

SYLVAN LANE WATER AND SEWER EXTENSIONS

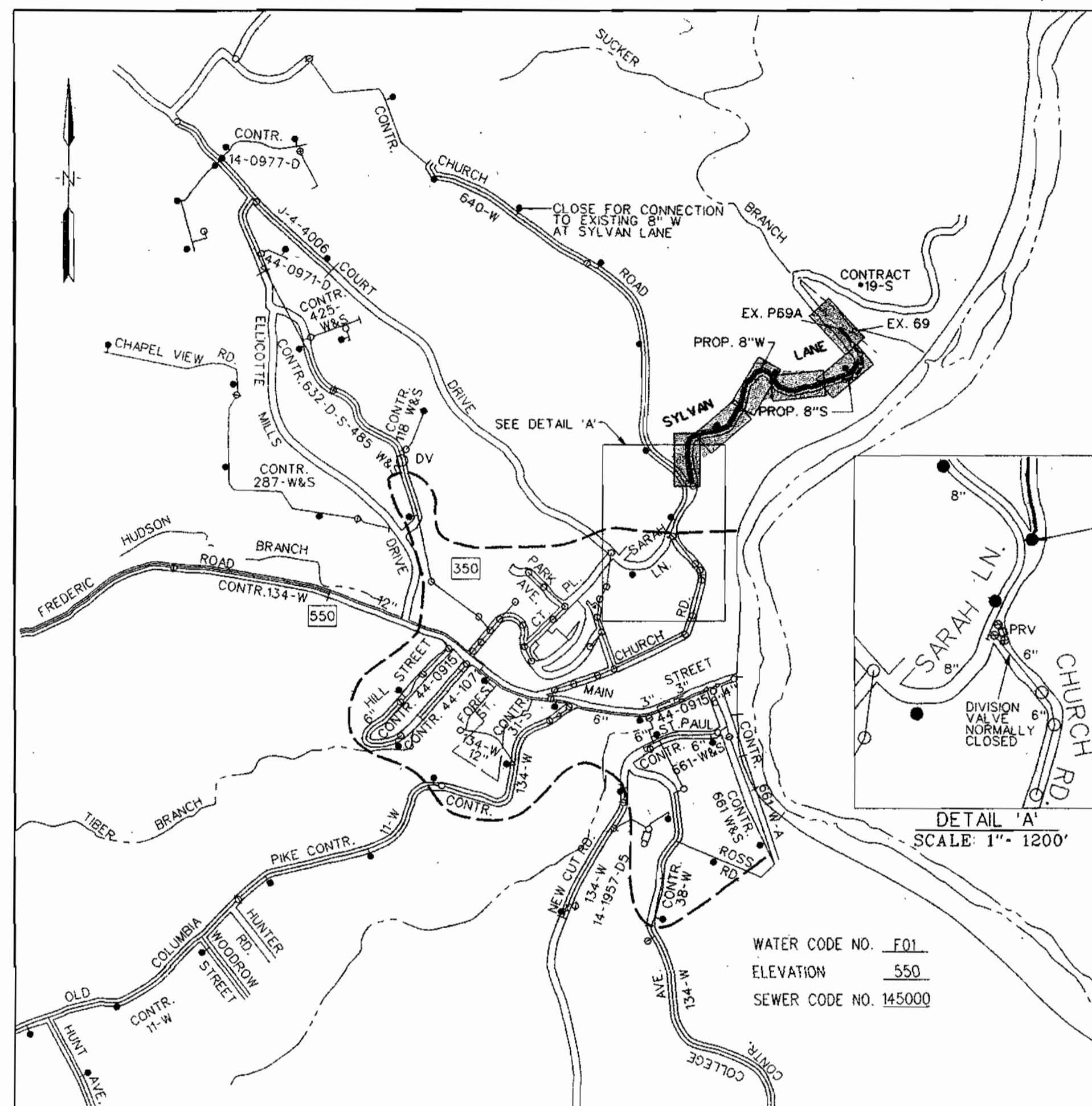
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

GENERAL NOTES

1. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR EXPENSE.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA NGVD88
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 AT&T 410-865-3803
 BC&E (CONTRACTOR SERVICES) 410-950-4620
 BC&E - UNDERGROUND DAMAGE CONTROL 410-787-9068
 BUREAU OF UTILITIES (DPW) 410-313-4900
 CHESAPEAKE & POTOMAC TELEPHONE CO. 410-597-8585
 COLONIAL PIPELINE CO. 410-795-1390
 MISS UTILITY 1-800-257-7777
 STATE HIGHWAY ADMINISTRATION 410-531-5533
9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
11. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER MAINS, SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(A) OF THE HOWARD COUNTY CODE.
12. ALL SEWERMAINS SHALL BE P.V.C. UNLESS OTHERWISE NOTED.
13. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
14. WATERMAINS SHALL BE D.I.P. ONLY.
15. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
16. HOUSE(S) WITH THE SYMBOL 'C.N.S.' INDICATES THAT CELLAR CANNOT BE SERVED.
17. ALL D.I.P. TO HAVE POLYETHYLENE PIPE ENCASUREMENT.
18. ALL WATER MAINS SHALL BE D.I.P CLASS 52 UNLESS OTHERWISE NOTED.
19. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
20. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
21. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
22. FIRE HYDRANTS SHALL BE SET TO BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
23. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

CAPITAL PROJECT No. W-8230
 CONTRACT No. 14-3820



LOCATION MAP

SCALE: 1" = 600'

TYPE OF BUILDING: RESIDENTIAL
 NUMBER OF PARCELS: N/A
 NUMBER OF SEWER HOUSE CONNECTIONS: 5
 NUMBER OF WATER HOUSE CONNECTIONS: 9
 DRAINAGE AREA: PATAPSCO

INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	8-INCH WATERMAIN & 8" SANITARY SEWER PLAN
3	8 INCH SANITARY SEWER EXTENSION PROFILE
4	8 INCH WATERMAIN PROFILE STA. 0+00 TO 9+00
5	8 INCH WATERMAIN PROFILE STA. 9+00 TO 16+10
6	SLOPE STABILIZATION PLAN & DETAILS SLOPE NO. 1
7	SLOPE STABILIZATION PLAN & DETAILS SLOPE NO. 2
8	EROSION & SEDIMENT CONTROL NOTES & DETAILS

QUANTITIES

ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL SUPPLIER
SEWER 8" S DIP	L.F.	460'		
STD. MANHOLE	EA.	4		
STD. TYPE "B" DROP	EA.	1		
4" INSIDE DROP CONNECTION	EA.	1		
4" SHC	L.F.	60		
6" TSHC	L.F.	8		
8"x4" WYE	EA.	3		
8"x6" WYE	EA.	1		
WATER 6" W DIP	L.F.	48'		
WATER 8" W DIP	L.F.	1600'		
8" VALVE	EA.	1		
6" VALVE	EA.	4		
6" F.H.	EA.	3		
1" W/C W/MV	L.F.	215		

NAME OF UTILITY CONTRACTOR: _____

CHECKBOX _____

AS-BUILT DATE: _____

SURVEY AND DRAFTING DIVISION

RESTORATION SCHEDULE

LOCATION	DISTANCE	TYPE
STA. 0+00 TO STA. 16+10 WATER MAIN, F.H. AND W/C'S	1735'	BITUMINOUS PAVING TRENCH REPAIR, SEE STD. DETAIL G4.01
EX. SEWER MH P83A TO SEWER C.O. AND SHC'S	495'	BITUMINOUS PAVING TRENCH REPAIR, SEE STD. DETAIL G4.01
SHC'S, F.H. AND W/C'S	115'	TOPSOIL, SEEDING & MULCHING
SLOPE STABILIZATION NO. 1	1225 SF	BITUMINOUS CONCRETE PAVING
	2100 SF	TOPSOIL, TRM, SEEDING & MULCHING
SLOPE STABILIZATION NO. 2	SF	BITUMINOUS CONCRETE PAVING
	SF	TOPSOIL, TRM, SEEDING & MULCHING

SEQUENCE OF CONSTRUCTION

1. SLOPE STABILIZATION NO. 1
2. WATER MAINS
3. SEWER STABILIZATION NO. 2

DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY 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 OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Edward A. Serp 7/11/00
 BUREAU OF ENGINEERING
 DEPARTMENT OF PUBLIC WORKS
 DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.

Cheryl Sum 7/19/00
 U.S. NATURAL RESOURCES
 CONSERVATION SERVICE
 DATE

ENGINEER'S CERTIFICATION

"I/WE 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."

Edward A. Serp 07/10/00
 EDWARD A. SERP, III
 DATE

RECI TECHNOLOGIES
 10 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND 21088

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

Edward A. Serp 7/19/00
 APPROVED
 HOWARD COUNTY S.C.D.
 DATE

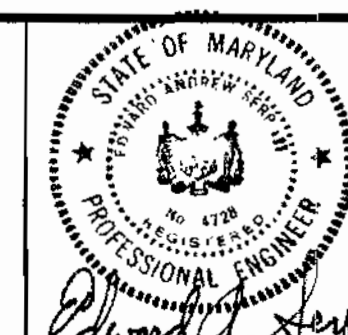
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. Clark 7/13/00
 DIRECTOR OF PUBLIC WORKS
 DATE

Edward A. Serp 7/11/00
 CHIEF, BUREAU OF ENGINEERING
 DATE



ENGINEERS AND PLANNERS
 10 NORTH PARK DRIVE
 HUNT VALLEY, MD. 21030-1888
 (410) 316-7800



DES: EWC					
DRN: RD/CK					
CHK: EAS					
DATE: 4/10/00	BY:	NO.	REVISION	DATE	

TITLE SHEET

SYLVAN LANE WATER AND SEWER EXTENSIONS
 CAPITAL PROJECT No. W-8230
 CONTRACT No. 14-3820
 ELECTION DISTRICT ELLICOTT CITY No. 2

SCALE AS SHOWN
 SHEET 1 OF 8

EP 00-17

SURVEY CONTROL

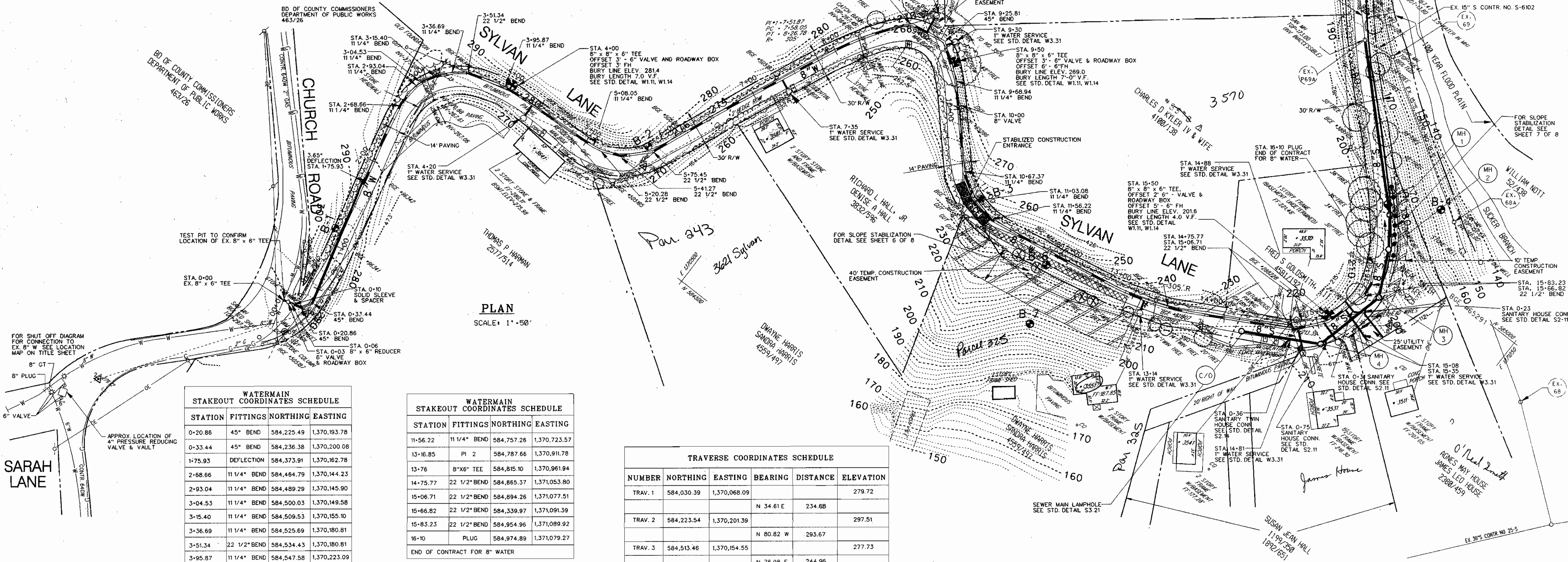
1. HOWARD COUNTY STATION 25AT1

STD. HOWARD CO. SURVEY** IRON ROD
 SET ON CONC. COLUMN @
 SOUTH OF COURT HOUSE DR.
 COURT HOUSE HIGH PARKING LOT
 NORTH(83) 584000.196
 EAST (83) 1369479.66
 ELEV. 280.293

2. HOWARD COUNTY STATION 25AT2

ALUM. DISC SET ON** IRON ROD
 @ SARAH'S LANE 9'-6" SOUTH OF MAIL BOX (*369)
 NORTH(83) 583782.99
 EAST (83) 1369931.28
 ELEV. 264.996

* 3611 CHURCH ROAD
 WATER SERVICE PROVIDED
 FROM CHURCH ROAD



WATERMAIN STAKEOUT COORDINATES SCHEDULE

STATION	FITTINGS	NORTHING	EASTING
0+20.86	45° BEND	584,225.49	1,370,193.78
0+33.44	45° BEND	584,236.38	1,370,200.08
1+75.93	DEFLECTION	584,373.91	1,370,162.78
2+68.66	11 1/4" BEND	584,464.79	1,370,144.23
2+93.04	11 1/4" BEND	584,489.29	1,370,145.90
3+04.53	11 1/4" BEND	584,500.03	1,370,149.58
3+15.40	11 1/4" BEND	584,509.53	1,370,155.10
3+36.69	11 1/4" BEND	584,525.69	1,370,180.81
3+51.34	22 1/2" BEND	584,534.43	1,370,180.81
3+95.87	11 1/4" BEND	584,547.58	1,370,223.09
4+00	8"X6" TEE	584,548.03	1,370,227.31
5+08.05	11 1/4" BEND	584,555.71	1,370,335.08
5+20.28	11 1/4" BEND	584,558.05	1,370,346.80
5+41.27	22 1/2" BEND	584,566.19	1,370,366.08
5+75.45	22 1/2" BEND	584,590.55	1,370,390.15
7+91.87	PI 1	584,791.47	1,370,471.99
8+87.78	45° BEND	584,869.52	1,370,526.75
9+25.81	45° BEND	584,876.40	1,370,565.95
9+68.94	11 1/4" BEND	584,851.61	1,370,601.27
10+67.37	11 1/4" BEND	584,779.67	1,370,668.44
11+03.08	11 1/4" BEND	584,764.47	1,370,693.78

WATERMAIN STAKEOUT COORDINATES SCHEDULE

STATION	FITTINGS	NORTHING	EASTING
11+56.22	11 1/4" BEND	584,757.26	1,370,723.57
13+16.85	PI 2	584,787.66	1,370,911.78
13+76	8"X6" TEE	584,815.10	1,370,961.94
14+75.77	22 1/2" BEND	584,865.37	1,371,053.80
15+06.71	22 1/2" BEND	584,894.26	1,371,077.51
15+66.82	22 1/2" BEND	584,339.97	1,371,091.39
15+83.23	22 1/2" BEND	584,854.96	1,371,089.92
16+10	PLUG	584,974.89	1,371,079.27

END OF CONTRACT FOR 8" WATER

SANITARY SEWER STAKEOUT COORDINATES SCHEDULE

STATION	NORTHING	EASTING
EX MH 69A	585,157.3 ±	1,370,924.4 ±
MH 1	585,026.08	1,371,060.21
MH 2	584,995.93	1,371,082.083
MH 3	584,948.83	1,371,105.57
MH 4	584,870.45	1,371,086.01
CLEANOUT	584,828.96	1,371,010.18

TRAVERSE COORDINATES SCHEDULE

NUMBER	NORTHING	EASTING	BEARING	DISTANCE	ELEVATION
TRAV. 1	584,030.39	1,370,068.09			279.72
TRAV. 2	584,223.54	1,370,201.39	N 34.61 E	234.68	297.51
TRAV. 3	584,513.46	1,370,154.55	N 80.82 W	293.67	277.73
TRAV. 4	584,572.40	1,370,392.47	N 76.08 E	244.96	275.81
TRAV. 5	584,885.68	1,370,529.51	N 23.62 E	341.93	268.89
TRAV. 6	584,744.38	1,370,722.23	S 53.75 E	238.96	247.77
TRAV. 7	584,805.47	1,370,972.24	N 76.27 E	257.36	223.53
TRAV. 8	584,931.88	1,371,132.77	N 51.78 E	204.32	202.08
TRAV. 9	585,182.23	1,370,906.87	N 47.93 W	337.20	171.19

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. Sullivan 7/15/00
 DIRECTOR OF PUBLIC WORKS DATE

Robert J. Brown 7/11/00
 CHIEF, BUREAU OF ENGINEERING DATE

Michael A. ... 7-11-00
 CHIEF, BUREAU OF UTILITIES DATE

ENGINEERS AND PLANNERS
 10 NORTH PARK DRIVE
 HUNT VALLEY, MD. 21030-1888
 (410) 316-7800



DES: EWC.					
DRN: RD/CK					
CHK: EAB/S.					
DATE: 4/10/00					
BY: NO.					
REVISION					

8" WATERMAIN AND 8" SANITARY SEWER PLAN

600' SCALE MAP NO. S25-W25 BLOCK NO. 8

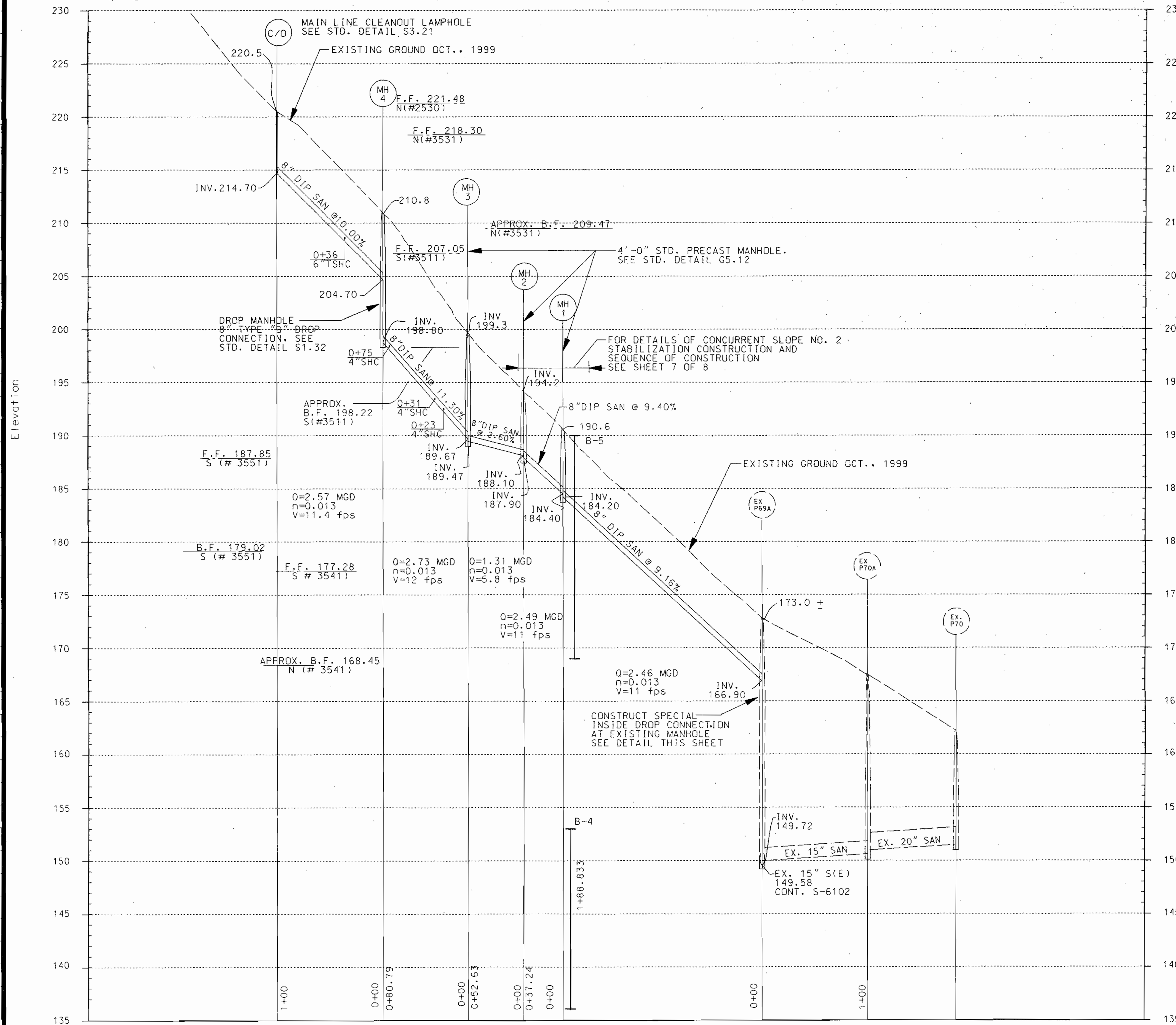
SYLVAN LANE WATER AND SEWER EXTENSIONS

CAPITAL PROJECT No. W-8230
 CONTRACT No. 14-3820
 ELECTION DISTRICT ELLICOTT CITY No. 2

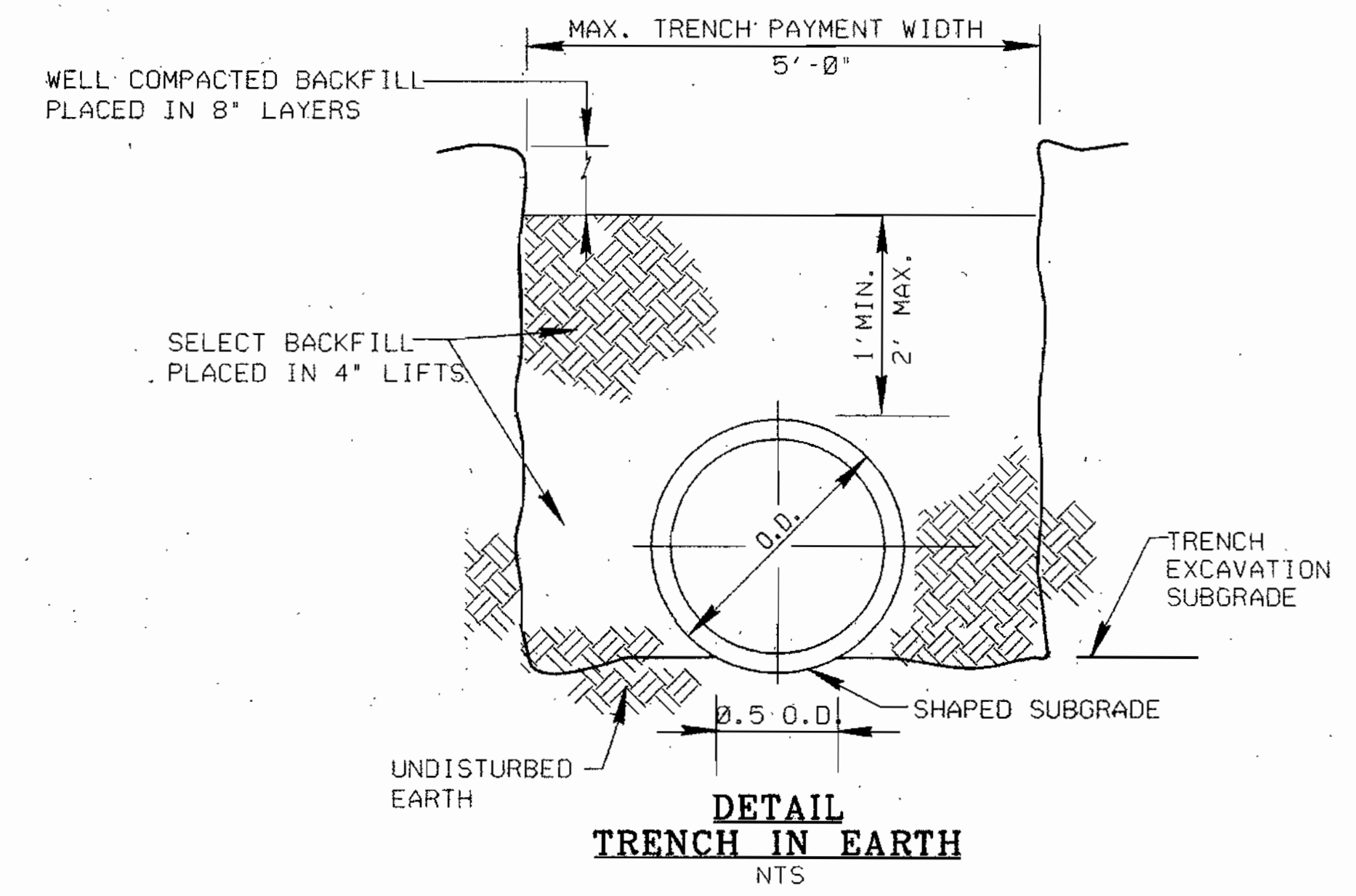
SCALE AS SHOWN
 SHEET 2 OF 100

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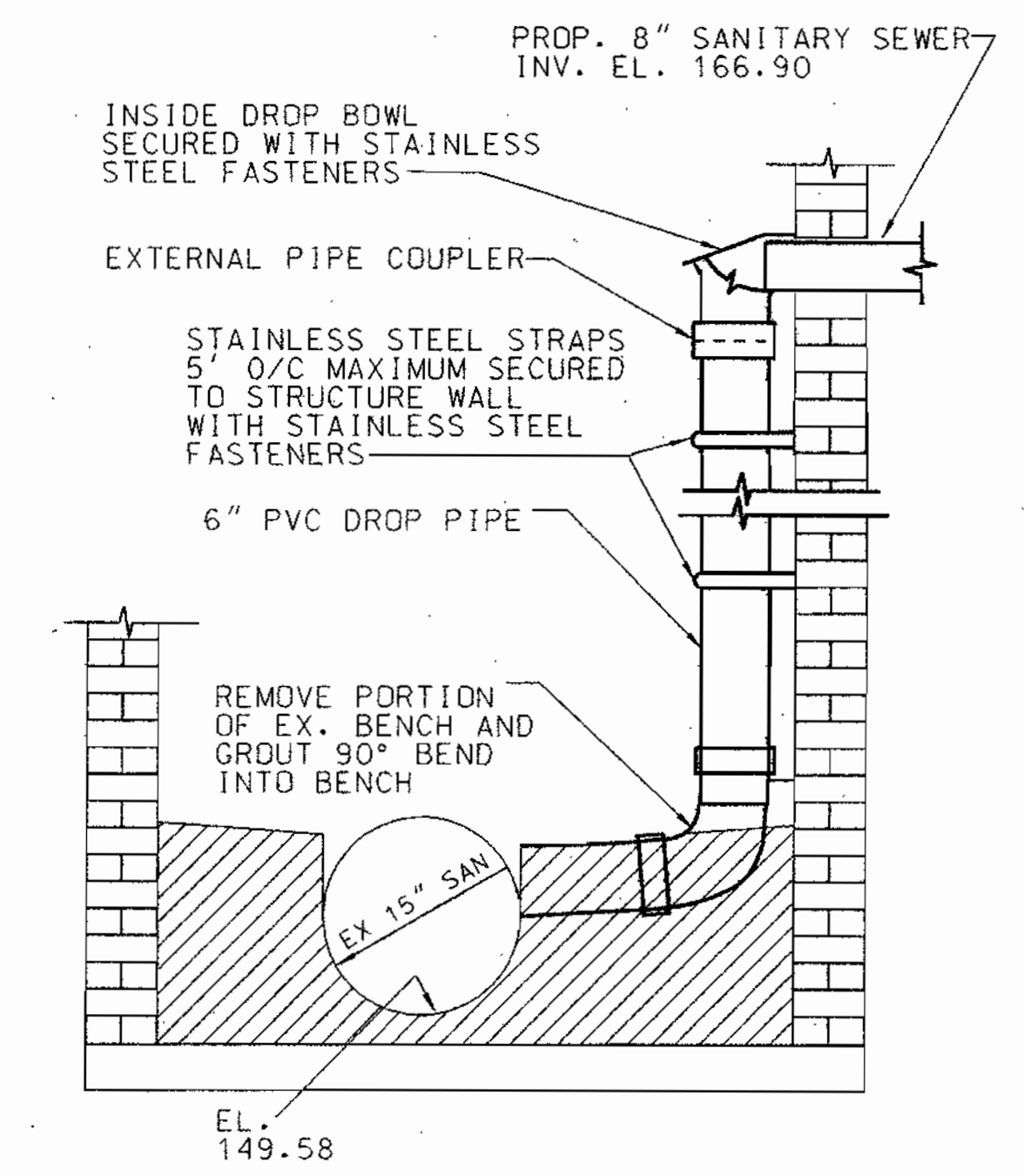
SYLVAN LANE



PROFILE
SCALE: HORZ. 1"=50'
VERT. 1"=5'



- NOTES:**
- HOUSES #3551 AND #3541 ARE TO BE SERVED BY PRIVATE ONSITE GRINDER PUMP SYSTEMS WITH 1.5" PRESSURE PIPE DISCHARGE TO GRAVITY SEWER HOUSE CONNECTION.
 - MANHOLES 1, 2, 3 & 4 - 4'-0" STANDARD PRECAST MANHOLE, SEE STD. DETAIL G5.12



DETAIL SPECIAL INSIDE DROP CONNECTION AT EXISTING MANHOLE P69A
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. Shinn 7/13/00
DIRECTOR OF PUBLIC WORKS DATE

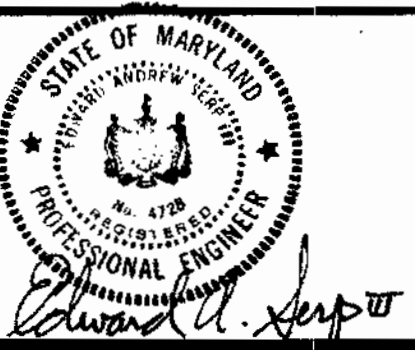
Paul D. Eason 7/11/00
CHIEF, BUREAU OF ENGINEERING DATE

Michael J. Szymanski 7-11-00
CHIEF, BUREAU OF UTILITIES DATE

Paul D. Eason 7-11-00
CHIEF, UTILITY DESIGN DIVISION DATE

ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MD. 21030-1888
(410) 316-7800

KCT
TECHNOLOGIES



DES: EWC.			
DRN: RD/CK			
CHK: EAS.			
DATE: 4/10/00	BY: NO.	REVISION	DATE

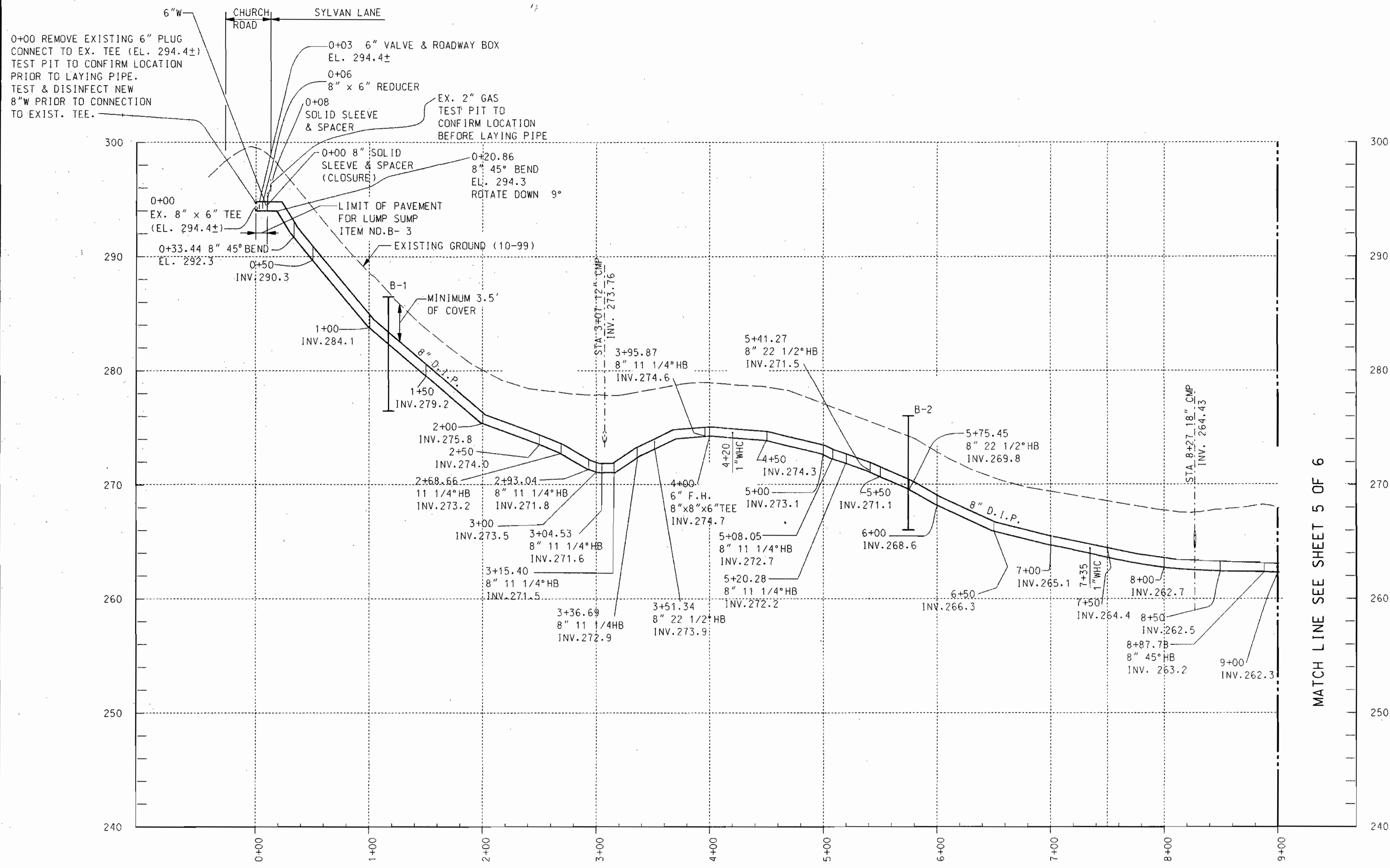
8" SANITARY SEWER EXTENSION PROFILE

600' SCALE MAP NO. S25-W25 BLOCK NO. 9

SYLVAN LANE WATER AND SEWER EXTENSIONS

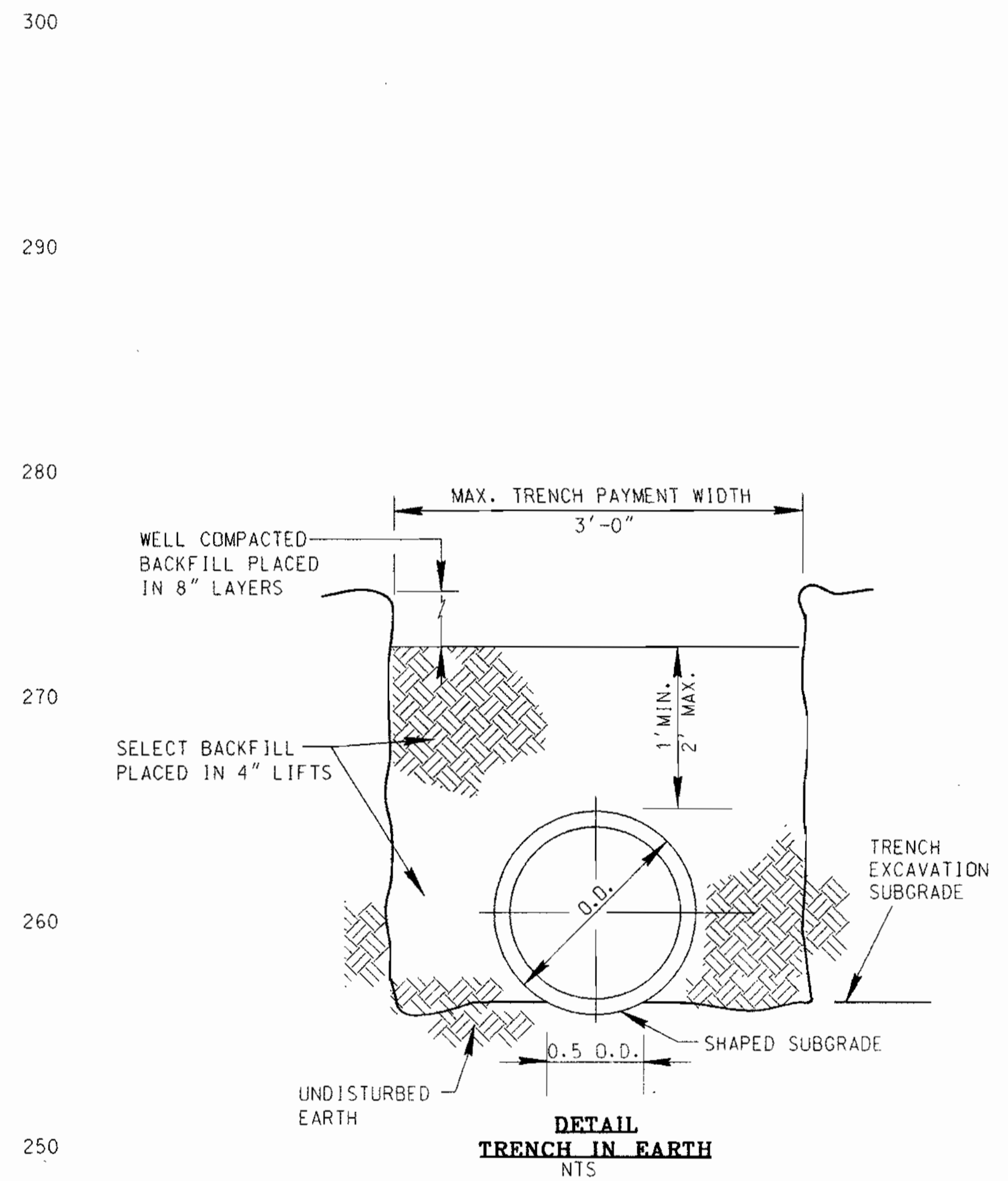
CAPITAL PROJECT No. W-8230
CONTRACT No. 14-3820
ELECTION DISTRICT ELLICOTT CITY No. 2

SCALE AS SHOWN
SHEET 3 OF 8
FILE NAME: M:7/1999/0199180/ENV



PROFILE
SCALE: HORZ. 1"=50'
VERT: 1"=5'

MATCH LINE SEE SHEET 5 OF 6



**DETAIL
TRENCH IN EARTH
NTS**

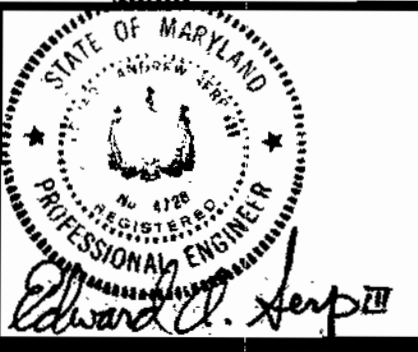
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James P. ... 7/13/00
DIRECTOR OF PUBLIC WORKS
MICHAEL B. ...
CHIEF, BUREAU OF UTILITIES

Paul D. ... 7/11/00
CHIEF, BUREAU OF ENGINEERING
CHIEF, UTILITY DESIGN DIVISION

ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MD. 21030-1888
(410) 316-7800

KCI TECHNOLOGIES



DES. EWC.					
DRN. RD/CK					
CHK. EAS.					
DATE: 4/10/00	BY	NO.	REVISION	DATE	

8 INCH WATERMAIN PROFILE
STA 0+00 TO 9+00

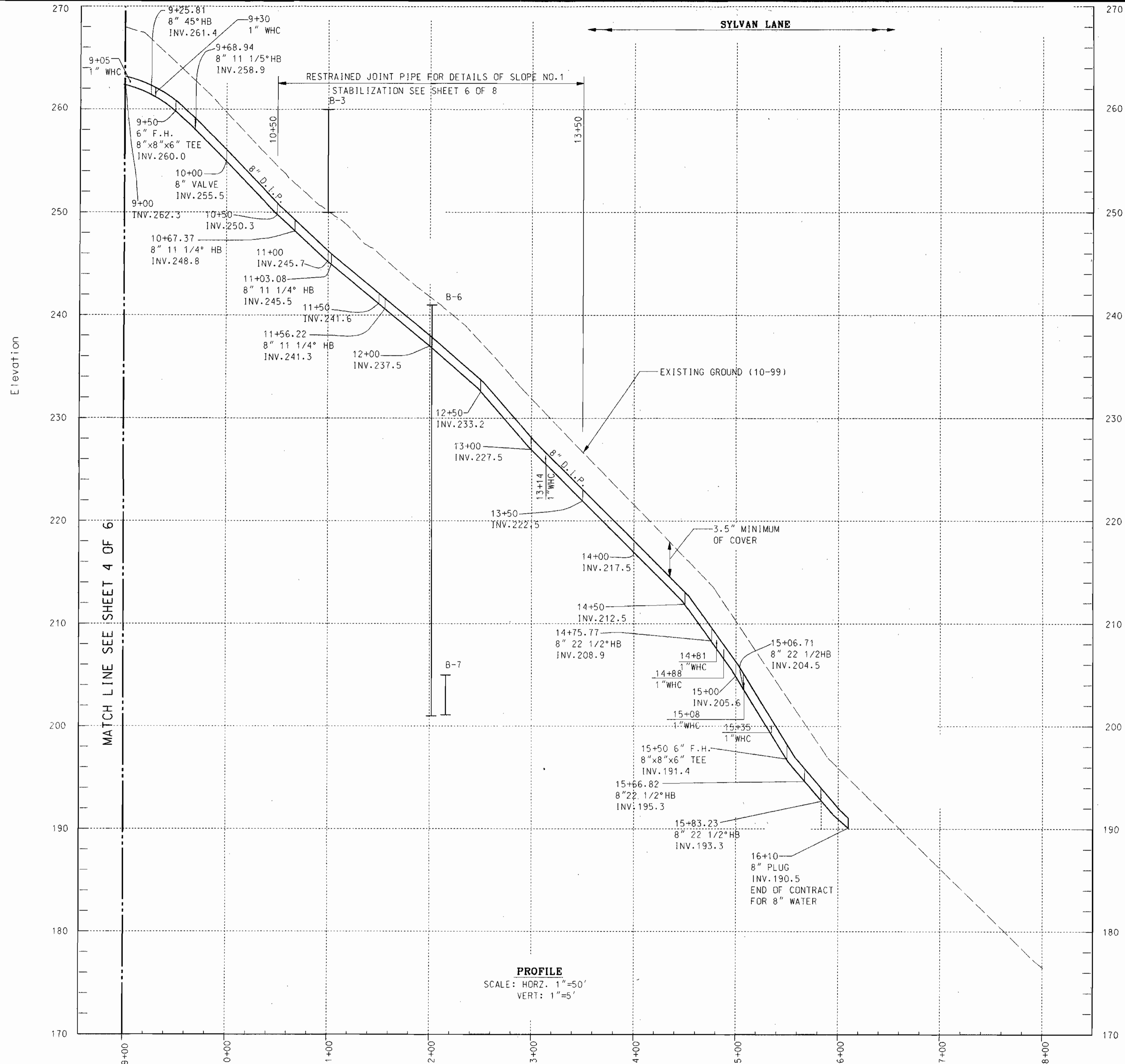
688' SCALE MAP NO. S25.W25 BLOCK NO. 8

SYLVAN LANE WATER AND SEWER EXTENSIONS

CAPITAL PROJECT No. W-8230
CONTRACT No. 14-3820
ELECTION DISTRICT ELLICOTT CITY No. 2

SCALE AS SHOWN
SHEET 4 OF 10

FILE NAME: M:\1999\01991807\ENV\3-DGN



PROFILE
 SCALE: HORZ. 1"=50'
 VERT: 1"=5'

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

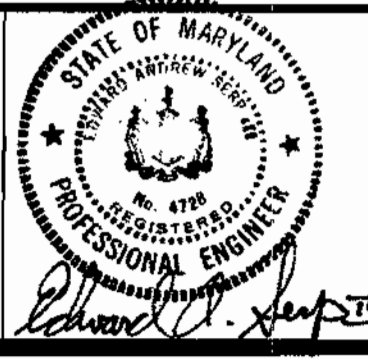
James J. Clew 7/11/00
 DIRECTOR OF PUBLIC WORKS
 DATE

Michael A. Annunzio 7-11-00
 CHIEF, BUREAU OF UTILITIES
 DATE

Robert J. Johnson 7/11/00
 CHIEF, BUREAU OF ENGINEERING
 DATE

By: [Signature] 7-11-00
 CHIEF, UTILITY DESIGN DIVISION
 DATE

ENGINEERS AND PLANNERS
 10 NORTH PARK DRIVE
 HUNT VALLEY, MD. 21030-1888
 (410) 316-7800



DES. EWC.					
DRN. RD/CK					
CHK. EAS.					
DATE: 4/10/00	BY	NO.	REVISION	DATE	

8 INCH WATERMAIN PROFILE
 STA. 9+00 TO 16+10

600' SCALE MAP NO. S25-W25 BLOCK NO. 8

SYLVAN LANE WATER AND SEWER EXTENSIONS

CAPITAL PROJECT No. W-8230
 CONTRACT No. 14-3820
 ELECTION DISTRICT ELLICOTT CITY No. 2

SCALE AS SHOWN
 SHEET 5 OF 8
 FILE NAME: M:\1999\019180\ENV7

SEQUENCE OF CONSTRUCTION

1. Install temporary sediment erosion control measures.
2. Install temporary concrete traffic barrier
3. Clear and grub side slope.
4. Saw cut roadway, excavate and waste existing pavement.
5. Install stabilized construction entrance.
6. Excavate and waste existing fill and insitu materials to depths shown on plans, including stabilized construction entrance.
7. Bench cut slope as shown on cross section.
8. Excavate and install subdrain.
9. Install geonet drainage composite fabric.
10. Backfill with CR-6 material in 8-inch loose lifts and compact area to pavement subgrade.
11. Remove temporary traffic barriers, remove remaining pavement and excavate to grades shown on plans. Then backfill to pavement subgrade.
12. Repave to match current pavement elevation.
13. Topsoil, install erosion control matting (TRM), seed and mulch side slope.
14. Install weathering steel guardrail.
15. With inspector's approval, remove temporary sediment control measures. Stabilize any resulting disturbances.

Subgrade Preparation

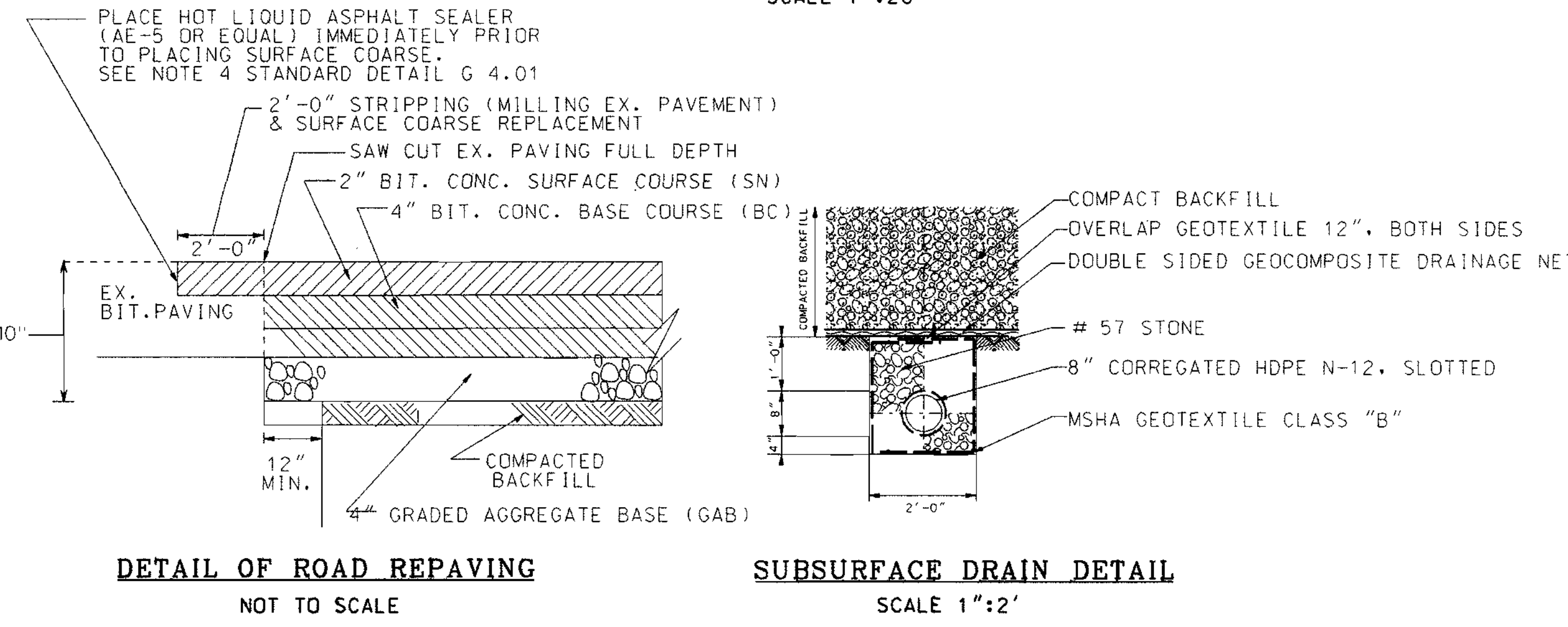
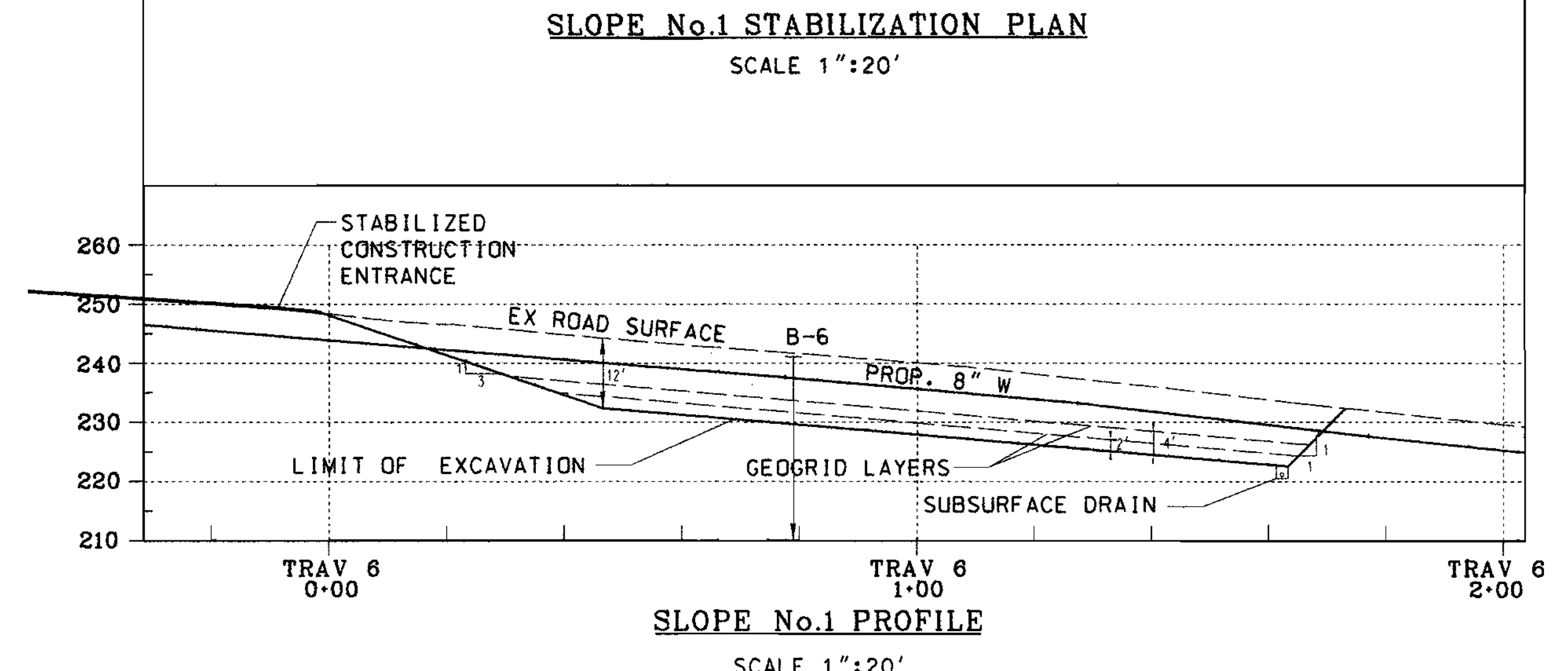
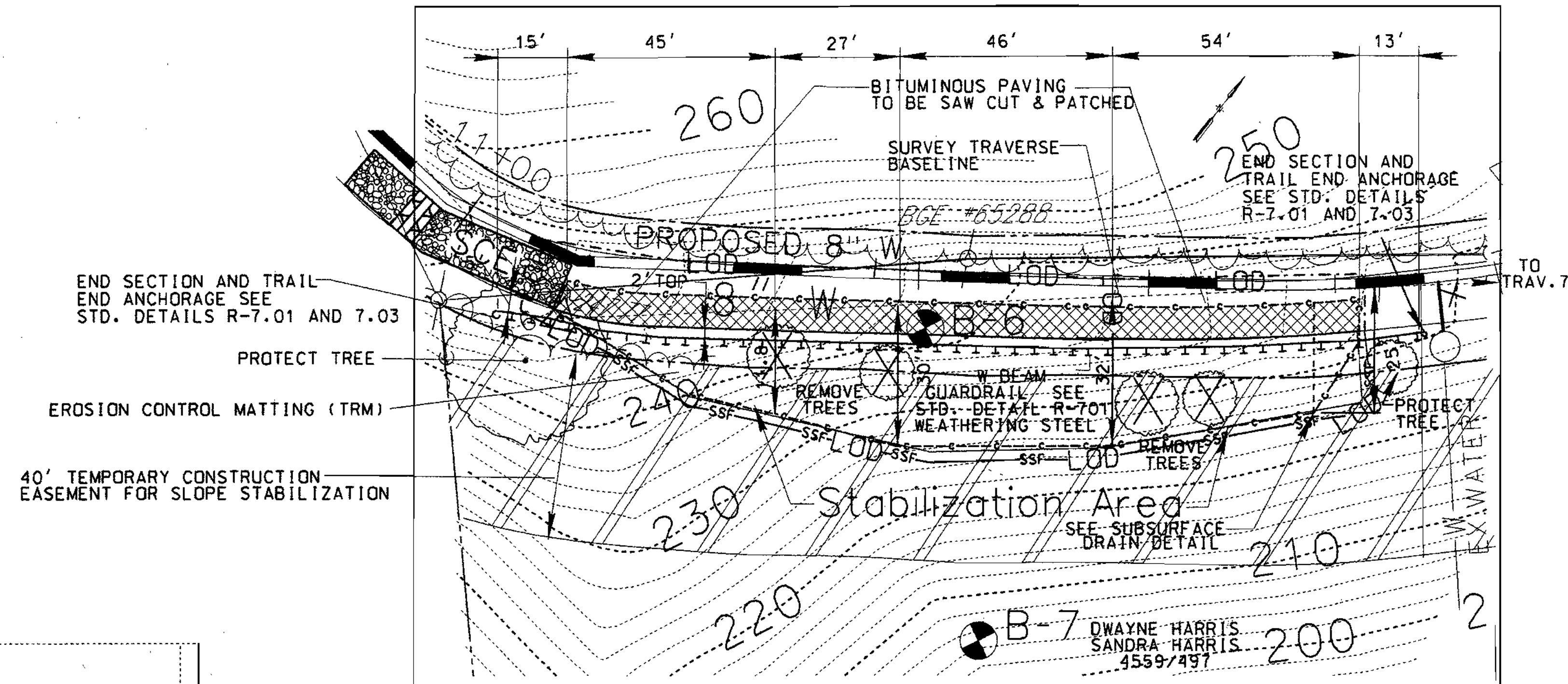
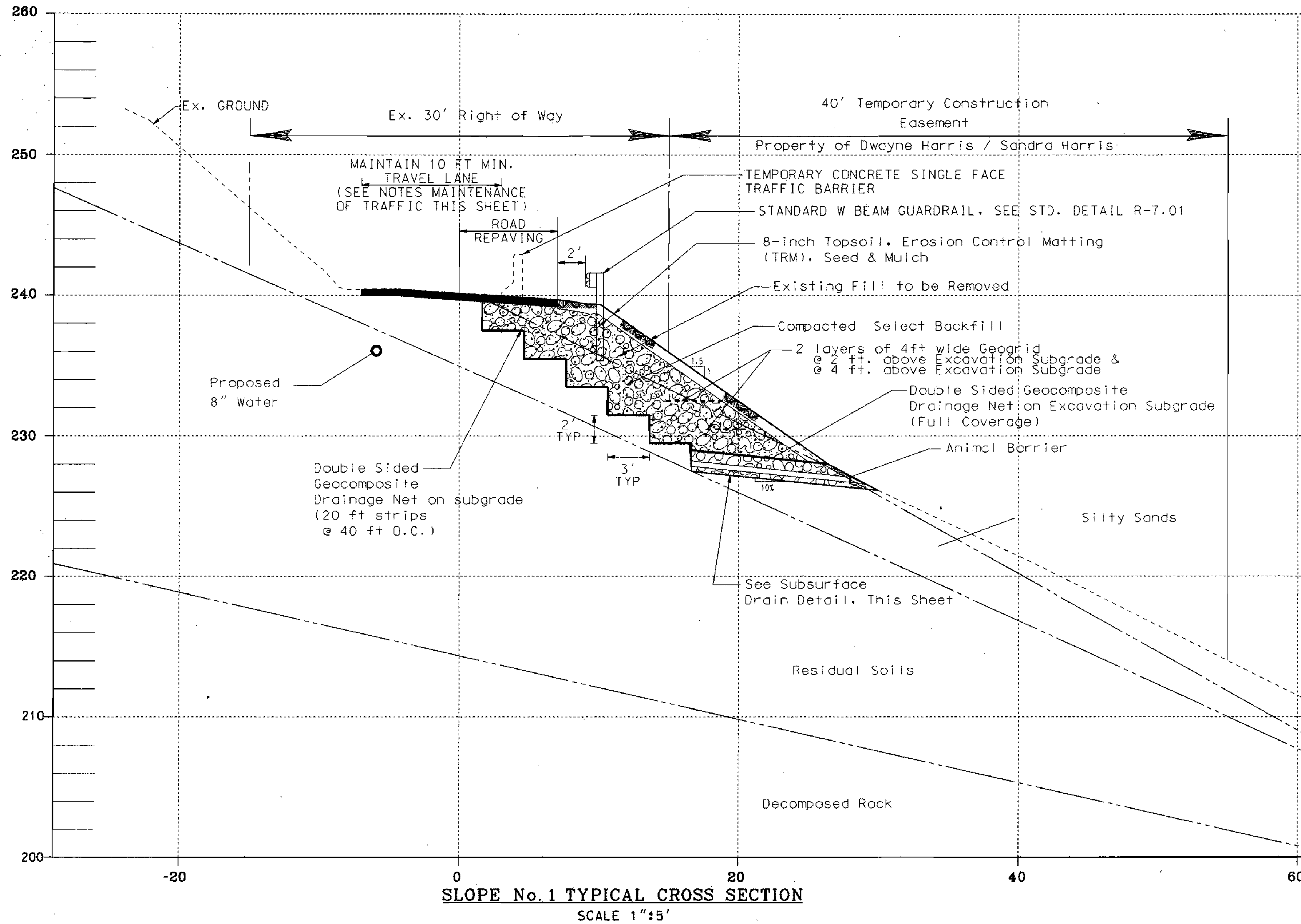
1. Proofroll excavated subgrade for weak zones.
1. Place fill in maximum 8-inch loose lifts.
2. Compact each lift to 95% of maximum dry density in accordance with ASTM 1557-90 and /or AASHTO T-180 at a moisture content of +/- 2 percent optimum.

Animal Barrier

1. DRILL AND PLACE 4 No. 4 REBARS IN THE END OF HPDE UNDERDRAIN PIPING.
2. PLACE REBAR IN A EVENLY SPACED CROSSING PATTERN TO COVER THE OPENING TO THE UNDERDRAIN

MAINTENANCE OF TRAFFIC NOTES

1. A 10 FOOT MINIMUM TRAVEL LANE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AT ALL TIMES.
2. EXCAVATION FOR THE TOP BENCH SHALL NOT BE UNDER TAKEN UNTIL BACKFILLING OPERATIONS HAVE REACHED 2 FEET FROM FINAL GRADE. ONLY THEN CAN THE REMAINING PAVEMENT AND TRAFFIC BARRIERS BE REMOVED.
3. ONCE THE TRAFFIC BARRIERS HAVE BEEN REMOVE. A 8 FOOT MINIMUM TRAVEL LANE MUST BE MAINTAINED DURING WORKING HOURS AND AT THE END OF EACH WORKING DAY A 10 FOOT MINIMUM TRAVEL LANE MUST BE SAFELY PROVIDED.



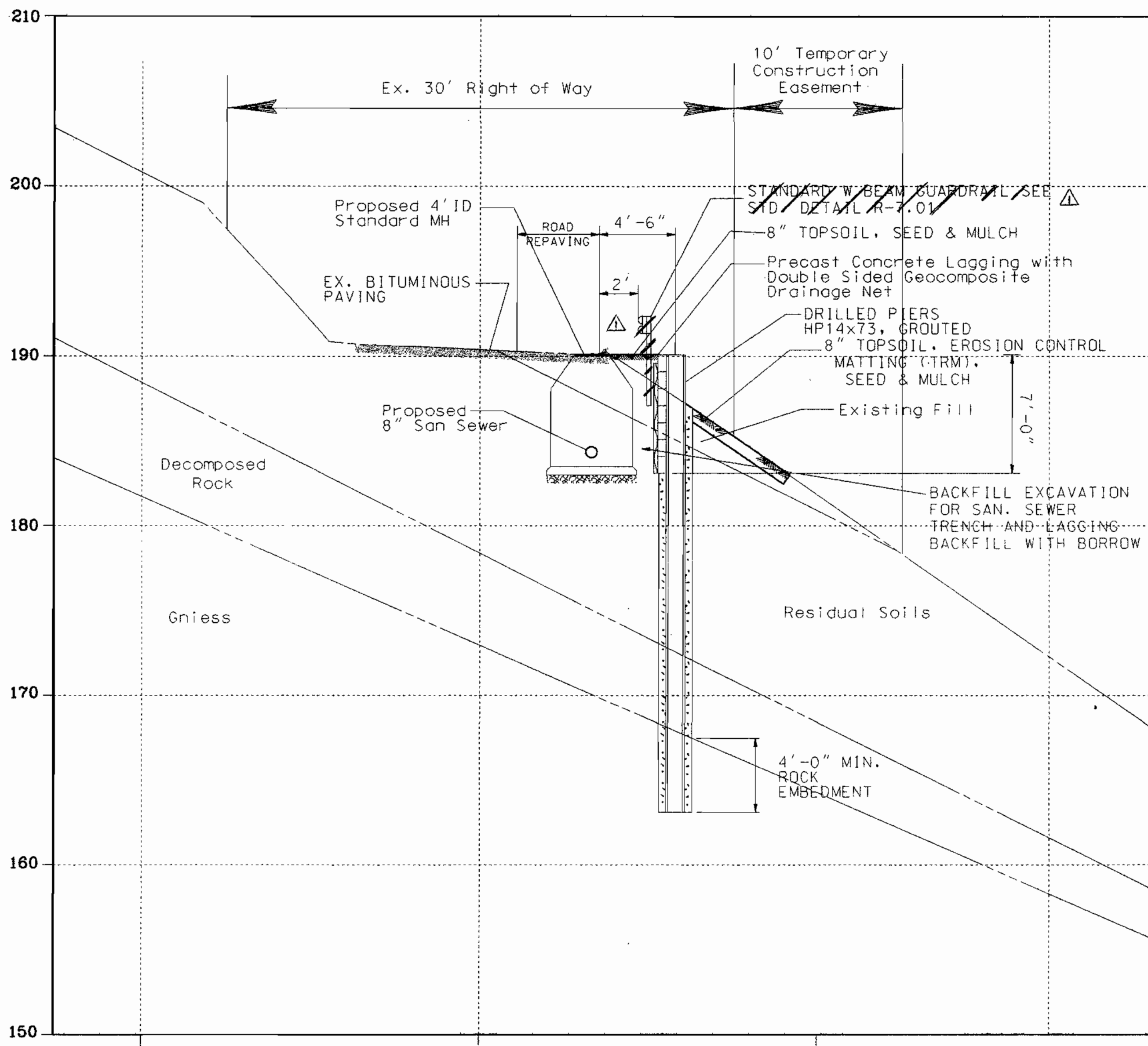
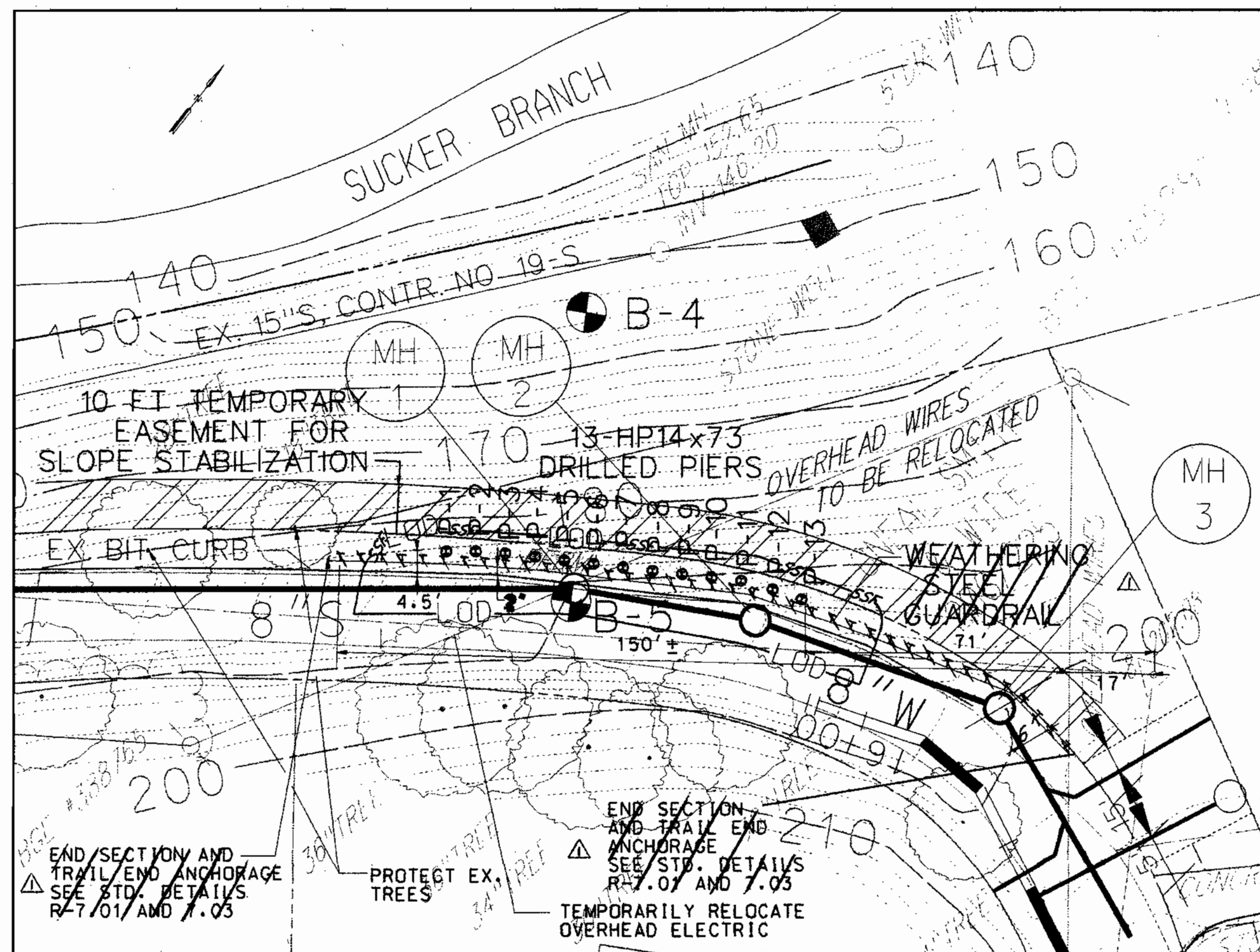
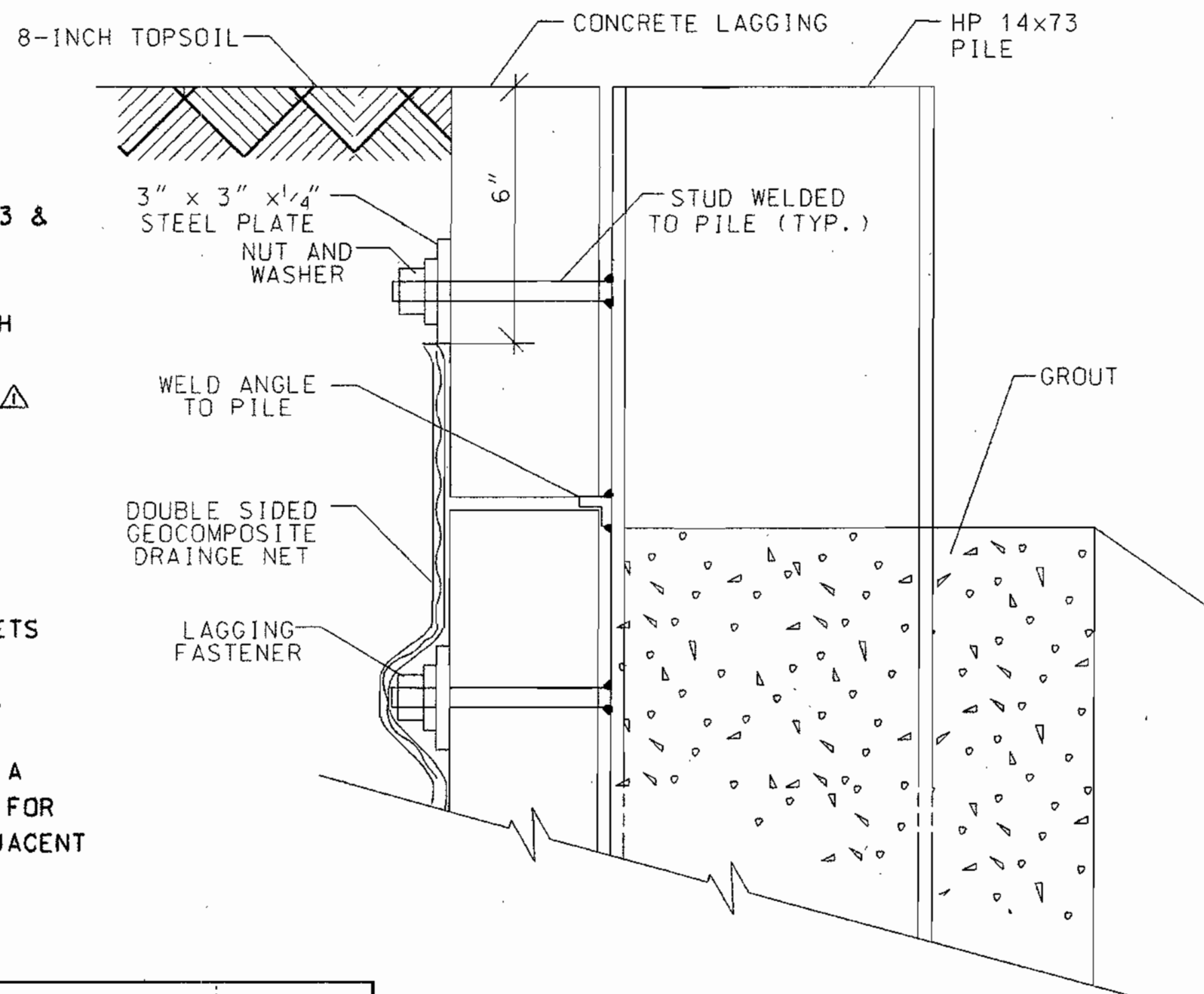
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>James P. Lee</i> 7/13/00 Chief, Bureau of Engineering: <i>Robert J. ...</i> 7/11/00 Chief, Bureau of Utilities: <i>...</i> 7-11-00		ENGINEERS AND PLANNERS 10 NORTH PARK DRIVE HUNT VALLEY, MD. 21030-1888 (410) 316-7800 State of Maryland Professional Engineer Seal: <i>Edward C. ...</i>		DES: EMK BOG DRN: BOG CHK: EAS DATE 4/00		SLOPE STABILIZATION PLANS AND DETAILS SLOPE NO. 1 600' SCALE MAP NO. S25.V25 BLOCK NO. 8		SYLVAN LANE WATER AND SEWER EXTENSIONS CAPITAL PROJECT No. W-8230 CONTRACT No. 14-3820 ELECTION DISTRICT ELLICOTT CITY No. 2		SCALE AS SHOWN SHEET 6 OF 8
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SEQUENCE OF CONSTRUCTION

1. TEMPORARILY RELOCATE OVERHEAD POWER LINES (BY OTHERS)
2. INSTALL TEMPORARY SEDIMENT CONTROL MEASURES
3. DRILL HOLES / PLACE PILES / GROUT PILES IN PLACE
4. SAW CUT PAVEMENT AND EXCAVATE TRENCH FOR PROPOSED 8" SAN. SEWER TO THE FACE OF THE HP PILE
5. REMOVE GROUT TO EXPOSE PILE FACE
6. WELD MOUNTING BRACKETS TO EXPOSED PILE FACE
7. INSTALL LAGGING AND GEOCOMPOSITE DRAINAGE NET
8. BACKFILL EXCAVATION AND COMPACT TO 1FT MINIMUM OVER TOP OF THE SEWER PIPE.
9. EXCAVATE TRENCH FOR SAN. SEWER PIPE.
10. INSTALL SAN. SEWER PIPE
11. PLACE AND COMPACT SELECT BACKFILL.
12. REPLACE BITUMINOUS CURBING AND PAVEMENT, SEE STANDARD DETAILS R-303 & ROAD REPAVING DETAIL, SHEET 6 OF 8
13. PLACE TOPSOIL, INSTALL EROSION CONTROL MATTING (TRM), SEED & MULCH DISTURBED AREAS
14. INSTALL WEATHERING STEEL GUARDRAIL WITH INSPECTOR'S APPROVAL, REMOVE TEMPORARY SEDIMENT CONTROL MEASURES.

NOTES

1. CONCRETE LAGGING AND MOUNTING BRACKETS SHALL BE DESIGNED TO SUPPORT 400 PSF HORIZONTALLY AND 250 PSF VERTICALLY.
2. DRILLED PIERS SHALL BE INSTALLED IN A STAGGERED PATTERN. GROUT SHALL CURE FOR 24 HOURS BEFORE AUGERING FOR THE ADJACENT PILES.



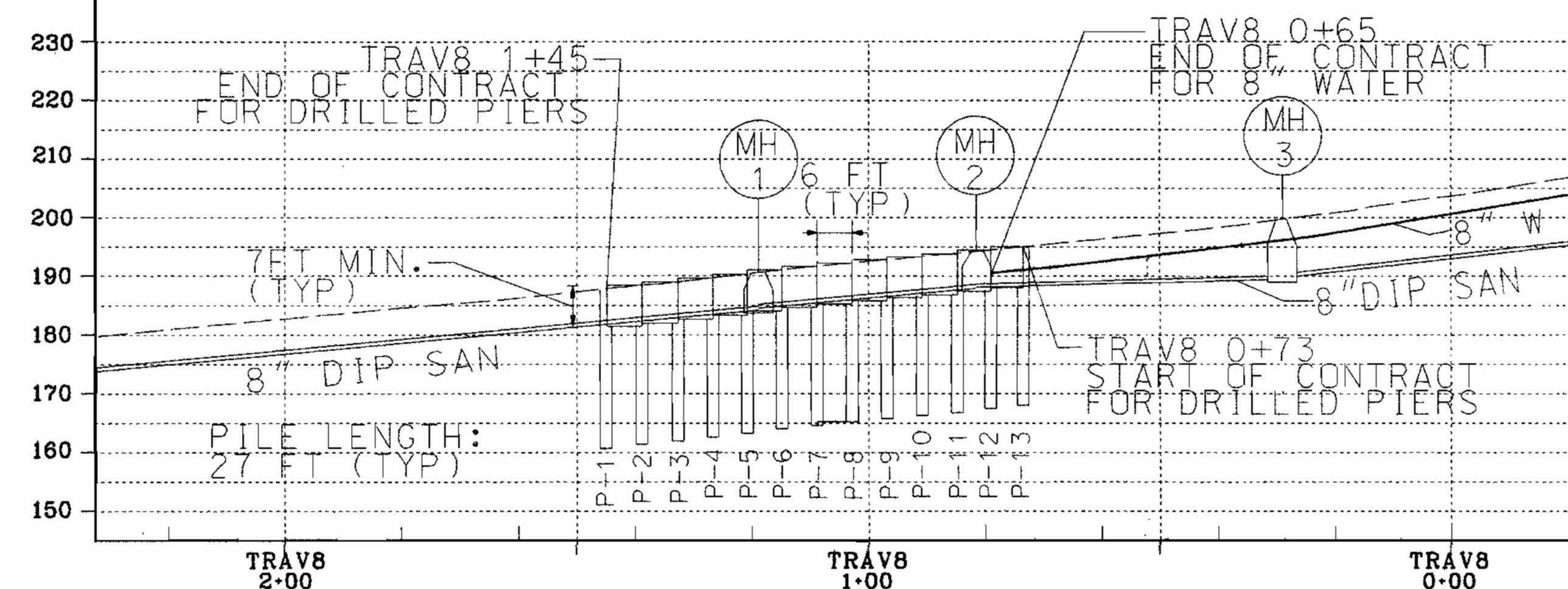
SLOPE No. 2 TYPICAL CROSS SECTION
SCALE: 1"=5'

RETAINING WALL PROFILE
NOT TO SCALE

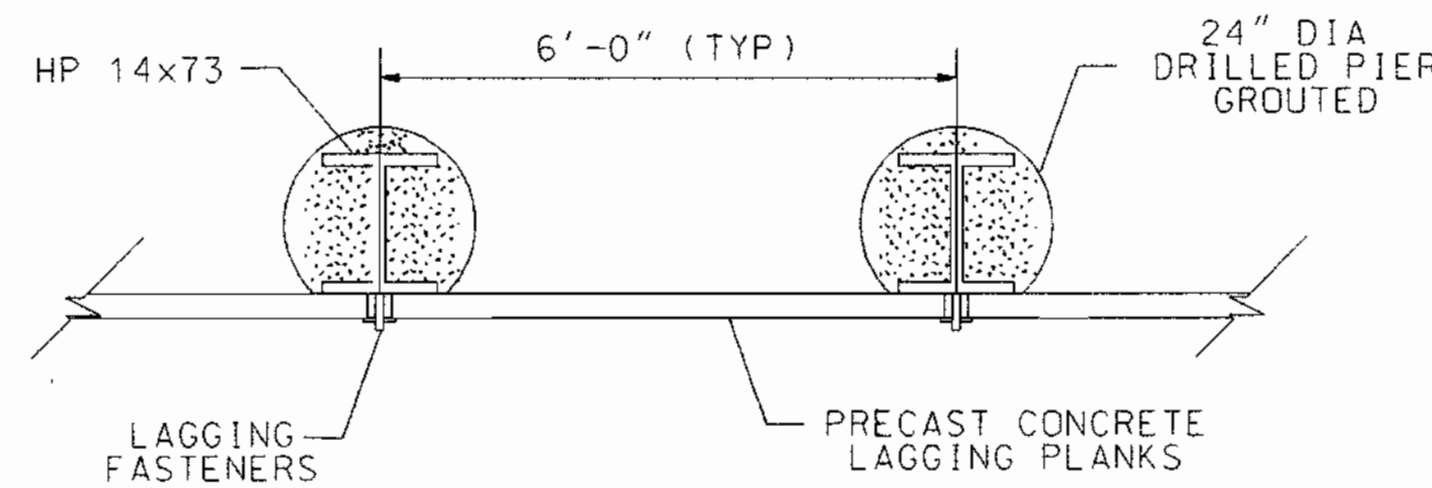
ESTIMATED PILE LENGTHS

PILE No.	HEAD ELEV.	TIP ELEV.
P-1	184.50	157.50
P-2	184.75	157.75
P-3	185.25	158.25
P-4	186.00	159.00
P-5	186.75	159.75
P-6	187.75	160.75
P-7	188.25	161.25
P-8	189.00	162.00
P-9	189.50	162.50
P-10	190.50	163.50
P-11	191.00	164.00
P-12	192.50	165.50
P-13	193.50	166.50

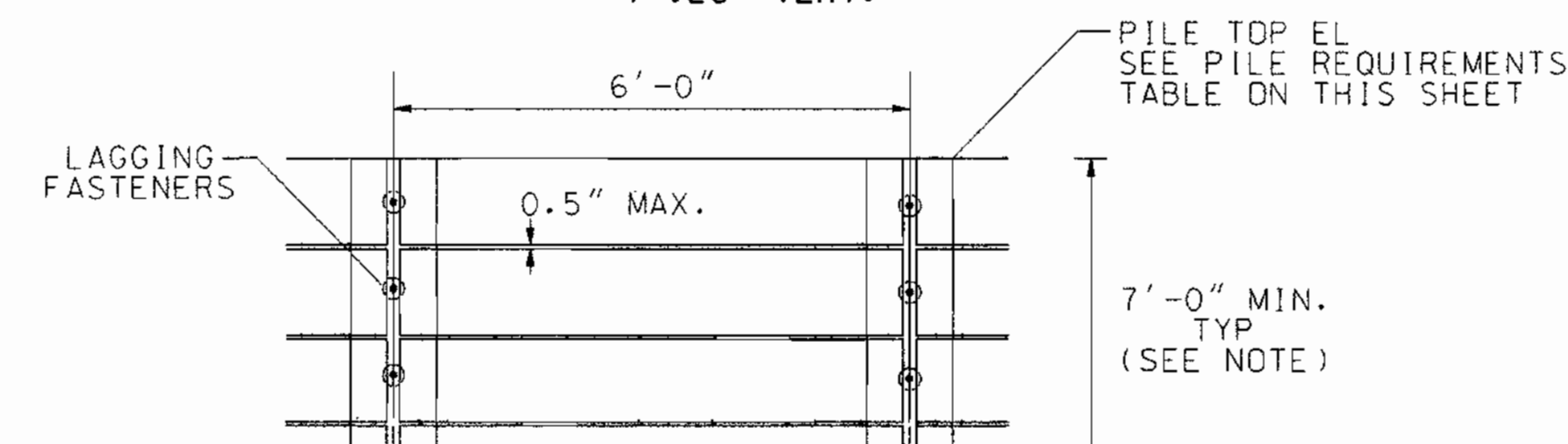
SLOPE No. 2 STABILIZATION PLAN
SCALE 1"=20'



SLOPE No. 2 PROFILE
SCALE 1"=20' HORIZ.
1"=20' VERT.



RETAINING WALL PLAN
SCALE: 1"=1'



RETAINING WALL ELEVATION
SCALE 1"=1'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works
Michael S. ...
Chief, Bureau of Utilities

ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MD. 21030-1888
(410) 316-7800



DES:	EMK	BDG
DRN:	BDG	
CHK:	EAS	
DATE:	4/00	

**SLOPE STABILIZATION
PLANS and DETAILS
SLOPE NO. 2**

SYLVAN LANE WATER AND SEWER EXTENSIONS
CAPITAL PROJECT No. W-8230
CONTRACT No. 14-3820
ELECTION DISTRICT ELLICOTT CITY No. 2

600' SCALE MAP NO. S25, W25 BLOCK NO. 8

SCALE AS SHOWN
SHEET 2 OF 8

