

AREA EX.1
 IMPERVIOUS AREA: 4,173 SF
 PERVIOUS AREA: 4,789 SF
 TOTAL AREA: 8,962 SF
 "c" VALUE: 0.69
 i_{100} (100 yr, 10 Min): 4.01 in/hr
 RATIONAL METHOD $Q_{100} = C i_{100} A$
 $Q_{100} = (0.69)(4.01)(8,962)$
 $= 0.57 \text{ CFS}$

AREA EX.2
 IMPERVIOUS AREA: 2,277 SF
 PERVIOUS AREA: 2,471 SF
 TOTAL AREA: 4,748 SF
 "c" VALUE: 0.69
 i_{100} (100 yr, 10 Min): 4.01 in/hr
 RATIONAL METHOD $Q_{100} = C i_{100} A$
 $Q_{100} = (0.69)(4.01)(4,748)$
 $= 0.30 \text{ CFS}$

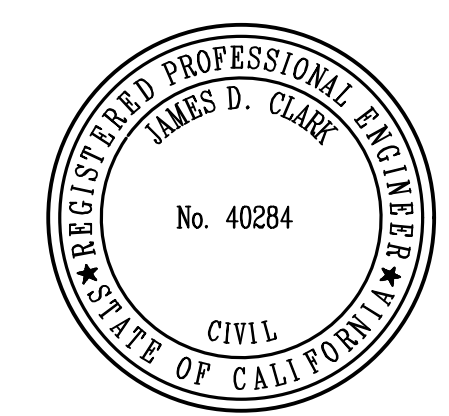
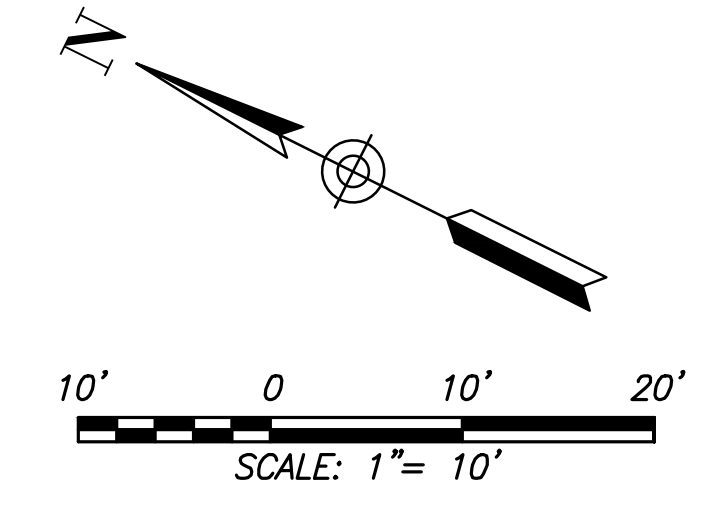
AREA EX.3
 IMPERVIOUS AREA: 1,155 SF
 PERVIOUS AREA: 2,904 SF
 TOTAL AREA: 4,059 SF
 "c" VALUE: 0.61
 i_{100} (100 yr, 10 Min): 4.01 in/hr
 RATIONAL METHOD $Q_{100} = C i_{100} A$
 $Q_{100} = (0.61)(4.01)(4,059)$
 $= 0.23 \text{ CFS}$

LEGEND:

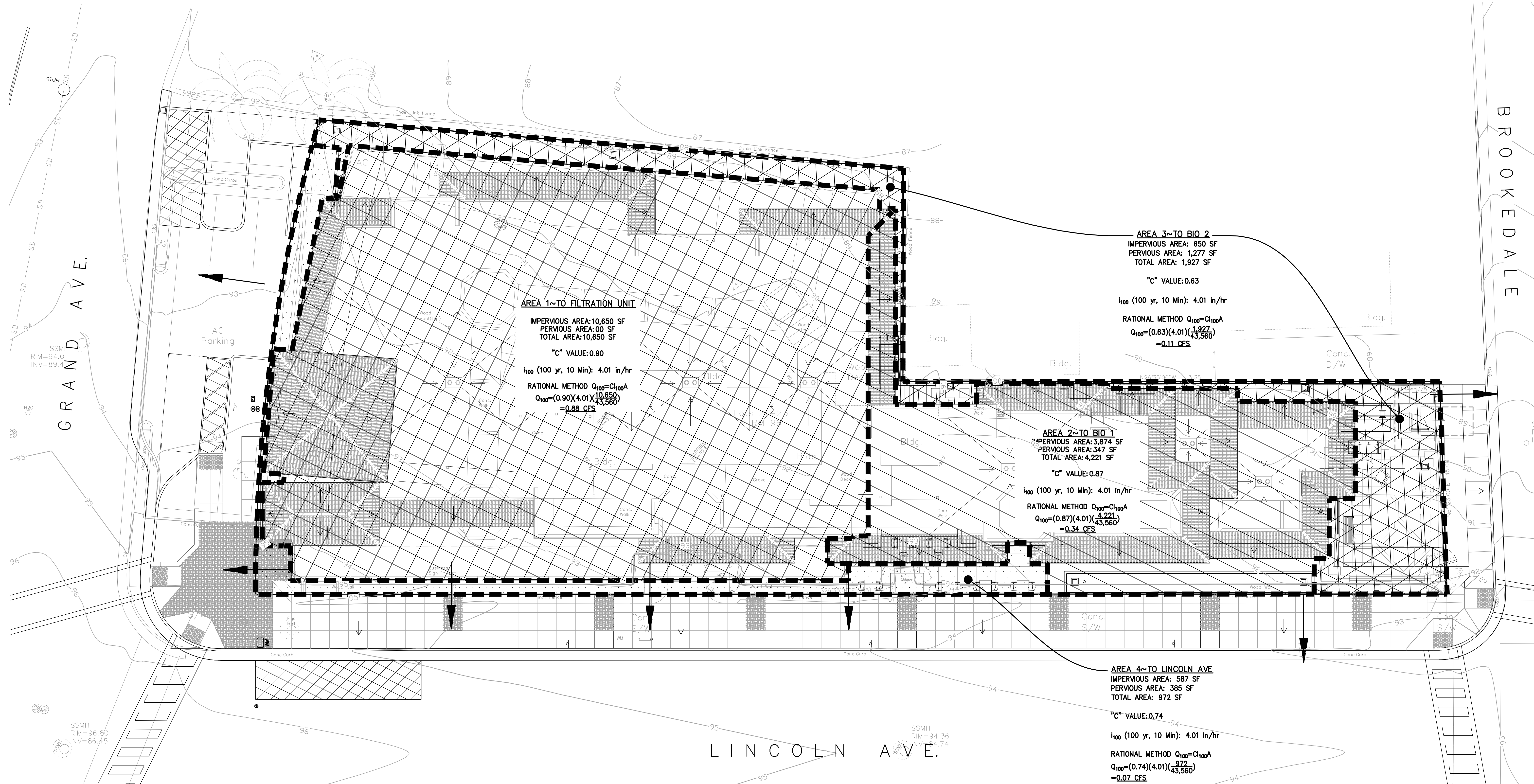
- ▬▬▬▬ DRAINAGE AREA
- ➔ SITE RUN OFF

EXISTING SITE RUNOFF CALCULATION:

AREA EX.1: 0.57 CFS
 +
 AREA EX.2: 0.30 CFS
 +
 AREA EX.3: 0.23 CFS
OVERALL: 1.10 CFS = Q_{100}



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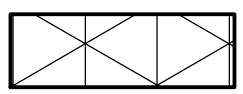
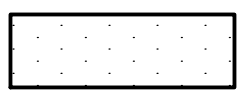


AREA 1~TO FILTRATION UNIT
 IMPERVIOUS AREA: 10,650 SF
 PERVIOUS AREA: 00 SF
 TOTAL AREA: 10,650 SF
 "C" VALUE: 0.90
 i_{100} (100 yr, 10 Min): 4.01 in/hr
 RATIONAL METHOD $Q_{100}=C_{100}A$
 $Q_{100}=(0.90)(4.01)(10,650)$
 $=0.88$ CFS

AREA 3~TO BIO 2
 IMPERVIOUS AREA: 650 SF
 PERVIOUS AREA: 1,277 SF
 TOTAL AREA: 1,927 SF
 "C" VALUE: 0.63
 i_{100} (100 yr, 10 Min): 4.01 in/hr
 RATIONAL METHOD $Q_{100}=C_{100}A$
 $Q_{100}=(0.63)(4.01)(1,927)$
 $=0.11$ CFS

AREA 2~TO BIO 1
 IMPERVIOUS AREA: 3,874 SF
 PERVIOUS AREA: 347 SF
 TOTAL AREA: 4,221 SF
 "C" VALUE: 0.87
 i_{100} (100 yr, 10 Min): 4.01 in/hr
 RATIONAL METHOD $Q_{100}=C_{100}A$
 $Q_{100}=(0.87)(4.01)(4,221)$
 $=0.34$ CFS

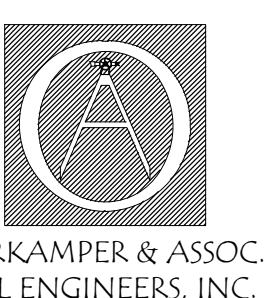
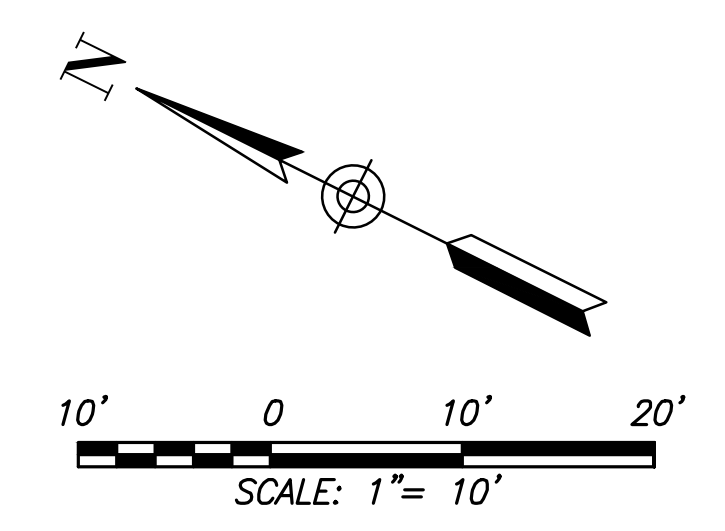
AREA 4~TO LINCOLN AVE
 IMPERVIOUS AREA: 587 SF
 PERVIOUS AREA: 385 SF
 TOTAL AREA: 972 SF
 "C" VALUE: 0.74
 i_{100} (100 yr, 10 Min): 4.01 in/hr
 RATIONAL METHOD $Q_{100}=C_{100}A$
 $Q_{100}=(0.74)(4.01)(972)$
 $=0.07$ CFS

LEGEND:

-  AREA 1
-  AREA 2
-  AREA 3
-  AREA 4
-  DRAINAGE AREA
-  SITE RUN OFF

PROPOSED SITE RUNOFF CALCULATION:

AREA 1: 0.88 CFS
 AREA 2: 0.34 CFS
 +
 AREA 3: 0.11 CFS
 +
 AREA 4: 0.07 CFS
OVERALL: 1.40 CFS > EXISTING 1.10 CFS
 EXCESS 0.30 CFS TO BE DETAINED IN STORMWATER DETENTION SYSTEM, SEE GRADING AND DRAINAGE PLAN, SHEET C2.0.



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POST-PROJECT DRAINAGE MAINTENANCE AREAS (DMA's)
TOTAL PARCEL AREA = 17,768 SQ.FT.

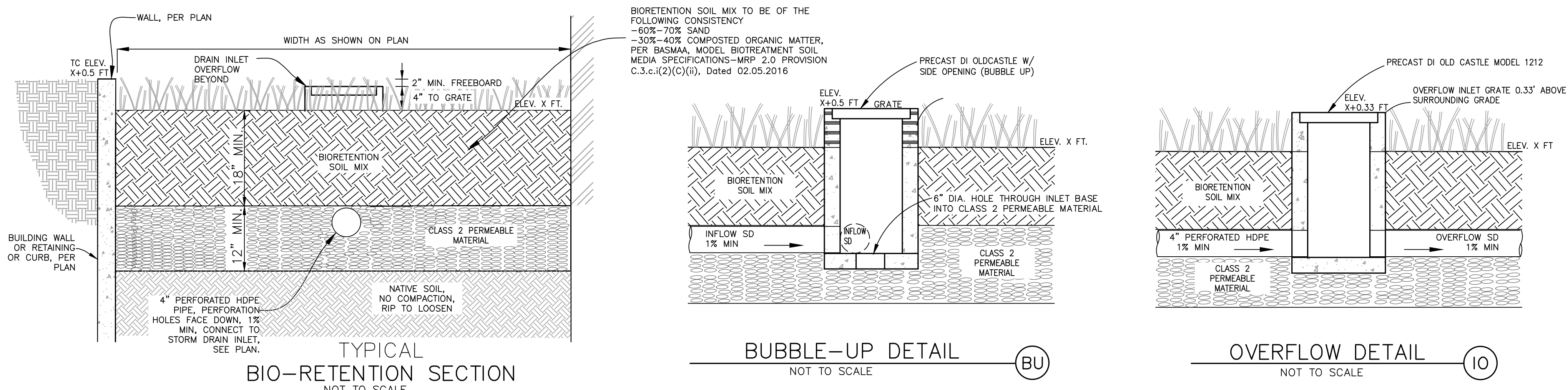
DMA Name	Impervious DMA Area (square feet)	Pervious DMA Area (square feet)	Post-Project Surface Type	DMA Runoff factor	DMA Area x Runoff Factor	Drainage Receiving Facility Name	Minimum Facilities (DMA x 0.04) (square feet)	Area Used in Design (square feet)
B	1,636		BUILDING ROOF	1.0	1,636	DRAINS TO BIO RETENTION AREA 1	65.4	
B1	223		BUILDING ROOF	1.0	223	DRAINS TO BIO RETENTION AREA 1	8.9	
D	1,768		BUILDING ROOF	1.0	1,768	DRAINS TO BIO RETENTION AREA 1	70.7	
Sub Totals>	3,627						145.0	206

DMA Name	Impervious DMA Area (square feet)	Pervious DMA Area (square feet)	Post-Project Surface Type	DMA Runoff factor	DMA Area x Runoff Factor	Drainage Receiving Facility Name	Minimum Facilities (DMA x 0.04) (square feet)	Area Used in Design (square feet)
E1	238		BUILDING ROOF	1.0	238	DRAINS TO BIO RETENTION AREA 2	9.5	
G	648		GRAVEL PATH	0.1	64.8	DRAINS TO BIO RETENTION AREA 2	2.6	
H	141		GRAVEL PATH	0.1	14.2	DRAINS TO BIO RETENTION AREA 2	0.6	
I	106		LANDSCAPE	0.1	10.6	DRAINS TO BIO RETENTION AREA 2	0.5	
J	123		LANDSCAPE	0.1	12.3	DRAINS TO BIO RETENTION AREA 2	0.5	
K	239		PATIO	1.0	239	DRAINS TO BIO RETENTION AREA 2	9.6	
L	259		TURF	0.1	25.9	DRAINS TO BIO RETENTION AREA 2	1.0	
M	17		LANDSCAPE	0.1	1.7	DRAINS TO BIO RETENTION AREA 2	0.1	
N	204		LANDSCAPE	0.1	20.4	DRAINS TO BIO RETENTION AREA 2	0.8	
Sub Totals>	477	1,498					25.2	57

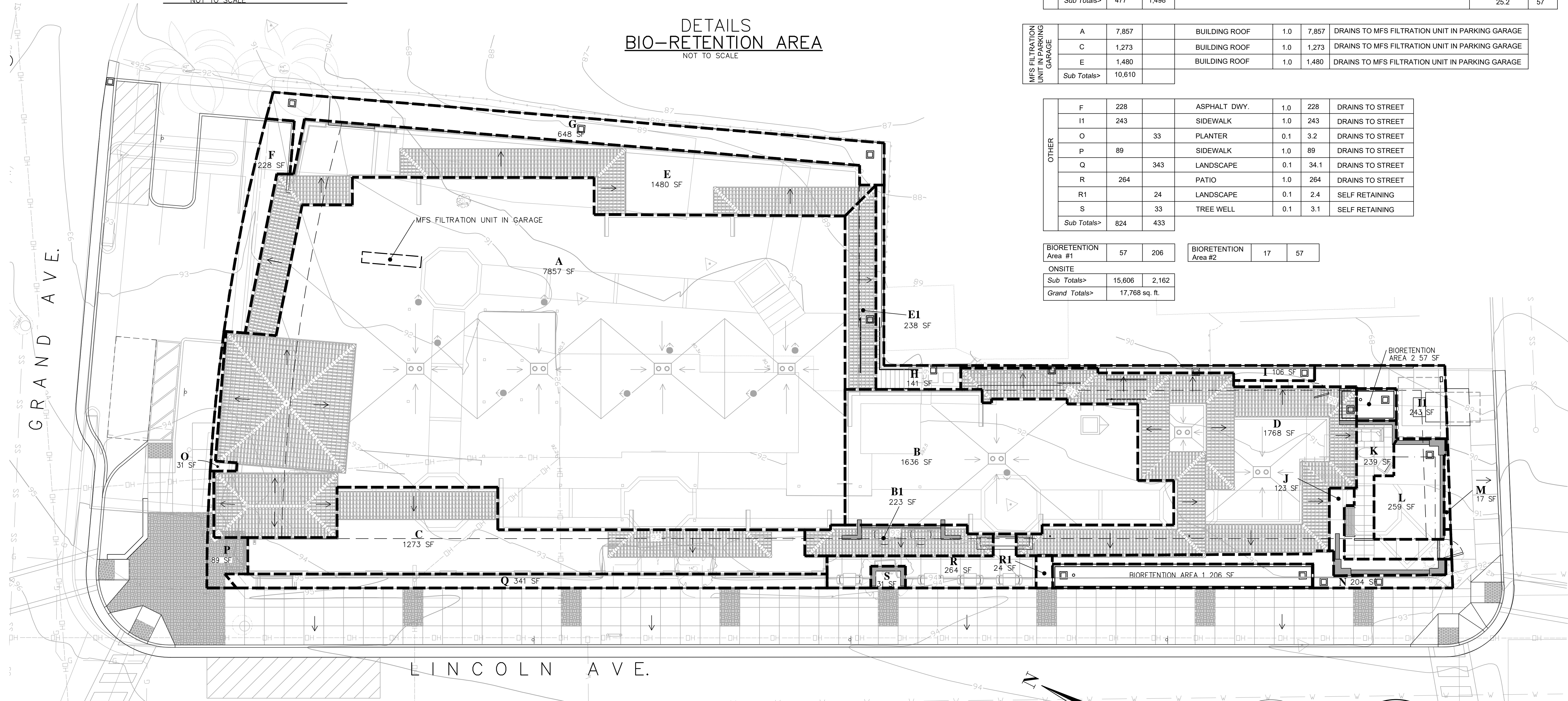
DMA Name	Impervious DMA Area (square feet)	Pervious DMA Area (square feet)	Post-Project Surface Type	DMA Runoff factor	DMA Area x Runoff Factor	Drainage Receiving Facility Name
A	7,857		BUILDING ROOF	1.0	7,857	DRAINS TO MFS FILTRATION UNIT IN PARKING GARAGE
C	1,273		BUILDING ROOF	1.0	1,273	DRAINS TO MFS FILTRATION UNIT IN PARKING GARAGE
E	1,480		BUILDING ROOF	1.0	1,480	DRAINS TO MFS FILTRATION UNIT IN PARKING GARAGE
Sub Totals>	10,610					

DMA Name	Impervious DMA Area (square feet)	Pervious DMA Area (square feet)	Post-Project Surface Type	DMA Runoff factor	DMA Area x Runoff Factor	Drainage Receiving Facility Name
F	228		ASPHALT DWY.	1.0	228	DRAINS TO STREET
I1	243		SIDEWALK	1.0	243	DRAINS TO STREET
O	33		PLANTER	0.1	3.2	DRAINS TO STREET
P	89		SIDEWALK	1.0	89	DRAINS TO STREET
Q	343		LANDSCAPE	0.1	34.1	DRAINS TO STREET
R	264		PATIO	1.0	264	DRAINS TO STREET
R1	24		LANDSCAPE	0.1	2.4	SELF RETAINING
S	33		TREE WELL	0.1	3.1	SELF RETAINING
Sub Totals>	824	433				

BIORETENTION Area #1	57	206	BIORETENTION Area #2	17	57
ONSITE Sub Totals>	15,606	2,162			
Grand Totals>	17,768	sq. ft.			

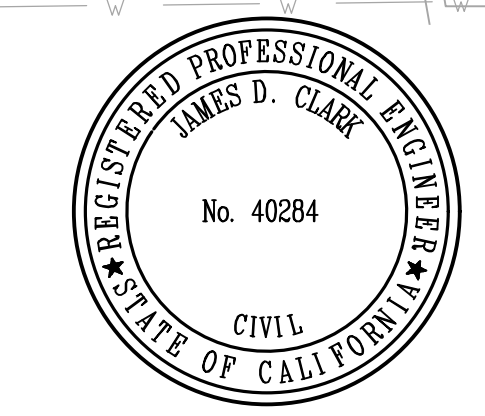
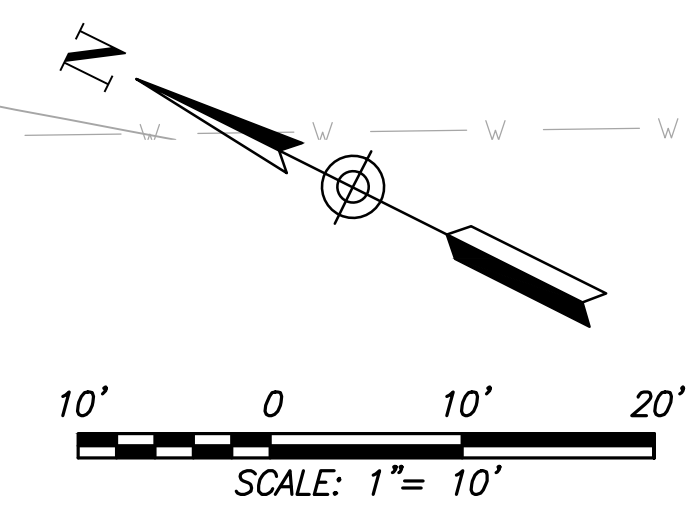


DETAILS
BIO-RETENTION AREA
NOT TO SCALE



LEGEND:
 - - - - - 97 - - - - - EXISTING 1 FOOT CONTOURS
 - - - - - PROPERTY LINE

EXISTING IMPROVEMENTS NOTE:
 EXISTING IMPROVEMENTS WILL BE REMOVED FROM THE SITE INCLUDING:
 CONCRETE FOUNDATION, BUILDINGS, STAIRS, DECKING, SLABS, ETC.

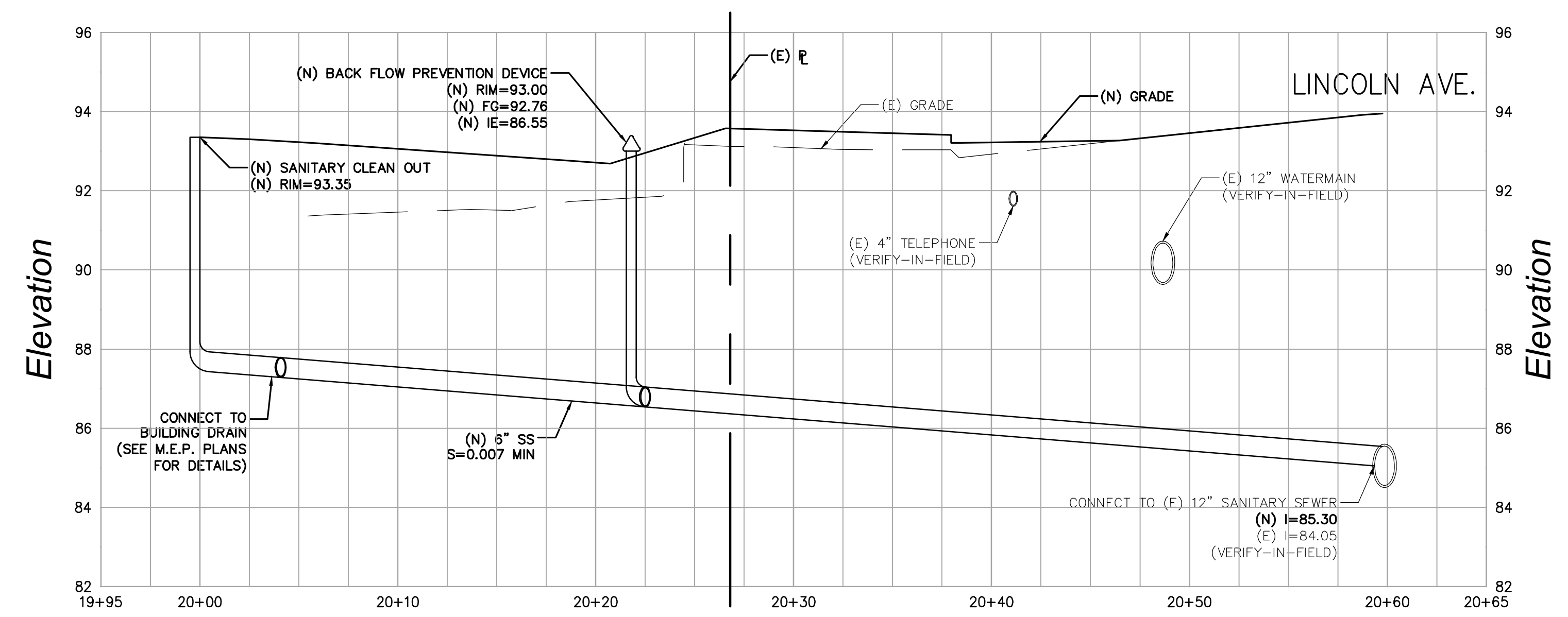


DRAINAGE FIXTURE COUNT-EXISTING

TYPE	QTY	WSFU EA			WSFU TOTAL			DRAIN FIXTURE UNITS	
		CW	HW	TOTAL	CW	HW	TOTAL	DFU EA	DFU TOTAL
Bar sink, private	1	0.75	0.75	1.50	0.00	0.00	0	1.5	0.0
Bar sink, public	3.00	3.00	4.00	0.00	0.00	0	2.0	0.0	
Bathub (and combination)	7.50	7.50	10.00	0.00	0.00	0	2.0	0.0	
3/4" Bathub Fill Valve/ Showers	1	0.75	0.75	1.00	0.00	0.00	0	2.0	0.0
Bidet	1	0.75	0.75	1.00	0.00	0.00	0	2.0	0.0
Blender Station	1.00	-	1.00	0.00	0.00	0	2.0	0.0	
Breakroom sink	1.125	1.125	1.50	0.000	0.000	0.0	2.0	0.0	
Coffee Maker	1.00	1.00	0.00	0.00	0	2.0	0.0		
Clothes Washer, Domestic	3.00	3.00	4.00	0.00	0.00	0	2.0	0.0	
Clothes Washer, Commercial	7.50	7.50	10.00	0.00	0.00	0	8.0	0.0	
Dental Unit, cuspidor	0.75	0.75	1.00	0.00	0.00	0	1.0	0.0	
Dishwasher, domestic	1	1.000	1.00	0.00	0.00	0	2.0	0.0	
Dishwasher, commercial	1	8.000	8.00	0.00	0.00	0	8.0	0.0	
Drinking Fountain	0.50	-	0.50	0.00	0.00	0.0	0.5	0.0	
Dripperwell	0.75	-	0.75	0.00	0.00	0	0.5	0.0	
Hand sink	0.75	0.75	1.00	0.00	0.00	0	1.0	0.0	
Hose Bibb	1	2.50	-	2.50	0.00	0.00	2.5	0.0	
Hose Bibb, each additional	5	1.00	-	1.00	0.00	0.00	5	0.0	
Ice Machine	1.00	-	1.00	0.00	0.00	0	3.0	0.0	
Kitchen sink	1.125	1.125	1.50	0.000	0.000	0.0	2.0	0.0	
Laundry sink	1	1.125	1.125	1.50	1.125	1.125	1.5	2.0	2.0
Lavatory	1	0.75	0.75	1.00	0.75	0.75	1	2.0	2.0
Mop sink	1	2.25	2.25	3.00	0.00	0.00	0	3.0	0.0
Shower	7.50	7.50	2.00	0.00	0.00	0	2.0	0.0	
Prep sink	1.125	1.125	1.50	0.000	0.000	0.0	2.0	0.0	
3-Compartment sink	3.00	3.00	4.00	0.00	0.00	0	3.0	0.0	
Premise	3.00	3.00	4.00	0.00	0.00	0	0.0	0.0	
Pot filler	1	1.50	-	1.50	0.00	0.00	0	0.0	
Urinal, 1.0 GPF	4.00	-	4.00	0.00	0.00	0	2.0	0.0	
Washbasin	3.00	3.00	4.00	0.00	0.00	0	2.0	0.0	
Water Closet, 1.6 GPF Tank	1	2.50	-	2.50	0.00	0.00	2.5	3.0	3.0
Water Closet, 1.6 GPF Flush Valve	5.00	-	5.00	0.00	0.00	0	3.0	0.0	
TOTAL WSFU				11.88	1.58	13			
TOTAL FIXTURE GPM									
TOTAL HOT WATER GPM									
OTHER GPM									
TOTAL GPM									
TOTAL DRAIN FIXTURE UNITS (DFU)									13

SANITARY SEWER NOTES

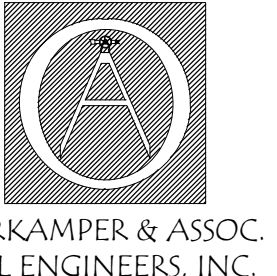
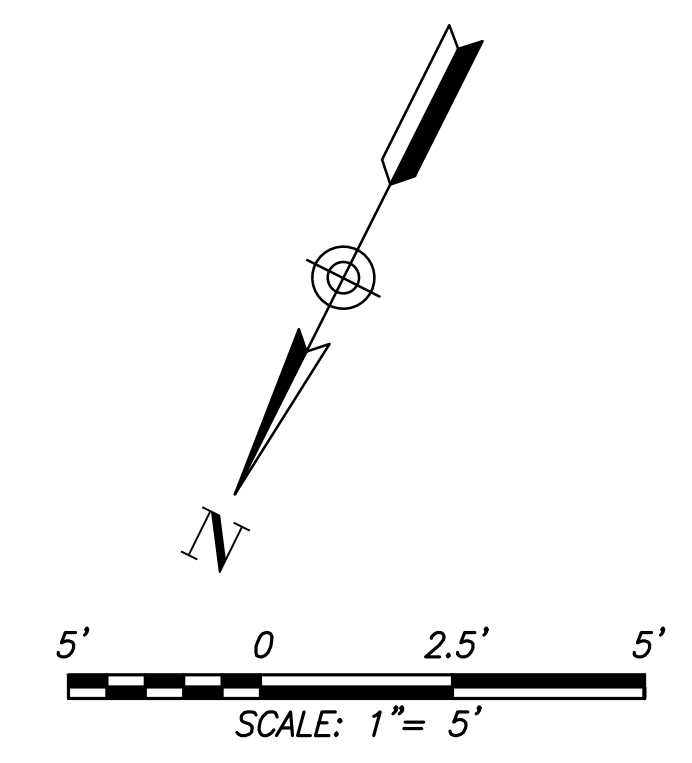
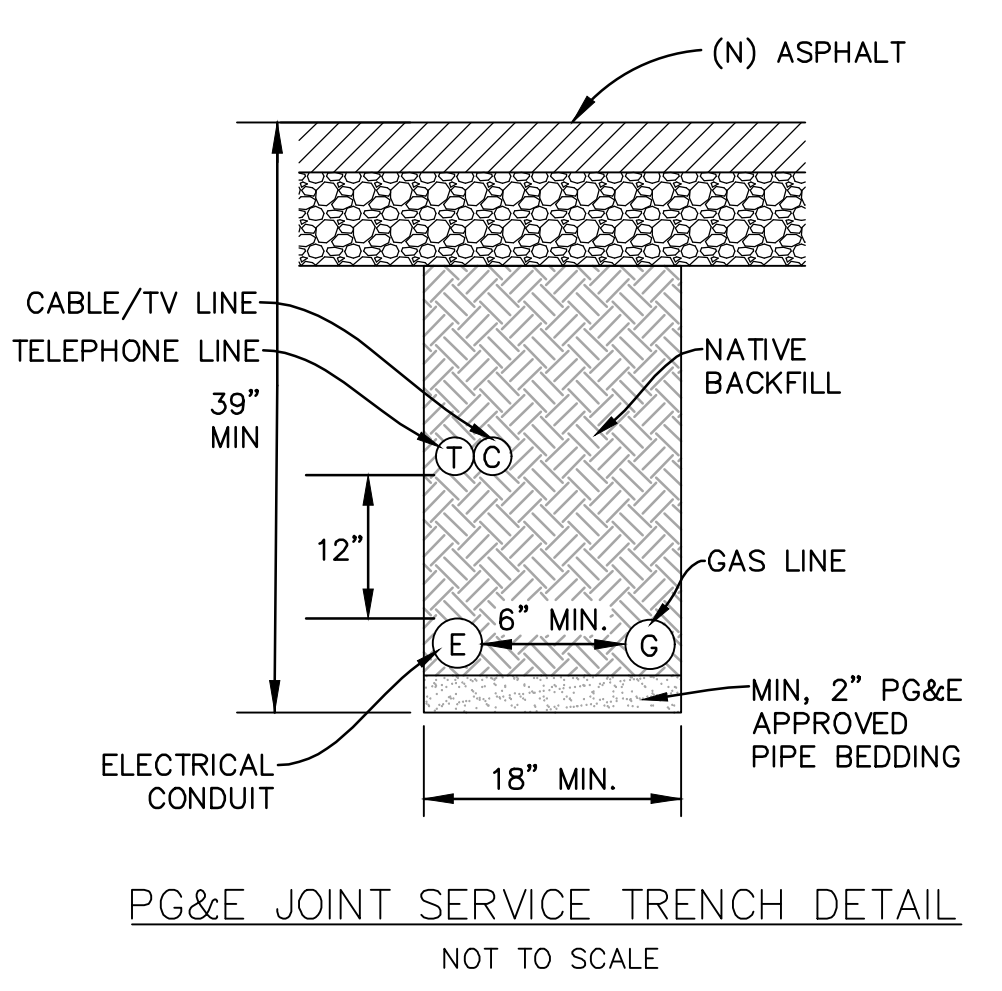
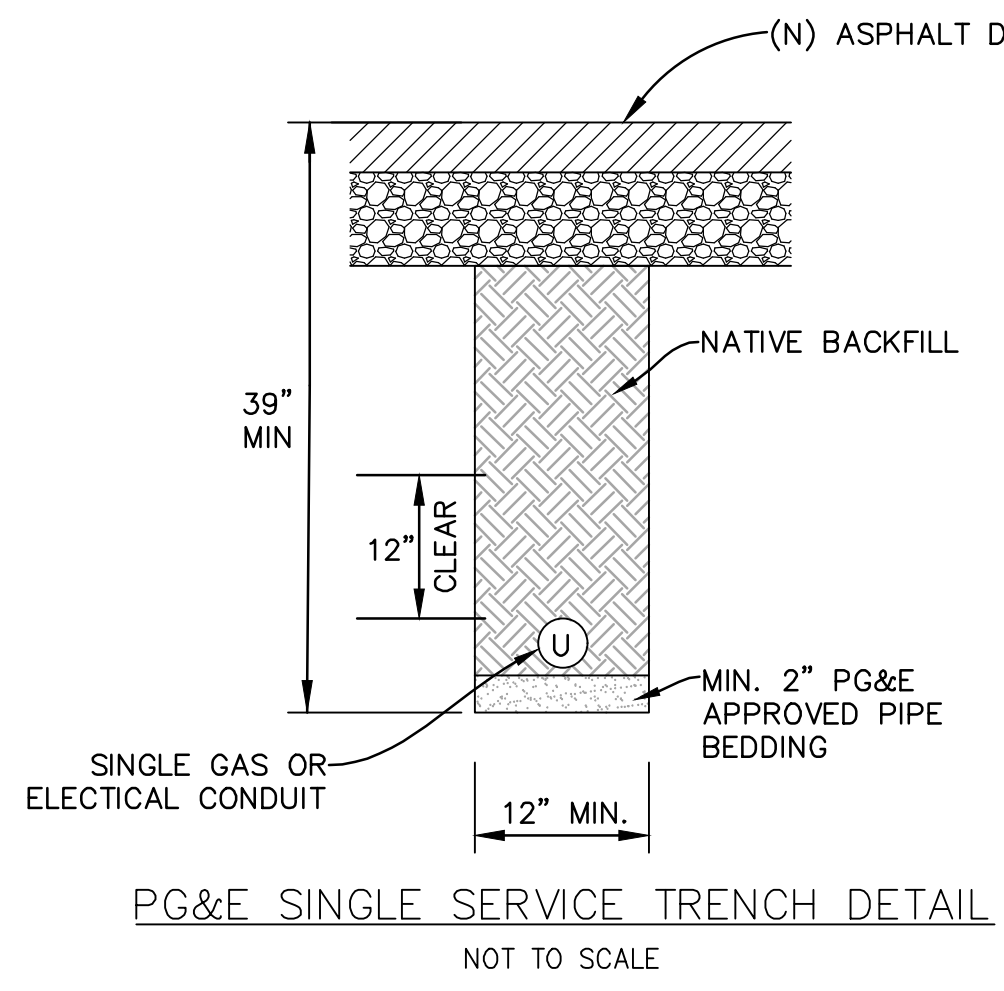
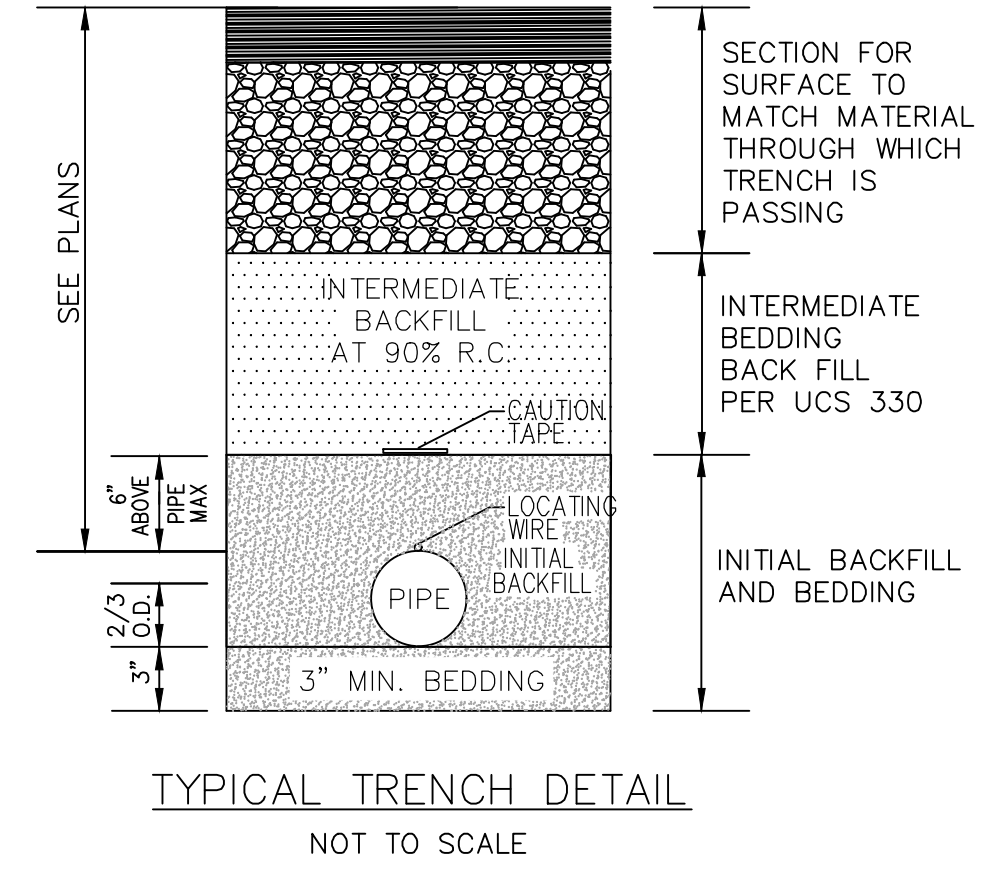
- BACKWATER CHECK VALVE ZURN MODEL Z-1095 OREG. W/ BRASS BOLTS & NUTS.
- GATE VALVE M&H MODEL 4067 OR EQ.
- 6" CLEAN OUT W/ BRASS PLUG.
- SEWER LATERALS CONNECTION TO EXISTING SEWER MAIN SHALL BE ACCOMPLISHED BY CONNECTING A WYE WITH SHEAR BAND COUPLINGS.
- SEWER LATERALS SHALL NOT HAVE BENDS IN THE PUBLIC RIGHT OF WAY BUT GENTLE SWEEPS WHEN A CHANGE IN DIRECTION CANNOT BE AVOIDED.
- ADD CLEANOUTS WHERE THE SEWER LATERAL LINE BENDS/CHANGES DIRECTION AT THE PRIVATE PROPERTY.
- MINIMUM COVER OF THE PIPE AT THE PRIVATE PROPERTY IS 18" AND AT THE PUBLIC RIGHT OF WAY IS 30".
- SEWER LATERAL AND SEWER PIPE WITHIN THE PROPERTY SHALL BE PVC AWWA C900, SDR 21.
- MINIMUM PIPE SLOPE IS 1.0%.
- SEWER LATERALS SHALL HAVE A MINIMUM OF 5' SEPARATION FROM OTHER UTILITIES.
- NOTIFY THE SAN RAFAEL SANITATION DISTRICT INSPECTOR, ROLANDO CALVO, 72 HOURS PRIOR TO START OF CONSTRUCTION AT (415) 485-3194 OR BY EMAIL AT Rolando.Calvo@CityofSanRafael.org.



SANITARY SEWER PROFILE
(SEE PLAN VIEW, SHEET C4.0)
SCALE: HORZ. 5.0'
VERT. 2.5'

DRAINAGE FIXTURE COUNT-PROPOSED

TYPE	QTY	WSFU EA			WSFU TOTAL			DRAIN FIXTURE UNITS	
		CW	HW	TOTAL	CW	HW	TOTAL	DFU EA	DFU TOTAL
Bar sink, private	6	0.75	0.75	1.00	4.50	4.50	6	1.0	6.0
Bar sink, public	3.00	3.00	4.00	0.00	0.00	0	2.0	0.0	
Bathub (and combination)	19	3.00	3.00	4.00	57.00	57.00	76	2.0	38.0
3/4" Bathub Fill Valve/ Showers	1	7.50	7.50	10.00	0.00	0.00	0	2.0	0.0
Bidet	1	0.75	0.75	1.00	0.00	0.00	0	2.0	0.0
Blender Station	1.00	-	1.00	0.00	0.00	0	2.0	0.0	
Breakroom sink	1	1.125	1.125	1.50	1.125	1.125	1.5	2.0	2.0
Coffee Maker	1	1.00	-	1.00	1.00	0.00	1	2.0	0.0
Clothes Washer, Domestic	2	3.00	3.00	4.00	0.00	0.00	0	2.0	0.0
Clothes Washer, Commercial	2	7.50	7.50	10.00	15.00	15.00	20	8.0	16.0
Dental Unit, cuspidor	0.75	0.75	1.00	0.00	0.00	0	1.0	0.0	
Dishwasher, domestic	1	1.000	1.00	0.00	0.00	0	2.0	0.0	
Dishwasher, commercial	1	8.000	8.00	0.00	8.00	8.00	8	8.0	8.0
Drinking Fountain	1	0.50	-	0.50	0.50	0.00	0.5	0.5	0.5
Dripperwell	1	0.75	-	0.75	0.00	0.00	0.00	0.5	0.0
Hand sink	1	0.75	0.75	1.00	0.75	0.75	1	1.0	1.0
Hose Bibb	1	2.50	-	2.50	0.00	0.00	2.5	0.0	0.0
Hose Bibb, each additional	4	1.00	-	1.00	4.00	0.00	4	0.0	0.0
Ice Machine	4	1.00	-	1.00	4.00	0.00	4	3.0	12.0
Kitchen sink	4	1.125	1.125	1.50	4.500	4.500	6.0	2.0	6.0
Laundry sink	1	1.125	1.125	1.50	1.125	1.125	1.5	2.0	2.0
Lavatory	50	0.75	0.75	1.00	37.50	37.50	50	2.0	100.0
Mop sink	1	2.25	2.25	3.00	2.25	2.25	3	3.0	3.0
Shower	27	1.50	1.50	2.00	40.50	40.50	54	2.0	54.0
Prep sink	1	1.125	1.125	1.50	0.000	0.000	0.0	2.0	0.0
3-Compartment sink	1	3.00	3.00	4.00	3.00	3.00	4	3.0	3.0
Premise	1	3.00	3.00	4.00	3.00	3.00	4	0.0	0.0
Pot filler	1	1.50	-	1.50	0.00	0.00	0	0.0	0.0
Urinal, 1.0 GPF	1	4.00	-	4.00	4.00	0.00	4	2.0	2.0
Washbasin	1	3.00	3.00	4.00	0.00	0.00	0	2.0	0.0
Washbasin	46	2.50	-	2.50	115.00	0.00	115.0	3.0	138.0
Water Closet, 1.6 GPF Tank	7	5.00	-	5.00	35.00	0.00	35	3.0	21.0
Water Closet, 1.6 GPF Flush Valve									
TOTAL WSFU					336.25	178.25	401		
TOTAL FIXTURE GPM									120
TOTAL HOT WATER GPM									60
OTHER GPM									0
TOTAL GPM									120
TOTAL DRAIN FIXTURE UNITS (DFU)									413



- EXISTING CONCRETE SHALL BE REMOVED AT EXPANSION OR WEAKENED PLANE JOINTS OR AT SAWCUTS AS FIELD MARKED BY AGENCY ENGINEER. SAWCUTS MUST GO ENTIRELY THROUGH CONCRETE.
- FOR NEW DEVELOPMENT, NO UTILITY BOXES OR POLES WILL BE PERMITTED IN THE SIDEWALK AREA WITHOUT THE PRIOR WRITTEN APPROVAL OF THE AGENCY ENGINEER.
- WHERE UNDERCUT SUBGRADE OR UNSUITABLE SUBGRADE MATERIAL IS ENCOUNTERED, THE AGENCY ENGINEER MAY REQUIRE REMEDIAL WORK TO BE DONE, INCLUDING OVER EXCAVATION AND BACKFILLING WITH CRUSHED ROCK AND, WHEN DIRECTED BY THE ENGINEER, PLACING GEOTEXTILE FABRIC BENEATH THE NEW CONCRETE SECTION.
- SUBGRADE SHALL BE COMPACTED TO AT LEAST 95% RELATIVE COMPACTION IN THE TOP SIX INCHES.
- NEW WORK SHALL MATCH EXISTING AS CLOSELY AS POSSIBLE IN FINISH, SCORING AND COLOR. FOR NEW INSTALLATIONS PLACED ADJACENT TO EXISTING, 2LB DAVIS BLACK #8084 (OR EQUIVALENT) PER CU. YD. CONCRETE SHALL BE ADDED TO MIX.
- EXCEPT WHERE SPECIFIED OTHERWISE HEREIN, NO ADMIXTURES SHALL BE USED WITHOUT THE PERMISSION OF THE AGENCY ENGINEER.
- FORMS SHALL MEET GRADE AND FORM FACES SHALL NOT VARY FROM THE DIMENSIONS SHOWN BY MORE THAN 1/2 INCH.
- NO CONCRETE SHALL BE PLACED UNTIL THE AGENCY ENGINEER HAS INSPECTED AND APPROVED FORMS AND SUBGRADE/BASE.
- SUBGRADE/BASE SHALL BE THOROUGHLY WETTED IMMEDIATELY PRIOR TO PLACING CONCRETE.
- CONCRETE SHALL BE A MINIMUM CLASS B (5 SACK MIX) WITH 1 INCH MAXIMUM AGGREGATE FROM AN APPROVED MIXING PLANT. NO BAGGED MIX IS PERMITTED.
- CONCRETE SHALL HAVE A SLUMP OF NOT MORE THAN FOUR INCHES.
- FOR SIDEWALKS AND DRIVEWAY APPROACHES, 1/4 INCH DEEP SCORE LINES SHALL BE PLACED AT FOUR FEET ON CENTER OR AS DIRECTED BY THE AGENCY ENGINEER.
- WEAKENED PLANE JOINTS AT LEAST 3/4" DEEP SHALL BE PLACED AT A MINIMUM 16 FEET ON CENTER EXCEPT FOR SIDEWALKS AND DRIVEWAY APPROACHES WHICH SHALL BE A MINIMUM 5 FEET ON CENTER.
- 3/8 INCH THICK EXPANSION JOINTS SHALL BE PLACED ON BOTH SIDES OF DRIVEWAY APPROACHES, AT CURB AND SIDEWALK RETURN POINTS, DRAINAGE STRUCTURES AND OTHER LOCATIONS AS SHOWN ON THE PLANS.
- ALL EXPOSED EDGES SHALL BE ROUNDED WITH 1/2 INCH RADIUS TOOL.
- ALL FLAT SURFACES SHALL BE LIGHT BROOM FINISHED UNLESS OTHERWISE SPECIFIED BY AGENCY ENGINEER.
- CURBS, SIDEWALKS AND DRIVEWAY APPROACHES SHALL HAVE FORMS REMOVED AND BE BACKFILLED WITHIN SEVEN DAYS AFTER POURING.
- THE DESIGNATED DIMENSIONS AND SLOPES MAYBE MODIFIED TO ACCOMMODATE EXISTING ADJACENT FACILITIES SUBJECT TO THE APPROVAL OF THE AGENCY ENGINEER.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	REQUIREMENTS FOR CONCRETE CURB, GUTTER, SIDEWALK, DRIVEWAY AND OTHER "FLATWORK"	REV.	DATE	BY	MARCH 2018 DWG. NO. 100
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TYPE "A" CURB
3/8" MAX. AT CURB RAMPS

TYPE "B" CURB

TYPE "C" CURB

TYPE "D" CURB

TYPE "E" CURB

TYPE "F" CURB

TYPE "A" SIDEWALK
FOUR CURB & GUTTER SEPARATELY FROM SIDEWALK

TYPE "B" SIDEWALK
POURED SEPARATE FROM CURB

NOTES:
1. SEE DRAWING NO. 100 FOR GENERAL REQUIREMENTS.
2. 1/2" CURB HEIGHT UNLESS 6" HEIGHT APPROVED BY AGENCY ENGINEER.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	CURB, GUTTER AND SIDEWALK DETAILS	REV.	DATE	BY	MARCH 2018 DWG. NO. 105
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PLAN

SECTION A-A

SECTION B-B

SECTION C-C

NOTE:
1. CONCRETE SHALL BE CLASS "B" (5 SACK MIX).
2. PLASTIC FILL IS NOT ALLOWED.
3. WHERE UNDERDRAINS ARE INSTALLED AT LOCATIONS WHERE CURB, GUTTER AND SIDEWALK IS EXISTING, REMOVE 20" OF CURB AND 1 SQUARE OF SIDEWALK BETWEEN SAW-CUTS. REPLACE CURB AS SHOWN IN SECTION A-A ABOVE.
4. NO CONCRETE SHALL BE BROOM FINISHED.
5. ALL CONCRETE SHALL BE BROOM FINISHED.
6. IF REQUIRED BY AGENCY ENGINEER FOR HEAVY FLOWS.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	SIDEWALK UNDERDRAIN	REV.	DATE	BY	MARCH 2018 DWG. NO. 145
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CURB RAMPS: CURB RAMPS SHALL COMPLY WITH CALTRANS STANDARD PLANS 888A AND 888B, BUT MAY BE MODIFIED BY THE AGENCY ENGINEER TO FIT FIELD CONDITIONS. THE LATEST UPDATED PLANS MAY BE DOWNLOADED FROM THE COUNTY UCS WEBSITE:
[HTTP://WWW.CO.MARIN.CA.US/STANDARDS/CRM](http://www.co.marin.ca.us/standards/crm)

OR FROM THE CALTRANS WEBSITE:
[HTTP://WWW.DOT.CA.GOV/HQ/ESC/OE/PROJECT_PLANS/HM/06_PLANS_DSCLAIM_US.HTM](http://www.dot.ca.gov/hq/esc/oe/project_plans/hm/06_plans_dsclaim_us.htm)

PEDESTRIAN PATH-OF-TRAVEL: A SAFE AND ACCESSIBLE PEDESTRIAN PATH-OF-TRAVEL SHALL BE MAINTAINED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION. WHERE NECESSARY, TEMPORARY PATH OF TRAVEL IMPROVEMENTS MAY INCLUDE, BUT IS NOT LIMITED TO, TEMPORARY CURB RAMPS, PROTECTED WALKWAYS WHEN PEDESTRIANS ARE DIRECTED INTO THE VEHICLE TRAVEL WAY, AND SIGNAGE TO REDIRECT PEDESTRIAN TRAFFIC. ALL TEMPORARY MEASURES SHALL BE COMPLIANT WITH STATE AND FEDERAL DISABLED ACCESS REQUIREMENTS, INCLUDING THE AMERICANS WITH DISABILITIES ACT AND THE CALIFORNIA BUILDING CODE, TITLE 24. PEDESTRIAN PATH OF TRAVEL DETOURS SHALL NOT CREATE SIGHT DISTANCE CONSTRAINTS FOR MOTORISTS. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL TEMPORARY PEDESTRIAN PATH IMPROVEMENTS. THE CONTRACTOR SHALL SUBMIT PROPOSED TEMPORARY PEDESTRIAN PATH OF TRAVEL FOR APPROVAL PRIOR TO CONSTRUCTION.

FOR EXAMPLES OF MAINTAINING SAFE AND ACCESSIBLE PEDESTRIAN ACCESS THROUGH CONSTRUCTION SITES, SEE THE COUNTY UCS WEBSITE:
[HTTP://WWW.CO.MARIN.CA.US/DEPTS/PW/MAIN/INDEX/PED_ACCESS.HTM](http://www.co.marin.ca.us/depts/pw/main/index/ped_access.htm)

OTHER EXAMPLES MAY BE FOUND AT:
[HTTP://WWW.SFGOV.ORG/SITE/MOD_PAGE.ASP?ID=42353](http://www.sfgov.org/site/mod_page.asp?id=42353)
[HTTP://SAFETY.FVHA.DOT.GOV/NZ/DOCS/WPEDEST.PDF](http://safety.fvha.dot.gov/nz/docs/wpedest.pdf)
[HTTP://WWW.ACCESS-BOARD.GOV/PROVAC/COMMREPT1/PART3-03.HTM](http://www.access-board.gov/provac/commrept1/part3-03.htm)

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	CURB RAMP STANDARDS AND PEDESTRIAN ACCESS THROUGH CONSTRUCTION SITES	REV.	DATE	BY	MARCH 2018 DWG. NO. 190
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TYPE 1
ASPHALT CONCRETE PAVED STREETS

TYPE 2
CONCRETE PAVED STREETS

TYPE 3
AREAS OTHER THAN STREETS IN THE PUBLIC RIGHT OF WAY

NOTE: IF ROADWAY HAS EXISTING AC OVER CONCRETE, TRENCH RESTORATION SHALL BE DETERMINED BY THE AGENCY ENGINEER.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	TRENCH DETAILS SHEET 1 OF 3	REV.	DATE	BY	MARCH 2018 DWG. NO. 330
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NOTE: FOR TRENCHES IN UNPAVED SHOULDERS, TOP 12" SHALL BE CLASS II AB 95% RELATIVE COMPACTION.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	STANDARD TRENCH BACKFILL & RESURFACING SHEET 2 OF 3	REV.	DATE	BY	MARCH 2018 DWG. NO. 340
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MATERIAL AND COMPACTION REQUIREMENT FOR TRENCH BACKFILL

- INTERMEDIATE BACKFILL SHALL BE CLASS II AGGREGATE BASE, SUITABLE NATIVE OR IMPORTED GRANULAR MATERIAL MAY BE USED IF ALLOWED BY AGENCY ENGINEER. RELATIVE COMPACTION SHALL BE AT LEAST 90%.
- CLASS II AGGREGATE BASE SHALL CONFORM TO THE STATE STANDARD SPECIFICATIONS. MINIMUM RELATIVE COMPACTION SHALL BE 95% IF PAVEMENT HAVING A STRUCTURAL SECTION GREATER THAN 18" IS CUT. ADDITIONAL BASE MATERIAL MAY BE REQUIRED BY THE AGENCY ENGINEER. BASE SHALL BE PLACED AND COMPACTED PRIOR TO PLACING OF TEMPORARY PAVING.
- TESTING OF MATERIALS AND PERFORMANCE SHALL BE IN CONFORMANCE WITH THE METHODS STATED IN THE LATEST EDITION OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, EXCEPT THAT RELATIVE COMPACTION MAY BE TESTED BY AASHTO METHOD T180, ASTM D-1557, OR TEST METHOD CALIF. 231 (NUCLEAR DENSITOMETRY).
- PLACE AC IN 3" MAX. LIFTS, EXCEPT FINAL LIFT SHALL BE 2 1/2" MAX. ADDITIONAL THICKNESS AND LIFTS OF ASPHALT CONCRETE MAY BE REQUIRED TO MATCH EXISTING STRUCTURAL SECTION ON MAJOR ROADS, OR PER LOCAL JURISDICTION REQUIREMENTS.
- "JETTING" OF BACKFILL MATERIAL IS NOT PERMITTED.
- THE USE OF PEA GRAVEL (OR SIMILAR ROUNDED AGGREGATE), IS NOT PERMITTED.
- THE USE OF CONTROLLED DENSITY FILL (CDF) SHALL BE APPROVED BY THE AGENCY ENGINEER PRIOR TO PLACEMENT.
- TRENCH EDGES SHALL BE TRIMMED TO A NEAT LINE AS REQUIRED BY THE AGENCY ENGINEER. TRIMMING SHALL BE BY ROTARY GRINDER. TRENCH LINES SHALL HAVE THE LEAST AMOUNT OF JOGS AND REMAIN LINEAR AS MUCH AS POSSIBLE. REFERENCE DRAWING NO. 360, 370 & 380.
- THE SURFACE COURSE OF TRENCH RESTORATION SHALL EXTEND TO THE LIP OF GUTTER IF THE EDGE OF TRENCH IS WITHIN 4' OF THE LIP OF GUTTER, AND TO THE EDGE OF PAVEMENT IF THE EDGE OF TRENCH IS WITHIN 4' OF AN UNPAVED SHOULDER.
- CONTRACTOR MUST SHORE ALL TRENCHES IN CONFORMANCE WITH OSHA AND STATE SAFETY STANDARDS.
- ALL HOT MIX ASPHALT (HMA) MATERIAL, METHODS AND TOLERANCES SHALL BE IN COMPLIANCE WITH THE CURRENT EDITION OF THE CALTRANS STANDARD SPECIFICATIONS.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	TRENCH NOTES SHEET 3 OF 3	REV.	DATE	BY	MARCH 2018 DWG. NO. 350
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RESTORATION OF ASPHALT

LEGEND:
--- CENTERLINE
--- LINE LANE OR FOG LINE
--- GUTTER LIP OR EDGE OF PAVEMENT
--- DIRECTION OF TRAVEL

NOTES:
1. FOR TRENCH REPAIRS IN THE VEHICLE TRAVEL LANE(S), THE RESTORATION SHALL BE EXTENDED TO THE LANE LINE OR CENTER OF LANE WHICHEVER IS CLOSER, IN ACCORDANCE WITH MINIMUM T-CUT DIMENSIONS SHOWN ON DRAWING 330.
2. IF THE LIMITS OF RESTORATION ENTER A STRIPED AND/OR SIGNED BIKE LANE, THE RESTORATION SHALL BE EXTENDED TO COVER THE ENTIRE BIKE LANE WIDTH.
3. IF THE LIMITS OF EXCAVATION ARE WITHIN 4 FT OF THE GUTTER LIP OR EDGE OF PAVEMENT, THE RESTORATION SHALL BE EXTENDED TO THE GUTTER LIP OR EDGE OF PAVEMENT.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	RESTORATION OF ASPHALT SHEET 1 OF 3	REV.	DATE	BY	MARCH 2018 DWG. NO. 360
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RESTORATION OF ASPHALT

NOTES:
1. REFER TO DRAWING NO. 380 (NOTE 1)
2. REFER TO DRAWING NO. 380 (NOTE 2)
3. REFER TO DRAWING NO. 380 (NOTE 3)
4. REFER TO DRAWING NO. 380 (NOTE 4) & NOTE 5
*SEE DWG. NO. 360 FOR LINE TYPE LEGEND.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	RESTORATION OF ASPHALT SHEET 2 OF 3	REV.	DATE	BY	MARCH 2018 DWG. NO. 370
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RESTORATION OF ASPHALT REQUIREMENTS

NOTES:
1. EXISTING PAVEMENTS SHALL BE REMOVED TO CLEAN, STRAIGHT LINES PARALLEL AND PERPENDICULAR TO THE FLOW OF TRAFFIC. DO NOT CONSTRUCT FINAL RESTORATION PATCHES WITH ANGLED SIDES AND IRREGULAR SHAPES.
2. IF A PROPOSED CUT IS WITHIN 10 FT OF AN EXISTING PATCH ORIGINALLY PERFORMED BY THE SAME AGENCY, EXTEND THE FINAL RESTORATION TO THE EXISTING PATCH (FOR BELL HOLE OR TRENCH NO GREATER THAN 10 FT LONGITUDINAL).
3. IF A NEW PATCH IS DONE WITHIN AN EXISTING PATCH, THE BOUNDARIES OF THE FINAL RESTORATION FOR THE PATCHES SHALL COINCIDE.
4. IF A SECTION OF PAVEMENT IS DAMAGED DURING CONSTRUCTION, THE DAMAGED AREA SHALL BE REMOVED TO SOUND PAVEMENT AND PATCHED. IF THE DAMAGED AREA IS WITHIN 10 FT OF THE NEW PATCH, THE FINAL RESTORATION OF THE PATCHES SHALL COINCIDE.
5. LIMITS OF FINAL PAVEMENT RESTORATION TO STOP AT ONE OF THE FOLLOWING LOCATIONS: CENTER OF LANE, TRAVEL LANE LINE, BIKE LANE LINE, ISLAND CURB/GUTTER, EDGE OF ROADWAY PAVEMENT CURB/GUTTER. NO PAVING JOINTS SHALL BE ALLOWED IN A VEHICULAR WHEEL PATH.
6. STEEL PLATES USED FOR BRIDGING SHALL EXTEND A MINIMUM OF 1 FT BEYOND THE EDGE OF TRENCH. PLATES SHALL HAVE NONSKID ABRASIVE SURFACE PER CALTRANS SPECIFICATIONS 75-1.03F, AND COUNTER-SINKING MAY BE REQUIRED WHEN DEEMED NECESSARY BY AGENCY ENGINEER.
7. CUTBACK SHALL NOT BE USED EXCEPT WHEN PRE-APPROVED BY THE AGENCY ENGINEER OR WHEN TRIMMING TRENCH PLATES.
8. ROADWAY RESTORATION WIDTH, BEYOND THE TRENCH EDGES, VARIES FROM 0"-24". DURING THE PERMIT PROCESS, THE AGENCY WILL REVIEW GEOTECHNICAL AND HISTORICAL INFORMATION OF THE TRENCHING LOCATION, AS PRESENTED BY THE UTILITY OWNER, AND CONSIDER EXISTING PAVEMENT CONDITION, SUITABLE SUBGRADE AND THE PROPOSED SCOPE OF WORK TO DETERMINE RESTORATION WIDTH. THE PERMITTING AGENCY RESERVES THE RIGHT TO ADJUST THE RESTORATION WIDTH DUE TO FIELD OBSERVATIONS DURING CONSTRUCTION SUCH AS, BUT NOT LIMITED TO, OBSERVING BREAKOUT, UNDERMINING OF ADJACENT PAVEMENT, UNSTABLE WALLS OF TRENCH, DAMAGE TO SURROUNDING UNDISTURBED PAVEMENT, AND/OR PAVEMENT OR SUBGRADE DAMAGE FROM CONTRACTOR OPERATIONS.

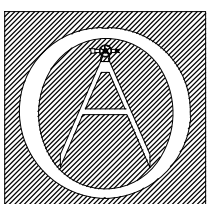
Road Type	Traffic Index**	Min. AC** (TOTAL)	Pavement Repair Structural Section		
			AC Thickness	AB Thickness	Alternate Deep Lift A.C.
Local	5.0	4"	2.0"	4.0"	7.0"
Collector	6.5	5"	3.0"	5.0"	11.0"
Arterial**	8.0	6"	3.0"	6.0"	14.0"

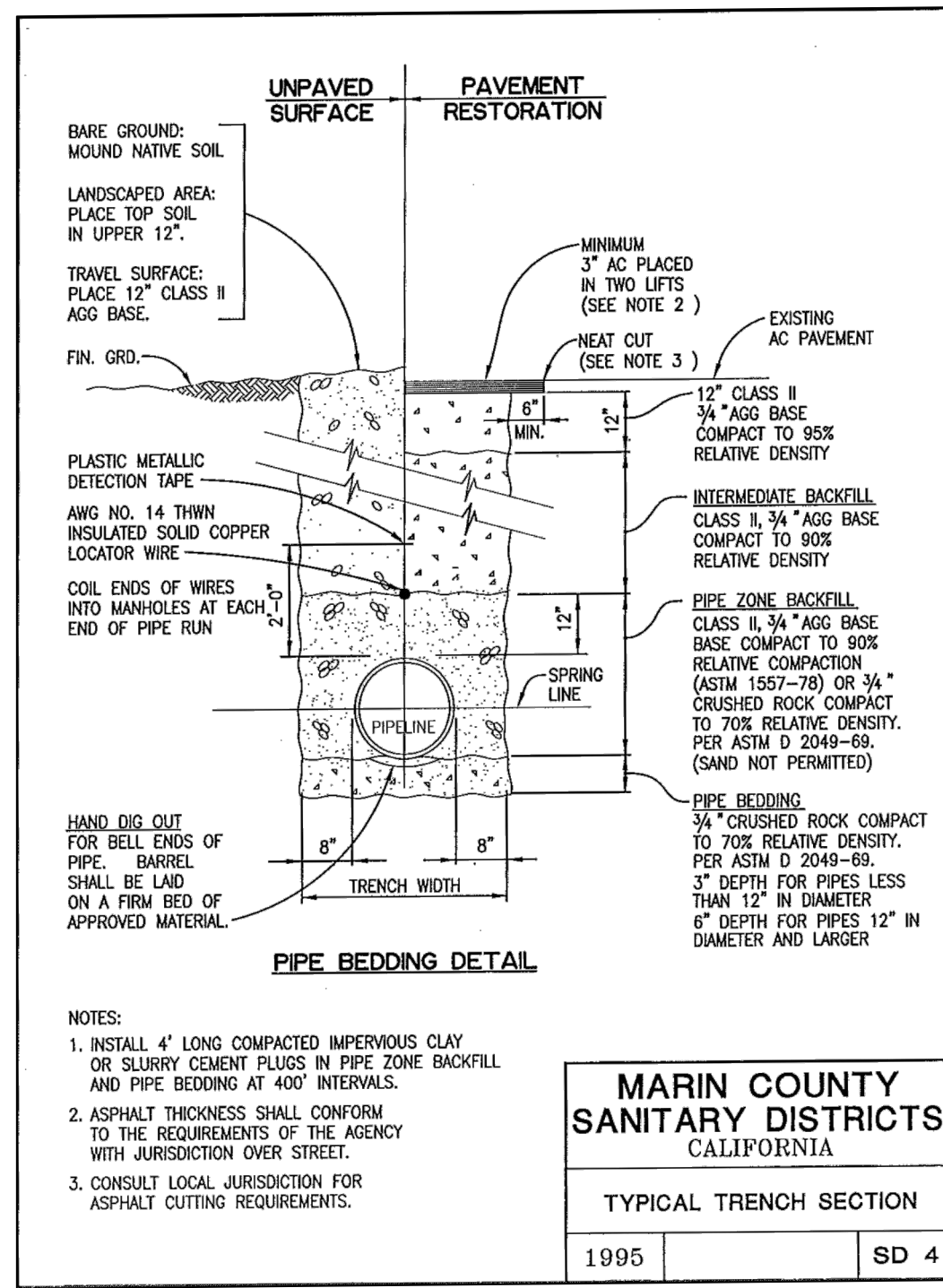
NOTES: **Does not include optional 8"-10" test results and pavement section design.
***Minimum AC thickness and depth existing or as shown in Table A, whichever is greater.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	RESTORATION OF ASPHALT SHEET 3 OF 3	REV.	DATE	BY	MARCH 2018 DWG. NO. 380
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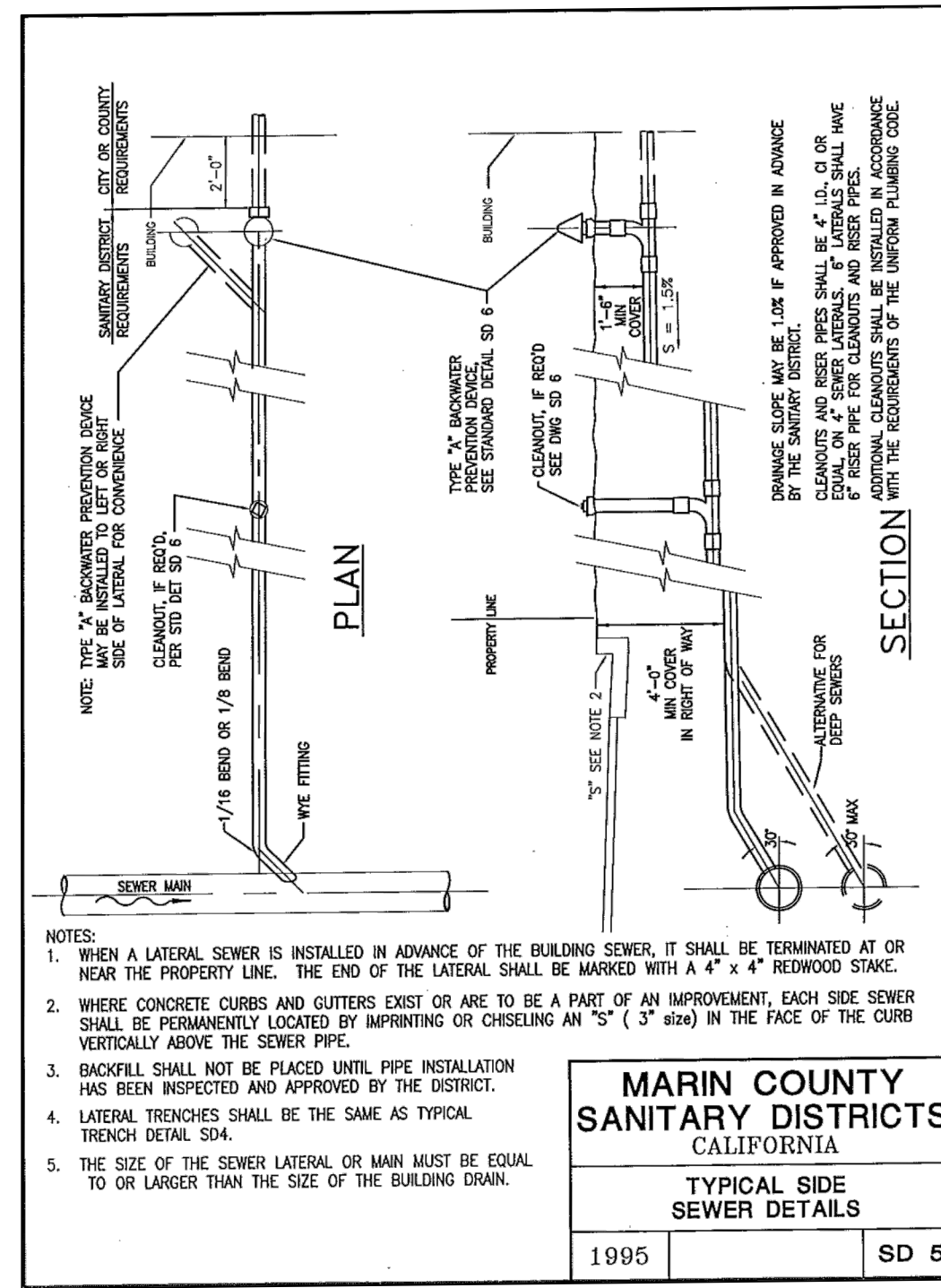
MARIN COUNTY STANDARD DETAILS

NOT TO SCALE

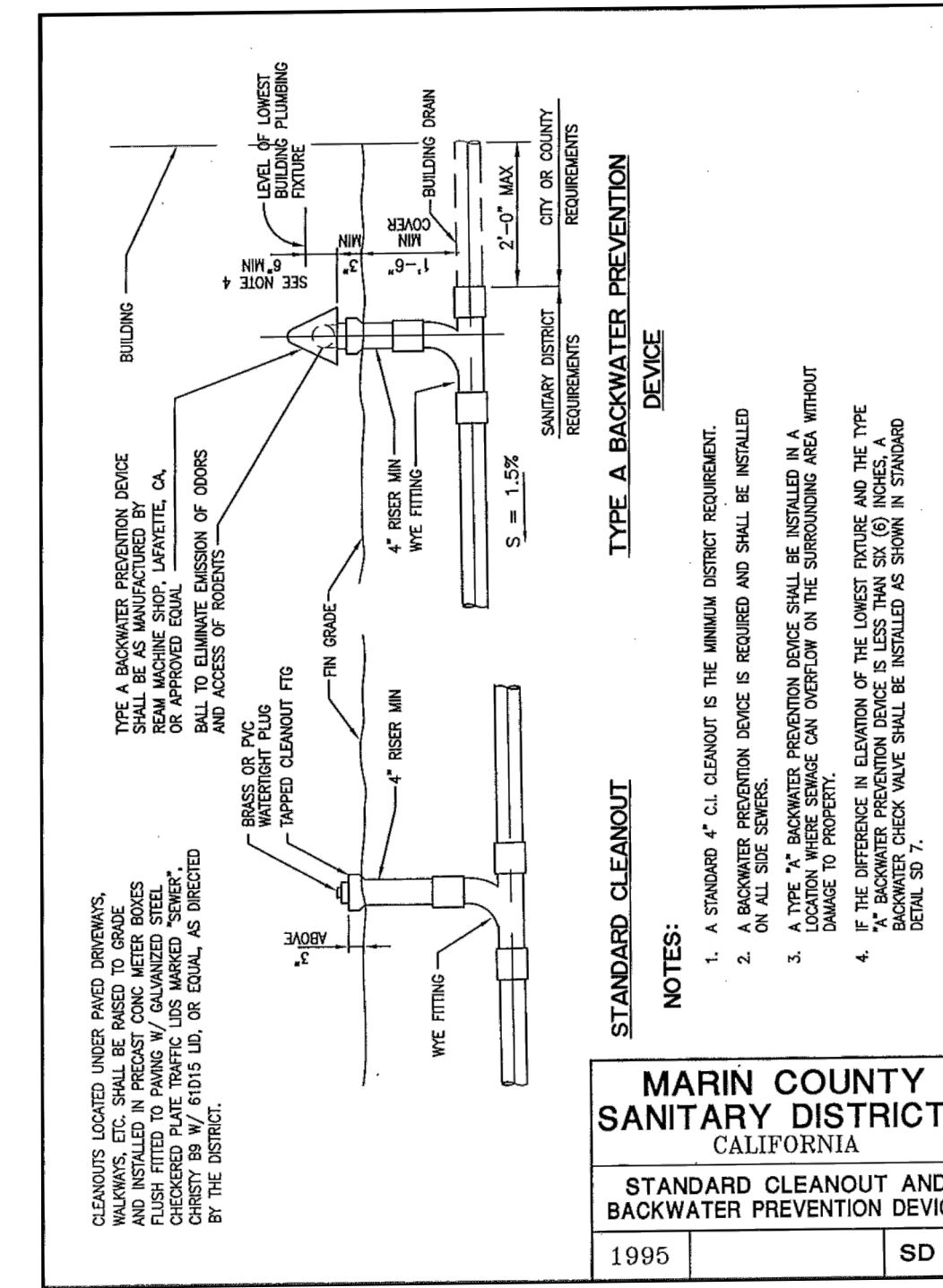




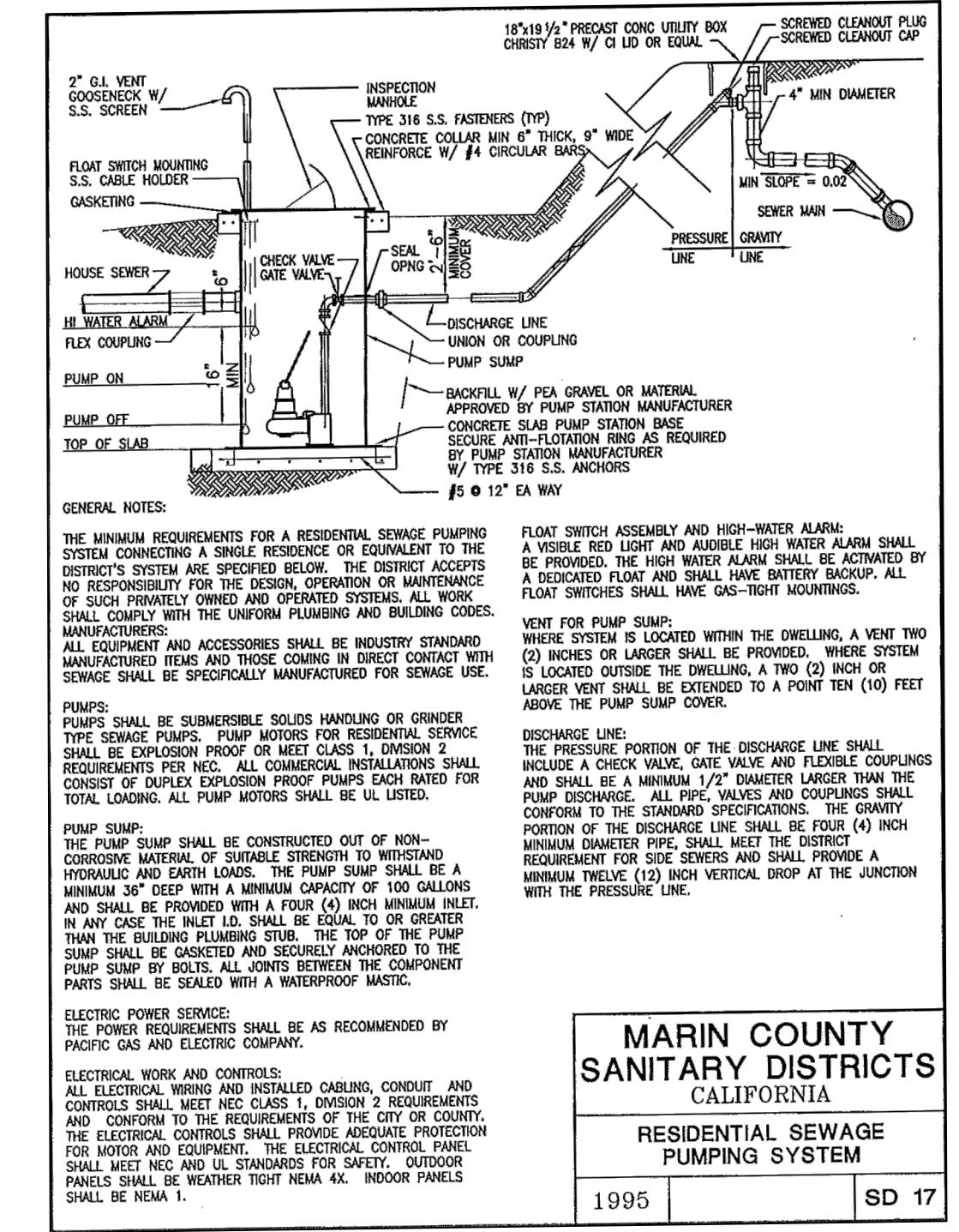
MARIN COUNTY SANITARY DISTRICTS CALIFORNIA	
TYPICAL TRENCH SECTION	
1995	SD 4



MARIN COUNTY SANITARY DISTRICTS CALIFORNIA	
TYPICAL SIDE SEWER DETAILS	
1995	SD 5



MARIN COUNTY SANITARY DISTRICTS CALIFORNIA	
STANDARD CLEANOUT AND BACKWATER PREVENTION DEVICE	
1995	SD 6



MARIN COUNTY SANITARY DISTRICTS CALIFORNIA	
RESIDENTIAL SEWAGE PUMPING SYSTEM	
1995	SD 17

SAN RAFAEL SANITARY DISTRICT STANDARD DETAILS

NOT TO SCALE

