

TOWN OF WALKERSVILLE

FREDERICK COUNTY, MARYLAND

STORMWATER BMP IMPROVEMENTS

DEERFIELD 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 5.636 ACRES (245,484 S.F.) AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROXIMATELY 13200 CUBIC YARDS OF EXCAVATION AND APPROXIMATELY 4000 CUBIC YARDS OF FILL. (APPROX. ONLY - NOT FOR BID PURPOSES)
CUT AND FILL ARE TRENCH EXCAVATION AND BACKFILL ONLY.

 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.

 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.

 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

XX

DRAWING INDEX

| | |
|----------|--------------------------------------|
| 1 OF 10 | TITLE SHEET |
| 2 OF 10 | EXISTING CONDITIONS AND DEMOLITION |
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| 6 OF 10 | LANDSCAPE PLAN |
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| 10 OF 10 | EROSION AND SEDIMENT CONTROL NOTES |

GENERAL NOTES

- 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.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING SEDIMENT RETENTION STRUCTURES, AND SURFACE WATER DIVERSIONS AS PART OF THE INITIAL PHASE OF CONSTRUCTION.
- 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.
- 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.
- NO WORK SHALL PROCEED IN THE STREAM (CLASS IV) CHANNEL DURING STREAM CLOSURE DATES FROM MARCH 1 THRU MAY 31.
- 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.
- 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 EROSION AND SEDIMENT CONTROL AND IS CONTINGENT UPON ISSUANCE OF APPLICABLE REGULATORY PERMITS.

File #: WALKERSVILLE

A/P #: xx

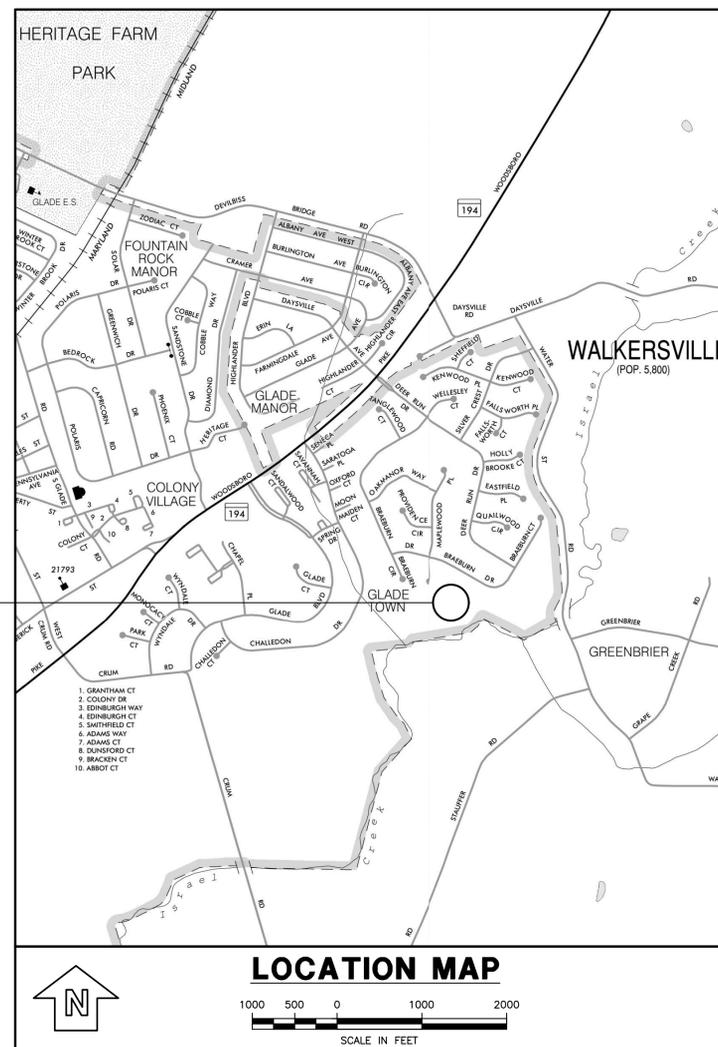
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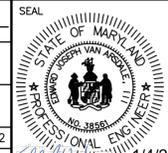
TOWN OF WALKERSVILLE PLANNING COMMISSION

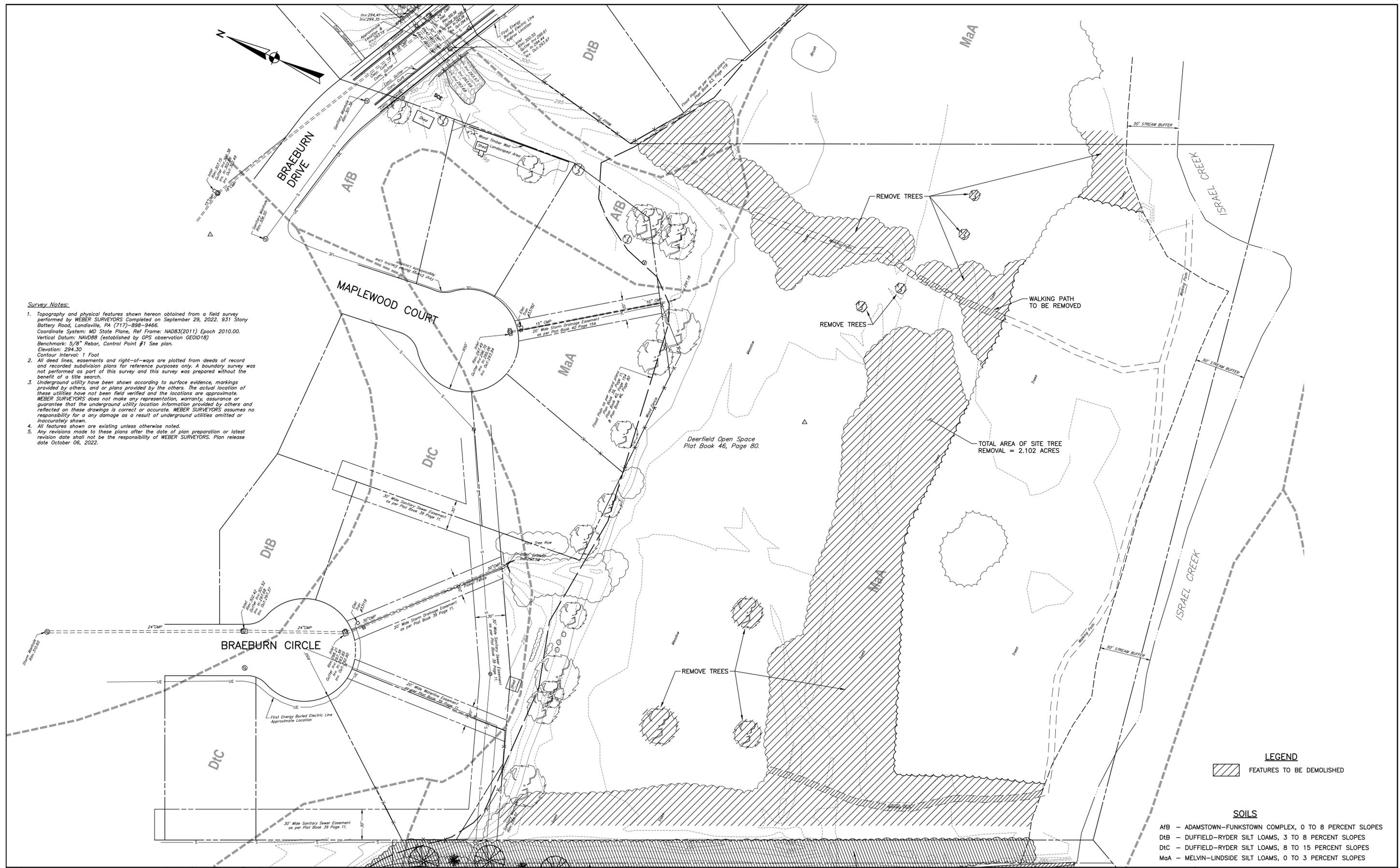
APPROVED

SUSAN HAUSER - TOWN PLANNER DATE

PROJECT LOCATION



| | | | | | | | | | | | | | | | | | | | | | |
|----|----------|------|----|------|----|----------|------|----|------|---|--|--|--|--|--|---|--|---|--|--|--|
| | | | | | | | | | | EDWARD J. VAN ARSDALE, PE RELEASED BY DESIGN CHECKED BCU DRAWN CHECKED CADD DATE OCTOBER 2023 SURVEY DATE SEPT 2022 FIELD BOOK WEBER SURVEYORS | | SEAL  1/4/24 | | 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 | | 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 DEERFIELD 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:**
1. Topography and physical features shown herein obtained from a field survey performed by WEBER SURVEYORS Completed on September 29, 2022. 931 Stony Battery Road, Landisville, PA (717)-898-9466. Coordinate System: MD State Plane, Ref Frame: NAD83(2011) Epoch 2010.00. Vertical Datum: NAVD88 (established by GPS observation GEOID18). Benchmark: 5/8" Rebar, Central Point #1 See plan. Elevation: 294.30. Contour Interval: 1 Foot.
 2. 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.
 3. 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 a any damage as a result of underground utilities omitted or inaccurately shown.
 4. All features shown are existing unless otherwise noted.
 5. 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
 A/B - ADAMSTOWN-FUNKSTOWN COMPLEX, 0 TO 8 PERCENT SLOPES
 D/B - DUFFIELD-RYDER SILT LOAMS, 3 TO 8 PERCENT SLOPES
 D/C - DUFFIELD-RYDER SILT LOAMS, 8 TO 15 PERCENT SLOPES
 M/a - MELVIN-LINDSIDE SILT LOAMS, 0 TO 3 PERCENT SLOPES

| NO | REVISION | DATE | BY | APP. | NO | REVISION | DATE | BY | APP. |
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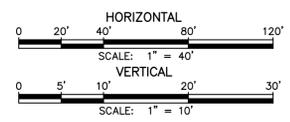
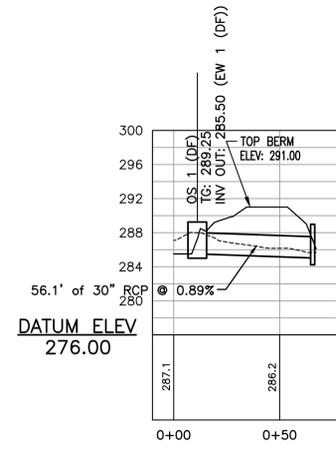
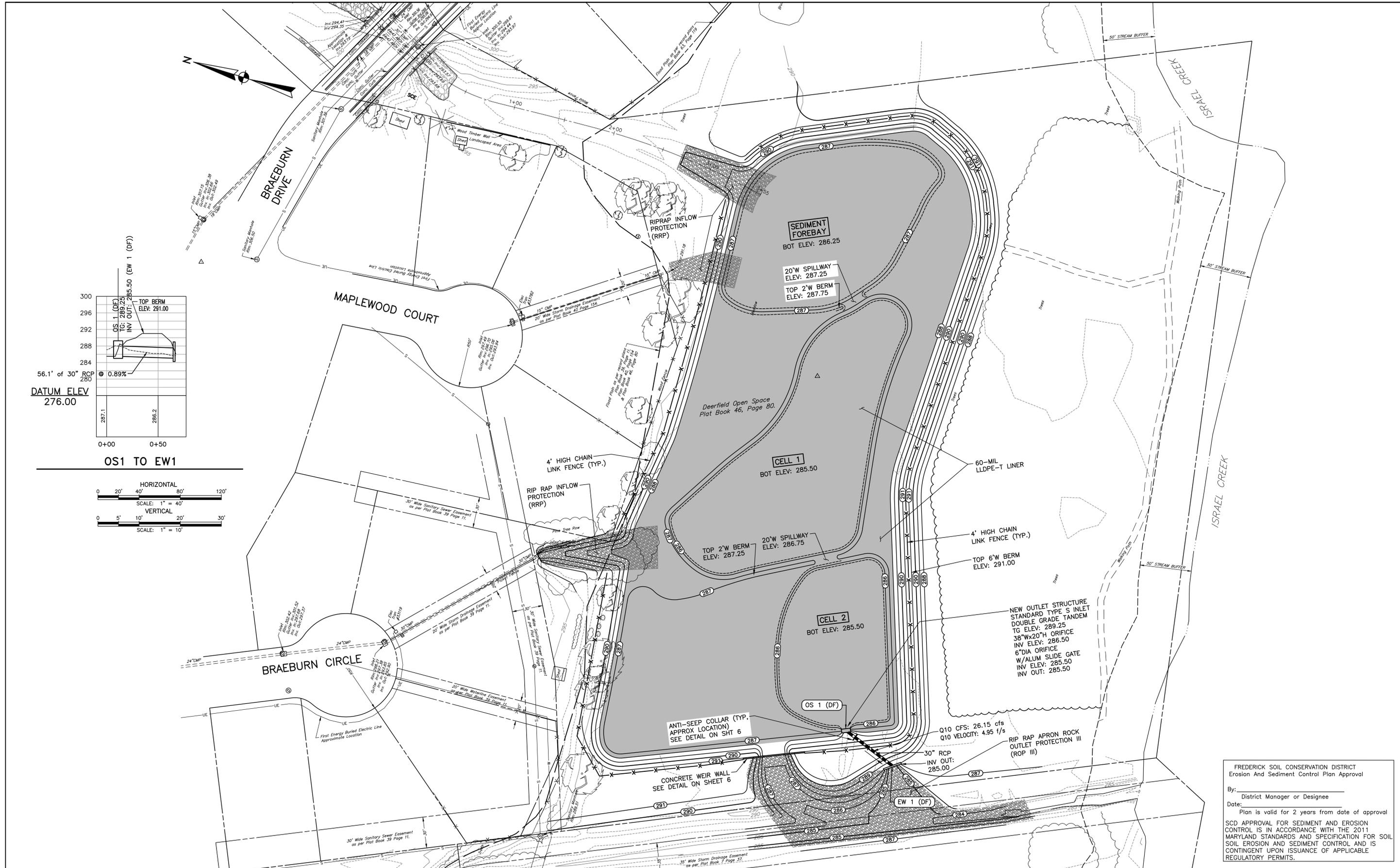
| | |
|---------------------------|-----------------|
| EDWARD J. VAN ARSDALE, PE | SEAL |
| RELEASED BY | CHECKED |
| DESIGN | BCU |
| DRAWN | CADD |
| DATE | OCTOBER 2023 |
| SURVEY DATE | SEPT 2022 |
| FIELD BOOK | WEBER SURVEYORS |
| DATE | 1/4/24 |

SEAL
 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 DEERFIELD BMP FACILITY EXISTING CONDITIONS AND DEMOLITION | | |
| SCALE 0 20' 40' 80' 120' | DWC. NO. | |
| PROJECT NO. 10827.37 | SHEET NO. 2 OF 10 | 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.

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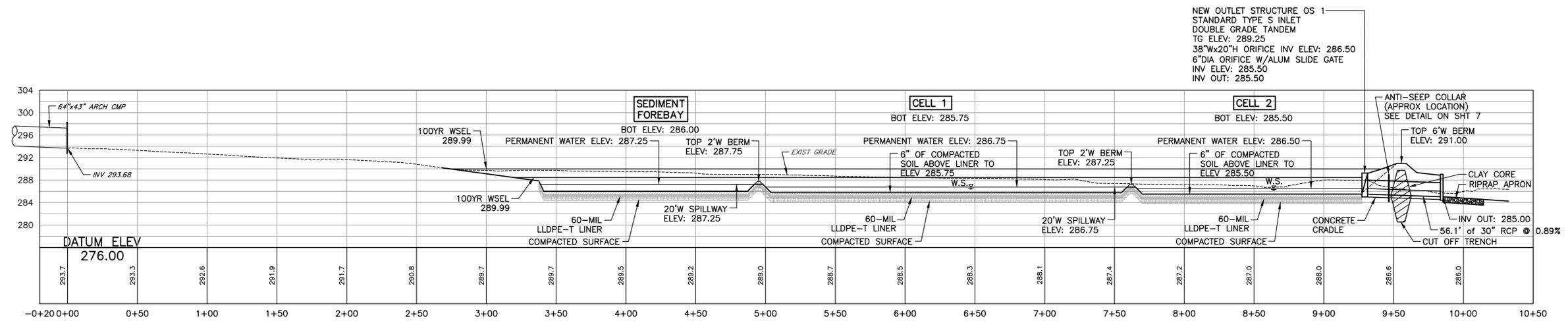
CLIENT & PROJECT
 TOWN OF WALKERSVILLE
 21 WEST FREDERICK STREET
 WALKERSVILLE, MARYLAND 21793

BMP DESIGNS
 WALKERSVILLE, FREDERICK COUNTY, MARYLAND

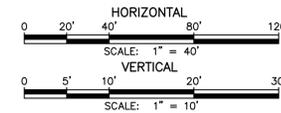
ARRG

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

| | |
|--|----------------------|
| TITLE DEERFIELD BMP FACILITY PROPOSED CONDITIONS | |
| SCALE 0 20' 40' 80' 120' | DWG. NO. |
| PROJECT NO. 10827.37 | SHEET NO. 3 OF 10 |
| REV. | |

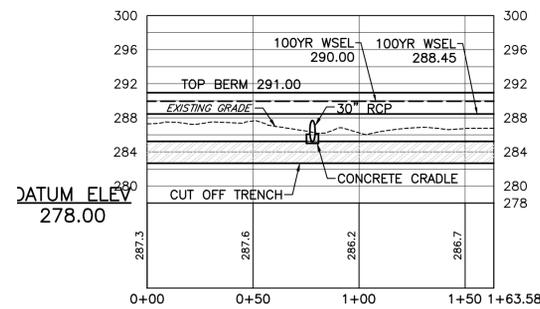


STORM DRAINAGE PROFILE

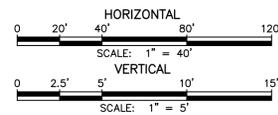


STORMWATER MANAGEMENT FACILITY SUMMARY TABLE

| 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) |
|-----------|-----------------|-----------|---------------------|-----------------------|--------------|------------------|-----------------------------|-----------------------------|----------------------------|-----|---------|----------------------------|
| DEERFIELD | 9.605 | 5.636 | 138.10 | 29.33 | 21.24 | 3.00 | 0.5974 | 1.8042 | 113,364 | 71 | 33.60 | 44.00 |



BERM PROFILE



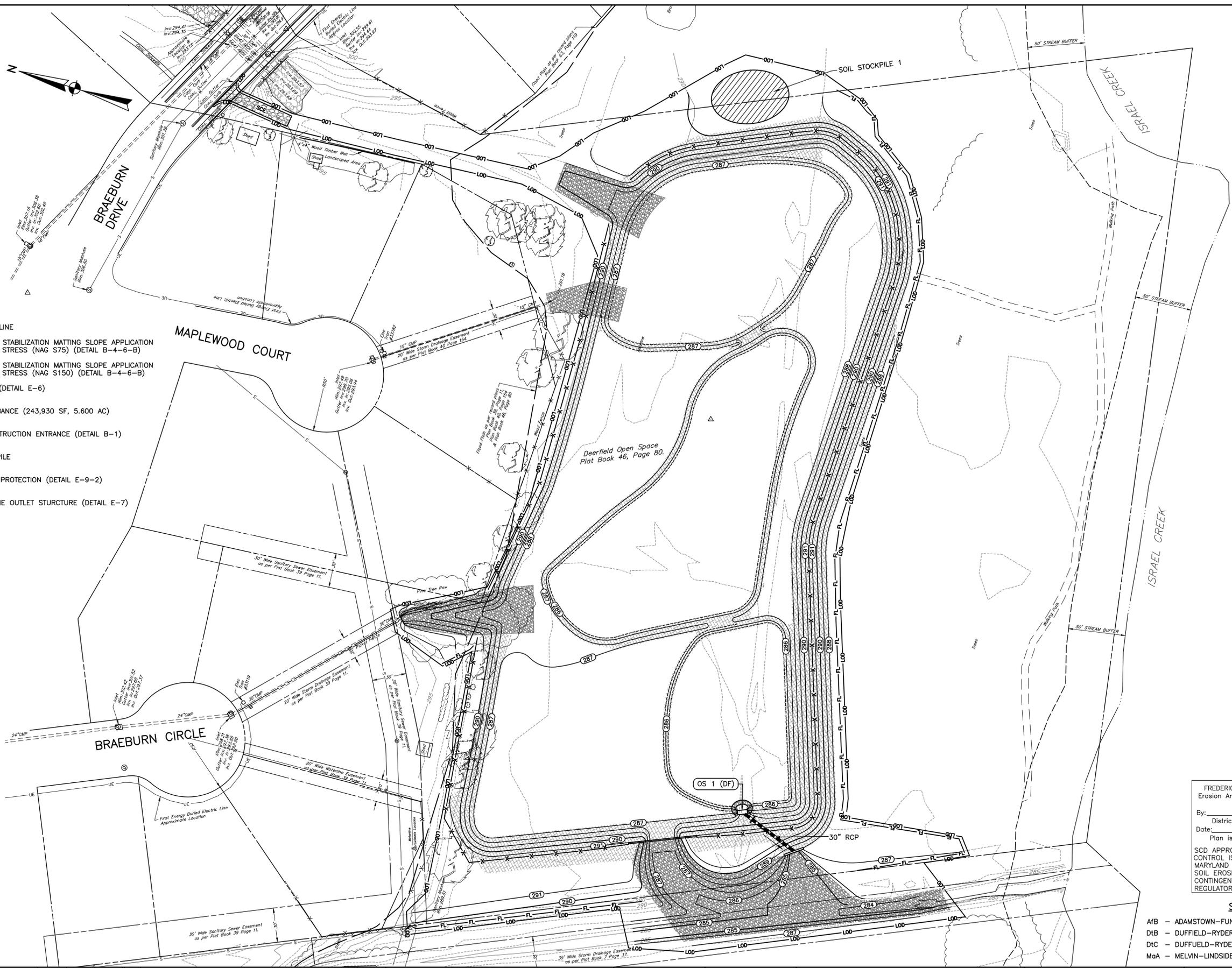
FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

By: _____
District Manager or Designee

Date: _____
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| | | | | | | | | | |
|--|--|--|--|---|--|---|--|--|--|
| EDWARD J. VAN ARSDALE, PE RELEASED BY: BCU DRAWN: CADD DATE: OCTOBER 2023 | | | | SEAL 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 | | TITLE DEERFIELD BMP FACILITY STORM DRAIN PROFILE AND DETAILS | |
| NO REVISION DATE BY APP. NO REVISION DATE BY APP. | | | | FIELD BOOK WEBER SURVEYORS 1/4/24 | | SCALE: 1" = 40' PROJECT NO. 10827.37 | | SCALE: 1" = 40' SHEET NO. 4 OF 10 | |



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)
- LOO— LIMIT OF DISTURBANCE (243,930 SF, 5.600 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

By: _____
District Manager or Designee

Date: _____
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SOILS

- AFB - ADAMSTOWN-FUNKSTOWN COMPLEX, 0 TO 8 PERCENT SLOPES
- DIB - DUFFIELD-RYDER SILT LOAMS, 3 TO 8 PERCENT SLOPES
- DC - DUFFIELD-RYDER SILT LOAMS, 8 TO 15 PERCENT SLOPES
- MaA - MELVIN-LINDSIDE SILT LOAMS, 0 TO 3 PERCENT SLOPES

| NO | REVISION | DATE | BY | APP. | NO | REVISION | DATE | BY | APP. |
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|---------------------------|-------------|-------------|
| EDWARD J. VAN ARSDALE, PE | RELEASED BY | CHECKED |
| BCU | DESIGN | CHECKED |
| CADD | DRAWN | CHECKED |
| OCTOBER 2023 | DATE | SURVEY DATE |
| WEBER SURVEYORS | FIELD BOOK | 1/4/24 |

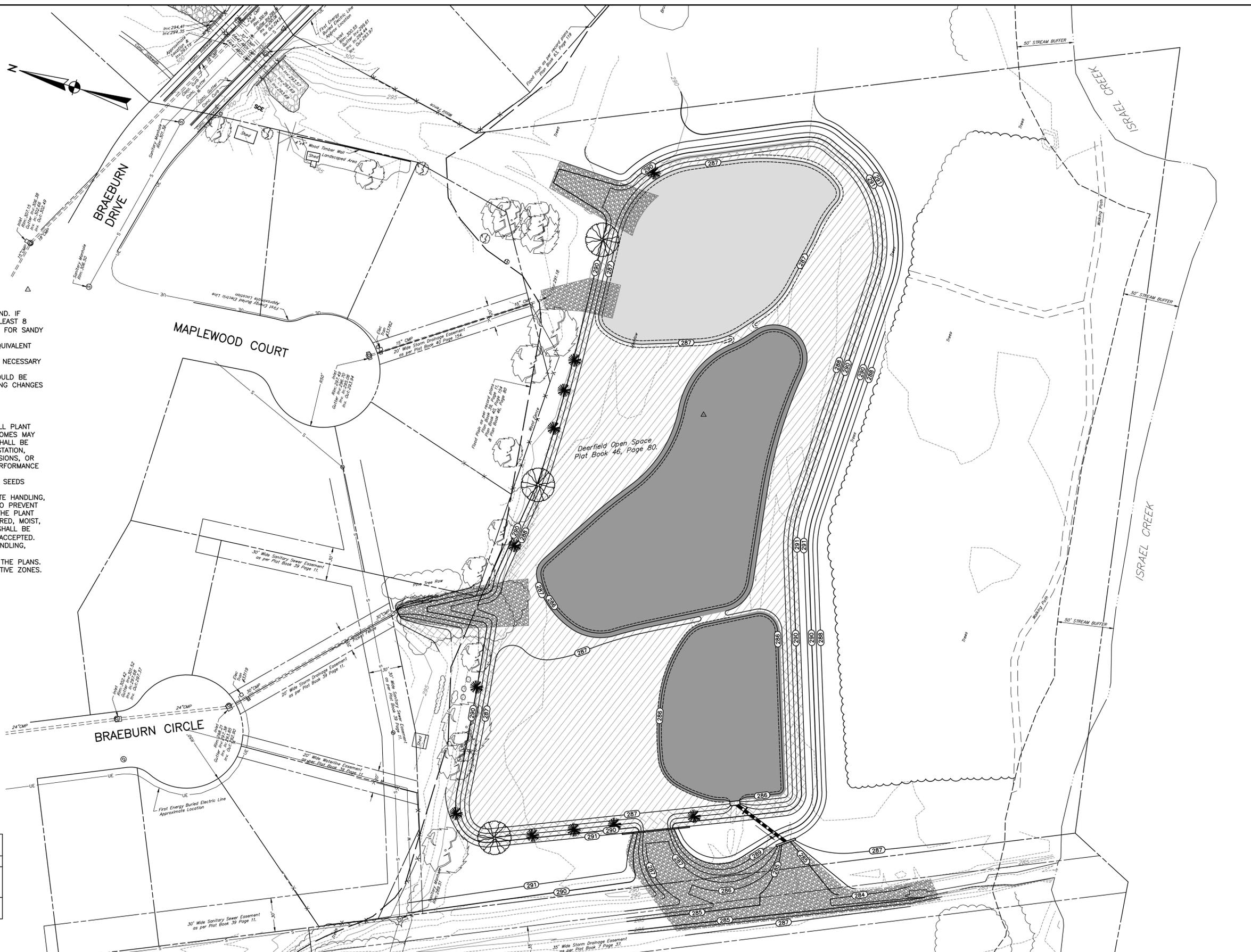
SEAL
STATE OF MARYLAND
EDWARD J. VAN ARSDALE
PROFESSIONAL ENGINEER
1/4/24

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 DEERFIELD BMP FACILITY EROSION AND SEDIMENT CONTROL PLAN | | |
| SCALE 0 20' 40' 80' 120' | SCALE: 1" = 40' | DWG. NO. |
| PROJECT NO. 10827.37 | SHEET NO. 5 OF 10 | REV. |



PLANTING SOIL (TOPSOIL)

- a. 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.
- b. IF PLANTING SOIL IS BEING IMPORTED IT SHOULD BE MADE UP OF EQUIVALENT PROPORTIONS OF ORGANIC AND MINERAL MATERIALS.
- c. LIME SHOULD NOT BE ADDED TO PLANTING SOIL UNLESS ABSOLUTELY NECESSARY AS IT MAY ENCOURAGE THE PROPAGATION OF INVASIVE SPECIES.
- d. 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

- a. 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.
- b. ALL STOCK SHALL BE FREE FROM INVASIVE OR NUISANCE PLANTS OR SEEDS SUCH AS THOSE LISTED IN APPENDIX A.
- c. 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.
- d. PLANTS NOT MEETING THESE SPECIFICATIONS OR DAMAGED DURING HANDLING, LOADING, AND UNLOADING WILL BE REJECTED.
- e. TREES/SHRUBS SHALL BE PLANTED IN THE LOCATIONS SPECIFIED ON THE PLANS. ALL OTHER PLANTINGS CAN BE SPREAD THOROUGHLY IN THEIR RESPECTIVE ZONES.

ZONE 1

DEEP WATER POOL
 • SOFT STEM BULRUSH
 48"-60" SPACING

ZONE 4

HIGH MARSH
 • SWAMP MILKWEED
 30" SPACING
 • WOOL GRASS
 24"-48" SPACING

ZONE 3

LOW MARSH ZONE PLANTINGS
 • CATTAIL SEDGE
 48"-60" SPACING
 • BLUE FLAG IRIS
 18"-24" SPACING
 • RICE CUTGRASS
 24" SPACING

ZONE 5

FLOODPLAIN TERRACE
 • SWITCHGRASS
 36"-48" SPACING
 • BLACKHAW
 • RIVER BIRCH

PLANTING DETAIL

NO SCALE

| PLANT SCHEDULE | | | |
|----------------|----------|-------------|-----------------------------|
| SYMBOL | QUANTITY | NAME | ZONE |
| | 3 | RIVER BIRCH | ZONE 5 - FLOODPLAIN TERRACE |
| | 11 | BLACKHAW | ZONE 5 - FLOODPLAIN TERRACE |

| NO | REVISION | DATE | BY | APP. | NO | REVISION | DATE | BY | APP. |
|----|----------|------|----|------|----|----------|------|----|------|
| | | | | | | | | | |

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

SEAL

SEAL

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

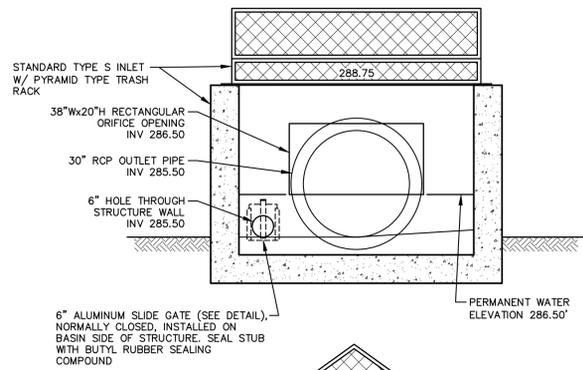
CLIENT & PROJECT

TOWN OF WALKERSVILLE
 21 WEST FREDERICK STREET
 WALKERSVILLE, MARYLAND 21793

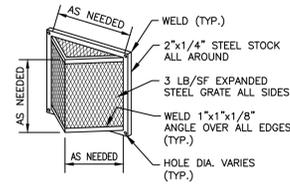
BMP DESIGNS
 WALKERSVILLE, FREDERICK COUNTY, MARYLAND

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

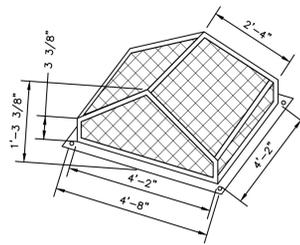
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|-------------|--------------------|--|----------|
| TITLE | | DEERFIELD BMP FACILITY LANDSCAPE PLAN | |
| SCALE | 0 20' 40' 80' 120' | SCALE: | 1" = 40' |
| PROJECT NO. | 10827.37 | SHEET NO. | 6 OF 10 |
| REV. | | REV. | |



TRASH RACK NOTES:
 1. TRASH RACK TO BE CENTERED OVER OPENING.
 2. STEEL TO CONFORM TO ASTM A-36.
 3. ALL SURFACES TO BE COATED WITH ZRC COLD GALVANIZING COMPOUND AFTER WELDING.
 4. TRASH RACK TO BE FASTENED TO THE WALL WITH 1/2\"/>

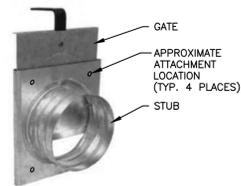


TRASH RACK DETAIL

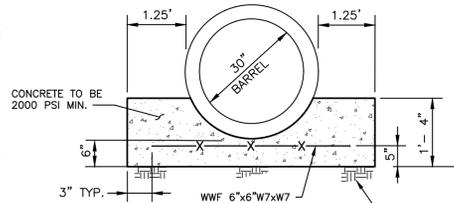


PYRAMID TRASH RACK DETAIL

SLIDE GATE NOTES:
 1. SLUDGE GATE ASSEMBLY TO BE ALUMINUM.
 2. CAST/CORE DRILL 6\"/>

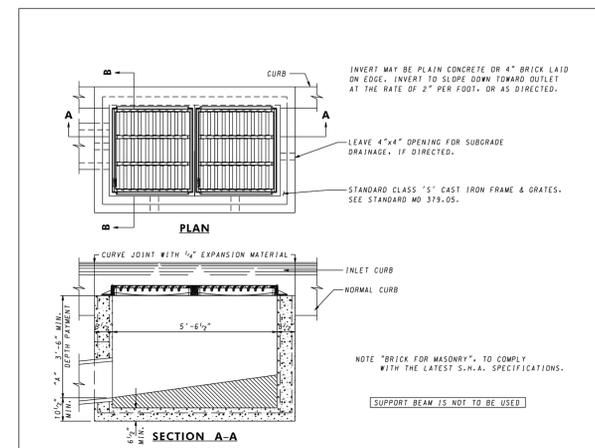


SLIDE GATE DETAIL

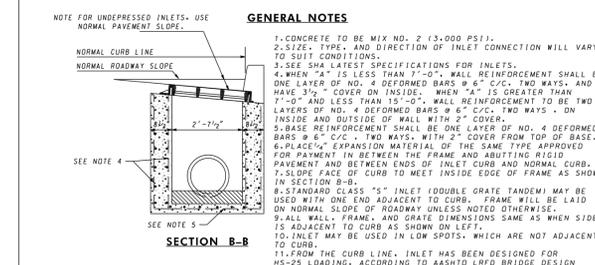


CONCRETE CRADLE

NTS



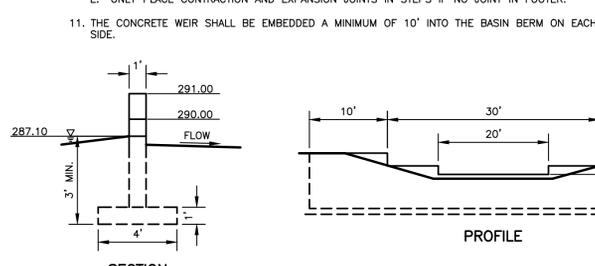
SECTION A-A



SECTION B-B

| SPECIFICATION | CATEGORY CODE ITEMS | STANDARD NO. |
|---------------|---|--------------|
| 305 | STANDARD TYPE S INLET DOUBLE GRADE TANDEM | MD 379.03 |

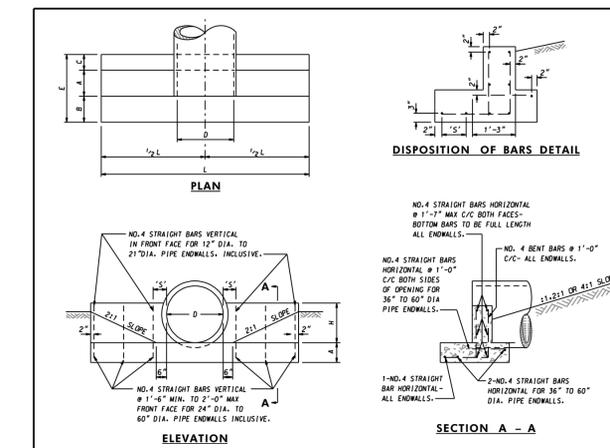
CONCRETE WEIR CONSTRUCTION NOTES:
 1. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO ADEQUATELY BRACE THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.
 2. CAST IN PLACE CONCRETE DESIGN STRENGTH 3,000 P.S.I. @ 28 DAYS.
 3. CONCRETE COVER: BOTTOM OF FOOTINGS CAST AGAINST EARTH 3\"/>



SECTION

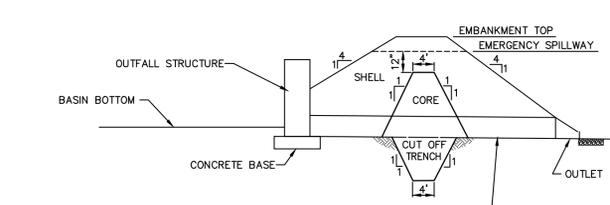
CONCRETE WEIR WALL

NO SCALE

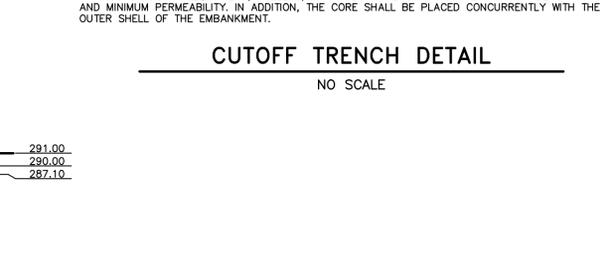


| DIMENSIONS | | QUANTITIES | |
|------------|---------|------------|-------|
| D | AREA | CONC. | STEEL |
| INCHES | SQ. FT. | C.Y. | LEBS. |
| 12 | 0.79 | 0.27 | 24 |
| 15 | 1.23 | 0.34 | 26 |
| 18 | 1.77 | 0.41 | 29 |
| 21 | 2.40 | 0.48 | 33 |
| 24 | 3.14 | 0.67 | 38 |
| 27 | 3.98 | 0.77 | 49 |
| 30 | 4.91 | 0.85 | 53 |
| 33 | 5.94 | 0.95 | 56 |
| 36 | 7.07 | 1.05 | 65 |
| 42 | 9.42 | 1.36 | 96 |
| 48 | 12.57 | 1.87 | 106 |
| 54 | 15.50 | 2.06 | 121 |
| 60 | 18.44 | 2.22 | 143 |

| DIMENSIONS | | QUANTITIES | |
|------------|---------|------------|-------|
| D | AREA | CONC. | STEEL |
| INCHES | SQ. FT. | C.Y. | LEBS. |
| 4" | 0.09 | 0.03 | 3 |
| 6" | 0.21 | 0.08 | 7 |
| 8" | 0.35 | 0.13 | 11 |
| 10" | 0.51 | 0.18 | 15 |
| 12" | 0.68 | 0.24 | 19 |
| 14" | 0.86 | 0.30 | 23 |
| 16" | 1.04 | 0.36 | 27 |
| 18" | 1.23 | 0.42 | 31 |
| 20" | 1.43 | 0.48 | 35 |
| 22" | 1.63 | 0.54 | 39 |
| 24" | 1.84 | 0.60 | 43 |
| 26" | 2.05 | 0.66 | 47 |
| 28" | 2.26 | 0.72 | 51 |
| 30" | 2.47 | 0.78 | 55 |
| 32" | 2.68 | 0.84 | 59 |
| 34" | 2.89 | 0.90 | 63 |
| 36" | 3.10 | 0.96 | 67 |
| 38" | 3.31 | 1.02 | 71 |
| 40" | 3.52 | 1.08 | 75 |
| 42" | 3.73 | 1.14 | 79 |
| 44" | 3.94 | 1.20 | 83 |
| 46" | 4.15 | 1.26 | 87 |
| 48" | 4.36 | 1.32 | 91 |
| 50" | 4.57 | 1.38 | 95 |
| 52" | 4.78 | 1.44 | 99 |
| 54" | 4.99 | 1.50 | 103 |
| 56" | 5.20 | 1.56 | 107 |
| 58" | 5.41 | 1.62 | 111 |
| 60" | 5.62 | 1.68 | 115 |



NOTES:
 NOTE: PREFERENCE IS FOR ANTI-SEEP COLLARS TO BE OUTSIDE OF CUTOFF TRENCH.
 CUTOFF TRENCH - THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. CUTOFF TRENCH MUST BE CONTINUOUS AND EXTEND THE ENTIRE LENGTH OF EMBANKMENT. COMPACTION REQUIREMENTS ARE THE SAME AS THOSE FOR THE EMBANKMENT.
 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.

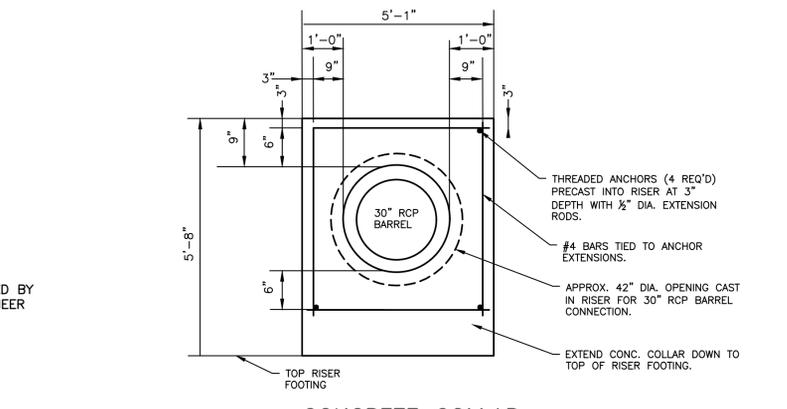


WEIR SECTION Z-Z

| BASIN NAME | Z3 (FT) | Z4 (FT) | TOP ELEV WTE (FT) | CREST ELEV WCE (FT) | WIDTH Ww (FT) | LINING * | FOREBAY BOTTOM ELEVATION |
|------------|---------|---------|-------------------|---------------------|---------------|----------|--------------------------|
| SF | 4 | 4 | 287.25 | 286.75 | 20 | NAG S75 | 286.25 |
| 1 | 4 | 4 | 286.75 | 286.25 | 20 | NAG S75 | 285.50 |
| 2 | 4 | 4 | N/A | N/A | N/A | NAG S75 | 285.50 |

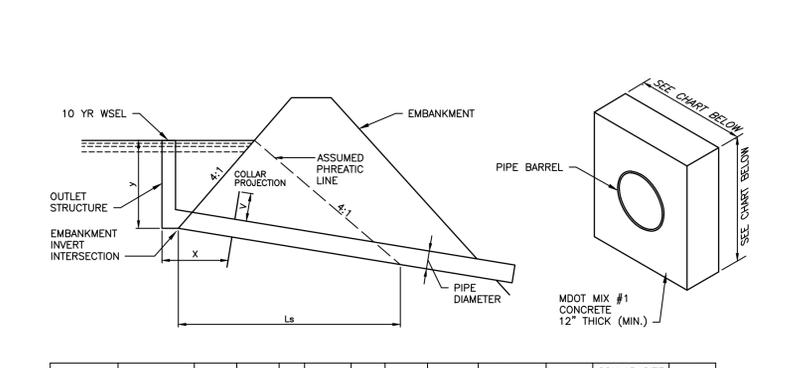
CELL DETAIL

NO SCALE



CONCRETE COLLAR

NTS

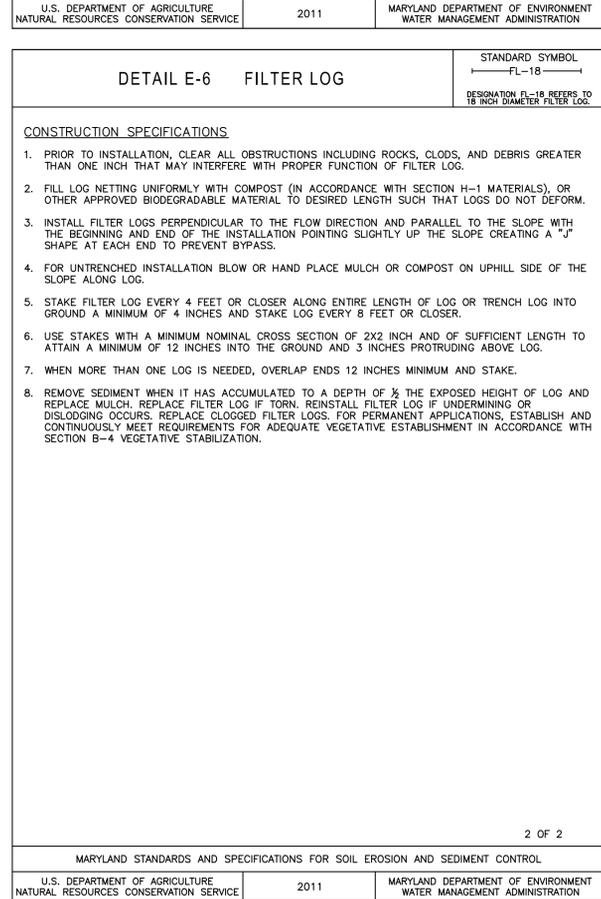
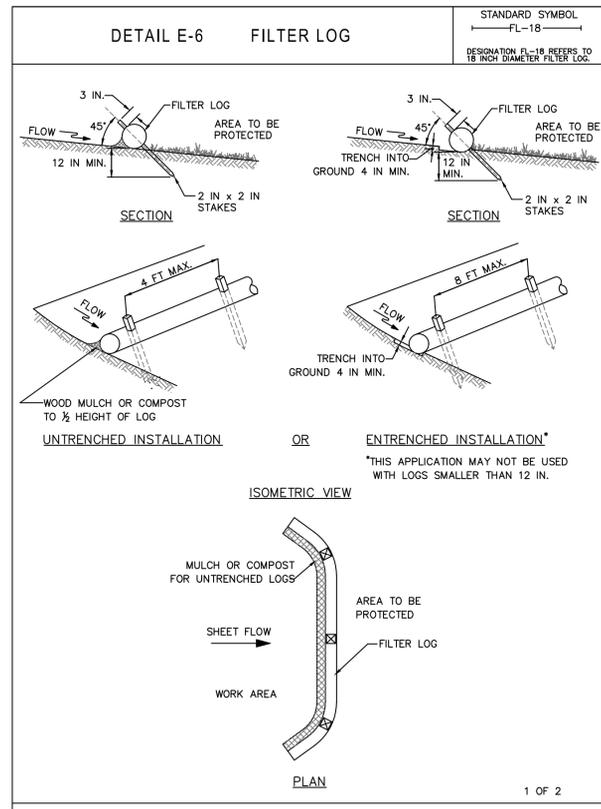
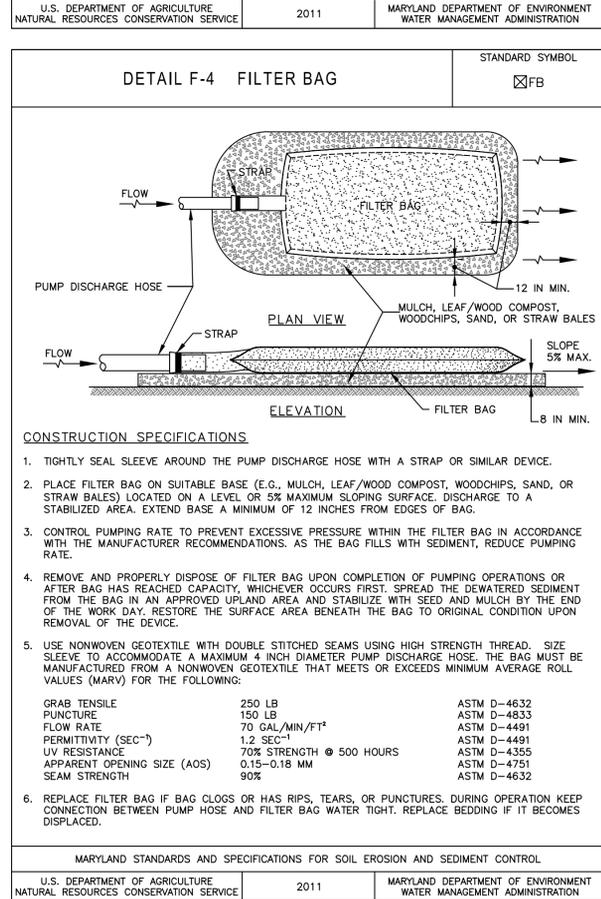
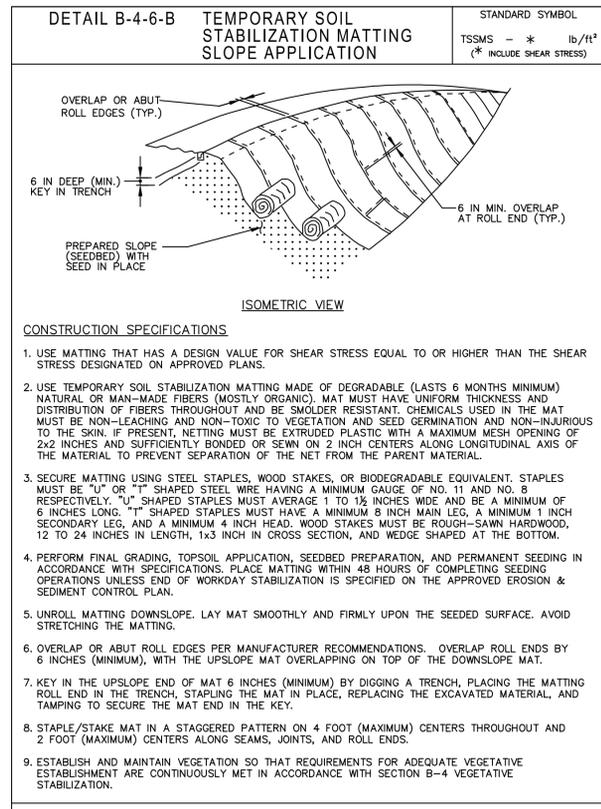
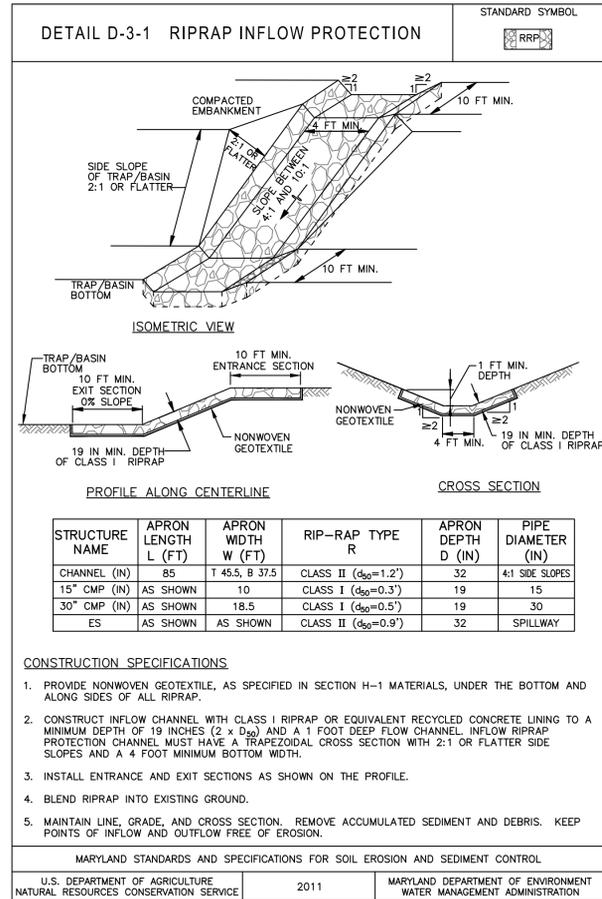
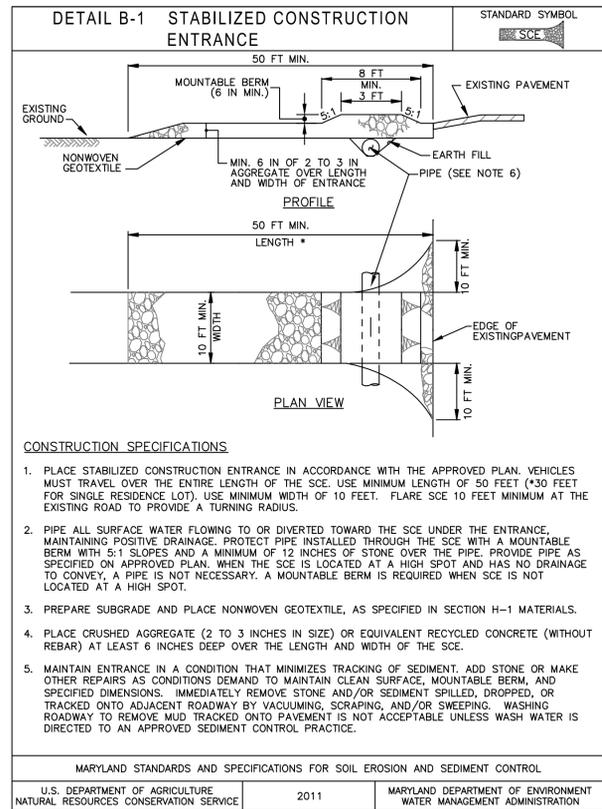


| BASIN NAME | EMBANKMENT INVERT | 10YR WSEL | y (FT.) | Z | PIPE SLOPE | Ls (FT.) | PIPE DIA. (IN.) | NO. OF COLLARS | COLLARS PROJECTION (FT.) | BARREL O.D. (IN.) | COLLAR SIZE (SQUARE FT.) | OFFSITE X (FT.) |
|------------|-------------------|-----------|---------|---|------------|----------|-----------------|----------------|--------------------------|-------------------|--------------------------|-----------------|
| DEERFIELD | 291.00 | 288.45 | 2.95 | 4 | 0.0089 | 24 | 30 | 1 | 2 | 37 | 7.08 | 12.25 |

ANTI-SEEP COLLAR DETAIL

NO SCALE

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|---|--|--|--|--|
| EDWARD J. VAN ARSDALE, PE RELEASED BY: DESIGN, BCU, DRAWN, CADD, DATE: OCTOBER 2023 | | | | | | | | | | SEAL STATE OF MARYLAND PROFESSIONAL ENGINEER 1/4/24 | | | | | 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 | | | | | CLIENT & PROJECT TOWN OF WALKERSVILLE 21 WEST FREDERICK STREET WALKERSVILLE, MARYLAND 21793 BMP DESIGNS WALKERSVILLE, FREDERICK COUNTY, MARYLAND | | | | | TITLE DEERFIELD BMP FACILITY DESIGN DETAILS | | | | |
| REVISION NO. DATE BY APP. NO. DATE BY APP. | | | | | | | | | | DWG. NO. AS SHOWN | | | | | SHEET NO. 7 OF 10 | | | | | | | | | | | | | | |



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 RELEASED BY | | | | SEAL | | | | 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 | | | | CLIENT & PROJECT TOWN OF WALKERSVILLE 21 WEST FREDERICK STREET WALKERSVILLE, MARYLAND 21793 BMP DESIGNS WALKERSVILLE, FREDERICK COUNTY, MARYLAND | | | |
| DESIGN BCU | | | | CHECKED | | | | STATE OF MARYLAND PROFESSIONAL ENGINEER NOV 18 2022 | | | | 201 Thomas Johnson Drive Suite 207 Frederick, MD 21702 Tel 301.791.1100 | | | |
| DRAWN CADD | | | | CHECKED | | | | DATE OCTOBER 2023 | | | | TILE DEERFIELD BMP FACILITY EROSION AND SEDIMENT CONTROL DETAILS | | | |
| DATE OCTOBER 2023 | | | | SURVEY DATE SEPT 2022 | | | | SCALE AS SHOWN | | | | DWG. NO. | | | |
| FIELD BOOK WEBER SURVEYORS | | | | 1/4/24 | | | | PROJECT NO. 10827.37 | | | | SHEET NO. 8 OF 10 | | | |
| NO | | | | REVISION | | | | DATE | | | | BY | | | |
| NO | | | | REVISION | | | | DATE | | | | BY | | | |

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 FCSJ 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, 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 A 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

- DEERFIELD 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 OPERATION OF THE BASIN. OPERATION AND MAINTENANCE PLANS 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 CEARED 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, DIGGING, 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 6B) | | | | | 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) | |
| 3 | KENTUCKY BLUEGRASS | 10 | 3/1 TO 5/15 8/15 TO 10/15 | 1"-2" | | | | 150 lb/ac | |

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 6B) | | | | | 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 DEERFIELD 4% WINDMILL 20% 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 | |

FREDERICK SOIL CONSERVATION DISTRICT
Erosion And Sediment Control Plan Approval

By: _____
District Manager or Designee

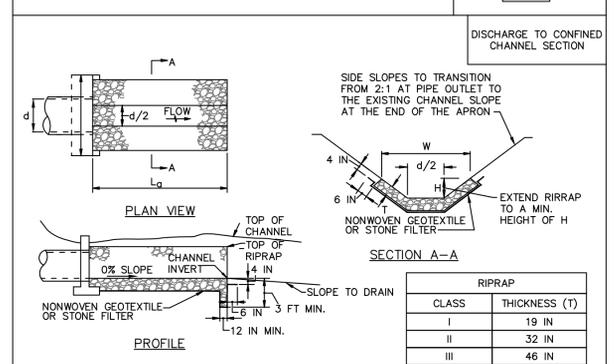
Date: _____
Plan is valid for 2 years from date of approval

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.

| STRUCTURE NAME | APRON LENGTH L (FT) | APRON WIDTH W (FT)* | RIP-RAP TYPE R | APRON DEPTH D (IN) | PIPE DIAMETER (IN) |
|----------------|---------------------|---------------------|---------------------------------|--------------------|--------------------|
| 30" RCP (OUT) | AS SHOWN | 20.5 | CLASS I (d ₅₀ =0.8') | 19 | 30 |

(*)- WIDTH MAY VARY BASED ON RECEIVING CHANNEL CONDITIONS.

DETAIL D-4-1-B ROCK OUTLET PROTECTION II



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 (3/8 TO 1/2 INCH 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 STONE 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 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

| | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|---|--|--|--|
| 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 STATE OF MARYLAND PROFESSIONAL ENGINEER 1/4/24 | | 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 | | 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 DEERFIELD BMP FACILITY EROSION AND SEDIMENT CONTROL NOTES | |
| NO REVISION | | | | | | | | | | SCALE AS SHOWN | | DWG. NO. | | | | | | | |
| DATE BY APP. NO | | | | | | | | | | PROJECT NO. 1082737 | | SHEET NO. 9 OF 10 | | | | | | | |

CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

1.) SPECIFICATIONS

- AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL.
- ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED.
- CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1.
- ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 15 FEET OF THE TOE OF THE EMBANKMENT.
- AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS.
- TREES, BRUSH, AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE.
- FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 25'-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.
- ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE.
- WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

EARTH FILL

1.) MATERIALS

- THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS.
- IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6", FROZEN OR OTHER OBJECTIONABLE MATERIALS.
- FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT, AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER.
- SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER. MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT.

2.) PLACEMENT

- AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL.
- FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL.
- THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT.
- THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

3.) COMPACTION

- THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER Tired OR VIBRATORY ROLLER.
- FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED.
- THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.
- WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN ±2% OF THE OPTIMUM.
- EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).

4.) CUT OFF TRENCH

- THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS.
- THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET.
- THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS.
- THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

5.) 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
- E 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 FOR 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.

1.) CORRUGATE METAL PIPE

ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATE METAL PIPE:

- 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.
 - (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 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.
 - (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.
- 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.
- 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 ANNULAR 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.

D.) 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.

E.) BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

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

2.) REINFORCED CONCRETE PIPE

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

- MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.
- 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. POND MD-378-17 NRCS - MARYLAND JANUARY 2000

C.) LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH 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.

D.) BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

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

3.) PLASTIC PIPE

THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

- MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D1785 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.

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

C.) 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.

D.) BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

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

4.) 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 INQUIRED 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.

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 (IE USING BASIN SEE BS 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. FILTERING 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/ COMPACTION | |
| B. EMBANKMENT CONSTRUCTION | |
| 1. SUITABLE MATERIAL/COMPACTION | |
| 2. SLOPE GRADE | |
| 3. DIMENSIONS | |
| C. BARREL AND RISER ASSEMBLY | |
| 1. CORRECT MATERIAL ON SITE | |
| 2. SIZING | |
| 3. ANTI-SEEP COLLARS | |
| 4. ANTI-FLOATION DEVICE | |
| 5. CONCRETE GRADE (RIP ONLY) | |
| 6. INSTALLATION /BARREL/COMPACTION | |
| D. CONCRETE STRUCTURES | |
| 1. FOOTER DIMENSIONS | |
| 2. REINFORCING MATERIAL (TYPE, SIZE, PLACEMENT) | |
| 3. WER POUR/MATERIAL/SUMP TEST | |
| 4. FORM STRIP AND FINISHING | |
| E. IMPROVING AREA | |
| 1. LOW FLOW CHANNELS/STABILIZATION | |
| 2. DEWATERING DEVICE | |
| 3. EMERGENCY SPILLWAY | |
| 4. EXTENDED DETENTION DEVICE | |
| F. OUTFALL AREA (LEVEL SPREADER, RIPRAP CHANNEL, ECT.) | |
| G. VEGETATIVE STABILIZATION | |
| H. MISCELLANEOUS | |

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.

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|----|--|--|--|--|--|--|--|--|--|-------------------------------|--|--------------------------|--|---|--|----------------------------|--|--|--|---|--|---|--|--|--|-------------------|--|----------|--|
| | | | | | | | | | | EDWARD J. VAN ARSDALE, PE | | SEAL | | 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 DEERFIELD BMP FACILITY EROSION AND SEDIMENT CONTROL NOTES | | SCALE AS SHOWN | | DWG. NO. | |
| | | | | | | | | | | DESIGN BCU | | CHECKED | | 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 | | BMP DESIGNS | | 201 Thomas Johnson Drive Suite 207 Frederick, MD 21702 Tel 301.791.1100 | | PROJECT NO. 10827.37 | | SHEET NO. 10 OF 10 | | REV. | | | | | |
| | | | | | | | | | | DRAWN CADD | | CHECKED | | SEAL | | FREDERICK COUNTY, MARYLAND | | 201 Thomas Johnson Drive Suite 207 Frederick, MD 21702 Tel 301.791.1100 | | PROJECT NO. 10827.37 | | SHEET NO. 10 OF 10 | | REV. | | | | | |
| | | | | | | | | | | DATE OCTOBER 2023 | | SURVEY DATE SEPT 2022 | | SEAL | | FREDERICK COUNTY, MARYLAND | | 201 Thomas Johnson Drive Suite 207 Frederick, MD 21702 Tel 301.791.1100 | | PROJECT NO. 10827.37 | | SHEET NO. 10 OF 10 | | REV. | | | | | |
| | | | | | | | | | | FIELD BOOK WEBER SURVEYORS | | 1/4/24 | | SEAL | | FREDERICK COUNTY, MARYLAND | | 201 Thomas Johnson Drive Suite 207 Frederick, MD 21702 Tel 301.791.1100 | | PROJECT NO. 10827.37 | | SHEET NO. 10 OF 10 | | REV. | | | | | |
| NO | | | | | | | | | | REVISION | | DATE | | BY | | APP. | | NO | | REVISION | | DATE | | BY | | APP. | | | |