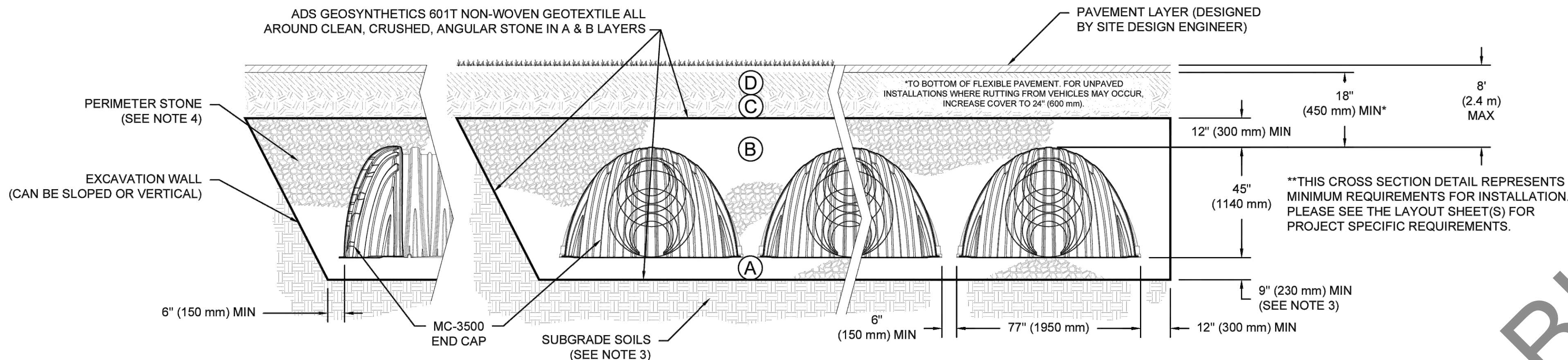


ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ²	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ²	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE ^{2,3}

PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
- WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



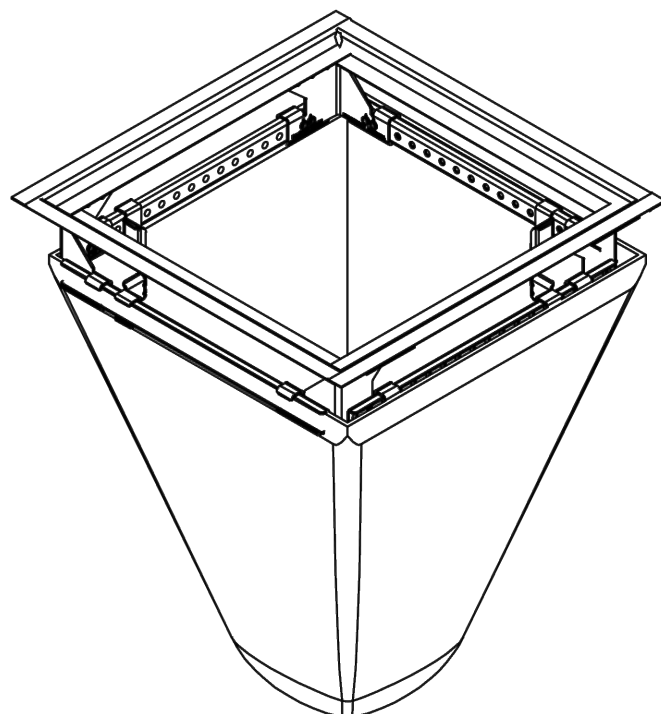
NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT²%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

UNDERGROUND INFILTRATION CHAMBER SYSTEM

SEE WQMP FOR FURTHER DETAILS

NTS



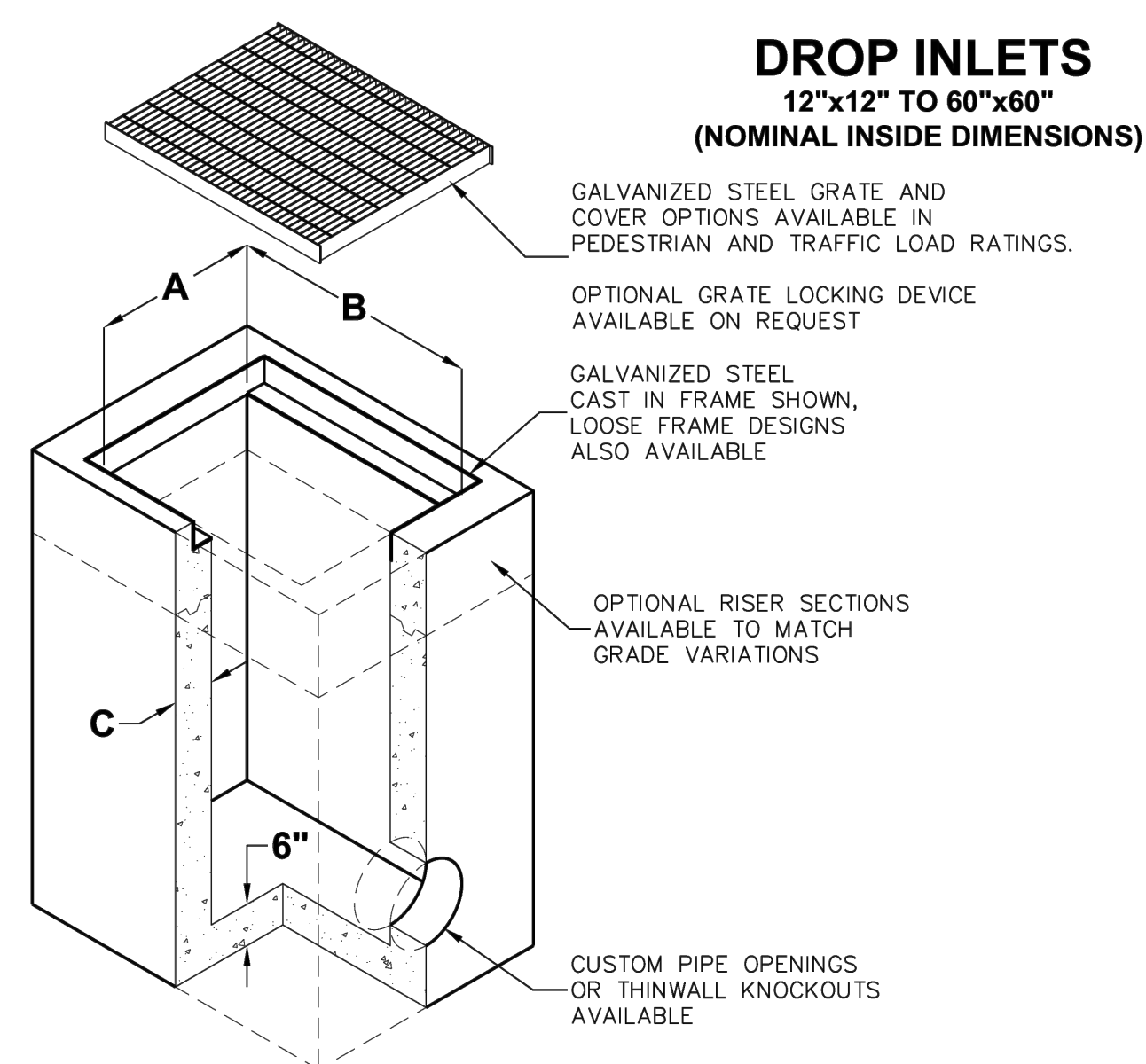
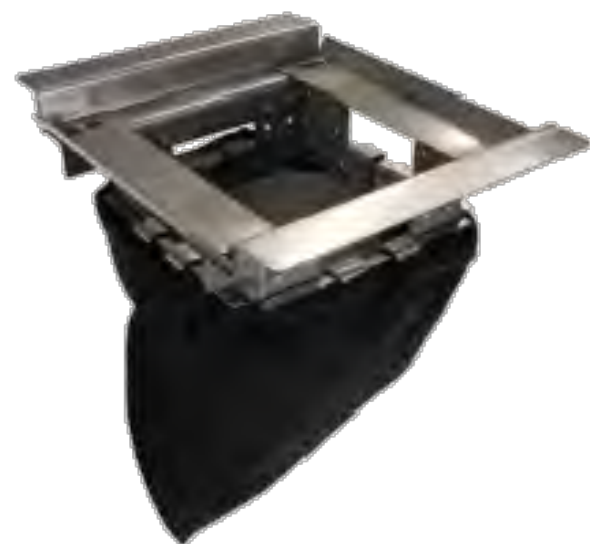
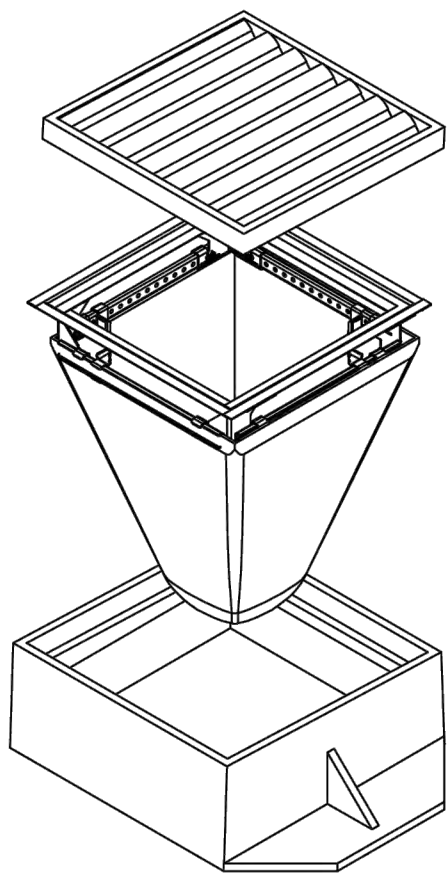
SQUARE/RECTANGULAR INLET FILTER		
Clear Opening Size	Style P/N	Minimum Bypass Flow Rate (CFS)
Small: Up to 64" Perimeter	62SHD	2.4
Medium: 65" - 96" Perimeter	62MHD	3.5
Large: 97" - 120" Perimeter	62LHD	5.0
Extra-Large: 121" or Greater Perimeter	62XLHD	7.2

NOTES:

- ALL FRAMING IS CONSTRUCTED OF 304 STAINLESS STEEL.
- TOTAL BYPASS CAPACITY WILL VARY WITH EACH SIZE DRAINAGE STRUCTURE. ADS DESIGN FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE.
- ALL FILTERS MEET ASTM D8057 SPECIFICATIONS.

ADS FLEXSTORM PURE INLET DETAIL FOR PRECAST CATCH BASIN

NTS

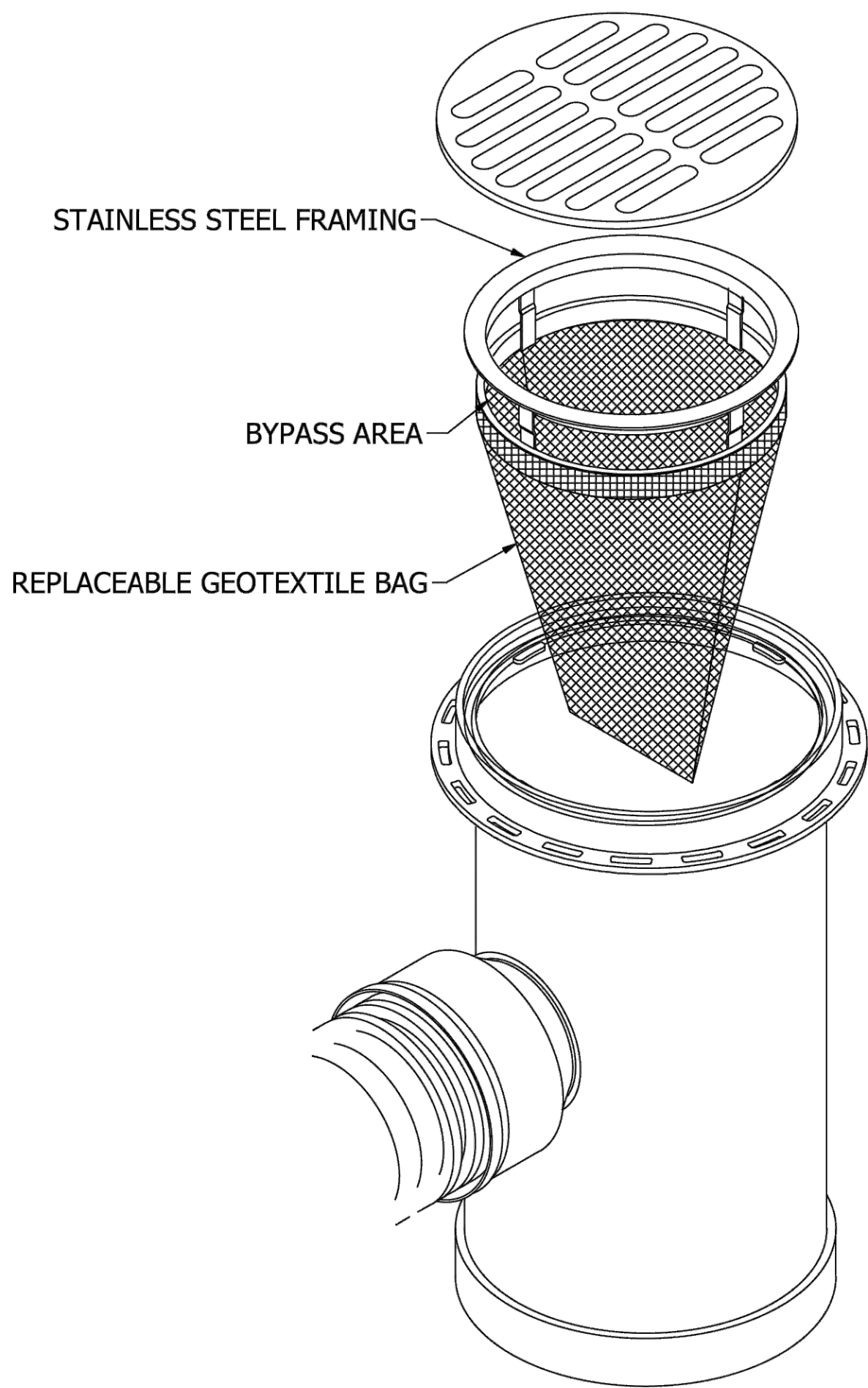


MODEL	A	B	C	WEIGHT CALC - LBS.
1212	12	12	4	208 (BASE) + 266 VF
1616	16	16	5	408 (BASE) + 480 VF
1818	18	18	5	602 (BASE) + 604 VF
2424	24	24	6	675 (BASE) + 750 VF
2436	24	36	6	900 (BASE) + 900 VF
2448	24	48	6	1500 (BASE) + 1050 VF
3030	30	30	6	920 (BASE) + 900 VF
3636	36	36	6	1200 (BASE) + 1050 VF
3648	36	48	6	1500 (BASE) + 1200 VF
4848	48	48	6	1875 (BASE) + 1350 VF
6060	60	60	6	2700 (BASE) + 1650 VF

FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

Jensen Precast reserves the right to make changes to product design and/or dimensions without notice. Please contact Jensen Precast whenever necessary for confirmation or advice on product design.

JENSEN PRECAST

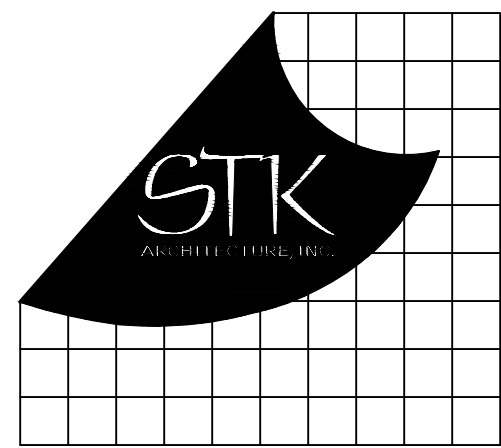
12/20/2010
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R2010

NOTES:

- ALL FRAMING IS CONSTRUCTED OF 304 STAINLESS STEEL.
- TOTAL BYPASS CAPACITY WILL VARY WITH EACH SIZE DRAINAGE STRUCTURE. ADS DESIGN FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE.
- ALL FILTERS MEET ASTM D8057 SPECIFICATIONS.

ADS FLEXSTORM PURE INLET DETAIL FOR NYLOPLAST INLET

NTS



CONSULTANT:

1861 W. Redlands Blvd, Bldg 7B
Redlands, Ca. 92373
P: (909) 890-1255
F: (909) 890-0995PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202

CIP #22-105

APN: 0154-281-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

DATE:	INFORMATION:
03-14-25	Plan Check 1
05-13-25	Plan Check 2
06-20-25	Plan Check 3

SHEET INFORMATION:

STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
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PLOT DATE: -
DRAWING NAME: -

SEAL:



SHEET TITLE:

DETAILS SHEET

SHEET NO.:

C-3

SHT 3 OF 6

N MOUNTAIN VIEW AVENUE

Line Table			
Line #	Length	Direction	SLOPE
SD1	11.34	N21° 51' 48.12"E	1.42%
SD2	8.49	S45° 00' 00.00"E	3.17%
SD3	23.54	N90° 00' 00.00"E	3.17%
SD4	8.31	S45° 00' 00.00"E	3.17%
SD5	11.31	S0° 00' 00.00"E	3.17%
SD6	4.06	N45° 00' 00.00"E	6.44%
SD7	4.26	N0° 00' 00.00"E	6.44%
SD8	44.23	N89° 57' 57.47"E	0.50%
SD9	43.17	S45° 07' 19.96"E	0.50%
SD10	43.17	S45° 07' 19.96"E	0.50%
SD11	29.58	N90° 00' 00.00"E	0.50%
SD12	39.83	N44° 52' 40.04"E	2.14%
SD13	32.32	N90° 00' 00.00"E	2.14%
SD14	59.10	N0° 00' 00.00"E	2.14%
SD15	59.10	N0° 00' 00.00"E	2.14%
SD16	3.74	N45° 00' 00.00"E	2.14%
SD17	3.00	N90° 00' 00.00"W	6.59%

PROTECT IN PLACE
EXISTING SIDEWALK

PROPOSED FIRE STATION
FF = 1287.00
PAD = 1286.50

FIRE APPARATUS BAY
FF = 1287.00
PAD = 1286.25

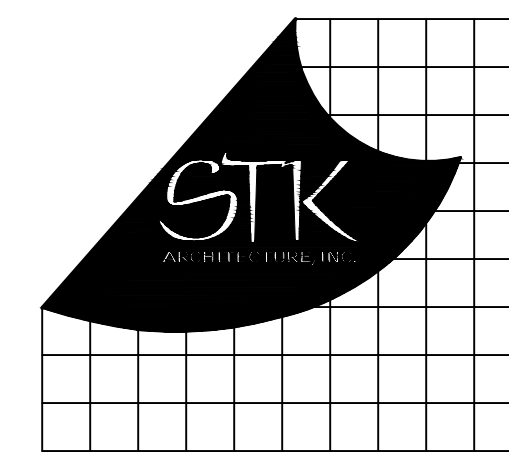
PROPOSED CHAMBERS
TOP OF STONE = 84.14
TOP OF CHAMBERS = 83.14
CHAMBERS INV. ELEV. = 79.39
BOTTOM OF ROCK = 78.64

CONSTRUCTION NOTES

1. CONSTRUCT 9" PCC WITH REBAR OVER 6" OF CLASS II AGGREGATE BASE MATERIAL.
2. CONSTRUCT 6" PCC CURB PER PER CITY OF SAN BERNARDINO STD. DWG. 200
3. CONSTRUCT 6" CURB & GUTTER PER SAN BERNARDINO COUNTY STD. DWG. 116
4. CONSTRUCT 6" CURB CUT PER DETAIL ON SHEET C-2
5. CONSTRUCT CURB RAMP CASE B, TYPE 1 PER SPFWC STD. 111-5
6. CONSTRUCT RETAINING WALL PER ARCHITECTS PLANS AND DETAILS
7. CONSTRUCT HANDICAP STALL PER DETAIL ON SHEET C-2
8. CONSTRUCT 4" THICK PCC SIDEWALK OVER COMPACTED SUBGRADE
9. CONSTRUCT CURB RAMP CASE F PER CALTRANS 2023 STD. PLAN No. AB8A
10. CONSTRUCT MODIFIED PER PLAN LOCAL DEPRESSION TYPE F PER SPFWC STD. DWG. 313-4
11. CONSTRUCT 3" RIBBON GUTTER PER DETAIL ON SHEET C-2
12. INSTALL PARKING STRIPING PER ARCHITECT SPECIFICATIONS
13. CONSTRUCT MODIFIED COMMERCIAL DRIVEWAY APPROACH PER SAN BERNARDINO COUNTY STD. DWG. 129B
14. CONSTRUCT 12" PCC WITH REBAR OVER 6" OF CLASS II AGGREGATE BASE MATERIAL
15. CONSTRUCT TRASH ENCLOSURE PER ARCHITECTS PLANS AND DETAILS
16. CONSTRUCT CURB RAMP PER COUNTY OF SAN BERNARDINO STD. DWG. 110
17. CANOPY PER ARCHITECTS PLAN
18. INSTALL ADS MC-3500 STROMTECH CHAMBERS PER PLANS AND SEPARATE ADS CHAMBERS DESIGN DOCUMENTS PER SHEET C-3 AND WQMP REPORT, OR APPROVED EQUAL
19. CONSTRUCT CONCRETE V-DITCH PER SECTION B-B ON SHEET C-2
20. CONSTRUCT 4" THICK CONCRETE RECTANGULAR DITCH, D=1', W=6"
21. CONSTRUCT 2'-6" HEIGHT CONCRETE WALL, L=10'
22. INSTALL DETECTABLE WARNING SURFACE PER DETAIL ON SHEET C-2
23. CONSTRUCT 0" PCC CURB PER CITY OF SAN BERNARDINO STD. DWG. 200, FLUSH WITH ADJACENT PAVEMENT SURFACE
24. CONSTRUCT 5" PCC OVER 4" CLASS II AGGREGATE BASE

STORM DRAIN NOTES

25. INSTALL 24"x24" JENSEN PRECAST DROP INLET BASIN MODEL 2424 WITH GRATE, OR APPROVED EQUAL
26. INSTALL ADS FLEXSTORM PURE INLET FILTER PER DETAIL ON SHEET C-3, OR APPROVED EQUAL
27. CONSTRUCT PARKWAY CULVERT NO. 1 PER CITY OF SAN BERNARDINO STD. DWG. 400, SECTION INLET TYPE 1, S=4'
28. INSTALL 12" HDPE PIPE OR APPROVED EQUAL
29. INSTALL 15" HDPE PIPE OR APPROVED EQUAL
30. INSTALL 30" DIAMETER NYLOPLAST INLINE DRAIN BASIN
31. INSTALL 12"x12" JENSEN PRECAST DROP INLET BASIN MODEL 1212 WITH GRATE, OR APPROVED EQUAL
32. INSTALL 36"x36" JENSEN PRECAST DROP INLET BASIN MODEL 3636 WITH GRATE, OR APPROVED EQUAL
33. INSTALL 8" HDPE PIPE OR APPROVED EQUAL
34. CONSTRUCT PARKWAY CULVERT NO. 1 PER CITY OF SAN BERNARDINO STD. DWG. 400, SECTION INLET TYPE 1, S=3.5'



CONSULTANT:



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Redlands, Ca. 92373
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PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

PROJECT NAME:

SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202

CIP #22-105

APN: 0154-281-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:

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05-13-25	Plan Check, 2
06-20-25	Plan Check, 3

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SEAL:



SHEET TITLE:

GRADING PLAN

SHEET NO.:

C-4

SHT 4 OF 6

FIRE WATER LINE DATA			DOMESTIC WATER LINE DATA			SEWER LINE DATA		
LINE #	LENGTH	DIRECTION	LINE #	LENGTH	DIRECTION	LINE #	LENGTH	DIRECTION
F1	2.08	N89° 53' 06.07"E	D1	62.34	N89° 52' 40.04"E	S1	37.64	N89° 59' 48.93"E
F2	11.45	N0° 00' 01.79"E	D2	26.16	S45° 07' 19.96"E	S2	49.92	N89° 59' 48.93"E
F3	4.08	N90° 00' 00.00"E	D3	10.95	S0° 02' 11.13"E	S3	17.45	N0° 00' 11.07"W
F4	132.70	N0° 00' 00.00"E				S4	36.47	N89° 59' 48.93"E
F5	165.60	N90° 00' 00.00"E				S5	14.55	N0° 00' 00.00"E
F6	10.30	N0° 00' 00.00"E						
F7	12.54	N89° 54' 05.02"E						
F8	45.54	N89° 51' 55.25"E						
F9	22.01	S45° 07' 19.96"E						
F10	8.87	S0° 02' 11.13"E						

NOTE TO CONTRACTOR:

- CONTACT SBMWD DISTRIBUTION SECTION AT (909) 453-6121 OR (909) 384-5095 TO SCHEDULE OFF-SITE WATER SERVICE INSTALLATION AND COORDINATION WITH ON-SITE WATER UTILITIES.
- CONTACT SBMWD ENGINEERING SECTION WITH 48-HOUR NOTIFICATION PRIOR INSTALLATION OF THE PROPOSED NEW SEWER LATERAL FOR INSPECTION AT (909) 453-6175.

UTILITY NOTES

WATER CONSTRUCTION NOTES:

- INSTALL 2-INCH WATER SERVICE CONNECTION AND METER PER SBMWD STD. DWG. NO. W1.8
- INSTALL 1-INCH WATER IRRIGATION SERVICE CONNECTION AND METER PER SBMWD STD. DWG. NO. W1.11
- INSTALL 2-INCH BACKFLOW PREVENTER PER SBMWD STD. DWG. NO. W4.1
- INSTALL 1-INCH BACKFLOW PREVENTER PER SBMWD STD. DWG. NO. W4.1
- INSTALL 2-INCH WATER SERVICE TYPE L HARD COPPER TUBING OR APPROVED EQUAL
- INSTALL 1-INCH WATER SERVICE TYPE K SOFT COPPER TUBING OR APPROVED EQUAL
- INSTALL 2-INCH 45° ELBOW
- INSTALL 2-INCH PVC, SCH 40 OR APPROVED EQUAL

SEWER CONSTRUCTION NOTES:

- INSTALL 6-INCH PVC SDR 35 SEWER LATERAL PER SBMWD STD. DWG. NO. S.305
- INSTALL 6-INCH SEWER SADDLE PER SBMWD STD. DWG. NO. S.307
- INSTALL 6-INCH CLEAN OUT PER SBMWD STD. DWG. NO. S.310
- INSTALL GREASE INTERCEPTOR PER PLUMBING PLANS

FIRE PROTECTION CONSTRUCTION NOTES:

- INSTALL 8-INCH FIRE DOUBLE DETECTOR CHECK PER SBMWD STD. DWG. NO. W4.3
- INSTALL POST INDICATOR AND FIRE DEPARTMENT CONNECTION VALVE PER DETAIL ON SHEET C-2
- INSTALL 8-INCH PVC C900 OR APPROVED EQUAL
- INSTALL 6-INCH PVC C900 OR APPROVED EQUAL
- INSTALL 6-INCH DIA. FIRE HYDRANT PER SBMWD STD. DWG. NO. W2.2
- INSTALL 6-INCH 45° ELBOW
- INSTALL 8-INCH 90° ELBOW
- INSTALL 8X8-INCH TEE
- INSTALL 8X6" REDUCER WITH RESTRAINED JOINTS
- CONNECT FIRE LINE PER DETAIL ON SHEET C-2
- INSTALL 8-INCH TAPPING SLEEVE PER SBMWD STD. DWG. NO. W3.5
- CONSTRUCT 3'X3' CONCRETE PAD PER SBMWD STD. DWG. NO. W2.2
- INSTALL 6-INCH CLASS 350 DUCTILE IRON PIPE RESTRAINED WITH MEGALUG OR APPROVED EQUAL
- INSTALL 8-INCH CLASS 350 DUCTILE IRON PIPE RESTRAINED OR APPROVED EQUAL
- INSTALL 6-INCH TAPPING SLEEVE PER SBMWD STD. DWG. NO. W3.5

LEGEND

- TAPPING SLEEVE
- DOUBLE CHECK DETECTOR ASSEMBLY
- POST INDICATOR VALVE
- GATE VALVE
- FIRE HYDRANT
- BACKFLOW PREVENTER
- PROPOSED FIRELINE
- POINT OF CONNECTION
- CLEAN OUT
- F.D.C.
- WATER METER
- BLUE RETRO-REFLECTIVE
- THRUST BLOCK
- PROPOSED WATERLINE
- PROPOSED STORM DRAIN

STA. 10+66.71
CONNECT TO 8" WATER

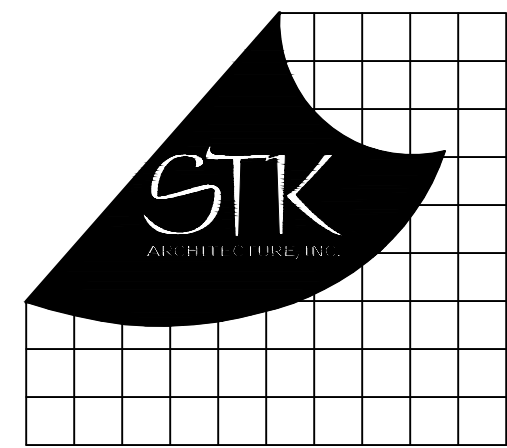
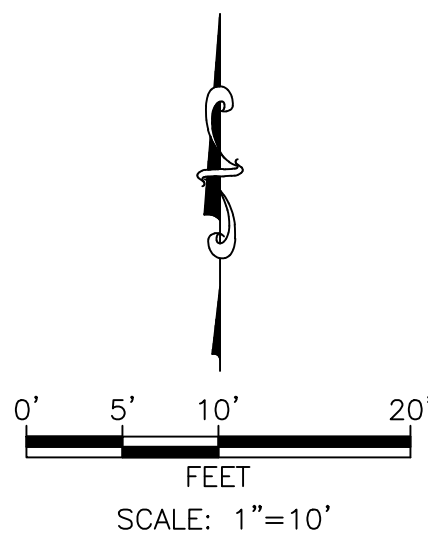
STA. 10+61.71
CONNECT TO 8" WATER

STA. 10+56.71
CONNECT TO 8" WATER

STA. 10+51.71
CONNECT TO 8" WATER

- NOTES:**
- TRENCH DETAIL PER SBMWD STD. DWG. NO. W5.1 AND W5.1A
 - ALL THRUST BLOCKS AND RESTRAINED JOINTS PER SBMWD STD. DWG. NO. W6.4 AND W6.4A
 - INSTALL THRUST BLOCKS AT ALL ANGLE POINTS, TEES, END OF LINES, AND FIRE HYDRANTS

38TH STREET



CONSULTANT:



1861 W. Redlands Blvd, Bldg 7B
Redlands, Ca. 92373
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F: (909) 890-0995

PROJECT ADMINISTERED BY:
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385 N. ARROWHEAD AVE.
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SHEET TITLE:

ON-SITE
UTILITIES

SHEET NO.:

C-5

SHT 5 OF 6

EROSION CONTROL CONSTRUCTION NOTES

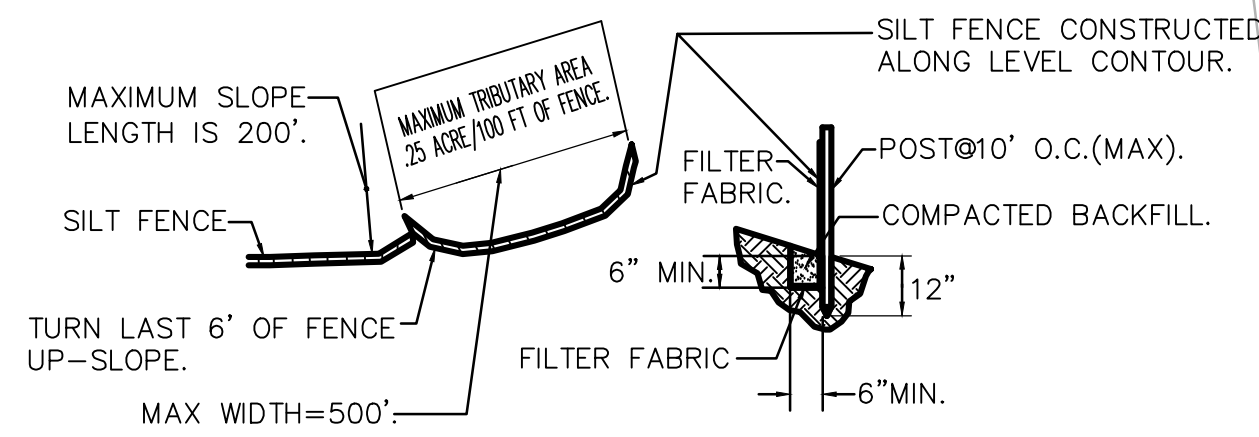
- 1 SILT FENCE (SE-1).
- 2 STABILIZED CONSTRUCTION ENTRANCE/EXIT (TC-1) WITH RUMBLE RACKS (10'x24" MIN.).
- 3 GRAVEL BAG BARRIER (SE-6).
- 4 MATERIAL DELIVERY AND STORAGE (WM-01).
- 5 VEHICLE STORAGE.
- 6 WASTE STORAGE AREA.
- 7 VEHICLE WASHING AND MAINTENANCE AREA.
- 8 STORM DRAIN INLET PROTECTION (SE-10).
- 9 WIND EROSION CONTROLS PER CASQA NS-3.
- 10 STREET SWEEPING (SE-7).
- 11 FIBER ROLLS (SE-5).

LEGEND

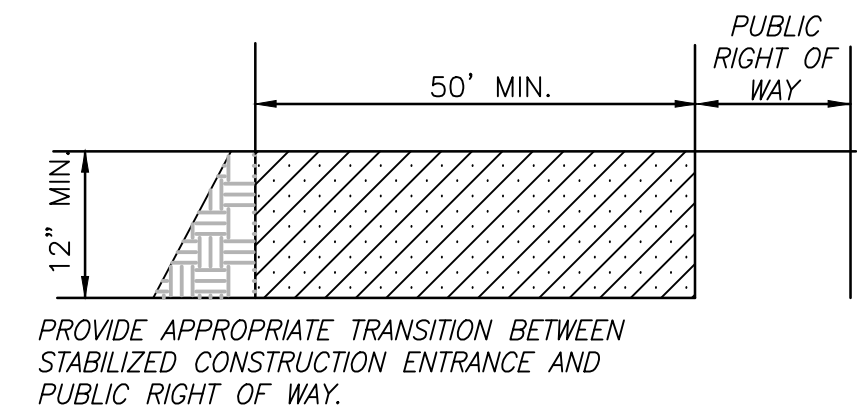
- SAND BAGS
- SILT FENCE
- FLOW PATH
- GRADING LIMITS
- FIBER ROLLS
- OVER-EXCAVATION LIMITS
- STABILIZED CONSTRUCTION ENTRANCE
- MATERIAL DELIVERY/STORAGE AREA
- VEHICLE STORAGE AND MAINTENANCE AREA
- VEHICLE WASHING AREA
- WASTE STORAGE AREA

NOTE TO CONTRACTOR

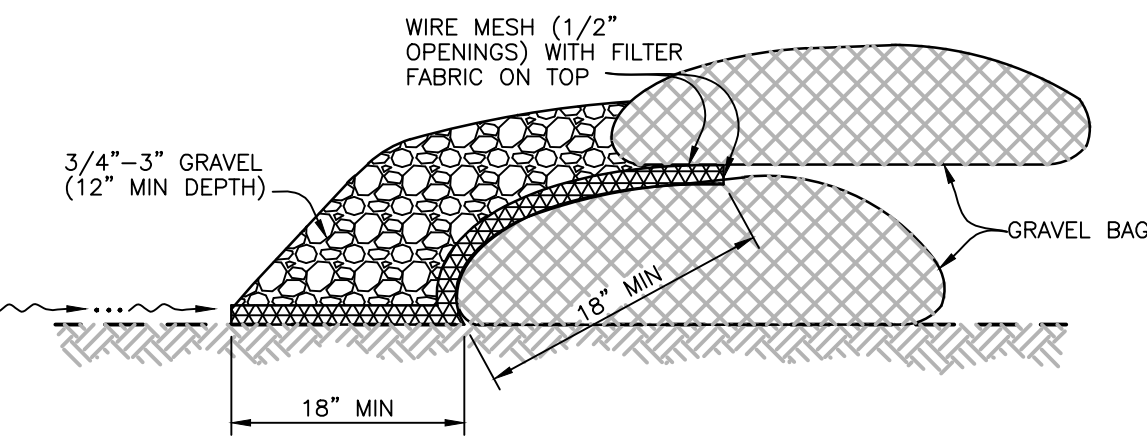
ALL OFF-SITE VEGETATION IS TO BE PROTECTED IN PLACE



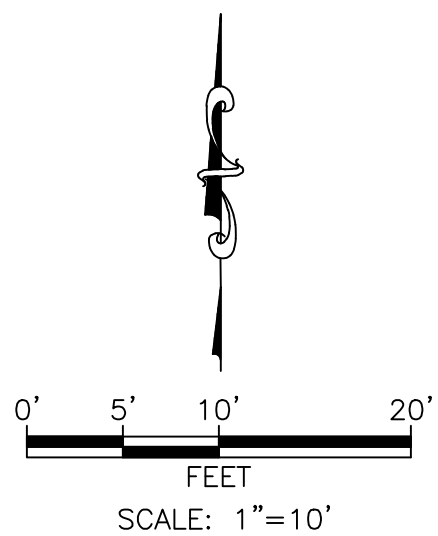
1 SILT FENCE
N.T.S.



2 STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



3 GRAVEL BAG DETAIL
N.T.S.



N MOUNTAIN VIEW AVENUE

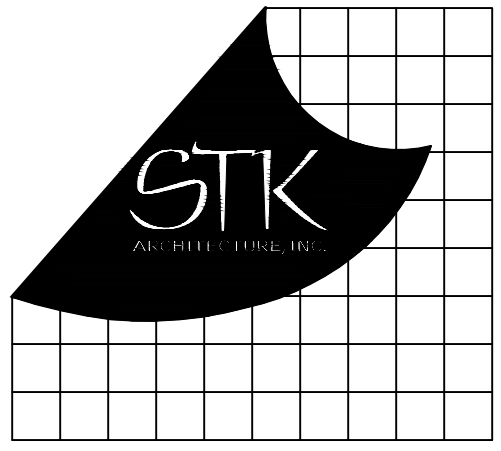
GENEVIEVE STREET

38TH STREET

NOT FOR BID

PROPOSED FIRE STATION
FF = 1287.00
PAD = 1286.50

FIRE APPARATUS BAY
FF = 1287.00
PAD = 1286.25



CONSULTANT:



PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

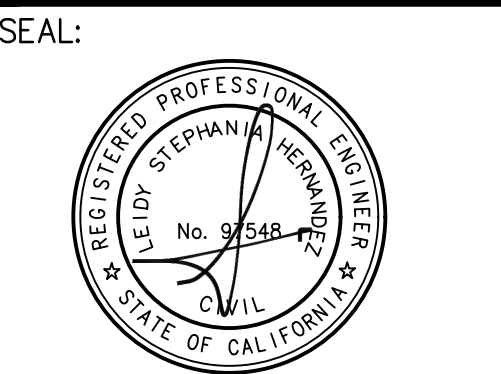
PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #22-105
APN: 0154-281-01

180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:	
DATE:	INFORMATION:
03-14-25	Plan Check 1
05-13-25	Plan Check 2
06-20-25	Plan Check 3

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE:
DRAWING NAME:



SHEET TITLE:
EROSION
CONTROL

SHEET NO.:
C-6
SHT 6 OF 6

N MOUNTAIN VIEW AVENUE

38TH STREET

GENEVIEVE STREET

LEGEND

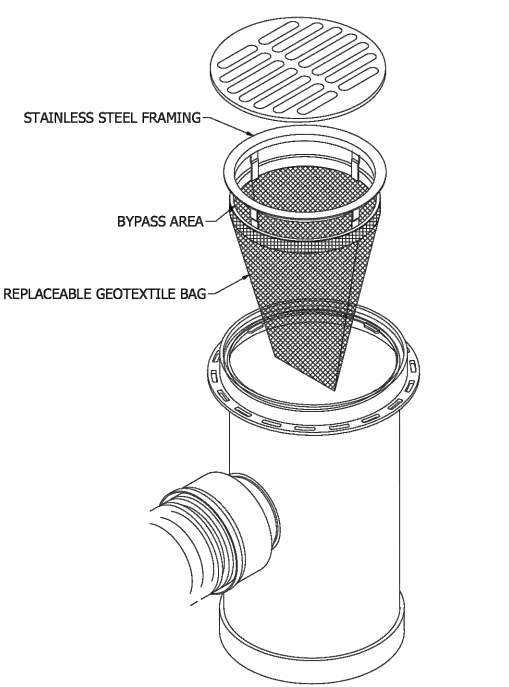
- DA1 DRAINAGE AREA (DA)
DMA-A DRAINAGE MANAGEMENT AREA (DMA)
1.00 ACRES NET AREA IN ACRES
DIRECTION OF SURFACE FLOW
DRAINAGE AREA
DMA BOUNDARY
PROPOSED PERVIOUS AREA (LANDSCAPE)
PROPOSED IMPERVIOUS AREA
BUILDING ROOF AREA
PROPOSED INFILTRATION CHAMBERS (BMP)
PROPOSED STORM DRAIN INLET/OUTLET
DISCHARGE LOCATION

STRUCTURAL BMP NOTES

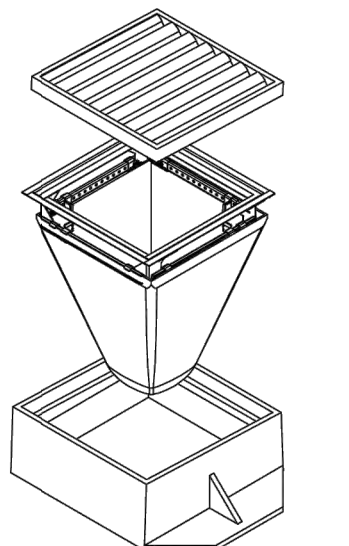
- 1 TREATMENT CONTROL BMP - UNDERGROUND CHAMBER SYSTEM
2 STORAGE BUILDING PER DETAIL ON SHEET A1.3 OF ARCHITECTURAL PLANS
3 TRASH STORAGE AREA PER DETAIL ON SHEET A1.3 OF ARCHITECTURAL PLANS
4 LANDSCAPE AND IRRIGATION SYSTEM DESIGN
5 FUELING AREA PER DETAIL ON SHEET A1.2 OF ARCHITECTURAL PLANS
6 STORM DRAIN SYSTEM STENCILING/SIGNAGE PER DETAIL "A"
7 INSTALL ADS FLEXSTORM PURE INLET FOR NYLOPLAST INLET, OR APPROVED EQUAL PER DETAIL "B"
8 INSTALL ADS FLEXSTORM PURE INLET FOR PRECAST CATCH BASIN, OR APPROVED EQUAL PER DETAIL "C"



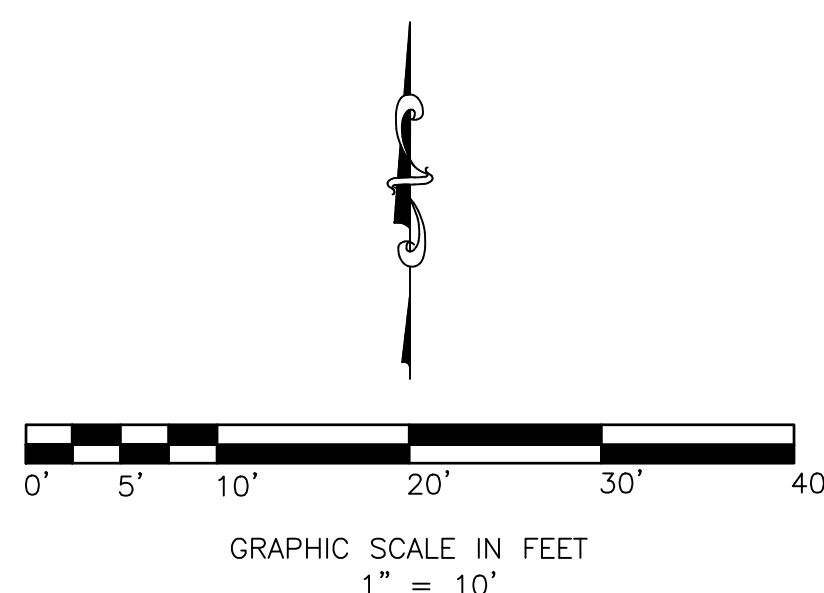
DETAIL "A" - STORM DRAIN SIGNAGE
NTS



DETAIL "B" - ADS FLEXSTORM PURE INLET FILTER DETAIL FOR NYLOPLAST INLET
NTS



DETAIL "C" - ADS FLEXSTORM PURE INLET FILTER DETAIL FOR PRECAST CATCH BASIN
NTS



DA ID	AREA (ACRES)	EXISTING IMPERVIOUS AREA	PROPOSED IMPERVIOUS AREA	REQUIRED VOLUME	DESIGN VOLUME	BMP (SIZE AND TYPE)
DA 1	1.18	0%	77%	4,714 CF	4,917.45 CF	BMP 1: UNDERGROUND CHAMBERS



PROJECT ADMINISTERED BY:
SAN BERNARDINO COUNTY
PROJECT & FACILITIES
MANAGEMENT DEPARTMENT

385 N. ARROWHEAD AVE.
SAN BERNARDINO, CA 92415

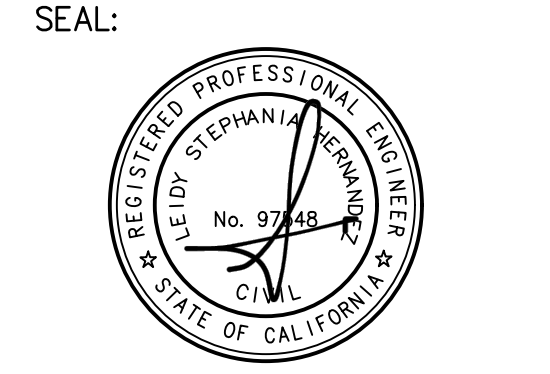
PROJECT NAME:
SAN BERNARDINO
COUNTY FIRE
DEPARTMENT:
FIRE STATION 227

PROJECT # 10.10.1202
CIP #22-105
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180 W. 38TH STREET
SAN BERNARDINO,
CA 92405

ISSUE INFORMATION:	
DATE:	INFORMATION:
03-14-25	Plan Check 1
05-13-25	Plan Check 2

SHEET INFORMATION:
STK PROJECT NO.: 374-193-24
SCALE: AS NOTED
DATE: DECEMBER 2024
PLOT DATE: -
DRAWING NAME: -



SHEET TITLE:
WQMP MAP

SHEET NO.:
1 OF 1

Appendix B: Permit Registration Documents

Permit Registration Documents included in this Appendix:

Location in SWPPP	Permit Registration Document (in addition to a copy of the SWPPP)
	Notice of Intent
Appendix B	Risk Level Determination
	Certification
	Post-Construction Requirements, if applicable
	Post-Construction Water Balance Calculator, if applicable
	Copy of Annual Fee Receipt
	ATS Design Documents, if applicable
	Passive Treatment Design Documents, if applicable
Appendix A	Site Maps and Drawings, see Appendix A

Sediment Risk Factor Worksheet		Entry
A) R Factor		
Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site. http://cfpub.epa.gov/npdes/stormwater/LEV/lewCalculator.cfm		
R Factor Value	39.16	
B) K Factor (weighted average, by area, for all site soils)		
The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted. Site-specific K factor guidance		
K Factor Value	0.2	
C) LS Factor (weighted average, by area, for all slopes)		
The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction. LS Table		
LS Factor Value	1.19	
Watershed Erosion Estimate (=R_xK_xLS) in tons/acre		9.32008
Site Sediment Risk Factor		Low
Low Sediment Risk: < 15 tons/acre		
Medium Sediment Risk: >=15 and <75 tons/acre		
High Sediment Risk: >= 75 tons/acre		
GIS Map Method:		
1. The R factor for the project is calculated using the online calculator at: http://cfpub.epa.gov/npdes/stormwater/LEV/lewCalculator.cfm		
2. The K and LS factors may be obtained by accessing the GIS maps located on the State Water Board FTP website at: ftp://swrcb2a.waterboards.ca.gov/pub/swrcb/dwg/cgp/Risk/		

Receiving Water (RW) Risk Factor Worksheet		Entry	Score
A. Watershed Characteristics		yes/no	
A.1. Does the disturbed area discharge (either directly or indirectly) to a 303(d)-listed waterbody impaired by sediment (For help with impaired waterbodies please visit the link below) or has a USEPA approved TMDL implementation plan for sediment ?: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml OR		no	Low
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan) http://www.waterboards.ca.gov/waterboards_map.shtml			
Region 1 Basin Plan Region 2 Basin Plan Region 3 Basin Plan Region 4 Basin Plan Region 5 Basin Plan Region 6 Basin Plan Region 7 Basin Plan Region 8 Basin Plan Region 9 Basin Plan			

Combined Risk Level Matrix				
		Sediment Risk		
		Low	Medium	High
Receiving Water Risk	Low	Level 1	Level 2	
	High	Level 2		Level 3
Project Sediment Risk:		Low		
Project RW Risk:		Low		
Project Combined Risk:		Level 1		

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MENU

National Pollutant Discharge Elimination System (NPDES)

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Rainfall Erosivity Factor Calculator for Small Construction

Introduction

EPA's stormwater regulations allow NPDES permitting authorities to waive NPDES permitting requirements for stormwater discharges from small construction sites if:

- the construction site disturbs less than five acres, and
- the rainfall erosivity factor ("R" in the revised universal soil loss equation, or RUSLE) value is less than five during the period of construction activity.

If your small construction project is located in an area where EPA is the permitting authority and your R factor is less than five, you qualify for a low erosivity waiver (LEW) from NPDES stormwater permitting. If your small construction project does not qualify for a waiver, then NPDES stormwater permit coverage is required. Follow the steps below to calculate your R-Factor.

LEW certifications are submitted through the NPDES eReporting Tool or "CGP-NeT". Several states that are authorized to implement the NPDES permitting program also accept LEWs. Check with your state NPDES permitting authority for more information.

- Submit your LEW through EPA's eReporting Tool <<https://www.epa.gov/npdes/submitted-notice-intent-noi-notice-termination-not-or-low-erosivity-waiver-lew-under>>

- List of states, Indian country, and territories where EPA is the permitting authority (pdf) <<https://www.epa.gov/system/files/documents/2022-01/2022-cgp-final-appendix-b-areas-of-permit-cover.pdf>>
- Construction Rainfall Erosivity Waiver Fact Sheet <<https://www.epa.gov/npdes/construction-rainfall-erosivity-waiver-fact-sheet>>
- Small Construction Waivers and Instructions (pdf) <<https://www.epa.gov/system/files/documents/2022-01/2022-cgp-final-appendix-c-waivers.pdf>>

The R-factor calculation can also be integrated directly into custom applications using the R-Factor web service <<https://epa.gov/api-docs/>>.

Steps to Calculate an R Factor for your Small Construction Project

- 1 Select the estimated start and end dates of construction by clicking the calendar icons below and using the dropdown calendar. The period of construction activity begins at initial earth disturbance and ends with final stabilization.

Start Date:

12/01/2025

End Date:

11/02/2026

- 2 Locate your small construction project by entering the address in the search box or by clicking on the map.

Location:

-117.28679986705617 , 34.15994823334

Search

+

—



3 Click the "Calculate R Factor" button below.

Calculate R Factor

Facility Information

Start Date: 12/01/2025	Latitude: 34.1599
End Date: 11/02/2026	Longitude: -117.2868

Calculation Results

Rainfall erosivity factor (R Factor) = 39.17

A rainfall erosivity factor of 5.0 or greater has been calculated for your site's period of construction.

You do NOT qualify for a waiver from NPDES permitting requirements and must seek Construction General Permit (CGP) coverage. If you are located in an area where EPA is the permitting authority (pdf)

<https://www.epa.gov/system/files/documents/2022-01/2022-cgp-final-appendix-b-areas-of-permit->

cover.pdf>, you must submit a Notice of Intent (NOI) through the NPDES eReporting Tool (NeT) <<https://www.epa.gov/npdes/submitting-notice-intent-noi-notice-termination-not-or-low-erosivity-waiver-lew-under>>. Otherwise, you must seek coverage under your state's CGP.

For questions or comments, email EPA's CGP staff at cgp@epa.gov.

LAST UPDATED ON JANUARY 4, 2024



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Appendix C: SWPPP Amendment QSD Certifications

NOT FOR BID

**SWPPP Amendment
No.**

Project Name:

Project Number:

**Qualified SWPPP Developer's Certification of the
Stormwater Pollution Prevention Plan Amendment**

"This Stormwater Pollution Prevention Plan and its appendices were prepared under my direction to meet the requirements of the 2022 CGP (SWRCB Order No. 2022-0057-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below."

QSD's Signature

Date

QSD Name

QSD Certificate Number

Title and Affiliation

Telephone

Address

Email

Appendix D: Submitted Changes of Information

NOT FOR BID

Log of Updated PRDs

The 2022 CGP allows for the reduction or increase of the total acreage when a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

A Change of Information (COI) shall be filed electronically within the timeframe shown in the table below. The SWPPP shall be modified appropriately, with revisions and amendments recorded in the SWPPP Amendment Log at the front of the SWPPP. COIs submitted electronically via SMARTS can be found in this Appendix.

Reason for Filing COI	Timeline for Filing COI
Reduction or increase in total disturbed area	Within 30 days of the reduction or increase
Updating site specific BMPs	Within 14 days of design change
Change construction start or end date	At least 14 days prior to the date to be changed
Post-construction plans updated or approved by the municipal stormwater permittee	Within 14 days of approval

This appendix includes all of the following updated PRDs (check all that apply):

- ☐ Change of Information;
- ☐ Revised Site Map;
- ☐ Revised Risk Assessment;
- ☐ New landowner's information (name, address, phone number, email address); and
- ☐ New signed certification statement.

Signature of [Authorized Representative of] Legally
Responsible Person or Duly Authorized
Representative

Date

Name of [Authorized Representative of] Legally
Responsible Person or Duly Authorized
Representative

Telephone Number

Appendix E: Construction Schedule

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Appendix F: Construction Activities, Materials Used, and Associated Pollutants

NOT FOR BID

Table F.1 Pollutant Source Assessment Form

Phase	Activity	Associated Materials or Pollutants	Pollutant Category ⁽¹⁾
Demolition and Pre-Development Site Preparation Phase	Sanitary waste	Portable toilets, Disturbance of existing sewer lines.	Nutrients
	Solid waste	Litter, trash and debris, Vegetation	Gross Pollutants
	Vehicle and equipment use	Equipment operation, Equipment maintenance, Equipment washing, Equipment fueling	Oil and Grease
Grading and Land Development	Sanitary waste	Portable toilets, Disturbance of existing sewer lines.	Nutrients
	Soil preparation/amendments	Use of soil additives/amendments	Nutrients
	Solid waste	Litter, trash and debris, Vegetation	Gross Pollutants
	Vehicle and equipment use	Equipment operation, Equipment maintenance, Equipment washing, Equipment fueling	Oil and Grease
Streets and Utilities Phase			
Vertical Construction Phase	General Construction	Adhesives, glues, resins, epoxy synthetics, PVC cement, Caulks, sealers, putty, sealing agents and Coal tars (naphtha, pitch)	Oil and Grease, Synthetic Organics
	General Construction	Polishes (metal, ceramic, tile), Etching agents, Cleaners, ammonia, lye, caustic sodas, bleaching agents and chromate salts	Metals, Synthetic Organics
	Drywall	Saw-cutting drywall	Metals
	Framing/Carpentry	Sawdust, particle board dust, and treated	Metals, Synthetic Organics

		woods, Saw cut slurries	
	Heating, Ventilation, Air Conditioning	Construction of air condition and heating systems	Metals, Synthetic Organics
	Painting	Paint thinners, acetone, methyl ethyl ketone, stripper paints, lacquers, varnish, enamels, turpentine, gum spirit, solvents, dyes, stripping pigments and sanding	Metals, Synthetic Organics
	Plumbing	Solder (lead, tin), flux (zinc chloride), pipe fitting, Galvanized metal in nails, fences, and electric wiring	Metals, Synthetic Organics
	Sanitary waste	Portable toilets, Disturbance of existing sewer lines	Nutrients
Final Landscaping and Site Stabilization Phase	Landscape construction	Wash waters, Irrigation line, testing/flushing	Metals, Synthetic Organics
	Planting / Vegetation Management	Vegetation control (pesticides/herbicides), Planting, Plant maintenance, Vegetation removal	Synthetic Organics
	Sanitary waste	Portable toilets, Disturbance of existing sewer lines	Nutrients
	Vehicle and equipment use	Equipment operation, Equipment maintenance, Equipment washing, Equipment fueling	Oil and Grease

⁽¹⁾ Categories per CASQA BMP Handbook (i.e., Sediment, Nutrients, Bacteria and Viruses, Oil and Grease, Metals, Synthetic Organics, Pesticides, Gross Pollutants, and Vector Production)

Appendix G: CASQA Stormwater BMP Handbook: Construction Fact Sheets

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