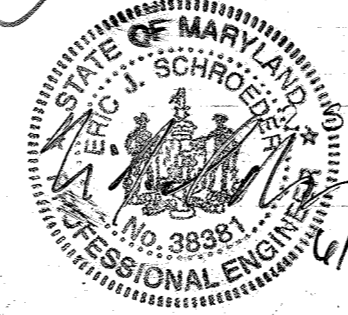


All structures, utilities, pavement, + fence to be removed to a depth of 2'-6". Excavation is to be filled with fill dirt to match existing elevation. All disturbed soil will be seeded + mulched at end of construction.

Note: 1. At two locations: Depress curb thru 4' width of Walk. Taper Curb from 7" Standard Height in 3' to 1/2" Height above Roadway Surface. Slope Walk Longitudinally over 4' length to 1/2" depressed curb to create Ramp to Roadway. See Detail Embankment, Sheet 3.

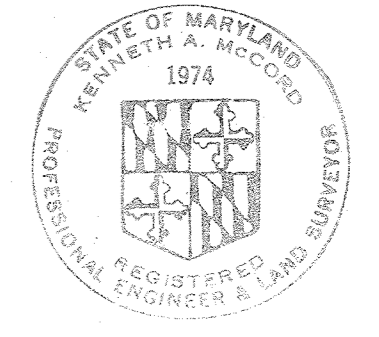
PLAN
Scale: 1" = 20'



Redlines Only Revision 6-2024
Demolition of Treatment Plant



APPROVED
DIVISION OF LAND DEVELOPMENT
HOWARD COUNTY, MARYLAND
DATE 3-29-79
Mr. J. W. M.



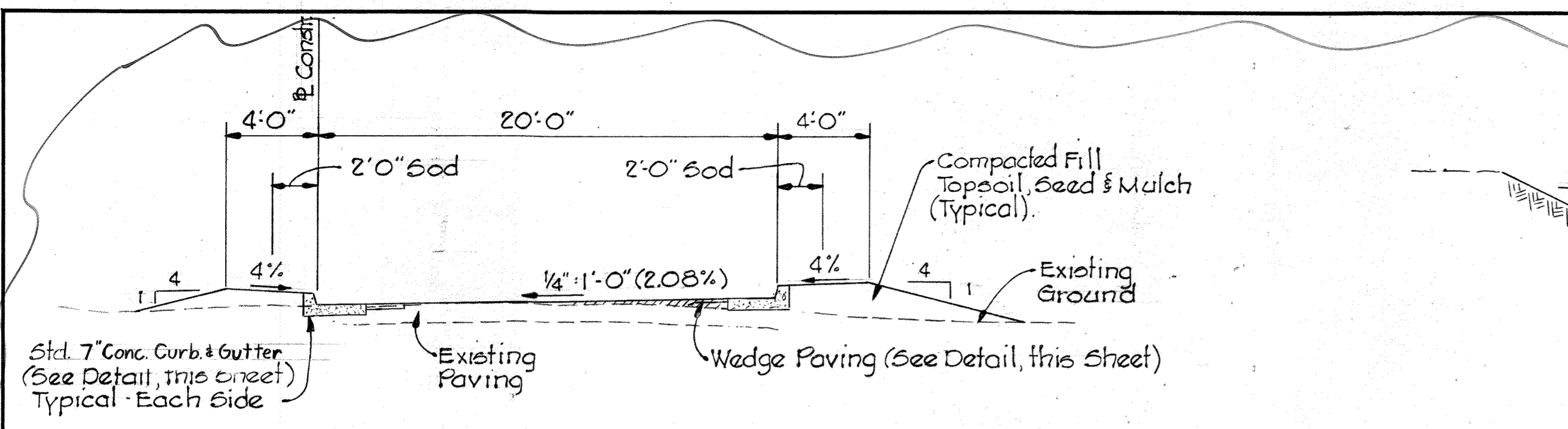
APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
PLANNING DIRECTOR
DATE 5-8-79
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
DIRECTOR
DATE 5-2-79
CHIEF, BUREAU OF ENGINEERING

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
COUNTY HEALTH OFFICER
DATE 5-7-79

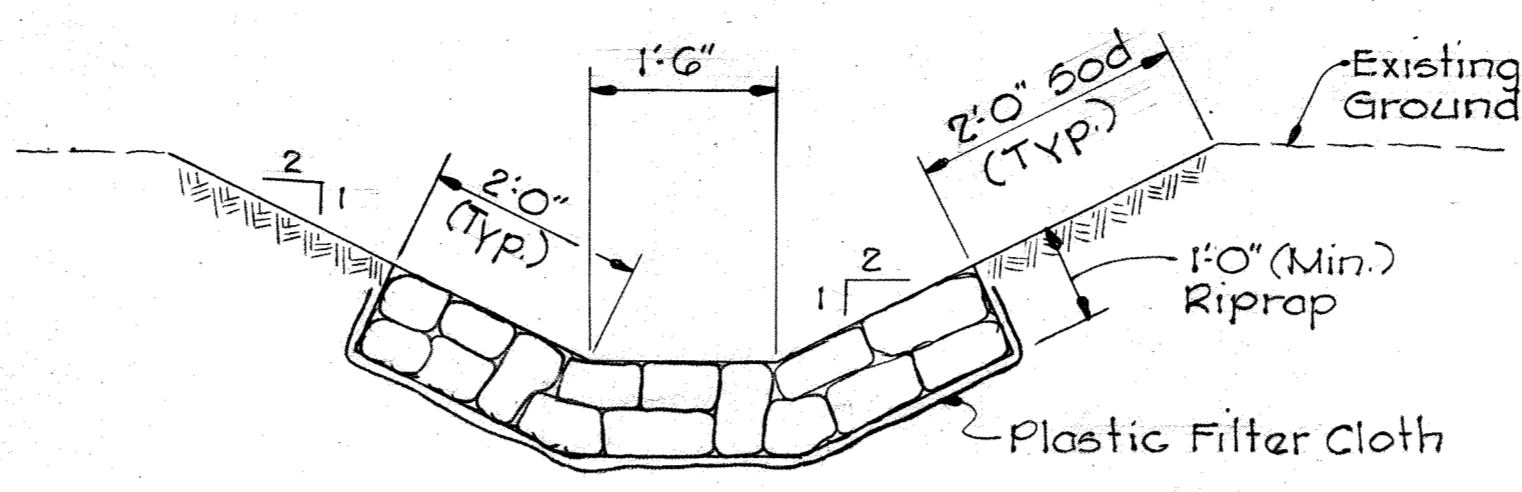
OWNER AND DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043

DEEP RUN INTERIM WASTEWATER TREATMENT PLANT
SITE DEVELOPMENT PLAN
ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND
MARCH 9, 1979
SCALE: AS SHOWN



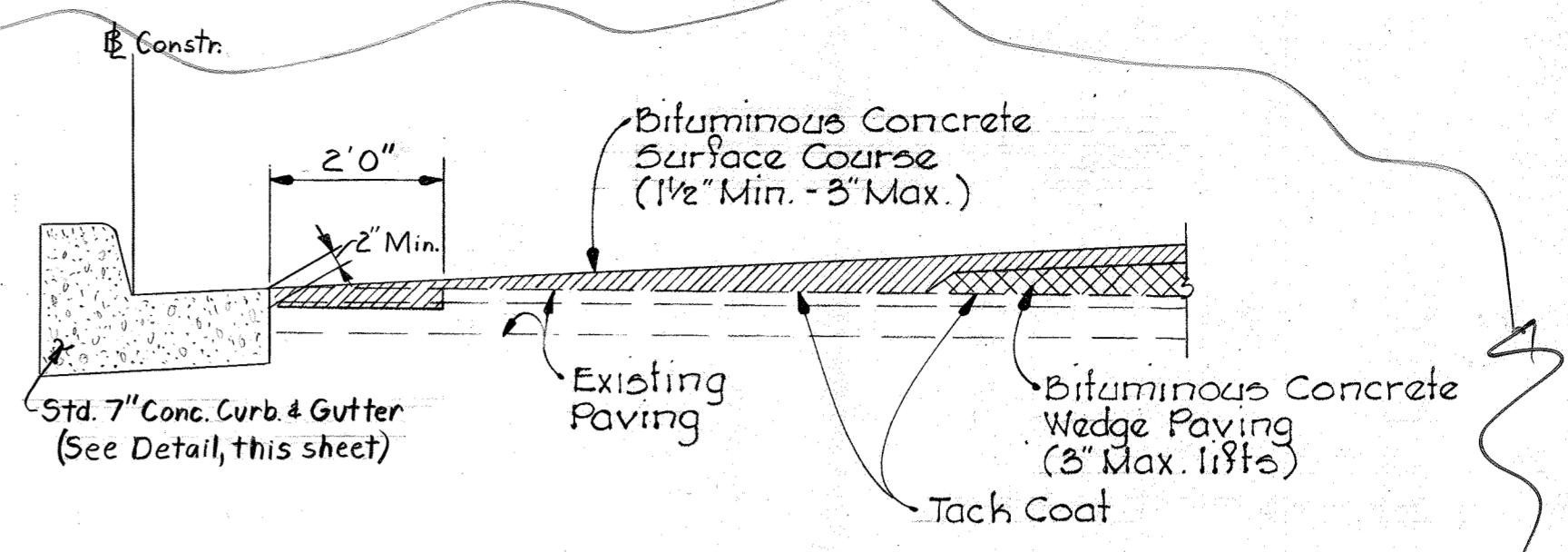
TYPICAL SECTION - CHURCH AVENUE

Sta. 5+44 to Sta. 7+15 & Sta. 8+43 to Sta. 9+70 Survey &
Scale: 1"=5'-0"



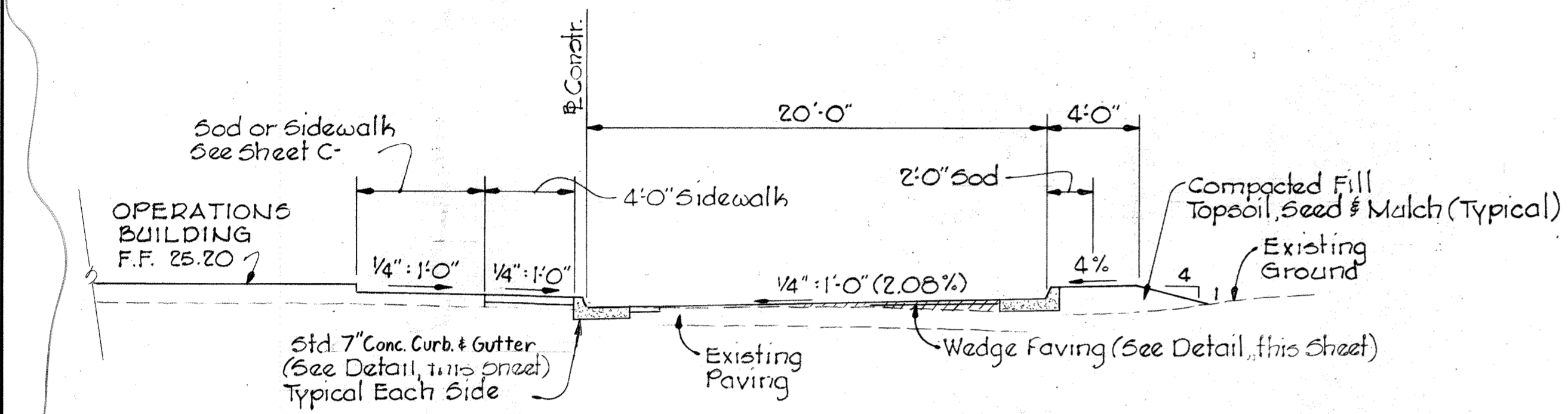
TYPICAL RIPRAP OUTFALL DITCH

No Scale



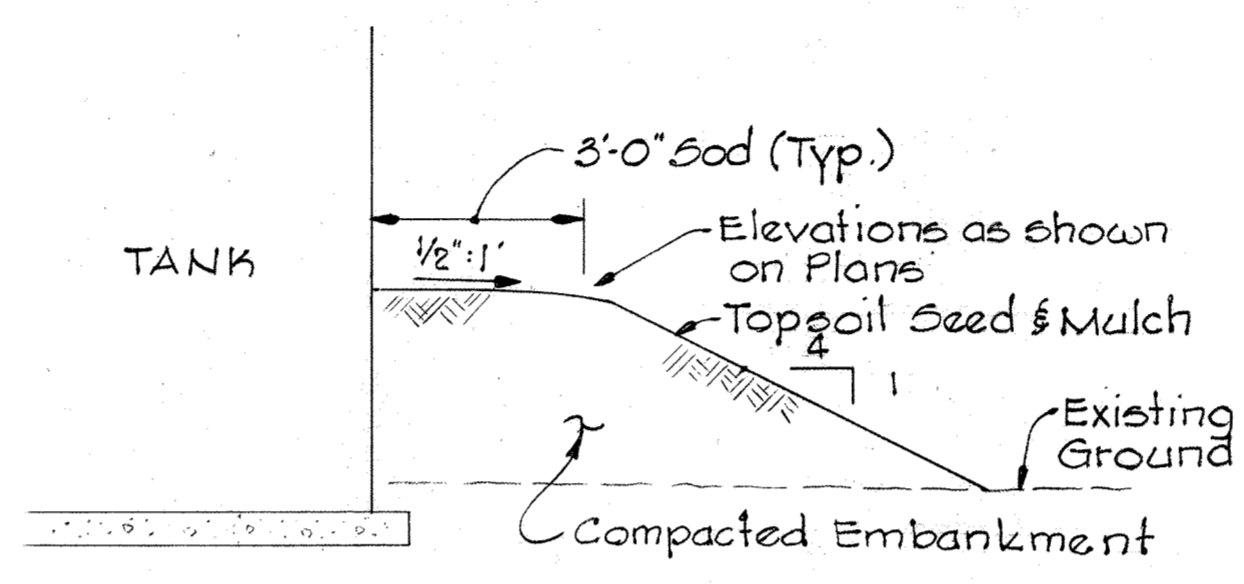
WEDGE PAVING DETAIL

No Scale



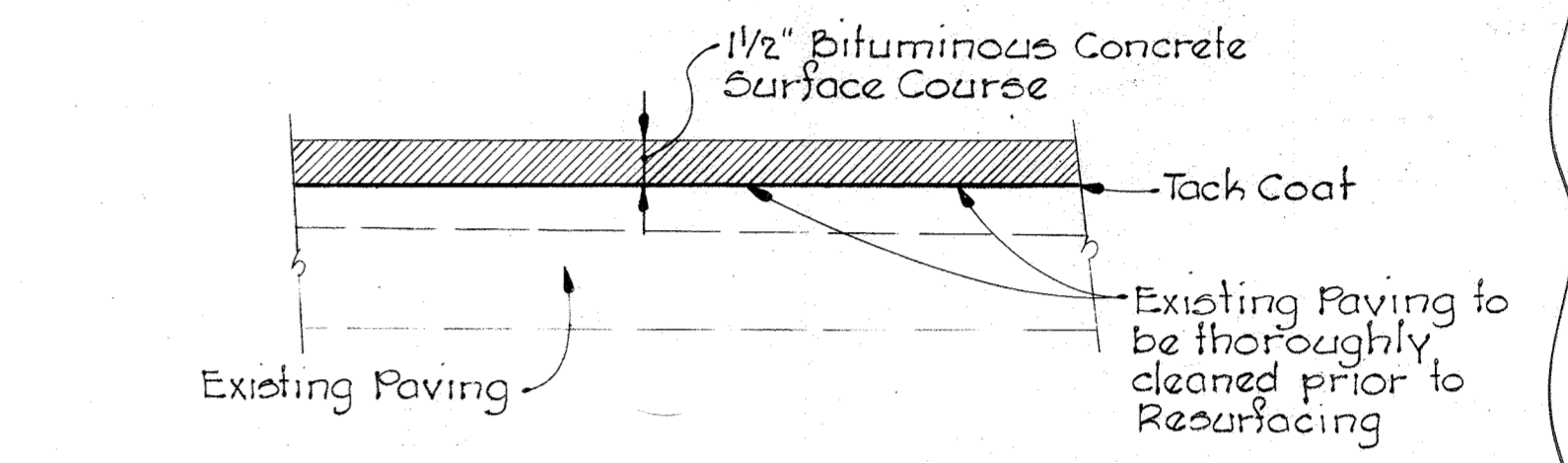
TYPICAL SECTION - CHURCH AVENUE

Sta. 7+15 to Sta. 7+63 Survey &
Scale: 1"=5'-0"



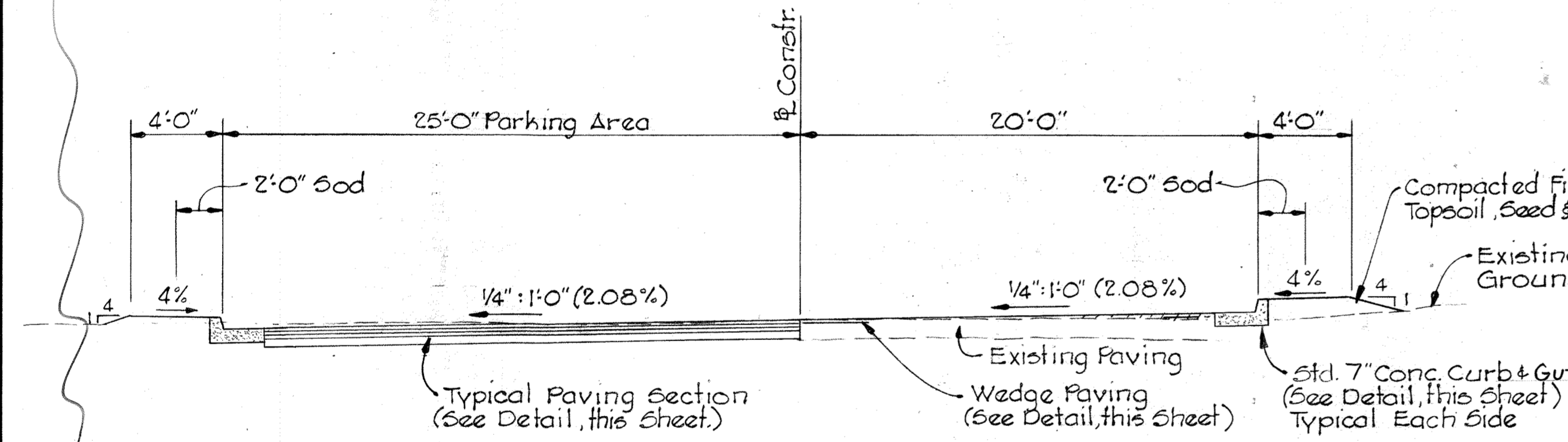
DETAIL - TYPICAL EMBANKMENT FOR EXTERIOR PIPING

No Scale



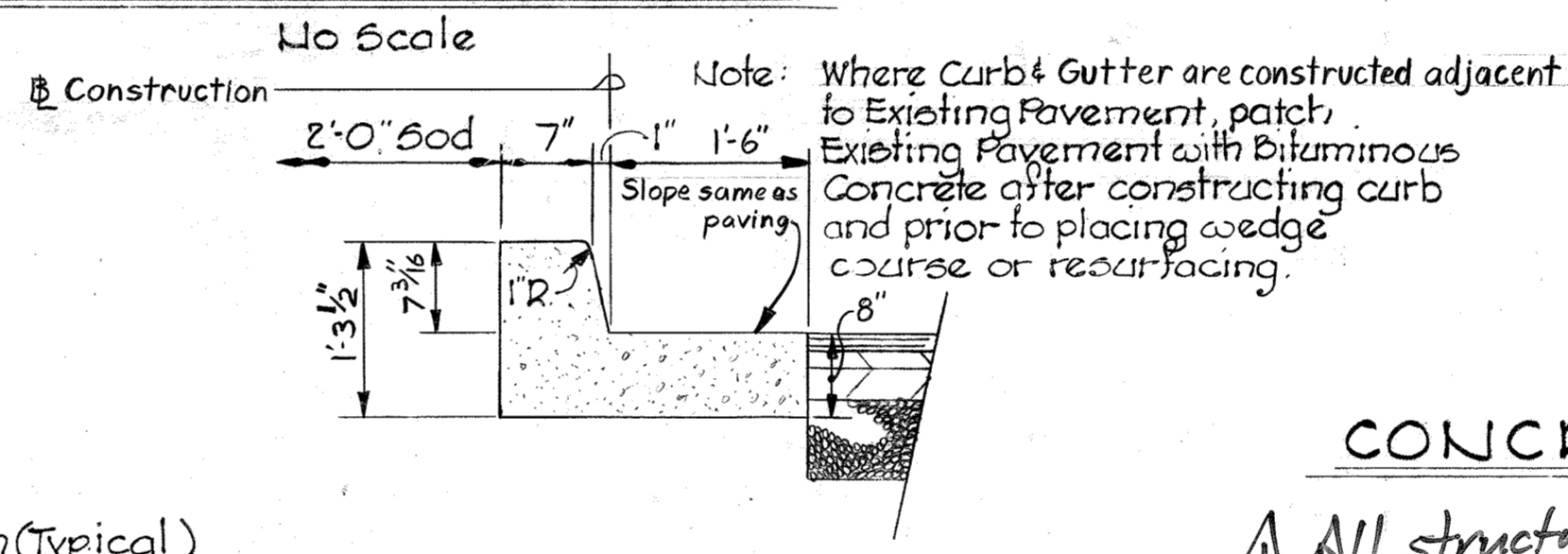
TYPICAL RESURFACING SECTION

CHURCH AVENUE
Sta. 0+00± to Sta. 5+44 & Sta. 9+70 to Sta. 10+46± Survey &
No Scale



TYPICAL SECTION - CHURCH AVENUE

Sta. 7+63 to Sta. 8+43 Survey &
Scale: 1"=5'-0"

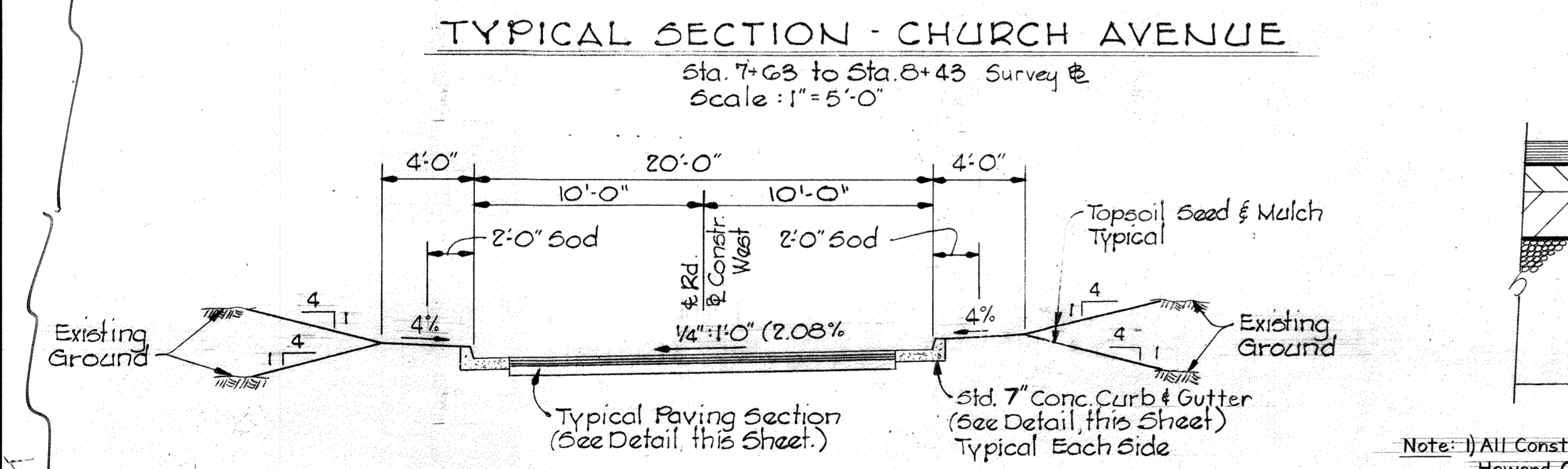
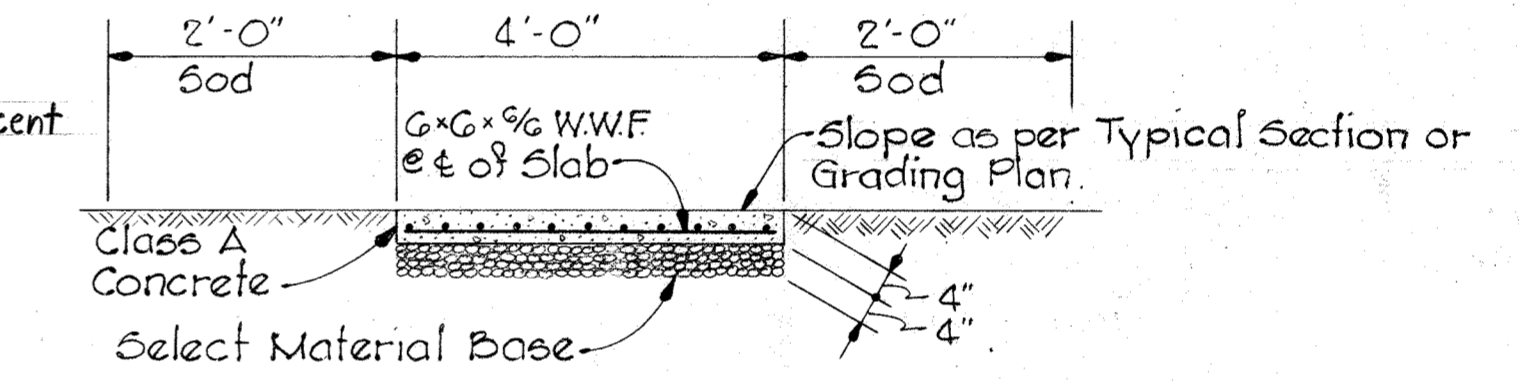


TYPICAL CURB & GUTTER DETAIL

No Scale

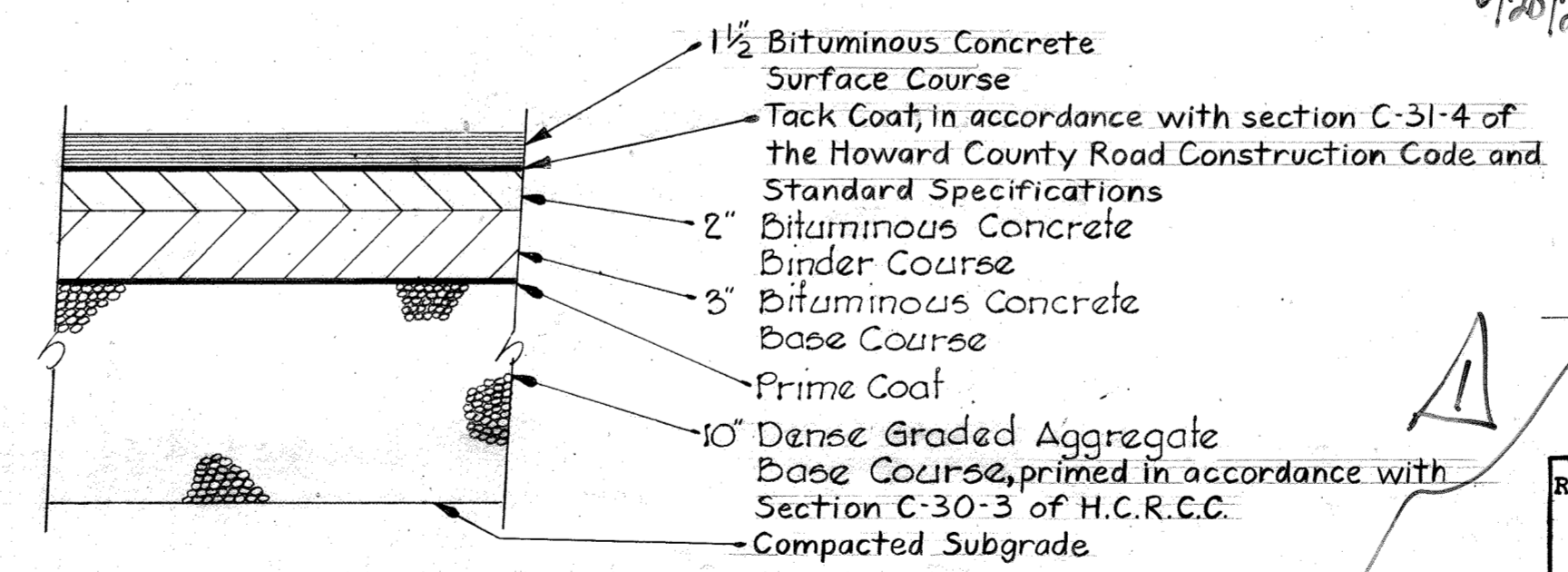
CONCRETE SIDEWALK DETAIL

No Scale
All structures, utilities, pavement, + fence to be removed to a depth of 2'-6". Excavation is to be filled with fill dirt to match existing elevation. All disturbed soil will be seeded + mulched at end of construction.



TYPICAL SECTION - SERVICE DRIVE

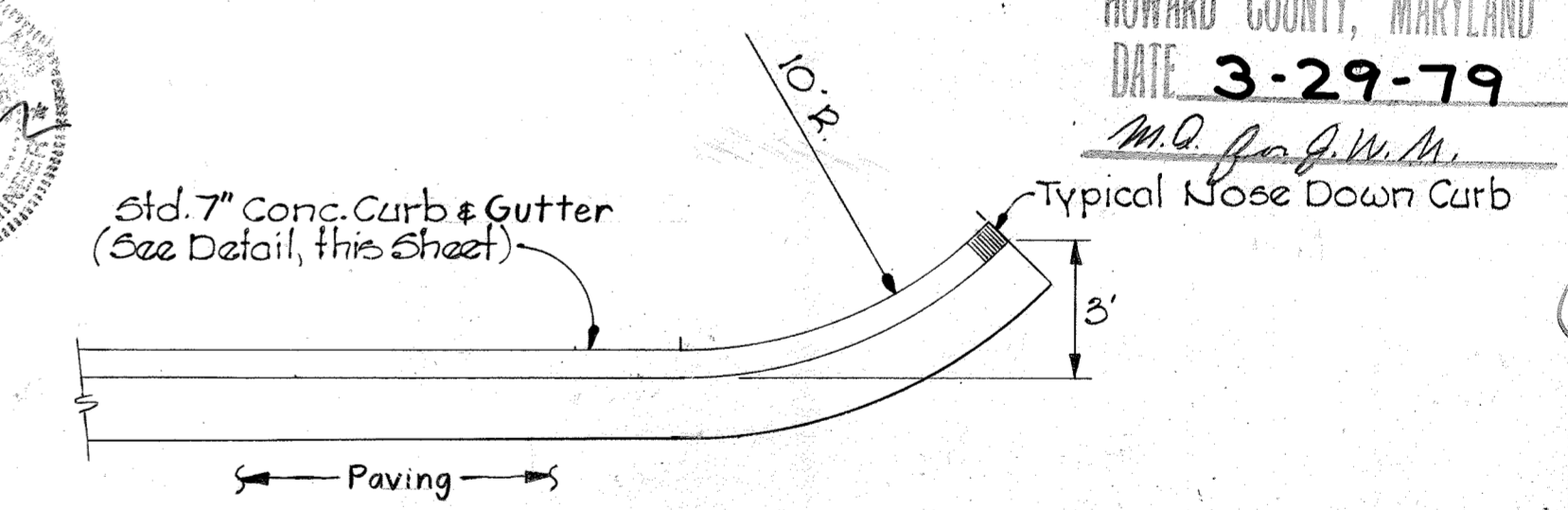
Sta. 0+20 to Sta. 1+88 Construction West
Scale: 1"=5'-0"
Realigns Only Revision 6-2024
Demolition of Treatment Plant



Note: 1) All Construction shall be in accordance with the Howard County Road Construction Code and Standard Specifications
2) Design speed limit - 15 m.p.h.

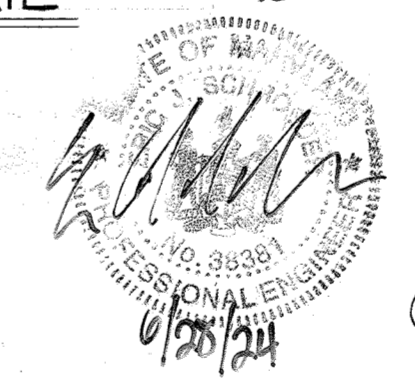
TYPICAL PAVING SECTION

No Scale



TYPICAL FLARED CURB DETAIL

No Scale



Reviewed for Howard S.C.D.
Name
and meets Technical Requirements
Signature
U.S. Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Approved
Howard S.C.D.

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
PLANNING DIRECTOR
DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
DIRECTOR
DATE
CHIEF, BUREAU OF ENGINEERING

WHITMAN, REQUARDT & ASSOCIATES
ENGINEERS
1304 ST. PAUL ST.
BALTIMORE, MARYLAND

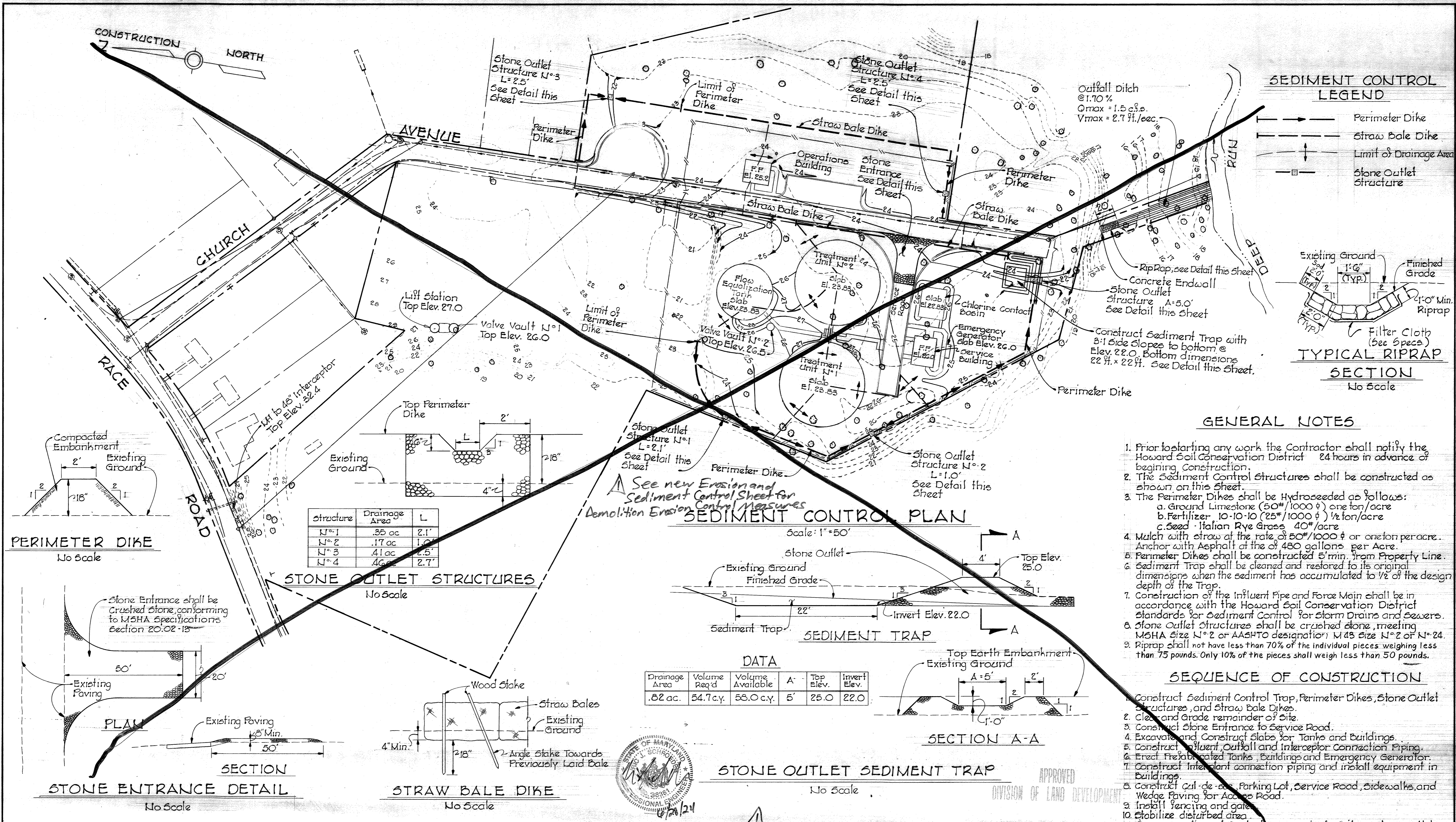
Kenneth A. McCord
KENNETH A. MCCORD P.E.#1974
DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
COUNTY HEALTH OFFICER
DATE

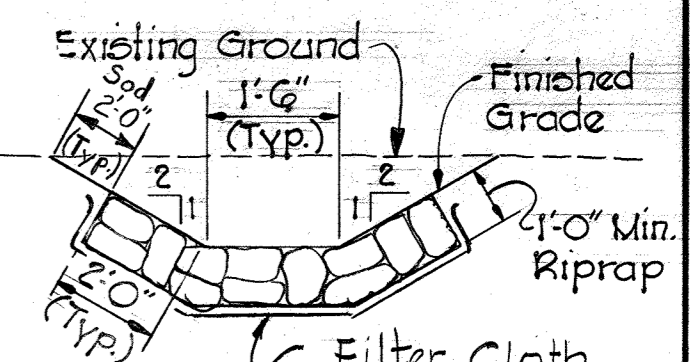
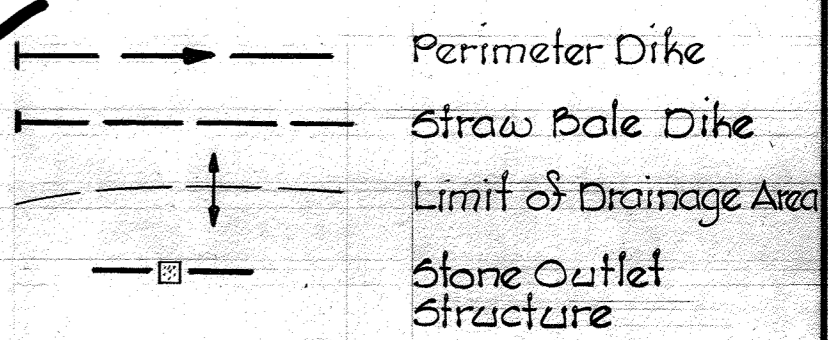
OWNER AND DEVELOPER
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLCOTT CITY, MARYLAND 21043

APPROVED: MARCH 9, 1979

DEEP RUN INTERIM WASTEWATER TREATMENT PLANT
SITE DEVELOPMENT PLAN
ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN



SEDIMENT CONTROL LEGEND



TYPICAL RIPRAP SECTION
No Scale

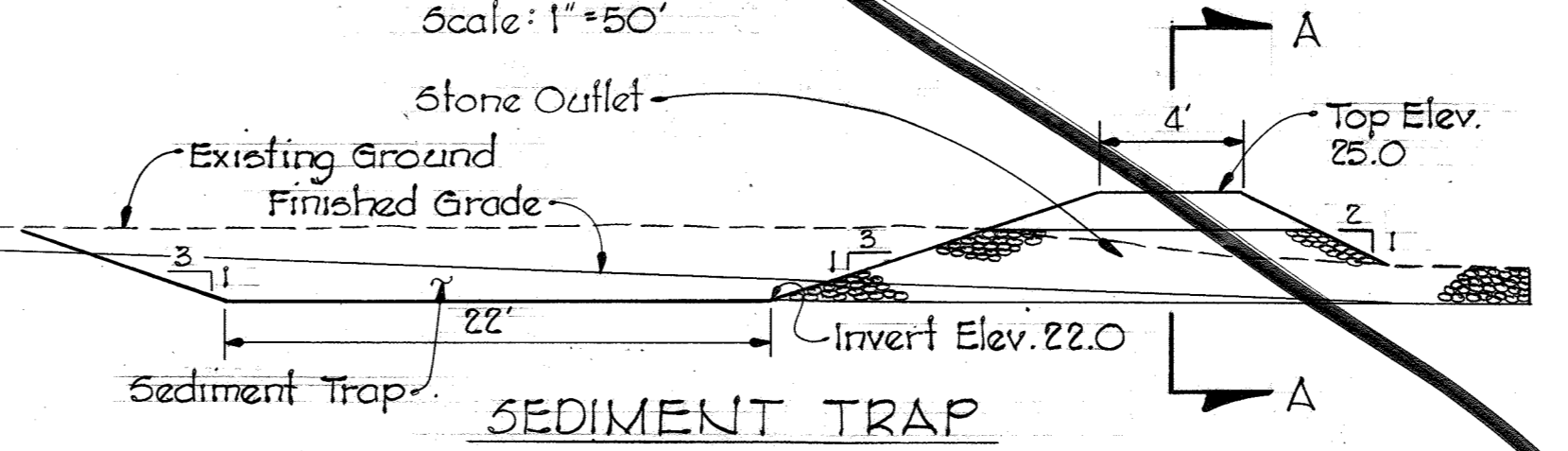
GENERAL NOTES

- Prior to starting any work the Contractor shall notify the Howard Soil Conservation District 24 hours in advance of beginning construction.
- The Sediment Control Structures shall be constructed as shown on this sheet.
- The Perimeter Dikes shall be hydroseeded as follows:
 - Ground Limestone (50#/1000 \pm) one ton/acre
 - Fertilizer - 10-10-10 (25#/1000 \pm) 1/2 ton/acre
 - Seed - Italian Rye Grass 40#/acre
- Mulch with straw at the rate of 50#/1000 \pm or one ton per acre. Anchor with Asphalt at the rate of 480 gallons per acre.
- Perimeter Dikes shall be constructed 5' min. from Property Line.
- Sediment Trap shall be cleaned and restored to its original dimensions when the sediment has accumulated to 1/2 of the design depth of the Trap.
- Construction of the Inflow Pipe and Force Main shall be in accordance with the Howard Soil Conservation District Standards for Storm Drains and Sewers.
- Stone Outlet Structures shall be crushed stone, meeting MSHA size N°2 or AASHTO designation M43 size N°2 or N°24.
- Riprap shall not have less than 70% of the individual pieces weighing less than 75 pounds. Only 10% of the pieces shall weigh less than 50 pounds.

SEQUENCE OF CONSTRUCTION

- Construct Sediment Control Trap, Perimeter Dikes, Stone Outlet Structures, and Straw Bale Dikes.
- Clear and Grade remainder of Site.
- Construct Stone Entrance to Service Road.
- Excavate and Construct Slabs for Tanks and Buildings.
- Construct Inflow, Outfall and Interceptor Connection Piping.
- Erect Prefabricated Tanks, Buildings and Emergency Generator.
- Construct Interplant connection piping and install equipment in Buildings.
- Construct Cul-de-sac, Parking Lot, Service Road, Sidewalks, and Wedge Paving for Access Road.
- Install Fencing and Gate.
- Stabilize disturbed area.
- Remove Sediment Control Trap, Perimeter Dikes, Stone Outlet Structures, and Straw Bale Dikes.
- Stabilize area disturbed by Sediment Control Structures immediately upon removal.

SEDIMENT CONTROL PLAN



SECTION A-A

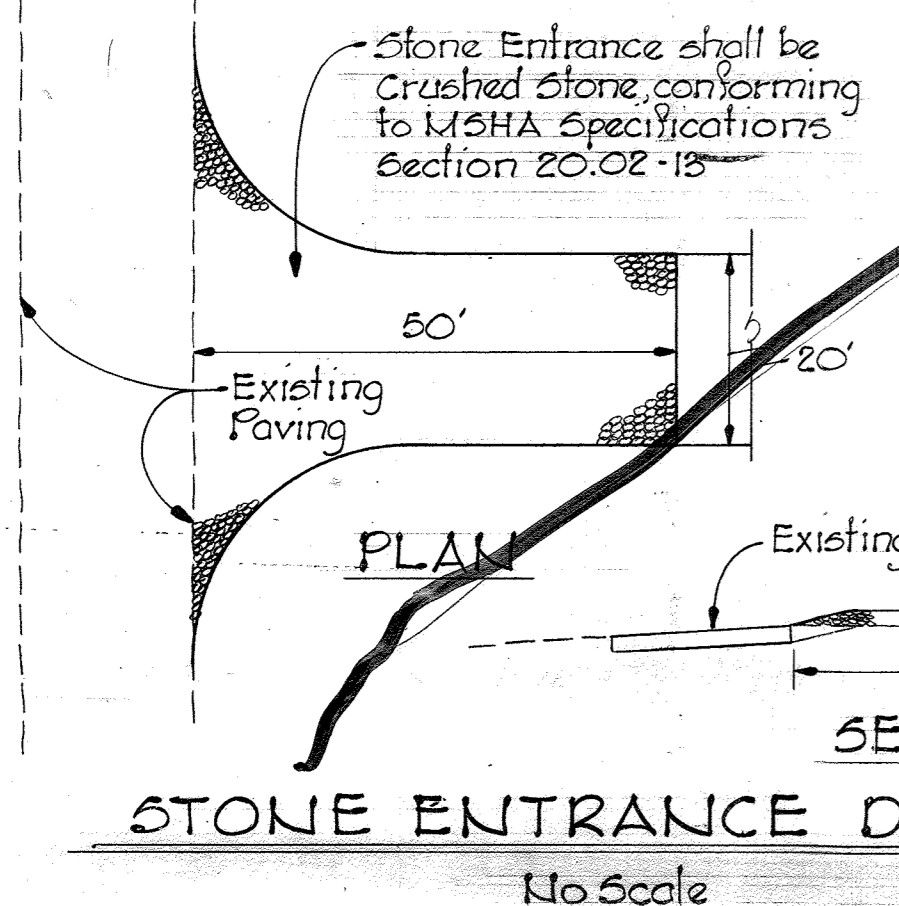
DATA

Drainage Area	Volume Req'd	Volume Available	A'	Top Elev.	Invert Elev.
.82 ac.	54.7 c.y.	55.0 c.y.	5'	25.0	22.0

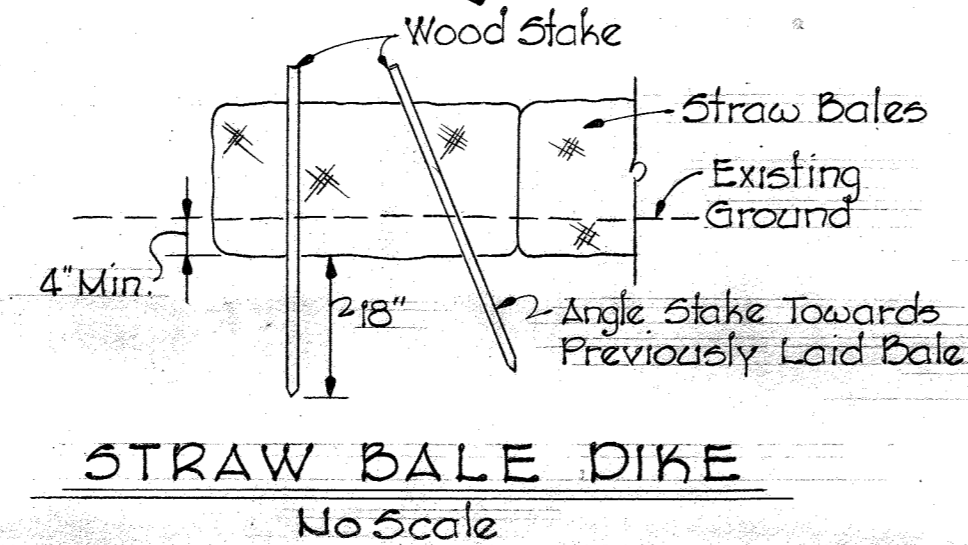
Structure	Drainage Area	L
N°1	.35 ac	2.1'
N°2	.17 ac	1.0'
N°3	.41 ac	2.5'
N°4	.46 ac	2.7'

PERIMETER DIKE
No Scale

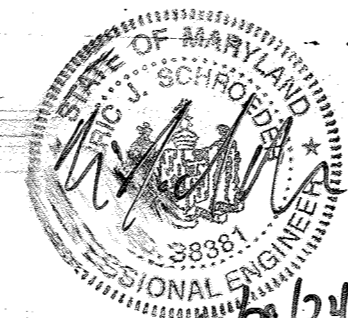
STONE OUTLET STRUCTURES
No Scale



STONE ENTRANCE DETAIL
No Scale



STRAW BALE DIKE
No Scale



Redlines Only Revision 6-2024
Demolition of Treatment Plant

CERTIFICATION BY THE ENGINEER
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT".
Kenneth A. McCord
KENNETH A. McCORD P.E. #1974
DATE 3/8/79

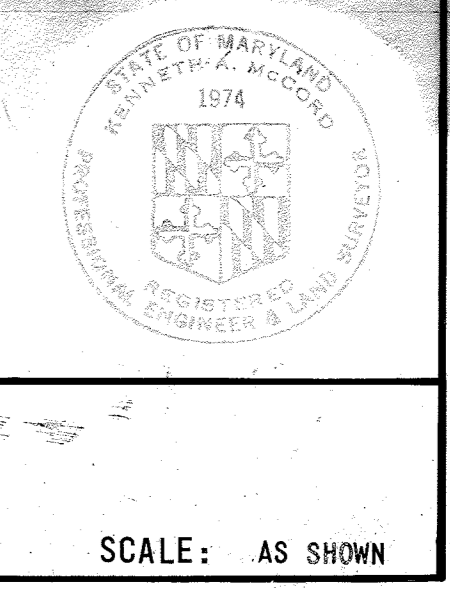
CERTIFICATION BY THE DEVELOPER
"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY".
William O. Filbert
WILLIAM O. FILBERT-CHIEF, BUREAU OF ENGINEERING
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DATE 5-1-79

REVIEWED FOR HOWARD COUNTY S.C.D. NAME
AND MEETS TECHNICAL REQUIREMENTS.
P. Wayne Ray
P. WAYNE RAY 4/23/79
U.S. SOIL CONSERVATION SERVICE DATE

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
Robert Ziehm
ROBERT ZIEHM 4/24/79
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
James S. ...
JAMES S. ... 5-8-79
PLANNING DIRECTOR DATE

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
William O. Filbert
WILLIAM O. FILBERT 5-1-79
DIRECTOR DATE



CONSTRUCTION SEQUENCE

- CONTRACTOR SHALL ENSURE ALL NECESSARY PERMITS HAVE BEEN OBTAINED AND CONDUCT A PRE-CONSTRUCTION MEETING PRIOR TO THE START OF CONSTRUCTION. NOTIFY CID 72 HOURS BEFORE THE MEETING AT 410-313-1855.
- MDE REQUIRES ANY WATER IN THE THREE STORAGE TANKS MUST BE PUMPED INTO THE COUNTY SEWAGE SYSTEM AT THE EXISTING MANHOLE IN RACE ROAD ON THE 48" SEWER LINE. SUGGESTED PUMPING ROUTE IS SHOWN. PUMPING MUST BE COORDINATED WITH COUNTY OPERATIONS AS DISCHARGE IS PREFERRED TO BE DONE ONLY DURING LOW FLOW PERIODS. TREATMENT UNIT #1 IS KNOWN TO BE FULL OF WATER.
- SITE IS HEAVILY OVERGROWN. CLEAR & GRUB WITHIN LOD & INSTALL ESC MEASURES.
- REMOVE EX. OVERHEAD WIRES & UTILITY POLES AFTER COORDINATION WITH BGE & VERIZON. LEAVE 3 LABELED POLES INTACT.
- OPERATIONS BUILDING HAS TESTED POSITIVE FOR ASBESTOS IN THE FLOOR TILES AND WINDOWS. NO OTHER ASBESTOS WAS FOUND ONSITE. ASBESTOS IS TO BE REMOVED FROM THE SITE & DISPOSED OF IN AN APPROVED HAZARDOUS WASTE LANDFILL. FOLLOW SUPPLEMENTAL SPECIFICATIONS FOR SAFETY INSTRUCTIONS ON HANDLING THE ASBESTOS MATERIAL.
- REMOVE ALL BUILDINGS, STRUCTURES, & PAVEMENT WITHIN THE FENCE. SEE ADDITIONAL SHEETS FOR DETAILS. MDE REQUIRES ANY SOLIDS FOUND IN THE BOTTOM OF THE THREE STORAGE TANKS IS TO BE DISPOSED OF AT AN APPROVED COUNTY FACILITY FOR WASTE SOLIDS.
- REMOVE THE EXISTING FENCE AND POSTS. CLEAR ONLY A 10 FT WIDE CORRIDOR TO REMOVE THE FENCE AND POSTS. SPECIMEN TREES, EXCEPT TREE #1, AS SHOWN ON SHEET TO ARE TO BE PROTECTED. SPECIMEN TREE #1 IS IN POOR CONDITION & GROWN AGAINST THE FENCE. IT IS TO BE REMOVED.
- CAP ALL EXISTING UNDERGROUND UTILITIES ONSITE. CONTRACTOR IS TO COORDINATE WITH HOWARD COUNTY BEFORE CUT & CAPPING EXISTING WATER & SEWER & PROVIDE BYPASS SERVICES TO RESIDENTS DURING CONSTRUCTION IF REQUIRED.
- SAW CUT AND REMOVE EXISTING ASPHALT PAVING, FOLLOWED BY THE EXCAVATION AND REMOVAL OF GRADED AGGREGATE BASE TO 2- FEET BELOW EXISTING GRADE. FILL WITH BACKFILL AND TOPSOIL FOLLOWED BY RESTORATION OF THE SITE WITH SEED & MULCH AS PER ESC NOTES SHEET.

DEVELOPER'S CERTIFICATE :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL ON SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) Eric J. Schroeder DATE 6/27/24

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

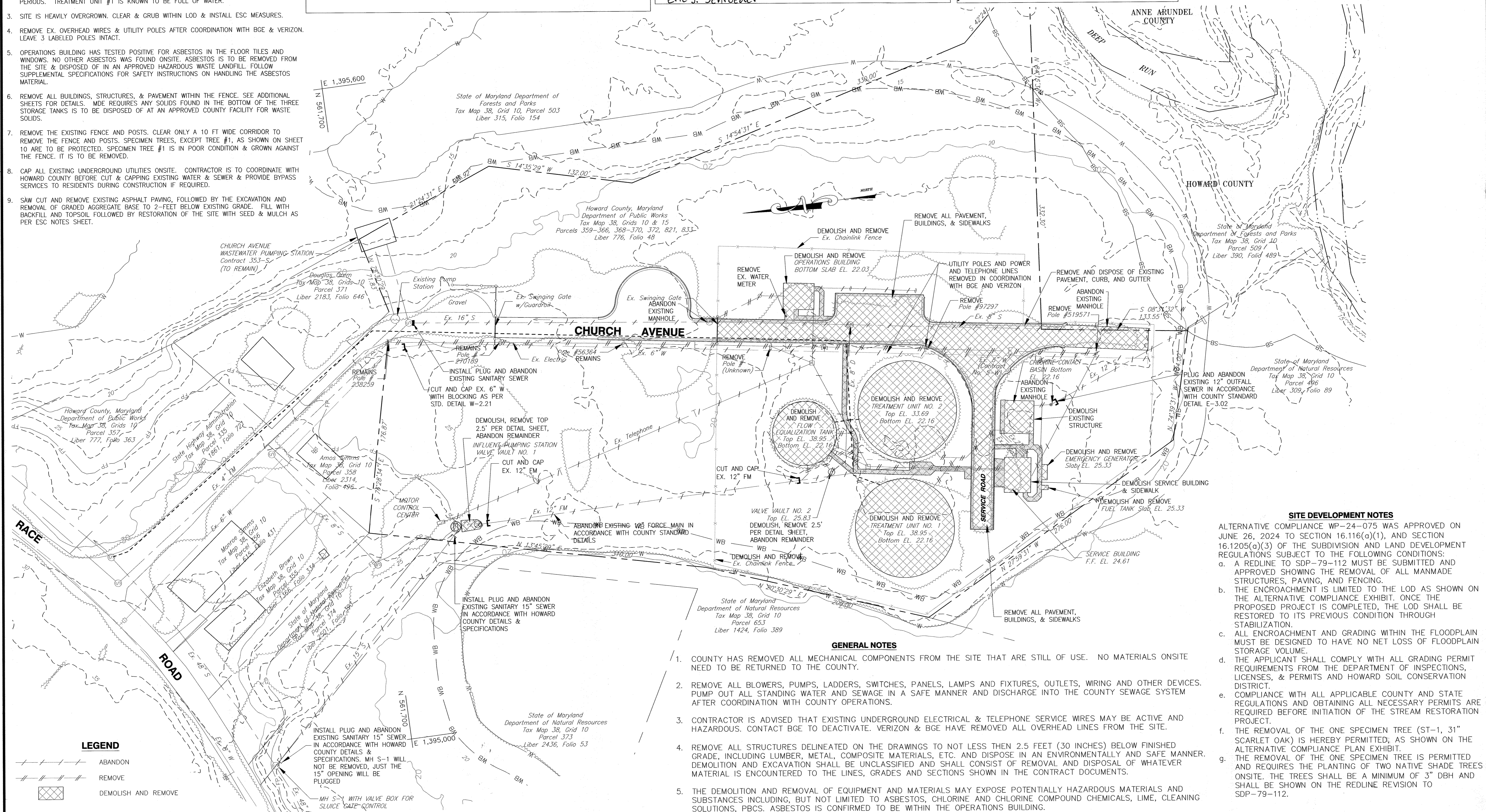
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) Eric J. Schroeder DATE 6/27/2024

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATIONS SECTION 300 AND AS SHOWN ON THESE PLANS.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT DATE

THE SCOPE OF THIS REDLINE IS IN COMPLIANCE WITH SECTION 16.115(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.



ABANDONMENT AND REMOVAL PLAN
SCALE: 1"=40'

SITE DEVELOPMENT NOTES

- ALTERNATIVE COMPLIANCE WP-24-075 WAS APPROVED ON JUNE 26, 2024 TO SECTION 16.116(a)(1), AND SECTION 16.1205(a)(3) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SUBJECT TO THE FOLLOWING CONDITIONS:
- A REDLINE TO SDP-79-112 MUST BE SUBMITTED AND APPROVED SHOWING THE REMOVAL OF ALL MANMADE STRUCTURES, PAVING, AND FENCING.
 - THE ENCROACHMENT IS LIMITED TO THE LOD AS SHOWN ON THE ALTERNATIVE COMPLIANCE EXHIBIT. ONCE THE PROPOSED PROJECT IS COMPLETED, THE LOD SHALL BE RESTORED TO ITS PREVIOUS CONDITION THROUGH STABILIZATION.
 - ALL ENCROACHMENT AND GRADING WITHIN THE FLOODPLAIN MUST BE DESIGNED TO HAVE NO NET LOSS OF FLOODPLAIN STORAGE VOLUME.
 - THE APPLICANT SHALL COMPLY WITH ALL GRADING PERMIT REQUIREMENTS FROM THE DEPARTMENT OF INSPECTIONS, LICENSES, & PERMITS AND HOWARD SOIL CONSERVATION DISTRICT.
 - COMPLIANCE WITH ALL APPLICABLE COUNTY AND STATE REGULATIONS AND OBTAINING ALL NECESSARY PERMITS ARE REQUIRED BEFORE INITIATION OF THE STREAM RESTORATION PROJECT.
 - THE REMOVAL OF THE ONE SPECIMEN TREE (ST-1, 31" SCARLET OAK) IS HEREBY PERMITTED, AS SHOWN ON THE ALTERNATIVE COMPLIANCE PLAN EXHIBIT.
 - THE REMOVAL OF THE ONE SPECIMEN TREE IS PERMITTED AND REQUIRES THE PLANTING OF TWO NATIVE SHADE TREES ONSITE. THE TREES SHALL BE A MINIMUM OF 3" DBH AND SHALL BE SHOWN ON THE REDLINE REVISION TO SDP-79-112.

GENERAL NOTES

- COUNTY HAS REMOVED ALL MECHANICAL COMPONENTS FROM THE SITE THAT ARE STILL OF USE. NO MATERIALS ONSITE NEED TO BE RETURNED TO THE COUNTY.
- REMOVE ALL BLOWERS, PUMPS, LADDERS, SWITCHES, PANELS, LAMPS AND FIXTURES, OUTLETS, WIRING AND OTHER DEVICES. PUMP OUT ALL STANDING WATER AND SEWAGE IN A SAFE MANNER AND DISCHARGE INTO THE COUNTY SEWAGE SYSTEM AFTER COORDINATION WITH COUNTY OPERATIONS.
- CONTRACTOR IS ADVISED THAT EXISTING UNDERGROUND ELECTRICAL & TELEPHONE SERVICE WIRES MAY BE ACTIVE AND HAZARDOUS. CONTACT BGE TO DEACTIVATE. VERIZON & BGE HAVE REMOVED ALL OVERHEAD LINES FROM THE SITE.
- REMOVE ALL STRUCTURES DELINEATED ON THE DRAWINGS TO NOT LESS THAN 2.5 FEET (30 INCHES) BELOW FINISHED GRADE, INCLUDING LUMBER, METAL, COMPOSITE MATERIALS, ETC. AND DISPOSE IN AN ENVIRONMENTALLY AND SAFE MANNER. DEMOLITION AND EXCAVATION SHALL BE UNCLASSIFIED AND SHALL CONSIST OF REMOVAL AND DISPOSAL OF WHATEVER MATERIAL IS ENCOUNTERED TO THE LINES, GRADES AND SECTIONS SHOWN IN THE CONTRACT DOCUMENTS.
- THE DEMOLITION AND REMOVAL OF EQUIPMENT AND MATERIALS MAY EXPOSE POTENTIALLY HAZARDOUS MATERIALS AND SUBSTANCES INCLUDING, BUT NOT LIMITED TO ASBESTOS, CHLORINE AND CHLORINE COMPOUND CHEMICALS, LIME, CLEANING SOLUTIONS, PBCS. ASBESTOS IS CONFIRMED TO BE WITHIN THE OPERATIONS BUILDING.
- ASBESTOS REMOVAL PERMIT IS REQUIRED FROM THE CONTRACTOR BY MARYLAND DEPARTMENT OF ENVIRONMENT, DIVISION OF ASBESTOS LICENSE AND ENFORCEMENT TO ENSURE SAFE REMOVAL AND DISPOSAL.

LEGEND

- ABANDON
- REMOVE
- DEMOLISH AND REMOVE
- TEMPORARY PIPE FOR DRAINING TANKS (ONLY TO BE IN PLACE FOR ACTIVE DRAINING & TO BE REMOVED ONCE DRAINING IS COMPLETE)

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF DEVELOPMENT ENGINEERING DIVISION
Paul J. ... DATE 6/26/24

CHIEF, DIVISION OF LAND DEVELOPMENT
David ... DATE 6/27/24

DIRECTOR DATE 6/28/24

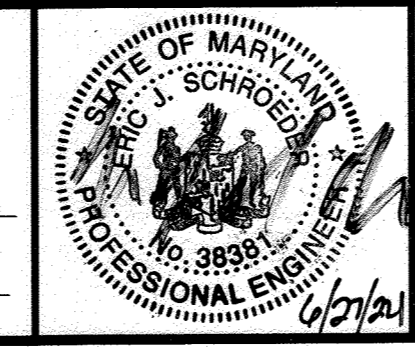
Dewberry
Dewberry Engineers Inc.

10461 MILL RUN CIRCLE
SUITE #300
OWINGS MILLS, MD 21117-6544
PHONE: 410.266.9500
FAX: 410.266.8875

PROFESSIONAL CERTIFICATION

I, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

License No. 38381 EXPIRATION DATE: JANUARY 5, 2026
Eric J. Schroeder DATE 6/27/2024



DES:	RLI
DRN:	RLI
CHK:	EJS
DATE:	JUNE 2024

BY	NO.	REVISIONS	DATE

ABANDONMENT AND REMOVAL PLAN

600 SCALE MAP NO. 38 BLOCK NO. 10

CAPITAL PROJECT NO. W - 8603
CONTRACT NO. 10 - 4635

DEEP RUN INTERIM WASTEWATER TREATMENT PLANT DEMOLITION

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

DEED: 97/423
TAX MAP: 38
GRID: 10
PARCELS: 359-366, 368-370,372,821,833

SCALE: 1"=40'
SHEET 5 OF 11

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

CONDITIONS WHERE PRACTICE APPLIES
ON ALL DISTURBED AREAS NOT STABILIZED BY VEGETATION, THIS PRACTICE IS DIVIDED INTO SECTIONS ON INCREMENTAL STABILIZATION; SOIL PREPARATION, SOIL AMENDMENTS AND TOPSOILING; SEEDING AND MULCHING; TEMPORARY STABILIZATION; AND PERMANENT STABILIZATION.

EFFECTS ON WATER QUALITY AND QUANTITY
STABILIZATION PRACTICES ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN A SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING THE SEDIMENT LOADS AND RUNOFF TO DOWNSTREAM AREAS.

PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF. INFILTRATION, EVAPORATION, TRANSPARATION, PERCOLATION, AND GROUNDWATER RECHARGE OVER TIME. VEGETATION WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH.

VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITHIN THE ROOT ZONE.

SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING AND VEGETATIVE ESTABLISHMENT.

- INSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RE-SEEDINGS WITHIN THE PLANTING SEASON.
1. ADEQUATE VEGETATIVE STABILIZATION REQUIRED 95 PERCENT GROUNDCOVER.
 2. IF AN AREA HAS LESS THAN 40 PERCENT GROUNDCOVER, RE-STABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEED BED PREPARATION, AND SEEDING.
 3. IF AN AREA HAS BETWEEN 40 AND 94 PERCENT GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.
 4. MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

CONDITIONS WHERE PRACTICE APPLIES
ANY CUT OR FILL SLOPE GREATER THAN 15 FEET IN HEIGHT. THIS PRACTICE ALSO APPLIES TO STOCKPILES

CRITERIA
A. INCREMENTAL STABILIZATION - CUT SLOPES

- A.1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.
- A.2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1.):
A.2.a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.
A.2.b. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED AND STABILIZE.
A.2.c. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED AND STABILIZE. OVER-SEED PHASE 1 AREAS AS NECESSARY.
A.2.d. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED AND STABILIZE. OVER-SEED PREVIOUSLY SEEDBED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATIONS HAVE BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS OR DELAYS IN COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

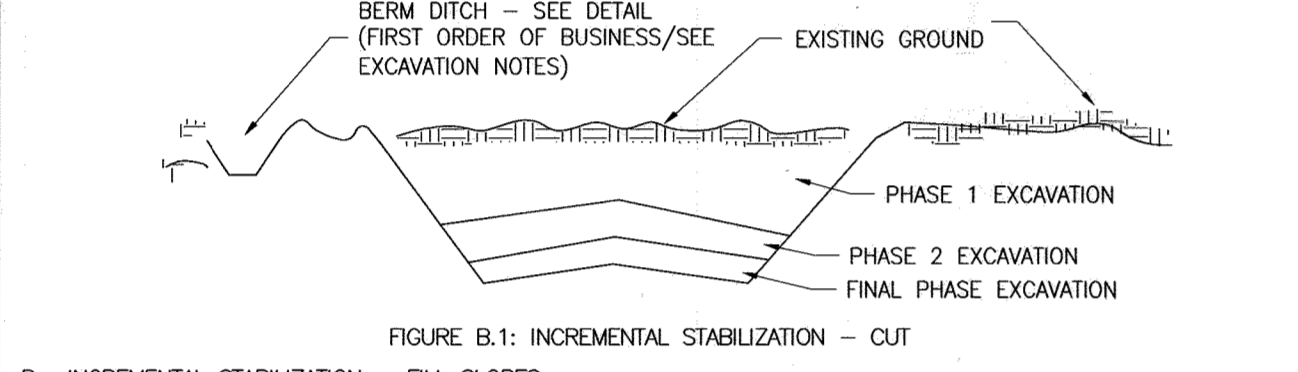


FIGURE B.1: INCREMENTAL STABILIZATION - CUT

B. INCREMENTAL STABILIZATION - FILL SLOPES

- B.1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS WORK PROGRESSES.
- B.2. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
- B.3. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE (S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
- B.4. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2.):
B.4.a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
B.4.b. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
B.4.c. PLACE PHASE 1 FILL, PREPARE SEEDBED AND STABILIZE.
B.4.d. PLACE PHASE 2 FILL, PREPARE SEEDBED AND STABILIZE.
B.4.e. PLACE FINAL PHASE FILL, PREPARE SEEDBED AND STABILIZE. OVER-SEED PREVIOUSLY SEEDBED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS OR DELAYS IN COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

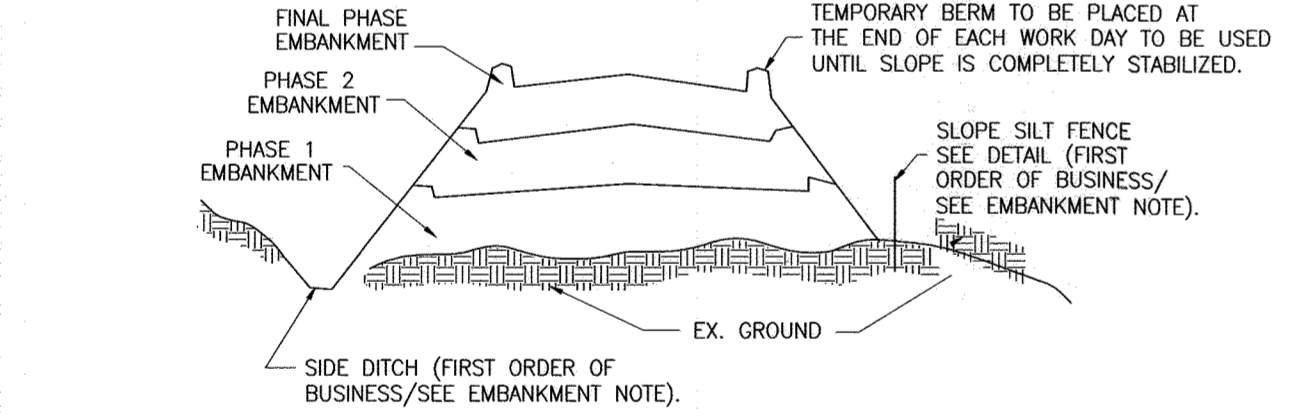


FIGURE B.2: INCREMENTAL STABILIZATION - FILL

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

CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA
A. SOIL PREPARATION

- A.1. TEMPORARY STABILIZATION
A.1.a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOILS TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHisel PLOWS OR RIPPER MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
A.1.b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
A.1.c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- A.2. PERMANENT STABILIZATION
A.2.a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITION FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
A.2.a.a. SOIL pH BETWEEN 6.0 AND 7.0.
A.2.a.b. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM)
A.2.a.c. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRANDED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROMOTE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION OF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
A.2.a.d. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
A.2.a.e. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
A.2.b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
A.2.c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
A.2.d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
A.2.e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. GRADE LAWN AREAS TO SMOOTH THE SURFACE. REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGONS WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO REVEAL THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDING PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

A. (SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS) CONT.

- B. TOPSOILING
B.1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW pH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
B.2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
B.3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
B.3.a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
B.3.b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
B.3.c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
B.3.d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS FEASIBLE.
- B.4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
B.5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
B.5.a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, AND OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
B.5.b. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
B.6. TOPSOIL APPLICATION
B.6.1. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
B.6.2. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 3 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
B.6.3. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
C.1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR FERTILIZER AND LIME APPLICATIONS.
C.2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
C.3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
C.4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
C.5. WHERE THE TOPSOIL IS EITHER HEAVY OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

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

CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREAS NOT UNDER ACTIVE GRADING

CRITERIA
A. SEEDING

- A.1. SPECIFICATIONS
A.1.a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
A.1.b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEED MIXTURE MUST BE USED.
A.1.c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE PACKAGE. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDRATED. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDRATED. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 50 TO 60 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
A.1.d. SOO OR SOD MUST NOT BE PLACED ON SOIL WHEN IT HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MINIMUM) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
- A.2. APPLICATION
A.2.a. DRY SEEDING: THIS INCLUDED USE OF CONVENTIONAL DRAP OR BROADCAST SPREADERS.
A.2.a.a. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1; PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
A.2.a.b. APPLY SEED IN TWO DIRECTIONS, FERTILIZER AND MULCH TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
A.2.b. DRILL OR CULTPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
A.2.b.a. OUTLAPPING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PAWING.
A.2.b.b. APPLY SEED IN TWO DIRECTIONS, REFERENCING TO EACH OTHER, APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
A.2.c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
A.2.c.a. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN, P₂O₅ (PHOSPHORUS), 200 POUNDS PER ACRE; K₂O (POTASSIUM), 200 POUNDS PER ACRE.
A.2.c.b. LIME: USE ONLY GROUND LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED SOO OR SOD WITH HYDROSEEDING.
A.2.c.c. MIX SEED FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
A.2.c.d. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
- B. MULCHING
B.1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
B.1.a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CANNED, DECAYED, OR OTHERWISE UNDESIRABLE. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
B.1.b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
B.1.b.1. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
B.1.b.2. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OF GROWTH INHIBITING FACTORS.
B.1.b.3. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BUTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND BE ABLE TO HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
B.1.b.4. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
B.1.b.5. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, pH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
B.2. APPLICATION
B.2.a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
B.2.b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
B.2.c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
B.3. ANCHORING
B.3.a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
B.3.a.1. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
B.3.a.2. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
B.3.a.3. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSEAL, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER.
B.3.a.4. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND OUTFLOWS MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
B.3.a.5. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SEEDING AND MULCHING SECTION, PART A SEEDING, NUMBER 1 SPECIFICATIONS SUB HEADING B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-10-10)			LIME RATE
					N	P2O5	K2O	
1	CEREAL RYE	112	3/15-5/15 8/1-11/15	1 INCH	436 LB/AC (10 LB/1000 SF)	2	TONS/AC (90 LB/1000 SF)	
2	FOXTAIL MILLET	20	5/16-7/31	1/2 INCH				

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR MORE.

CRITERIA
A. SEED MIXTURES

- A.1. GENERAL USE
A.1.a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND BASED ON THE SITE CONDITION OR PURPOSE FOUND IN TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
A.1.b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
A.1.c. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENT SHOWN IN THE PERMANENT SEEDING SUMMARY.
A.2. TURFGRASS MIXTURES
A.2.a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDES LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
A.2.b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
A.2.b.a. KENTUCKY BLUEGRASS: FULL SUN MIXTURE; FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMEND CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
A.2.b.b. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE; FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
A.2.b.c. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE; FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MAINTENANCE IN FULL SUN TO MEDIUM SHADE. RECOMMEND MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95-100 PERCENT; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: FESCUE 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
A.2.b.d. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE; FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE 60 TO 70 PERCENT. SEEDING RATE 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.
- A.2. SELECTION OF TURFGRASS CULTIVARS FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77 "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"
CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.
A.2.c. IDEAL TIMES OF SEEDING FOR TURFGRASS MIXTURES
WESTERN MARYLAND: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
CENTRAL MARYLAND: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
SOUTHERN MARYLAND, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
A.2.d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES. LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
A.2.e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME RATE
					N	P2O5	K2O	
1	ERNST SEED MIX ERNMW-138 WILDLIFE FOOD & SHELTER	20	3/15-10/31	1 INCH		NOT NEEDED		NOT NEEDED

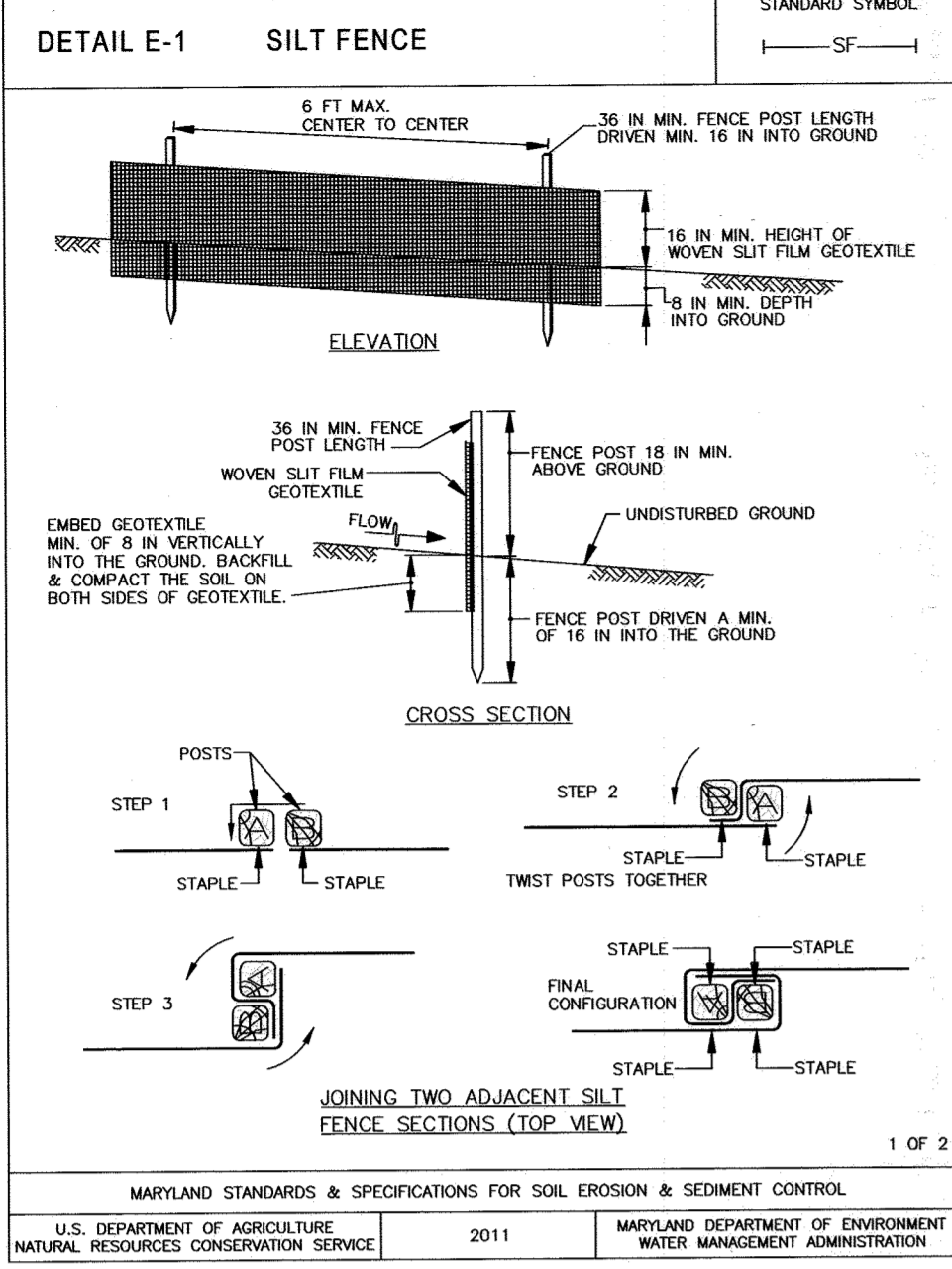
B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER)

- B.1. GENERAL SPECIFICATIONS
B.1.a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
B.1.b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/8 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN EDGES WILL NOT BE ACCEPTABLE.
B.1.c. STANDARD SIZE SECTION OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION. SOD MUST NOT BE HARVESTED OR TRANSPORTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT SURVIVAL.
B.1.d. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPORTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
B.2. SOD INSTALLATION
B.2.a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
B.2.b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PREVENT STAGGER. UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
B.2.c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERED JOINTS. ROLL AND TAMP. PREP OR OTHERS TO PREVENT SURFACE ON SLOPES. ENSURE SOIL CONTACT EXIST BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
B.2.d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
B.3. SOD MAINTENANCE
B.3.a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
B.3.b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

B-4-6 STANDARDS AND SPECIFICATIONS FOR SOIL STABILIZATION MATTING

CONDITIONS WHERE PRACTICE APPLIES
ON NEWLY SEEDBED SURFACES TO PREVENT THE APPLIED SEED FROM WASHING OUT IN CHANNELS AND ON STEEP SLOPES WHERE THE FLOW HAS EROSION VELOCITIES OR CONVEYS CLEAR WATER, ON TEMPORARY SWALES, EARTH DIKES, AND PERIMETER DIKE SWALES AS REQUIRED BY THE RESPECTIVE DESIGN STANDARD; AND, ON STREAM BANKS WHERE MOWING WATER IS LIKELY TO WASH OUT NEW VEGETATIVE PLANTINGS.

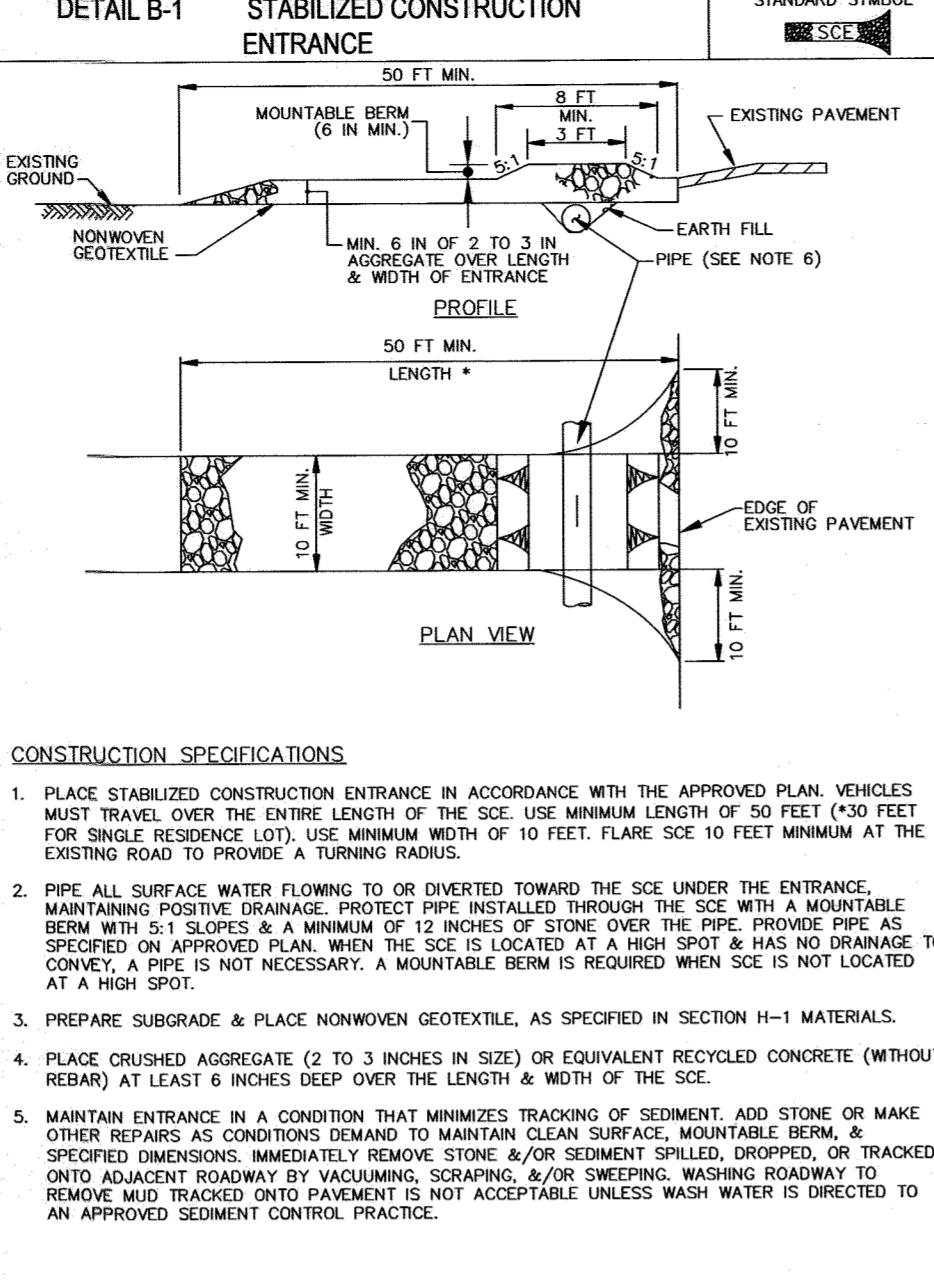
1. THE SOIL STABILIZATION MATTING THAT IS USED MUST WITHSTAND THE FLOW VELOCITIES AND SHEAR STRESSES DETERMINED FOR THE AREA, BASED ON THE 2-YEAR, 24-HOUR FLOODING STORM FOR TEMPORARY APPLICATIONS AND THE 10-YEAR, 24-HOUR FLOODING STORM FOR PERMANENT APPLICATIONS. DESIGNATE ON THE PLAN THE TYPE OF SOIL STABILIZATION MATTING USING THE STANDARD SYMBOL AND INCLUDE THE CALCULATED SHEAR STRESS FOR THE RESPECTIVE TREATMENT AREA.
2. MATTING IS REQUIRED ON PERMANENT CHANNELS WHERE THE RUNOFF VELOCITY EXCEEDS TWO AND A HALF FEET PER SECOND (2.5 FPS) OR THE SHEAR STRESS EXCEEDS TWO POUNDS PER SQUARE FOOT (2 LBS/FT²), ON TEMPORARY CHANNELS DISCHARGING TO A SEDIMENT TRAPPING PRACTICE. PROVIDE MATTING WHERE THE RUNOFF VELOCITY EXCEEDS FOUR FEET PER SECOND (4 FPS).
3. TEMPORARY SOIL STABILIZATION MATTING IS MADE WITH DEGRADABLE (LASTS 6 MONTHS MINIMUM), NATURAL, OR MANMADE FIBERS OF UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND IS SMOOTHER RESISTANT. THE MAXIMUM PERMISSIBLE VELOCITY FOR TEMPORARY MATTING IS 6 FEET PER SECOND.
4. PERMANENT SOIL STABILIZATION MATTING IS AN OPEN WEAVE, SYNTHETIC MATERIAL CONSISTING OF NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION OF WEAVE THROUGHOUT. THE MAXIMUM PERMISSIBLE VELOCITY FOR PERMANENT MATTING IS 8.5 FEET PER SECOND.
5. CALCULATE THE CHANNEL VELOCITY AND SHEAR STRESS USING THE FOLLOWING PROCEDURE:
 $V = Y \cdot R \cdot S_w$
WHERE:
V = SHEAR STRESS (LB/FT²)
Y = WEIGHT DENSITY OF WATER (62.4 LB/FT³)
R = AVERAGE WATER DEPTH (HYDRAULIC RADIUS) (FT)
S_w = WATER SURFACE SLOPE (FT/FT)



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SILT FENCE CONSTRUCTION SPECIFICATIONS

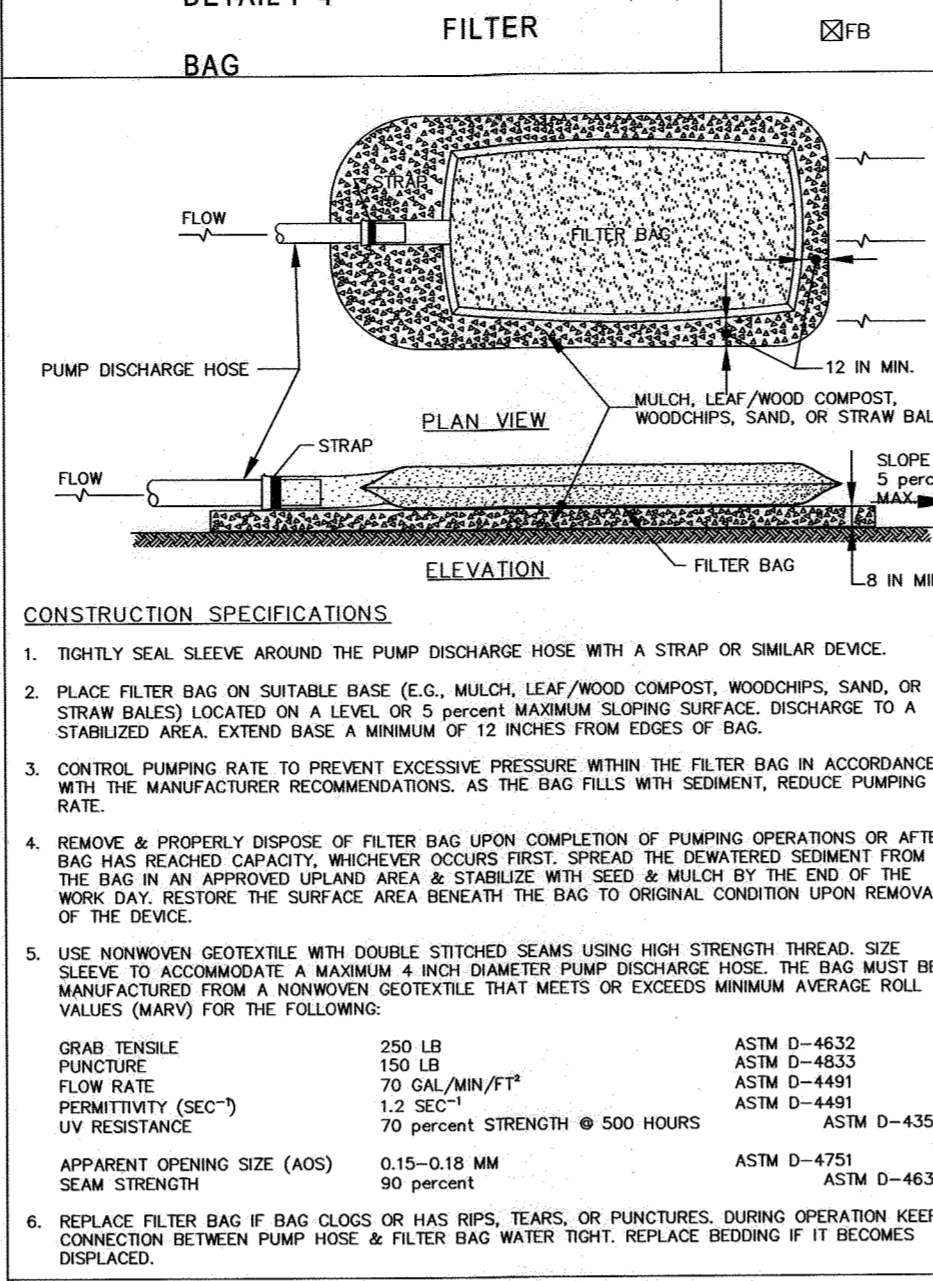
- USE WOOD POSTS 1 1/2 x 1 1/2 x 1/4 (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS & FASTEN GEOTEXTILE SECURELY TO UPSIDE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP & MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL & COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, & STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT & DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25 PERCENT OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.



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B-1 STANDARDS AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ENTRANCE

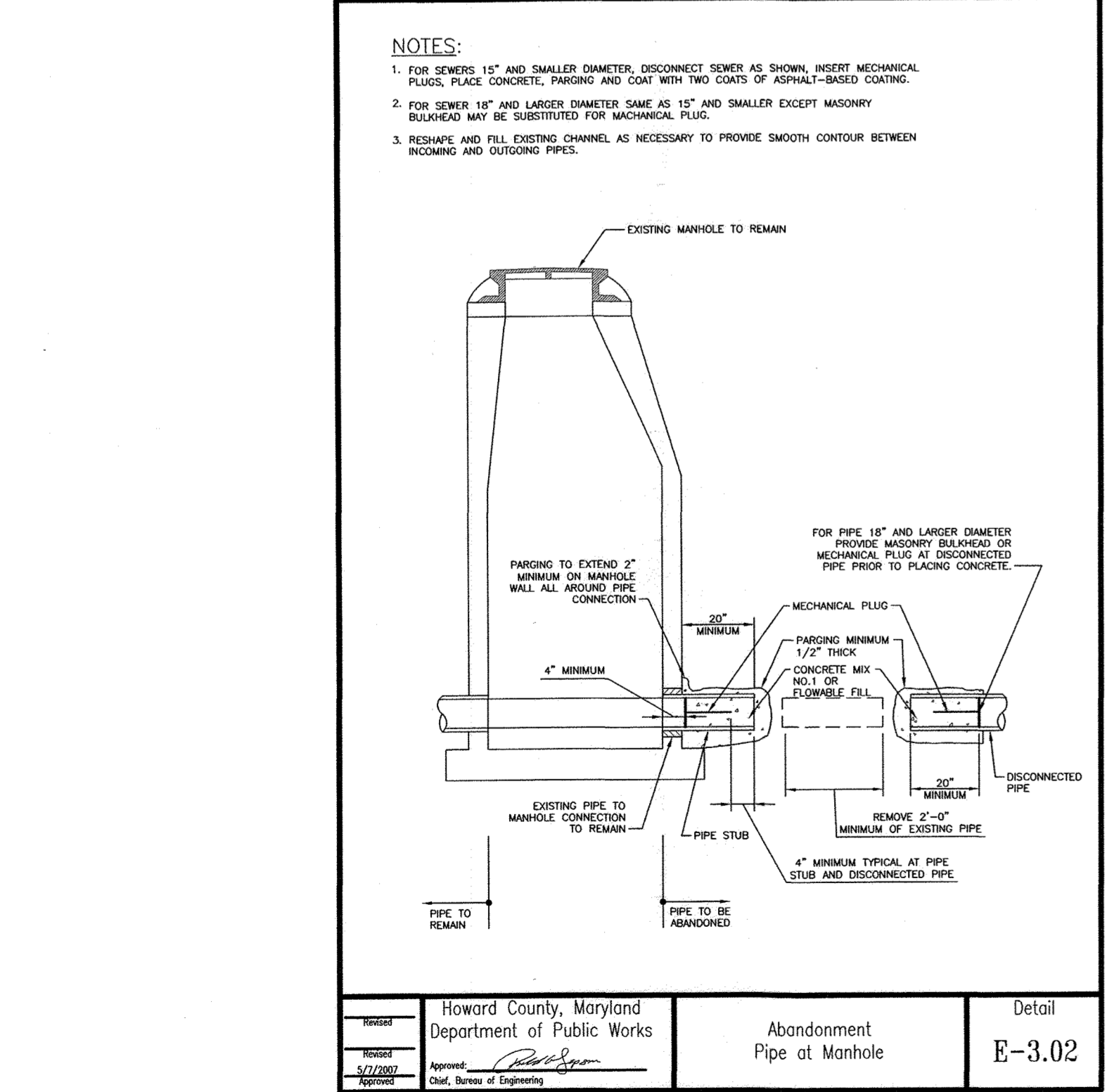
- CONSTRUCTION SPECIFICATIONS**
- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SIZE. USE MINIMUM LENGTH OF 50 FEET (50 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SIZE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
 - PREP ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SITE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SIZE WITH A MOUNTABLE BEAM WITH 2:1 SLOPES & A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROTECT PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SIZE IS LOCATED AT A HIGH SPOT & HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BEAM IS REQUIRED WHEN SIZE IS NOT LOCATED AT A HIGH SPOT.
 - PREPARE SUBGRADE & 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 & WIDTH OF THE SIZE.
 - MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MOUNTABLE BEAM, & SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE &/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRUBBING &/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.
- DEFINITION**
 A layer of aggregate that is underlain with nonwoven geotextile at points of ingress and egress of the construction site.
- PURPOSE**
 To reduce tracking of sediment onto roadways and provide a stable area for entrance to or exit from the construction site.
- CONDITIONS WHERE PRACTICE APPLIES**
 Stabilized construction entrances must be located at all points of construction ingress and egress.
- DESIGN CRITERIA**
- Where possible, locate the stabilized construction entrances at the high side of the project area.
 - For single family residential lots, locate the entrance at the permanent driveway.
 - Stabilized construction entrances cannot be installed over pavement.
 - Minimum length is 50 feet (50 feet for single family residential lots).
 - Minimum width is 10 feet. Flare entrance 10 feet minimum at the existing road to provide a turning radius.
 - The orientation of the stabilized construction entrance may vary from a straight line to a curve or "T" shape depending on the topography and right-of-way.
 - All surface water flowing to or diverted toward the stabilized construction entrance (SCE) must be piped under the entrance. Size the pipe to convey the runoff generated by the 2-year, 24-hour frequency storm at minimum. The minimum permissible pipe size is 6 inches. When the entrance is located at a high spot and has no drainage to convey, a pipe is not necessary.
- MAINTENANCE**
 The SCE must be maintained in a condition that minimizes tracking of sediment. This may require adding stone or making other repairs as conditions demand to maintain a clean surface, the mountable beam, and the specified dimensions. All stone or sediment spilled, dropped, or tracked onto the adjacent roadway must be removed immediately by vacuuming, scrubbing, and/or sweeping. Washing the roadway to remove mud tracked onto pavement is not acceptable unless the wash water is directed to an approved sediment control practice.



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F-4 STANDARDS AND SPECIFICATIONS FOR FILTER BAG

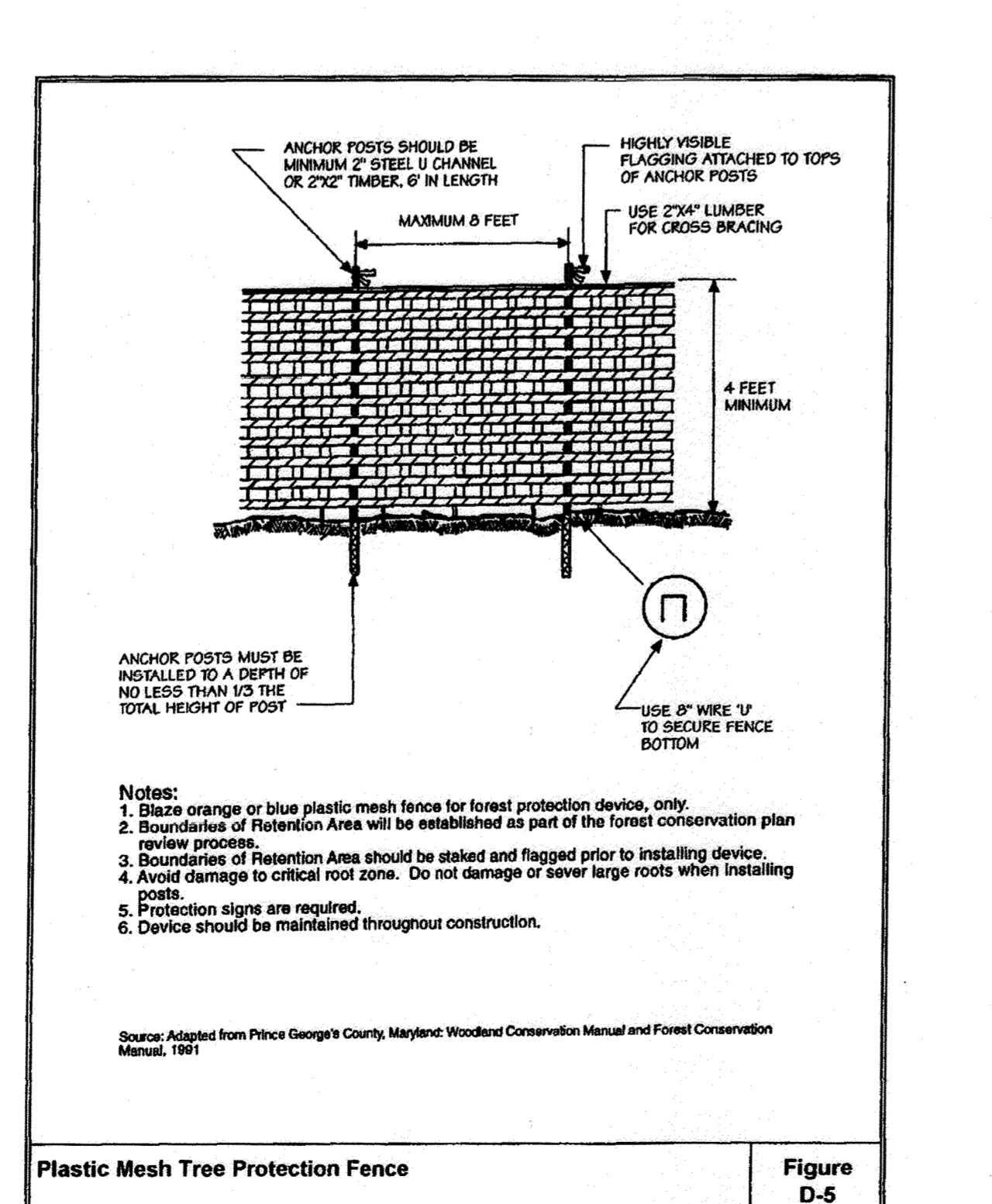
- CONSTRUCTION SPECIFICATIONS**
- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
 - PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5 PERCENT MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED 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 & 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 & STABILIZE WITH SEED & MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE BAG.
 - 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 BULK VALUES (MARV) FOR THE FOLLOWING:
- | | | |
|-------------------------------|---------------------------------|-------------|
| ORAB TENSILE | 250 LB | ASTM D-4632 |
| PUNCTURE | 150 LB | ASTM D-4633 |
| FLOW RATE | 70 GAL/MIN/FT ² | ASTM D-4491 |
| POROSITY (SEC ⁻²) | 1.2 SEC ⁻² | ASTM D-4491 |
| UV RESISTANCE | 70 percent STRENGTH @ 500 HOURS | ASTM D-4355 |
| APPARENT OPENING SIZE (AOS) | 0.15-0.18 MM | ASTM D-4751 |
| SEAM STRENGTH | 90 percent | ASTM D-4632 |
- REPLACE FILTER BAG IF BAG CLOSURE OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE & FILTER BAG WATER TIGHT. REPLACE BEGON IF IT BECOMES DISPLACED.
- DEFINITION**
 A geotextile bag through which sediment laden water is pumped.
- PURPOSE**
 To filter sediment laden water prior to discharge.
- CONDITIONS WHERE PRACTICE APPLIES**
 When dewatering is needed in association with excavations, trenches, cofferdams, sediment traps or basins.
- DESIGN CRITERIA**
 The filter bag should be placed in a location that allows for ease of disposal of the sediment and has minimal interference with construction activities and pedestrian traffic.
- MAINTENANCE**
 If the filter bag clogs, it needs to be replaced. Rips, tears, and punctures also necessitate replacement of the filter bag. The connection between the pump hose and the filter bag needs to be kept water tight during operation. If the bedding becomes displaced, it must be replaced.



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MANHOLE ABANDONMENT

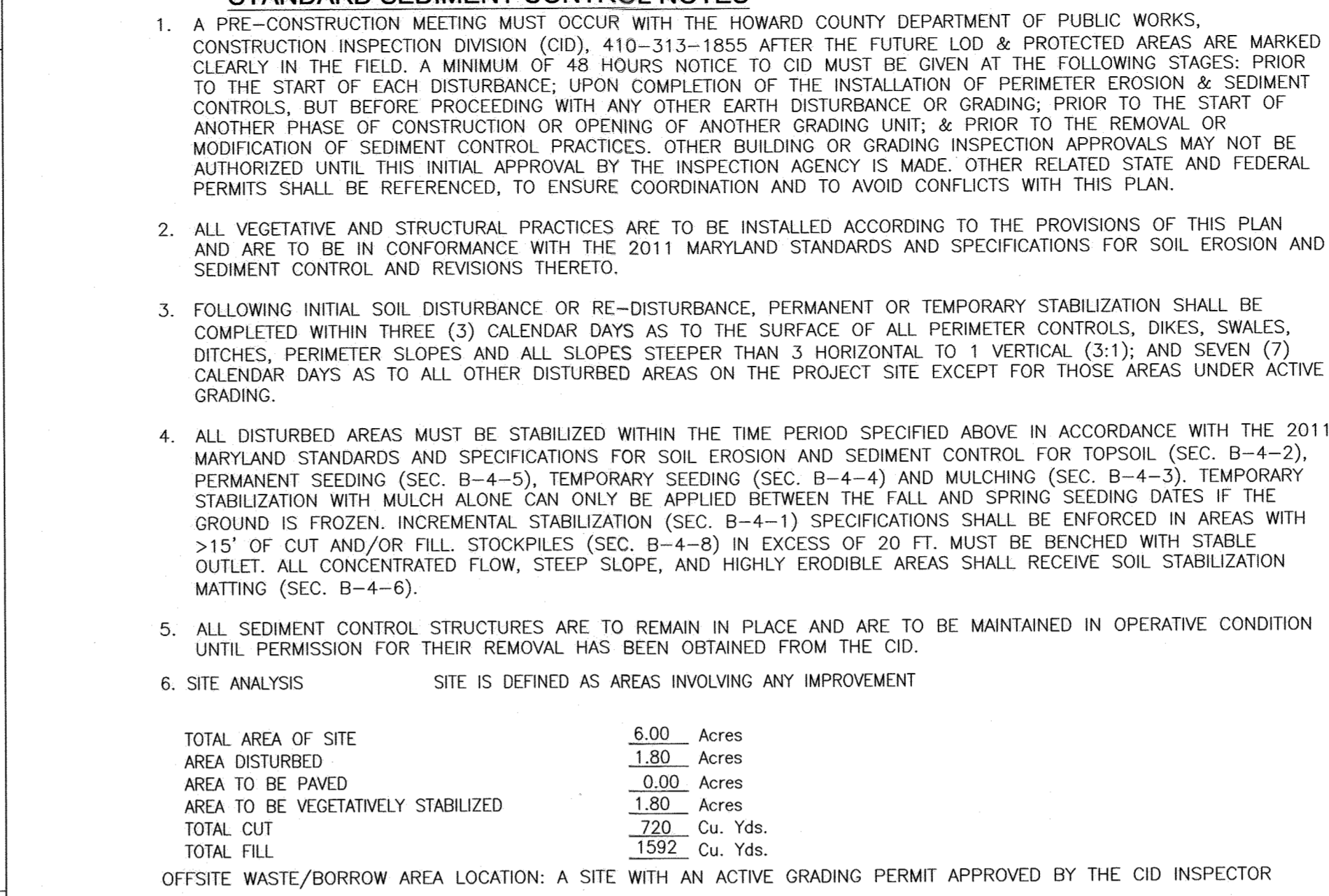
- NOTES:**
- FOR SIZES 12" AND SMALLER DIAMETER, DISCONNECT SEWER AS SHOWN. INSERT MECHANICAL PLUGS, PLACE CONCRETE, PAINTING AND COAT WITH TWO COATS OF ASPHALT-BASED COATING.
 - FOR SIZES 18" AND LARGER DIAMETER SAME AS 12" AND SMALLER EXCEPT MANSUARY BLOWDOWN MAY BE SUBSTITUTED FOR MECHANICAL PLUG.
 - RESHAPE AND FILL EXISTING CHANNEL AS NECESSARY TO PROVIDE SMOOTH CHANNEL BETWEEN INCOMING AND OUTGOING PIPES.
- MANHOLE ABANDONMENT**
- REMOVE MANHOLE TO 1'-6" MINIMUM BELOW GRADE
- OPTION 1: FILL MANHOLE SOLID WITH FLOWABLE FILL
- OPTION 2: REMOVE MANHOLE SECTION TO BASE, PLUG PIPES & FILL WITH FLOWABLE FILL
- SET MECHANICAL PLUGS INTO ALL PIPES ENTERING MANHOLE AS SHOWN.



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Plastic Mesh Tree Protection Fence

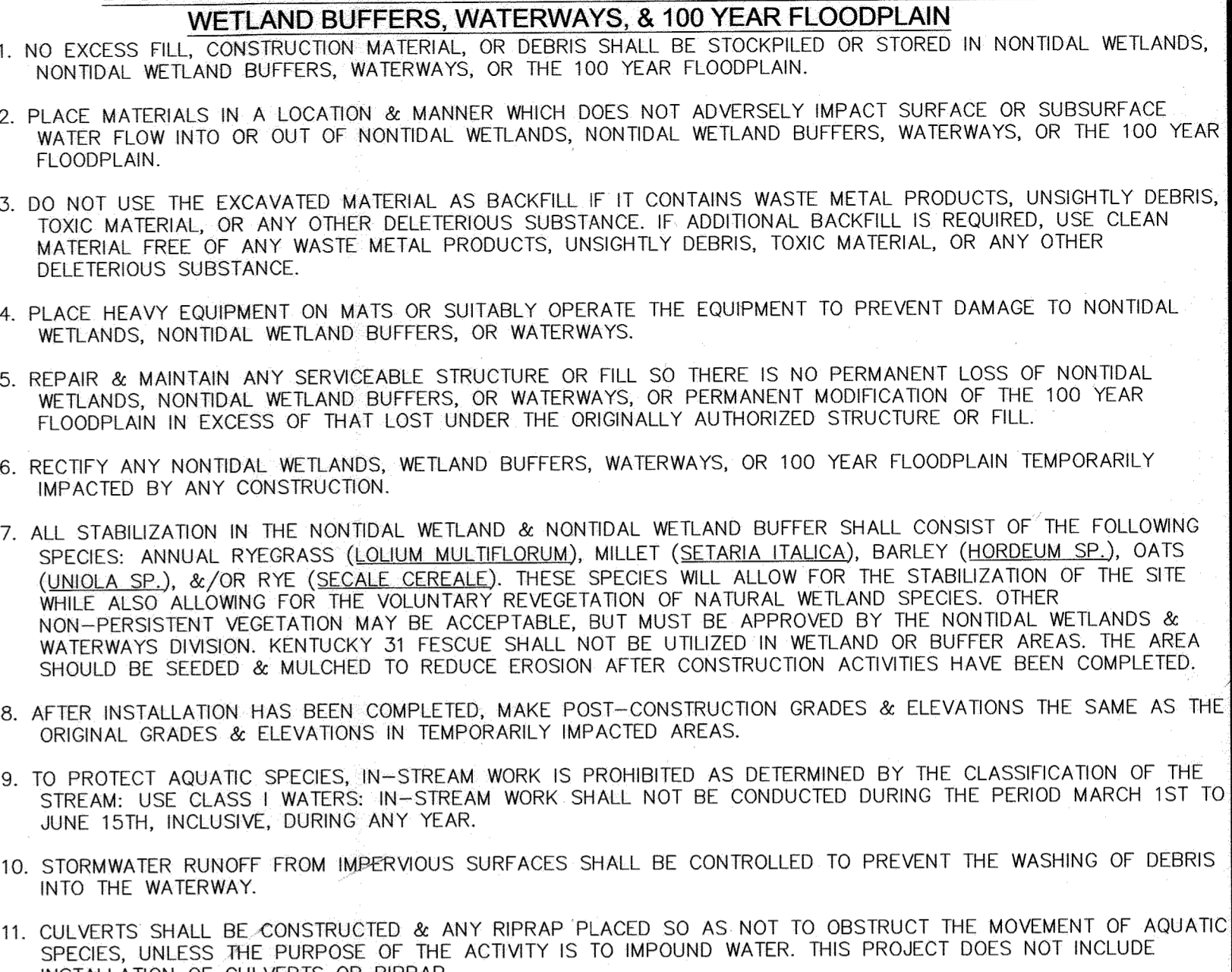
- NOTES:**
- Blaze orange or blue plastic mesh fence for forest protection device, only.
 - Boundaries of Retention Area will be established as part of the forest conservation plan review process.
 - Boundaries of Retention Area should be staked and flagged prior to installing device.
 - Avoid damage to critical root zone. Do not damage or sever large roots when installing posts.
 - Protection signs are required.
 - Device should be maintained throughout construction.
- ANCHOR POSTS SHOULD BE MINIMUM 2" STEEL U CHANNEL OR 2"X2" TIMBER, 8' IN LENGTH
- HIGHLY VISIBLE FLAGGING ATTACHED TO TOPS OF ANCHOR POSTS
- USE 2"x4" LUMBER FOR CROSS BRACING
- ANCHOR POSTS MUST BE INSTALLED TO A DEPTH OF NO LESS THAN 1/3 THE TOTAL HEIGHT OF POST
- USE 8" WIRE 1/2" TO SECURE FENCE BOTTOM
- Source: Adapted from Prince George's County, Maryland: Woodland Conservation Manual and Forest Conservation Manual, 1991



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STANDARD SEDIMENT CONTROL NOTES

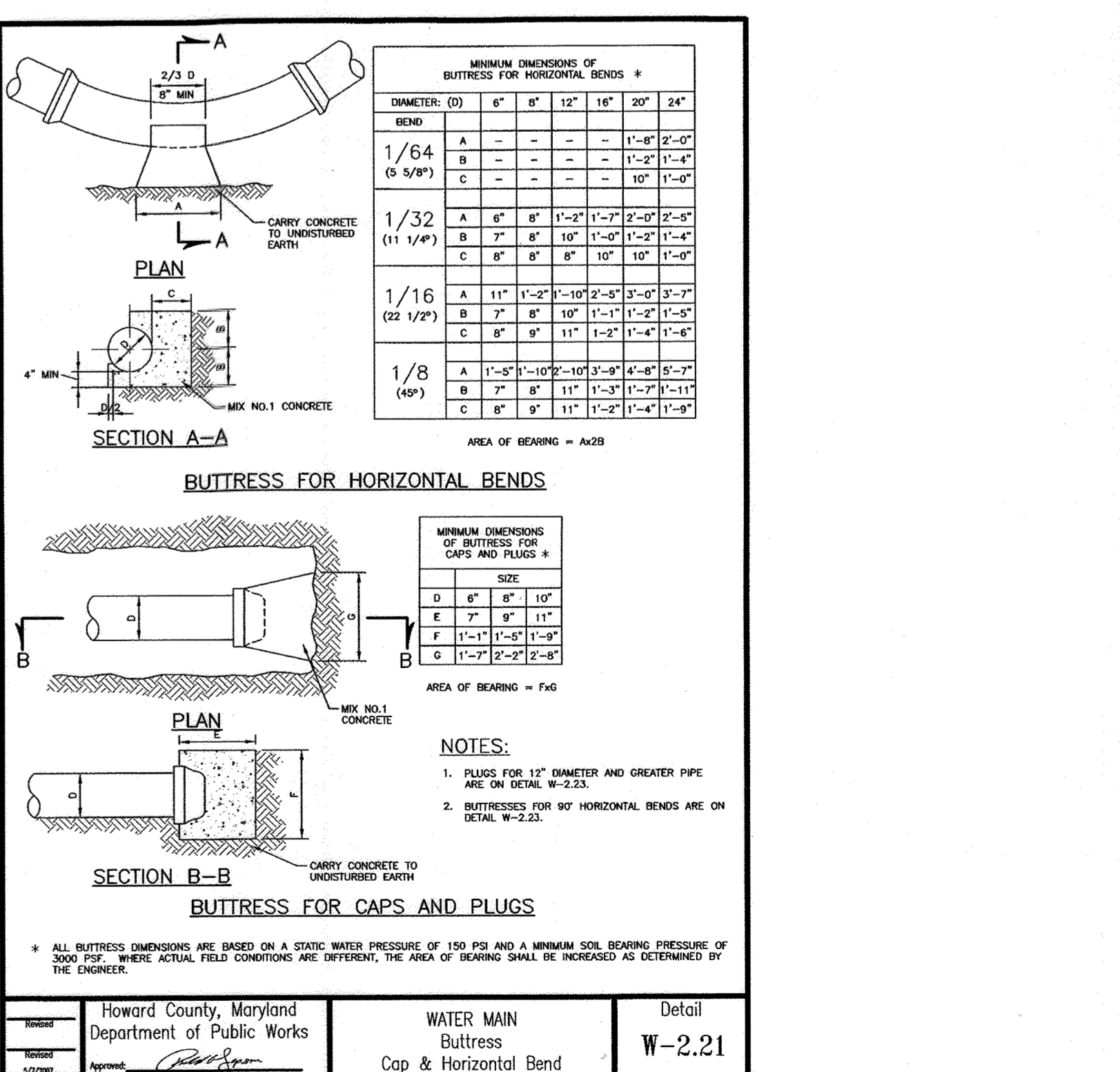
- A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD & PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: PRIOR TO THE START OF EACH DISTURBANCE, UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION & SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING; PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT; & PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
 - ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
 - ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4), AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE WHEEL TIRE ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
 - ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.
 - SITE AREA: SITE IS DEFINED AS AREAS INVOLVING ANY IMPROVEMENT
- | | |
|------------------------------------|---------------|
| TOTAL AREA OF SITE | 6.00 Acres |
| AREA DISTURBED | 1.80 Acres |
| AREA TO BE PAVED | 0.00 Acres |
| AREA TO BE VEGETATIVELY STABILIZED | 1.80 Acres |
| TOTAL CUT | 7.20 Cu. Yds. |
| TOTAL FILL | 1592 Cu. Yds. |
- OFFSITE WASTE/BORROW AREA LOCATION: A SITE WITH AN ACTIVE GRADING PERMIT APPROVED BY THE CID INSPECTOR
- ANY SEDIMENT CONTROL PRACTICES WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
 - ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE & ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; & THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION & SHOULD INCLUDE: INSPECTION DATE, INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT), NAME & TITLE OF INSPECTOR, WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION), BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G. PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES, EVIDENCE OF SEDIMENT DISCHARGES, IDENTIFICATION OF PLAN DEFICIENCIES, IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE, IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS, COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION & STABILIZATION REQUIREMENTS, PHOTOGRAPHS, MONITORING/SAMPLING, MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED, OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
 - TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
 - ANY MAJOR CHANGES OR REVISIONS ON THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED & APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
 - DISTURBANCE SHALL NOT OCCUR OUTSIDE THE LOD. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED & APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED & APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
 - WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, & OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
 - TOPSOIL SHALL BE STOCKPILED AND PRESERVED ONSITE FOR REDISTRIBUTION ONTO FINAL GRADE.
 - ALL SILT FENCE & SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR & BE IMBRICATED AT 25' MINIMUM INTERVALS WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
 - STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIOD: USE CLASS I, MARCH 1ST TO JUNE 15TH.
 - A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL, & ASSOCIATED PERMITS SHALL BE ON-SITE & AVAILABLE WHEN THE SITE IS ACTIVE.



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

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, & 100 YEAR FLOODPLAIN

- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
- PLACE MATERIALS IN A LOCATION & MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100 YEAR FLOODPLAIN.
- DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF ANY WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
- PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS.
- REPAIR & MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100 YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100 YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- ALL STABILIZATION IN THE NONTIDAL WETLAND & NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOIA SP.), &/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS & WATERWAYS DIVISION, KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED & MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES & ELEVATIONS THE SAME AS THE ORIGINAL GRADES & ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM: USE CLASS I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1ST TO JUNE 15TH, INCLUSIVE, DURING ANY YEAR.
- STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
- CULVERTS SHALL BE CONSTRUCTED & ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER. THIS PROJECT DOES NOT INCLUDE INSTALLATION OF CULVERTS OR RIPRAP.
- DEEP RUN IS NOT A TIER II WATERWAY.
- DEEP RUN IMPAIRMENT RESULTS FROM MDE; CONTAINS BACTERIA, IONS, METALS, NUTRIENTS, SEDIMENTS, & CHLORDANE PESTICIDE. CHECKED OCTOBER 10, 2023.



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

BUTTRISS FOR HORIZONTAL BENDS

- MINIMUM DIMENSIONS OF BUTTRISS FOR HORIZONTAL BENDS ***
- | DIAMETER (D) | 6" | 8" | 12" | 16" | 20" | 24" |
|---------------|----|----|-----|-----|-------|-------|
| BEND | A | B | C | D | E | F |
| 1/64 (5/8") | - | - | - | - | 1'-8" | 2'-0" |
| 1/32 (1 1/4") | - | - | - | - | 1'-2" | 1'-4" |
| 1/16 (2 1/2") | A | B | C | D | E | F |
| 1/8 (4") | A | B | C | D | E | F |
- * ALL BUTTRISS DIMENSIONS ARE BASED ON A STATIC WATER PRESSURE OF 150 PSF AND A MINIMUM SOIL BEARING CAPACITY OF 2000 PSF. UNDER ACTUAL FIELD CONDITIONS ARE DIFFERENT, THE AREA OF BEARING SHALL BE INCREASED AS DETERMINED BY THE ENGINEER.
- MINIMUM DIMENSIONS OF BUTTRISS FOR CAPS AND PLUGS ***
- | SIZE | D | E | F |
|------|-----|-----|-----|
| 6" | 8" | 10" | 12" |
| 8" | 10" | 12" | 14" |
| 12" | 14" | 16" | 18" |
| 16" | 18" | 20" | 24" |
- NOTES:**
- PLUGS FOR 12" DIAMETER AND GREATER PIPE ARE ON DETAIL W-2.23.
 - BUTTRISS FOR 90° HORIZONTAL BENDS ARE ON DETAIL W-2.23.
- Howard County, Maryland Department of Public Works
 WATER MAIN
 Cap & Horizontal Bend
 Detail
 W-2.21

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division
 DATE: 6/28/24

Chief, Division of Land Development
 DATE: 6/27/24

Howard County, Maryland Department of Public Works
 Abandonment Pipe at Manhole
 Detail
 E-3.02

PROFESSIONAL CERTIFICATION

I, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 38391 EXPIRATION DATE: JANUARY 5, 2026

Signature of Engineer
 Date: 6/27/2024

EROSION AND SEDIMENT CONTROL DETAILS

DES: RLI
 DRN: RLI
 CHK: EJS
 DATE: JUNE 2024

BY NO. REVISIONS DATE 600 SCALE MAP NO. 38 BLOCK NO. 10

CAPITAL PROJECT NO. W - 8603
CONTRACT NO. 10 - 4635

DEEP RUN INTERIM WASTEWATER TREATMENT PLANT DEMOLITION

ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND

DEED: 87/423
 TAX MAP: 38
 GRID: 10
 PARCELS: 359-366,
 368-370,372,821,833

SCALE:
 SHEET 8 OF 11

Printed by: (User) on: Plot Date: Jun 27, 2024, 8:38am
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