

TOWN OF WALKERSVILLE

FREDERICK COUNTY, MARYLAND

STORMWATER BMP IMPROVEMENTS

GLADE TOWNE BMP FACILITY

UNDERGROUND UTILITY LINE PROTECTION ACT

THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES AND STRUCTURES BEFORE COMMENCING THE WORK. CALL MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS IN ADVANCE OF WORK.



PROJECT SUMMARY

THE TOWN OF WALKERSVILLE IS PROPOSING TO DESIGN A NEW MULTIPLE POND SYSTEM. THE PROJECT WILL DECREASE NUTRIENT AND SEDIMENT LOADS AND THE TOWN OF WALKERSVILLE WILL RECEIVE CREDITS TOWARDS THEIR CHESAPEAKE BAY POLLUTION REDUCTION PLAN. THE DESIGN WILL INVOLVE FORMING A BASIN BOTTOM, CREATING A BERM AND EMBANKMENT, MODIFYING GRADING, AND FORMING AN EMERGENCY SPILLWAY. THE IMPROVEMENTS WILL DECREASE EXISTING FLOW RATES AND DETAIN RUNOFF FOR A LONGER PERIOD OF TIME BEFORE EXITING THE SITE IN THE SAME PATTERN AS EXISTING CONDITIONS.

DISTURBED AREA QUANTITY

THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 4.216 ACRES (183,667 S.F.) AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROXIMATELY 21700 CUBIC YARDS OF EXCAVATION AND APPROXIMATELY 3900 CUBIC YARDS OF FILL. (APPROX. ONLY - NOT FOR BID PURPOSES) CUT AND FILL ARE TRENCH EXCAVATION AND BACKFILL ONLY.

Edward Van Arsdale 1/4/24
 EDWARD VAN ARSDALE, PE DATE
 MD. PE NO. 38561

ENGINEER/ARCHITECT DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH LOCAL ORDINANCES, COMAR 26.17.01, AND 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

Edward Van Arsdale 1/4/24
 EDWARD VAN ARSDALE, PE DATE
 MD. PE NO. 38561

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREA" AND THE REQUIREMENTS OF THE FREDERICK SOIL CONSERVATION DISTRICT.

Edward Van Arsdale 1/4/24
 EDWARD VAN ARSDALE, PE DATE
 MD. PE NO. 38561

OWNERS/DEVELOPERS CERTIFICATION

I CERTIFY THAT THIS PLAN OF SEDIMENT CONTROL WILL BE IMPLEMENTED TO THE FULLEST EXTENT, AND ALL STRUCTURES WILL BE INSTALLED TO THE DESIGN AND SPECIFICATIONS AS SPELLED OUT IN THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE EVALUATION BY THE CATOCIN/FREDERICK SOIL CONSERVATION DISTRICT PERSONNEL AND COOPERATING AGENCIES.

XX

DRAWING INDEX

- 1 OF 10 TITLE SHEET
- 2 OF 10 EXISTING CONDITIONS AND DEMOLITION
- 3 OF 10 PROPOSED CONDITIONS
- 4 OF 10 STORM DRAIN PROFILE AND DETAILS
- 5 OF 10 EROSION AND SEDIMENT CONTROL PLAN
- 6 OF 10 LANDSCAPE PLAN
- 7 OF 10 DESIGN DETAILS
- 8 OF 10 EROSION AND SEDIMENT CONTROL DETAILS
- 9 OF 10 EROSION AND SEDIMENT CONTROL NOTES
- 10 OF 10 EROSION AND SEDIMENT CONTROL NOTES

GENERAL NOTES

1. DURING THE LAYOUT OF SEDIMENT CONTROL PRACTICES REQUIRED ON THIS PLAN, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO INSURE THE ARREST AND CONTROL OF ANY SEDIMENT BEFORE IT LEAVES THE CONSTRUCTION SITE. CHANGES IN SEDIMENT CONTROL PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING SEDIMENT RETENTION STRUCTURES, AND SURFACE WATER DIVERSIONS AS PART OF THE INITIAL PHASE OF CONSTRUCTION.
3. PREVENT THE TRACKING OF MUD FROM THE SITE ONTO PUBLIC ROADS BY PLACING CRUSHED STONE OVER EGRESS AREA OR BY EFFECTIVE MEANS. ALSO RESPONSIBLE FOR THE IMMEDIATE REPAIR OF ANY DAMAGE TO PUBLIC OR PRIVATE ROADS CAUSED BY THIS CONSTRUCTION.
4. CONTINUAL INSPECTION AND MAINTENANCE OF SEDIMENT CONTROL FACILITIES SHALL BE PERFORMED UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE SOIL CONSERVATION DISTRICT INSPECTOR.
5. NO WORK SHALL PROCEED IN THE STREAM (CLASS IV) CHANNEL DURING STREAM CLOSURE DATES FROM MARCH 1 THRU MAY 31.
6. DEPENDING ON SITE CONDITIONS, PHASING OR CONSTRUCTION SEQUENCING, AND STABILIZATION METHODS, ADDITIONAL SEDIMENT CONTROLS (OTHER THAN AS SHOWN HEREON) MAY BE REQUIRED BY THE INSPECTOR.
7. NO WETLANDS WERE LOCATED ON SITE.

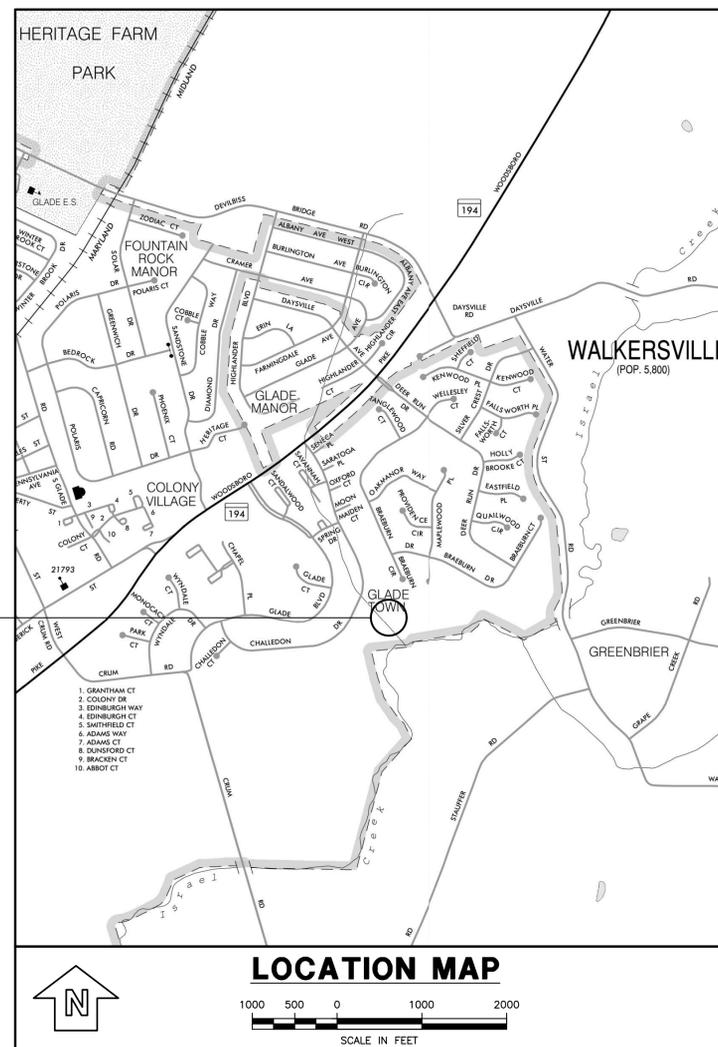
FREDERICK SOIL CONSERVATION DISTRICT
 Erosion And Sediment Control Plan Approval

By: _____
 District Manager or Designee
 Date: _____
 Plan is valid for 2 years from date of approval
 SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL SOIL EROSION AND SEDIMENT CONTROL AND IS CONTINGENT UPON ISSUANCE OF APPLICABLE REGULATORY PERMITS.

File #: WALKERSVILLE
A/P #: xx
Due Date:

TOWN OF WALKERSVILLE PLANNING COMMISSION
 APPROVED
 SUSAN HAUSER - TOWN PLANNER DATE

PROJECT LOCATION



EDWARD J. VAN ARSDALE, PE RELEASED BY: _____ DESIGN: BCU CHECKED: _____ DRAWN: CADD CHECKED: _____ DATE: OCTOBER 2023 SURVEY DATE: SEPT 2022 FIELD BOOK: WEBER SURVEYORS										SEAL 1/4/24		CLIENT & PROJECT TOWN OF WALKERSVILLE 21 WEST FREDERICK STREET WALKERSVILLE, MARYLAND 21793 BMP DESIGNS WALKERSVILLE, FREDERICK COUNTY, MARYLAND		201 Thomas Johnson Drive Suite 207 Frederick, MD 21702 Tel 301.791.1100		TITLE: GLADE TOWNE BMP FACILITY TITLE SHEET		SCALE: AS SHOWN PROJECT NO.: 10827.37 SHEET NO.: 1 OF 10 REV.: _____ DWG. NO.: _____	
NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.										



Survey Notes:

- Topography and physical features shown hereon obtained from a field survey performed by WEBER SURVEYORS Completed on September 29, 2022. 931 Stony Battery Road, Landisville, PA (717)-898-9486. Coordinate System: MD State Plane, Ref Frame: NAD83(2011) Epoch 2010.00. Vertical Datum: NAVD88 (established by GPS observation GEOID18). Benchmark: 5/8" Rebar, Control Point #1 See plan. Elevation: 294.30 Contour Interval: 1 Foot
- All deed lines, easements and right-of-ways are plotted from deeds of record and recorded subdivision plans for reference purposes only. A boundary survey was not performed as part of this survey and this survey was prepared without the benefit of a title search.
- Underground utility have been shown according to surface evidence, markings provided by others, and or plans provided by the others. The actual location of these utilities have not been field verified and the locations are approximate. WEBER SURVEYORS does not make any representation, warranty, assurance or guarantee that the underground utility location information provided by others and reflected on these drawings is correct or accurate. WEBER SURVEYORS assumes no responsibility for any damage as a result of underground utilities omitted or inaccurately shown.
- All features shown are existing unless otherwise noted.
- Any revisions made to these plans after the date of plan preparation or latest revision date shall not be the responsibility of WEBER SURVEYORS. Plan release date October 06, 2022.

LEGEND

FEATURES TO BE DEMOLISHED

SOILS

AFB - ADAMSTOWN-FUNKSTOWN COMPLEX, 0 TO 8 PERCENT SLOPES
 CnA - COMBS SILT LOAM, 0 TO 3 PERCENT SLOPES
 MaA - MELVIN-LINDSIDE SILT LOAMS, 0 TO 3 PERCENT SLOPES

NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE	
DESIGN	BCU
CHECKED	
DRAWN	CADD
CHECKED	
DATE	OCTOBER 2023
SURVEY DATE	SEPT 2022
FIELD BOOK	WEBER SURVEYORS

SEAL

EDWARD JOSEPH VAN ARSDALE III, P.E. heretby 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. 38561 Expiration Date: 3/31/2024

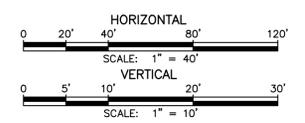
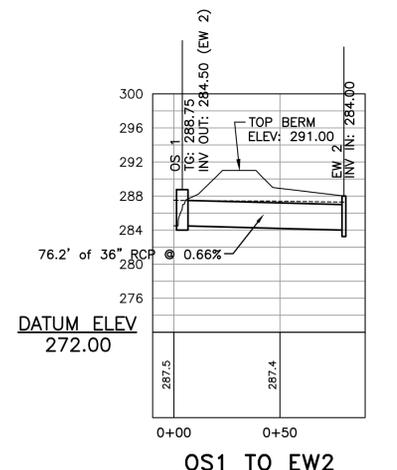
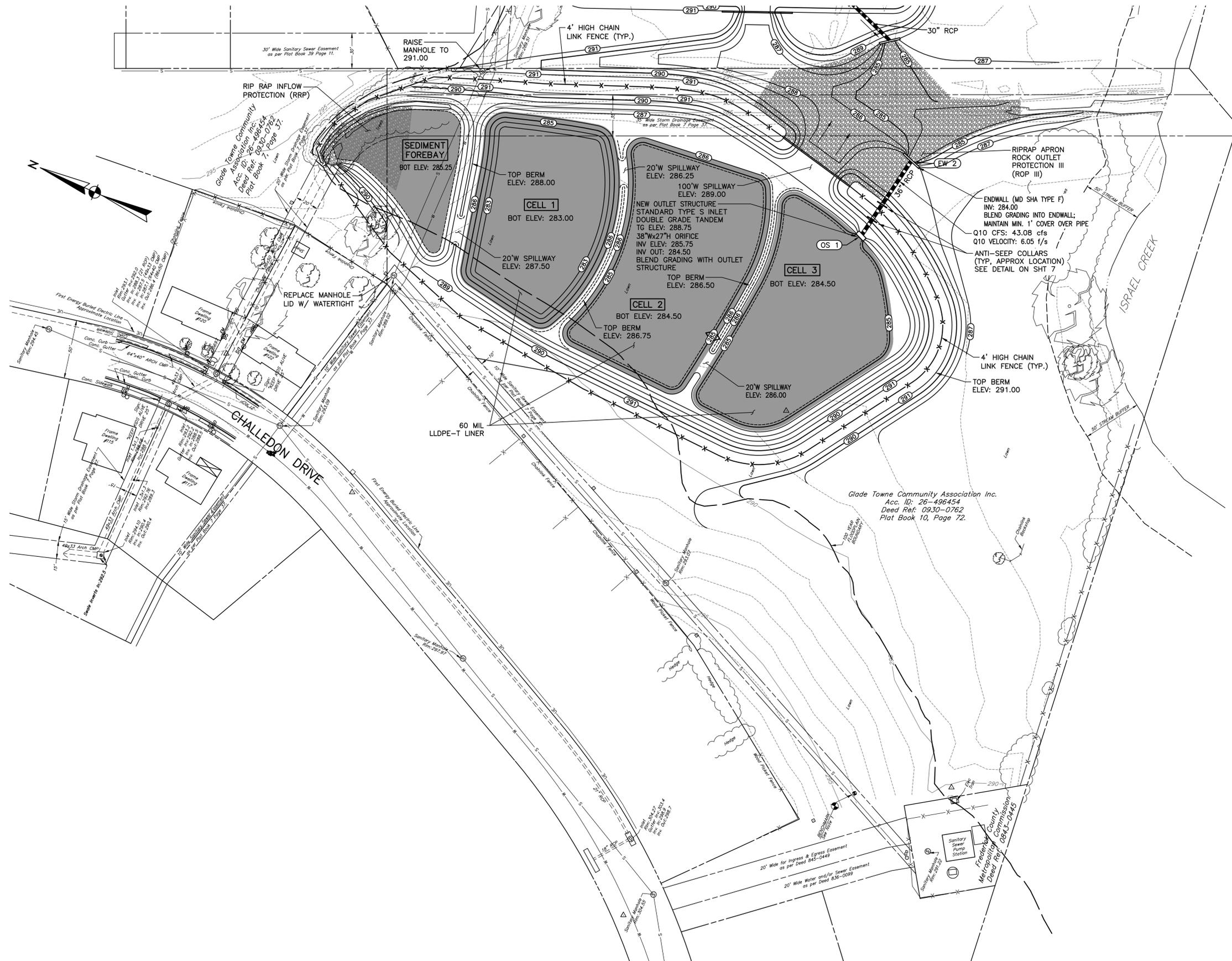
CLIENT & PROJECT

TOWN OF WALKERSVILLE
 21 WEST FREDERICK STREET
 WALKERSVILLE, MARYLAND 21793

BMP DESIGNS
 WALKERSVILLE, FREDERICK COUNTY, MARYLAND

201 Thomas Johnson Drive Suite 207
 Frederick, MD 21702
 Tel 301.791.1100

TITLE GLADE TOWNE BMP FACILITY EXISTING CONDITIONS AND DEMOLITION			
SCALE	0 20' 40' 80' 120'	DWG. NO.	
SCALE: 1" = 40'		SHEET NO.	2 OF 10
PROJECT NO.	10827.37	REV.	



FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

By: _____
District Manager or Designee

Date: _____

Plan is valid for 2 years from date of approval

SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL AND IS CONTINGENT UPON ISSUANCE OF APPLICABLE REGULATORY PERMITS.

NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.

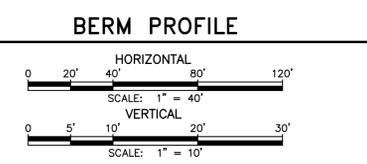
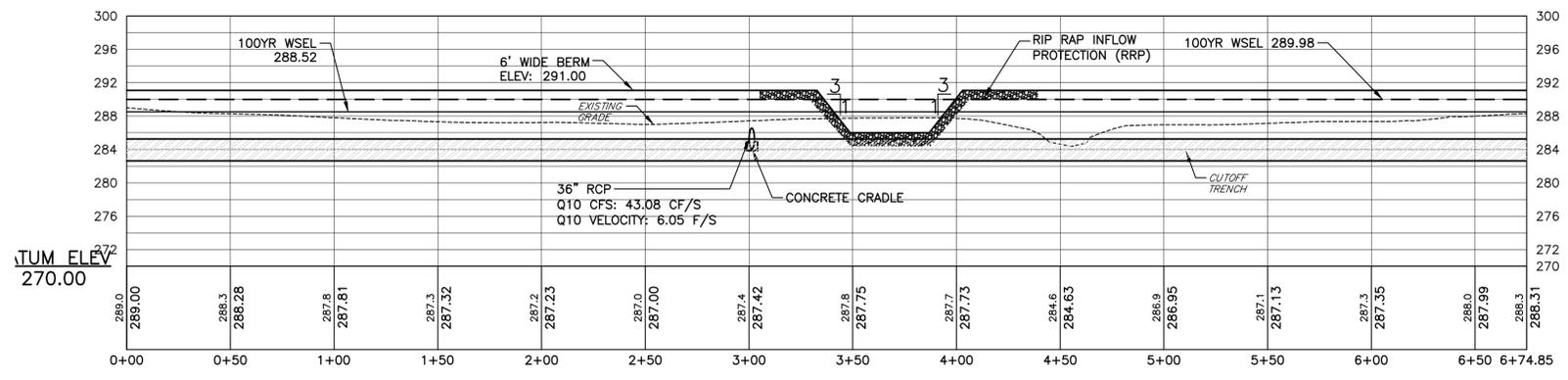
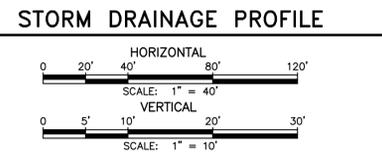
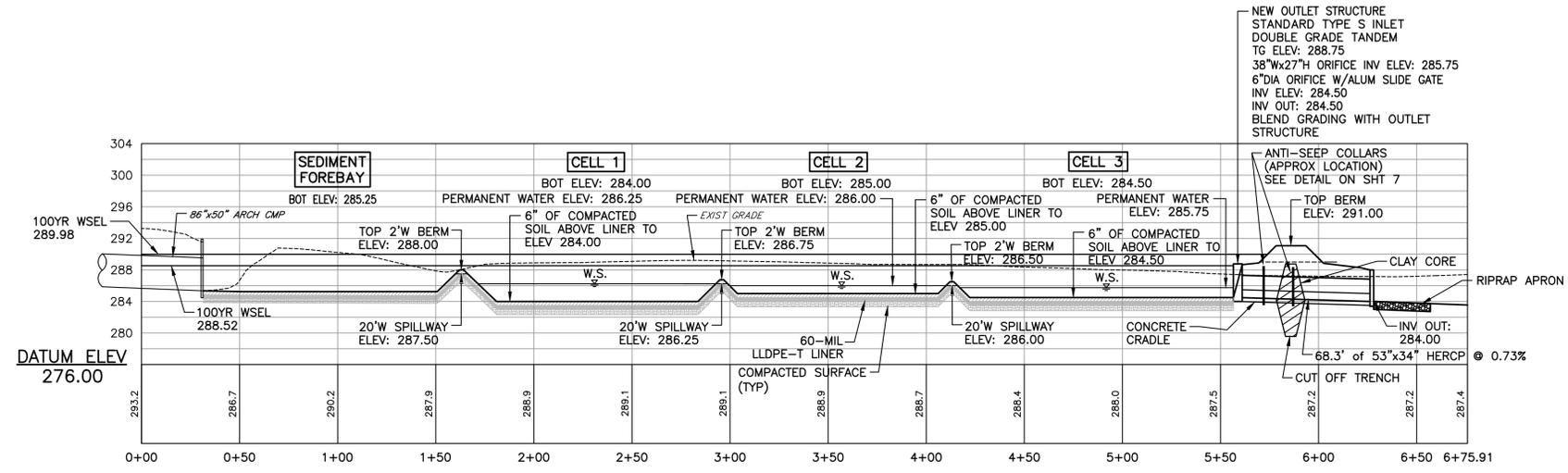
EDWARD J. VAN ARSDALE, PE	RELEASED BY	
BCU	CHECKED	
CADD	CHECKED	
OCTOBER 2023	SURVEY DATE	SEPT 2022
	FIELD BOOK	WEBER SURVEYORS

SEAL
STATE OF MARYLAND
EDWARD J. VAN ARSDALE
PROFESSIONAL CERTIFICATION
EDWARD JOSEPH VAN ARSDALE
III, P.E. hereby certifies 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. 38561
Expiration Date: 3/31/2024

CLIENT & PROJECT
TOWN OF WALKERSVILLE
21 WEST FREDERICK STREET
WALKERSVILLE, MARYLAND 21793
BMP DESIGNS
WALKERSVILLE, FREDERICK COUNTY, MARYLAND

ARRG
201 Thomas Johnson Drive Suite 207
Frederick, MD 21702
Tel 301.791.1100

TITLE GLADE TOWNE BMP FACILITY PROPOSED CONDITIONS	
SCALE 0 20' 40' 80' 120' SCALE: 1" = 40'	DWG. NO.
PROJECT NO. 10827.37	SHEET NO. 3 OF 10
	REV.



SWM BMP	SITE AREA (AC.)	LOD (AC.)	DRAINAGE AREA (AC.)	IMPERVIOUS AREA (AC.)	% IMPERVIOUS	PE PROVIDED (IN)	ESDV/WQV REQUIRED (ACRE*FT)	ESDV/WQV PROVIDED (ACRE*FT)	SURFACE AREA PROVIDED (SF)	RCN	TC(MIN)	IMPERVIOUS CREDITS (ACRES)
GLADE TOWNE	28.460	4.216	232.70	48.09	20.67	3.00	1,0057	3,0486	111,821	74	27.0	72.14

FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

By: _____
District Manager or Designee

Date: _____
Plan is valid for 2 years from date of approval

SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL AND IS CONTINGENT UPON ISSUANCE OF APPLICABLE REGULATORY PERMITS.

EDWARD J. VAN ARSDALE, PE RELEASED BY: _____ DESIGN: BCU DRAWN: CADD DATE: OCTOBER 2023										SEAL 		CLIENT & PROJECT TOWN OF WALKERSVILLE 21 WEST FREDERICK STREET WALKERSVILLE, MARYLAND 21793 BMP DESIGNS WALKERSVILLE, FREDERICK COUNTY, MARYLAND		201 Thomas Johnson Drive Suite 207 Frederick, MD 21702 Tel 301.791.1100		TITLE GLADE TOWNE BMP FACILITY STORM DRAIN PROFILE AND DETAILS SCALE: 1" = 40' PROJECT NO. 10827.37 SHEET NO. 4 OF 10 REV.			
NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.



LEGEND

- SOIL BOUNDARY LINE
- TSSMS [Symbol] TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION
1.55 PSF SHEAR STRESS (NAG S75) (DETAIL B-4-6-B)
- [Symbol] TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION
1.75 PSF SHEAR STRESS (NAG S150) (DETAIL B-4-6-B)
- FL-FL 12" FILTER LOG (DETAIL E-6)
- LOD LIMIT OF DISTURBANCE (183,666 SF, 4.216 AC)
- SCE [Symbol] STABILIZED CONSTRUCTION ENTRANCE (DETAIL B-1)
- [Symbol] MATERIAL STOCKPILE
- AGIP [Symbol] AT GRADE INLET PROTECTION (DETAIL E-9-2)
- TSOS [Symbol] TEMPORARY STONE OUTLET STRUCTURE (DETAIL E-7)

FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

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SOILS

- AFB - ADAMSTOWN-FUNKSTOWN COMPLEX, 0 TO 8 PERCENT SLOPES
- CnA - COMBS SILT LOAM, 0 TO 3 PERCENT SLOPES
- MaA - MELVIN-LINDSIDE SILT LOAMS, 0 TO 3 PERCENT SLOPES

NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE	RELEASED BY	
BCU	DESIGN	CHECKED
CADD	DRAWN	CHECKED
OCTOBER 2023	DATE	
	SURVEY DATE	SEPT 2022
	FIELD BOOK	WEBER SURVEYORS



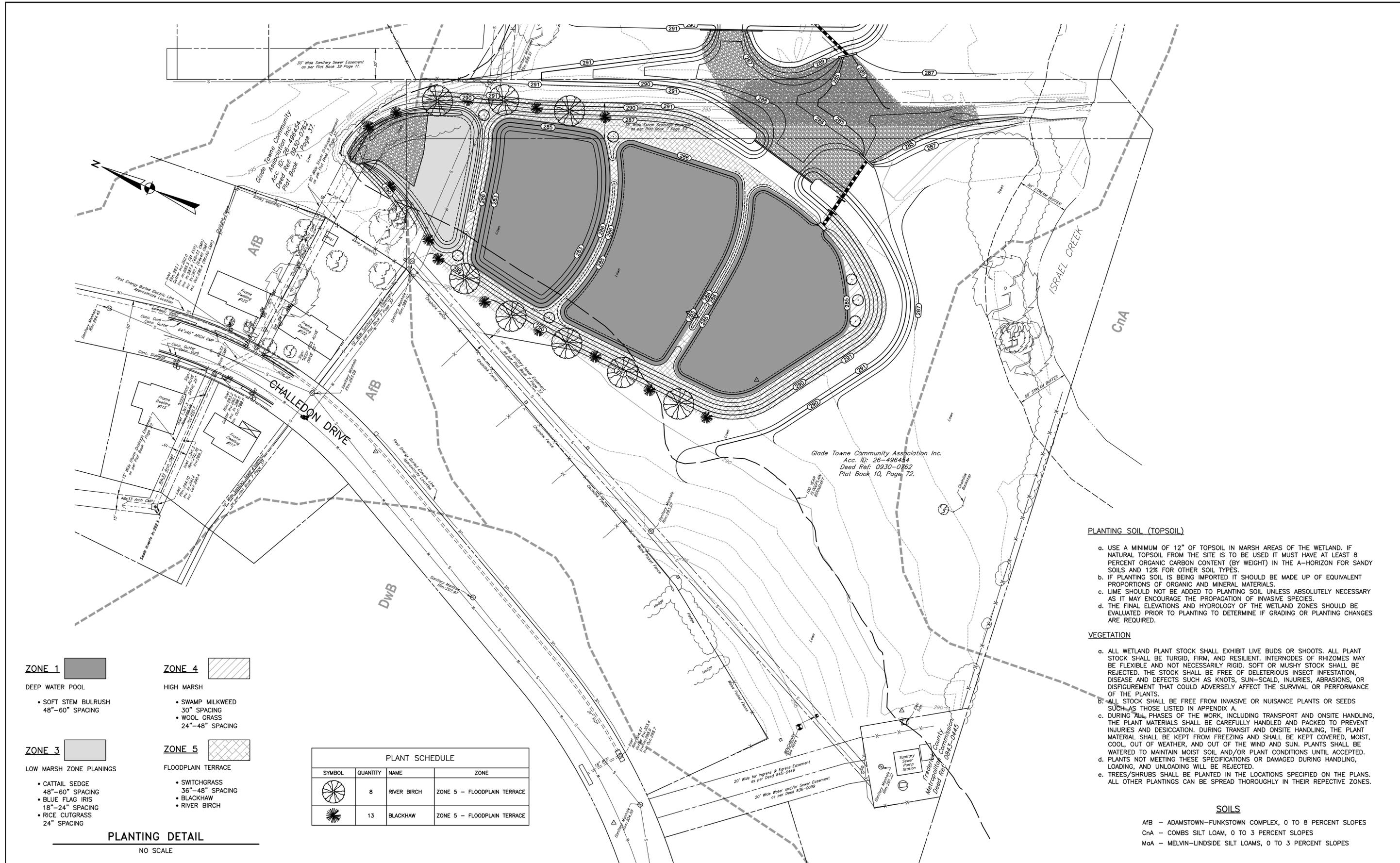
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III, P.E. hereby certifies that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 38561
Expiration Date: 3/31/2024

CLIENT & PROJECT
TOWN OF WALKERSVILLE
21 WEST FREDERICK STREET
WALKERSVILLE, MARYLAND 21793

BMP DESIGNS
WALKERSVILLE, FREDERICK COUNTY, MARYLAND



TITLE GLADE TOWNE BMP FACILITY EROSION AND SEDIMENT CONTROL PLAN		
SCALE 0 20' 40' 80' 120'	DWC. NO.	
SCALE: 1" = 40'		
PROJECT NO. 10827.37	SHEET NO. 5 OF 10	REV.



- ZONE 1** [Symbol] DEEP WATER POOL
- SOFT STEM BULRUSH 48"-60" SPACING
- ZONE 2** [Symbol] LOW MARSH ZONE PLANTINGS
- CATTAIL SEDGE 48"-60" SPACING
 - BLUE FLAG IRIS 18"-24" SPACING
 - RICE CUTGRASS 24" SPACING
- ZONE 3** [Symbol] LOW MARSH ZONE PLANTINGS
- CATTAIL SEDGE 48"-60" SPACING
 - BLUE FLAG IRIS 18"-24" SPACING
 - RICE CUTGRASS 24" SPACING
- ZONE 4** [Symbol] HIGH MARSH
- SWAMP MILKWEED 30" SPACING
 - WOOL GRASS 24"-48" SPACING
- ZONE 5** [Symbol] FLOODPLAIN TERRACE
- SWITCHGRASS 36"-48" SPACING
 - BLACKHAW
 - RIVER BIRCH

PLANT SCHEDULE			
SYMBOL	QUANTITY	NAME	ZONE
[Symbol]	8	RIVER BIRCH	ZONE 5 - FLOODPLAIN TERRACE
[Symbol]	13	BLACKHAW	ZONE 5 - FLOODPLAIN TERRACE

- PLANTING SOIL (TOPSOIL)**
- USE A MINIMUM OF 12" OF TOPSOIL IN MARSH AREAS OF THE WETLAND. IF NATURAL TOPSOIL FROM THE SITE IS TO BE USED IT MUST HAVE AT LEAST 8 PERCENT ORGANIC CARBON CONTENT (BY WEIGHT) IN THE A-HORIZON FOR SANDY SOILS AND 12% FOR OTHER SOIL TYPES.
 - IF PLANTING SOIL IS BEING IMPORTED IT SHOULD BE MADE UP OF EQUIVALENT PROPORTIONS OF ORGANIC AND MINERAL MATERIALS.
 - LIME SHOULD NOT BE ADDED TO PLANTING SOIL UNLESS ABSOLUTELY NECESSARY AS IT MAY ENCOURAGE THE PROPAGATION OF INVASIVE SPECIES.
 - THE FINAL ELEVATIONS AND HYDROLOGY OF THE WETLAND ZONES SHOULD BE EVALUATED PRIOR TO PLANTING TO DETERMINE IF GRADING OR PLANTING CHANGES ARE REQUIRED.

- VEGETATION**
- ALL WETLAND PLANT STOCK SHALL EXHIBIT LIVE BUDS OR SHOOTS. ALL PLANT STOCK SHALL BE TURPID, FIRM, AND RESILIENT. INTERNODES OF RHIZOMES MAY BE FLEXIBLE AND NOT NECESSARILY RIGID. SOFT OR MUSHY STOCK SHALL BE REJECTED. THE STOCK SHALL BE FREE OF DELETERIOUS INSECT INFESTATION, DISEASE AND DEFECTS SUCH AS KNOTS, SUN-SCALD, INJURIES, ABRASIONS, OR DISFIGUREMENT THAT COULD ADVERSELY AFFECT THE SURVIVAL OR PERFORMANCE OF THE PLANTS.
 - ALL STOCK SHALL BE FREE FROM INVASIVE OR NUISANCE PLANTS OR SEEDS SUCH AS THOSE LISTED IN APPENDIX A.
 - DURING ALL PHASES OF THE WORK, INCLUDING TRANSPORT AND ONSITE HANDLING, THE PLANT MATERIALS SHALL BE CAREFULLY HANDLED AND PACKED TO PREVENT INJURIES AND DESICCATION. DURING TRANSIT AND ONSITE HANDLING, THE PLANT MATERIAL SHALL BE KEPT FROM FREEZING AND SHALL BE KEPT COVERED, MOIST, COOL, OUT OF WEATHER, AND OUT OF THE WIND AND SUN. PLANTS SHALL BE WATERED TO MAINTAIN MOIST SOIL AND/OR PLANT CONDITIONS UNTIL ACCEPTED.
 - PLANTS NOT MEETING THESE SPECIFICATIONS OR DAMAGED DURING HANDLING, LOADING, AND UNLOADING WILL BE REJECTED.
 - TREES/SHRUBS SHALL BE PLANTED IN THE LOCATIONS SPECIFIED ON THE PLANS. ALL OTHER PLANTINGS CAN BE SPREAD THOROUGHLY IN THEIR RESPECTIVE ZONES.

- SOILS**
- AfB - ADAMSTOWN-FUNKSTOWN COMPLEX, 0 TO 8 PERCENT SLOPES
 - CnA - COMBS SILT LOAM, 0 TO 3 PERCENT SLOPES
 - MaA - MELVIN-LINDSIDE SILT LOAMS, 0 TO 3 PERCENT SLOPES

PLANTING DETAIL

NO SCALE

NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE	RELEASED BY	
BCU	CHECKED	
CADD	CHECKED	
OCTOBER 2023	SURVEY DATE	SEPT 2022
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SEAL

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EDWARD JOSEPH VAN ARSDALE III, P.E. hereby certifies 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. 38561 Expiration Date: 3/31/2024

1/4/24

CLIENT & PROJECT

TOWN OF WALKERSVILLE
21 WEST FREDERICK STREET
WALKERSVILLE, MARYLAND 21793

BMP DESIGNS
WALKERSVILLE, FREDERICK COUNTY, MARYLAND

ARRG

201 Thomas Johnson Drive Suite 207
Frederick, MD 21702
Tel 301.791.1100

TITLE		GLADE TOWNE BMP FACILITY LANDSCAPE PLAN	
SCALE	0 20' 40' 80' 120'	DWG. NO.	
SCALE: 1" = 40'		PROJECT NO.	10827.37
SHEET NO.	6 OF 10	REV.	

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE

CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: TSSMS - * lb./ft.² (* INCLUDE SHEAR STRESS)

CONSTRUCTION SPECIFICATIONS

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2 1/2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
- UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDBED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18 (DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG)

CONSTRUCTION SPECIFICATIONS

- PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
- FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
- INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
- FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
- STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
- USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2x2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
- WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
- REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF 1/2 THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLOCATING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

CONSTRUCTION SPECIFICATIONS

- USE NOMINAL 2 INCH x 4 INCH LUMBER.
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- LIFT GRATE, AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
- ATTACH A CONTINUOUS PIECE OF 1/2 INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2X4 WEIR, EXTENDING 2 FEET BEYOND THROAT ON EACH SIDE.
- PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH IT TO THE WEIR.
- NAIL THE 2X4 WEIR TO THE TOP OF A 9 INCH LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAXIMUM 4 FEET APART).
- PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2X4 ANCHORS (MINIMUM 2 FOOT LENGTHS OF 2x4 INCH TO THE TOP OF THE WEIR AT SPACER LOCATIONS). EXTEND 2X4 ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
- INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND BOTH ENDS OF THE THROAT OPENING.
- FORM THE 1/2 INCH HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE OVER THE HARDWARE CLOTH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
- AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
- 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.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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DETAIL D-3-1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL: RRP

CONSTRUCTION SPECIFICATIONS

- PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
- CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D₅₀) 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.
- INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
- BLEND RIPRAP INTO EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

STRUCTURE NAME	APRON LENGTH L (FT)	APRON WIDTH W (FT)	RIP-RAP TYPE R	APRON DEPTH D (IN)	PIPE DIAMETER (IN)
86"x50" ACMP	52	60	CLASS III (d ₅₀ =2.0')	46	86"x50"
E SPILLWAY	AS SHOWN	AS SHOWN	CLASS III (d ₅₀ =2.0')	46	SPILLWAY

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DETAIL F-4 FILTER BAG

STANDARD SYMBOL: FB

CONSTRUCTION SPECIFICATIONS

- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
- 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.
- 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.
- 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.
- 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/FT ²	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

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- FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
- STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
- USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2x2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
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NO		REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.

EDWARD J. VAN ARSDALE, PE	RELEASED BY	DESIGN	BCU	CHECKED
	DRAWN	CADD		CHECKED
	DATE	OCTOBER 2023	SURVEY DATE	SEPT 2022
	FIELD BOOK	WEBER SURVEYORS		

SEAL	EDWARD J. VAN ARSDALE, PE	1/4/24
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SEAL	PROFESSIONAL CERTIFICATION	I, EDWARD JOSEPH VAN ARSDALE, III, P.E. 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. 38561 Expiration Date: 3/31/2024
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CUSTOMER & PROJECT	TOWN OF WALKERSVILLE 21 WEST FREDERICK STREET WALKERSVILLE, MARYLAND 21793
	BMP DESIGNS WALKERSVILLE, FREDERICK COUNTY, MARYLAND

TITLE	GLADE TOWNE BMP FACILITY EROSION AND SEDIMENT CONTROL DETAILS
SCALE	AS SHOWN
PROJECT NO.	10827.37
SHEET NO.	8 OF 10
REV.	
DWG. NO.	D-2

ARRG	201 Thomas Johnson Drive Suite 207 Frederick, MD 21702 Tel 301.791.1100
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SEDIMENT CONTROL NOTES

- ALL EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS.
- ALL EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE MAINTAINED IN GOOD WORKING ORDER WITH PERIODIC INSPECTIONS AND REPAIR IF NECESSARY. DURING CONSTRUCTION, ALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED AFTER EACH RAINFALL AND REPAIRED IF NECESSARY. SEDIMENT TO BE REMOVED TO A SUITABLE DISPOSAL AREA AND STABILIZED WITH PERMANENT VEGETATIVE COVER.
- ANY TEMPORARY STRUCTURES SHALL BE REMOVED WHEN THE DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.
- IF THE COUNTY SEDIMENT CONTROL INSPECTOR FINDS THAT ADDITIONAL SEDIMENT CONTROL MEASURES ARE NECESSARY, HE MAY DIRECT THE CONTRACTOR TO EITHER INSTALL THE ADDITIONAL MEASURES, OR SUBMIT A REVISED GRADING PLAN TO THE FCSD FOR APPROVAL.
- ALL DISTURBED AREAS SHALL BE STABILIZED BY GRASS, GRAVEL, PAVEMENT, CROWN VETCH, OR OTHER APPROVED MEANS AS SOON AS POSSIBLE UPON COMPLETION OF EXCAVATION.
- THE FREDERICK COUNTY SOIL CONSERVATION DISTRICT RESERVES THE RIGHT TO ADD TO, DELETE, OR MODIFY ANY OR ALL SEDIMENT CONTROL MEASURES AS SHOWN HEREON AS NEEDED TO ESTABLISH PROPER SOIL STABILIZATION AND EROSION AND SEDIMENT CONTROL ANYTIME THROUGHOUT THE LIFE OF THE PROJECT.
- REFERENCE IS HEREBY MADE TO THE "STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS", USDA-USC, 1994 FOR STANDARDS AND REQUIREMENTS.
- ALL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AS APPROVED BY THE FREDERICK COUNTY SOIL CONSERVATION DISTRICT.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - SEVEN (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL; AND
 - FOURTEEN (14) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR IS NEEDED TO REMOVE SEDIMENT CONTROL STRUCTURES.
- ALL SOIL STOCKPILES SHALL BE TEMPORARILY SEEDED AND SILT FENCE PLACED AROUND THE BASE. THE STOCKPILES SHOULD BE PLACED WITHIN THE LIMITS OF THE DISTURBED AREAS.
- ALL UTILITIES, SUCH AS STORM DRAIN, PUBLIC WATER, SANITARY SEWER, ELECTRIC POWER, TELEPHONE, CABLE, AND GAS LINES THAT ARE NOT IN PAVED AREAS ARE NOT UNDERGOING ACTIVE GRADING SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 3 DAYS OF INITIAL DISTURBANCE.

FOR UTILITY WORK ONLY OR FOR OFF-SITE UTILITY WORK

- PLACE ALL EXCAVATED MATERIAL ON THE HIGH SIDE OF THE TRENCH, SILT FENCE ON THE LOW SIDE.
- ONLY DO AS MUCH WORK AS CAN BE DONE IN ONE DAY SO BACKFILLING, FINAL GRADING, SEEDING AND MULCHING CAN OCCUR.
- ANY SEDIMENT CONTROL MEASURES DISTURBED BY CONSTRUCTION SHALL BE REPAIRED ON THE SAME DAY.

STOCKPILE NOTES

- NO STOCKPILING ALLOWED ON ASPHALT.
- ALL STOCKPILES LEFT AT THE END OF THE DAY NEED TO BE STABILIZED UNTIL THE NEXT REDISTURBANCE.

VEGETATIVE SPECIFICATIONS AND NOTES

- DISTURB AS SMALL OF THE PRESENT COVER AS POSSIBLE WHILE PERFORMING GRADING.
- ESTABLISH PERMANENT VEGETATIVE COVER IMMEDIATELY AFTER FINAL GRADING IS COMPLETED. (THIS INCLUDES ALL GRADING ON OR OFF THE SITE THAT IS AFFECTED BY THIS CONSTRUCTION). IF FINAL GRADING IS COMPLETED AT A TIME OTHER THAN THE SEEDING SEASON, A TEMPORARY GROUND COVER SUCH AS MULCHING WILL BE USED TO STABILIZE THE BARE SOIL.
- TEMPORARY SEEDING REQUIREMENTS:

SEED: BALBOA RYE AT 150 LBS/AC.
MULCH: STRAW AT 1.5 TON/AC.
ASPHALT: SS-1 OR EQUIVALENT, 150 GAL./AC.
- PERMANENT SEEDING AND SODDING REQUIREMENTS: SEE SPECIFICATIONS.

CHECKLIST FOR REQUIRED INSPECTIONS

YOU MUST NOTIFY THE ENVIRONMENTAL PRESERVATION BRANCH AT 301-694-1132 BEFORE 9 A.M. TWENTY-FOUR HOURS BEFORE THE REQUIRED INSPECTION. FAILURE TO NOTIFY THIS OFFICE WILL RESULT IN A STOP WORK ORDER OR OTHER PENALTIES AS OUTLINED IN THE FREDERICK COUNTY CODES.

NOTICE
THIS LIST IS FOR SEQUENCE OF CONSTRUCTION ONLY. THIS OFFICE ASSUMES NO RESPONSIBILITY OR LIABILITY FOR IMPROPER INSTALLATION OF ANY ITEM ON THIS CHECKLIST. THIS OFFICE RECOMMENDS THAT A PROFESSIONAL ENGINEER BE PRESENT FOR EACH OF THE REQUIRED INSPECTIONS.

TYPE OF INSPECTION	INITIALS
1) PRECONSTRUCTION MEETING	
2) COMPLETION OF SEDIMENT CONTROL MEASURES	
3) PRIOR TO MODIFICATION OR REMOVAL OF SEDIMENT CONTROL	

SEQUENCE OF CONSTRUCTION

- NOTIFY SEDIMENT CONTROL INSPECTOR 24 HOURS PRIOR TO START OF CONSTRUCTION. CALL 301-748-7263 & 301-600-3507 TO CONTACT FREDERICK COUNTY EC FOR PRECONSTRUCTION MEETING.
- PERFORM CLEARING AND GRUBBING REQUIRED FOR INSTALLATION OF PERIMETER CONTROLS.
- INSTALL FILTER LOG AND SCE PER PLAN AND DETAILS. NOTIFY SEDIMENT CONTROL INSPECTOR AND OBTAIN APPROVAL BEFORE PROCEEDING FURTHER.
- UPON TEMPORARY CESSATION OF AN EARTH DISTURBANCE ACTIVITY, THE DISTURBED AREA SHALL BE TEMPORARILY SEEDED.
- EXCAVATE CUT-OFF TRENCH ALONG CENTERLINE OF PROPOSED EMBANKMENT MINIMUM DEPTH OF 4 FEET AND A BOTTOM (MIN. 4 FEET) WIDE ENOUGH TO PERMIT OPERATION OF EXCAVATION AND COMPACTION EQUIPMENT. CONSTRUCT SIDE SLOPES 1:1 OR FLATTER. CUT-OFF TRENCH MUST BE CONTINUOUS AND EXTEND THE ENTIRE LENGTH OF EMBANKMENT. COMPACTION REQUIREMENTS ARE THE SAME AS THOSE FOR THE EMBANKMENT. DEWATER THE TRENCH DURING THE BACKFILLING COMPACTION OPERATIONS, USING AN APPROVED PRACTICE.
- CONSTRUCT EMBANKMENT OF CLEAN SOIL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, OR OTHER OBJECTIONABLE MATERIAL. FILL MATERIAL FOR IMPERVIOUS CORE AND CUT-OFF TRENCH MUST CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL AND MUST HAVE AT LEAST 30 PERCENT PASSING THE #200 SIEVE. USE FILL MATERIAL CONTAINING SUFFICIENT MOISTURE SO THAT THE SOIL CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, IT IS TOO WET FOR PROPER COMPACTION. PLACE FILL MATERIAL IN SIX-INCH TO EIGHT INCH THICK CONTINUOUS LIFTS OVER THE ENTIRE LENGTH OF THE FILL, OBTAIN COMPACTION BY PASSING CONSTRUCTION EQUIPMENT OR COMPACTOR OVER THE FILL, SO THAT THE ENTIRE SURFACE OF EACH LAYER OF FILL IS TRAVERSED AT LEAST FOUR TIMES. CONSTRUCT THE EMBANKMENT TO AN ELEVATION A MINIMUM OF 10 PERCENT HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT.
- INSTALL ALL IMPROVEMENTS, INCLUDING SEDIMENT FOREBAYS, PIPING, RIP-RAP, ENDWALLS, OUTLET STRUCTURES, AND CELLS, PER THE CONSTRUCTION PLANS.
- COMPLETE FINAL GRADING, PERMANENT STABILIZATION, NAG C350 LINING, AND LANDSCAPING.
- NOTIFY SEDIMENT CONTROL INSPECTOR AND OBTAIN APPROVAL TO REMOVE SEDIMENT AND EROSION CONTROL DEVICES.
- IF ANY WATER IS ENCOUNTERED IN THE BASIN OR TRENCHES DURING CONSTRUCTION, IT SHALL BE REMOVED VIA A PUMPED WATER FILTER BAG.

REVISED UTILITY NOTE FOR SECONDARY UTILITY WORK

- ALL DISTURBANCES FROM SECONDARY UTILITY'S SUCH AS PHONE, CABLE, ELECTRIC CABLE, TV CABLE, ETC., WILL BE CONTRACTORS RESPONSIBILITY TO BRING WORK AREA BACK TO GRADE LEVEL THAT WAS EXISTING AND SEED AND MULCH ANY DISTURBANCES FROM INSTALLATION OF LINES OR CONDUIT.
- CONTRACTOR WILL BE RESPONSIBLE FOR RE-INSTALLING OR REPAIRING ANY SILT LOG OR SEDIMENT CONTROLS THAT WERE EXISTING TO MAINTAIN PROPER SEDIMENT CONTROL THAT MIGHT HAVE BEEN DAMAGED.

SOIL STOCKPILE NOTES:

CRITERIA

- THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
- 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.
- RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
- ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
- 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.
- WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
- 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.
- 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 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.

OPERATIONS & MAINTENANCE DETAILS

- GLADE TOWNE BASIN - MULTIPLE POND SYSTEM
 - ALL REQUIRED MAINTENANCE SHALL PERFORMED BY AND AT THE OWNER'S EXPENSE.
 - MAINTENANCE IS NECESSARY EVERY QUARTER TO ENSURE PROPER FUNCTIONALITY OF THE MULTIPLE POND SYSTEM.
 - ANY BASIN STRUCTURE THAT IS EXPECTED TO RECEIVE AND/OR TRAP DEBRIS AND SEDIMENT SHALL BE THOROUGHLY INSPECTED FOR EXCESSIVE DEBRIS AND CLOGGING. INSPECTIONS SHALL BE CONDUCTED AT MINIMUM FOUR (4) TIMES PER YEAR OR IMMEDIATELY FOLLOWING ANY STORM CREATING GREATER THAN ONE (1) INCH OF WATER.
 - VEHICLES SHALL NOT BE PARKED OR DRIVEN ON A MULTIPLE POND SYSTEM AND CARE SHALL BE TAKEN TO AVOID EXCESSIVE COMPACTION BY A MOWER IF APPLICABLE.
 - REMOVAL OF SEDIMENT FROM BASINS SHALL OCCUR WHEN BASINS ARE COMPLETELY DRY. SEDIMENT REMOVED FROM THE BASINS SHALL BE DISPOSED OF PROPERLY, AND ANY AREAS THAT WERE DISTURBED SHALL BE STABILIZED AND REVEGETATED IMMEDIATELY. SEDIMENTS EXCAVATED FROM STORMWATER PONDS THAT DO NOT RECEIVE RUNOFF FROM DESIGNATED HOTSPOTS ARE NOT CONSIDERED TOXIC OR HAZARDOUS MATERIAL AND CAN BE SAFELY DISPOSED BY EITHER LAND APPLICATION OR LAND FILLING. CELL 2 SHALL BE PROPERLY DRAINED VIA SLIDE GATE PRIOR TO SEDIMENT REMOVAL. SEDIMENT FOREBAY SHALL BE PROPERLY DRAINED VIA PUMPED WATER FILTER BAG PRIOR TO SEDIMENT REMOVAL.
 - SEDIMENT FOREBAYS SHALL BE CLEANED WHEN ACCUMULATED SEDIMENT REACHES HALF THE TOTAL DEPTH OF THE FOREBAY.
 - CARE SHALL BE TAKEN TO PREVENT COMPACTION OF IN SITU SOILS IN THE BOTTOM OF THE LOW FLOW SWALE AND HIGH MARSH ZONE (ZONE 4) PLANTINGS TO PROMOTE HEALTHY VEGETATION GROWTH AND TO ENCOURAGE INFILTRATION.
 - INSPECT THE BASIN AFTER RUNOFF EVENTS AND MAKE SURE THE RUNOFF DRAINS WITHIN 72 HOURS. MOSQUITOES SHALL NOT BE A PROBLEM IF THE WATER DRAINS WITHIN 72 HOURS. MOSQUITOES REQUIRE A CONSIDERABLY LONG BREEDING PERIOD WITH RELATIVELY STATIC WATER LEVELS.
 - ALSO INSPECT FOR DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SLOPE STABILITY IN THE BERMS.
 - UPKEEP OF VEGETATION INCLUDING MOWING AND/OR TRIMMING SHALL BE PERFORMED AS NECESSARY TO SUSTAIN THE SYSTEM. ALL DETRITUS SHALL BE REMOVED FROM THE BASIN.
 - FERTILIZERS AND PESTICIDES SHALL NOT BE USED IN MAINTAINING THE VEGETATION.
 - ALL VEGETATED AREAS SHALL BE INSPECTED EVERY YEAR FOR ANY EROSION.
 - ALL VEGETATED AREAS SHALL BE INSPECTED EVERY YEAR FOR UNWANTED GROWTH OF EXOTIC AND/OR INVASIVE SPECIES.
 - VEGETATIVE COVER SHALL BE MAINTAINED AT A MINIMUM OF NINETY-FIVE (95) PERCENT. VEGETATION SHALL BE REESTABLISHED IF VEGETATIVE COVER HAS BEEN REDUCED BY TEN (10) PERCENT.
 - A DAM INSPECTION CHECKLIST SHALL BE INCLUDED IN THE MAINTENANCE AND SHALL BE COMPLETED AT A MINIMUM OF ONCE EVERY YEAR.
- ADDITIONAL NOTES
 - REGULAR INSPECTION OF THE MULTIPLE POND SYSTEM SHALL OCCUR TO ASSURE PROPER IMPLEMENTATION OF THE BMP OPERATIONS AND MAINTENANCE SHALL BE INSPECTED BY A QUALIFIED PERSON, WHICH MAY INCLUDE THE LANDOWNER OR THE OWNER'S DESIGNEE (INCLUDING THE MUNICIPALITY FOR DEDICATED AND OWNED FACILITIES).

PERMANENT SEEDING & SODDING

GENERAL

- SCOPE: PLANTING PERMANENT, LONG-LIVED VEGETATIVE COVER ON GRADED OR CLEARED AREAS.
- STANDARDS: PERMANENT SEEDING SHALL CONFORM TO ALL REQUIREMENTS OF "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED JOINTLY BY WATER RESOURCES ADMINISTRATION, SOIL CONSERVATION SERVICE, AND STATE SOIL CONSERVATION COMMITTEE.

SPECIFICATIONS

- SITE PREPARATION
 - PRIOR TO SEEDING INSTALL ALL REQUIRED SEDIMENT AND EROSION CONTROL MEASURES.
 - FINE GRADING REQUIRED FOR PERMANENT SEEDING.
- SOIL AMENDMENTS
 - FERTILIZER SHALL BE APPLIED AT THE RATE OF 1000 LBS/ACRE USING 10-10-10 OR EQUIVALENT.
- SEEDBED PREPARATION
 - SOIL SHALL BE LOOSENED TO A DEPTH OF 3" BY RAKING, DICING, OR OTHER ACCEPTABLE MEANS PRIOR TO SEEDING.
 - APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER ON A FIRM, MOIST SEEDBED). MAXIMUM SEEDING DEPTH SHOULD BE 1/4" ON CLAYEY SOILS AND 1/2 INCH ON SANDY SOILS, WHEN USING OTHER THAN HYDROSEEDER METHOD OF APPLICATION. NOTE: IF HYDROSEEDING IS USED AND THE SEED FERTILIZER IS MIXED, THEY WILL BE MIXED ON SITE AND THE SEEDING SHALL BE IMMEDIATE WITHOUT INTERRUPTION.

PERMANENT STABILIZATION WITH SOD

- ALL SPECIFICATIONS, SITE PREPARATION, INSTALLATION AND MAINTENANCE OF SOD FOR PERMANENT, LONG-LIVED VEGETATIVE COVER SHALL CONFORM TO SECTION G-20 OF "1994" MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PUBLISHED JOINTLY BY WATER RESOURCES ADMINISTRATION, SOIL CONSERVATION SERVICE, AND THE STATE SOIL CONSERVATION COMMITTEE.

PERMANENT SEEDING SUMMARY

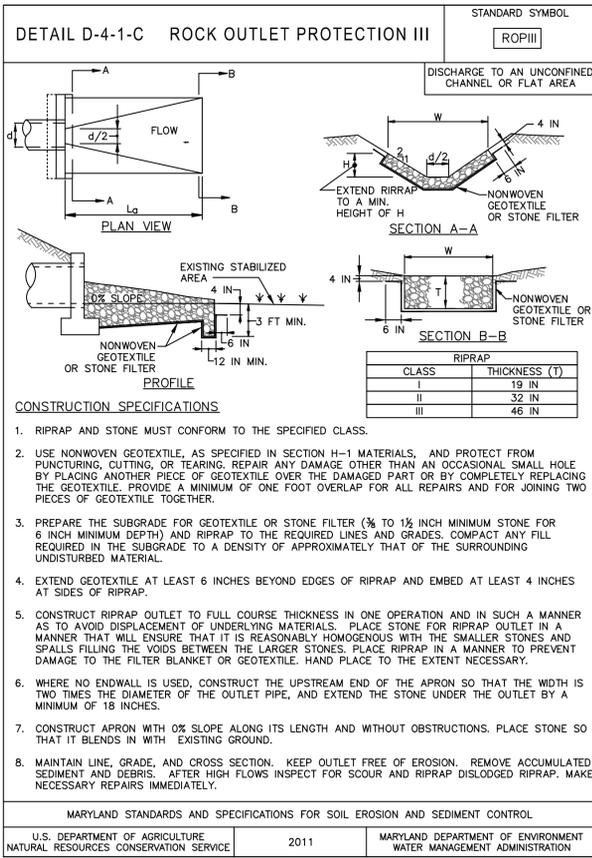
SEED MIXTURE (FOR HARDINESS ZONE <u>6B</u>) (FROM TABLE 25)					FERTILIZER RATE (10-20-20)			LIME RATE	UREA-FORM (46-0-0)
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20		
3	TALL FESCUE	125	3/1 TO 5/15 8/15 TO 10/15	1"-2"					
3	PERENNIAL RYEGRASS	15	3/1 TO 5/15 8/15 TO 10/15	1"-2"	90 lb/ac (2.0 lb/1000 sf)	175 lb/ac (4.0 lb/1000 sf)	175 lb/ac (4.0 lb/1000 sf)	2 tons/ac (100 lb/1000 sf)	150 lb/ac
3	KENTUCKY BLUEGRASS	10	3/1 TO 5/15 8/15 TO 10/15	1"-2"					

TEMPORARY SEEDING WITH ANNUAL RYEGRASS, MILLET, OATS, AND/OR RYE CONFORMING TO SCS, 1994 MANUAL.

NATIVE DETENTION AREA MIX SEEDING SUMMARY

SEED MIXTURE (FOR HARDINESS ZONE <u>6B</u>) (FROM TABLE 25)					FERTILIZER RATE (10-20-20)			LIME RATE	UREA-FORM (46-0-0)
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20		
-	ERNMX-183 DEERWALD 47% WINDMILL 25% FOX SEED 20% AUTUMN BENTGRASS 5% RICKLEGRASS 2% PAH RUSH 1%	22	3/1 TO 5/15 8/15 TO 10/15	1"-2"	NONE	NONE	NONE	NONE	NONE

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CONSTRUCTION SPECIFICATIONS

- RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
- USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
- PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (3/4 TO 1/2 INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
- CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
- WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
- CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLOGGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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STRUCTURE NAME	APRON LENGTH L (FT)	APRON WIDTH W (FT)	RIP-RAP TYPE R	APRON DEPTH D (IN)	PIPE DIAMETER (IN)
36" RCP	AS SHOWN	33	CLASS I (d ₅₀ =0.9")	19	36"

CHECKLIST FOR REQUIRED INSPECTIONS

YOU MUST NOTIFY THE ENVIRONMENTAL PRESERVATION BRANCH AT 301-694-1132 BEFORE 9 A.M. TWENTY-FOUR HOURS BEFORE THE REQUIRED INSPECTION. FAILURE TO NOTIFY THIS OFFICE WILL RESULT IN A STOP WORK ORDER OR OTHER PENALTIES AS OUTLINED IN THE FREDERICK COUNTY CODES.

NOTICE
THIS LIST IS FOR SEQUENCE OF CONSTRUCTION ONLY. THIS OFFICE ASSUMES NO RESPONSIBILITY OR LIABILITY FOR IMPROPER INSTALLATION OF ANY ITEM ON THIS CHECKLIST. THIS OFFICE RECOMMENDS THAT A PROFESSIONAL ENGINEER BE PRESENT FOR EACH OF THE REQUIRED INSPECTIONS.

TYPE OF INSPECTION	INITIALS
1) PRECONSTRUCTION MEETING	
2) COMPLETION OF SEDIMENT CONTROL MEASURES	
3) PRIOR TO MODIFICATION OR REMOVAL OF SEDIMENT CONTROL	

SEDIMENT CONTROL/ STORM WATER MANAGEMENT REQUIRED INSPECTIONS

YOU MUST NOTIFY THE SEDIMENT CONTROL AND STORMWATER MANAGEMENT OFFICE AT 301-694-1679 BEFORE 9:00 A.M. 24 HOURS PRIOR TO THE REQUIRED INSPECTION. FAILURE TO NOTIFY THIS OFFICE WILL RESULT IN A STOP WORK ORDER OR OTHER PENALTIES AS OUTLINED IN FREDERICK COUNTY CODES.

*****NOTICE*****
THIS LIST IS FOR SEQUENCE OF CONSTRUCTION ONLY. THIS OFFICE ASSUMES NO RESPONSIBILITY OR LIABILITY FOR IMPROPER INSTALLATION OF ANY ITEM ON THIS CHECKLIST. THIS OFFICE RECOMMENDS THAT A PROFESSIONAL ENGINEER BE PRESENT FOR EACH OF THE REQUIRED INSPECTIONS.

TYPE OF INSPECTION	MISC. COMMENTS /INITIALS
1. PRECONSTRUCTION MEETING	
2. COMPLETION OF SEDIMENT CONTROL MEASURE (IF USING BASIN SEE #6 BELOW)	
3. PRIOR TO MODIFICATION OR REMOVAL OF SED. CONTRL.	
4. INFILTRATION SYSTEMS	
A. SITE READINESS PER SEQUENCE OF CONSTRUCTION	
B. INFILTRATION AREA, PROTECTED FROM SEDIMENTATION	
C. DIMENSIONS	
D. FILTRATING MATERIAL	
E. FILL MATERIAL	
F. SIZE, PLACEMENT, TYPE OF PIPING	
G. OBSERVATION WELL	
H. COVER/STABILIZATION	
5. OPEN CHANNEL FLOW ATTENUATION	
A. SITE READINESS PER SEQUENCE OF CONSTRUCTION	
B. CROSS SECTION CONFORMANCE	
C. MATERIAL (TYPE/SIZE)	
D. STABILIZATION	
6. RETENTION/DETENTION STRUCTURES (BASIN/PONDS)	
A. SUBGRADE PREPARATION	
1. CORE TRENCH	
2. SUITABLE MATERIAL/COMPACT	
B. EMBANKMENT CONSTRUCTION	
1. SUITABLE MATERIAL/COMPACT	
2. SLOPE GRADE	
3. DIMENSIONS	
C. BARREL AND RISER ASSEMBLY	
1. CORRECT MATERIAL ON SITE	
2. SIZING	
3. ANTI-SEEP COLLARS	
4. ANTI-FLOATATION DEVICE	
5. CONCRETE CRADLE (RCP ONLY)	
6. INSTALLATION /BACKFILL/COMPACT	
D. CONCRETE STRUCTURES	
1. FOOTER DIMENSIONS	
2. REINFORCING MATERIAL (TYPE, SIZE, PLACEMENT)	
3. WEIR POUR/MATERIAL/SUMP TEST	
4. FORM STRIP AND FINISHING	
E. INFLOWING AREA	
1. LOW FLOW CHANNELS/STABILIZATION	
2. DEWATERING DEVICE	
3. EMERGENCY SPILLWAY	
4. EXTENDED DETENTION DEVICE	
F. OUTFALL AREA (LEVEL SPREADER, RIPRAP CHANNEL, ETC.)	
G. VEGETATIVE STABILIZATION	
H. MISCELLANEOUS	

CONSTRUCTION SPECIFICATIONS

EMBANKMENT CORE - THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXTEND UP TO AT LEAST THE 10 YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.

STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE.

STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 313 AS MODIFIED. THE MIXTURE SHALL HAVE A 100-200 PSI; 28 DAY UNCONFINED COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE A MINIMUM PH OF 4.0 AND A MINIMUM RESISTIVITY OF 2,000 OHM-CM. MATERIAL SHALL BE PLACED SUCH THAT A MINIMUM OF 6" (MEASURED PERPENDICULAR TO THE OUTSIDE OF THE PIPE) OF FLOWABLE FILL SHALL BE UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE OR RIGID CONDUITS. AVERAGE SLUMP OF THE FILL SHALL BE 7" TO ASSURE FLOWABILITY OF THE MATERIAL. ADEQUATE MEASURES SHALL BE TAKEN (SAND BAGS, ETC.) TO PREVENT FLOATING THE PIPE. WHEN USING FLOWABLE FILL, ALL METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADJOINING SOIL FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHALL COMPLETELY FILL ALL VOIDS ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. BACKFILL MATERIAL OUTSIDE THE STRUCTURAL BACKFILL (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

1. MATERIALS - (POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 & M-246 WITH WATERTIGHT COUPLING BANDS OR FLANGES.

MATERIALS - (ALUMINUM COATED STEEL PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT THE NEED FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT.

MATERIALS - (ALUMINUM PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-211 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM PIPE, WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 9.

2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.

3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT.

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE WITH A CIRCULAR 3/8 INCH CLOSED CELL NEOPRENE GASKET, PRE-PUNCHED TO THE FLANGE BOLT CIRCLE, SANDWICHED BETWEEN ADJACENT FLANGES; A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12-INCH WIDE HUGGER TYPE BAND WITH ORING GASKETS HAVING A MINIMUM DIAMETER OF 1/2 INCH GREATER THAN THE CORRUGATION DEPTH. PIPES 24 INCHES IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24 INCH LONG ANNUAL CORRUGATED BAND USING A MINIMUM OF 4 (FOUR) RODS AND LUGS, 2 ON EACH CONNECTING PIPE END. A 24-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED WITH 12 INCHES ON THE END OF EACH PIPE. FLANGED JOINTS WITH 3/8 INCH CLOSED CELL GASKETS THE FULL WIDTH OF THE FLANGE IS ALSO ACCEPTABLE.

HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

4. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

REINFORCED CONCRETE PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCED CONCRETE PIPE:

1. MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.

2. BEDDING - REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING / CRADLE FOR THEIR ENTIRE LENGTH. THIS BEDDING / CRADLE SHALL CONSIST OF HIGH SLUMP CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 50% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE A CONCRETE CRADLE IS NOT NEEDED FOR STRUCTURAL REASONS, FLOWABLE FILL MAY BE USED AS DESCRIBED IN THE "STRUCTURE BACKFILL" SECTION OF THIS STANDARD. GRAVEL BEDDING IS NOT PERMITTED.

3. LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 4 FEET FROM THE RISER.

4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE - THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241. CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4"-10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE S, AND 12" THROUGH 24" INCH SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE S.

2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.

3. BEDDING -THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

DRAINAGE DIAPHRAGMS - WHEN A DRAINAGE DIAPHRAGM IS USED, A REGISTERED PROFESSIONAL ENGINEER WILL SUPERVISE THE DESIGN AND CONSTRUCTION INSPECTION.

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.

ROCK RIPRAP

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.

OPERATION AND MAINTENANCE

AN OPERATION AND MAINTENANCE PLAN IN ACCORDANCE WITH LOCAL OR STATE REGULATIONS WILL BE PREPARED FOR ALL PONDS. AS A MINIMUM, THE DAM INSPECTION CHECKLIST LOCATED IN APPENDIX A SHALL BE INCLUDED AS PART OF THE OPERATION AND MAINTENANCE PLAN AND PERFORMED AT LEAST ANNUALLY. WRITTEN RECORDS OF MAINTENANCE AND MAJOR REPAIRS NEEDS TO BE RETAINED IN A FILE. THE ISSUANCE OF A MAINTENANCE AND REPAIR PERMIT FOR ANY REPAIRS OR MAINTENANCE THAT INVOLVES THE MODIFICATION OF THE DAM OR SPILLWAY FROM ITS ORIGINAL DESIGN AND SPECIFICATIONS IS REQUIRED. A PERMIT IS ALSO REQUIRED FOR ANY REPAIRS OR DECONSTRUCTION THAT INVOLVE A SUBSTANTIAL PORTION OF THE STRUCTURE. ALL INDICATED REPAIRS ARE TO BE MADE AS SOON AS PRACTICAL.

FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

By: _____
District Manager or Designee

Date: _____
Plan is valid for 2 years from date of approval

SCD APPROVAL FOR SEDIMENT AND EROSION CONTROL IS IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL SOIL EROSION AND SEDIMENT CONTROL AND IS CONTINGENT UPON ISSUANCE OF APPLICABLE REGULATORY PERMITS.

EDWARD J. VAN ARSDALE, PE			SEAL			CLIENT & PROJECT			TITLE		
DESIGN			CHECKED			TOWN OF WALKERSVILLE			GLAD TOWNE BMP FACILITY		
DRAWN			CHECKED			21 WEST FREDERICK STREET			EROSION AND SEDIMENT CONTROL		
DATE			SURVEY DATE			WALKERSVILLE, MARYLAND 21793			NOTES		
OCTOBER 2023			SEPT 2022			BMP DESIGNS			AS SHOWN		
FIELD BOOK			WEBER SURVEYORS			WALKERSVILLE, FREDERICK COUNTY, MARYLAND			SCALE		
						201 Thomas Johnson Drive Suite 207			DWG. NO.		
						Frederick, MD 21702			PROJECT NO.		
						Tel 301.791.1100			SHEET NO.		
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