
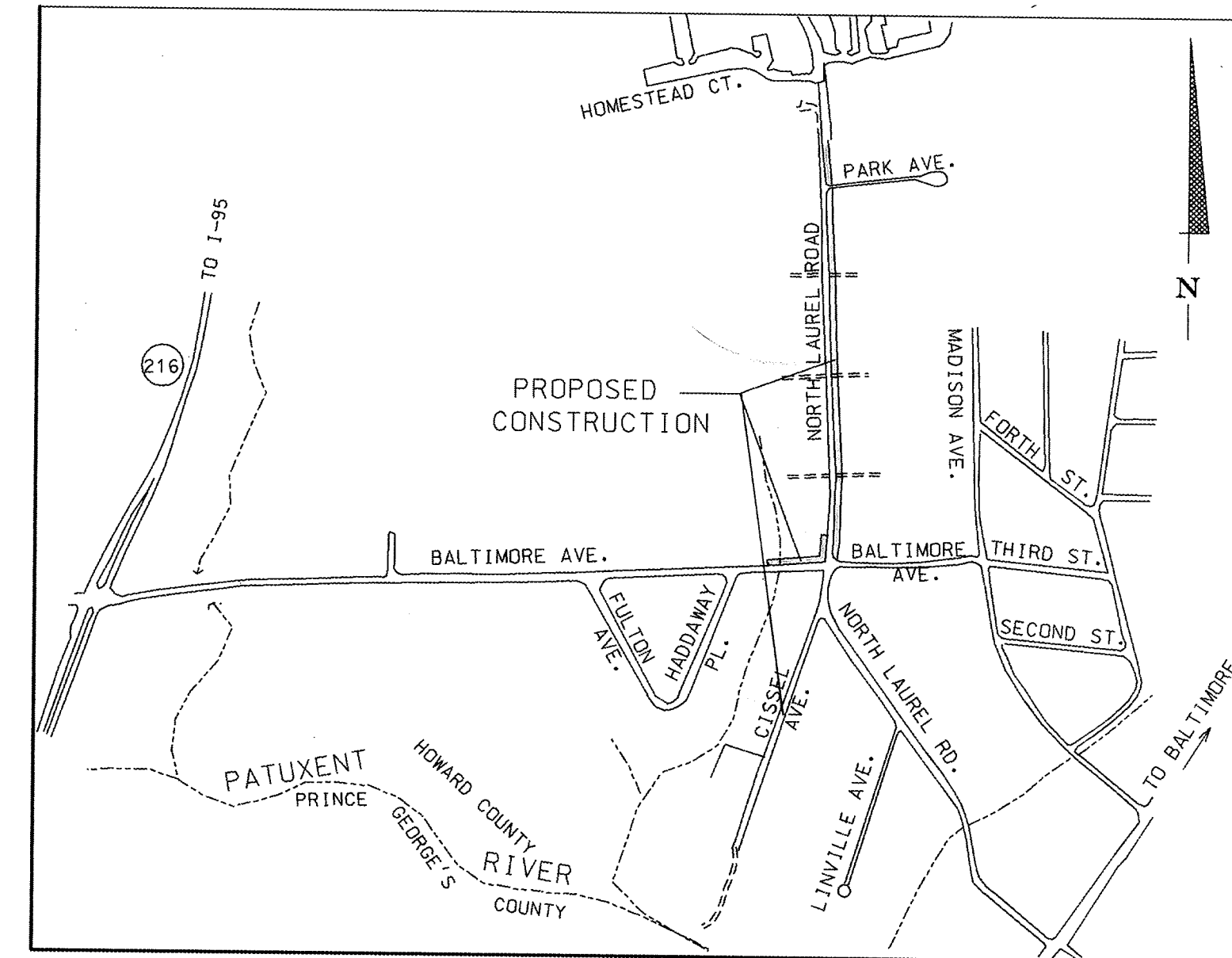


GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN HEREON:  
MISS UTILITY 1-800-257-7777  
BALTIMORE GAS & ELECTRIC CO., UNDERGROUND ELECTRICAL DISTRIBUTION ENGINEERING DAMAGE CONTROL 234-6313  
BALTIMORE GAS & ELECTRIC CO., UNDERGROUND GAS DISTRIBUTION ENGINEERING 234-5533  
CHESAPEAKE AND POTOMAC TELEPHONE CO. 725-9976  
COLONIAL PIPELINE COMPANY 781-4641  
HOWARD COUNTY BUREAU OF UTILITIES 313-4900  
HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION 313-1870  
HOWARD COUNTY TRAFFIC DIVISION 313-2430  
HOWARD COUNTY SURVEYING AND DRAFTING DIVISION 313-2417
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- SURVEY OF THE SITE WAS PERFORMED BY EBA ENGINEERING IN JUNE, 1991.
- COORDINATES AND ELEVATIONS ARE BASED ON HOWARD COUNTY CONTROL STATION NOS. 2139003, 2139004 AND 2139005.
- WETLANDS WERE DELINEATED BY HUMAN & RODHE, INC. ON JUNE 28, 1993.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 FOR UNDERGROUND UTILITY LOCATIONS AT LEAST FIVE (5) DAYS PRIOR TO COMMENCING WORK SHOWN ON THE PLANS.
- ALL TOP ELEVATIONS FOR THE PROPOSED INLETS AND MANHOLES ARE APPROXIMATE AND ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER. WHERE THE PROPOSED STORM DRAINS CROSS VEGETATED AREAS, POSITIVE DRAINAGE SHALL BE MAINTAINED AND THE TOP ELEVATIONS ADJUSTED AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ALL EXISTING DRIVEWAYS DAMAGED DURING CONSTRUCTION.
- TREES ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES LOCATED OUTSIDE THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ON THESE PLANS ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION BEFORE STARTING CONSTRUCTION. NEITHER THE ENGINEER NOR THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS WARRANT OR GUARANTEE THE COMPLETENESS OR THE CORRECTNESS OF THE INFORMATION SHOWN.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES. ANY DAMAGE DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. CLEAR ALL UTILITIES BY A MINIMUM OF 6 INCHES.
- TEST PITS SHALL BE DUG AT ALL UTILITY CROSSINGS TO DETERMINE EXISTING HORIZONTAL AND VERTICAL ALIGNMENT OF UTILITIES. TEST PITS SHALL BE DUG A SUFFICIENT AMOUNT OF TIME IN ADVANCE OF THE CONSTRUCTION OR TRENCHING OPERATION TO ALLOW FOR NECESSARY ADJUSTMENTS.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL . THE RESULTS OF THE TEST PITS ARE SHOWN ON THE STORM DRAIN PROFILES. FOR MORE INFORMATION CONTACT HOWARD COUNTY OFFICE.
- ALL UTILITY POLES MUST BE CLEARED BY FIVE (5) FEET. IF THE STORM DRAIN PIPING OR STRUCTURE WORK IS WITHIN FIVE (5) FEET OF A UTILITY POLE, THE POLE IS TO BE BRACED OR RELOCATED. RELOCATION OR BRACING OF UTILITY POLES WILL BE DONE BY OTHERS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR FURNISHING AND LAYING STORM DRAIN PIPE.
- EXISTING WATER HOUSE SERVICES THAT ARE IN CONFLICT WITH THE PROPOSED STORM DRAINAGE FACILITIES SHALL BE ADJUSTED BY THE CONTRACTOR.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, THE CONTRACTOR SHALL ABIDE BY THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" AND THE SPECIAL PROVISIONS. IN THE EVENT OF ANY DISCREPANCY BETWEEN THESE TWO SOURCES, THE LATTER SHALL GOVERN.
- EXISTING FENCES, MAILBOXES, SIGNS, WALKWAYS AND SHRUBS DISTURBED BY THE WORK SHALL BE RECONSTRUCTED OR REPLACED IN KIND. EXISTING MANHOLES MUST BE ADJUSTED TO MEET PROP. GRADE.
- ALL SLOPES AND/OR DISTURBED AREAS SHALL RECEIVE TWO (2) INCH DEPTH OF TOPSOIL AND SODDING EXCEPT WHERE OTHERWISE INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- LOCATION POINTS FOR INLETS, MANHOLES AND STRUCTURES:  

ITEM	HORIZONTAL LOCATION	VERTICAL LOCATION
CURB /COMB. INLETS	CENTER OF STRUCTURE	TOP OF CURB
TYPE "D" INLETS	CENTER OF STRUCTURE	TOP OF COVER
MANHOLES	CENTER OF STRUCTURE	TOP OF COVER
ENDWALLS	CENTER OF WALL	TOP OF WALL
- THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN VICINITY OF UTILITIES. COST SHALL BE INCLUDED IN THE UNIT PRICES BID FOR STORM DRAIN ITEMS.
- ALL INVERTS SHALL BE FULLY DEVELOPED.
- TRENCH EXCAVATION SHALL BE LIMITED TO LENGTHS THAT CAN BE BACKFILLED AND STABILIZED IN ONE WORKING DAY.
- THERE IS A POSSIBILITY THAT HIGH GROUNDWATER MAY BE ENCOUNTERED WHEN EXCAVATING FOR INSTALLATION OF THE CLOSED STORM DRAIN SYSTEM, CONTRACTOR TO TAKE PROVISION TO WORK UNDER THOSE CONDITIONS

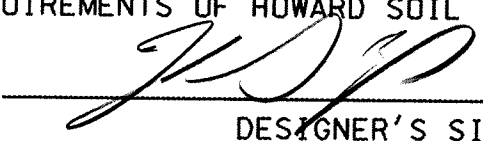


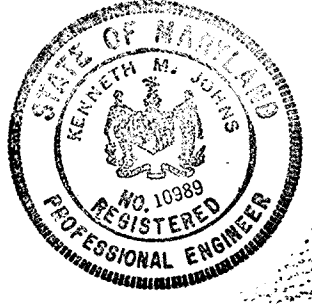
SCALE: 1" = 600'

CAPITAL PROJECT No. D - 1099  
 PHASE I  
 NORTH LAUREL PARK  
 HOWARD COUNTY, MARYLAND  
 DEPARTMENT OF PUBLIC WORKS

DESIGN CERTIFICATE

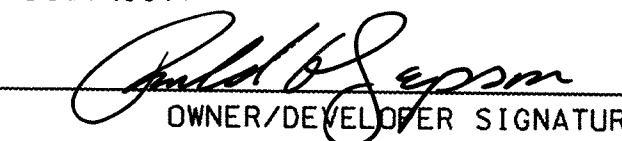
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.

4/2/96 DATE  
 DESIGNER'S SIGNATURE  
 MARYLAND REGISTRATION NO. 10989 (P.E., R.L.S., OR R.L.A.)  
 Kenneth M. Johns PRINTED NAME



OWNER'S/DEVELOPER'S CERTIFICATION

"I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND 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.

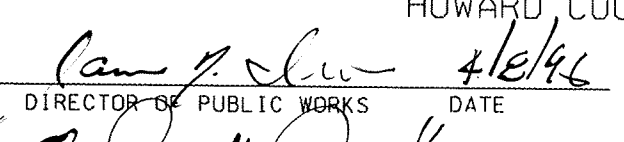
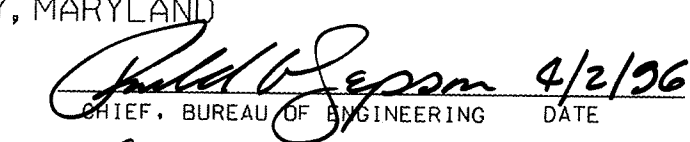
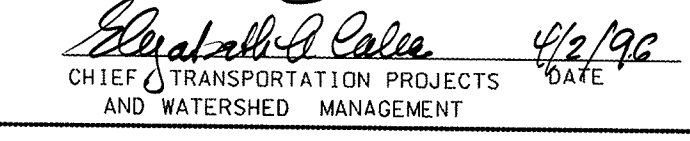
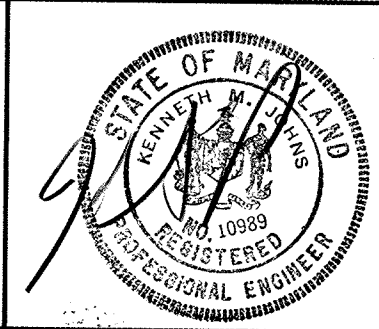
4/2/96 DATE  
 OWNER/DEVELOPER SIGNATURE  
 Ronald G. Lepson, Chief, Bureau of Engineering PRINTED NAME AND TITLE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

 4/20/96 DATE  
 NATURAL RESOURCES CONSERVATION SERVICE

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

APPROVED:  4/20/96 DATE  
 HOWARD SOIL CONSERVATION DISTRICT

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND  4/2/96 DATE DIRECTOR OF PUBLIC WORKS  4/2/96 DATE CHIEF, BUREAU OF HIGHWAYS  4/2/96 DATE CHIEF, BUREAU OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT	EBA ENGINEERING, INC. 5800 METRO DRIVE BALTIMORE, MARYLAND 21215 (410) 358-7171 	DES: L.C. DRN: JDP CHK: L.C. DATE: FEB 15, 1996 BY NO. REVISION DATE	TITLE SHEET 600' SCALE MAP NO. 50 BLOCK NO. 3	DRAINAGE SYSTEM IMPROVEMENT PROGRAM CAPITAL PROJECT No. D-1099 HOWARD COUNTY, MARYLAND CONTRACT No. ELECTION DISTRICT No. 6	NO SCALE SHEET 1 OF 6
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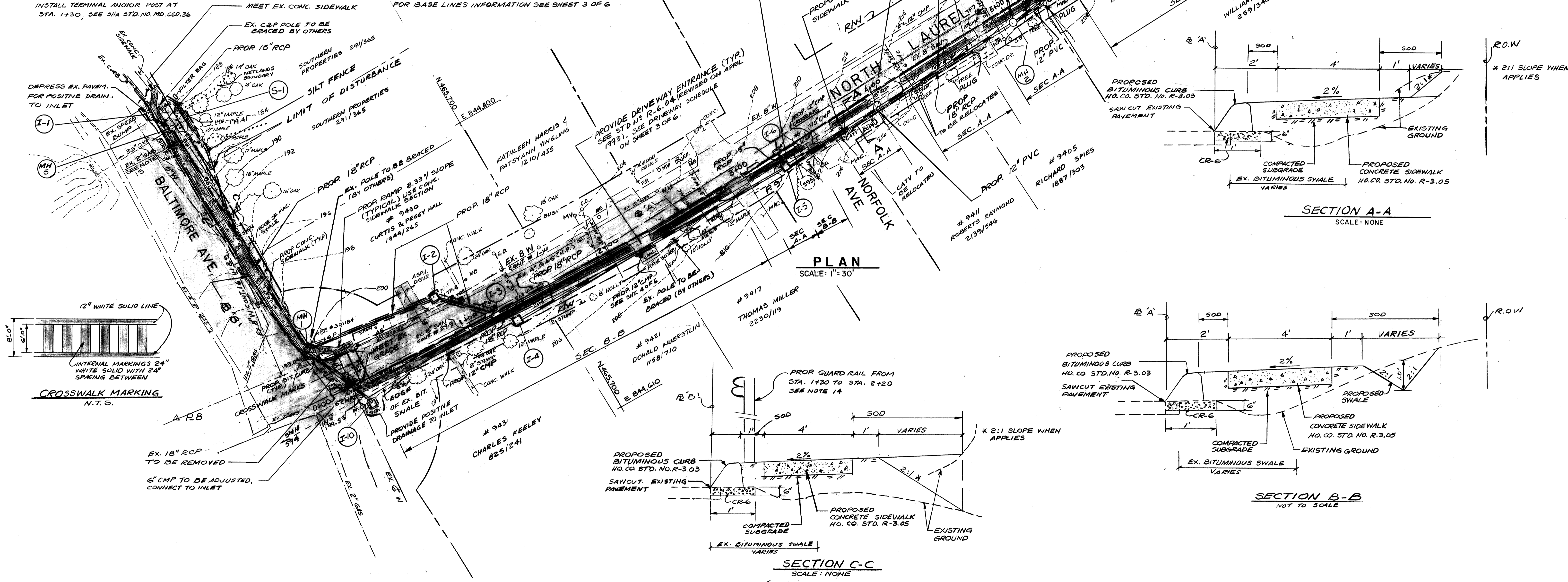
**NOTES:**

- 1.- PROVIDE STANDARD DRIVEWAY ENTRANCE TO EX. DRIVEWAYS ON THE EAST SIDE OF N. LAUREL RD. WITHIN THE LIMIT OF DISTURBANCE. SEE HO. CO. STD. NO. R-6.04.
- 2.- AT ROADWAY INTERSECTIONS ON THE EAST SIDE OF N. LAUREL RD. PROVIDE STANDARD ENTRANCE HO. CO. STD. NO. R6.04. DO NOT PROVIDE 1.5" LIP AT INTERS.
- 3.- PROVIDE 15' RADIUS AT ALL INTERSECTIONS
- 4.- ADJUST TOP OF WATER METERS, VALVE BOXES, CLEAN OUTS, MANHOLES, AND OTHER UTILITIES AFFECTED BY THE IMPROVEMENTS UNDER THIS CONTRACT
- 5.- FOR RUNOFF DIVERSION AT BALTIMORE AVE. WHEN WORKING AT THE EXISTING 36" CMP CULVERT, REFER TO PIPE DIVERSION DETAIL ON SHEET 5 OF 6.
- 6.- PROVIDE CONCRETE HEADERS IN SIDEWALK AS REQUIRED (SEE NOTE G OF HO. CO. STD. NO. R-3.05)
- 7.- CONTRACTOR IS TO WORK DIRECTLY WITH THE CABLE TV COMPANY TO RELOCATE CATV LINES AS NECESSARY.
- 8.- PROPOSED 12" PVC TO BE INSTALLED IN SAME TRENCH AND AT THE EAST SIDE OF PROPOSED 18" RCP, PROVIDE 6" HORIZONTAL MINIMUM CLEARANCE.
- 9.- ADJUST EX. 4" CCP PIPES AND CONNECT THEM TO PROPOSED INLET.
- 10.- REMOVE EX. CONCRETE DRIVEWAY AS REQUIRED. RECONSTRUCT DRIVEWAY AS ON ORIGINAL CONDITIONS.
- 11.- CONTRACTOR TO TEST PIT EX. 8" WATER LINE, IF THERE IS ANY CONFLICT WITH THE PROPOSED STORM DRAIN SYSTEM, MOVE INLET TO PROVIDE A 5' MINIMUM HORIZONTAL CLEARANCE, & 1' MINIMUM VERTICAL CLEARANCE. GRADE TO PROVIDE POSITIVE DRAINAGE TO INLET. REMOVE EX. 12" CMP AS NECESSARY TO INSTALL INLET, PROVIDE BULKHEAD WITH MASONRY BRICK TO REMAINING 12" CMP
- 12.- PROPOSED STANDARD ENTRANCES AT DRIVEWAYS AND ROAD INTERSECTIONS TO BE OF SAME WIDTH AS ON EXISTING CONDITIONS.
- 13.- EX. 2 GAS LINE TO BE RELOCATED FROM STA. 1+00 TO STA. 2+35 @ B'. (BY OTHERS)
- 14.- PROPOSED GUARD RAIL W/ BEAM, FROM STA. 1+30 TO STA. 2+20 OF @ B'. SEE SHA STD. NO. MD. 660.01. INSTALL TERMINAL ANCHOR POST AT STA. 1+30. SEE SHA STD. NO. MD. 660.36

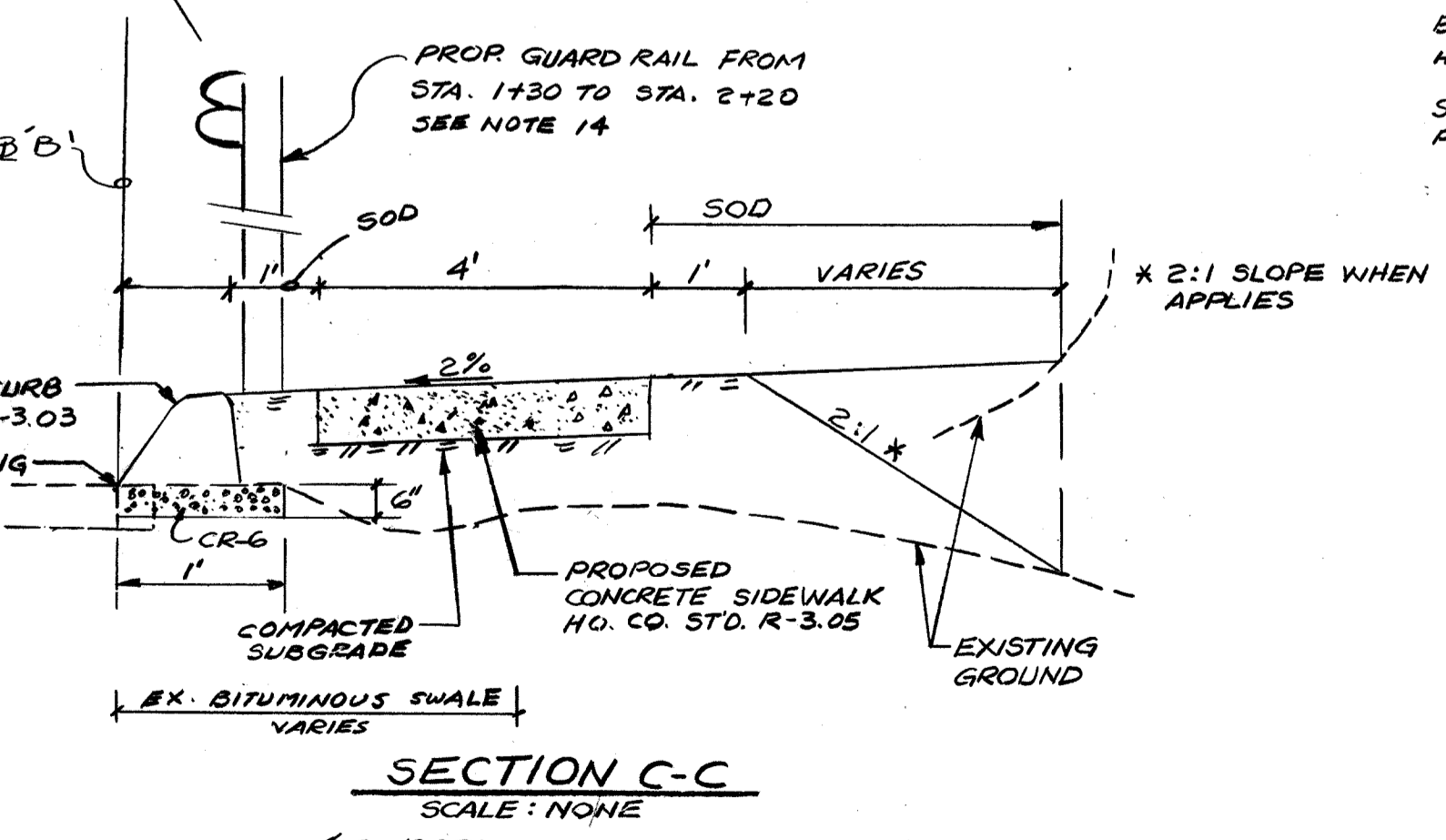
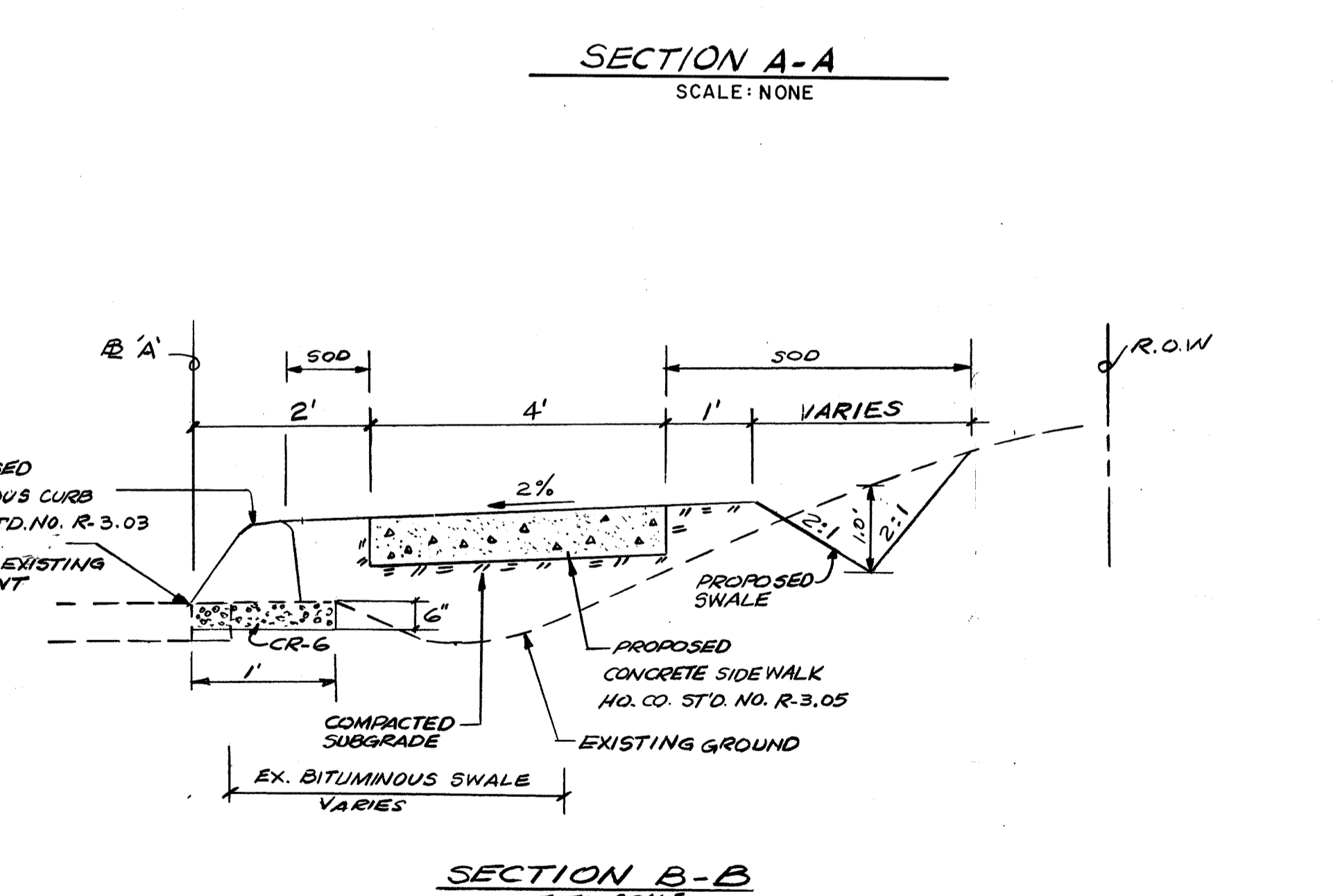
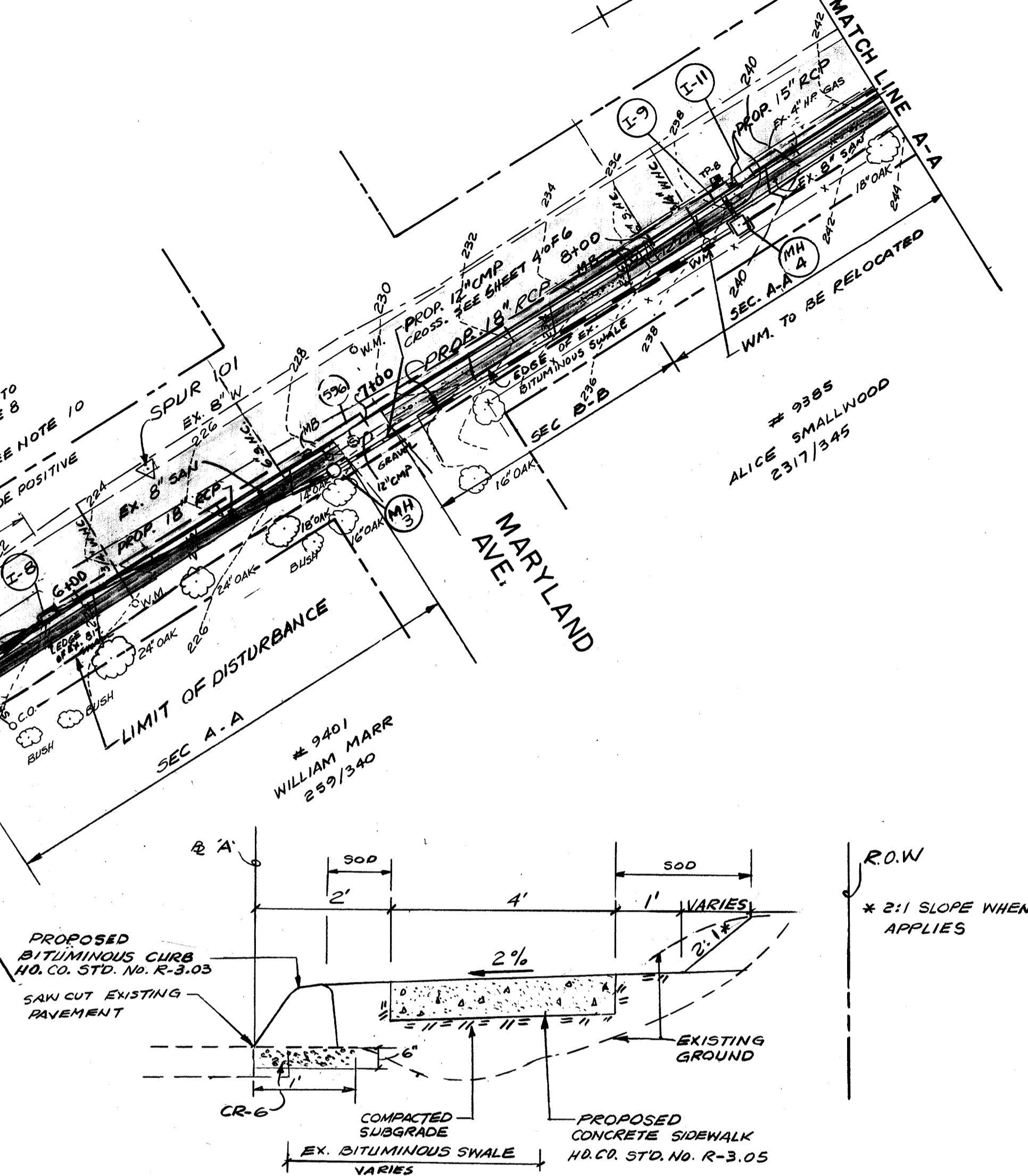
STRUCTURE SCHEDULE						
NO.	TYPE	INV. IN	INV. OUT	TOP EL.	LOCATION	REMARKS
I-1	DOUBLE TYPE S COMB. INLET	—	185.75	189.00	STA. 2+18 @ B'	HO. CO. STD. NO. SD. 4.34
I-2	TYPE "D" INLET	194.56	194.36	202.65	STA. 0+88.30, 27.5' LT. @ A'	HO. CO. STD. NO. SD. 4.11. OPEN @ NORTH SIDE
I-3	"A-5" INLET	196.89	196.12	204.00	STA. 1+17.30, 0.92' RT. @ A'	HO. CO. STD. NO. SD. 4.01
I-4	TYPE "D" INLET	197.46	197.25	203.30	STA. 1+28.30, 10.0' RT. @ A'	HO. CO. STD. NO. SD. 4.11. OPEN @ NORTH SIDE
I-5	TYPE "D" INLET	204.50	204.28	210.05	STA. 3+27.25, 10.0' RT. @ A'	HO. CO. STD. NO. SD. 4.11. OPEN @ NORTH SIDE
I-6	"E COMB." INLET	—	205.80	209.85	STA. 3+27.25, 0.63' LT. @ A'	HO. CO. STD. NO. SD. 4.31
MH-2	STANDARD MANHOLE	214.15	213.91	219.30	STA. 4+192.75, 10.0' RT. @ A'	HO. CO. STD. NO. SD. G 5.12
I-7	TYPE "D" INLET	—	215.60	**	STA. 5+10.25, 26.0' LT. @ A'	HO. CO. STD. NO. SD. 4.11. OPEN @ NORTH SIDE * SEE NOTE 11
I-8	"E COMB." INLET	219.80	219.60	223.40	STA. 5+89.90, 0.63' LT. @ A'	HO. CO. STD. NO. SD. 4.31
MH-3	STANDARD MANHOLE	224.00	223.80	229.00	STA. 6+83.85, 9.0' RT. @ A'	HO. CO. STD. NO. SD. G 5.12
MH-4	STANDARD MANHOLE	234.52	232.50	239.10	STA. 8+23.85, 10.0' RT. @ A'	HO. CO. STD. NO. SD. G 5.12
I-9	"E COMB." INLET	235.00	234.80	238.90	STA. 8+23.85, 0.63' LT. @ A'	HO. CO. STD. NO. SD. 4.31
MH-1	STORM DRAIN MH	192.70	192.50	200.20	STA. 0+33.50, 4.0' RT. @ B'	HO. CO. STD. NO. G. 5.01
I-10	TYPE "D" INLET	—	194.00	201.80	STA. 0+21.00, 16.5' RT. @ A'	HO. CO. STD. NO. SD. 4.11. OPEN @ WEST/EAST SIDES
S-1	TYPE "C" ENDWALL	—	179.41	—	STA. 2+01.50, 20.0' RT. @ B'	HO. CO. STD. NO. SD. 5.21
MH-5	STANDARD MANHOLE	183.50	179.30 ±	189.85	STA. 2+01.50, 7.0' RT. @ B'	HO. CO. STD. NO. SD. G 5.12 @ EX. 36" CMP ALIUM.
S-2	CONCRETE END SECTION	164.50	—	—	**	HO. CO. STD. NO. SD. 5.51
I-11	"E COMB." INLET	—	235.50	239.50	STA. 8+32.00, 0.63' LT. @ A'	HO. CO. STD. NO. SD. 4.31

COORDINATES		
POINT	NORTH	EAST
P-8	465,448.135	844,475.898
P-9	465,864.652	844,524.133
SPUR 101	466,178.635	844,479.982
P-10	466,723.430	844,456.917

COORDINATES SHOWN HEREON ARE BASED ON CONTROL POINTS NO.: 1742001, 1742015, 1841001, 1841002. FOR BASE LINES INFORMATION SEE SHEET 3 OF 6



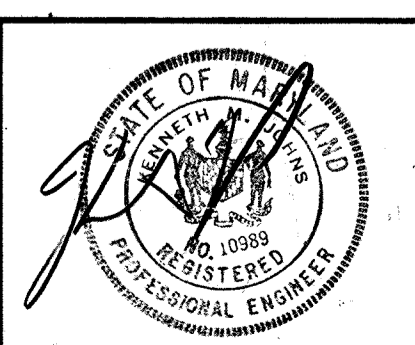
15.- ADJUST EX. CONCRETE WALK @ STA. 0+80 (±) RT. @ A'. PROVIDE NEW CONCRETE STEPS @ STA. 9+98 (±) RT. @ A'.



**DEPARTMENT OF PUBLIC WORKS**  
 HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 4/8/96  
 Chief, Bureau of Engineering: *[Signature]* 4/8/96  
 Chief, Bureau of Highways: *[Signature]* 4/8/96  
 Chief, Transportation Projects and Watershed Management: *[Signature]* 4/8/96

**EBA ENGINEERING, INC.**  
 Consulting Engineers  
 5800 METRO DRIVE  
 BALTIMORE, MARYLAND 21215  
 (410) 358-7171

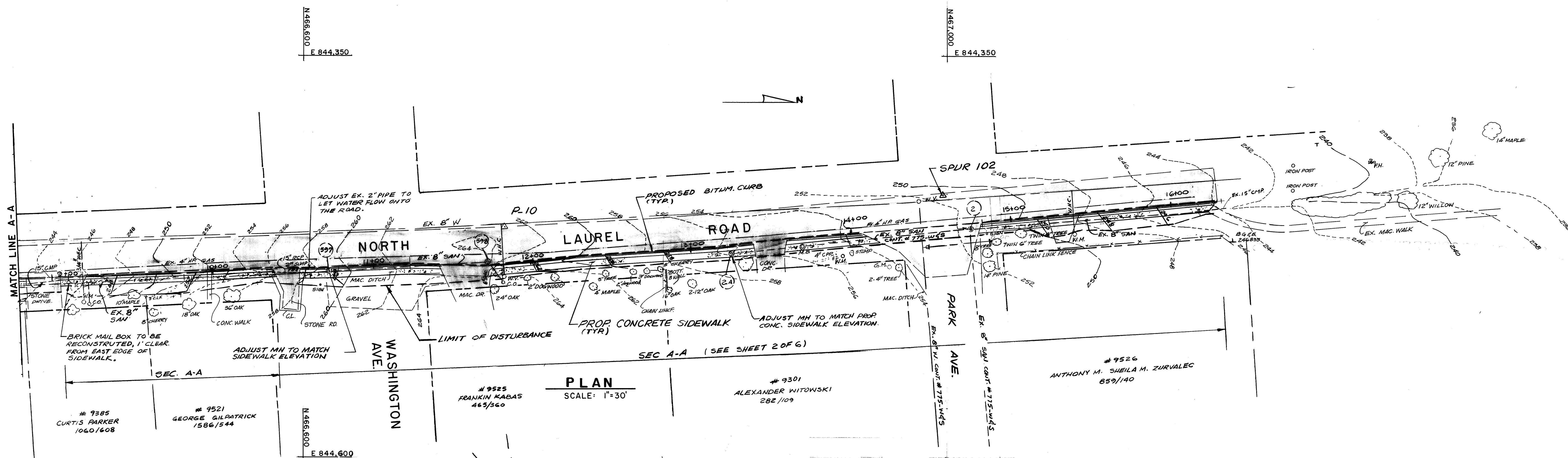


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CHK:	
DATE: 2-15-96	

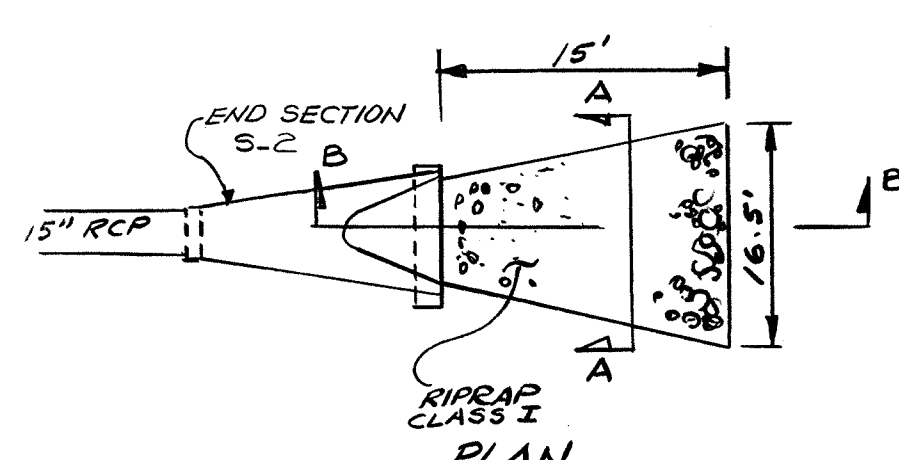
**NORTH LAUREL RD.**  
 PLAN AND EROSION/SEDIMENT CONTROL  
**NORTH LAUREL PARK**

**DRAINAGE SYSTEM IMPROVEMENT PROGRAM**  
 CAPITAL PROJECT NO. D-1099  
 HOWARD COUNTY, MARYLAND  
 CONTRACT NO. PHASE I  
 ELECTION DISTRICT

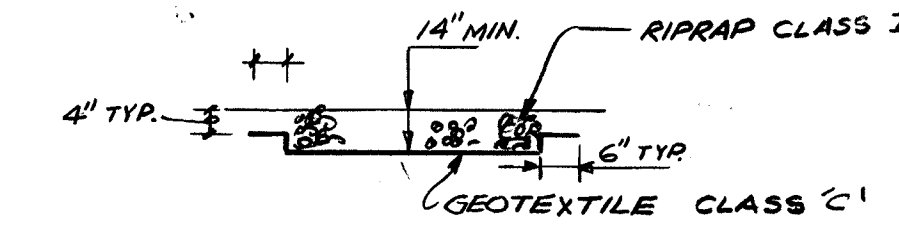
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 SHEET 2 OF 6



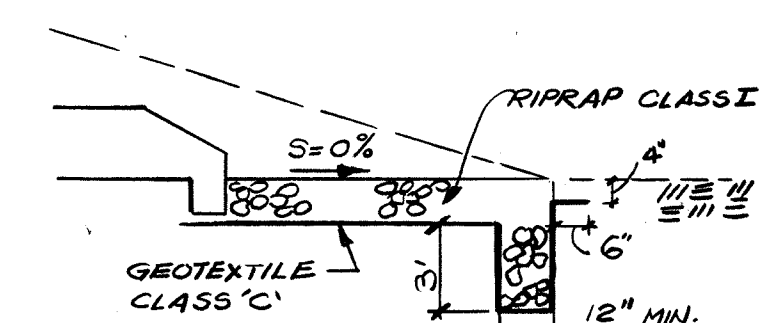
**PLAN**  
SCALE: 1"=30'



**PLAN**

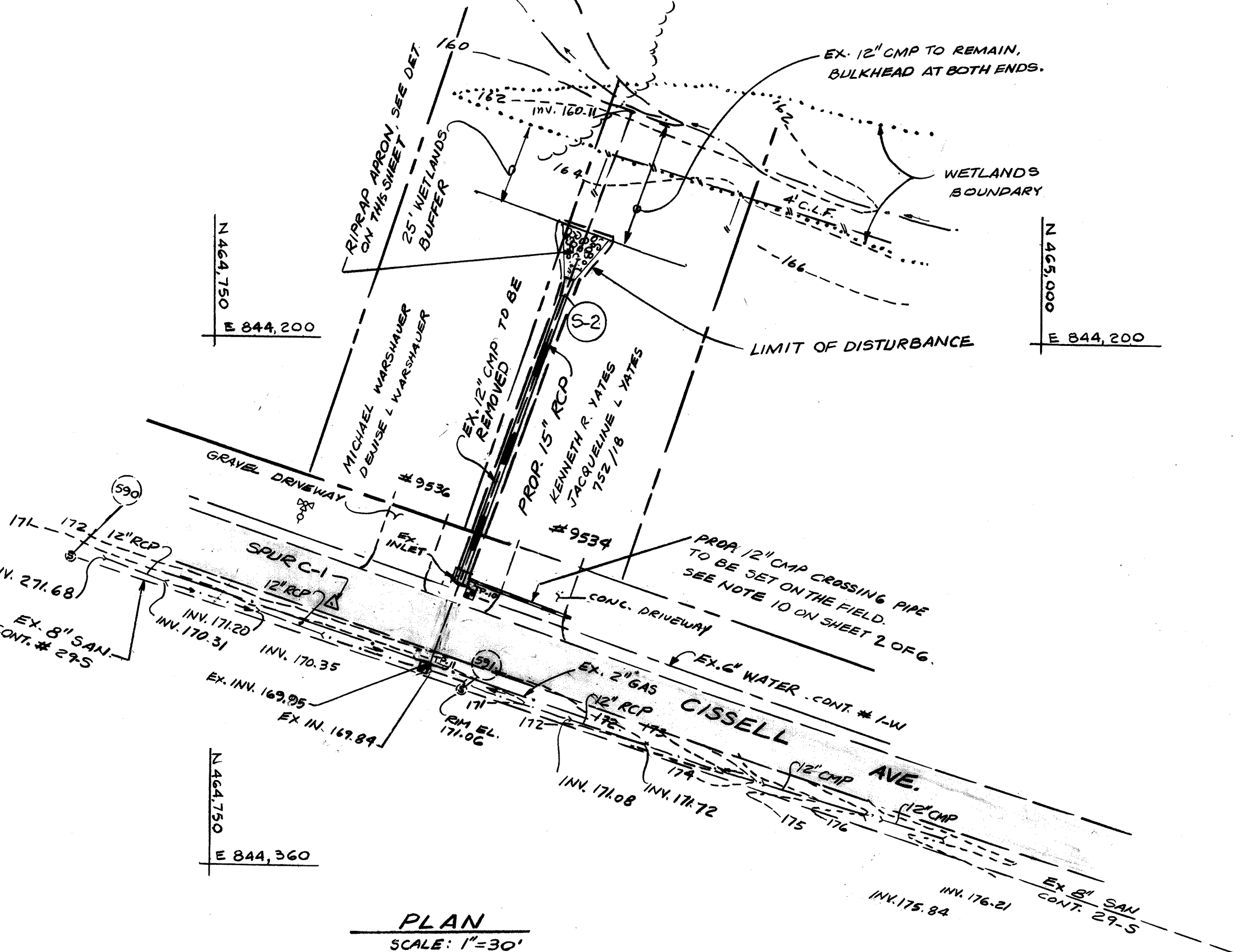


**SECTION A-A**



**SECTION B-B**

**RIPRAP APRON**  
N.T.S.



**PLAN**  
SCALE: 1"=30'

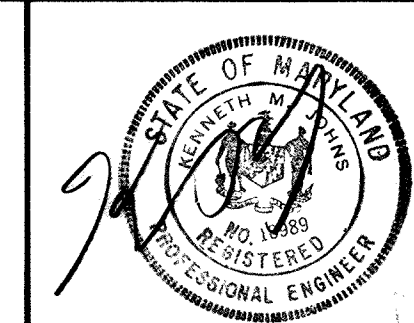
STATION	E COORDINATES		E
	NORTH	EAST	
0+00.00	465,541.874	844,511.727	A, B
0+22.59	465,564.412	844,513.241	A
0+62.79	465,604.524	844,515.937	A
2+29.35	465,771.032	844,520.213	A
3+24.73	465,866.383	844,517.838	A
6+24.24	466,165.488	844,502.174	A
7+05.34	466,246.473	844,497.933	A
11+23.06	466,463.804	844,479.853	A
11+75.58	466,716.314	844,478.916	A
13+22.93	466,863.287	844,468.454	A
14+82.34	467,022.053	844,454.103	A
16+31.26	467,170.250	844,439.450	A
0+66.06	465,534.126	844,446.120	B
1+11.54	465,530.978	844,400.750	B
2+11.29	465,529.942	844,301.002	B
2+50.00	465,529.541	844,262.294	B

E 'A' STATION	LENGTH @ 2.0 %	DRIVEWAY SCHEDULE		REMARKS
		TRANSITION LENGTH	TOTAL LENGTH	
2+20	15.0'	0.0'	15.0'	
2+95	11.0'	0.0'	11.0'	
3+55	10.0'	10.0'	20.0'	NORFOLK AVE.
4+08	8.0'	7.0'	15.0'	
4+78	11.0'	4.0'	15.0'	
5+35	8.0'	7.0'	15.0'	
6+98	10.0'	10.0'	20.0'	MARYLAND AVE.
8+94	8.0'	7.0'	15.0'	
10+48	15.0'	0.0'	15.0'	
11+00	2.0'	0.0'	20.0'	WASHINGTON AVE.
11+58	8.0'	7.0'	15.0'	
13+50	8.0'	7.0'	15.0'	
14+50	10.0'	10.0'	20.0'	PARK AVE.
15+30	7.0'	8.0'	15.0'	

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 4/2/96  
 Chief, Bureau of Engineering: *[Signature]* DATE: 4/2/96  
 Chief, Transportation Projects: *[Signature]* DATE: 4/6/96  
 Chief, Bureau of Highways: *[Signature]* DATE: 4-8-96  
 Chief, Watershed Management: *[Signature]* DATE: 4/6/96

EBA ENGINEERING, INC.  
5800 METRO DRIVE  
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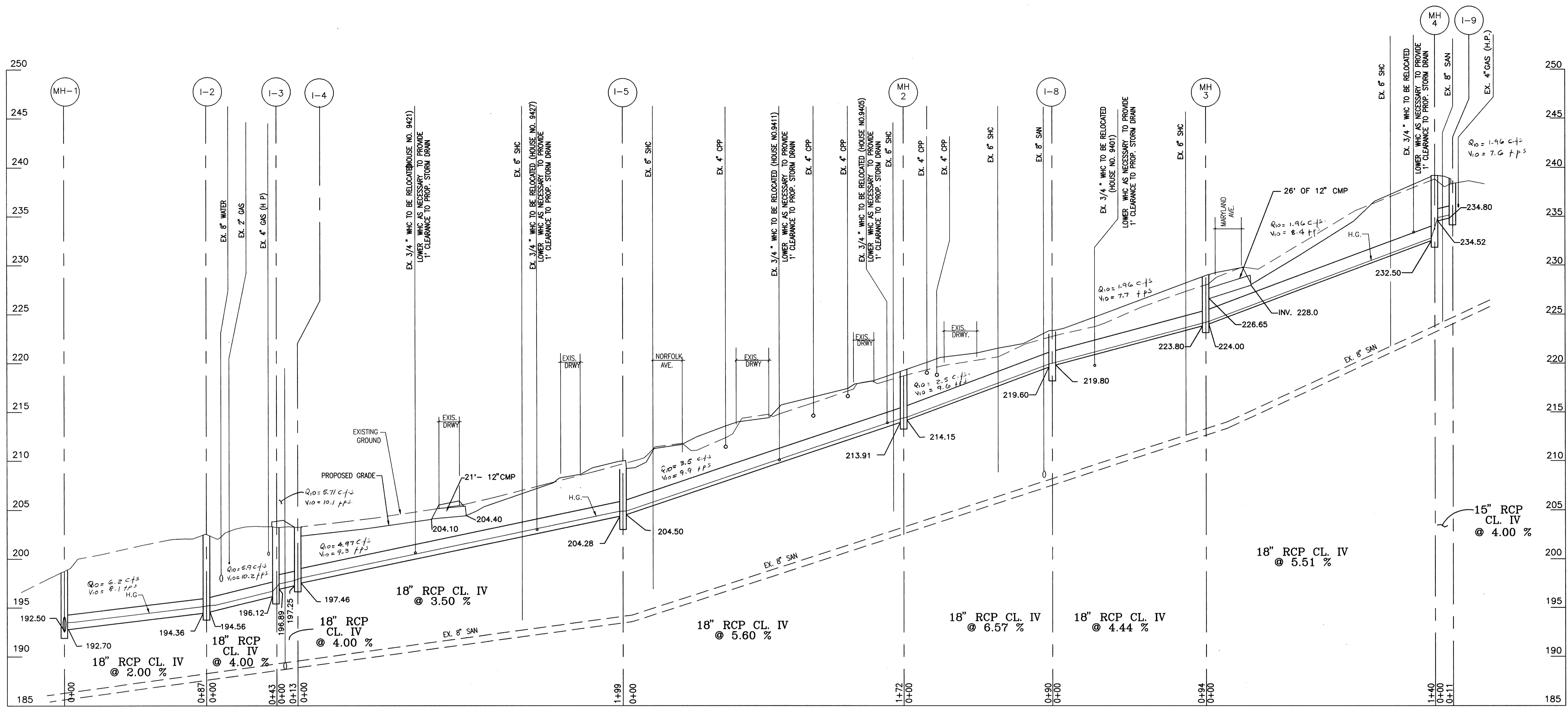


DES: L.C.	
DRN: EB	
CHK:	
DATE: 2-15-96	
BY NO.	
REVISION	
DATE	

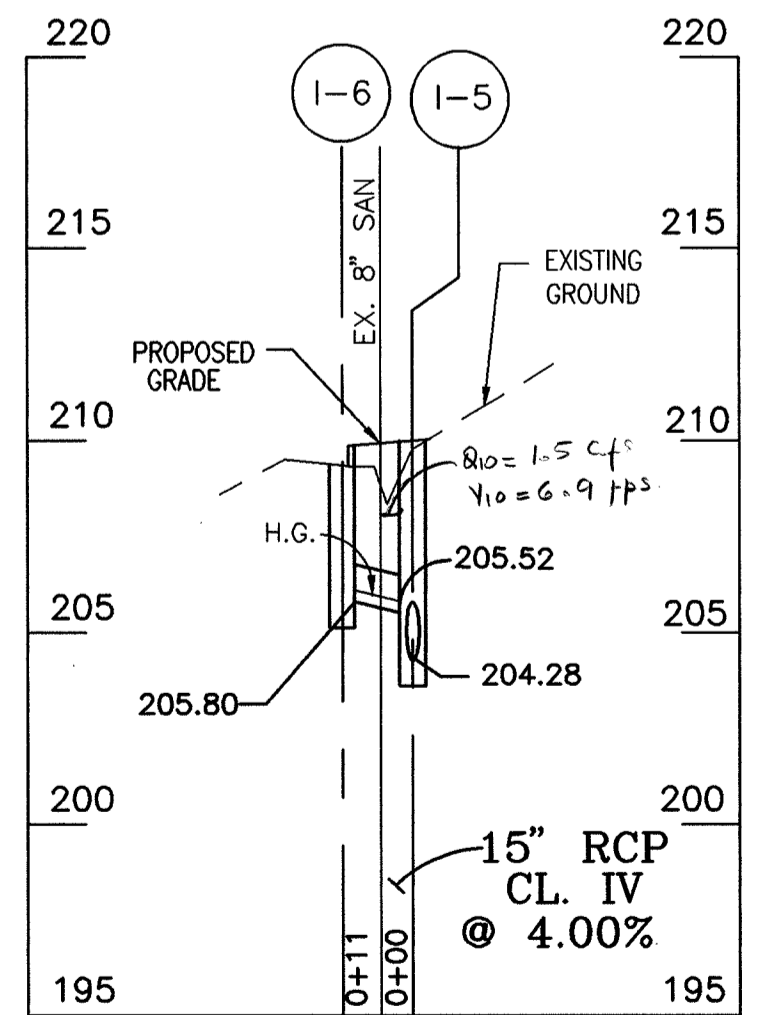
NORTH LAUREL RD. / CISELL AVE.  
PLAN AND EROSION/SEDIMENT CONTROL  
NORTH LAUREL PARK

DRAINAGE SYSTEM IMPROVEMENT PROGRAM  
CAPITAL PROJECT NO. D-1099  
HOWARD COUNTY, MARYLAND  
PHASE I  
ELECTION DISTRICT

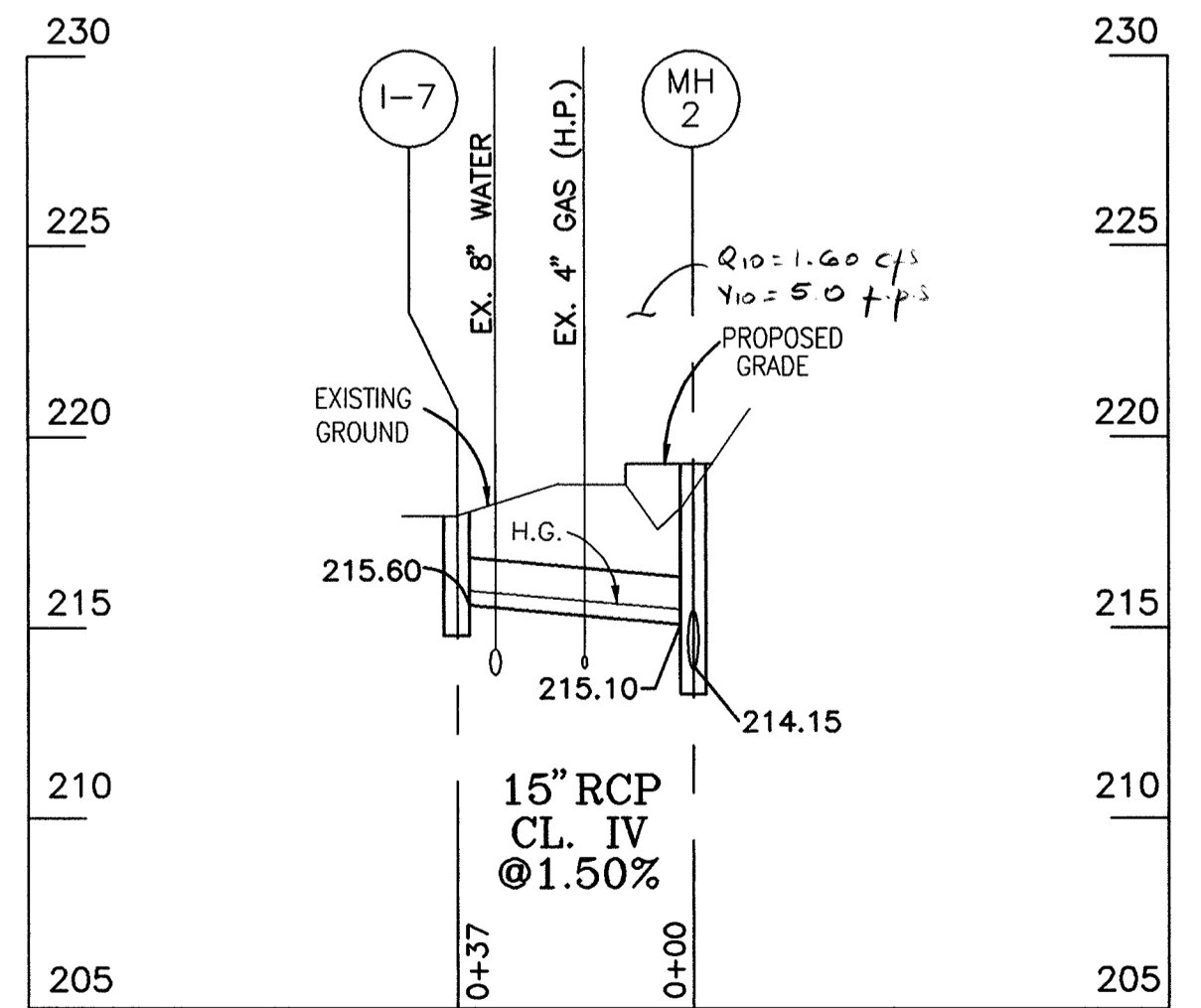
SCALE AS SHOWN  
SHEET 3 OF 6



SCALE: HOR. 1" = 30'  
VER. 1" = 5'



SCALE: HOR. 1" = 30'  
VER. 1" = 5'



SCALE: HOR. 1" = 30'  
VER. 1" = 5'

71

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

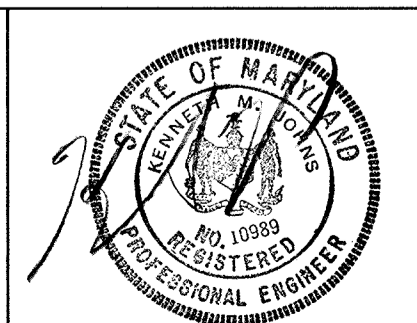
*James P. Lewis* 4/16/96  
DIRECTOR OF PUBLIC WORKS DATE

*Richard M. Daniels* 4-8-96  
CHIEF, BUREAU OF HIGHWAYS DATE

*Richard S. Sapan* 4/2/26  
CHIEF, BUREAU OF ENGINEERING DATE

*Elizabeth A. Carter* 4/2/96  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

EBA ENGINEERING, INC.  
5800 METRO DRIVE  
BALTIMORE, MARYLAND 21215  
(410) 358-7171



DES:	L.C.				
DRN:	JDP				
CHK:	L.C.				
DATE:	FEB, 15 1996	BY NO.		REVISION	

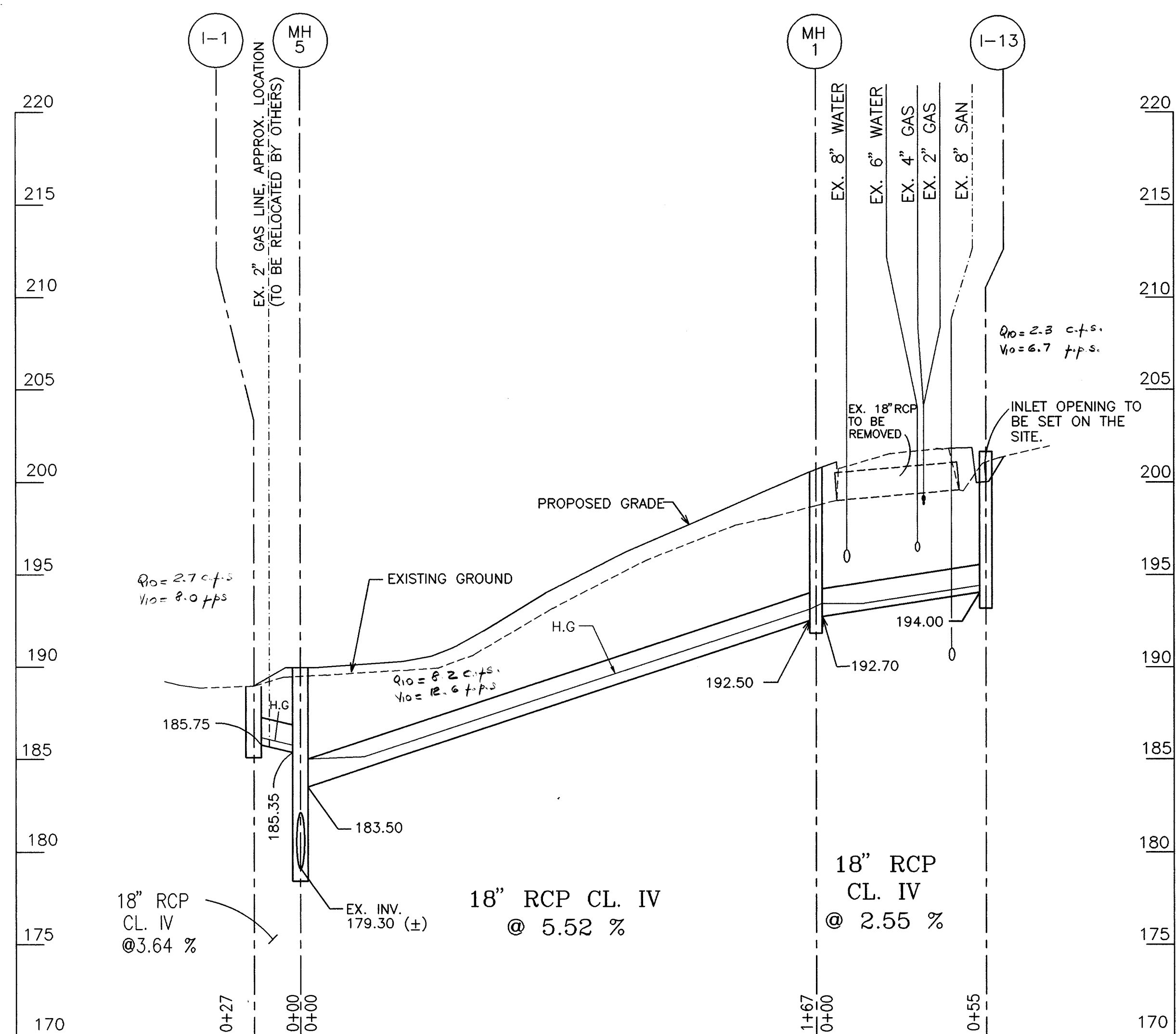
NORTH LAUREL ROAD  
STORM DRAIN PROFILES  
NORTH LAUREL PARK

DATE 600' SCALE MAP NO. 50 BLOCK NO. 3

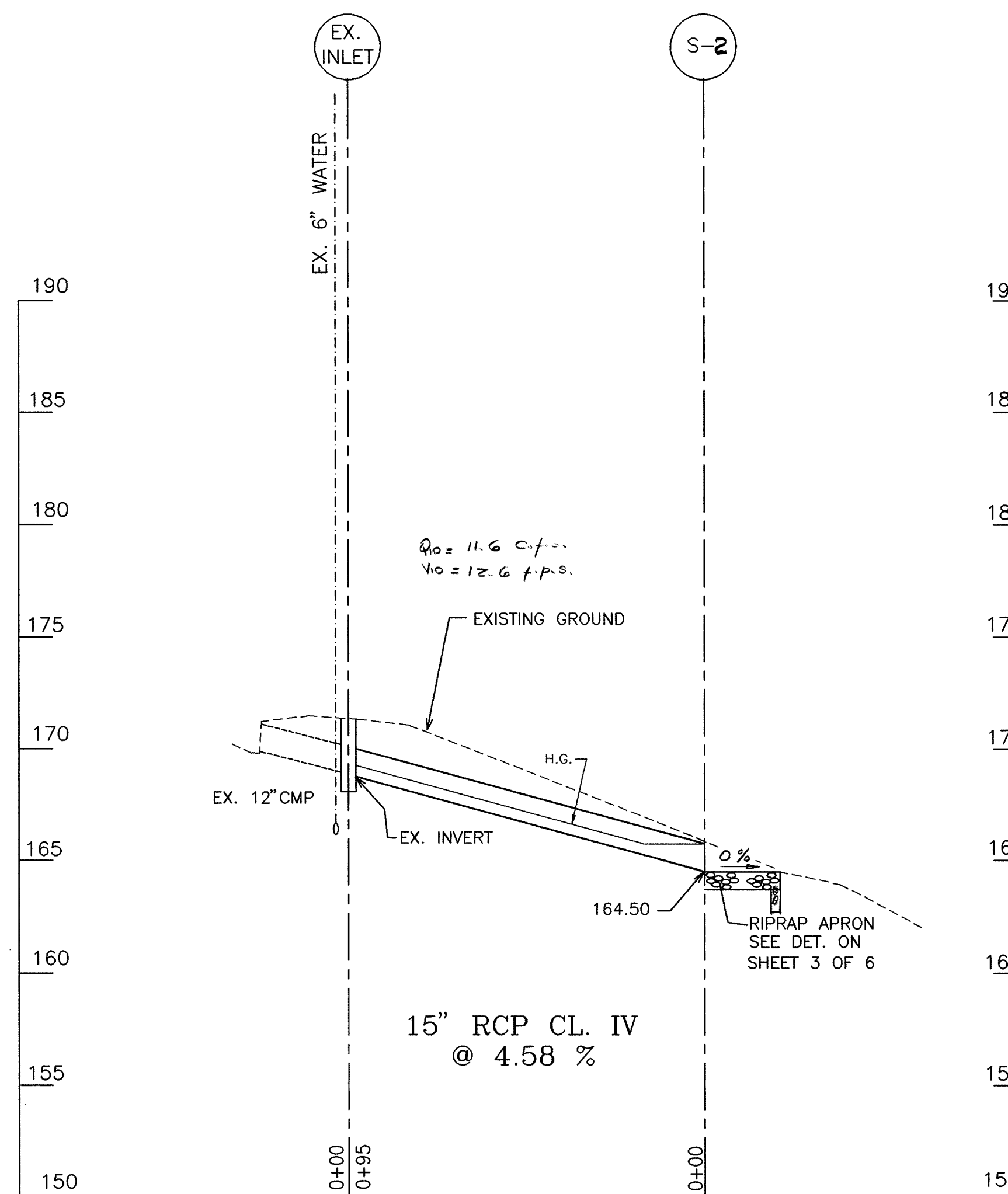
DRAINAGE SYSTEM IMPROVEMENT PROGRAM  
CAPITAL PROJECT No. D-1099  
PHASE I  
HOWARD COUNTY, MARYLAND  
ELECTION DISTRICT No. 6

SCALE AS SHOWN  
SHEET 4 OF 6

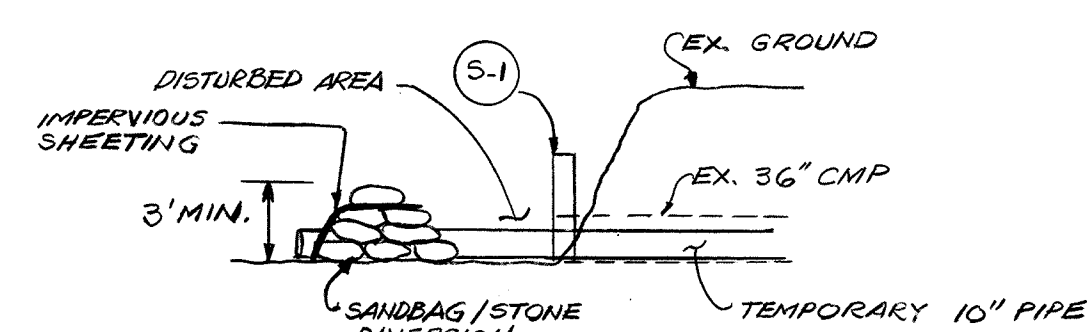
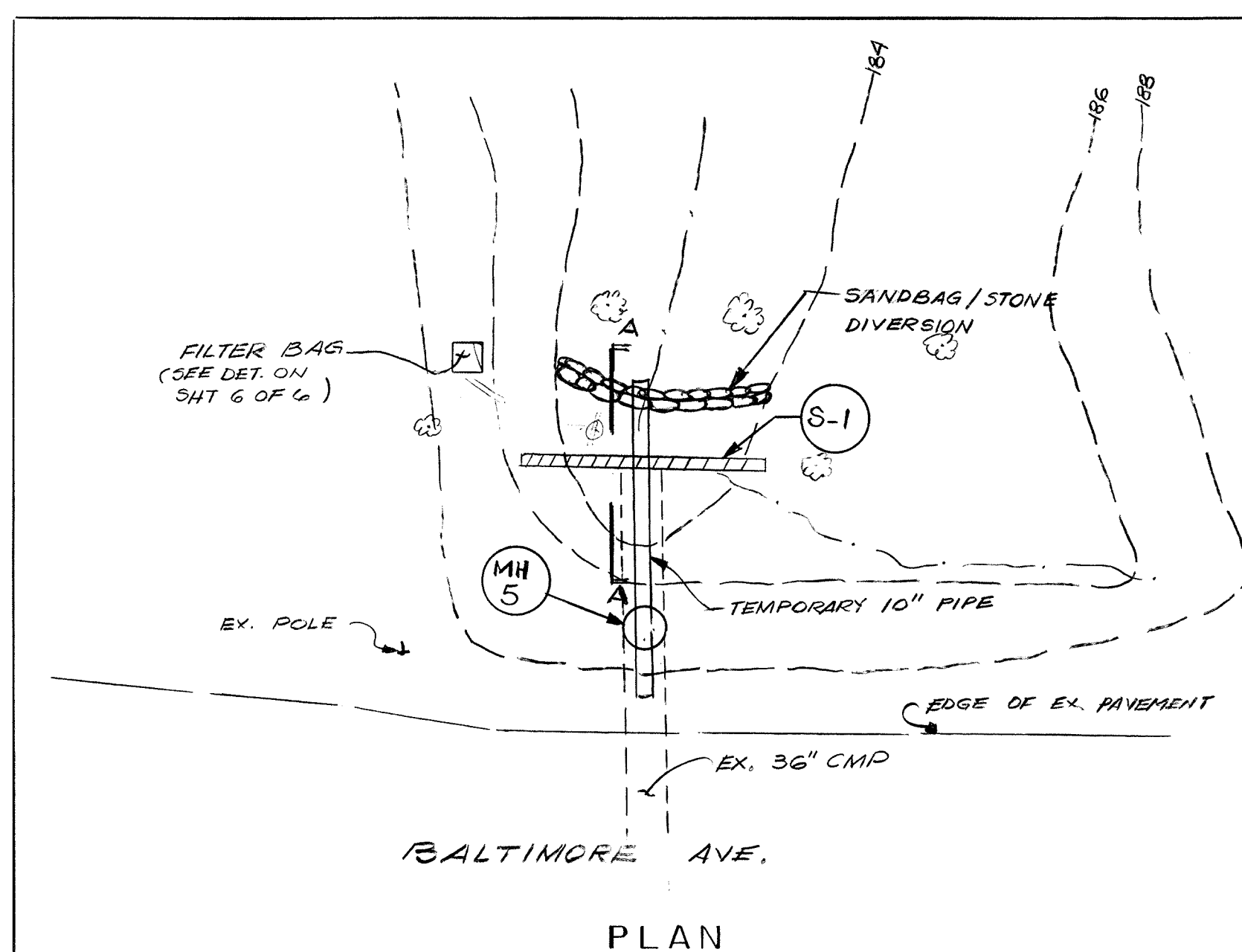
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SCALE : HOR. 1" = 30'  
VER. 1" = 5'



SCALE : HOR. 1" = 30'  
VER. 1" = 5'



SECTION A-A

- 1.- INSTALL SANDBAG/STONE DIVERSION, FILTER BAG AND TEMPORARY 10" PIPE, ACCORDING TO PLANS AND DETAILS. OBTAIN APPROVAL FROM EROSION & SEDIMENT CONTROL INSPECTOR
- 2.- INSTALL MH-5 AND S-1 ACCORDING TO PLANS AND STANDARD DETAILS.
- 3.- AT END OF WORK AND WITH EROSION & SEDIMENT CONTROL INSPECTOR'S PERMISSION, REMOVE SANDBAG/STONE DIVERSION TEMPORARY 10" PIPE AND FILTER BAG.

**PIPE DIVERSION**

N.T.S.

**I. MATERIAL SPECIFICATIONS**

1. SANDBAGS: SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRAVIOLET RADIATION, TEARING AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL (I.E. SAND, FINE GRAVEL ETC.)
2. STONE: STONE SHALL BE WASHED AND HAVE A MINIMUM DIA. OF 6"
3. SHEETING: SHEETING SHALL CONSIST OF POLYETHYLENE OR OTHER MATERIAL WHICH IS IMPERVIOUS AND RESISTANT TO PUNCTURE AND TEARING.

**II. CONSTRUCTION REQUIREMENTS**

1. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF WORK
2. THE HEIGHT OF SANDBAG/STONE DIVERSION SHALL BE 3' MINIMUM. SANDBAGS SHALL BE PLACED ON A SMOOTH PREPARED SURFACE.
3. ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF IN A SCD APPROVED AREA OUTSIDE THE 100-YR FLOODPLAIN UNLESS OTHERWISE APPROVED ON THE PLANS BY THE WRA
4. ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED TO A FILTER BAG (SEE DET. ON SHT. 6 OF 6) OR OTHERWISE APPROVED ON THE PLANS BY THE WRA
5. SHEETING SHALL BE OVERLAPPED A MINIMUM OF 16 INCHES
6. TEMPORARY DIVERSION PIPE SHALL BE INCREASED IF NECESSARY AND IF FEASIBLE TO CONVEY THE NORMAL STREAM FLOW.
7. SEDIMENT CONTROL DEVICES ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL.

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

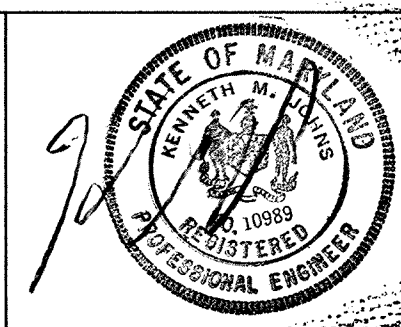
*James M. Lewis* 4/16/96  
DIRECTOR OF PUBLIC WORKS DATE

*Richard M. Decker* 4-8-96  
CHIEF, BUREAU OF HIGHWAYS DATE

*Richard M. Decker* 4/2/96  
CHIEF, BUREAU OF ENGINEERING DATE

*Elizabeth A. Calia* 4/2/96  
CHIEF, TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

EBA ENGINEERING, INC.  
5800 METRO DRIVE  
BALTIMORE, MARYLAND 21215  
(410) 358-7171



DES:	L.C.				
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DATE:	FEB, 15 1996				
BY	NO.	REVISION	DATE	600' SCALE MAP NO.	50
				BLOCK NO.	3

BALTIMORE AVE. / CISSELL AVE.  
STORM DRAIN PROFILES  
NORTH LAUREL PARK

DRAINAGE SYSTEM IMPROVEMENT PROGRAM  
CAPITAL PROJECT No. D-1099  
PHASE I  
HOWARD COUNTY, MARYLAND  
ELECTION DISTRICT No. 6

SCALE AS SHOWN  
SHEET 5 OF 6

**GENERAL NOTES FOR SEDIMENT & EROSION CONTROL**

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT CONTROL TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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 HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS: (FOR EROSION AND SEDIMENT CONTROL ONLY, NOT FOR BIDDING)
 

TOTAL AREA OF SITE	1.0 AC.
AREA DISTURBED	0.50 AC.
AREA TO BE ROOFED OR PAVED	0.15 AC.
AREA TO BE VEGETATIVELY STABILIZED	0.34 AC.
TOTAL CUT	250 CU. YDS.
TOTAL FILL	650 CU. YDS.

 OFFSITE WASTE/BORROW AREA LOCATION: TO BE DETERMINED BY THE CONTRACTOR, THE SITE MUST HAVE AN ACTIVE GRADING PERMIT AND MUST BE APPROVED BY THE ENGINEER.
- ANY SEDIMENT CONTROL PRACTICE 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 HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

**TEMPORARY SEEDING SPECIFICATIONS**

- ALL DISTURBED AREAS - SHALL BE SEEDED AND MULCHED
- SEEDED BED PREPARATION - THE TOP LAYER OF SOIL SHALL BE LOOSENEED BY DISCING OR RAKING (SHALL BE DONE ON CONTOUR) TO A DEPTH OF AT LEAST 3" BEFORE SEEDING OCCURS, APPLY TWO (2) TON PER ACRE OF LIME AND 1000 LBS. PER ACRE OF 10-10-10 FERTILIZER OR EQUIVALENT. THOROUGHLY MIX INTO SOIL TO A MINIMUM OF 3". APPLY 2" OF TOPSOIL.
- SEEDING METHOD OF APPLICATION - APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER DRILL, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
- SEEDING - FOR THE PERIOD 2/1 - 4/30 AND 8/15 - 11/30 USE ITALIAN OR PERENNIAL RYEGRASS 40 LBS./ACRE OR .92 LBS./1000 SQ. FT. DURING THE PERIOD 5/1 - 8/14 USE MILLET 40 LBS./ACRE OR .92 LBS./1000 SQ. FT.
- MULCHING - USE CLEAN, UNWEATHERED, UNCHOPPED SMALL GRAIN STRAW AT THE RATE OF 1 1/2 TO 2 TONS PER ACRE ANCHORED DOWN WITH CUTBACK ASPHALT AT THE RATE OF 5-8 GALLONS PER 1000 SQ. FT.
- DISCING AND HARROWING - SHALL BE DONE ON CONTOUR.

**PERMANENT SEEDING SPECIFICATIONS**

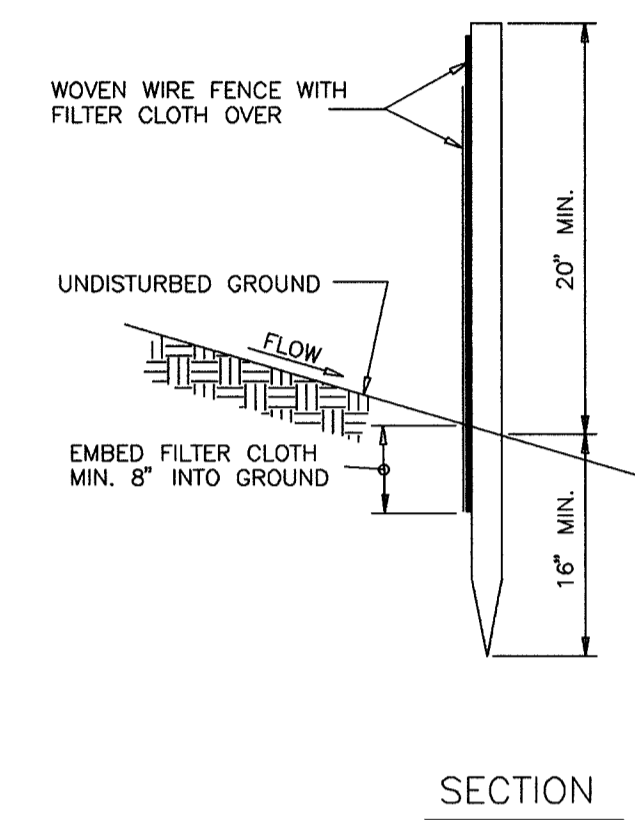
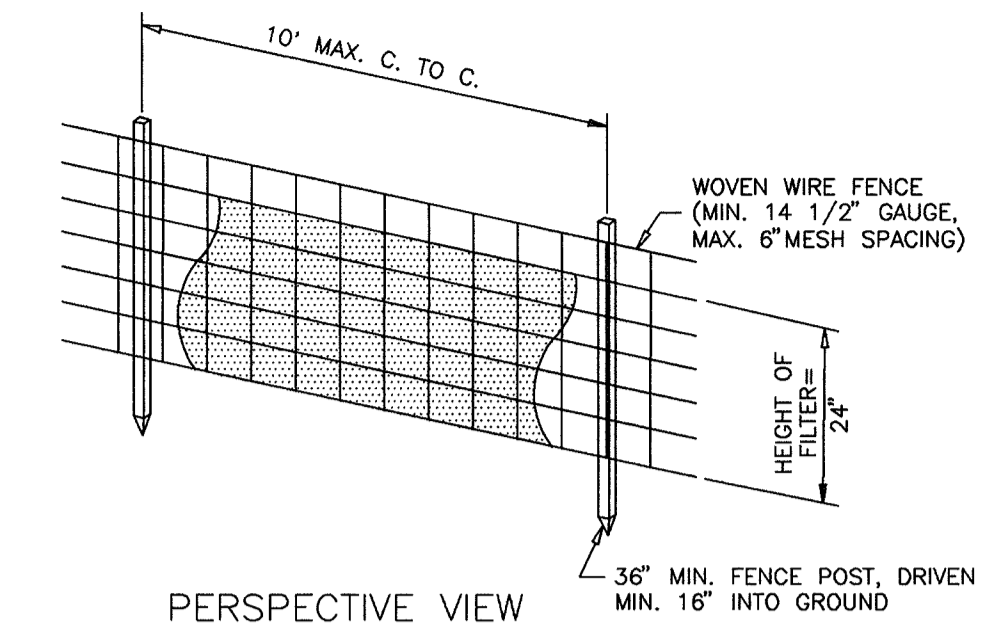
- ALL DISTURBED AREAS - SHALL BE SEEDED AND MULCHED
- SEEDED BED PREPARATION - THE TOP LAYER OF SOIL SHALL BE LOOSENEED BY DISCING OR RAKING (SHALL BE DONE ON CONTOUR) TO A DEPTH OF AT LEAST 3" BEFORE SEEDING OCCURS, APPLY TWO (2) TON PER ACRE OF LIME AND 1000 LBS. PER ACRE OF 10-10-10 FERTILIZER OR EQUIVALENT. THOROUGHLY MIX INTO SOIL TO A MINIMUM OF 3".
- SEEDING METHOD OF APPLICATION - APPLY SEED UNIFORMLY WITH A CYCLONE SEED DRILL, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
- SEEDING - USE 50% KENTUCKY BLUEGRASS, 40% PENNLAWN CREEPING RED FESCUE AND 10% OF RED TOP AT THE RATE OF 90 LBS. PER ACRE. PERMANENT SEEDING TO BE DONE ONLY DURING THE PERIOD OF 2/1 TO 4/30 AND 8/15 TO 10/31.
- MULCHING - USE CLEAN, UNWEATHERED, UNCHOPPED SMALL GRAIN STRAW AT THE RATE OF 1 1/2 TO 2 TONS PER ACRE ANCHORED DOWN WITH CUTBACK ASPHALT AT THE RATE OF 5-8 GALLONS PER 1000 SQ. FT.

**SODDING**

CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED, OR MARYLAND OR VIRGINIA STATE APPROVED SOD. SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD SHALL BE LAID ON SOIL PREPARED IN ACCORDANCE WITH NOTE 2 PERMANENT SEEDING. SOD IS TO BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR WITH STAGGERED JOINTS WITH ALL ENDS TIGHTLY ABUTTING AND NOT OVERLAPPING. SOD SHALL BE ROLLED AND THOROUGHLY WATERED WITHIN EIGHT HOURS OF INSTALLATION. DAILY WATERING TO MAINTAIN 4 INCH DEPTH OF MOISTURE FOR THE FIRST WEEK IS REQUIRED IN THE ABSENCE OF RAINFALL. SOD IS NOT TO BE APPLIED ON FROZEN GROUND.

**STANDARD STABILIZATION NOTE:**

"FOLLOWING INITIAL SOIL DISTURBANCE OF REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND FOURTEEN DAYS (14) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE."



**CONSTRUCTION NOTES FOR FABRICATED SILT FENCE**

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

POSTS: STEEL (EITHER T OR U TYPE) OR 2" HARDWOOD

FENCE: WOVEN WIRE, 14 1/2 GAUGE, 6" MAX. MESH OPENING

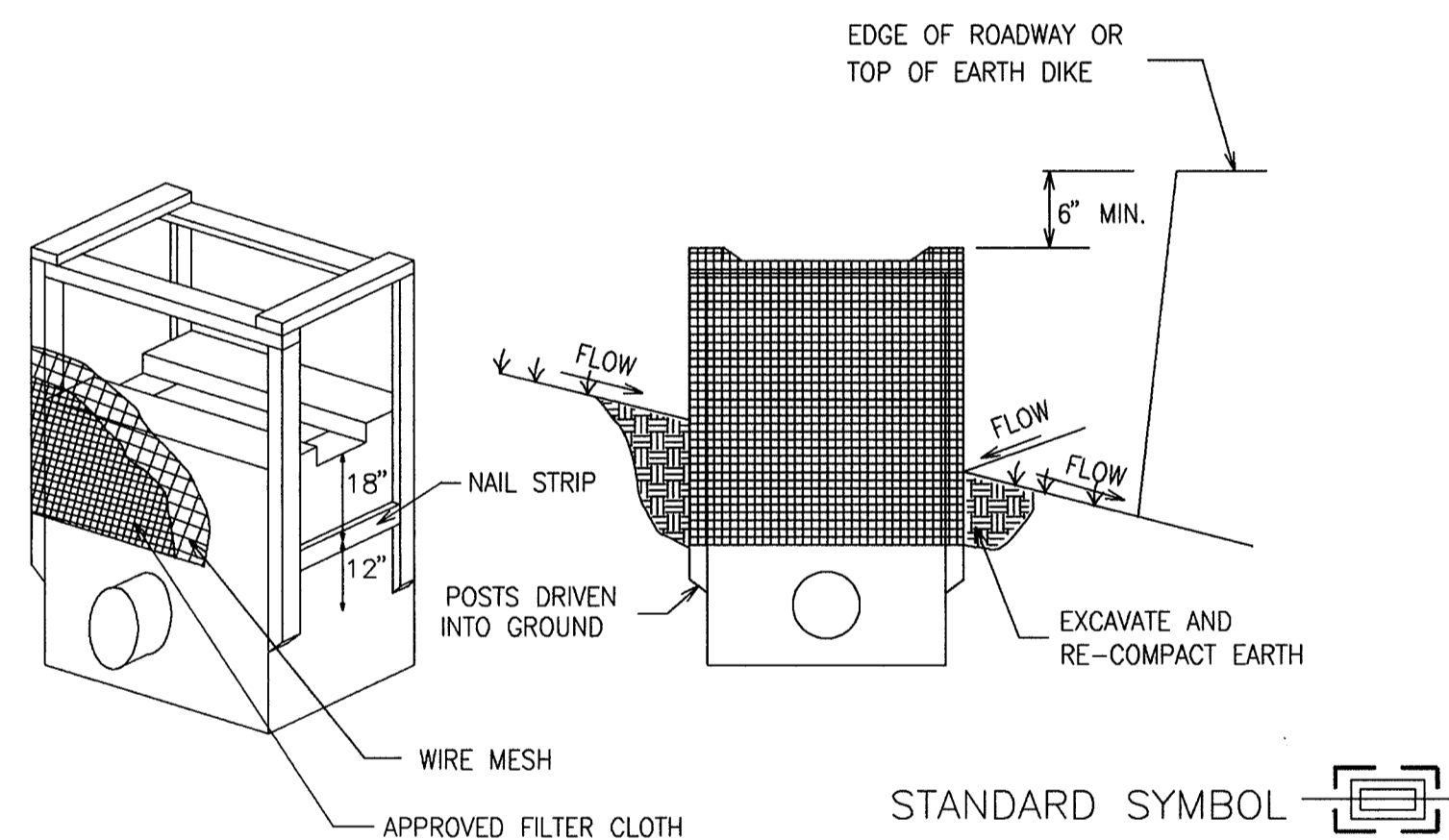
FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

**SILT FENCE**

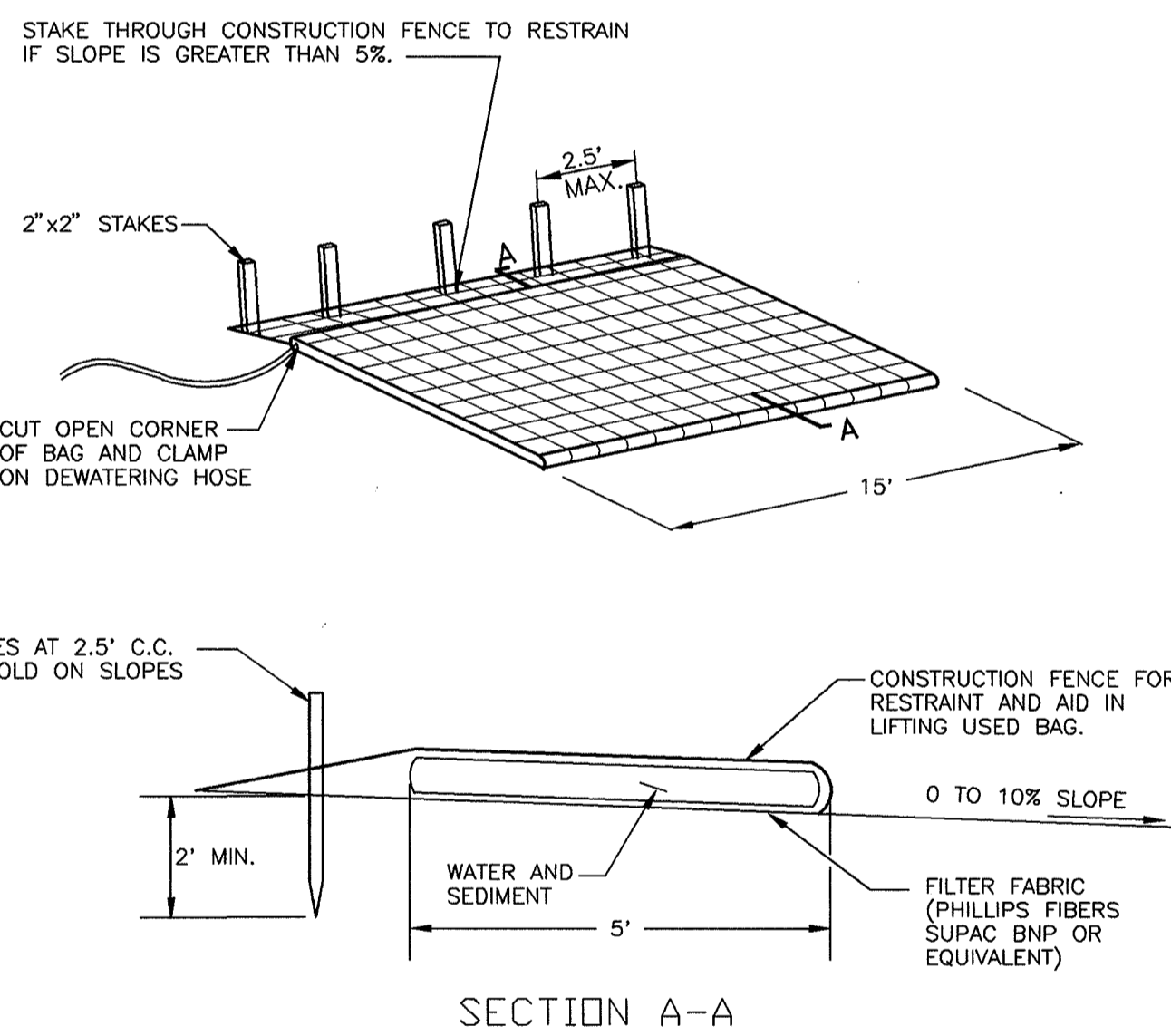
**SEQUENCE OF CONSTRUCTION**

- OBTAIN GRADING PERMIT FROM HOWARD COUNTY DEPARTMENT OF LICENSES AND PERMITS. (3 DAYS)
- INSTALL STORM DRAIN FROM MH-5 TO I-1; PROVIDE INLET PROTECTION. (3 DAYS) SEE PIPE DIVERSION ON SHT 5069
- INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON PLAN. INSTALL STRUCTURE S-1. (4 DAYS) SEE PIPE DIVERSION ON SHT. 5069
- INSTALL STORM DRAIN SYSTEM FROM MH-5 TO I-10; PROVIDE INLET PROTECTION. (3 DAYS)
- PERFORM PROPOSED WORK AT BALTIMORE AVE. PROVIDE STABILIZATION TO DISTURBED AREAS. (6 DAYS)
- INSTALL STORM DRAIN SYSTEM FROM MH-1 TO I-1; PROVIDE INLET PROTECTION TO ALL INLETS. (20 DAYS)
- PERFORM ALL PROPOSED WORK ALONG NORTH LAUREL RD. PROVIDE STABILIZATION TO DISTURBED AREAS. (20 DAYS)
- INSTALL STORM DRAIN SYSTEM FROM EX. INLET TO S-2 AT CISSELL AVE. PROVIDE STABILIZATION TO ALL DISTURBED AREAS. (3 DAYS)
- WITH APPROVAL OF THE EROSION SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES. (1 DAY)



**INLET PROTECTION**

N.T.S.



**SECTION A-A**

**NOTES:**

- FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, WELL GRADED VEGETATED SITE, SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND FROM ANY WORK AREAS.
  - THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
  - FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
  - DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN A UPLAND AREA.
- MINIMUM PUMP CAPACITY : 25 GPM.

**FILTER BAG**

N.T.S.

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

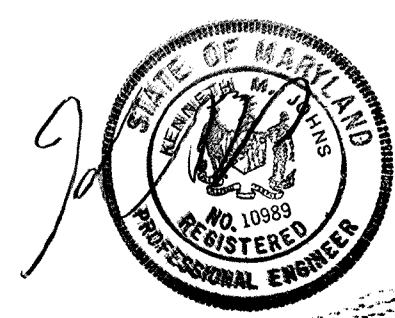
*James B. Lewis* 4/6/96  
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DES:	L.C.				
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CHK:	L.C.				
DATE:	02/15/96	BY	NO.	REVISION	DATE

EROSION AND SEDIMENT CONTROL DETAILS  
NORTH LAUREL PARK

600' SCALE MAP NO. 50 BLOCK NO. 3

DRAINAGE SYSTEM IMPROVEMENT PROGRAM  
CAPITAL PROJECT NO. D-1099  
PHASE I  
HOWARD COUNTY, MARYLAND  
ELECTION DISTRICT NO. 6

NO SCALE  
SHEET 6 OF 6