWELS, AT EXPANSION JOINTS, AS SHOWN ON DETAILS 6" CONCRETE BAND AND CONCRETE VALLEY GUTTER, AND AT INTERFACE BETWEEN EXISTING AND NEW CONCRETE.
- 5.) PLACE 1/2" THICK EXPANSION JOINTS FULL WIDTH 20' ON CENTER.
- 6.) SUB-BASE MATERIALS WITHIN 30' OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
- 7.) OBSTRUCTIONS SUCH AS POLES, HYDRANTS, STREET SIGNS, UTILITY BOXES, STREET LIGHTS, ETC. SHALL BE LOCATED BEHIND THE CURB AND GUTTER, UNLESS OTHERWISE SPECIFICALLY AUTHORIZED BY THE DIRECTOR OF PUBLIC WORKS, OR HIS DESIGNEE. A CLEAR ZONE ALONG THE CURB AND SIDEWALK 18 INCHES IN WIDTH (MEASURED FROM THE FACE OF THE CURB) SHALL BE KEPT CLEAR AND OPEN FROM ALL OBSTRUCTIONS. IN ADDITION, AN AREA 3 FEET IN WIDTH ALONG THE SIDEWALK, EXCLUSIVE OF THE CURB WIDTH, SHALL BE KEPT CLEAR AND OPEN FROM ALL OBSTRUCTIONS IN COMPLIANCE WITH THE STATE BUILDING CODE (PART 2, TITLE 24, C.A.C.).

**A**  
**8** PROPOSED 4'  
 VALLEY GUTTER  
 NOT TO SCALE



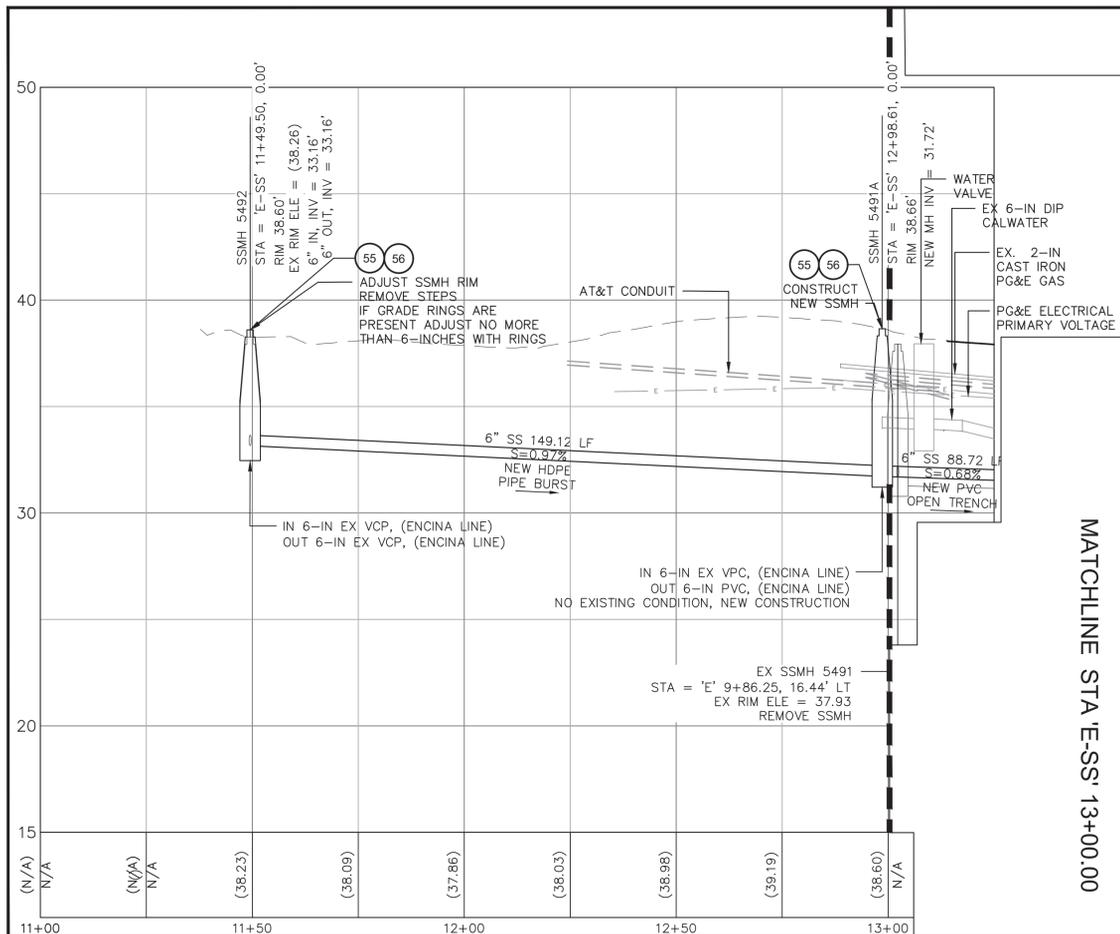
DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END	SCALE: 1IN = 10FT
CHECKED BY: WN	INTERSECTION DETAIL	DATE: 04-15-2022
DRAWN BY: JS	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO.: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		8 SHEET 8 OF 25

FILENAME: F:\USERS\DESIGN\VC\10 DMC\ES044000\_ENCINA\_AVE RECON\10 DMC\ES044008.DWG (1-5044008)

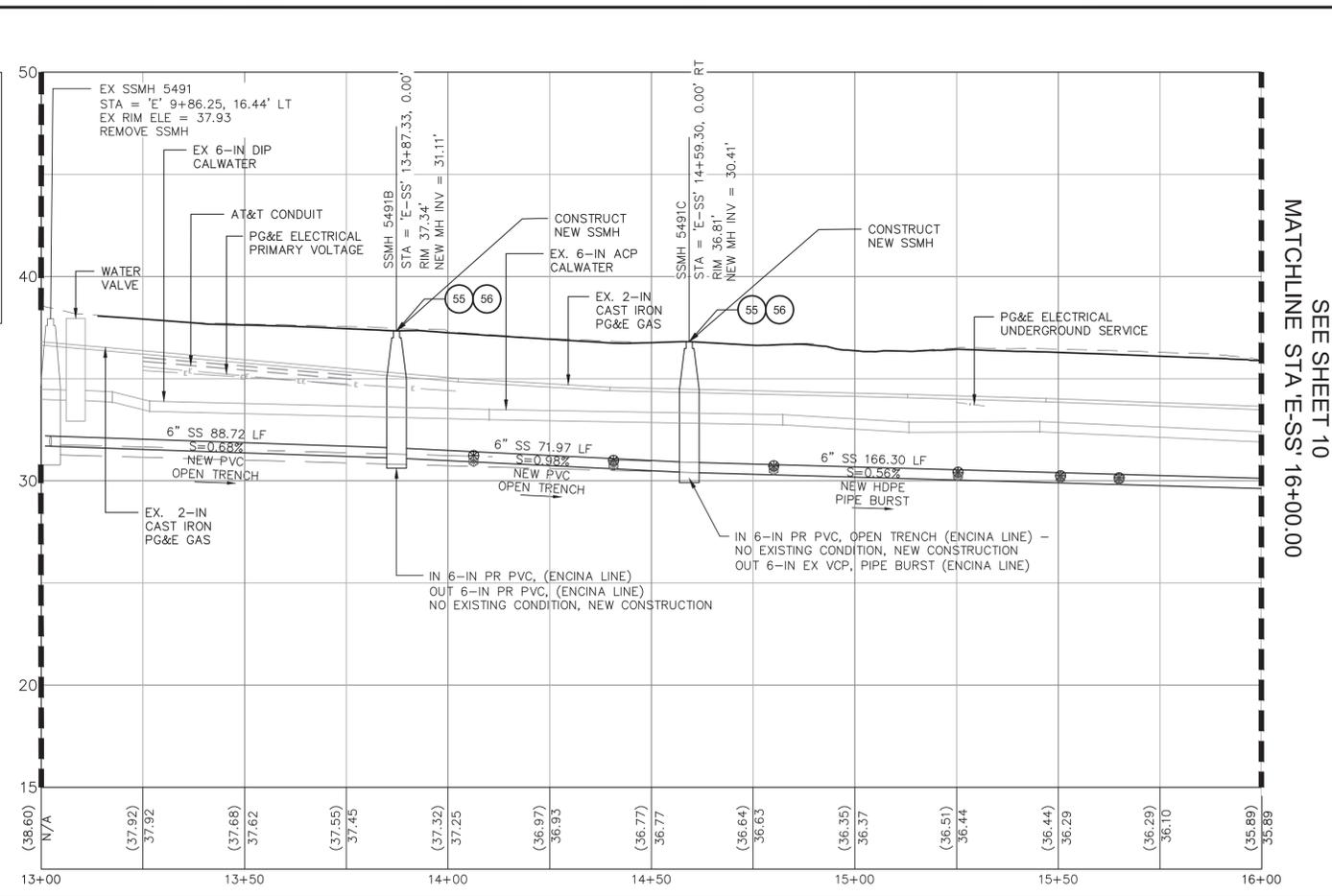


PLAN SCALE 1 IN = 20 FT

PLAN SCALE 1 IN = 20 FT



CENTERLINE PROFILE SCALE  
1 IN = 20 FT HORIZONTAL  
1 IN = 4 FT VERTICAL



CENTERLINE PROFILE SCALE  
1 IN = 20 FT HORIZONTAL  
1 IN = 4 FT VERTICAL

**GAS LINE AND WATER LINE NOTE:**  
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APPROVED:  
DATE: APRIL 15, 2022  
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

- LEGEND:**
- SD STORM DRAIN LINE
  - STORM DRAIN LINE
  - SS SANITARY SEWER LINE "ACTIVE"
  - SANITARY SEWER LINE "ACTIVE" PROFILE
  - SANITARY SEWER LINE (Abn) PROFILE
  - SANITARY SEWER LINE (Abn) PROFILE
  - SANITARY SEWER LATERAL (EX)
  - W WATER LINE (EX)
  - G GAS LINE (EX)
  - GAS SERVICE LATERAL (EX)
  - ABANDON GAS (EX)
  - E UNDERGROUND ELECTRICAL LINE (EX)
  - TV UNDERGROUND TV LINE (EX)
  - OH OVERHEAD LINE (EX)
  - ELECTRICAL, TV, COMMUNICATION

- COUNTY/TOWN BOUNDARY
- RIGHT OF WAY
- CONSTRUCTION CENTERLINE
- SURVEY TIE
- 2-FT VALLEY GUTTER
- 6-INCH CONCRETE BAND
- EXISTING EDGE OF PAVEMENT (ATHERTON)
- HEADER BOARD
- ▲ DRIVEWAY CONFORM NO.
- Native Backfill
- Miscellaneous Asphalt Concrete
- 0.25-FT ASPHALT CONCRETE
- DEEP LIFT AREAS (0.50' DEEP ASPHALT CONCRETE)
- CLASS 2 AGGREGATE BASE - AB (CL. 2) (GRAVEL)
- CLASS 3 CONCRETE
- 2" WASHED, CRUSHED STONE
- NEW SANITARY SEWER LATERAL LOCATION (PROFILE)
- EX SANITARY SEWER LATERAL LOCATION (PROFILE)

- DETAILS**
- 55 SANITARY SEWER MANHOLE DETAIL
  - 56 SANITARY SEWER MANHOLE COVER, FRAME AND STRAP DETAIL, FLUSHING INLET COVER

SEE SHEET 24 TABLES  
SANITARY SEWER MANHOLE  
SANITARY SEWER REHABILITATION BY PIPE-BURSTING  
METHOD (6") WORK WITHIN ROAD RIGHT-OF-WAY

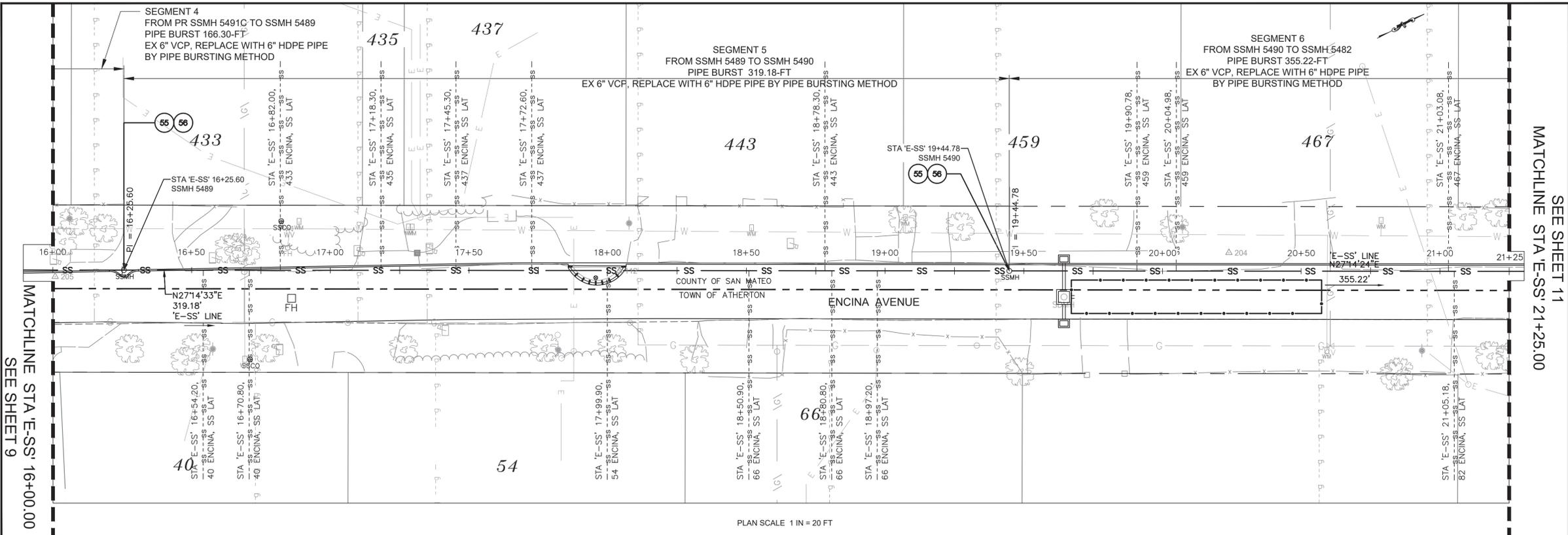


DESIGNED BY: JS		RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END		SCALE: AS SHOWN
CHECKED BY: WN		SANITARY SEWER - PLAN & PROFILE 1/5		DATE: 04-15-2022
DRAWN BY: JS		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		9
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES				SHEET 9 OF 25

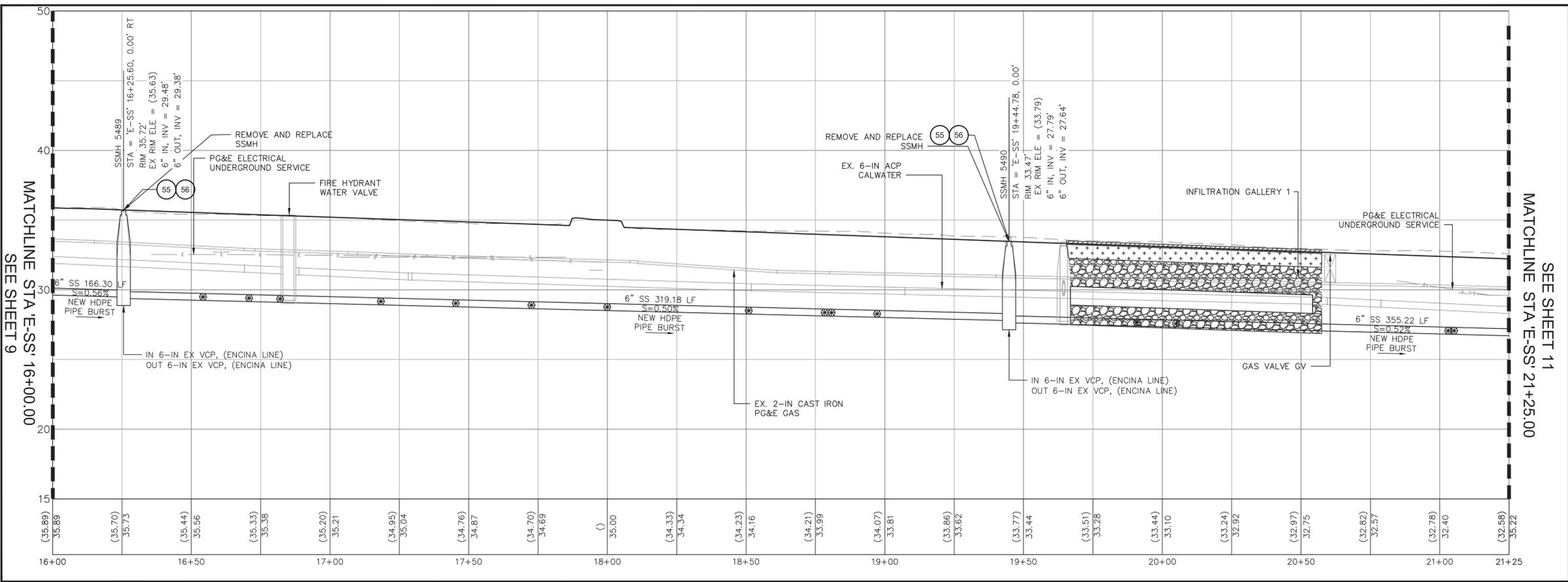
FILENAME: F:\USERS\DESIGN\CAD\ES044000\_ENCINA\_AVE\_RECON\10.DWG\ES044009-13.DWG (1-5044009)



APPROVED:  
 DATE: APRIL 15, 2022  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



- LEGEND:**
- SD STORM DRAIN LINE
  - STORM DRAIN LINE
  - SS SANITARY SEWER LINE "ACTIVE"
  - SANITARY SEWER LINE "ACTIVE" PROFILE
  - SANITARY SEWER LINE (Abn) PROFILE
  - SANITARY SEWER LATERAL (EX)
  - W WATER LINE (EX)
  - G GAS LINE (EX)
  - GAS SERVICE LATERAL (EX)
  - ABANDON GAS (EX)
  - UNDERGROUND ELECTRICAL LINE (EX)
  - TV UNDERGROUND TV LINE (EX)
  - OH OVERHEAD LINE (EX)
  - ELECTRICAL, TV, COMMUNICATION
  - COUNTY/TOWN BOUNDARY
  - RIGHT OF WAY
  - CONSTRUCTION CENTERLINE
  - SURVEY TIE
  - 2-FT VALLEY GUTTER
  - 6-INCH CONCRETE BAND
  - EXISTING EDGE OF PAVEMENT (ATHERTON)
  - HEADER BOARD
  - ▲ DRIVEWAY CONFORM NO.
  - [Pattern] NATIVE BACKFILL
  - [Pattern] MISCELLANEOUS ASPHALT CONCRETE
  - [Pattern] 0.25-FT ASPHALT CONCRETE
  - [Pattern] DEEP LIFT AREAS (0.50' DEEP ASPHALT CONCRETE)
  - [Pattern] CLASS 2 AGGREGATE BASE - AB (CL. 2) (GRAVEL)
  - [Pattern] CLASS 3 CONCRETE
  - [Pattern] 2" WASHED, CRUSHED STONE
  - ⊗ NEW SANITARY SEWER LATERAL LOCATION (PROFILE)
  - ⊗ EX SANITARY SEWER LATERAL LOCATION (PROFILE)



- DETAILS**
- ⊗ SANITARY SEWER MANHOLE DETAIL
- SEE SHEET 24 TABLES  
 SANITARY SEWER MANHOLE  
 SANITARY SEWER REHABILITATION BY PIPE-BURSTING  
 METHOD (6") WORK WITHIN ROAD RIGHT-OF-WAY

**GAS LINE AND WATER LINE NOTE:**  
 PER PG&E, DEPTH OF GAS LINE UNKNOWN, BUT ARE GENERALLY 24" TO 36" DEEP, AND PER CALIFORNIA WATER SERVICE COMPANY WATER MAINS ARE GENERALLY 36" TO 48" DEEP.

CENTERLINE PROFILE SCALE  
 1 IN = 20 FT HORIZONTAL  
 1 IN = 4 FT VERTICAL



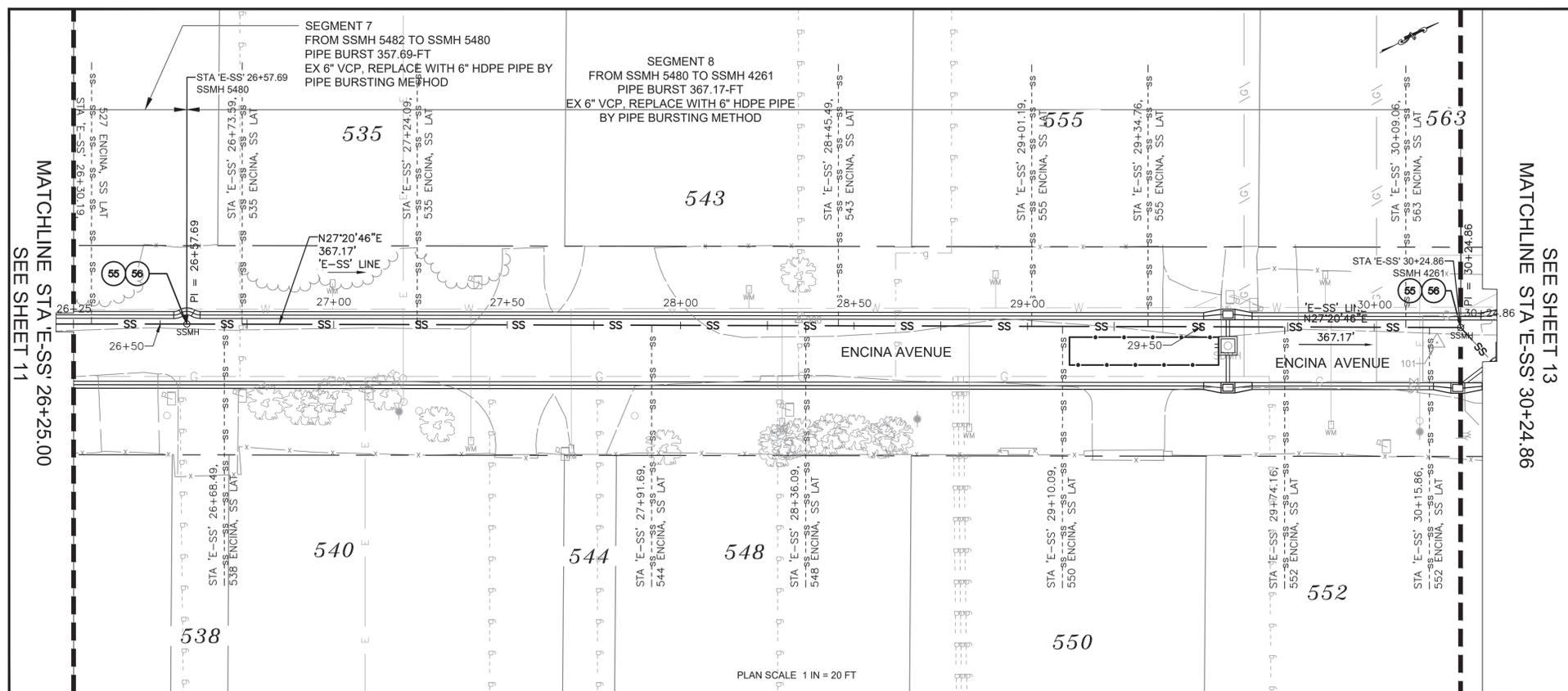
DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END		SCALE: 1IN = 20FT
CHECKED BY: WN	SANITARY SEWER - PLAN & PROFILE 2/5		DATE: 04-15-2022
DRAWN BY: JS	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO.: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	10
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES			SHEET 10 OF 25

FILENAME: F:\USERS\DESIGN\CD\ES044000\_ENCINA\_AVE\_RECON\10\_DWG\ES044009-13.DWG (1-5044010)





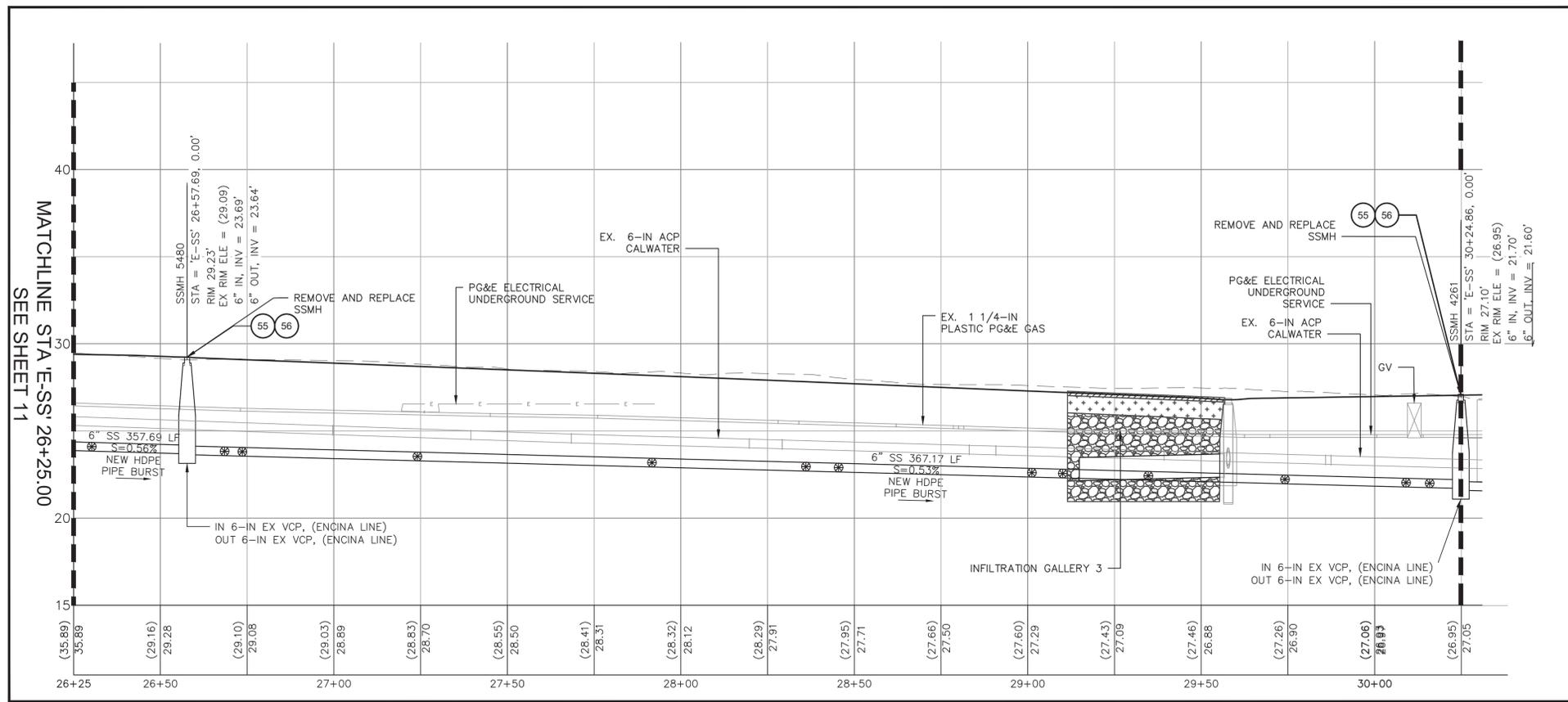
APPROVED:  
 DATE: APRIL 15, 2022  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



MATCHLINE STA 'E-SS' 30+24.86  
 SEE SHEET 13

MATCHLINE STA 'E-SS' 26+25.00  
 SEE SHEET 11

- LEGEND:**
- SD STORM DRAIN LINE
  - STORM DRAIN LINE
  - SS SANITARY SEWER LINE "ACTIVE"
  - SANITARY SEWER LINE "ACTIVE" PROFILE
  - SANITARY SEWER LINE (Abn) PROFILE
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  - UNDERGROUND ELECTRICAL LINE (EX)
  - TV UNDERGROUND TV LINE (EX)
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  - ELECTRICAL, TV, COMMUNICATION
  - COUNTY/TOWN BOUNDARY
  - - - RIGHT OF WAY
  - - - CONSTRUCTION CENTERLINE
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  - ==== 2-FT VALLEY GUTTER
  - ==== 6-INCH CONCRETE BAND
  - - - EXISTING EDGE OF PAVEMENT (ATHERTON)
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  - ▲ DRIVEWAY CONFORM NO.
  - [Pattern] NATIVE BACKFILL
  - [Pattern] MISCELLANEOUS ASPHALT CONCRETE
  - [Pattern] 0.25-FT ASPHALT CONCRETE
  - [Pattern] DEEP LIFT AREAS (0.50' DEEP ASPHALT CONCRETE)
  - [Pattern] CLASS 2 AGGREGATE BASE - AB (CL. 2) (GRAVEL)
  - [Pattern] CLASS 3 CONCRETE
  - [Pattern] 2" WASHED, CRUSHED STONE
  - ⊗ NEW SANITARY SEWER LATERAL LOCATION (PROFILE)
  - ⊗ EX SANITARY SEWER LATERAL LOCATION (PROFILE)

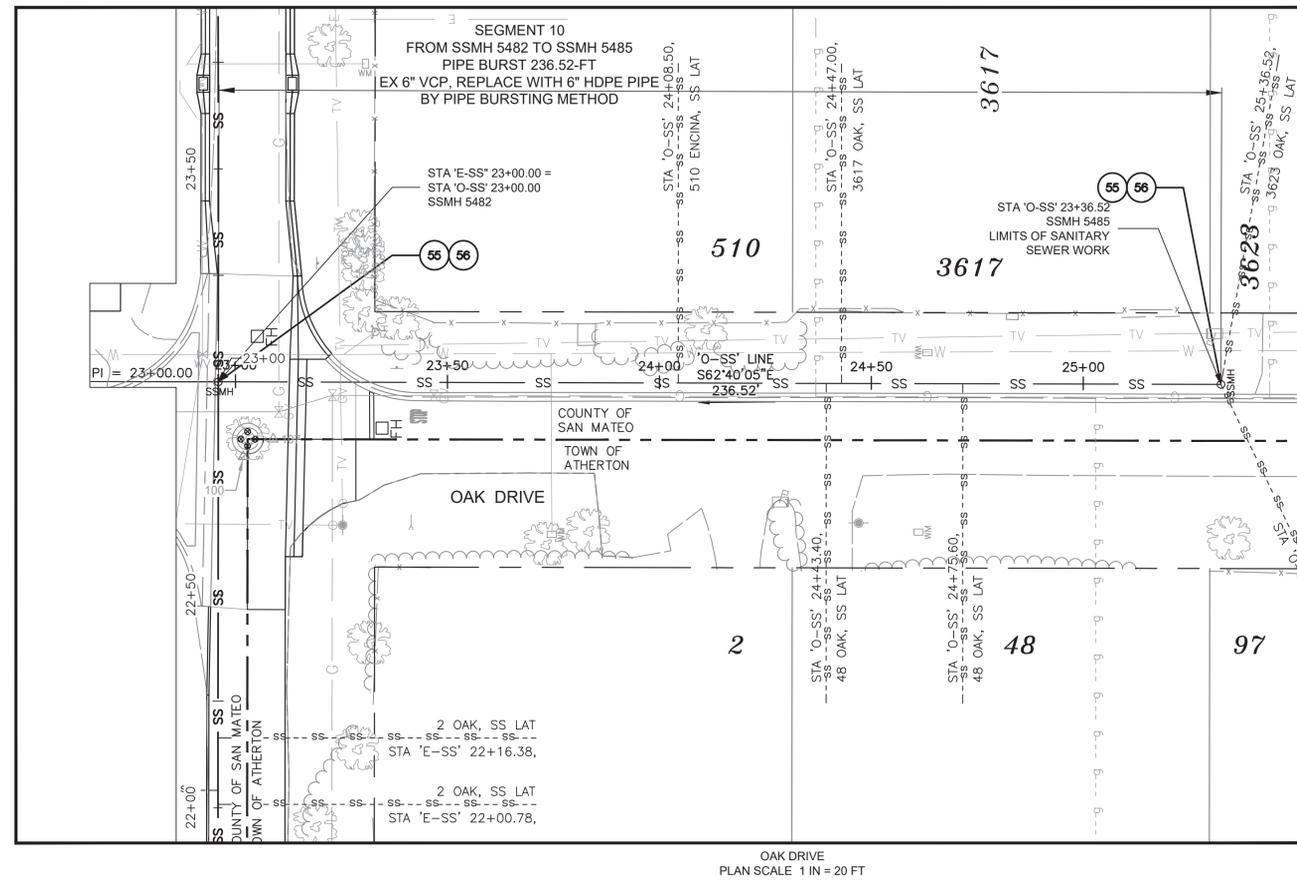
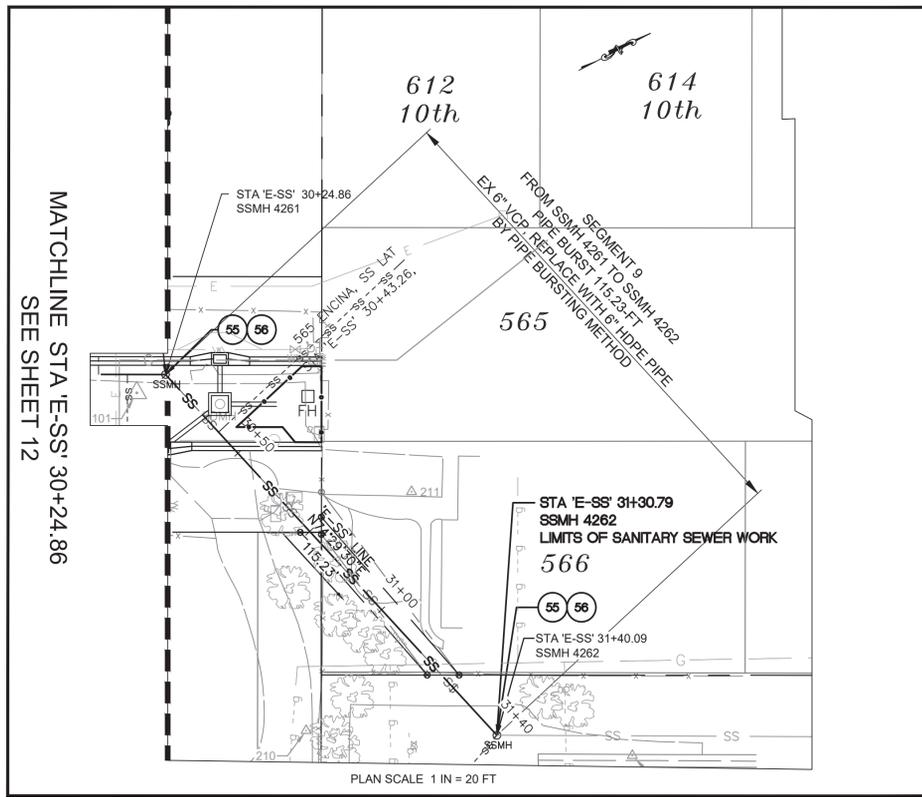


**GAS LINE AND WATER LINE NOTE:**  
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CHECKED BY: WN		DATE: 04-15-2022
DRAWN BY: JS	<b>SANITARY SEWER - PLAN &amp; PROFILE 4/5</b>	FILE NO.: 1/5044
ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	
REVISION	DATE	
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		12 SHEET 12 OF 25

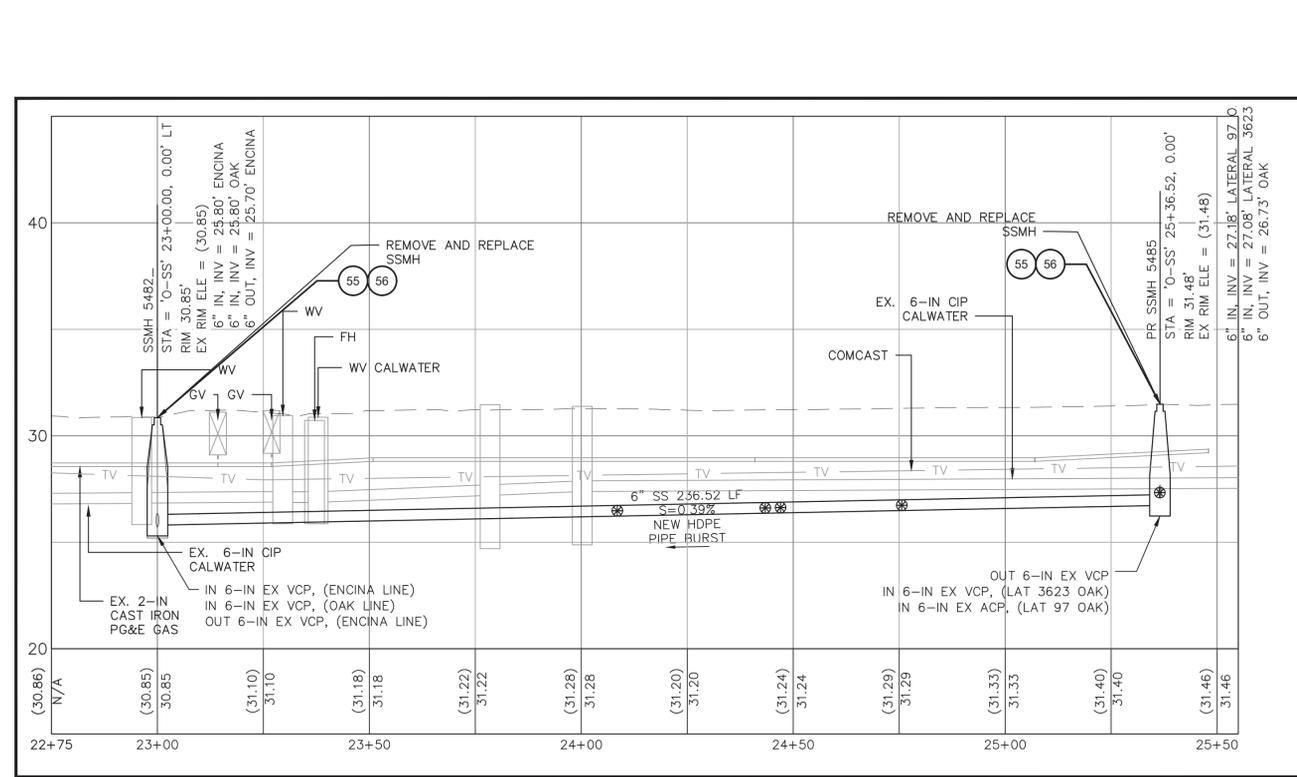
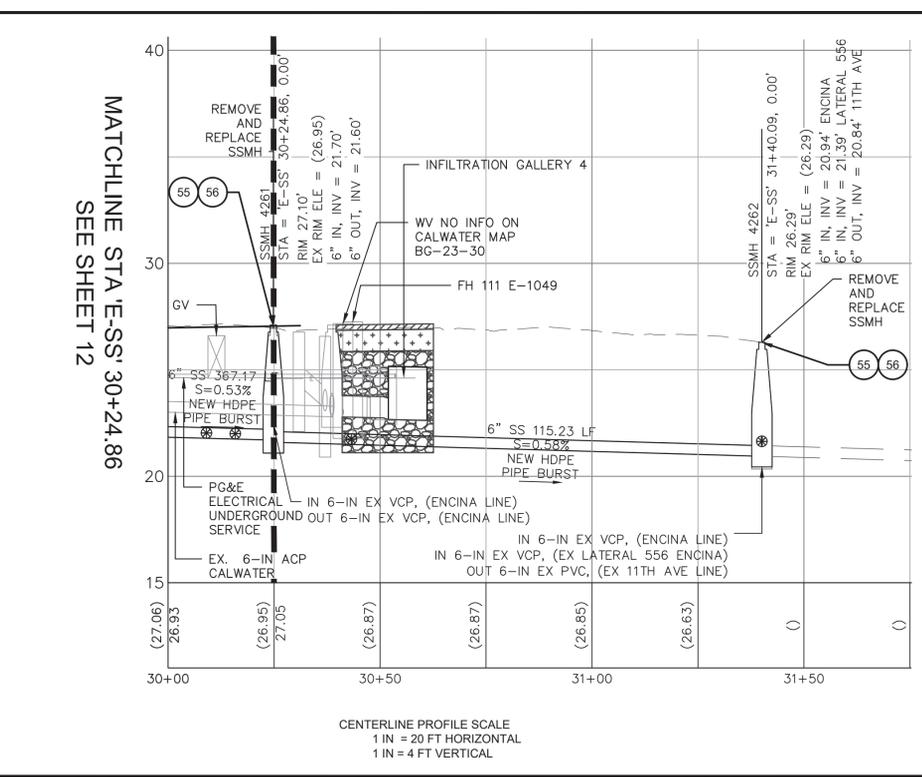
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APPROVED:  
 DATE: APRIL 15, 2022  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023

- LEGEND:**
- SD STORM DRAIN LINE
  - STORM DRAIN LINE
  - SS SANITARY SEWER LINE "ACTIVE"
  - SANITARY SEWER LINE "ACTIVE" PROFILE
  - SANITARY SEWER LINE (Abn)
  - SANITARY SEWER LINE (Abn) PROFILE
  - SANITARY SEWER LATERAL (EX)
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  - G GAS LINE (EX)
  - GAS SERVICE LATERAL (EX)
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  - OH OVERHEAD LINE (EX)
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  - COUNTY/TOWN BOUNDARY
  - - - RIGHT OF WAY
  - - - CONSTRUCTION CENTERLINE
  - - - SURVEY TIE
  - ===== 2-FT VALLEY GUTTER
  - ===== 6-INCH CONCRETE BAND
  - - - EXISTING EDGE OF PAVEMENT (ATHERTON)
  - ===== HEADER BOARD
  - ▲ DRIVEWAY CONFORM NO.

- DETAILS**
- (55) SANITARY SEWER MANHOLE DETAIL (A 23)
  - SEE SHEET 24 TABLES  
 SANITARY SEWER MANHOLE  
 SANITARY SEWER REHABILITATION BY PIPE-BURSTING  
 METHOD (6") WORK WITHIN ROAD RIGHT-OF-WAY



**GAS LINE AND WATER LINE NOTE:**  
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 WATER SERVICE COMPANY WATER MAINS ARE GENERALLY  
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 WATER SERVICE COMPANY WATER MAINS ARE GENERALLY  
 36" TO 48" DEEP.

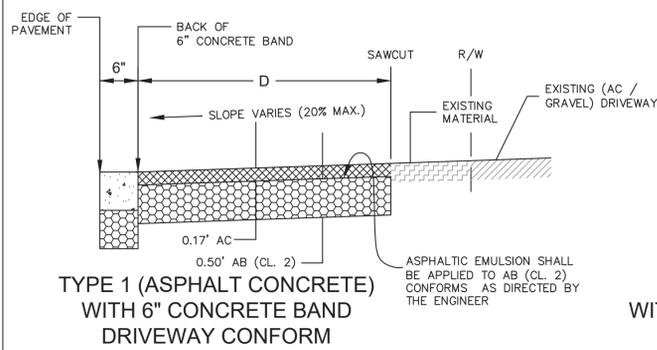


DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END	SCALE: 1IN = 20FT
CHECKED BY: WN	SANITARY SEWER - PLAN & PROFILE 5/5	DATE: 04-15-2022
DRAWN BY: JS	ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
REVISION	DATE	FILE NO.: 1/5044
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		13 SHEET 13 OF 25

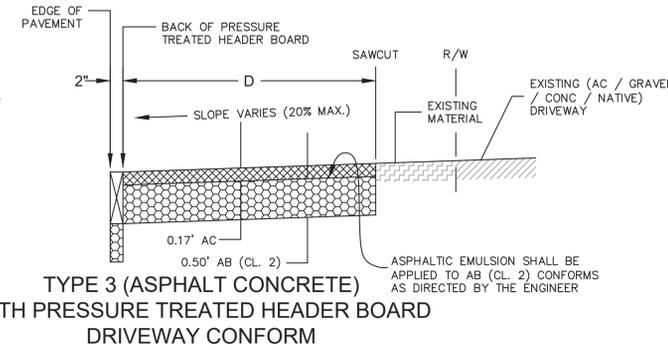
FILENAME: F:\USERS\DESIGN\C3D\ENCINA\_ENCINA\_AVE\_RECON\10.DWG (1-5044013)

ENCINA AVENUE  
FROM MIDDLEFIELD ROAD TO END  
DRIVEWAY CONFORM LIST

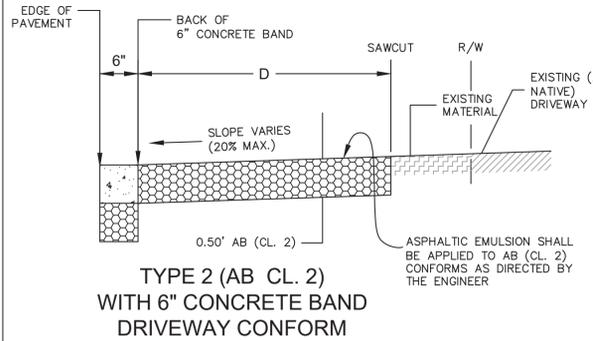
NO.	STATION AT CENTERLINE	W (FT.)	D (FT.)	DRIVEWAY TYPE	MATERIAL TYPE	ADDRESS
1	STA 'E' 10+37.53, RT	44.78	3	3	AC	2 ENCINA AVENUE (ATHERTON)
2	STA 'E' 11+67.61, LT	22.73	3	1	AC	344 ENCINA AVENUE
3	STA 'E' 11+94.33, LT	22.53	3	1	AC	421 ENCINA AVENUE
4	STA 'E' 12+20.77, LT	35.47	3	1	AC	431 ENCINA AVENUE
5	STA 'E' 12+78.24, RT	35.45	3	3	AC	32 ENCINA AVENUE (ATHERTON)
6	STA 'E' 13+15.52, LT	30.14	3	1	AC	433 ENCINA AVENUE
7	STA 'E' 13+76.27, RT	31.76	3	3	AC	40 ENCINA AVENUE (ATHERTON)
8	STA 'E' 13+98.52, RT	21.91	3	3	AC	54 ENCINA AVENUE (ATHERTON)
9	STA 'E' 14+02.75, LT	23.62	3	1	AC	435 ENCINA AVENUE
10	STA 'E' 14+95.18, LT	11.27	3	1	AC	443 ENCINA AVENUE
11	STA 'E' 15+02.72, RT	24.99	5	3	AC	54 ENCINA AVENUE (ATHERTON)
12	STA 'E' 15+24.45, RT	18.50	5	3	AC	66 ENCINA AVENUE (ATHERTON)
13	STA 'E' 15+79.64, LT	15.42	3	2	AB (CL 2)	443 ENCINA AVENUE
14	STA 'E' 15+99.26, LT	14.11	3	2	AB (CL 2)	459 ENCINA AVENUE
15	STA 'E' 16+52.39, RT	34.87	5	3	AC	82 ENCINA AVENUE (ATHERTON)
16	STA 'E' 16+78.67, LT	18.30	9	2	AB (CL 2)	459 ENCINA AVENUE
17	STA 'E' 17+36.29, LT	20.15	5	1	AC	467 ENCINA AVENUE
18	STA 'E' 19+85.07, LT	20.17	N/A	N/A	AC	3539 OAK DRIVE
19	STA 'E' 21+17.68, RT	38.62	3	5	AC	510 ENCINA AVENUE
20	STA 'E' 21+50.27, LT	16.14	4	5	AC	515 ENCINA AVENUE
21	STA 'E' 21+81.10, LT	20.44	3	5	AC	523 ENCINA AVENUE
22	STA 'E' 22+06.06, RT	42.77	3	5	AC	524 ENCINA AVENUE
23	STA 'E' 22+26.63, LT	28.48	3	5	AC	523 ENCINA AVENUE
24	STA 'E' 22+62.76, LT	27.48	3	6	AB (CL 2)	527 ENCINA AVENUE
25	STA 'E' 23+23.45, RT	16.99	3	6	AB (CL 2)	528 ENCINA AVENUE
26	STA 'E' 23+37.41, LT	23.13	3	6	AB (CL 2)	527 ENCINA AVENUE
27	STA 'E' 23+48.65, RT	18.34	3	5	AC	538 ENCINA AVENUE
28	STA 'E' 24+33.43, LT	20.37	3	6	AB (CL 2)	535 ENCINA AVENUE
29	STA 'E' 24+34.32, RT	23.26	3	5	AC	540 ENCINA AVENUE
30	STA 'E' 24+57.66, RT	23.10	3	5	AC	544 ENCINA AVENUE
31	STA 'E' 24+67.97, LT	38.14	3	5	AC	543 ENCINA AVENUE (DEVELOPMENT)
32	STA 'E' 25+15.05, RT	19.33	5	6	AB (CL 2)	548 ENCINA AVENUE
33	STA 'E' 26+10.72, RT	25.86	7	5	AC	550 ENCINA AVENUE
34	STA 'E' 26+29.92, LT	16.78	7	6	AB (CL 2)	555 ENCINA AVENUE (DEVELOPMENT)
35	STA 'E' 26+54.84, LT	11.50	5	6	AB (CL 2)	563 ENCINA AVENUE (DEVELOPMENT)
36	STA 'E' 27+23.84, RT	35.62	6	5	AC	556 ENCINA AVENUE
37	STA 'E' 27+44.18, RT	11.50	3	5	AC	565 ENCINA AVENUE
38	STA 'E' 27+44.18, LT	10.88	3	5	AC	566 ENCINA AVENUE



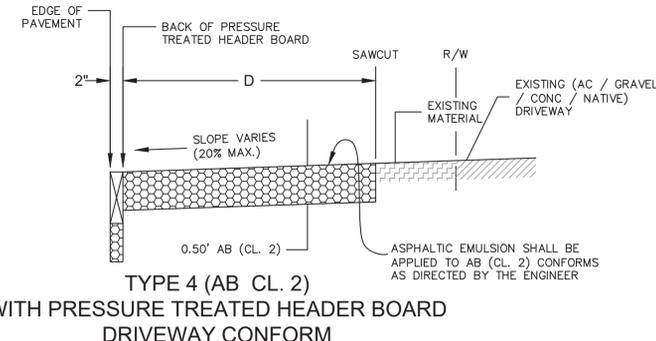
**TYPE 1 (ASPHALT CONCRETE)  
WITH 6" CONCRETE BAND  
DRIVEWAY CONFORM**



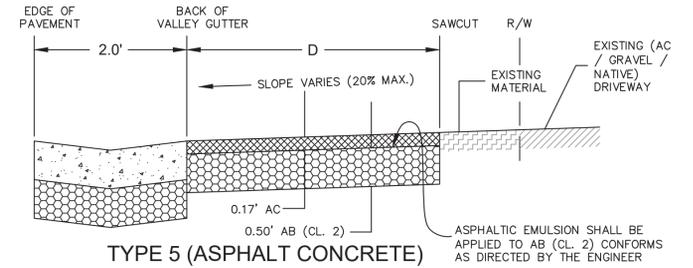
**TYPE 3 (ASPHALT CONCRETE)  
WITH PRESSURE TREATED HEADER BOARD  
DRIVEWAY CONFORM**



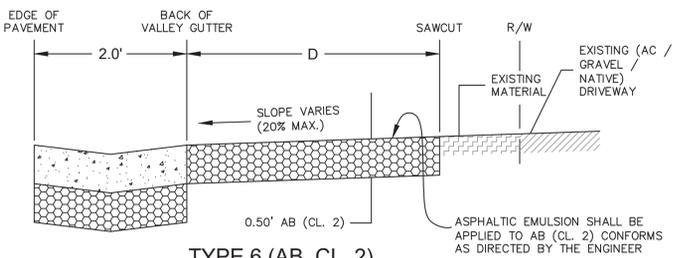
**TYPE 2 (AB CL. 2)  
WITH 6" CONCRETE BAND  
DRIVEWAY CONFORM**



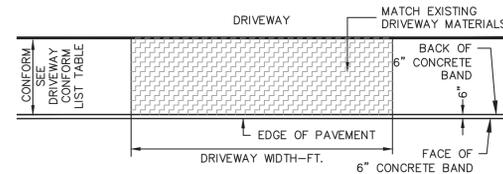
**TYPE 4 (AB CL. 2)  
WITH PRESSURE TREATED HEADER BOARD  
DRIVEWAY CONFORM**



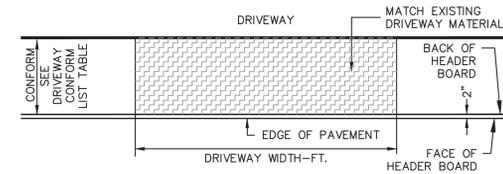
**TYPE 5 (ASPHALT CONCRETE)  
WITH VALLEY GUTTER DRIVEWAY CONFORM**



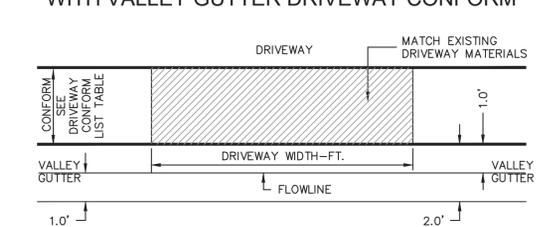
**TYPE 6 (AB CL. 2)  
WITH VALLEY GUTTER DRIVEWAY CONFORM**



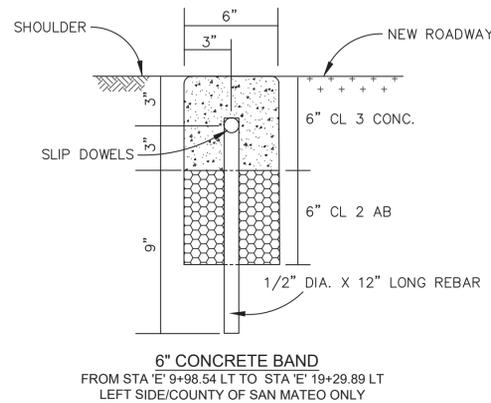
**DRIVEWAY CONFORM DETAILS  
TYPES 1 AND 2  
FROM MIDDLEFIELD ROAD TO OAK DRIVE  
LEFT SIDE OF ROAD / COUNTY OF SAN MATEO  
(NOT TO SCALE)**



**DRIVEWAY CONFORM DETAILS  
TYPES 3 AND 4  
FROM MIDDLEFIELD ROAD TO OAK DRIVE  
RIGHT SIDE OF ROAD / TOWN OF ATHERTON  
(NOT TO SCALE)**



**DRIVEWAY CONFORM DETAILS  
TYPES 5 AND 6  
FROM OAK DRIVE TO END  
(NOT TO SCALE)**

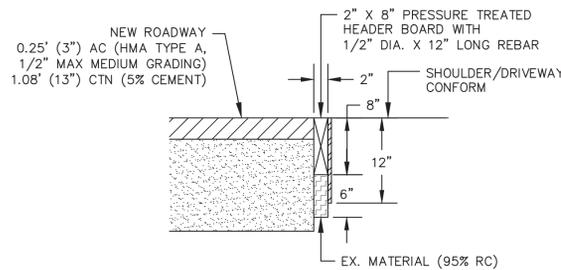


- NOTES:**
- CONCRETE BANDS SHALL BE INSTALLED PRIOR TO PAVING, UNLESS ENGINEER APPROVES OTHERWISE.
  - ALL CONCRETE TO BE CLASS 3 CONCRETE AS SPECIFIED IN SECTION 51-1 OF THE SPECIFICATIONS.
  - PLACE 1/2" DIAMETER x 18" LONG DOWELS, AT EXPANSION JOINTS, AT LOCATIONS WHERE NEW CONCRETE IS ADJACENT TO EXISTING CONCRETE.
  - PLACE 1/4" THICK EXPANSION JOINTS FULL WIDTH 20' ON CENTER. PLACE 1/4" DEEP SCORE AT 10' INTERVALS BETWEEN EXPANSION JOINTS.
  - PLACE 1/2" DIA. X 12" LONG REBAR, SPACED EVERY 10' VERTICALLY AND SPACED 5' FROM EXPANSION JOINTS.
  - SUB-BASE MATERIALS WITHIN 30" OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
  - APRONS SHALL BE POURED MONOLITHIC WITH ADJACENT CURB AND GUTTER.

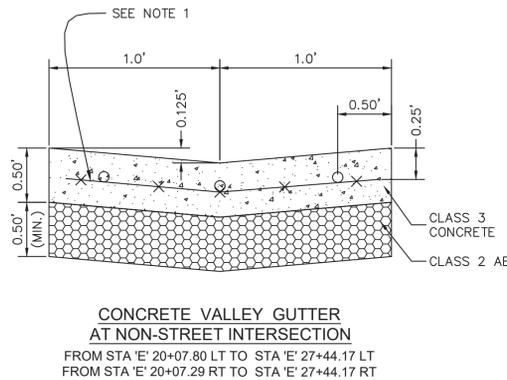
**6" CONCRETE BAND** **A**  
NOT TO SCALE **14**

**PRESSURE TREATED HEADER BOARD** **B**  
NOT TO SCALE **14**

**CONCRETE VALLEY GUTTER** **C**  
NOT TO SCALE **14**



- 2" X 8" PRESSURE TREATED HEADER BOARD**  
FROM STA 'E' 9+98.54 RT TO STA 'E' 19+43.71 RT  
RIGHT SIDE/TOWN OF ATHERTON ONLY
- NOTES:**
- 2" x 8" PRESSURE TREATED HEADER BOARD SHALL BE INSTALLED PRIOR TO PAVING, UNLESS ENGINEER APPROVES OTHERWISE.
  - PLACE 1/2" DIA. X 12" LONG REBAR, SPACED EVERY 10' O.C.
  - SUB-BASE MATERIALS WITHIN 30" OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.



- CONCRETE VALLEY GUTTER AT NON-STREET INTERSECTION**  
FROM STA 'E' 20+07.80 LT TO STA 'E' 27+44.17 LT  
FROM STA 'E' 20+07.29 RT TO STA 'E' 27+44.17 RT
- NOTES:**
- REINFORCEMENT SHALL CONSIST OF 6" x 6" - #10/#10 WELDED WIRE FABRIC.
  - CONCRETE VALLEY GUTTER AND APRONS SHALL BE INSTALLED PRIOR TO PAVING, UNLESS ENGINEER APPROVES OTHERWISE.
  - PLACE 1/2" DIAMETER x 18" LONG DOWELS, AT EXPANSION JOINTS, AS SHOWN, AND AT LOCATIONS WHERE NEW CONCRETE IS ADJACENT TO EXISTING CONCRETE.
  - PLACE 1/4" THICK EXPANSION JOINTS FULL WIDTH 20' ON CENTER. PLACE 1/4" DEEP SCORE AT 10' INTERVALS BETWEEN EXPANSION JOINTS.
  - SUB-BASE MATERIALS WITHIN 30" OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
  - APRONS SHALL BE POURED MONOLITHIC WITH ADJACENT CURB AND GUTTER.

- NOTES:**
- LOCATIONS AND DIMENSIONS ARE APPROXIMATE ONLY.
  - ANY DAMAGE TO FACILITIES (SUCH AS DRIVEWAYS, PAVED SHOULDERS AND PATHS) ADJACENT TO LIMITS OF CONFORM, RESULTING FROM THE CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AT HIS EXPENSE.
  - THE CONFORM DEPTH (D) LISTED IN TABLE IS A MAXIMUM DISTANCE. ALL RECONSTRUCTION PAST THIS LIMIT WITHOUT WRITTEN APPROVAL FROM THE ENGINEER SHALL BE AT CONTRACTOR'S EXPENSE.
  - IF A 20% SLOPE IS UNATTAINABLE FOR DRIVEWAY CONFORMS WITHIN THE SPECIFIED DEPTH, THEN AT THE ENGINEER'S DIRECTION, LIMITS MAY BE EXTENDED TO ACHIEVE THIS SLOPE. ADJUSTMENT TO ACHIEVE 20% MAX. SLOPE DOES NOT APPLY TO SHOULDER CONFORM AREAS.
  - TIMBER HEADER STRIPS SHALL BE INSTALLED TO CONFINE THE ASPHALT CONCRETE, AND ARE INCLUDED IN THE UNIT PRICE FOR MISCELLANEOUS AC AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED THEREFORE.
  - FINISH AND SUB-BASE MATERIAL WITHIN 30" OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.



DESIGNED BY: JS		RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END		SCALE: 1IN = 20 FT
CHECKED BY: WN		DRIVEWAY DETAILS		DATE: 04-15-2022
DRAWN BY: JS		ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO		FILE NO.: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063		14
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES				SHEET 14 OF 25

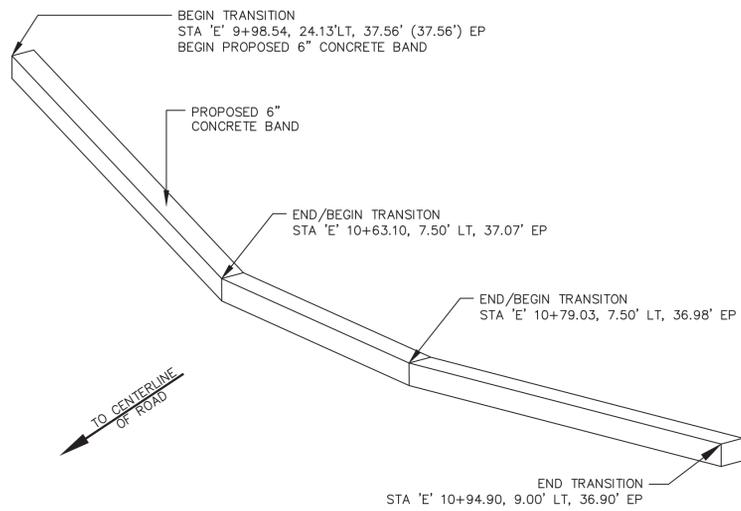
FILENAME: F:\USERS\DESIGN\C:\D\ES044000\_ENCINA\_AVE\_RECON\10\_DWG\ES044014-25.DWG (1-5044014)



APPROVED:

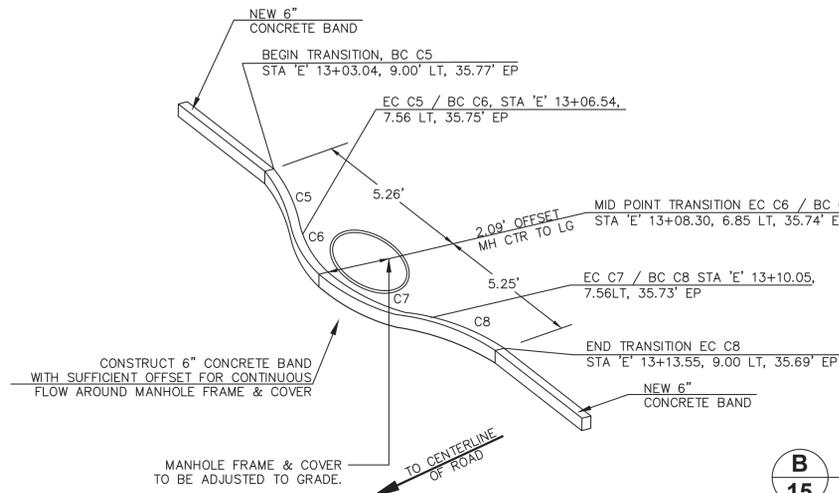
DATE: APRIL 15, 2022

*Ann Mader Stillman*  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



**A**  
**15** 6" CONCRETE BAND  
 TRANSITION AT TREE

NOT TO SCALE



**B**  
**15** 6" CONCRETE BAND  
 TRANSITION AT MANHOLE

NOT TO SCALE

CURVE TABLE*			
CURVE	LENGTH	RADIUS	DELTA
C5	3.89'	5.00'	44° 31' 22"
C6	1.94	2.50'	44° 31' 22"
C7	1.94	2.50'	44° 31' 22"
C8	3.89'	5.00'	44° 31' 22"

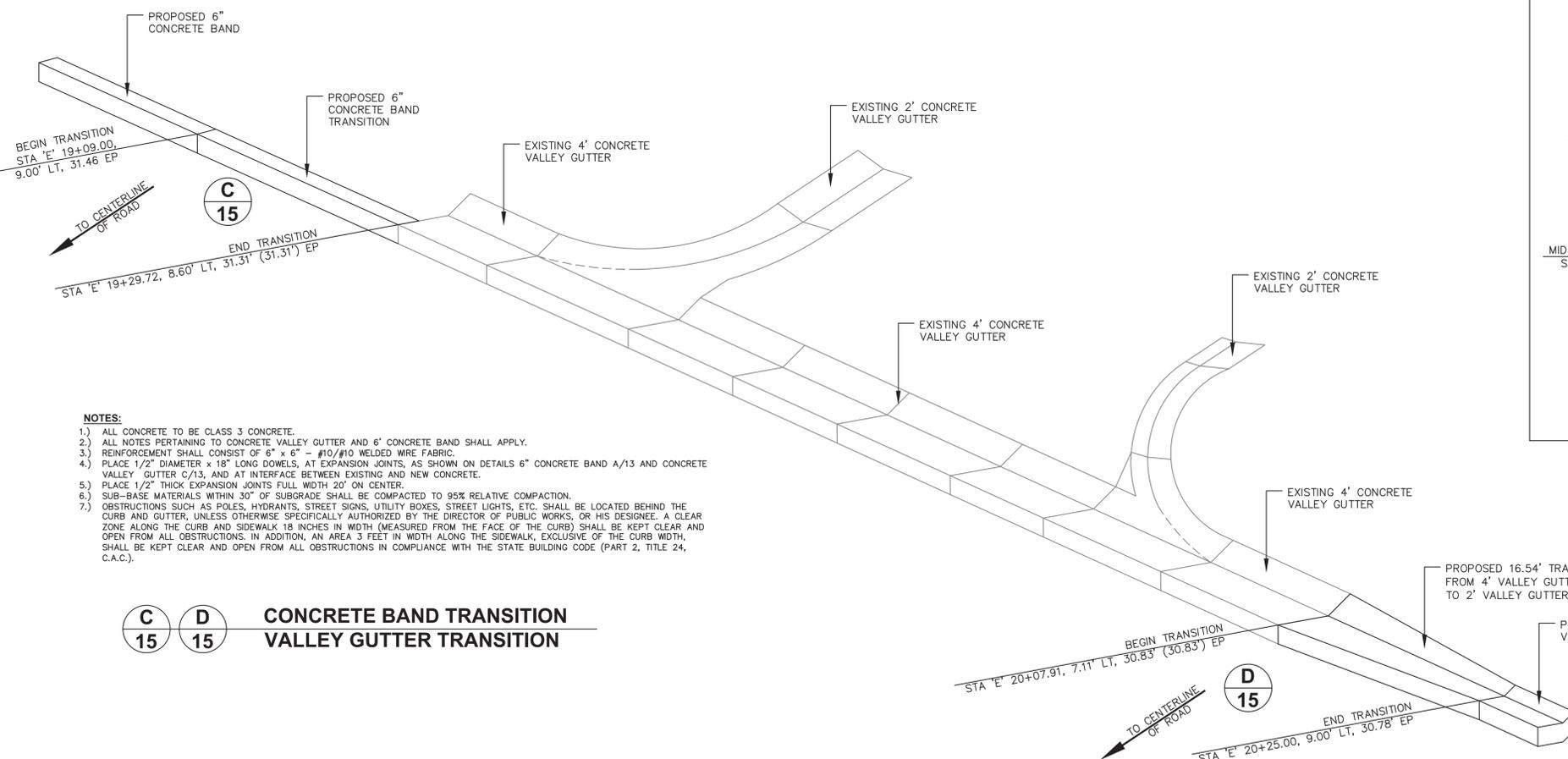
\* CURVE TABLE DATA IS BASED ON PROPOSED LIP OF GUTTER/EDGE OF PAVEMENT

NOTES:

- 1.) ALL NOTES PERTAINING TO 6" CONCRETE BAND SHALL APPLY.
- 2.) CONCRETE 6" CONCRETE BAND SHALL BE INSTALLED PRIOR TO PAVING, UNLESS ENGINEER APPROVES OTHERWISE.
- 3.) PLACE 1/2" DIAMETER x 18" LONG DOWELS, AT EXPANSION JOINTS.
- 4.) PLACE 1/4" THICK EXPANSION JOINTS FULL WIDTH 20' ON CENTER.
- 5.) SUB-BASE MATERIALS WITHIN 30' OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.

CURVE TABLE*			
CURVE	LENGTH	RADIUS	DELTA
C13	2.64'	5.00'	30° 13' 47"
C14	1.32	2.50'	30° 14' 44"
C15	1.32	2.50'	30° 14' 44"
C16	2.64'	4.99'	30° 20' 04"

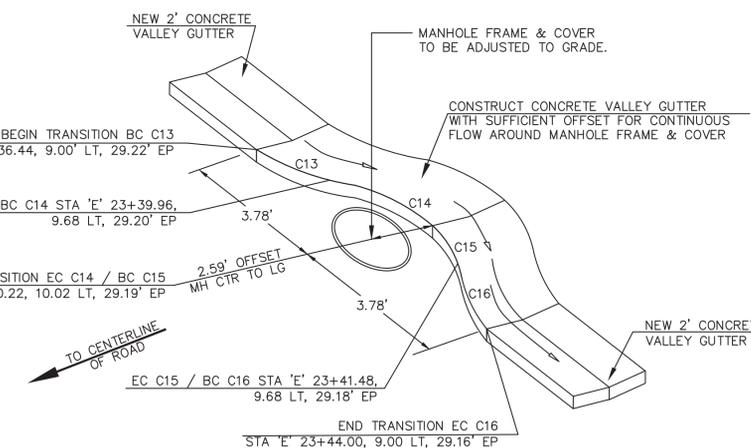
\* CURVE TABLE DATA IS BASED ON PROPOSED LIP OF GUTTER/EDGE OF PAVEMENT



NOTES:

- 1.) ALL CONCRETE TO BE CLASS 3 CONCRETE.
- 2.) ALL NOTES PERTAINING TO CONCRETE VALLEY GUTTER AND 6" CONCRETE BAND SHALL APPLY.
- 3.) REINFORCEMENT SHALL CONSIST OF 6" x 6" - #10/#10 WELDED WIRE FABRIC.
- 4.) PLACE 1/2" DIAMETER x 18" LONG DOWELS, AT EXPANSION JOINTS, AS SHOWN ON DETAILS 6" CONCRETE BAND A/13 AND CONCRETE VALLEY GUTTER C/13, AND AT INTERFACE BETWEEN EXISTING AND NEW CONCRETE.
- 5.) PLACE 1/2" THICK EXPANSION JOINTS FULL WIDTH 20' ON CENTER.
- 6.) SUB-BASE MATERIALS WITHIN 30' OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
- 7.) OBSTRUCTIONS SUCH AS POLES, HYDRANTS, STREET SIGNS, UTILITY BOXES, STREET LIGHTS, ETC. SHALL BE LOCATED BEHIND THE CURB AND GUTTER, UNLESS OTHERWISE SPECIFICALLY AUTHORIZED BY THE DIRECTOR OF PUBLIC WORKS, OR HIS DESIGNEE. A CLEAR ZONE ALONG THE CURB AND SIDEWALK 18 INCHES IN WIDTH (MEASURED FROM THE FACE OF THE CURB) SHALL BE KEPT CLEAR AND OPEN FROM ALL OBSTRUCTIONS. IN ADDITION, AN AREA 3 FEET IN WIDTH ALONG THE SIDEWALK, EXCLUSIVE OF THE CURB WIDTH, SHALL BE KEPT CLEAR AND OPEN FROM ALL OBSTRUCTIONS IN COMPLIANCE WITH THE STATE BUILDING CODE (PART 2, TITLE 24, C.A.C.).

**C** **D**  
**15** **15** CONCRETE BAND TRANSITION  
 VALLEY GUTTER TRANSITION



NOTES:

- 1.) ALL NOTES PERTAINING TO VALLEY GUTTER SHALL APPLY.
- 2.) REINFORCEMENT SHALL CONSIST OF 6" x 6" - #10/#10 WELDED WIRE FABRIC.
- 3.) CONCRETE VALLEY GUTTER SHALL BE INSTALLED PRIOR TO PAVING, UNLESS ENGINEER APPROVES OTHERWISE.
- 4.) PLACE 1/2" DIAMETER x 18" LONG DOWELS, AT EXPANSION JOINTS.
- 5.) PLACE 1/4" THICK EXPANSION JOINTS FULL WIDTH 20' ON CENTER.
- 6.) SUB-BASE MATERIALS WITHIN 30' OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.

**E**  
**15** CONCRETE VALLEY GUTTER  
 TRANSITION AT MANHOLE

NOT TO SCALE

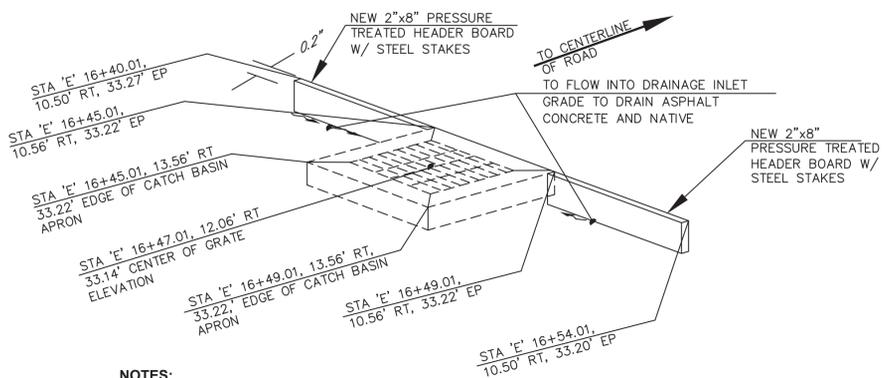


DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END	SCALE: NONE
CHECKED BY: WN	TRANSITION DETAILS	DATE: 04-15-2022
DRAWN BY: JS	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO.: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		15 SHEET 15 OF 25

FILENAME: F:\USERS\DESIGN\C:\D\ENCINA\_ENCINA\_AVE\_RECON\10\_DWG\ES044001-25.DWG (1-5044015)

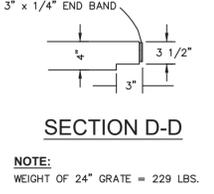
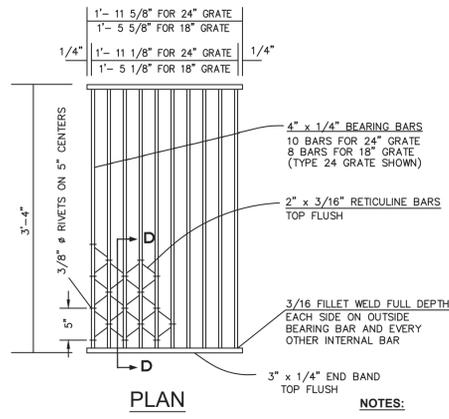


APPROVED:  
 DATE: APRIL 15, 2022  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



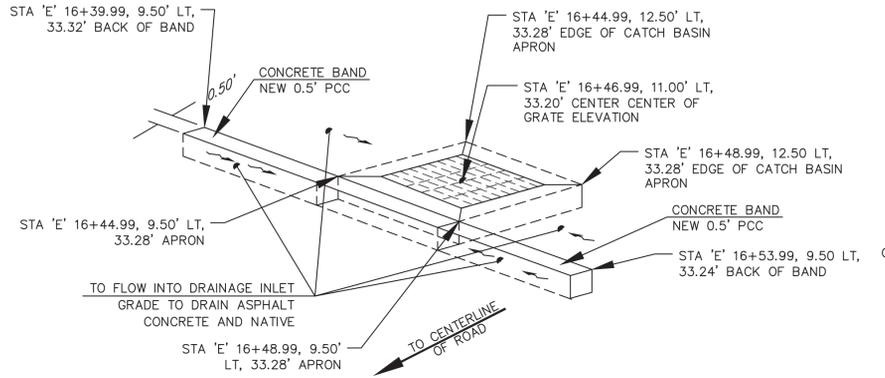
- NOTES:**
- 2" x 8" PRESSURE TREATED HEADER BOARD SHALL BE INSTALLED PRIOR TO PAVING, UNLESS ENGINEER APPROVES OTHERWISE.
  - PLACE STEEL STAKE AT 16" O.C.
  - SUB-BASE MATERIALS WITHIN 30" OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.

**A 'G1' DRAINAGE INLET RIGHT DETAIL AT INFILTRATION GALLERY 1**  
 NOT TO SCALE



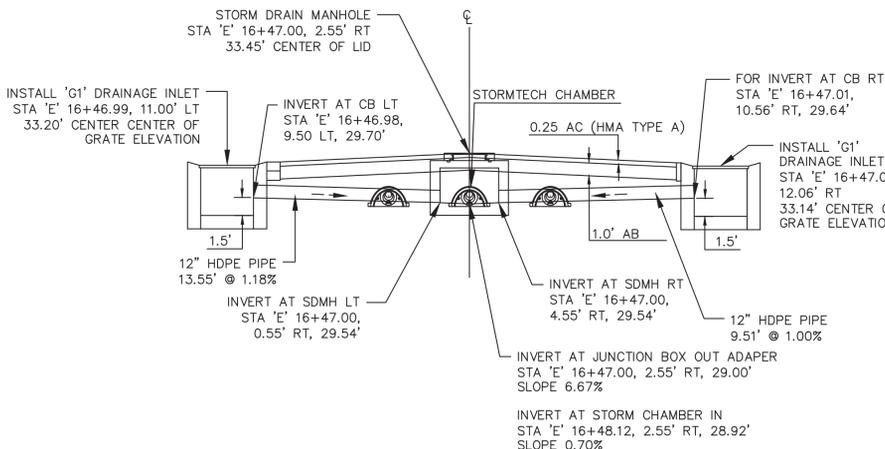
INLET TYPE	GRATE TYPE	NO. GRATES	WEIGHT LBS. EA
G1	24-10S	2	229

**D TYPE 24-10S GRATE WELDED STEEL (RETICULINE TYPE) AT INFILTRATION GALLERY 1**  
 NOT TO SCALE

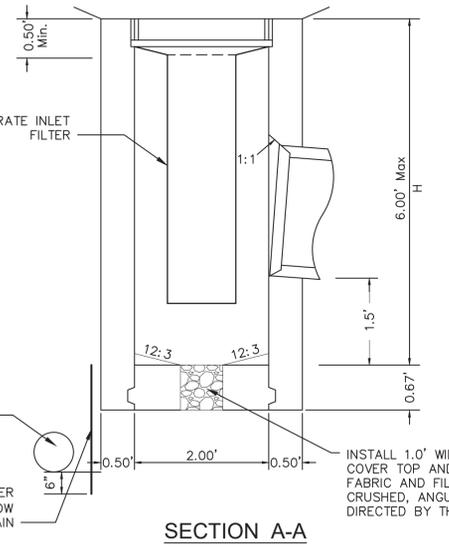


- NOTES:**
- CONCRETE BANDS SHALL BE INSTALLED PRIOR TO PAVING, UNLESS ENGINEER APPROVES OTHERWISE.
  - ALL CONCRETE TO BE COLORED CLASS 3 CONCRETE AS SPECIFIED IN SECTION 51-1 OF THE SPECIFICATIONS.
  - PLACE 1/2" DIAMETER x 18" LONG DOWELS, AT EXPANSION JOINTS, AS SHOWN, AND AT LOCATIONS WHERE NEW CONCRETE IS ADJACENT TO EXISTING CONCRETE.
  - PLACE 1/4" THICK EXPANSION JOINTS FULL WIDTH 20' ON CENTER. PLACE 1/4" DEEP SCORE AT 10' INTERVALS BETWEEN EXPANSION JOINTS.
  - PLACE 1/2" DIA. X 12" LONG REBAR, SPACED EVERY 10' VERTICALLY AND SPACED 5' FROM EXPANSION JOINTS.
  - SUB-BASE MATERIALS WITHIN 30" OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
  - APRONS SHALL BE POURED MONOLITHIC WITH ADJACENT CURB AND GUTTER.

**B 'G1' DRAINAGE INLET LEFT DETAIL AT INFILTRATION GALLERY 1**  
 NOT TO SCALE

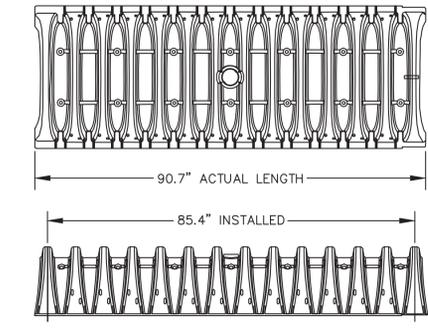


**C STORMTECH PROFILE INFILTRATION GALLERY 1**

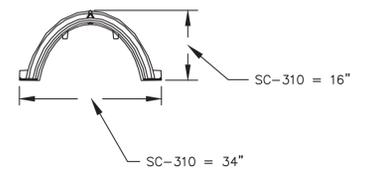


- NOTES:**
- CONCRETE IS TO BE CLASS 2 CONCRETE.
  - "H" IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTLET PIPE FLOW LINE AND THE NORMAL GUTTER GRADE LINE UNDEPRESSED.
  - WALL REINFORCING NOT REQUIRED WHEN "H" IS 8' OR LESS AND THE UNSUPPORTED WIDTH OR LENGTH IS 7' OR LESS. WALLS EXCEEDING THESE LIMITS SHALL BE REINFORCED WITH "4 BARS @ 18"± CENTERS PLACED 1 1/2" CLEAR TO INSIDE OF BOX UNLESS OTHERWISE SHOWN. INLET BOTTOM REINFORCING NOT REQUIRED. SEE STANDARD PLAN D74C FOR ALTERNATIVE REINFORCED BOTTOM AND ALTERNATIVE HALF ROUND BOTTOM.

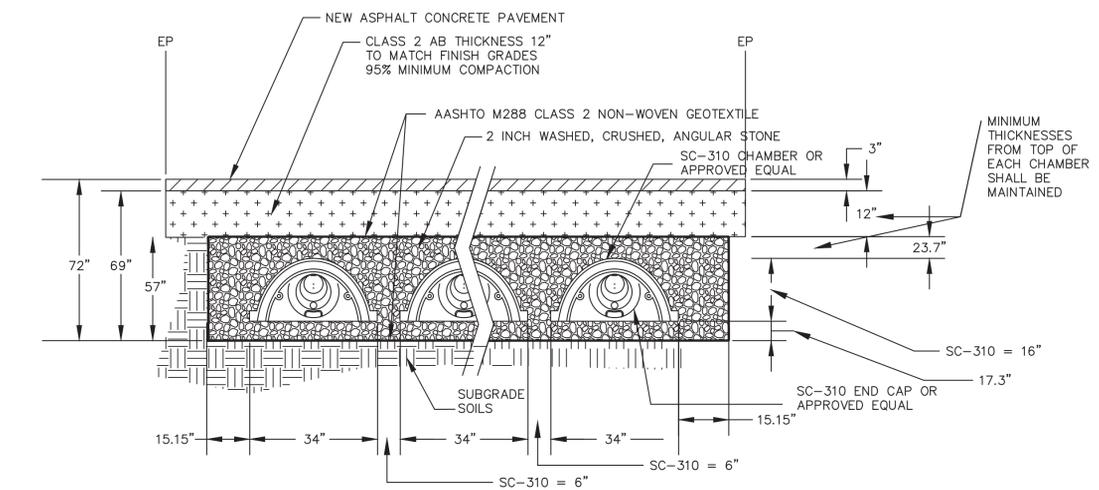
**E TYPE 'G1' DRAINAGE INLET AT INFILTRATION GALLERY 1**  
 NOT TO SCALE



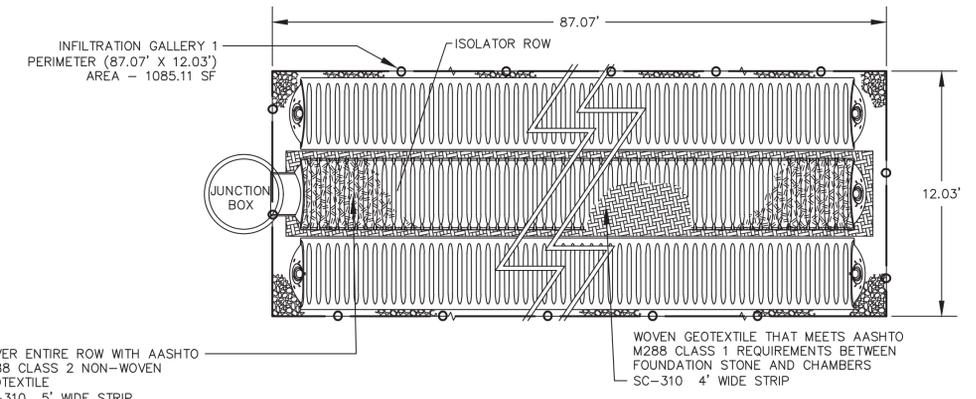
**F SUBSURFACE STORMWATER DETENTION CHAMBER AT INFILTRATION GALLERY 1**  
 NOT TO SCALE



STORMTECH SC-310 CHAMBER OR APPROVED EQUAL



**G INSTALL SUBSURFACE STORMWATER DETENTION SYSTEM TYPICAL CROSS SECTION DETAIL AT INFILTRATION GALLERY 1 (IG1)**  
 NOT TO SCALE



**H SUBSURFACE STORMWATER DETENTION SYSTEM PLAN VIEW DETAIL AT INFILTRATION GALLERY 1**  
 NOT TO SCALE



DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END	SCALE: NONE
CHECKED BY: WN	INFILTRATION GALLERY 1	DATE: 04-15-2022
DRAWN BY: JS	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO.: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		16 SHEET 16 OF 25

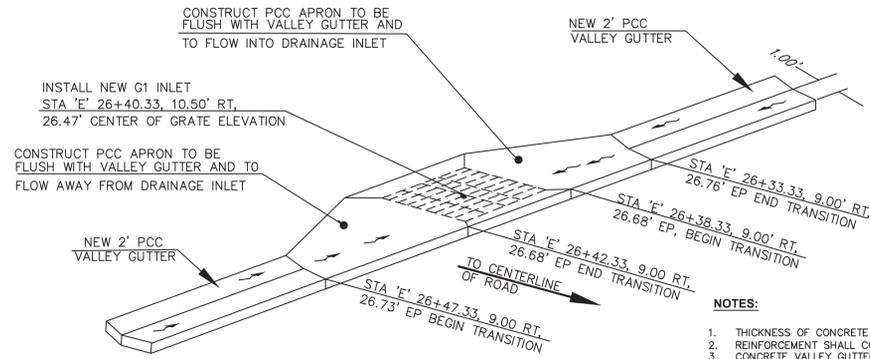
FILENAME: F:\USERS\DESIGN\CAD\ES044000\_ENCINA\_AVE\_RECON\10\_DWG\ES044014-25.DWG (1-5044016)





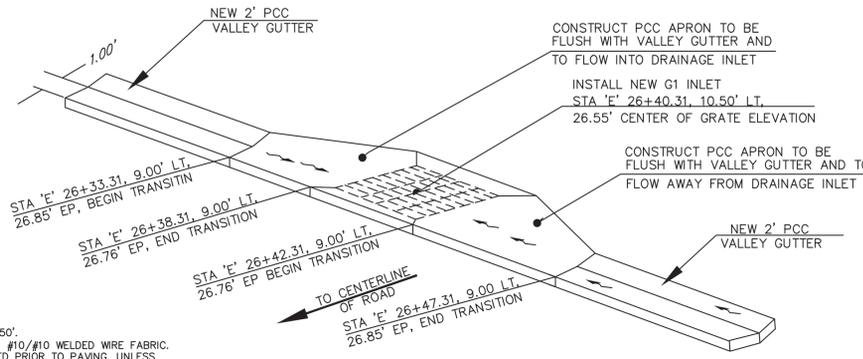


APPROVED:  
 DATE: APRIL 15, 2022  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023

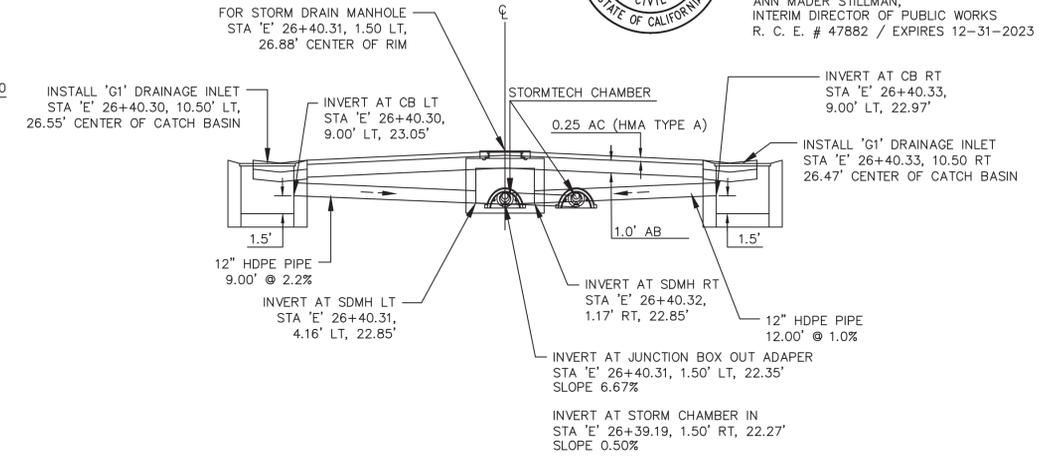


**A** DRAINAGE APRON RIGHT DETAIL  
**19** AT INFILTRATION GALLERY 3  
 NOT TO SCALE

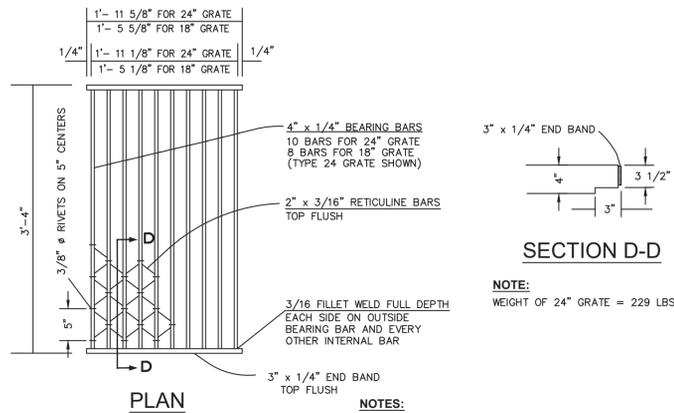
- NOTES:
1. THICKNESS OF CONCRETE APRON SHALL BE 0.50".
  2. REINFORCEMENT SHALL CONSIST OF 6" x 6" - #10/#10 WELDED WIRE FABRIC.
  3. CONCRETE VALLEY GUTTER SHALL BE INSTALLED PRIOR TO PAVING, UNLESS ENGINEER APPROVES OTHERWISE.
  4. PLACE 1/2" DIAMETER x 18" LONG DOWELS, AT EXPANSION JOINTS, AS SHOWN ON THE VALLEY GUTTER DETAIL ON SHEET 14.



**B** DRAINAGE APRON LEFT DETAIL  
**19** AT INFILTRATION GALLERY 3  
 NOT TO SCALE

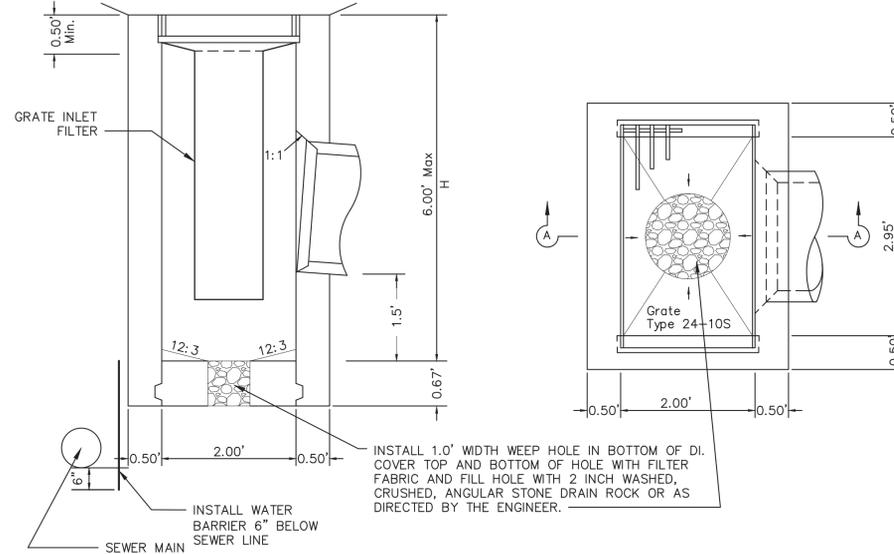


**C** STORMTECH PROFILE AT  
**19** INFILTRATION GALLERY 3  
 NOT TO SCALE



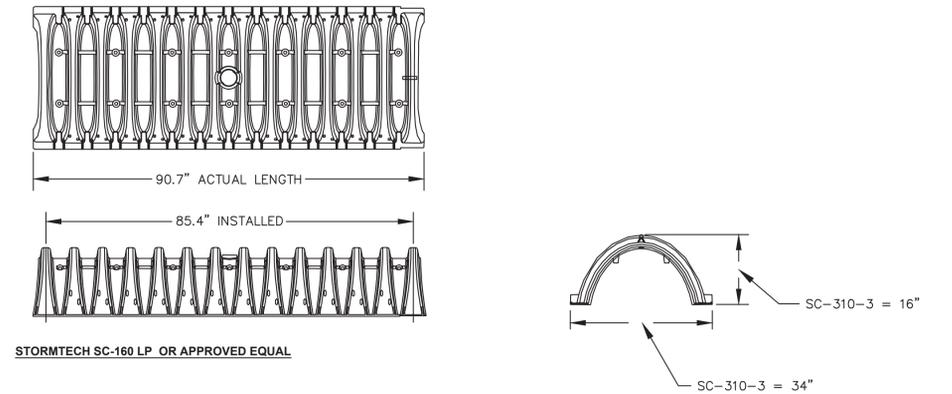
INLET TYPE	GRATE TYPE	NO. GRATES	WEIGHT LBS. EA
G1	24-10S	2	229

**D** TYPE 24-10S GRATE  
**19** WELDED STEEL (RETICULINE TYPE)  
 AT INFILTRATION GALLERY 3  
 NOT TO SCALE

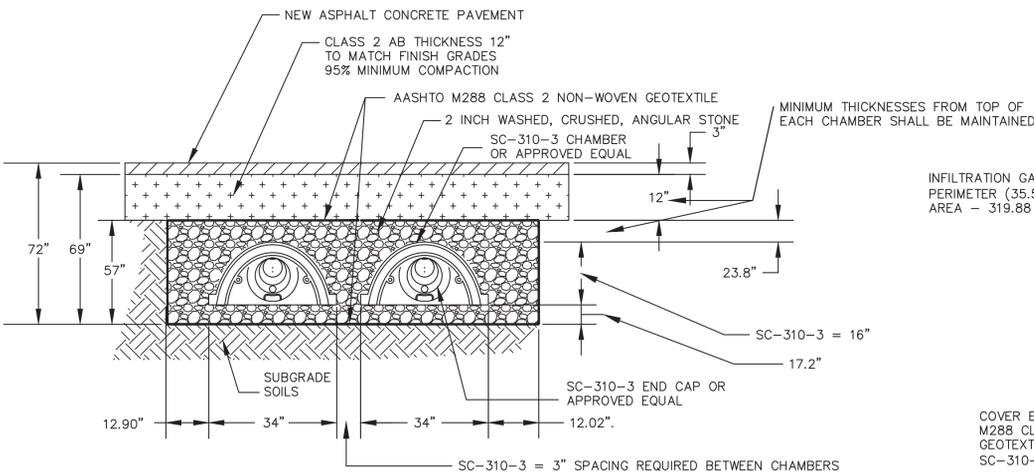


**E** TYPE 'G1' DRAINAGE INLET  
**19** AT INFILTRATION GALLERY 3  
 NOT TO SCALE

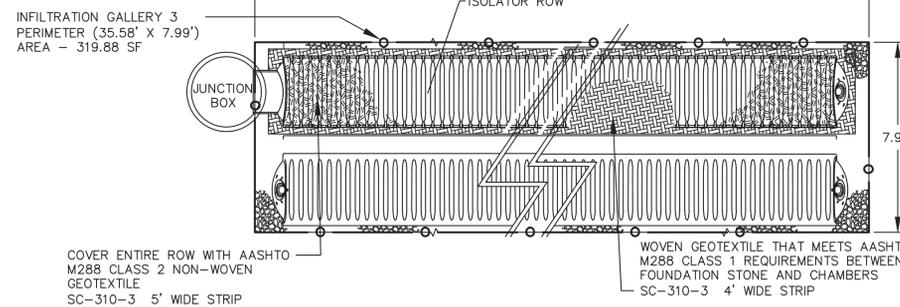
- NOTES:
1. CONCRETE IS TO BE CLASS 2 CONCRETE.
  2. "H" IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTLET PIPE FLOW LINE AND THE NORMAL GUTTER GRADE LINE UNDEPRESSED.
  3. WALL REINFORCING NOT REQUIRED WHEN "H" IS 8" OR LESS AND THE UNSUPPORTED WIDTH OR LENGTH IS 7" OR LESS. WALLS EXCEEDING THESE LIMITS SHALL BE REINFORCED WITH #4 BARS @ 18" CENTERS PLACED 1 1/2" CLEAR TO INSIDE OF BOX UNLESS OTHERWISE SHOWN.
  4. INLET BOTTOM REINFORCING NOT REQUIRED. SEE STANDARD PLAN D74C FOR ALTERNATIVE REINFORCED BOTTOM AND ALTERNATIVE HALF ROUND BOTTOM.



**F** SUBSURFACE STORMWATER  
**19** DETENTION CHAMBER  
 AT INFILTRATION GALLERY 3  
 NOT TO SCALE



**G** INSTALL SUBSURFACE STORMWATER DETENTION SYSTEM  
**19** TYPICAL CROSS SECTION DETAIL  
 AT INFILTRATION GALLERY 3 (IG3)  
 NOT TO SCALE



**H** SUBSURFACE STORMWATER DETENTION  
**19** SYSTEM PLAN VIEW DETAIL  
 AT INFILTRATION GALLERY 3  
 NOT TO SCALE

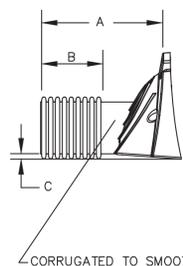
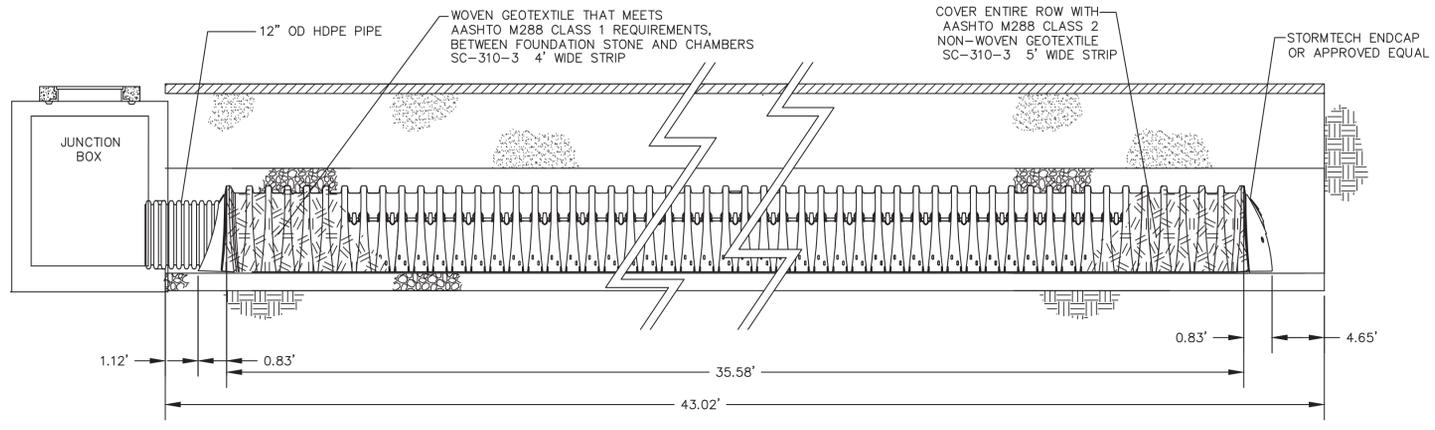


DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END INFILTRATION GALLERY 3	SCALE: NONE
CHECKED BY: WN		DATE: 04-15-2022
DRAWN BY: JS		FILE NO.: 1/5044
ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	19
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES	0 1 2 3 4	SHEET 19 OF 25

FILENAME: F:\USERS\DESIGN\C3D\ES044000\_ENCINA\_AVE\_RECON\10\_DWG\ES044014-25.DWG (1-5044019)



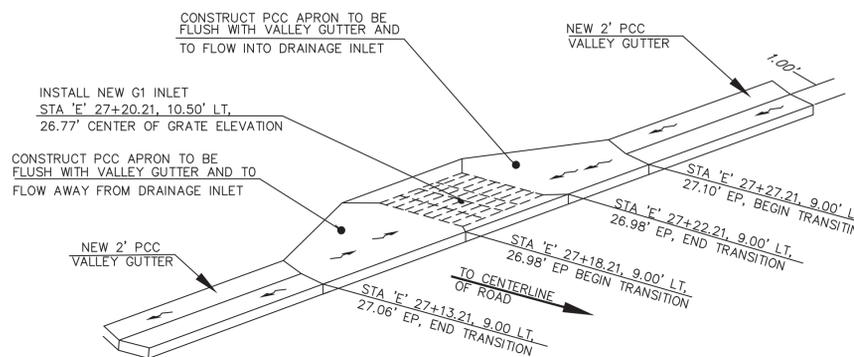
APPROVED:  
 DATE: APRIL 15, 2022  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023



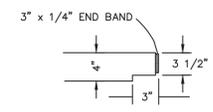
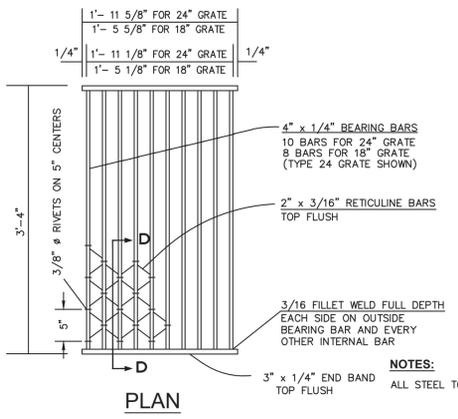
PART #	CHAMBER	PIPE SIZE	A	B	C
SC310EPE12B	SC-310-3	12 in	13.5 in	7.70 in	0.90 in

\* FOR THE SC310EPE12B OR APPROVED EQUAL THE 12" STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25". BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-8 STUB SO THAT THE FITTING SETS LEVEL.

**A** SUBSURFACE STORMWATER DETENTION SYSTEM ISOLATOR ROW  
**20** PROFILE VIEW DETAIL AT INFILTRATION GALLERY 3  
 NOT TO SCALE



**C** DRAINAGE APRON LEFT DETAIL  
**20** AT INFILTRATION GALLERY 4  
 NOT TO SCALE

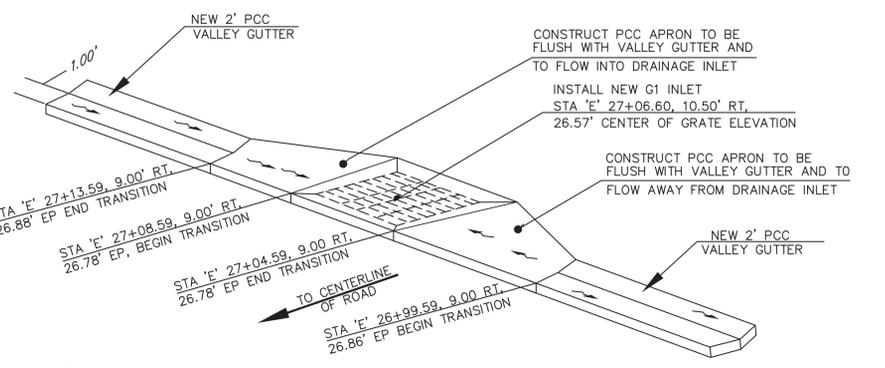


NOTE:  
 WEIGHT OF 24" GRATE = 229 LBS.

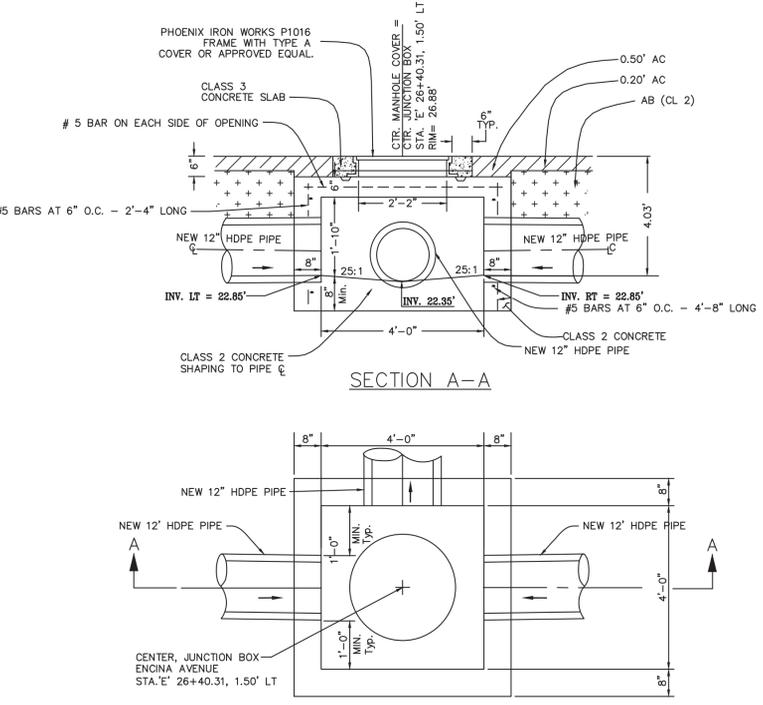
ALL STEEL TO BE HOT DIP GALVANIZED AFTER ALL WELDING IS COMPLETE.

INLET TYPE	GRATE TYPE	NO. GRATES	WEIGHT LBS. EA
G1	24-10S	2	229

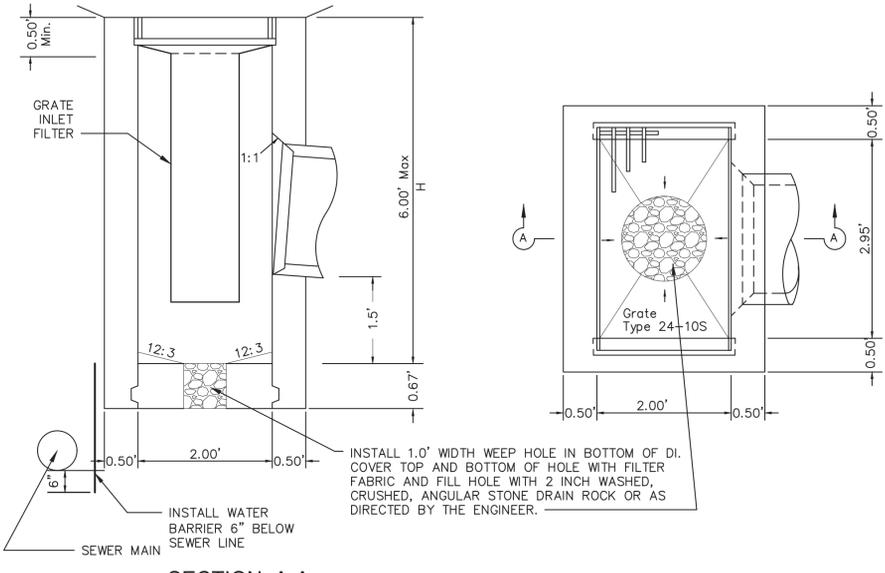
**E** TYPE 24-10S GRATE  
**20** WELDED STEEL (RETICULINE TYPE) AT INFILTRATION GALLERY 4  
 NOT TO SCALE



**D** DRAINAGE APRON RIGHT DETAIL  
**20** AT INFILTRATION GALLERY 4  
 NOT TO SCALE

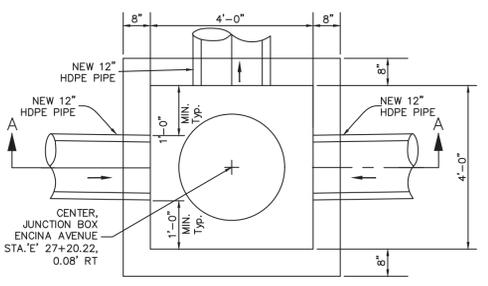


**B** JUNCTION BOX INFILTRATION GALLERY 3  
**20** STA 'E' 26+40.31, 1.50' LT  
 NOT TO SCALE

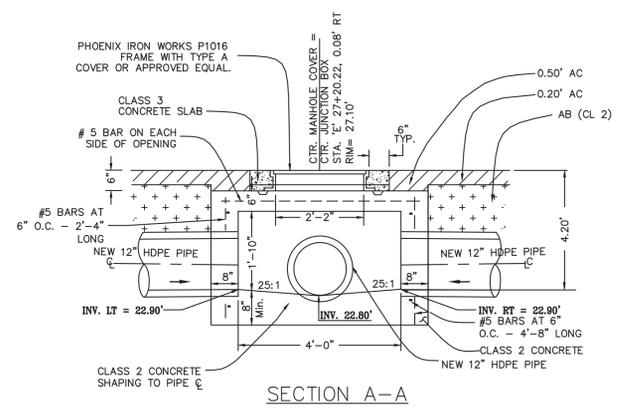


NOTES:  
 1. CONCRETE IS TO BE CLASS 2 CONCRETE.  
 2. "H" IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTLET PIPE FLOW LINE AND THE NORMAL GUTTER GRADE LINE UNDEPRESSED.  
 3. WALL REINFORCING NOT REQUIRED WHEN "H" IS 8" OR LESS AND THE UNSUPPORTED WIDTH OR LENGTH IS 7" OR LESS. WALLS EXCEEDING THESE LIMITS SHALL BE REINFORCED WITH "4 BARS @ 18"± CENTERS PLACED 1 1/2" CLEAR TO INSIDE OF BOX UNLESS OTHERWISE SHOWN.  
 4. INLET BOTTOM REINFORCING NOT REQUIRED. SEE STANDARD PLAN D74C FOR ALTERNATIVE REINFORCED BOTTOM AND ALTERNATIVE HALF ROUND BOTTOM.

**F** TYPE 'G1' DRAINAGE INLET  
**20** AT INFILTRATION GALLERY 4  
 NOT TO SCALE



**G** JUNCTION BOX INFILTRATION GALLERY 4  
**20** STA 'E' 27+20.22, 0.08' RT  
 NOT TO SCALE

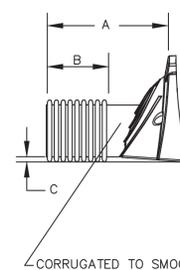
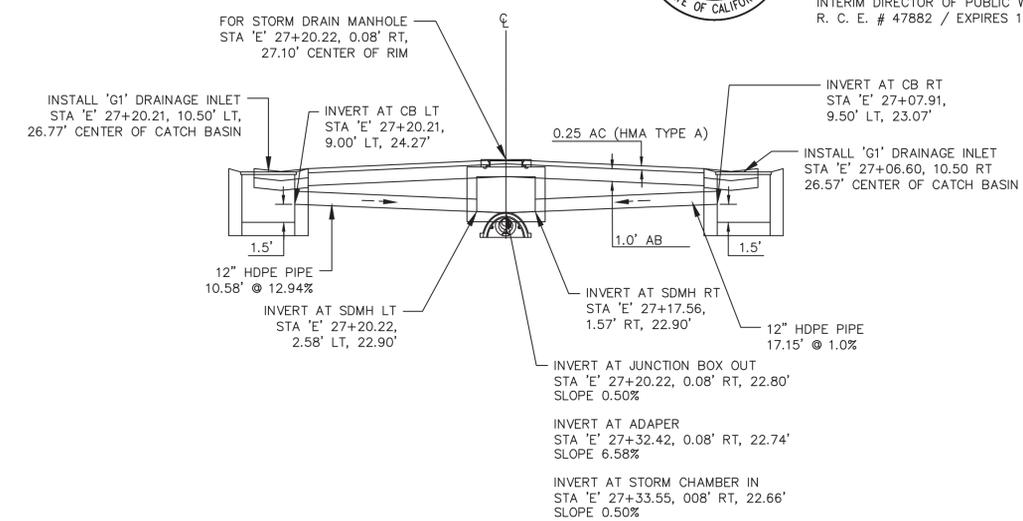
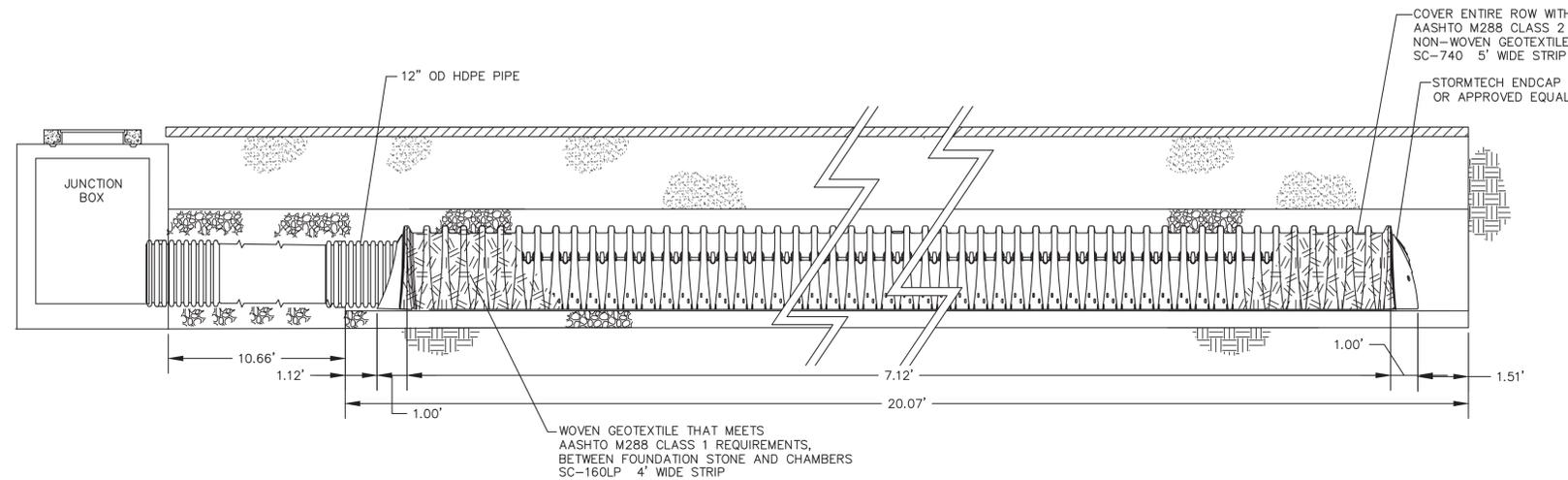


DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END	SCALE: NONE
CHECKED BY: WN	INFILTRATION GALLERY 3 & 4	DATE: 04-15-2022
DRAWN BY: JS	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO.: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		20 SHEET 20 OF 25

FILENAME: F:\USERS\DESIGN\CAD\ES044000\_ENCINA\_AVE\_RECON\10\_DWG\ES044014-25.DWG (1-5044020)



APPROVED:  
 DATE: APRIL 15, 2022  
 ANN MADER STILLMAN,  
 INTERIM DIRECTOR OF PUBLIC WORKS  
 R. C. E. # 47882 / EXPIRES 12-31-2023

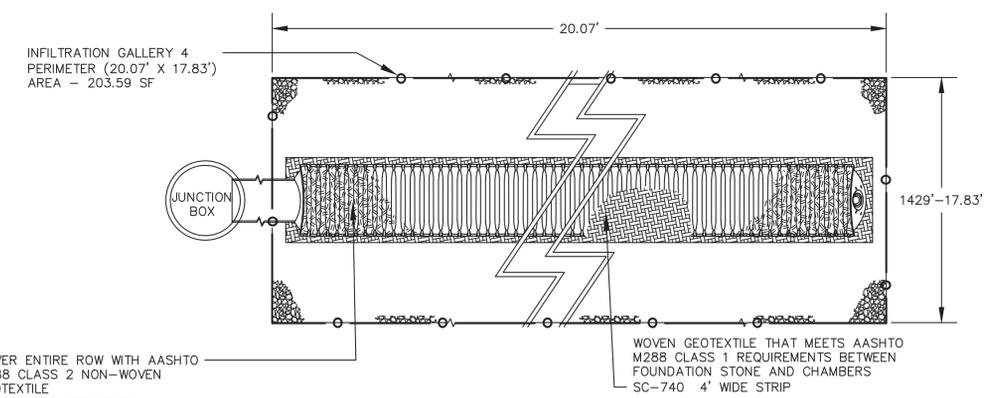


PART #	CHAMBER	PIPE SIZE	A	B	C
SC310EPE12B	SC 740	12 in	13.5 in	7.70 in	0.90 in

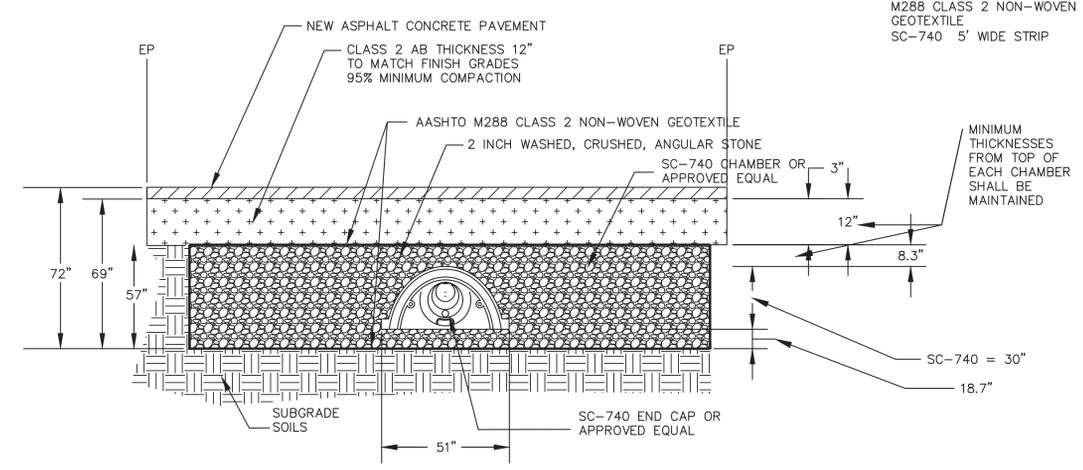
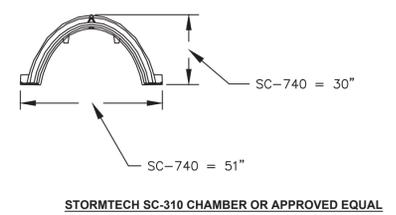
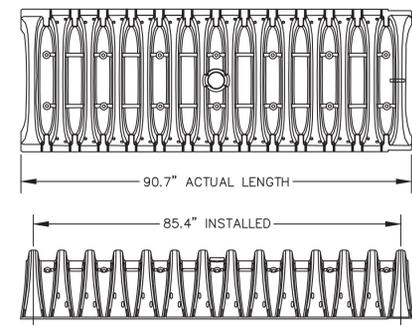
FOR THE SC310EPE12B OR APPROVED EQUAL THE 12" STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25". BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SETS LEVEL.

**B** PROFILE AT INFILTRATION GALLERY 4  
 NOT TO SCALE

**A** SUBSURFACE STORMWATER DETENTION SYSTEM ISOLATOR ROW PROFILE VIEW DETAIL AT INFILTRATION GALLERY 4  
 NOT TO SCALE



**E** SUBSURFACE STORMWATER DETENTION SYSTEM PLAN VIEW DETAIL AT INFILTRATION GALLERY 4  
 NOT TO SCALE



**D** INSTALL SUBSURFACE STORMWATER DETENTION SYSTEM TYPICAL CROSS SECTION DETAIL AT INFILTRATION GALLERY 4 (IG4)  
 NOT TO SCALE

**C** SUBSURFACE STORMWATER DETENTION CHAMBER AT INFILTRATION GALLERY 4  
 NOT TO SCALE

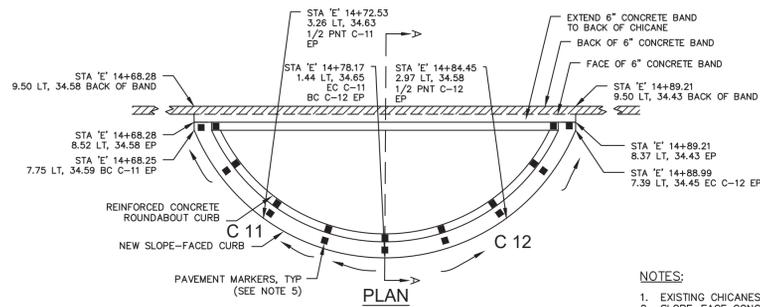


DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END	SCALE: NONE
CHECKED BY: WN	INFILTRATION GALLERY 4 & CHICANE	DATE: 04-15-2022
DRAWN BY: JS	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO.: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		21 SHEET 21 OF 25

FILENAME: F:\USERS\DESIGN\C:\D\ES044000\_ENCINA\_AVE\_RECON\10\_DWG\ES044014-25.DWG (1-5044021)

CURVE TABLE*					
CURVE	LENGTH	RADIUS	DELTA	BEGIN STATION	END STATION
C11	12.43'	11.86	60° 02' 07"	'E' 14+68.28	'E' 14+78.17
C12	12.13'	12.13'	60° 31' 44"	'E' 14+78.17	'E' 14+89.21

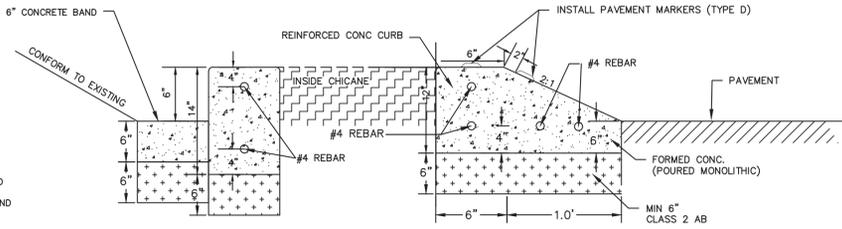
\* CURVE TABLE DATA IS BASED ON PROPOSED LIP OF CUTTER/EDGE OF PAVEMENT



SECTION A-A

NOTES:

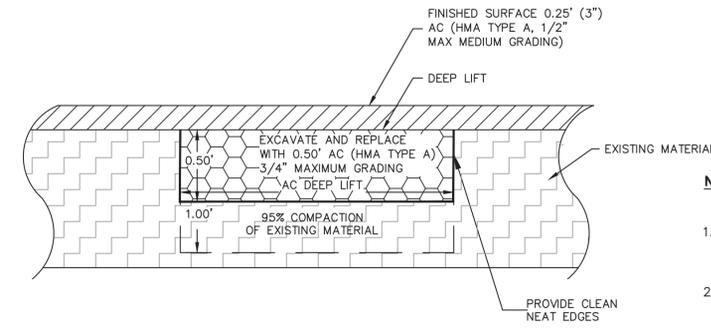
- EXISTING CHICANES SHALL BE REMOVED COMPLETELY AND NEW SLOPE-FACED CONCRETE CURB INSTALLED.
- SLOPE-FACE CONCRETE CURB SHALL BE:
  - INSTALLED PRIOR TO PAVING.
  - CLASS 3 CONCRETE.
  - CONSTRUCTED MONOLITHICALLY, UNLESS OTHERWISE AUTHORIZED, IN WRITING, BY THE ENGINEER.
  - SCORED WITH 1/4" SCORING EVERY 2' ON CENTER.
- PLACE 1/2" DIAMETER (#4 REBAR) X 18" LONG DOWELS, AT EXPANSION JOINT, AS SHOWN.
- SUB-BASE MATERIALS WITHIN 30" OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
- PAVEMENT MARKERS, TYPE D, TWO-WAY YELLOW REFLECTIVE, SHALL BE PLACED EVERY 4' ON-CENTER, OR AS DIRECTED BY THE ENGINEER.
- REFERENCE IS MADE TO SECTION 26, "AGGREGATE BASE (CLASS 2)," OF THE SPECIAL PROVISIONS FOR COMPACTION REQUIREMENTS.



**A** SLOPE FACED CONCRETE CURB CHICANE

FROM STA 'E' 14+68.25 TO STA 'E' 14+88.99

NOT TO SCALE



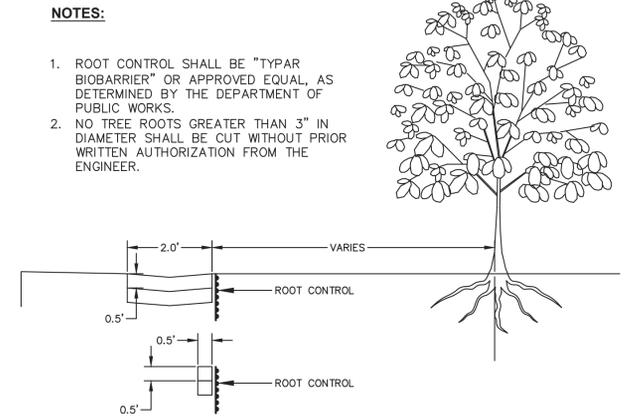
NOTES:

- AC DEEP LIFT TO MATCH EXISTING EDGE OF PAVEMENT LEFT, FROM STA 'E' 19+29.07 TO STA 'E' 19+69.06
- SET FLOWLINE AS SHOWN ON GRID DATA, SEE SHEET 5..
- EXACT LOCATIONS AND DIMENSIONS OF AC DEEP LIFT SECTIONS SHALL BE DETERMINED AND MARKED IN THE FIELD BY THE ENGINEER.
- ASPHALTIC EMULSION (SS1) TACK COAT SHALL BE APPLIED BETWEEN BASE MATERIAL AND NEW ASPHALT, AND ALONG VERTICAL FACES PRIOR TO ASPHALT CONCRETE BACKFILL, AS SHOWN.
- COMPACT UNDERLYING MATERIAL TO 95% AND TO A DEPTH OF ONE FOOT (1').

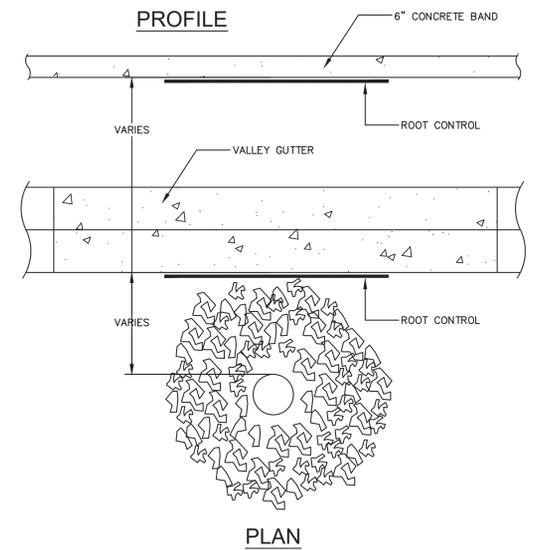
**B** 0.50' DEEP LIFT (HMA TYPE "A" 3/4" MAXIMUM GRADING)

FROM STA 'E' 19+29.00 TO STA 'E' 20+08.00

NOT TO SCALE



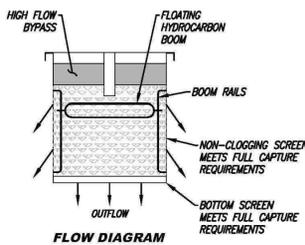
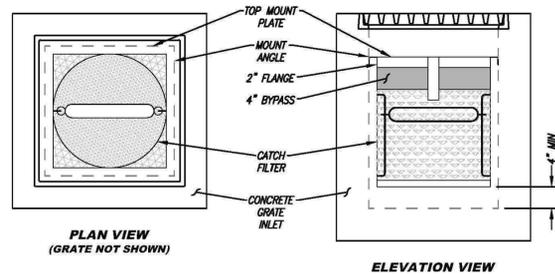
PROFILE



**C** TREE ROOT CONTROL

NOT TO SCALE

BAND AND VALLEY GUTTER DETAIL AT TREE LOCATION



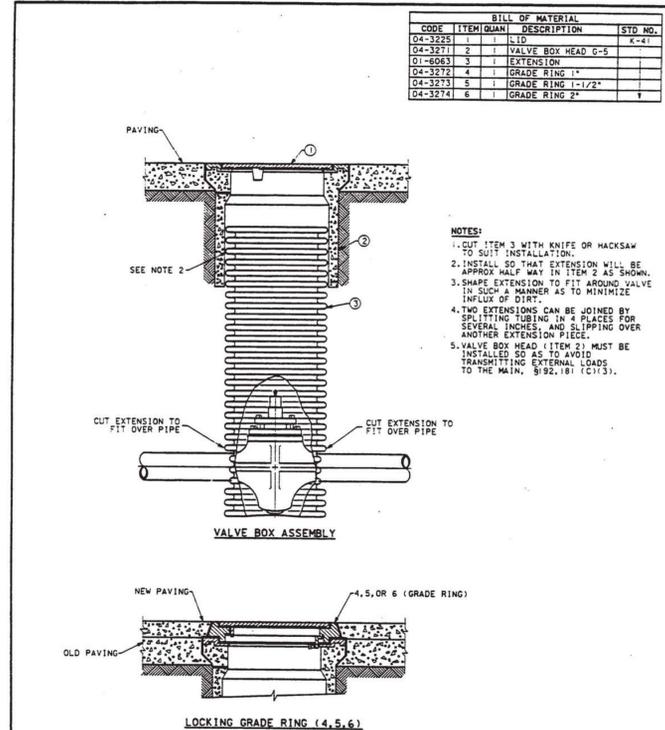
MODEL #	TREATMENT FLOW RATE (CFS)	BYPASS FLOW (CFS)	SOLIDS STORAGE CAPACITY (CF)
BIO-GRATE-KMF 12-12-12	0.97	1.55	0.14
BIO-GRATE-KMF 18-18-12	1.86	3.68	0.35
BIO-GRATE-KMF 26-26-12	2.78	4.83	0.60
BIO-GRATE-KMF 24-40-12	6.71	6.59	1.04
BIO-GRATE-KMF 26-26-24	9.49	4.83	1.80
BIO-GRATE-KMF 24-40-24	13.53	6.59	3.12
BIO-GRATE-KMF 36-36-24	17.14	7.60	4.45

- INSTALLATION NOTES:
- ALL HARDWARE, FLANGE, FRAME, SCREENS SHALL BE STAINLESS STEEL.
  - HYDROCARBON BOOM SHALL BE 2" DIAMETER AND CONNECTED, MECHANICALLY TO THE FILTER FRAME WITH RAILS ALLOWING IT TO FLOAT ON THE WATER SURFACE REGARDLESS OF HEIGHT.
  - SEE PERFORMANCE REPORTS IN MANUFACTURER'S SPECIFICATIONS.
  - OTHER STANDARD AND CUSTOM MODEL SIZES AVAILABLE - CONTACT BIO CLEAN FOR MORE INFORMATION.
  - BASED ON 37% OPEN AREA.
  - CONSIDERS A SAFETY FACTOR OF 2.0.
  - CONSIDERS A LOCAL DEPRESSION PONDING DEPTH OF 6 INCHES..
  - STORAGE CAPACITY BASED ON THE BASKET HALF FULL.
  - CONCRETE STRUCTURES SOLD SEPARATELY.

**BioClean**  
A Forterra Company  
GRATE INLET FILTER FULL CAPTURE STANDARD DETAIL

**D** GRATE INLET FILTER FULL CAPTURE STANDARD DETAIL

K-41.1



CODE	ITEM	QUAN	DESCRIPTION	STD. NO.
04-3225	1	1	1" ID	4-41
04-3271	2	1	VALVE BOX HEAD G-5	
01-6063	3	1	EXTENSION	
04-3272	4	1	GRADE RING 1"	
04-3273	5	1	GRADE RING 1-1/2"	
04-3274	6	1	GRADE RING 2"	

- NOTES:
- CUT ITEM 3 WITH KNIFE OR HACKSAW TO SUIT INSTALLATION.
  - INSTALL SO THAT EXTENSION WILL BE APPROX HALF WAY IN ITEM 2 AS SHOWN.
  - SHARP EXTENSION TO FIT AROUND VALVE IN SUCH A MANNER AS TO MINIMIZE INFLUX OF DEBR.
  - TWO EXTENSIONS CAN BE JOINED BY SPLITTING TUBING IN 4 PLACES FOR SEVERAL INCHES, AND SLIPPING OVER ANOTHER EXTENSION PIECE.
  - VALVE BOX HEAD (ITEM 2) MUST BE INSTALLED SO AS TO AVOID TRANSMITTING EXTERNAL LOADS TO THE MAIN, §92.181 (C113).

APPROVED BY: [Signature]  
DATE: 11-14-65  
SCALE: 1/4" = 1"  
DESCRIPTION: STRUCTURE-DETAILS TYPICAL INSTALLATION OF TRAFFIC VALVE BOX ON 2" TO 4" GAS MAINS INCL. GAS STANDOFF.  
DRAWN: [Signature]  
CHECKED: [Signature]  
DATE: 11-14-65  
SCALE: 1/4" = 1"  
SUPERSEDES: 282331  
DRAWING NUMBER: 283385  
SHEETS: 4

**E** PG&E TYPICAL INSTALLATION OF TRAFFIC VALVE DETAIL K-41-1



DESIGNED BY: JS  
CHECKED BY: WN  
DRAWN BY: JS  
ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS  
555 COUNTY CENTER, 5th FLOOR  
REDWOOD CITY, CALIFORNIA 94063  
SCALE: NONE  
DATE: 04-15-2022  
FILE NO.: 1/5044  
REVISION: [Table]  
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES  
22 SHEET 22 OF 25

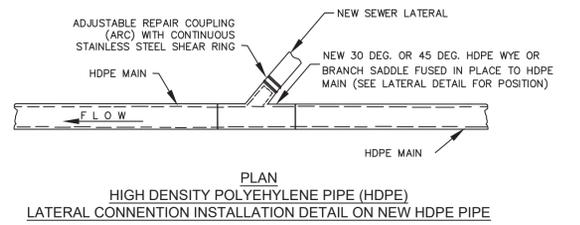
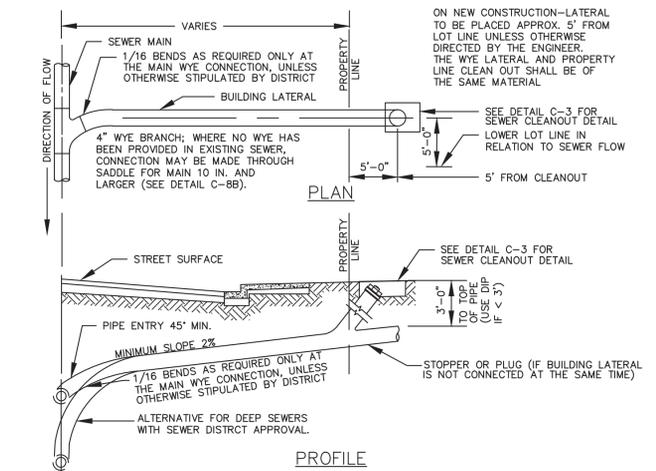
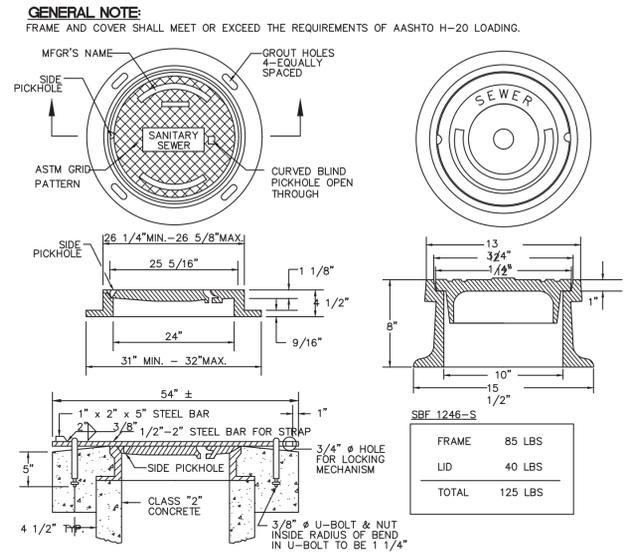
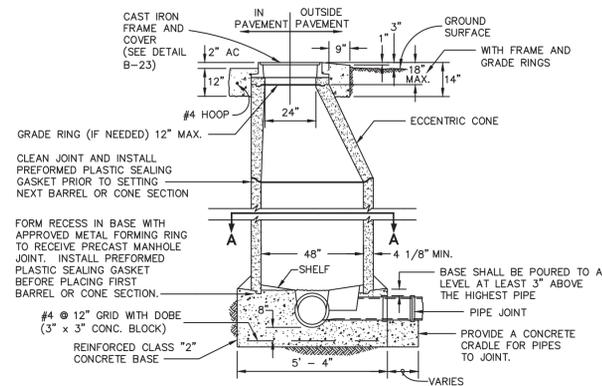
FILENAME: F:\USERS\DESIGN\C:\D\ENCINA\_AVE\_RECON\10.DWG\ES044000\_ENCINA\_AVE\_RECON\10.DWG\ES044014-25.DWG (1-5044022)



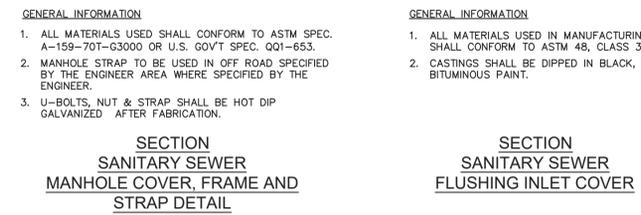
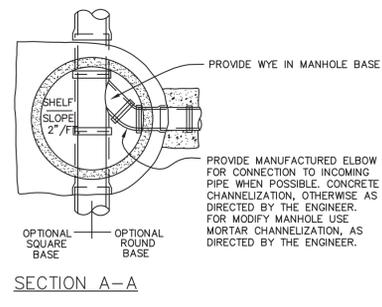
APPROVED:

DATE: APRIL 15, 2022

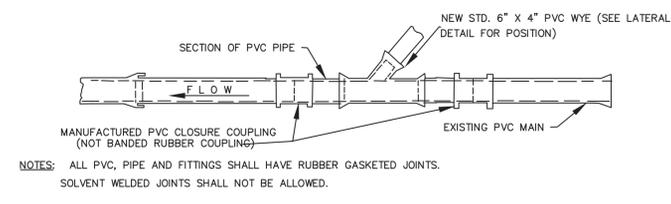
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023



- NOTES:**
1. ALL STEEL TO BE 3" CLEAR.
  2. LAY PIPE THRU M.H. WHEN POSSIBLE.
  3. M.H. SHELF SHALL BE MORTARED TO A SLOPE OF 2"/FT.
  4. THERE SHALL BE NO STEPS IN THE MANHOLE.
  5. PREFORMED PLASTIC SEALING GASKET SHALL BE "RAM-NEK" OR APPROVED EQUAL.
  6. IN THE EVENT PVC PIPES ARE APPROVED, STANDARD WATER STOPS SHALL BE INCORPORATED INTO THE MANHOLE BASE.
  7. MANHOLE THROAT LOCATION TO BE OPPOSITE THE LARGEST SHELF AREA OR AS DIRECTED BY THE ENGINEER.
  8. NO LATERAL CONNECTIONS TO HDPE MANHOLE.
  9. ANY VARIATION FROM DETAIL SHALL BE APPROVED BY THE ENGINEER.



- NOTES:**
1. BEDDING AND BACKFILL MATERIAL SEE DETAILS D-23.
  2. THE LATERAL SHALL BE LOWER WHERE NECESSARY TO SERVE EXISTING PLUMBING OR WHEN DIRECTED BY THE ENGINEER.
  3. A 4" LATERAL CAN BE USED FOR A SINGLE FAMILY RESIDENCE (SFR) OR A SFR WITH A SECOND UNIT. A MINIMUM 6" LATERAL SHALL BE USED FOR ALL OTHER DEVELOPMENTS.
  4. EXISTING MAIN ≤ 8": FOR MEANS BY WHICH CONNECTION IS TO BE MADE TO MAIN LINE SEE DETAIL E-23.
  5. EXISTING MAIN 10"-24": CONNECTION BY MEANS OF AN APPROVED SADDLE "TEE".
  7. EXISTING MAIN >24": CONNECTION SHALL BE AT A MANHOLE UNLESS OTHERWISE APPROVED BY THE SEWER DISTRICT.
  8. SEE SEWER SHEETS C-15, C-16, C-16A FOR GENERAL NOTES.
  9. SDR-26 WYE, RISER, CLEANOUT BODY AND CAP CAN BE USED ONLY WHEN LATERAL FROM PROPERTY LINE TO MAIN LINE IS REPLACED WITH SDR-26.
  10. FOR 12" VCP OR LARGER, A 45° WYE IS ALLOWED TO BE FUSED ONTO HDPE (ALL SIZES).
  11. WHEN ENTIRE LATERAL IS REPLACED, LATERAL FROM PROPERTY LINE CLEANOUT TO MAIN LINE SHALL HAVE A SINGLE CONDUCTOR TRACER WIRE TAPED TO THE ENTIRE LENGTH OF THE PIPE.
  12. ADD TRACER WIRE FOR OPEN TRENCH EXCEPT ON DIP.
  13. FOR DIP LATERAL, MECHANICAL JOINTS/COUPLERS SHALL BE USED.



- NOTES:** ALL PVC, PIPE AND FITTINGS SHALL HAVE RUBBER GASKETED JOINTS. SOLVENT WELDED JOINTS SHALL NOT BE ALLOWED.

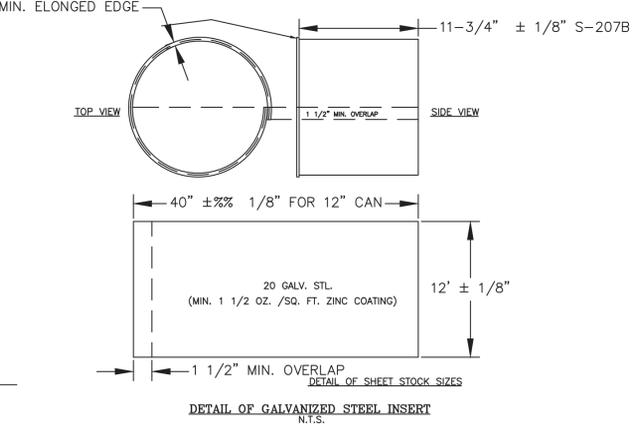
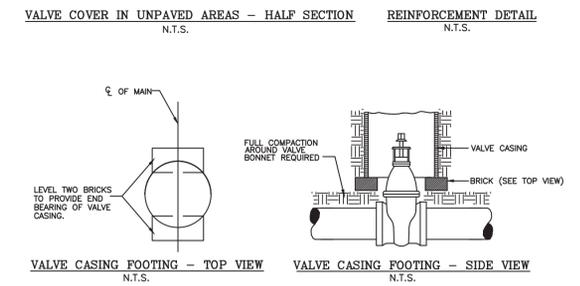
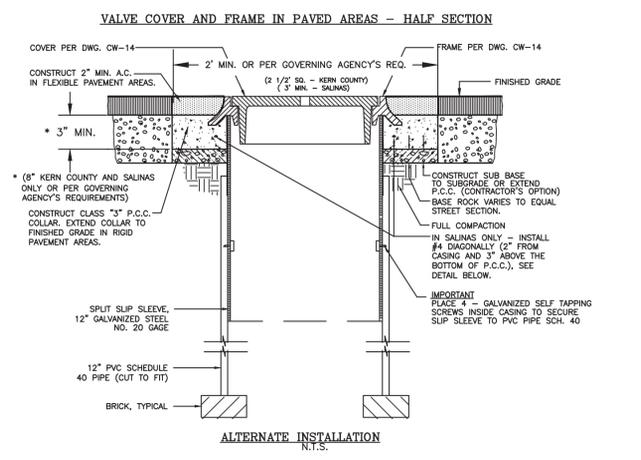
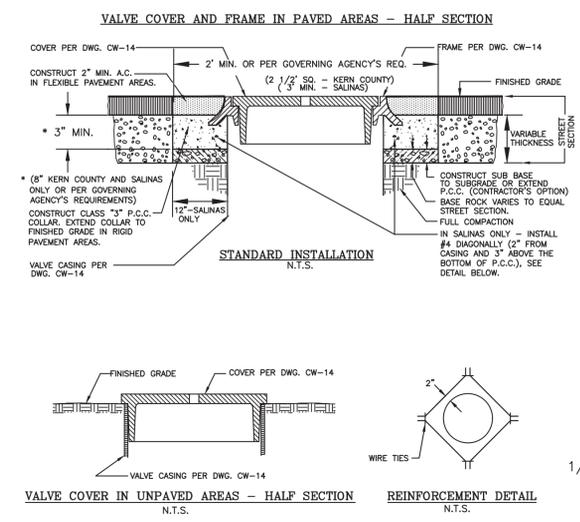
**A SANITARY SEWER MANHOLE DETAIL**  
23 NOT TO SCALE

**B SANITARY SEWER MANHOLE COVER, FRAME AND STRAP DETAIL, FLUSHING INLET COVER**  
23 NOT TO SCALE

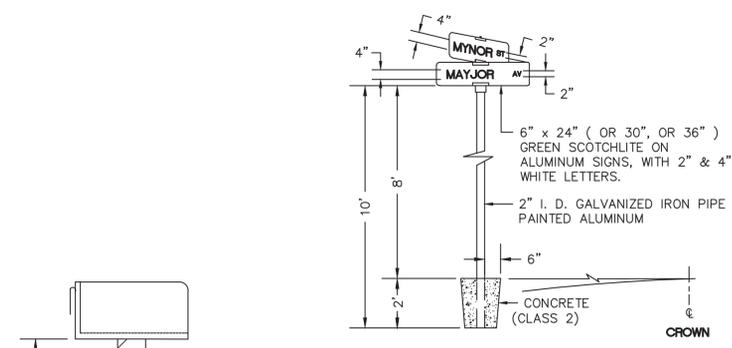
**C SEWER LATERAL DETAIL**  
23 NOT TO SCALE

**D LATERAL CONNECTION INSTALLATION DETAIL ON NEW PIPE**  
23 NOT TO SCALE

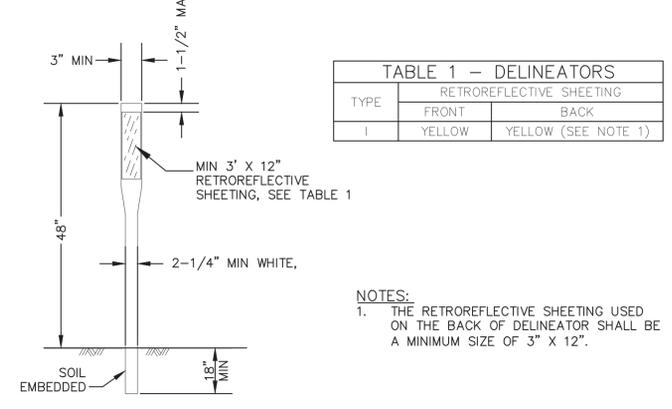
NOTE: LATERAL CONNECTION INSTALLATION ON NEWLY INSTALLED PIPE WILL BE AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS.



**CW 439-R3 CALIFORNIA WATER COMPANY VALVE CASING, COVER, AND FRAME INSTALLATION DETAILS**



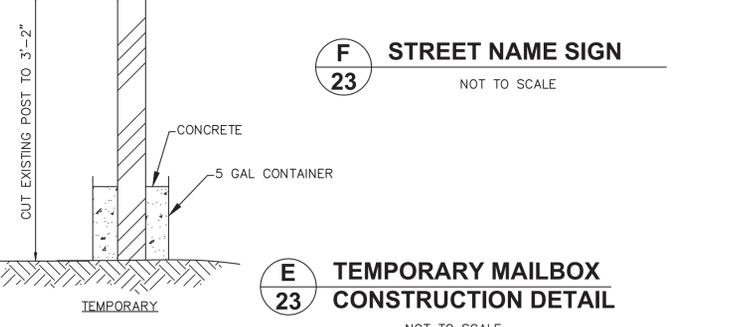
**F STREET NAME SIGN**  
23 NOT TO SCALE



**G CLASS 1 FLEXIBLE POST OBJECT MARKER APPROXIMATE STATION STA 'E' 14+78.23, 4.14 LT**  
23 NOT TO SCALE

TABLE 1 - DELINEATORS		
TYPE	RETROREFLECTIVE SHEETING	
	FRONT	BACK
1	YELLOW	YELLOW (SEE NOTE 1)

- NOTES:**
1. THE RETROREFLECTIVE SHEETING USED ON THE BACK OF DELINEATOR SHALL BE A MINIMUM SIZE OF 3" X 12".



**E TEMPORARY MAILBOX CONSTRUCTION DETAIL**  
23 NOT TO SCALE

NOTE: EXACT LOCATION OF THE MAILBOX TO BE DETERMINED BY THE ENGINEER.



DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END	SCALE: NONE
CHECKED BY: WN	SANITARY SEWER & MISC. DETAILS	DATE: 04-15-2022
DRAWN BY: JS	ANN MADER STILLMAN, DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	FILE NO.: 1/5044
REVISION	DATE	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES		23 SHEET 23 OF 25

FILENAME: F:\USERS\DESIGN\CD\ES044000\_ENCINA\_AVE\_RECON\10\_DWG\ES044014-25.DWG (1-5044023)

**SANITARY SEWER MANHOLE**

SHEET NO.	MANHOLE	MANHOLE WORK	STATION	OFFSET
9	5492	ADJUST TO GRADE	STA 'E-SS' 11+49.50	0.00 RT
9	5491A	CONSTRUCT	STA 'E-SS' 12+98.61	0.00 RT
9	5491B	CONSTRUCT	STA 'E-SS' 13+87.33	0.00 RT
9	5491C	CONSTRUCT	STA 'E-SS' 14+59.30	0.00 RT
10	5489	REMOVE AND REPLACE	STA 'E-SS' 16+25.60	0.00 RT
10	5490	REMOVE AND REPLACE	STA 'E-SS' 19+44.78	0.00 RT
11 & 13	5482	REMOVE AND REPLACE	STA 'E-SS' 23+00.00 STA 'O-SS' 23+00.00	0.00 RT 0.00 LT
13	5485	REMOVE AND REPLACE	STA 'O-SS' 25+36.52	0.00 RT
12	5480	REMOVE AND REPLACE	STA 'E-SS' 26+57.69	0.00 RT
12 & 13	4261	REMOVE AND REPLACE	STA 'E-SS' 30+24.86	0.00 RT
13	4262	REMOVE AND REPLACE	STA 'E-SS' 31+40.09	0.00 RT

**SAN MATEO COUNTY SEWER AND SANITATION DISTRICTS  
STANDARD SPECIFICATIONS  
GENERAL NOTES**

- ALL REFERENCES TO "DISTRICT" IN THESE GENERAL NOTES SHALL MEAN THE APPROPRIATE COUNTY SEWER OR SANITATION DISTRICT.
- THE APPROVAL OF THESE PLANS BY THE DISTRICT SHALL BE INTERPRETED TO MEAN THAT THE SANITARY SEWER DESIGN SHOWN ON THESE PLANS MEETS THE DISTRICT'S STANDARDS. THE DISTRICT'S APPROVAL IN NO WAY GUARANTEES ANY OTHER ASPECT OF THIS PLAN OR ITS ACCURACY RELATIVE TO ACTUAL FIELD CONDITIONS.
- THE CONTRACTOR SHALL CONTACT THE DISTRICT AT 650-363-4100 ONE (1) WORKING DAYS IN ADVANCE OF BEGINNING ANY SANITARY SEWER WORK. THE CONTRACTOR SHALL THEREAFTER KEEP THE INSPECTOR FOR THE DISTRICT INFORMED OF HIS SCHEDULE FOR SANITARY SEWER WORK.
- ALL SANITARY SEWER WORK CONSTRUCTED WITHOUT INSPECTION BY THE DISTRICT SHALL BE REMOVED AND RECONSTRUCTED WITH INSPECTION.
- THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT FORTY-EIGHT (48) HOURS IN ADVANCE OF BEGINNING ANY WORK.
- THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL UTILITIES BEFORE BEGINNING ANY EXCAVATING.
- THE CONTRACTOR SHALL OBTAIN ANY AND ALL PERMITS REQUIRED BY THE COUNTY OR CITY BEFORE BEGINNING ANY SANITARY SEWER WORK.
- UPON THE COMPLETION OF CONSTRUCTION A COMPLETE SET OF REPRODUCIBLE "AS-CONSTRUCTED" PLANS SHALL BE PROVIDED TO THE DISTRICT.
- SANITARY SEWER SERVICE SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL USE WHATEVER MEANS ARE NECESSARY (E.G. PUMPS, ETC.) TO MAINTAIN THIS SERVICE DURING CONSTRUCTION.
- PRIOR TO COMMENCING ANY SANITARY SEWER WORK IN OFF-SITE EASEMENTS THE CONTRACTOR SHALL PROVIDE THE DISTRICT WITH ADEQUATE EVIDENCE THAT ALL AFFECTED PROPERTY OWNERS (AND TENANTS WHERE APPLICABLE) WERE NOTIFIED WELL IN ADVANCE OF THE DATE WORK IN THESE EASEMENTS WAS TO BEGIN AND THAT THEY HAVE UPDATED THAT NOTICE IN A TIMELY MANNER WHEN THOSE DATES HAVE CHANGED.
- FOR CONVENIENCE IN DESIGNATION ON THE PLANS OR IN THE SPECIFICATIONS, CERTAIN MATERIALS, TO BE INCORPORATED IN THE WORK MAY BE DESIGNATED UNDER A TRADE NAME OR THE NAME OF A MANUFACTURER AND CATALOG INFORMATION AND FOLLOWED BY THE WORDS "OR APPROVED EQUAL". THE USE OF A MATERIAL WHICH IS OF EQUAL QUALITY AND OF THE REQUIRED CHARACTERISTICS FOR THE PURPOSE INTENDED WILL BE PERMITTED, SUBJECT TO THE FOLLOWING REQUIREMENTS:

THE BURDEN OF PROOF AS TO THE QUALITY AND SUITABILITY OF ALTERNATIVES SHALL BE UPON THE CONTRACTOR AND THE CONTRACTOR SHALL FURNISH ALL INFORMATION NECESSARY AS REQUIRED BY THE ENGINEER. THE ENGINEER SHALL BE THE SOLE JUDGE AS TO THE QUALITY AND SUITABILITY OF ALTERNATIVES MATERIALS AND THE ENGINEER'S DECISION SHALL BE FINAL.

C - 15

**SAN MATEO COUNTY SEWER AND SANITATION DISTRICTS  
STANDARD SPECIFICATIONS  
PIPE AND FITTINGS**

MATERIAL FOR PIPE AND FITTINGS SPECIFIED BELOW SHALL BE APPLICABLE TO MAIN AND LATERAL CONSTRUCTION.

**POLYVINYL CHLORIDE (PVC)**

- ALL PIPE AND FITTINGS SHALL CONFORM TO ASTM SPECIFICATIONS D3034, SDR 26 OR C900. NO ABS ALLOWED.
- ALL JOINTS SHALL BE A BELL AND SPIGOT ASSEMBLY WITH ELASTOMERIC SEALING GASKETS. SEALING GASKETS SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATION D1869. SOLVENT CEMENT JOINTS ARE NOT PERMITTED.
- ALL PIPE ENTERING OR LEAVING A CONCRETE STRUCTURE SHALL HAVE A RUBBER WATERSTOP GASKET ATTACHED TO IT. THE WATERSTOP GASKET SHALL CONFORM TO THE PIPE MANUFACTURER'S SPECIFICATIONS. THE WATERSTOP GASKET SHALL BE SEATED FIRMLY AROUND THE PIPE EXTERIOR AND BE CAST INTO THE CONCRETE STRUCTURE.
- ALL PIPE JOINTS SHALL BE MADE USING MANUFACTURED PVC COUPLINGS. BAND TYPE COMPRESSION COUPLINGS ARE NOT PERMITTED.

**HIGH DENSITY POLYETHYLENE (HDPE)**

- ONLY ALLOWED FOR TRENCHLESS METHOD, HDPE IN OPEN TRENCH IS NOT ALLOWED. HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS SHALL BE DRISCOPEX 4100 SDR 17 OR APPROVED EQUAL, CONSISTING OF VIRGIN HIGH MOLECULAR WEIGHT POLYETHYLENE, SPECIFIED UNDER ASTM D3350 AS HAVING A CELL CLASSIFICATION OF PE345434C AND SOFT WHITE OR GRAY INTERIOR SURFACE (BLACK COLOR WILL NOT BE ALLOWED). PIPE SHALL HAVE A MANNING "N" FACTOR OF 0.009 FOR GRAVITY FLOW. MANHOLE ADAPTER RINGS SHALL CONFORM TO RECOMMENDATIONS OF MANUFACTURER OF THE HDPE PIPE SUPPLIED.
- PRE CCTV REQUIRED PRIOR TO ALLOWING PIPE BURSTING TO VERIFY EXISTING LATERAL CONDITION AND ALIGNMENT IS ACCEPTABLE FOR PIPE BURST, AS DETERMINED BY SEWER DISTRICT.
- POTHOLE REQUIRED TO VERIFY 3' COVER IS MAINTAINED BETWEEN P/L C/O AND SEWER MAIN.

C - 16



APPROVED:

DATE: APRIL 15, 2022

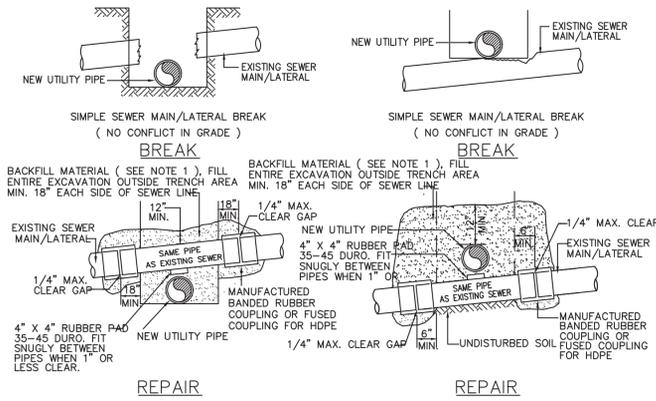
ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

**SANITARY SEWER REHABILITATION BY PIPE-BURSTING METHOD OR OPEN TRENCH METHOD WORK**

SHEET NO.	UPSTREAM MANHOLE	DOWNSTREAM MANHOLE	DISTANCE (LF)	PIPE DIA. (INCHES)	METHOD	TYPE OF PIPE
9	5492	5491A	149.12'	6"	PIPE BURST	HDPE
9	5491A	5491B	88.72	6"	OPEN TRENCH	PVC
9	5491B	5491C	71.97	6"	OPEN TRENCH	PVC
9 & 10	5491C	5489	166.30	6"	PIPE BURST	HDPE
10	5489	5490	319.18	6"	PIPE BURST	HDPE
10 & 11	5490	5482	355.22	6"	PIPE BURST	HDPE
11 & 12	5482	5480	357.69	6"	PIPE BURST	HDPE
12	5480	4261	367.17	6"	PIPE BURST	HDPE
12 & 13	4261	4262	115.23	6"	PIPE BURST	HDPE
13	5485	5482	236.52	6"	PIPE BURST	HDPE

**NOTICE:**

CALL SANITARY DISTRICT ( 650-363-4100 ) BEFORE MAKING ANY SEWER REPAIRS. ALL REPAIRS MUST BE DONE IN THE PRESENCE OF A DISTRICT INSPECTOR.

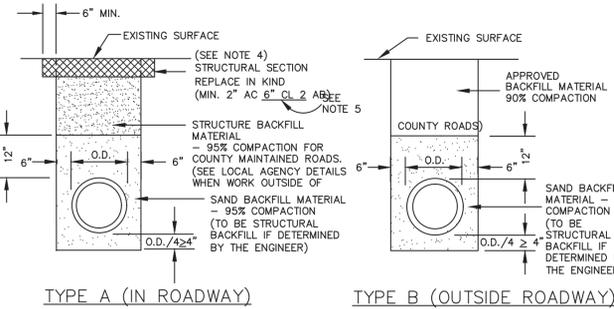


- NOTES:**
- BACKFILL MATERIAL SHALL BE AS SPECIFIED IN STANDARD TRENCH BACKFILL AND BEDDING DETAIL (D-23) OR OTHER MATERIAL APPROVED EQUAL BY THE DISTRICT.
  - THE USE OF CLOSURE COUPLINGS IS PROHIBITED.

- PROCEDURE:**
- TRIM SEWER MAIN/LATERAL TO A CLEAN-CUT, UNDAMAGED END, A MINIMUM OF 18" INTO TRENCH WALL. INSTALL NEW PVC/HDPE PIPE WITH MANUFACTURED CLOSURE COUPLINGS (IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS).
  - WHEN OUTSIDE DIAMETER OF THE CROSSING PIPES ARE WITHIN 1" OF EACH OTHER, THERE SHALL BE A 4" X 4" PAD OF 35-45 DUROMETER RUBBER PLACED SNUGLY BETWEEN THE PIPES.
  - IF EXISTING SEWER PIPE IS PVC OR ABS, USE MANUFACTURED COUPLINGS AND NOT Banded RUBBER COUPLINGS.

**B 24 POLYVINYL CHLORIDE (PVC) AND HIGH DENSITY POLYETHYLENE (HDPE) SEWER PIPE CROSSING REPAIR**

NOT TO SCALE



**NOTES:**

- SAND - MATERIAL FREE FROM ORGANIC MATTER AND CLAY WITH A SIEVE GRADATION BY WEIGHT AS FOLLOWS:
 

SIEVE SIZE	% PASSING SIEVE
No. 4	100
No. 200	0-5
- STRUCTURE BACKFILL MATERIAL - MATERIAL WITH SAND EQUIVALENT NOT LESS THAN 20 AND SIEVE GRADATION BY WEIGHT AS FOLLOWS:
 

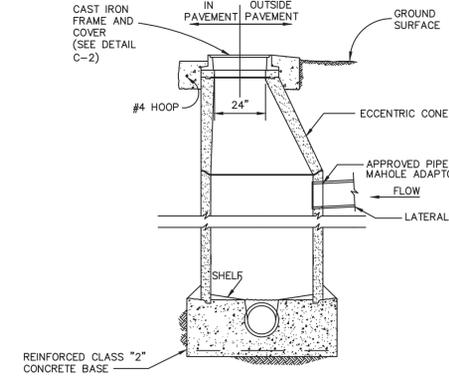
SIEVE SIZE	% PASSING SIEVE
3"	100
No. 4	35-100
No. 30	20-100
- BACKFILL MATERIAL - MATERIAL FROM EXCAVATION, FREE FROM STONES OR LUMPS EXCEEDING 3 INCHES GREATEST DIMENSION, ORGANIC MATTER, OR OTHER UNSATISFACTORY MATERIAL. CONTROLLED LOW STRENGTH MATERIALS (CLSM) MAY BE USED AS APPROVED BY THE ENGINEER.
- ON TRENCHES THAT PARALLEL THE ROAD AND ARE WITHIN EXISTING BICYCLE LANES, THE WIDTH OF THE STRUCTURAL SECTION SHALL BE GREATER THAN OR EQUAL TO THE WIDTH OF THE EXISTING BICYCLE LANE, WHICHEVER IS WIDER. PAVING JOINTS WITHIN THE BICYCLE LANE ARE NOT ALLOWED.
- RECYCLE AB MAY BE USED PER CALTRANS STD. SPECS SECTION 25 AND SECTION 26, AS BACKFILL MATERIAL.

**C 24 STANDARD TRENCH BACKFILL AND BEDDING DETAIL FOR PVC SEWER PIPE**

NOT TO SCALE

**D 24 LATERAL CONNECTION TO EXISTING MANHOLE DETAIL**

NOT TO SCALE

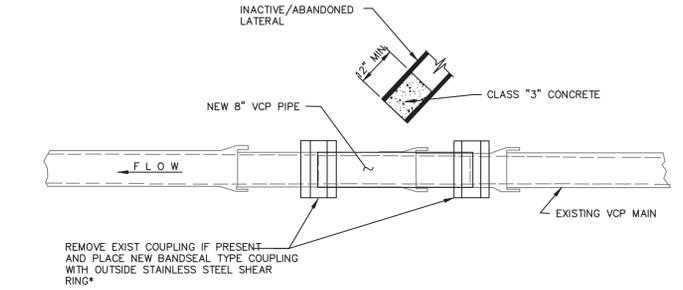


**NOTES:**

- FOR NEW LATERAL CONNECTIONS TO AN EX. MANHOLE, MUST BE CONNECTED TO THE BARREL SECTION.
- FOR LATERAL REPLACEMENT AT EX. CONNECTION, OK TO CONNECT AT SAME LOCATION (EVEN IN CONE SECTION).
- LATERAL CONNECTION TO THE EXISTING MANHOLE SHALL BE MADE BY CORE DRILLING A HOLE IN THE MANHOLE WALL APPROPRIATELY SIZED FOR THE SEWER LATERAL PIPE. THE ANNULAR SPACE BETWEEN THE WALL AND PIPE SHALL BE PLUGGED WITH MORTAR CEMENT. AFTER THE ANNULAR SPACE HAS BEEN PLUGGED, THE INTERIOR OF THE ENTIRE MANHOLE SHALL BE COATED WITH AN APPROVED WATERPROOFING MATERIAL APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS.

**E 24 SEWER LATERAL BY TRENCHLESS METHOD DETAIL**

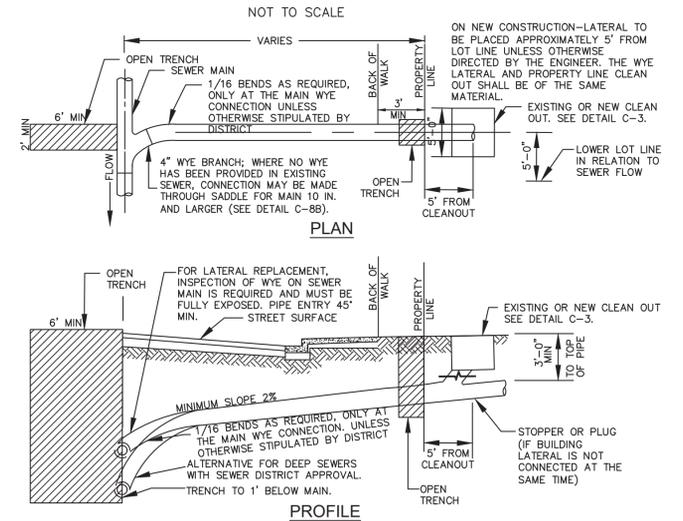
NOT TO SCALE



**NOTES:**

- THE NEWLY INSTALLED PIPE SHALL BE OF THE SAME SIZE AND MATERIAL AS THE EXISTING MAIN.
- THE PLUG SHALL NOT BE ALLOWED TO ENTER OR OBSTRUCT THE SEWER MAINLINE.
- AT THE PROPERTY OWNER'S EXPENSE, ANY OBSTRUCTION IN THE SEWER MAIN CAUSED BY INSTALLATION OF THE PLUG SHALL BE REPAIRED.
- SERVICE LATERAL ABANDONED WITHIN PAVED SURFACE SHALL BE DUG UP AND REMOVED.
- IF EXISTING AND NEW LATERALS ARE LESS THAN 5' APART, EXISTING LATERAL SHALL BE REMOVED AND DISPOSED.

**A 24 PLUGGING INACTIVE OR ABANDONED LATERAL LINE**



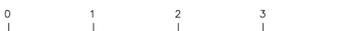
**NOTES:**

- BEDDING AND BACKFILL MATERIAL SEE DETAIL D-23.
- THE LATERAL SHALL BE LOWER WHERE NECESSARY TO SERVE EXISTING PLUMBING OR LOW LOTS OR WHEN DIRECTED BY THE ENGINEER.
- A 4" LATERAL CAN BE USED FOR A SINGLE FAMILY RESIDENCE (SFR) OR A SFR WITH A SECOND UNIT. A MINIMUM 6" LATERAL SHALL BE USED FOR ALL OTHER DEVELOPMENTS.
- A 3" PIPE COVER IS REQUIRED AT PROPERTY LINE.
- EXISTING MAIN ≤ 8": FOR MEANS BY WHICH CONNECTION IS TO BE MADE TO MAIN LINE SEE DETAIL E-23.
- EXISTING MAIN 10"-24": CONNECTION BY MEANS OF AN APPROVED SADDLE "TEE".
- EXISTING MAIN >24": CONNECTION SHALL BE AT A MANHOLE UNLESS OTHERWISE APPROVED BY THE SEWER DISTRICT.
- WHEN ENTIRE LATERAL IS REPLACED, LATERAL FROM PROPERTY LINE CLEANOUT TO MAIN LINE SHALL HAVE A SINGLE CONDUCTOR TRACER WIRE TAPED TO THE ENTIRE LENGTH OF THE PIPE.
- SEE SEWER SHEETS C-15, C-16, C-16A FOR GENERAL NOTES.
- OPEN TRENCH EXCAVATIONS IN FRONT OF THE EXISTING SANITARY SEWER MAIN AND BETWEEN THE EXISTING BACK OF WALK AND PROPERTY LINE SHALL BE AS SHOWN TO ALLOW FOR DIRECTIONAL BORING OR PIPE BURSTING OF THE SANITARY SEWER LATERAL.
- CONTRACTOR TO PROVIDE PRE AND POST CONSTRUCTION SURVEY OF EXISTING POINTS OF CONNECTION TO ENSURE CORRECT INSTALLATION.
- CONTRACTOR TO VERIFY ALL EXISTING UTILITIES AND CONTACT USA PRIOR TO DIRECTIONAL BORING.
- ANY DAMAGE TO OTHER UTILITIES WILL BE THE RESPONSIBILITY OF THE APPLICANT.
- SEWER LATERAL SHALL BE CONSTRUCTED WITH A STRAIGHT GRADE AND ALIGNMENT FROM THE MAIN TO THE PROPERTY LINE UNLESS OTHERWISE APPROVED BY THE DISTRICT ENGINEER.
- SEWER LATERAL SHALL BE 4" OR 6" HDPE SDR 17.
- CONTRACTOR TO PROVIDE CCTV VIDEO INSPECTION ON SEWER LATERAL FOR REVIEW BY THE DISTRICT ENGINEER.



DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE	SCALE: NONE
CHECKED BY: WN	FROM MIDDLEFIELD ROAD TO END	DATE: 04-15-2022
DRAWN BY: JS	<b>SANITARY SEWER DETAILS</b>	FILE NO.: 1/5044
ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	24 SHEET 24 OF 25

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



**SAN MATEO COUNTY SEWER AND SANITATION DISTRICTS  
STANDARD SPECIFICATIONS  
PIPE TESTING REQUIREMENTS**

- ALL REFERENCES TO "DISTRICT" IN THESE TESTING REQUIREMENTS SHALL MEAN THE APPROPRIATE COUNTY SEWER OR SANITATION DISTRICT.
- ALL REQUIRED CLEANING AND TESTING OF SANITARY SEWER MAINS AND LATERALS SHALL BE PERFORMED IN THE PRESENCE OF A REPRESENTATIVE OF THE DISTRICT.
- ALL SANITARY SEWER MAINS BEING CONSTRUCTED SHALL BE CLEANED BY MEANS OF A HIGH SPEED JET RODDER PRIOR TO TESTING. VCP AND DIP SHALL BE TESTED FOR OBSTRUCTION BY BALL ROLLING.
- FOR MAIN LINE EXTENSION PROJECT, ALL SANITARY SEWER MAINS BEING CONSTRUCTED SHALL PASS A LOW PRESSURE AIR TEST. EACH SECTION OF MAIN SHALL BE TESTED BETWEEN SUCCESSIVE MANHOLES. THE LOW PRESSURE AIR TEST SHALL BE CONDUCTED IN THE FOLLOWING MANNER.

A COMPRESSED AIR SUPPLY SHALL BE ATTACHED TO AN AIR FITTING ON THE MAIN AND THE AIR PRESSURE WITHIN THE LINE INCREASED TO FOUR (4) POUNDS PER SQUARE INCH. (PSI). AFTER THE AIR SUPPLY IS SECURELY TURNED OFF OR DISCONNECTED, THERE SHALL BE A TWO (2) MINUTE WAITING PERIOD BEFORE THE ACTUAL TEST PERIOD BEGINS TO ALLOW STABILIZATION OF AIR WITHIN THE MAIN.

IN NO CASE SHALL THE AIR PRESSURE WITHIN THE LINE BE LESS THAN 3.5 PSI AT THE BEGINNING OF THE TEST PERIOD. REFER TO THE CHART WHICH FOLLOWS FOR THE LENGTH OF THE TEST PERIOD. THE MINIMUM LENGTH OF TEST IS TWO (2) MINUTES). THE ALLOWABLE AIR PRESSURE LOSS DURING THE TEST PERIOD SHALL BE 1.0 PSI. A WRITTEN RECORD OF THE TEST SHALL BE SUBMITTED TO THE DISTRICT BY THE CONTRACTOR.

NOMINAL PIPE SIZE (inches)	LENGTH OF LINE (feet)	LENGTH OF TEST (minutes)
4	ALL	2
6	0 - 300	2
6	300 - 370	2 ½
6	370 AND GREATER	3
8	0 - 170	2
8	170 - 210	2 ½
8	210 - 250	3
8	250 - 290	3 ½
8	290 AND GREATER	3 ¾
10	0 - 110	2
10	110 - 165	3
10	165 - 215	4
10	215 AND GREATER	4 ¾
	C - 17	

**SAN MATEO COUNTY SEWER AND SANITATION DISTRICTS  
STANDARD SPECIFICATIONS  
MANHOLE TESTING**

AFTER COMPLETION OF MANHOLE INSTALLATION, MANHOLE SHALL BE TESTED FOR LEAKAGE. THE CONTRACTOR SHALL FURNISH ALL LABOR, TOOLS AND EQUIPMENT NECESSARY TO PERFORM THE TESTS AND CONDUCT ANY WORK INCIDENTAL THERETO. THE CONTRACTOR AS HIS OWN EXPENSE SHALL CORRECT ANY EXCESS LEAKAGE AND REPAIR ANY DAMAGE TO THE PIPE AND ITS APPURTENANCES OR TO ANY MANHOLE RESULTING FOR OR CAUSED BY THESE TESTS.

FOR MANHOLE TESTING, THE CONTRACTOR AT HIS OWN DISCRETION MAY USE EITHER WATER OR VACUUM TESTING METHOD.

**WATER TESTING**

EACH MANHOLE SHALL BE TESTED BY INSERTING INFLATABLE PLUGS IN ALL SEWER INLETS AND OUTLETS OF THE MANHOLE, AND FILLING THE MANHOLE WITH WATER TO A POINT SIX INCHES BELOW THE BASE OF THE MANHOLE FRAME.

THE MANHOLE SHALL BE FILLED AT LEAST ONE HOUR IN ADVANCE OF THE OFFICIAL TEST PERIOD TO ALLOW TIME FOR ABSORPTION. THE LOSS OF WATER MAY BE DETERMINED BY MEASURING ADDITIONS OF WATER REQUIRED TO MAINTAIN THE SPECIFIED WATER LEVEL, BUT THE LEVEL SHALL NOT BE ALLOWED TO FALL MORE THAN 25% OF THE MANHOLE DEPTH.

EACH MANHOLE SHALL BE TESTED FOR A MINIMUM OF FIFTEEN (15) MINUTES. THE ALLOWABLE LEAKAGE SHALL BE DETERMINED BY THE FOLLOWING FORMULA:

$$EM = 0.0002 * L * \text{SQUARE ROOT } (H)$$

WHERE EM = AMOUNT OF ALLOWABLE LEAKAGE IN GALLONS PER MINUTE

L = DEPTH OF MANHOLE FROM TOP OF BOTTOM (FEET)  
H = HEAD OF WATER IN FEET, AS MEASURE FROM THE SEWER LINE INVERT OR FROM PREVAILING GROUND WATER AGAINST OUTSIDE OF MANHOLE BARREL. THE LESSER HEIGHT GOVERNS.

AS AN ALTERNATIVE TO THE ABOVE PROCEDURE, THE CONTRACTOR MAY FILL THE MANHOLE WITH WATER PRIOR TO BACKFILL AND REPAIR ALL VISIBLE LEAKS PROVIDED THERE IS NO GROUND WATER ABOVE THE MANHOLE BASE. ANY VISIBLE LEAKS INTO OR OUT OF A MANHOLE SHALL BE REPAIRED.

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**SAN MATEO COUNTY SEWER AND SANITATION DISTRICTS  
STANDARD SPECIFICATIONS  
PIPE TESTING REQUIREMENTS (CONTINUED)**

- CLOSED CIRCUIT TELEVISION (CCTV) INSPECTIONS OF SANITARY SEWER MAINS  
CCTV INSPECTION OF THE SANITARY SEWER MAINS SHALL BE PERFORMED BY THE APPLICATION/ CONTRACTOR IN CONFORMANCE WITH THE FOLLOWING PROVISIONS AND THE DIRECTIONS OF THE DISTRICT.  
A) CCTV INSPECTION SHALL BE FROM MANHOLE-TO-MANHOLE, AND SANITARY SEWER SERVICE SHALL BE MAINTAINED AT ALL TIMES DURING CLEANING AND CCTV INSPECTION OF THE SEWER LINES.  
B) PRIOR TO CCTV INSPECTION, THE CONTRACTOR SHALL REMOVE ALL DEBRIS AND FOREIGN OBJECTS INSIDE THE SANITARY SEWER LINES AND MANHOLES WHERE WORK WAS PERFORMED, AND THEN FLUSH AND CLEAN ALL PARTS OF THE SYSTEM, AND REMOVE ALL ACCUMULATED CONSTRUCTION DEBRIS, GRAVEL, SILT AND OTHER FOREIGN MATERIAL FROM THE SANITARY SEWER SYSTEM AT OR NEAR THE CLOSEST DOWNSTREAM MANHOLE USING MECHANICAL RODDING, FLUSHING, OR BUCKETING EQUIPMENT, IF NECESSARY.  
C) THE CONTRACTOR SHALL FURNISH ALL MATERIALS, TOOLS, EQUIPMENT AND LABOR REQUIRED TO PERFORM CCTV INSPECTION; AND CCTV INSPECTION EQUIPMENT SHALL BE APPROVED BY THE DISTRICT.  
D) VIDEO EQUIPMENT SHALL INCLUDE A TELEVISION CAMERA IN COLOR FORMAT SPECIFICALLY DESIGNED AND CONSTRUCTED FOR OPERATION IN CONNECTION WITH SEWER INSPECTION AND FOR OPERATION IN SEWERS UNDER 100% HUMIDITY CONDITIONS. THE CAMERA SHALL HAVE A MINIMUM CAPABILITY OF 350 LINES OF RESOLUTION AND SHOULD BE OF THE ARTICULATING HEAD-TYPE TO ALLOW LATERALS AND DEFECTS TO BE VIEWED DIRECTLY. LIGHTING AND CAMERA QUALITY SHALL PRODUCE A CLEAR, IN-FOCUS PICTURE OF THE ENTIRE PERIPHERY OF THE PIPE FOR A MINIMUM DISTANCE OF SIX FEET (6'). THE CAMERA SHALL BE MOVED THROUGH THE LINE, PREFERABLY IN THE DIRECTION OF THE SEWAGE FLOW, AT A MODERATE RATE, STOPPING AT JOINTS, LATERAL CONNECTIONS AND WHEN NECESSARY TO PERMIT PROPER DOCUMENTATION OF THE SEWER'S CONDITION. IN NO CASE SHALL THE TELEVISION CAMERA BE OPERATED AT A SPEED GREATER THAN 30 FEET PER MINUTE. MANUAL WINCHES, POWER WINCHES, TV CABLE, AND POWERED REWINDS OR OTHER DEVICES THAT DO NOT OBSTRUCT THE CAMERA VIEW OR INTERFERE WITH PROPER DOCUMENTATION OF THE SEWER CONDITIONS SHALL BE USED TO MOVE THE CAMERA THROUGH THE SEWER LINE.  
E) THE CCTV INSPECTION SHALL BE CONTINUOUS COLOR DIGITAL RECORDING IN MPEG 4 FORMAT FOR EACH PIPE SEGMENT INSPECTED. THE INSPECTION VIDEO SHALL BE EITHER CONFIGURED FOR VIEWING USING THE LATEST VERSION OF WINDOWS MEDIA PLAYER, OR THE APPROPRIATE VIEWING SOFTWARE MUST BE SUBMITTED ON EACH DVD. DVDS SHALL BE SUBMITTED TO THE DISTRICT WITH A TYPED LOG OF THE INSPECTION FOR REVIEW AND ACCEPTANCE. ALL DVDS SHALL BECOME THE PROPERTY OF THE COUNTY. IF, IN THE OPINION OF THE DISTRICT, THE SUBMITTED DVDS ARE OF POOR QUALITY SUCH THAT THE DISTRICT IS UNABLE TO EVALUATE THE CONDITION OF THE SEWER LINES, THE DISTRICT MAY REJECT THE DVDS AND REQUIRE THE CCTV INSPECTION TO BE REPEATED AND NEW DVDS SUBMITTED TO THE DISTRICT FOR REVIEW AND ACCEPTANCE.  
F) SUBMITTED DVDS, WHEN REPLAYED ON A MONITOR, SHALL BE CLEAR AND IN-FOCUS, AND SHALL INCLUDE A CONTINUOUS ON-SCREEN DISPLAY CONTAINING, AT A MINIMUM, THE DATE OF VIDEO INSPECTION AND IDENTIFICATION OF THE SANITARY SEWER LINE AND SEGMENT (STREET LOCATION, UPSTREAM AND DOWNSTREAM MANHOLE NUMBERS) OF THE LINE BEING VIEWED, AND FOOTAGE. THE NUMBER DESIGNATIONS FOR EXISTING SANITARY SEWER MANHOLES SHALL BE AS SHOWN ON THE DISTRICT MAPS.

C - 17A

**SAN MATEO COUNTY SEWER AND SANITATION DISTRICTS  
STANDARD SPECIFICATIONS  
MANHOLE TESTING (CONTINUED)**

**VACUUM TESTING**

VACUUM TEST PROCEDURES AND REQUIREMENTS SHALL BE AS FOLLOWS:

- AFTER COMPLETION OF THE MANHOLE BARRELS BUT PRIOR TO BACKFILLING, SEALING OF LINER SEAMS AND INSTALLING GRADE RINGS, ALL OPENINGS IN THE MANHOLE ARE SEALED WITH PLUGS AND A RUBBER RING "DONUT" TYPE PLUG INSERTED INSIDE THE OPENING OF THE CONE.
- A SMALL VACUUM PUMP IS ATTACHED TO A HOSE CONNECTED TO THE PLUG AND 4 PSI (8 INCHES HG) OF VACUUM APPLIED.
- THE VACUUM IS PERMITTED TO STABILIZE AT 3.5 PSI (7 INCHES HG) FOR ONE (1) MINUTE; THEN THE TEST HAS BEGUN.
- THE MANHOLE MUST MAINTAIN VACUUM SUCH THAT NO GREATER THAN 0.50 PSI (1 INCH HG) OF VACUUM IS LOST DURING THE SPECIFIED TEST PERIOD. THE SPECIFIED TEST PERIOD IS AS FOLLOWS:

MANHOLE DEPTH (feet)	MANHOLE DEPTH (feet)
0-5	4.5
5-10	5.5

- MANHOLES THAT FAIL THE TEST SHALL BE CORRECTED AS REQUIRED AND RETESTED.
- A VACUUM REGULATOR SHALL BE PROVIDED ON THE VACUUM PUMP SUCH THAT NO GREATER THAN 10 PSI (20 INCHES HG) CAN BE APPLIED TO THE MANHOLE DURING THE TEST. ALL MANHOLES THAT DO NOT MEET THE LEAKAGE TEST, OR ARE UNSATISFACTORY FROM VISUAL INSPECTION, SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.
- WHERE THE ACTUAL LEAKAGE IN A MANHOLE EXCEEDS THE ALLOWABLE, CONTRACTOR SHALL DISCOVER THE CAUSE, REMEDY IT AND RETEST THE MANHOLE BEFORE THE MANHOLE IS ACCEPTED. IF THE LEAKAGE IS LESS THAN ALLOWABLE AND LEAKS ARE OBSERVED, SUCH LEAKS SHALL BE REPAIRED.

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**SAN MATEO COUNTY SEWER AND SANITATION DISTRICTS  
STANDARD SPECIFICATIONS  
PIPE TESTING REQUIREMENTS (CONTINUED)**

- IF, UPON THE DISTRICT'S REVIEW OF THE CCTV INSPECTION, ANY DEBRIS OR FOREIGN MATTER IS STILL PRESENT IN THE SANITARY SEWER SYSTEM, THE CONTRACTOR SHALL RE-FLUSH AND CLEAN, AND RE-CCTV INSPECT THOSE SECTIONS AND PORTIONS OF THE SANITARY SEWER LINES AND MANHOLES, AS REQUIRED AND AS DIRECTED BY THE DISTRICT. THIS PROCESS SHALL BE REPEATED UNTIL CCTV INSPECTION INDICATES THAT THE SANITARY SEWER LINES HAVE BEEN SATISFACTORILY CLEANED.
- ANY DAMAGE TO THE EXISTING SANITARY SEWER MAIN CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR, TO THE SATISFACTION OF THE DISTRICT.
- ANY DAMAGE TO EITHER PUBLIC OR PRIVATE FACILITIES (DUE TO, FOR EXAMPLE, A SANITARY SEWER MAINLINE BACKUP) AS A RESULT OF THE CONTRACTOR'S CCTV INSPECTION OPERATIONS, AS DESCRIBED ABOVE, SHALL BE REPAIRED OR CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE DISTRICT.
- CLOSED CIRCUIT TELEVISION (CCTV) INSPECTIONS OF PRIVATE SANITARY SEWER LATERALS  
A VIDEO INSPECTION SHALL BE PERFORMED BY THE APPLICANT/CONTRACTOR OF PRIVATE SEWER LATERALS AS SPECIFIED BY THE DISTRICT. A DVD SHALL BE MADE OF THE INSPECTION AND DELIVERED ALONG WITH A TYPED LOG OF THE INSPECTION TO THE DISTRICT FOR REVIEW AND ACCEPTANCE. THE INSPECTION VIDEO SHALL BE EITHER CONFIGURED FOR VIEWING USING THE LATEST VERSION OF WINDOWS MEDIA PLAYER, OR THE APPROPRIATE VIEWING SOFTWARE MUST BE SUBMITTED ON EACH DVD. PRIOR TO PERFORMING THE VIDEO INSPECTION, ALL DEBRIS OR FOREIGN OBJECTS INSIDE THE SEWER LATERAL SHALL BE CLEANED AND REMOVED. IF THE VIDEO INSPECTION SHOWS ANY DEBRIS STILL EXISTS INSIDE THE SEWER LATERAL, IT SHALL BE REMOVED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE. AFTER THE REMOVAL OF ALL DEBRIS, THE CONTRACTOR MUST PROVIDE A VIDEO OF THE RE-INSPECTED SEWER LATERAL.  
IMMEDIATELY PRIOR TO TELEVISION THE SEWER LATERALS, AN AMOUNT OF WATER ACCEPTABLE TO THE DISTRICT'S REPRESENTATIVE SHALL BE INTRODUCED INTO THE SEWER LATERAL BEING INSPECTED. SUBMITTED DVDS SHALL INCLUDE A CONTINUOUS ON-SCREEN DISPLAY, WHICH CONTAINS, AT A MINIMUM, THE DATE OF THE VIDEO INSPECTION AND LOCATION OF THE SEWER LATERAL INSPECTION BY INDICATING ADDRESS, AND FOOTAGE. VIDEO EQUIPMENT SHALL INCLUDE A TELEVISION CAMERA IN COLOR FORMAT SPECIFICALLY DESIGNED AND CONSTRUCTED FOR OPERATION IN CONNECTION WITH SEWER INSPECTION AND FOR OPERATION IN SEWERS UNDER 100% HUMIDITY CONDITIONS. LIGHTING AND CAMERA QUALITY SHALL PRODUCE A CLEAR, IN-FOCUS PICTURE OF THE ENTIRE PERIPHERY OF THE PIPE FOR A MINIMUM DISTANCE OF SIX (6) FEET. THE CAMERA SHALL BE MOVED THROUGH THE LINE, IN A SMOOTH FASHION, PREFERABLY IN THE DIRECTION OF THE SEWAGE FLOW, AT A MODERATE RATE, STOPPING WHEN NECESSARY TO PERMIT PROPER DOCUMENTATION OF THE SEWER LATERALS CONDITION. IN NO CASE SHALL THE TELEVISION CAMERA BE OPERATED AT A SPEED GREATER THAN 30 FEET PER MINUTE.  
IF, IN THE OPINION OF THE DISTRICT, THE SUBMITTED DVDS ARE OF POOR QUALITY SUCH THAT THE DISTRICT IS UNABLE TO EVALUATE THE CONDITION OF THE SEWER LATERAL, THE DISTRICT MAY REJECT THE DVDS AND REQUIRE THE VIDEO INSPECTION TO BE REPEATED AND NEW DVDS SUBMITTED TO THE DISTRICT FOR REVIEW AND ACCEPTANCE. ALL DVDS SHALL BECOME THE PROPERTY OF THE COUNTY.

THE APPLICANT/CONTRACTOR IS RESPONSIBLE FOR ALL WORK LISTED IN THE PRECEDING PARAGRAPHS.

C - 17B

**SAN MATEO COUNTY SEWER AND SANITATION DISTRICTS  
STANDARD SPECIFICATIONS  
MANHOLE REHABILITATION**

**GENERAL: SCOPE**

WORK UNDER THIS SECTION SHALL INCLUDE ALL MATERIAL, LABOR AND SERVICES TO MODIFY MANHOLE CHANNEL, AND SEAL MANHOLE, FURNISH, INSTALL AND TEST, AND ALL NECESSARY APPURTENANCES REQUIRED, SHOWN AND SPECIFIED TO MAKE THE WORK COMPLETE AND OPERABLE.

**SHOP DRAWINGS**

THE CONTRACTOR SHALL SUBMIT AND OBTAIN APPROVAL OF MATERIAL AND DETAILS OF ALL MANHOLE-SEALING MATERIALS BEFORE CONSTRUCTION.

**MATERIAL**

MANHOLE SEALING MATERIALS SHALL BE AS SPECIFIED HEREIN.

- MANHOLE PATCHING COMPOUND SHALL BE CONTROLLED SET PATCHING MATERIAL FOR MANHOLE WALL REHABILITATION. PRECO-PATCH AS MANUFACTURED BY PRECO INDUSTRIES, OR PRODUCT PRODUCED BY TERMECRETE SYSTEMS INC., OR APPROVED EQUAL.
- MANHOLE WATERPROOF COATING SHALL BE ACRYLIC MODIFIED CEMENTITIOUS HYDRAULIC WATERPROOF COATING FOR BLOCK AND BRICK MANHOLES, SELF-CURING, SUITABLE FOR BRUSH APPLICATION, BRUSH BOND AS MANUFACTURED BY PRECO INDUSTRIES LTD., OR TEGRAPROOF CONCENTRATE AS PRODUCED BY TERMECRETE SYSTEMS INC., OR APPROVED EQUAL.
- EPOXY LINER BE TROWELABLE 100% SOLIDS, THREE COMPONENT SYSTEM OF EPOXY RESINS AND FILLER, INITIAL CURE TIME OF 4 HOURS, FOSROC EPOXY LINER AS MANUFACTURED BY PRECO INDUSTRIES LTD. OR APPROVED EQUAL.

**EXECUTION**

- EXISTING MANHOLES WILL BE REUSED AT LOCATIONS SHOWN ON THE PLANS UNLESS OTHERWISE NOTED.
- COMPLY WITH ALL RELEVANT PROVISIONS OF THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION, PROMULGATED BY THE SECRETARY OF LABOR, AS SET FORTH IN TITLE 29 C.F.E., AND WITH ALL PROVISIONS OF THE CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ACT OF 1973.
- SPECIFIC ATTENTION IS DIRECTED TO OSHA SAFETY RULES, REGULATIONS AND PRECAUTIONS TO BE TAKEN BY THE CONTRACTOR BEFORE ENTERING SANITARY SEWER MANHOLES, AND OTHER SANITATION STRUCTURES WITH RESPECT TO PHYSICAL AND CHEMICAL HAZARDS WHICH MAY BE PRESENT.
- MODIFY AND REPAIR THE MANHOLE CHANNEL FOR A SMOOTH TRANSITION OF FLOWS.
- SEAL CRACK OPENINGS GREATER THAN 1/8 INCH ON INSIDE OF EXISTING MANHOLES BY CHIPPING OUT A MINIMUM DEPTH AND WIDTH OF 3/4 INCH. MIX AND KNEAD MANHOLE PATCHING COMPOUND THEN FORCE COMPOUND INTO PREPARED CRACK. TROWEL INSIDE SURFACE TO CONFORM.
- INSURE ALL PIPE CONNECTIONS TO THE EXISTING MANHOLES ARE COMPLETELY WATERTIGHT.
- REMOVE AND LOOSE BRICKS OR PIECES OF BRICK, MORTAR OR CONCRETE AND FILL ALL VOIDS AND JOINTS WITH MIXED AND KNEADED MANHOLE PATCHING COMPOUND.
- OBSERVE STANDARD AMERICAN CONCRETE INSTITUTE (ACI) PROCEDURES FOR STORING, MIXING AND PLACING CONCRETE FOR APPLICATION OF MANHOLE PATCHING COMPOUND. FOLLOW STANDARD CONCRETE CURING PROCEDURES.
- CLEAN INSIDE SURFACE OF MANHOLE WALL OF OIL, GREASE, WAX AND DIRT AND BRUSH ONE 1/16-INCH COAT OF MANHOLE WATERPROOF COATING OVER ENTIRE INTERIOR WALL OF MANHOLE IN CONFORMANCE WITH MANUFACTURERS INSTRUCTIONS.

C - 19



APPROVED:

DATE: APRIL 15, 2022

*Ann Mader Stillman*

ANN MADER STILLMAN,  
INTERIM DIRECTOR OF PUBLIC WORKS  
R. C. E. # 47882 / EXPIRES 12-31-2023

**SAN MATEO COUNTY SEWER AND SANITATION DISTRICTS  
STANDARD SPECIFICATIONS  
PIPE TESTING REQUIREMENTS (CONTINUED)**

- DEFLECTION TESTING OF POLYVINYL CHLORIDE (PVC) SEWER MAINS SHALL BE PERFORMED AFTER THE PLACEMENT OF ALL TRENCH BACKFILL. PIPE DEFLECTION SHALL BE TESTED BY PULLING BY HAND A GO/NO-GO MANDREL THROUGH THE INSTALLED SECTIONS OF SEWER MAIN.

THE MANDREL USED SHALL HAVE A MINIMUM LENGTH EQUAL TO ITS DIAMETER. THE MANDREL SHALL BE CONSTRUCTED WITH A MINIMUM OF NINE (9) RIBS FABRICATED PARALLEL TO ITS LONGITUDINAL AXIS. BOTH THE DESIGN OF THE MANDREL AND THE FABRICATED MANDREL ITSELF SHALL BE INSPECTED AND APPROVED BY THE DISTRICT WELL IN ADVANCE OF THE DEFLECTION TEST.

THE MANDREL DIAMETER SHALL BE 95% OF THE PIPE'S AVERAGE INSIDE DIAMETER AS DEFINED BY ASTM SPECIFICATION D3034, AND AS DETAILED IN THE FOLLOWING TABLE:

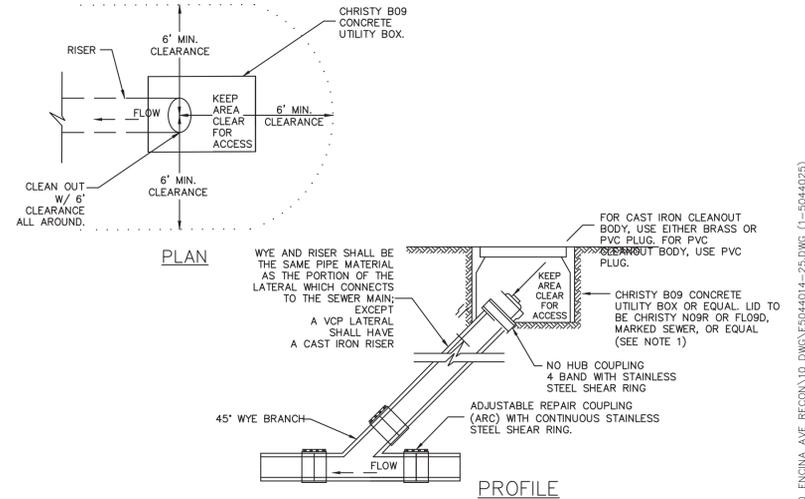
NOMINAL PIPE SIZE (inches)	AVERAGE INSIDE DIAMETER (inches)	MINIMUM MANDREL DIAMETER (inches)
6	5.893	5.598
8	7.891	7.497
10	9.864	9.371

NOTE: AVERAGE INSIDE DIAMETER = AVERAGE OUTSIDE DIAMETER - 2(1.06T); WHERE T = MINIMUM WALL THICKNESS AS DEFINED BY ASTM SPECIFICATION D3034.

- REQUIRED TESTING METHOD FOR SEWER MAIN AND MANHOLE TESTING AREA AS FOLLOWS:

TEST METHOD	PURPOSE	PIPE TESTING (PVC, VCP, DIP, HDPE)	MANHOLE TESTING
AIR TEST	LEAKAGE IN PIPE	ALL MATERIALS EXCEPT HDPE	NOT APPLICABLE
BALL TEST	OBSTRUCTION AND JOINT OFFSET IN PIPE	ONLY ON VCP AND DIP	NOT APPLICABLE
MANDREL TEST	DEFLECTION IN PIPE	ONLY ON PVC	NOT APPLICABLE
CCTV	DEFECTS IN PIPE	ALL MATERIALS	NOT APPLICABLE
VACUUM OR WATER TEST	LEAKAGE IN MANHOLE	NOT APPLICABLE	YES

C - 17C



**NOTES:**

- WHEN BOX IS SUBJECT TO TRAFFIC LOADING, PROVIDE CAST IRON LID.
- BOX TO BE PLACED SUCH THAT CLEANOUT CAP CAN BE EASILY REMOVED, SEE ILLUSTRATION.
- PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING LATERAL FROM THE PROPERTY STRUCTURE TO DISTRICT MAIN. DISTRICT PROVIDES COURTESY SERVICE FROM DISTRICT STANDARD PROPERTY LINE CLEANOUT TO THE MAIN.
- SEE SEWER SHEETS C-15, C-16, C-16A, C-17, C-17A, C-17B, AND C-17C FOR GENERAL NOTES.
- CONSTRUCTION OF A STANDARD CLEANOUT REQUIRES MULTIPLE INSPECTIONS BY DISTRICT PERSONEL:
  - FIRST INSPECTION - TO INSPECT WYE AND RISER, WYE AND RISER MUST BE EXPOSED.
  - SECOND INSPECTION - TO INSPECT PLACEMENT OF BOX, LID AND LOCATION OF CLEANOUT WITHIN BOX.

**A**  
**25**

**TYPICAL SEWER CLEANOUT & BOX DETAIL**

NOT TO SCALE



DESIGNED BY: JS	RECONSTRUCTION OF ENCINA AVENUE FROM MIDDLEFIELD ROAD TO END SANITARY SEWER DETAILS	SCALE: NONE
CHECKED BY: WN		DATE: 04-15-2022
DRAWN BY: JS		FILE NO.: 1/5044
ANN MADER STILLMAN, INTERIM DIRECTOR OF PUBLIC WORKS COUNTY SAN MATEO	555 COUNTY CENTER, 5th FLOOR REDWOOD CITY, CALIFORNIA 94063	
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES	0 1 2 3 4	25 SHEET 25 OF 25

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