CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657

ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK

HOFFMAN HOLLOW ROAD
FROSTBURG, MARYLAND 21532
TELEPHONE: (717) 799-7145

CIVIL
INDEX OF SHEETS

REVISIONS

NUMBER	DESCRIPTION	DATE
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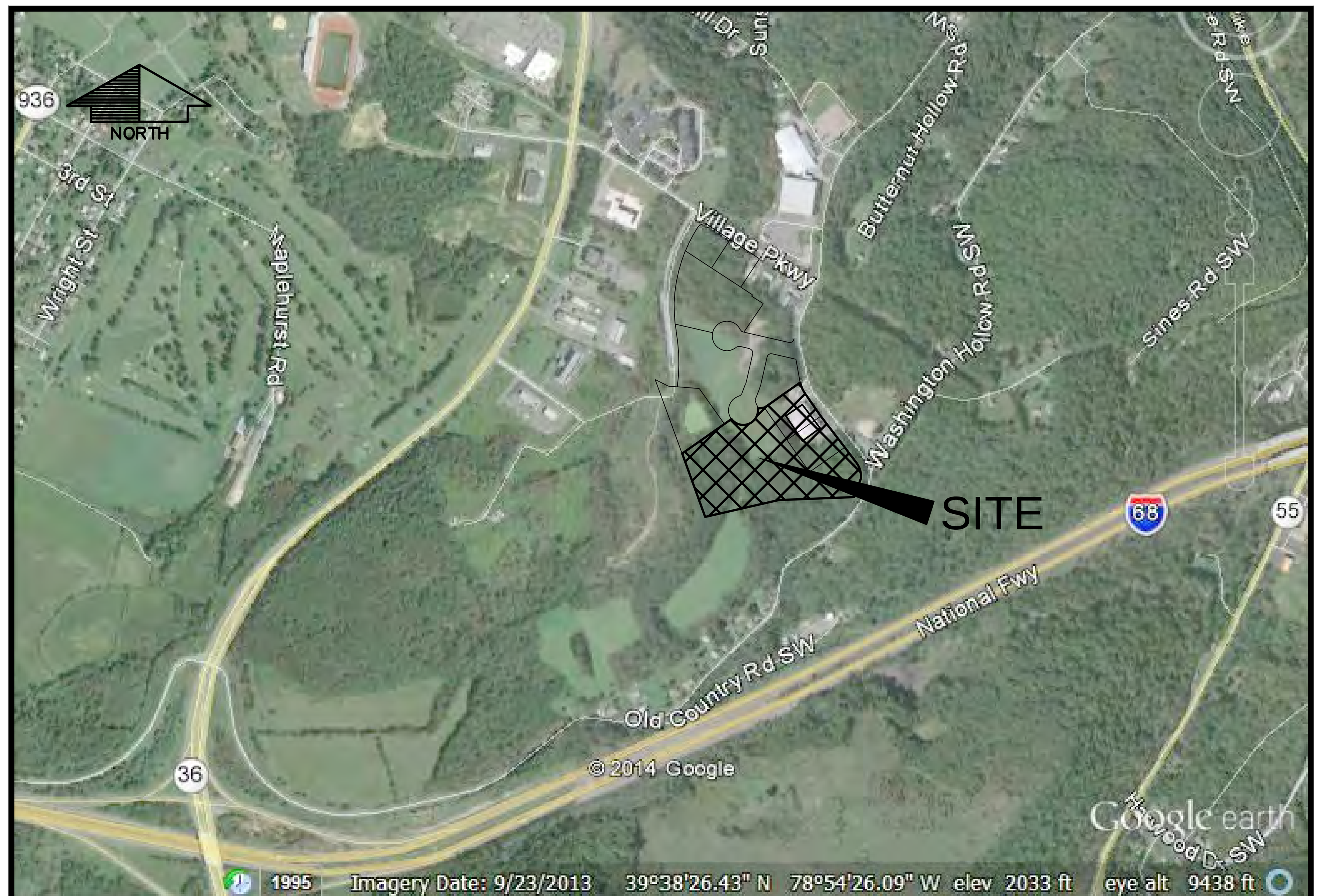

VICINITY MAP
NOT TO SCALE

GENERAL NOTES:

1. THE GRADING LIMITS SHOWN ON THE PLANS ARE NOT TO BE EXCEEDED. ANY CHANGES IN THE GRADING, EROSION AND SEDIMENT CONTROL PLAN, STORM WATER MANAGEMENT FACILITY OR OTHER SEGMENT OF THE WORK MUST BE REVIEWED AND APPROVED BY THE CITY OF FROSRBURG AND SCS.
2. CONTRACTOR IS TO PROVIDE ACCESS TO THE ENTIRE PROJECT AREA FOR EMERGENCY SERVICES DURING THE ENTIRE CONSTRUCTION PROCESS INCLUDING FIRE, AMBULANCE AND POLICE.
3. EXISTING UTILITIES:
   THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS. SPECS, INC. ASSUMES NO LIABILITY FOR THE LOCATION AND DEPTH OF ANY ABOVE AND BELOW GROUND UTILITIES. CONTRACTOR IS TO FIELD VERIFY THE LOCATION AND DEPTH OF ALL CONCERNED UTILITIES BEFORE THE START OF ANY EARTHWORK AND/OR CONSTRUCTION.
4. THE SPECIFICATIONS FOR THIS PROJECT SHALL BE THOSE OF THE MARYLAND STATE HIGHWAY ADMINISTRATION TITLED "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS", LATEST ADDITION. IN CASE OF A DISCREPANCY BETWEEN THE SPECIAL PROVISIONS AND OTHER PROVISIONS INCLUDED IN THIS CONTRACT THE ENGINEER SHALL BE THE SOLE AUTHORITY AS TO THE PROPER PROCEDURE TO FOLLOW.
5. SEDIMENT AND EROSION CONTROL DETAILS INDICATED ON THE PLAN AND APPLICABLE PROVISIONS OF ALL CONTRACT DOCUMENTS SHALL BE STRICTLY ENFORCED.
6. THE DESIGN FOR THIS PROJECT HAS INCORPORATED FACILITIES FOR THE ELDERLY AND HANDICAPPED IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL LEGISLATION.
7. WHERE REMOVAL OF AN ITEM IS CALLED FOR IN THE CONTRACT DOCUMENTS, IT SHALL BE INTERPRETED AS TO MEAN "REMOVE AND PROPERLY DISPOSE OF", UNLESS OTHERWISE NOTED TO BE SALVAGED.
8. THE PROPERTY LINES SHOWN ON THIS DRAWINGS ARE APPROXIMATE AND HAVE BEEN INTERPOLATED FROM DEEDS, PLATS AND BEST AVAILABLE INFORMATION. SPECS, INC. ASSUMES NO LIABILITY FOR THE LOCATION AND/OR EXISTENCE OF ANY PROPERTIES, EASEMENTS AND/OR RIGHT OF WAYS.
9. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITIES.
10. SEWER AND WATER SERVICE SHALL BE COORDINATED WITH THE CITY OF FROSTBURG.

SITE DATA AND REGULATIONS

ELECTION DISTRICT NO: 24-000   ASSOCIATED SUBDIVISION PLATES: PLAT #2341, 2343

ZONING: T/LI - TECHNOLOGY LIGHT INDUSTRIAL

TOTAL PROPERTY AREA: 12.2 ACRES

TOTAL PROPOSED IMPERVIOUS AREA: 275,509 SQ. FT. / 6.3 ACRES

LIMIT OF DISTURBANCE:

LOD AREA = 442,464 SF± / 10.16 ACRES±

AMOUNT OF EARTHWORK: (APPROXIMATE AT FINISH GRADE)

TOTAL CUT . . . 62,500 CU. YDS. APPROXIMATE @
TOTAL FILL . . . 10,200 CU. YDS. FINAL GRADE

EARTHWORK QUANTITIES FOR PERMITTING PURPOSES ONLY. CONTRACTOR RESPONSIBLE FOR PERFORMING HIS OWN TAKE OFF FOR BIDDING OR REFER TO BID DOCUMENTS FOR QUANTITIES.

SOIL INFORMATION:

EsC - ERNEST SILT LOAM, 8 TO 15 PERCENT SLOPES, VERY STONY
FaC - FAIRPOINT CHANNERY LOAM, 0 TO 8 PERCENT SLOPES
WrA - WHARTON CHANNERY SILT LOAM, 0 TO 3 PERCENT SLOPES

LOT REQUIREMENTS:

MINIMUM LOT AREA = 6,000 SQUARE FEET
MINIMUM LOT WIDTH = 50 FEET

BUILDING SET BACK REQUIREMENTS:

FRONT = 30 FEET
REAR = 10 FEET
SIDE = 10 FEET

BUILDING HEIGHT REQUIREMENTS:

4 STORIES / 50 FEET

*NPDES PERMIT IS REQUIRED.

WETLAND INFORMATION: WETLANDS ARE FOUND IN PROJECT AREA AND WERE DELINEATED IN WINTERS 2024-2025.

WRA JOINT APPLICATION REQUIRED.

FLOODPLAIN INFORMATION: THE SUBJECT PROPERTY APPEARS TO BE LOCATED IN ZONE X, AS SHOWN ON MAP NO. 24001C0019E, EFFECTIVE DATE APRIL 3, 2020. IT WAS NOT THE INTENT OF THIS SURVEY TO STUDY AND/OR MAKE DETERMINATION AS TO THE ACCURACY OF THE FLOOD ZONE CLASSIFICATION.

APPROVED FOR SEDIMENT EROSION CONTROL

BRENT WALKER   DATE
ALLEGANY SOIL CONSERVATION DISTRICT

APPROVED FOR CONSTRUCTION AND STORMWATER MANAGEMENT

HAYDEN LINDSEY - DIRECTOR OF PUBLIC WORKS   DATE

OWNER'S DEVELOPER'S CERTIFICATION

I / WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I/WE HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY APPROPRIATE INSPECTION AND ENFORCEMENT AUTHORITY OR THE STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT. I/WE HEREBY CERTIFY THAT STORMWATER MANAGEMENT FACILITIES WILL BE MAINTAINED IN ACCORDANCE WITH APPROVED PLANS.

DATE: OWNER/DEVELOPER SIGNATURE:

RESPONSIBLE PERSONNEL CERTIFICATION NO.   PRINTED NAME & TITLE:

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2010 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I & II AND ACCEPTED STANDARDS OF ENGINEERING PRACTICE.

DATE: 301-777-2510 PHONE NO.:   DESIGNER'S SIGNATURE:

MD. REG. NO. 200457
MD. REGISTRATION NO.:

MR. RAYMOND CHARLES RASE, P.E., P.S.
PRINTED NAME:

P.E., R.L.S., R.L.A. (CIRCLE)

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PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 200457, EXPIRATION DATE: SEPTEMBER 2, 2027.

BOARD FOR PROFESSIONAL ENGINEERS NO. 200457 RAYMOND CHARLES RASE STATE OF MARYLAND

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ONE COMPLETE COPY OF THE SITE PLANS SHALL REMAIN ONSITE AS CONSTRUCTION COMMENCES.

No.	DESCRIPTION	DATE	BY

REVISIONS

DESIGNED:	DRAWN:
R.C.R.	
CHECKED:	APPROVED:
R.C.R.	R.C.R.

SPECS
CONSULTING ENGINEERS & SURVEYORS
105 SOUTH CENTRE STREET, SUITE 100
CUMBERLAND, MD 21502
301.777.2510 FAX: 301.777.8419

PREPARED FOR:
VERTICAL CONVERTING LLC
2257A OLD PHILADELPHIA PIKE
LANCASTER, PA 17602
717.799.7145

ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
TITLE SHEET

COUNTY DRAWING
2021-SS-0XX

JOB No.	SHEET No.
5657	C0.0
DATE	DRAWING No.
JANUARY 2026	X of X

LIST OF SYMBOLS & ABBREVIATIONS

GENERAL

EXISTING SYMBOL	ITEM DESCRIPTION	PROPOSED SYMBOL
	EXISTING FEATURE	
	PROPOSED FEATURE	
	RIGHT OF WAY LINE OR PROPERTY LINE	
	GUARD RAIL	
	FENCE LINE	
	RAILROAD	
	BASE OR SURVEY LINE	
	UTILITY POLE	
	STREET SIGNS	
	HEDGE AREA	
	BUSHES/TREES	
	INTERMEDIATE CONTOUR	
	INDEX CONTOUR	
	PROPOSED CONTOUR	
	BORE HOLE	
STA. 21+25/RT.5'	STATIONING/OFFSET	STA. 21+25/RT.5'
	LIMIT OF DISTURBANCE	
	DETAIL #/SHEET #	2/C0.1
	SQUARE STEEL BOLLARD	
	PIPE BOLLARD	
	TRAVERSE POINT MARK	
	REVISION MARK AND NUMBER	3
	CONCRETE MONUMENT	
	RIP RAP	
	SWALE AND FLOW DIRECTION	FLOW LINE
	TREE LINE	
	WETLAND	
	BUILDING SETBACK LINE	
	25% SLOPE OR GREATER	
	100 YEAR FLOOD BOUNDARY	
	SOILS BOUNDARY	
GnE	SOILS TYPE	
	BUILDINGS/STRUCTURES	
	ZONING LIMIT LINE	
	OBJECT CENTERLINE	
	SAWCUT LINE	
	GAS VALVE	GV
	GAS METER	GM
	SECTION DETAIL	
	ELEVATION VIEW	
	DETAILED AREA	DETAIL AREA
	BENCHMARK	DESCRIPTION
	STREET LIGHT (LAMP)	
	STREET LIGHT (POLE)	
AC	AIR CONDITIONER	AC
T	TRANSFORMER	T
EXISTING TEXT	MISC. TEXT	PROPOSED TEXT

MISC UTILITY SPECIFIC

EXISTING SYMBOL	ITEM DESCRIPTION	PROPOSED SYMBOL
O/E	OVERHEAD ELECTRIC	O/E
U/E	UNDERGROUND ELECTRIC	U/E
G	UNDERGROUND GAS	G
O/C	OVERHEAD CABLE	O/C
U/C	UNDERGROUND CABLE	U/C
O/T	OVERHEAD TELEPHONE	O/T
U/T	UNDERGROUND TELEPHONE	U/T
O/F	OVERHEAD FIBER OPTIC	O/F
U/F	UNDERGROUND FIBER OPTIC	U/F
O/U	MISC. OVERHEAD UTILITY	O/U

WATERLINE SPECIFIC

EXISTING SYMBOL	ITEM DESCRIPTION	PROPOSED SYMBOL
W	WATER LINE	W
	FIRE HYDRANT	
	GATE VALVE & VALVE BOX	WV
	WATER METER	WM
	HORIZONTAL BEND W/THRUST BLOCK ANCHORAGE	

STORM & SANITARY SPECIFIC

EXISTING SYMBOL	ITEM DESCRIPTION	PROPOSED SYMBOL
SS	SANITARY SEWER	
ST	STORM SEWER	
XI-1	INLET IDENTIFICATION	I-1
XM-1	MANHOLE IDENTIFICATION (STORM)	M-1
	MANHOLE IDENTIFICATION (SANITARY)	S-1
	STANDARD END SECTION	
	MANHOLE	
	GRATED INLET	
	COG INLET	

ABBR.	DESCRIPTION
AB	Anchor Bolt
AC	Acres
ACSM	American Congress on Surveying & Mapping
ACT	Acoustical Ceiling Tile
AD	Access Door
ADA	Americans with Disabilities Act
ADD	Addendum
ADJ	Adjacent
AFF	Above Finish Floor
AL	Aluminum
ALT	Alternate
ALTA	Americal Land Title Association
ANSI	American National Standards Institute
AP	Allegheny Power
APPROX	Approximate
ARCH	Architect
ASTM	American Society for Testing and Materials
BC	Bottom of Curb
BD	Board
BIT	Bituminous
BL	Baseline
BLDG	Building
BLKG	Blocking
BRG	Bearing
BW	Bottom of Wall
C/C	Center to Center
CF/CI	Contractor Furnished/Contractor Installed
C/P	Center Point
CFS	Cubic Feet Per Second
CF	Cubic Feet
CG	Corner Guard
CIP	Cast In Place
CIP	Cast Iron Pipe
CJ	Construction Joint
CTJ	Contraction Joint
CL	Centerline
CLG	Ceiling
CLR	Clear
CMP	Corrugated Metal Pipe
CMU	Concrete Masonry Unit
CO	Clean Out
COL	Column
COMB	Combination
CONC	Concrete
CONT	Continuous
CPT	Carpet
CR	Ceramic Tile
CS	Curb Stop
CY	Cubic Yard
DBL	Double
DI	Drop Inlet
DIA	Diameter
DIFF	Diffuser
DIP	Ductile Iron Pipe
DISP	Dispenser
DN	Down
DS	Down Spout
DWG	Drawing
EA	Each
EF	Exhaust Fan
EIFS	Exterior Insulation and Finish System
EJ	Expansion Joint
ELEC	Electrical or Electric
ELEV	Elevation
EPNL	Electrical Panel
EQ	Equal
EW	Each Way
EWC	Electric Water Cooler
EX	Existing
EXP	Expansion
EXT	Exterior
FA	Fire Alarm
FC	Face of Curb
FC	Finish Ceiling
F'c	Concrete Compression Strength
FEC	Fire Extinguisher Cabinet
FF	Finish Floor
FH	Fire Hydrant
FIN	Finish
FTG	Footing
Fy	Allowable yield stress
GA	Gauge
GALV	Galvanized
GB	Grab bar
GV	Gate Valve
GM	Gas Meter
GWB	Gypsum Wallboard
HGT	Height
HB	Horizontal Bend
H.B.	Hose Bib
HC	Hollow Core
HDPE	High Density Polyethylene Pipe
HDW	Hardware
HM	Hollow Metal
HMA	Hot Mix Asphalt
HORIZ	Horizontal
HP	High Point
HTR	Heater
HVAC	Heating, Ventilation, Air Conditioning
HW	Hot Water
IB	Iron Bar
ID	Inside Diameter
IFF	If and Only If
ILL	Illuminator
INV	Invert
JAN	Janitor
JT	Joint
ksi	Kips per sq in
L	Length
LAT	Lateral
LF	Linear Feet
LNDSCP	Landscape
LOD	Limit of Disturbance
LP	Low Point
LTL	Lintel
LVR	Louver
MAX	Maximum
MC	Medicine Cabinet
MDSHA	Maryland State Highway Administration
MECH	Mechanical
MEP	Mechanical Electrical Plumbing
MFR	Manufacturer
MH	Manhole
MIN	Minimum
MISC	Miscellaneous
MJ	Mechanical Joint
MO	Masonry Opening
MOD	Modified
MTD	Mounted
N/A	Not Applicable
N/E	Northing/Easting
NIC	Not in Contract
NTS	Not To Scale
OA	Overall
OC	On Center
OD	Outside Diameter
OF/OI	Owner Furnished/Owner Installed
OPH	Opposite Hand
OPP	Opposite

ABBR.	DESCRIPTION
PC	Precast Concrete
PC	Point of Curvature
PERF	Perforated
PG	Performance Grade
PG/E	Profile Grade Elevation
PI	Point of Intersection
PL	Property Line
PLT	Plate
PNL	Panel
PNT	Point
P/O	Portion or Part of
PP	Polypropylene
PR	Proposed
PRC	Point of Reverse Curve
PREF	Prefinished
PT	Point of Tangency
PTD	Paper Towel Dispenser
PVC	Polyvinyl Chloride
PVI	Point of Vertical Intersection
PWD	Plywood
QT	Quarry Tile
QTY	Quantity
R	Radius
R.O.W.	Right Of Way
RA	Return Air
RCP	Reflected Ceiling Plan
RCP	Reinforced Concrete Pipe
RAD	Radius
RD	Roof Drain
REC	Recessed
REF	Refrigerator
REG	Register
REINF	Reinforced/Reinforcing
REQ'D	Required
RES	Resilient
REV	Revision
RM	Room
RND	Round
RO	Roof Opening or Rough Opening
SA	Supply Air
SB	Splash Block
SCE	Stabilized Construction Entrance
SCH	Schedule (thickness)
SDR	Standard Dimension Ratio
SECT	Section
SEW	Sewer
SHR	Shower
SHT	Sheet
SIM	Similar
SLP	Slope
SND	Sanitary Napkin Disposal
SPEC	Special
SPKR	Speaker
SQ	Square
SQ FT	Square Feet
SS	Service Sink
SST	Stainless Steel
STA	Station
STD	Standard
STL	Steel
SUSP	Suspended
SV	Sheet Vinyl
S/W	Sidewalk
SY	Square Yard
SYM	Symmetrical
TB	Towel Bar
TC	Top of Curb
TCP	Tera-Cotta or Vitrified Clay Pipe
TEL	Telephone
TG	Top Grate
THK	Thickness
TM_P_	Tax Map/Parcel
TOS	Top of Steel
TR	Top of Rim
TS	Top of Step
TTD	Toilet Tissue Dispenser
TW	Top of Wall
TYP	Typical
VB	Vertical Bend
VB	Valve Box
VB	Vinyl Base
VCW	Vinyl Wall Covering
VERT	Vertical
VIF	Verify in Field
W	Width
W/	With
WM	Water Meter
W/O	With Out
WC	Water Closet
WD	Wood
WSCT	Wainscot
WV	Water Valve
WWF	Woven Wire Fabric
YD	Yard

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BOARD FOR PROFESSIONAL ENGINEERS · NO. 200457 · RAYMOND CHARLES BASE · STATE OF MARYLAND

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No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED: R.C.R. | DRAWN:
CHECKED: R.C.R. | APPROVED: R.C.R.

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VERTICAL CONVERTING LLC
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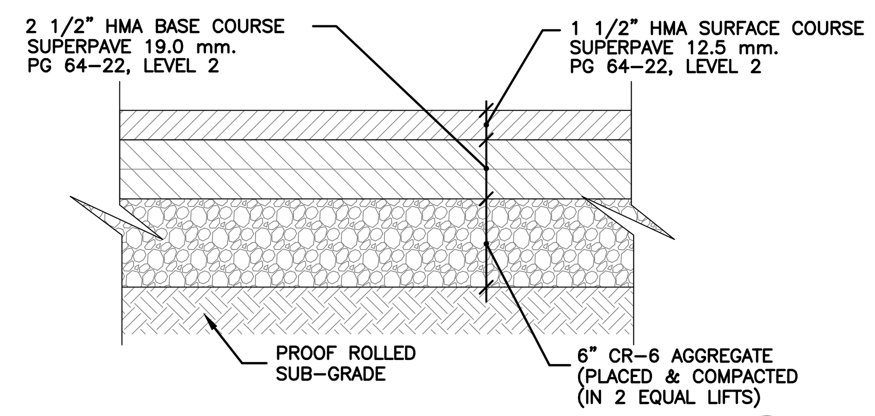
ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
LIST OF SYMBOLS AND ABBREVIATIONS

COUNTY DRAWING 2021-SS-0XX

JOB No. 5657 | SHEET No. C0.1
DATE JANUARY 2026 | DRAWING No. X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657



LOW VOLUME PAVEMENT SECTION DETAIL 1
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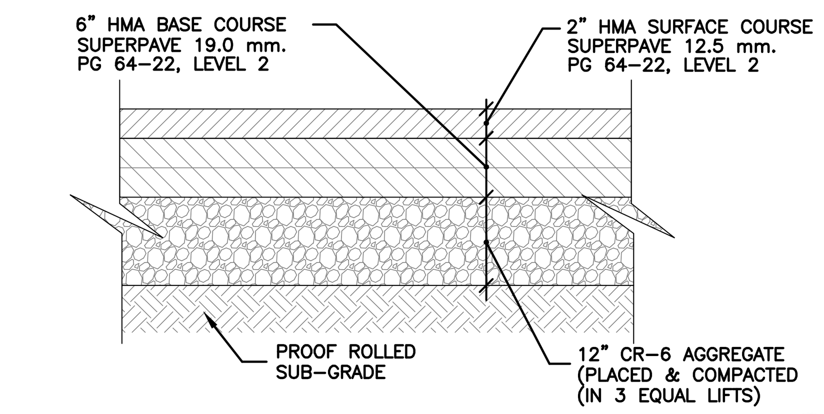

SHA HIGH VOLUME PAVEMENT SECTION DETAIL 3
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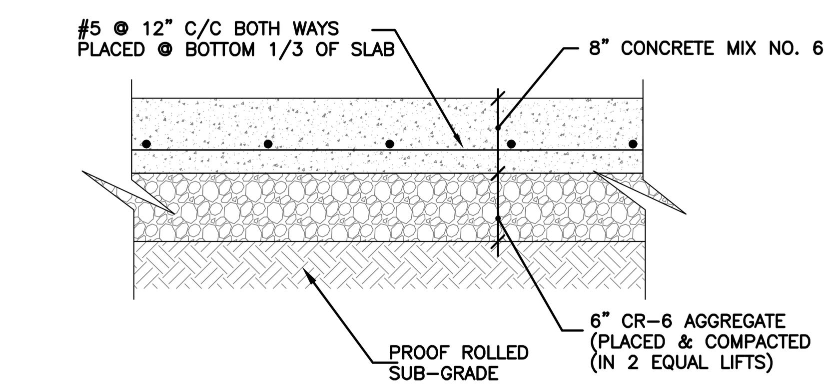

RIGID HEAVY DUTY PAVEMENT SECTION DETAIL 4
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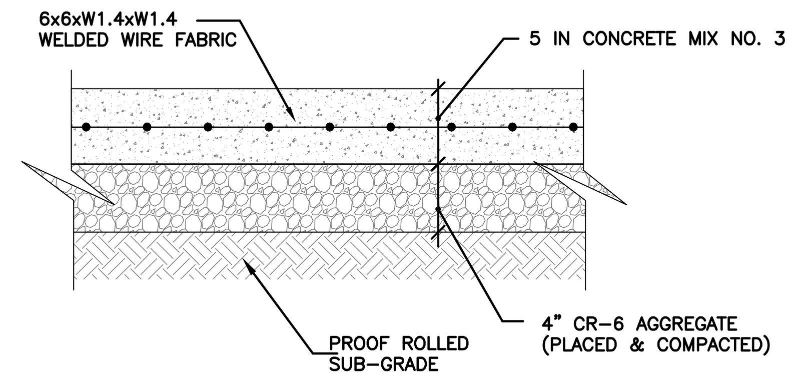

RIGID LIGHT DUTY PAVEMENT SECTION DETAIL 6
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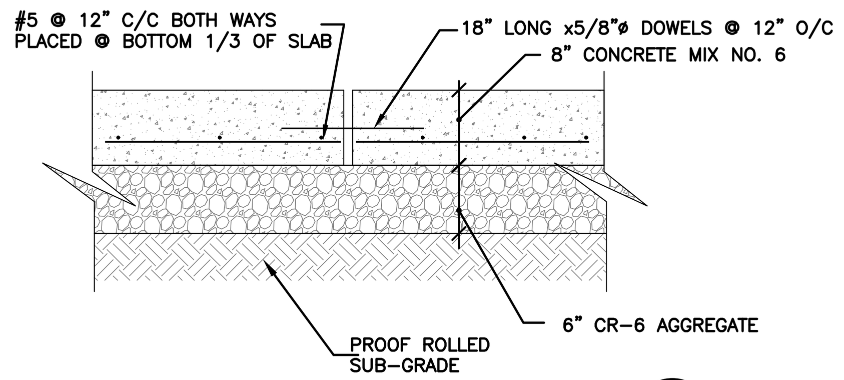
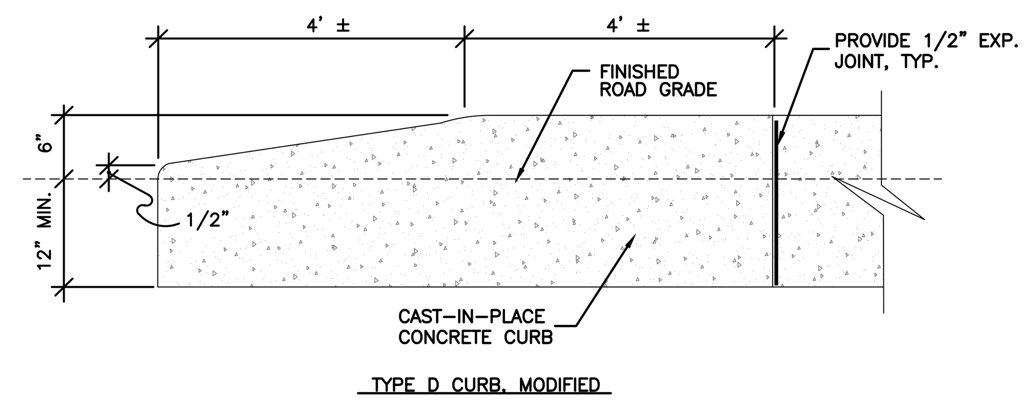
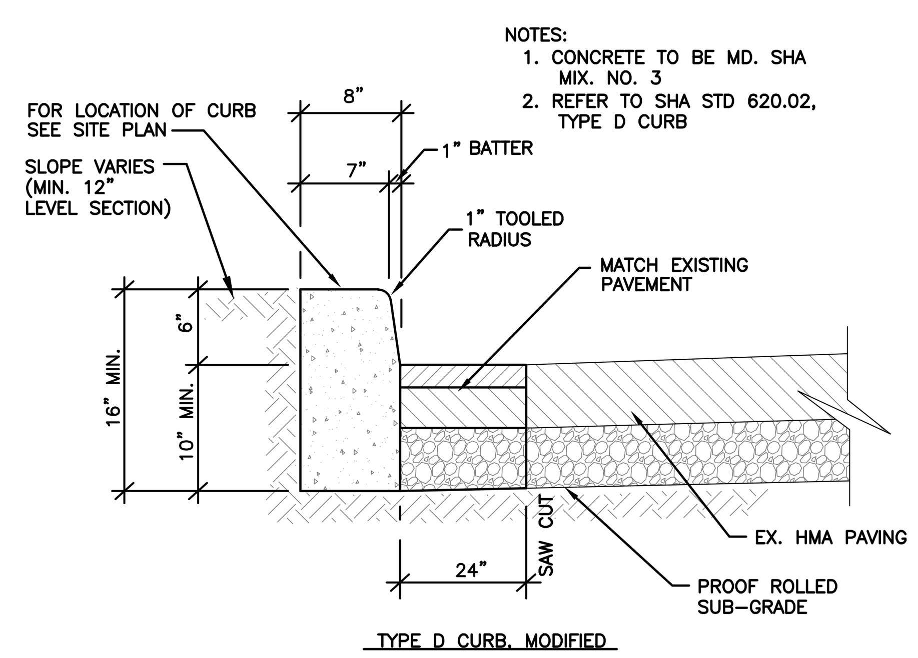


RIGID HEAVY DUTY PAVEMENT JOINT 7
NOT TO SCALE

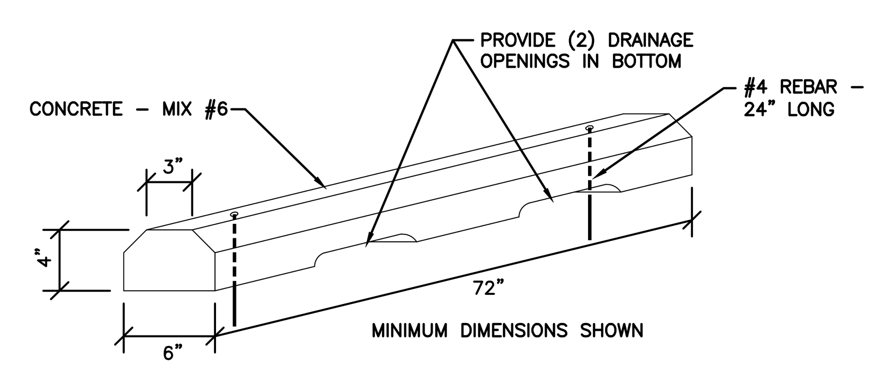


NOSE-DOWN CAST-IN-PLACE CONCRETE CURB DETAIL, TYP. 8
NOT TO SCALE

NOTES:
1. CONCRETE TO BE MD. SHA MIX. NO. 3
2. REFER TO SHA STD 620.02, TYPE D CURB

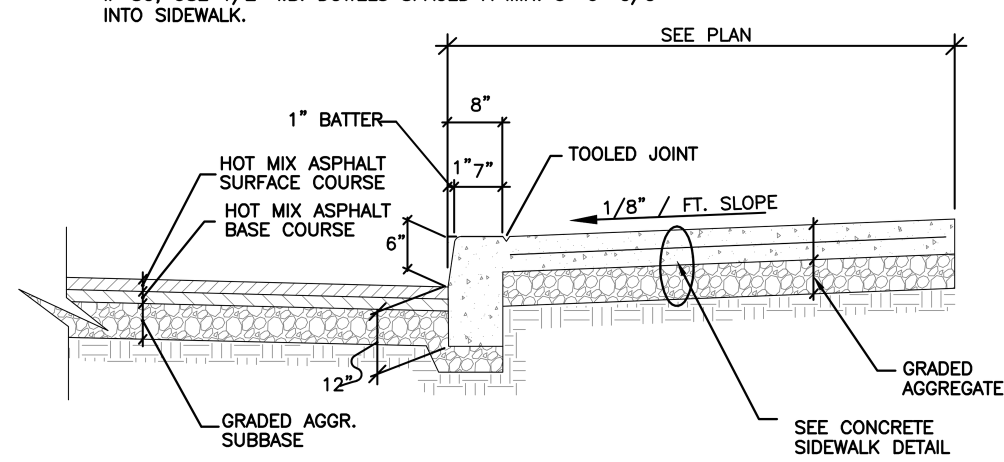


6" CAST-IN-PLACE CURB DETAIL 9
NOT TO SCALE

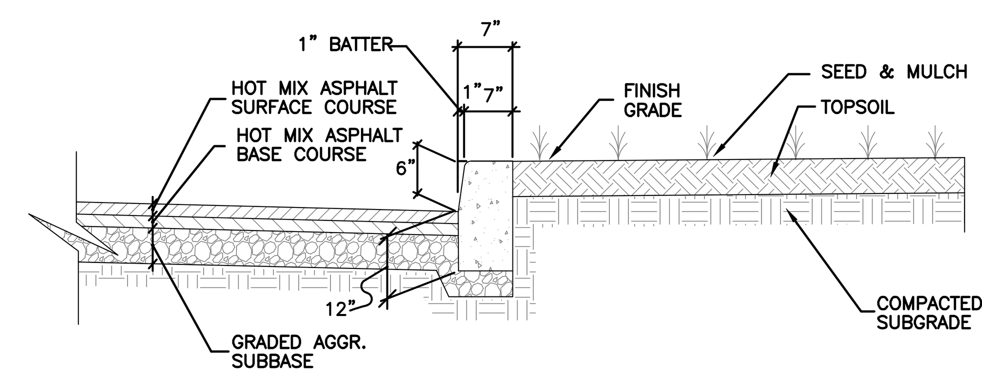


PRECAST CONCRETE WHEEL STOP 10
NOT TO SCALE

NOTES:
1. PROVIDE CONTROL JOINTS AT 5' INTERVALS, 1" DEEP.
2. EXPANSION JOINTS EVERY 15'.
3. 1/2" PREMOLDED JOINT WHERE SIDEWALK MEETS CURB (WHEN USING "A" TYPE CURB).
4. 3" SCH. 40 STEEL SLEEVES WILL BE USED WHERE SIGNS ENTER THE SIDEWALK.
5. SIDEWALK SHALL BE 5' WIDE, UNLESS OTHERWISE SPECIFIED BY SITE PLANS.
6. CONTRACTOR MAY CAST CURB & SIDEWALK SEPARATELY, IF SO, USE 1/2" I.B. DOWELS SPACED A MIN. 5'-0" C/C INTO SIDEWALK.

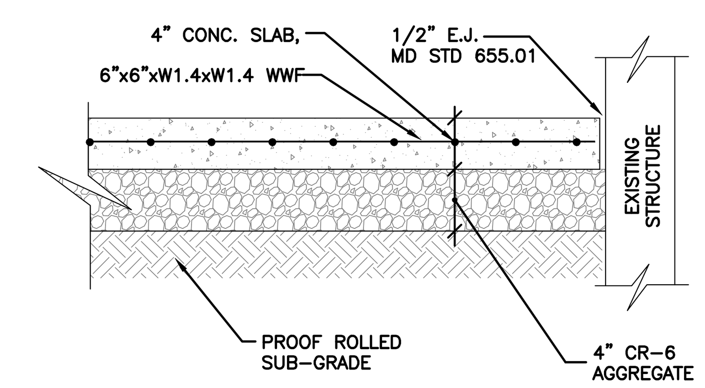


MONOLITHIC SIDEWALK/CURB DETAIL 11
NOT TO SCALE
NOTE: NON STANDARD CURB WIDTH



MODIFIED TYPE "D" CURB / GRASS DETAIL 12
NOT TO SCALE
NOTE: NON STANDARD CURB WIDTH

NOTES:
1. PLACE A CONSTRUCTION JOINT EVERY 5' BY SCORING A 3/8" JT. INTO CONC.
2. SURFACE TO BE BRUSHED WITH STIFF BROOM TO ASSURE NON SLIP SURFACE.
3. PROVIDE 1/2" E.J. EVERY 15' BETWEEN SLAB SECTIONS AND ADJACENT TO ALL CONCRETE CURBS, AND BUILDINGS, MD STD 655.01.
4. CONCRETE TO BE MD STD. MIX #3. MIN. 5% TO 8% AIR ENTRAINED.
5. SIDEWALKS SHALL HAVE A CROSS SLOPE OF 1/4" PER FOOT FROM REAR EDGE TO CURB UNLESS SHOWN OTHERWISE.
6. SEAL ALL JOINTS NEXT TO BUILDINGS AND
7. REFER TO PLANS FOR SCORING



REINFORCED CONCRETE SIDEWALK DETAIL 13
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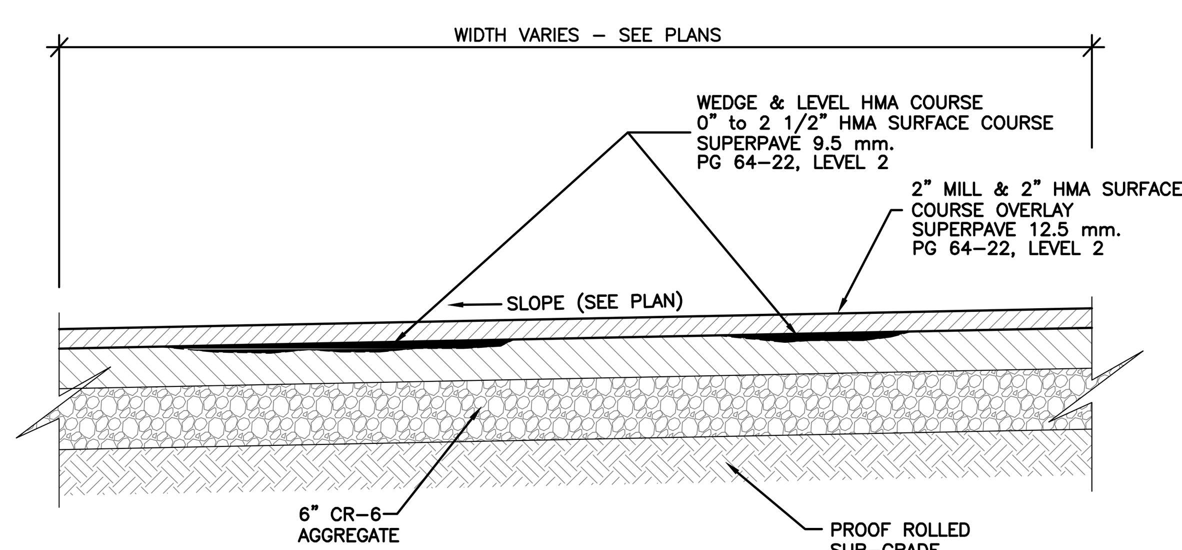

TYPICAL SECTION - MILL & OVERLAY 14
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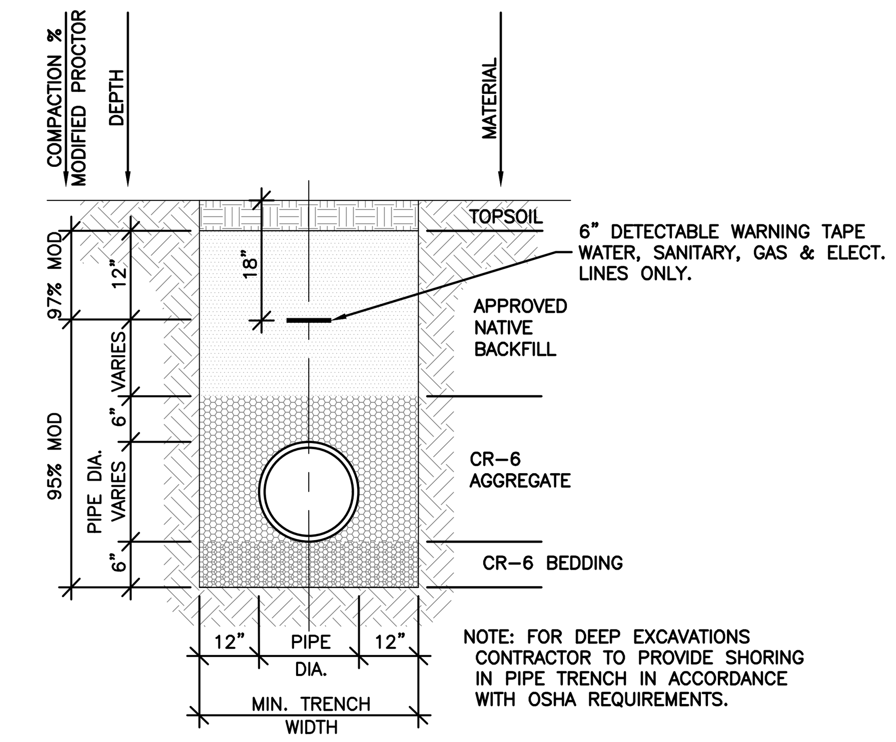
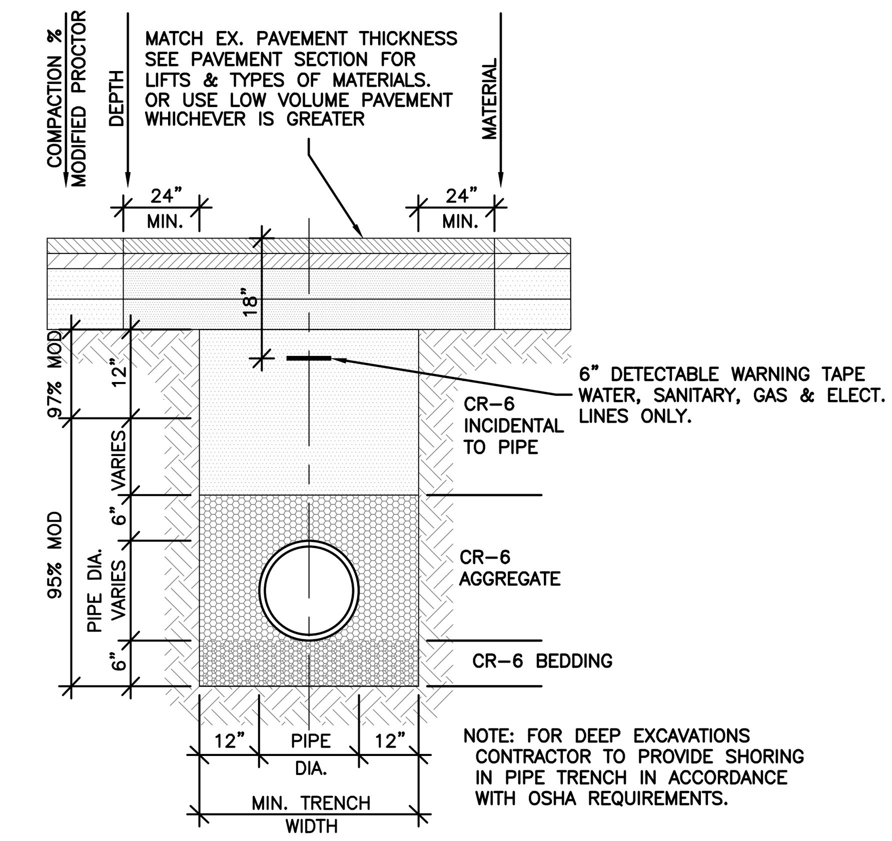
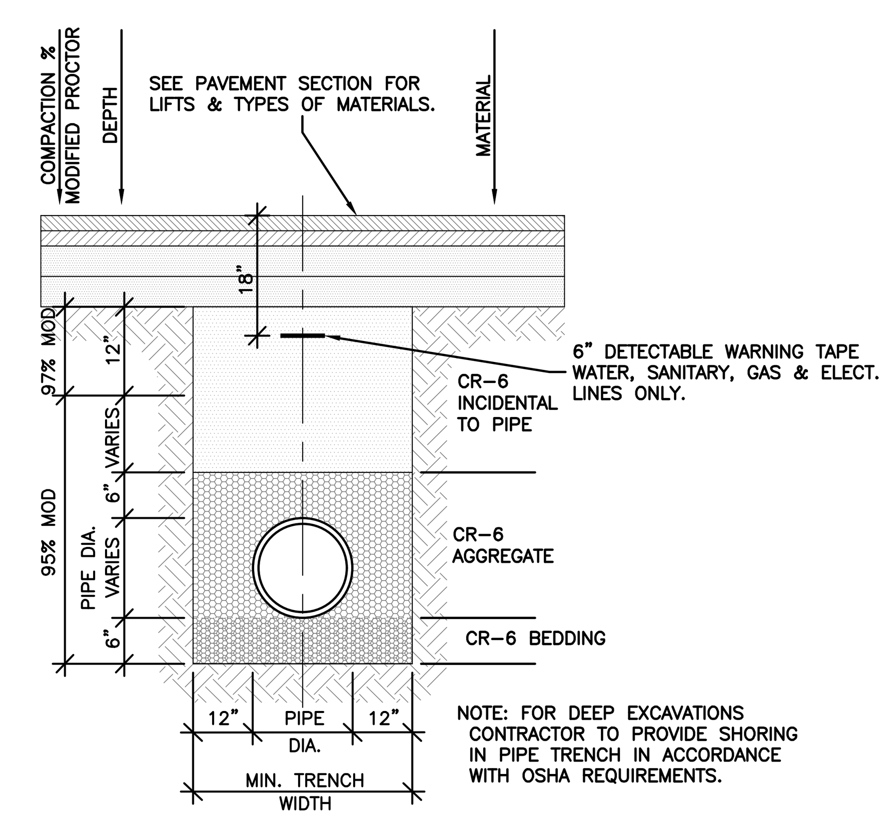


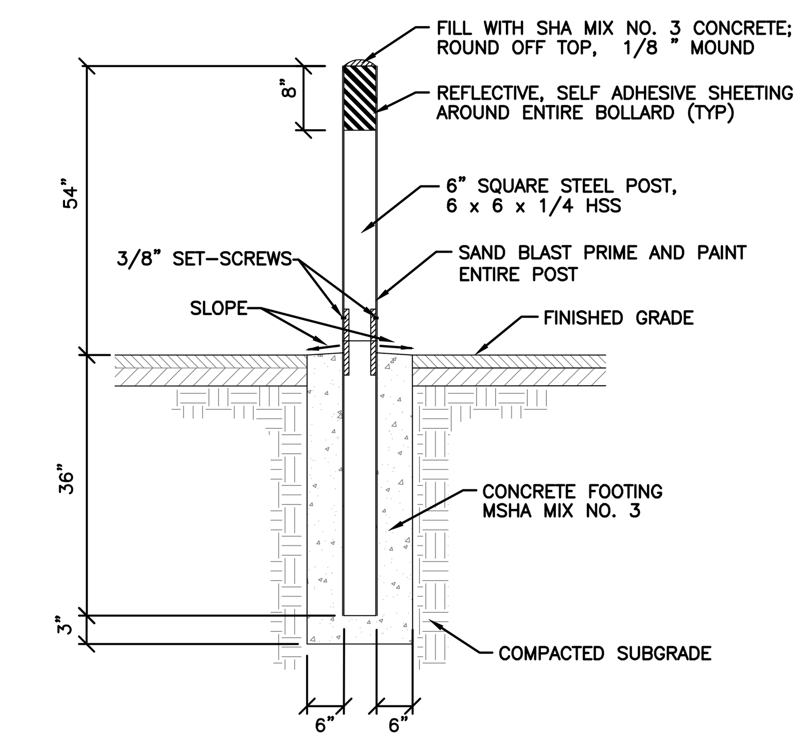
UTILITY TRENCH DETAIL: NON-PAVED AREAS 15
NOT TO SCALE



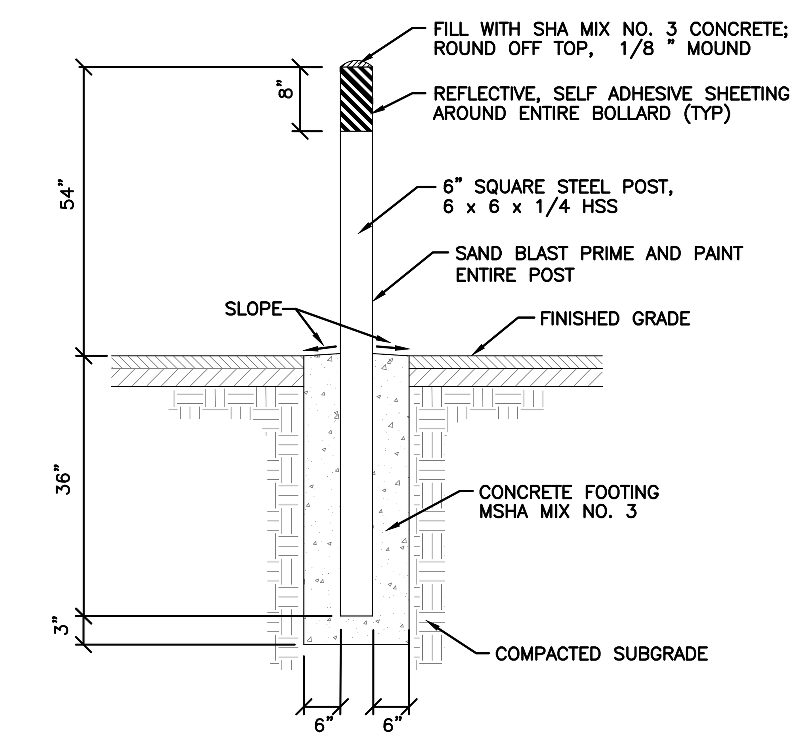
UTILITY TRENCH DETAIL: EXISTING PAVED AREAS 16
NOT TO SCALE



UTILITY TRENCH DETAIL: NEW PAVED AREAS 17
NOT TO SCALE



SIDE VIEW
REMOVABLE STEEL BOLLARD 18
NOT TO SCALE



HEAVY DUTY
FIXED STEEL BOLLARD 19
NOT TO SCALE

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No.	DESCRIPTION	DATE	BY
REVISIONS			

DESIGNED: R.C.R. | DRAWN:
CHECKED: R.C.R. | APPROVED: R.C.R.

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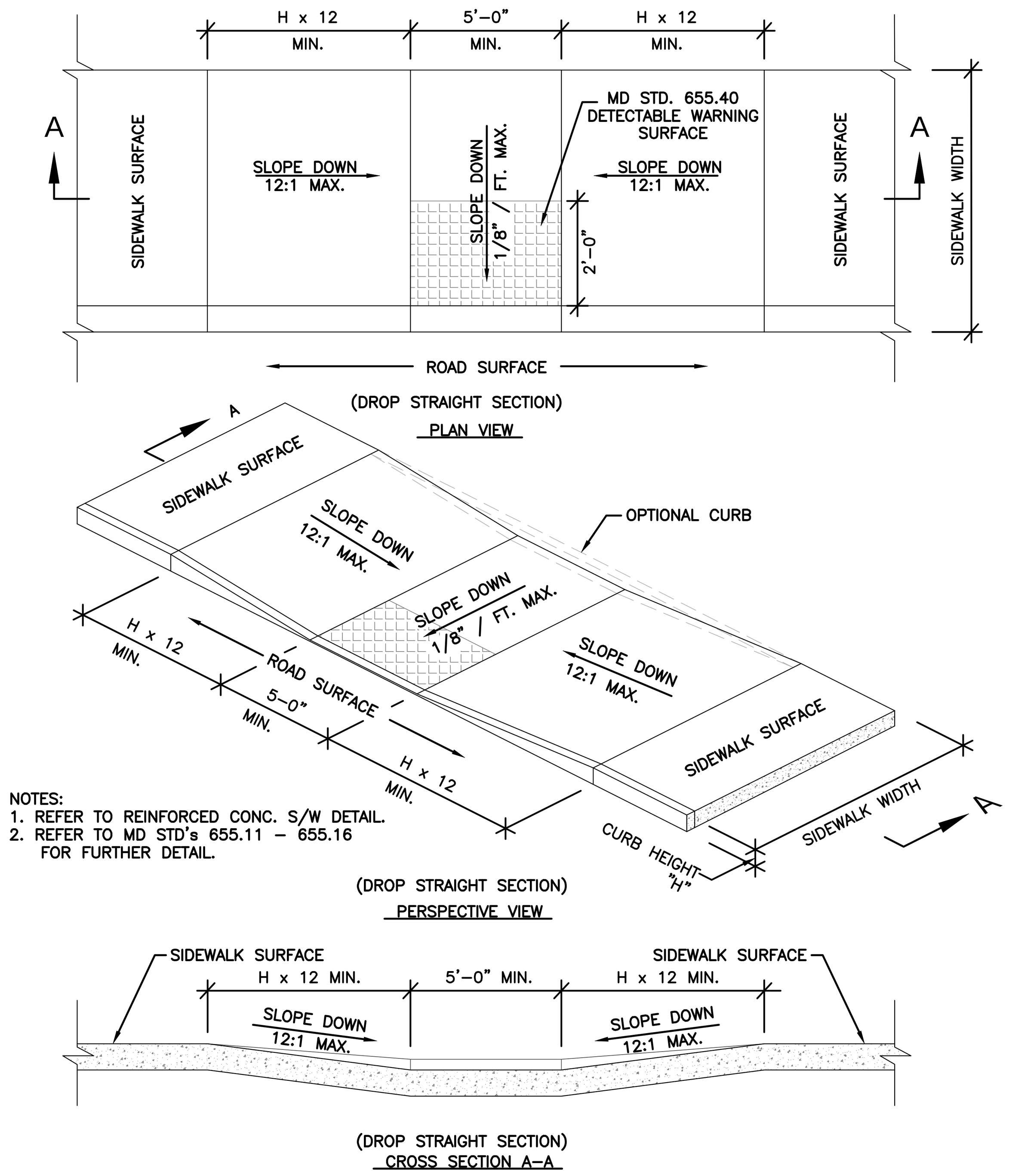
ADDITION TO VERTICAL CONVERTING FROSTBURG INDUSTRIAL PARK MISCELLANEOUS CONSTRUCTION DETAILS

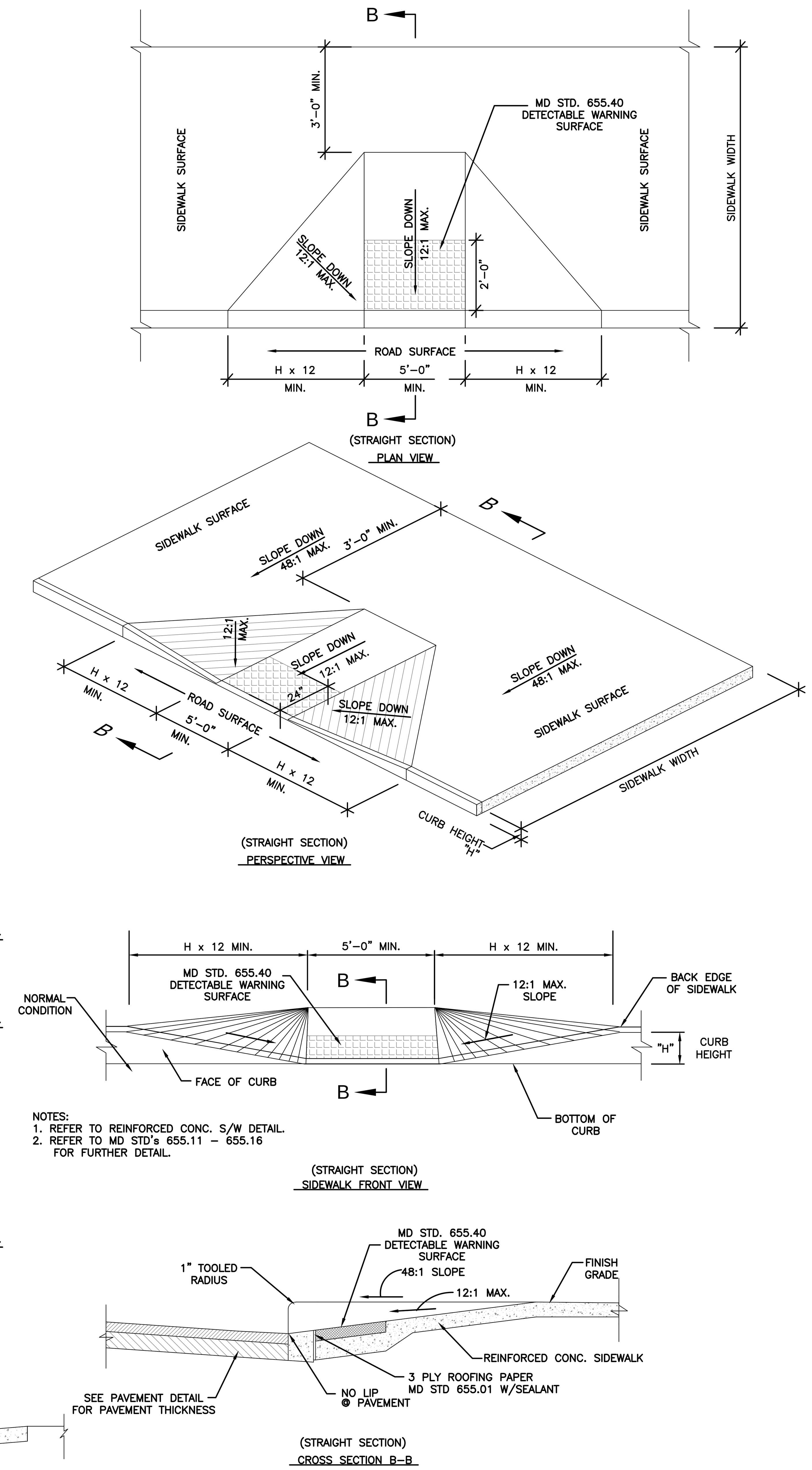
COUNTY DRAWING 2021-SS-0XX

JOB No. 5657
SHEET No. C0.2
DATE JANUARY 2026
DRAWING No. X of X



SIDEWALK RAMP, STRAIGHT SECTION 1

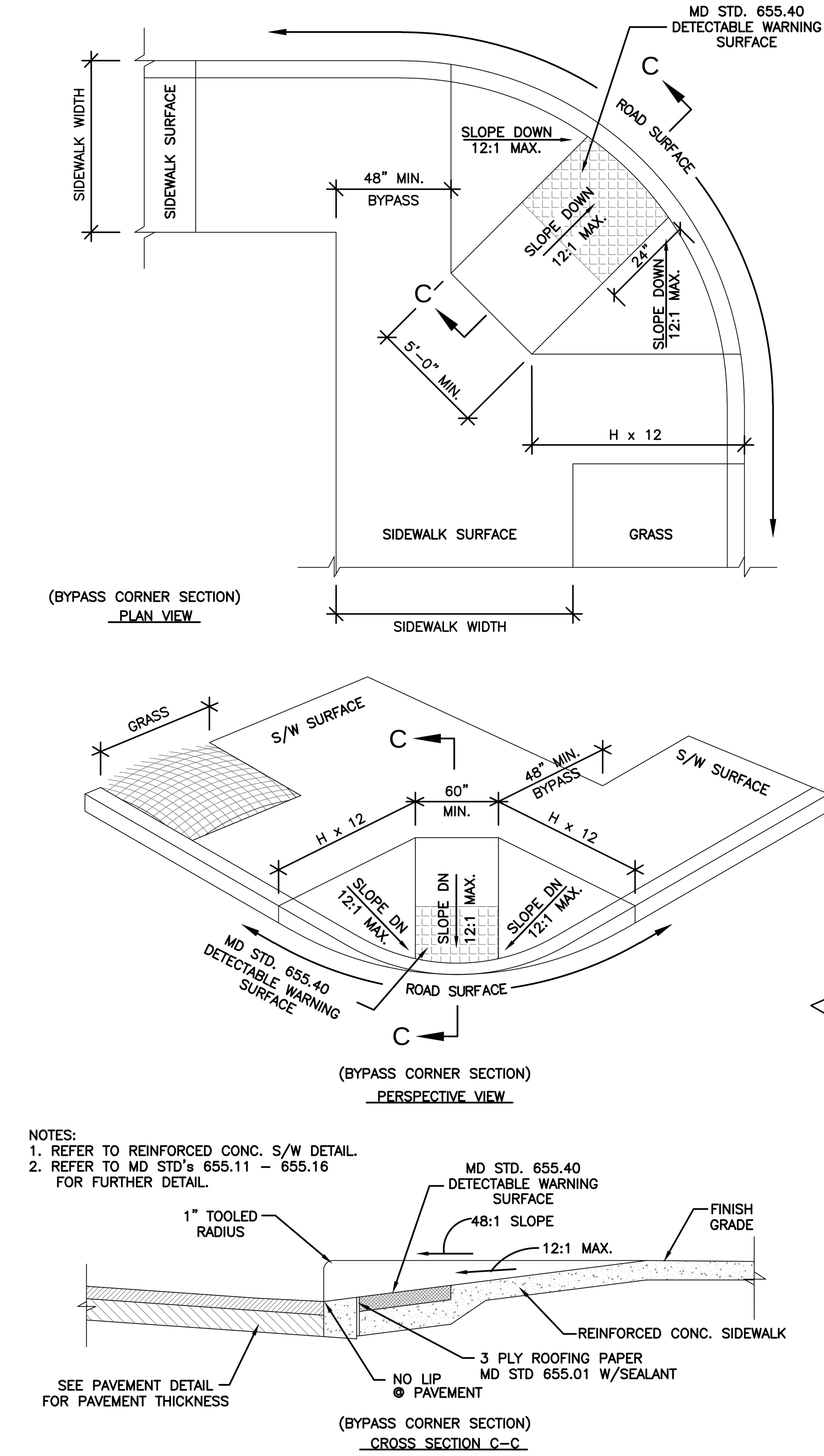
NOT TO SCALE



SIDEWALK RAMP, STRAIGHT SECTION 3

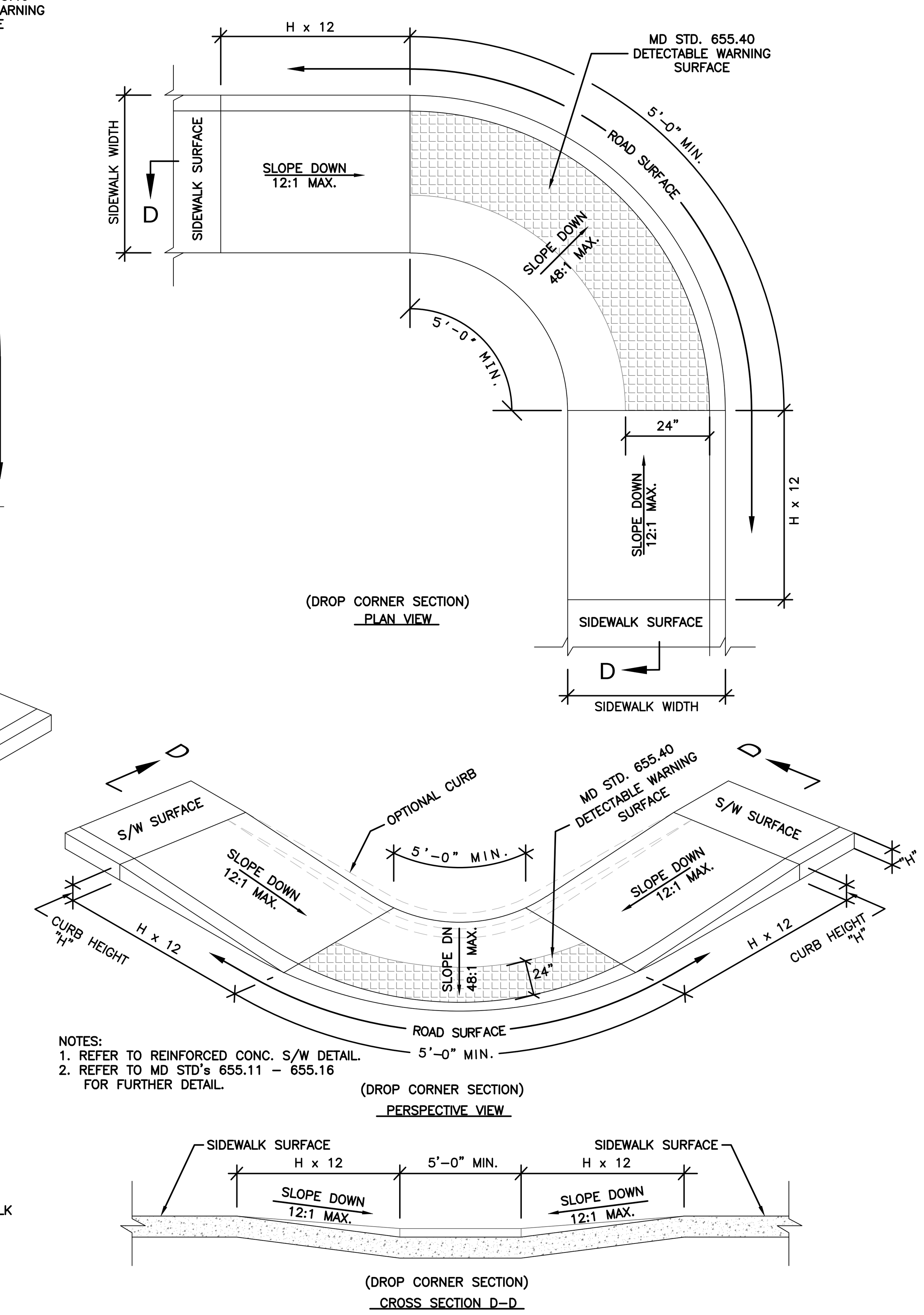
MINIMUM WIDTH 7'-0"

NOT TO SCALE



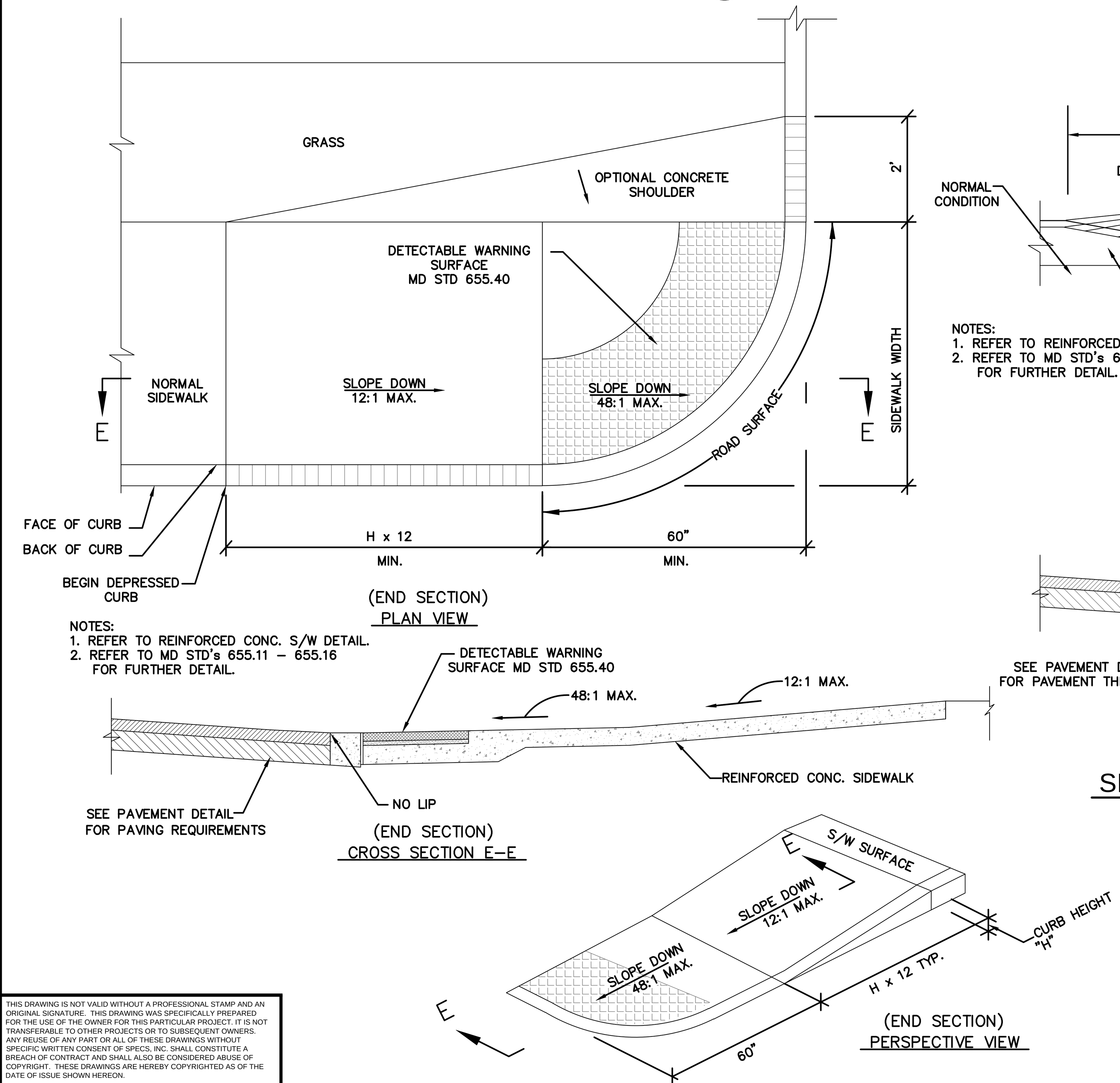
SIDEWALK RAMP, CORNER SECTION 4

NOT TO SCALE



SIDEWALK RAMP, CORNER SECTION 5

NOT TO SCALE



SIDEWALK RAMP, END SECTION 2

NOT TO SCALE

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657

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REVISIONS

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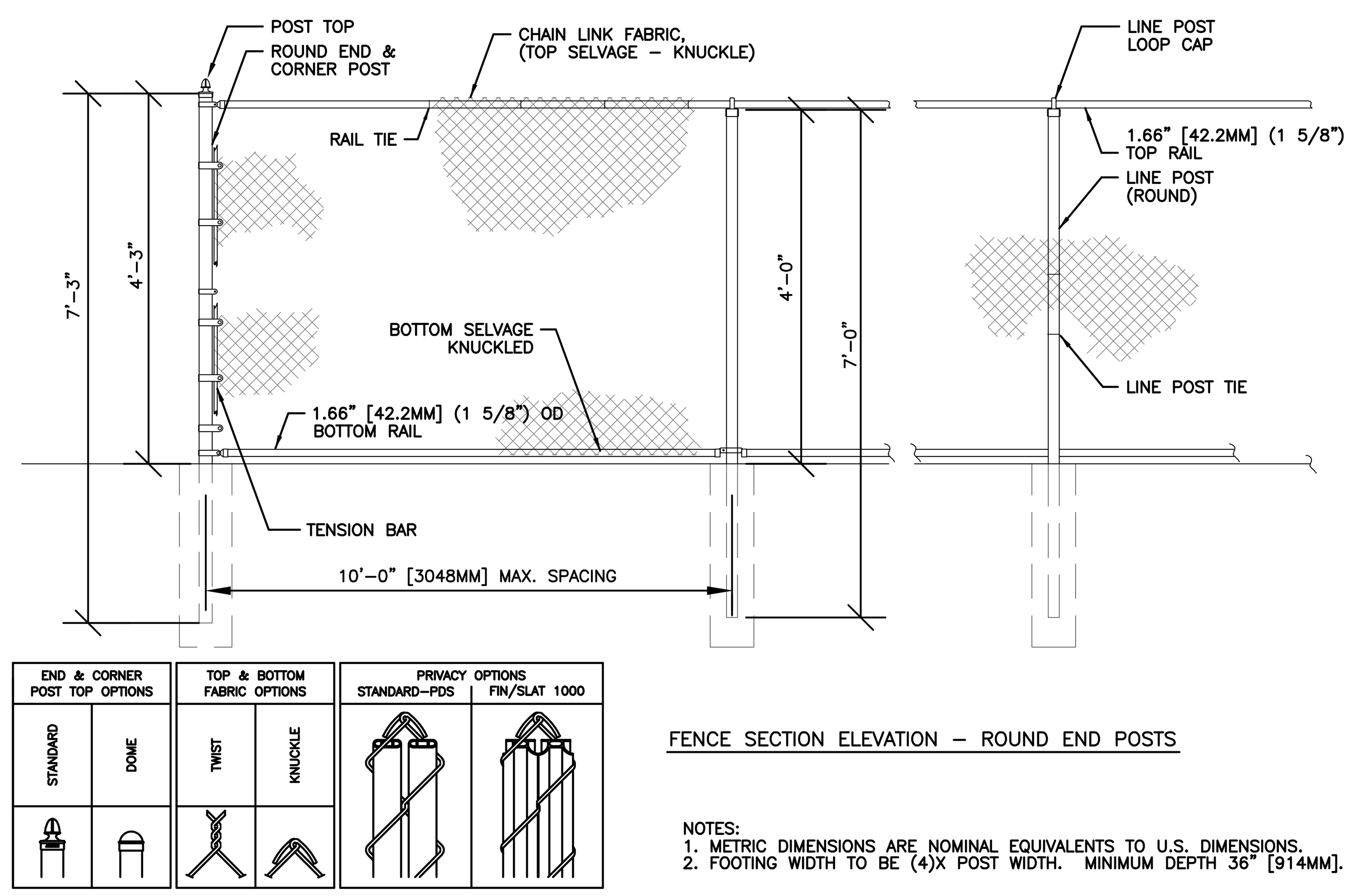
ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
MISCELLANEOUS CONSTRUCTION DETAILS

COUNTY DRAWING
2021-SS-0XX

JOB No.	SHEET No.
5657	C0.3
DATE	DRAWING No.
JANUARY 2026	X of X

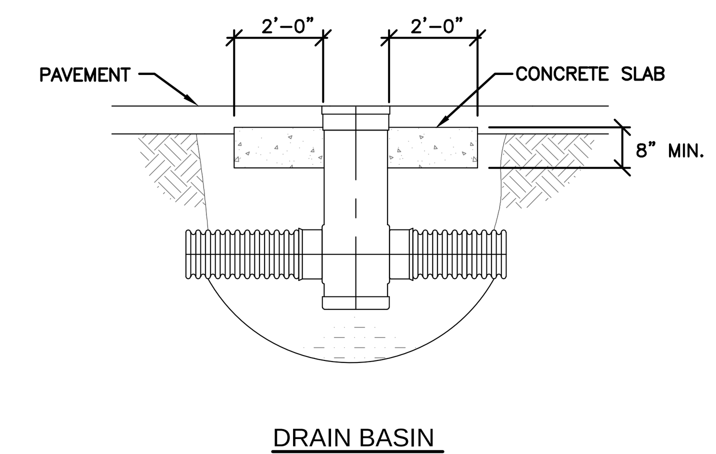
A B C D E F G H



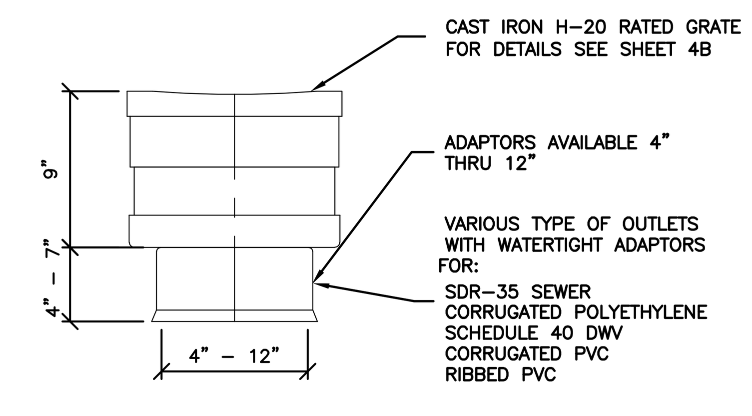
FENCE SECTION ELEVATION – ROUND END POSTS

NOTES:
1. METRIC DIMENSIONS ARE NOMINAL EQUIVALENTS TO U.S. DIMENSIONS.
2. FOOTING WIDTH TO BE (4)X POST WIDTH. MINIMUM DEPTH 36" [914MM].

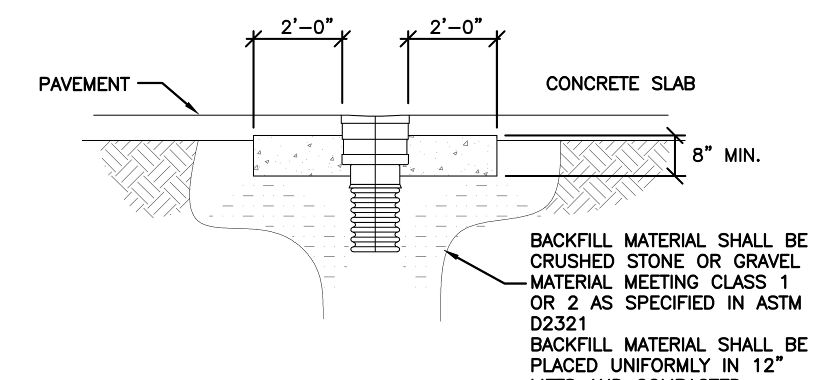
CHAIN LINK FENCE DETAIL (1)
NOT TO SCALE



DRAIN BASIN
NOT TO SCALE

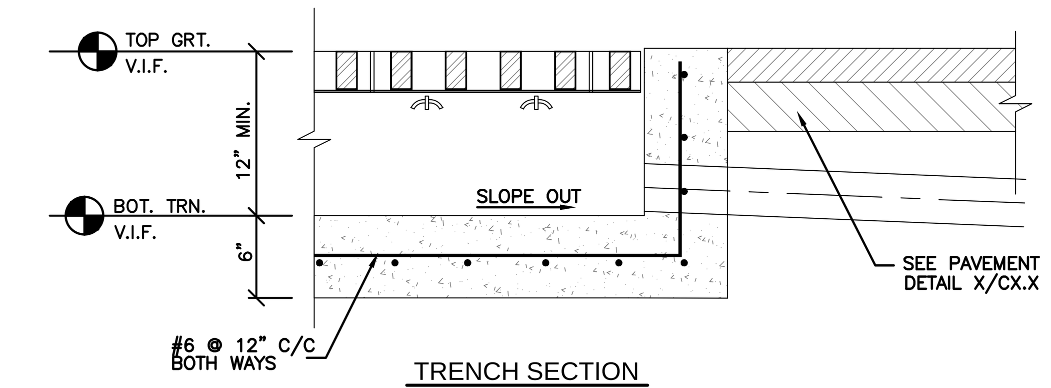


INLINE DRAIN
NOT TO SCALE



INLINE DRAIN
NOT TO SCALE

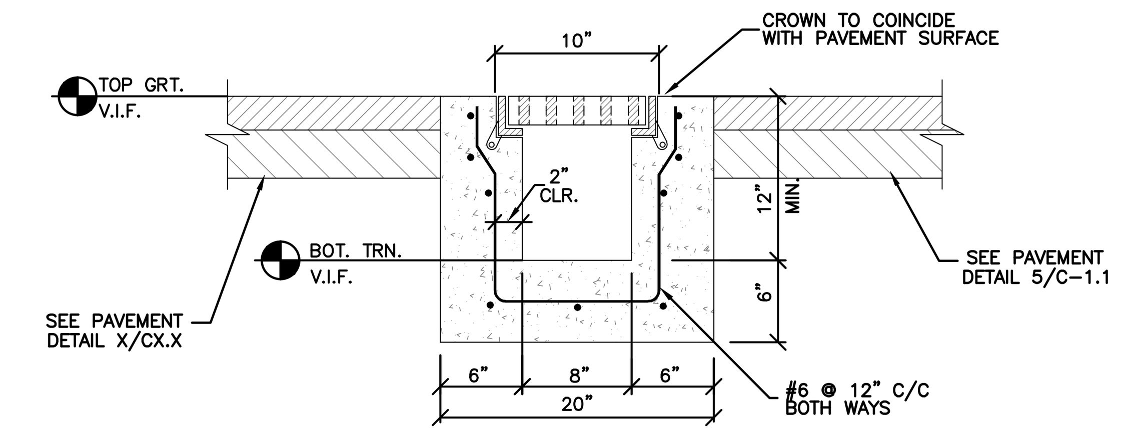
ADS. INLINE DRAIN DETAILS (5)
NOT TO SCALE



TRENCH SECTION

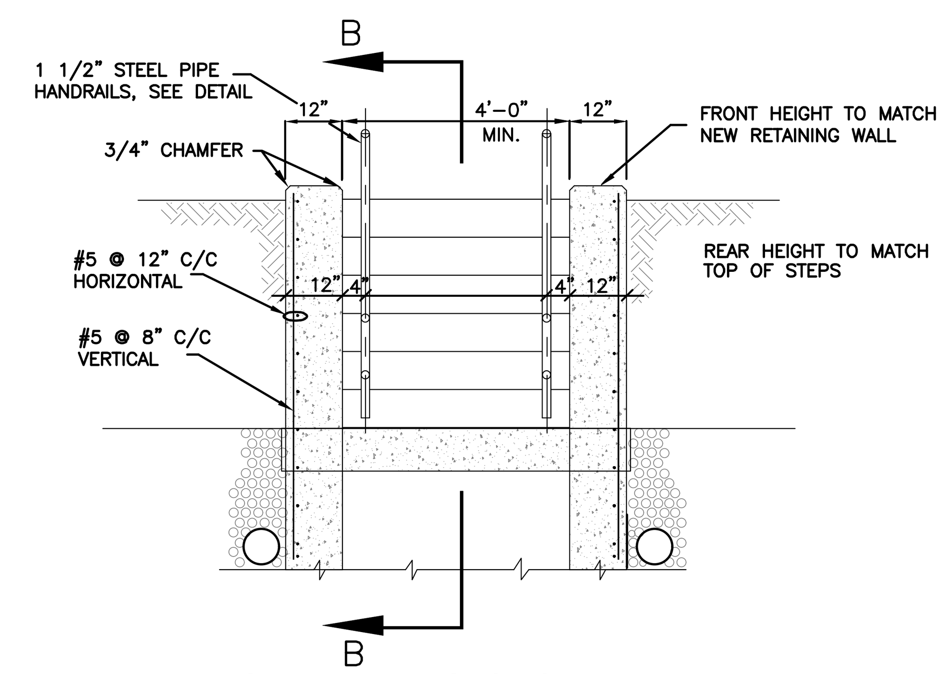
NOTE: CROWNED TYPE DRAINAGE STRUCTURES WILL CONFORM TO ANY ROADWAY CROWN. FRAMES AND GRATES ARE SEPARATED AT 2-FOOT INTERVALS ALLOWING SPACE FOR REMOVAL.

NOTE: BREAK IN SUPPORT AT GRATE JOINTS PROVIDES FLAT SEATING SURFACE, ASSURING SATISFACTORY BEARING OF GRATE ON SUPPORT. USE NEENAH FOUNDRY R-4999 BX WITH TYPE C GRATE

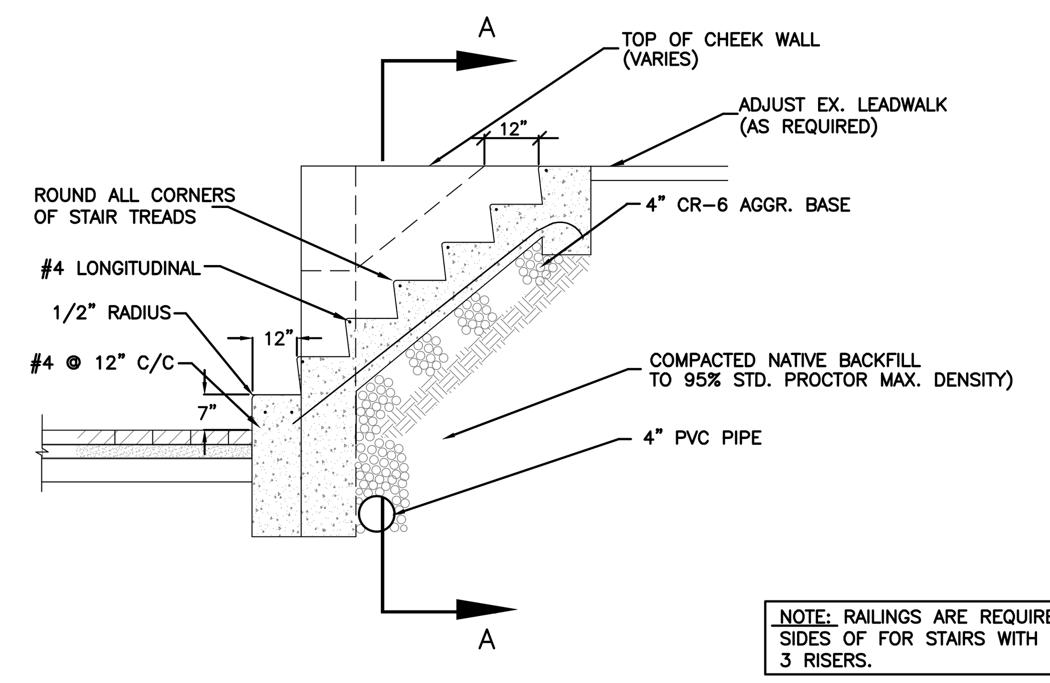


TRENCH SECTION

SLOTTED TRENCH DETAILS (6)
NOT TO SCALE



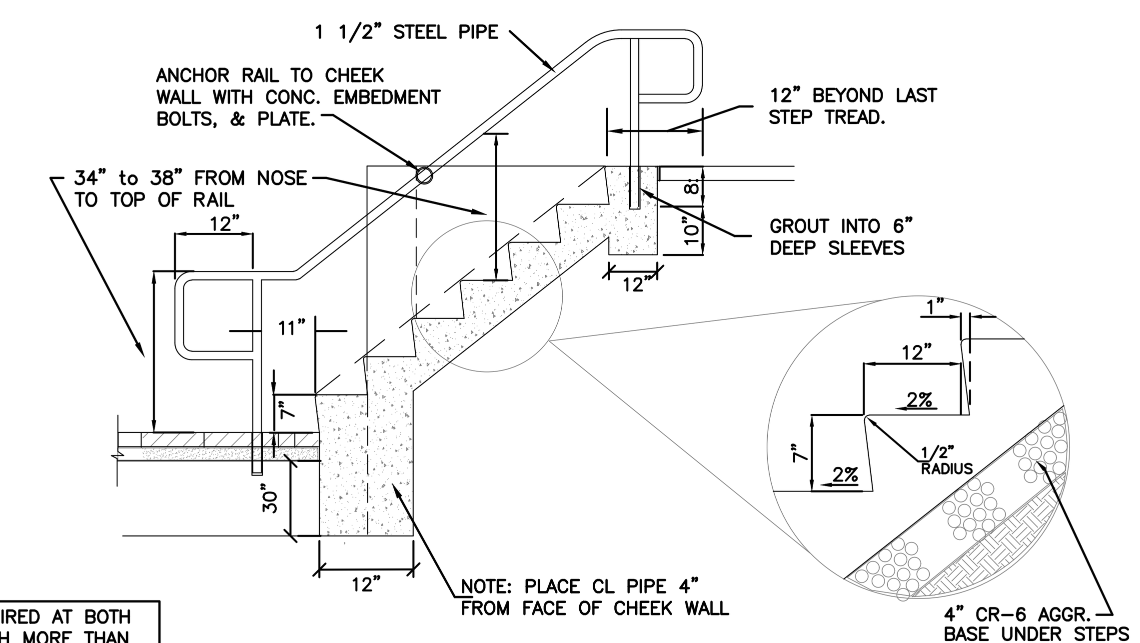
CHEEK WALL SECTION: A-A



TYP. SECTION THRU STAIRS (B-B)

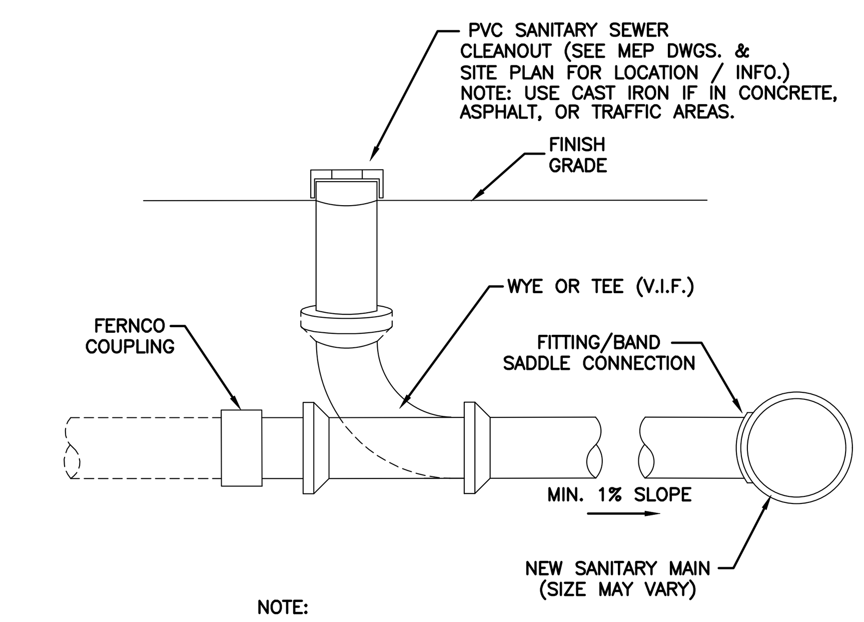
NOTE: RAILINGS ARE REQUIRED AT BOTH SIDES OF FOR STAIRS WITH MORE THAN 3 RISERS.

(FOR MORE THAN 3 STEPS)
CONCRETE STEP/WALL DETAILS (2)
NOT TO SCALE



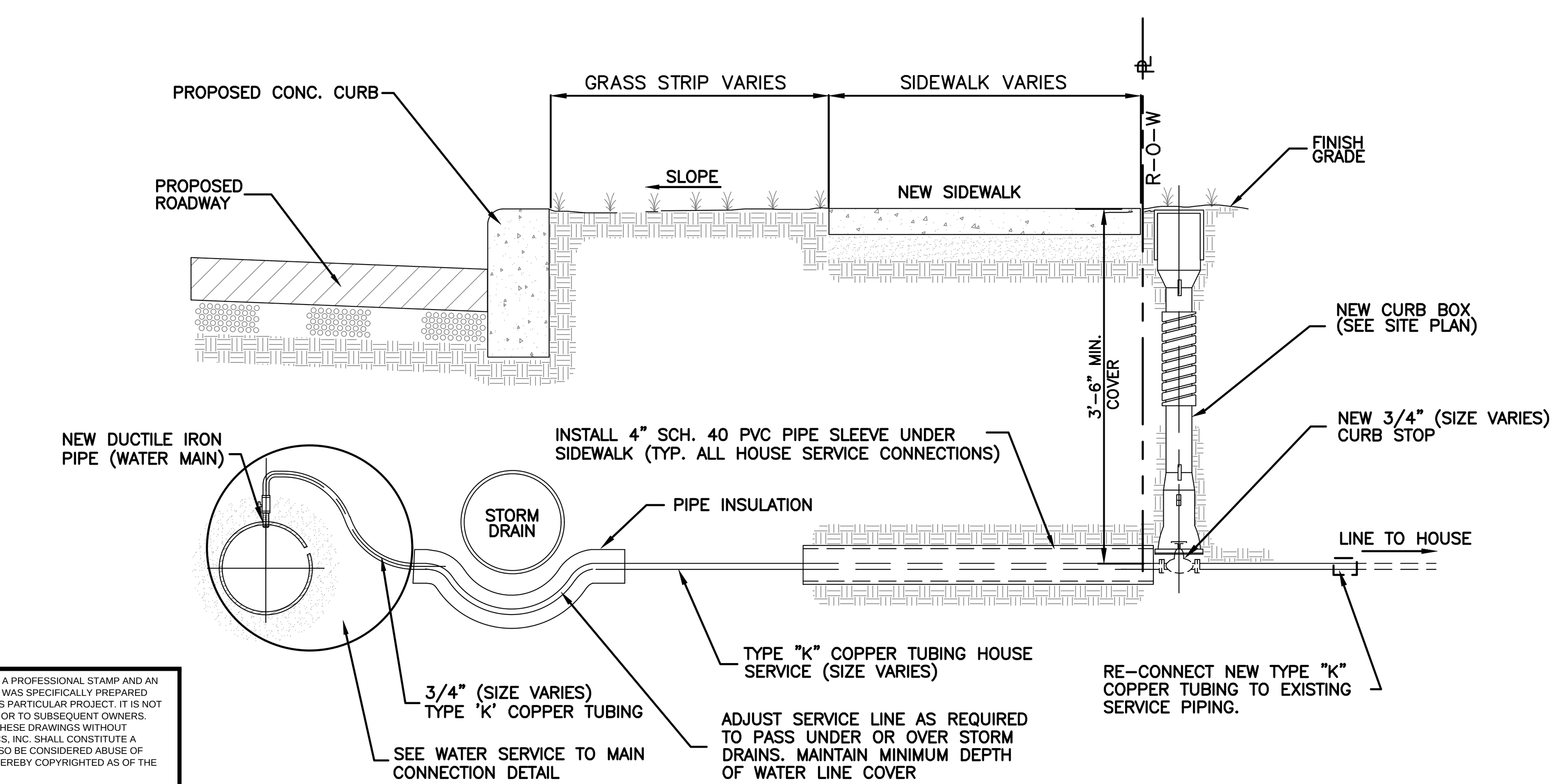
TYPICAL STEP DETAIL

TYPICAL HANDRAIL DETAIL

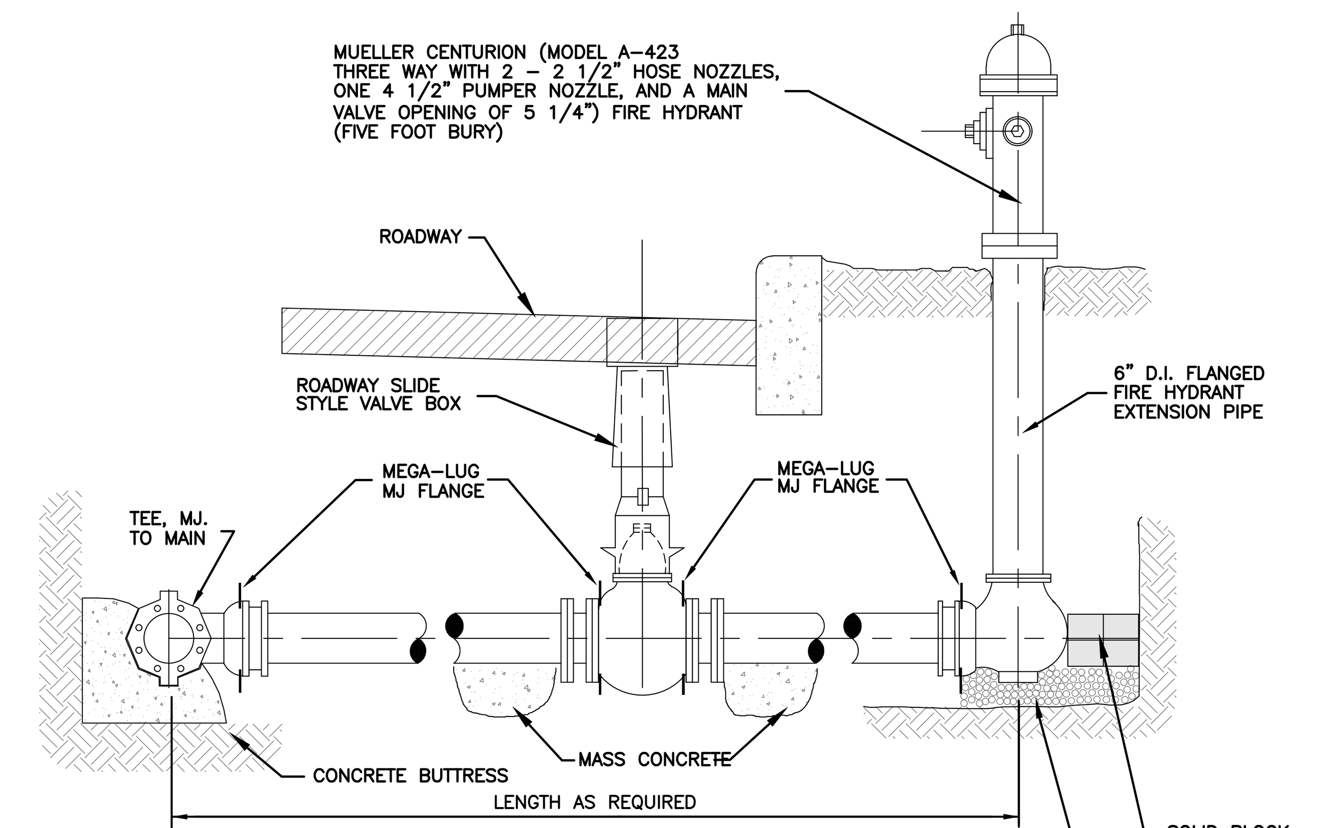


NOTE:
MATCH PIPE SIZES WITH PLAN VIEW

TYPICAL SANITARY RECONNECTION (7)
NOT TO SCALE



WATER SERVICE CONNECTION DETAIL (3)
NOT TO SCALE



NOTES:
1. 3/4" GRAVEL OR CRUSHED STONE FULL WIDTH OF TRENCH FRONT OF HYDRANT TO END OF TRENCH BOTTOM TO POINT 4" ABOVE DRIP OPENING.
2. SEE SITE PLAN FOR LOCATION OF NEW FIRE HYDRANT AND GATE VALVE.

TYPICAL FIRE HYDRANT SETTING (NEW ASSEMBLY) (4)
NOT TO SCALE

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RAYMOND CHARLES BASE · STATE OF MARYLAND · BOARD FOR PROFESSIONAL ENGINEERS · NO. 200457

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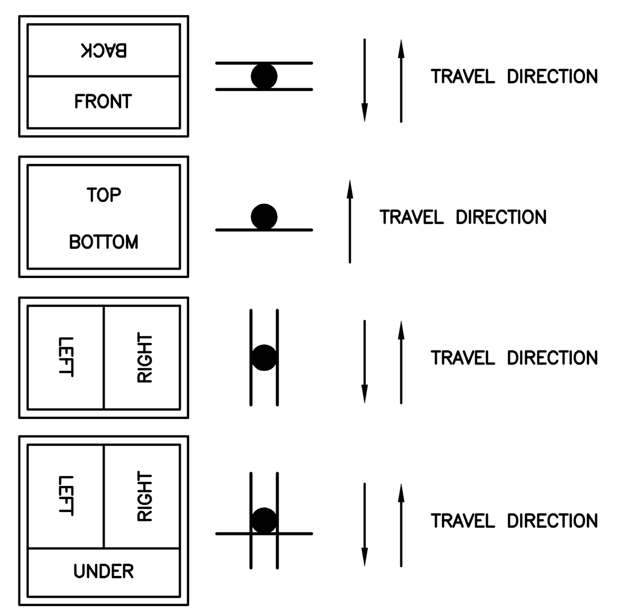
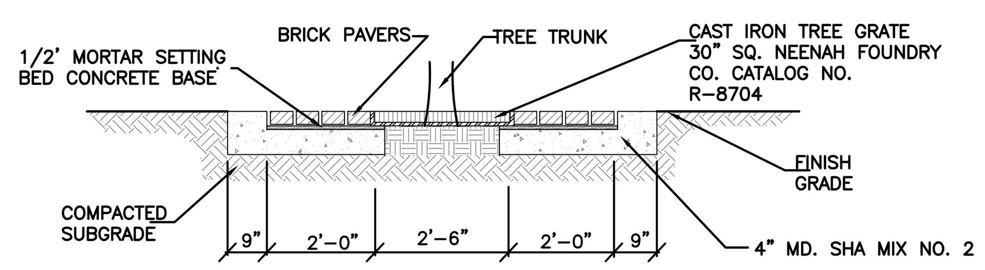
MISCELLANEOUS CONSTRUCTION DETAILS

COUNTY DRAWING
2021-SS-0XX

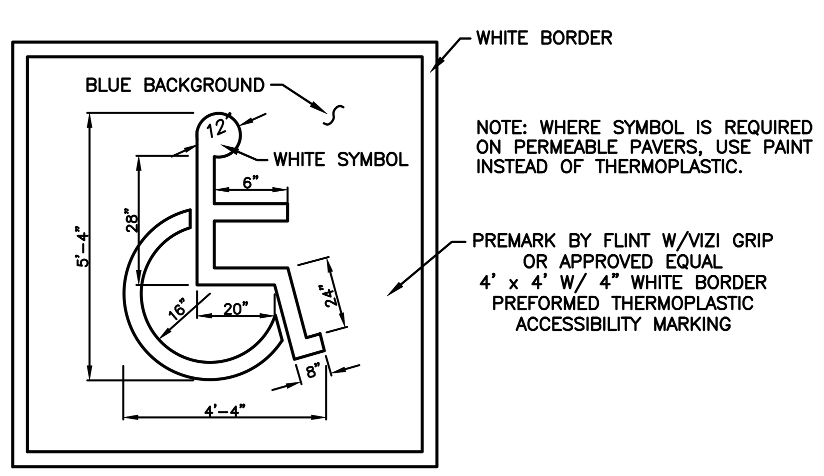
JOB No.	SHEET No.
5657	C0.4
DATE	DRAWING No.
JANUARY 2026	X of X



SIGN SYMBOLS LEGEND (1)
NOT TO SCALE



TREE GRATE DETAIL (2)
NOT TO SCALE



INTERNATIONAL SYMBOL ACCESSIBILITY DETAIL (3)
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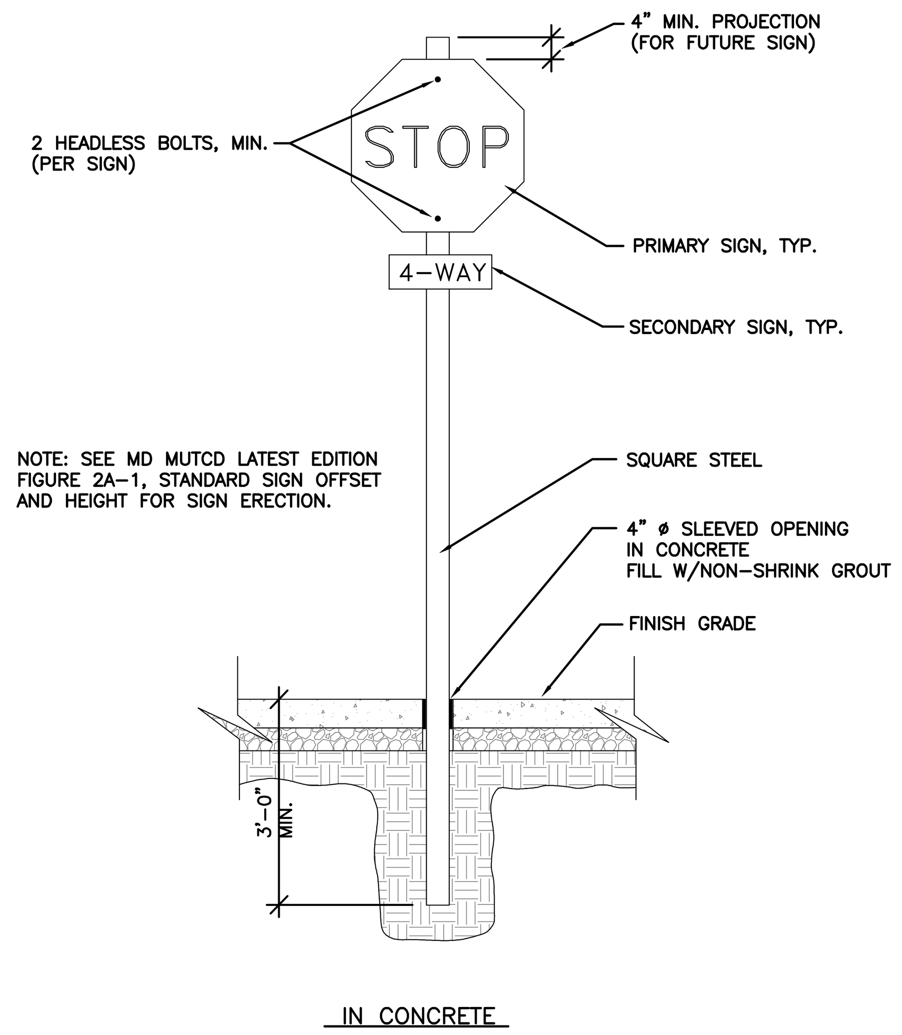
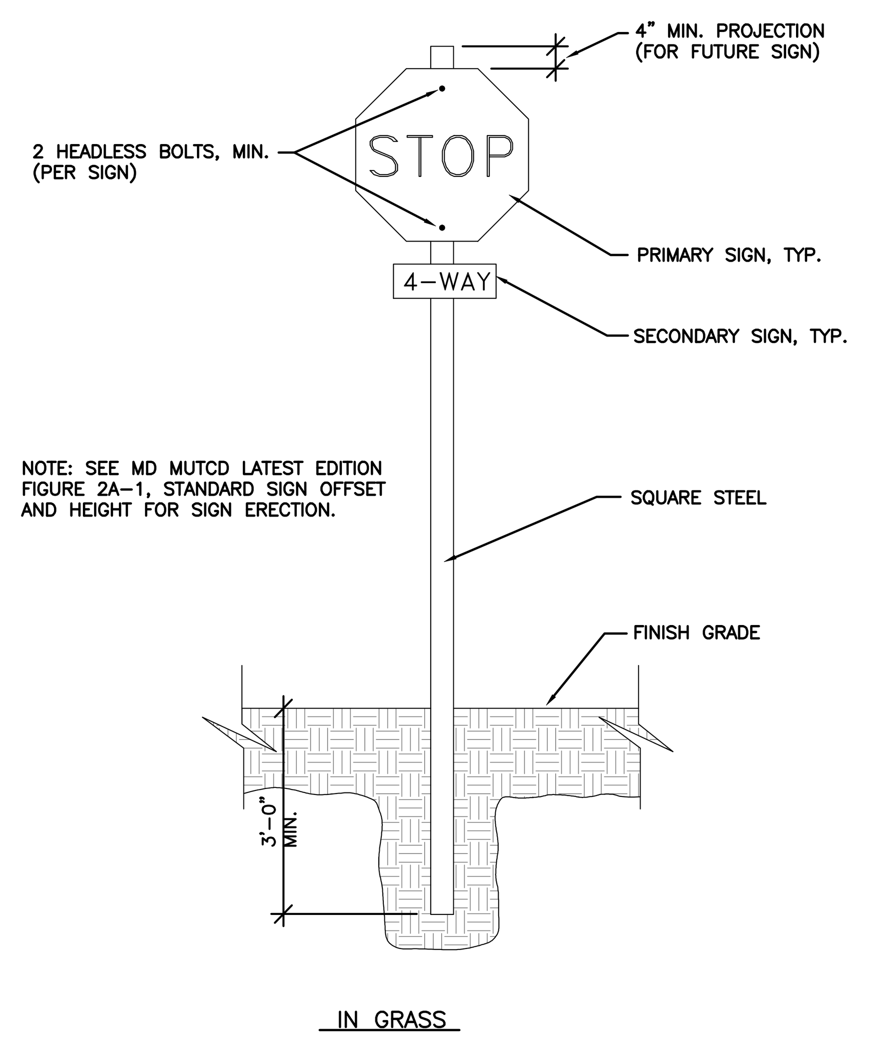
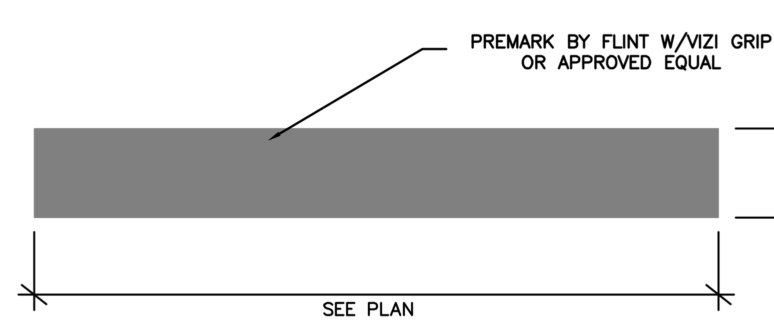


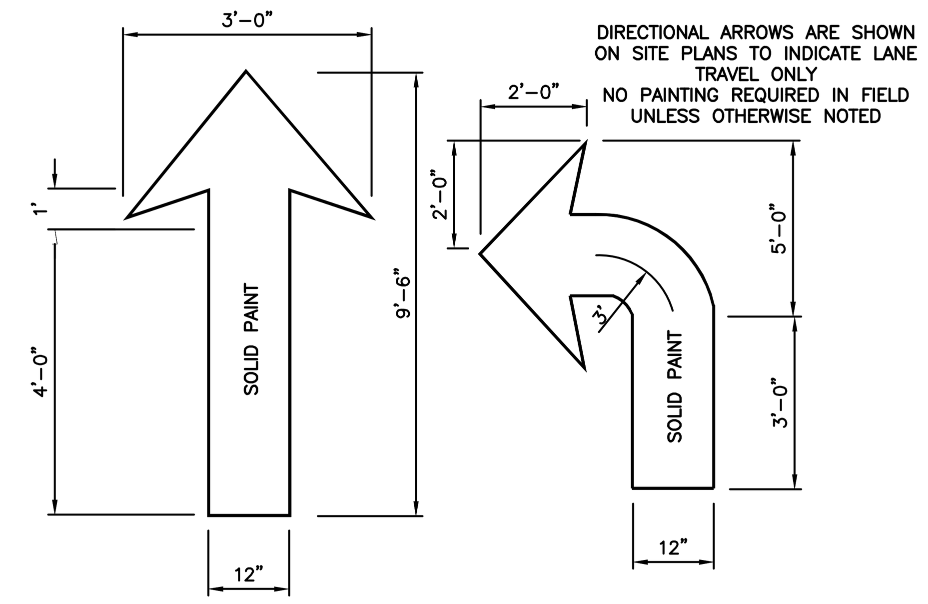
TYP. SIGN INSTALLATION (4)
NOT TO SCALE



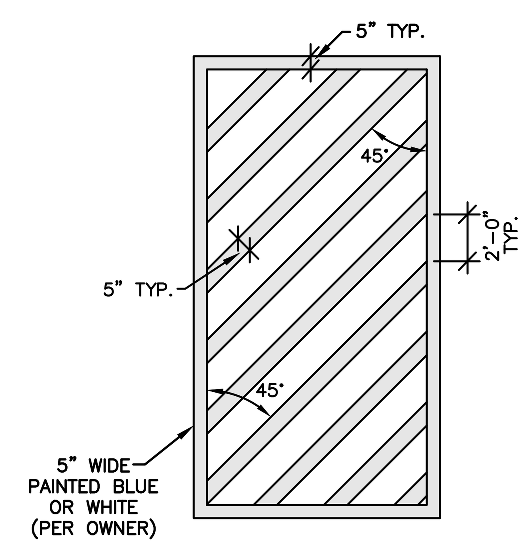
TYP. SIGN INSTALLATION (5)
NOT TO SCALE



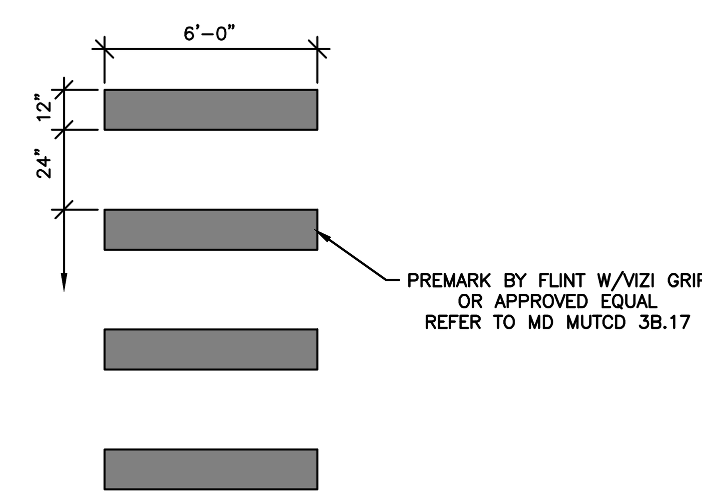
THERMOPLASTIC STOP LINE DETAIL (6)
NOT TO SCALE



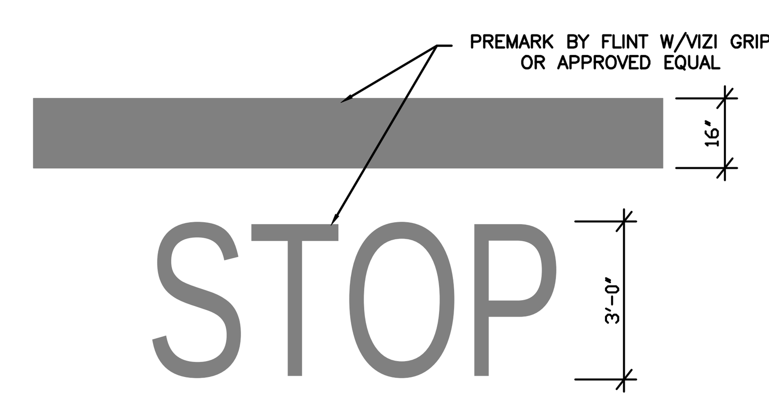
PAVEMENT DIRECTIONAL ARROWS (7)
NOT TO SCALE



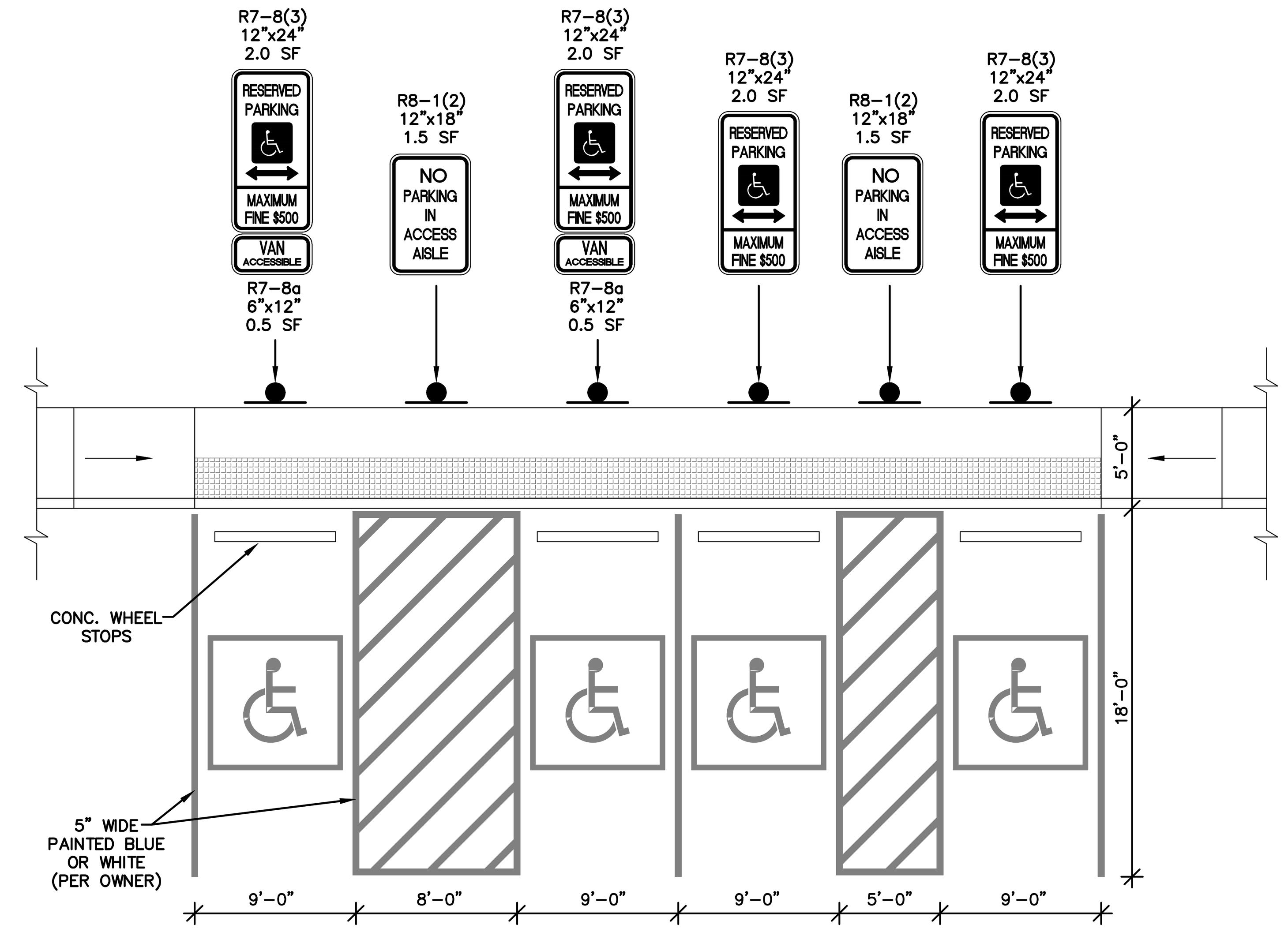
DIAGONAL PAINT STRIPING (8)
NOT TO SCALE



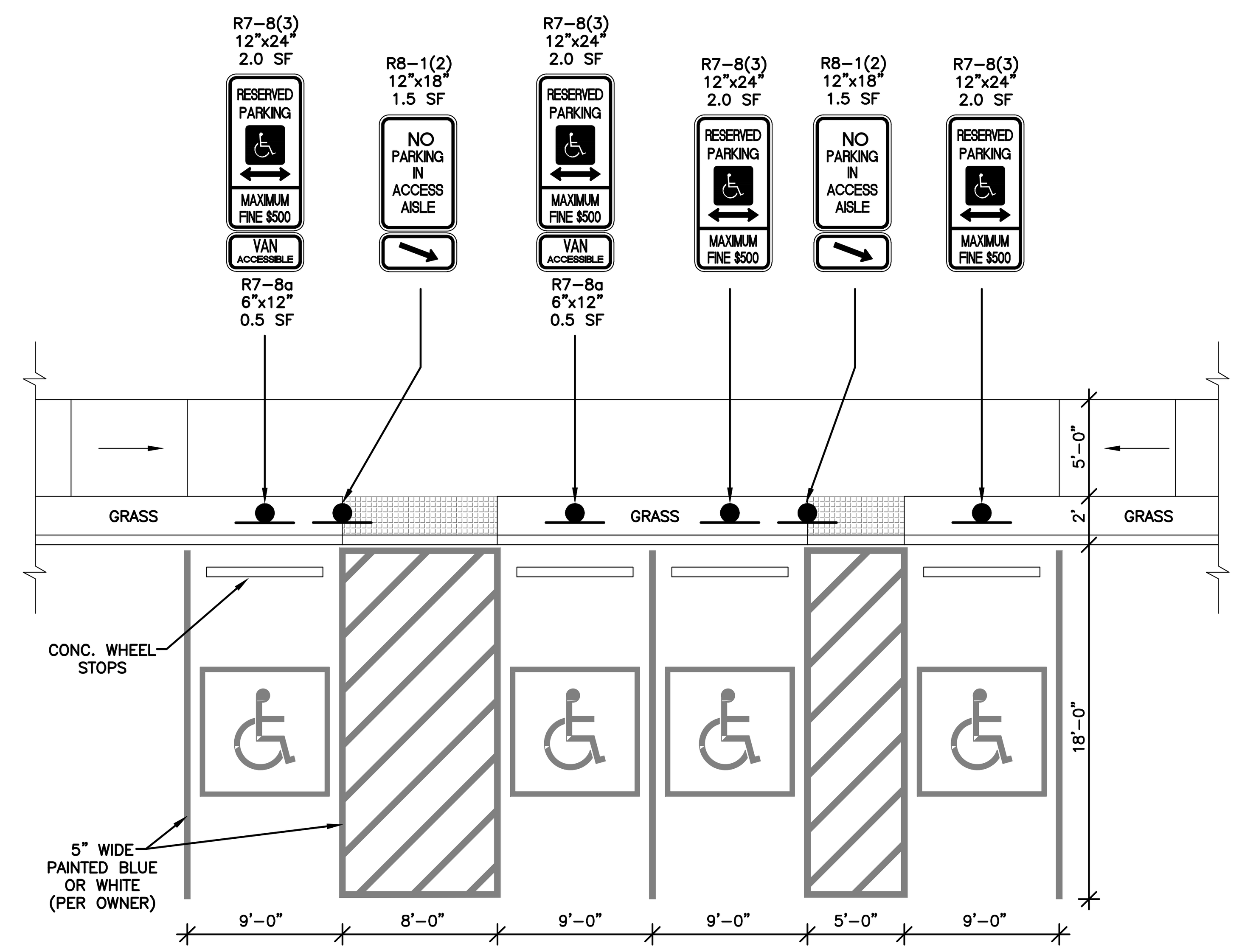
HIGH LEVEL CROSSWALK DETAIL (9)
NOT TO SCALE



THERMOPLASTIC STOP LINE AND "STOP" LETTERING DETAIL (10)
NOT TO SCALE



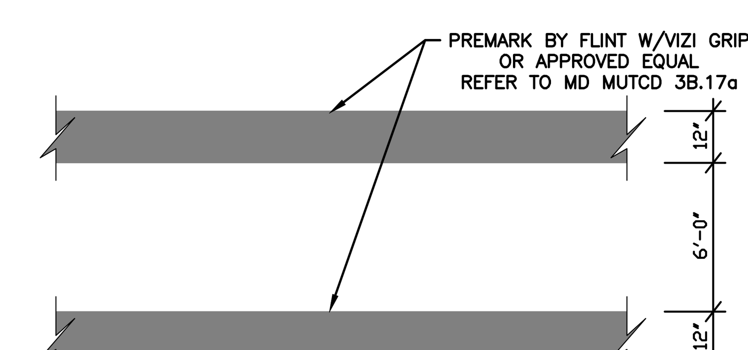
TYPICAL HC STRIPING & SIGNAGE PLAN (11)
NOT TO SCALE



(W/GRASS BUFFER)
TYPICAL HC STRIPING & SIGNAGE PLAN (12)
NOT TO SCALE

GENERAL NOTES:

1. REFER TO MD MUTCO LATEST ADDITION, MARYLAND BOOK OF STANDARDS SIGN BOOK, (http://roads.maryland.gov/index.aspx?PageId=689) FOR SIGN STANDARDS.
2. REFER TO MD MUTCO LATEST ADDITION, CHAPTER 3B FOR FURTHER INFORMATION ON PAVEMENT MARKINGS.



TYPICAL CROSS WALK DETAIL (13)
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BOARD FOR PROFESSIONAL ENGINEERS
NO. 200457
RAYMOND CHARLES RASE
STATE OF MARYLAND

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COUNTY DRAWING
2021-SS-0XX

JOB No.	SHEET No.
5657	C0.5
DATE	DRAWING No.
JANUARY 2026	X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB NO. 5657

EXISTING INLET / MANHOLE REPORT

ID NO.	MD STD NO.	TYPE	T.G./T.R. ELEV.	INVERT IN (PIPE SIZE)		INVERT OUT (PIPE SIZE)		INVERT MH	REMARKS
XI–1	374.21	PC STD WR	1998.8	1993.9	I–2	1993.8	POND	1993.8	–
XI–2	N/A	12" NYLOPLAST	2001.55 VIF	0.00	–	1997.0±	I–1	0.00	HS–20 GRATE
XI–3	–	–	0.00	0.00	–	0.00	–	0.00	SEE MICRO–BIORETENTION SHEET C5.1
XI–4	–	–	0.00	0.00	–	0.00	–	0.00	SEE MICRO–BIORETENTION SHEET C5.0
XI–5	–	–	0.00	0.00	–	0.00	–	0.00	SEE MICRO–BIORETENTION SHEET C5.1
XI–6	–	–	0.00	0.00	–	0.00	–	0.00	SEE MICRO–BIORETENTION SHEET C5.0
XM–1	1998.37	0.00	0.00	0.00	SANITARY				–
XM–2	1999.82	0.00	0.00	0.00	SANITARY				

PROPOSED INLET / MANHOLE REPORT

ID NO.	MD STD NO.	TYPE	T.G./T.R. ELEV.	INVERT IN (FROM)		INVERT OUT (TO)		INVERT MH	REMARKS
I–1	374.06	SINGLE WR	2005.00	1997.73	(M–2)	1997.63	(I–2)	0.00	–
I–2	374.06	SINGLE WR	2005.00	1997.18	(I–1)	1997.08	(M–3)	0.00	–
I–3	–	BOX 1	2002.10	0.00	–	1999.00	(I–4)	0.00	–
I–4	–	BOX 1	2002.00	0.00	–	1998.75	(I–7)	0.00	–
I–5	–	–	0.00	0.00	–	0.00	–	0.00	–
I–6	374.06	SINGLE WR	2007.00	0.00	–	2003.18	(I–7)	0.00	–
I–7	374.06	SINGLE WR	2007.00	1997.59	(I–6)	1997.67	(I–8)	0.00	–
				1997.77	(I–4)				
I–8	374.06	SINGLE WR	2006.13	1997.18	(I–8)	1997.08	(M–4)	0.00	–
I–9	374.06	SINGLE WR	2000.80	0.00	–	1998.50	(I–10)	0.00	–
I–10	374.06	SINGLE WR	2000.08	1997.92	(I–9)	1997.83	–	0.00	–
				1997.93	(I–11)				
I–11	374.06	SINGLE WR	2001.00	0.00	–	1998.51	(I–10)	0.00	–
I–12	–	–	0.00	0.00	–	0.00	–	0.00	SEE MICRO–BIORETENTION SHEET C5.0
I–13	–	–	0.00	0.00	–	0.00	–	0.00	SEE MICRO–BIORETENTION SHEET C5.1
I–14	–	–	0.00	0.00	–	0.00	–	0.00	SEE MICRO BIORETENTION SHEET C5.2
M–1	384.01	48"ø PC MH	2003.38	0.00	–	1999.38	–	0.00	–
M–2	384.05	72"ø PC MH	2003.93	1998.01	–	1998.01	–	0.00	–
M–3	384.01	48"ø PC MH	2004.28	1996.63	–	1996.53	–	0.00	–
M–4	384.07	84"ø PC MH	2002.00	1995.32	–	1995.22	–	0.00	–
				1995.32					
M–5	384.05	72"ø PC MH	2001.16	1997.18	–	1997.08	–	0.00	–
BAYFILTER	384.01	48"ø PC MH	2001.51	1992.10	–	1992.00	–	0.00	–
S–1	–	–	0.00	0.00	–	0.00	–	0.00	MODIFIED FOR SANITARY

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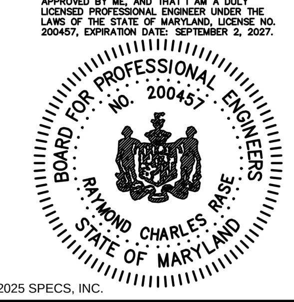

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No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED:	DRAWN:
R.C.R.	
CHECKED:	APPROVED:
R.C.R.	R.C.R.

SPECS
CONSULTING ENGINEERS & SURVEYORS
105 SOUTH CENTRE STREET, SUITE 100
CUMBERLAND, MD 21502
301.777.2510 FAX: 301.777.8419

PREPARED FOR:
VERTICAL CONVERTING LLC
2257A OLD PHILADELPHIA PIKE
LANCASTER, PA 17602
717.799.7145

ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
MISCELLANEOUS DETAILS AND SCHEDULES

COUNTY DRAWING
2021-SS-0XX

JOB No.	SHEET No.
5657	C0.6
DATE	DRAWING No.
JANUARY 2026	X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657

EXISTING/DEMOLITION SITE PLAN

SCALE: 1"=60'

0' 60' 120' 180'

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BOARD FOR PROFESSIONAL ENGINEERS
NO. 200457
RAYMOND CHARLES RASE
STATE OF MARYLAND

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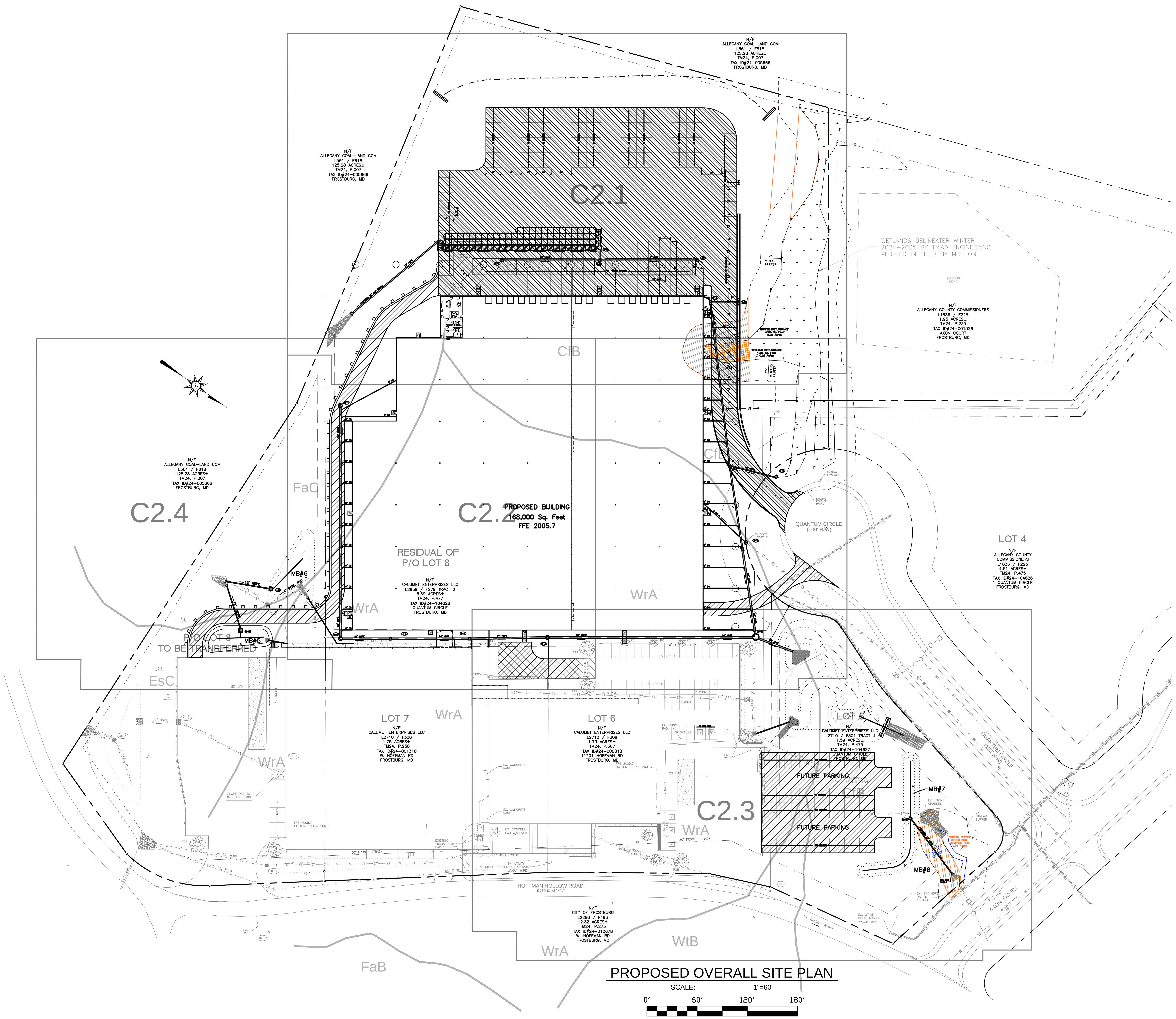
ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
EXISTING SITE PLAN

JOB No.	SHEET No.
5657	C1.0
DATE	DRAWING No.
JANUARY 2026	X of X



PROPOSED OVERALL SITE PLAN

SCALE: 1"=60'

0' 60' 120' 180'

WATERWAYS SUMMARY

WETLAND DISTURBANCE=	1083 SF
WETLAND BUFFER DISTURBANCE=	4063 SF
STREAM BUFFER DISTURBANCE=	2399 SF
CAHNNEL DISTURBANCE=	0 SF

PARKING SUMMARY

USE	REQUIREMENT	AREA(SF)	REQUIRED
EXISTING BUILDING			
MANUFACTURING	1 SPACE/1000SF	10,000	10
WAREHOUSING	1 SPACE/2000SF	80,000	40
PROPOSED BUILDING			
MANUFACTURING	1 SPACE/1000SF	81,500	82
WAREHOUSING	1 SPACE/2000SF	84,000	42
	TOTAL REQUIRED		174
	TOTAL PROVIDED		160 REG, 5 HC, 31 TRUCK
FUTURE PARKING (IF NEEDED)			60

PAVING LEGEND

- CONCRETE SIDEWALKS
- LOW VOLUME PAVEMENT
- SHA HIGH VOLUME PAVEMENT

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED OVERALL SITE PLAN

JOB No.	SHEET No.
5657	C2.0
DATE	DRAWING No.
JANUARY 2026	X of X

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BOARD FOR PROFESSIONAL ENGINEERS NO. 200457 RAYMOND CHARLES RASE STATE OF MARYLAND

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ADDITION TO VERTICAL CONVERTING FROSTBURG INDUSTRIAL PARK PROPOSED SITE PLAN

JOB No.	SHEET No.
5657	C2.1
DATE	DRAWING No.
JANUARY 2026	X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657

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BOARD FOR PROFESSIONAL ENGINEERS
No. 200457
RAYMOND CHARLES BASE
STATE OF MARYLAND

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED SITE PLAN

JOB No.	SHEET No.
5657	C2.2
DATE	DRAWING No.
JANUARY 2026	X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657

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RAYMOND CHARLES BASE, PROFESSIONAL ENGINEER, No. 200457, STATE OF MARYLAND

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED SITE PLAN

JOB No. 5657
SHEET No. C2.3
DATE JANUARY 2026
DRAWING No. X of X

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BOARD FOR PROFESSIONAL ENGINEERS NO. 200457 RAYMOND CHARLES RASE STATE OF MARYLAND

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED SITE PLAN

JOB No.	SHEET No.
5657	C2.4
DATE	DRAWING No.
JANUARY 2026	X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657

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RAYMOND CHARLES RASE
STATE OF MARYLAND

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717.799.7145

ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED OVERALL GRADING PLAN

JOB No.	SHEET No.
5657	C3.0
DATE	DRAWING No.
JANUARY 2026	X of X

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RAYMOND CHARLES BASE — STATE OF MARYLAND — BOARD FOR PROFESSIONAL ENGINEERS — No. 200457

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED SITE GRADING PLAN

JOB No.	SHEET No.
5657	C3.1
DATE	DRAWING No.
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JOB No.	SHEET No.
5657	C3.2
DATE	DRAWING No.
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FROSTBURG INDUSTRIAL PARK
GRADING PLAN

JOB No.	SHEET No.
5657	C3.3
DATE	DRAWING No.
JANUARY 2026	X of X

PROPOSED SITE GRADING PLAN

SCALE: 1"=20'

0' 20' 40' 60'

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GRADING PLAN

JOB No.	SHEET No.
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DATE	DRAWING No.
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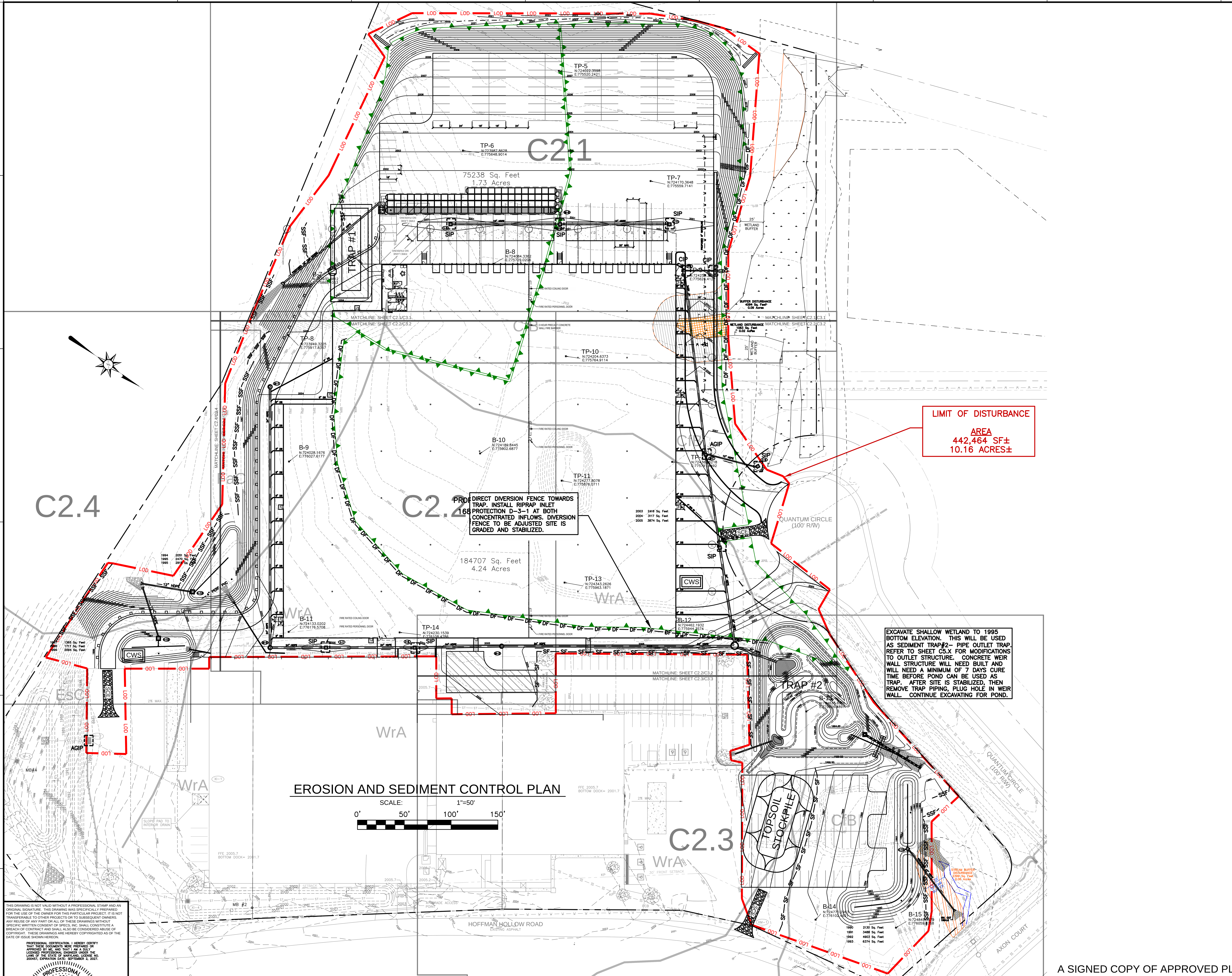
CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657



EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=50'

SEQUENCE OF CONSTRUCTION

1. NOTIFY OWNER, MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) (301-689-1480), MISS UTILITY (800-257-7777) SHA UTILITIES (301 729-8480) AND CITY OF FROSTBURG (301-689-6000) A MINIMUM OF 72 HOURS BEFORE THE START OF ANY EARTHWORK AND/OR CONSTRUCTION. NOTE THAT CONTRACTOR IS RESPONSIBLE FOR SCHEDULING SWM INSPECTIONS WITH THE ENGINEER AND THE CITY OF FROSTBURG.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCES. CONTRACTOR MAY, WITH APPROVAL OF MDE INSPECTOR AND OWNER, RELOCATE THE ENTRANCES.
3. CLEARLY FIELD MARK WETLAND BUFFER PERIMETER AND WETLAND DISTURBANCE AREAS.
4. INSTALL PERIMETER SEDIMENT AND EROSION CONTROL DEVICES, SUCH AS SILT FENCES, STABILIZED CONSTRUCTION ENTRANCES AND INLET PROTECTION DEVICES, ENSURING A MINIMUM OF GROUND DISTURBANCE. CONTACT MDE INSPECTOR PRIOR TO PROCEEDING.
5. CLEAR AND GRUB AREA FOR TRAPS.
6. INSTALL SEDIMENT TRAP#1 – MINIMIZING DISTURBANCE.
7. GRADE FOR SHALLOW WETLAND WITH MODIFICATIONS SHOWN HEREIN FOR USE AS SEDIMENT TRAP #2.
8. INSTALL DIVERSION FENCES AND REMAINING CONTROL MEASURES. CONTACT MDE INSPECTOR PRIOR TO PROCEEDING.
9. CLEAR AND GRUB REMAINDER OF SITE.
10. EXCAVATE FOR BUILDING AND BIORETENTION FACILITIES. BIORETENTION AREAS SHALL BE EXCAVATED TO LOWEST ELEVATION +1 FOOT. AVOID INSTALLATION OF RETAINING WALL ALONG REAR MAIN ENTRANCE AND WETLAND DISTURBANCE UNTIL SHALLOW WETLAND IS READY TO BE CONVERTED FROM SEDIMENT TRAP. PLACE ALL WETLAND SOILS INTO THE NEW SHALLOW WETLAND.
11. INSTALL UTILITIES, BUILDING AND PAVEMENT. DO NOT INSTALL BIORETENTION MEDIA UNTIL UPSTREAM AREA IS STABILIZED AND APPROVAL IS GRANTED BY THE ENGINEER OR MDE INSPECTOR. REFER TO SWM SHEETS.
12. TOPSOIL, SEED AND MULCH ALL DISTURBED AREAS AS SOON AS POSSIBLE AND AS PRACTICAL. A MINIMUM OF 4" TOPSOIL SHALL BE APPLIED TO DISTURBED AREAS.
13. CONVERT TRAP #2 TO SHALLOW WETLAND BY REMOVING THE TEMPORARY BARREL AND RISER AND EXCAVATING THE REMAINDER OF THE STRUCTURE.
14. INSTALL RETAINING WALL. COMPLETE GRADING OF ENTRANCE ROAD. REUSE WETLAND SOILS IN SHALLOW WETLAND.
15. CONTACT MDE AFTER SITE IS STABILIZED FOR PERMISSION TO REMOVE TEMPORARY DEVICES. REMOVE DEVICES AND RE-STABILIZE AS NECESSARY.
9. CONTACT ENGINEER FOR AS-BUILT. SUBMIT REDLINES TO ENGINEER.

SCHEDULE

MAY 2026

DECEMBER 2027

UTILITY CONSTRUCTION OUTSIDE SEDIMENT CONTROL PRACTICES

1. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON UPSTREAM SIDE OF TRENCH OR HAULED AWAY AT TIME OF EXCAVATION.
2. IMMEDIATELY FOLLOWING PIPE INSTALLATION, THE TRENCH SHALL BE BACKFILLED, COMPACTED AND IMMEDIATELY STABILIZED (MULCHED, SEEDED, GRAVELED, AND/OR SODDED MECHANICAL STABILIZATION) AT THE END OF EACH WORK DAY.
3. SILT FENCE OR FILTER LOG SHALL BE PLACED IMMEDIATELY DOWN STREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED LONGER THAN ONE (1) WORKING DAY. (SILT FENCE AS PER DETAIL E-1, AND FILTER LOG PER DETAIL E-6 OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL).
4. THE CONTRACTOR SHALL DISTURB AND OPEN TRENCH THE MINIMUM PRACTICAL AREA REQUIRED TO ACCOMPLISH THE WORK DESIGNATED FOR EACH DAY.
5. ALL EROSION AND SEDIMENT CONTROL PRACTICES AND VEGETATIVE STABILIZATION SHALL BE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
6. SWALES SHALL BE HANDLED SIMILAR TO PIPE TRENCH. CONTRACTOR TO GRADE AND STABILIZE IN 500' SECTIONS. SILT FENCE TO BE INSTALLED AS WORK PROGRESSES.
7. ANY TRENCHING DONE WITHIN EXISTING DITCHES MAY REQUIRE A DITCH DESIGN, INCLUDING APPROPRIATE LINING, MATTING, RIPRAP, ETC.

A SIGNED COPY OF APPROVED PLANS MUST BE MAINTAINED ON SITE

THIS DRAWING IS NOT VALID WITHOUT A PROFESSIONAL STAMP AND AN ORIGINAL SIGNATURE. THIS DRAWING WAS SPECIFICALLY PREPARED FOR THE USE OF THE OWNER FOR THIS PARTICULAR PROJECT. IT IS NOT TRANSFERABLE TO OTHER PROJECTS OR TO SUBSEQUENT OWNERS. ANY REUSE OF ANY PART OR ALL OF THESE DRAWINGS WITHOUT SPECIFIC WRITTEN CONSENT OF SPECS, INC. SHALL CONSTITUTE A BREACH OF CONTRACT AND SHALL ALSO BE CONSIDERED ABUSE OF COPYRIGHT. THESE DRAWINGS ARE HEREBY COPYRIGHTED AS OF THE DATE OF ISSUE SHOWN HEREON.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 200457, EXPIRATION DATE: SEPTEMBER 2, 2027.

BOARD FOR PROFESSIONAL ENGINEERS · NO. 200457 · RAYMOND CHARLES BASE · STATE OF MARYLAND

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No.	DESCRIPTION	DATE	BY

REVISIONS

DESIGNED:	DRAWN:
R.C.R.	
CHECKED:	APPROVED:
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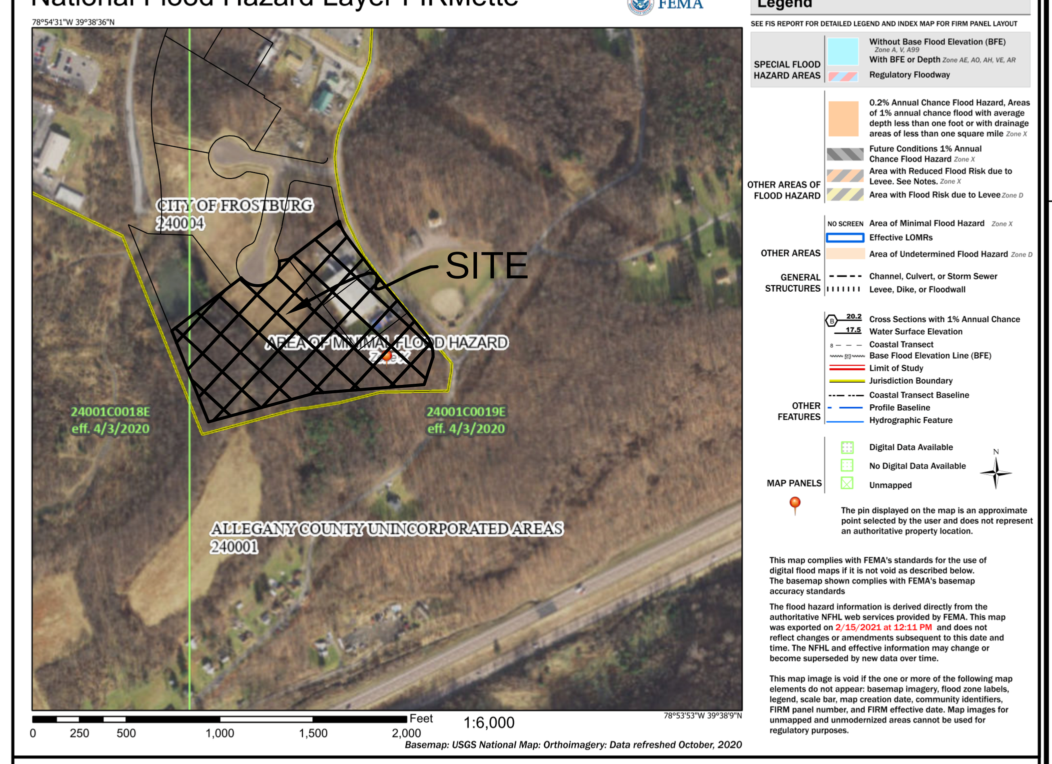
ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
EROSION AND SEDIMENT CONTROL PLAN

JOB No.	SHEET No.
5657	C4.0
DATE	DRAWING No.
JANUARY 2026	X of X

VICINITY MAP - TAX MAP No.
SCALE: NOT TO SCALE

National Flood Hazard Layer FIRMette



FLOOD INSURANCE RATE MAP
SCALE: AS NOTED

SITE DATA AND REGULATIONS

ELECTION DISTRICT NO: 24-000   ASSOCIATED SUBDIVISION PLATES: PLAT #2341, 2343

ZONING: T/LI - TECHNOLOGY LIGHT INDUSTRIAL

TOTAL PROPERTY AREA: 12.2 ACRES

TOTAL PROPOSED IMPERVIOUS AREA: 275,509 SQ. FT. / 6.3 ACRES

LIMIT OF DISTURBANCE:

LOD AREA = 442,464 SF± / 10.16 ACRES±

AMOUNT OF EARTHWORK: (APPROXIMATE AT FINISH GRADE)

TOTAL CUT . . . 62,500 CU. YDS. APPROXIMATE @
TOTAL FILL . . . 10,200 CU. YDS. FINAL GRADE

EARTHWORK QUANTITIES FOR PERMITTING PURPOSES ONLY. CONTRACTOR RESPONSIBLE FOR PERFORMING HIS OWN TAKE OFF FOR BIDDING OR REFER TO BID DOCUMENTS FOR QUANTITIES.

SOIL INFORMATION:

EsC - ERNEST SILT LOAM, 8 TO 15 PERCENT SLOPES, VERY STONY
FaC - FAIRPOINT CHANNERY LOAM, 0 TO 8 PERCENT SLOPES
WrA - WHARTON CHANNERY SILT LOAM, 0 TO 3 PERCENT SLOPES

LOT REQUIREMENTS:

MINIMUM LOT AREA = 6,000 SQUARE FEET
MINIMUM LOT WIDTH = 50 FEET

BUILDING SET BACK REQUIREMENTS:

FRONT = 30 FEET
REAR = 10 FEET
SIDE = 10 FEET

BUILDING HEIGHT REQUIREMENTS:

4 STORIES / 50 FEET

*NPDES PERMIT IS REQUIRED.

WETLAND INFORMATION: WETLANDS ARE FOUND IN PROJECT AREA AND WERE DELINEATED IN WINTERS 2024-2025.

WRA JOINT APPLICATION REQUIRED.

FLOODPLAIN INFORMATION: THE SUBJECT PROPERTY APPEARS TO BE LOCATED IN ZONE X, AS SHOWN ON MAP NO. 24001C0019E, EFFECTIVE DATE APRIL 3, 2020. IT WAS NOT THE INTENT OF THIS SURVEY TO STUDY AND/OR MAKE DETERMINATION AS TO THE ACCURACY OF THE FLOOD ZONE CLASSIFICATION.

LEGEND FOR SEDIMENT CONTROL PRACTICES

[ ] SIP	E-9-1 STANDARD INLET PROTECTION
[ ] AGIP	E-9-2 AT GRADE INLET PROTECTION
[ ] CIP	E-9-3 CURB INLET PROTECTION
☒ FB	FILTER BAG
-FL-x-FL-x-	FILTER LOG
—SF—SF—	SILT FENCE
—SFOP—	SILT FENCE IN PAVEMENT
— LOD —	LIMIT OF DISTURBANCE
A-2 ⇒	EARTH DIKE

SEE SHEET C0.1 FOR OTHER PLAN SYMBOLS AND ABBREVIATIONS.

REQUIRED STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.
2. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS PERMANENT STABILIZATION OF EXPOSED SOIL OCCURS.
3. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY APRIL 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.
4. THE SITE'S APPROVED EROSION AND SEDIMENT CONTROL PLANS SHALL BE AVAILABLE AT THE SITE.
5. THE APPLICANT IS RESPONSIBLE FOR OBTAINING ANY OTHER FEDERAL, STATE, OR LOCAL AUTHORIZATIONS WHICH MAY BE REQUIRED.
6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN
   A) THREE (3) CALENDAR DAYS AS TO SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAT 3 HORIZONTAL AND 1 VERTICAL (3:); AND
   B) SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
7. THE APPROVAL OF THIS PLAN MAKES NO REPRESENTATION AS TO THE EXISTENCE OR NONEXISTENCE OF ANY UTILITIES AT THIS SITE. IT IS THE RESPONSIBILITY OF THE LANDOWNERS OR OPERATORS AND CONTRACTORS TO ASSURE THAT NO HAZARD EXISTS OR DAMAGE WILL OCCUR TO UTILITIES. IT IS SUGGESTED THAT MISS UTILITY BE CONTACTED AT: 1-800-257-7777.

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR PERMITTING ALL BORROW SPOIL, WASTE & DUMP AREAS.
2. 1 FOOT CONTOUR INTERVAL, 5 FOOT INDEX CONTOUR INTERVALS.
3. ALL AREAS WITH SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH TYPE A SOIL STABILIZATION FABRIC AND LOW MAINTENANCE SEED MIX.
4. CONTRACTOR SHALL SCHEDULE PRECONSTRUCTION MEETING WITH THE MARYLAND DEPARTMENT OF ENVIRONMENT, SOIL CONSERVATION DISTRICT, ENGINEER, AND OWNER.
5. SPECS, INC. ASSUMES NO RESPONSIBILITY OR LIABILITY FOR THE LOCATION AND/OR SIZE OF EXISTING UTILITIES. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY EARTHWORK OR CONSTRUCTION.
6. SEE SHEET C0.1 FOR SYMBOLS & ABBREVIATIONS LEGEND.

A SIGNED COPY OF APPROVED PLANS MUST BE MAINTAINED ON SITE

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BOARD FOR PROFESSIONAL ENGINEERS
NO. 200457
RAYMOND CHARLES RASE
STATE OF MARYLAND

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ADDITION TO VERTICAL CONVERTING FROSTBURG INDUSTRIAL PARK EROSION AND SEDIMENT CONTROL PLAN

JOB No.	SHEET No.
5657	C4.1
DATE	DRAWING No.
JANUARY 2026	X of X

DESIGNED:	DRAWN:
R.C.R.	
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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
EROSION AND SEDIMENT CONTROL DETAILS

JOB No.	SHEET No.
5657	C4.2
DATE	DRAWING No.
JANUARY 2026	X of X

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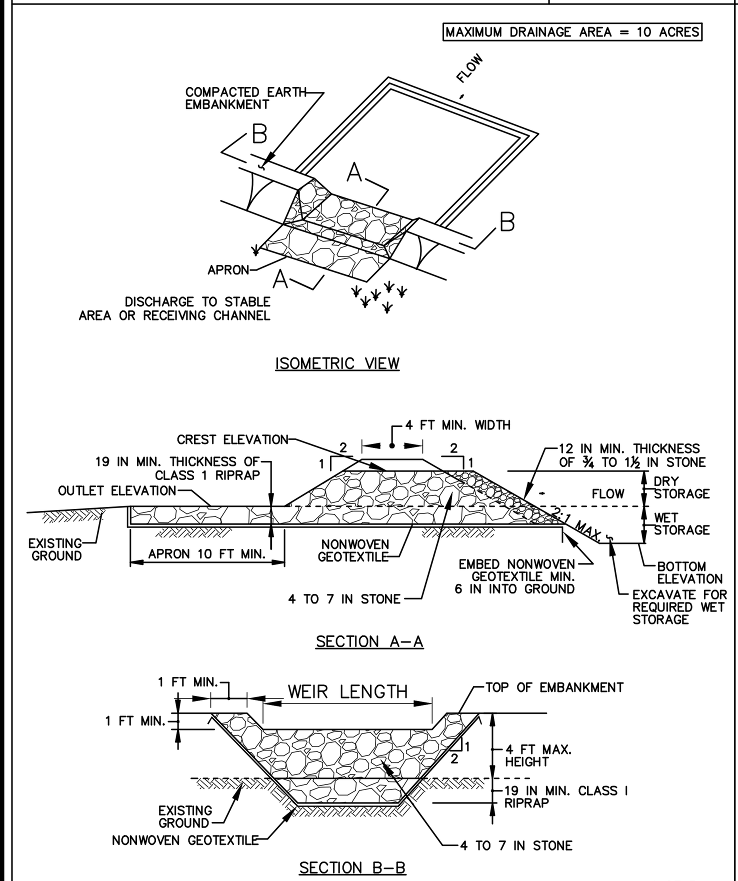
A | B | C | D | E | F | G | H

DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II
STANDARD SYMBOL ST–II

MAXIMUM DRAINAGE AREA = 10 ACRES



1 OF 3

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
3. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
4. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE WEIR CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
5. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
6. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, OVER THE BOTTOM AND SIDES OF OUTLET AND APRON PRIOR TO PLACEMENT OF RIPRAP. OVERLAP SECTIONS OF GEOTEXTILE AT LEAST 1 FOOT WITH THE SECTION NEARER TO THE TRAP PLACED ON TOP. EMBED GEOTEXTILE AT LEAST 6 INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
7. USE CLEAN 4 TO 7 INCH RIPRAP TO CONSTRUCT THE WEIR. USE CLASS I RIPRAP FOR THE APRON. USE OF RECYCLED CONCRETE EQUIVALENT IS ACCEPTABLE.
8. PLACE 1 FOOT OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE ON THE UPSTREAM FACE OF THE WEIR.
9. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
10. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
11. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION, AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION.
12. WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
13. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

2 OF 3

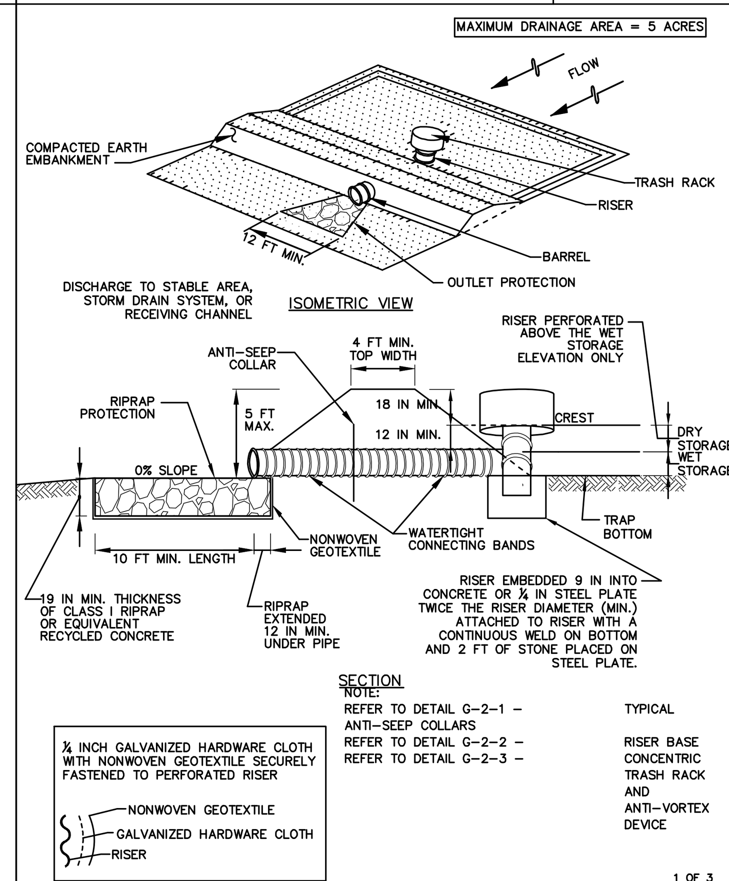
STONE/RIPRAP OUTLET SEDIMENT TRAP ST–II, TRAPS NO. 4, 5 AND 6

ID	TRAP 1			
DRAINAGE AREA – INITIAL	1.75			ACRES
DRAINAGE AREA – INTERIM	1.75			ACRES
DRAINAGE AREA – FINAL	1.75			ACRES
TOTAL STORAGE REQUIRED	6300			CF
TOTAL STORAGE PROVIDED	6736			CF
WET STORAGE REQUIRED	3150			CF
WET STORAGE PROVIDED	3337			CF
DRY STORAGE REQUIRED	3150			CF
DRY STORAGE PROVIDED	3426			CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	1999.7			FT
TRAP BOTTOM ELEVATION	1998.0			FT
TRAP BOTTOM DIMENSIONS	20 X 80			FT x FT
WEIR LENGTH	6			FT
WEIR CREST (DRY STORAGE) ELEVATION	2001.0			FT
CLEANOUT ELEVATION	1998.85			FT
TOP OF EMBANKMENT ELEVATION	2002.0			FT
SIDE SLOPE	2:1			H:V RATIO
EMBANKMENT TOP WIDTH	4			FT
OUTLET PROTECTION – LENGTH	10			FT
OUTLET PROTECTION – DEPTH	19			IN

3 OF 3

DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I
STANDARD SYMBOL ST–I

MAXIMUM DRAINAGE AREA = 5 ACRES



1 OF 3

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
3. PERFORATE THE RISER WITH 1 INCH DIAMETER HOLES SPACED 6 INCHES ON CENTER WITH THE LOWEST PERFORATIONS AT THE WET STORAGE ELEVATION OR PROVIDE A HORIZONTAL OR VERTICAL DRAW–DOWN DEVICE PERFORATED ACCORDING TO APPROVED PLAN. DO NOT PERFORATE THE RISER WITHIN 6 INCHES OF THE TOP OF THE HORIZONTAL BARREL.
4. SET RISER/BARREL ASSEMBLY PRIOR TO EMBANKMENT CONSTRUCTION. MAKE ALL PIPE CONNECTIONS WATERTIGHT. OFFSET RISER FROM EMBANKEMENT TO ACCOMODATE PLACEMENT OF THE TRASH RACK. ANCHOR THE RISER WITH EITHER A REINFORCED CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. MAKE CONCRETE BASES AT LEAST TWICE THE RISER DIAMETER AND 18 INCHES THICK WITH THE RISER EMBEDDED 9 INCHES.
5. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
6. HAND COMPACT IN 4 INCH LAYERS FILL MATERIAL AROUND THE PIPE SPILLWAY. PLACE A MINIMUM OF 2 FEET OF HAND COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
7. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE RISER CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
8. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
9. WRAP THE RISER WITH ¼ INCH GALVANIZED HARDWARE CLOTH THEN WRAP WITH NONWOVEN GEOTEXTILE. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE. EXTEND HARDWARE CLOTH AND GEOTEXTILE AT LEAST 6 INCHES ABOVE THE HIGHEST PERFORATIONS AND AT LEAST 6 INCHES BELOW THE LOWEST PERFORATIONS. OVERLAP, FOLD AND FASTEN WHERE ENDS OF GEOTEXTILE COME TOGETHER TO PREVENT BYPASS. REPLACE GEOTEXTILE AS NECESSARY TO PREVENT CLOGGING.
10. USE STRAPS OR CONNECTING BANDS AT THE TOP AND BOTTOM OF THE GEOTEXTILE TO HOLD THE GEOTEXTILE AND HARDWARE CLOTH IN PLACE.
11. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
12. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
13. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO THE APPROVED PLAN AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
14. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION, AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.
15. WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
16. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

2 OF 3

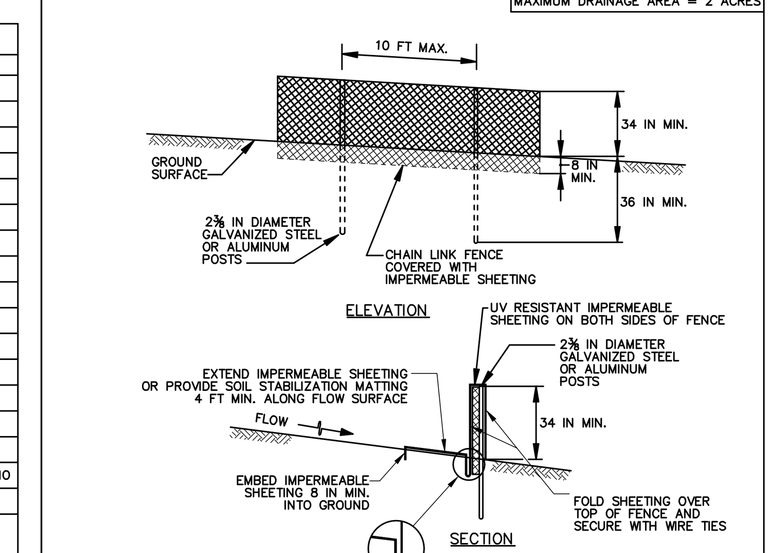
PIPE OUTLET SEDIMENT TRAP ST–I, TRAPS NO. 1, 2 AND 3

ID	TRAP 2			
DRAINAGE AREA – INITIAL	4			ACRES
DRAINAGE AREA – INTERIM	5.0			ACRES
DRAINAGE AREA – FINAL	5.0			ACRES
TOTAL STORAGE REQUIRED	18000			CF
TOTAL STORAGE PROVIDED	20608			CF
WET STORAGE REQUIRED	9000			CF
WET STORAGE PROVIDED	9898			CF
DRY STORAGE REQUIRED	9000			CF
DRY STORAGE PROVIDED	10710			CF
TRAP BOTTOM ELEVATION	1995			FT
TRAP BOTTOM DIMENSIONS	SEE PLAN			FT x FT
RISER CREST (DRY STORAGE) ELEVATION	1997.0			FT
OUTLET (WET STORAGE) ELEVATION	1996.0			FT
CLEANOUT ELEVATION	1995.5			FT
TOP OF EMBANKMENT ELEVATION	1998.5			FT
SIDE SLOPE	2:1			H:V RATIO
EMBANKMENT TOP WIDTH	4			FT
PRINCIPAL SPILLWAY MATERIAL (BARREL, RISER, ANTI–SEEP COLLAR)	CMP			
RISER DIAMETER	21			IN
BARREL DIAMETER	27			IN
TRASH RACK DIAMETER	27			IN
TRASH RACK HEIGHT	18			IN
ANTI–SEEP COLLAR DIMENSIONS	N/A			FT
OUTLET PROTECTION – LENGTH	SEE PLAN			FT
OUTLET PROTECTION – WIDTH	SEE PLAN			FT
OUTLET PROTECTION – DEPTH	SEE PLAN			IN

3 OF 3

DETAIL C-9 DIVERSION FENCE
STANDARD SYMBOL — DF —

MAXIMUM DRAINAGE AREA = 2 ACRES

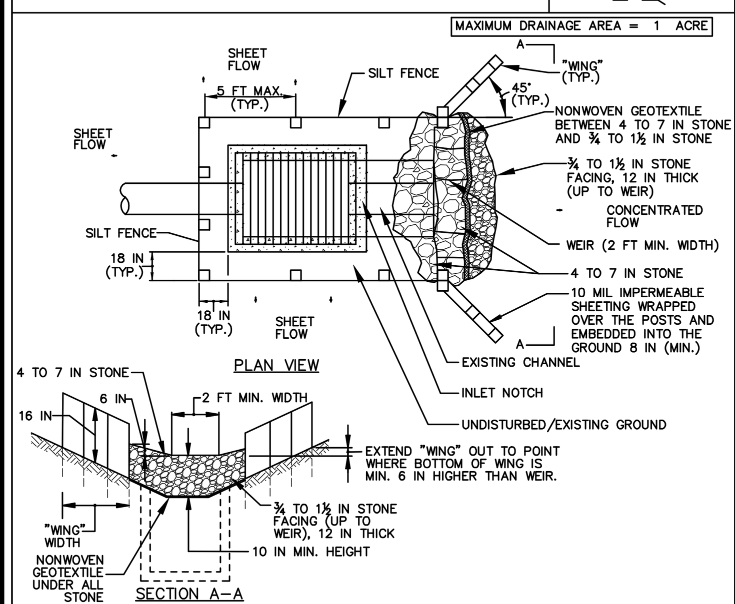


CONSTRUCTION SPECIFICATIONS

1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2⅜ INCH MAXIMUM OPENING).
2. USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

DETAIL E-9-4 MEDIAN INLET PROTECTION
STANDARD SYMBOL MIP

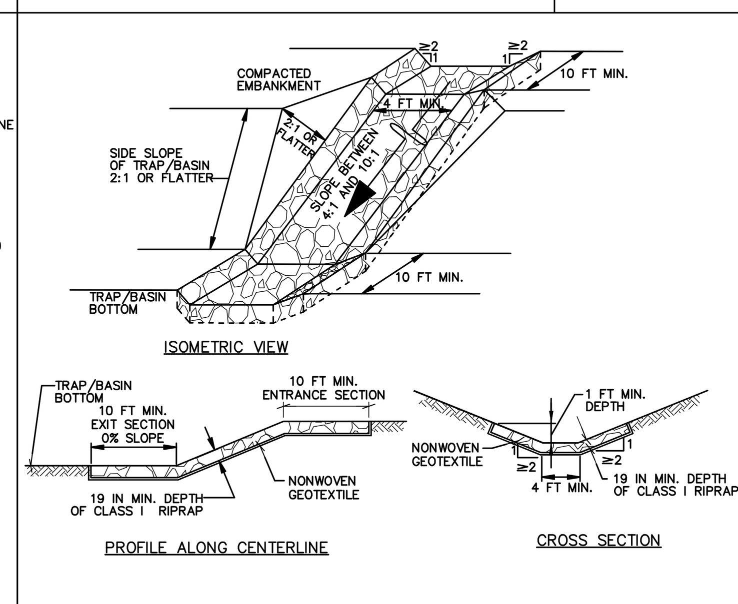
MAXIMUM DRAINAGE AREA = 1 ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
2. INSTALL SILT FENCE ON ALL SIDES OF INLET RECEIVING SHEET FLOW. FENCE IS TO BE INSTALLED IN ACCORDANCE WITH SILT FENCE DETAIL E–1, EXCEPT POSTS ARE TO BE SPACED A MAXIMUM OF 5 FEET APART.
3. INSTALL STONE STRUCTURE WITH THE WEIR 10 INCHES ABOVE THE INVERT OF THE CHANNEL AND THE WEIR OPENING THE SAME WIDTH AS THE CHANNEL BOTTOM OR 2 FEET MINIMUM. USE CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE NONWOVEN GEOTEXTILE ON THE UPSTREAM FACE AND COVER WITH A 12 INCH THICK LAYER OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
4. CONSTRUCT "WINGS" IN ACCORDANCE WITH DIVERSION FENCE DETAIL C–9.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

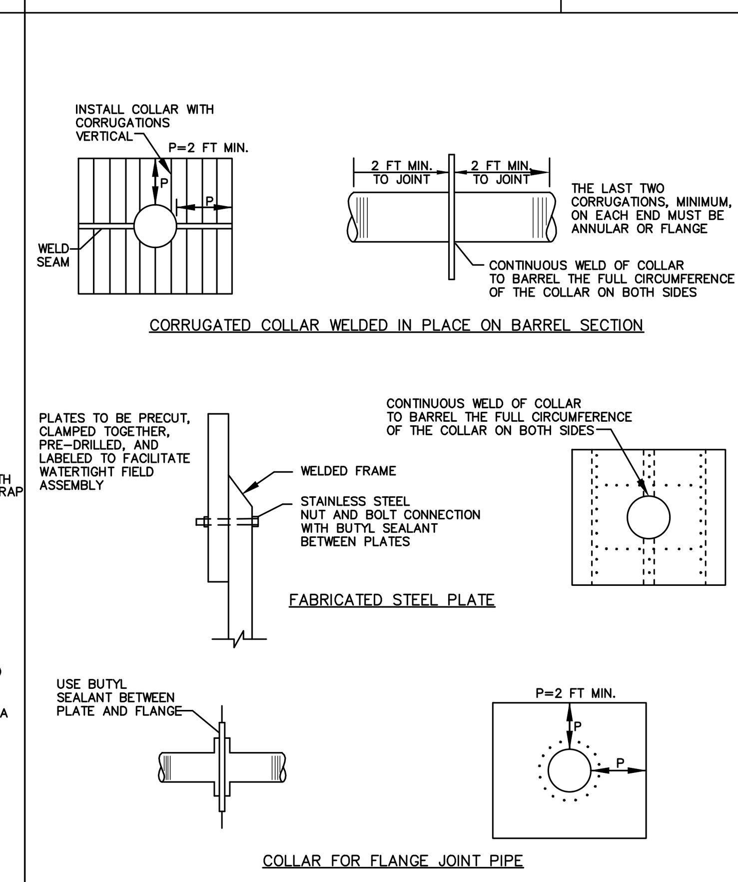
DETAIL D-3-1 RIPRAP INFLOW PROTECTION
STANDARD SYMBOL RRP



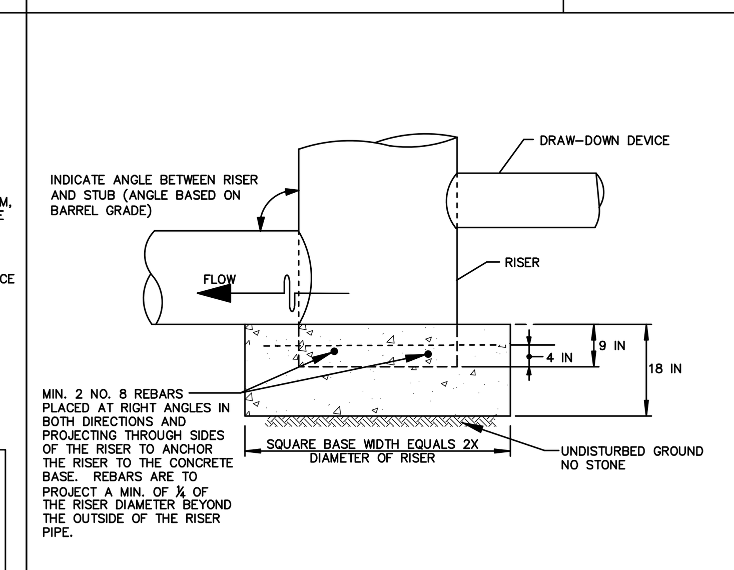
CONSTRUCTION SPECIFICATIONS

1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
2. CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES ($2 \times D_{50}$) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
4. BLEND RIPRAP INTO EXISTING GROUND.
5. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

DETAIL G-2-1 TYPICAL ANTI-SEEP COLLARS



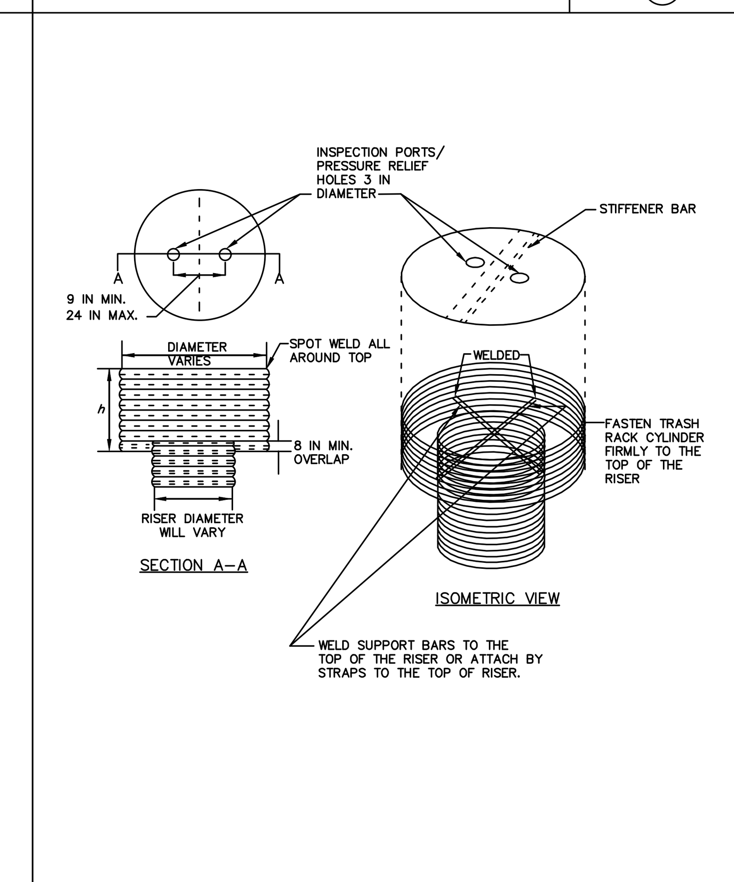
DETAIL G-2-2 CORRUGATED RISER BASE



CONSTRUCTION SPECIFICATIONS

1. BOTTOM OF CONCRETE BASE TO BE PLACED ON UNDISTURBED, NATURAL GROUND.
2. NO STONE IS ALLOWED UNDER BASE. IF NECESSARY, TO ACHIEVE STABILITY INCREASE DEPTH OF CONCRETE BASE.

DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
STANDARD SYMBOL TR



1 OF 2

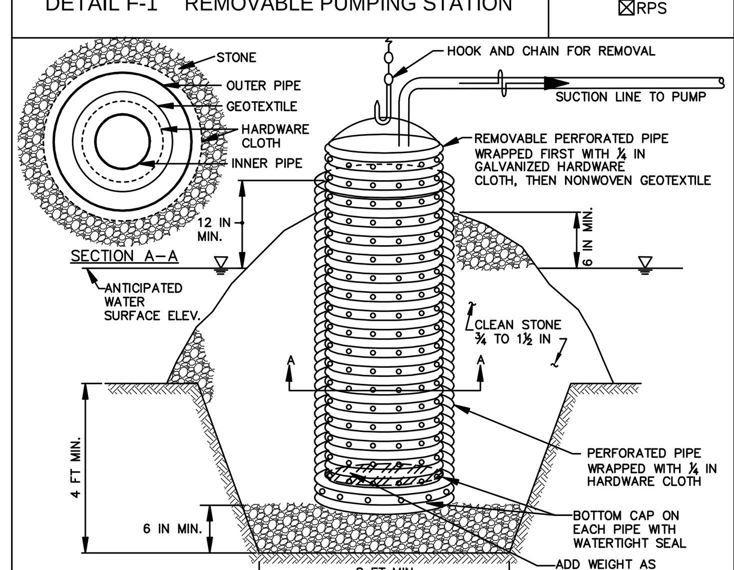
DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
STANDARD SYMBOL TR

RISER DIAM. (IN)	TRASH RACK CYLINDER DIAM. (IN)	THICKNESS (GAUGE)	h (IN)	MINIMUM SIZE SUPPORT BAR	MINIMUM TOP THICKNESS (GAUGE)	STIFFENER
12	18	16	14	#6 REBAR	16	N/A
15	21	16	15	#6 REBAR	16	N/A
18	27	16	16	#6 REBAR	16	N/A
21	30	16	19	#6 REBAR	16	N/A
24	36	16	21	#6 REBAR	14	N/A
27	42	16	21	#6 REBAR	14	N/A
36	54	14	25	#8 REBAR	12	N/A
42	60	14	27	#8 REBAR	12	N/A
48	72	12	29	1¼ IN PIPE OR 1¼ x 1¼ x ¼ ANGLE	10	N/A
54	78	12	33	1¼ IN PIPE OR 1¼ x 1¼ x ¼ ANGLE	10	N/A
60	90	12	37	1½ IN PIPE OR 1½ x 1½ x ¼ ANGLE	8	N/A
66	96	10	41	2 IN PIPE OR 2 x 2 x 3/16 ANGLE	8	2 x 2 x ¼ ANGLE
72	102	10	44	2 IN PIPE OR 2 x 2 x 3/16 ANGLE	8	2½ x 2½ x ¼ ANGLE
78	114	10	47	2½ IN PIPE OR 2 x 2 x ¼ ANGLE	8	2½ x 2½ x ¼ ANGLE
84	120	10	50	2½ IN PIPE OR 2½ x 2½ x ¼ ANGLE	8	2½ x 2½ x 5/16 ANGLE

NOTE:
THE ABOVE TRASH RACK AND ANTI–VORTEX DEVICE INFORMATION IS FOR CORRUGATED METAL PIPE ONLY. CONCRETE RISERS MUST MEET THE REQUIREMENTS OF MD 378.

2 OF 2

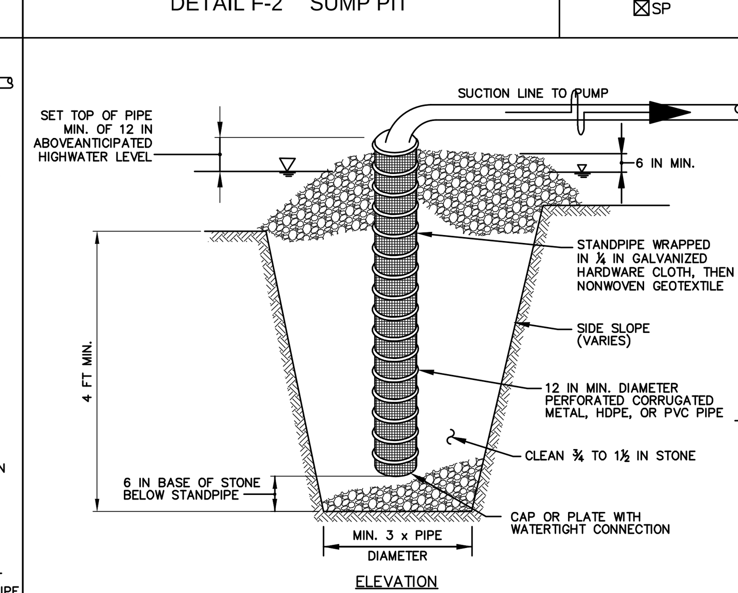
DETAIL F-1 REMOVABLE PUMPING STATION
STANDARD SYMBOL RPS



CONSTRUCTION SPECIFICATIONS

1. USE CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS 6 INCHES ON CENTER.
2. USE A MINIMUM 12 INCH DIAMETER INNER PIPE WITH AN OUTER PIPE A MINIMUM 6 INCHES LARGER IN DIAMETER. BOTTOM OF EACH PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
3. WRAP EACH PIPE WITH ¼ INCH GALVANIZED HARDWARE CLOTH. ON INNER PIPE WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, OVER THE HARDWARE CLOTH.
4. EXCAVATE 8 FEET X 8 FEET X 4 FEET DEEP PIT FOR PIPE PLACEMENT. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
5. SET TOP OF INNER AND OUTER PIPES MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION (OR RISER CREST ELEVATION WHEN DEWATERING A BASIN).
6. BACKFILL PIT AROUND THE OUTER PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
7. DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
8. A REMOVABLE PUMPING STATION REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, PULL OUT INNER PIPE AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

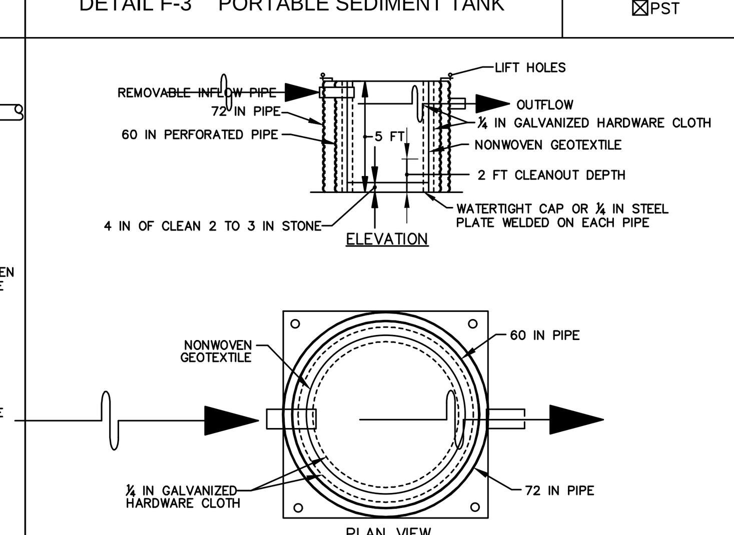
DETAIL F-2 SUMP PIT
STANDARD SYMBOL SP



CONSTRUCTION SPECIFICATIONS

1. USE 12 INCH OR LARGER DIAMETER CORRUGATED METAL, HDPE, OR PVC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER. BOTTOM OF PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
2. WRAP PIPE WITH ¼ INCH GALVANIZED HARDWARE CLOTH AND WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, OVER THE HARDWARE CLOTH.
3. EXCAVATE PIT TO THREE TIMES THE PIPE DIAMETER AND FOUR FEET IN DEPTH. PLACE ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
4. SET TOP OF PIPE MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
5. BACKFILL PIT AROUND THE PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
6. DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
7. A SUMP PIT REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, REMOVE PERFORATED PIPE AND REPLACE GEOTEXTILE AND STONE. KEEP POINT OF DISCHARGE FREE OF EROSION.

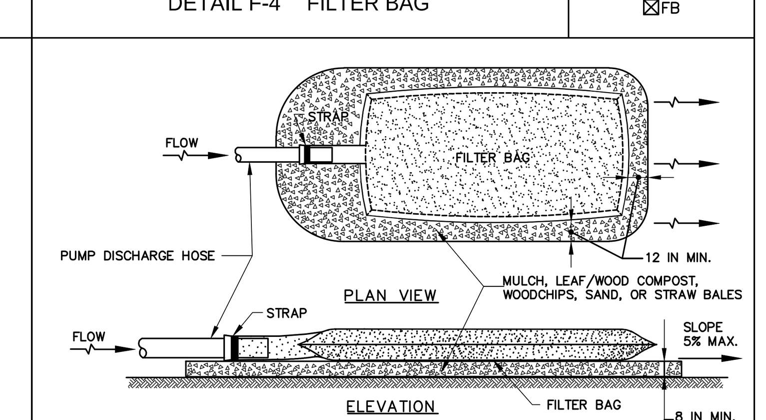
DETAIL F-3 PORTABLE SEDIMENT TANK
STANDARD SYMBOL PST



CONSTRUCTION SPECIFICATIONS

1. PROVIDE 1 CUBIC FOOT OF STORAGE FOR EACH GALLON PER MINUTE OF PUMP CAPACITY. REQUIRED STORAGE VOLUME MAY BE ATTAINED BY PLACEMENT OF TANKS IN PARALLEL WITH INFLOW EVENLY DISTRIBUTED AMONG TANKS. OVERTOPPING OF TANKS IS NOT PERMITTED.
2. USE 60 INCH CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER FOR THE INNER PIPE. LINE PIPE WITH NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, SANDWICHED BETWEEN, AND ATTACHED TO, ¼ INCH HARDWARE CLOTH.
3. OVERLAP GEOTEXTILE 8 INCHES MINIMUM AT VERTICAL SEAM AND AT THE BOTTOM PLATE.
4. ANCHOR GEOTEXTILE AT BOTTOM OF TANK WITH 4 INCHES OF 2 TO 3 INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE.
5. USE 72 INCH CORRUGATED METAL OR PLASTIC OUTER PIPE WITH PERMANENT OUTFLOW PIPE WITH INVERT LOWER THAN INFLOW PIPE
6. INFLOW PIPE MUST DISCHARGE INTO INNER PIPE AND BE REMOVABLE.
7. PLACE TANK ON LEVEL SURFACE AND DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
8. A PORTABLE SEDIMENT TANK REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT FROM INNER PIPE WHEN IT REACHES TWO FEET IN DEPTH. IF SYSTEM CLOGS, PULL OUT INNER PIPE, REMOVE ACCUMULATED SEDIMENT, AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

DETAIL F-4 FILTER BAG
STANDARD SYMBOL FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D–4632
PUNCTURE	150 LB	ASTM D–4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D–4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D–4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D–4355
APPARENT OPENING SIZE (AOS)	0.15–0.18 MM	ASTM D–4751
SEAM STRENGTH	90%	ASTM D–4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

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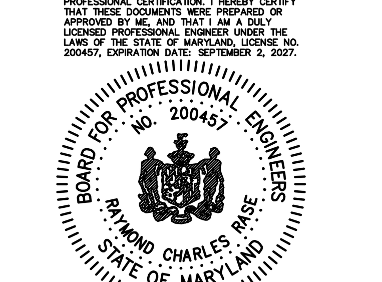

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	REVISIONS		

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ADDITION TO VERTICAL CONVERTING FROSTBURG INDUSTRIAL PARK EROSION AND SEDIMENT CONTROL DETAILS

JOB No. 5657
SHEET No. C4.3
DATE JANUARY 2026
DRAWING No. X of X

A B C D E F G H

SMARTFENCE 42
INSTALLATION INSTRUCTIONS

SEDIMENT & PERIMETER CONTROL

STEP 1: Excavate trench a maximum of 4" wide and 6" deep. The trench shall be hand-cleaned following excavation to remove bulky debris such as rocks, sticks, and soil clods from the trench. Drive studded metal T-posts with anchor plates having a minimum weight of 1.25 lbs./ft. and minimum 72" length into the ground. Drive post into ground a minimum of 36" depth. Post spacing must be no greater than 6 ft maximum (max. 4 ft. across channels and swales).

STEP 2: Layout SMARTfence® 42 along proposed fence line next to anchor trench. Locate one end of the SMARTfence® 42 and position near the initial post. Position SMARTfence® 42 vertically along the initial post.

STEP 3: For the initial post, place the end of SMARTfence® 42 along the post height and rotate the post 360 degrees, maintaining tension on the fence system. Secure the fence to the post using steel wire staples or nylon ties at the four (4) orange-colored band locations (minimum 4 attachment locations).

STEP 4: For fastening SMARTfence® 42 to studded metal T-posts, use one of the following methods:

Method 1: Using 16-gage wire, attach SMARTfence® 42 to metal T-posts using 304 SS wire with mitered ends, securingthe fence to the post using safety pliers.

Method 2: Use 8-inch nylon, heavy-duty, UV-stable Zip-ties with min. 120-lb. tensile strength. Puncture two 0.25-inch openings, spaced a width apart equivalent to the width of the post, and secure fence to the post.

STEP 5: Drive the initial post with the attached fence into the ground to **36-inch depth.**

STEP 6: Drive the interior T-posts of the fence system into the ground at least 36 inches.

STEP 7: Move to the next T-post while pulling SMARTfence® 42 **tightly**. Position the SMARTfence® 42 in front of the adjacent t-post in preparation for fastening the fence to the post. Fasten fence to post at all four **(4) orange-colored band locations** as instructed in Step 4.

STEP 8: After the interior posts have been fastened to the SMARTfence® 42, secure the fence to the final post by **pulling the final section of fencing taut**, then rotating the post 360 degrees, maintaining tension on the fence system. Secure the fence to the post **at all four (4) orange-colored band locations** with the steel wire or nylon ties per Step 4. Drive the final post into the ground to 36-inch depth.

STEP 9: Place bottom 8 inches of fabric into the trench. Backfill trench (overfill) with soil placed around fabric. Compact soil backfill with either manual tamping (or other manual means) or via mechanical equipment such as the front wheel of a tractor, skid steer, roller, or other device (per Note 5 of ASTM D 6462 *Standard Practice for Silt Fence Installation*). Do not damage the fabric during compaction (damaged fabric shall be replaced).

SPLICING

The splicing of adjacent sections of SMARTfence shall Follow the requirements of Tennessee Department of Transportation (TDOT) Standard Drawing EC-STR-3E. The TDOT-developed standard for EC-STR-3E is attached.

Contact infogeo@ferguson.com or visit us at www.fergusongss.com

3/21/24

FERGUSON WATERWORKS

SMARTFENCE 42
INSTALLATION INSTRUCTIONS

FERGUSON WATERWORKS

INSTALLATIONS ACROSS DRAINAGE DITCHES AND SWALES

STEP 1: Excavate trench a maximum of 4 inches wide and 6 inches deep. The trench shall be hand-cleaned following excavation to remove bulky debris such as rocks, sticks, and soil clods from the trench. Drive studded metal T-posts with anchor plates having a minimum weight of 1.25 lb. per ft. and a minimum 72-inch length. Drive post into ground a minimum of **36 inches depth.** Post spacing must be **3 feet (maximum).**

Installation Steps 2 through 9 are the same as given previously with the following stipulation:

For SMARTfence® 42 to be constructed across a ditch line or swale, the measure must be of sufficient length to eliminate endflow, and the plan configuration shall resemble an arc or horseshoe with ends oriented upslope. SMARTfence® 42 shall be used with a **maximum 3 ft post spacing.**

SMARTfence® 42 is 100% American Made and Is NTPEP Compliant.

Made in USA

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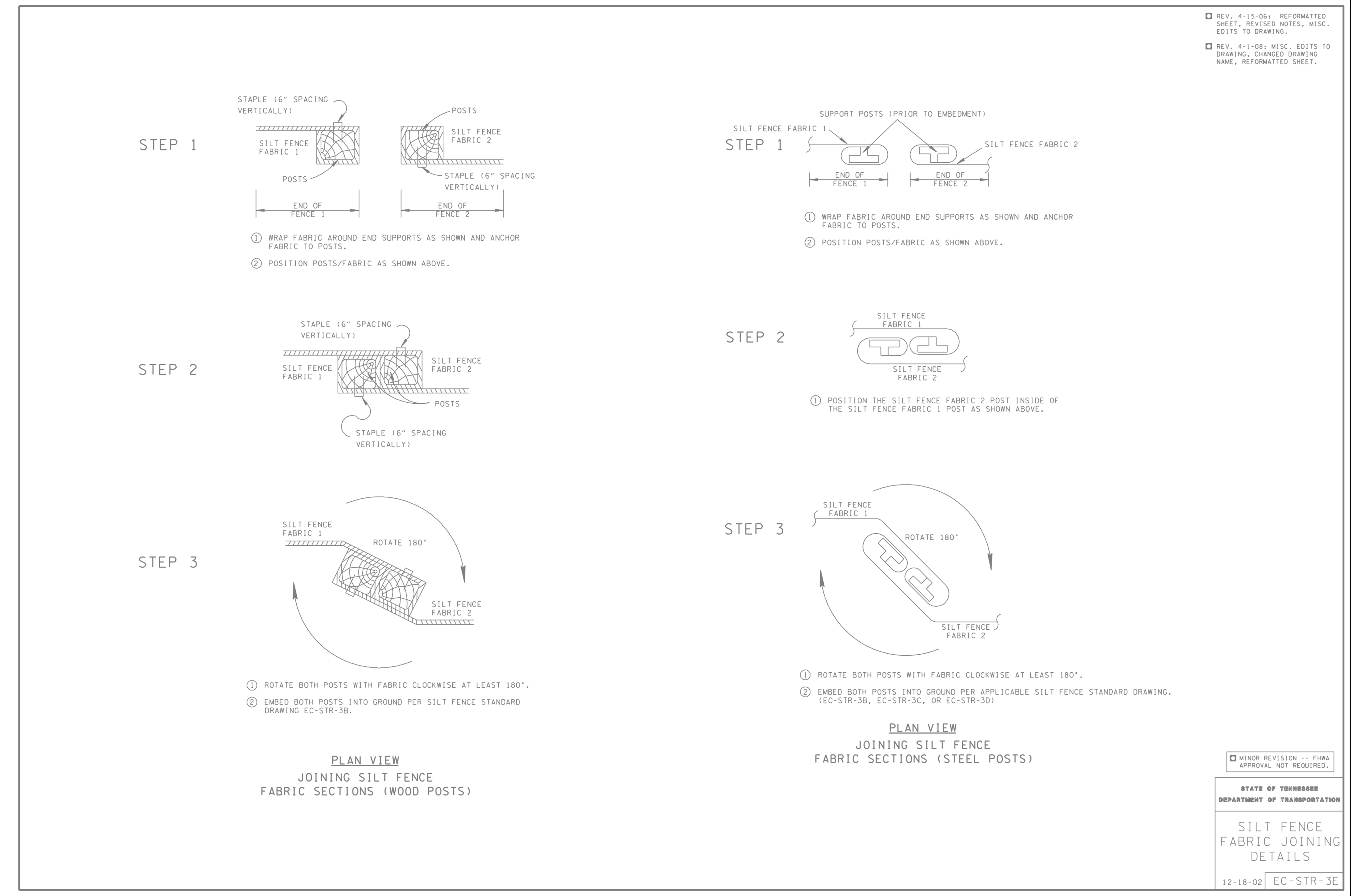
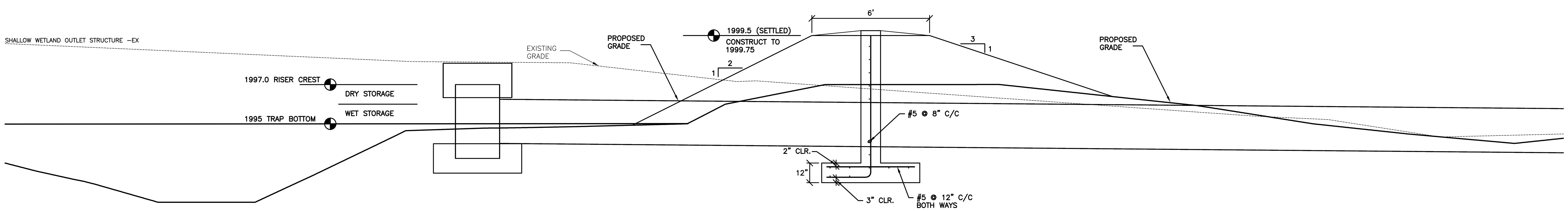
3/21/24

FERGUSON WATERWORKS





SEDIMENT TRAP MODIFICATIONS TO SHALLOW WETLAND

SCALE: 1" = 3'

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BOARD FOR PROFESSIONAL ENGINEERS · NO. 200457 · RAYMOND CHARLES RASE · STATE OF MARYLAND

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
EROSION AND SEDIMENT CONTROL DETAILS

JOB No.	SHEET No.
5657	C4.4
DATE	DRAWING No.
JANUARY 2026	X of X

A B C D E F G H

1 2 3 4 5

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

Figure B.1: Incremental Stabilization – Cut

Figure B.2: Incremental Stabilization – Fill

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

B.22

2. Sod Installation

a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.

b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.

c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.

d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

B.23

B.24

TEMPORARY SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE 6a and 5b)					FERTILIZER RATE (10–10–10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS		
	BULBOA RYE	140 lb/ac	3/15–5/31 or 8/1–10/31	1/4" to 1/2"	436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)

PERMANENT SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE 6a and 5b) – STANDARD LOW MAINTENANCE					FERTILIZER RATE (10–20–20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	
9	TALL FESCUE	60 lb/ac	3/15–6/1 or 8/1–10/1	1/4" to 1/2"	45 lb/ac (1 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
	PERENNIAL RYEGRASS	20 lb/ac						
	KENTUCKY BLUEGRASS	40 lb/ac						

SEED MIXTURE (HARDINESS ZONE 6a and 5b) – SLOPES 2.5:1 OR GREATER – LOW MAINT.					FERTILIZER RATE (10–20–20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	
3Mod	DEERTONGUE	20 lb/ac	3/15–6/1 or 8/1–10/1	1/4" to 1/2"	45 lb/ac (1 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
	COMMON LESPEDAZA	10 lb/ac						
	CANADA WILD RYE	20 lb/ac						
	REDTOP	1 lb/ac						
	ANNUAL RYE	40 lb/ac						

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BOARD FOR PROFESSIONAL ENGINEERS NO. 200457 RAYMOND CHARLES RASE STATE OF MARYLAND

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REVISIONS

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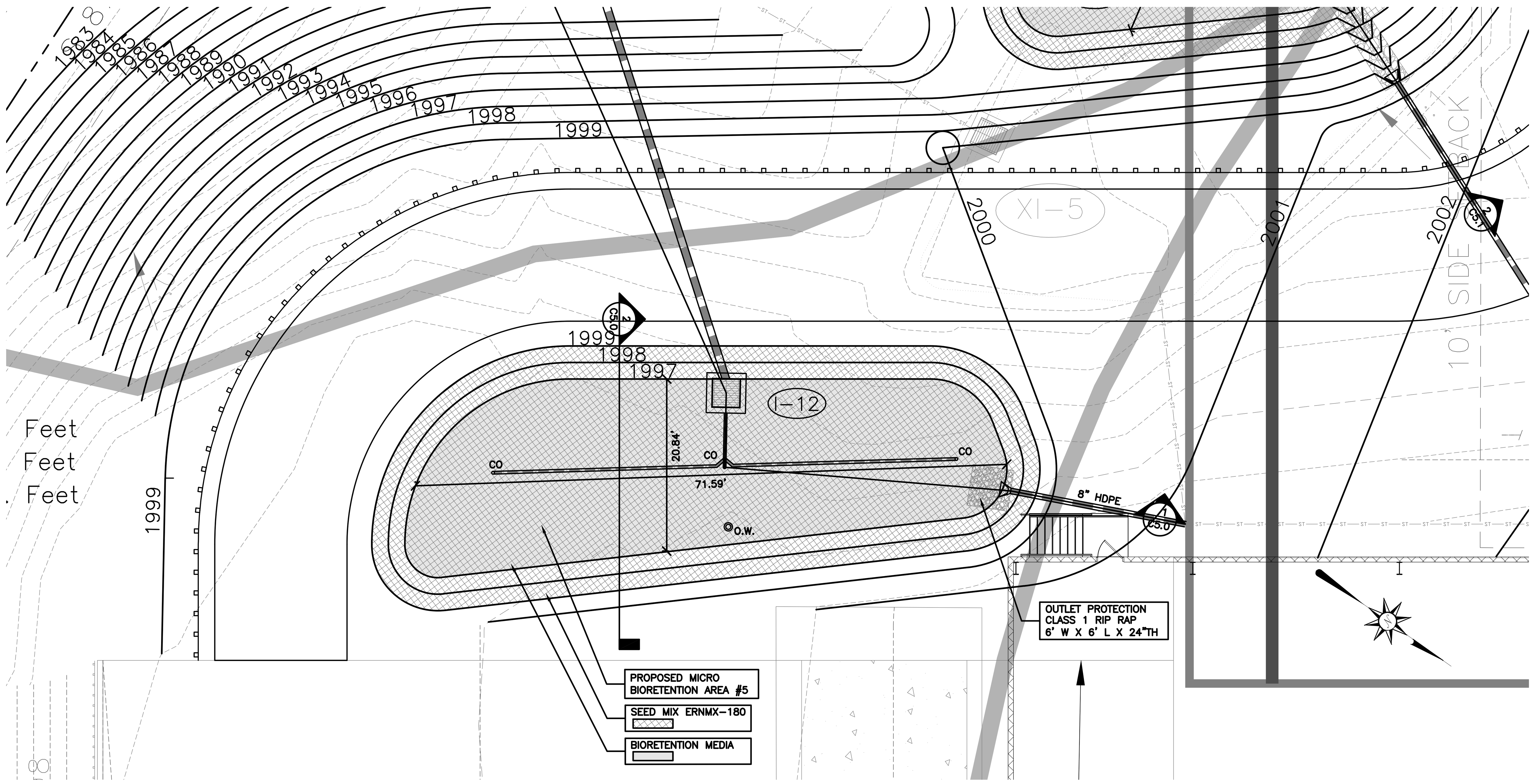
ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
EROSION AND SEDIMENT CONTROL DETAILS

JOB No. 5657
SHEET No. C4.5
DATE JANUARY 2026
DRAWING No. X of X



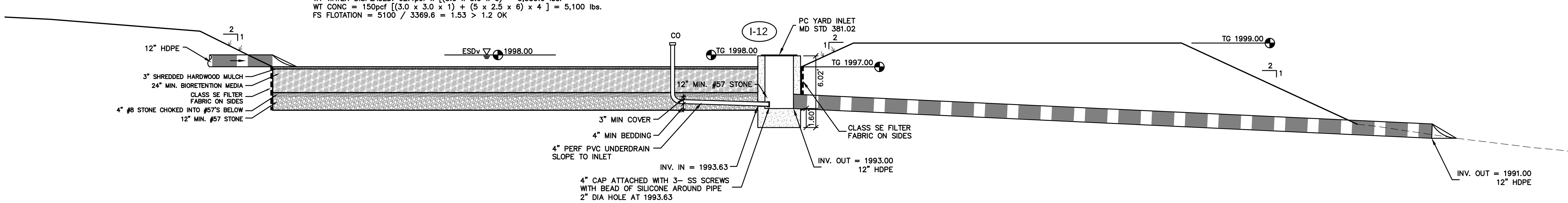
PROPOSED MICRO-BIORETENTION MB #5

SCALE: 1"=10'

0' 10' 20' 30'

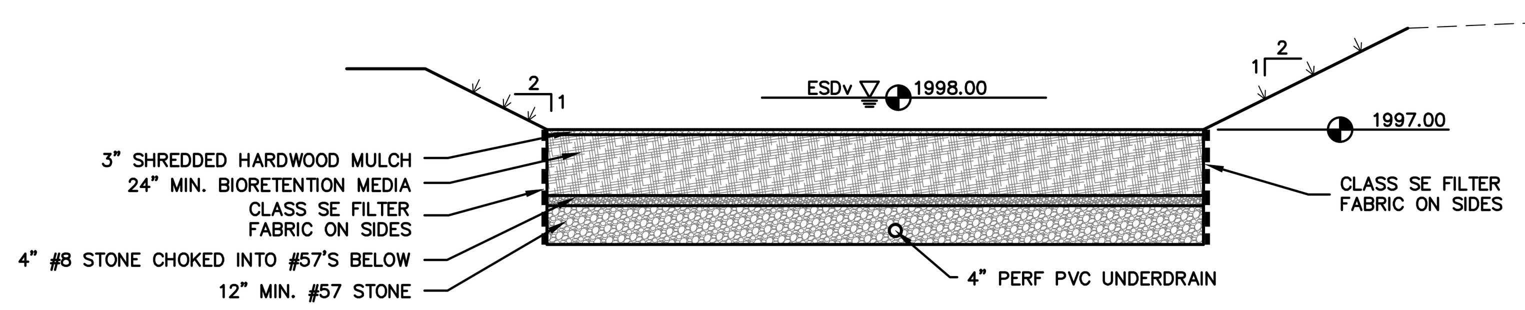
BUOYANCY CHECK

WT WATER DISPLACED: 62.4pcf x [(3.0 x 3.0 x 6) = 3,339.6 lbs.
WT CONC = 150pcf [(3.0 x 3.0 x 1) + (5 x 2.5 x 6) x 4] = 5,100 lbs.
FS FLOTATION = 5100 / 3369.6 = 1.53 > 1.2 OK



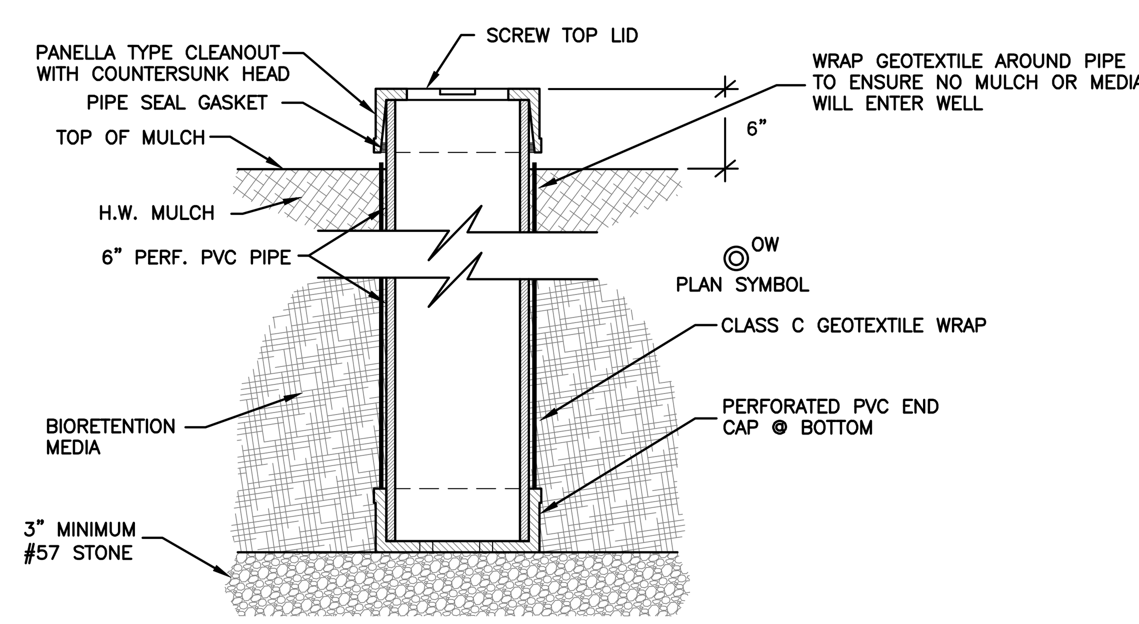
PROPOSED MICRO-BIORETENTION MB #5 SECTION (1)

SCALE: 1"=5'



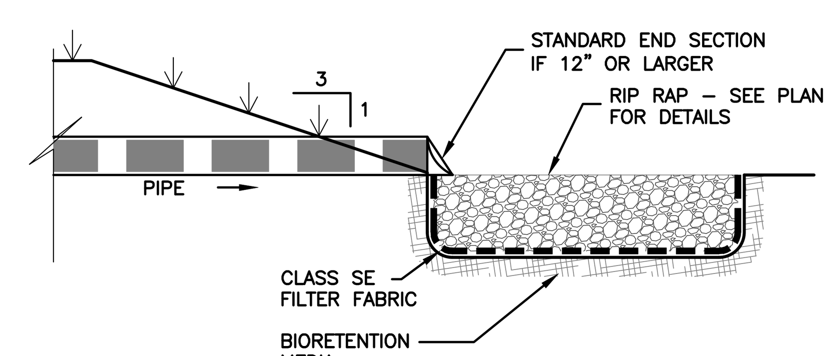
PROPOSED MICRO-BIORETENTION MB #5 SECTION (2)

SCALE: 1"=5'



OBSERVATION WELL DETAIL (3)

NOT TO SCALE



PIPE OUTLET DETAIL (4)

NOT TO SCALE

PROJECT NAME: 5657 CLARK BUILDING – FROSTBURG, MD		MDE NO. XX–SF–XXXX	
AS–BUILT DATA FOR MICRO BIORETENTION MB#5 *TO BE COMPLETED BY CERTIFYING ENGINEER			
TYPE OF FACILITY: MICRO SCALE PRACTICE ESD ID MB#1			
FEATURE		DESIGN	*AS–BUILT
FILTER BED	DIMENSIONS	SEE PLAN	
	AREA, SF	1365 SF.	
FILTER BED SURFACE ELEVATION		1997	
FILTER INLET PIPE	SIZE, IN.	4 IN. PERF	
	INVERT ELEV.	1993.63	
OUTLET PIPE	SIZE, IN.	12 IN. HDPE	
	INVERT ELEV.	1993	
THICKNESS OF FILTER MEDIA		24 IN.	
THICKNESS OF MULCH		N/A	
THICKNESS OF BRIDGING LAYER (#8'S)		4 IN.	
THICKNESS OF UNDERDRAIN GRAVEL		12 IN.	
PLANTINGS		ERNST ERNMX–180	
ESD STORAGE VOLUME CU–FT	REQUIRED	2415 CF	
	PROVIDED	2614 CF	

DATE AS–BUILT ACCEPTED BY MDE:

AS–BUILT CERTIFICATION

I hereby certify that the stormwater management facilities (both BMPs and ESD practices) shown on the plans have been constructed in accordance with the plans approved by the Maryland Department of the Environment, except as noted in red on the "AS–BUILT" drawings.

RAYMOND C. RASE, PE, PS

Name Signature

MD 200457 (PE)

Maryland Registration Number (PE or LS) Date

MDE No.
Facilities being certified (list each individually using facility ID number and/or description):
MB #5

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BOARD FOR PROFESSIONAL ENGINEERS NO. 200457 RAYMOND CHARLES RASE STATE OF MARYLAND

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R.C.R.	J.F.H.

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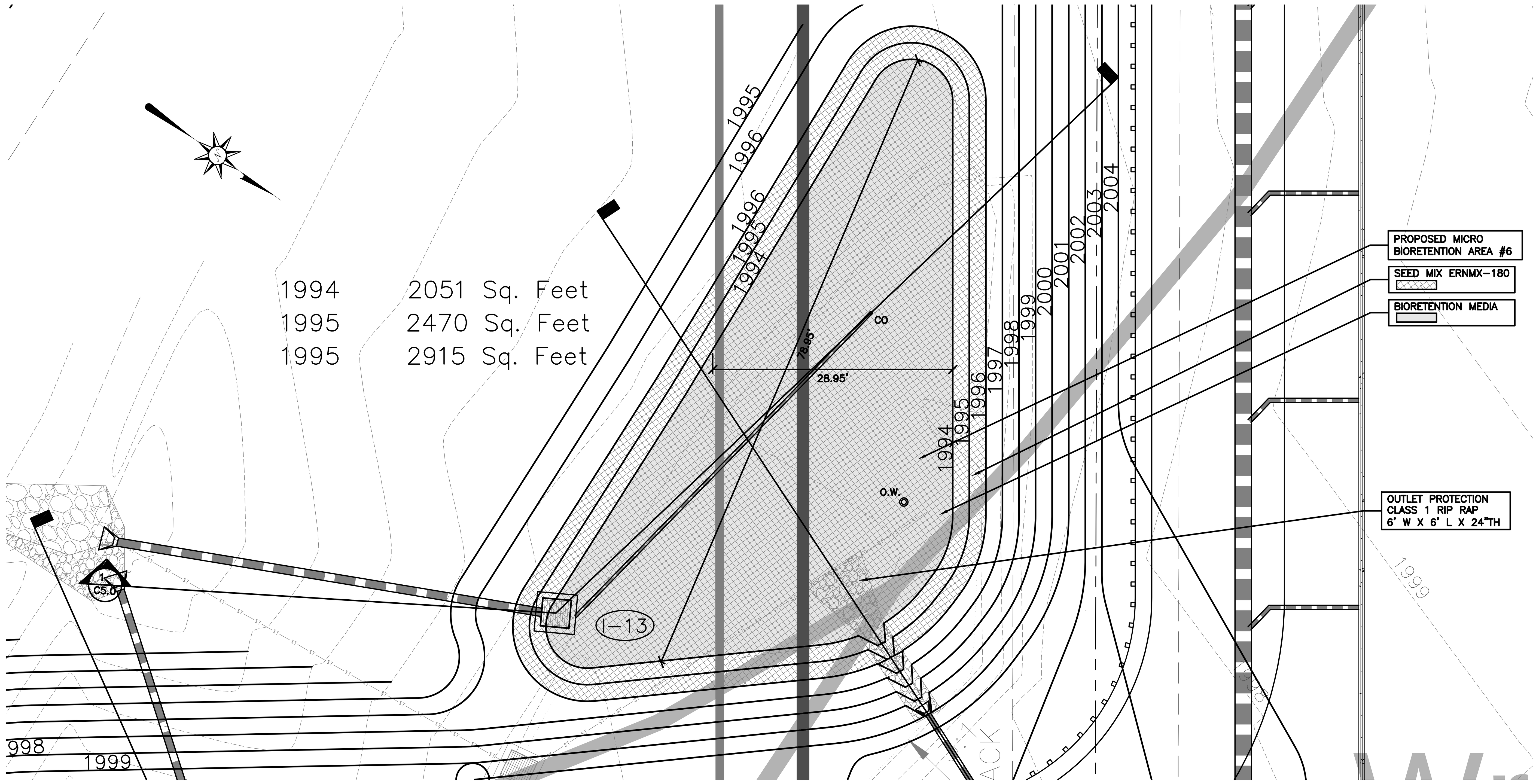
ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED MICRO-BIORETENTION AREA MB #5

JOB No.	SHEET No.
5657	C5.0
DATE JANUARY 2026	DRAWING No. of X



PROPOSED MICRO-BIORETENTION MB #6

SCALE: 1"=10'

0' 10' 20' 30'

PROJECT NAME: 5657 CLARK BUILDING – FROSTBURG, MD		MDE NO. XX–SF–XXXX	
AS–BUILT DATA FOR MICRO BIORETENTION MB#6 *TO BE COMPLETED BY CERTIFYING ENGINEER			
TYPE OF FACILITY: MICRO SCALE PRACTICE ESD ID MB#1			
FEATURE		DESIGN	*AS–BUILT
FILTER BED	DIMENSIONS	SEE PLAN	
	AREA, SF	2050 SF.	
FILTER BED SURFACE ELEVATION		1994	
FILTER INLET PIPE	SIZE, IN.	4 IN. PERF	
	INVERT ELEV.	1990.53	
OUTLET PIPE	SIZE, IN.	12 IN. HDPE	
	INVERT ELEV.	1990	
THICKNESS OF FILTER MEDIA		24 IN.	
THICKNESS OF MULCH		N/A	
THICKNESS OF BRIDGING LAYER (#8'S)		4 IN.	
THICKNESS OF UNDERDRAIN GRAVEL		12 IN.	
PLANTINGS		ERNST ERNMX–180	
ESD STORAGE VOLUME CU–FT	REQUIRED	3875 CF	
	PROVIDED	3875 CF	

DATE AS–BUILT ACCEPTED BY MDE:

AS–BUILT CERTIFICATION

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RAYMOND C. RASE, PE, PS

Name Signature

MD 200457 (PE)

Maryland Registration Number (PE or LS) Date

MDE No.

Facilities being certified (list each individually using facility ID number and/or description):

MB #6

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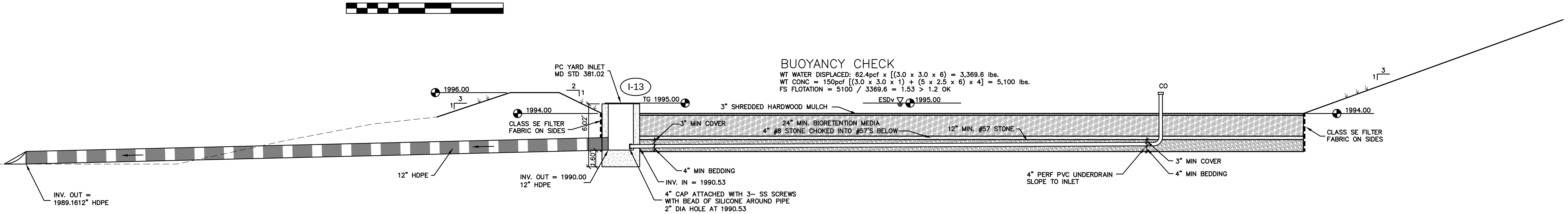
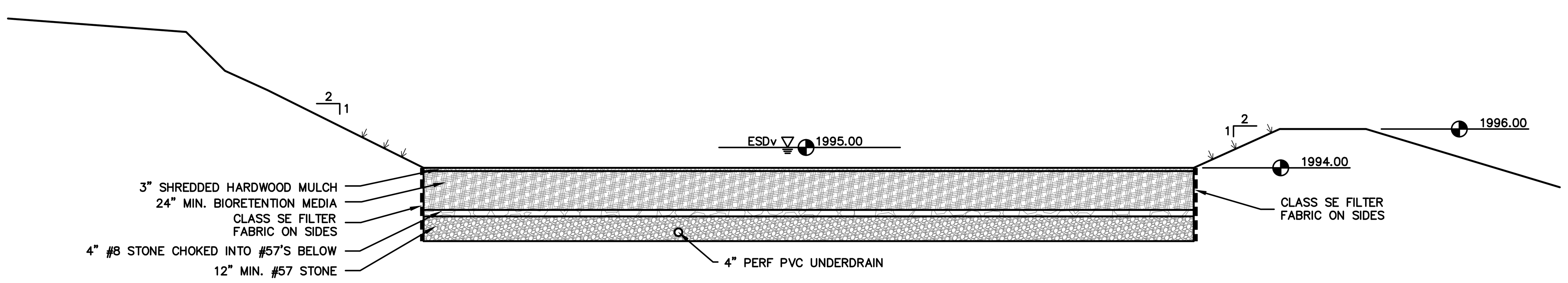


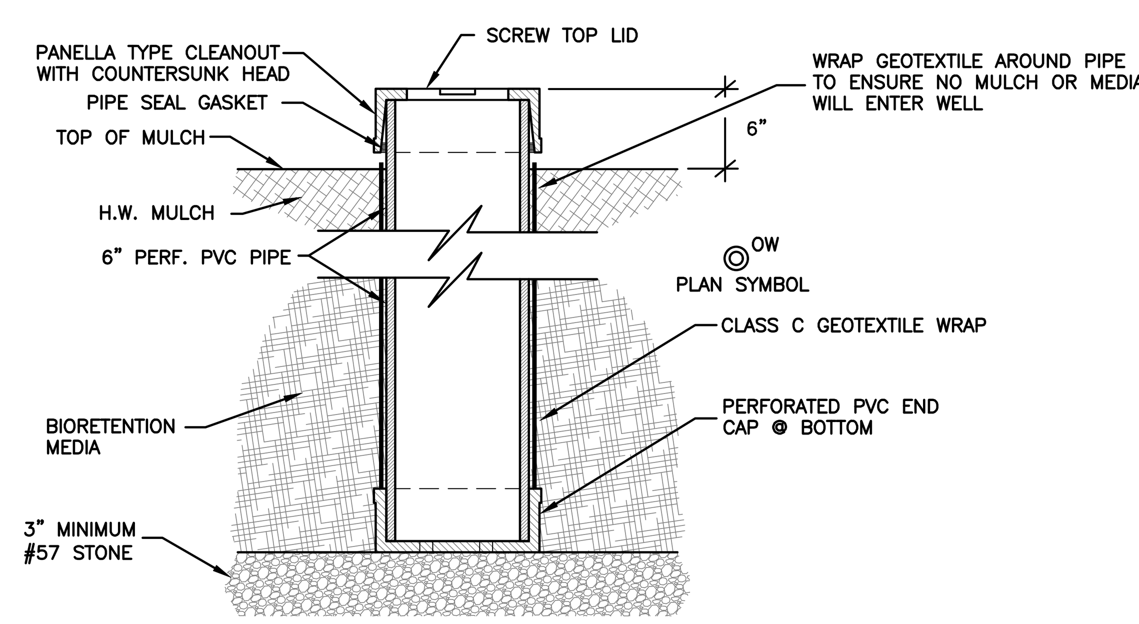
PROPOSED MICRO-BIORETENTION MB #6 SECTION 1

SCALE: 1"=5'



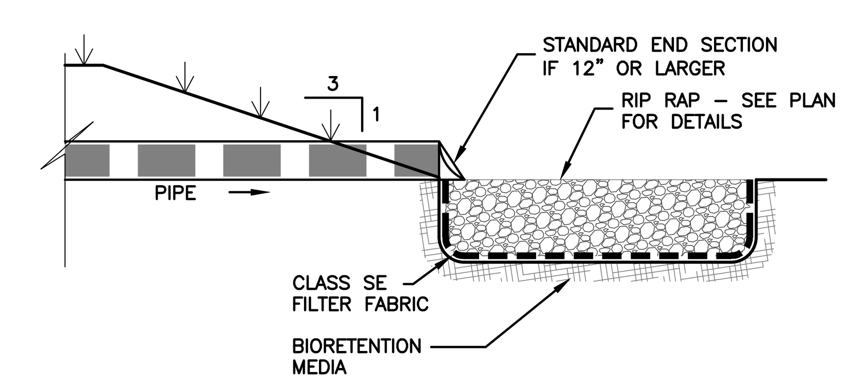
PROPOSED MICRO-BIORETENTION MB #6 SECTION 2

SCALE: 1"=5'



OBSERVATION WELL DETAIL 3

NOT TO SCALE



PIPE OUTLET DETAIL 4

NOT TO SCALE

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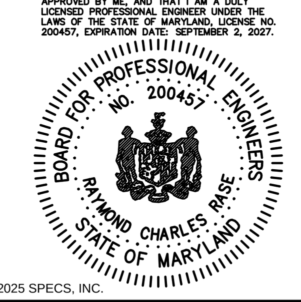

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED MICRO-BIORETENTION AREA MB #6

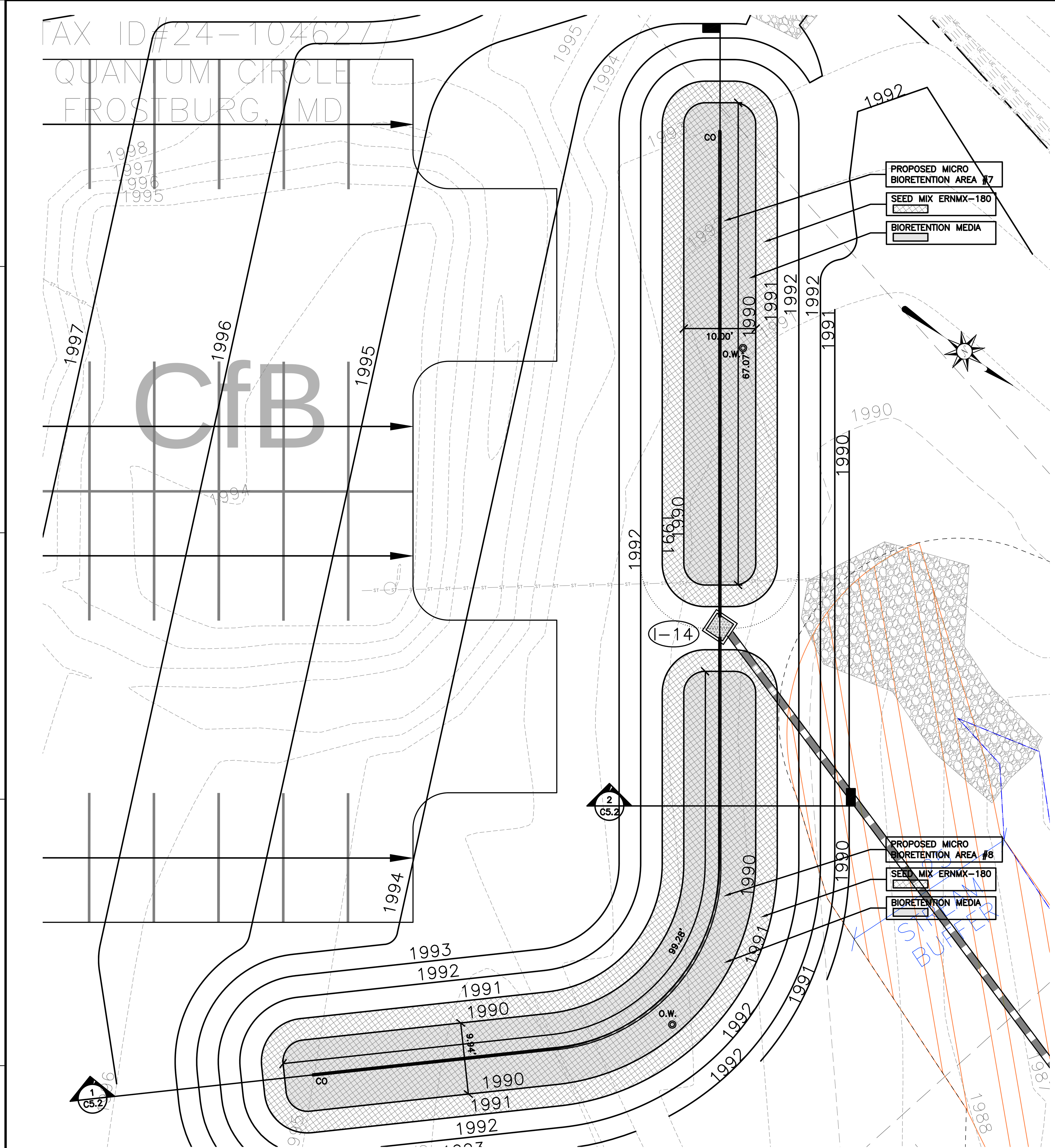
JOB No. 5657

DATE JANUARY 2026

SHEET No. C5.1

DRAWING No. of X

A B C D E F G H



PROPOSED MICRO-BIORETENTION MB #7 & MB #8

SCALE: 1"=10'

PROJECT NAME: 5657 CLARK BUILDING – FROSTBURG, MD		MDE NO. XX–SF–XXXX	
AS–BUILT DATA FOR MICRO BIORETENTION MB#7 *TO BE COMPLETED BY CERTIFYING ENGINEER			
TYPE OF FACILITY: MICRO SCALE PRACTICE ESD ID MB#1			
FEATURE		DESIGN	*AS–BUILT
FILTER BED	DIMENSIONS	SEE PLAN	
	AREA, SF	663 SF.	
FILTER BED SURFACE ELEVATION		1990	
FILTER INLET PIPE	SIZE, IN.	4 IN. PERF	
	INVERT ELEV.	1986.43	
OUTLET PIPE	SIZE, IN.	12 IN. HDPE	
	INVERT ELEV.	1991.00	
THICKNESS OF FILTER MEDIA		24 IN.	
THICKNESS OF MULCH		N/A	
THICKNESS OF BRIDGING LAYER (#8'S)		4 IN.	
THICKNESS OF UNDERDRAIN GRAVEL		12 IN.	
PLANTINGS		ERNST ERNMX–180	
ESD STORAGE VOLUME CU–FT	REQUIRED	1276 CF	
	PROVIDED	1411.4 CF	

DATE AS–BUILT ACCEPTED BY MDE:

PROJECT NAME: 5657 CLARK BUILDING – FROSTBURG, MD		MDE NO. XX–SF–XXXX	
AS–BUILT DATA FOR MICRO BIORETENTION MB#8 *TO BE COMPLETED BY CERTIFYING ENGINEER			
TYPE OF FACILITY: MICRO SCALE PRACTICE ESD ID MB#1			
FEATURE		DESIGN	*AS–BUILT
FILTER BED	DIMENSIONS	SEE PLAN	
	AREA, SF	1011 SF.	
FILTER BED SURFACE ELEVATION		1990	
FILTER INLET PIPE	SIZE, IN.	4 IN. PERF	
	INVERT ELEV.	1986.53	
OUTLET PIPE	SIZE, IN.	12 IN. HDPE	
	INVERT ELEV.	1986.00	
THICKNESS OF FILTER MEDIA		24 IN.	
THICKNESS OF MULCH		N/A	
THICKNESS OF BRIDGING LAYER (#8'S)		4 IN.	
THICKNESS OF UNDERDRAIN GRAVEL		12 IN.	
PLANTINGS		ERNST ERNMX–180	
ESD STORAGE VOLUME CU–FT	REQUIRED	2112 CF	
	PROVIDED	2336.9 CF	

DATE AS–BUILT ACCEPTED BY MDE:

AS–BUILT CERTIFICATION

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RAYMOND C. RASE, PE, PS

Name Signature

MD 200457 (PE)

Maryland Registration Number (PE or LS) Date

MDE No.

Facilities being certified (list each individually using facility ID number and/or description):

MB #7, MB #8

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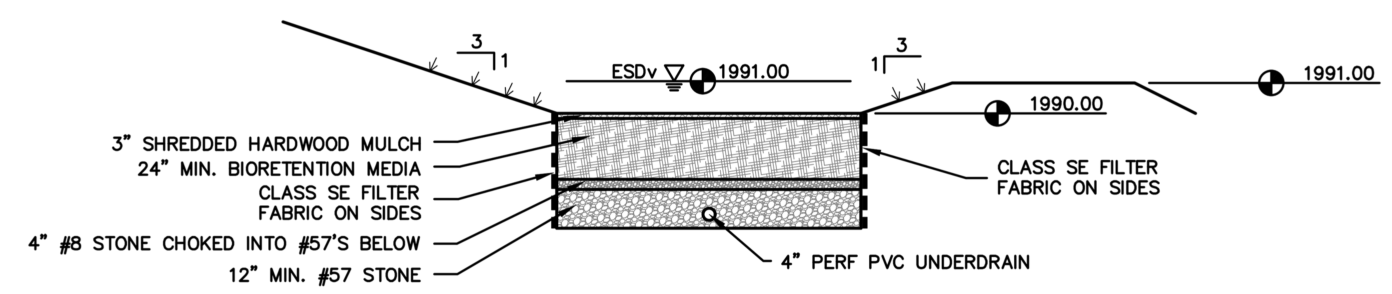


PROPOSED MICRO-BIORETENTION MB #7 & #8 TYPICAL SECTION 2

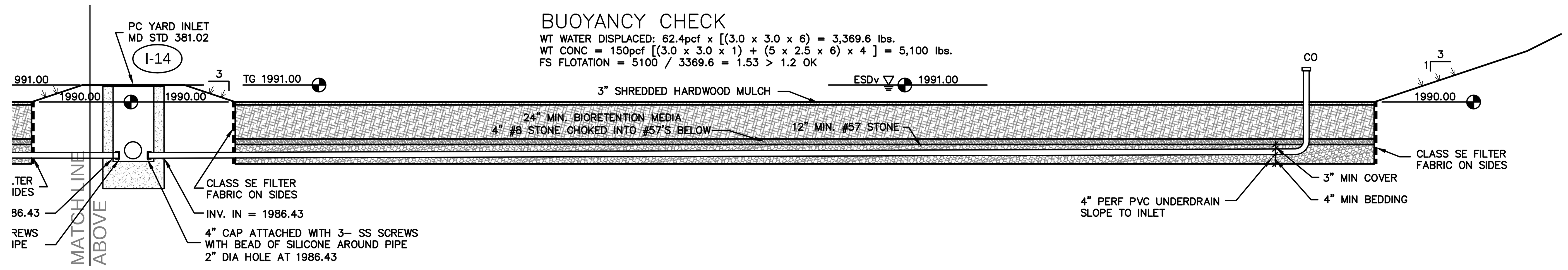
SCALE: 1"=5'

BUOYANCY CHECK

WT WATER DISPLACED: 62.4pcf x [(3.0 x 3.0 x 6) = 3,369.6 lbs.

WT CONC = 150pcf [(3.0 x 3.0 x 1) + (5 x 2.5 x 6) x 4] = 5,100 lbs.

FS FLOTATION = 5100 / 3369.6 = 1.53 > 1.2 OK



PROPOSED MICRO-BIORETENTION MB #7 & #8 SECTION CONT. 1

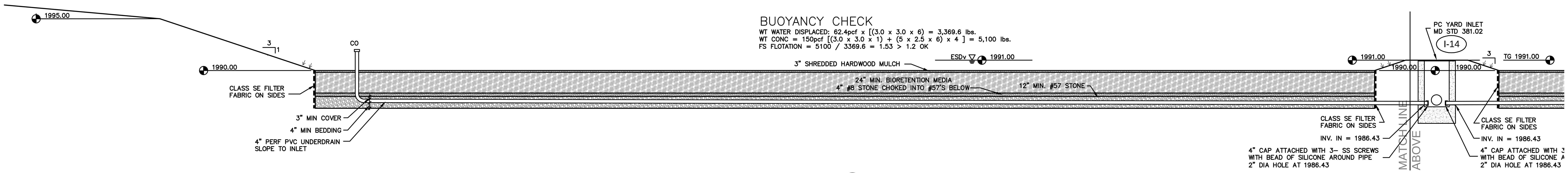
SCALE: 1"=5'

BUOYANCY CHECK

WT WATER DISPLACED: 62.4pcf x [(3.0 x 3.0 x 6) = 3,369.6 lbs.

WT CONC = 150pcf [(3.0 x 3.0 x 1) + (5 x 2.5 x 6) x 4] = 5,100 lbs.

FS FLOTATION = 5100 / 3369.6 = 1.53 > 1.2 OK



PROPOSED MICRO-BIORETENTION MB #7 & #8 SECTION 1

SCALE: 1"=5'

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BOARD FOR PROFESSIONAL ENGINEERS NO. 200457 RAYMOND CHARLES RASE STATE OF MARYLAND

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No.	DESCRIPTION	DATE	BY

REVISIONS

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ADDITION TO VERTICAL CONVERTING FROSTBURG INDUSTRIAL PARK PROPOSED MICRO-BIORETENTION AREA MB #7 & #8

JOB No.	SHEET No.
5657	C5.2
DATE	DRAWING No.
JANUARY 2026	of X

A	B	C	D	E	F	G	H

B.4.A Specifications for Micro-Bioretention. Rain Gardens, Landscape Infiltration & Infiltration Berms

1. Material Specifications

The allowable materials to be used in these practices are detailed in Table B.4.1.

2. Filtering Media or Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro- bioretention practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

- Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
- Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
- Clay Content - Media shall have a clay content of less than 5%.
- pH Range - Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3. Compaction

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoes to remove original soil. If practices are

excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. Plant Material

Recommended plant material for micro-bioretention practices can be found in Appendix A, Section A.2.3.

5. Plant Installation

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.
Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications. Micro-bioretention Seeding Rate: ERNMX-180 at 20 lb per acre with a cover crop. Use one of the following cover crops: Oats (1 Jan to 31 Jul; 30 lbs/acre), Japanese Millet (1 May to 31 Aug; 10 lbs/acre), or grain rye (1 Aug to 31 Dec; 30 lbs/acre)

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

6. Underdrains
Underdrains should meet the following criteria:

- Pipe- Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTMF 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
- Perforations - If perforated pipe is used, perforations should be ⅜" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a ¼" (No. 4 or 4x4) galvanized hardware cloth.
- Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
- The main collector pipe shall be at a minimum 0.5% slope.
- A rigid, non-perforated observation well must be provided (one per every 1,0000 square feet) to provide a clean-out port and monitor performance of the filter.
- A 4" layer of pea gravel (⅛" to ⅜" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. Miscellaneous

These practices may not be constructed until all contributing drainage area has been stabilized.
If structure is used for sediment control, then base soil shall be scarified a minimum of 8" to promote infiltration prior to placing media. Avoid heavy equipment or compaction on footprint of structure.

Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration-

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 – 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with ¼-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f'_c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) *not using previously approved State or local standards* requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (**AASHTO**) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

MAINTENANCE SCHEDULE

Micro–Bioretention			Permeable Paving		
Frequency of inspection	Preventative Maintenance	Maintenance Requirements	Frequency of inspection	Preventative Maintenance	Maintenance Requirements
Seasonally (and after a major storm)		Irrigate during prolonged dry periods.	Seasonally (and after a major storm)	Avoid heavy truck traffic and other traffic which can grind particles into gaps in pavers	Deicers should be used in moderation. When used, deicers should be non–toxic and organic and can be applied either as calcium magnesium acetate or as pretreated salt. Snow plowing should be done carefully with blades set one–inch higher than normal. plowed snow piles and snowmelt should not be directed to permeable pavement.
	If specific plants are notsurviving, replace with more appropriate species.	Remove any dead or dyingvegetation and revegetate.			
		Prune vegetation occasionally.			
		Remove accumulatedsediment from surface of filter bed when accumulation exceeds one inch.			
		If water ponds for more than 48 hours, remove and replace the top few inches of filter media.	Twice annually	Drainage pipes, inlets, stone edge drains, and other structures within or draining to the subbase should be cleaned out at regular intervals.	Pavement surfaces should be swept and vacuumed to reduce sediment accumulation and ensure continued surface porosity. Sweeping should be performed at least twice annually with a commercial cleaning unit. washing systems and compressed air units should not be used to perform surface cleaning.
		Replace mulch annually where practice treats areas with high concentrations of heavy metals. Otherwise, replace top 2–3 inches as necessary.			
Monthly (and after a major storm)		Inspect inlets I–6, I–7, I–8 Clean inlets as required to ensure 4" and 6" diversion pipes are not clogged.			

NOTICE OF REQUIRED STORMWATER MANAGEMENT CONSTRUCTION INSPECTIONS FOR BIORETENTION

The following inspections are required to be performed by the Qualified Professional for the construction of any bioretention facility. Additional inspections may be needed based on professional engineering judgment. Each inspection is required at the start of each stage. Inspector must initial and date each stage for each structure.

	MB 1	MB 2	MB 3	MB 4	MB 5	MB 6	MB 7
EXCAVATION OF FACILITY - Prior to excavation, verify sediment and erosion control features are in place to prevent sediment inflow. Verify all flagging required in the area of sensitive area protection. Verify grading is accurately staked-out and re-staked as needed. Facility dimensions shall be verified and soils checked for infiltration. Verify scarification of invert as needed. Verify contributing area is permanently stabilized. Verify that water is not present. Verify that compaction of facility base is minimized.							
PLACEMENT OF OUTFALL STRUCTURE - Verify size, material, location and elevations of outfall structure and pipes. Verify pipe joints are sealed.							
PLACEMENT OF UNDERDRAINS AND OBSERVATION WELLS - Location, size, and material of underdrain and observation wells shall be verified prior to stone placement. Verify pipe ends capped. Verify 3" gravel cover.							
PLACEMENT OF FILTERING MEDIA-Verify bottom layer material and thickness. Verify sand and/or filter media layer material and thickness. Verify pea gravel layer. Verify top filter media layer. Note: bioretention soil specification must be documented with a lab report included with as-built submittal.							
STABILIZATION AND LANDSCAPING - Verify site top soiled, seeded and mulched. Verify location, size type and number of planted landscape material. Verify no more than 1/8 inch root ball exposed. Verify planting stock kept moist during on-site storage.							
SIGNAGE - Verify placement of snow stockpile signs.							

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BOARD FOR PROFESSIONAL ENGINEERS
NO. 200457
RAYMOND CHARLES RASE
STATE OF MARYLAND

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No.	DESCRIPTION	DATE	BY
	REVISIONS		

DESIGNED:	DRAWN:
R.C.R.	C.L.W.
CHECKED:	APPROVED:
R.C.R.	J.F.H.

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PREPARED FOR:
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2257A OLD PHILADELPHIA PIKE
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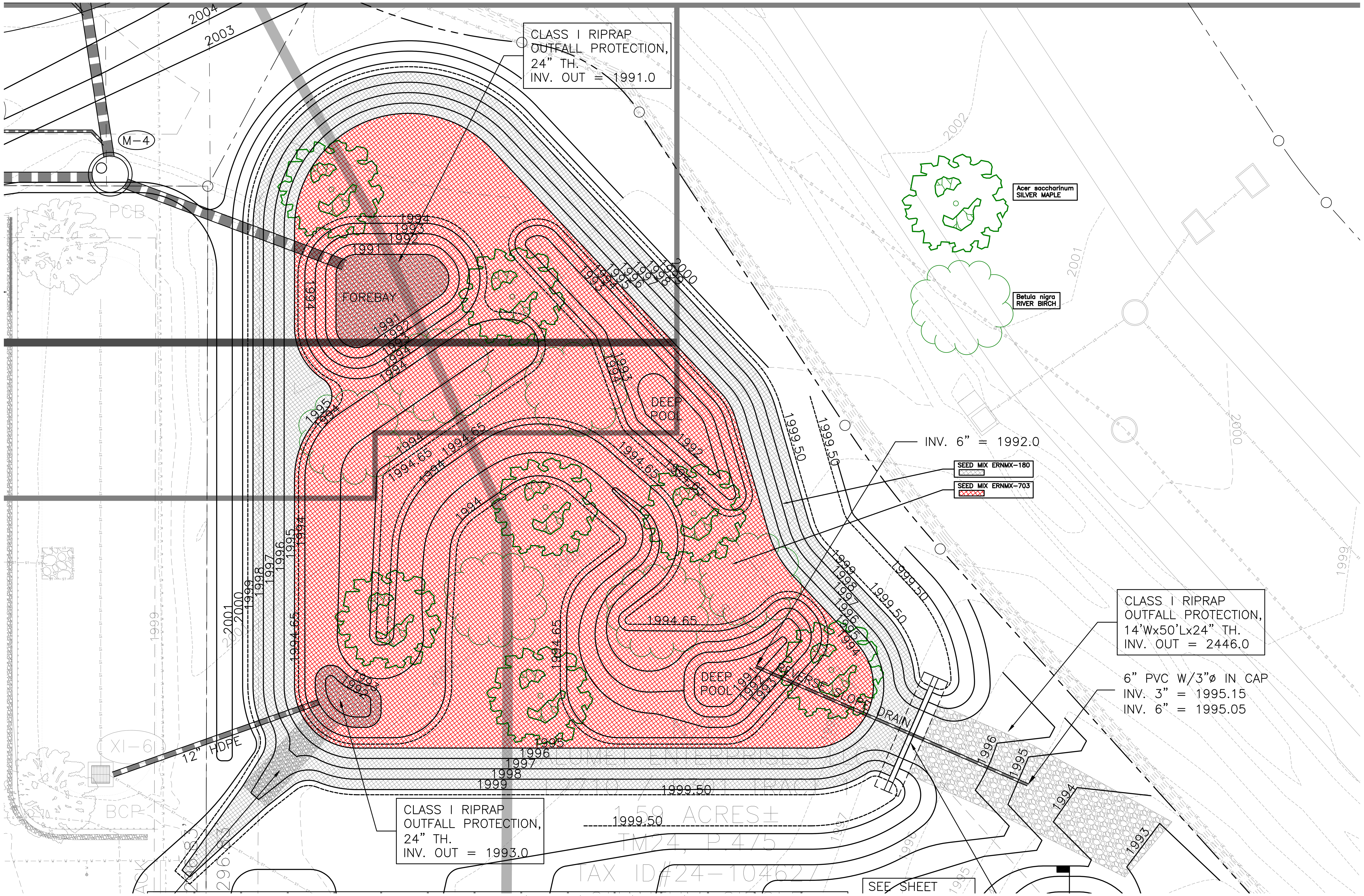
717.799.7145

ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
BIORETENTENTION AREA SPECIFICATIONS

JOB No. 5657
DATE JANUARY 2026
SHEET No. C5.3
DRAWING No. of X



PROPOSED SHALLOW WETLAND

SCALE: 1"=10'

0' 10' 20' 30'

PROJECT NAME: 5657 CLARK BUILDING – FROSTBURG, MD		MDE NO. XX-SF-XXXX	
AS-BUILT DATA FOR MICRO BIORETENTION MB#8 *TO BE COMPLETED BY CERTIFYING ENGINEER			
TYPE OF FACILITY: MICRO SCALE PRACTICE ESD ID MB#1			
FEATURE		DESIGN	*AS-BUILT
FILTER BED	DIMENSIONS	SEE PLAN	
	AREA, SF	1011 SF.	
FILTER BED SURFACE ELEVATION		1990	
FILTER INLET PIPE	SIZE, IN.	4 IN. PERF	
	INVERT ELEV.	1986.53	
OUTLET PIPE	SIZE, IN.	12 IN. HDPE	
	INVERT ELEV.	1986.00	
THICKNESS OF FILTER MEDIA		24 IN.	
THICKNESS OF MULCH		N/A	
THICKNESS OF BRIDGING LAYER (#8'S)		4 IN.	
THICKNESS OF UNDERDRAIN GRAVEL		12 IN.	
PLANTINGS		ERNST ERNMX-180	
ESD STORAGE VOLUME CU-FT	REQUIRED	2112 CF	
	PROVIDED	2336.9 CF	

DATE AS-BUILT ACCEPTED BY MDE:

AS-BUILT CERTIFICATION

I hereby certify that the stormwater management facilities (both BMPs and ESD practices) shown on the plans have been constructed in accordance with the plans approved by the Maryland Department of the Environment, except as noted in red on the "AS-BUILT" drawings.

RAYMOND C. RASE, PE, PS

Name Signature

MD 200457 (PE)

Maryland Registration Number (PE or LS) Date

MDE No.

Facilities being certified (list each individually using facility ID number and/or description):

MB #7, MB #8

"Certify" means to state or declare a professional opinion based on sufficient and appropriate onsite inspections and material tests conducted during construction.

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ADDITION TO VERTICAL CONVERTING FROSTBURG INDUSTRIAL PARK PROPOSED SHALLOW WETLAND PLAN

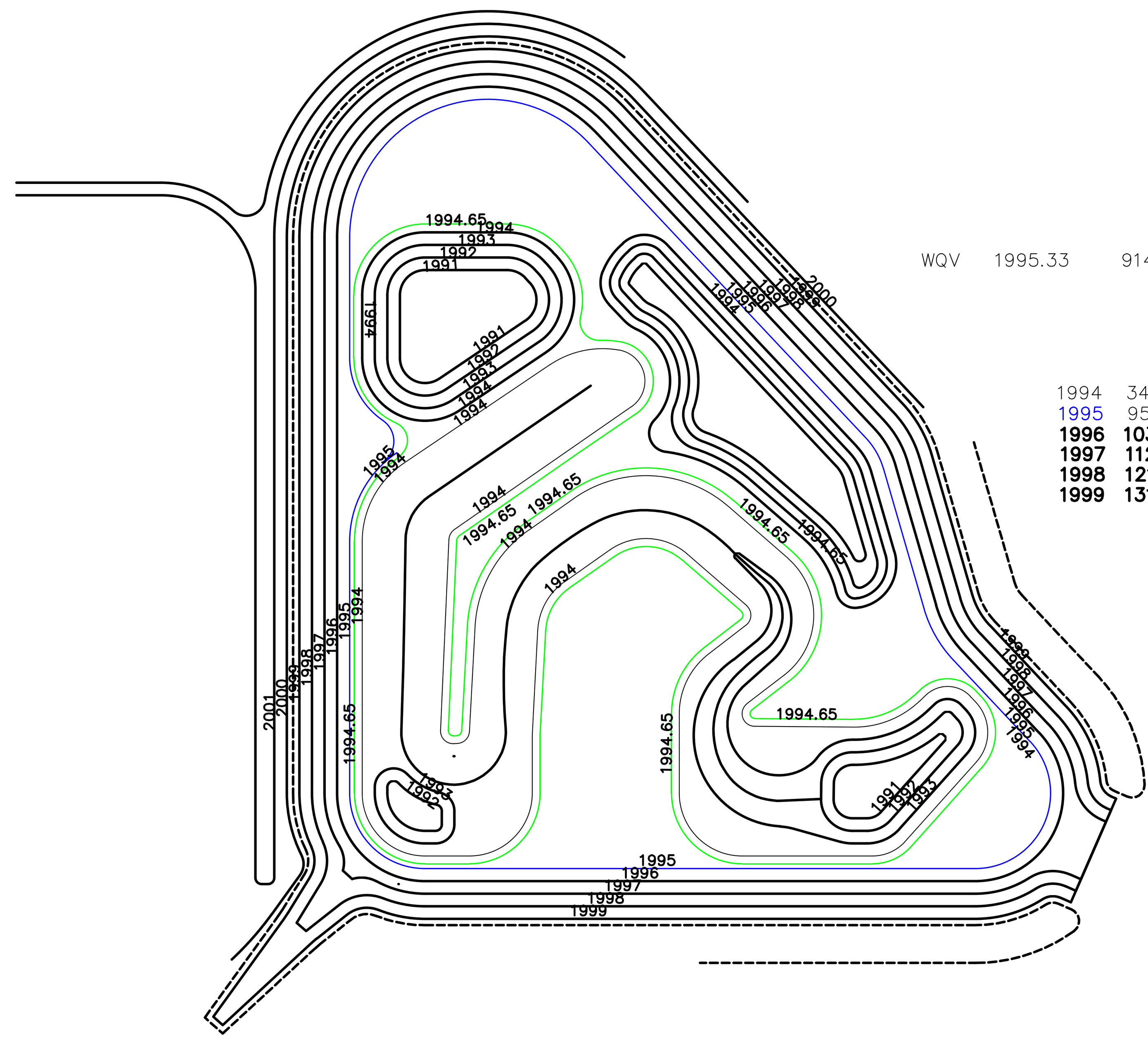
JOB No. 5657

SHEET No. C5.4

DATE JANUARY 2026

DRAWING No. of X

POND AREAS BY CONTOUR



WQV 1995.33 9145 Sq. Feet

1994	3408	Sq. Feet
1995	9502	Sq. Feet
1996	10398	Sq. Feet
1997	11293	Sq. Feet
1998	12182	Sq. Feet
1999	13146	Sq. Feet

DEEP AREA (WQv DEPTH >4')

FOREBAY

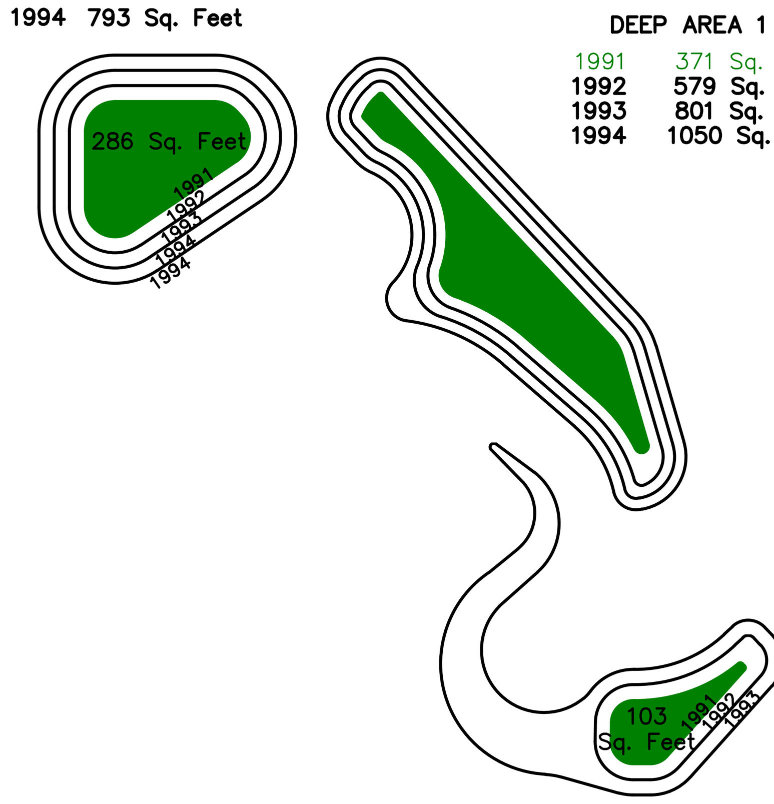
1991	286	Sq. Feet
1992	430	Sq. Feet
1993	599	Sq. Feet
1994	793	Sq. Feet

DEEP AREA 1

1991	371	Sq. Feet
1992	579	Sq. Feet
1993	801	Sq. Feet
1994	1050	Sq. Feet

DEEP AREA 2

1991	103	Sq. Feet
1992	221	Sq. Feet
1993	650	Sq. Feet
1994		



Polyline Area

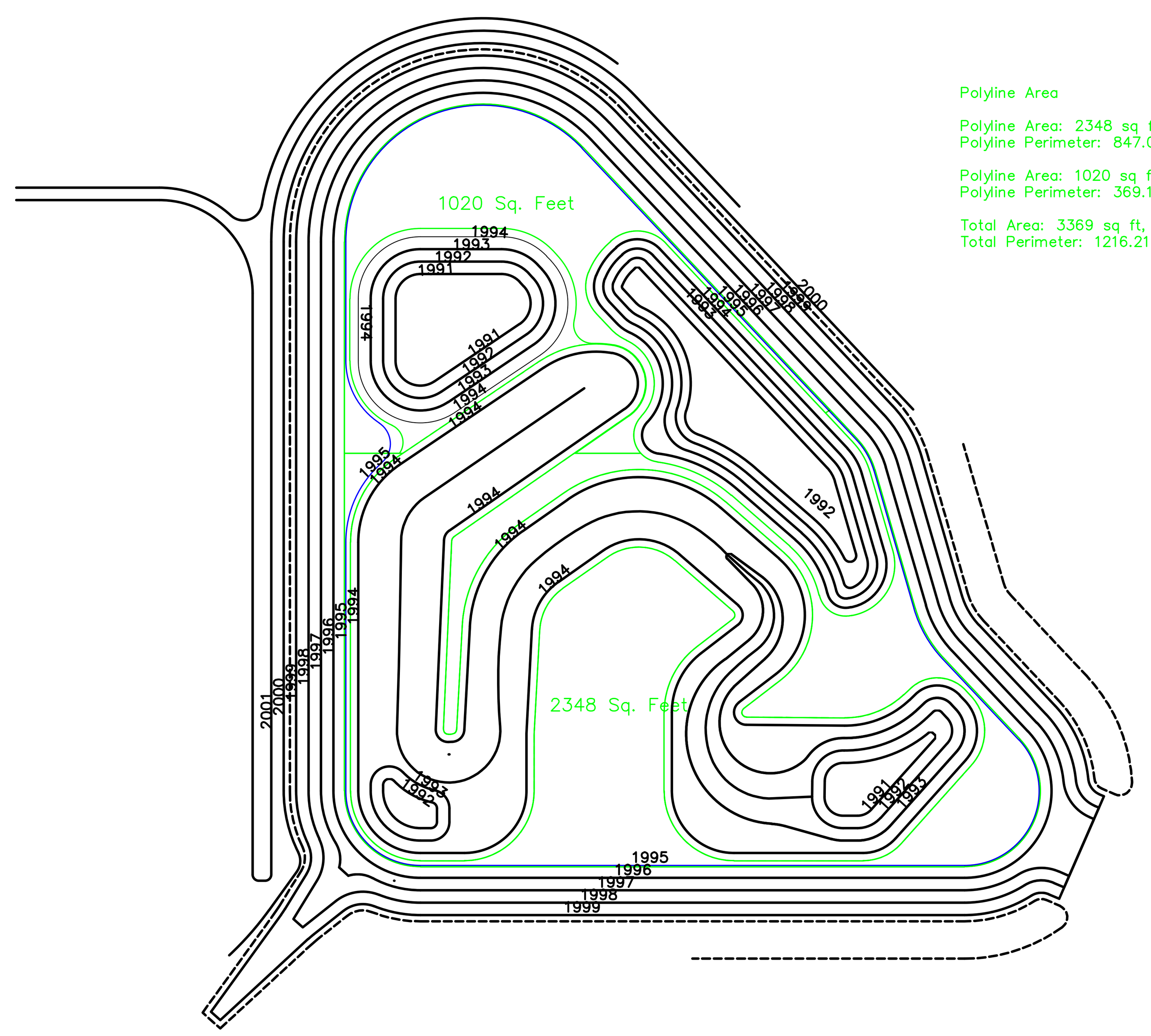
Polyline Area: 286 sq ft, 0.01 acres
Polyline Perimeter: 65.72 ft

Polyline Area: 371 sq ft, 0.01 acres
Polyline Perimeter: 126.89 ft

Polyline Area: 103 sq ft, 0.00 acres
Polyline Perimeter: 48.75 ft

Total Area: 760 sq ft, 0.02 acres
Total Perimeter: 241.36 ft

HIGH MARSH (WQv DEPTH <=6")



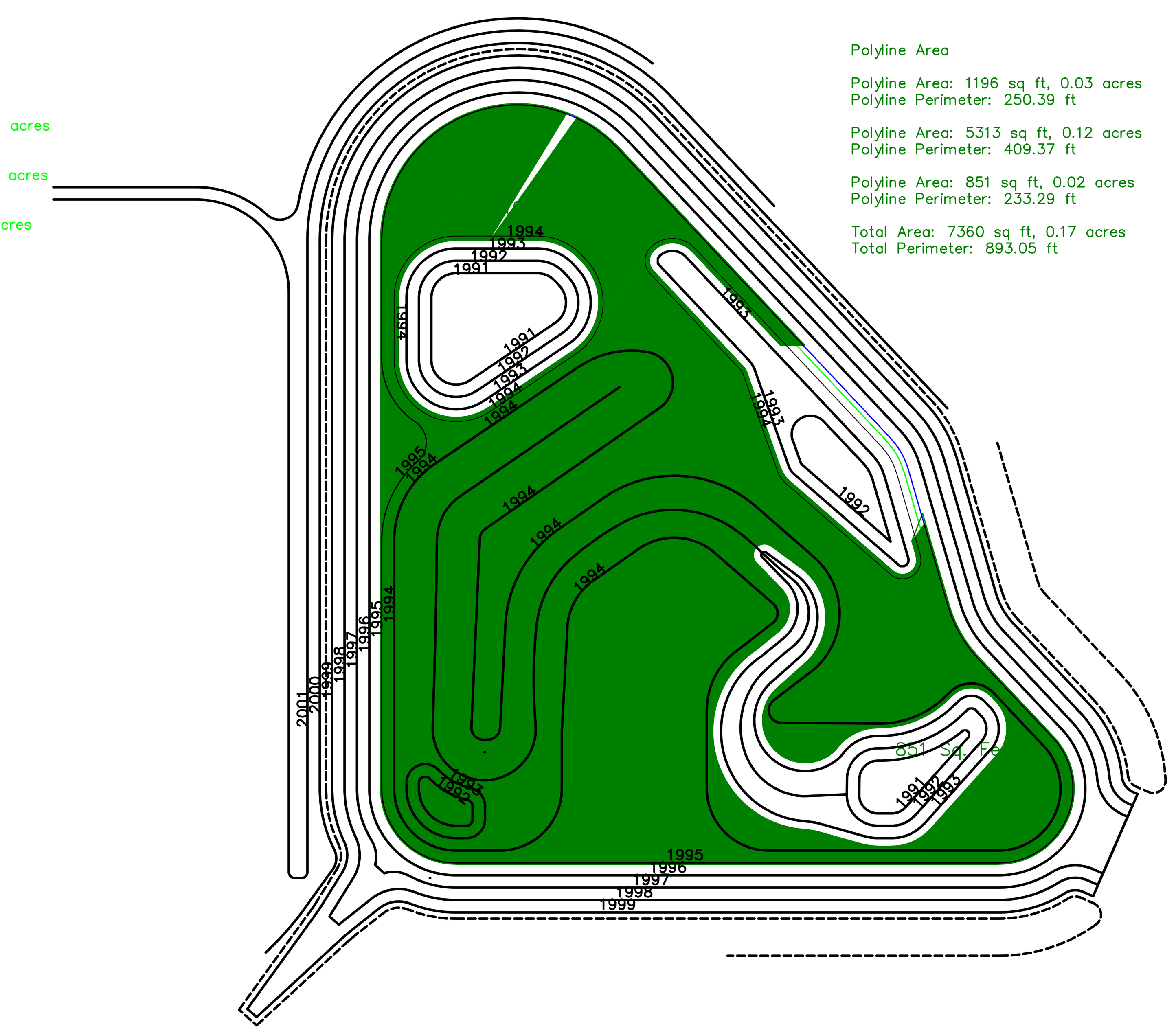
Polyline Area

Polyline Area: 2348 sq ft, 0.05 acres
Polyline Perimeter: 847.05 ft

Polyline Area: 1020 sq ft, 0.02 acres
Polyline Perimeter: 369.16 ft

Total Area: 3369 sq ft, 0.08 acres
Total Perimeter: 1216.21 ft

TOTAL MARSH (WQv DEPTH <=18")



Polyline Area

Polyline Area: 1196 sq ft, 0.03 acres
Polyline Perimeter: 250.39 ft

Polyline Area: 5313 sq ft, 0.12 acres
Polyline Perimeter: 409.37 ft

Polyline Area: 851 sq ft, 0.02 acres
Polyline Perimeter: 233.29 ft

Total Area: 7360 sq ft, 0.17 acres
Total Perimeter: 893.05 ft

PROPOSED SHALLOW WETLAND AREAS

SCALE: 1"=20'

0' 20' 40' 60'

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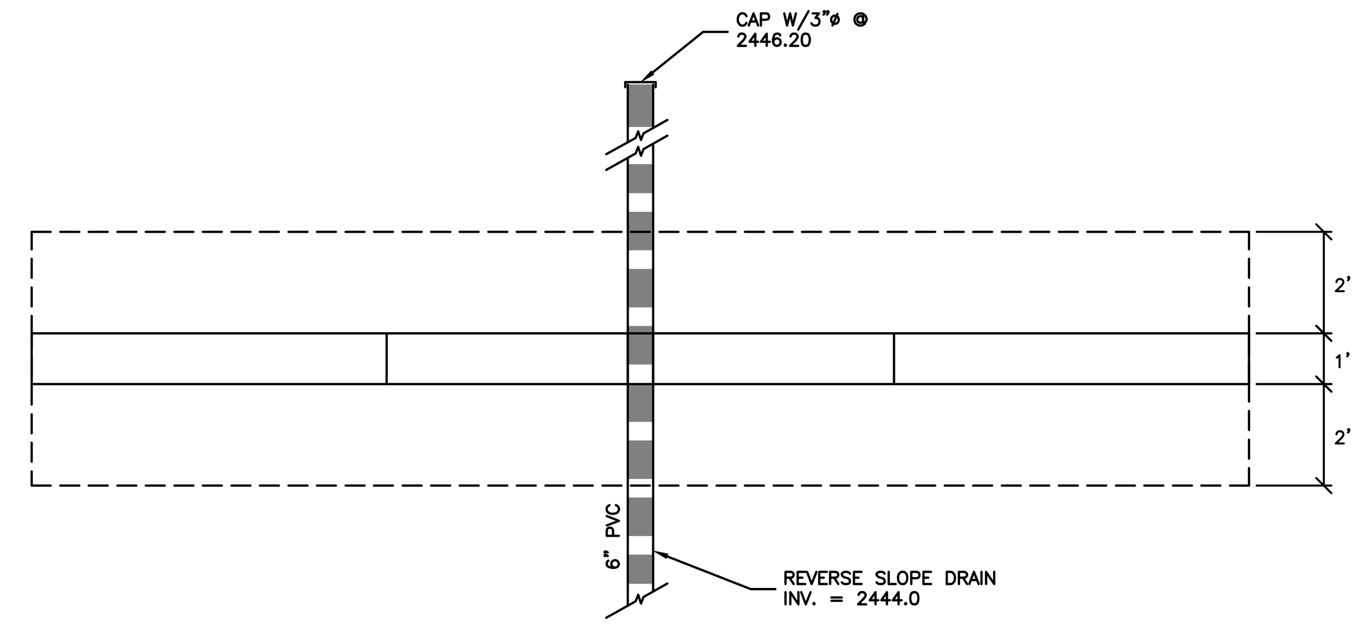
ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED SHALLOW WETLAND DETAILS

JOB No. 5657

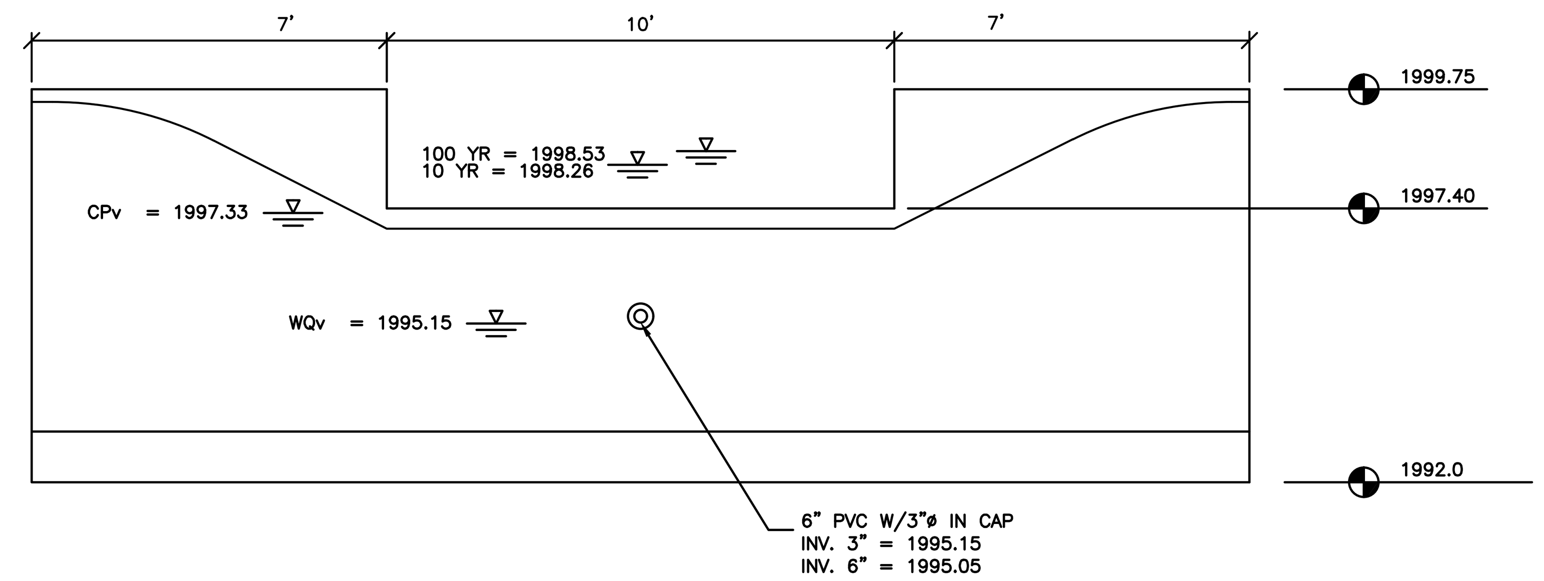
SHEET No. C5.5

DATE JANUARY 2026

DRAWING No. of X

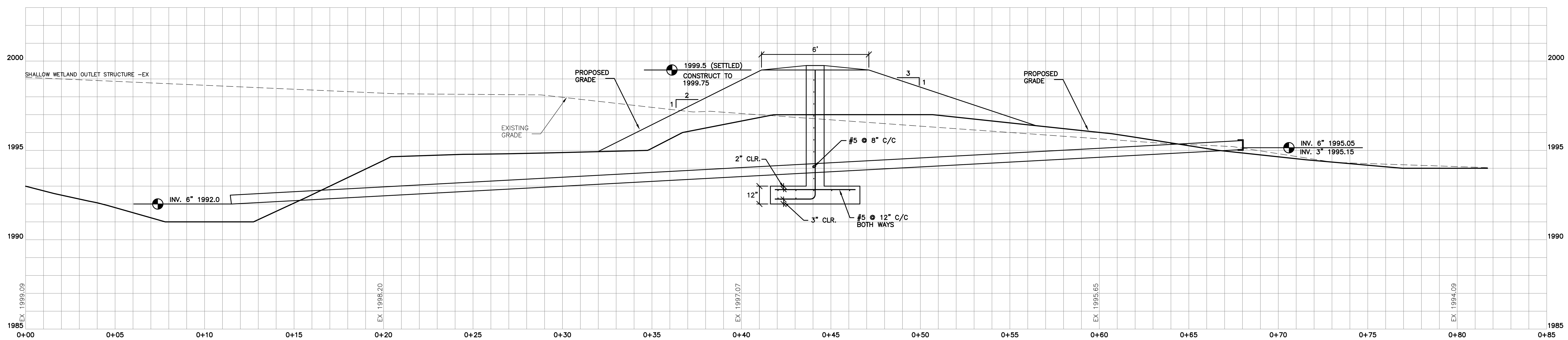


PLAN



WEIR WALL SECTION

SCALE: 3" = 1'-0"



WEIR WALL SECTION

SCALE: 1"=3'

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FROSTBURG INDUSTRIAL PARK
PROPOSED SHALLOW WETLAND DETAILS

JOB No.	SHEET No.
5657	C5.6
DATE	DRAWING No.
JANUARY 2026	of X

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER:	DANIEL COOLEY 667-216-0219 DANIEL.COOLEY@ADSPIPE.COM
ADS SALES REP:	MICHAEL GREEN 304-570-0082 MICHAEL.GREEN@ADSPIPE.COM
PROJECT NO:	S500648

Advanced Drainage Systems, Inc.

SiteAssist™
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VISIT OUR WEBSITE

CLARK INDUSTRIES EXPANSION

GARRETT, MARYLAND

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. 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 500 LBS/FT/%. 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.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY .
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 200457, EXPIRATION DATE: SEPTEMBER 2, 2027.

BOARD FOR PROFESSIONAL ENGINEERS
NO. 200457
RAYMOND CHARLES RASE
STATE OF MARYLAND

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No.	DESCRIPTION	DATE	BY
REVISIONS			

DESIGNED:	DRAWN:
R.C.R.	
CHECKED:	APPROVED:
R.C.R.	R.C.R.

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PREPARED FOR:
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2257A OLD PHILADELPHIA PIKE
LANCASTER, PA 17602
717.799.7145

ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
ADS - CHAMBER SYSTEM SPECIFICATIONS

JOB No.	SHEET No.
5657	C5.7
DATE	DRAWING No.
JANUARY 2026	X of X

BAYSAVER BAYFILTER SPECIFICATIONS

PRODUCTS

A. INTERNAL COMPONENTS: ALL COMPONENTS INCLUDING CONCRETE STRUCTURE(S), PVC MANIFOLD PIPING AND FILTER CARTRIDGES, SHALL BE PROVIDED BY BAYSAVER TECHNOLOGIES LLC, 1030 DEER HOLLOW DRIVE, MOUNT AIRY, MD (800.229.7283).

B. PVC MANIFOLD PIPING: ALL INTERNAL PVC PIPE AND FITTINGS SHALL MEET ASTM D1785. MANIFOLD PIPING SHALL BE PROVIDED TO THE CONTRACTOR PARTIALLY PRE-CUT AND PRE-ASSEMBLED.

C. FILTER CARTRIDGES: EXTERNAL SHELL OF THE FILTER CARTRIDGES SHALL BE SUBSTANTIALLY CONSTRUCTED OF POLYETHYLENE OR EQUIVALENT MATERIAL ACCEPTABLE TO THE MANUFACTURER. FILTRATION MEDIA SHALL BE ARRANGED IN A SPIRAL LAYERED FASHION TO MAXIMIZE AVAILABLE FILTRATION AREA. AN ORIFICE PLATE SHALL BE SUPPLIED WITH EACH CARTRIDGE TO RESTRICT THE FLOW RATE TO A MAXIMUM OF 45 GPM.

D. FILTER MEDIA: FILTER MEDIA SHALL BE BY BAYSAVER TECHNOLOGIES LLC AND SHALL CONSIST OF THE FOLLOWING MIX: A BLEND OF ZEOLITE, PERLITE AND ACTIVATED ALUMINA.

E. PRECAST CONCRETE VAULT: CONCRETE STRUCTURES SHALL BE PROVIDED ACCORDING TO ASTM C. THE MATERIALS AND STRUCTURAL DESIGN OF THE DEVICES SHALL BE PER ASTM C478, C857 AND C858. PRECAST CONCRETE SHALL BE PROVIDED BY BAYSAVER TECHNOLOGIES, LLC.

PERFORMANCE

A. THE STORMWATER FILTER SYSTEM SHALL BE AN OFFLINE DESIGN CAPABLE OF TREATING 100% OF THE REQUIRED TREATMENT FLOW AT FULL SEDIMENT LOAD CONDITIONS.
B. THE STORMWATER FILTER SYSTEM'S CARTRIDGES SHALL HAVE NO MOVING PARTS.
C. THE STORMWATER TREATMENT UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 85% OF SUSPENDED SOLIDS, 65% OF TOTAL PHOSPHORUS, 65% OF TURBIDITY, 40% OF TOTAL COPPER, AND 40% OF TOTAL ZINC BASED ON FIELD DATA COLLECTED IN COMPLIANCE WITH THE TECHNOLOGY ACCEPTANCE RECIPROCITY PARTNERSHIP TIER II TEST PROTOCOL.
D. THE STORMWATER FILTRATION SYSTEM SHALL REDUCE INCOMING TURBIDITY (MEASURED AS NTUs) BY 50% OR MORE AND SHALL NOT HAVE ANY COMPONENTS THAT LEACH NITRATES OR PHOSPHATES.
E. THE STORMWATER FILTRATION CARTRIDGE SHALL BE EQUIPPED WITH A HYDRODYNAMIC BACKWASH MECHANISM TO EXTEND THE FILTER'S LIFE AND OPTIMIZE ITS PERFORMANCE.
F. THE STORMWATER FILTRATION SYSTEM SHALL BE DESIGNED TO REMOVE A MINIMUM OF 65% OF THE INCOMING TOTAL PHOSPHORUS (TP) LOAD.
G. THE STORMWATER FILTRATION SYSTEM'S CARTRIDGES SHALL HAVE A TREATED SEDIMENT CAPACITY FOR 80% TSS REMOVAL BETWEEN 150-350 LBS.

BAYFILTER MAINTENANCE

THE BAYFILTER SYSTEM REQUIRES PERIODIC MAINTENANCE TO CONTINUE OPERATING AT ITS PEAK EFFICIENCY DESIGN. THE MAINTENANCE PROCESS COMPRISES THE REMOVAL AND REPLACEMENT OF EACH BAYFILTER CARTRIDGE AND THE CLEANING OF THE VAULT OR MANHOLE WITH A VACUUM TRUCK. FOR BEST RESULTS, BAYFILTER MAINTENANCE SHOULD BE PERFORMED BY A CERTIFIED MAINTENANCE CONTRACTOR. A QUICK CALL TO AN ADS ENGINEER OR CUSTOMER SERVICE REPRESENTATIVE WILL PROVIDE YOU WITH A LIST OF RELIABLE CONTRACTORS IN YOUR AREA.

WHEN BAYFILTER IS INITIALLY INSTALLED, WE RECOMMEND THAT AN INSPECTION BE PERFORMED ON THE SYSTEM IN THE FIRST SIX (6) MONTHS. AFTER THAT, THE INSPECTION CYCLE TYPICALLY FALLS INTO A BIANNUAL PATTERN GIVEN NORMAL STORM OCCURRENCE AND ACTUAL SOLIDS LOADS.

WHEN BAYFILTER EXHIBITS FLOWS BELOW DESIGN LEVELS, THE SYSTEM SHOULD BE INSPECTED AND MAINTAINED AS SOON AS PRACTICAL. REPLACING A BAYFILTER CARTRIDGE SHOULD BE CONSIDERED AT OR ABOVE THE LEVEL OF THE MANIFOLD.

MAINTENANCE PROCEDURES

1. REMOVE THE MANHOLE COVERS AND OPEN ALL ACCESS HATCHES.
2. BEFORE ENTERING THE SYSTEM MAKE SURE THE AIR IS SAFE PER OSHA STANDARDS OR USE A BREATHING APPARATUS. USE LOW O2, HIGH CO, OR OTHER APPLICABLE WARNING DEVICES PER REGULATORY REQUIREMENTS.
3. USING A VACUUM TRUCK, REMOVE ANY LIQUID AND SEDIMENTS THAT CAN BE REMOVED PRIOR TO ENTRY.
4. USING A SMALL LIFT OR THE BOOM OF THE VACUUM TRUCK, REMOVE THE USED CARTRIDGES BY LIFTING THEM OUT.
5. ANY CARTRIDGES THAT CANNOT BE READILY LIFTED CAN BE EASILY SLID ALONG THE FLOOR TO A LOCATION THEY CAN BE LIFTED VIA A BOOM LIFT.
6. WHEN ALL THE CARTRIDGES HAVE BEEN REMOVED, IT IS NOW PRACTICAL TO REMOVE THE BALANCE OF THE SOLIDS AND WATER. LOOSEN THE STAINLESS CLAMPS ON THE FERNCO COUPLINGS FOR THE MANIFOLD AND REMOVE THE DRAINPIPES AS WELL. CAREFULLY CAP THE MANIFOLD AND THE FERNCO'S AND RINSE THE FLOOR, WASHING AWAY THE BALANCE OF ANY REMAINING COLLECTED SOLIDS.
7. CLEAN THE MANIFOLD PIPES, INSPECT, AND REINSTALL.
8. INSTALL THE EXCHANGE CARTRIDGES AND CLOSE ALL COVERS.
9. THE USED CARTRIDGES MUST BE SENT BACK TO ADS FOR EXCHANGE/RECYCLING AND CREDIT ON UNDAMAGED UNITS.

BAYFILTER INSTALLATION NOTES

1. CONTACT UTILITY LOCATOR TO MARK ANY NEARBY UNDERGROUND UTILITIES AND MAKE SURE IT IS SAFE TO EXCAVATE.
2. REFERENCE THE SITE PLAN AND STAKE OUT THE LOCATION OF THE BAYFILTER VAULT.
3. EXCAVATE THE HOLE, PROVIDING ANY SHEETING AND SHORING NECESSARY TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY REGULATIONS.
4. LEVEL THE SUB–GRADE TO THE PROPER ELEVATION. VERIFY THE ELEVATION AGAINST THE MANHOLE DIMENSIONS, THE INVERT ELEVATIONS, AND THE SITE PLANS. ADJUST THE BASE AGGREGATE, IF NECESSARY.
5. HAVE THE SOIL BEARING CAPACITY VERIFIED BY A LICENSED/ENGINEER FOR THE REQUIRED LOAD BEARING CAPACITY. ON SOLID SUB–GRADE, SET THE FIRST SECTION OF THE BAYFILTER PRE–CAST VAULT.
6. CHECK THE LEVEL AND ELEVATION OF THE FIRST SECTION TO ENSURE IT IS CORRECT BEFORE ADDING ANY RISER SECTIONS.
7. IF ADDITIONAL SECTION(S) ARE REQUIRED, ADD A WATERTIGHT SEAL TO THE FIRST SECTION OF THE BAYFILTER VAULT. SET ADDITIONAL SECTION(S) OF THE VAULT, ADDING A WATERTIGHT SEAL TO EACH JOINT.
8. INSTALL THE PVC OUTLET MANIFOLD.
9. INSTALL THE PVC OUTLET PIPE IN BAYFILTER VAULT.
10. INSTALL THE INLET PIPE TO THE BAYFILTER VAULT.
11. AFTER THE SITE IS STABILIZED, REMOVE ANY ACCUMULATED SEDIMENT OR DEBRIS FROM THE VAULT AND INSTALL THE FLOW DISKS, DRAINDOWN MODULES (IF APPLICABLE), AND THE BAYFILTER CARTRIDGES.
12. PLACE FULL SET OF HOLD DOWN BARS AND BRACKETS INTO PLACE.

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BOARD FOR PROFESSIONAL ENGINEERS NO. 200457 RAYMOND CHARLES RASE STATE OF MARYLAND

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R.C.R.	
CHECKED:	APPROVED:
R.C.R.	R.C.R.

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
ADS - CHAMBER SYSTEM SPECIFICATIONS

JOB No.	SHEET No.
5657	C5.8
DATE	DRAWING No.
JANUARY 2026	X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657

	A	B	C	D	E	F	G	H

CONCEPTUAL LAYOUT

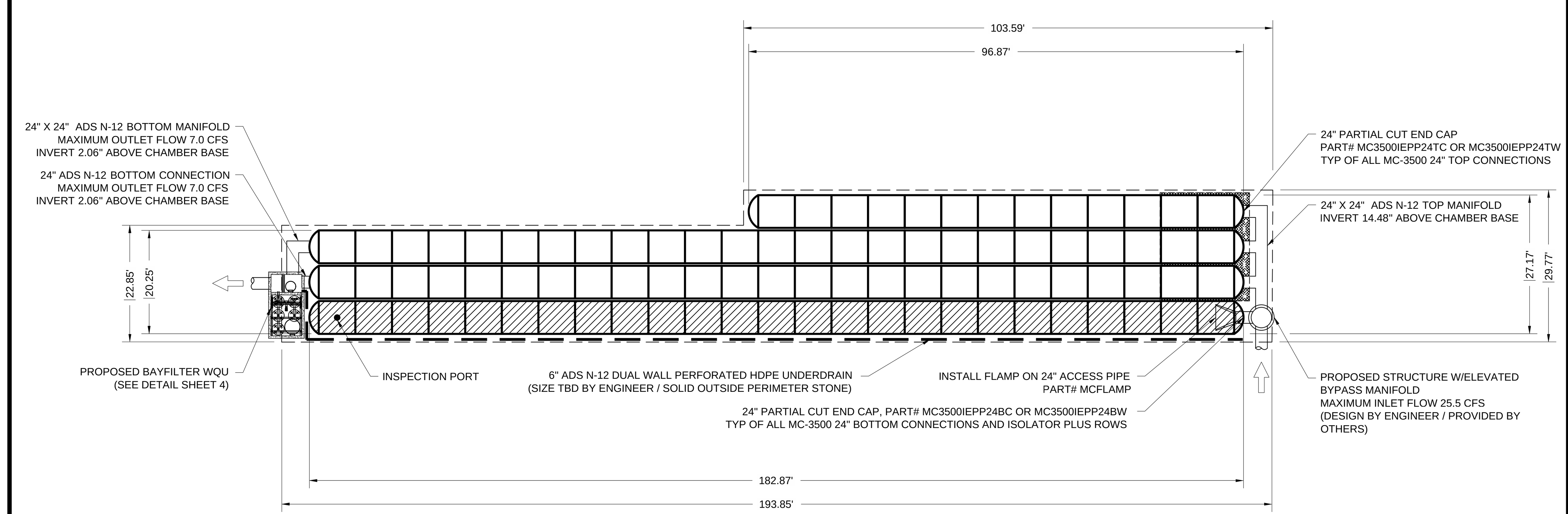
88	STORMTECH MC-3500 CHAMBERS
8	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)
5147	SYSTEM AREA (ft²)
447	SYSTEM PERIMETER (ft)

CONCEPTUAL ELEVATIONS

	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
	TOP OF STONE
	TOP OF MC-3500 CHAMBER
	24" TOP **MANIFOLD/CONNECTION INVERT**
	24" ISOLATOR ROW PLUS CONNECTION INVERT
	24" BOTTOM **MANIFOLD/CONNECTION INVERT**
	BOTTOM OF MC-3500 CHAMBER
	UNDERDRAIN INVERT
1993.67	BOTTOM OF STONE

NOTES:

- **NOT FOR CONSTRUCTION**: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 17.5' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

CLARK INDUSTRIES EXPANSION
GARRETT, MD

DATE:	12-09-25	DRAWN:	LAH
PROJECT #:	S500648	CHECKED:	JPR

DATE	DWN	CHK
12/16/2025	SLS	JPR

StormTech®
Chamber System

ADS
WWW.ADSPIPE.COM

0 20' 40'

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3 SHEET OF 7

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BOARD FOR PROFESSIONAL ENGINEERS
NO. 200457
RAYMOND CHARLES BASE
STATE OF MARYLAND

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
ADS - CHAMBER SYSTEM

JOB No.	SHEET No.
5657	C5.9
DATE	DRAWING No.
JANUARY 2026	X of X

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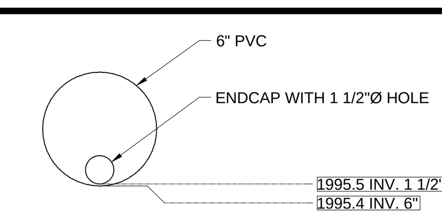
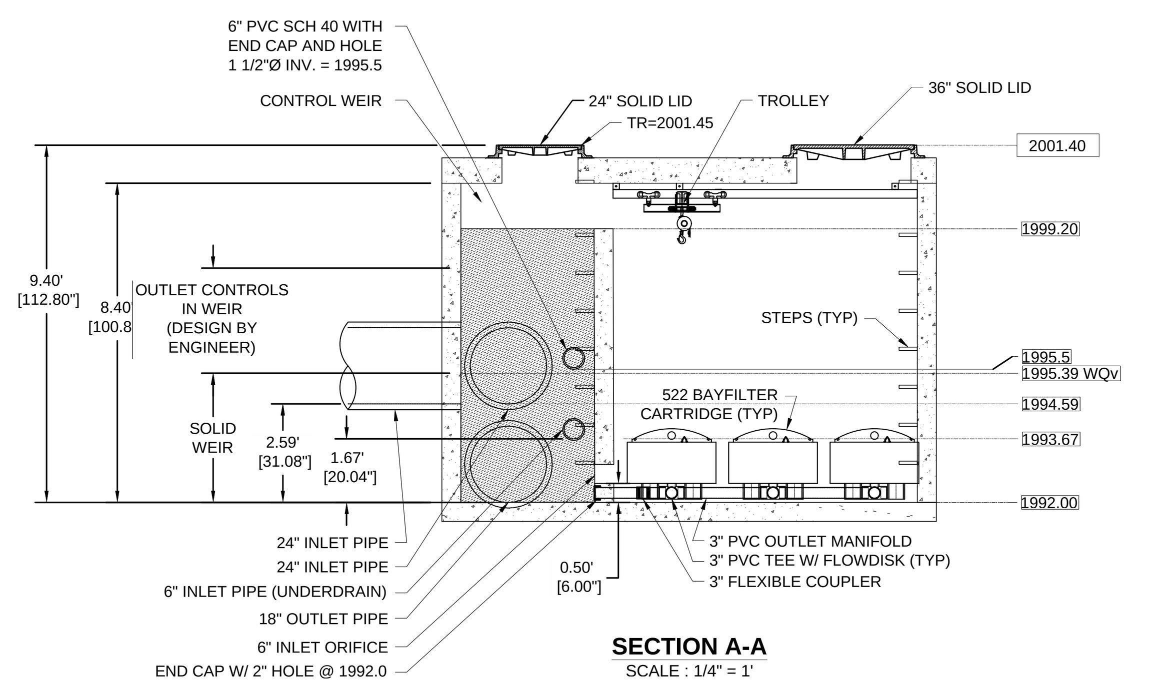
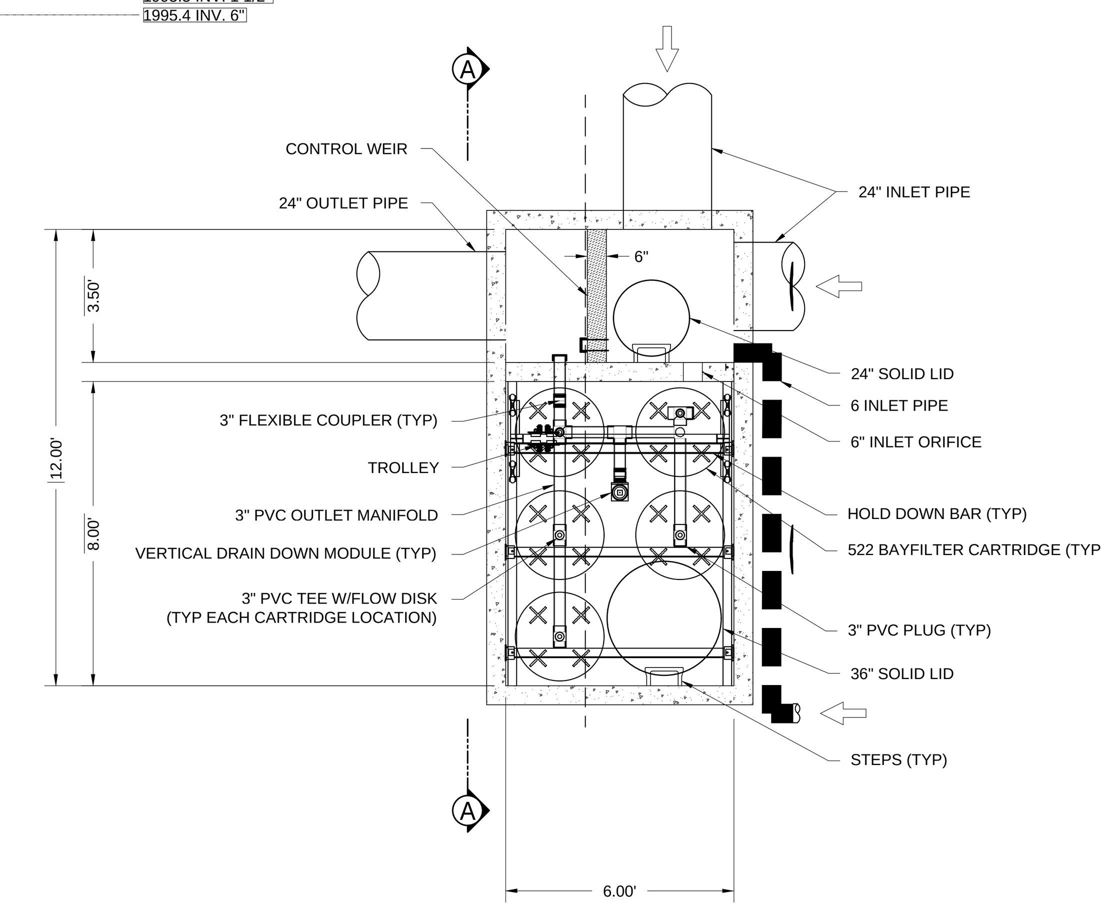


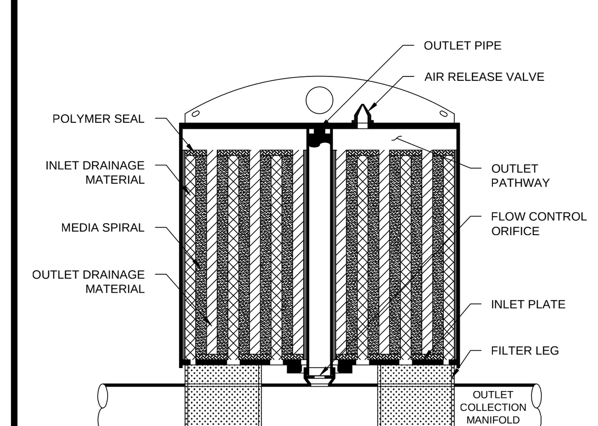


SECTION A-A
SCALE : 1/4" = 1'



PLAN VIEW
SCALE : 1/4" = 1'

NOTE: THIS DETAIL SHOWS A FUNCTIONAL FILTER DESIGN PER SITE SPECIFIC INFORMATION PROVIDED. THE FINAL APPROVED PRECAST DRAWINGS WILL DETERMINE THE FINAL SIZE, INCLUDING BUT NOT LIMITED TO; OVERALL DIMENSIONS, RISER SIZE, RISER TYPE & HEIGHT AND FRAMES & COVERS BEING PROVIDED.



522 BAYFILTER 6-12-5	WQ1
WATER QUALITY VOLUME	5,600
DRAINAGE AREA	---
CARTRIDGE DESIGN VOLUME	1250 CF
# BAYFILTER CARTRIDGES	5
CAPTURED SEDIMENT CAPACITY*	655 LBS

THE BAYFILTER STORMWATER MANAGEMENT SYSTEM IS A STORMWATER FILTRATION DEVICE DESIGNED TO REMOVE FINE SEDIMENTS, HEAVY METALS, AND PHOSPORUS. THE BAYFILTER SYSTEM RELIES ON A SPIRAL WOUND MEDIA FILTER CARTRIDGE WITH APPROXIMATELY 45 SQUARE FEET OF FILTRATION AREA. THE FILTER CARTRIDGES ARE HOUSED IN A CONCRETE STRUCTURE THAT EVENLY DISTRIBUTES THE FLOW BETWEEN CARTRIDGES. THE SYSTEM IS INLINE WITH AN INTERNAL BYPASS WEIR THAT ROUTES HIGH INTENSITY STORMS AROUND THE CARTRIDGES. THE FILTER CARTRIDGES REMOVE POLLUTANTS FROM RUNOFF BY FILTRATION (INTERCEPTION/ATTACHMENT) AND ADSORPTION.
*SEDIMENT CAPTURE PER CURRENT NJDEP APPROVAL

NOTE: CONTROL WEIR TO BE PRECAST WITH UNIT.

CLARK INDUSTRIES EXPANSION
GARRETT, MD
DATE: 12-09-25 DRAWN: LAH
PROJECT #: S500648 CHECKED: JPR

DATE	DWN	CHK
12/16/2025	SLS	JPR

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Stormwater Media Filters

ADS WWW.ADSPIPE.COM
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SHEET 4 OF 7

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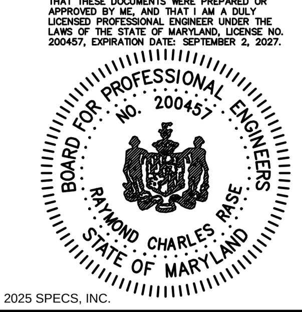

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ADDITION TO VERTICAL CONVERTING FROSTBURG INDUSTRIAL PARK ADS - STORM WATER MEDIA FILTERS

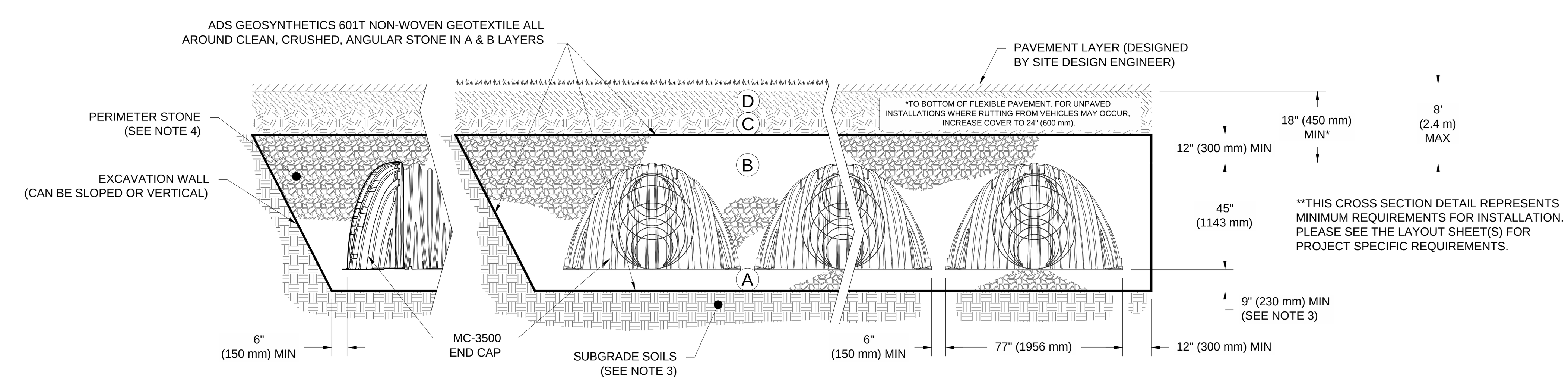
JOB No. 5657
SHEET No. C5.10
DATE JANUARY 2026
DRAWING No. X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657

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 18" (450 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 18" (450 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 [5]	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 [5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

PLEASE NOTE:
1. 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".
2. 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.
3. 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.
4. 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.
5. 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".



**THIS CROSS SECTION DETAIL REPRESENTS MINIMUM REQUIREMENTS FOR INSTALLATION. PLEASE SEE THE LAYOUT SHEET(S) FOR PROJECT SPECIFIC REQUIREMENTS.

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. 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.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. 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" (75 mm).
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. 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.

CLARK INDUSTRIES EXPANSION
GARRETT, MD

DATE:	12-09-25	DRAWN:	LAH
PROJECT #:	S500648	CHECKED:	JPR

DATE	DWN	CHK
12/16/2025	SLS	JPR

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SHEET 5 OF 7

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RAYMOND CHARLES BASE, NO. 200457, BOARD FOR PROFESSIONAL ENGINEERS, STATE OF MARYLAND

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
ADS - CHAMBER SYSTEM

JOB No.	SHEET No.
5657	C5.11
DATE	DRAWING No.
JANUARY 2026	X of X

A B C D E F G H

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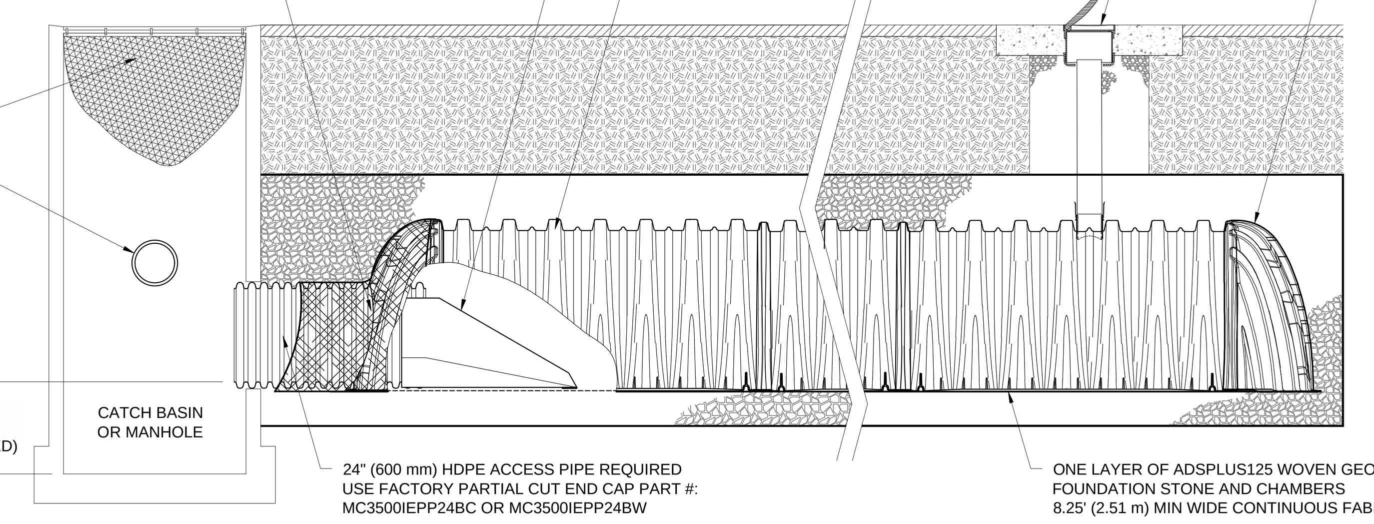


MC-3500 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

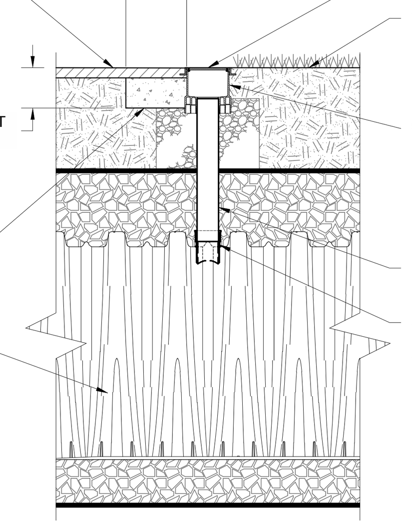
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

* THE PART# **2708AG4IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

4" (100 mm) PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)
NTS

CLARK INDUSTRIES EXPANSION
GARRETT, MD

DATE: 12-09-25	DRAWN: LAH
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StormTech® Chamber System

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ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
ADS - CHAMBER SYSTEM

JOB No.	SHEET No.
5657	C5.12
DATE	DRAWING No.
JANUARY 2026	X of X

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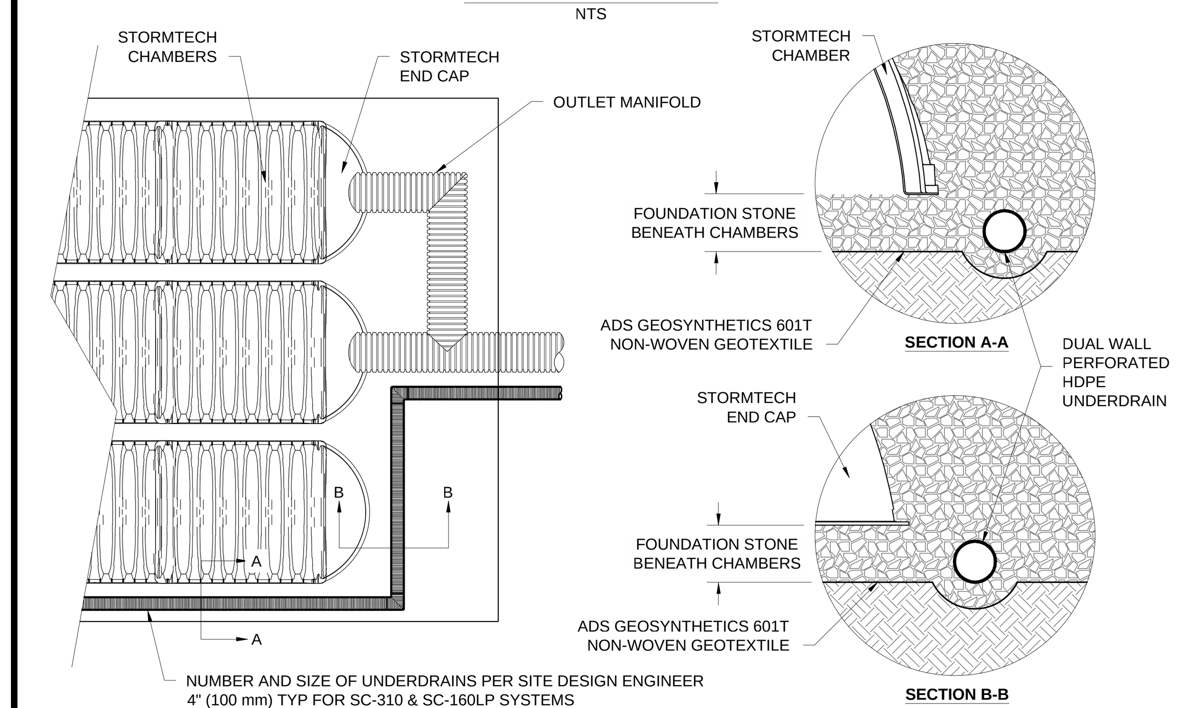
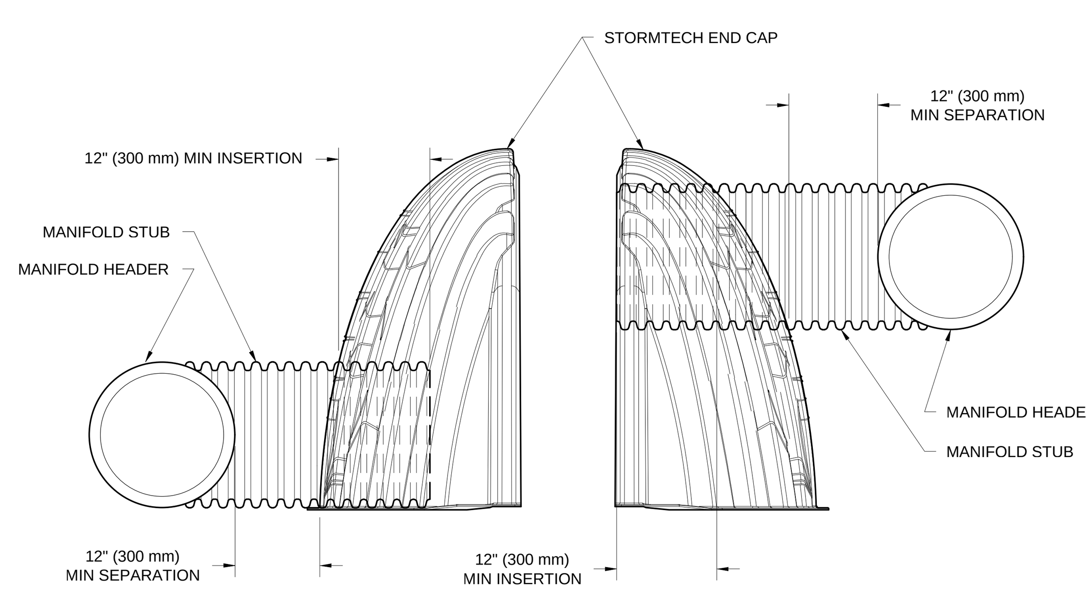
CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657

UNDERDRAIN DETAIL
NTS



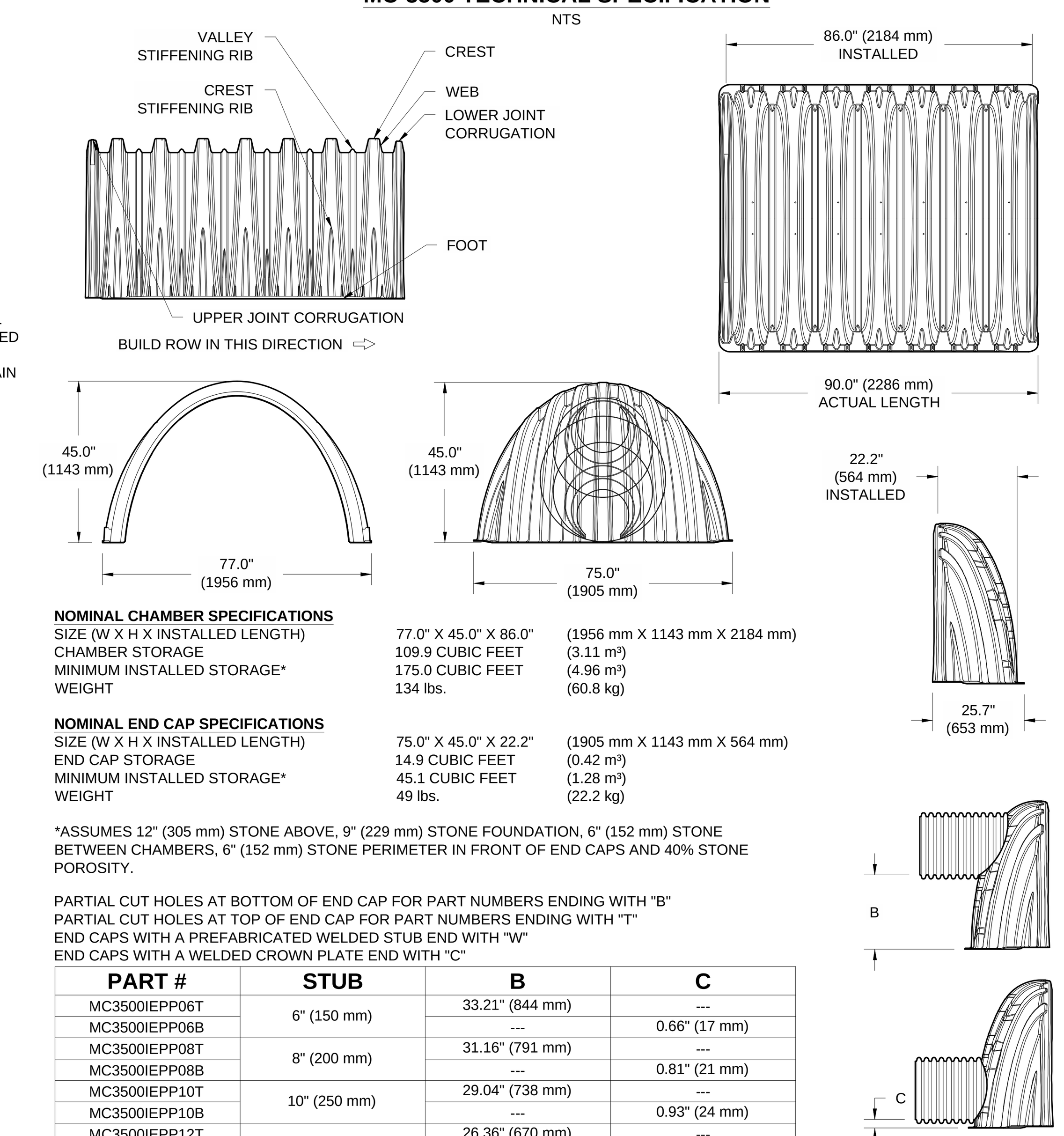
NUMBER AND SIZE OF UNDERDRAINS PER SITE DESIGN ENGINEER
4" (100 mm) TYP FOR SC-310 & SC-160LP SYSTEMS
6" (150 mm) TYP FOR SC-800, DC-780, MC-3500, MC-4500 & MC-7200 SYSTEMS

MC-SERIES END CAP INSERTION DETAIL
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-3500 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 m³)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 m³)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" (152 mm) STONE BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

CUSTOM PARTIAL CUT INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

CLARK INDUSTRIES EXPANSION
GARRETT, MD
DATE: 12-09-25 | DRAWN: LAH
PROJECT #: S500648 | CHECKED: JPR

DATE	DWN	CHK
12/16/2025	SLS	JPR

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BOARD FOR PROFESSIONAL ENGINEERS
NO. 200457
RAYMOND CHARLES RASE
STATE OF MARYLAND

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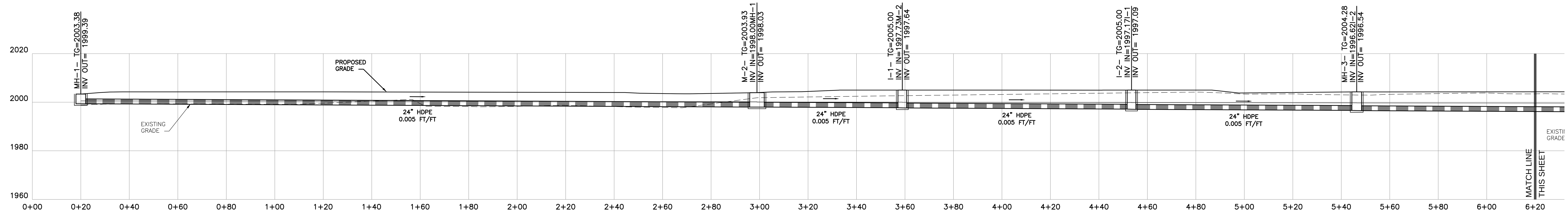
ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
ADS - CHAMBER SYSTEM

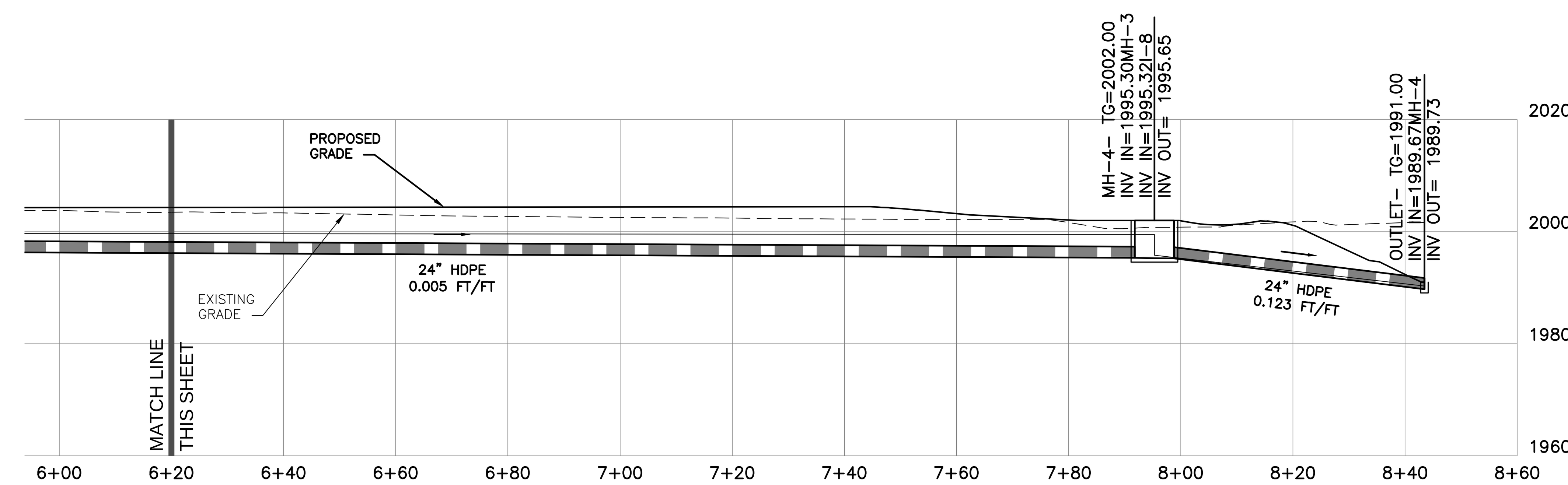
JOB No. 5657
SHEET No. C5.13
DATE JANUARY 2026
DRAWING No. X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657



PROPOSED STORM I-1 TO POND (1)

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=20'



PROPOSED STORM I-1 TO POND CONT. (1)

HORIZONTAL SCALE: 1"=20'
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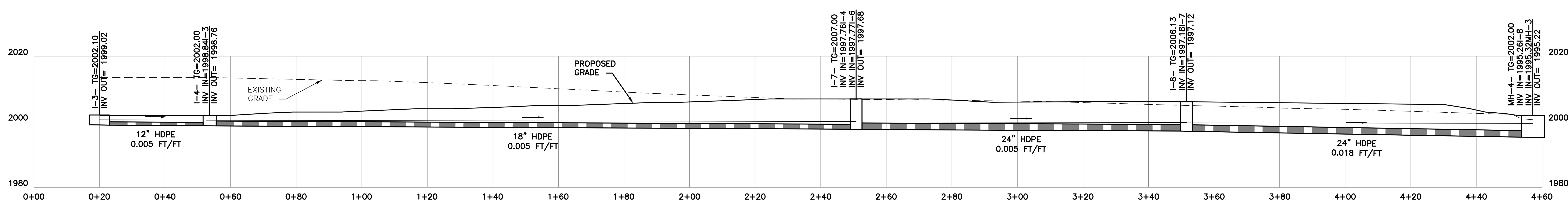

PROPOSED STORM I-3 TO M-4 (2)

HORIZONTAL SCALE: 1"=20'
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BOARD FOR PROFESSIONAL ENGINEERS NO. 200457 RAYMOND CHARLES RASE STATE OF MARYLAND

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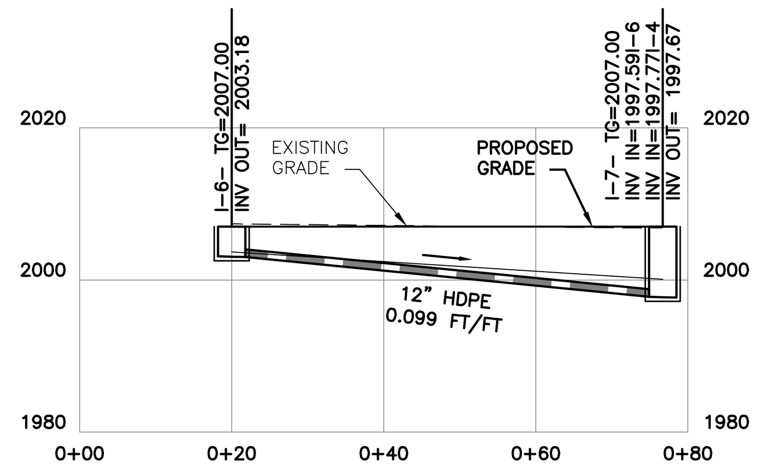
ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED STORM PROFILES

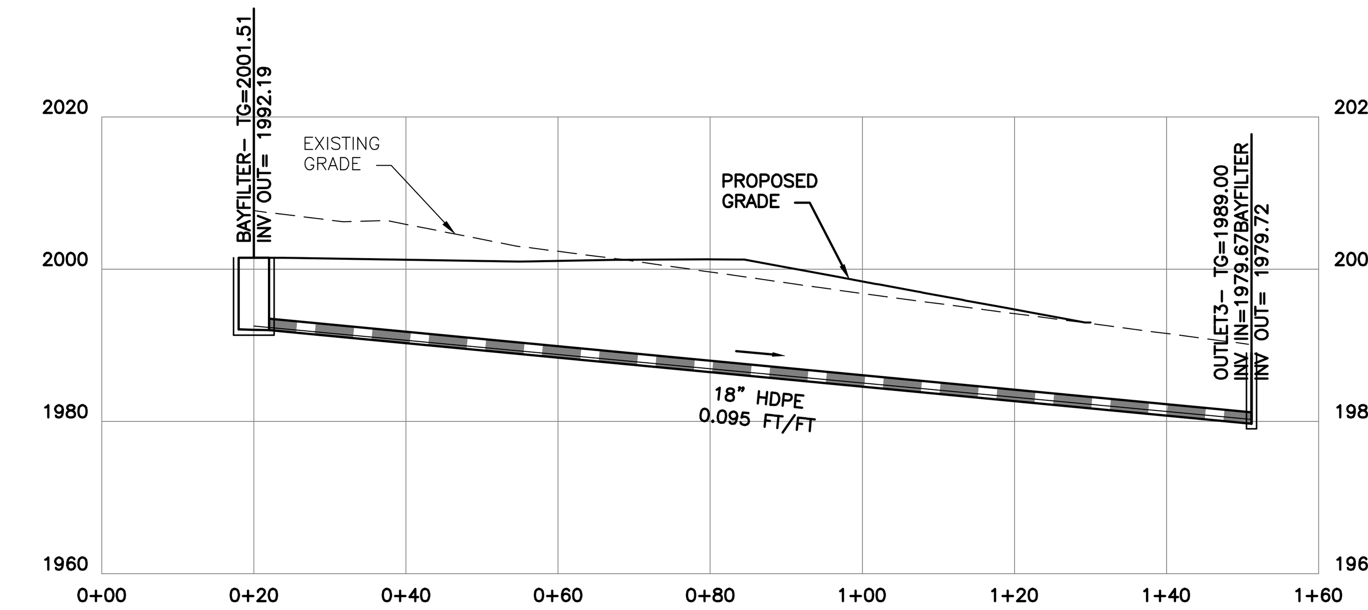
COUNTY DRAWING
2021-SS-0XX

JOB No.	SHEET No.
5657	C6.0
DATE	DRAWING No.
JANUARY 2026	X of X



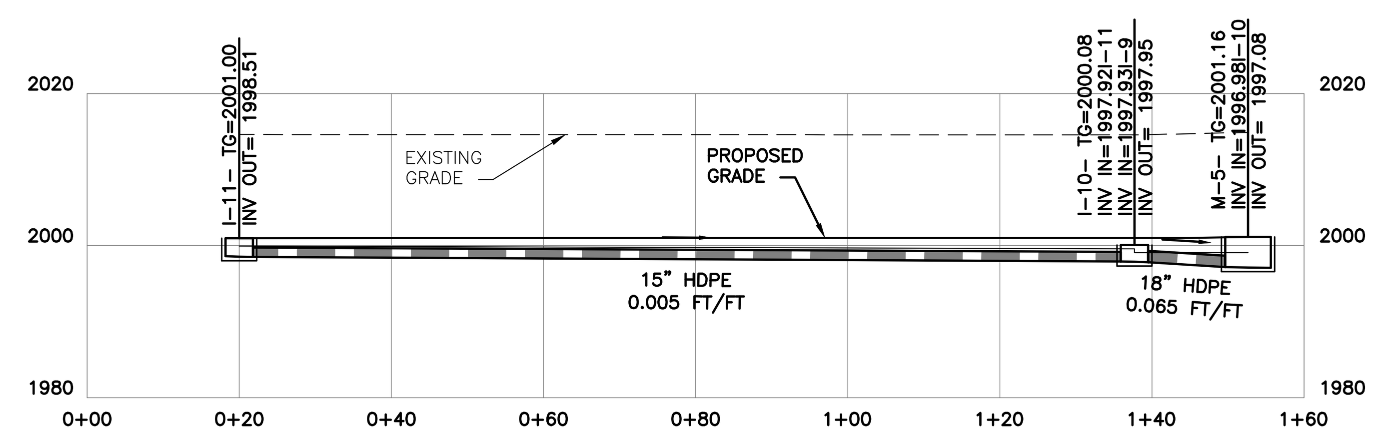
PROPOSED STORM I-6 TO I-7 (1)

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=20'



PROPOSED BAY FILTER TO OUTLET 3 (4)

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=20'



PROPOSED STORM I-11 TO M-5 (2)

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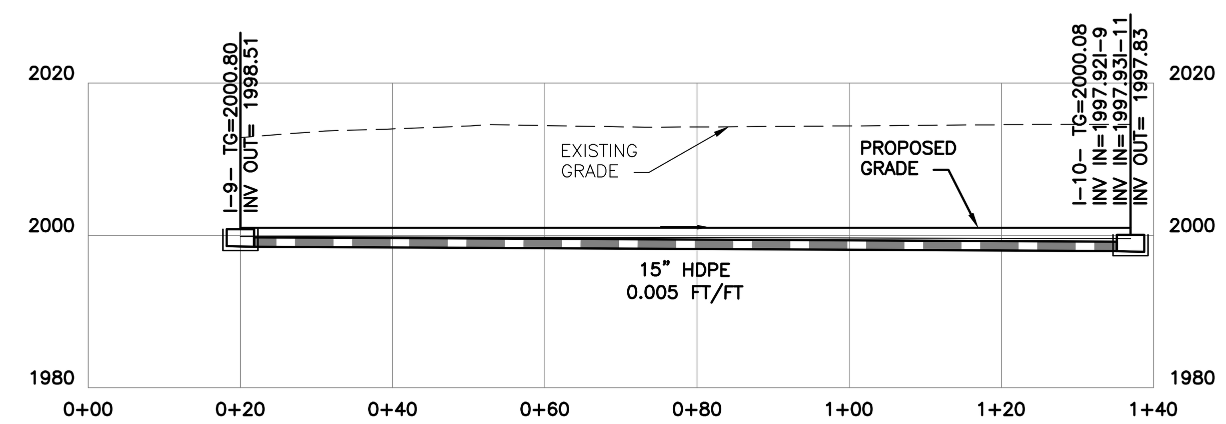
VERTICAL SCALE: 1"=20'



PROPOSED STORM I-9 TO I-10 (3)

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=20'

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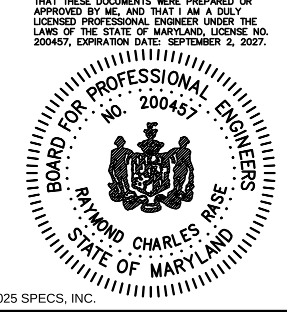

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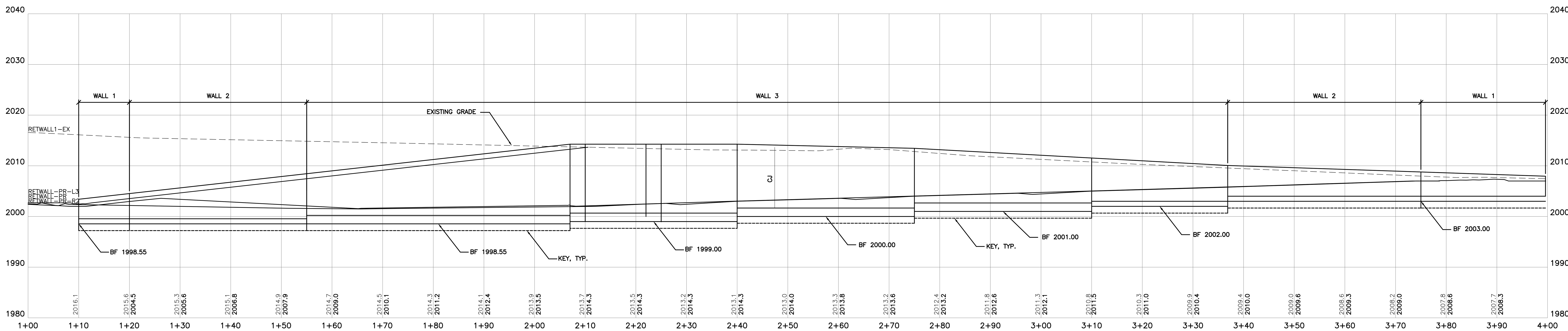
ADDITION TO VERTICAL CONVERTING
FROSTBURG INDUSTRIAL PARK
PROPOSED STORM PROFILES

COUNTY DRAWING
2021-SS-0XX

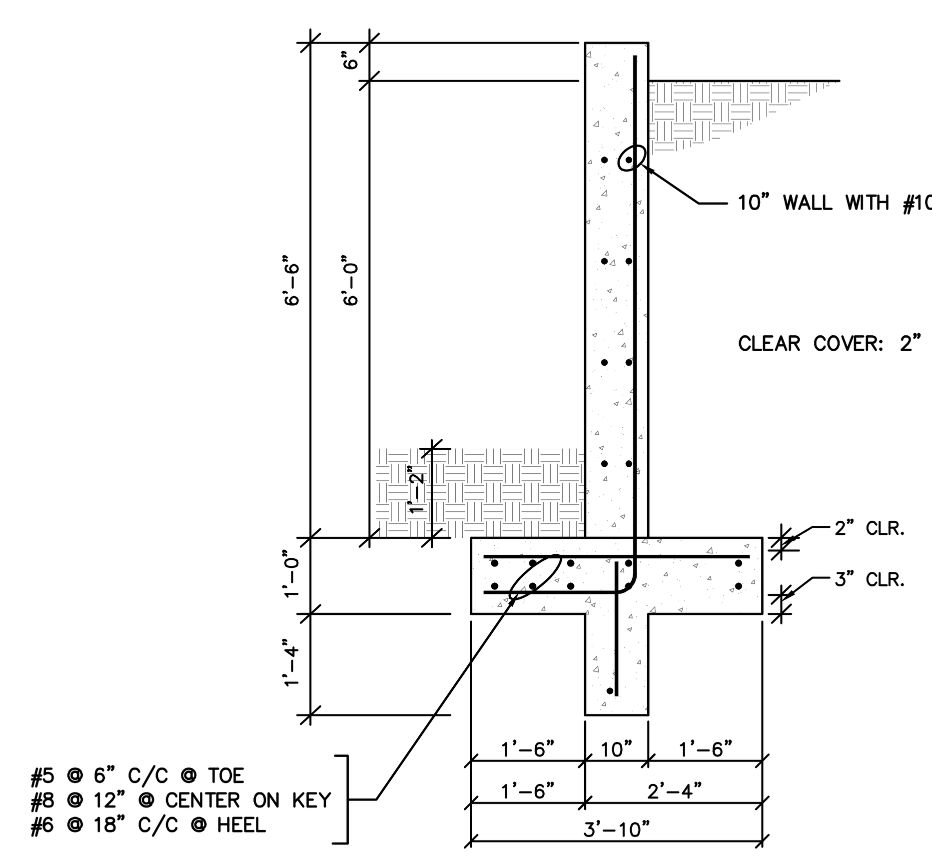
JOB No.	SHEET No.
5657	C6.1
DATE	DRAWING No.
JANUARY 2026	X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657



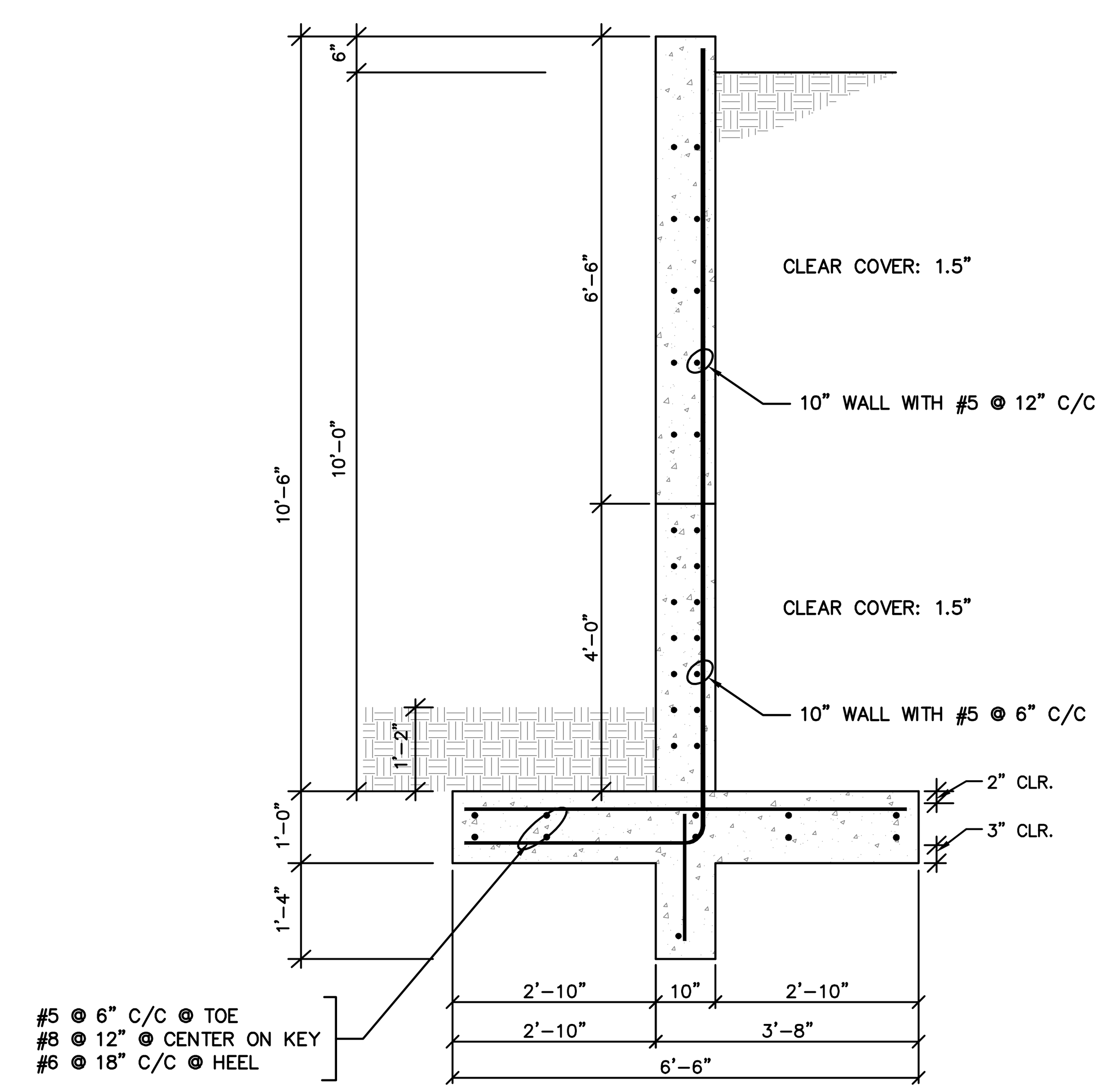
PROPOSED RETAINING WALL PROFILE (1)

HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=10'



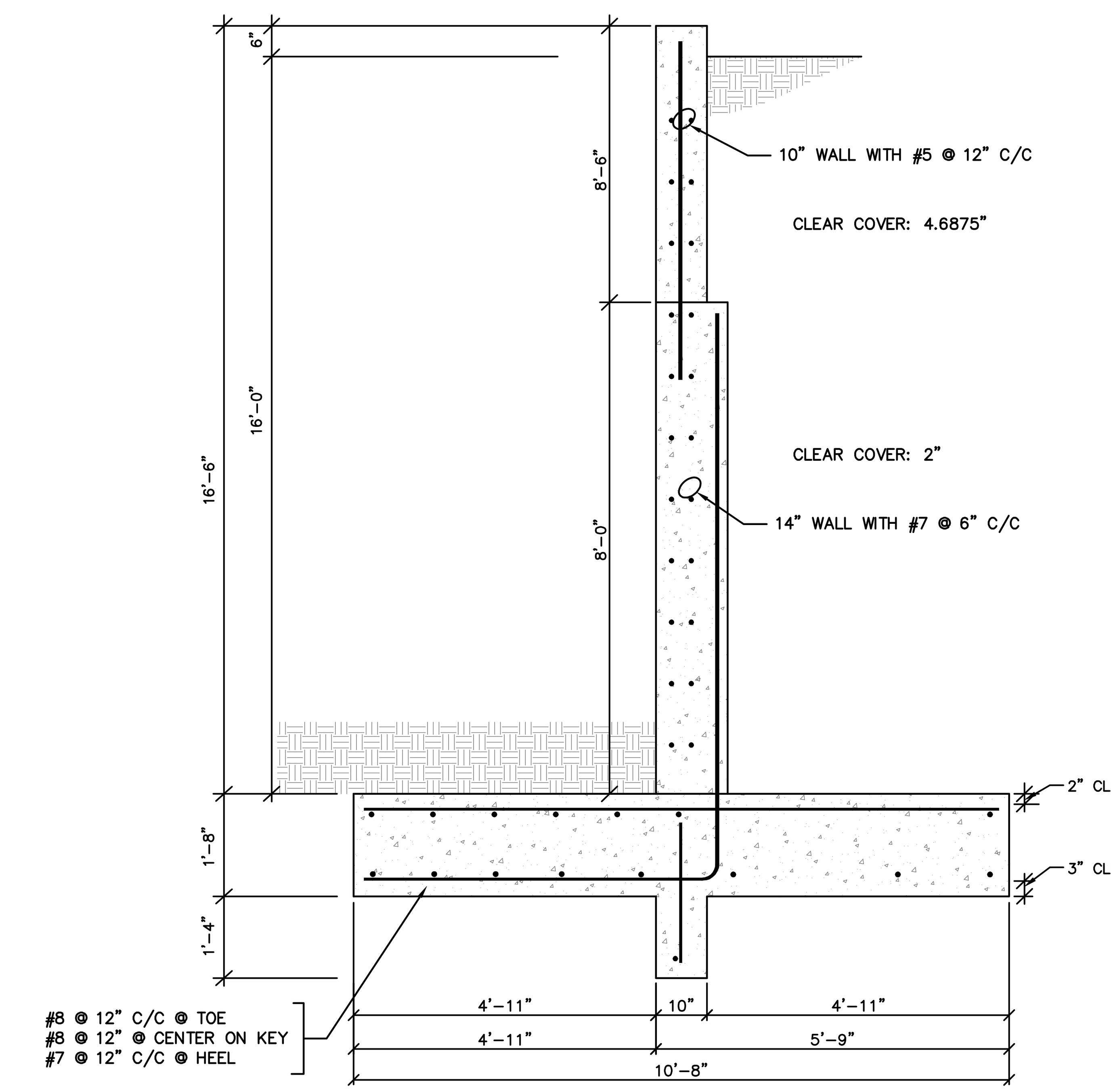
RETAINING WALL #1 (2)

NOT TO SCALE



RETAINING WALL #2 (3)

NOT TO SCALE



RETAINING WALL #3 (4)

NOT TO SCALE

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R.C.R.	
CHECKED:	APPROVED:
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ADDITION TO VERTICAL CONVERTING FROSTBURG INDUSTRIAL PARK PROPOSED WALL PROFILE & DETAILS

COUNTY DRAWING
2021-SS-0XX

JOB No.	SHEET No.
5657	C7.0
DATE	DRAWING No.
JANUARY 2026	X of X

CLARK ASSOCIATES BUILDING ADDITION - SPECS JOB No. 5657