

WASHINGTON COUNTY, MARYLAND DIVISION OF ENGINEERING



DOGSTREET ROAD W-5932 CULVERT REPLACEMENT

PROJECT NO. 14-220

CONTRACT NO. BR-DS-220-14

FILE PATH: C:\USERS\BMYERS\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\14-220 DOGSTREET RD\CONSTRUCTION PLOT DWGS\14-220-TITLE.DWG PLOT DATE: 5/4/2023 3:17 PM

ENGINEER / ARCHITECT DESIGN CERTIFICATION
I HEREBY CERTIFY THIS PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAS BEEN DESIGNED IN ACCORDANCE WITH LOCAL ORDINANCES, COMAR 26.17.01.07, AND MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

Scott Hobbs 31179 5/5/23
SIGNATURE REGISTRATION NUMBER DATE

APPROVED FOR CONSTRUCTION

Scott Hobbs 5/5/23
SCOTT HOBBS, P.E.
DIRECTOR OF ENGINEERING
FOR WASHINGTON COUNTY, MD DATE

SEAL:

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.

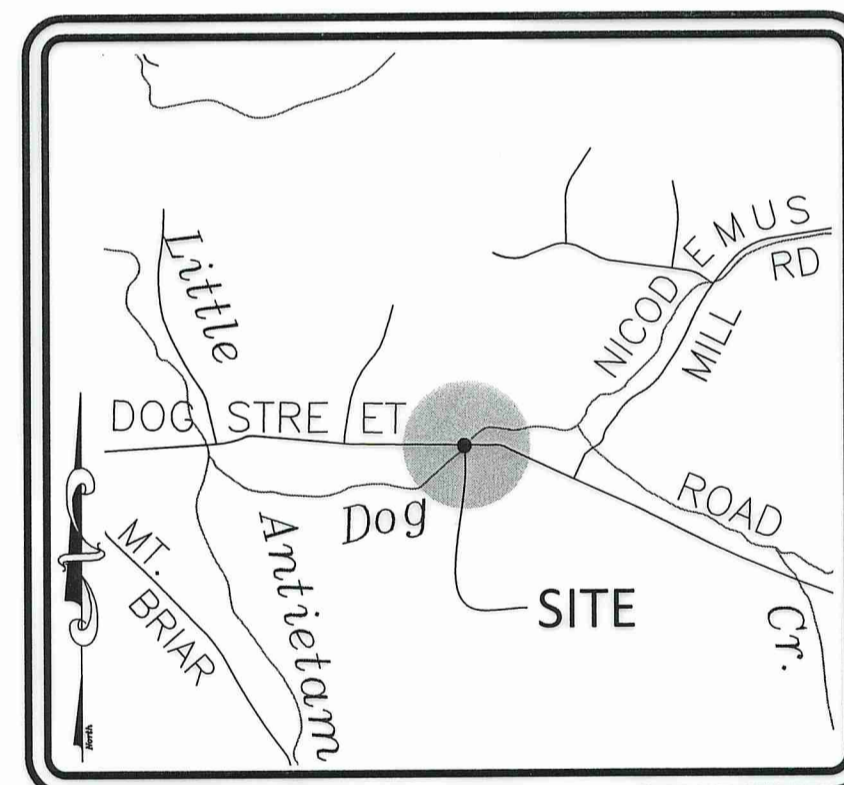
LICENSE No. 31179 EXPIRATION DATE: 1/19/25

THE WAIVER OF STORMWATER MANAGEMENT HAS BEEN GRANTED FOR THIS PROJECT.

Scott Hobbs 5/5/23
SCOTT HOBBS, P.E.
DIRECTOR OF ENGINEERING
FOR WASHINGTON COUNTY, MD DATE

WASHINGTON COUNTY SOIL CONSERVATION DISTRICT
SOIL EROSION AND SEDIMENT CONTROL PLAN APPROVAL

BY: *[Signature]*
DATE: 05/19/2023
(PLAN IS VALID FOR TWO YEARS FROM DATE OF APPROVAL)



DISTURBED AREA QUANTITY

THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 0.78 ACRES AND THE TOTAL AMOUNT OF EXCAVATION AND FILL SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 1900 CU. YDS. OF EXCAVATION AND APPROXIMATELY 110 CU. YDS. OF FILL.

SHEET INDEX

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SHEET 8	GEOMETRIC LAYOUT
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SHEET 14	STANDARD TRAFFIC BARRIER DETAILS
SHEET 15	QUANTITIES & DETAILS

OWNER / DEVELOPER CERTIFICATION
WE CERTIFY ALL / ANY PARTIES RESPONSIBLE FOR CLEARING, GRADING, CONSTRUCTION, AND / OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SOIL EROSION AND SEDIMENT.

Scott Hobbs 5/5/23
SCOTT HOBBS, P.E.
DIRECTOR OF ENGINEERING
FOR WASHINGTON COUNTY, MD DATE

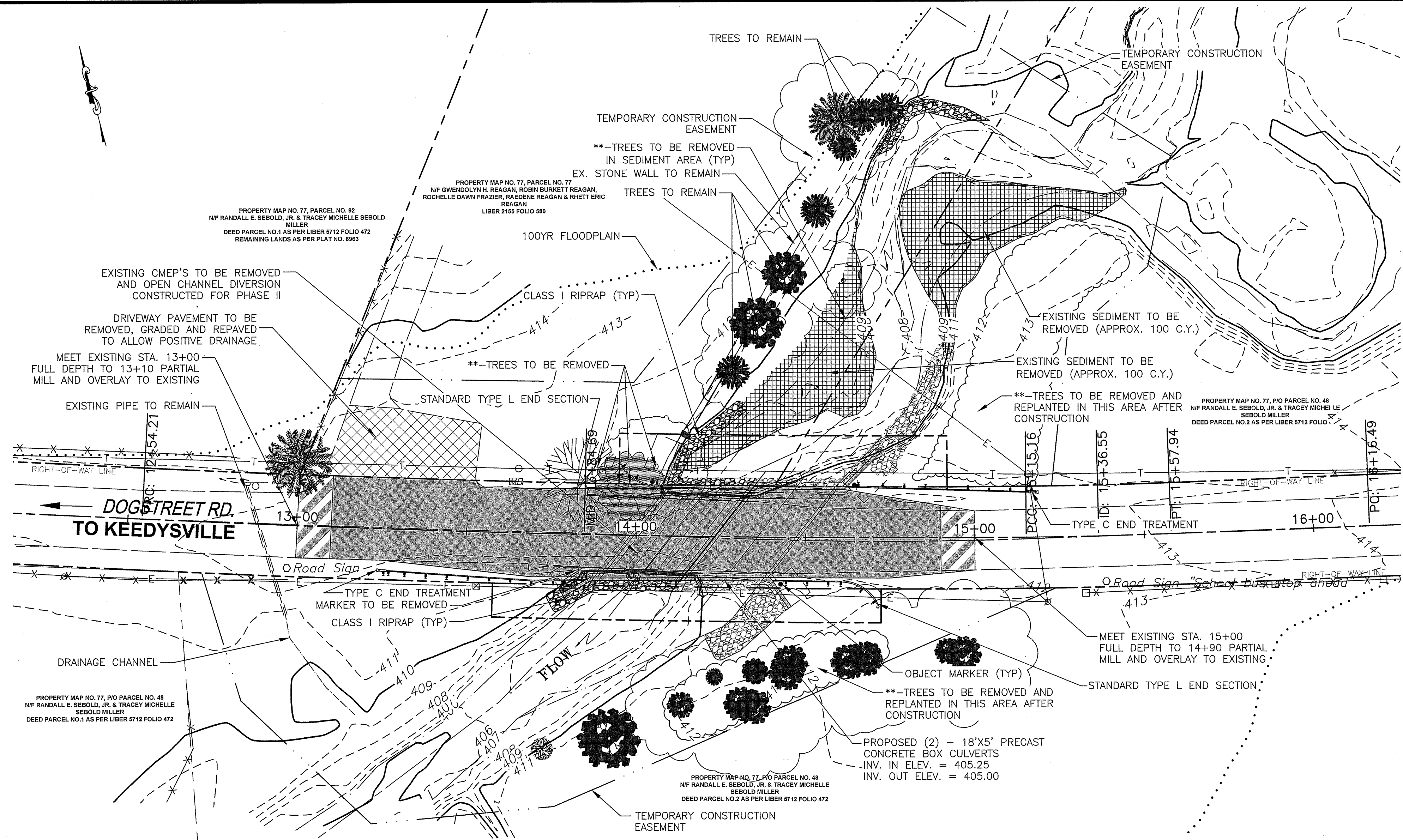
OWNER/DEVELOPER:
BOARD OF COUNTY COMMISSIONERS FOR
WASHINGTON COUNTY, MD
AGENT: SCOTT HOBBS, P.E.
DIRECTOR OF ENGINEERING
747 NORTHERN AVENUE
HAGERSTOWN, MARYLAND 21742
PHONE: 240-313-2460
FAX: 240-313-2401

BOARD OF COUNTY COMMISSIONERS:

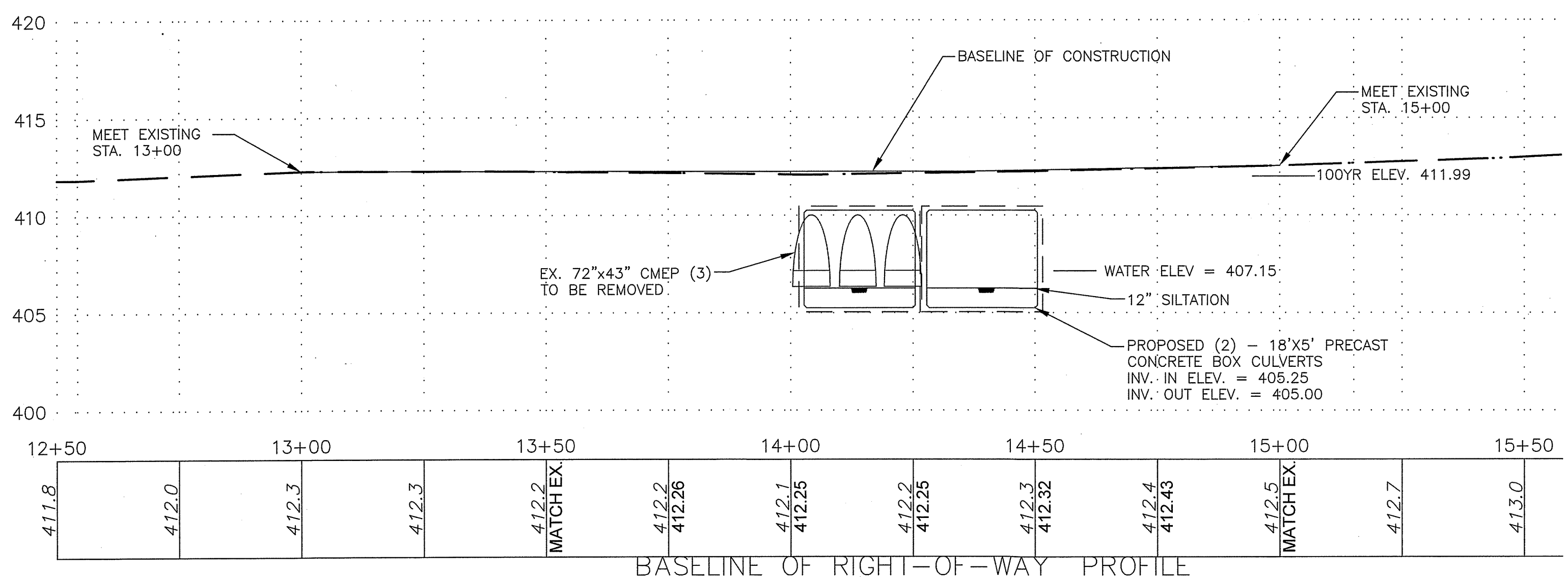
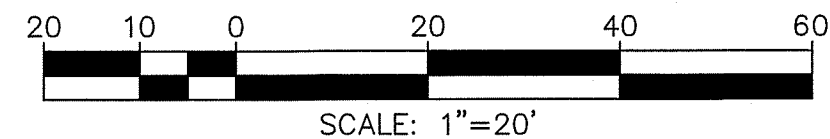
John F. Barr, President
Jeffrey A. Cline, Vice President
Derek Harvey
Wayne K. Keefer
Randall E. Wagner

JOHN M. MARTIRANO, COUNTY ADMINISTRATOR
SCOTT HOBBS, P.E., DIRECTOR OF ENGINEERING

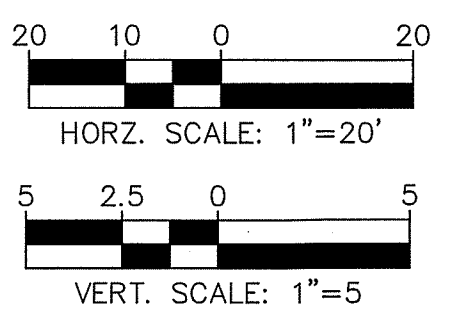
FILE PATH: C:\USERS\PI\P\H\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\14-220 DOGSTREET RD\CONSTRUCTION PLOT DWGS\14-220-PP-01.DWG PLOT DATE: 5/8/2023 4:05 PM



PLAN
SCALE: 1"=20'



BASELINE OF RIGHT-OF-WAY PROFILE



LEGEND

EX. CONTOURS	--- 100 ---
PROP. CONTOURS	— 100 —
EX. RIGHT-OF-WAY LINE	— — — — —
PROPOSED RIGHT-OF-WAY LINE	— — — — —
EX. PROPERTY LINE	— — — — —
EX. EDGE OF PAVEMENT	— — — — —
EXISTING TELEPHONE LINE	— T — T —
EXISTING ELECTRIC LINE	— E — E —
EX. STREAM	— — — — —
EDGE OF TREELINE	— — — — —
PROPOSED TRAFFIC BARRIER W-BEAM	— — — — —
PROPOSED RIPRAP	— — — — —
PROPOSED OBJECT MARKER SIGN	●
UTILITY POLE	⊕
	FULL DEPTH PAVEMENT SECTION REFER TO PAVEMENT SECTION SHOWN ON SHEET 3
	MILL AND OVERLAY

- NOTES:**
1. W.S.ELEV. = 407.15, WATER SURFACE ELEVATION MEASURED AND OBSERVED APRIL, 2021. THIS IS NO INDICATION OF THE ACTUAL ELEVATION TO BE EXPECTED DURING CONSTRUCTION.
 2. ALL DIMENSIONS AFFECTED BY THE GEOMETRICS AND/OR LOCATION OF THE EXISTING STRUCTURE SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR BEFORE ANY CONSTRUCTION BEGINS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY THE ENGINEER WITH ALL FIELD DIMENSIONS REQUIRED TO CHECK DETAILED SHOP DRAWINGS.
 3. INSTALL TRAFFIC BARRIER W-BEAM IN ACCORDANCE WITH DETAILS LOCATED ON SHEETS 2, 9 & 10 AND 14.
 4. REFER TO WASHINGTON COUNTY PLAT 100-10-599, "DOGSTREET ROAD" FOR PROPOSED RIGHT OF WAY LINES AND TEMPORARY CONSTRUCTION EASEMENT AREAS.
 5. TREES THAT ARE SELECTED TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TRIM AND REMOVE AROUND ALL EXISTING UTILITY LINES PRESENT. CONTRACTOR TO VERIFY WITH ENGINEER TREES THAT ARE TO BE REMOVED OR TRIMMED PRIOR TO CONSTRUCTION. IF ANY UTILITY LINE IS DAMAGED DURING THE TREE REMOVAL PROCESS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
 6. TREES ON THE NORTH SIDE SHALL BE CUT AND PLACED AT THE DIRECTION OF THE PROPERTY OWNER FOR USE AS FIRE WOOD.

Before You Dig
Call
"MISS UTILITY"
Service Protection Center

MEMBER
ONE CALL SYSTEMS INTERNATIONAL

CALL TOLL FREE
1-800-257-7777

DESIGNED BY: RGH
DRAWN BY: BM
CHECKED BY: SH
DATE: MAY 2023

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue Hagerstown, MD 21742
Phone: 240-315-2460 Fax: 240-315-2401

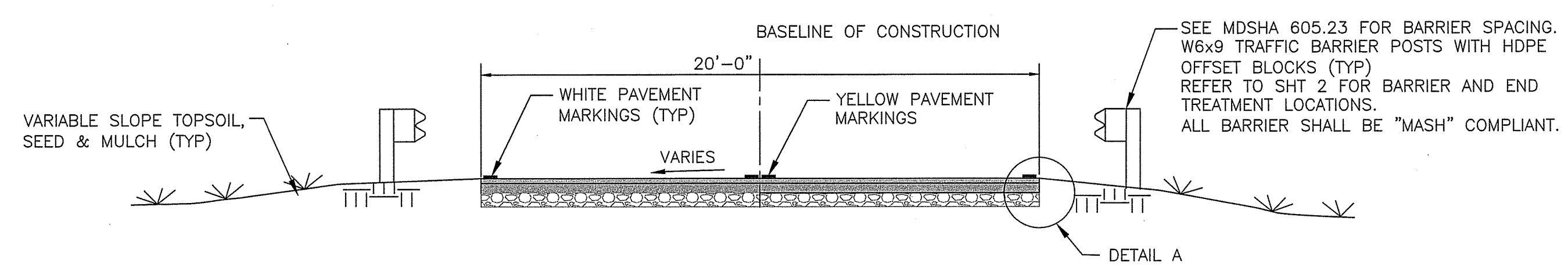
DOGSTREET ROAD W-5932
STRUCTURE REPLACEMENT
PLAN & PROFILE

SCALE
AS SHOWN

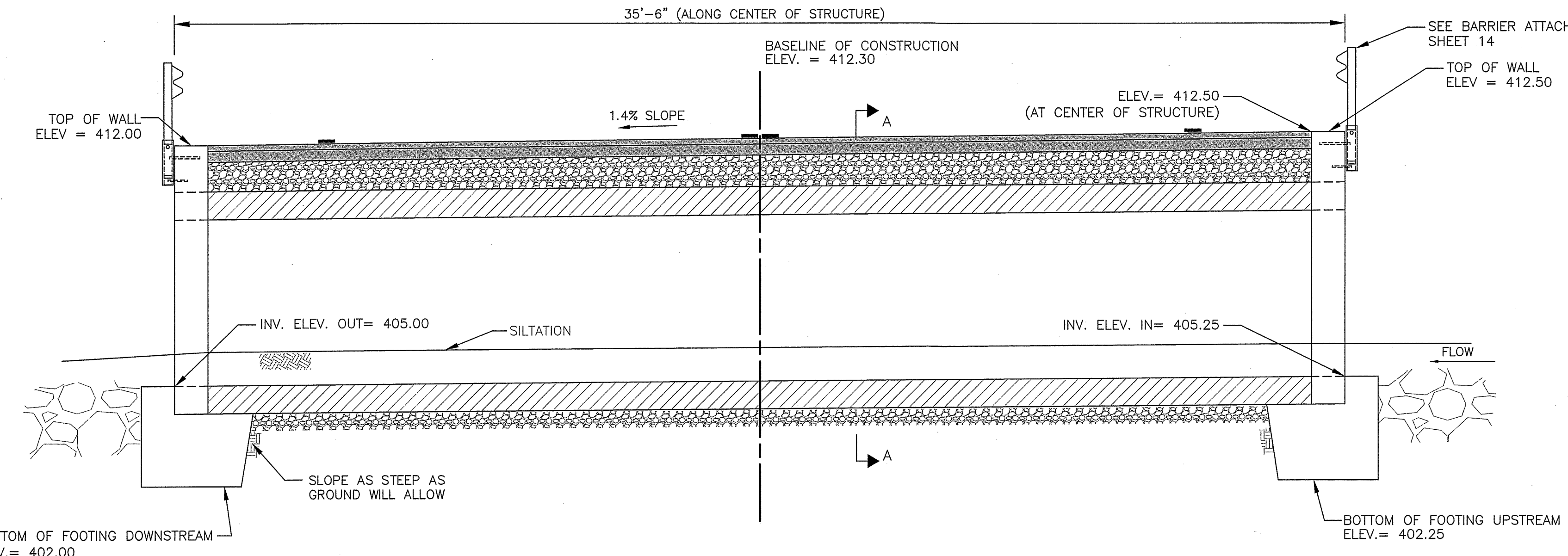
SHEET NO.
2

PROJECT NO.
14-220

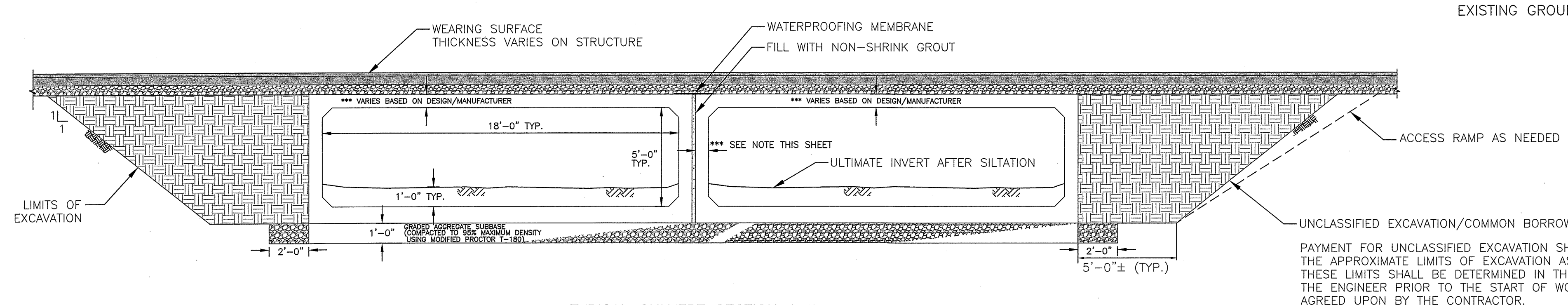
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TYPICAL PROPOSED ROADWAY SECTION (LOOKING WEST)
SCALE: 1/4" = 1'

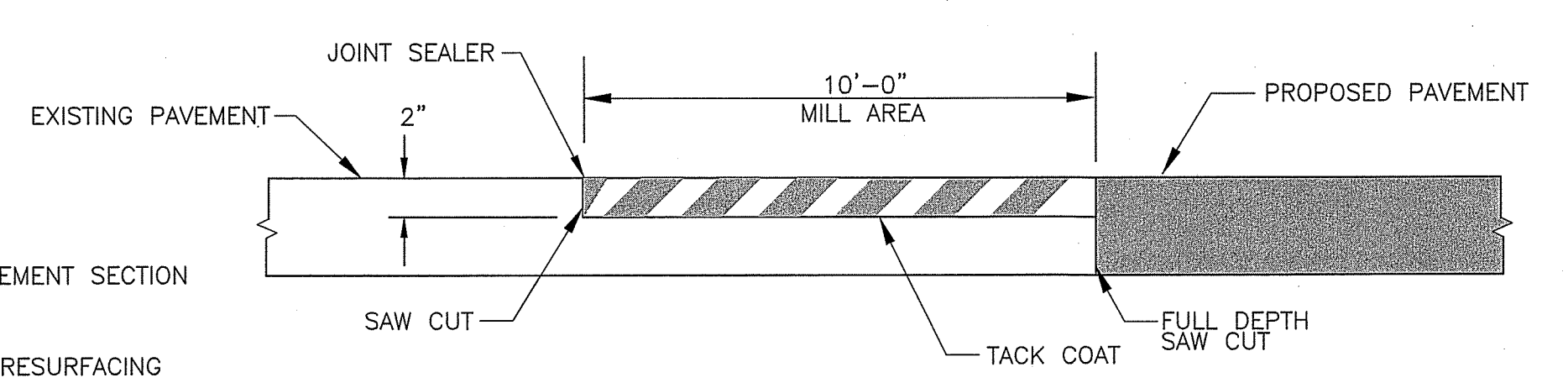
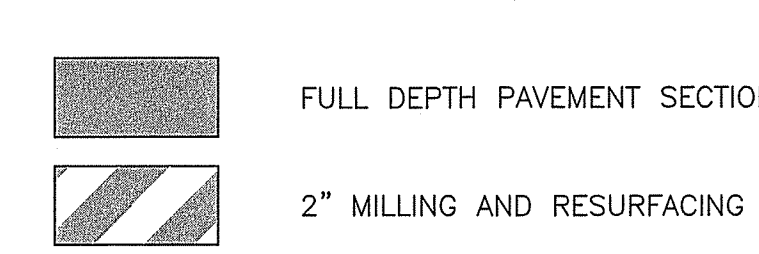


SECTION THROUGH CULVERT
SCALE: 3/8" = 1'

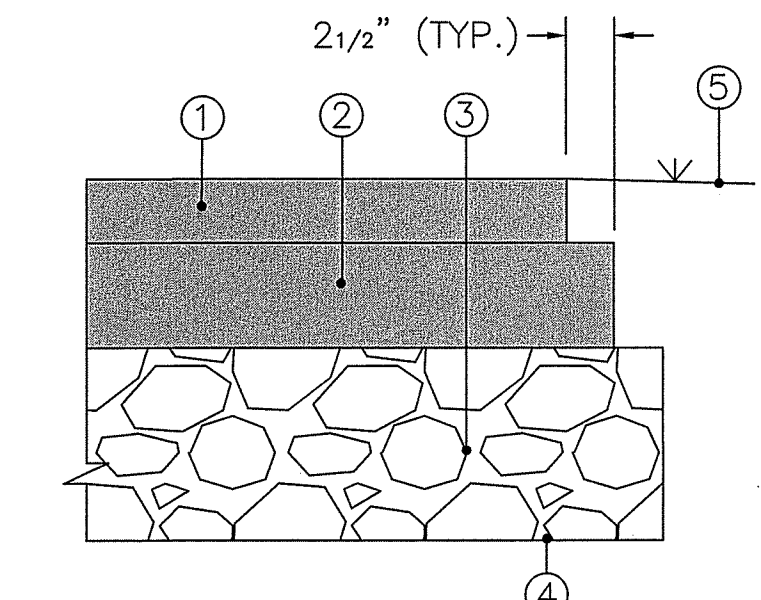


TYPICAL CULVERT SECTION A-A
SCALE: 1/4" = 1'

LEGEND:

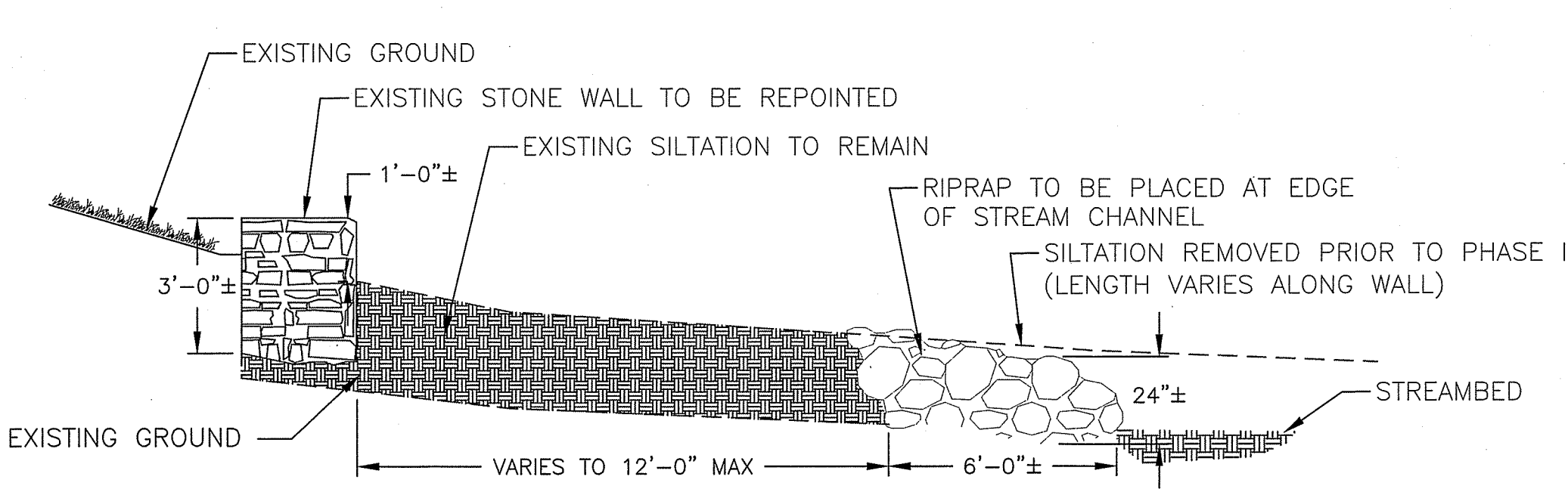


PAVEMENT TIE-IN
N.T.S.



- ① 2" HMA SUPERPAVE SURFACE, 9.5mm (1 - 2" LIFT)
- ② 4" HMA SUPERPAVE BASE, 19.0mm (2 - 2" LIFTS)
- ③ 6" GRADED AGGREGATE BASE
- ④ SUBGRADE
- ⑤ GRADED SHOULDER

DETAIL A - ROADWAY FULL DEPTH PAVEMENT SECTION
N.T.S.



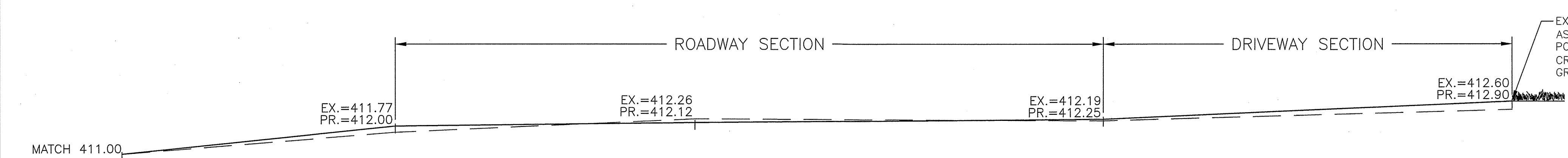
RIPRAP PLACEMENT SECTION EXISTING WALL
SCALE: N.T.S.

NOTES:

1. NEW PAVEMENT SECTIONS SHALL CLOSELY MATCH EXISTING ELEVATIONS AND PROFILE AS SHOWN ON SHEET 2.
2. SAWCUTS SHALL BE PROVIDED AT TIE-INS TO EXISTING PAVEMENT. REFER TO TIE-IN DETAIL ON THIS SHEET.
3. MILLING THE EXISTING PAVEMENT IS INCIDENTAL TO PAY ITEM HOT MIX ASPHALT SUPERPAVE SURFACE (AS NEEDED)
4. REFER TO SPECIFICATIONS FOR BACKFILL AND COMPACTION REQUIREMENTS.
5. REFER TO SHEET 11 & 12 FOR REINFORCING DETAILS.

PAYMENT FOR UNCLASSIFIED EXCAVATION SHALL BE TO THE APPROXIMATE LIMITS OF EXCAVATION AS SHOWN. THESE LIMITS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER PRIOR TO THE START OF WORK AND AGREED UPON BY THE CONTRACTOR.

EXCAVATED MATERIAL SHALL BE TESTED IN ACCORDANCE WITH THE GENERAL CONDITIONS. EXISTING MATERIAL THAT IS DETERMINED ACCEPTABLE SHALL BE USED AS BACKFILL. IF MATERIAL IS DETERMINED TO BE UNACCEPTABLE, COMMON BORROW SHALL BE USED FOR BACKFILL.



DRIVEWAY TRANSITION TO ROADWAY STA. 13+15 - STA. 13+52 (LOOKING WEST)
SCALE: 3/8" = 1'

DATE	
BY	
REVISION DESCRIPTION	
NO.	
DESIGNED BY	RGSH
DRAWN BY	BM
CHECKED BY	SH
DATE	MAY 2023

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
243 North Avenue, Martinsburg, MD 21742
Phone: 240-313-2460 Fax: 240-313-2401

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

DOGSTREET ROAD W-5932
STRUCTURE REPLACEMENT

TYPICAL SECTIONS

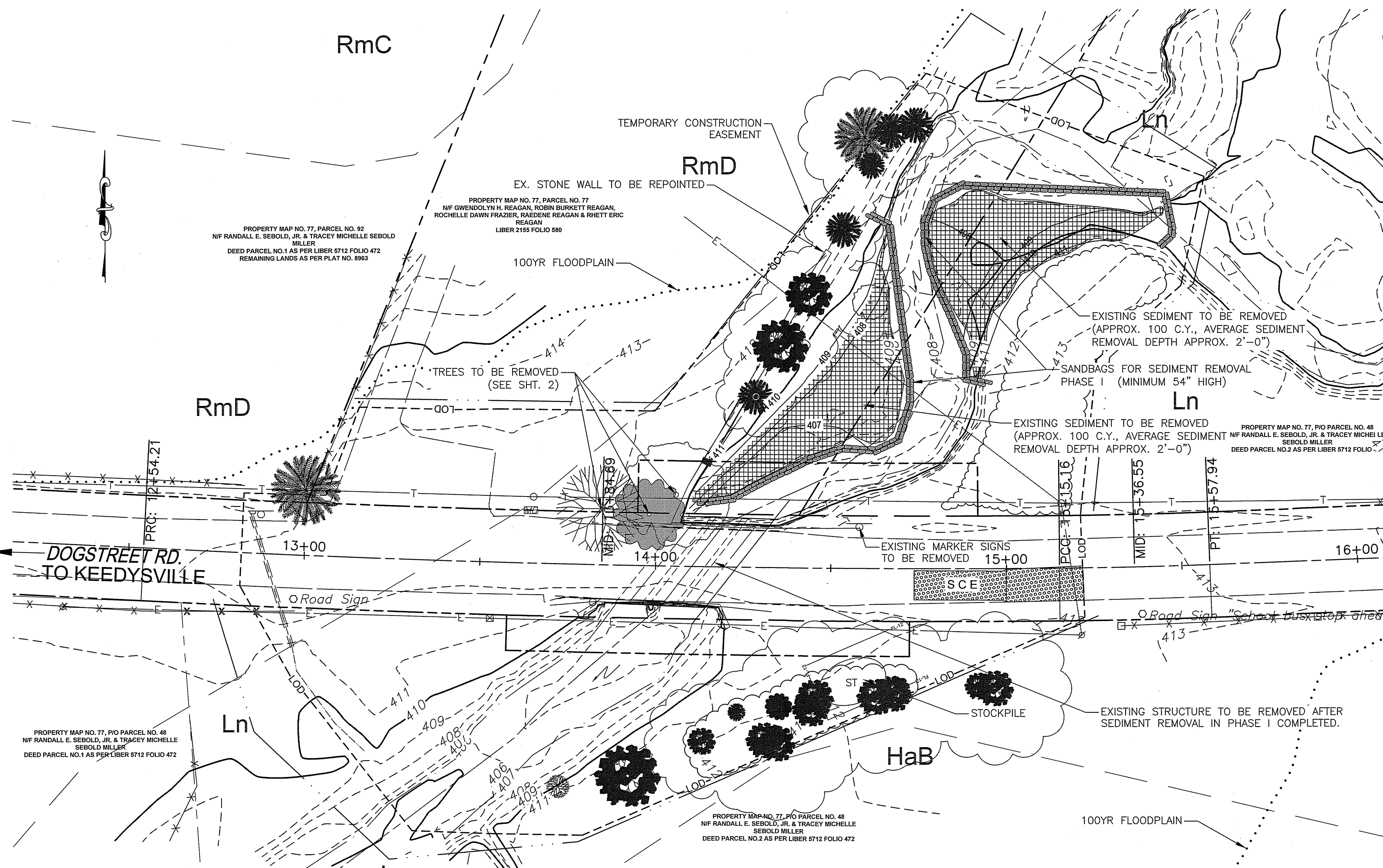
STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
5/5/23

SCALE
AS SHOWN

SHEET NO.
3

PROJECT NO.
14-220

FILE PATH: C:\USERS\BMYERS\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\14-220 DOGSTREET RD\CONSTRUCTION PLOT DWGS\14-220-ES-00.DWG PLOT DATE: 5/5/2023 7:22 AM



PLAN - PHASE I (SEDIMENT REMOVAL)
SCALE: 1"=20'

- LEGEND**
- FILTER LOG: FL-12
 - LIMITS OF DISTURBANCE: LOD
 - EDGE OF TREELINE: [Symbol]
 - SOIL MATERIAL STOCKPILE: ST
 - SANDBAGS: [Symbol]
 - STABILIZED CONSTRUCTION ENTRANCE: SCE

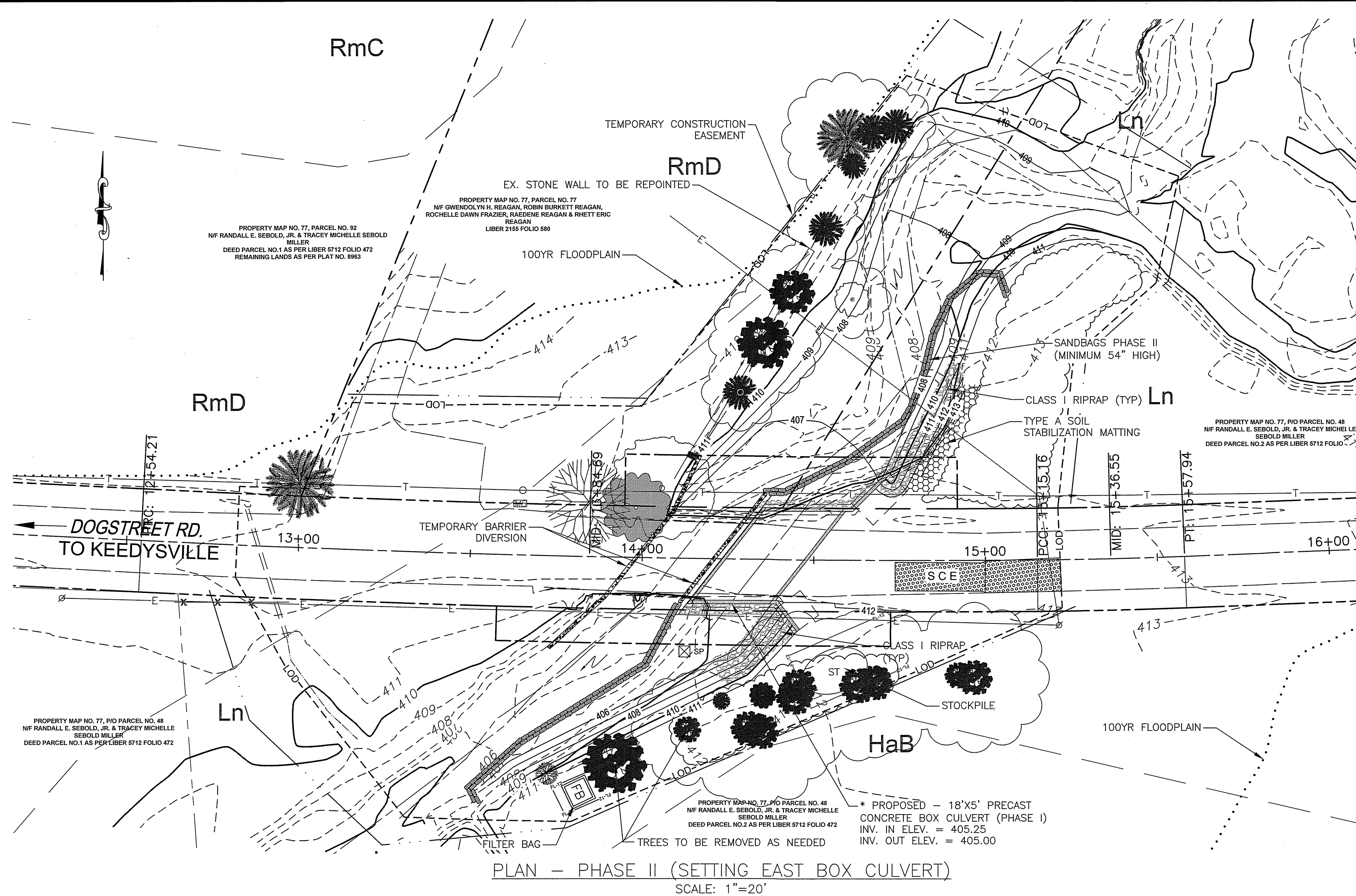
- SOILS DESCRIPTIONS**
- Ln: LINDSLIDE SILT LOAM
 - HaB: HAGERSTOWN SILT LOAM, 3-8% SLOPES
 - RmD: RYDER-DUFFIELD CHANNERY SILT LOAMS, 15-25% SLOPES

- SEQUENCE OF CONSTRUCTION**
1. THE TRIBUTARY OF DOG CREEK IS A CLASS IV-P STREAM WITH INSTREAM WORK PROHIBITED DURING THE CLOSURE PERIOD OF MARCH 1 THROUGH MAY 31. THE ENTIRE LIMITS OF DISTURBANCE (LOD) FOR THE PROJECT IS WITHIN THE 100YR FLOODPLAIN. MDE HAS ISSUED A JOINT WATER WAY PERMIT AUTHORIZATION #22-NT-3047/202260328.
 2. NOTIFY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT AT 301-797-6821, EXT. 3, THE MARYLAND DEPARTMENT OF ENVIRONMENT (MDE INSPECTOR) AT 443-835-9397, AND THE WASHINGTON COUNTY DIVISION OF ENGINEERING AT 240-313-2460 AT LEAST FIVE (5) DAYS BEFORE CONSTRUCTION BEGINS TO SCHEDULE A PRE-CONSTRUCTION MEETING. A COPY OF THE CONTRACTOR'S SCHEDULE SHALL BE PROVIDED TO WASHINGTON COUNTY AND MDE PRIOR TO THE START OF CONSTRUCTION.
 3. THE CONTRACTOR IS TO NOTIFY MISS UTILITY AT 1-800-257-7777 A MINIMUM OF 3 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
 4. INSTALL TRAFFIC CONTROL FOR FULL ROAD CLOSURE AND STABILIZED CONSTRUCTION ENTRANCE.
 5. TRIM AND REMOVE TREES WITHIN THE LOD ONLY AS NECESSARY FOR COMPLETION OF THE WORK. REMOVE TREES WITHIN THE SEDIMENT AREA DESIGNATED TO BE REMOVED. (SEE NOTE ON SHEET 2 FOR TREE REMOVAL AND TRIMMING) INSTALL FILTER LOG, CLEAR AND GRUB ONLY THOSE AREAS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS. INSTALL TEMPORARY STOCKPILE FOR EQUIPMENT ONLY IN THE AREA AS SHOWN, WITH FILTER LOG ALONG THE DOWNSTREAM SIDE OF THE PILE. ALL STREAMBED MATERIAL IS TO BE REMOVED FROM THE SITE. ALL FILL MUST COME FROM OR GO TO A SITE THAT HAS A CURRENT, APPROVED SOIL, EROSION AND SEDIMENT CONTROL PLAN.
 6. AREAS OF SEDIMENT SHOWN IN PHASE I TO BE REMOVED BEFORE CONSTRUCTION OF PHASE II BEGINS. SANDBAGS SHALL BE PLACED AS SHOWN WITH MINIMUM HEIGHT REQUIREMENTS (54") TO MEET THE 2-YEAR STORM FOR OVER TOPPING AND AS DIRECTED BY THE ENGINEER. SEDIMENT SHALL BE REMOVED IN AREAS SHOWN DURING DRY CONDITIONS (PUMPS MAY BE NEEDED) USING SOIL AND EROSION BEST PRACTICES. THE AREA SHALL BE GRADED AND STABILIZED PRIOR TO PHASE II WORK. SANDBAGS SHALL BE REMOVED AND PLACED FOR CONSTRUCTION OF PHASE II TO BEGIN.
 7. THE EXISTING STRUCTURE WILL BE REMOVED COMPLETELY IN PHASE II AFTER SEDIMENT REMOVAL IS COMPLETED TO ALLOW WATER TO MOVE FREELY IN AN OPEN CHANNEL. PLACE SANDBAGS AS SHOWN ON PHASE II PLAN TO MEET THE REQUIREMENTS FOR THE 2-YEAR STORM AND AS DIRECTED BY THE ENGINEER. INSTALL TEMPORARY BARRIER DIVERSION, SUMP PIT AND DEWATERING BAG AS DIRECTED BY THE ENGINEER.
 8. PHASE II - REMOVE THE EXISTING ASPHALT WEARING SURFACE AND ENDWALLS ON THE EAST SIDE OF THE STRUCTURE. EXCAVATE AND GRADE FOR PLACEMENT OF BEDDING MATERIAL FOR THE CULVERTS AND WINGWALL FOOTINGS. CONSTRUCT CONCRETE FOOTINGS. SEE SHEETS 9 & 10 FOR PHASE II AND PHASE III CONCRETE PLACEMENT.
 9. PLACE EAST SIDE CONCRETE PRECAST BOX CULVERT ON COMPACTED BEDDING MATERIAL. GRADED AGGREGATE SUBBASE IS TO BE COMPACTED TO 95% MAXIMUM DENSITY. CONSTRUCT ENDWALLS.
 10. BACKFILL CONCRETE ENDWALLS AND BOX CULVERT. GRADE AND PLACE RIPRAP ALONG THE UPSTREAM AND DOWNSTREAM SIDE OF CULVERT AS SHOWN ON SHEET 5 AND RESTORE STREAMBANKS TO NATURAL CONDITIONS AS DIRECTED BY THE ENGINEER. STREAMBANK RESTORATION NEEDS TO BE COMPLETED WITH PERMANENT STABILIZATION PRIOR TO BEGINNING PHASE III.
 11. PHASE III - FOR WEST SIDE OF STRUCTURE, USE THE EAST SIDE BOX CULVERT FOR STREAM DIVERSION. REMOVE TEMPORARY BARRIER DIVERSION AND RESET SUMP PIT AND FILTER BAG. RESET SANDBAGS AS NEEDED TO DIRECT FLOW TO NEW BOX CULVERT.
 12. EXCAVATE AND GRADE FOR PLACEMENT OF BEDDING MATERIALS FOR THE CULVERT AND WING WALL FOOTINGS. CONSTRUCT CONCRETE FOOTINGS AND SET WEST SIDE CONCRETE PRECAST BOX CULVERT. CONSTRUCT REMAINING ENDWALLS.
 13. BACKFILL ENDWALLS AND BOX CULVERT. GRADE AND PLACE RIPRAP ALONG UPSTREAM AND DOWNSTREAM AS SHOWN ON SHEET 6 AND RESTORE AND STABILIZE STREAMBANKS.
 14. AFTER INSTALLATION OF WEST SIDE, AND AREA IS STABILIZED, REMOVE DIVERSION CHANNEL SANDBAGS, AND SUMP PIT. DIRECT STREAM THROUGH BOTH CONCRETE BOX CULVERTS. SAW CUT ROAD AND REMOVE PAVEMENT AS SPECIFIED. PLACE ROADWAY BASE, GRADED AGGREGATE, AND ASPHALT PAVEMENT.
 15. FINE GRADE AND TOPSOIL ANY REMAINING DISTURBED AREAS AS DIRECTED BY THE ENGINEER. PLANT TREES AS DIRECTED BY THE ENGINEER. PROVIDE PERMANENT SEEDING.
 16. SET TRAFFIC BARRIER.
 17. NOTIFY WASHINGTON COUNTY DIVISION OF ENGINEERING, WASHINGTON COUNTY SOIL CONSERVATION DISTRICT, AND MARYLAND DEPARTMENT OF ENVIRONMENT INSPECTOR FIVE DAYS PRIOR TO FINAL INSPECTION AND AFTER VEGETATION STABILIZATION HAS ACHIEVED 95% COVERAGE. REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES ONLY AFTER FINAL APPROVAL FROM THE SOIL CONSERVATION DISTRICT.
 18. REMOVE TRAFFIC CONTROL.

- STANDARD UTILITY NOTES**
1. CONTRACTOR TO ONLY OPEN UP LENGTH OF TRENCH THAT CAN BE CONSTRUCTED AND BACKFILLED IN ONE WORKING DAY IN PAVED AREAS.
 2. CONTRACTOR TO PLACE EXCAVATED MATERIALS IN A DUMP TRUCK AND HAULED TO AN APPROVED LOCATION TO WASTED MATERIALS TO PAVED AREAS.
 3. CONTRACTOR TO BACKFILL TRENCH WITH APPROVED MATERIALS AND STABILIZE DISTURBED AREAS THE SAME WORKING DAY.
 4. IN AREAS WHERE THE CONSTRUCTION TAKES TO PLACE OUTSIDE OF THE EXISTING ROADBED, CONTRACTOR TO INSTALL SILT FENCE ALONG THE DOWNHILL SIDE OF THE TRENCH BEFORE BEGINNING CONSTRUCTION AND PLACE EXCAVATED MATERIAL FROM THE TRENCH ON THE UPHILL SIDE.
 5. IF DEWATERING OF THE TRENCH IS REQUIRED, CONTRACTOR TO PUMP WATER TO A FILTER BAG TO DEWATER.
 6. CONTRACTOR TO SWEEP STREETS OF ANY DEBRIS OR SEDIMENTS CAUSED BY CONSTRUCTION OPERATIONS AND DISPOSE OF AT AN APPROVED LOCATION.
 7. CONTRACTOR TO STABILIZE ALL DISTURBED AREAS WITH SEED & MULCH OR APPROPRIATE STREET REPAIR.

DESIGNED BY:	NO.	REVISION DESCRIPTION
DRAWN BY:	NO.	
CHECKED BY:	NO.	
DATE:	NO.	
WASHINGTON COUNTY, MARYLAND DIVISION OF ENGINEERING		
Washington County Administrative Annex Building 747 Northern Avenue Hagerstown, MD 21742 Phone: 240-313-2460 Fax: 240-313-2401		
DOGSTREET ROAD W-5932 STRUCTURE REPLACEMENT EROSION AND SEDIMENT CONTROL PLAN PHASE I		
SCALE AS SHOWN		
SHEET NO. 4		
PROJECT NO. 14-220		

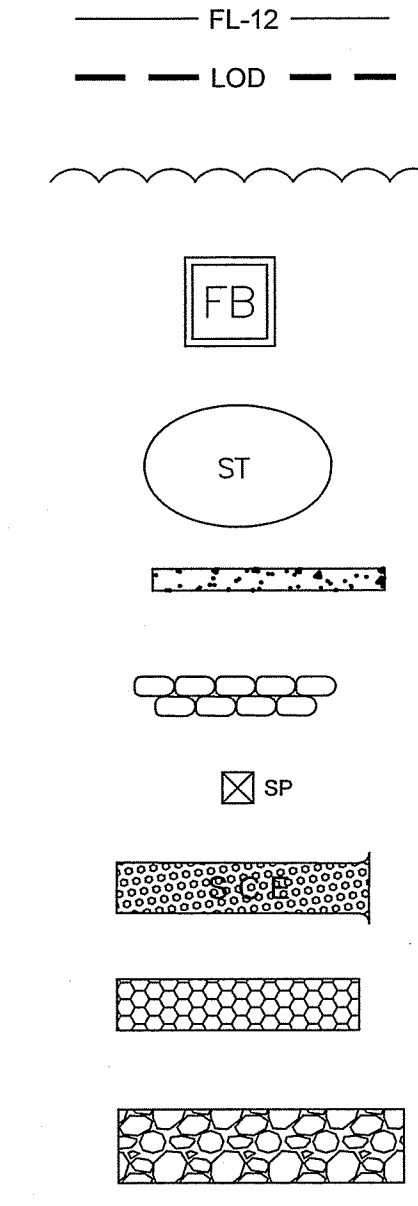
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PLAN - PHASE II (SETTING EAST BOX CULVERT)
SCALE: 1"=20'

LEGEND

- FILTER LOG
- LIMITS OF DISTURBANCE
- EDGE OF TREELINE
- FILTER BAG
- SOIL MATERIAL STOCKPILE
- TEMPORARY BARRIER DIVERSION
- SANDBAGS
- SUMP PIT
- STABILIZED CONSTRUCTION ENTRANCE
- TYPE A SOIL STABILIZATION MATTING
- PROPOSED RIPRAP



SOILS DESCRIPTIONS

Ln
HaB
RmD

LINDSLIDE SILT LOAM
HAGERSTOWN SILT LOAM, 3-8% SLOPES
RYDER-DUFFIELD CHANNERY SILT LOAMS, 15-25% SLOPES

* IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO STABILIZE THE TEMPORARY BARRIER DIVERSION THAT WILL BE USED FOR THE PHASE II STREAM BYPASS TO PREVENT COLLAPSE DURING THE CONSTRUCTION OF THE EAST BOX CULVERT. APPROVAL FROM THE ENGINEER SHALL BE OBTAINED BEFORE ANY WORK IS STARTED IN PHASE II.

CONTRACTOR TO VERIFY THAT NEW BOX CULVERT INSTALLED IN PHASE II IS STABLE AND CAN WITHSTAND LOADS OF ANY EQUIPMENT THAT WILL BE USED IN PHASE III TO INSTALL NEW BOX CULVERT ON WEST SIDE. VERIFY WITH ENGINEER BEFORE PROCEEDING TO ASSURE SAFETY OF EQUIPMENT AND STRUCTURE.

STREAM DIVERSION NOTES:

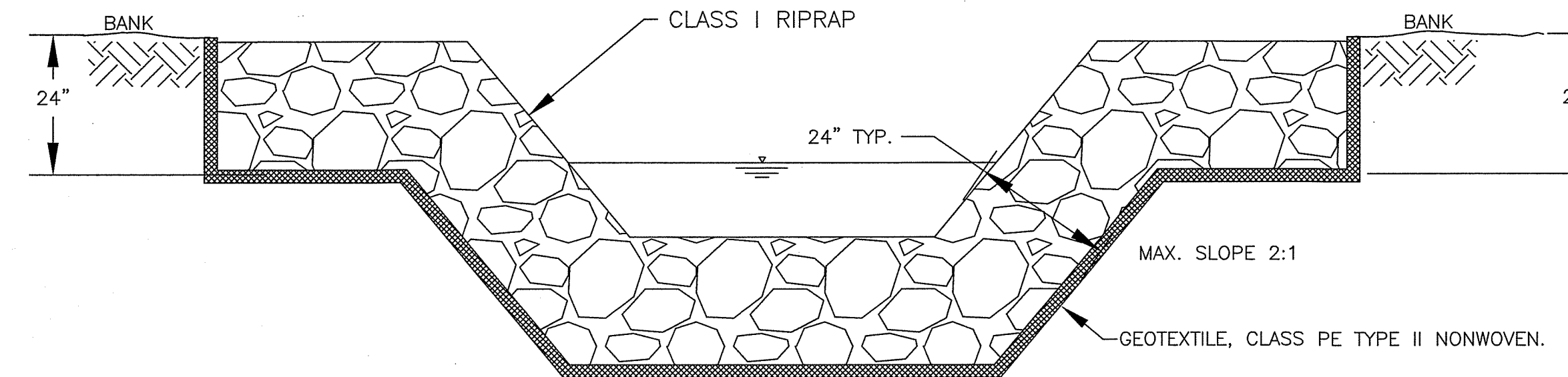
1. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE DIMENSIONS, SHAPE, AND SIZE OF THE STREAM DIVERSION IN ACCORDANCE WITH THE MARYLAND DEPARTMENT OF ENVIRONMENT WATER ADMINISTRATION "MARYLAND GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 1.5 SANDBAG DIVERSION" AND DETAIL C-7 TEMPORARY BARRIER DIVERSION".
2. SANDBAGS SHALL BE PLACED TO MEET THE MINIMUM REQUIREMENT (MIN 54" HIGH) FOR 2-YEAR STORM AND AS DIRECTED BY THE ENGINEER. IN THE EVENT OF A STORM THAT OVERTOPS THE STREAM DIVERSION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OR PROTECTION OF ANY EQUIPMENT, TOOLS, MATERIALS, OR OTHER ITEMS NEEDED TO COMPLETE THE WORK THAT COULD BE AFFECTED BY THE STORM FLOWS. THE REMOVAL AND/OR REPLACEMENT OF ANY EQUIPMENT OR MATERIALS IS INCIDENTAL TO THE PERTINENT STREAM DIVERSION PAY ITEM.

CONSTRUCTION SPECIFICATIONS

1. FOR SANDBAGS USE MATERIALS THAT ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING AND PUNCTURE, AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL.
2. USE BARRIER MADE OF CONCRETE OR OTHER APPROVED MATERIAL.
3. USE 10 MIL OR THICKER, UV RESISTANT, IMPERMEABLE SHEETING OR OTHER APPROVED MATERIAL THAT IS IMPERMEABLE AND RESISTANT TO PUNCTURING AND TEARING.
4. ESTABLISH TOP ELEVATION AT H/2 +1 FOOT FOR PROJECTS OF DURATION LESS THAN 2 WEEKS OR AS SPECIFIED ON APPROVED PLAN.
5. INSTALL DIVERSION STRUCTURE FROM DOWNSTREAM TO UPSTREAM.
6. PLACE IMPERMEABLE SHEETING SUCH THAT UPGRADE PORTION OVERLAPS DOWNGRADE PORTION BY A MINIMUM OF 2 FEET.
7. USE SANDBAG BASE FOR LEVELING AND TO ESTABLISH MINIMUM TOP ELEVATION OF THE BARRIER AS REQUIRED.
8. DISPOSE OF ALL EXCAVATED MATERIALS IN AN APPROVED DISPOSAL AREA OUTSIDE THE OF THE 100-YEAR FLOODPLAIN
9. DEWATER WORK AREA USING AN APPROVED EROSION AND SEDIMENT CONTROL PRACTICE AS SPECIFIED ON APPROVED PLAN.
10. REPLACE SANDBAGS AND IMPERMEABLE SHEETING IF TORN.

RIPRAP NOTES:

1. PLACE RIPRAP STONES TO A 24" MIN. DEPTH FLUSH WITH THE EXISTING STREAM BED/BANK IN THE LOCATION AS SHOWN AND/OR AS DIRECTED BY THE ENGINEER.
2. STONES FOR RIPRAP MAY BE PLACED BY EQUIPMENT. STONES SHALL BE PLACED TO THE FULL DEPTH COURSE THICKNESS IN ONE OPERATION IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIPRAP SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS.



CLASS I RIPRAP
TYPICAL BANK SECTION

NO.	REVISION DESCRIPTION	BY	DATE
DESIGNED BY:	RGSH	CHECKED BY:	SH
DRAWN BY:	BM	DATE:	MAY 2023

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex, Building
747 Northern Avenue Hagerstown, MD 21742
Phone: 240-315-2460 Fax: 240-315-2461

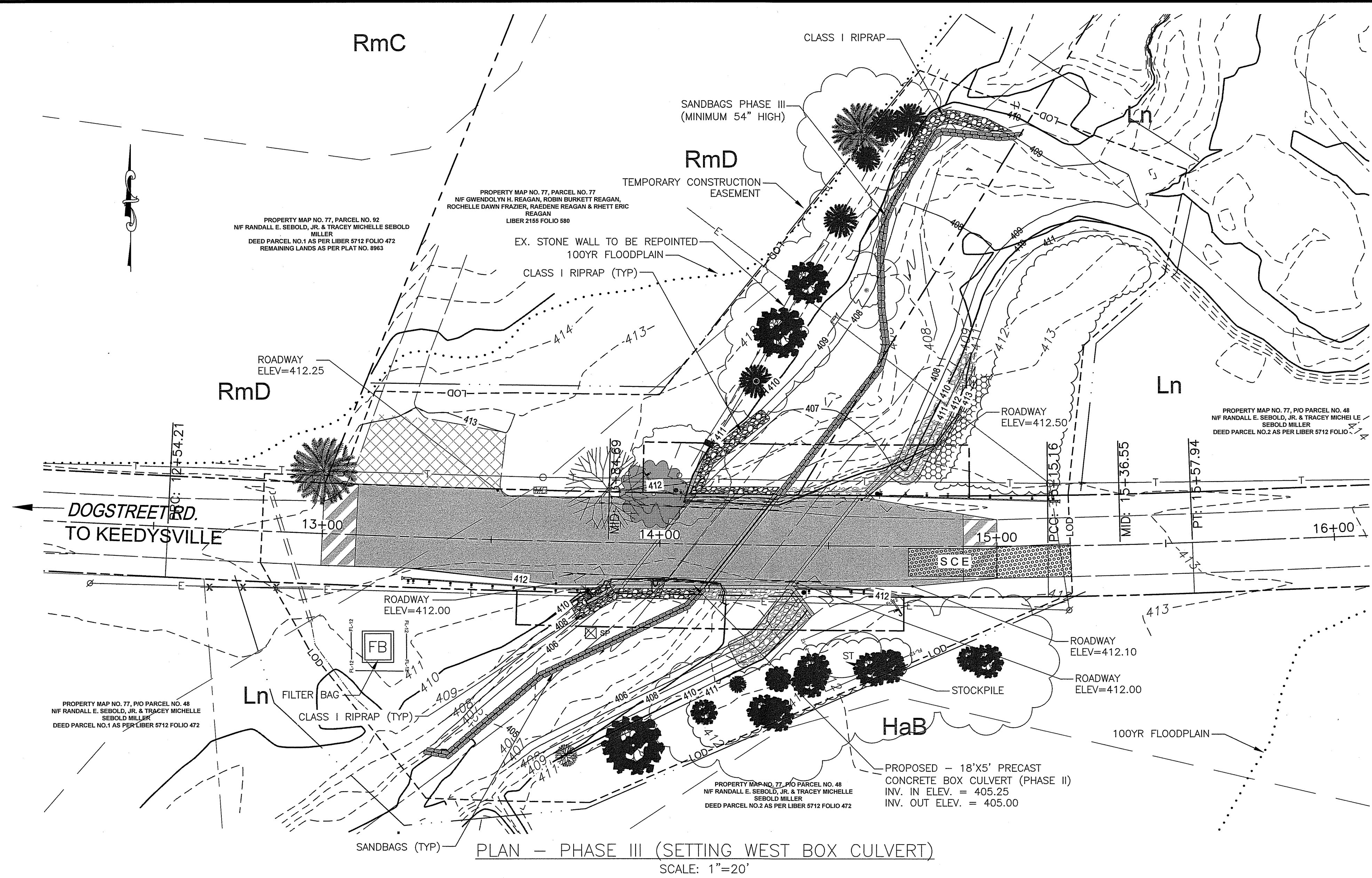
DOG STREET ROAD W-5932
STRUCTURE REPLACEMENT
EROSION AND SEDIMENT
CONTROL PLAN PHASE II

SCALE
AS SHOWN

SHEET NO.
5

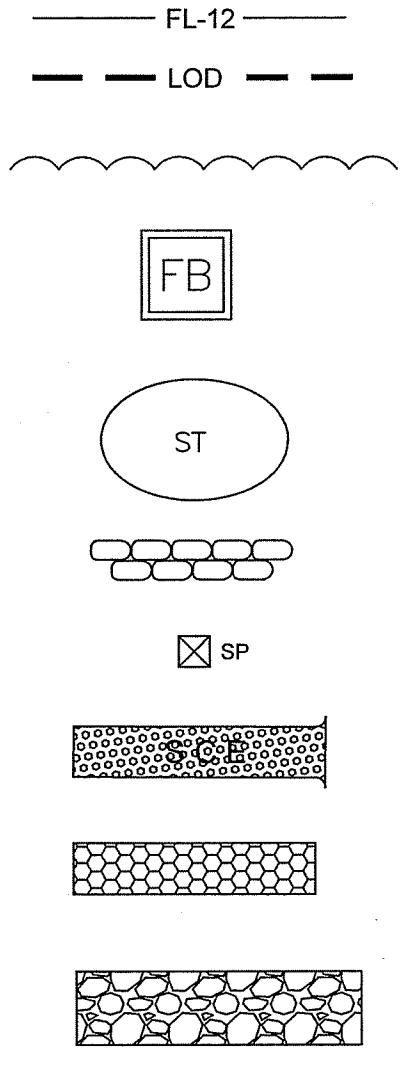
PROJECT NO.
14-220

FILE PATH: C:\USERS\BMYERS\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\14-220 DOGSTREET RD\CONSTRUCTION PLOT DWGS\14-220-ES-00.DWG PLOT DATE: 5/6/2023 7:16 AM



LEGEND

- FILTER LOG
- LIMITS OF DISTURBANCE
- EDGE OF TREELINE
- FILTER BAG
- SOIL/MATERIAL STOCKPILE
- SANDBAGS
- SUMP PIT
- STABILIZED CONSTRUCTION ENTRANCE
- TYPE A SOIL STABILIZATION MATTING
- PROPOSED RIPRAP



SOILS DESCRIPTIONS

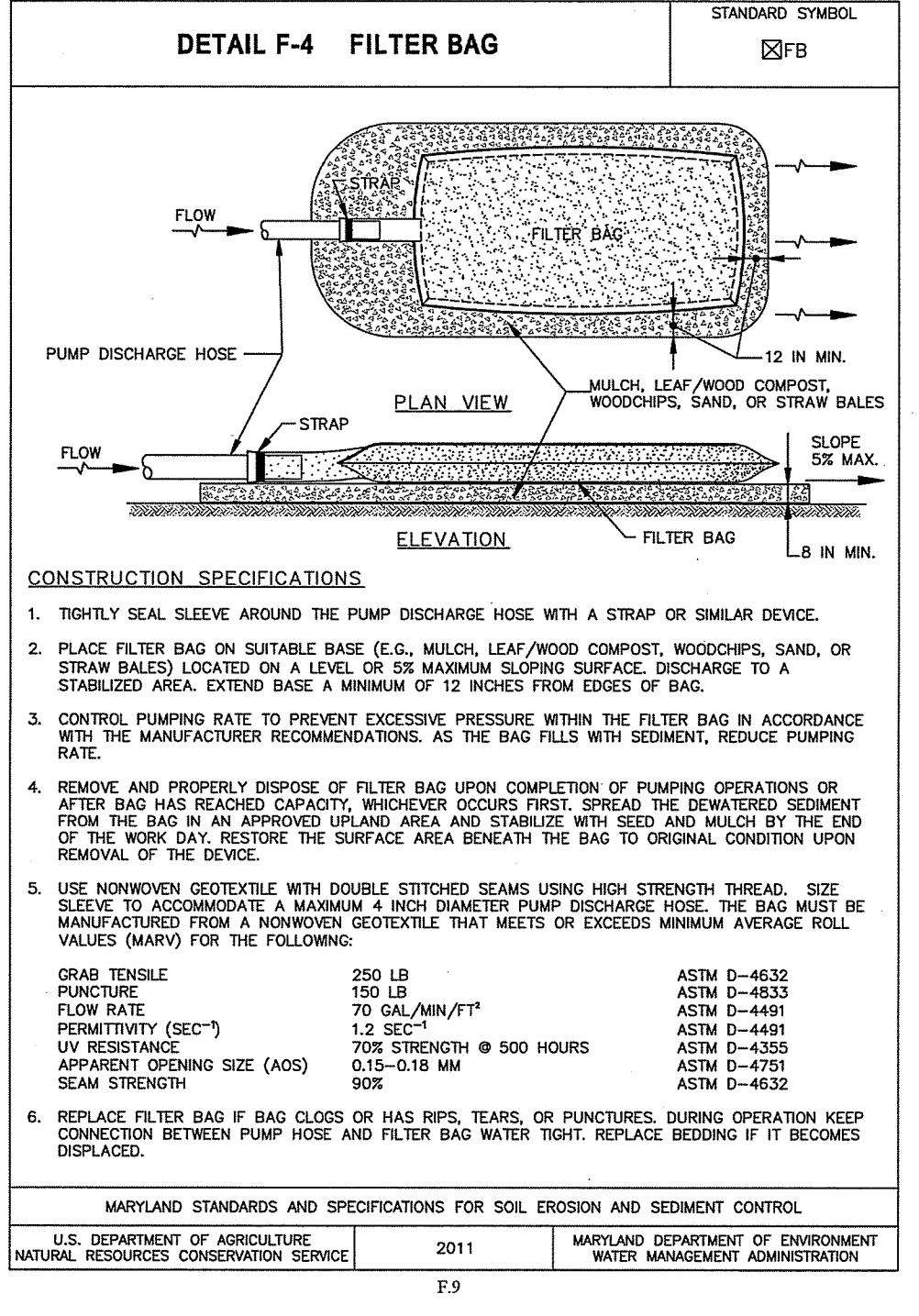
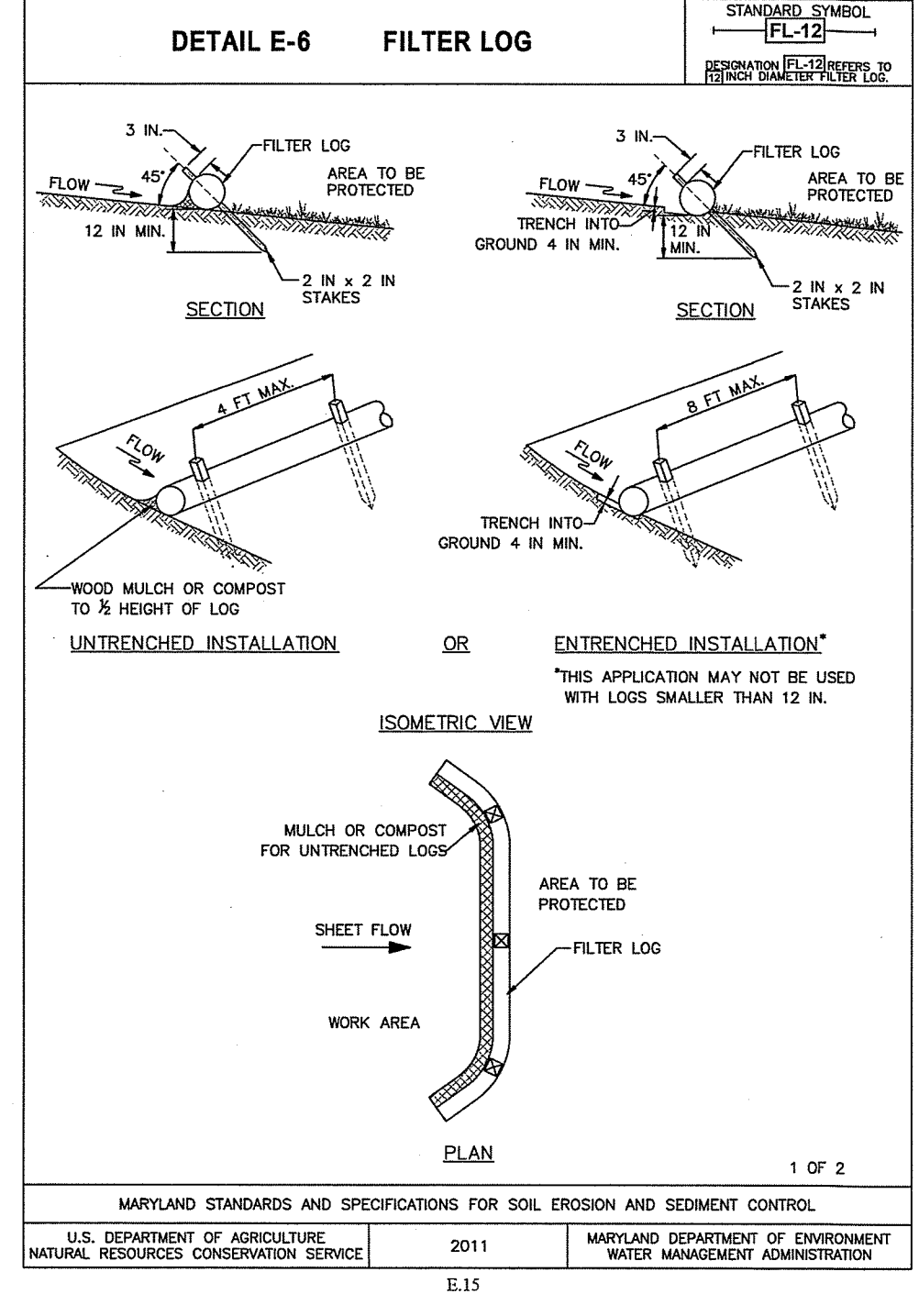
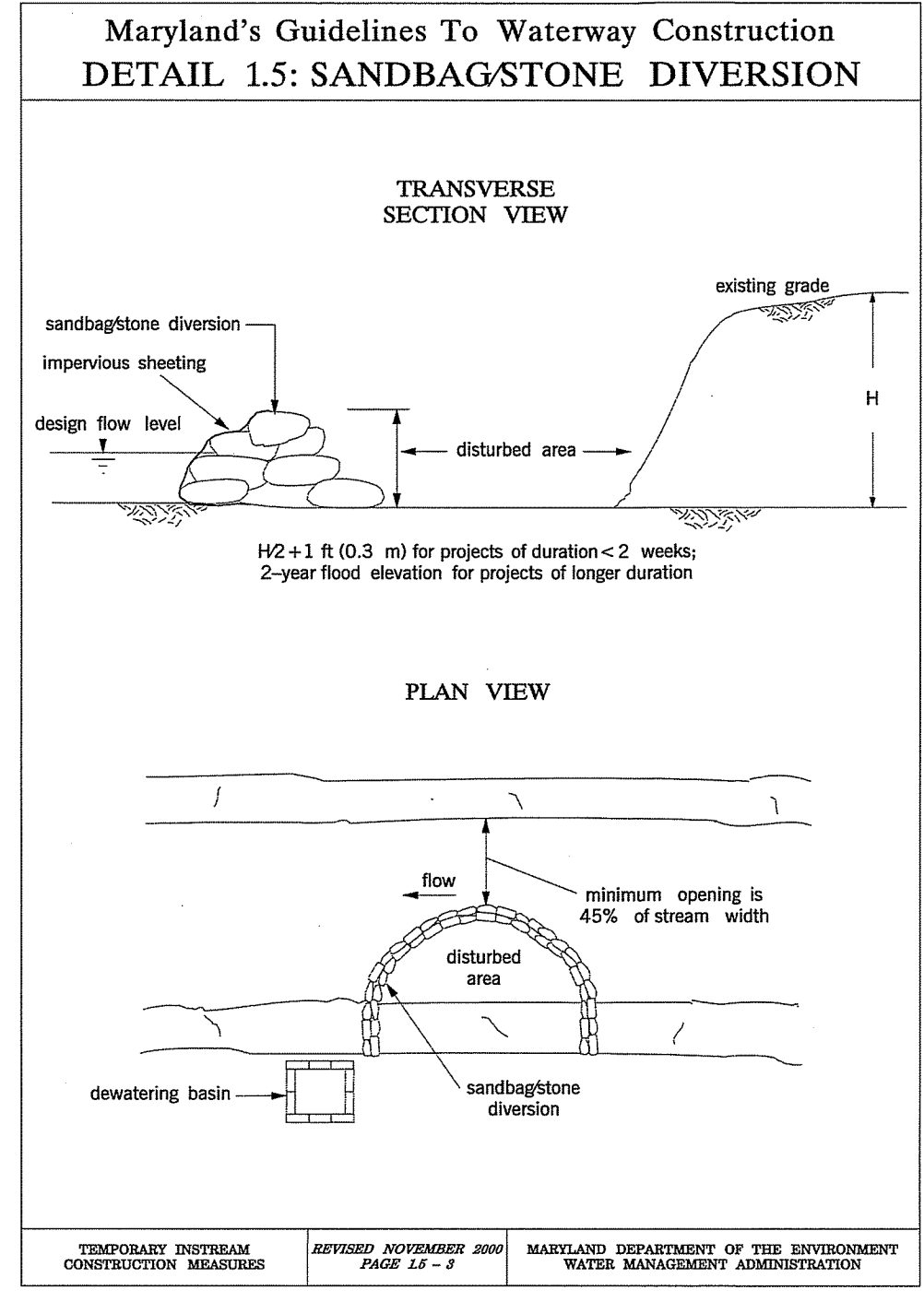
Ln
HaB
RmD

LINSLIDE SILT LOAM
HAGERSTOWN SILT LOAM, 3-8% SLOPES
RYDER-DUFFIELD CHANNERY SILT LOAMS, 15-25% SLOPES

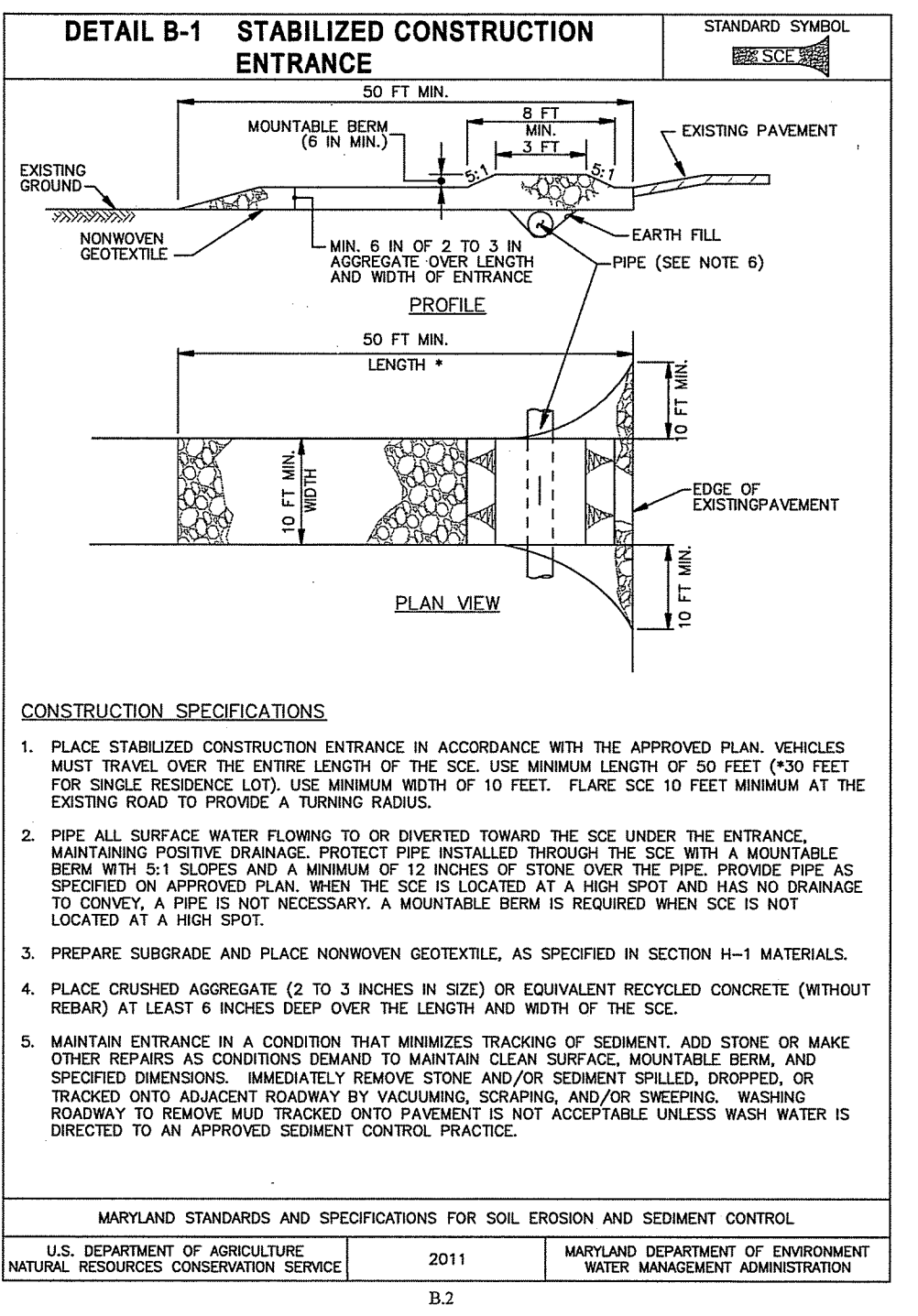
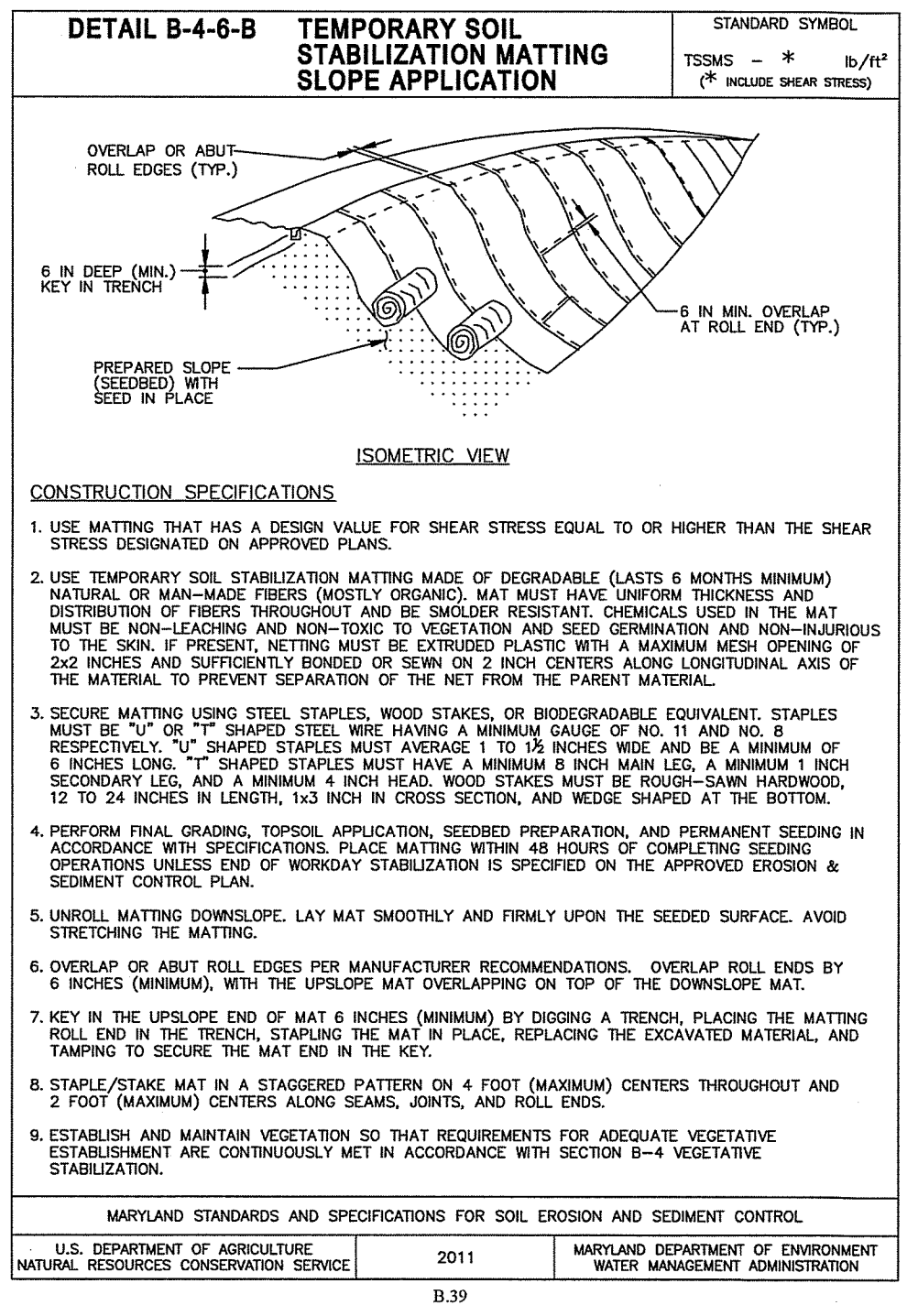
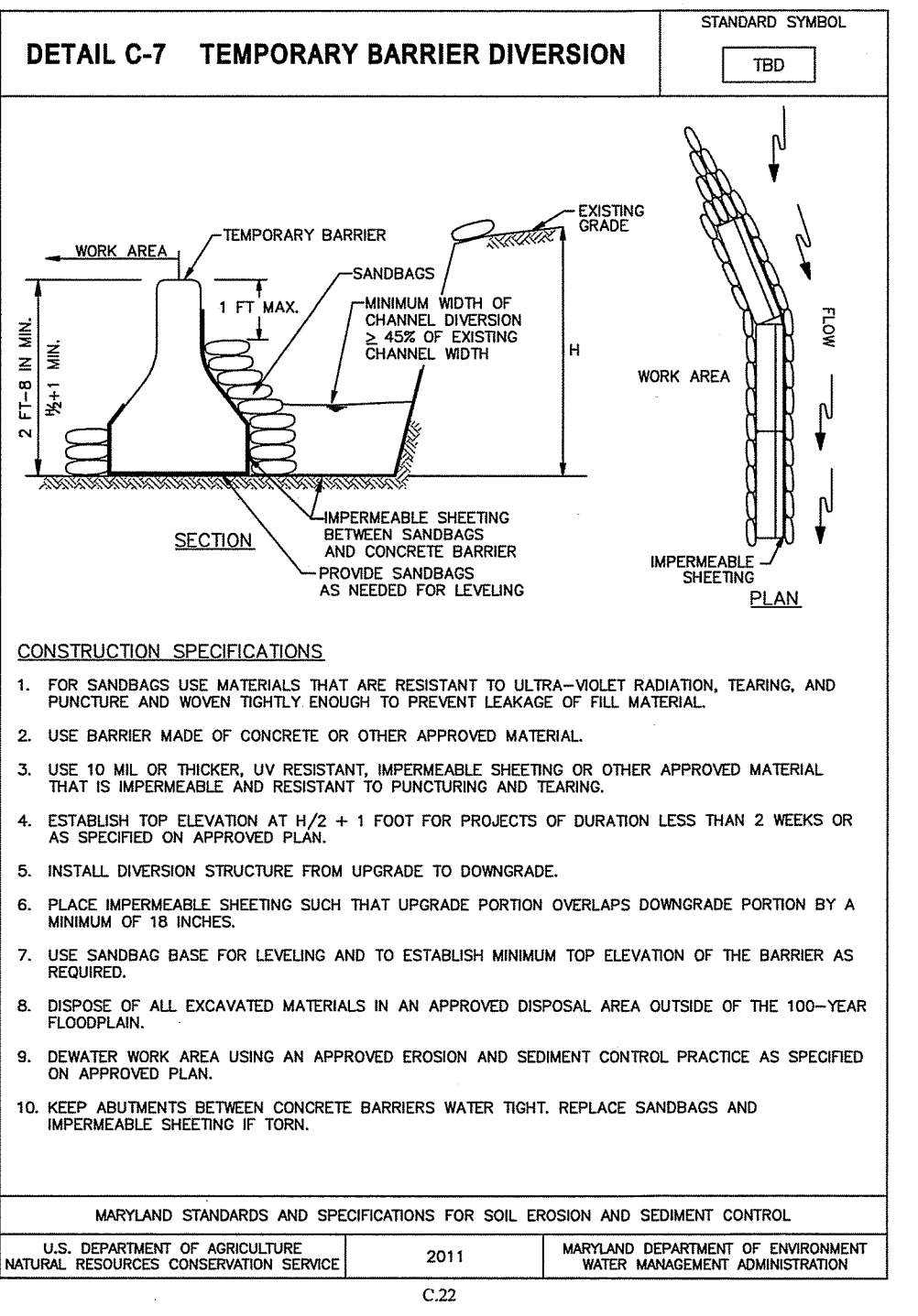
- STREAM DIVERSION NOTES:**
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE DIMENSIONS, SHAPE, AND SIZE OF THE STREAM DIVERSION IN ACCORDANCE WITH THE MARYLAND DEPARTMENT OF ENVIRONMENT WATER ADMINISTRATION "MARYLAND GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 1.5 SANDBAG DIVERSION" AND DETAIL C-7 TEMPORARY BARRIER DIVERSION".
 - SANDBAGS SHALL BE PLACED TO MEET THE MINIMUM REQUIREMENT (MIN 54" HIGH) FOR 2-YEAR STORM AND AS DIRECTED BY THE ENGINEER. IN THE EVENT OF A STORM THAT OVERTOPS THE STREAM DIVERSION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OR PROTECTION OF ANY EQUIPMENT, TOOLS, MATERIALS, OR OTHER ITEMS NEEDED TO COMPLETE THE WORK THAT COULD BE AFFECTED BY THE STORM FLOWS. THE REMOVAL AND/OR REPLACEMENT OF ANY EQUIPMENT OR MATERIALS IS INCIDENTAL TO THE PERTINENT STREAM DIVERSION PAY ITEM.

- CONSTRUCTION SPECIFICATIONS**
- FOR SANDBAGS USE MATERIALS THAT ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING AND PUNCTURE, AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL.
 - USE BARRIER MADE OF CONCRETE OR OTHER APPROVED MATERIAL.
 - USE 10 MIL OR THICKER, UV RESISTANT, IMPERMEABLE SHEETING OR OTHER APPROVED MATERIAL THAT IS IMPERMEABLE AND RESISTANT TO PUNCTURING AND TEARING.
 - ESTABLISH TOP ELEVATION AT H/2 +1 FOOT FOR PROJECTS OF DURATION LESS THAN 2 WEEKS OR AS SPECIFIED ON APPROVED PLAN.
 - INSTALL DIVERSION STRUCTURE FROM DOWNSTREAM TO UPSTREAM.
 - PLACE IMPERMEABLE SHEETING SUCH THAT UPGRADE PORTION OVERLAPS DOWNGRADE PORTION BY A MINIMUM OF 2 FEET.
 - USE SANDBAG BASE FOR LEVELING AND TO ESTABLISH MINIMUM TOP ELEVATION OF THE BARRIER AS REQUIRED.
 - DISPOSE OF ALL EXCAVATED MATERIALS IN AN APPROVED DISPOSAL AREA OUTSIDE THE OF THE 100-YEAR FLOODPLAIN
 - DEWATER WORK AREA USING AN APPROVED EROSION AND SEDIMENT CONTROL PRACTICE AS SPECIFIED ON APPROVED PLAN.
 - REPLACE SANDBAGS AND IMPERMEABLE SHEETING IF TORN.

DESIGNED BY: RSH	DRAWN BY: BM	CHECKED BY: SH	DATE: MAY 2023
<p>WASHINGTON COUNTY, MARYLAND DIVISION OF ENGINEERING</p> <p>Washington County Administrative Annex, Building 1000 Phone: 240-313-2460 Fax: 240-313-2401</p>			
<p>DOGSTREET ROAD W-5932 STRUCTURE REPLACEMENT EROSION AND SEDIMENT CONTROL PLAN PHASE III</p>			
<p>SCALE AS SHOWN</p>			
<p>SHEET NO. 6</p>			
<p>PROJECT NO. 14-220</p>			



- ### SEDIMENT AND EROSION CONTROL NOTES
- ALL SOIL EROSION/SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND THE PROVISIONS OF THE APPROVED PLAN.
 - ALL GRADING AND STABILIZATION SHALL COMPLY WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL," SECTION B - GRADING AND STABILIZATION" AND THE PROVISIONS OF THE APPROVED PLAN.
 - ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES (BMP'S) ARE TO BE CONSTRUCTED AND/OR INSTALLED PRIOR TO OR AT THE INITIATION OF GRADING IN ACCORDANCE WITH "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL," AND THE APPROVED PLAN.
 - A GRADING UNIT IS THE MAXIMUM CONTIGUOUS AREA ALLOWED TO BE GRADED AT A GIVEN TIME AND IS LIMITED TO 20 ACRES. 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 AND APPROVED BY THE ENFORCEMENT AUTHORITY AND/OR THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT (APPROVAL AUTHORITY). UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
 - FOR INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, TEMPORARY OR PERMANENT STABILIZATION MUST BE COMPLETED WITHIN:
 - THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER 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 OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
 - STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 7 DAY STABILIZATION REQUIREMENT, AS WELL AS, STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION (AS APPLICABLE).
 - ALL CONSTRUCTED CHANNELS AND SWALES SHALL HAVE SPECIFIED TREATMENT INSTALLED TO THE DESIGN FLOW DEPTH COMPLETED DOWNSTREAM TO UPSTREAM AS CONSTRUCTION PROGRESSES. AN INSTALLATION DETAIL SHALL BE SHOWN ON THE PLANS.
 - ALL STORM DRAIN AND SANITARY SEWER LINES NOT IN PAVED AREAS ARE TO BE MULCHED AND SEEDING WITHIN 3 DAYS OF INITIAL BACKFILL UNLESS OTHERWISE SPECIFIED ON PLANS.
 - ELECTRIC POWER, TELEPHONE, AND GAS LINES ARE TO BE COMPACTED, SEEDING, AND MULCHED WITHIN 3 DAYS AFTER INITIAL BACKFILL UNLESS OTHERWISE SPECIFIED ON PLANS.
 - NO SLOPE SHALL BE GREATER THAN 2:1.
 - AS REQUIRED BY SECTION B, OF THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, "ADEQUATE VEGETATIVE STABILIZATION", IS DEFINED AS 95 PERCENT GROUND COVER. THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT REQUIRES THE PROJECT ADHERE TO THIS FOR SCHEDULING OF THE FINAL SITE CLOSEOUT REVIEW, AND/OR RELEASE OF THE SITE FOR SOIL EROSION AND SEDIMENT CONTROL.

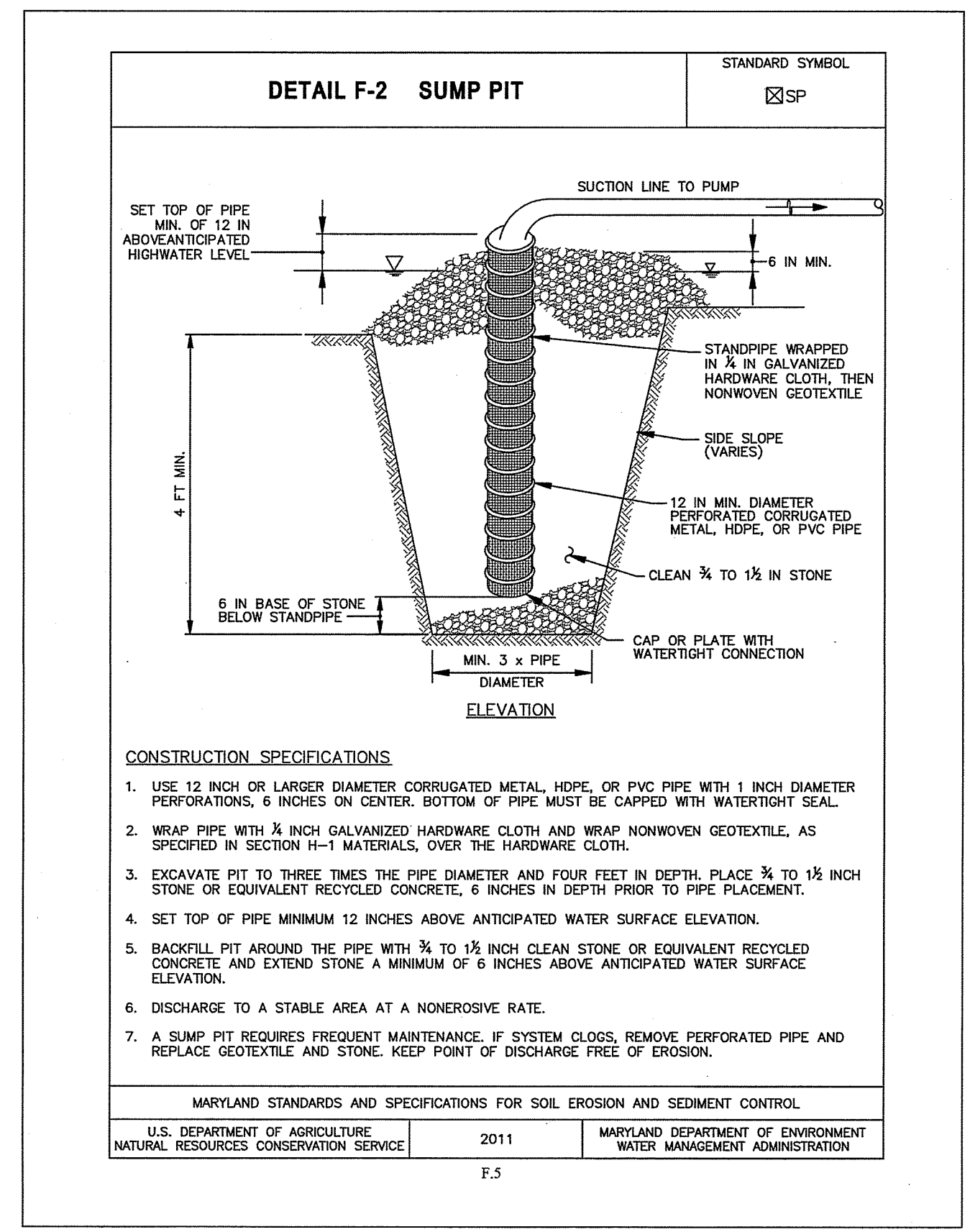


TURFGRASS ESTABLISHMENT SEEDING SUMMARY

Species	Seed Mixtures (Hardiness Zone 6b) From Figure B.3 (2011 MDC Standards)		Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)			Lime Rate
	Application Rate (lb/ac)	Seeding Rate			N	P205	K20	
Tall Fescue (65%) Perennial Ryegrass (10%) Kentucky Bluegrass (25%)	125	15	3/1-5/15 8/15-10/15	1/4" to 1/2"	45 lb/ac (1.0 lb/1000 sf)	90 lb/ac (2 lb/1000 sf)	90 lb/ac (2 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)

TEMPORARY SEEDING SUMMARY

Species	Seed Mixtures (Hardiness Zone 6b) From Figure B.3 (2011 MDC Standards)		Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)		Lime Rate
	Application Rate (lb/ac)	Seeding Rate			N	P205	
Barley (Hordeum Vulgare)	(96 lbs.)		3/1-5/15 8/1-10/15	1 in.	436 lb/ac (10 lb/1000 sf)		2 tons/ac (90 lb/1000 sf)



WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

DOG STREET ROAD W-5932
STRUCTURE REPLACEMENT
EROSION AND SEDIMENT
CONTROL DETAILS

DESIGNED BY: [REDACTED]
DRAWN BY: [REDACTED]
CHECKED BY: [REDACTED]
DATE: MAY 2023

SCALE
AS SHOWN

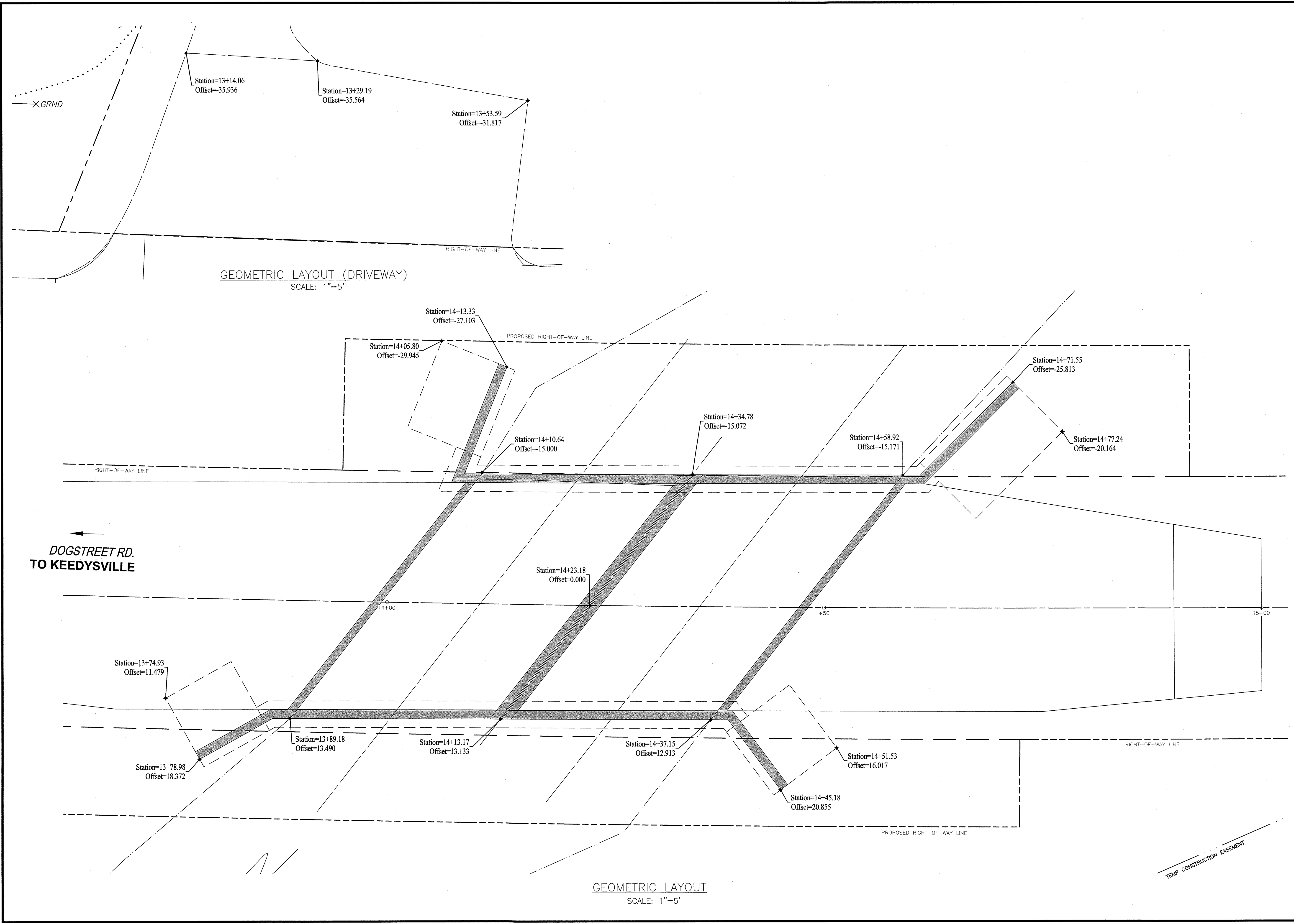
SHEET NO.
7

PROJECT NO.
14-220

Washington County Administrative Annex, Building
747 Northern Avenue Hagerstown, MD 21742
Phone: 240-313-2460 Fax: 240-313-2401

STATE OF MARYLAND
PROFESSIONAL ENGINEER
5743

FILE PATH: C:\USERS\BMV\WORKING\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\14-220 DOGSTREET RD\CONSTRUCTION PLOT DWGS\14-220-PP-01.DWG PLOT DATE: 5/5/2023 7:04 AM



REVISION DESCRIPTION			NO.	BY	DATE

DESIGNED BY:	RGSH
DRAWN BY:	BM
CHECKED BY:	SH
DATE:	MAY 2023

**WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING**

Washington County Administrative Annex, Building
747 Northern Avenue Hagerstown, MD 21742
Phone: 240-313-2460 Fac: 240-313-2401

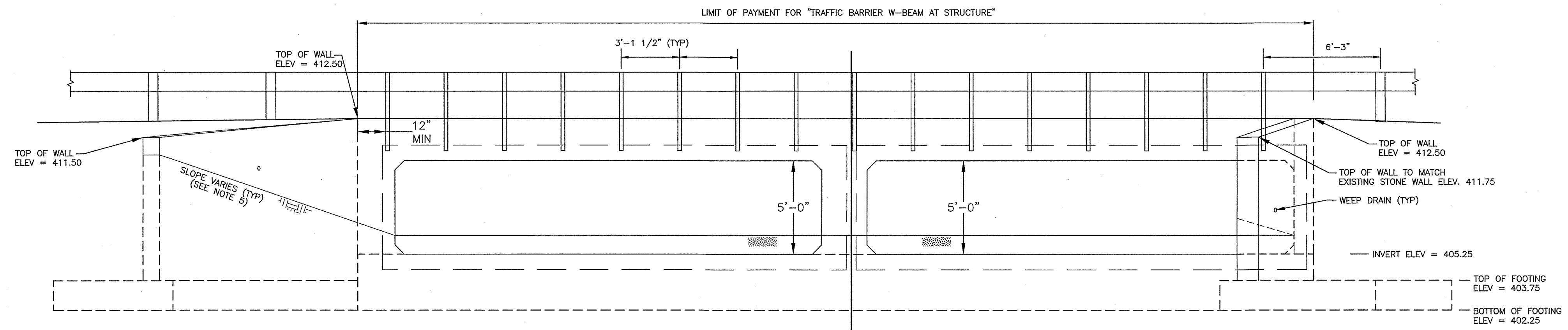
**DOGSTREET ROAD W-5932
STRUCTURE REPLACEMENT
GEOMETRIC LAYOUT**

SCALE
AS SHOWN

SHEET NO.
8

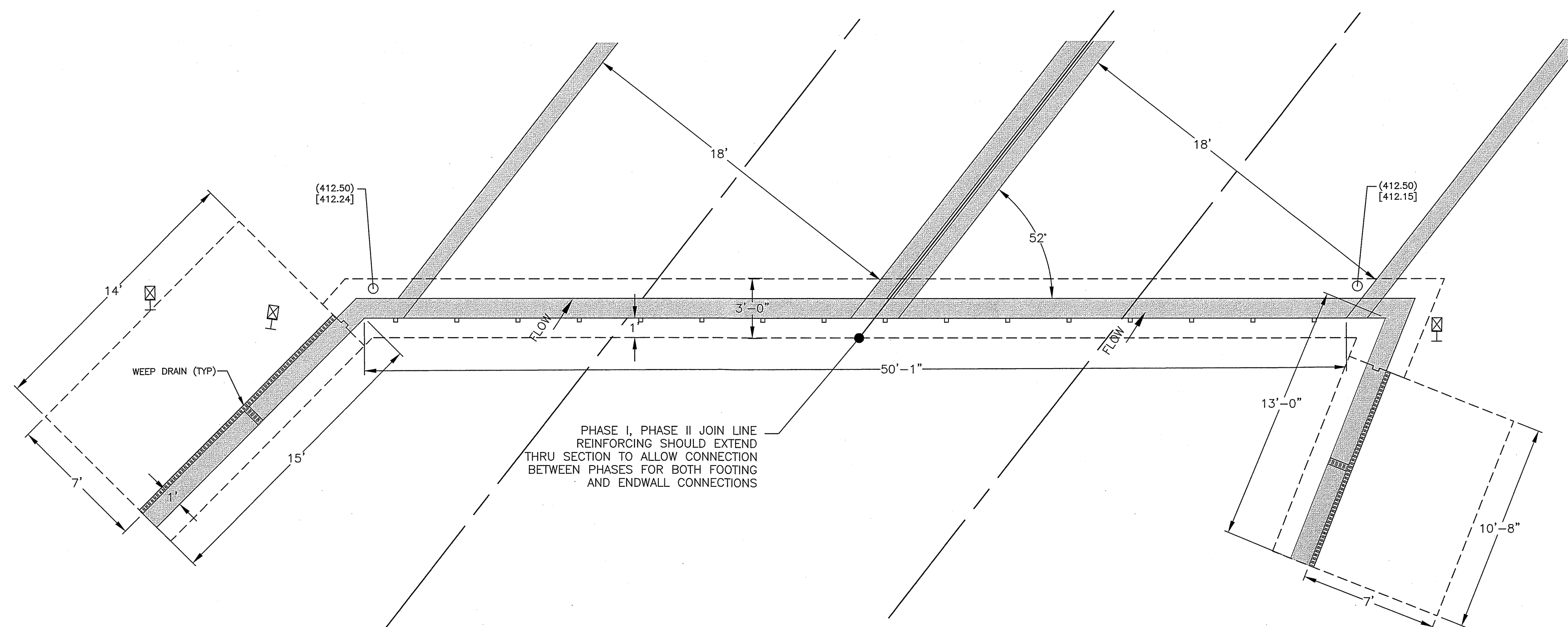
PROJECT NO.
14-220

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UPSTREAM ENDWALL - ELEVATION VIEW
SCALE: 1/4" = 1'

NOTE: (xxx) = FINISHED PAVEMENT ELEVATION
[xxx] = TOP OF BOX CULVERT ELEVATION (MAY VARY BASED ON MANUFACTURE DESIGN)



UPSTREAM ENDWALL - PLAN VIEW
SCALE: 1/4" = 1'

NOTES:

1. THE PROPOSED ENDWALL FOOTINGS HAVE BEEN DESIGNED FOR A BEARING PRESSURE OF 3,000 PSF WHICH SHALL BE VERIFIED DURING CONSTRUCTION BY A MARYLAND LICENSED GEOTECHNICAL ENGINEER RETAINED BY THE CONTRACTOR. SHOULD THE ACTUAL BEARING PRESSURE AT THE PLANNED BOTTOM OF FOOTING ELEVATION BE FOUND TO BE LESS THAN ASSUMED, THE FOOTING DIMENSIONS SHALL BE ADJUSTED AT THE DIRECTION OF THE ENGINEER.
2. WATERPROOFING MEMBRANE SHALL BE 2-PLY AND 16" MINIMUM WIDTH CENTERED ON ALL CONCRETE JOINTS.
3. DAMPPROOFING SHALL BE APPLIED TO ALL CONCRETE SURFACES IN CONTACT WITH BACKFILL.
4. REFER TO REINFORCING DETAILS ON SHEET 11 & 12.
5. SLOPE WILL VARY. GRADE EMBANKMENTS AS SHOWN ON SHEET 5 & 6 AND AS DIRECTED BY THE ENGINEER.
6. REFER TO SHEET 10 FOR WEEP DRAIN DETAIL.

NO.	REVISION DESCRIPTION	BY	DATE

RESIGNED BY: RO/SH
DRAWN BY: BM
CHECKED BY: SH
DATE: MAY 2023

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING
Washington County Administrative Annex, Building
747 Northern Avenue Hagerstown, MD 21742
Phone: 240-313-2460 Fax: 240-313-2401

DOGSTREET ROAD W-5932
STRUCTURE REPLACEMENT
PLAN & ELEVATION
ENDWALLS - UPSTREAM

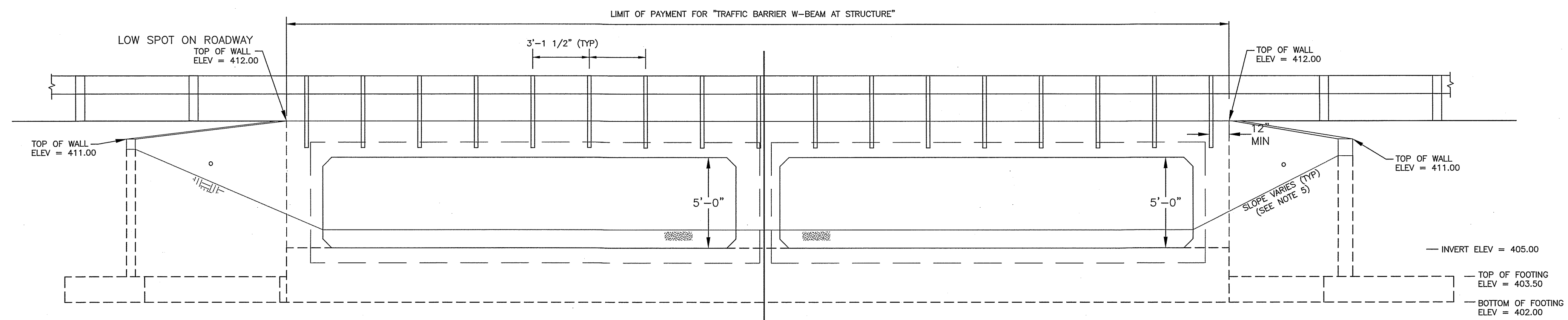
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
REGISTERED PROFESSIONAL ENGINEER
3/27/23

SCALE
AS SHOWN

SHEET NO.
9

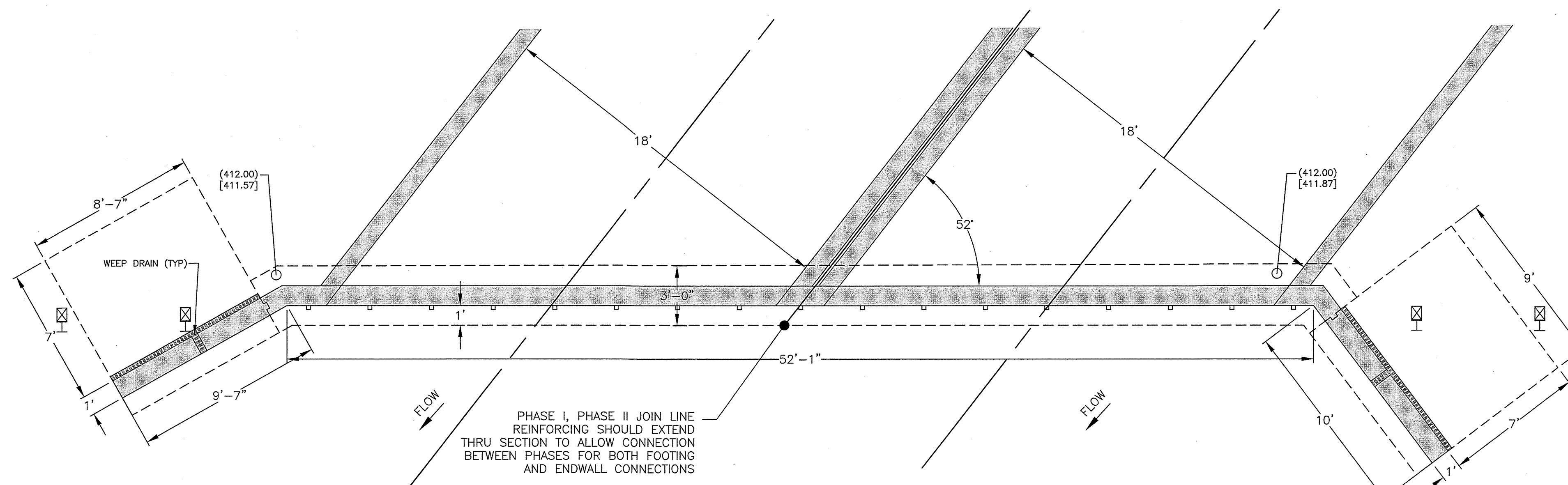
PROJECT NO.
14-220

FILE PATH: C:\USERS\BMYERS\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\14-220 DOG STREET RD\CONSTRUCTION PLOT DWGS\14-220-DE-01.DWG PLOT DATE: 5/6/2023 7:32 AM

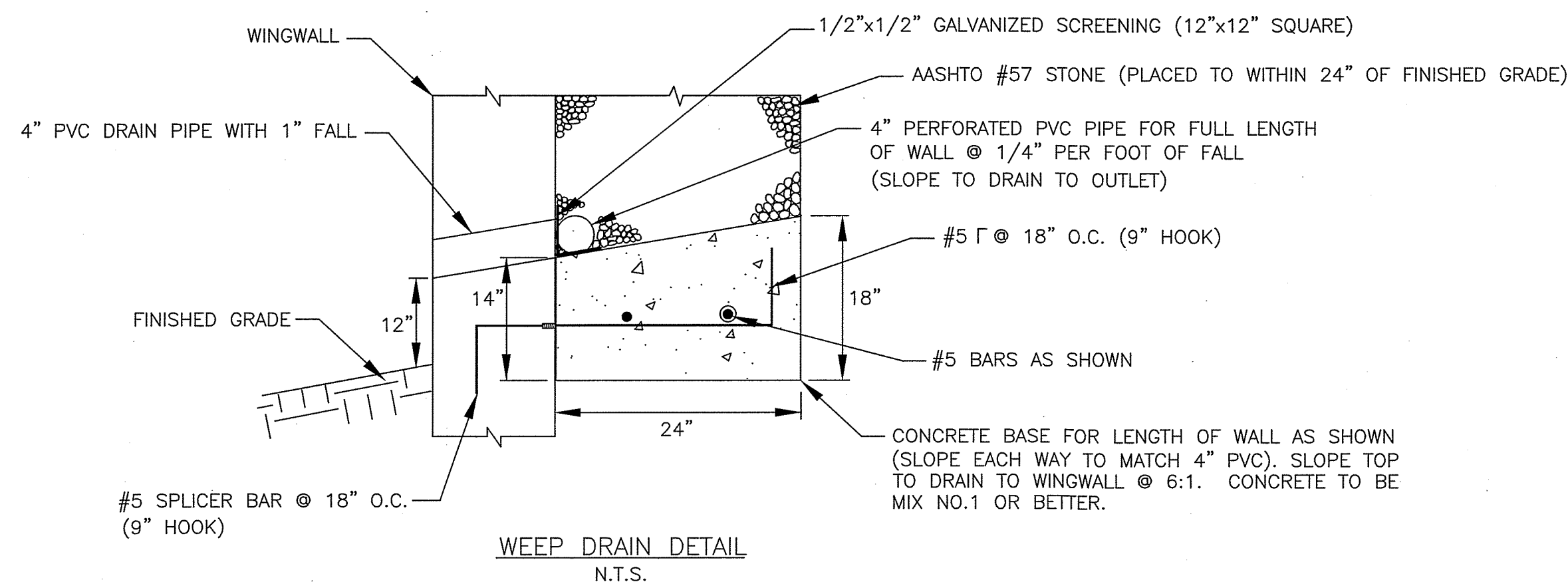


DOWNSTREAM ENDWALL - ELEVATION VIEW
SCALE: 1/4" = 1'

NOTE: (xxx) = FINISHED PAVEMENT ELEVATION
[xxx] = TOP OF BOX CULVERT ELEVATION (MAY VARY BASED ON MANUFACTURE DESIGN)



DOWNSTREAM ENDWALL - PLAN VIEW
SCALE: 1/4" = 1'



NOTES:

1. THE PROPOSED ENDWALL FOOTINGS HAVE BEEN DESIGNED FOR A BEARING PRESSURE OF 3,000 PSF WHICH SHALL BE VERIFIED DURING CONSTRUCTION BY A MARYLAND LICENSED GEOTECHNICAL ENGINEER RETAINED BY THE CONTRACTOR. SHOULD THE ACTUAL BEARING PRESSURE AT THE PLANNED BOTTOM OF FOOTING ELEVATION BE FOUND TO BE LESS THAN ASSUMED, THE FOOTING DIMENSIONS SHALL BE ADJUSTED AT THE DIRECTION OF THE ENGINEER.
2. WATERPROOFING MEMBRANE SHALL BE 2-PLY AND 16" MINIMUM WIDTH CENTERED ON ALL CONCRETE JOINTS.
3. DAMPPROOFING SHALL BE APPLIED TO ALL CONCRETE SURFACES IN CONTACT WITH BACKFILL.
4. REFER TO REINFORCING DETAILS ON SHEET 11 & 12.
5. SLOPE WILL VARY, GRADE EMBANKMENTS AS SHOWN ON SHEET 5 & 6 AND AS DIRECTED BY THE ENGINEER.

DESIGNED BY: RG/SH	NO.	REVISION DESCRIPTION	BY	DATE
DRAWN BY: BHI				
CHECKED BY: SH				
DATE: MAY 2023				

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex - Building
747 Northern Avenue Hagerstown, MD 21742
Phone: 240-313-2460 Fax: 240-313-2401

DOG STREET ROAD W-5932
STRUCTURE REPLACEMENT
PLAN & ELEVATION
ENDWALLS - DOWNSTREAM

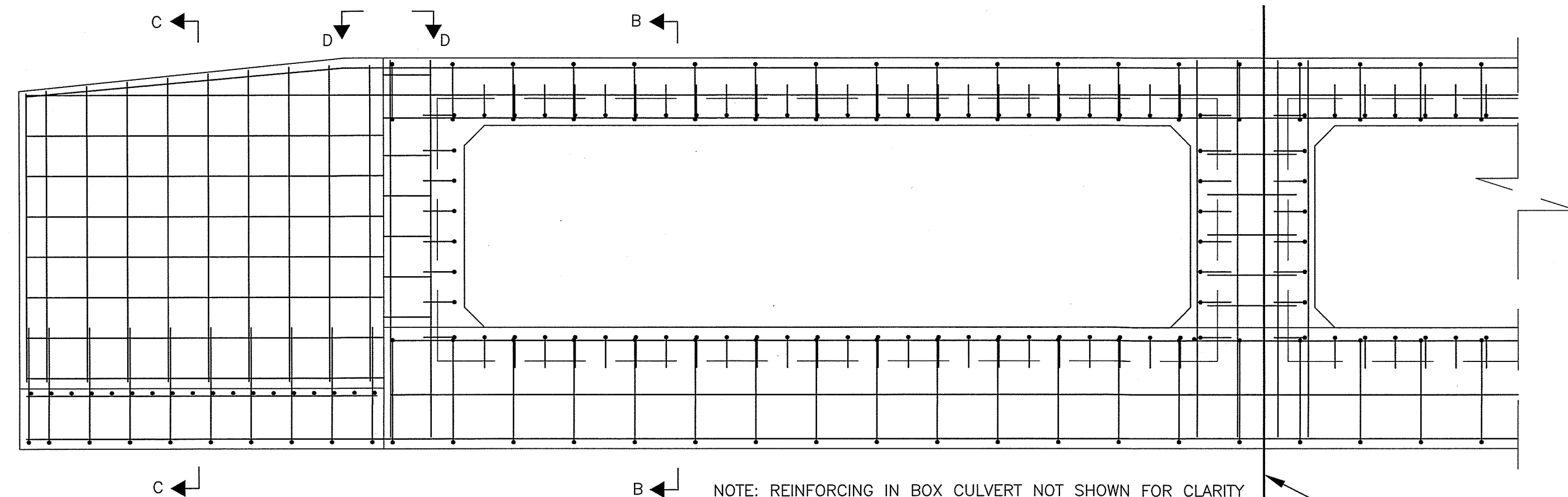
STATE OF MARYLAND
PROFESSIONAL ENGINEER
No. 31173
5/5/23

SCALE
AS SHOWN

SHEET NO.
10

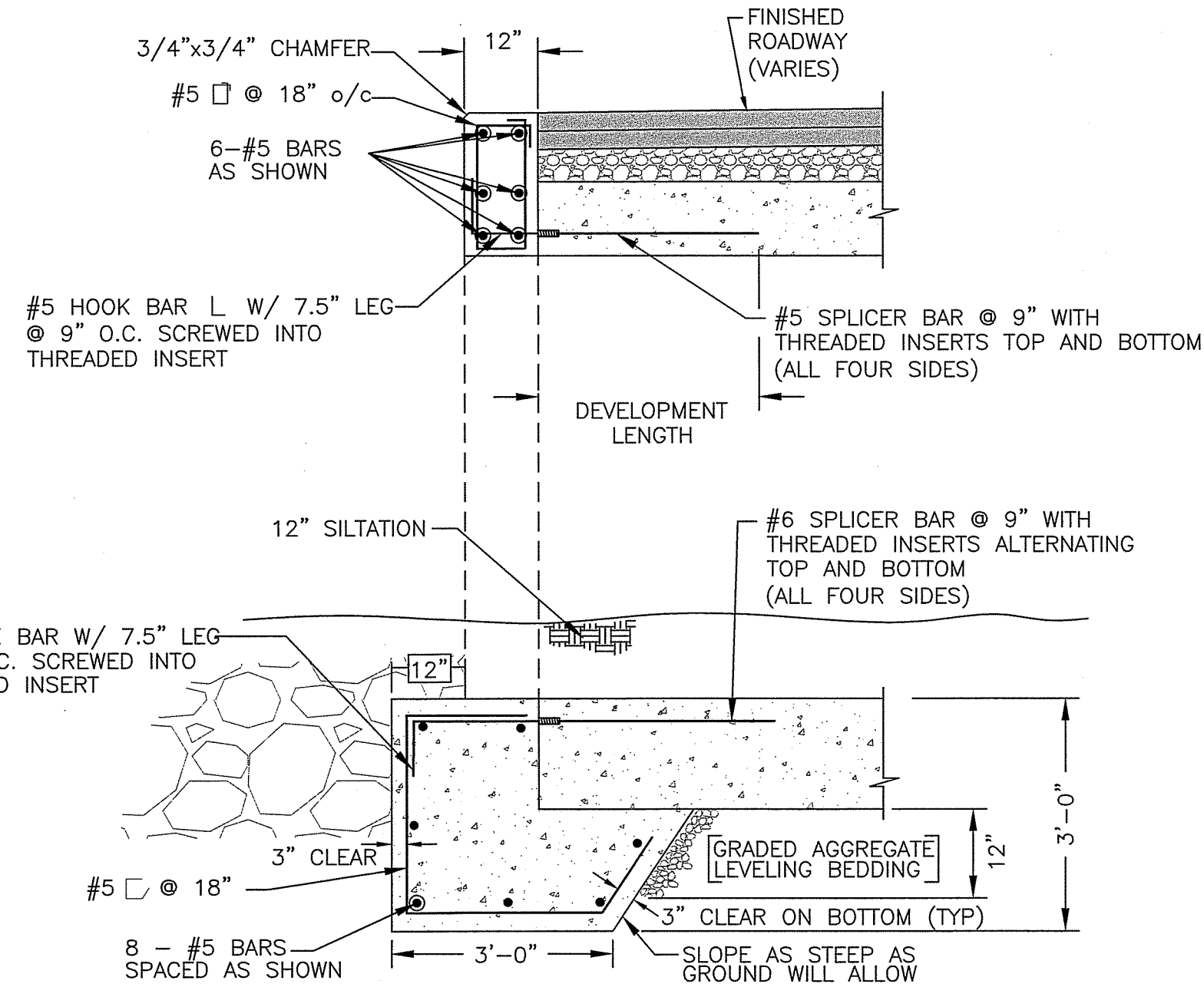
PROJECT NO.
14-220

FILE PATH: C:\USERS\BMYERS\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\14-220 DOGSTREET RD\CONSTRUCTION PLOT DWGS\14-220-TS-01.DWG PLOT DATE: 5/5/2023 7:07 AM

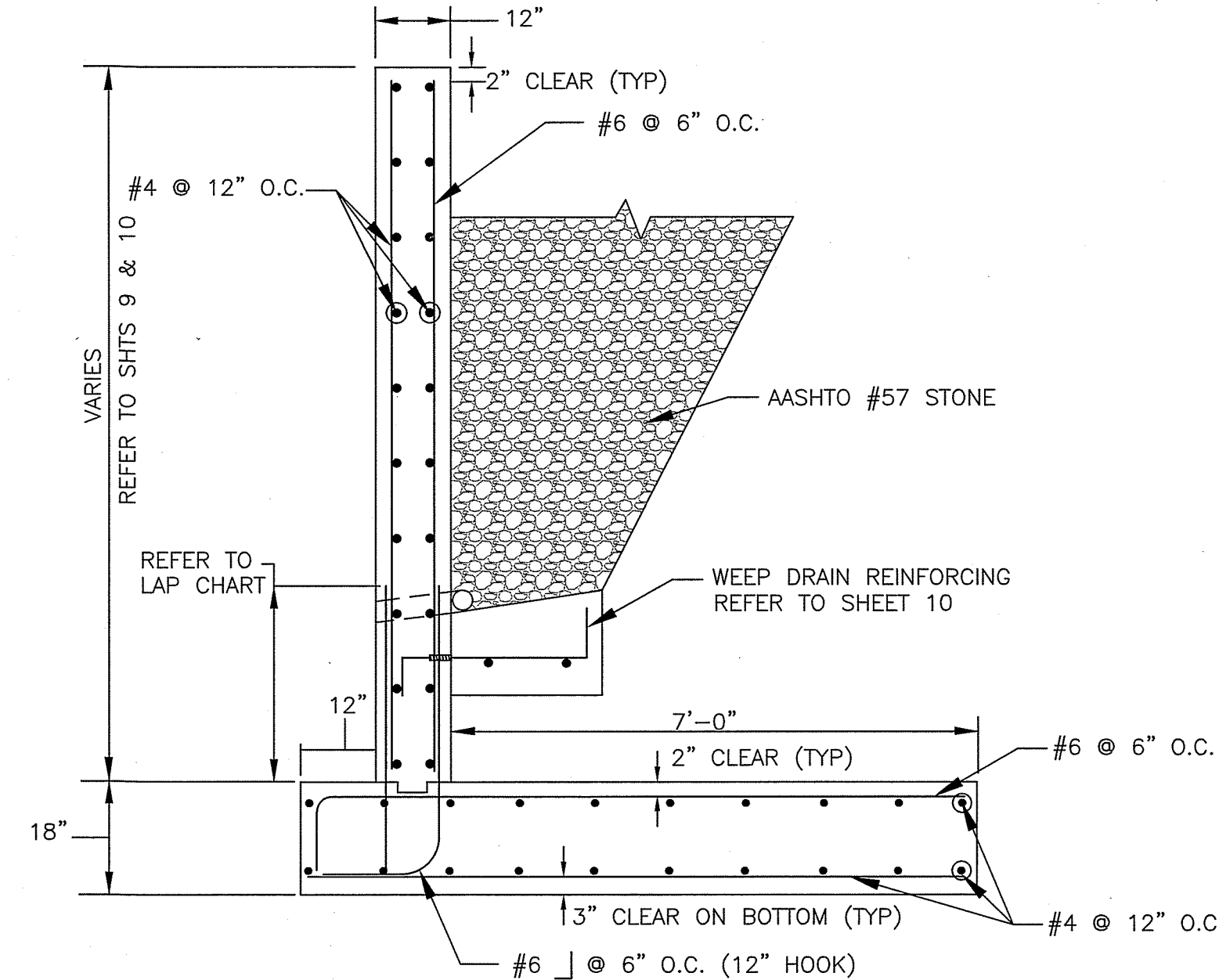


TYPICAL ELEVATION - UPSTREAM ENDWALL SHOWN
SCALE: 3/8" = 1'-0"

PHASE I, PHASE II JOIN LINE
REINFORCING SHOULD EXTEND
THRU SECTION TO ALLOW CONNECTION BETWEEN
PHASES FOR BOTH FOOTING AND ENDWALL
CONNECTIONS



SECTION B-B
SCALE: 1/2" = 1'-0"



SECTION C-C
SCALE: 1/2" = 1'-0"

NOTES:

DESIGN SPECIFICATIONS: AASHTO LOAD AND RESISTANCE FACTOR DESIGN (LRFD) BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, DATED 2020, INCLUDING INTERIM SPECIFICATIONS.

DESIGN/LOADING: STRUCTURAL DESIGN OF PRECAST CONCRETE BOX SHALL MEET OR EXCEED AASHTO HL-93 LOADING.

LOAD RATING CALCULATIONS SHALL VERIFY THE STRUCTURE DOES NOT REQUIRE A WEIGHT RESTRICTION POSTING FOR MARYLAND LEGAL LOAD TYPES (H-15, HS-20, TYPE 3 & TYPE 4, TYPE 3S2). ALL CALCULATIONS INCLUDING THE STRUCTURAL DESIGN AND LOAD RATING CALCULATIONS SHALL BE SUBMITTED TO THE WASHINGTON COUNTY ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE MANUFACTURE OF THE STRUCTURE.

PRECAST CONCRETE: ALL CONCRETE FOR THE PRECAST BOX CULVERT UNITS SHALL BE 5,000 PSI MIN. AT 28 DAYS.

CULVERT SLAB THICKNESSES, WALL DIMENSIONS, AND REINFORCING DESIGNED TO MEET LOADING REQUIREMENTS MAY VARY FROM THOSE FOUND IN ASTM AND AASHTO SPECIFICATIONS.

REFER TO ASTM C1433/AASHTO M259 AND AASHTO M273 (FORMERLY ASTM C789/AASHTO M259 FOR CULVERTS WITH FILL HEIGHTS OF 2 FEET OR GREATER AND ASTM C850/AASHTO M273 FOR CULVERTS WITH FILL HEIGHTS OF LESS THAN 2 FEET).

ALL CONCRETE EDGES SHALL BE CHAMFERED 3/4" x 3/4".

LIFTING EYES/HOLES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING. THEY SHALL BE FILLED AS DIRECTED BY THE MANUFACTURER AFTER THE BOX SECTIONS ARE IN PLACE.

AN APPROVED BUTYL RUBBER, FLEXIBLE FOAM, OR BITUMINOUS MASTIC FROM THE MANUFACTURER SHALL BE PROVIDED IN EACH JOINT TO PROVIDE A WATERTIGHT SEAL.

ALL SIDES OF THE BOX CULVERT SHALL BE DAMPPROOFED WITH AN APPROVED ASPHALT BASED PAINT/PRIMER.

ALL BOX SECTIONS SHALL BE MARKED AS FOLLOWS IN ACCORDANCE WITH AASHTO M273 BY INDENTATION OR WATERPROOF PAINT: 1.) SECTION RISE, SPAN AND SPECIFICATION DESIGNATION, 2.) DATE OF MANUFACTURE, 3.) NAME OR TRADEMARK OF MANUFACTURER, 4.) PLANT IDENTIFICATION, 5.) MARKED BY INDENTATION ON INSIDE OR OUTSIDE SO THAT THE LOCATION OF THE TOP WILL BE EVIDENT IMMEDIATELY AFTER THE FORMS ARE STRIPPED.

THE MANUFACTURER/ENGINEER SHALL SUBMIT SHOP DRAWINGS OF THE CULVERT TO THE WASHINGTON COUNTY ENGINEERING DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE MANUFACTURE OF THE STRUCTURE.

CAST-IN-PLACE CONCRETE: CONCRETE FOR HEADWALL AND WINGWALL STEMS SHALL BE MSHA MIX NO. 6 (4,500 PSI MIN). FOOTINGS SHALL BE MSHA MIX NO. 3 (3,500 PSI MIN.).

ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" x 3/4" MILLED CHAMFER STRIPS.

DAMPPOOFING SHALL BE APPLIED TO ALL CONCRETE SURFACES COMING IN CONTACT WITH BACKFILL. WATERPROOFING MEMBRANE SHALL BE 2-PLY AND 16" MIN. WIDTH CENTERED ON THE CONSTRUCTION JOINTS.

CONCRETE FOOTINGS AND ENWALL JOINTS BETWEEN PHASE I AND PHASE II SHALL BE SPLICED IN ACCORDANCE WITH THE LAP BAR CHART AND ALL JOINTS SHALL BE WATERPROOFED PER ENGINEERS APPROVAL.

REINFORCING STEEL: REINFORCING STEEL FOR THE PRECAST BOX CULVERT SHALL BE WELDED WIRE FABRIC (WWF) WITH DEFORMED WIRES PER AASHTO M221 AND M225 (MIN. Fy=65,000 PSI) OR DEFORMED REBAR CONFORMING TO ASTM A615, GRADE 60 (MIN. Fy=60,000 PSI). SPLICES SHALL BE LAPPED ACCORDING TO AASHTO REQUIREMENTS OR BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR IN THE PRECAST BOX CULVERT SHALL BE 1".

ALL REINFORCING STEEL IN THE TOP SLAB OF THE PRECAST CULVERT UNITS AND IN THE CAST-IN-PLACE HEADWALLS SHALL BE EPOXY COATED.

REINFORCING STEEL FOR CAST-IN-PLACE HEADWALLS AND WINGWALLS SHALL CONFORM TO ASTM 615, GRADE 60. SPLICES NOT SHOWN SHALL BE LAPPED ACCORDING TO AASHTO REQUIREMENTS OR BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2 INCHES, UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE BOTTOM OF ALL FOOTINGS, WHICH SHALL HAVE 3 INCH MINIMUM COVER.

FOR TIES AND STIRRUPS: STANDARD ACI BENDING TOLERANCES ARE MODIFIED TO PLUS (+) ZERO INCHES, MINUS (-) NORMAL ACI BENDING TOLERANCES.

BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL

BAR SIZE	* LOCATION CATEGORY				BAR SIZE	* LOCATION CATEGORY			
	NON-EPOXY		EPOXY COATED			NON-EPOXY		EPOXY COATED	
	A	B	A	B		A	B	A	B
#4	2'-5"	1'-10"	2'-10"	2'-2"	#4	2'-1"	1'-7"	2'-6"	1'-11"
#5	3'-0"	2'-4"	3'-7"	2'-9"	#5	2'-7"	2'-0"	3'-1"	2'-5"
#6	3'-7"	2'-9"	4'-8"	4'-1"	#6	3'-1"	2'-5"	4'-0"	3'-7"
#7	4'-2"	3'-2"	5'-5"	4'-9"	#7	3'-7"	2'-9"	4'-8"	4'-2"
#8	4'-9"	3'-2"	6'-2"	5'-9"	#8	4'-1"	3'-2"	5'-4"	4'-9"
#9	5'-10"	4'-6"	7'-8"	6'-9"	#9	5'-1"	3'-11"	6'-7"	5'-10"
#10	7'-2"	5'-7"	9'-5"	8'-4"	#10	6'-3"	4'-10"	8'-2"	7'-2"
#11	8'-8"	6'-8"	11'-4"	10'-0"	#11	7'-6"	5'-9"	9'-9"	8'-8"

MIX NO. 3 (3,500psi) CONCRETE MIX NO. 6 (4,500psi) CONCRETE

* LOCATION CATEGORY
A - BARS IN HORIZONTAL LAYERS IN TOP OF POUR WITH 12" OR MORE OF CONCRETE BELOW THEM SUCH AS IN FOOTINGS, PIER CAPS, ETC.
B - ALL BARS NOT IN CATEGORY A

NOTE:
1. WHEN BAR LAP IS NOT SPECIFIED ON THE PLANS, THE ABOVE DIMENSIONS SHALL BE USED.
2. FOR CENTER TO CENTER SPACING <6" SEE MD DOT O.O.S. DETAILS FOR REBAR-BL-101 AND BL-103.

END HOOKS

BAR SIZE	FINISHED BEND DIAMETER	90° HOOKS
#4	3"	8"
#5	3-3/4"	10"
#6	4-1/2"	1'-0"
#7	5-1/4"	1'-2"
#8	6"	1'-4"
#9	9-1/2"	1'-6"
#10	10-3/4"	1'-8"
#11	1'-0"	1'-10"

**DOGSTREET ROAD W-5932
STRUCTURE REPLACEMENT
REINFORCING DETAILS
AND NOTES**

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

DESIGNED BY: RGS/H
DRAWN BY: BHI
CHECKED BY: SH
DATE: MAY 2023

Washington County Administrative Annex Building
747 Northern Avenue Hagerstown, MD 21742
Phone: 240-313-2460 Fax: 240-313-2401

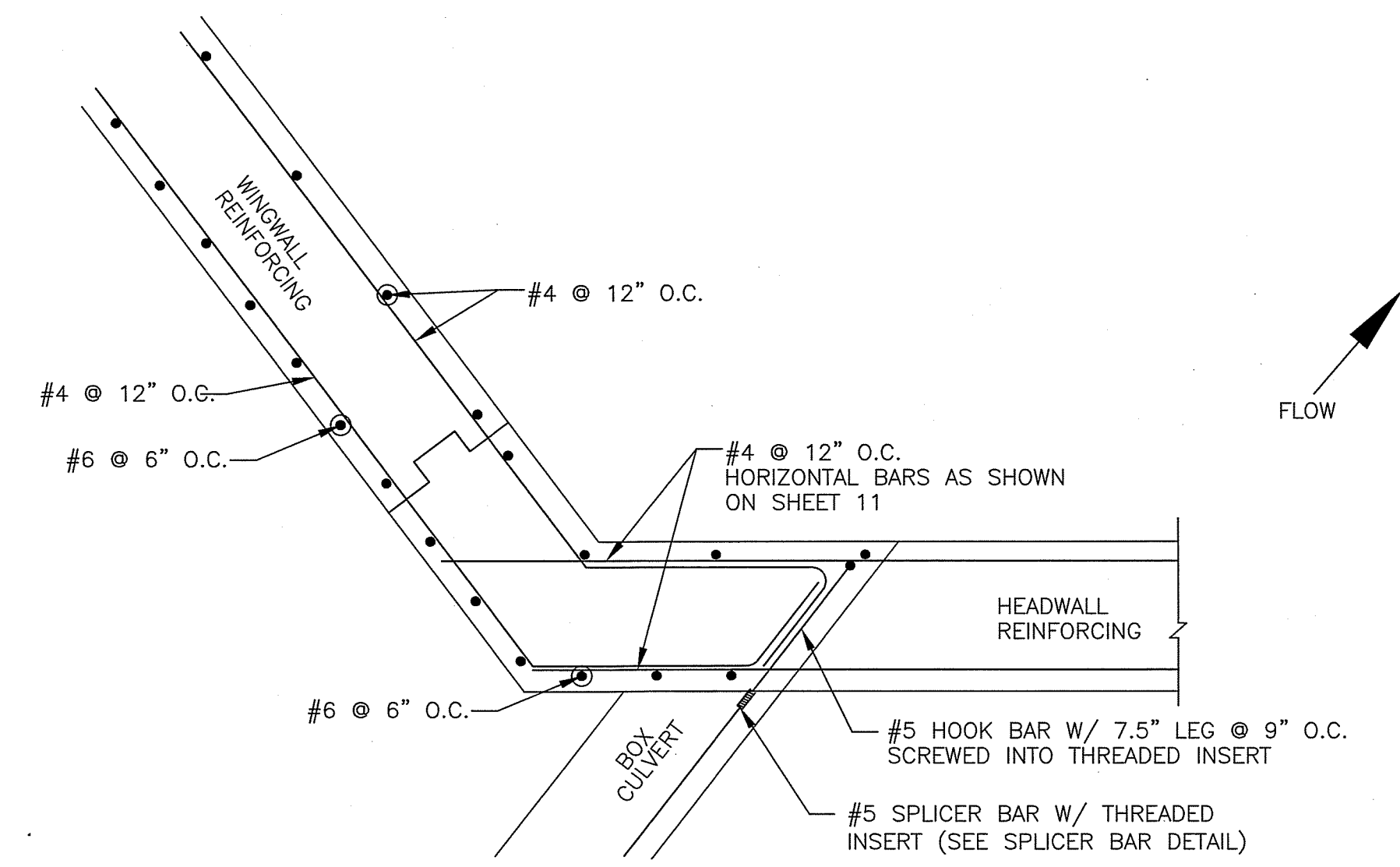
SCALE
AS SHOWN

SHEET NO.
11

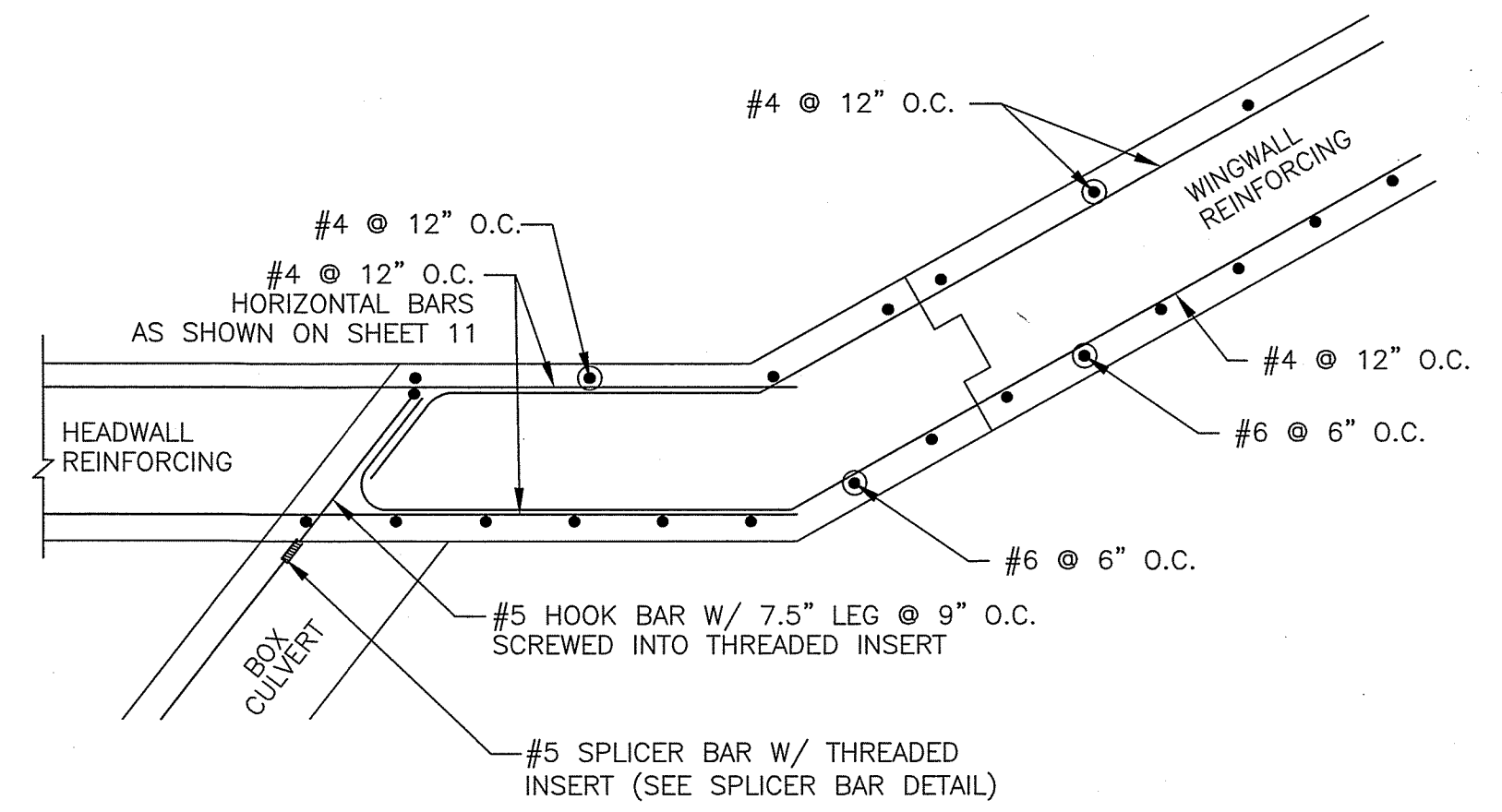
PROJECT NO.
14-220



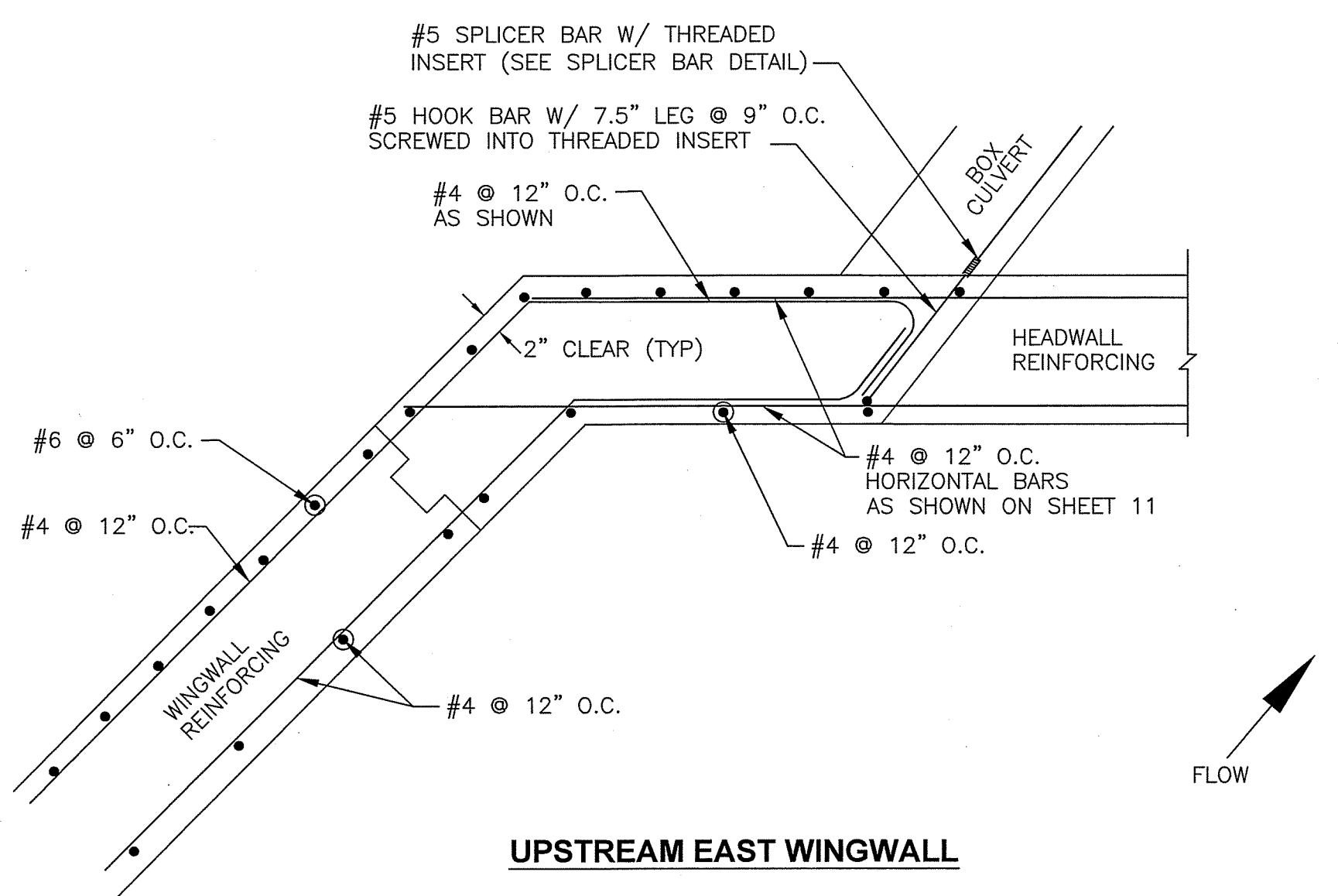
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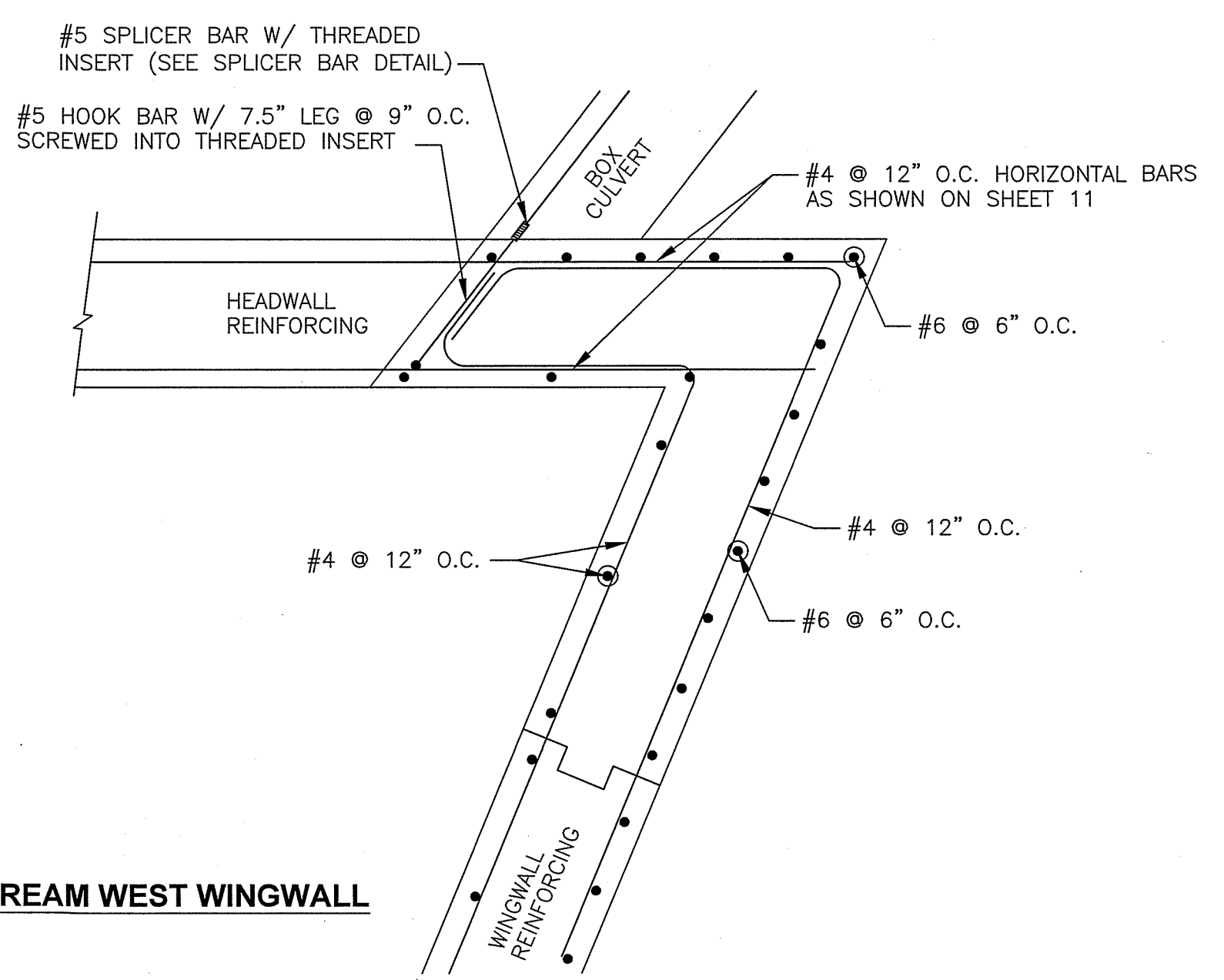
DOWNSTREAM EAST WINGWALL



DOWNSTREAM WEST WINGWALL

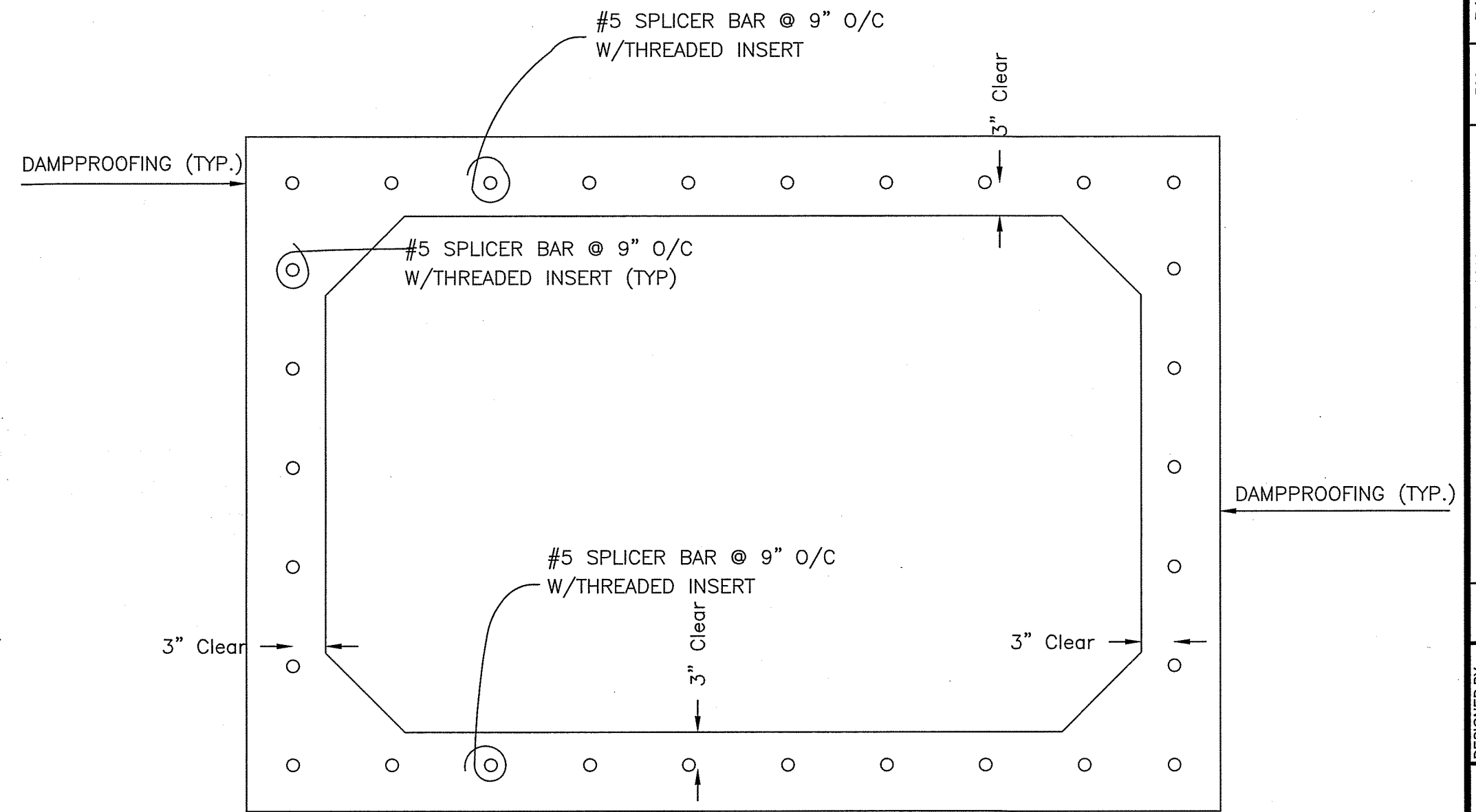


UPSTREAM EAST WINGWALL

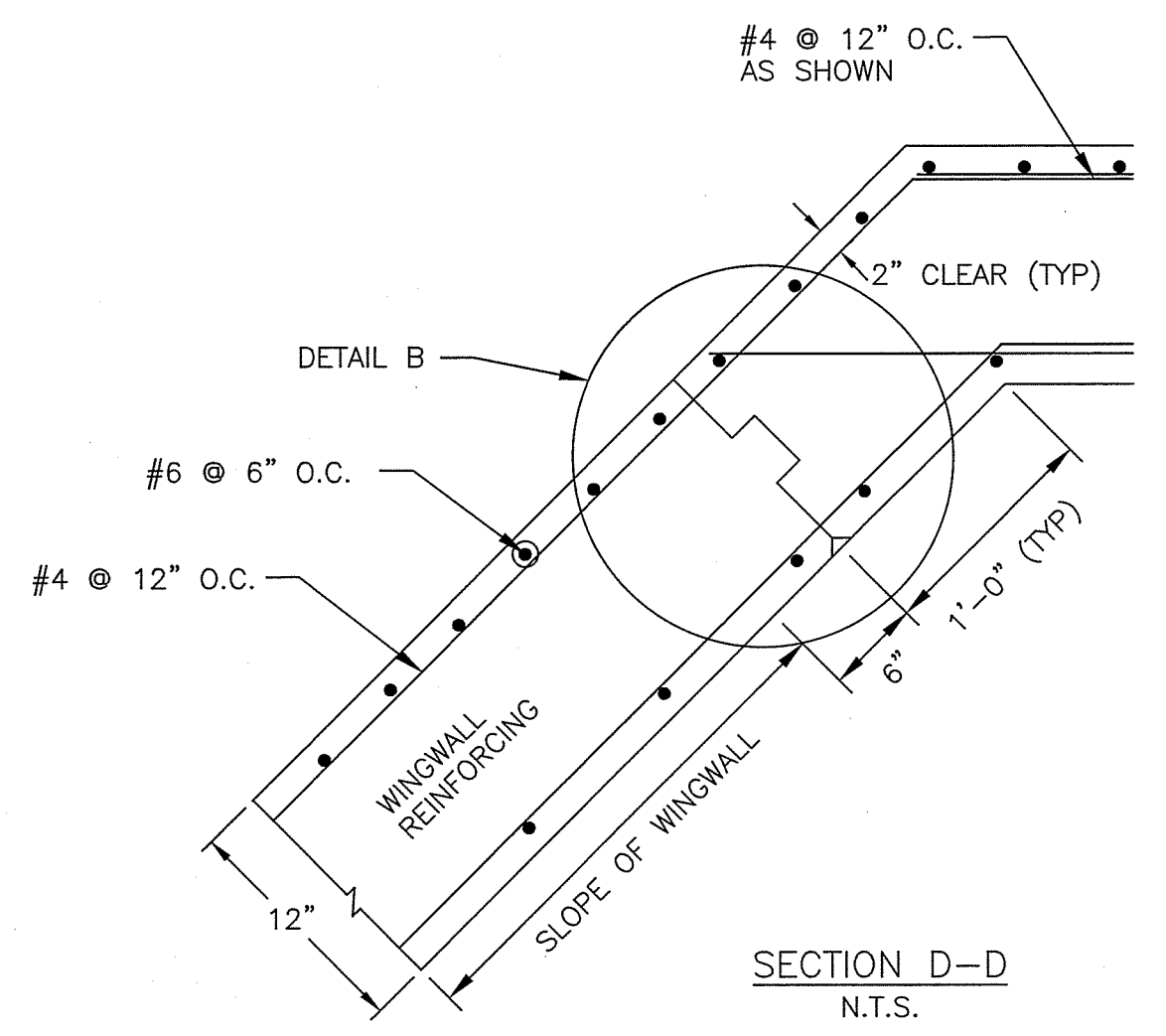


UPSTREAM WEST WINGWALL

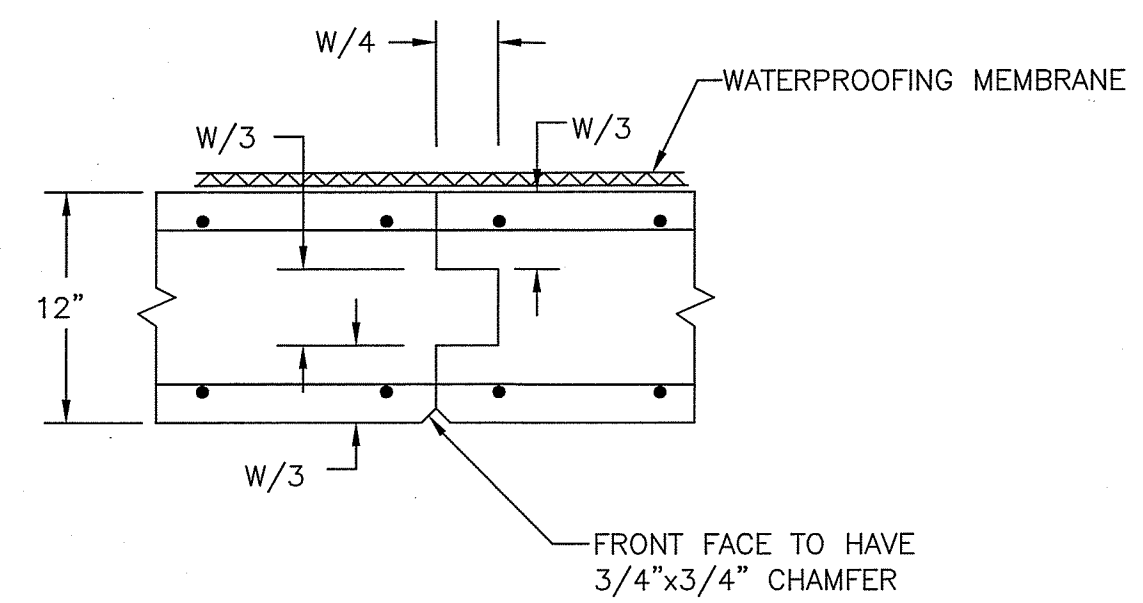
WINGWALL/HEADWALL TYPICAL REINFORCING
SCALE: N.T.S.



SPLICER BAR DETAIL
SCALE: N.T.S.



SECTION D-D
N.T.S.



DETAIL B
CONSTRUCTION JOINT

NO.	REVISION DESCRIPTION	BY	DATE

DESIGNED BY: RUSH
DRAWN BY: BM
CHECKED BY: SH
DATE: MAY 2023

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

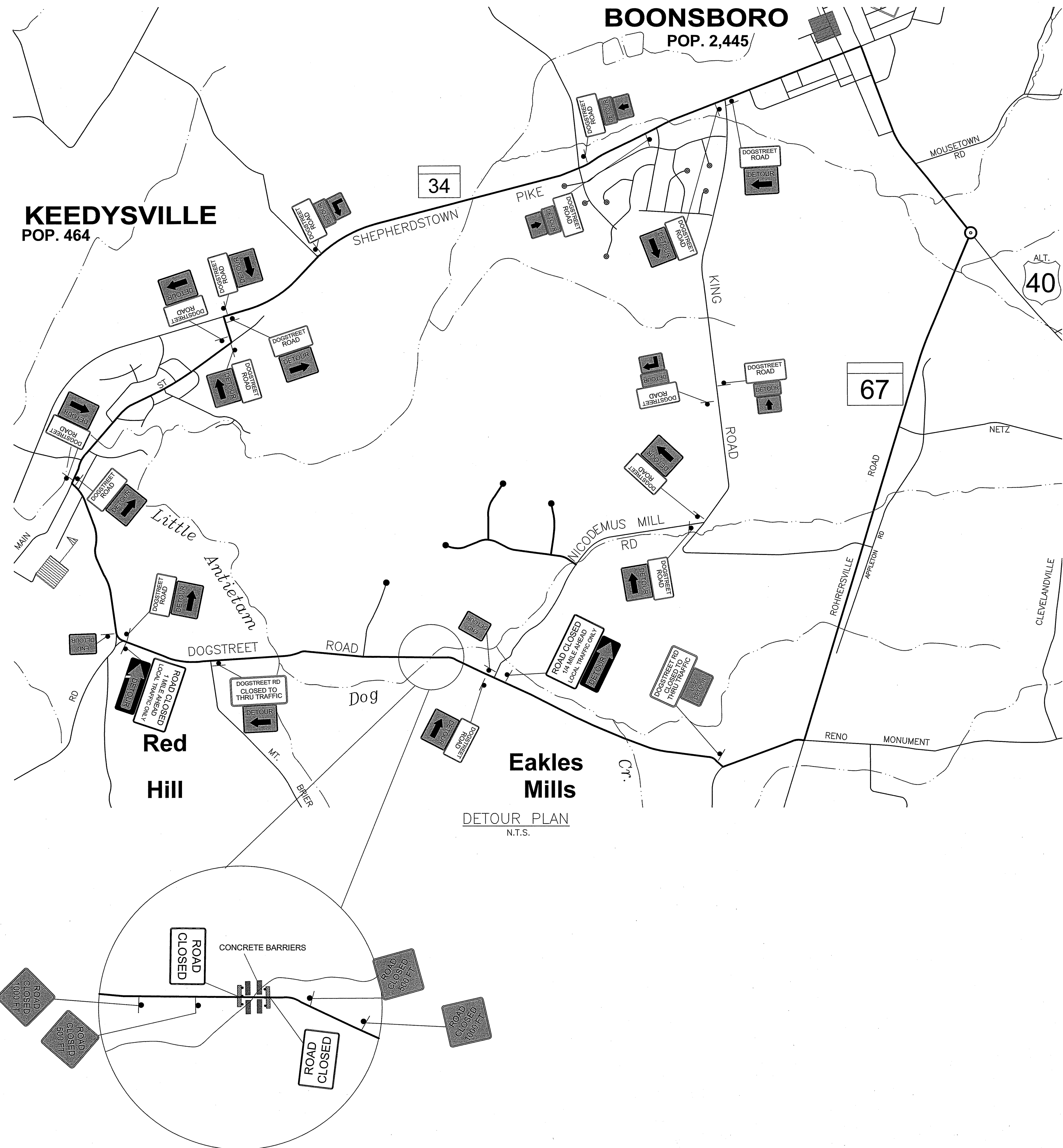
Washington County Administrative Annex, Building
247 Northern Avenue Hagerstown, MD 21742
Phone: 240-313-2460 Fax: 240-313-2401

DOGSTREET ROAD W-5932
STRUCTURE REPLACEMENT
REINFORCING DETAILS
AND SECTIONS

SCALE
AS SHOWN

SHEET NO.
12

PROJECT NO.
14-220



DETOUR PLAN
N.T.S.

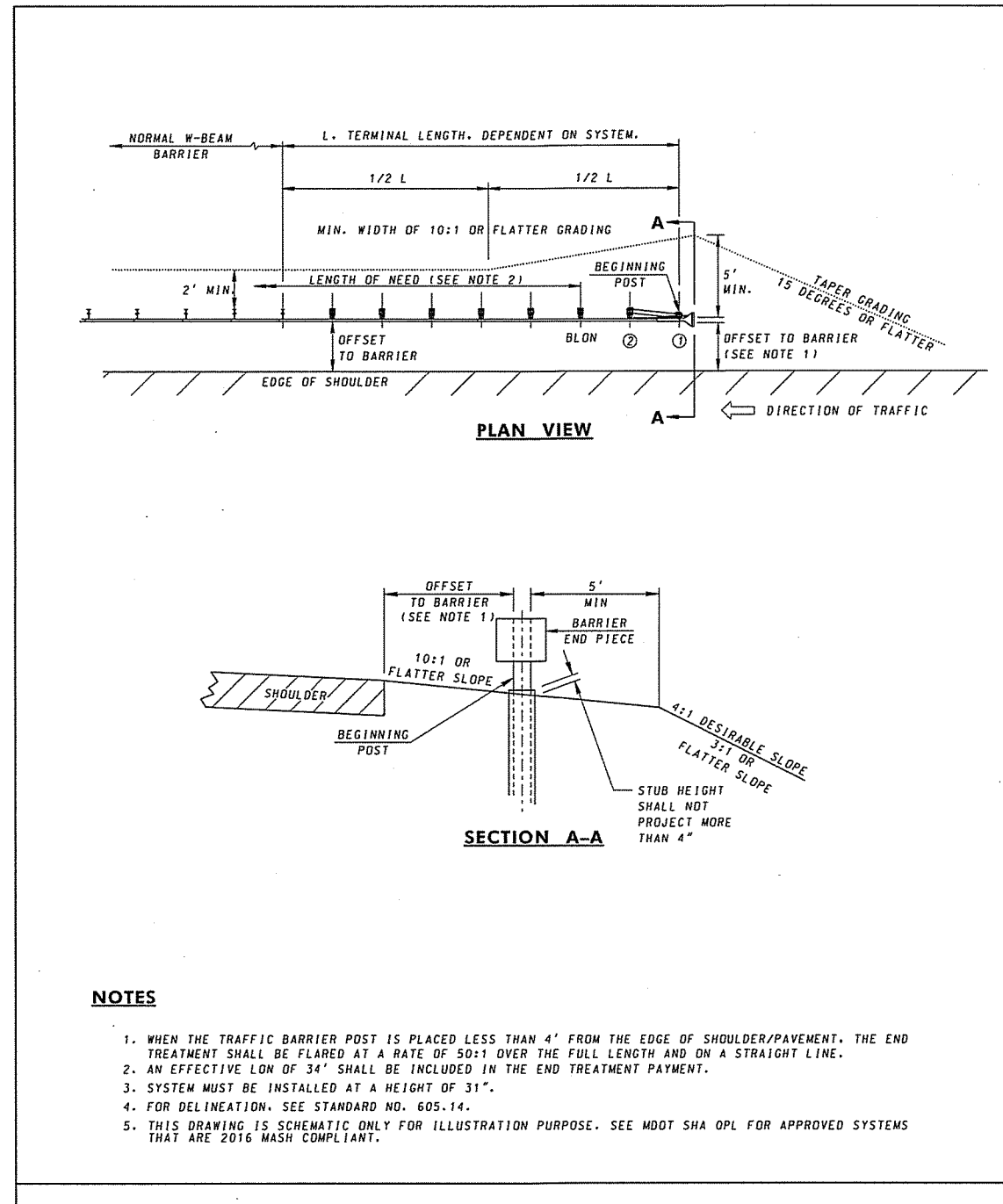
SIGN LEGEND

SIGN	SIZE COLOR	QUANTITY	TOTAL S.F.	REMARKS
	HORIZONTAL RECT. 36"x18" (4.5 S.F.) BLACK ON WHITE	17	76.5	USE 4" SERIES C LETTERING FOR ALL SIGNS IN TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
	R11-3A 60"x30" (12.5 S.F.) BLACK ON WHITE	2	25	
	R11-2 48"x30" (10 S.F.) BLACK ON WHITE	2	20	INSTALL ON TYPE III BARRICADES AS NOTED.
	R11-4 (MODIFIED) 60"x30" (12.5 S.F.) BLACK ON WHITE	2	25	
	M4-10R 48"x18" (6 S.F.) ORANGE ON BLACK	1	6	
	M4-10L 48"x18" (6 S.F.) ORANGE ON BLACK	1	6	
	M4-8 24"x12" (3 S.F.) BLACK ON ORANGE	3	6	
	M3 (MODIFIED) 24"x12" (3 S.F.) BLACK ON ORANGE	3	6.75	
	M4-9R 30"x24" (5 S.F.) BLACK ON ORANGE	6	30	
	M4-9L 30"x24" (5 S.F.) BLACK ON ORANGE	7	35	
	M4-8A 24"x18" (3 S.F.) BLACK ON ORANGE	2	6	
	M4-8 24"x12" (3 S.F.) BLACK ON ORANGE	1	2	
	M5-1L (MODIFIED) 24"x12" (3 S.F.) BLACK ON ORANGE	1	2.25	
	M4-8 24"x12" (3 S.F.) BLACK ON ORANGE	1	2	
	M5-1R (MODIFIED) 24"x12" (3 S.F.) BLACK ON ORANGE	1	2.25	
	W20-3 36"x36" (9 S.F.) BLACK ON ORANGE	4	36	
	G65-2 (MOD) 60"x48" (20 S.F.) BLACK ON YELLOW (TOP) BLACK ON WHITE (BOTTOM)	2	40	PLACE IN SAME LOCATION AS R11-3A (WITH DETOUR ARROW) TWO WEEKS PRIOR TO START OF WORK. REMOVE AT START OF WORK AND REPLACE WITH R11-3A. USE LETTERING THAT FITS APPROPRIATELY ONTO SIGN.
	ALTERNATING ORANGE AND WHITE RETRO-REFLECTIVE STRIPES	2		TYPE III BARRICADE WITH WARNING LIGHTS
	12' LENGTHS (TYP.) 32" TYPE "T" SHAPED	4		PRECAST CONCRETE TRAFFIC BARRIER
	ORANGE TRAFFIC DRUMS	10		

NOTES:

1. THE TRAFFIC CONTROL PLAN INDICATED IS FOR A FULL ROAD CLOSURE.
2. ALL TRAFFIC CONTROL DEVICES, METHODS, AND MATERIALS USED SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
3. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION OF THE WORK AND SAFETY OF THE PUBLIC, ALL AS INDICATED IN THE MUTCD.
4. THE TRAFFIC CONTROL PLAN DEPICTS THE MINIMUM TRAFFIC CONTROL REQUIRED DURING WORK TO PROVIDE A ROAD CLOSURE. THE ENGINEER MAY DIRECT ADJUSTMENT OF THE LOCATION OF THE TRAFFIC CONTROL DEVICES AT NO ADDITIONAL COST TO THE COUNTY.
5. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED AT THE INCEPTION OF THE WORK DESCRIBED AND SHALL BE PROPERLY MAINTAINED AND OPERATED. UPON COMPLETION OF THE WORK, THE DEVICES SHALL BE REMOVED AND ALL SALVAGED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
6. TEMPORARY PRECAST CONCRETE JERSEY BARRIERS SHALL BE REMOVED AND RESET DAILY FOR PROTECTION AGAINST THE OPEN CUT IN THE ROADWAY. ORANGE TRAFFIC DRUMS SHALL BE PLACED AS NEEDED TO DELINEATE DRIVEWAY ENTRANCES AT CONSTRUCTION SITE.
7. WEEDS, SHRUBBERY, CONSTRUCTION MATERIALS OR EQUIPMENT, SPOIL, ETC. SHALL NOT BE ALLOWED TO OBSCURE ANY TRAFFIC CONTROL DEVICE.
8. ALL EQUIPMENT AND MATERIALS SHALL BE STORED OUTSIDE OF THE ROADWAY CLEAR ZONE AND WITHIN THE EXISTING RIGHT OF WAY.
9. THE CONTRACTOR SHALL MAINTAIN INGRESS/EGRESS TO ALL DRIVEWAYS AND PROPERTIES AT ALL TIMES.

DESIGNED BY: RUSH	DRAWN BY: BM	CHECKED BY: SH	DATE: MAY 2023
REVISION DESCRIPTION			
NO.	BY	DATE	
WASHINGTON COUNTY, MARYLAND DIVISION OF ENGINEERING			
Washington County Administrative Annex, Building 247 Northern Avenue Hagerstown, MD 21742 Phone: 240-313-2460 Fax: 240-313-2401			
DOGSTREET ROAD W-5932 STRUCTURE REPLACEMENT TRAFFIC CONTROL PLAN			
SCALE AS SHOWN			
SHEET NO. 13			
PROJECT NO. 14-220			



NOTES

1. WHEN THE TRAFFIC BARRIER POST IS PLACED LESS THAN 4' FROM THE EDGE OF SHOULDER/PAVEMENT, THE END TREATMENT SHALL BE FINISHED BY A FACE OF SOFT USE THE FULL LENGTH AND ON A STRAIGHT LINE.

2. AN EFFECTIVE LOW OF 34" SHALL BE INCLUDED IN THE END TREATMENT.

3. SYSTEM MUST BE INSTALLED AT A HEIGHT OF 34".

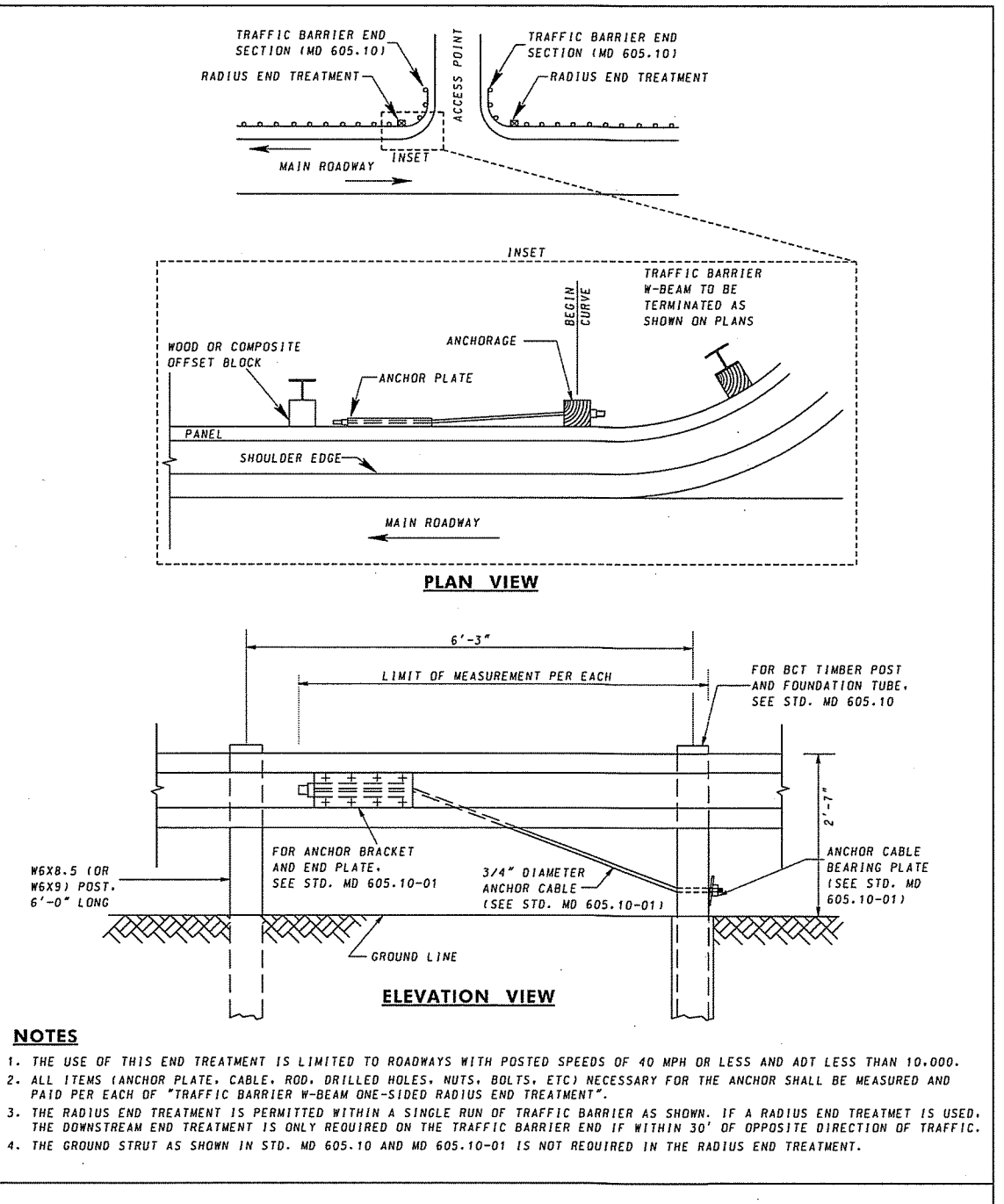
4. FOR DELINEATION, SEE STANDARD NO. 605.14.

5. THIS DRAWING IS SCHEMATIC ONLY FOR ILLUSTRATION PURPOSE. SEE MASH STD. FOR APPROVED SYSTEMS THAT ARE DOTS MASH COMPLIANT.

SPECIFICATION CATEGORY CODE ITEMS	
605	
APPROVED	REVISION
DIRECTOR: OFFICE OF HIGHWAY DEVELOPMENT	
APPROVAL	APPROVAL
REVISIONS	REVISIONS
11-10-99	APPROVAL
12-11-12	REVISION
1-18-17	REVISION
2-26-19	REVISION

STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
TRAFFIC BARRIER W-BEAM ONE-SIDED PARALLEL END TREATMENT (TYPE C)

STANDARD NO. MD 605.03



NOTES

1. THE USE OF THIS END TREATMENT IS LIMITED TO ROADWAYS WITH POSTED SPEEDS OF 40 MPH OR LESS AND NOT LESS THAN 10,000.

2. ALL ITEMS (ANCHOR PLATE, CABLE, ROD, DRILLED HOLES, NUTS, BOLTS, ETC.) NECESSARY FOR THE ANCHOR SHALL BE MEASURED AND PAID FOR EACH OF THE TRAFFIC BARRIER W-BEAM ONE-SIDED RADIUS END TREATMENT.

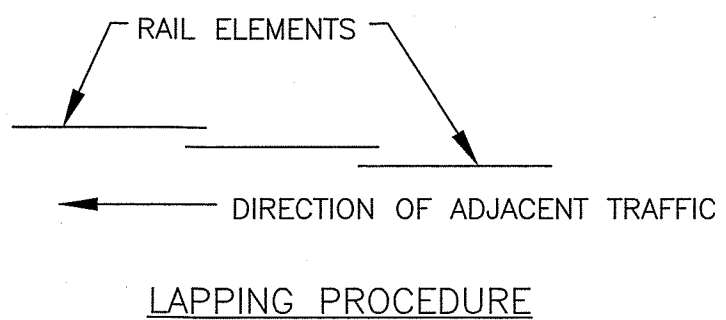
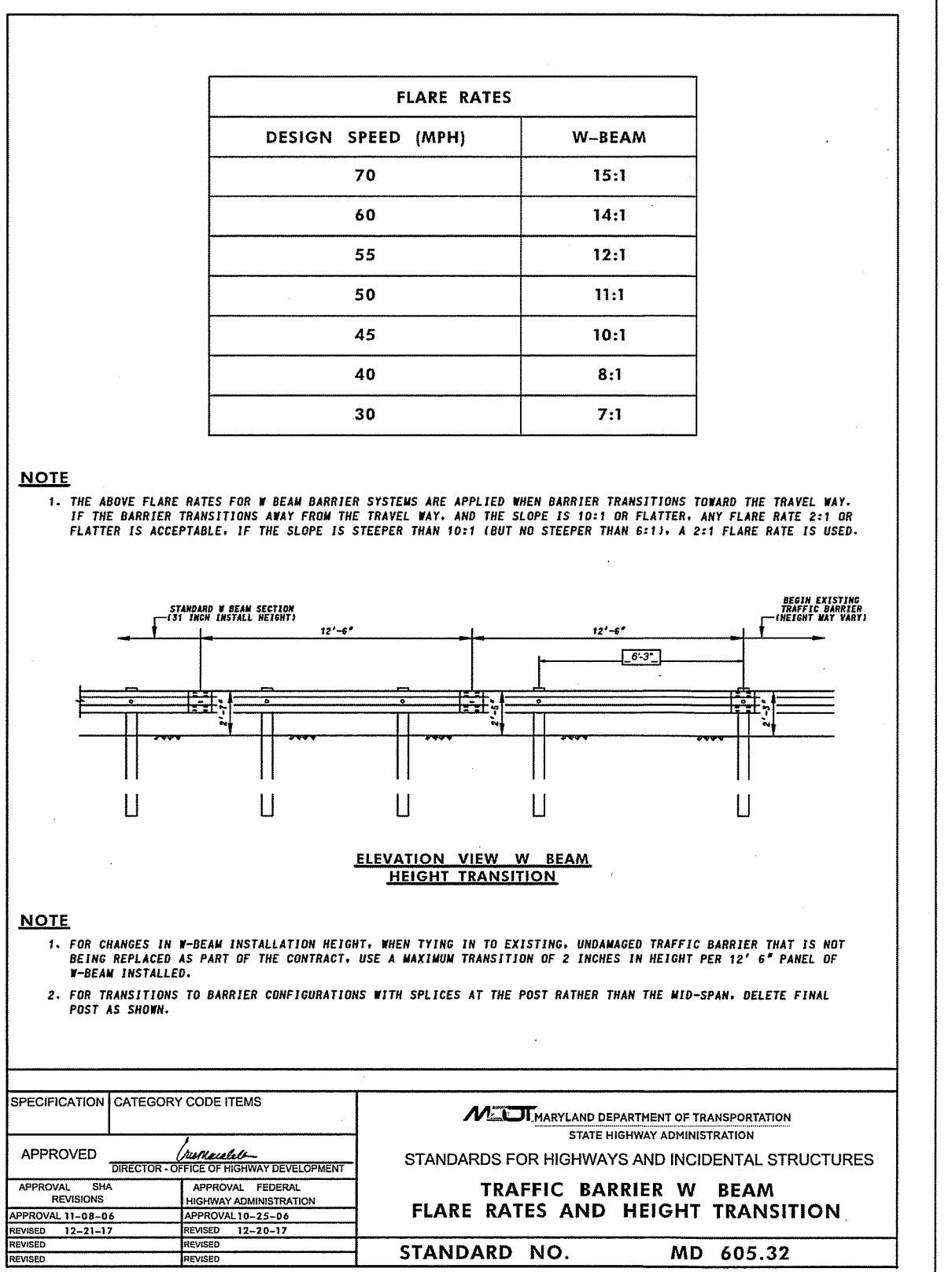
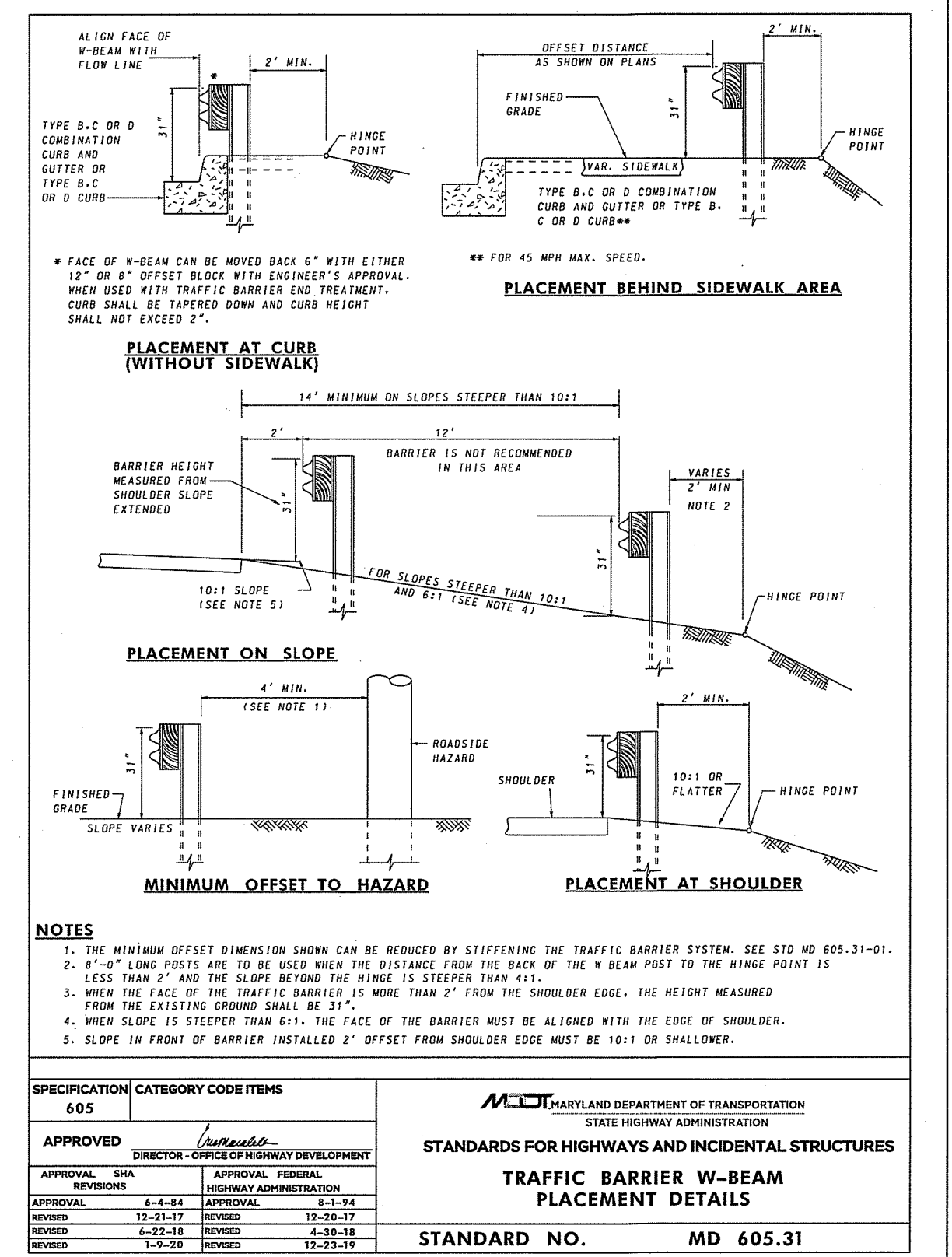
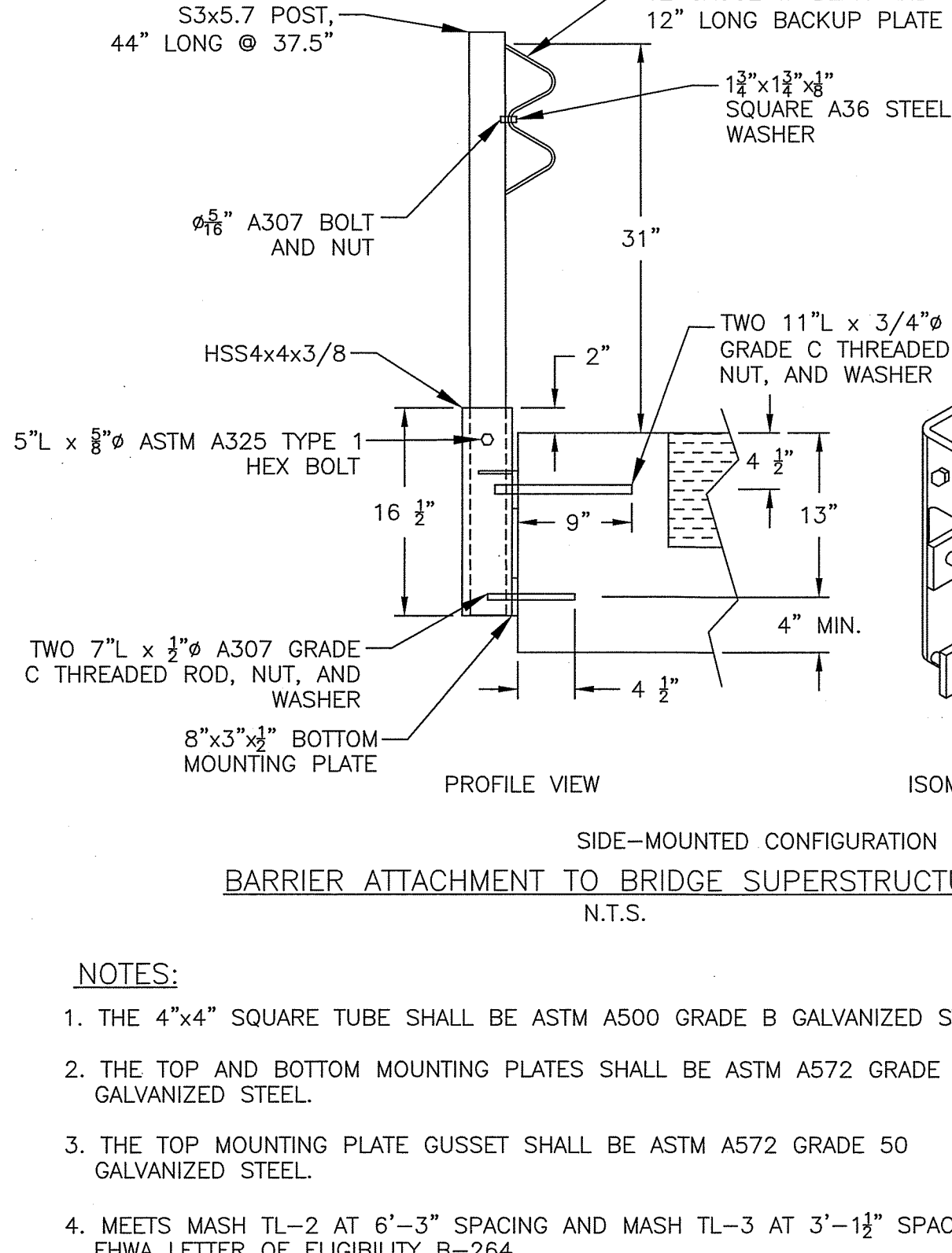
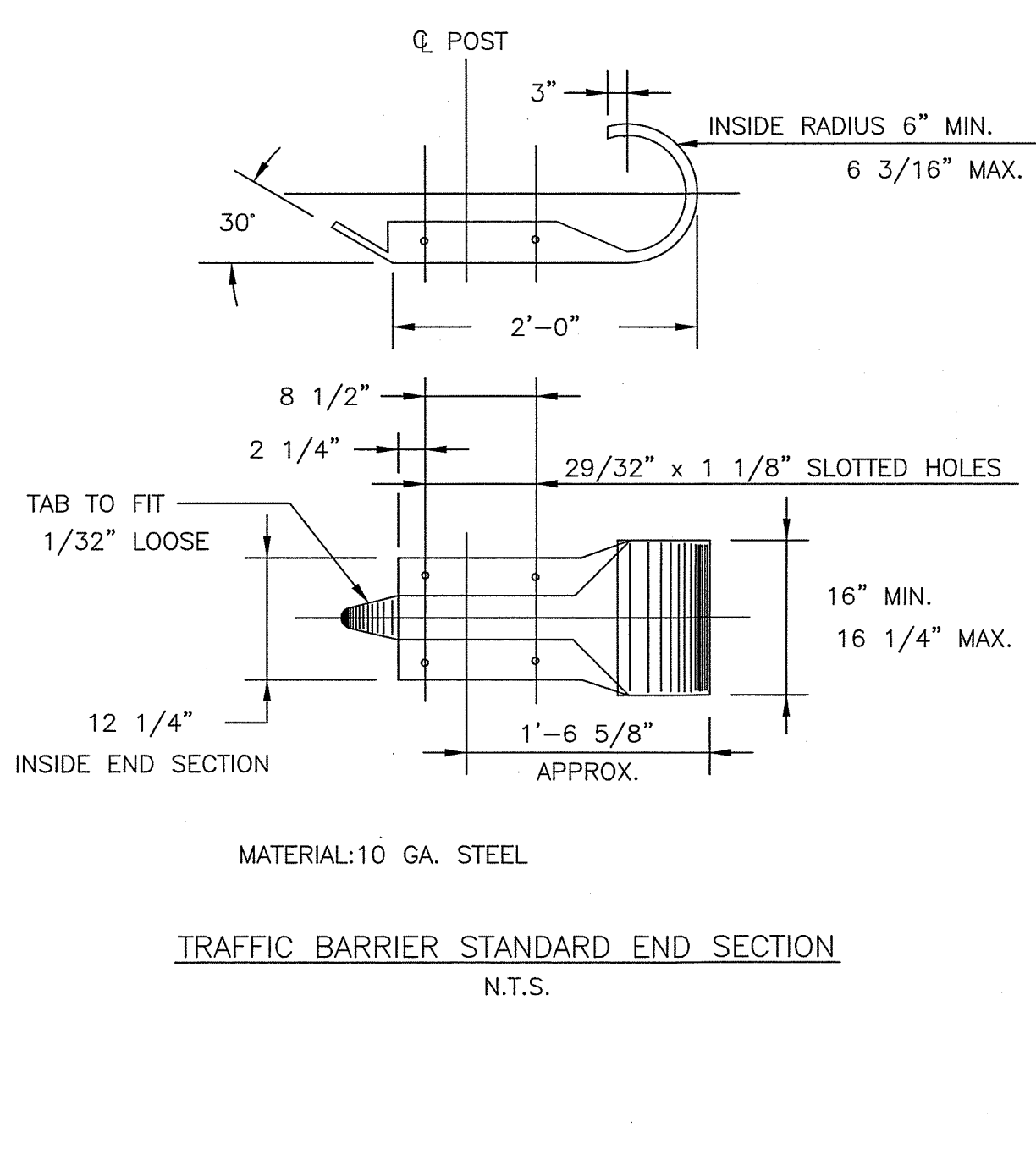
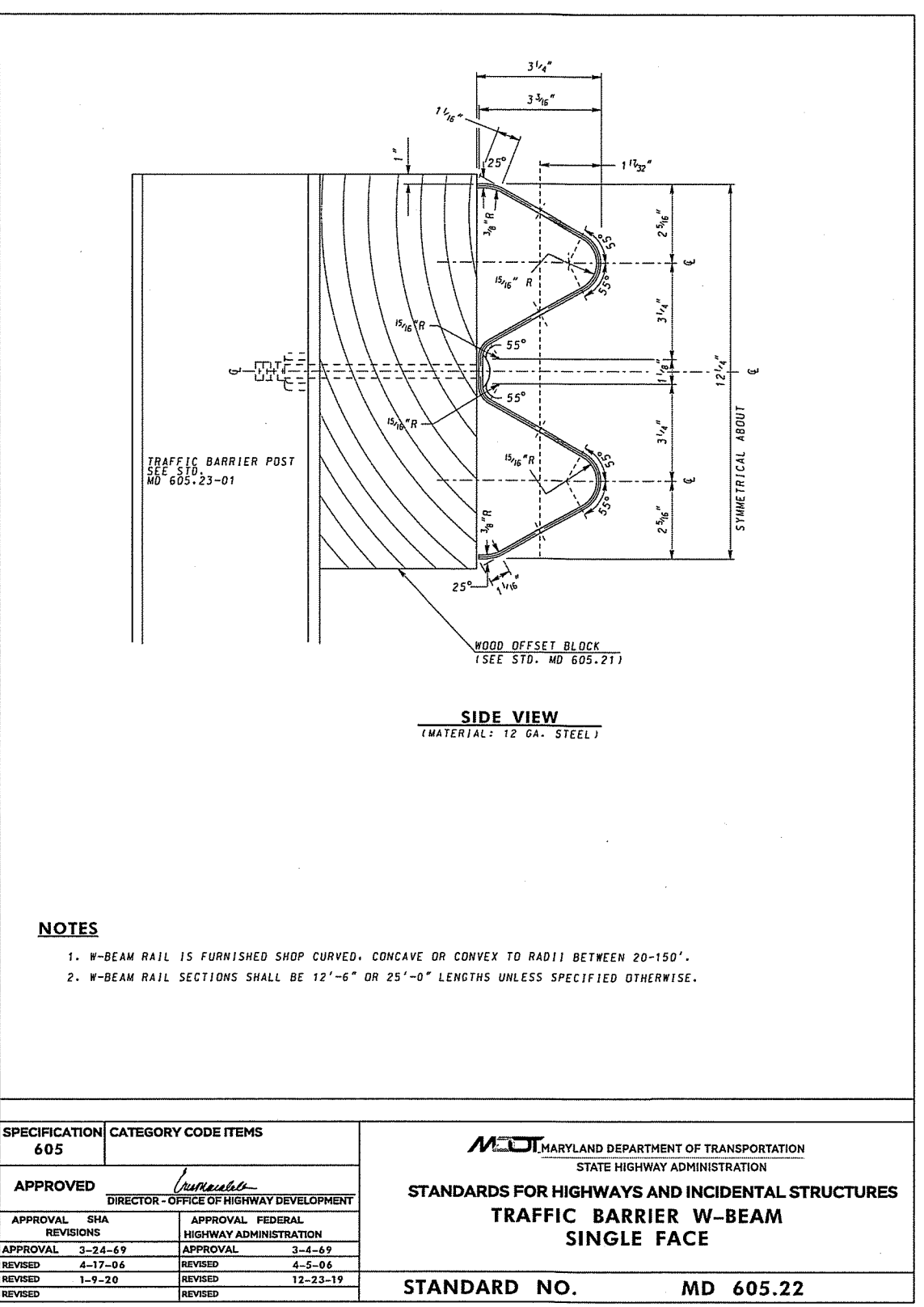
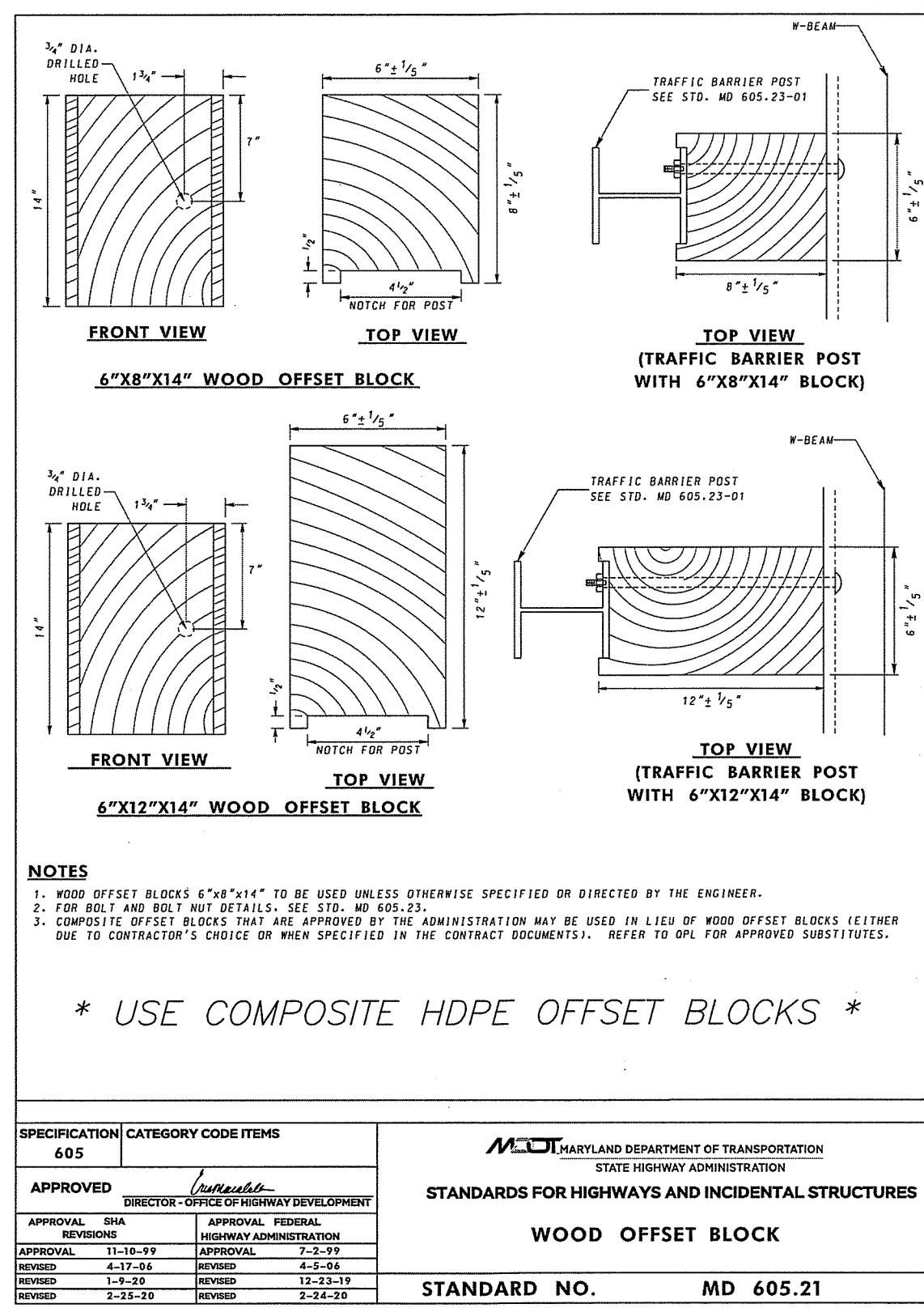
3. THE RADIUS END TREATMENT IS PERMITTED WITHIN A SINGLE ROW OF TRAFFIC BARRIER AS SHOWN, IF A RADIUS END TREATMENT IS USED, THE DOWNSIDE END TREATMENT IS ONLY REQUIRED ON THE TRAFFIC BARRIER END IF WITHIN 30' OF OPPOSITE DIRECTION OF TRAFFIC.

4. THE GROUND SURFACE AS SHOWN IN STD. NO. 605.10 AND MD 605.10-01 IS NOT REQUIRED IN THE RADIUS END TREATMENT.

SPECIFICATION CATEGORY CODE ITEMS	
605	
APPROVED	REVISION
DIRECTOR: OFFICE OF HIGHWAY DEVELOPMENT	
APPROVAL	APPROVAL
REVISIONS	REVISIONS
3-19-06	APPROVAL
11-21-12	REVISION
3-15-20	REVISION
3-23-23	REVISION

STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
TRAFFIC BARRIER W-BEAM RADIUS END TREATMENT (TYPE L)

STANDARD NO. MD 605.13



REVISION NO.	DESCRIPTION	DATE

DESIGNED BY: RO/SB
DRAWN BY: BM
CHECKED BY: SH
DATE: MAY 2023

WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex Building
747 Northern Avenue Hagerstown, MD 21742
Phone: 240-313-2460 Fax: 240-313-2401

STATE OF MARYLAND
PROFESSIONAL ENGINEER

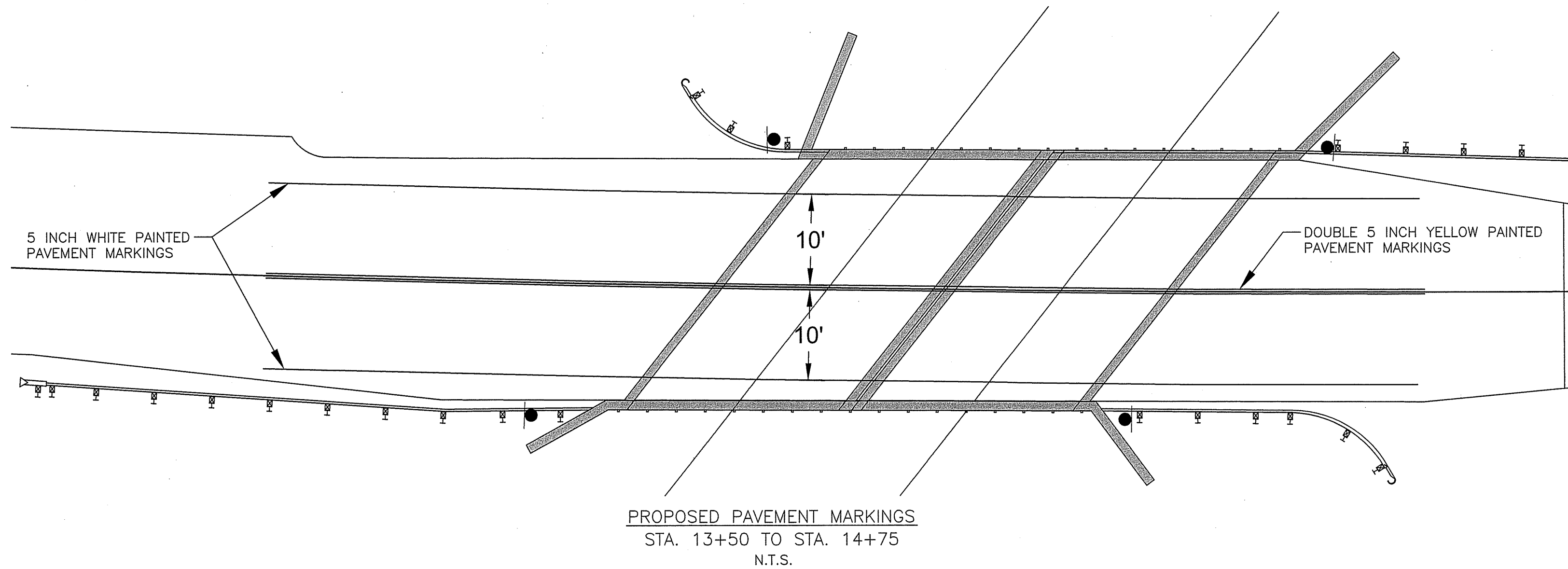
5/5/23

SCALE AS SHOWN

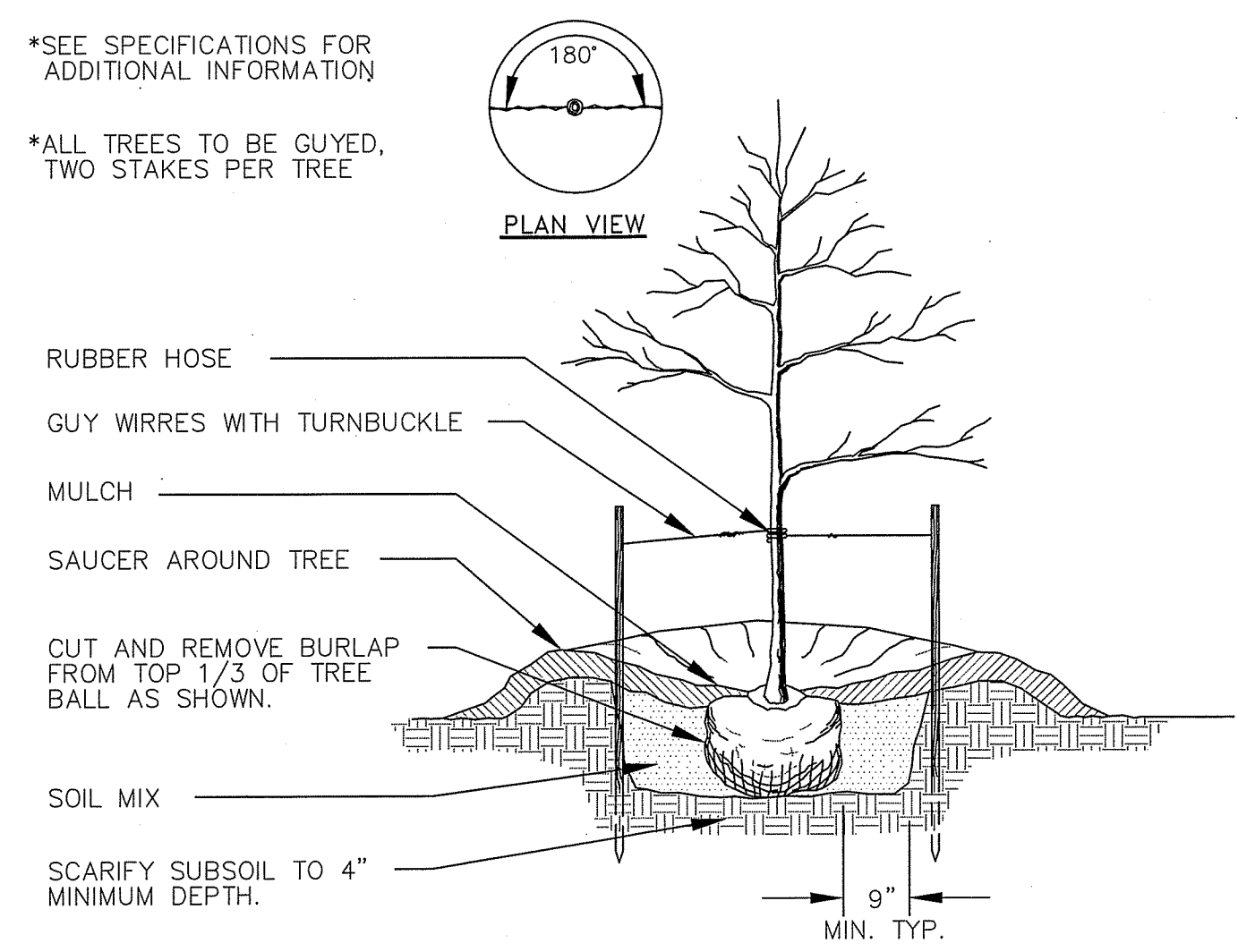
SHEET NO. 14

PROJECT NO. 14-220

FILE PATH: C:\USERS\PMOH\WASHINGTON COUNTY COMMISSIONERS\ENGINEERING - CADD\14-220 DOGSTREET RD\CONSTRUCTION PLOT DWGS\14-220-QS-01.DWG PLOT DATE: 5/8/2023 4:42 PM



- *GUY TREES UP TO 3" CALIPER WITH STAKES.
- *SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION
- *ALL TREES TO BE GUYED, TWO STAKES PER TREE



NOTES:

CONTRACTOR SHALL CALL MISS UTILITY AND HAVE ALL UNDERGROUND UTILITIES MARKED PRIOR TO ANY DIGGING OR PLANTING.

AREAS BENEATH THE TREES SHALL BE MULCHED WITH A HARDWOOD BARK MULCH TO A DEPTH OF APPROX. 3", UNLESS NOTED OTHERWISE.

ALL MULCHED AREAS SHALL BE FIRST COVERED WITH AN APPROVED WEED BARRIER.

ALL PLANTS SHALL BE WATERED THOROUGHLY DURING INSTALLATION AND PRIOR TO FINAL ACCEPTANCE.

ALL PLANTS SHALL MEET THE AMERICAN NURSERYMAN'S ASSOCIATION STANDARDS FOR PLANT MATERIAL QUALITY

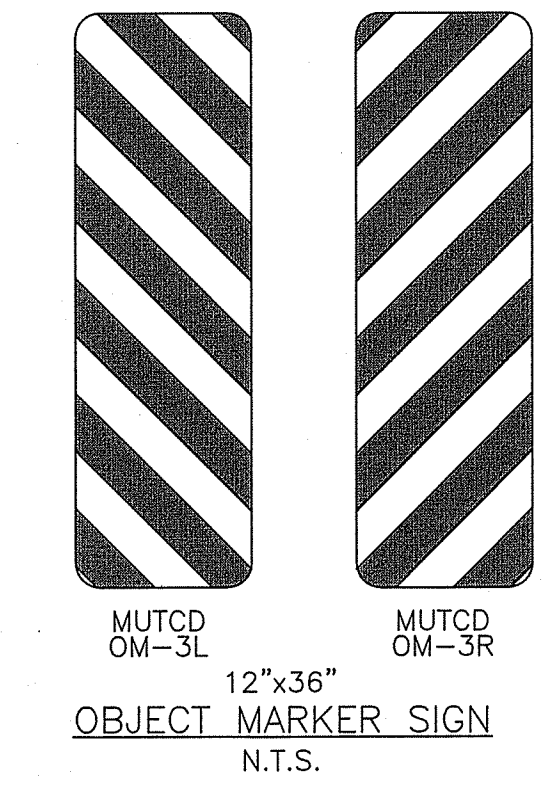
PLANTING SCHEDULE SHALL BE APPROVED AND DIRECTED BY THE ENGINEER PRIOR TO ORDERING MATERIALS.

PLANTING SCHEDULE

TREES				
KEY	QTY	SCIENTIFIC	COMMON	SIZE
	4	ACER NEGUNDO	BOX ELDER	1" MIN. CALIPER
	4	CERCIS CANADENSIS	REDBUD	5 FT MIN HEIGHT
	4	JUGLANS NIGRA	BLACK WALNUT	1" MIN. CALIPER

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	EST. QUAN.
101	CLEARING AND GRUBBING	L.S.	L.S.
102	MOBILIZATION	L.S.	L.S.
103	MAINTENANCE OF TRAFFIC	L.S.	L.S.
104	TEMPORARY TRAFFIC SIGNS	S.F.	317
105	TEMPORARY CONCRETE TRAFFIC BARRIER	L.F.	48
106	TYPE III BARRICADE FOR MAINTENANCE OF TRAFFIC	EA.	2
107	CONSTRUCTION STAKEOUT	L.S.	L.S.
108	CONTINGENT: TEMPORARY ORANGE CONSTRUCTION FENCE	L.F.	300
109	DRUMS FOR MAINTENANCE OF TRAFFIC	EA.	10
201	STREAM EXCAVATION	C.Y.	700
202	STRUCTURE EXCAVATION	C.Y.	800
203	CONTINGENT: CLASS III EXCAVATION	C.Y.	300
204	COMMON BORROW	C.Y.	300
205	SELECTED BACKFILL	C.Y.	200
206	REMOVAL OF EXISTING PAVEMENT	S.Y.	650
301	TEMPORARY CONSTRUCTION ENTRANCE	EA.	1
302	STREAM DIVERSION	L.S.	L.S.
303	12 INCH FILTER LOG	L.F.	160
304	CLASS I RIPRAP	S.Y.	130
305	SUMP PIT	EA.	1
306	FILTER BAG	EA.	2
401	REMOVAL OF EXISTING STRUCTURE	L.S.	L.S.
402	REINFORCED CONCRETE BOX CULVERTS (2 EA- 18FT x 5FT)	L.S.	L.S.
403	CAST-IN-PLACE CONCRETE MIX #3 FOR FOOTINGS	C.Y.	60
404	CAST-IN-PLACE CONC. MIX #6 FOR ENDWALL & WINGWALL STEMS	C.Y.	35
405	TRAFFIC BARRIER W-BEAM AT STRUCTURE	L.S.	L.S.
406	STONE WALL REPOINTING	L.F.	75
501	6 INCH GRADED AGGREGATE BASE COURSE	S.Y.	510
502	HOT MIX ASPHALT SUPERPAVE SURFACE, 9.5mm	TON	80
503	HOT MIX ASPHALT SUPERPAVE BASE, 19.0mm	TON	140
504	SAW CUTTING	L.F.	55
505	CRUSHER RUN AGGREGATE	C.Y.	5
506	5 INCH WHITE PAINTED PAVEMENT MARKINGS	L.F.	250
507	5 INCH YELLOW PAINTED PAVEMENT MARKINGS	L.F.	250
601	REMOVE AND DISPOSE EXISTING TRAFFIC BARRIER	L.F.	128
602	TRAFFIC BARRIER W-BEAM	L.F.	50
603	TYPE C STANDARD TRAFFIC BARRIER END TREATMENT	EA.	2
604	TYPE L STANDARD TRAFFIC BARRIER END TREATMENT	EA.	2
701	PLACING FURNISHED TOPSOIL, 4 INCH DEPTH	S.Y.	750
702	TEMPORARY SEEDING	S.Y.	500
703	TURFGRASS ESTABLISHMENT	S.Y.	750
704	TYPE A SOIL STABILIZATION MATTING	S.Y.	250
705	BLACK WALNUT TREE (MIN. 1 INCH CALIPER)	EA.	4
706	BOX ELDER TREE (MIN. 1 INCH CALIPER)	EA.	4
707	REDBUD TREE (MIN. 5FT HEIGHT)	EA.	4
801	PERMANENT TRAFFIC SIGNS	S.F.	12



WASHINGTON COUNTY, MARYLAND
DIVISION OF ENGINEERING

Washington County Administrative Annex Building
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DOGSTREET ROAD W-5932
STRUCTURE REPLACEMENT
QUANTITIES & DETAILS

SCALE AS SHOWN

SHEET NO. 15

PROJECT NO. 14-220