

SHEET INDEX	
NO	DESCRIPTION
1	PLAN OF PATUXENT QUARTER ROAD MILL RIVER COURT AND HANOVER CROSSING WAY
2	ROAD PROFILES
3	PROFILE HANOVER CROSSING WAY AND STORM DRAIN PROFILES
4	DRAINAGE AREA MAP
5	GRADING AND SEDIMENT CONTROL PLAN
6	SEDIMENT CONTROL NOTES AND DETAILS
7	STORMWATER MANAGEMENT SPECIFICATIONS & DETAILS
8	STORMWATER MANAGEMENT DETAILS
9	PLANTING PLAN

CENTER LINE CURVE DATA						
± STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
0+00 - 2+42.05	595.00'	195.05'	98.48'	191.12'	S76°18'15"E	28°00'00"
2+49.76 - 4+00.65	430.00'	100.79'	50.63'	100.56'	S85°25'21"E	13°25'49"
5+08.59 - 7+46.13	595.00'	147.74'	74.74'	146.88'	S87°35'21"E	21°25'49"
12+11.46 - 16+37.42	275.00'	485.96'	338.00'	428.18'	N31°04'17"E	101°14'56"
17+05.78 - 19+65.67	725.00'	169.89'	85.54'	169.60'	N01°25'12"W	15°25'53"

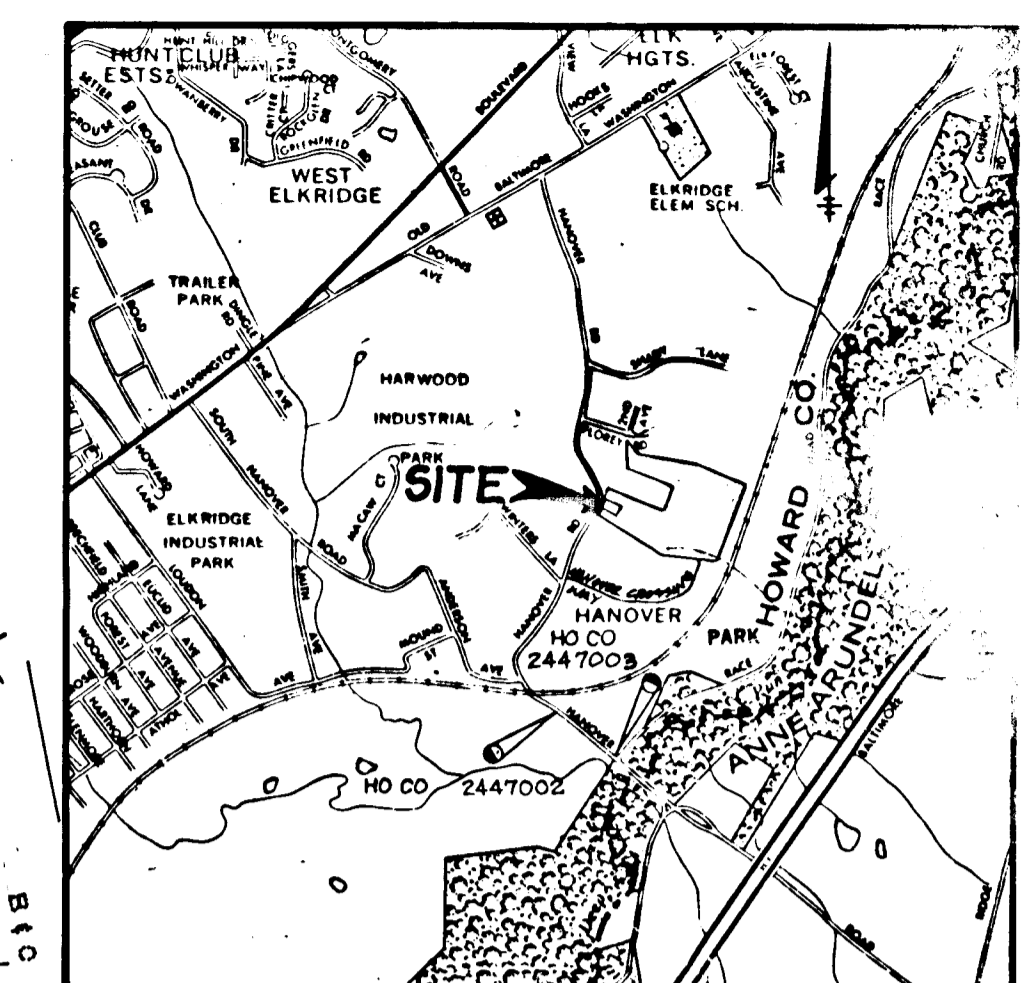
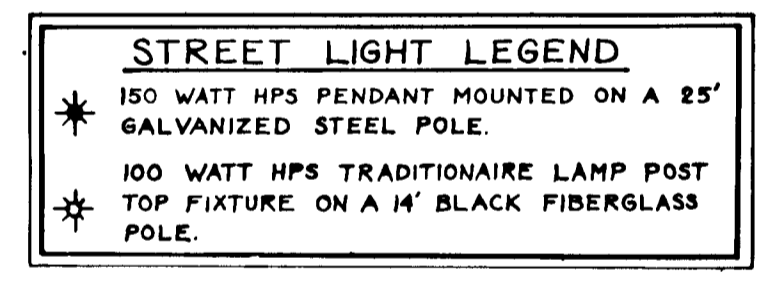
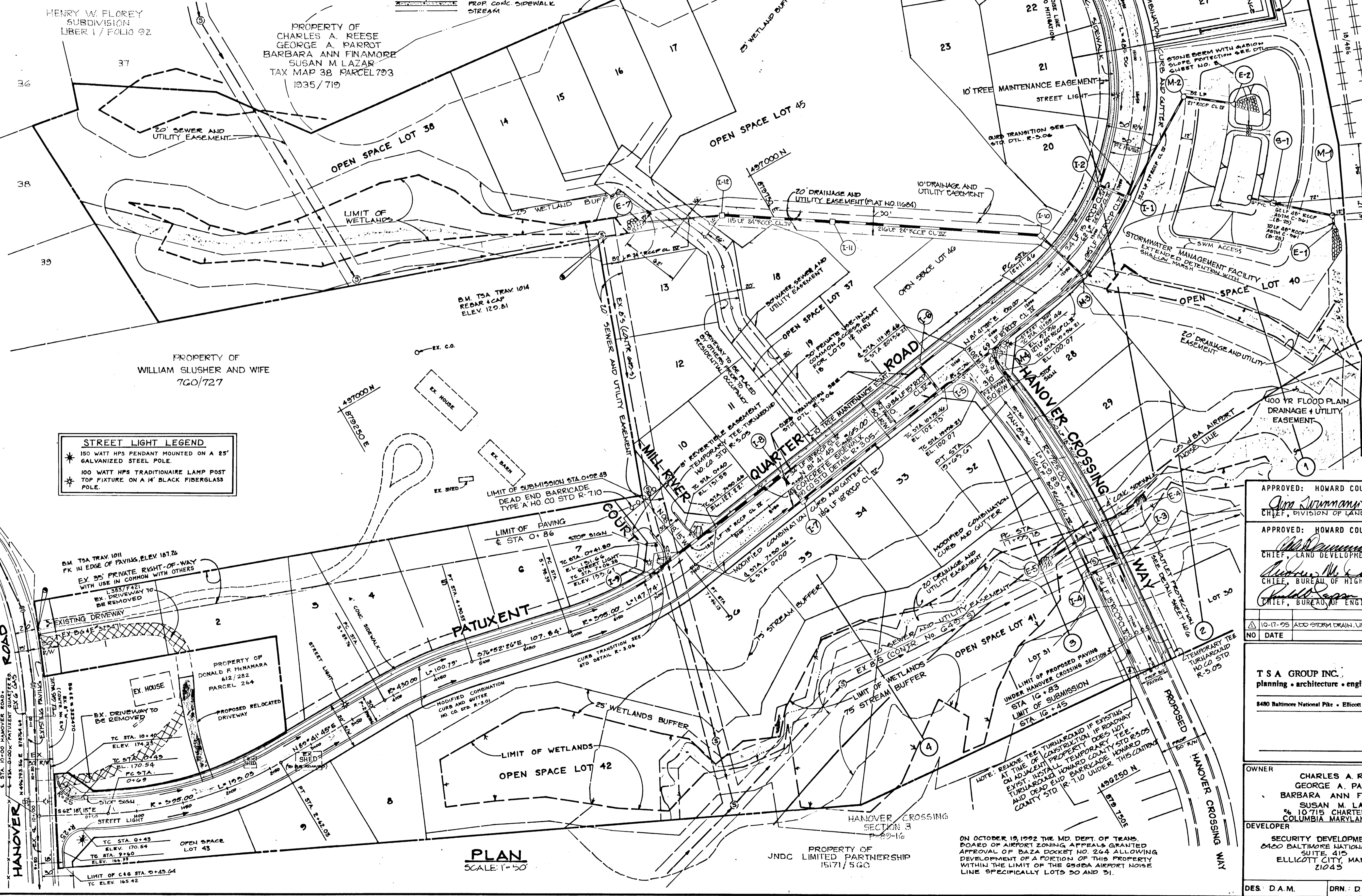
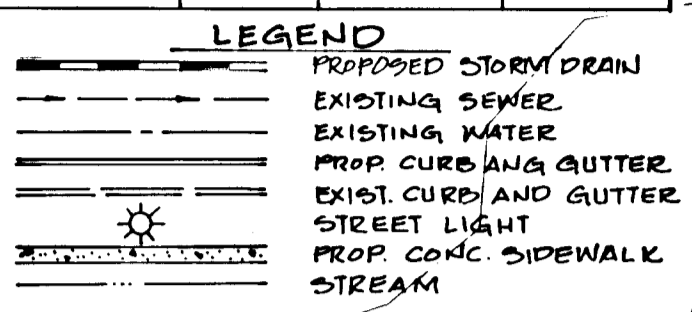
BENCH MARKS

HO CO 2447002 ELEVATION 85.82
 N49494.546 E87820.658
 CONCRETE MONUMENT NE CORNER RR TRACKS
 AND HANOVER ROAD 0.3' BELOW SURFACE

HO CO 2447003 ELEVATION 46.24
 N494376.047 E879030.173
 CONCRETE MONUMENT 0.2' BELOW SURFACE NW
 SIDE HANOVER ROAD AND RACE ROAD

NOTE: THIS PROJECT IS SUBJECT TO NON-TIDAL WETLANDS PERMIT NO. 11-01206-S AND WATER QUALITY CERTIFICATION NO. 93-WQ-0271.

NOTED: NOISE BARRIER WILL BE PRIVATELY OWNED AND MAINTAINED. THE BEAR OF THE BUILDINGS ON LOTS 25 THRU 27 SHALL NOT BE CLOSER THAN 50' TO THE NOISE BARRIER.



VICINITY MAP
 SCALE 1"=2000'

GENERAL NOTES

- All construction shall be in accordance with the latest standards and specifications of Howard County plus MHA standards and specifications, if applicable.
- The contractor shall notify the Department of Public Works/CONSTRUCTION INSPECTION DIVISION at (410) 343-1800 at least 100 working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- Project Background (unless included in Title Block):
 Location: Tax Map 38, Parcels 263 & 649
 Zoning: R-12
 Election District: 18
 Total Tract Area: 21.92 Ac +/-
 Section Area: 21.92 Ac +/-
 Number of Proposed Buildable Lots: 36
 Howard County DPZ Reference No.: H-88-73, P-91-18, P-92-11, H-91-84
 Granted 12/11/90, H-92-127, Granted 3/4/92
- 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.
- Topographic survey is field run by the TSA Group, Inc. dated March 1991.
- Horizontal and vertical controls are as projected from Howard County Geodetic Control Stations 247862 and 247883.
- Light poles and fixtures for street lights shall be in accordance with the latest Howard County Design Manual, Volume III, Roads and Bridges.
- Water and sewer will be public for this site as shown on contract B-14-2192-9.
- Stormwater management is provided by use of extended detention with shallow marsh.
- The flood plain study for this site was performed by TSA Group, Inc. dated June 26, 1991.
- Wetland delineation was performed by Exploration Research, Inc. dated September 1990.
- Noise study was performed by Staino Engineering, Inc. dated September 12, 1990.
- Geotechnical report is by Atco and Associates, Inc. dated October 16, 1990.
- All existing utilities have been located by use of existing construction plans.
- ALL MANUFACTURED BARRIERS WITHIN THIS SUBDIVISION SHALL COMPLY WITH ADA REGULATIONS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>Chris Summons</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	2/18/94 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>William M. Schreiber</i> CHIEF, LAND DEVELOPMENT DIVISION	2/16/94 DATE
<i>William M. Schreiber</i> CHIEF, BUREAU OF HIGHWAYS	2-9-94 DATE
<i>William M. Schreiber</i> CHIEF, BUREAU OF ENGINEERING	2/17/94 DATE

10-17-95 ADD STORM DRAIN, LIMIT OF WETLANDS ON O.S. LOTS 45 & 46	NO DATE	REVISION
T S A GROUP INC. planning • architecture • engineering 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105		

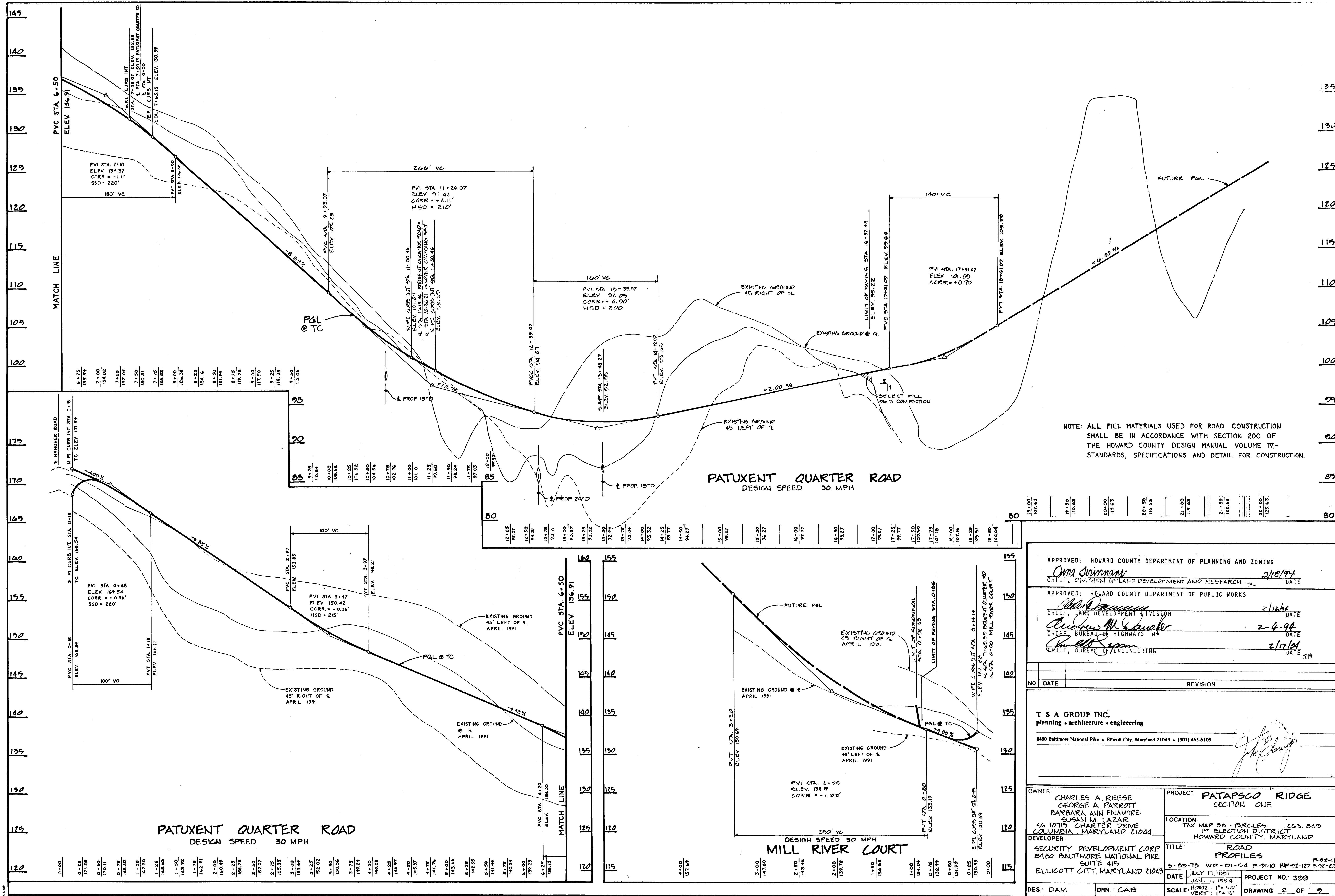
OWNER CHARLES A. REESE GEORGE A. PARROTT BARBARA ANN FINAMORE SUSAN M. LAZAR % 10715 CHARTER DRIVE COLUMBIA, MARYLAND 21044	PROJECT PATAPSCO RIDGE SECTION ONE LOCATION: TAX MAP 38 PARCELS 263 & 649 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
DEVELOPER SECURITY DEVELOPMENT CORP 2400 BALTIMORE NATIONAL PIKE SUITE 419 ELLICOTT CITY, MARYLAND 21043	TITLE PLAN OF PATUXENT QUARTER ROAD MILL RIVER COURT HANOVER CROSSING WAY 5-09-73 WP-01-54 P-01-10 WP-92-127 P-92-11 DATE: JULY 11, 1991 PROJECT NO: 390 JAN. 11, 1994	
DES: D.A.M.	DRN: D.B.T.	SCALE: 1"=50'
DRAWING 1 OF 9		

1688

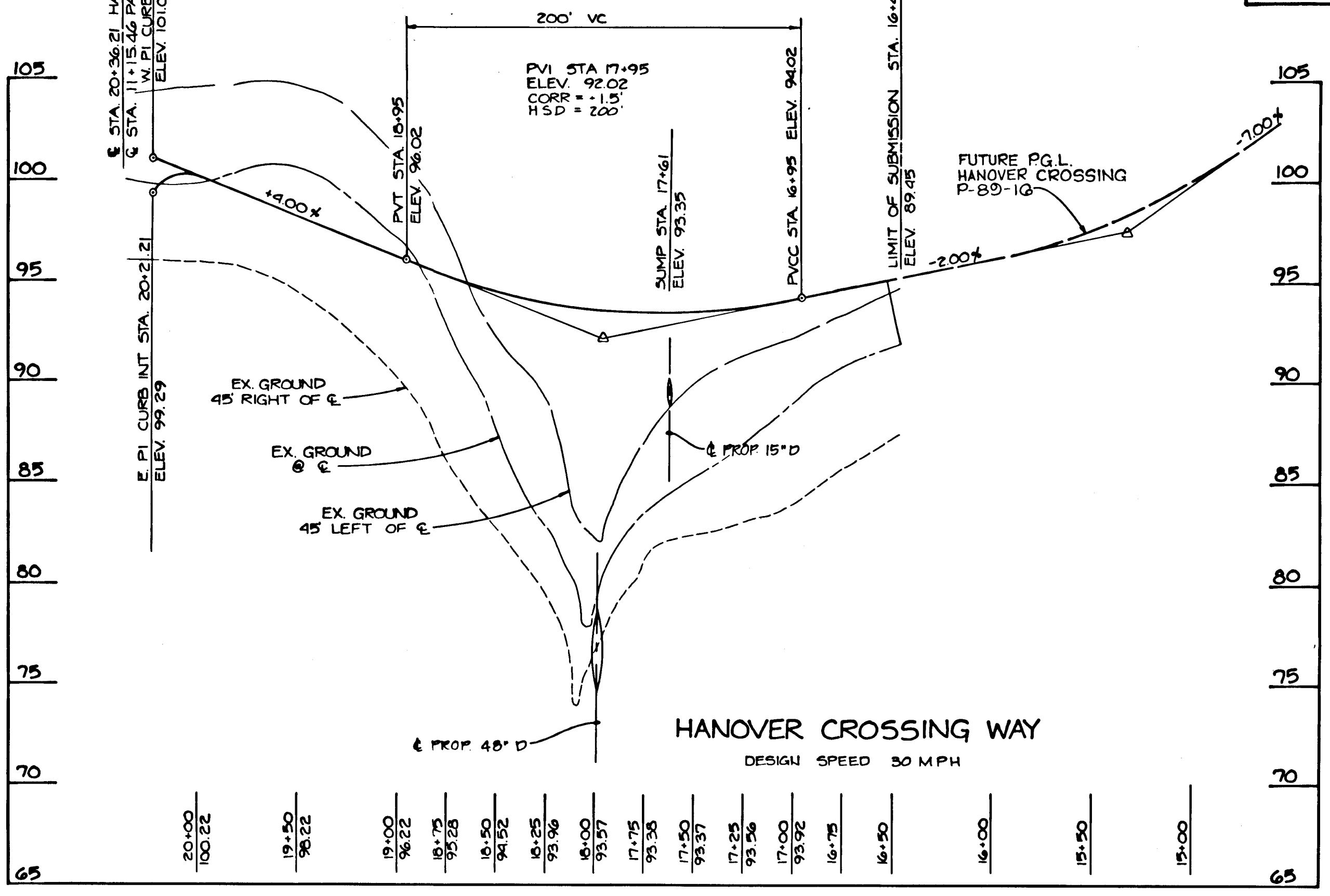
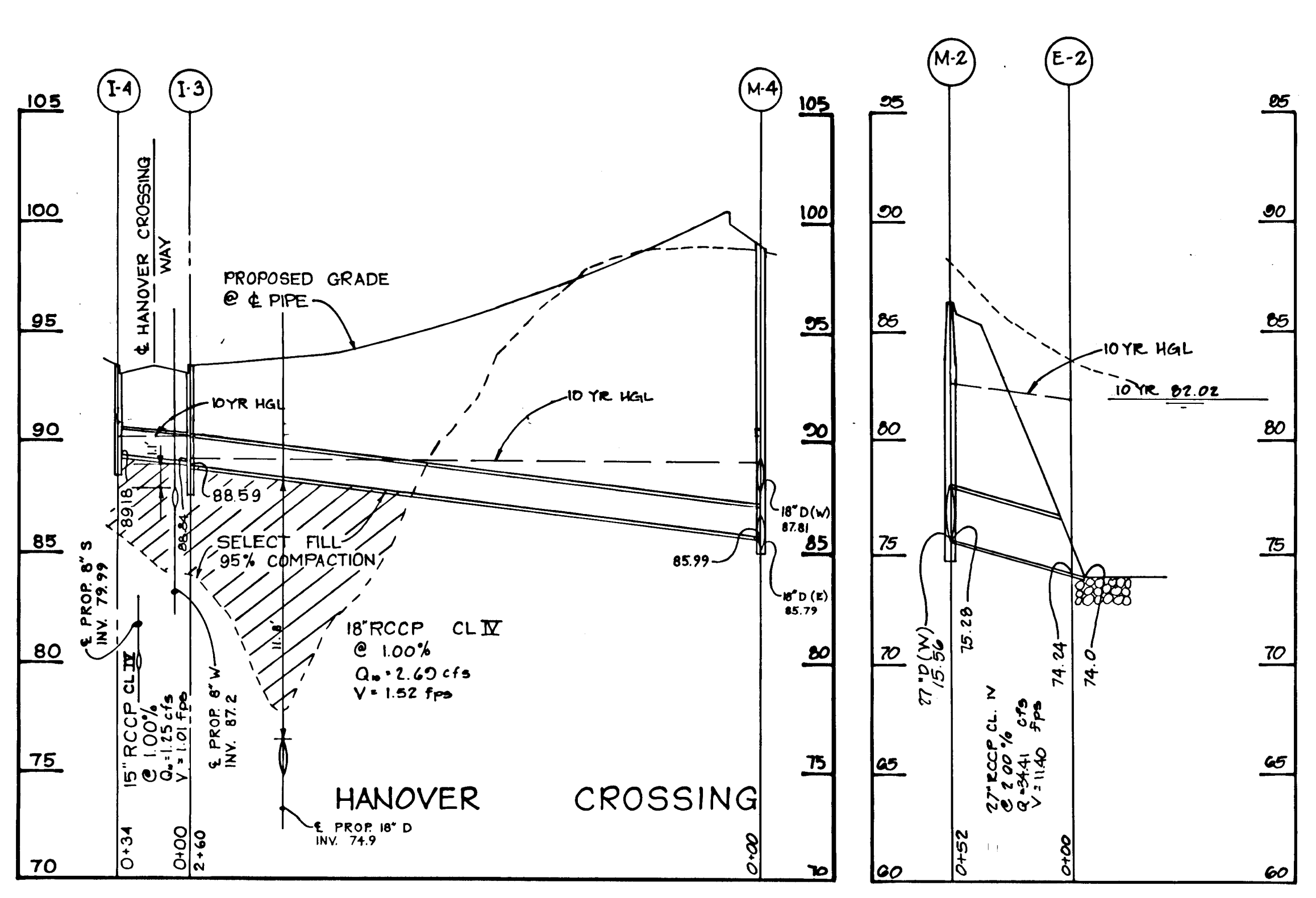
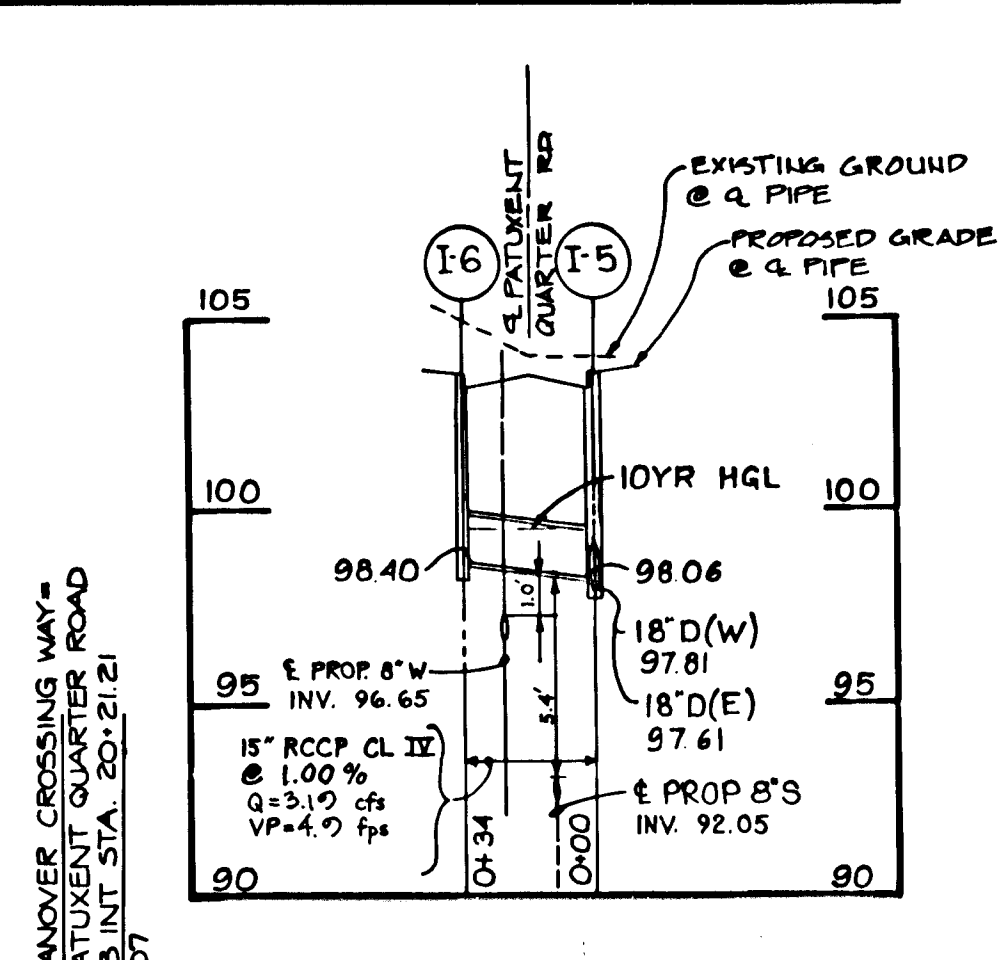
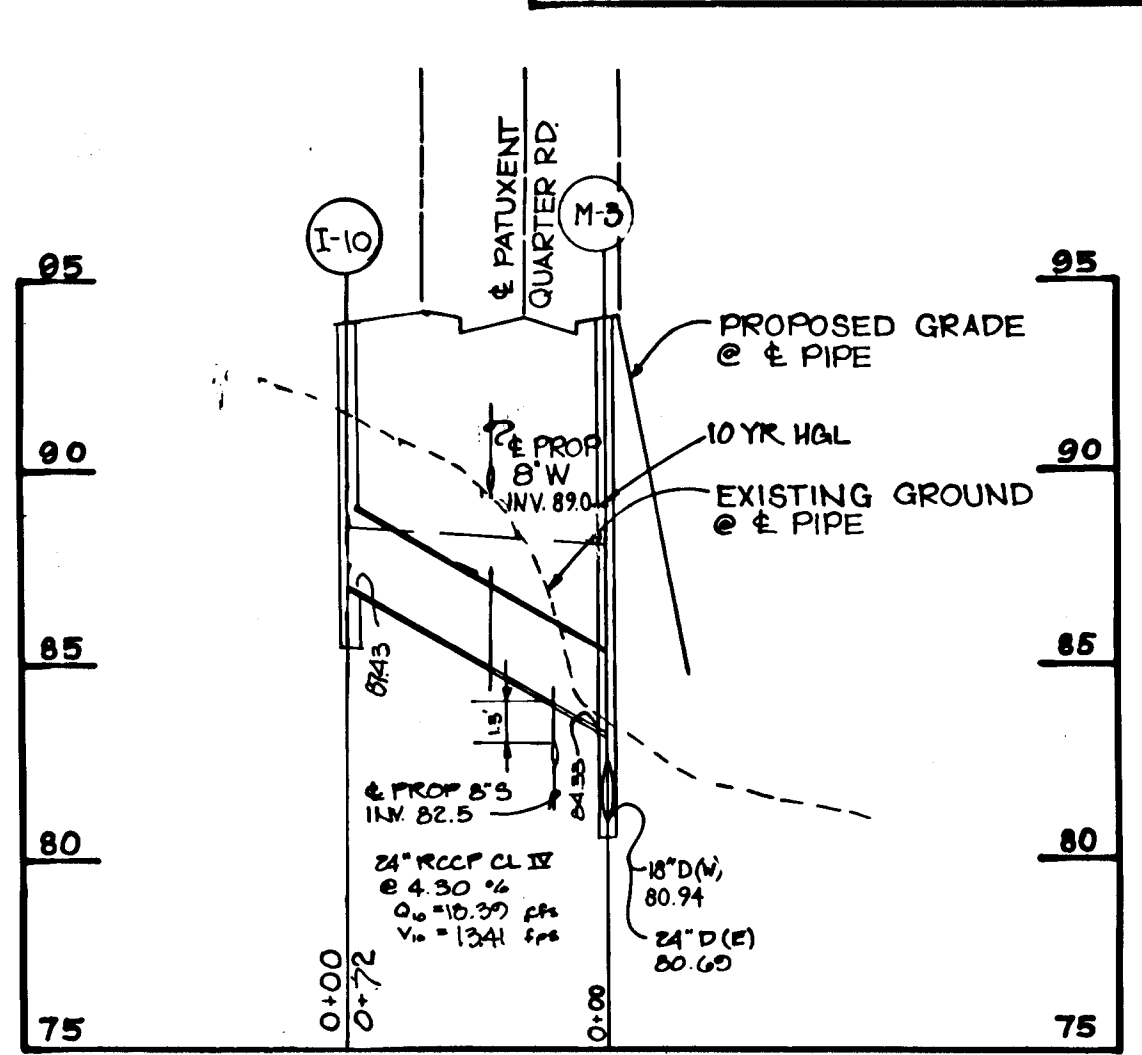
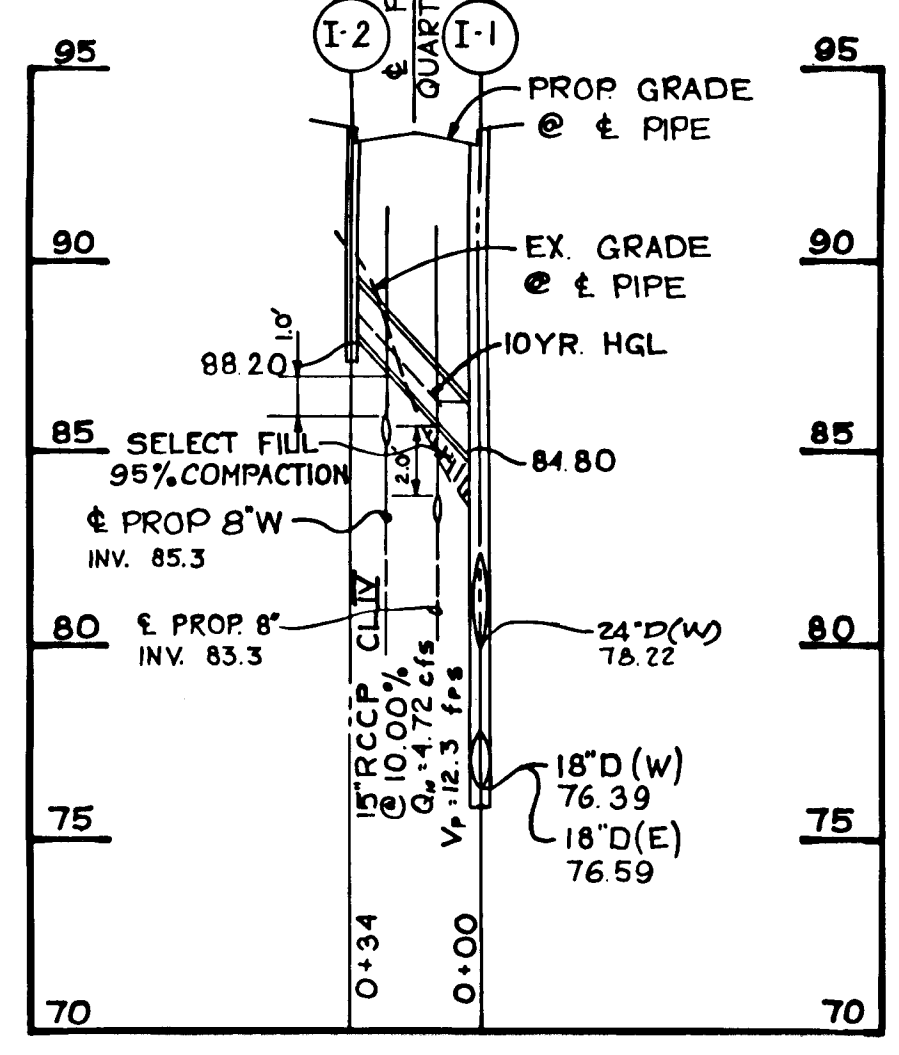
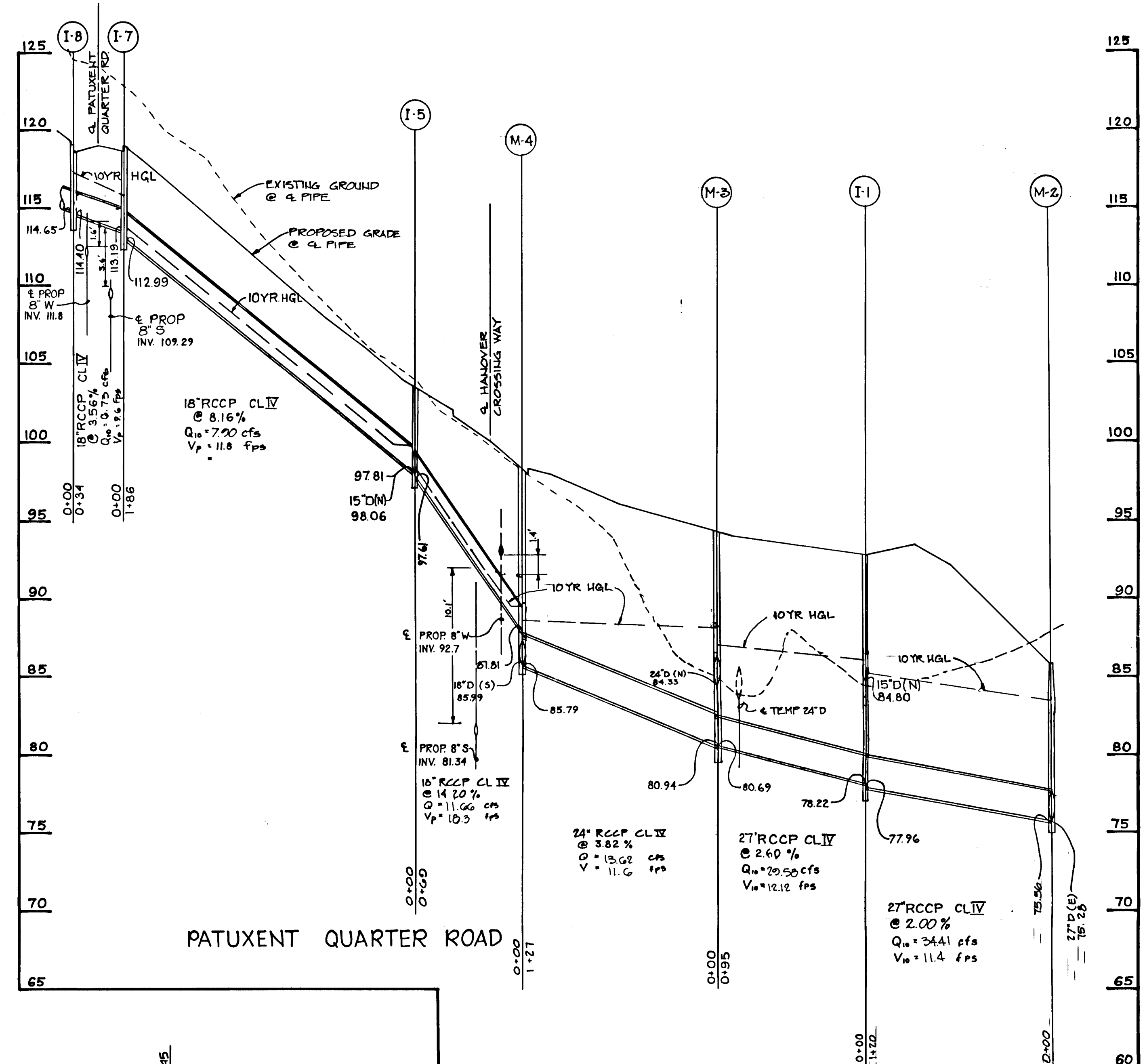
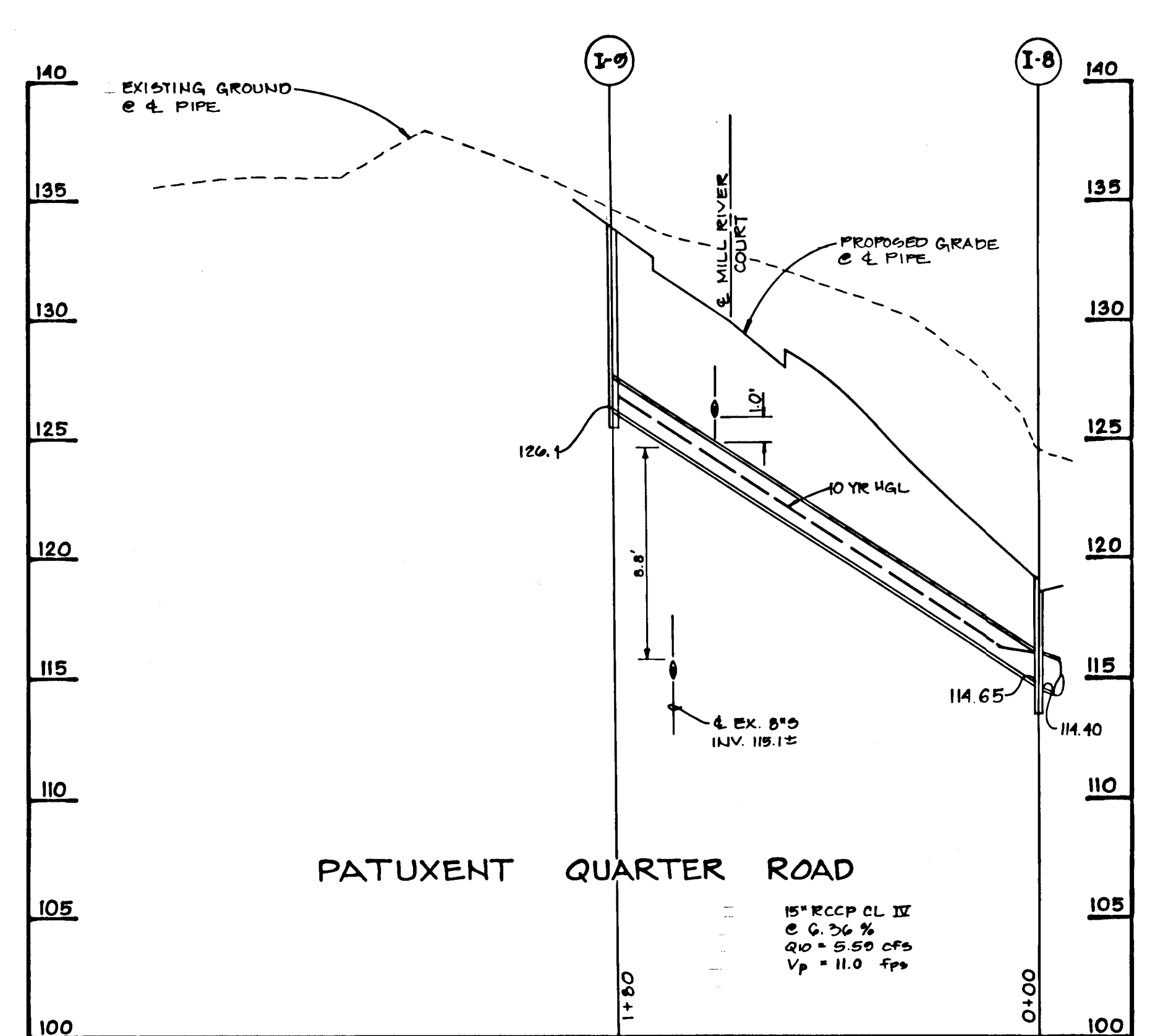
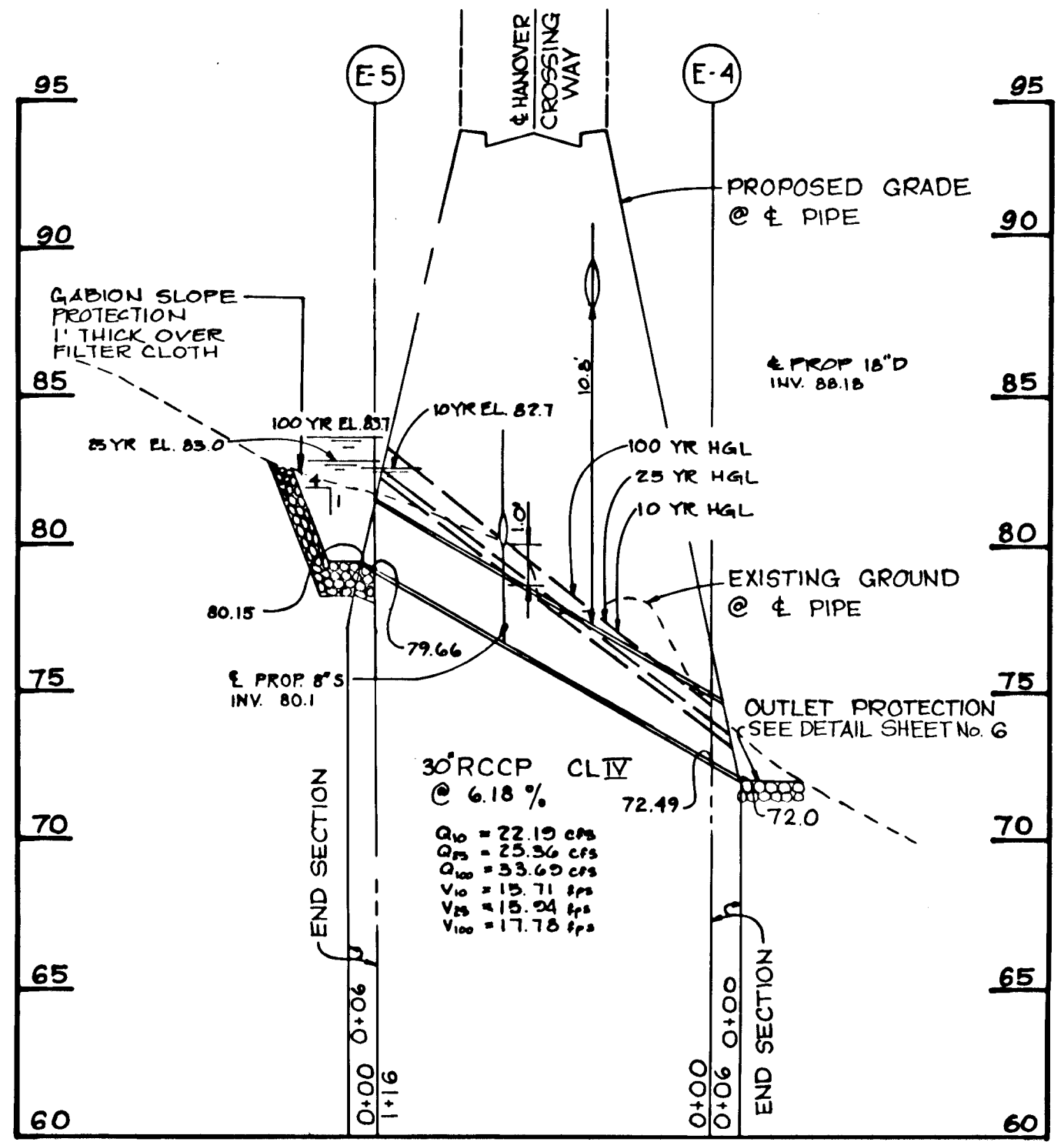
PLAN
 SCALE: 1"=50'

ON OCTOBER 19, 1992 THE MD. DEPT. OF TRANS. BOARD OF AIRPORT ZONING APPEALS GRANTED APPROVAL OF BALZA CHECKET NO. 264 ALLOWING DEVELOPMENT OF A PORTION OF THIS PROPERTY WITHIN THE LIMIT OF THE OSDDA AIRPORT NOISE LINE SPECIFICALLY LOTS 50 AND 51.

1688



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>Uma Swimmans</i> CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE: 2/18/94		
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>Barbara M. Lauer</i> CHIEF, BUREAU OF HIGHWAYS DATE: 2-4-94		
<i>James M. ...</i> CHIEF, BUREAU OF ENGINEERING DATE: 2/17/94		
NO	DATE	REVISION
T S A GROUP INC. planning • architecture • engineering 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105		
OWNER	PROJECT	TITLE
CHARLES A. REESE GEORGE A. PARROTT BARBARA ANN FINAMORE SUSAN M. LAZAR % 10715 CHARTER DRIVE COLUMBIA, MARYLAND 21044	PATAPSCO RIDGE SECTION ONE	ROAD PROFILES
DEVELOPER	LOCATION	DATE
SECURITY DEVELOPMENT CORP 8420 BALTIMORE NATIONAL PIKE SUITE 415 ELLCOTT CITY, MARYLAND 21043	TAX MAP 35 - PARCELS 263, 840 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JULY 17, 1991 JAN. 11, 1994
DES	DAM	DRN
DAM	CAB	CAB
SCALE	HORIZ. 1" = 50'	VERT. 1" = 5'
PROJECT NO. 399		PAGE 11 OF 11
DRAWING 2 OF 2		F-92-25



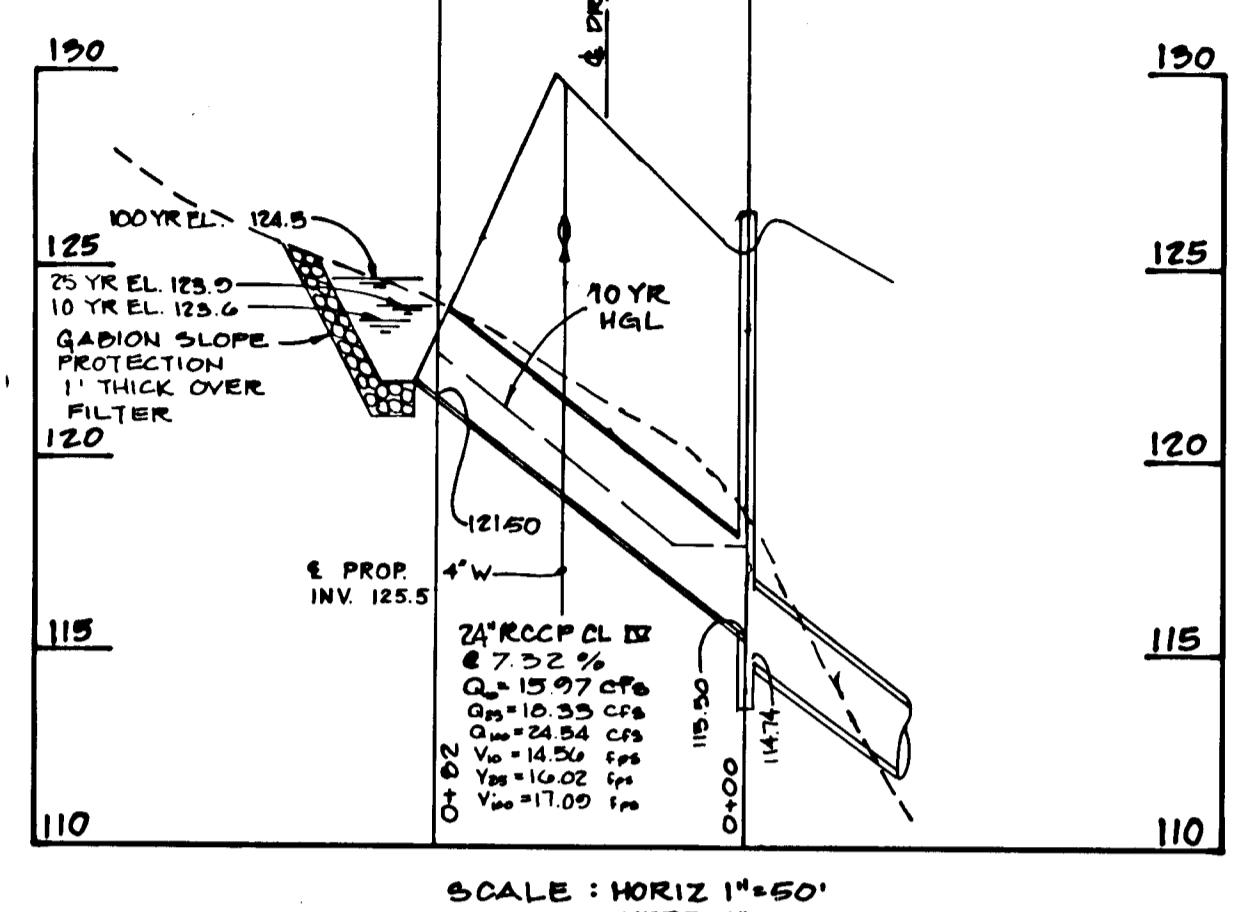
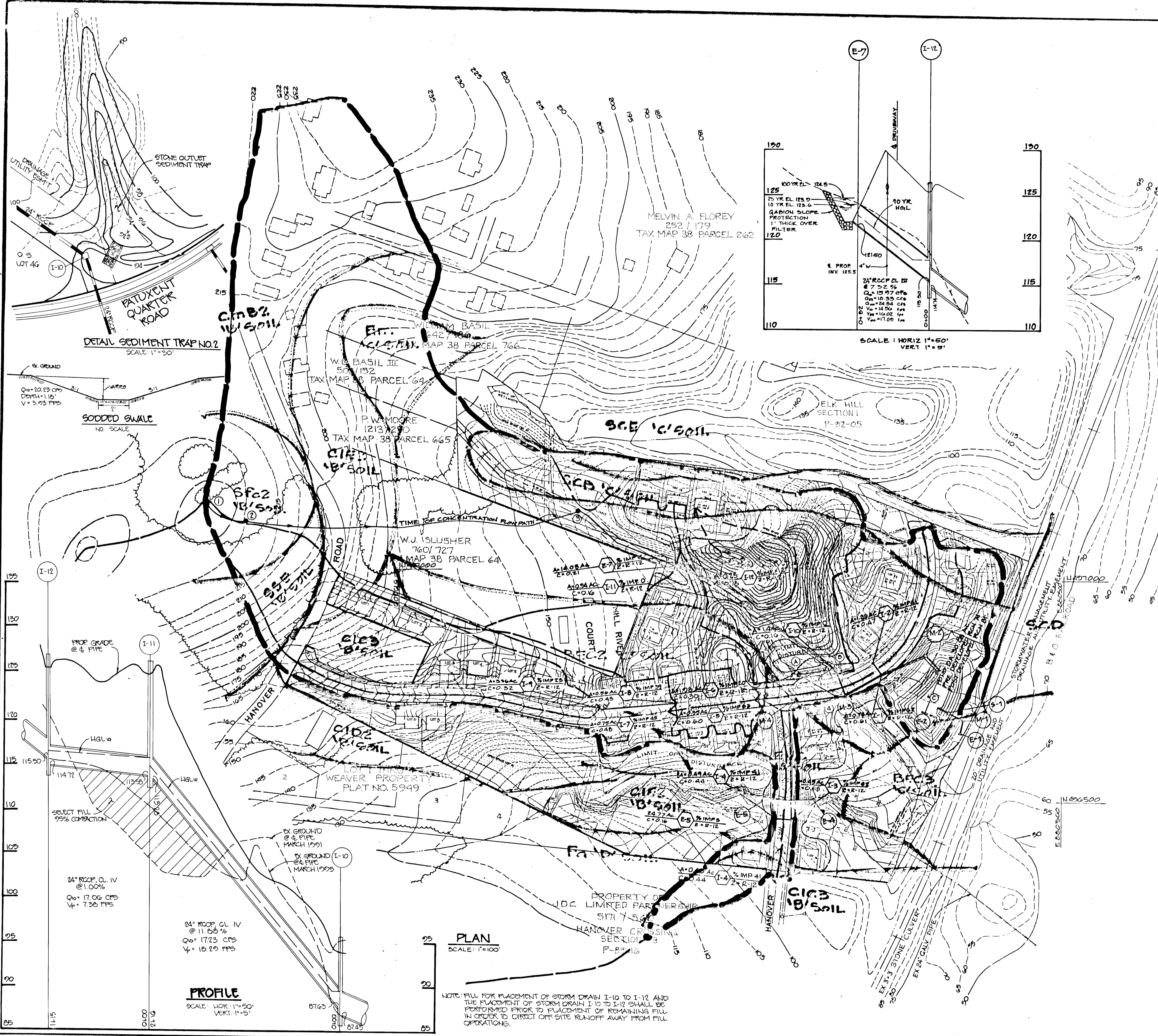
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>Omnia Szymanski</i>	2/18/94
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>Andrew M. Donker</i>	2-4-94
CHIEF, BUREAU OF HIGHWAYS	DATE
<i>Paul M. Soren</i>	2/17/94
CHIEF, BUREAU OF ENGINEERING	DATE

NO	DATE	REVISION
10-17-95		REVISE STORM DRAIN PROFILES PER STORM DRAIN ADDITIONS

T S A GROUP, INC
 planning • architecture • engineering
 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105

OWNER CHARLES A. REESE GEORGE A. PARROT BARBARA ANN FINAMORE SUSAN M. LAZAR 96 10715 CHARTER DRIVE COLUMBIA, MARYLAND 21044	PROJECT PATAPSCO RIDGE SECTION ONE
DEVELOPER SECURITY DEVELOPMENT CORP. 8480 BALTIMORE NATIONAL PIKE SUITE 415 ELLICOTT CITY, MARYLAND 21043	LOCATION TAX MAP 38 - PARCEL 263,649 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE JULY 17, 1991 JAN. 11, 1994	TITLE PROFILE HANOVER CROSSING WAY AND STORM DRAIN PROFILES
DES. DAM	DRN. I.P.
SCALE HORIZ. 1"=50' VERT. 1"=5'	PROJECT NO: 3099 DRAWING 3 OF 7

1688
8897



STRUCTURE SCHEDULE									
NO.	ITEM	LOCATION	INV. IN	INV. OUT	Tc	ELEV	REMARKS		
I-1	A-5	15' RT STA 10+46.27 PATUXENT QUARTER RD.	15'0 84.88	24'0 78.22	77%	92.95	HO. CO. STD. 504.01		
I-2	A-5	15' LT STA 10+46.27 PATUXENT QUARTER RD.	--	88.20	--	92.95	HO. CO. STD. 504.01		
I-3	A-5	15' RT STA 17+61 HANOVER CROSSING WAY	88.84	88.59	--	93.35	--		
I-4	A-5	15' LT STA 17+61 HANOVER CROSSING WAY	--	89.18	--	93.35	--		
I-5	A-5 W/DEFL	15' RT STA 10+68 PATUXENT QUARTER RD.	15'0 98.06	18'0 97.81	--	97.01	103.24		
I-6	A-5 W/DEFL	15' LT STA 10+68 PATUXENT QUARTER RD.	--	98.40	--	103.24	--		
I-7	A-5 W/DEFL	15' RT STA 8+82 PATUXENT QUARTER RD.	113.19	112.99	--	119.09	--		
I-8	A-5 W/DEFL	15' LT STA 8+82 PATUXENT QUARTER RD.	114.65	114.40	--	119.09	--		
I-9	A-5 W/DEFL	15' LT STA 7+02 PATUXENT QUARTER RD.	--	126.1	--	130.89	--		
H-2	HANHOLE	55' RT STA 14+51 PATUXENT QUARTER RD.	87'0 15.56	79.26	--	86.0	HO. CO. STD. 4.51.2		
H-3	HANHOLE	22' RT STA 12+60 PATUXENT QUARTER RD.	24'0 64.55	24'0 80.94	--	84.69	84.28		
M-4	HANHOLE	17' RT STA 11+55 PATUXENT QUARTER RD.	18'0 87.81	18'0 85.94	--	89.79	84.78		
E-2	27" END SECTION	105' RT STA 14+46 PATUXENT QUARTER RD.	--	74.0	--	--	HO. CO. STD. 60.352		
E-3	24" END SECTION	40' RT STA 12+56 PATUXENT QUARTER RD.	--	87.0	--	--	--		
E-4	20" END SECTION	61' RT STA 18+09 HANOVER CROSSING WAY	--	72.0	--	--	--		
E-5	20" END SECTION	48' LT STA 17+95 HANOVER CROSSING WAY	80.15	--	--	--	--		
E-6	24" END SECTION	48' PLAN SHEET No. 1	85.50	--	--	86.00	86.00		
E-7	24" END SECTION	48' PLAN SHEET No. 1	121.90	--	--	116.00	116.00		
* ELEVATION AT RIM									
ALL STORM DRAIN BEDDING SHALL BE CLASS 'C' TOP OF GRATE									
I-10	K' INLET	400' LT STA 12+50 PATUXENT QUARTER RD.	87.63	87.43	--	94.2	HO. CO. STD. 504.12 504.13		
I-11	K' INLET	SEE PLAN	113.50	113.20	--	126.0	HO. CO. STD. 504.12 504.13 504.15		
I-12	K' INLET	SEE PLAN	113.50	114.72	--	127.0	HO. CO. STD. 504.12 504.15		

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Uma Thurman
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 2/16/94
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Uma Thurman
 CHIEF, LAND DEVELOPMENT DIVISION
 2/16/94
 DATE

Andrew M. Danek
 CHIEF, BUREAU OF HIGHWAYS
 2-4-92
 DATE

Phillip J. ...
 CHIEF, BUREAU OF ENGINEERING
 2/17/94
 DATE

10-16-95 ADD STORM DRAINS, REVISE DRAINAGE AREAS AND STRUCTURE SCHEDULE
 NO. DATE REVISION

T S A GROUP INC.
 planning • architecture • engineering
 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105
John ...

OWNER: CHARLES A. REESE, GEORGE A. PARROT, BARBARA ANN FINAMORE, SUSAN M. LAZAR, % 10715 CHARTER DRIVE, COLUMBIA, MARYLAND 21044
 PROJECT: PATAPSCO RIDGE SECTION ONE
 LOCATION: TAX MAP 38 - PARCELS 263, 849, 1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 DEVELOPER: SECURITY DEVELOPMENT CORP., 8480 BALTIMORE NATIONAL PIKE, SUITE 415, ELlicOTT CITY, MARYLAND 21043
 TITLE: DRAINAGE AREA MAP
 DATE: JULY 17, 1991, JAN. 11, 1994
 PROJECT NO. 0399
 SCALE: AS SHOWN
 DRAWING 4 OF 9

1688

RIPRAP OUTLET SEDIMENT TRAP NO. 1
 DRAINAGE AREA: 2.20 AC.
 STORAGE PROVIDED: 1845 C.F.
 BOTTOM ELEV.: 92.5
 CREST ELEV.: 95.0
 CLEANOUT ELEV.: 96.0
 CREST WIDTH (6'): 6.0'
 STORAGE ELEV.: 93.5
 DEPTH (6'): 1.5'
 (SEE 30 SCALE BLOWUP SHEET G)

STONE OUTLET SEDIMENT TRAP NO. 2
 DRAINAGE AREA: 0.27 AC.
 STORAGE PROVIDED: 972 C.F.
 BOTTOM ELEV.: 92.5
 CREST ELEV.: 95.0
 CLEANOUT ELEV.: 96.0
 CREST WIDTH: 4.0'
 (SEE 30 SCALE BLOWUP SHEET 4)

By the Developer:
 "I/We certify that all development and/or construction will be done according to these plans, 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."
 Signature of Developer: *Edward D. Miller*
 Date: 1-14-94

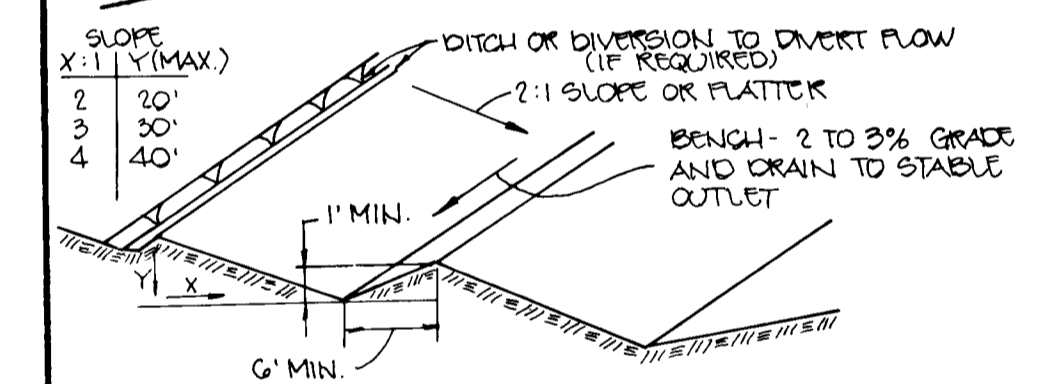
By the Engineer:
 "I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."
 Signature of Engineer: *John M. Eloranta*
 Date: 1/14/94

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 Signature: *Robert Endorfer*
 DATE: 1/20/94
 U.S. SOIL CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED: *Robert W. Zickler*
 HOWARD S.C.D.
 DATE: 1/20/94

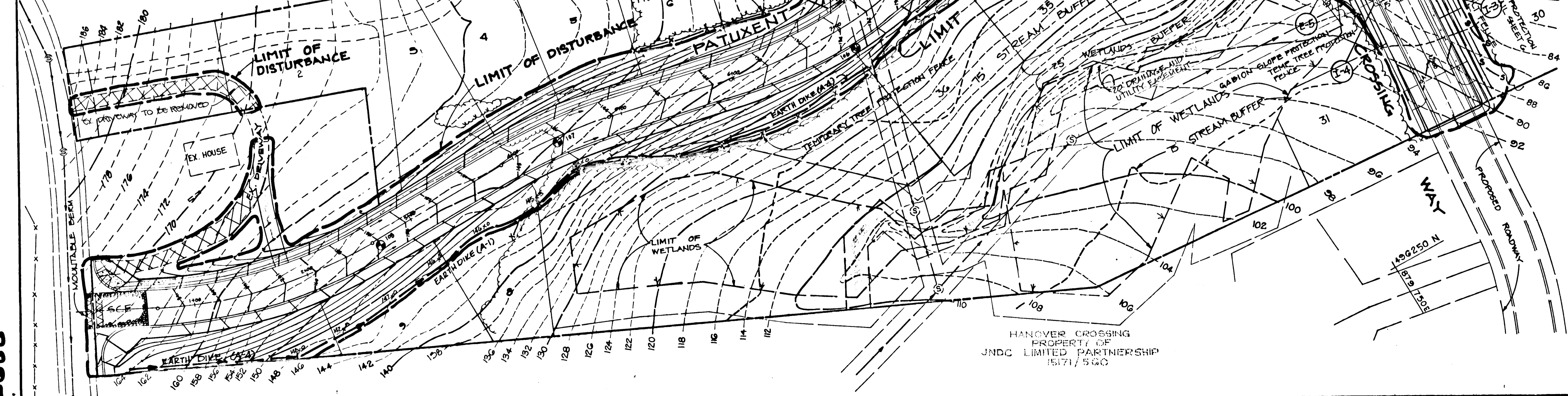
PROPERTY OF
 CHARLES A. REESE
 GEORGE A. PARROTT
 BARBARA ANN FINAMORE
 SUSAN M. LAZAR
 TAX MAP 38 PARCEL 723
 FUTURE SECTION 2
 PATAPSCO RIDGE
 1935 / 719

PROPERTY OF
 WILLIAM SLUSHER & WIFE
 700/727



- CONSTRUCTION SPECIFICATIONS**
1. ALL FILL SHALL BE COMPACTED AS REQUIRED TO REDUCE PROBABLY SETTLEMENT SUBSIDENCE OR OTHER RELATED PROBLEMS. ALL FILL SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
 2. ALL FILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 6" IN THICKNESS.
 3. EXCEPT FOR APPROVED LANDFILLS OR NONSTRUCTURAL FILL, ALL FILL SHALL BE FREE OF BROCK, RUBBER, ROCKS, STUMPS, BUILDING DEBRIS AND OTHER UNDESIRABLE MATERIALS WHICH INTERFERE WITH OR PREVENT CONSTRUCTION OF STRUCTURAL FILL.
 4. FROZEN MATERIAL OR SOFT MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL OR STRUCTURAL FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION.
 5. ALL BENCHES SHALL BE FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
 6. SEEDS OR GRASSES RECOMMENDED DURING CONSTRUCTION SHALL BE MAINTAINED IN ACCORDANCE WITH THE DISTRICT'S REQUIREMENTS FOR EROSION CONTROL OR OTHER APPROVED METHODS.
 7. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

DETAIL 28 - BENCHED SLOPES
 NO SCALE



- SEQUENCE OF CONSTRUCTION**
- DAY 1: OBTAIN A GRADING PERMIT
 - DAY 2-7: INSTALL STABILIZED CONSTRUCTION ENTRANCE, FENCE AND TEMPORARY 24" @ STA. 12+60 PAVEMENT CURB ROAD
 - DAY 8-13: INSTALL STORMWATER MANAGEMENT FACILITY SYSTEMS: BASIN, CONCRETE CHANNEL AT RAILROAD CULVERT AND STORM DRAINING FROM E-2 THROUGH E-5 TO E-5 TO ATWOOD CHANNEL, CROSSING OF HANOVER CROSSING AND STORM DRAIN FROM E-6 TO E-7
 - DAY 14-16: INSTALL EARTH DIKES AND ANY REMAINING CONTROL DEVICES.
 - DAY 17-25: CLEAR AND GRUB AREA OF DISTURBANCE.
 - DAY 26-42: GRADE SITE TO SUBGRADE AND STABILIZE IN ACCORDANCE WITH PERMANENT SEED BED NOTES.
 - DAY 43-63: INSTALL REMAINING STORM DRAIN. AFTER INSTALLING FROM M-2 TO E-3 REMOVE TEMPORARY 24" D.
 - DAY 64-74: INSTALL CURB AND GUTTER AND PAVING.
 - DAY 75-81: STABILIZE ALL REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEED BED NOTES.
 - DAY 82-85: UPON THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT FROM SEDIMENT BASIN AND CONVERT TO PERMANENT STORMWATER MANAGEMENT FACILITY AS FOLLOWS:
 1. PUMP OUT ANY IMPOUNDED WATER.
 2. REMOVE SEDIMENT, RESHAPE FACILITY TO PROPOSED GRADES SHOWN ON PLANS AND STABILIZE IN ACCORDANCE WITH PERMANENT SEED BED NOTES.
 3. REVERSE WITH CREST AND TRASH RACK ON LEFT SIDE OF STRUCTURE TO FINAL S.M.M. ELEVATION.

STORMWATER MANAGEMENT ACCESS DRIVE

SHALLOW MARSH AREA

STORMWATER MANAGEMENT DRAINAGE AND UTILITY EASEMENT

STORMWATER MANAGEMENT FACILITY (EXTENDED DETENTION) / SEDIMENT BASIN WITH SHALLOW MARSH

SEDIMENT BASIN DATA

TOTAL D.A. TO SWMP = 30.08 AC. -
 16.9 AC. UNDISTURBED AREA BYPASSED THROUGH TEMP 24" DURING SEDIMENT CONTROL PHASE = SEDIMENT CONTROL D.A. = 13.2 AC.

STORAGE REQ. = 23,760 CF
 STORAGE ELEV. = STOR. AT FIRST WEIR CREST = 24.923 FT
 TOP ELEV. = 95.2
 BOTTOM ELEV. = 73.0
 STORAGE ELEV. = 77.0
 CLEANOUT ELEV. = 76.1

SEE INSET ON SHEET NO. 6 FOR STABILIZATION OF SWALE IN THIS AREA

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Uma Swann 2/18/94
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John D. ... 2/16/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Robert W. Zickler 2-4-94
 CHIEF, BUREAU OF HIGHWAYS DATE HS

Charles ... 2/17/94
 CHIEF, BUREAU OF ENGINEERING DATE SH

NO DATE REVISION

TSA GROUP INC
 planning • architecture • engineering
 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105

OWNER
 CHARLES A. REESE
 GEORGE A. PARROTT
 BARBARA ANN FINAMORE
 SUSAN M. LAZAR
 % 10715 CHARTER DRIVE
 COLUMBIA MARYLAND 21044

PROJECT
PATAPSCO RIDGE
 SECTION ONE
 LOCATION: TAX MAP 38 PARCELS 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

DEVELOPER
 SECURITY DEVELOPMENT CORP
 PO BOX 417
 ELLICOTT CITY, MARYLAND
 21043

TITLE
GRADING AND SEDIMENT CONTROL PLAN
 DATE: JULY 17, 1994
 DATE: JAN. 11, 1994
 PROJECT NO: 0599

DES. D.A.M. **DRN. D.B.T.** **SCALE: 1" = 50'** **DRAWING 5 OF 9**

1687

PERMANENT SEEDBED PREPARATION

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- 1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 lbs/1000 sq ft) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 lbs/1000 sq ft) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREA-FORM FERTILIZER (9 lbs/1000 sq ft).
- 2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 lbs/1000 sq ft) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 lbs/1000 sq ft) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30 AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 lbs/1000 sq ft) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (1.05 lbs/1000 sq ft) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOO. OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 lbs/1000 sq ft) OF UNKOTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 gal/1000 sq ft) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 gal/1000 sq ft) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDBED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDBED PREPARATION

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 lbs/1000 sq ft).

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 lbs/1000 sq ft). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 lbs/1000 sq ft). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.

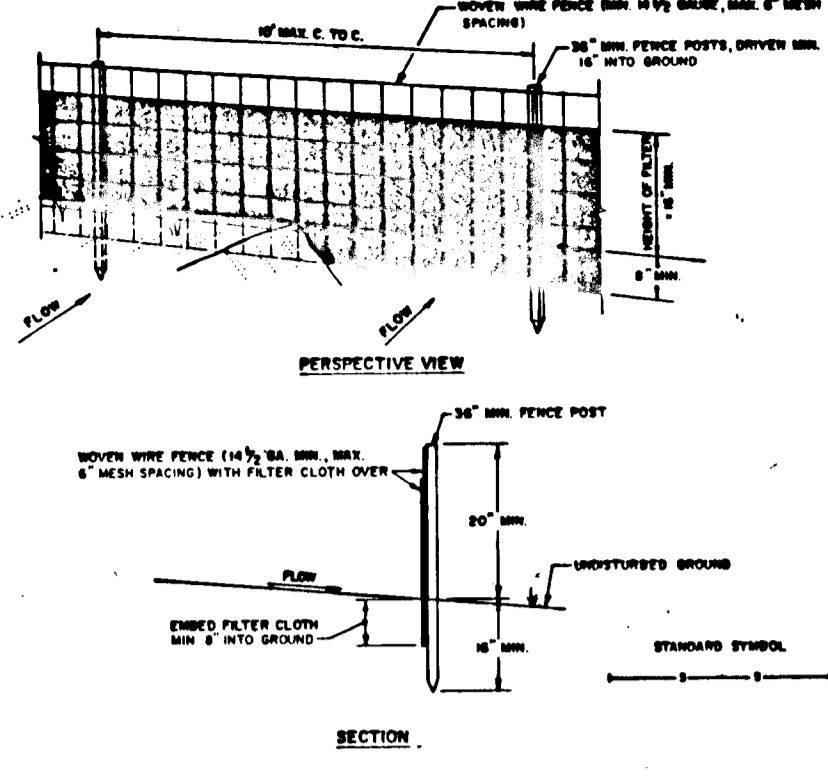
MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 lbs/1000 sq ft) OF UNKOTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 gal/1000 sq ft) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 gal/1000 sq ft) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

HOWARD SOIL CONSERVATION DISTRICT

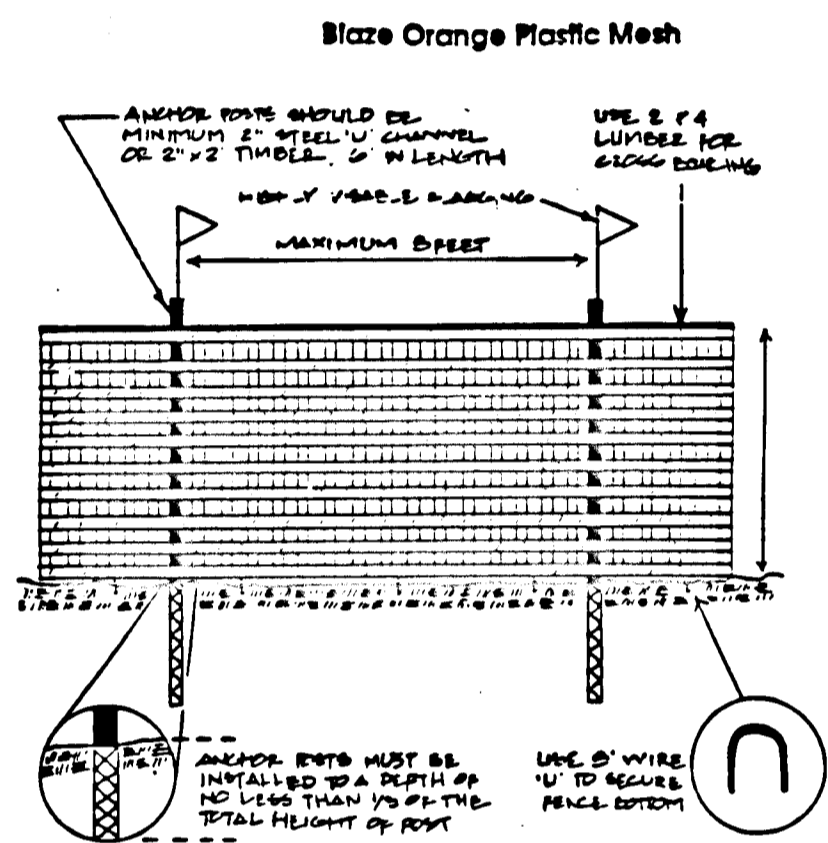
SEEDBED PREPARATION CONTROL NOTES

- 1) A minimum of 48 hours notice must be given to the Howard County Department of Inspection, Licenses and Permits, Sediment Control Division prior to the start of any construction. (131-198)
- 2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be maintained with the most current "MOUNTAIN STRIPPER AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" revisions thereto.
- 3) Following initial soil disturbance or redistribution, placement of temporary stabilization shall be completed within: a) 7 calendar days for all permanent sediment control structures, dikes, permanent berms and all slopes greater than 3:1; b) 14 days for all other disturbed or graded areas on the project site.
- 4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Volume 11, Chapter 13, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MOUNTAIN STRIPPER AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Section 31) and Section 32 (Temporary Seeding (Section 30) and Mulching (Section 31). Temporary stabilization seeding shall not be used for slopes greater than 3:1. Seeding shall not be used for slopes greater than 3:1. Seeding shall not be used for slopes greater than 3:1. Seeding shall not be used for slopes greater than 3:1.
- 6) All sediment control structures are to remain in place and are to be maintained in operating condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- 7) Site Analysis:
 - Total Area of Site: 21.92 Acres
 - Area to be Graded or Paved: 7.5 Acres
 - Area to be Vegetatively Stabilized: 3.32 Acres
 - Total Cut: 16.12 Cu. Yds.
 - Total Fill: 15.52 Cu. Yds.
 - Off-site Haul/Borrow Area Located: ON SITE
- 8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- 9) Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- 10) On all sites with disturbed areas in excess of 3 acres, approval of the inspection agency shall be requested upon completion of installation of permanent erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Close maintenance of erosion inspections approval may not be authorized until this initial approval by the inspection agency is made.
- 11) Trenches for the construction of utilities to be installed to three pipe lengths of that which can be back filled and stabilized within one working day, whichever is shorter.

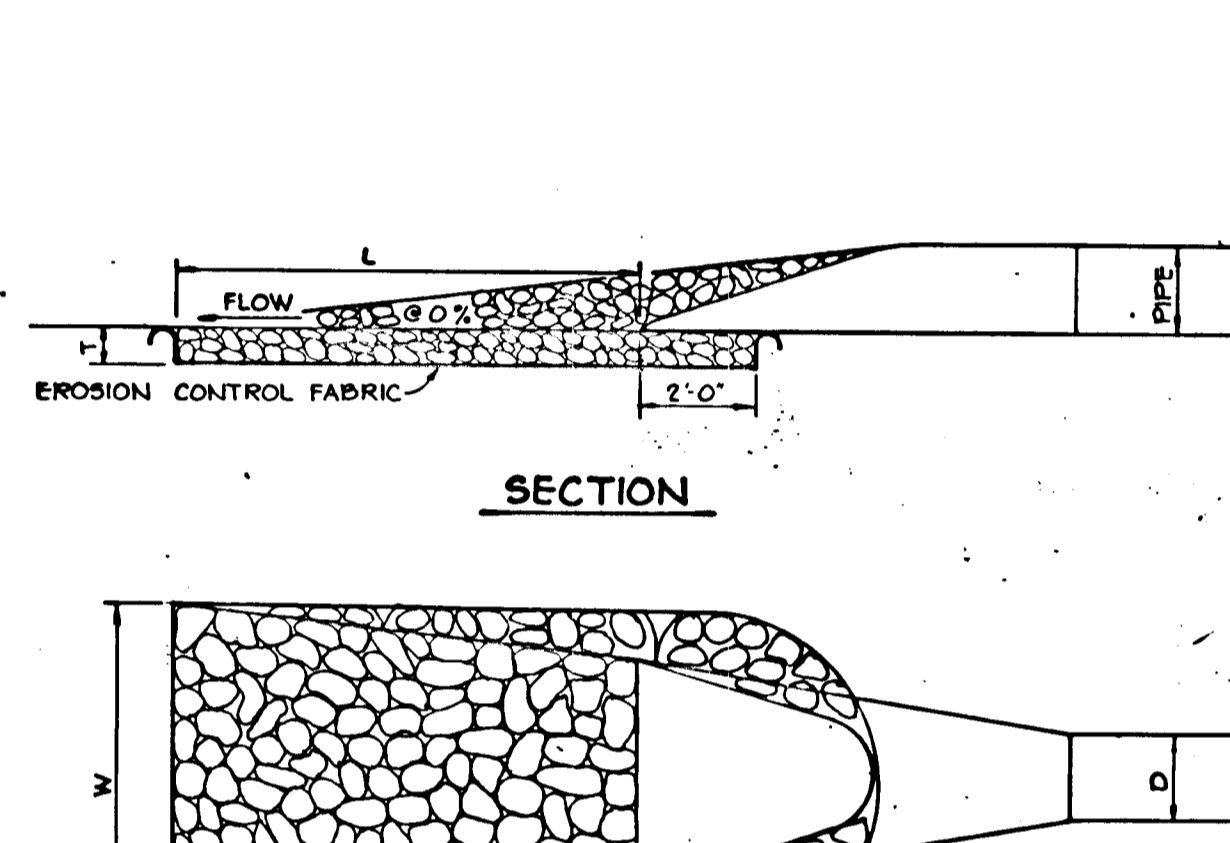


- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE:**
1. WHEN WIRE FENCE IS TO BE FASTENED TO POSTS, STEEL EITHER T OR U TYPE OR 2" WOODEN POSTS.
 2. FILTER CLOTH TO BE FASTENED TO WIRE OR POSTS WITH WIRE STAPLES. WIRE STAPLES TO BE SPACED 12" ON CENTER.
 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "RAKES" DEVELOP IN THE SILT FENCE.

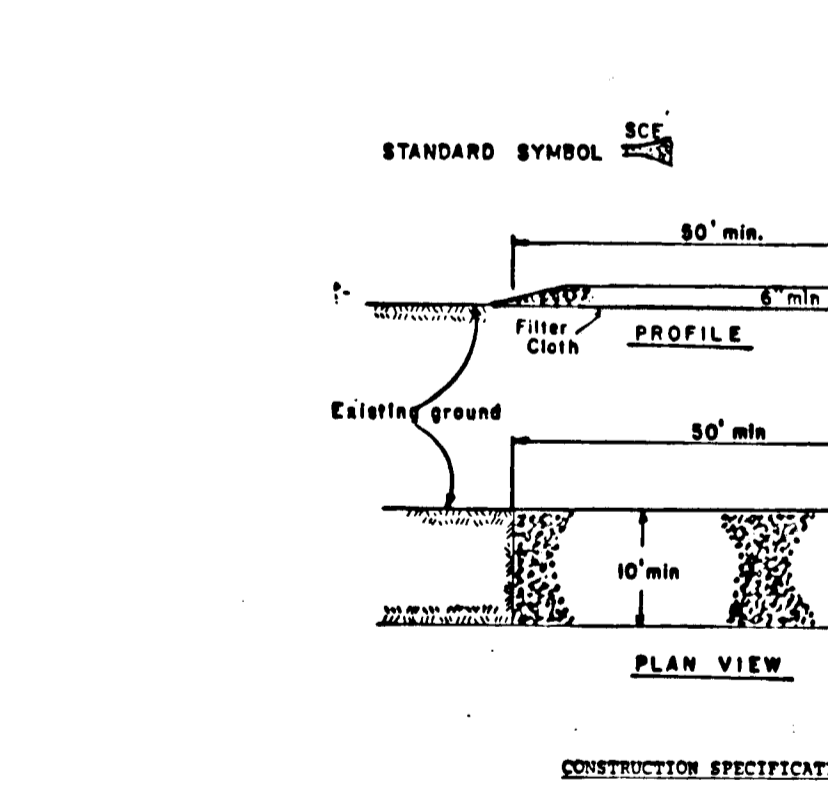
SILT FENCE
NOT TO SCALE



EARTH DIKE
NOT TO SCALE



TEMPORARY TREE PROTECTION FENCE DETAIL

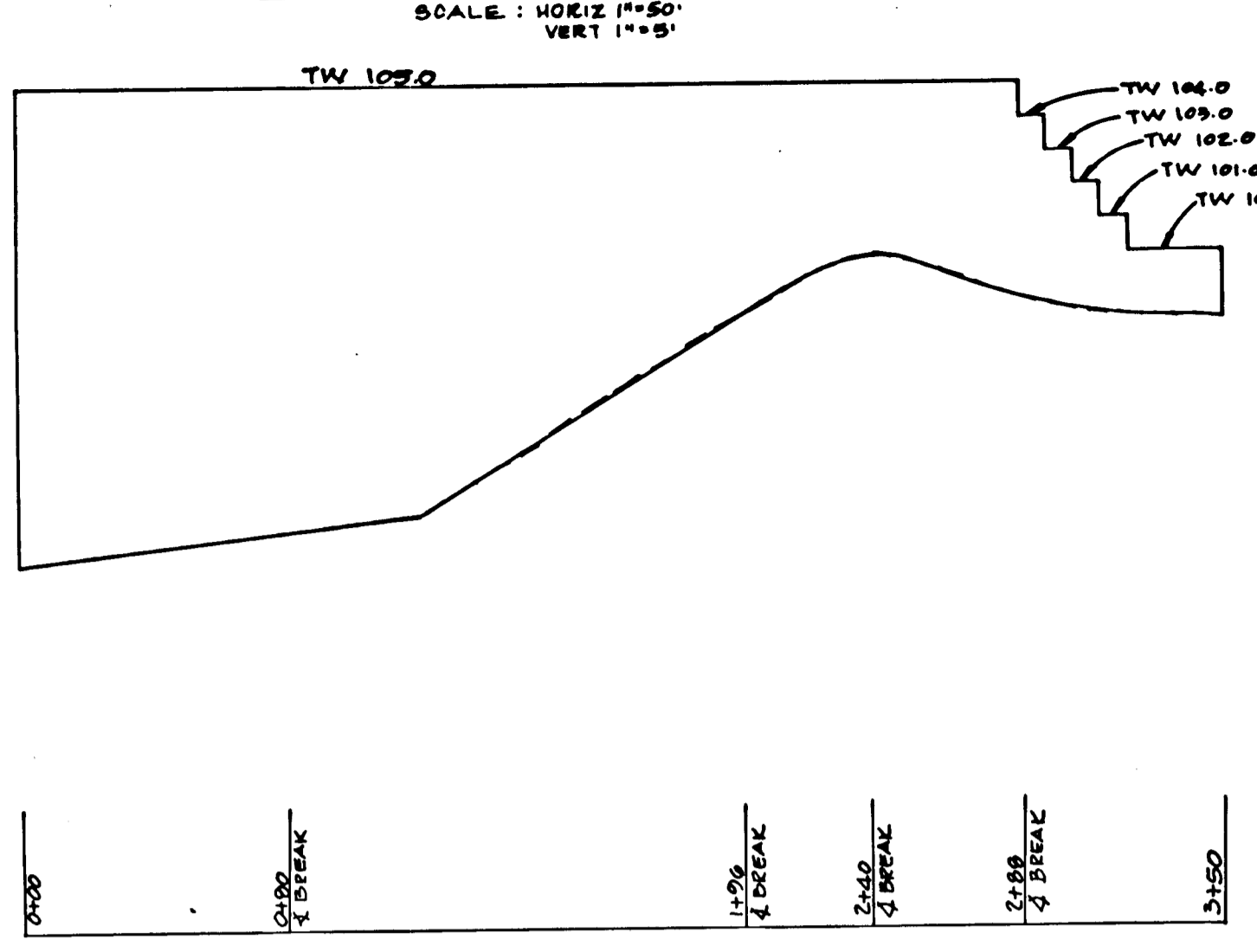


- CONSTRUCTION SPECIFICATIONS:**
1. Stone Size - One 2" stone, or reclaimed or recycled concrete equivalent.
 2. Length - As required, but not less than 50 feet (except on a single residence lot where a 20 foot minimum length would apply).
 3. Thickness - Not less than six (6) inches.
 4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
 5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
 6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 3:1 slopes will be permitted.
 7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleaning of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
 9. Periodic inspection and needed maintenance shall be provided after each rain.

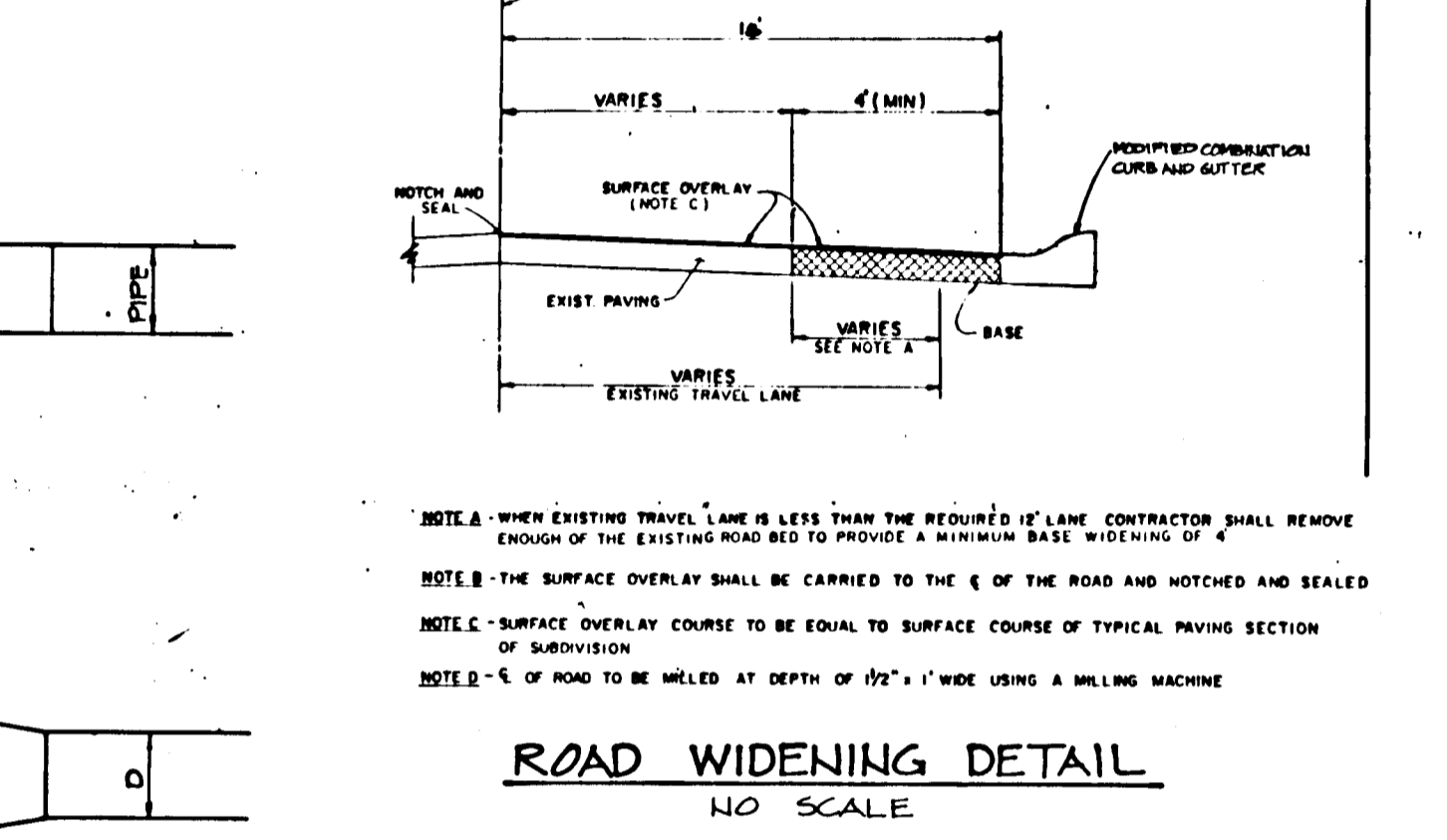
STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



NOISE WALL PROFILE



NOISE BARRIER DETAILS



EMBEDMENT TABLE

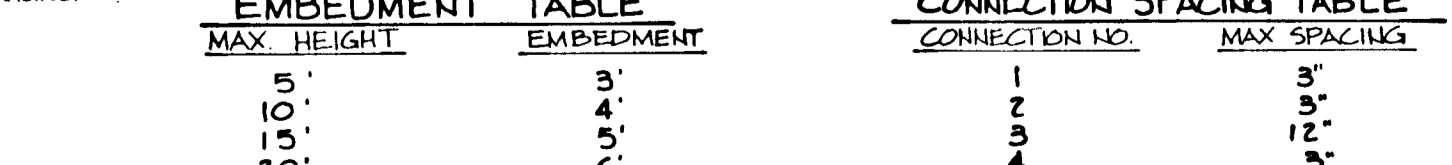
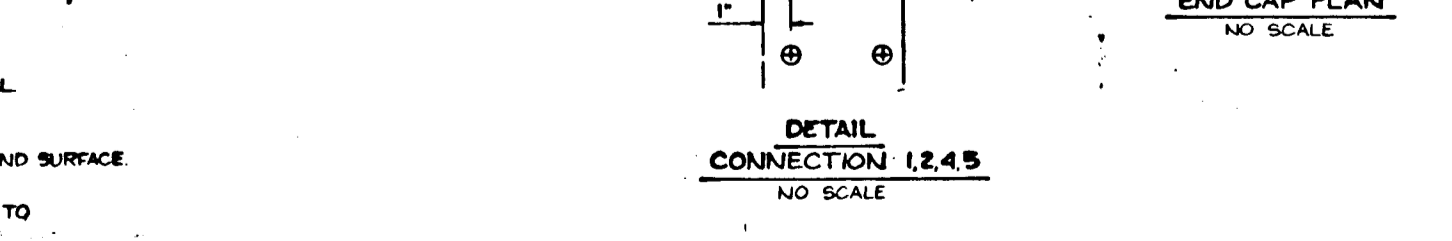
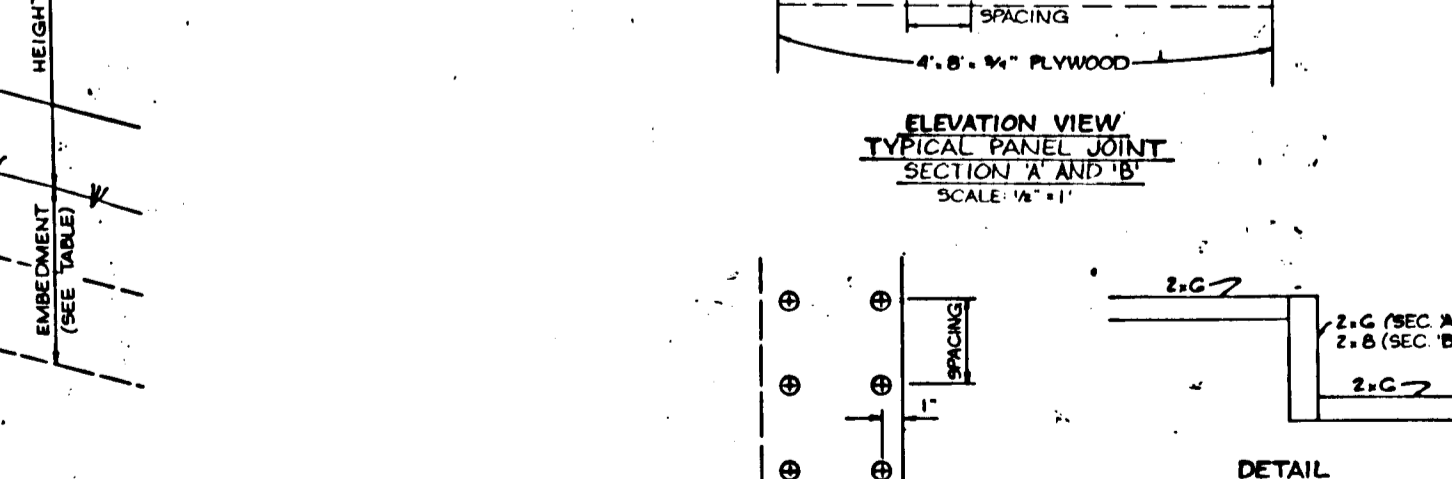
MAX HEIGHT	EMBEDMENT
5'	3'
10'	4'
15'	5'
20'	6'

CONNECTION SPACING TABLE

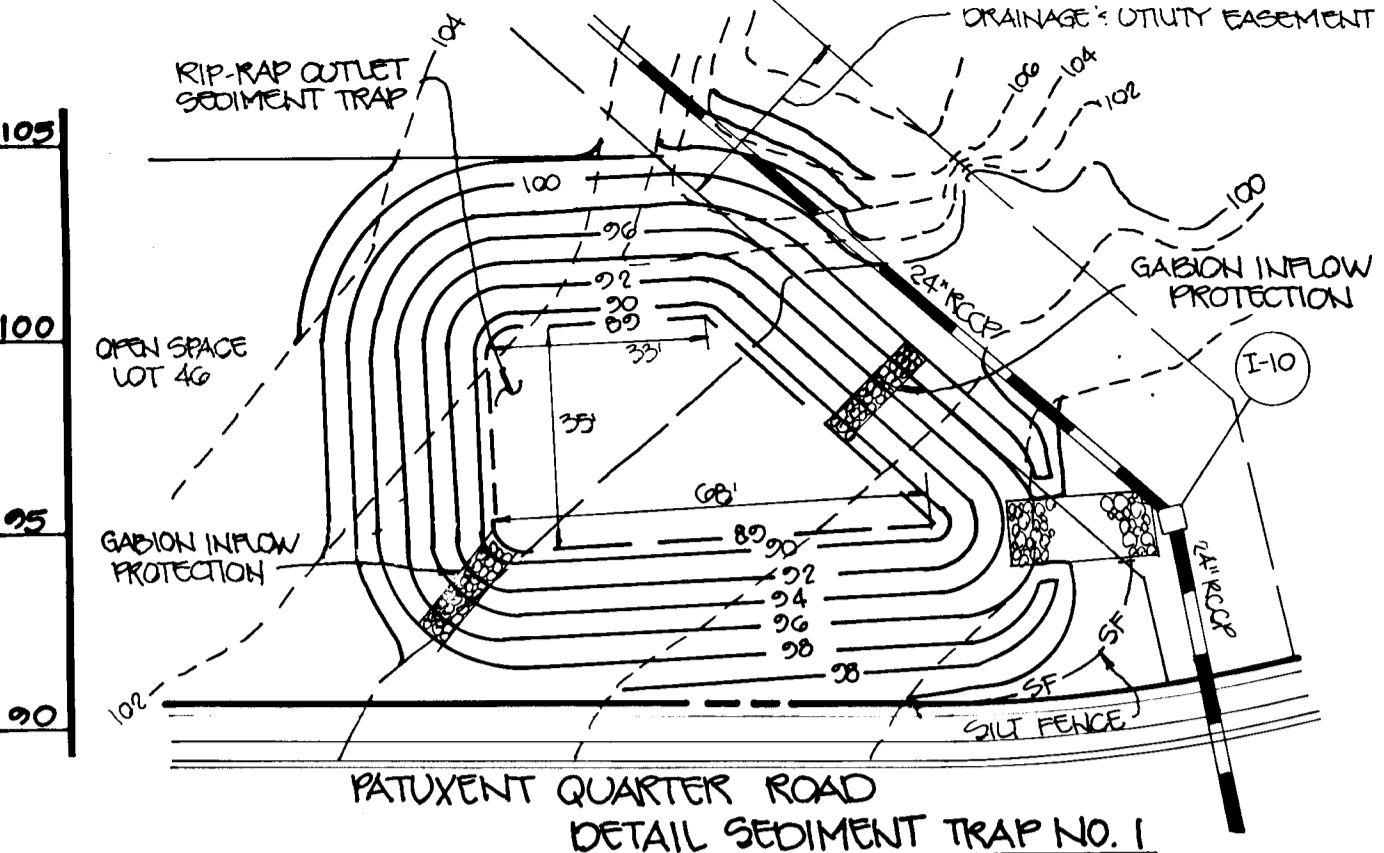
CONNECTION NO.	MAX SPACING
1	3'
2	5'
3	12'
4	5'
5	5'

NOISE WALL SEQUENCE

1. GRADE BERM TO ELEVATION OF BOTTOM OF WALL.
2. FABRICATE COLUMN ASSEMBLIES.
3. SET UP AND BRACE COLUMNS.
4. INSTALL PANELS TO JUST ABOVE FINISHED GROUND SURFACE.
5. GRADE BERM TO FINISHED ELEVATION.
6. BACKFILL EMBEDDED PORTION AND TRAMP PRIOR TO INSTALLING PANELS ABOVE FINISHED GROUND.
7. INSTALL UPPER PANELS AND END CAP REMOVE BRACING.



NOISE BARRIER DETAILS



By the Developer:
 Signature of Developer: *Signature*
 Date: 1-14-94

By the Engineer:
 Signature of Engineer: *Signature*
 Date: 1/21/94

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 Signature of Engineer: *Signature*
 Date: 1/21/94

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature of Engineer: *Signature*
 Date: 1/21/94

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Signature: *Signature*
 Date: 2/18/94

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Signature: *Signature*
 Date: 2-4-94

Signature: *Signature*
 Date: 2/17/94

NO DATE REVISION

TSA GROUP, INC.
 planning • architecture • engineering
 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105

OWNER: CHARLES A. REESE, GEORGE A. PARROT, BARBARA ANN ANAMORE, SUSAN M. LAZAR
 PROJECT: PATAPSCO RIDGE SECTION ONE
 LOCATION: TAX MAP 38 - PARCEL 263,849 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DEVELOPER: SECURITY DEVELOPMENT CORP, 8480 BALTIMORE NATIONAL PIKE SUITE 415, ELLICOTT CITY, MARYLAND 21043
 TITLE: WP-92-127 F-92-25
 SEDIMENT CONTROL NOTES: 5-00-73 WP-92-54 AND DETAILS P-210 P-02-11
 DATE: JULY 17, 1991
 PROJECT NO: 0399

DES DAM: DRN I.P. SCALE: AS SHOWN DRAWING: G OF 9

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of roots. All trees, vegetation, rocks and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material: The fill material shall be taken from approved designated borrow areas. It shall be free of roots, clumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

Placement: Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction: The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by no less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within $\pm 2\%$ of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

Cut Off Trench: The cutoff trench shall be excavated into impervious material adjacent to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe: All of the following criteria shall apply for corrugated metal pipe:

- 1. **Materials - (Steel Pipe)** - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon, Plastico, Blac-Klax, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-193 and M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be primed with one coat of zinc chromate primer. Hot dip galvanized bolts may be used at connections. The pH of the surrounding soils shall be below 4 and 9.

- 2. **Coupling bands, anti-seep collars, and sections, etc.**, must be composed of the same material as the pipe. No joints shall be insulated from dissimilar materials with use of rubber or plastic insulating materials. At least 24 mils in thickness.
- 3. **Connections** - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 48" in diameter: flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed cell neoprene gasket; and a 12" wide huggier type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 48" in diameter and larger shall be connected by a 24" long, annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed cell neoprene gasket will be installed on the end of each pipe for a total of 24".

Helicly corrugated pipe shall have either continuously welded seams or have lock seams.

- 4. **Backfilling** - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- 5. **Backfilling** shall conform to "Structure Backfill".
- 6. **Other details** (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe: All of the following criteria shall apply for reinforced concrete pipe:

- 1. **Materials** - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361. An approved equivalent is AWWA Specification C-302.
- 2. **Bedding** - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and on the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 4 inches, or as shown on the drawings.
- 3. **Laying pipe** - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.
- 4. **Backfilling** shall conform to "Structure Backfill".
- 5. **Other details** (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Polyvinyl Chloride (PVC) Pipe: All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

- 1. **Materials** - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
- 2. **Joints and connections** to anti-seep collars shall be completely watertight.
- 3. **Bedding** - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- 4. **Backfilling** shall conform to "Structure Backfill".
- 5. **Other details** (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Concrete

- 1. Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3.

Rock Riprap

All rock shall be dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering. The rock fragments shall be angular to subrounded in shape. The least dimension of an individual rock fragment shall be not less than one-third the greatest dimension of the fragment.

The rock shall have the following properties:

- 1. Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
- 2. Absorption not more than three percent.
- 3. Soundness: Weight loss in five cycles not more than 20 percent when sodium sulfate is used.

Bulk specific gravity and absorption shall be determined according to ASTM C 127. The test for soundness shall be performed according to ASTM C 88.

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The Contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919.12.

Care of Water during Construction

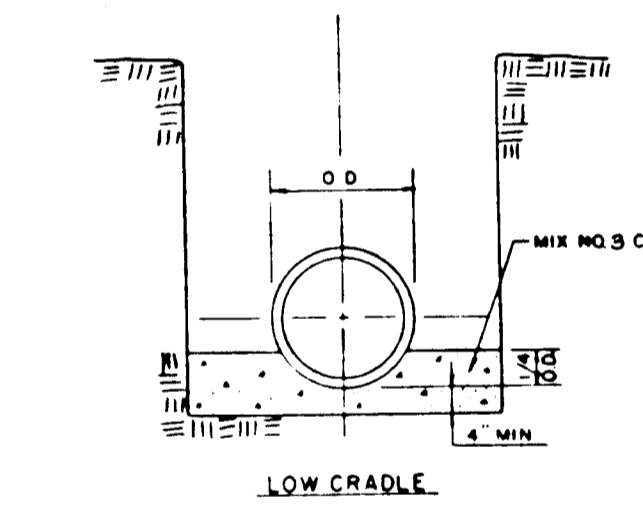
All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The Contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a satisfactory condition. All exposed surfaces of the embankment, spillway, soil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-542) or as shown on the accompanying drawings.

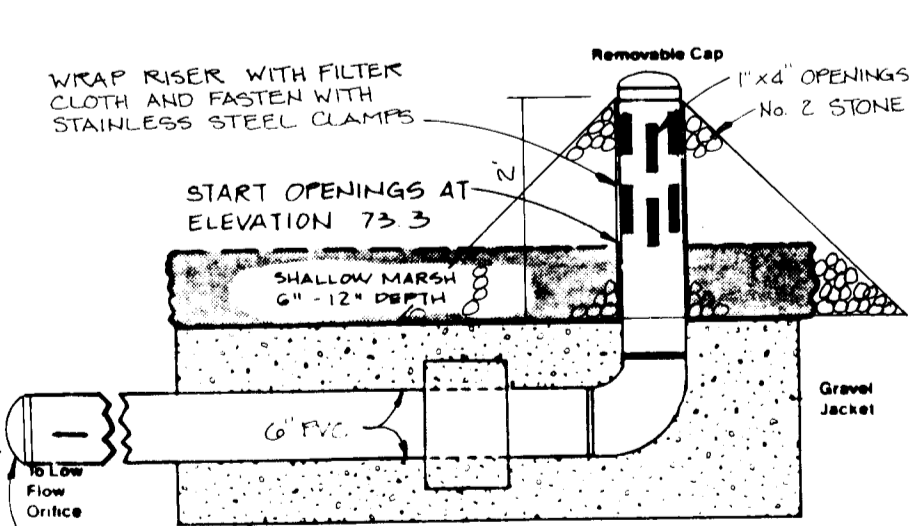
Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.



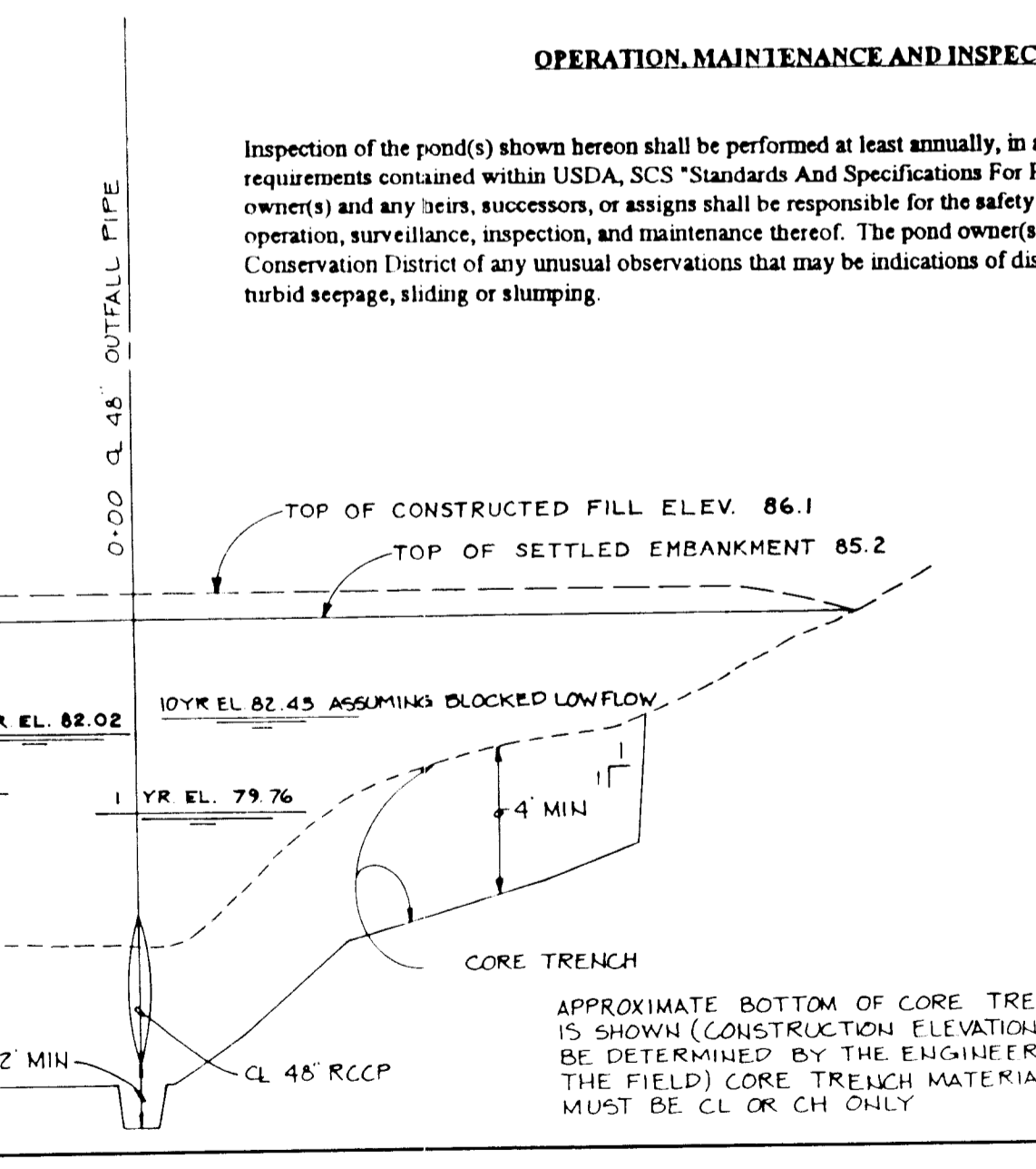
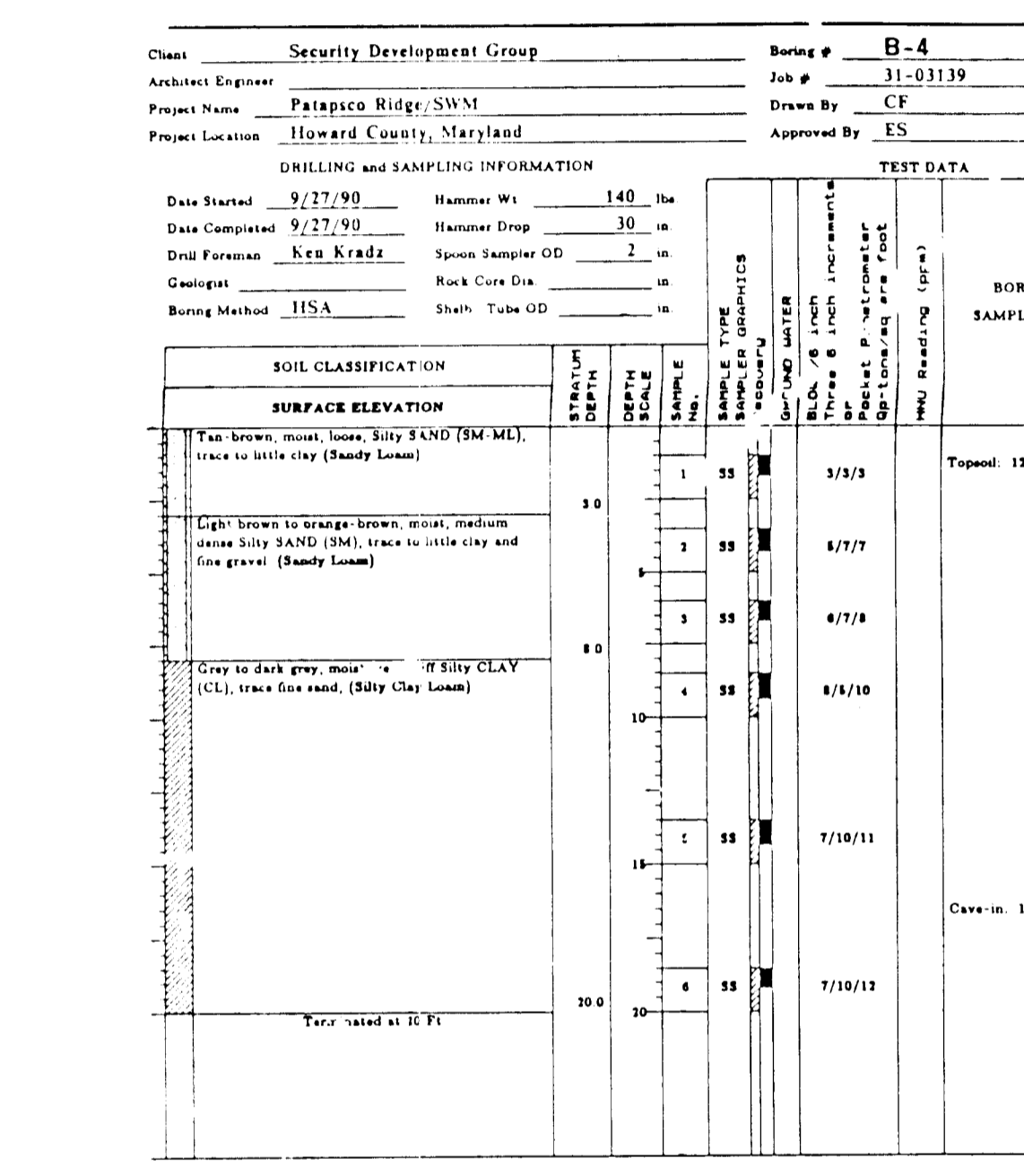
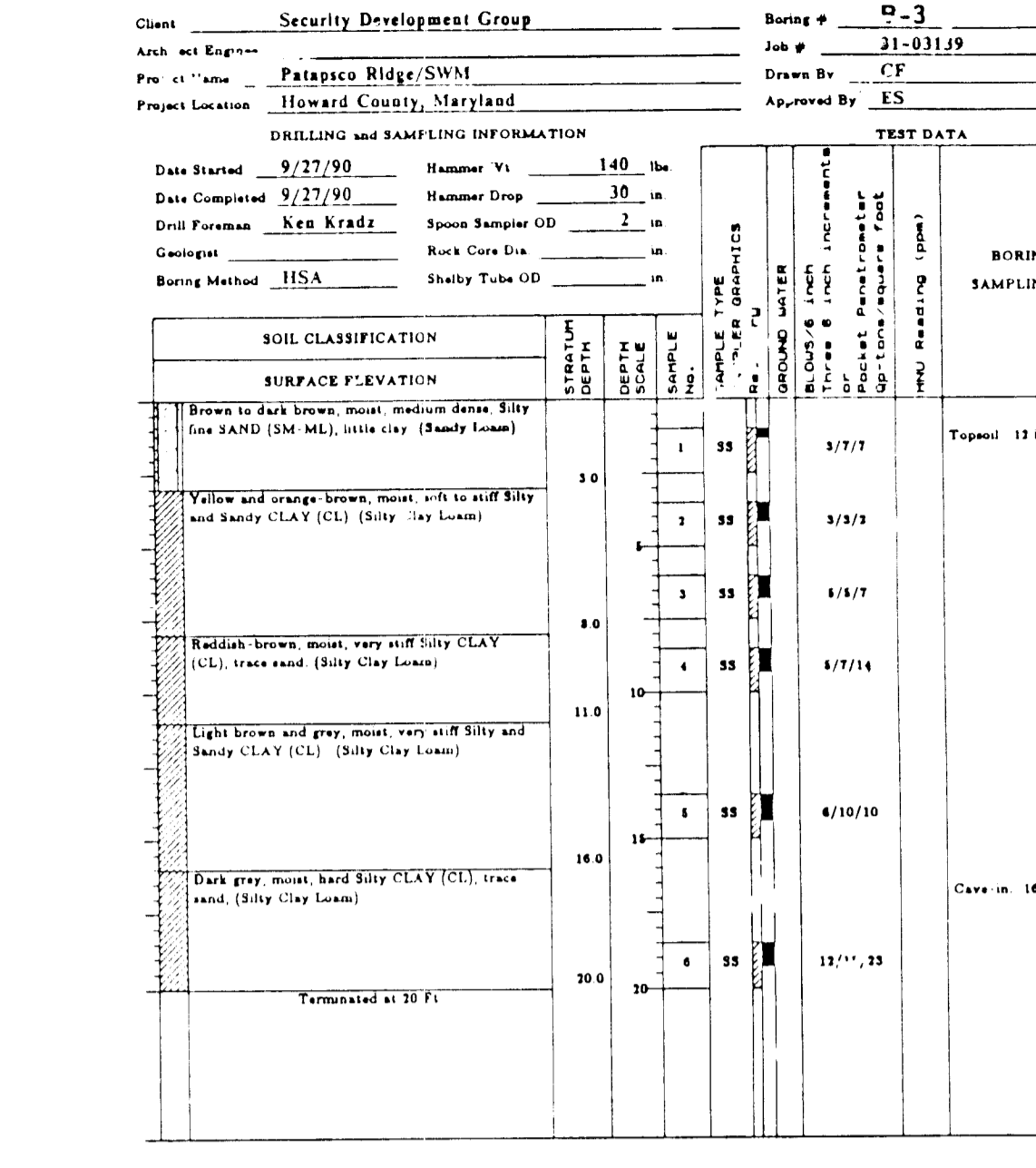
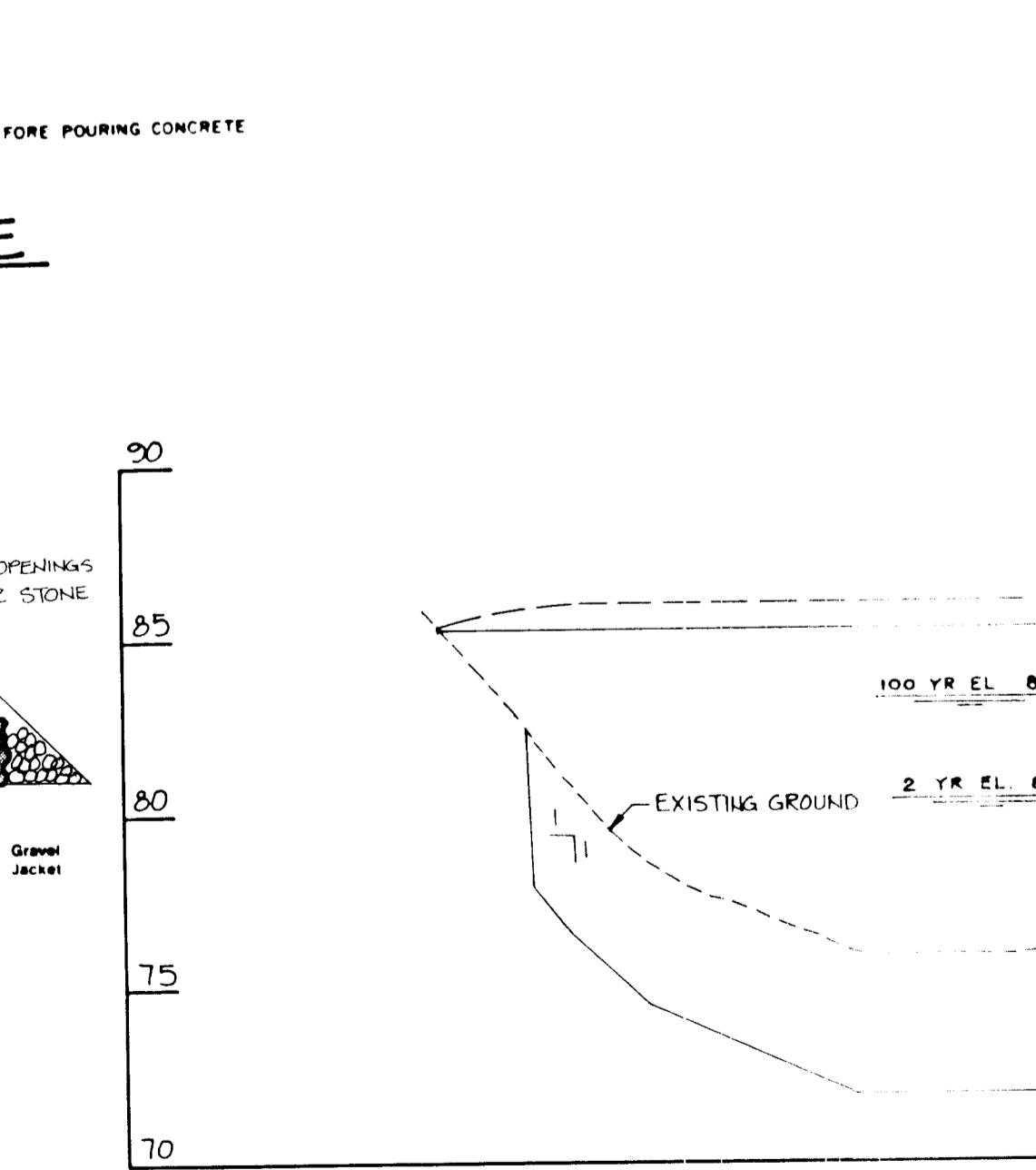
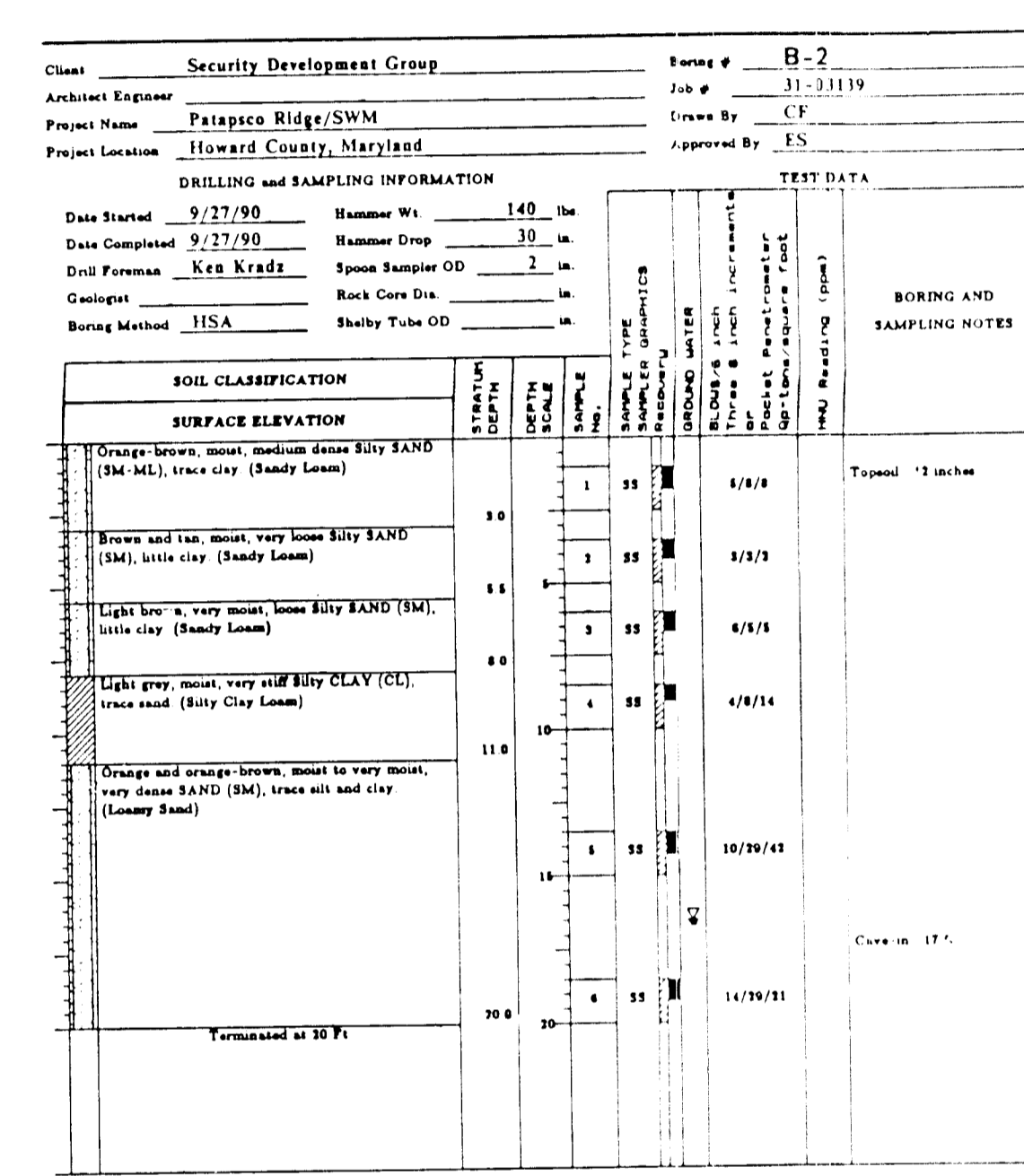
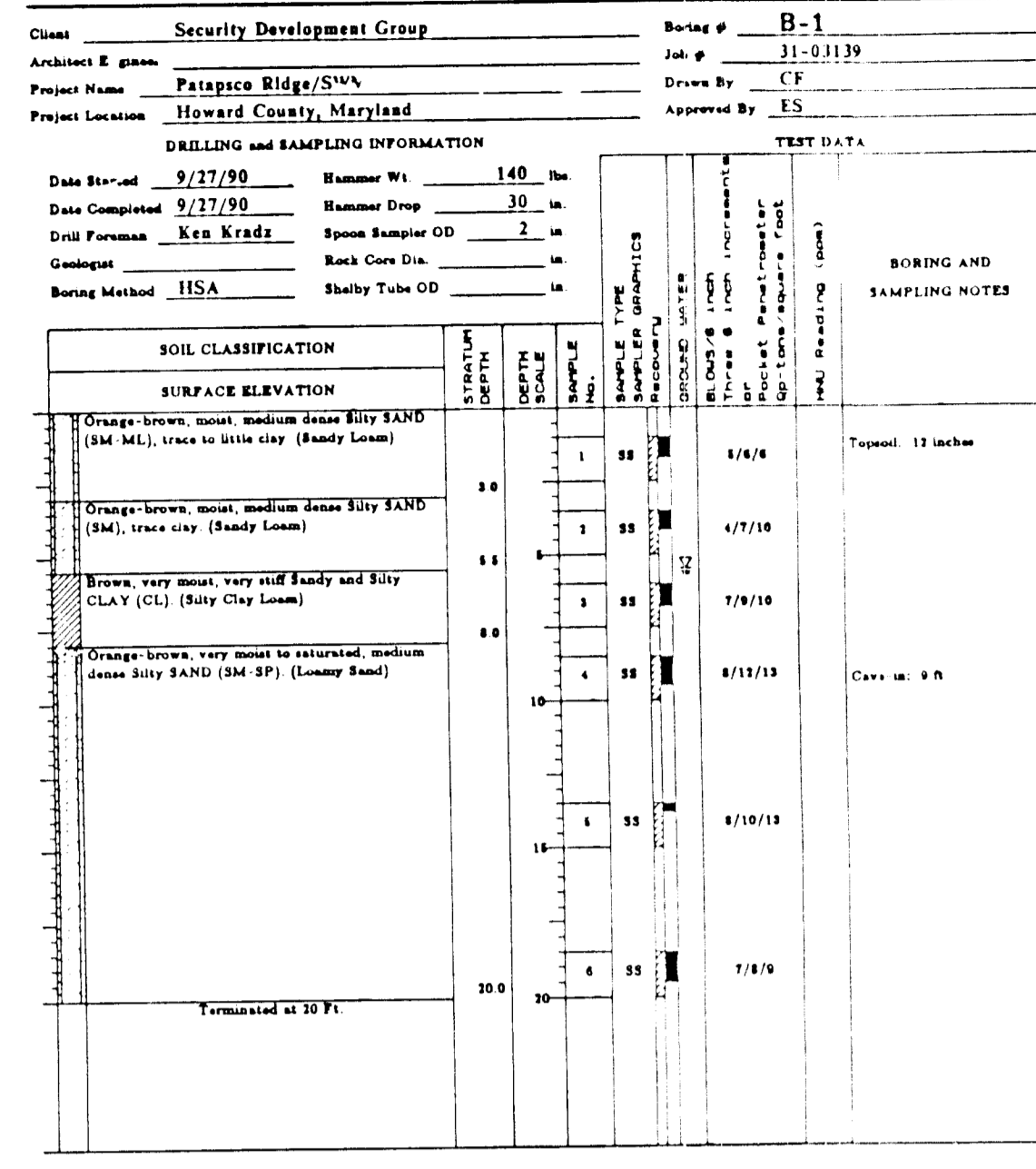
NOTES
1. POOR CONCRETE TO UNDISTURBED EARTH REMOVE SHEETING BEFORE POURING CONCRETE
2. ON LEAVE LOWER PORTION OF SHEETING IN PLACE

**CONCRETE CRADLE
DETAIL
NO SCALE**



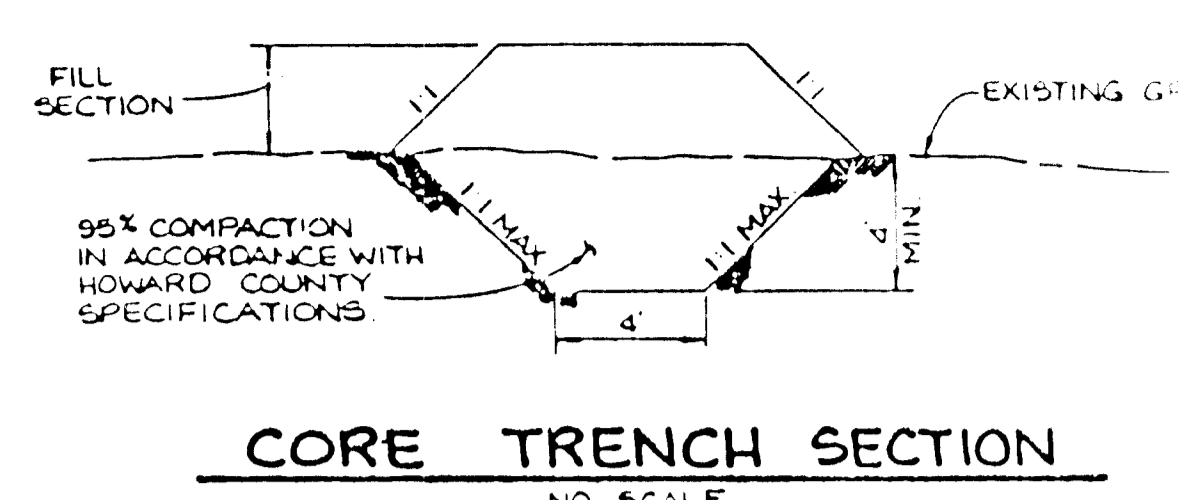
REMOVABLE CAP WITH 2" DIA. ORIFICE DRILLED @ 10" ON CENTER TO ALLOW FOR INSPECTION AND CLEANING. SEE CONTROL STRUCTURE DETAIL.

REMOVABLE CAP WITH 2" DIA. ORIFICE DRILLED @ 10" ON CENTER TO ALLOW FOR INSPECTION AND CLEANING. SEE CONTROL STRUCTURE DETAIL.



OPERATION, MAINTENANCE AND INSPECTION

Inspection of the pond(s) shown herein shall be performed at least annually, in accordance with the checklist and requirements contained within USDA, SCS "Standards And Specifications For Ponds" (MD-378). The pond owner(s) and any heirs, successors, or assigns shall be responsible for the safety of the pond and the continued operation, surveillance, inspection, and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any unusual observations that may be indications of distress such as excessive seepage, turbid seepage, sliding or slumping.



**CORE TRENCH SECTION
NO SCALE**

NOTE: 1. CORE TRENCH SHALL EXTEND TO IMPERVIOUS MATERIAL (CL OR CH) AS DETERMINED BY A GEOTECHNICAL ENGINEER ON SITE, AND MAY REQUIRE TO BE HAILED FROM AN OPPOSITE LOCATION.
2. IF WATER IS ENCOUNTERED DURING THE CONSTRUCTION OF THE CORE TRENCH IT IS TO BE REMOVED BY PUMPING.

By the Developer:

"I hereby certify that all development and/or construction will be done according to these plans, 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature of Developer _____ Date _____

By the Engineer:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Signature of Engineer _____ Date _____

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL

U.S. SOIL CONSERVATION SERVICE _____ DATE _____

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: _____ DATE _____

HOWARD S.C.D.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH _____ DATE _____

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION _____ DATE _____

CHIEF, BUREAU OF HIGHWAYS _____ DATE _____

CHIEF, BUREAU OF ENGINEERING _____ DATE _____

NO	DATE	REVISION

T S A GROUP INC.

planning • architecture • engineering

8480 Baltimore National Pike • Suite 418 • Ellicott City, Maryland 21043 • 410-975-2000

OWNER: CHARLES A REESE, GEORGE A PARROT, BARBARA ANN FINAHOPE, SUSAN M LAZAR, JUDITH CHARTER DRIVE, COLUMBIA, MARYLAND 21044

DEVELOPER: SECURITY DEVELOPMENT CORP, 8480 BALTIMORE NATIONAL PIKE, SUITE 415, EL LICOTT CITY, MARYLAND 21043

PROJECT: PATAPSCO RIDGE SECTION 100

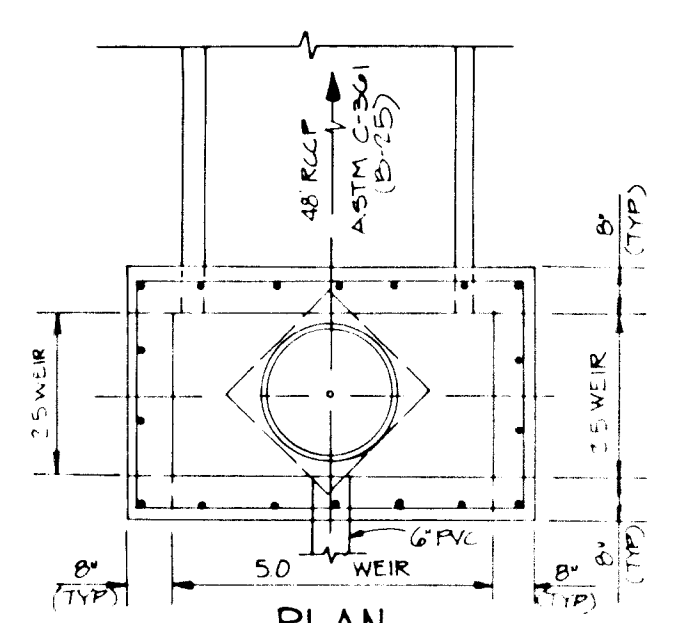
LOCATION: TAX MAP 38 - PARCEL 269 849, 1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: STORMWATER MANAGEMENT SPECIFICATIONS AND DETAILS

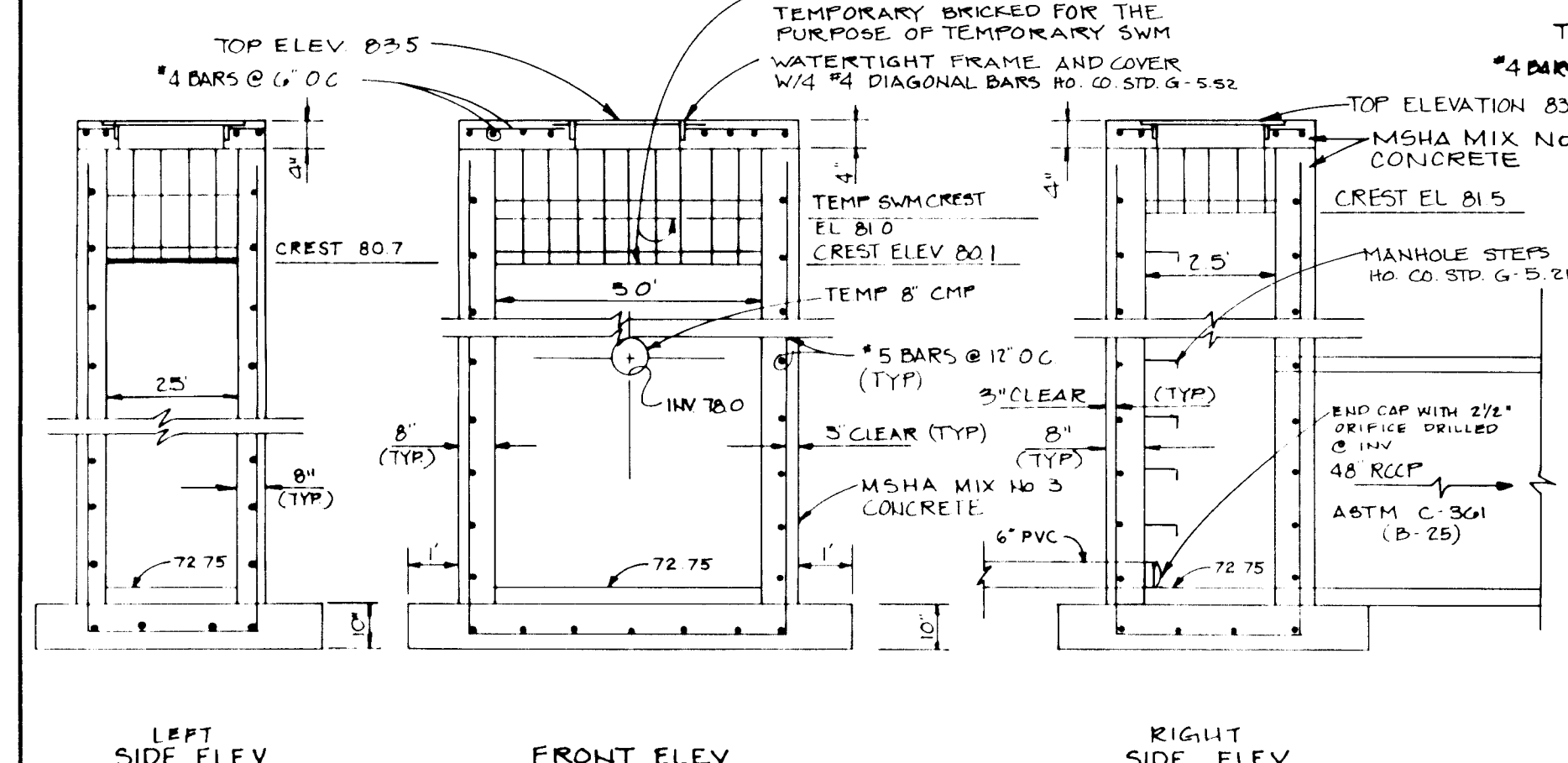
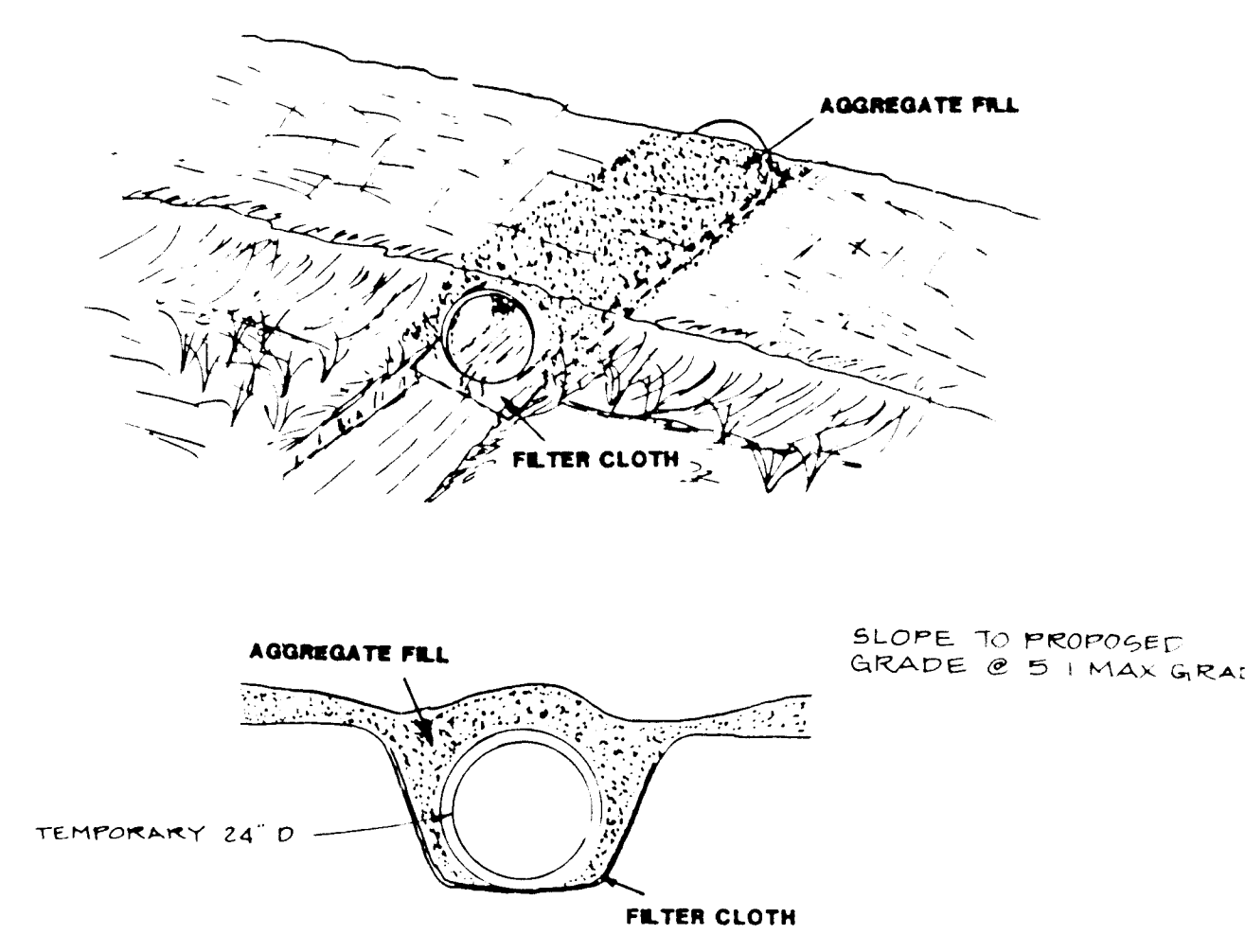
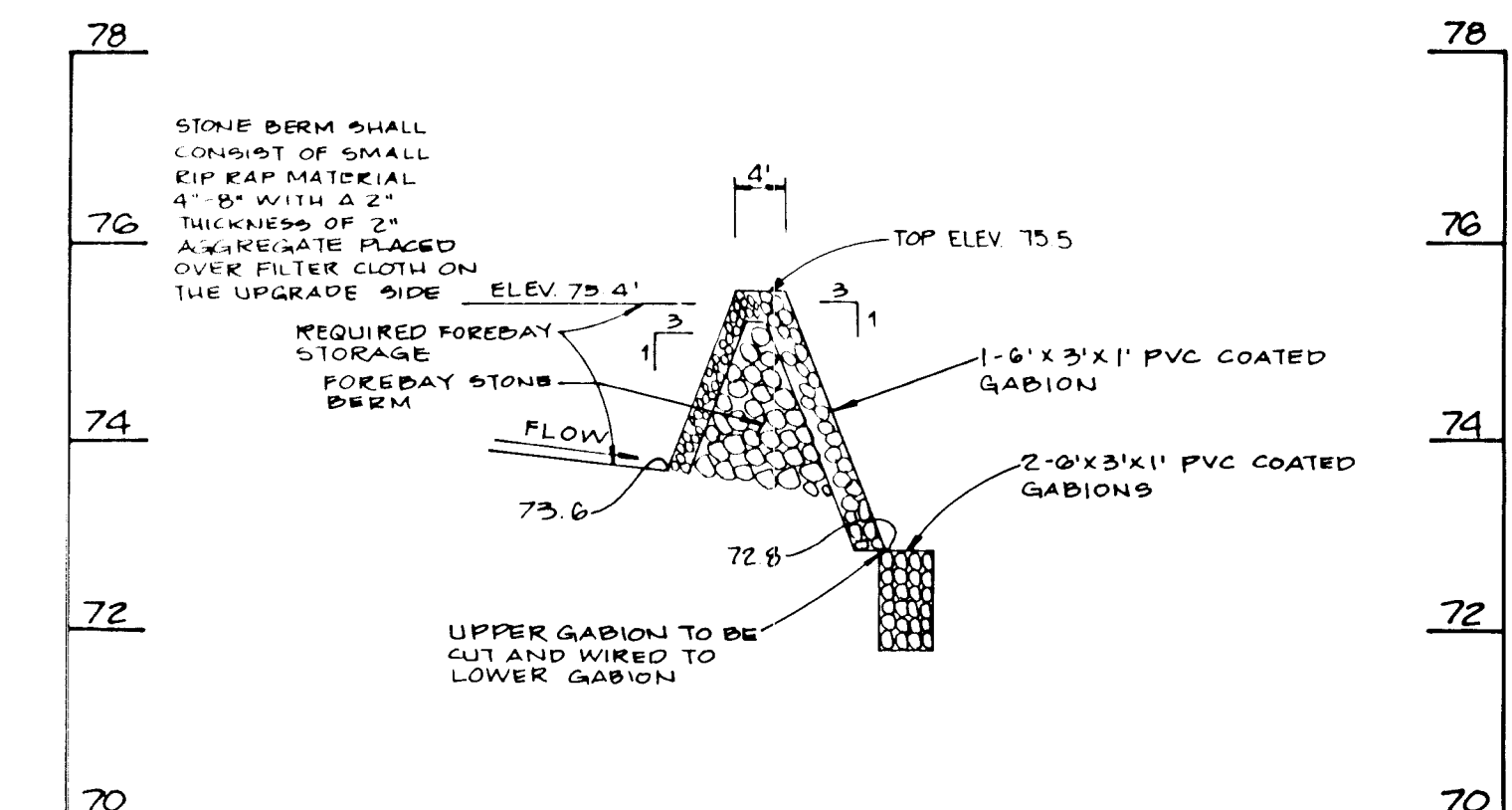
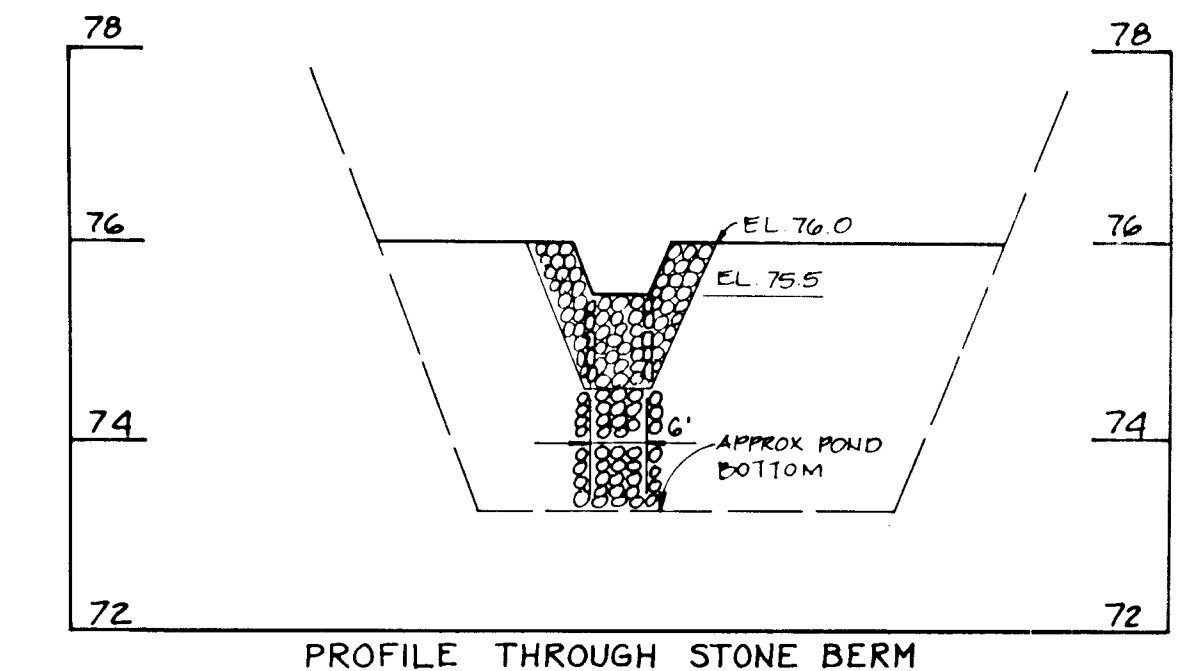
DATE: JULY 17, 1994

SCALE: AS SHOWN

DRAWING NO. OF

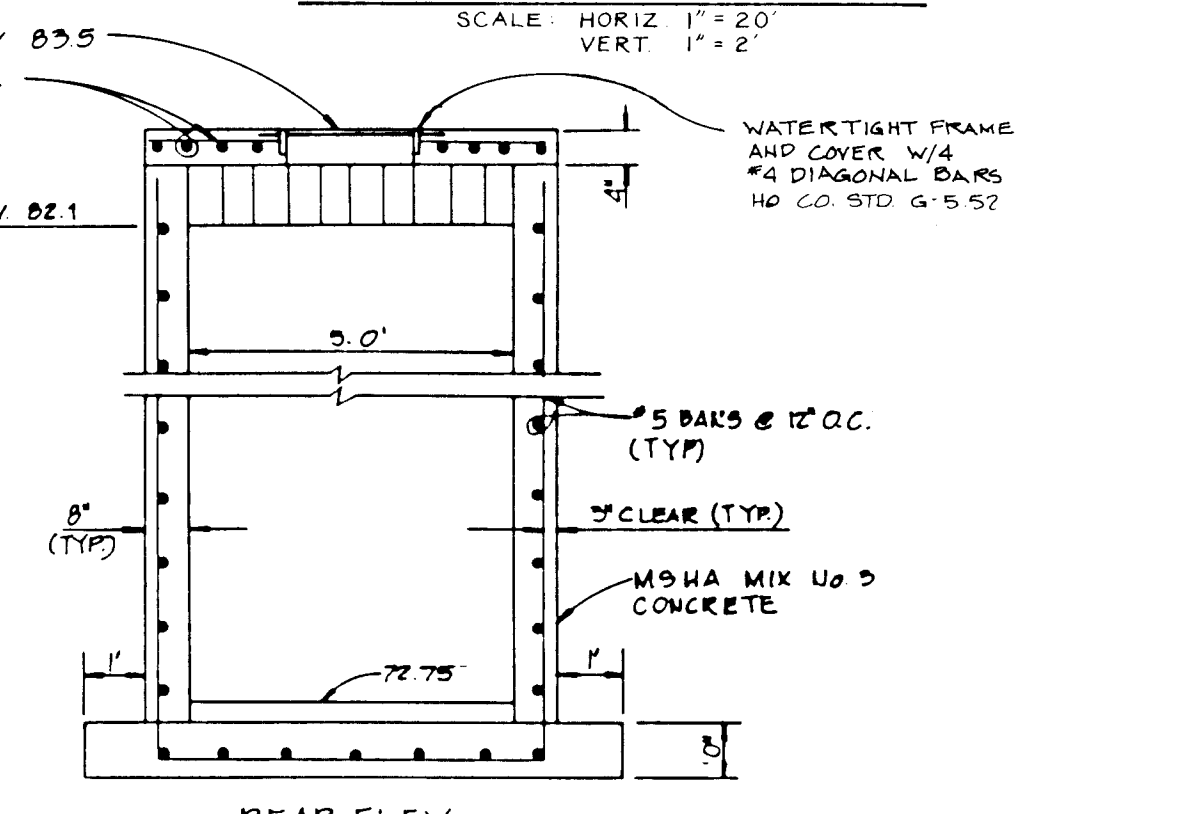


NOTE: 1. TEMPORARY B.C.M.P. PROVIDED FOR TEMPORARY SWM PHASE SHALL BE REMOVED AND WEIR WALL REPAIRED WITH CONCRETE TO PERMANENT SWM PHASE.
2. #4 DIAGONAL BARS @ STORM DRAIN PIPES AND MH OPENINGS

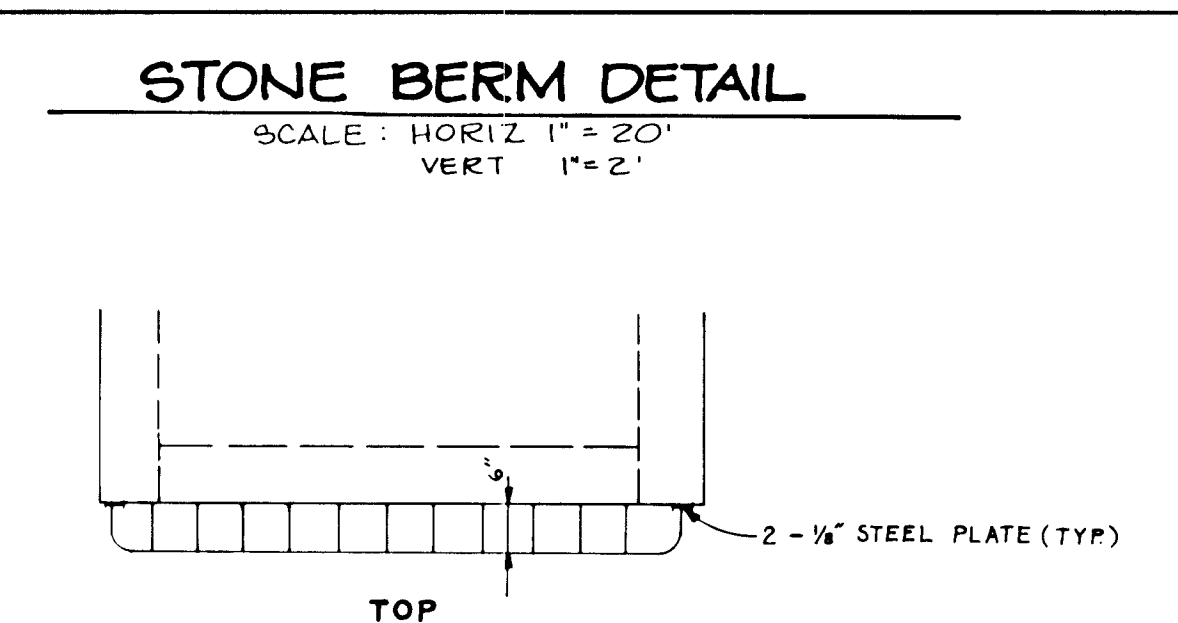


CONTROL STRUCTURE DETAIL

SCALE: 1" = 3'

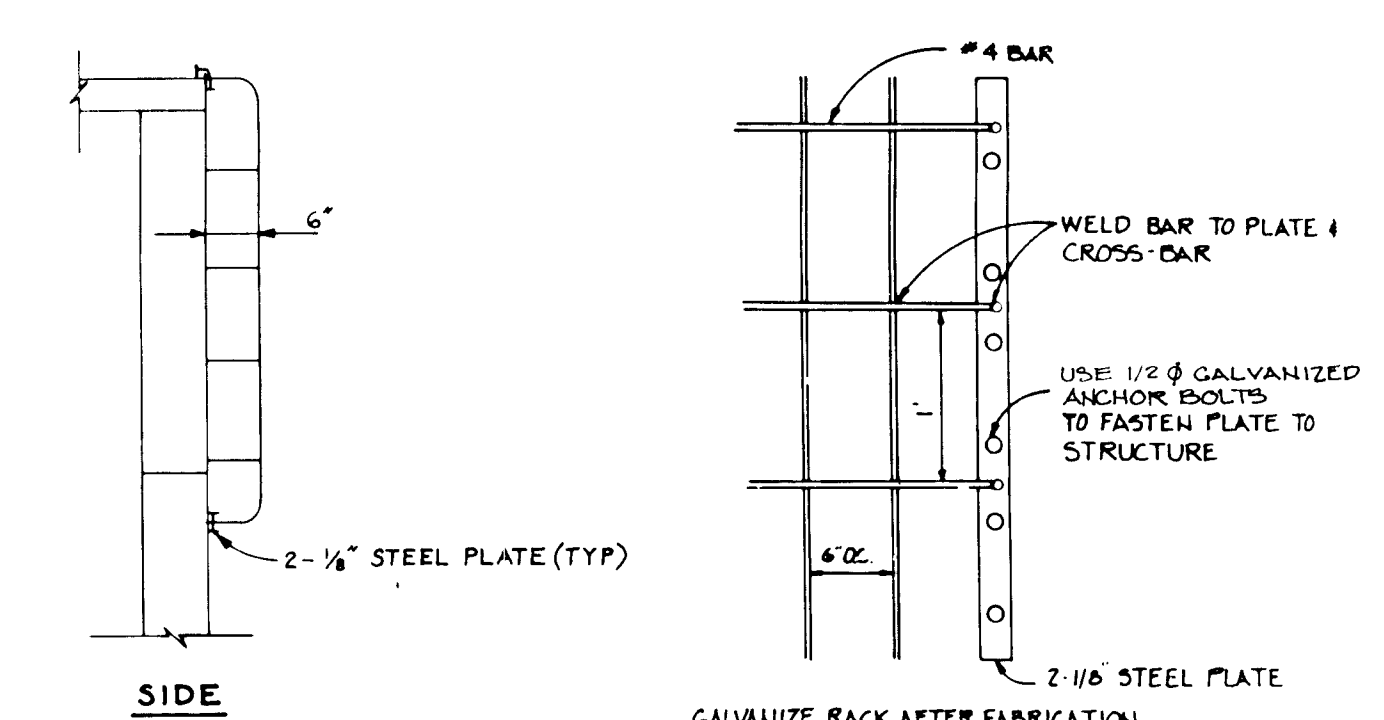


REAR ELEV



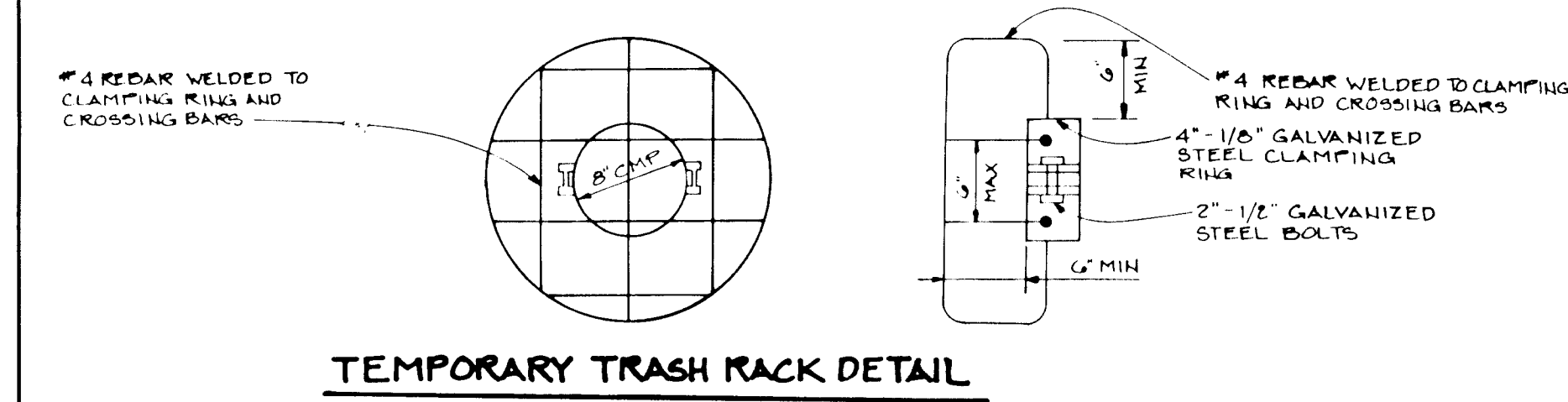
STONE BERM DETAIL

TOP

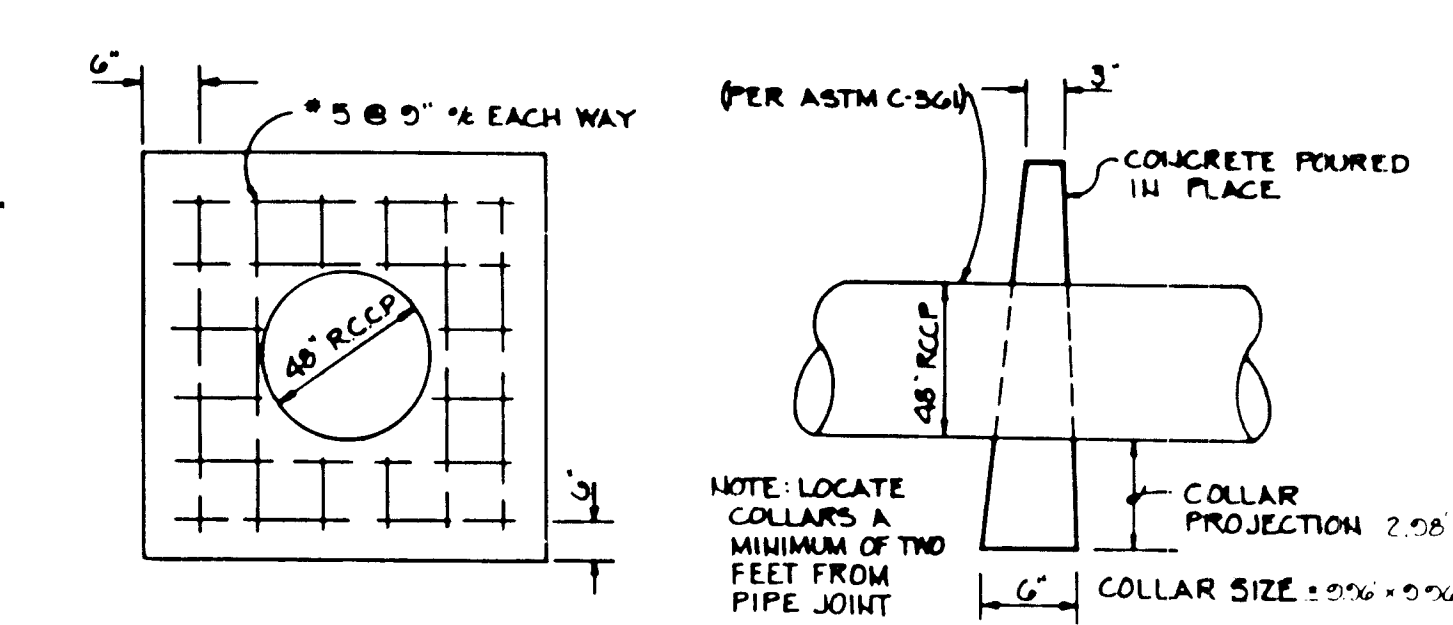


TRASH RACK DETAIL

SIDE

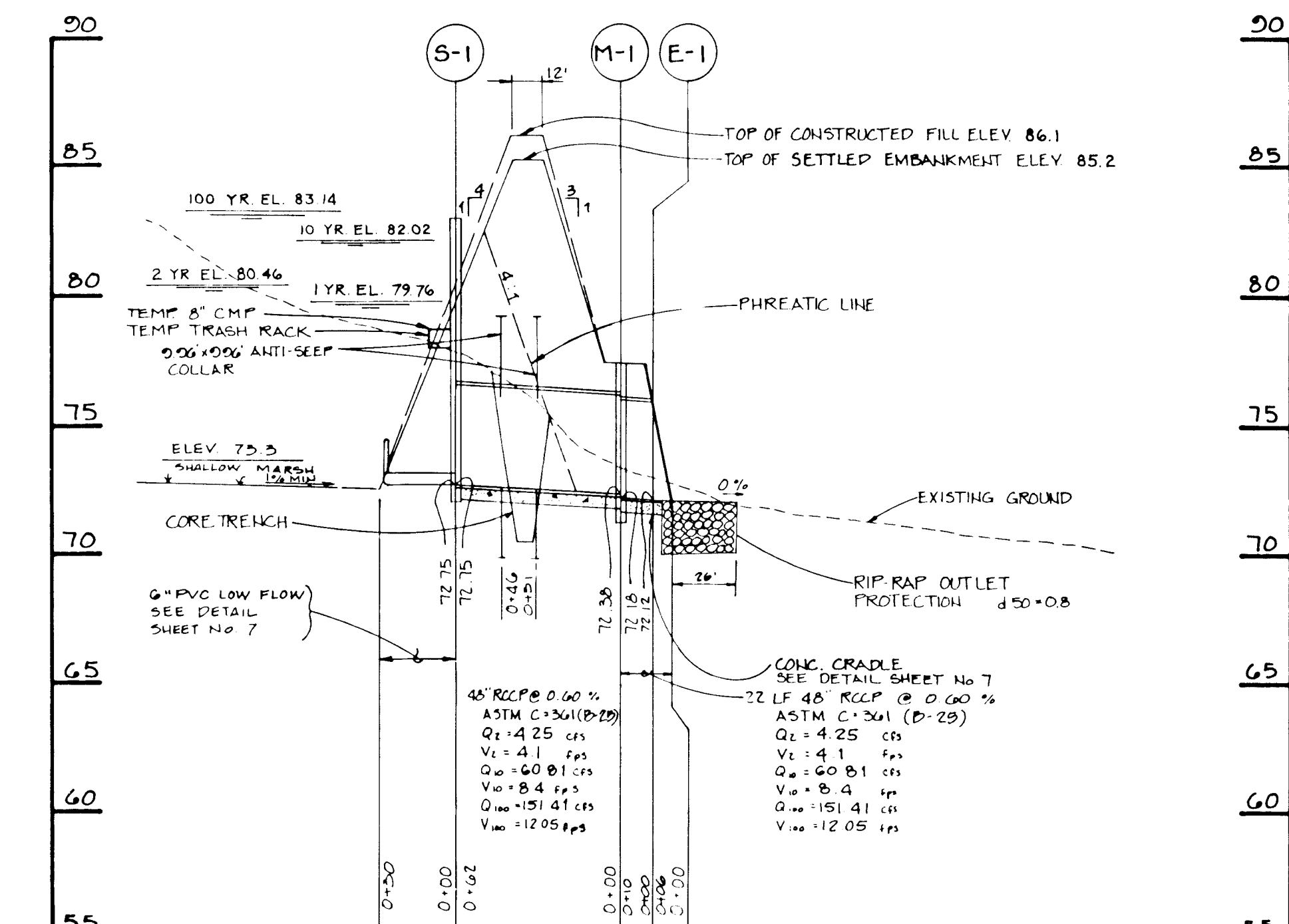


TEMPORARY TRASH RACK DETAIL



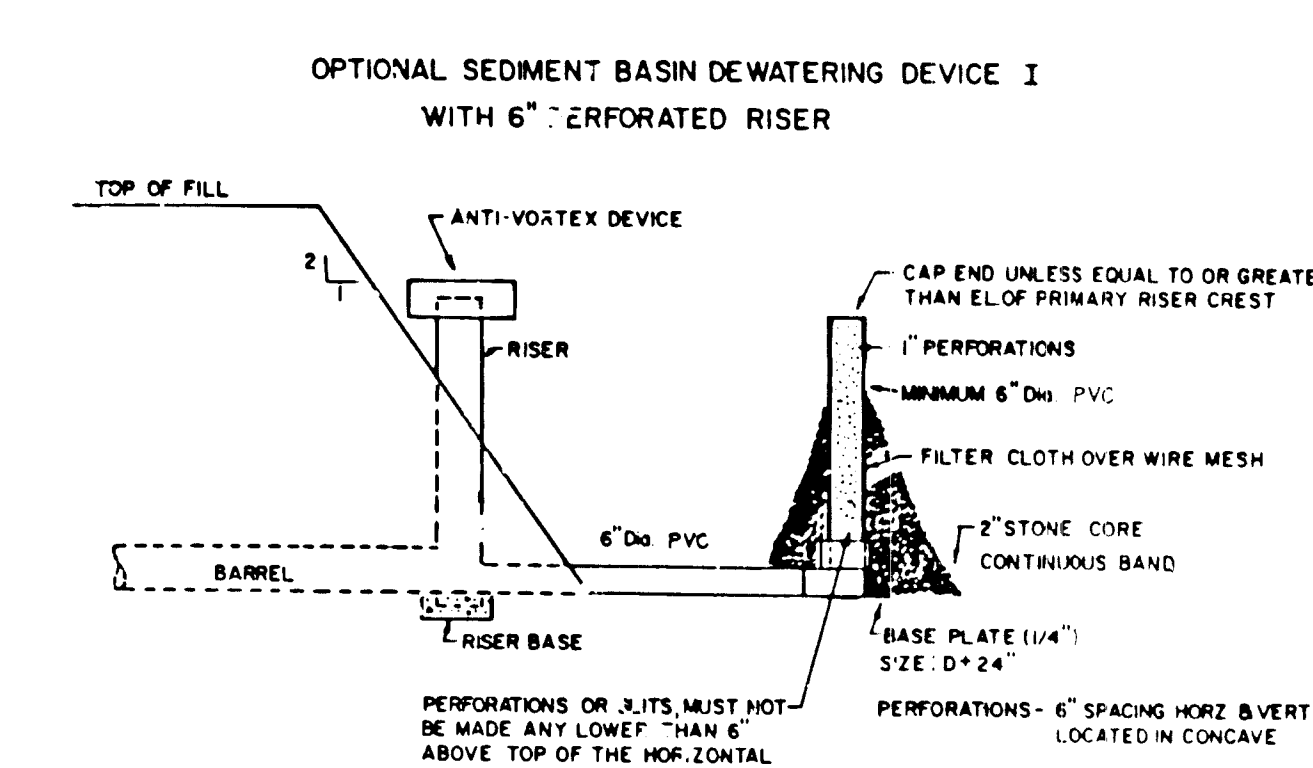
ANTI-SEEP COLLAR

NO SCALE



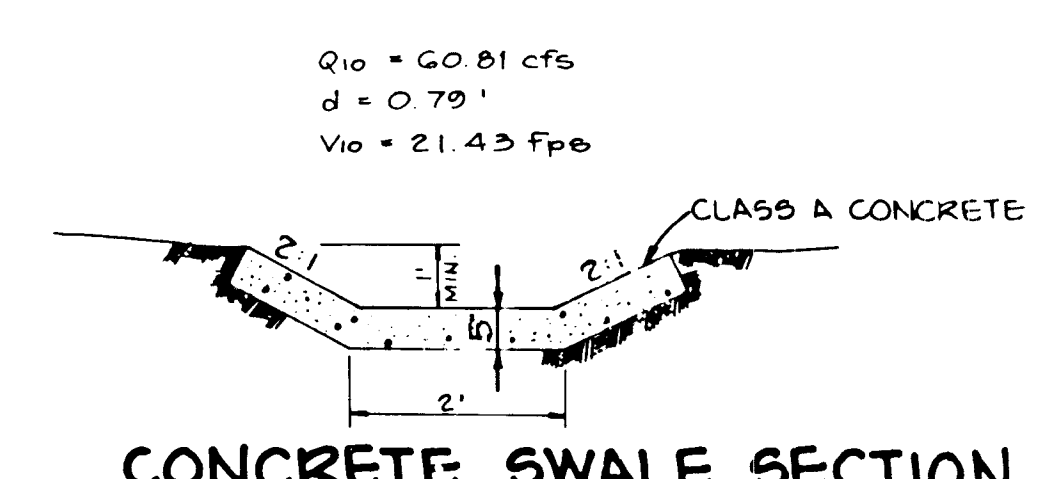
PRINCIPAL SPILLWAY PROFILE

SCALE: HORIZ 1" = 50'
VERT 1" = 5'

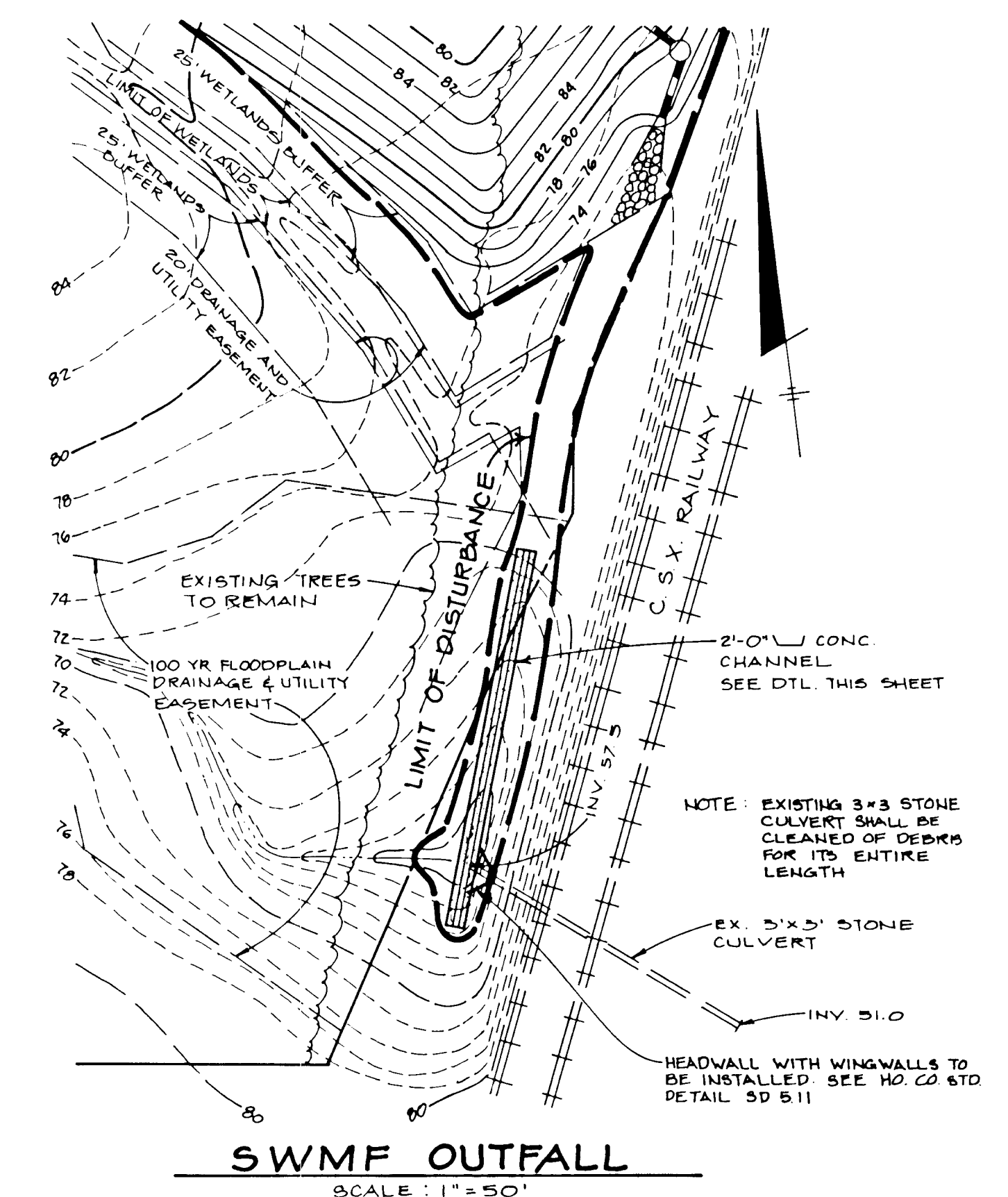


DEWATERING DEVICE FOR USE DURING SEDIMENT CONTROL

NO SCALE



CONCRETE SWALE SECTION



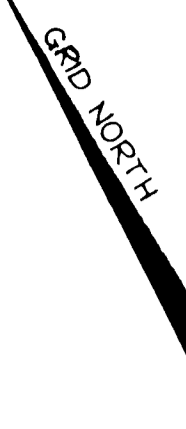
SWMF OUTFALL

SCALE: 1" = 50'

<p>By the Developer:</p> <p>"I/We certify that all development and/or construction will be done according to these plans, 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."</p> <p>Signature of Developer _____ Date _____</p>	
<p>By the Engineer:</p> <p>"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."</p> <p>Signature of Engineer _____ Date _____</p>	
<p>THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.</p> <p>U.S. SOIL CONSERVATION SERVICE _____ DATE _____</p>	
<p>THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.</p> <p>APPROVED _____ HOWARD S.C.D. _____ DATE _____</p>	
<p>APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS</p> <p>_____ CHIEF, LAND DEVELOPMENT DIVISION _____ DATE _____</p> <p>_____ CHIEF, BUREAU OF HIGHWAYS _____ DATE _____</p> <p>_____ CHIEF, BUREAU OF ENGINEERING _____ DATE _____</p>	
<p>APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING</p> <p>_____ CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH _____ DATE _____</p>	
<p>NO. DATE REVISION</p>	
<p>T S A GROUP INC. planning • architecture • engineering 8400 Baltimore National Pike • Ellicott City, Maryland 21043 • (301)465-6100</p>	
OWNER	PROJECT
<p>CHARLES A. REESE GEORGE A. PARROT BARBARA ANN FINAMORE SUSAN M. LAZAR 561015 CHARTER DRIVE COLUMBIA, MARYLAND 21044</p>	<p>PATAPSCO RIDGE SECTION ONE</p>
DEVELOPER	LOCATION
<p>SECURITY DEVELOPMENT CORP 2480 BALTIMORE NATIONAL PIKE SUITE 415 ELLCOTT CITY, MARYLAND 21043</p>	<p>TAX MAP 30 - PARCEL 263 049 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p>
DES.	TITLE
DAM	STORMWATER MANAGEMENT DETAILS
DRN.	DATE: JULY 17, 1991
CAB	JAN 11, 1993
	PROJECT NO. 0309
	SCALE: AS SHOWN
	DRAWING A OF 9

1688

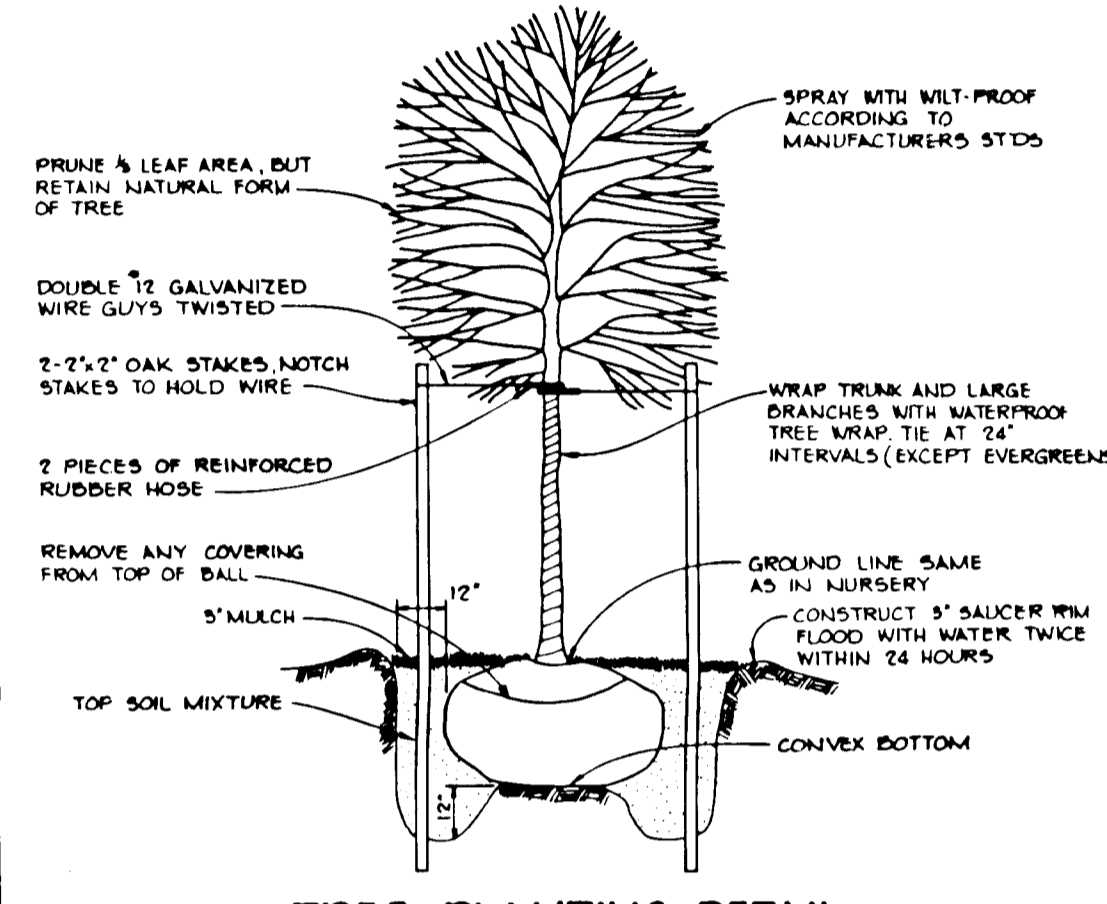
SHALLOW MARSH PLANTING LIST							
HAP SYMBOL	COMMON NAME	BOTANICAL NAME	SIZE	SPACING	FORM	INDICATOR	
A1	RICE CUT GRASS	LEERSIA ORYZOIDES	SEED MIXTURE	40LBS/AC	GRASS	OBL	
A2	BULRUSH	SCRIPUS CYPERINUS	ROOT STOCK	3' O.C.	SEDE	FACW	



PROPERTY OF
 CHARLES A. REESE
 GEORGE A. PARROTT
 BARBARA ANN FINAMORE
 SUSAN M. LAZAR
 TAX MAP 38 PARCEL 793

PLANT LIST			
SYMBOL	QUANTITY	NAME	
○	13	ACER RUBRUM RED MAPLE	
○	16	QUERCUS PALUSTRIS PIN OAK	2 1/2' B & FULL HI
○	6	PINUS STROBUS EASTERN WHITE PINE	5'-6' UNSHEARED

NOTE: 1) TREES MUST BE A MINIMUM OF 4 FEET FROM THE CURB OR SIDEWALK AND MUST BE A MINIMUM OF 5' FROM ANY STORM DRAIN.
 2) A 20' MINIMUM DISTANCE SHALL BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND ANY STREET LIGHT.



TREE PLANTING DETAIL
 NO SCALE

**STORMWATER MANAGEMENT
 SHALLOW MARSH PLANTING**
 SCALE: 1" = 30'

FUTURE SECTION 2
 PATAPSCO RIDGE
 1935 / 719

PROPERTY OF
 WILLIAM SLUSHER AND WIFE
 1760 / 727

EX. C.O.

EX. HOUSE

EX. BARN

EX. SHED

COURT

QUARTER

HANDY CROSSING

PATUXENT

EX. HOUSE

SHED

EX. WOODS TO REMAIN

MILL RIVER

NINETY ONE

EX. WOODS

SECURITY DEVELOPMENT CORP.
 PROPERTY OF
 INDICATED PARTNERSHIP
 12/1/93

PLAN
 SCALE: 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, LAND DEVELOPMENT DIVISION
 CHIEF, BUREAU OF HIGHWAYS
 CHIEF, BUREAU OF ENGINEERING
 DATE
 DATE
 DATE

10-11-95 ADD STORM DRAIN, REVISE LIMIT OF WETLANDS ON D.S. LOTS 45 & 46
 NO. DATE REVISION

T S A GROUP INC.
 planning • architecture • engineering
 8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301) 465-6105

OWNER CHARLES A. REESE GEORGE A. PARROTT BARBARA ANN FINAMORE SUSAN M. LAZAR % 10 715 CHARTER DRIVE COLUMBIA, MARYLAND 21044	PROJECT PATAPSCO RIDGE SECTION ONE LOCATION: TAX MAP 38 PARCELS 2001-849 1ST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DEVELOPER SECURITY DEVELOPMENT CORP PO BOX 417 ELLICOTT CITY, MARYLAND 21043	TITLE PLANTING PLAN P-02-11 S-80-73 WP-01-54 P-01-10 WP-02-127 F-02-25 DATE JULY 17, 1991 JAN 11, 1994 PROJECT NO 393
DES. D.A.M.	DRN. D.B.T.
SCALE AS SHOWN DRAWING 9 OF 9	

1688