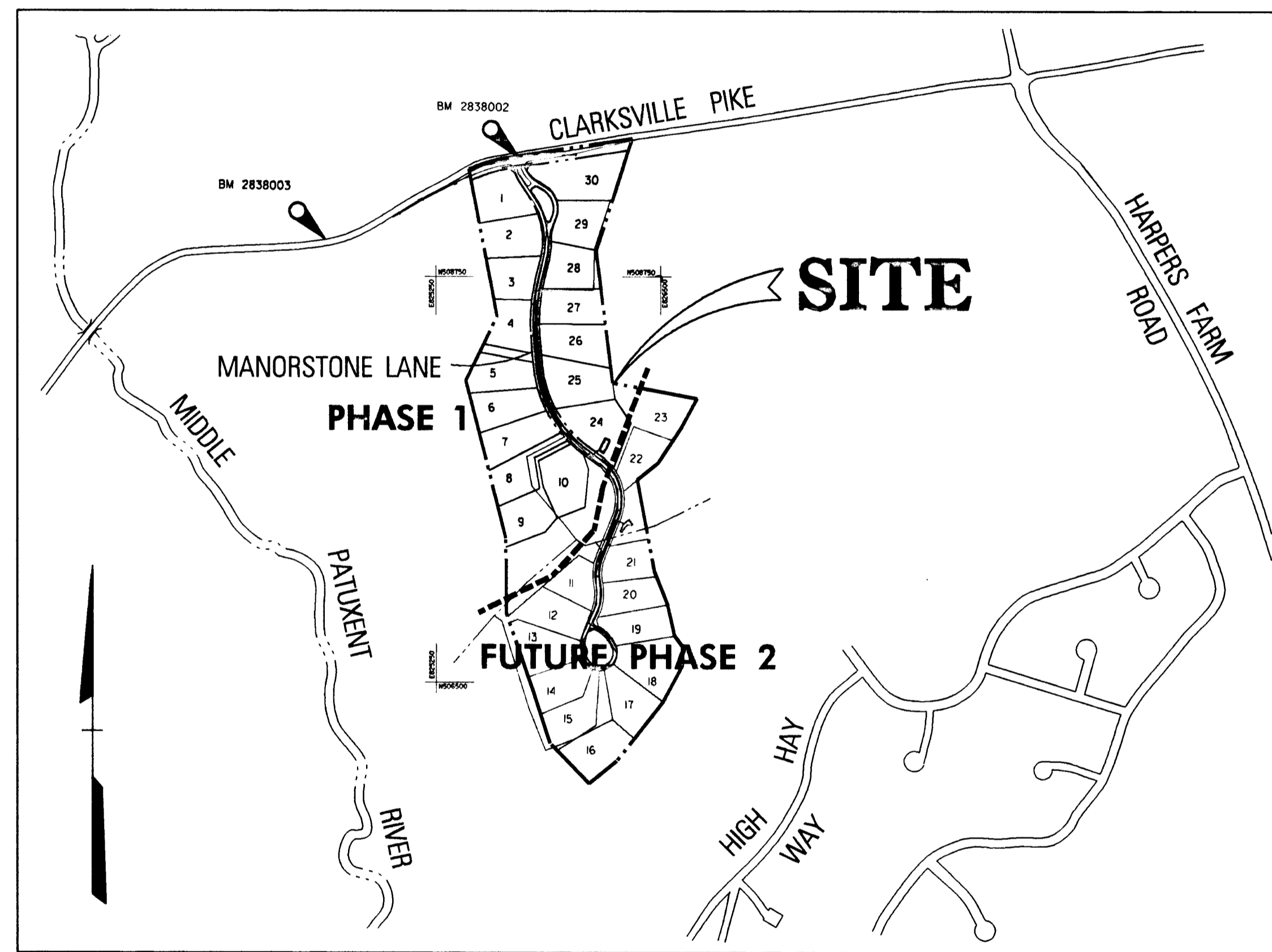


VILLAGE OF HARPER'S CHOICE

SECTION 5, AREA 9, PHASE 1

HOWARD COUNTY, MARYLAND



PLAN VIEW
SCALE: 1" = 600'

BENCHMARK

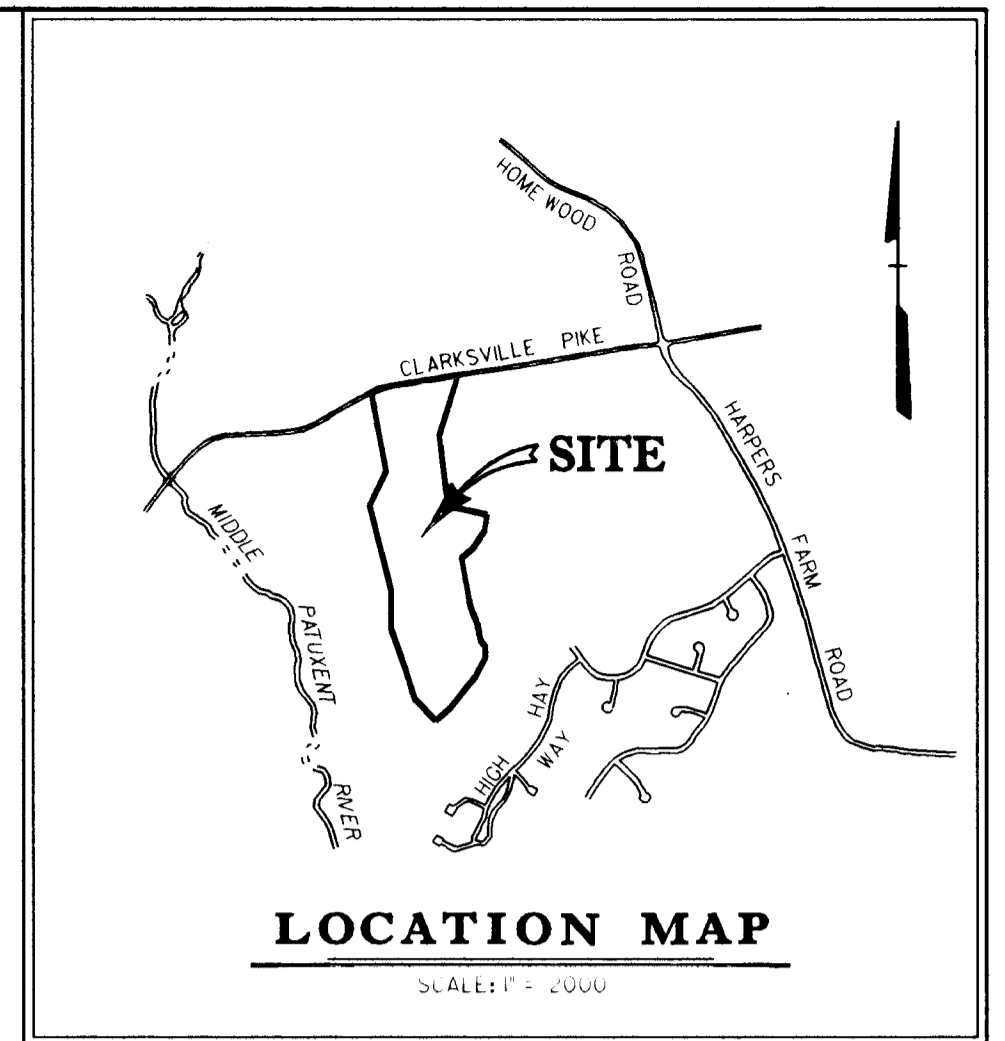
DESCRIPTION
STATION 2838003
¾" REINFORCING ROD, 0.5' BELOW SURFACE
N 508916.632, E 824630.474
ELEV. 367.204'

BENCHMARK

DESCRIPTION
STATION 2838002
CONCRETE MONUMENT, 0.6' BELOW SURFACE
N 509424.956, E 825629.556
ELEV. 434.527'

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
1 of 9	COVER SHEET
2 of 9	ROAD CONSTRUCTION PLAN
3 of 9	ROAD CONSTRUCTION PLAN
4 of 9	ROAD CONSTRUCTION DETAILS & STORM DRAIN PROFILES
5 of 9	STORM DRAIN DRAINAGE AREA MAP
6 of 9	CLARKSVILLE PIKE, MD ROUTE 108 ROAD IMPROVEMENTS
7 of 9	SEDIMENT & EROSION CONTROL PLAN
8 of 9	SEDIMENT & EROSION CONTROL PLAN
9 of 9	SEDIMENT & EROSION CONTROL PLAN DETAILS



GENERAL NOTES

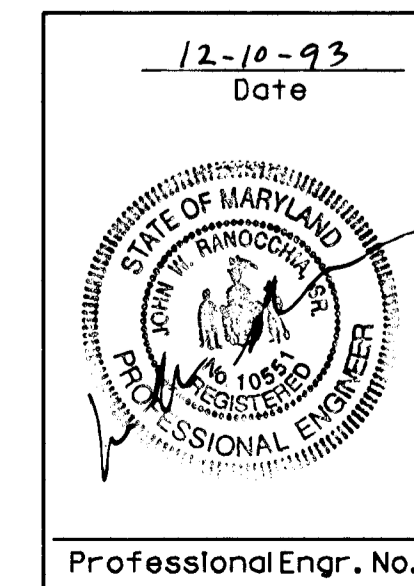
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / CONSTRUCTION INSPECTION DIVISION AT (801-313-1880) AT LEAST FIVE (5) WORKING DAY 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
TOTAL TRACT AREA 61.301 ACRES
NUMBER OF LOTS PHASE 1 17 LOTS SINGLE FAMILY
PRELIMINARY EQUIVALENT SKETCH PLAN AND COMPREHENSIVE SKETCH PLAN APPROVAL DATE 1-30-93, SP-92-21
THE PROPERTY IS LOCATED WITHIN THE HOWARD COUNTY METROPOLITAN DISTRICT.
EXISTING ZONING IS NEW TOWN PER 8-2-85 COMPREHENSIVE ZONING.
- WAIVERS
WP-92-218 WAIVER OF LENGTH OF CUL-DE-SAC, AND ROADWAY SECTION, APPROVED 8-5-92.
WP-94-20 WAIVER FOR WATER QUALITY STRUCTURES WITHIN 100 YEAR FLOOD PLAIN AND STREAM BUFFER, APPROVED 10-14-93.
- 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.
- TOPOGRAPHY SHOWN HEREON IS TAKEN FROM AERIAL MAPS DATED 1963, PREPARED FOR HOWARD RESEARCH AND DEVELOPMENT, BY MAPS, INC. AND AS UPDATED BY FIELD TOPOGRAPHICS SURVEY PREPARED BY DAFT, MCCUNE, WALKER 1992 AND 1993.
- HOWARD COUNTY GEODETIC CONTROL STATION NO. 2838002
ELEVATION 434.527 FEET
HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: SECOND ORDER, 1929 GENERAL ADJUSTMENT DATUM
- 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 IS PUBLIC.
DRAINAGE AREA: MIDDLE PATUXENT
- STORMWATER MANAGEMENT QUANTITY CONTROL TO BE PROVIDED BY VILLAGE OF RIVER HILL, SECTION 2, AREA 1, 17 LOTS COVERED.
- FLOODPLAIN STUDY PREPARED BY DAFT, MCCUNE WALKER, DATED MAY 1993.
- WETLANDS EVALUATION PREPARED BY EXPLORATION RESEARCH, INC., DATED MARCH 1992.
- TRAFFIC STUDY PREPARED BY WELLS & ASSOCIATES, DATED 6-8-1992.
- NOISE STUDY PREPARED BY HOWARD RESEARCH & DEVELOPMENT CORPORATION DATED 4-16-93.
- GEOTECHNICAL REPORT PREPARED BY ROBERT BALTER & ASSOCIATES, DATED 11-17-1992.
- EXISTING UTILITIES WERE TAKEN FROM APPROVED PLANS AND FIELD VERIFICATION.
- MARYLAND DEPARTMENT OF NATURAL RESOURCES LETTER OF DECEMBER 11, 1992 (TRACKING NO. 19930655) STATES THAT PROJECT QUALIFIES FOR A LETTER OF AUTHORIZATION. PROJECT IS AUTHORIZED UNDER U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT #14).



AS-BUILT

Robert Shanaberger 11/29/93
PROF. L.S. # 10849 DATE

SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 104
ELLICOTT CITY, MARYLAND 21043



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

Charles W. Duke 2-4-94
CHIEF, BUREAU OF HIGHWAYS MS DATE

Paul D. Ryan 2/17/94
CHIEF, BUREAU OF ENGINEERING DATE

John J. ... 2/16/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Gina Summers 2/18/94
CHIEF, LAND DEVELOPMENT AND RESEARCH DATE

Date	No.	Revision Description

HARPER'S CHOICE

OWNER / DEVELOPER

THE HOWARD RESEARCH & DEVELOPMENT CORP.

10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Daft · McCune · Walker, Inc.

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

200 East Pennsylvania Avenue
Towson, Maryland 21286
410 286 1333
Fax 296 4705

AREA SECTION 5, AREA 9, PHASE 1
TAX MAP 29 PARCEL 126
5th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE COVER SHEET

Des By	RTP	Scale	AS SHOWN	Proj. No.	92023
Drn By	RTP	Date	9/23/93		
Chk By	JWR	Approved			1 OF 9

STREET TREE TABLE

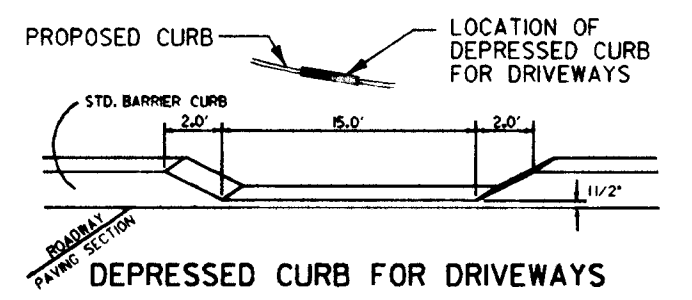
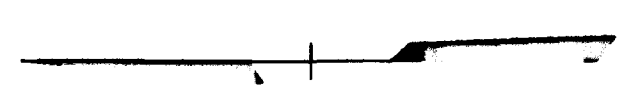
SYMBOL	TYPE	SIZE	QUANTITY	REMARKS
(1+)	ACER RUBRUM 'RED SUNSET' RED SUNSET RED MAPLE	2 1/2" - 3" CAL.	25	B & B
(1-)	QUERCUS PALUSTRIS 'SOVEREIGN' PIN OAK	2 1/2" - 3" CAL.	15	B & B

- THE CONTRACTOR SHALL VERIFY LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO PLANTING. LOCATION OF TREES MAY BE ADJUSTED SLIGHTLY TO MEET FIELD CONDITIONS.
- THE LOCATION, TYPE AND NUMBER OF TREES SHOWN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS AND BUILDERS LANDSCAPE PROGRAM. BOND RELEASE IS CONTINGENT UPON SECTION 16.3 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AS APPROVED BY THE OFFICE OF PLANNING AND ZONING.
- ALL TREES SHALL BE PLANTED NO CLOSER THAN 20' FROM ANY STREET LIGHT POLE.

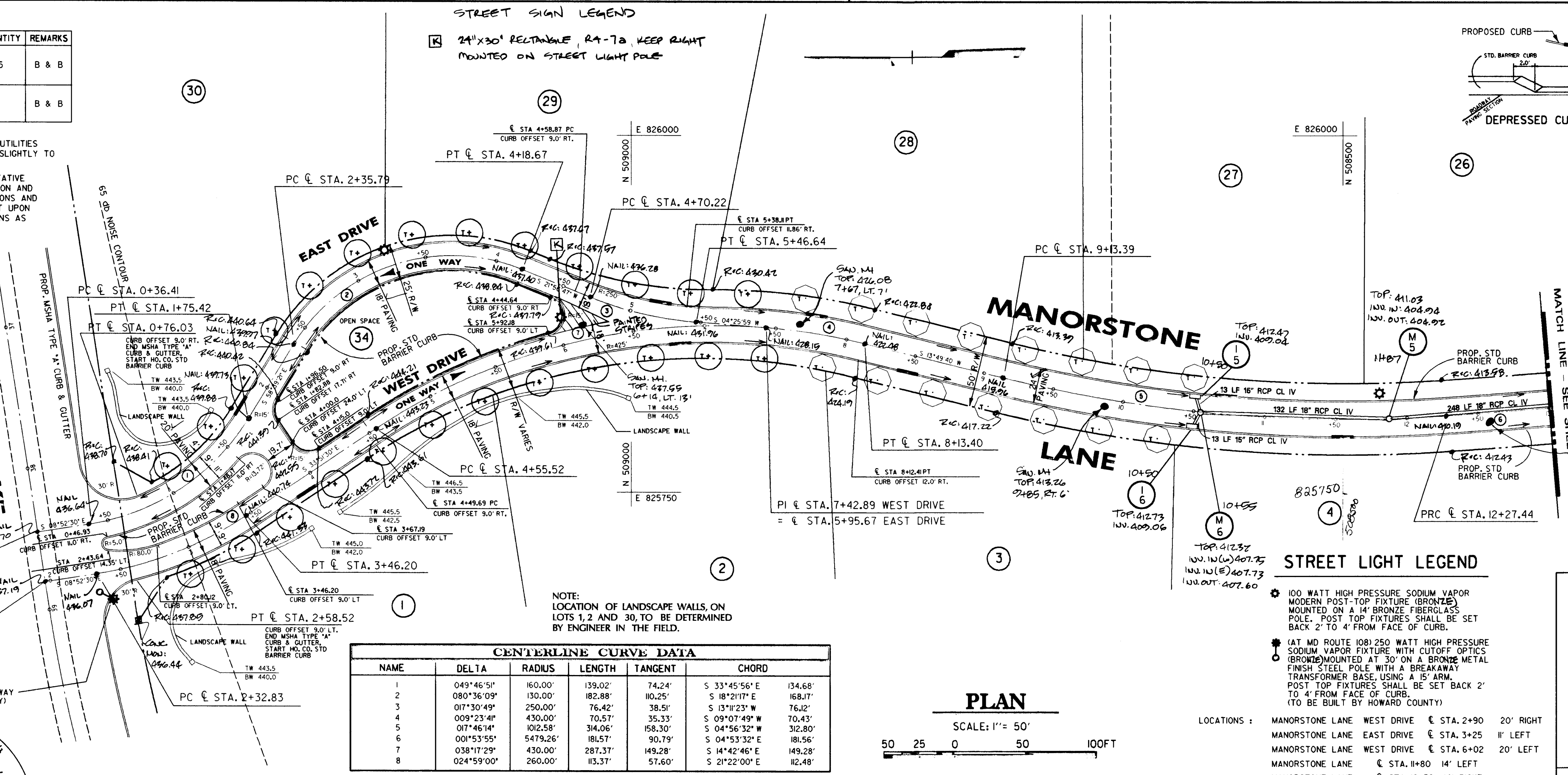
NOTES:
ANY LANDSCAPE PLANTING WITHIN THE LINE OF SIGHT AREAS ALONG THE PROPERTY FRONTAGE ON MD ROUTE 108, CLARKVILLE PIKE IS RESTRICTED.

STREET SIGN LEGEND

24"X30" RECTANGULAR R4-7A KEEP RIGHT MOUNTED ON STREET LIGHT POLE



CLARKVILLE PIKE
MD ROUTE 108



NOTE:
LOCATION OF LANDSCAPE WALLS ON LOTS 1, 2 AND 30, TO BE DETERMINED BY ENGINEER IN THE FIELD.

NAME	DELTA	RADIUS	LENGTH	TANGENT	CHORD
1	049°46'51"	160.00'	139.02'	74.24'	S 33°45'56" E 134.68'
2	080°36'09"	130.00'	182.88'	110.25'	S 18°21'17" E 168.17'
3	017°30'49"	250.00'	76.42'	38.51'	S 13°11'23" W 76.12'
4	009°23'49"	430.00'	70.57'	35.33'	S 09°07'49" W 70.43'
5	017°46'14"	102.58'	102.58'	58.30'	S 04°56'32" W 32.80'
6	000°53'55"	5479.26'	185.57'	90.79'	S 04°53'32" E 185.56'
7	038°17'29"	430.00'	287.37'	149.28'	S 14°42'46" E 149.28'
8	024°59'00"	260.00'	183.37'	57.60'	S 21°22'00" E 82.48'

PLAN

SCALE: 1" = 50'
50 25 0 50 100 FT

STREET LIGHT LEGEND

- 100 WATT HIGH PRESSURE SODIUM VAPOR MODERN POST-TOP FIXTURE (BRONZE) MOUNTED ON A 14" BRONZE FIBERGLASS POLE. POST TOP FIXTURES SHALL BE SET BACK 2' TO 4' FROM FACE OF CURB.
- 14" MD ROUTE 108 250 WATT HIGH PRESSURE SODIUM VAPOR FIXTURE WITH CUTOFF OPTICS (BROWNE) MOUNTED AT 30' ON A BRONZE METAL FINISH STEEL POLE WITH A BREAKAWAY TRANSFORMER BASE USING A 15" ARM. POST TOP FIXTURES SHALL BE SET BACK 2' TO 4' FROM FACE OF CURB. (TO BE BUILT BY HOWARD COUNTY)

12-10-93
Date

Professional Engr. No. 10551

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
Andrew M. Douker 2-4-99
CHIEF, BUREAU OF HIGHWAYS
DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Paul D. Jenson 2/17/99
CHIEF, BUREAU OF ENGINEERING
DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Mike Damman 2/16/99
CHIEF, LAND DEVELOPMENT DIVISION
DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Anna Surmann 2/18/99
CHIEF, LAND DEVELOPMENT AND RESEARCH
DATE

Date No. Revision Description

HARPER'S CHOICE
OWNER / DEVELOPER

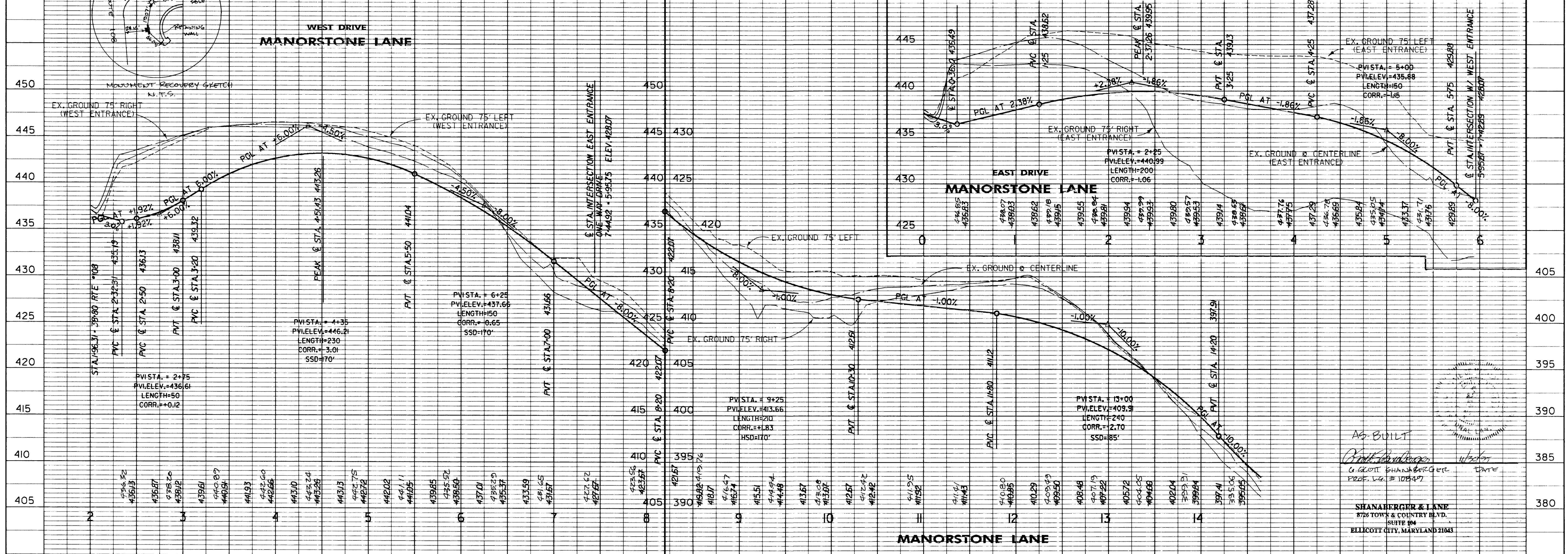
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

Daft & McCune-Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 286 3333
Fax 286 4705

AREA SECTION 5 AREA 9 PHASE 1
TAX MAP 29 PARCEL 126
5TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

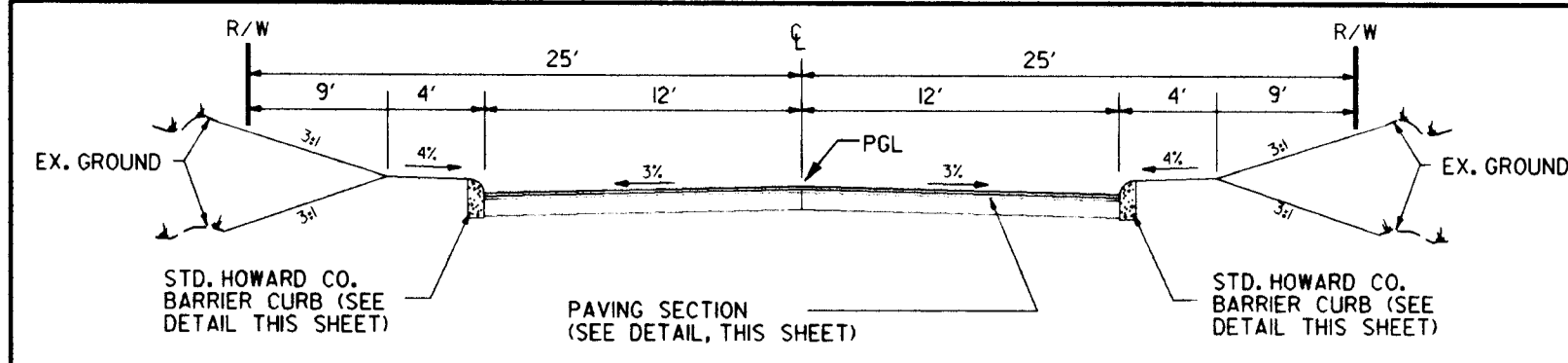
TITLE ROAD CONSTRUCTION PLANS
STA 0+00 TO 13+00

Des By RTP Scale AS SHOWN Proj. No. 92023
Drn By RTP Date 5/6/93
Chk By JWR Approved 2 OF 9



AS-BUILT
Paul D. Jenson
GEOLOGICAL ENGINEER
PROF. NO. 108347

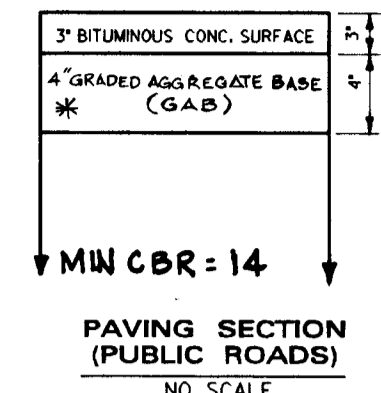
SHANERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 104
ELLICOTT CITY, MARYLAND 21043



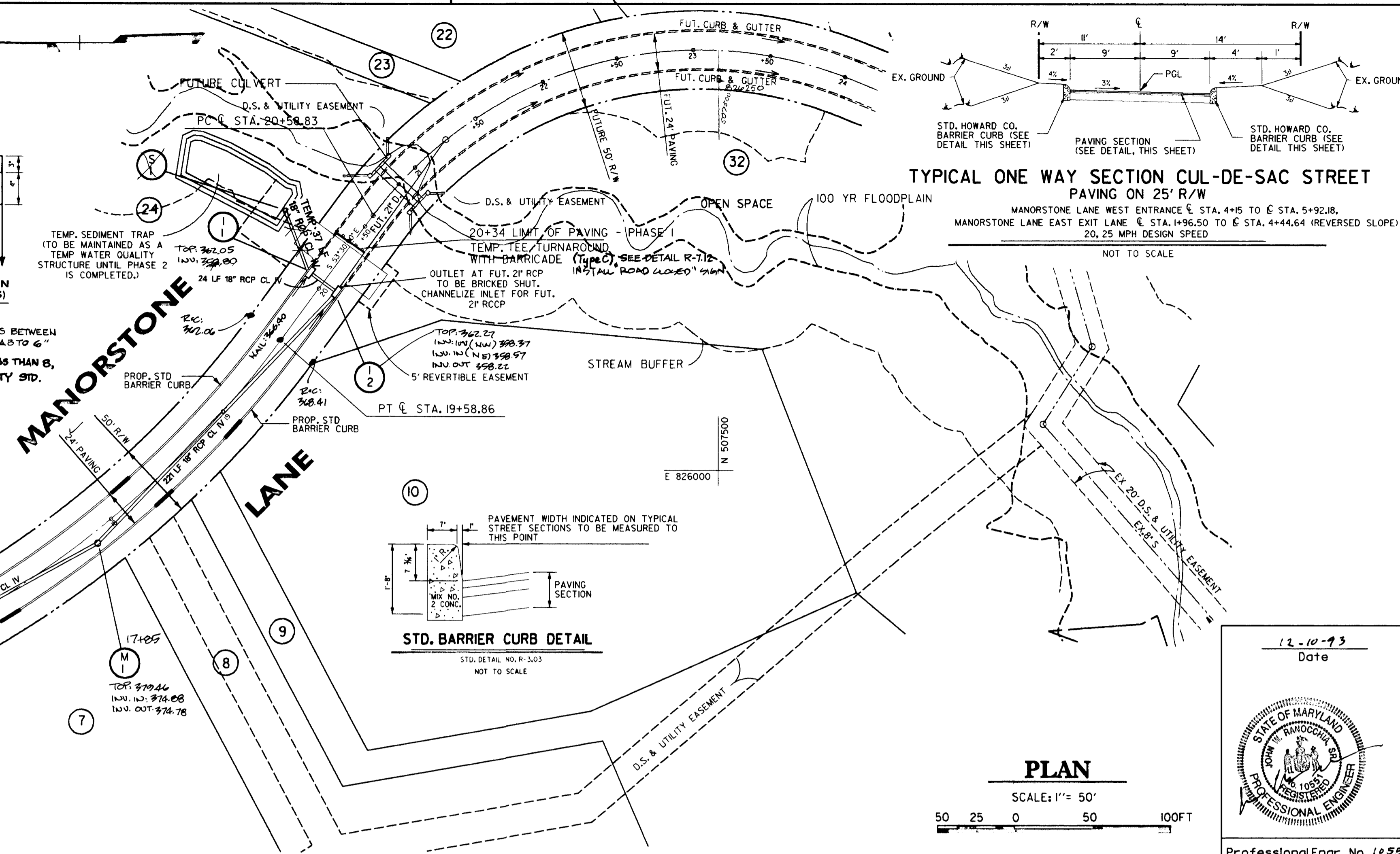
TYPICAL SECTION CUL-DE-SAC STREET
24' PAVING ON 50' R/W

MANORSTONE LANE & STA. 5+50 TO & STA. 29+68
25.30 MPH DESIGN SPEED
NOT TO SCALE

CENTERLINE CURVE DATA					
CURVE NO.	DELTA	RADIUS	LENGTH	TANGENT	CHORD
6	001°53'55"	5479.26	181.57	90.79	S 04°53'32" E 181.56'
9	047°39'30"	661.03	549.85	291.95	S 29°40'15" E 534.13'

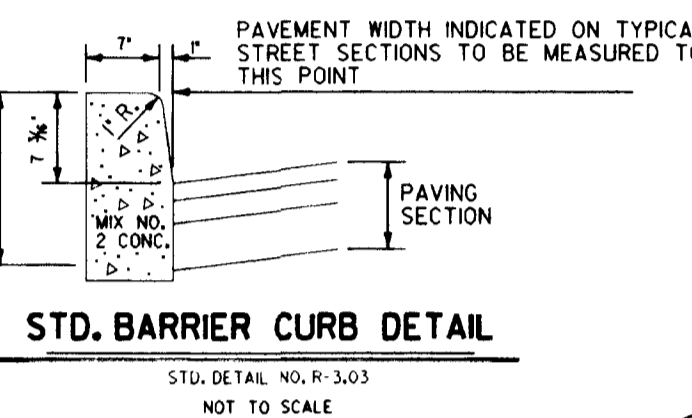


*NOTE: FOR CBR VALUES BETWEEN 8 AND 14 INCREASE GAB TO 6"
FOR CBR VALUES LESS THAN 8, USE HOWARD COUNTY STD. P-2 SECTION

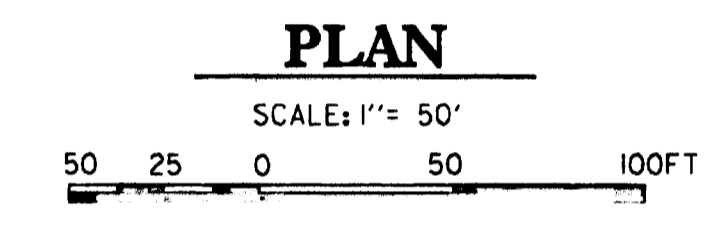


TYPICAL ONE WAY SECTION CUL-DE-SAC STREET
PAVING ON 25' R/W

MANORSTONE LANE WEST ENTRANCE & STA. 4+45 TO & STA. 5+92.18
MANORSTONE LANE EAST EXIT LANE & STA. 1+96.50 TO & STA. 4+44.64 (REVERSED SLOPE)
20.25 MPH DESIGN SPEED
NOT TO SCALE



STD. BARRIER CURB DETAIL
STD. DETAIL NO. R-303
NOT TO SCALE



PLAN
SCALE: 1" = 50'

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
Andrew M. Davelle 2-4-94
CHIEF, BUREAU OF HIGHWAYS
DATE

Paul D. Brown 2/17/94
CHIEF, BUREAU OF ENGINEERING
DATE

John W. Williams 2/16/94
CHIEF, LAND DEVELOPMENT DIVISION
DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Jim Summery 2/18/94
CHIEF, LAND DEVELOPMENT AND RESEARCH
DATE

Date	No.	Revision Description

HARPER'S CHOICE
OWNER / DEVELOPER

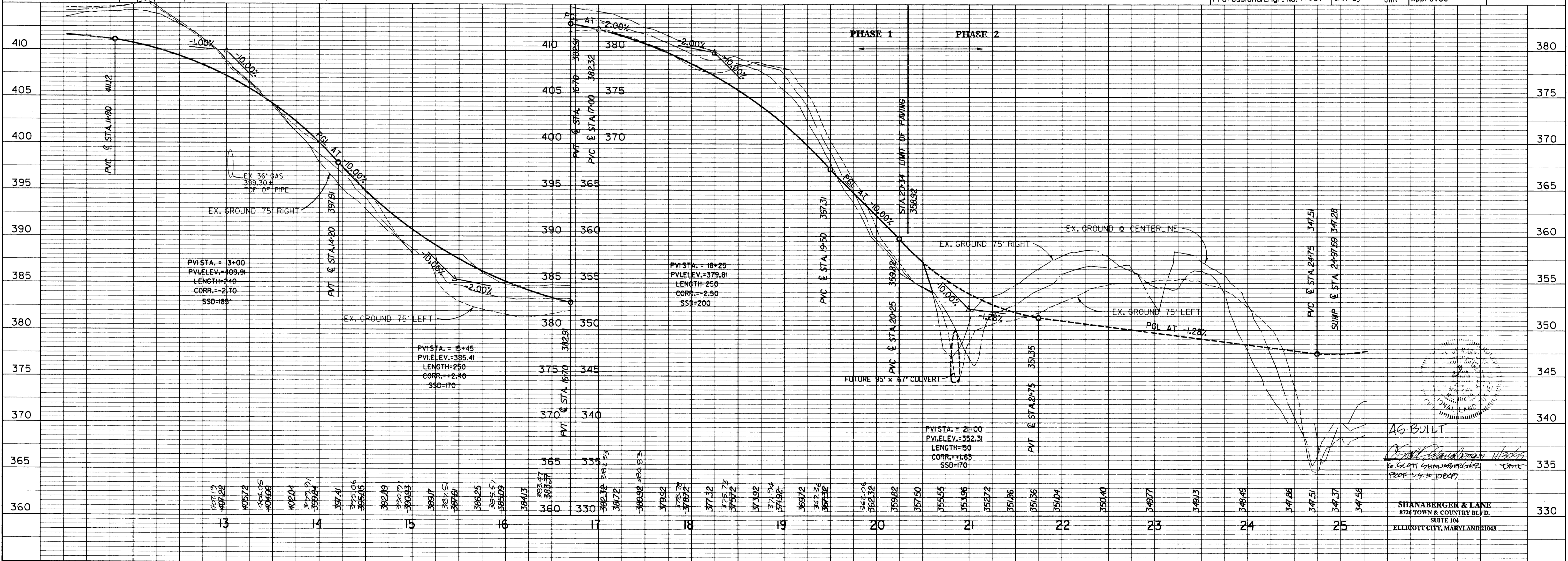
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMTA
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue, Towson, Maryland 21286
410.286.3333 Fax 286.4705

12-10-93
Date

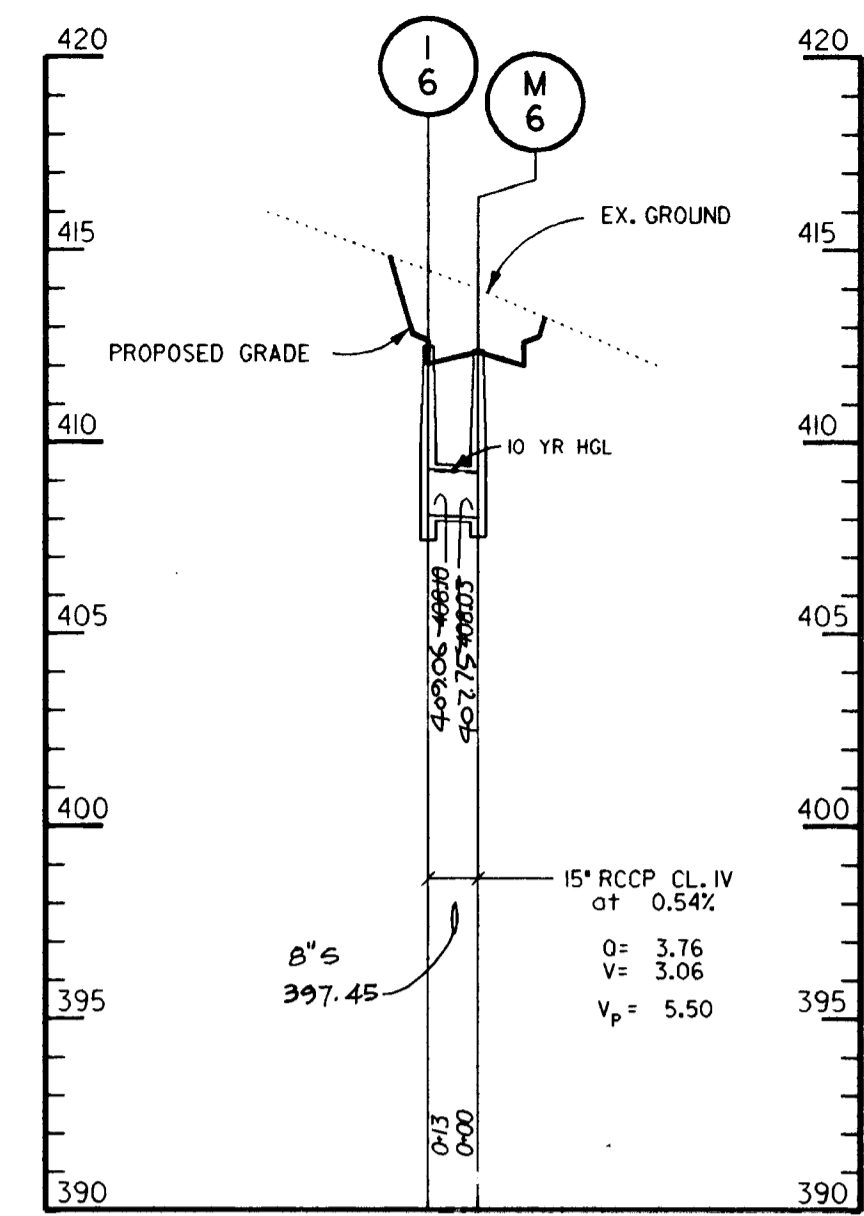
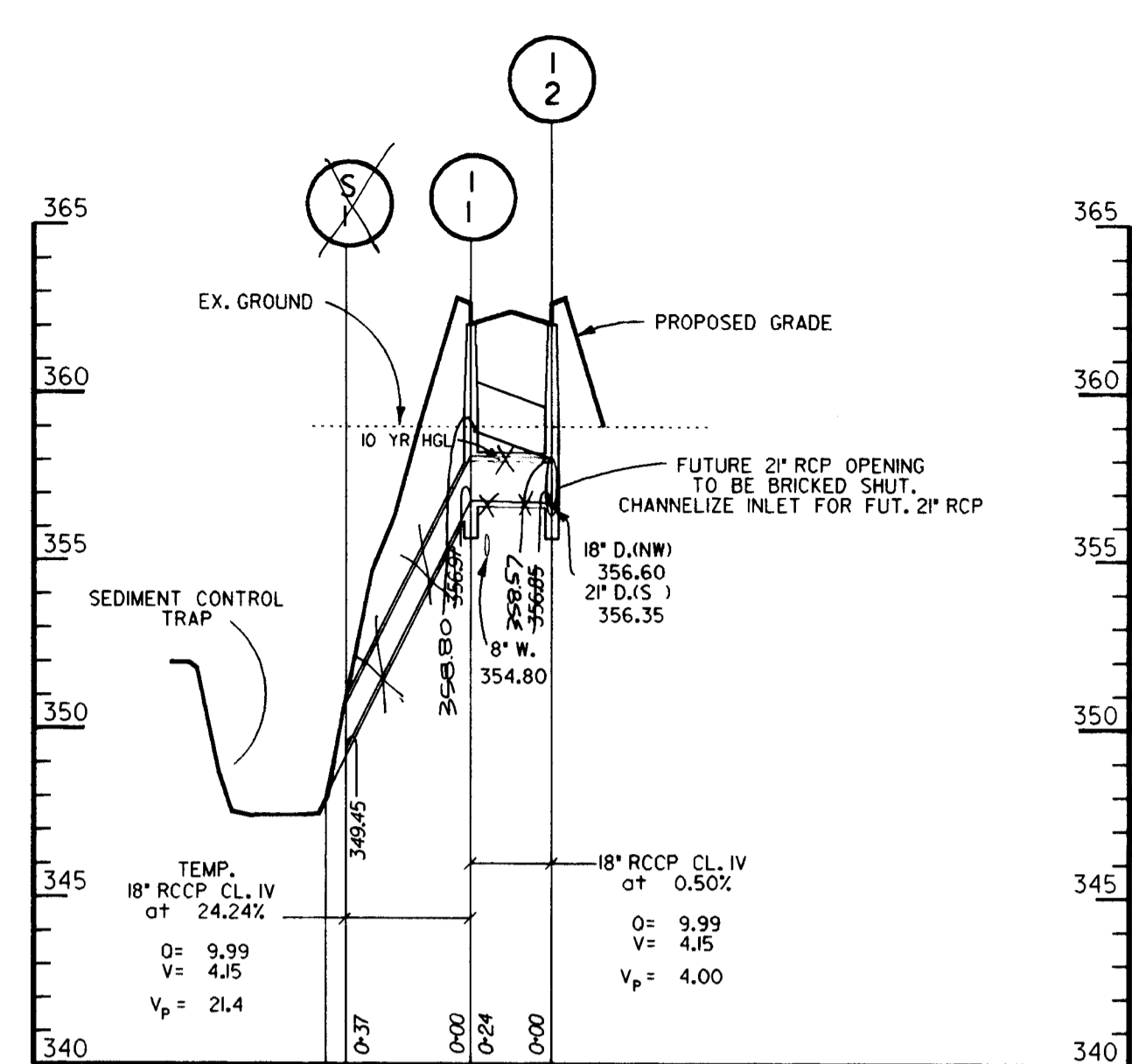
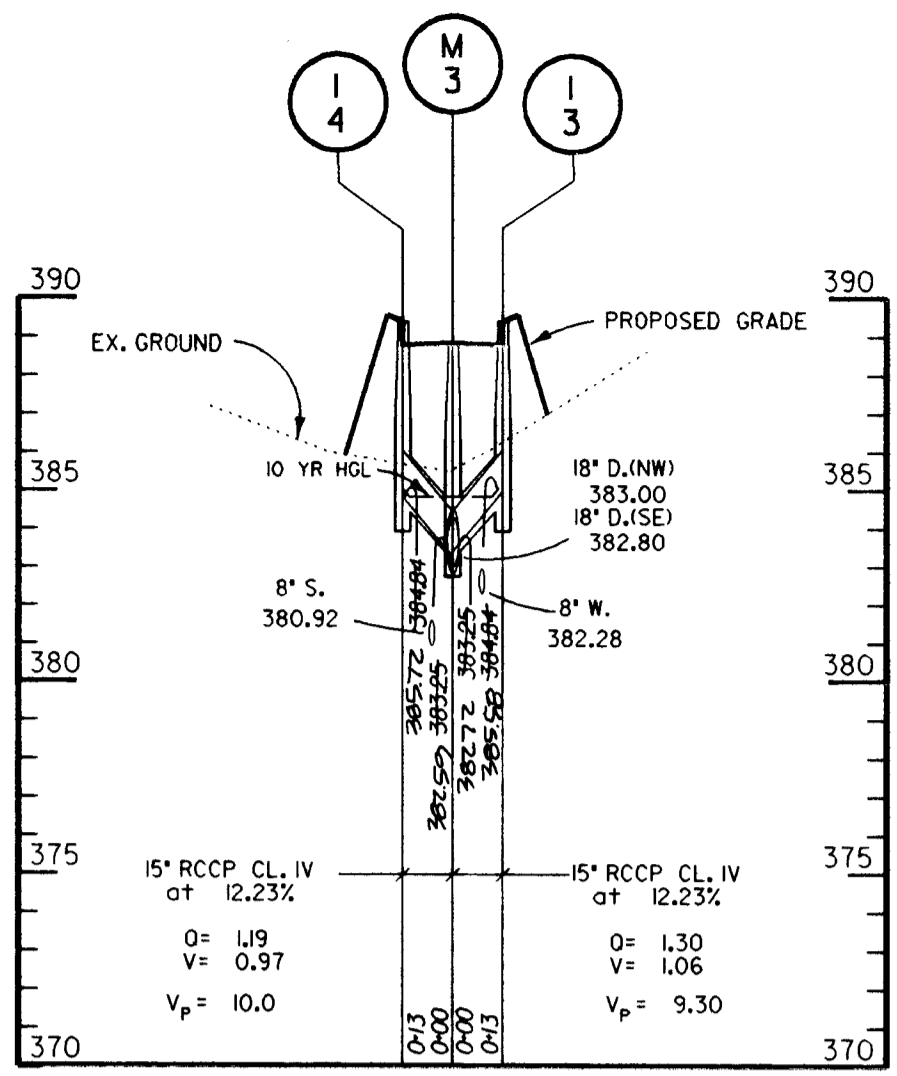
Professional Engr. No. 10551

Des By	RTP	Scale	AS SHOWN	Proj. No.	92023
Drn By	RTP	Date	5/6/93		
Chk By	JWR	Approved			3 OF 9



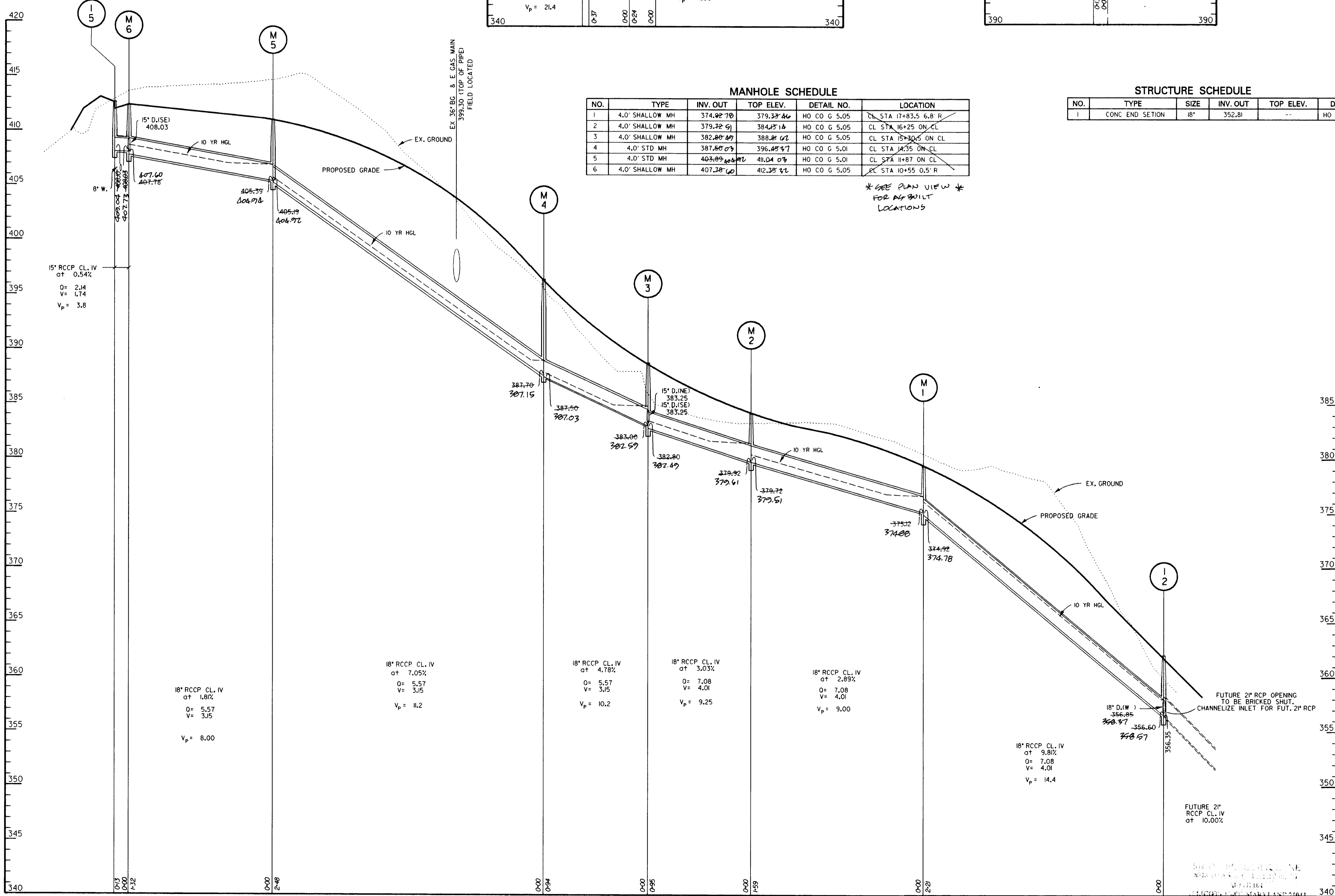
AG. BUILT
Shanaberger & Lane
DATE

SHANABERGER & LANE
8724 TOWN & COUNTRY BLDG.
SUITE 104
ELLCOTT CITY, MARYLAND 21143



INLET SCHEDULE					
NO.	TYPE	INV. OUT	TOP ELEV.	DETAIL NO.	LOCATION
1	'S' COMB.	367.50	362.05	HO CO SD 4.32	CL STA 20+05 12.0' L
2	'S' COMB.	356.35	362.05	HO CO SD 4.32	CL STA 20+05 12.0' R
3	'S' COMB.	384.84	389.38	HO CO SD 4.32	CL STA 15+25 12.0' L
4	'S' COMB.	384.84	389.38	HO CO SD 4.32	CL STA 15+25 12.0' R
5	'S' COMB.	408.00	412.65	HO CO SD 4.32	CL STA 10+50 12.0' L
6	DOUBLE 'S' COMB.	408.00	412.65	HO CO SD 4.34	CL STA 10+50 12.0' R

* TOP ELEV. IS @ TOP OF HEADPIECE.
 SEE PLAN VIEW FOR AS-BUILT LOCATIONS



MANHOLE SCHEDULE						
NO.	TYPE	INV. OUT	TOP ELEV.	DETAIL NO.	LOCATION	
1	4.0' SHALLOW MH	374.82	379.33	HO CO G 5.05	CL STA 17+83.5 6.8' R	
2	4.0' SHALLOW MH	379.32	384.31	HO CO G 5.05	CL STA 16+25 ON CL	
3	4.0' SHALLOW MH	382.80	388.81	HO CO G 5.05	CL STA 15+30.5 ON CL	
4	4.0' STD MH	387.50	396.85	HO CO G 5.01	CL STA 14+35 ON CL	
5	4.0' STD MH	403.89	411.04	HO CO G 5.01	CL STA 11+87 ON CL	
6	4.0' SHALLOW MH	407.38	412.35	HO CO G 5.05	CL STA 10+55 0.5' R	

* SEE PLAN VIEW FOR AS-BUILT LOCATIONS

STRUCTURE SCHEDULE						
NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	DETAIL NO.	LOCATION
1	CONC END SECTION	18"	352.81	--	HO CO G 5.51	CL STA 20+25.0 43' L



AS-BUILT
 G. Scott Shanabarger
 PROFESSIONAL ENGINEER
 REG. U.S. # 108287
 DATE 1/25/94
 SHANABARGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 104
 ELLICOTT CITY, MARYLAND 21043

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 Andrew M. Daveler 2-9-94
 CHIEF, BUREAU OF HIGHWAYS HS DATE
 David J. Sorenson 2/17/94
 CHIEF, BUREAU OF ENGINEERING DATE
 Bob Dammann 2/16/94
 CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Jim Summary 2/10/94
 CHIEF, LAND DEVELOPMENT AND RESEARCH DATE

Date	No.	Revision Description

HARPER'S CHOICE
 OWNER / DEVELOPER

THE HOWARD RESEARCH & DEVELOPMENT CORP.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

Daft · McCune · Walker, Inc.
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 410 296 3333
 Fax 296 4705

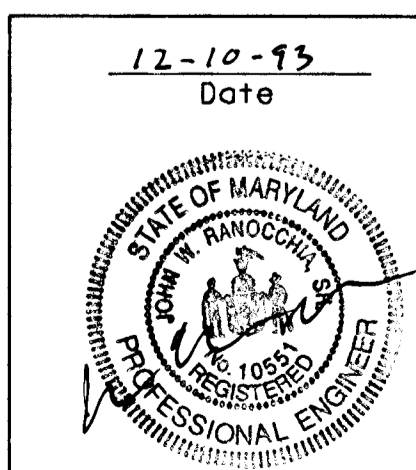
AREA SECTION 5, AREA 9 PHASE 1
 TAX MAP 29 PARCEL 126
 5th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

ROAD CONSTRUCTION DETAILS & STORM DRAIN PROFILES

Des By RTP Scale AS SHOWN Proj. No. 92023
 Drn By RTP Date 5/6/93
 Chk By JWR Approved 4 OF 9

STORM DRAIN PROFILES

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



Professional Engr. No. 10551

CLARKSVILLE PIKE
MD. RTE. 108

PHASE 1

PHASE 1

FUTURE PHASE 2

FUTURE PHASE 2

THE HOWARD RESEARCH & DEVELOPMENT CORP.
LIBER 1535 FOLIO 193
ZONED NEW-TOWN OPEN SPACE

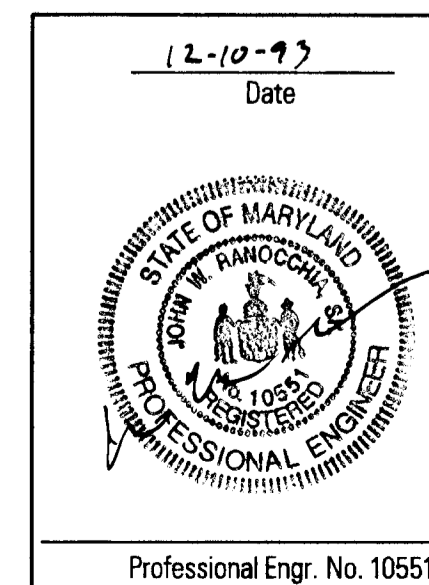
LOT 6
VILLAGE OF HARPER'S CHOICE
HOBBITS GLEN GOLF COURSE
PLAT #930
ZONED NEW-TOWN OPEN SPACE

ESTATE OF MURIEL D. CARROLL
LIBER 1577 FOLIO 347
ZONED R

LOT 8
VILLAGE OF HARPER'S CHOICE
HOBBITS GLEN GOLF COURSE
PLAT #9309
ZONED NEW-TOWN OPEN SPACE

LOT 8
VILLAGE OF HARPER'S CHOICE
HOBBITS GLEN GOLF COURSE
PLAT #9309
ZONED NEW-TOWN OPEN SPACE

- LEGEND**
- STRUCTURE LABEL
 - PROPOSED DRAINAGE AREA DESIGNATION
 - ZONING % IMP.
 - PROPOSED DRAINAGE AREA LIMIT



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

Andrew M. Daneker 2-4-94
CHIEF, BUREAU OF HIGHWAYS HS DATE

Paul D. Mason 2/17/94
CHIEF, BUREAU OF ENGINEERING DATE

John D. Dawson 2/16/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Dina Swannery 2/18/94
CHIEF, LAND DEVELOPMENT AND RESEARCH ST DATE

Date No. Revision Description

HARPER'S CHOICE
OWNER / DEVELOPER

THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

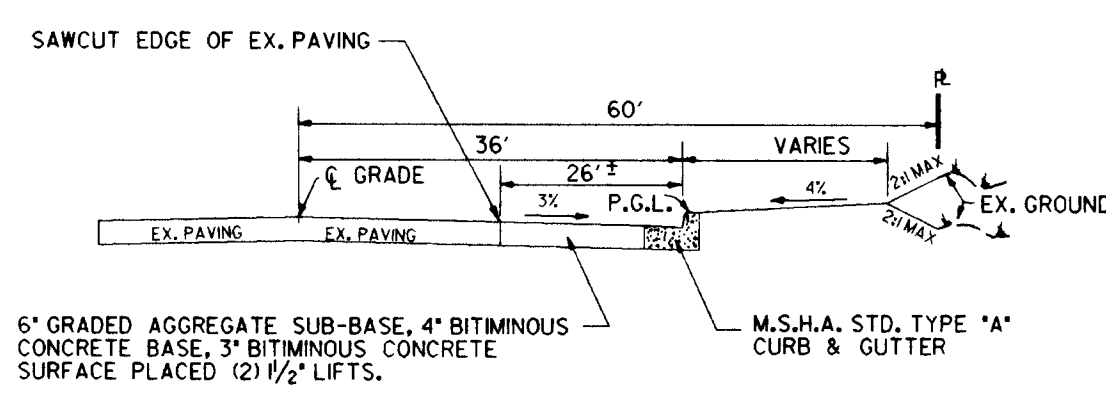
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3383
Fax 296-4705

AREA SECTION 5, AREA 9 PHASE 1
TAX MAP 29 PARCEL 128
5th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE **STORM DRAINS**
DRAINAGE AREA MAP

Des By	RTP	Scale	1" = 100'	Proj. No.	92023
Drn By	RTP	Date	5-6-93		
Chk By	JWR	Approved			5 OF 9

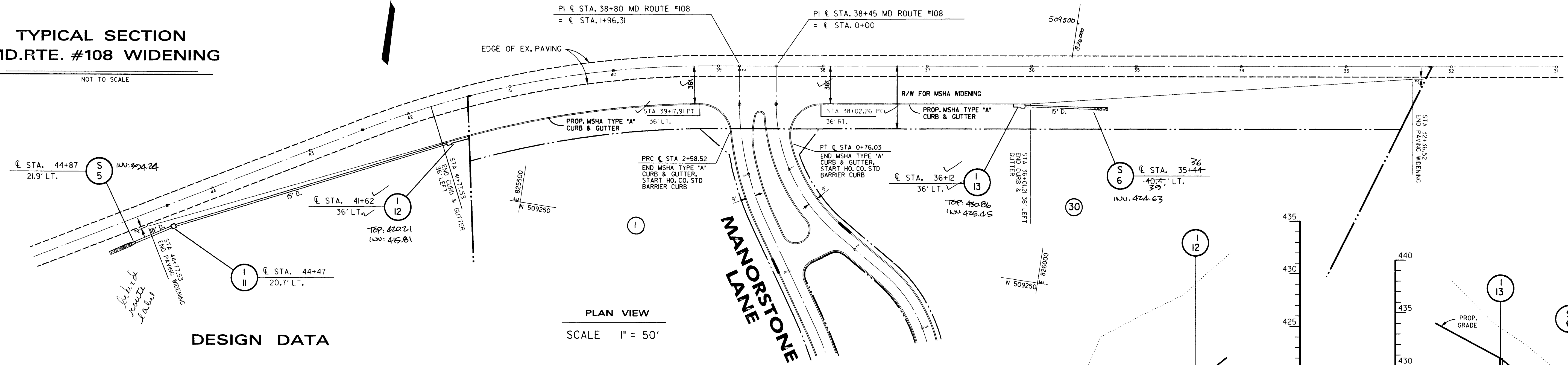
Professional Engr. No. 10551



**TYPICAL SECTION
MD.RTE. #108 WIDENING**

NOT TO SCALE

CLARKSVILLE PIKE MARYLAND ROUTE No. 108



**PLAN VIEW
SCALE 1" = 50'**

DESIGN DATA

STATION	EXISTING EDGE OF ROAD		PROPOSED CONDITION	
	OFFSET	ELEVATION	OFFSET	ELEVATION
32+36.52	10.17	416.50	12.17	416.44 EP
35+50.00	10.18	416.84	13.05	416.75 EP
32+75.00	10.42	417.52	14.68	417.39 EP
33+00.00	10.56	418.24	16.32	418.07 EP
33+25.00	10.49	419.05	17.95	418.83 EP
33+50.00	10.58	419.80	19.58	419.53 EP
33+75.00	10.58	420.52	21.22	420.20 EP
34+00.00	10.62	421.30	22.85	420.93 EP
34+25.00	10.69	422.17	24.49	421.76 EP
34+50.00	10.66	423.09	26.12	422.63 EP
34+75.00	10.73	424.09	27.75	423.58 EP
35+00.00	10.58	425.16	29.39	424.60 EP
35+25.00	10.78	426.27	31.02	425.66 EP
35+50.00	10.55	427.46	32.65	426.80 EP
35+75.00	10.56	428.79	34.29	428.08 EP
36+00.00	10.73	430.09	35.92	429.33 EP
36+01.21	10.72	430.16	36.00	430.06 TC
36+25.00	10.56	431.50	36.00	431.40 TC
36+50.00	10.44	432.89	36.00	432.78 TC
36+75.00	10.13	434.14	36.00	434.07 TC
37+00.00	10.26	435.12	36.00	435.09 TC
37+25.00	10.42	435.95	36.00	435.84 TC
37+50.00	10.02	436.59	36.00	436.74 TC
37+75.00	9.92	437.14	36.00	437.02 TC

STATION	EXISTING EDGE OF ROAD		PROPOSED CONDITION	
	OFFSET	ELEVATION	OFFSET	ELEVATION
38+00.00	10.01	437.46	26.00	437.34 TC
38+02.26	10.01	437.46	36.00	437.34 TC
39+17.91	10.22	435.37	36.00	435.26 TC
39+25.00	10.11	435.12	36.00	435.09 TC
39+50.00	10.02	434.04	36.00	433.92 TC
39+75.00	9.61	432.78	36.00	432.64 TC
40+00.00	9.29	431.32	36.00	431.11 TC
40+25.00	9.50	429.72	36.00	429.55 TC
40+50.00	9.84	428.08	36.00	427.95 TC
40+75.00	10.40	426.41	36.00	426.30 TC
41+00.00	9.59	424.83	36.00	424.70 TC
41+25.00	10.22	423.07	36.00	422.95 TC
41+50.00	10.55	421.31	36.00	421.28 TC
41+75.00	12.73	419.36	36.00	419.22 TC
41+77.53	12.52	419.19	36.00	418.91 TC
42+00.00	10.61	417.72	34.23	417.01 EP
42+25.00	10.14	415.92	32.25	415.26 EP
42+50.00	11.77	413.95	30.28	413.29 EP
42+75.00	11.33	412.16	28.31	411.65 EP
43+00.00	11.33	410.34	26.34	409.87 EP
43+25.00	11.19	408.56	24.36	408.08 EP
43+50.00	11.12	406.80	22.39	406.46 EP
43+75.00	11.15	405.02	20.42	404.74 EP
44+00.00	10.98	403.35	18.45	403.13 EP
44+25.00	10.85	401.58	16.47	401.41 EP
44+50.00	10.90	399.86	14.50	399.75 EP
44+70.22	10.90	398.44	12.90	398.20 EP

GUTTER PAN: 100'
CURB HEIGHT: 0.67'
ROAD SLOPE: 3.00%
GUTTER SLOPE: 4.17%

* INDICATES DATA BASED ON AERIAL PHOTOGRAMMETRY. MODIFY PROPOSED EDGE OF ROAD ELEVATION AS REQUIRED TO MAINTAIN TYPICAL CROSS SECTION.

INLET SCHEDULE

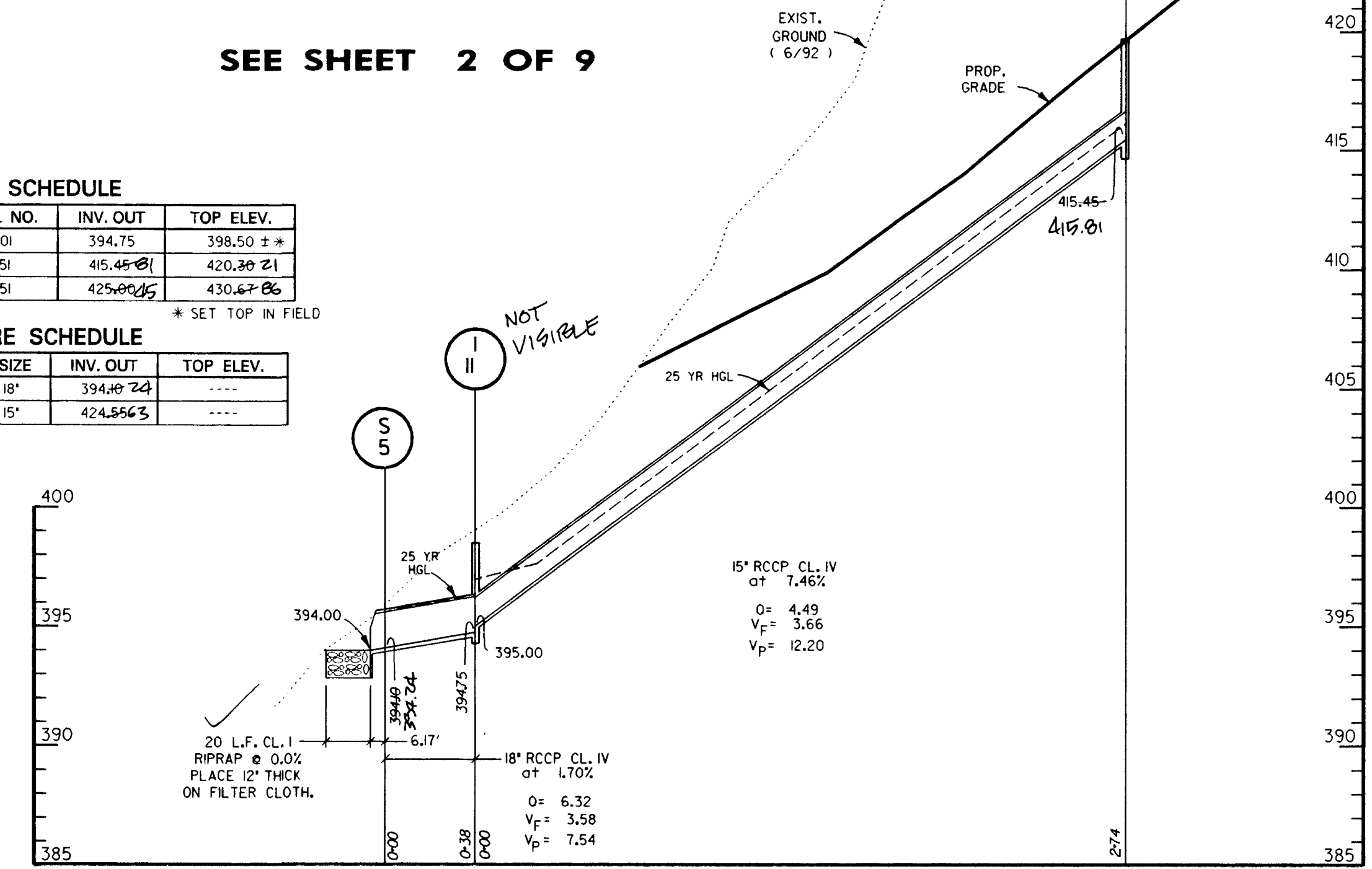
NO.	TYPE	DETAIL NO.	INV. OUT	TOP ELEV.
II	SINGLE 'K'	368.01	394.75	398.50 ±
I2	20" COG	374.51	415.45	420.20 ±
I3	10" COG	374.51	425.02	430.67 ±

* SET TOP IN FIELD

STRUCTURE SCHEDULE

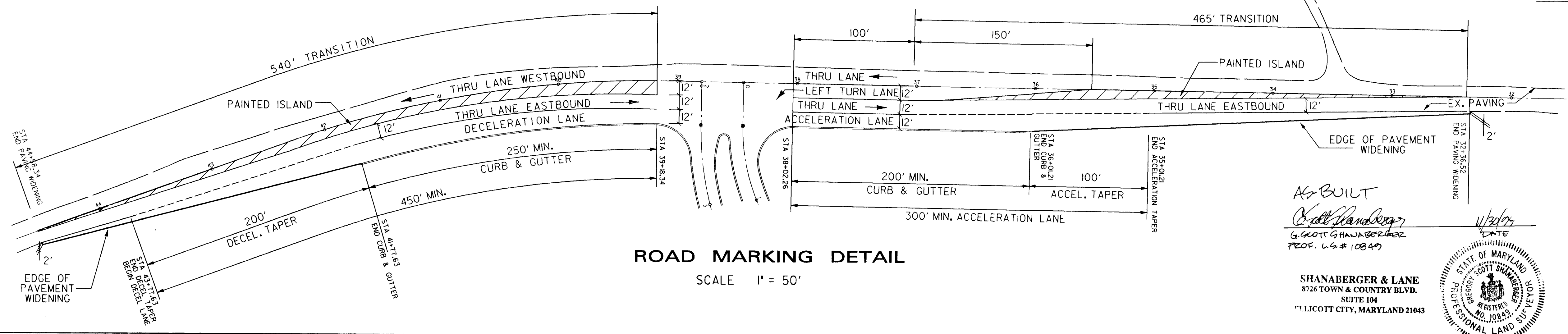
NO.	TYPE	SIZE	INV. OUT	TOP ELEV.
S-5	CONC. END SECTION	18"	394.40	---
S-6	CONC. END SECTION	15"	424.56	---

SEE SHEET 2 OF 9



STORM DRAIN PROFILES

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



ROAD MARKING DETAIL
SCALE 1" = 50'

AS BUILT
[Signature]
G. GOTT G. HAWBERGER
PROF. L.S.# 10849

SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 104
COLUMBIA CITY, MARYLAND 21043



12-10-93
Date
Professional Engr. No. 10551

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Ann Surmann
CHIEF, LAND DEVELOPMENT AND RESEARCH
DATE: 2/18/94

Date	No.	Revision	Description

HARPER'S CHOICE
OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410.286.3333
Fax: 286.4705

AREA: SECTION 5 AREA 9 PHASE 1
TAX MAP 29 PARCEL 128
5th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: CLARKSVILLE PIKE MD ROUTE #108
ROAD IMPROVEMENTS

Des By	JWR	Scale	AS SHOWN	Proj. No.	92023
Drn. By	RTP	Date	4/29/93		
Chk By	JWR	Approved			6 OF 9

E 826500

N 507000

MACTHLINE - SEE SHEET 8 OF 9

11

ESTATE OF MUREL D. CARROLL
LIBER 1977 FOLIO 347

THE HOWARD RESEARCH & DEVELOPMENT CORP.
LIBER 1995 FOLIO 193

SEDIMENT CONTROL LEGEND

- EXISTING CONTOURS
- - - PROPOSED CONTOURS
- EXISTING DRAINAGE AREA
- - - PROPOSED DRAINAGE AREA
- LIMIT OF DISTURBANCE
- LIMIT OF TEMPORARY STOCKPILE
- EARTH DIKE
- SUPER FENCE DIVERSION
- SUPER SILT FENCE
- TRAP STORAGE SIDESLOPES
- INLET PROTECTION
- STONE OUTLET STRUCTURE
- MOUNTABLE BERM

E 826500
N 507000

E 826500
N 507000

TRAP SPECIFICATION TABLE

Trap Number	1	2	3
Trap Type	ST 5	ST 5	ST 5
Existing Drainage Area Ac.	1.5	0.9	1.3
Proposed Drainage Area Ac.	1.5	2.4	1.0
Storage Required Cu.Ft.	2700	4,320	2,340
Storage Provided Cu.Ft.	2901	4,445	3,474
Top Subsequent Elevation	368.0	365.0	362.5
Crest Elevation	366.0	355.0	360.5
Existing Ground Elevation	366.0	359.0	360.5
Cleanout Elevation	364.0	347.5	376.5
Bottom Elevation	362.0	347.0	376.5
Outlet Width (ft)	6'	10'	6'
n	1	1	1
Bottom Dimension	5' x 6'	5' x 20'	20' x 9'
Trap Depth	4'	5'	4'
Trap Sideslopes	2:1	2:1	2:1
Barrel Diameter	---	---	---
Riser Diameter	---	---	---

DEVELOPER'S CERTIFICATION:
I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance as a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

James R. Blair 12-10-93
Date

ENGINEER'S CERTIFICATION:
I certify that this plan for erosion and sediment control represents a practical and applicable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

John W. Kanucha, Sr. 12-10-93
Date

Reviewed by Howard S.C.D. meets Technical Requirements
Patricia Engler 12/10/93
Date
Howard S.C.D.

John P. Robinson 12/29/93
Date
Howard S.C.D.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

Andrew M. Daniels 2-4-94
DATE
CHIEF, BUREAU OF HIGHWAYS

Paul D. Egan 2/17/94
DATE
CHIEF, BUREAU OF ENGINEERING

John V. Swanson 2/16/94
DATE
CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Anna Swinney 2/16/94
DATE
CHIEF, LAND DEVELOPMENT AND RESEARCH

Date No. Revision Description

HARPER'S CHOICE
OWNER / DEVELOPER

THE HOWARD RESEARCH & DEVELOPMENT CO.
THE ROUSE COMPANY
10275 LITTLE PATUXEN PARKWAY
COLUMBIA, MARYLAND 21044

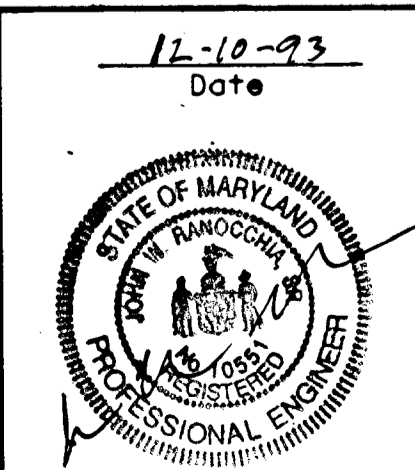
DMW
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

AREA SECTION 5 AREA 9 PHASE 1
TAX MAP 20 PARCEL 128
9th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE GRADING, SEDIMENT & EROSION CONTROL PLAN

Des By CRW Scale 1"=50' Proj. No. 92023
Drn By CRW Date 6-14-93
Chk By JWR Approved 7 OF 9

Professional Engr. No. 10551



ESTATE OF MUREL D. CARROLL
LIBER 1977 FOLIO 547

STONE OUTLET TRAP #6
EX. DA = 3.4 AC PROP. DA = 3.9 AC

STONE OUTLET TRAP #7
EX. DA = 2.8 AC PROP. DA = 2.2 AC

STONE OUTLET TRAP #5
EX. & PROP. DA = 1.6 AC

STONE OUTLET TRAP #4
EX. DA = 1.1 AC PROP. DA = 1.0 AC

THE HOWARD RESEARCH & DEVELOPMENT CORP.
LIBER 1535 FOLIO 193

CLARKSVILLE PIKE (MD RTE. 108)

SEDIMENT CONTROL LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING DRAINAGE AREA
- PROPOSED DRAINAGE AREA
- LIMIT OF DISTURBANCE
- LIMIT OF TEMPORARY STOCKPILE
- SILT FENCE
- EARTH DIKE
- STABILIZED CONSTRUCTION ENTRANCE
- MOUNTABLE BERM
- TRAP STORAGE SLOPES
- INLET PROTECTION
- STONE OUTLET STRUCTURE

LIMIT OF DISTURBANCE THIS SHEET: 419,112.5 ± OR 9.6 AC

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

Richard M. Daniels 2-4-94
CHIEF, BUREAU OF HIGHWAYS DATE

Donald D. Sasser 2/12/94
CHIEF, BUREAU OF ENGINEERING DATE

Chris Paulson 2/16/94
CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

China Simmons 2/18/94
CHIEF, LAND DEVELOPMENT AND RESEARCH DATE

Date	No.	Revision Description

HARPER'S CHOICE
OWNER / DEVELOPER

THE HOWARD RESEARCH & DEVELOPMENT CO.
THE ROUSE COMPANY
10275 LITTLE PATUXEN PARKWAY
COLUMBIA, MARYLAND 21044

Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

AREA SECTION 5 AREA 9 PHASE 1
TAX MAP 20 PARCEL 226
8th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

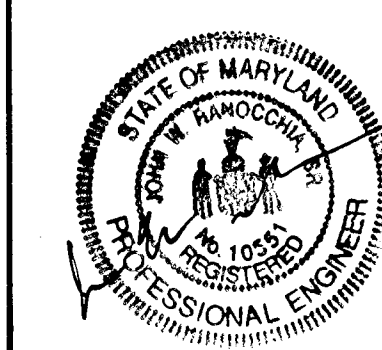
TITLE GRADING, SEDIMENT & EROSION CONTROL PLAN

Des By CRW Scale 1" = 50' Proj. No. 92023
Drn By CRW Date 6-14-93 8 OF 9
Chk By JWR Approved

TRAP SPECIFICATION TABLE

Trap Number	4	5	6	7
Trap Type	ST 5	ST 5	ST 5	ST 5
Existing Drainage Area Ac.	1.1	1.6	3.4	2.8
Proposed Drainage Area Ac.	1.0	1.6	3.9	2.2
Storage Required Cu. Ft.	1,200	2,080	7,020	5,040
Storage Provided Cu. Ft.	1,991	2,799	7,094	5,179
Top Bankment Elevation	407.0	411.0	401.0	410.0
Crest Elevation	405.0	409.0	399.0	407.5
Existing Ground Elevation	405.0	409.0	399.0	407.5
Cleanout Elevation	405.0	407.0	396.0	405.5
Bottom Elevation	401.0	405.0	393.0	405.5
Outlet Width (b)	5'	7'	16'	12'
n	-	-	-	-
Bottom Dimension	10'x35'	17'x12'	25'x26'	12'x90'
Trap Depth	4'	4'	6'	4'
Trap Slopesides	2:1	2:1	2:1	2:1
Barrel Diameter	-	-	-	-
Riser Diameter	-	-	-	-

12-10-93
Date



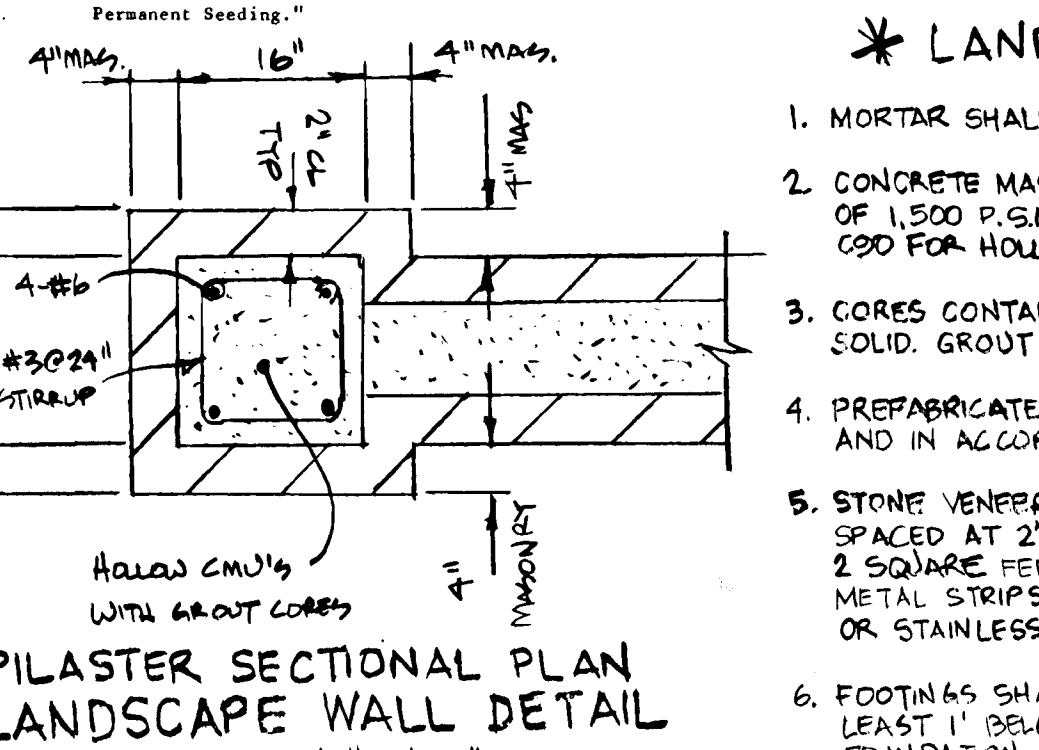
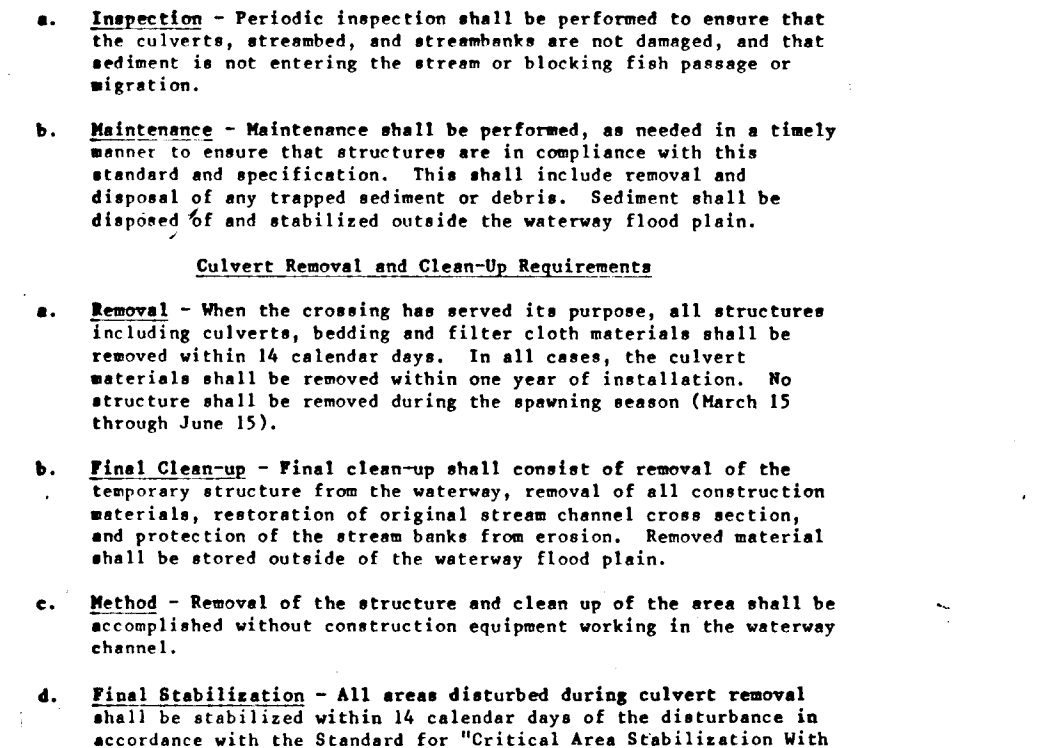
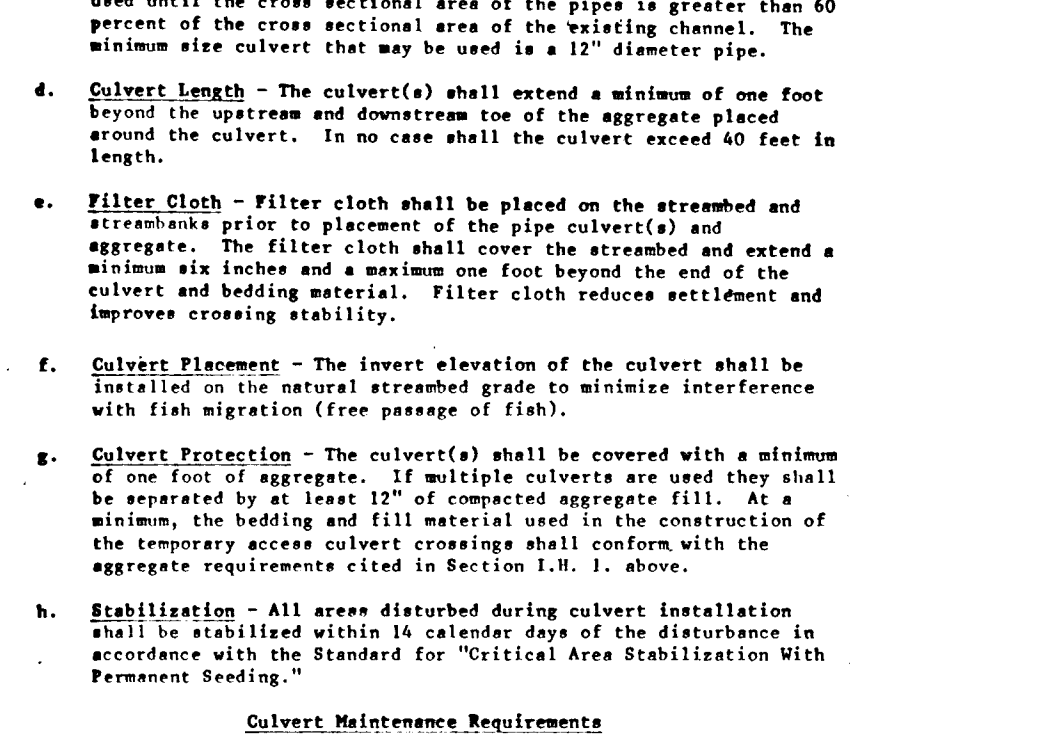
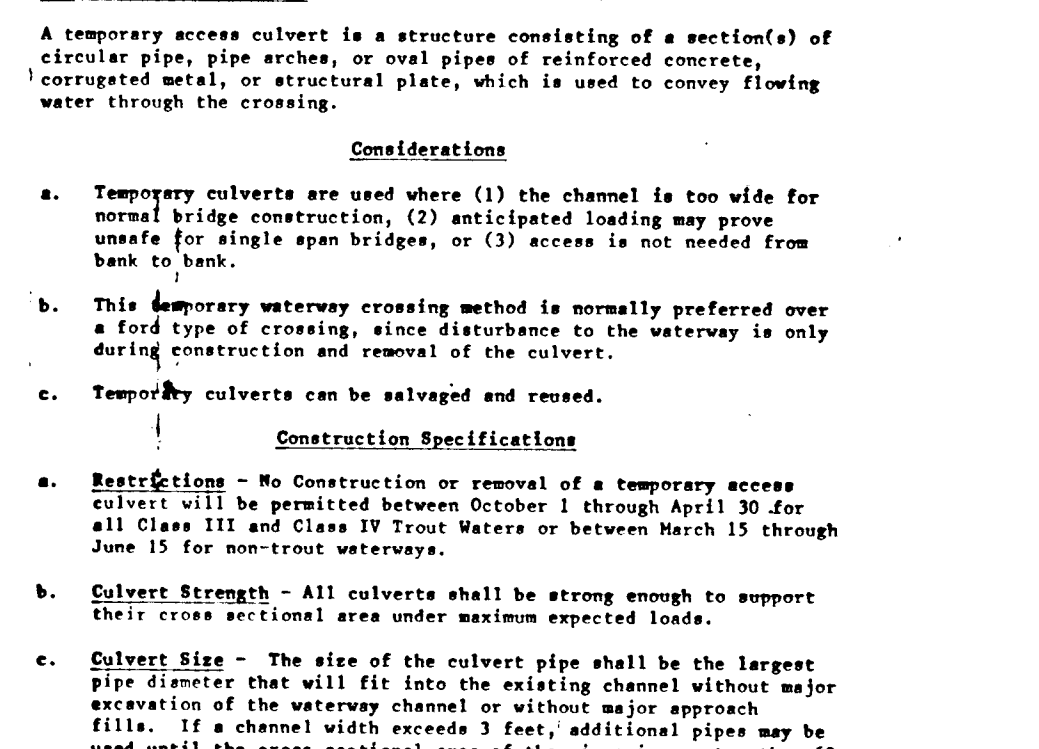
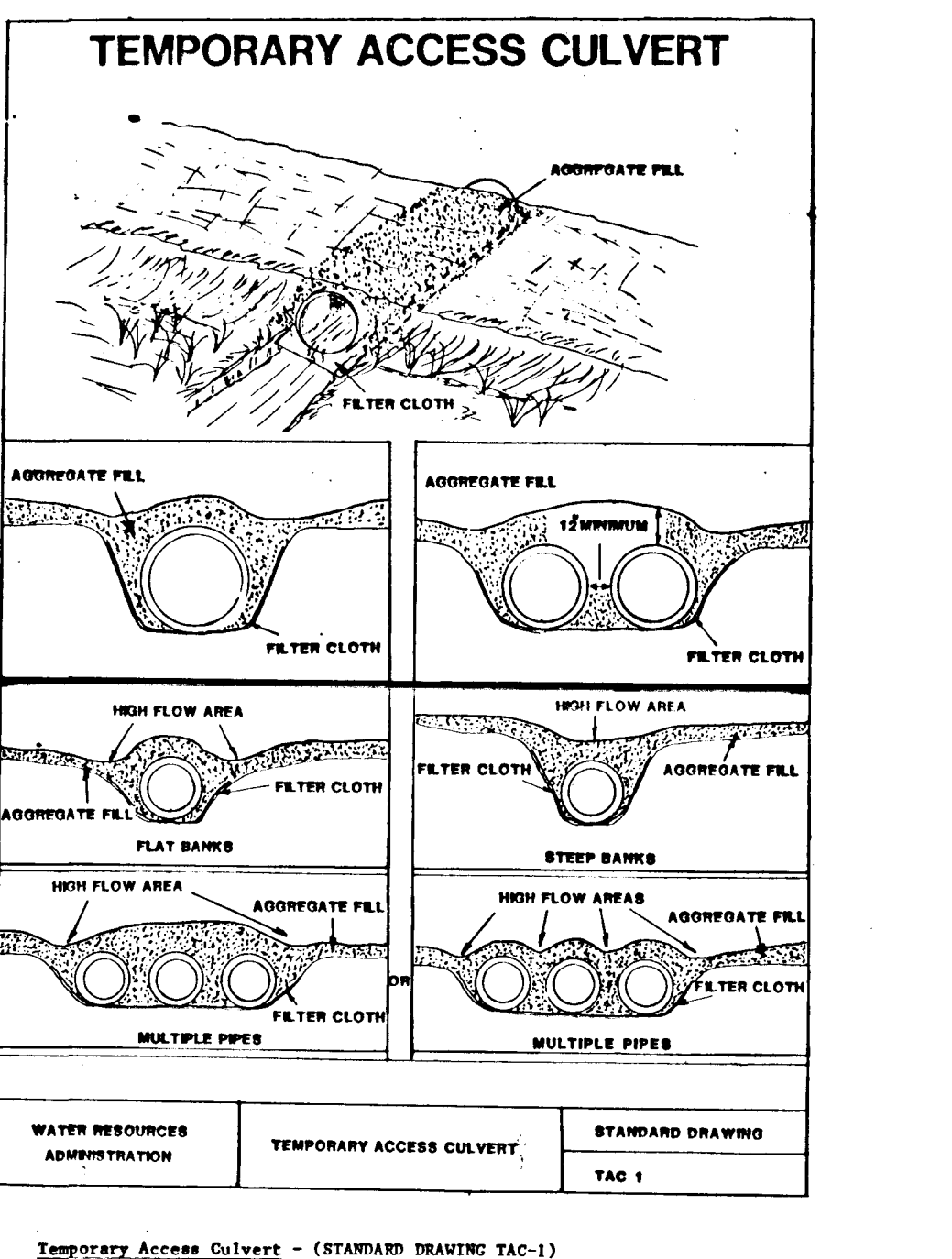
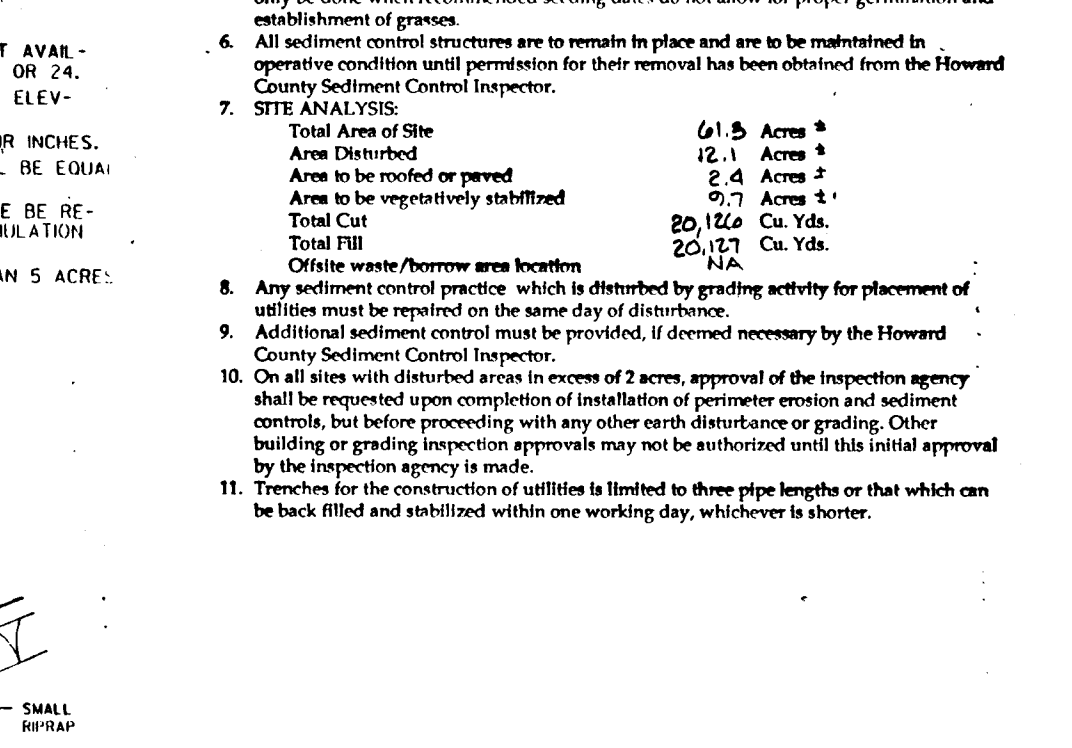
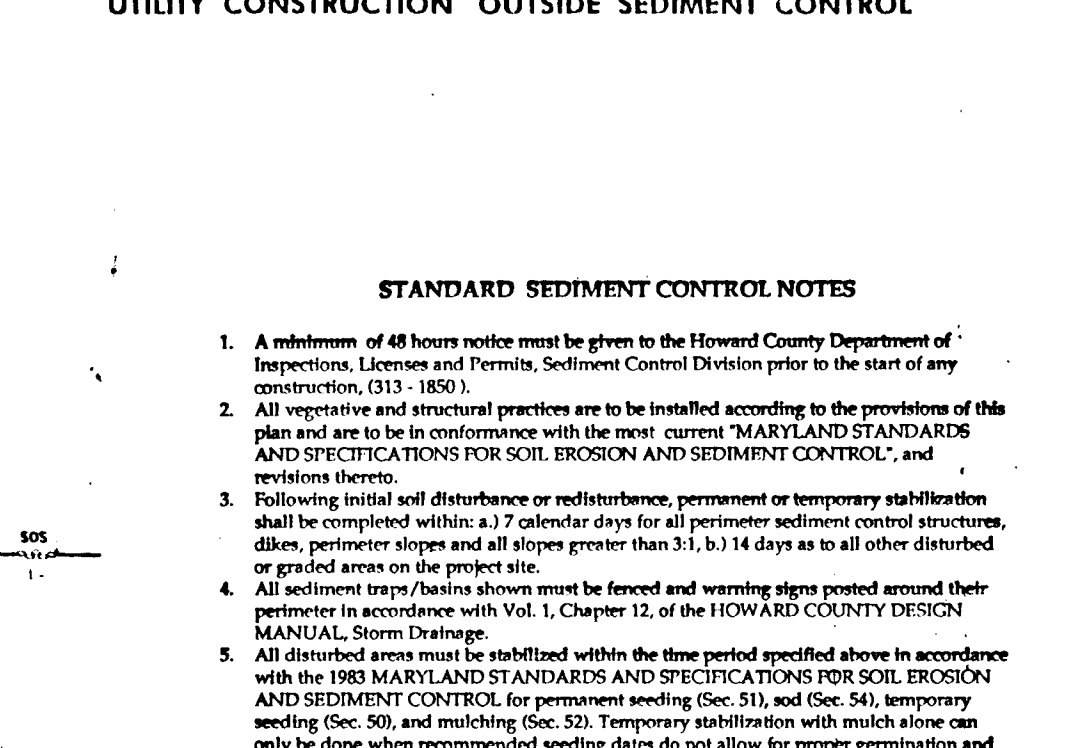
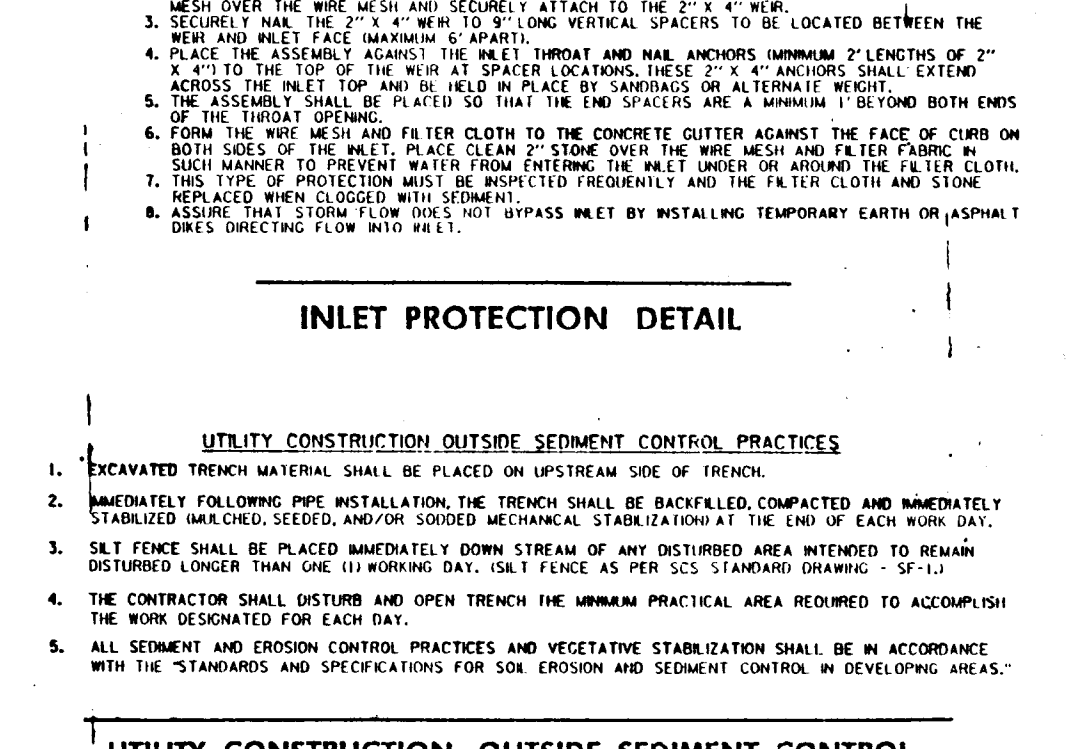
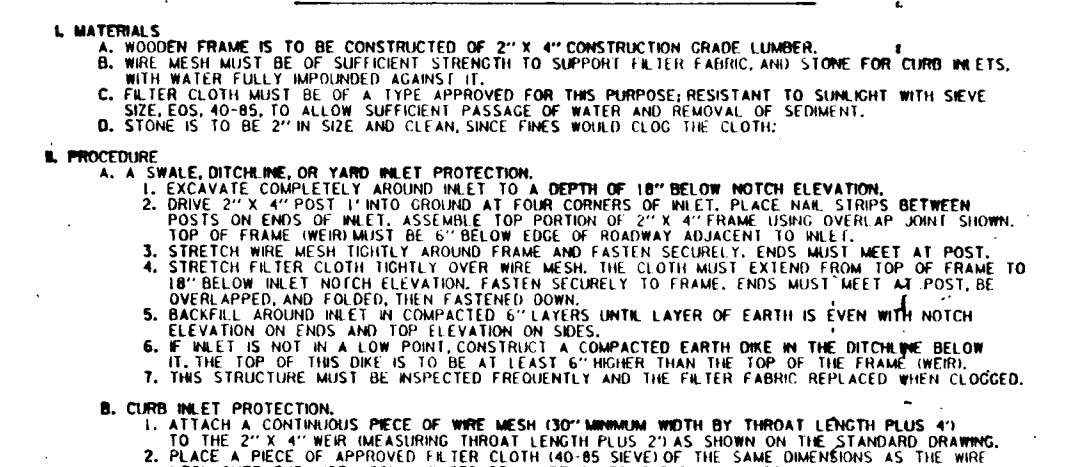
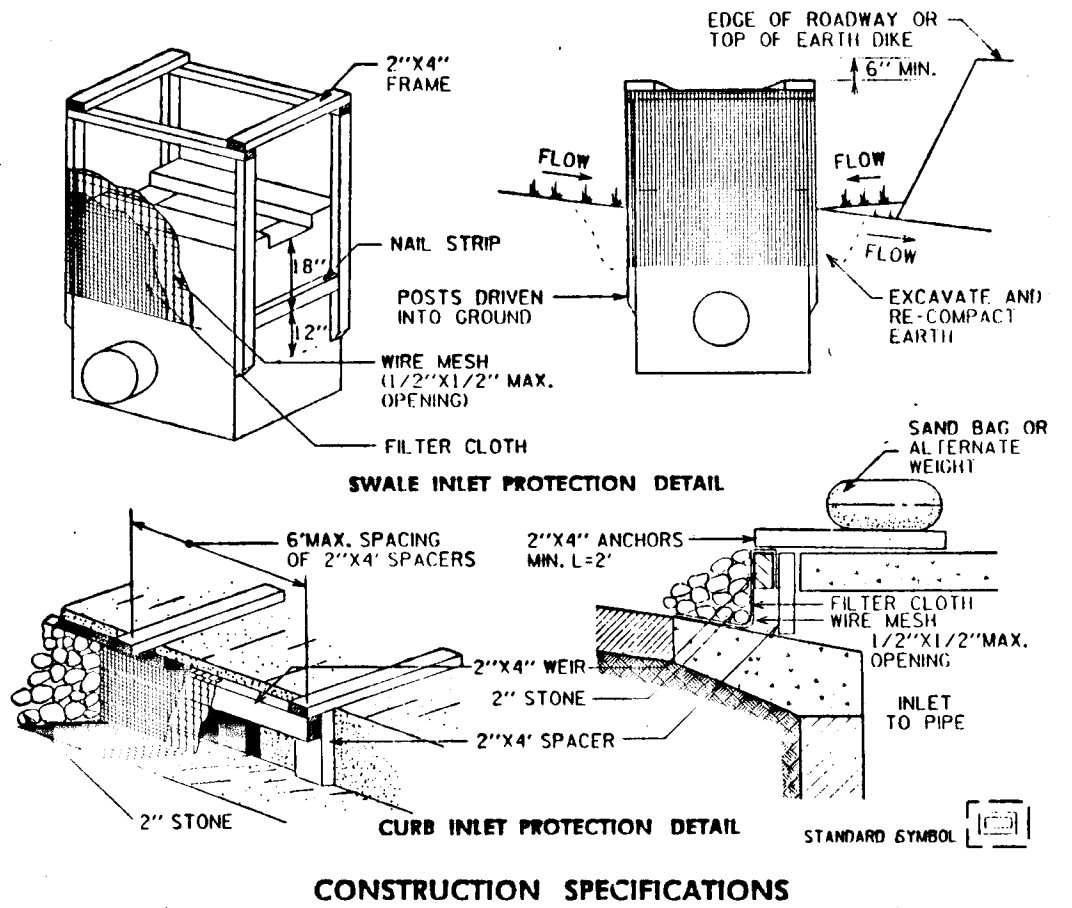
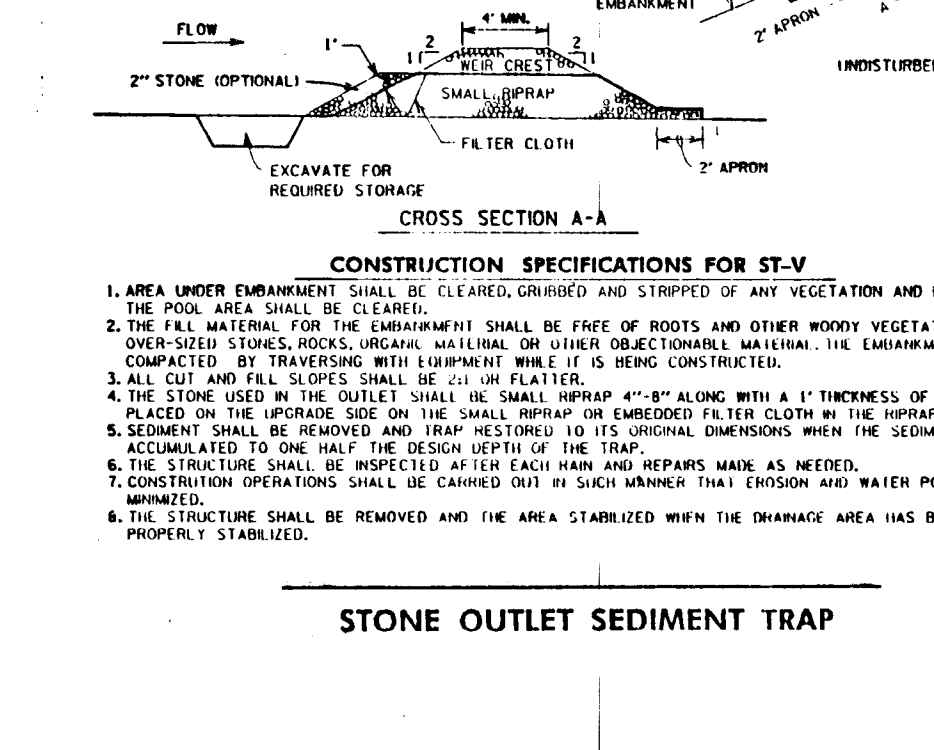
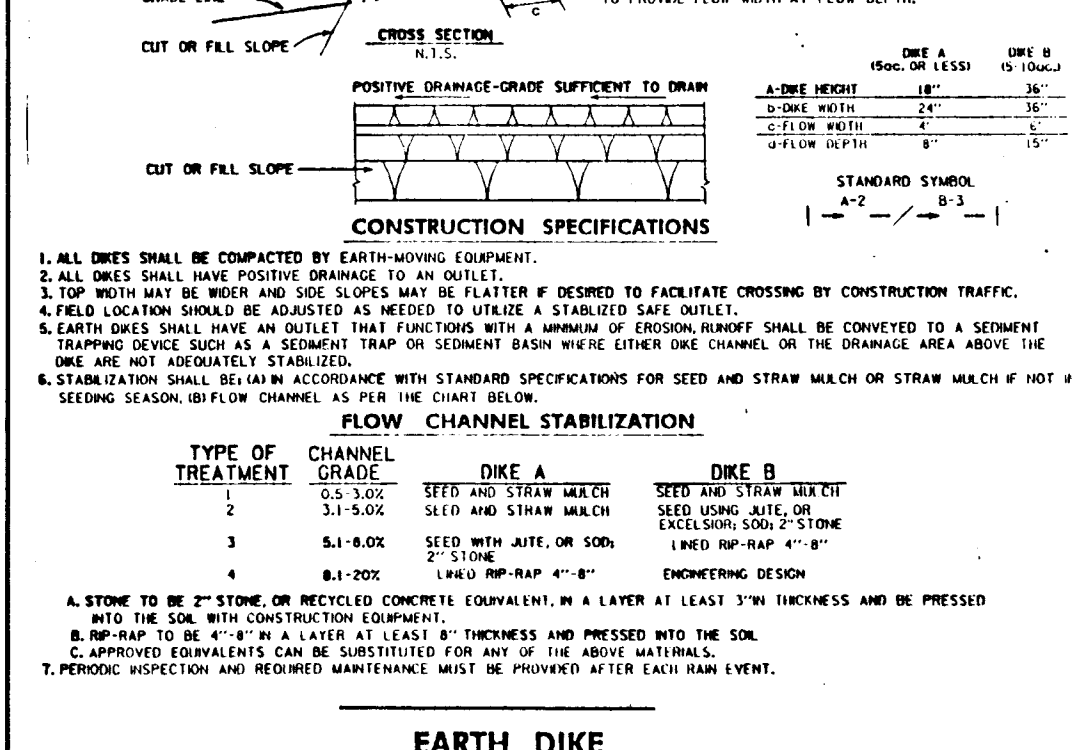
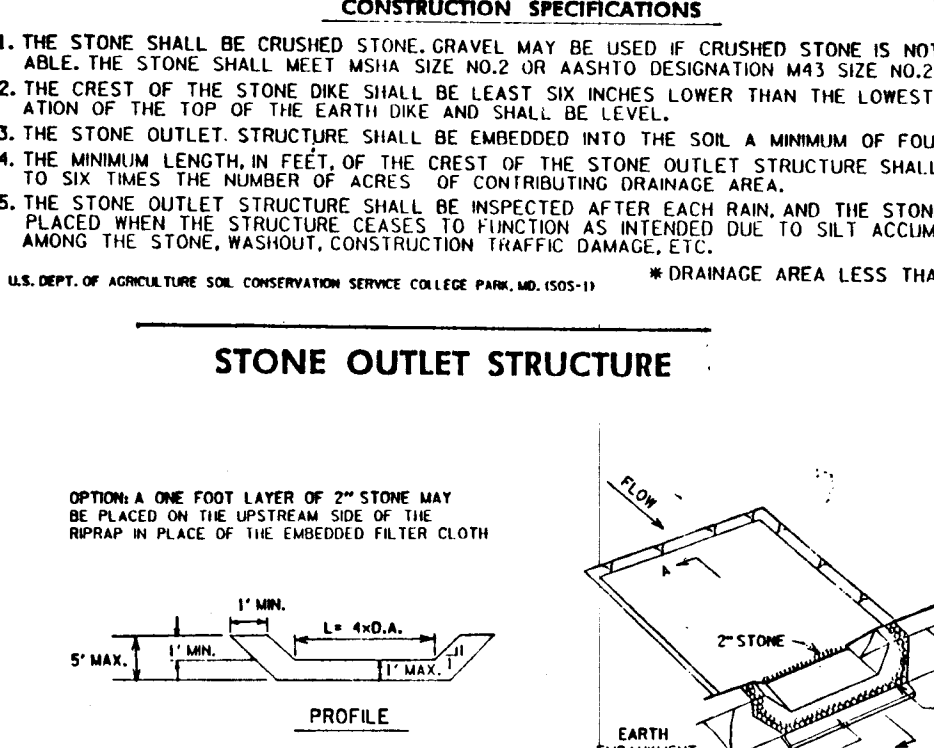
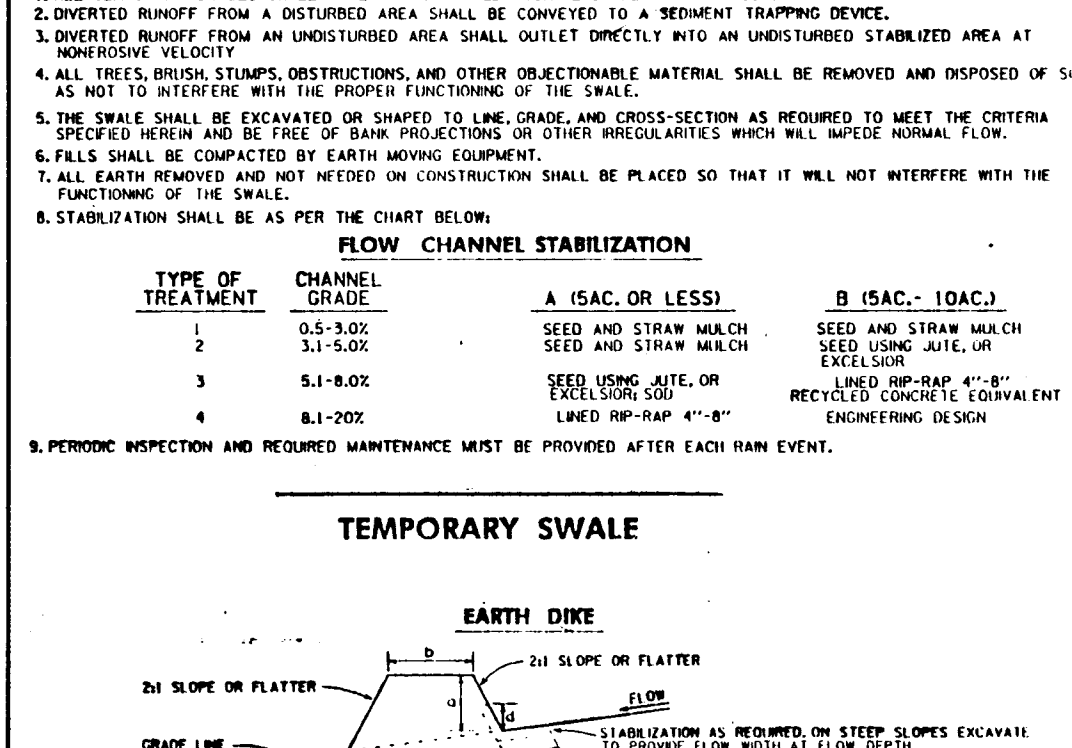
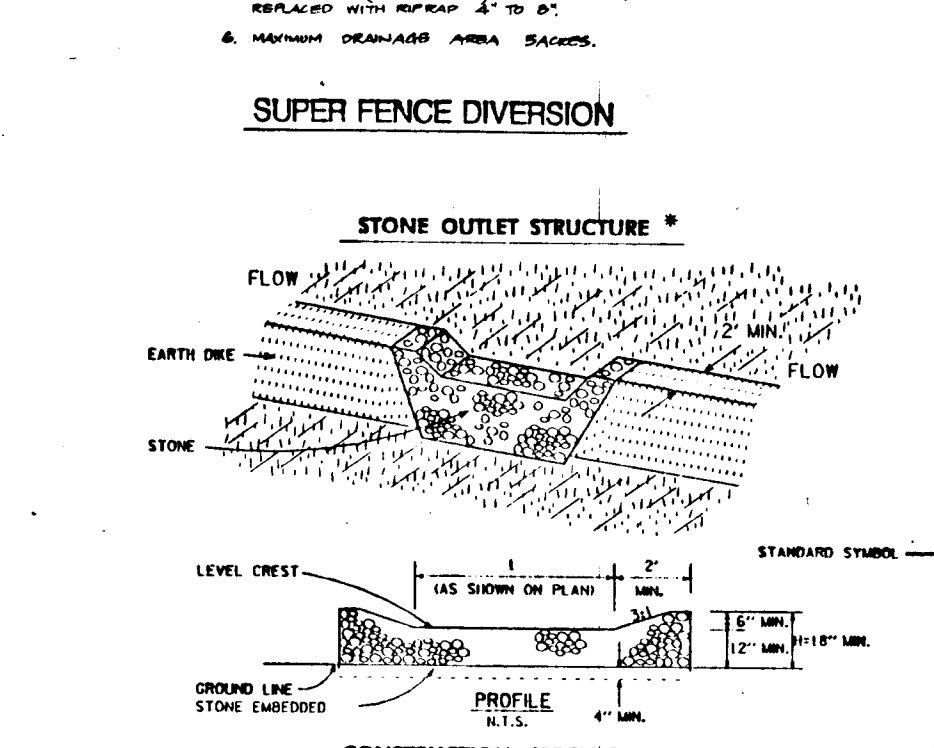
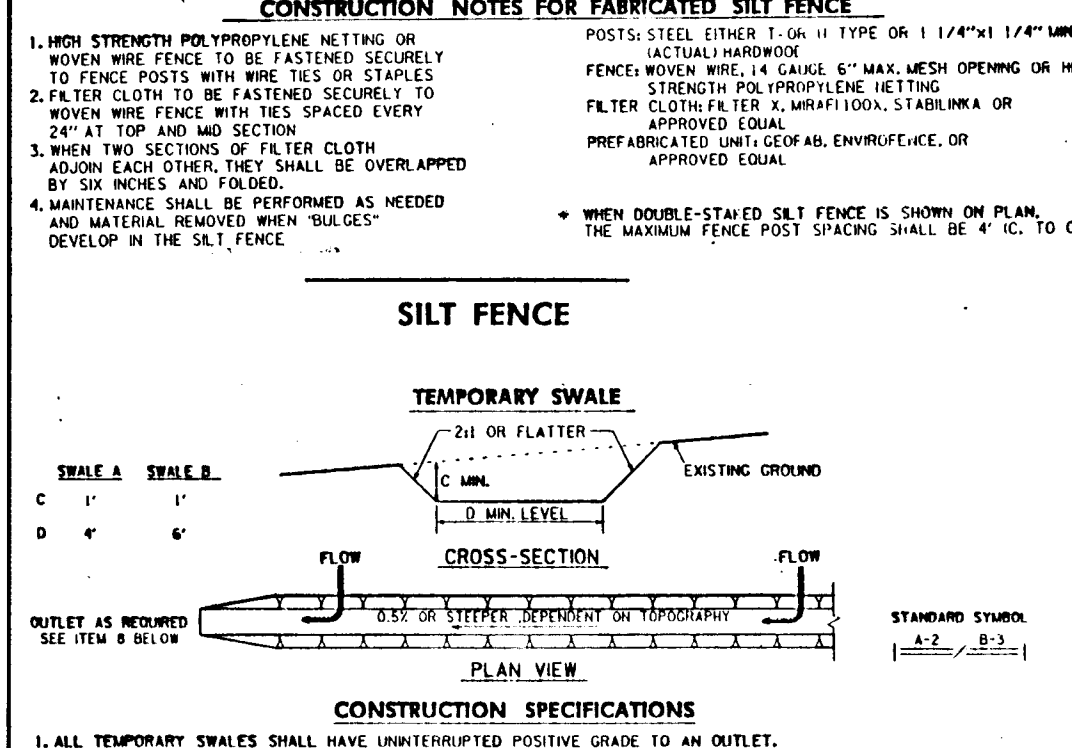
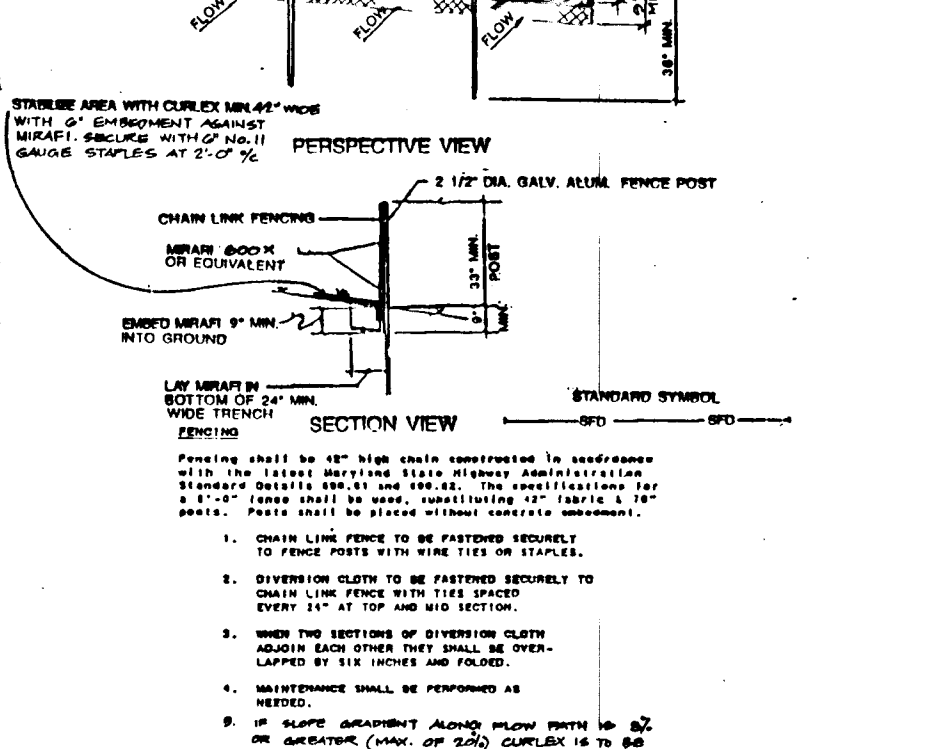
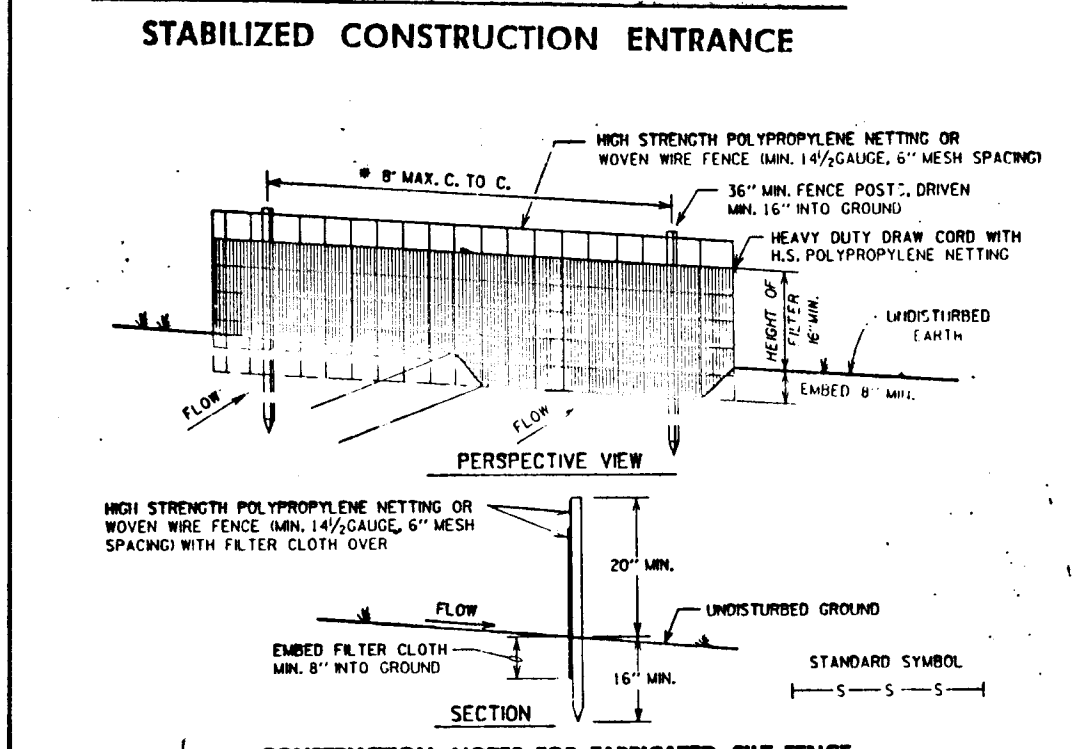
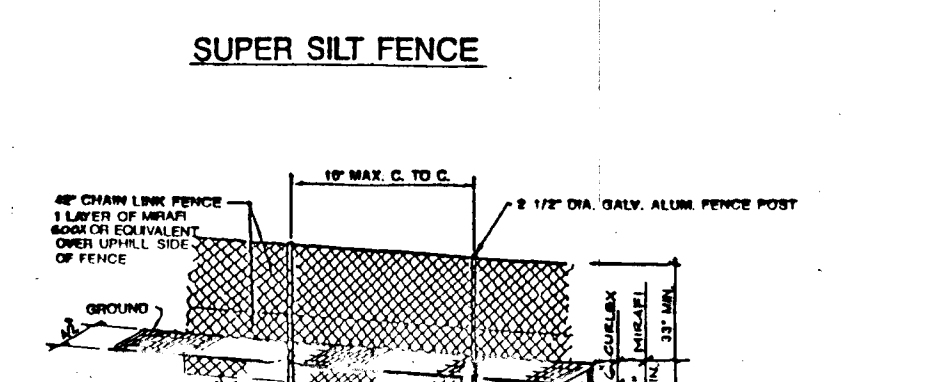
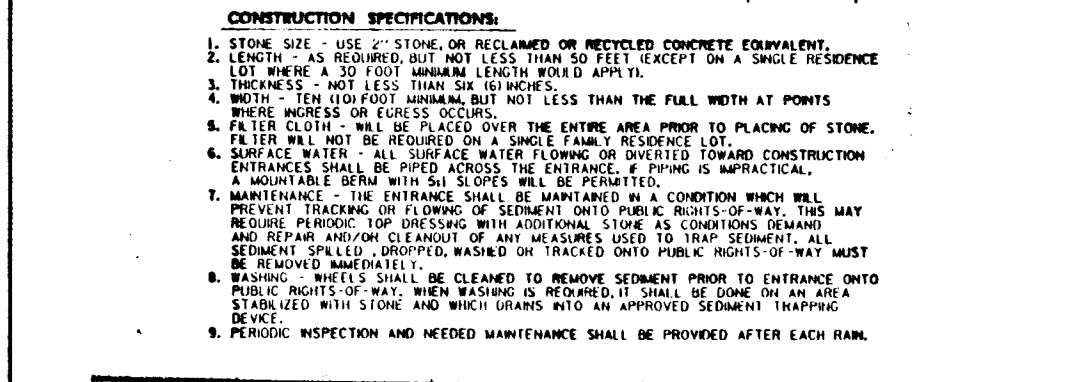
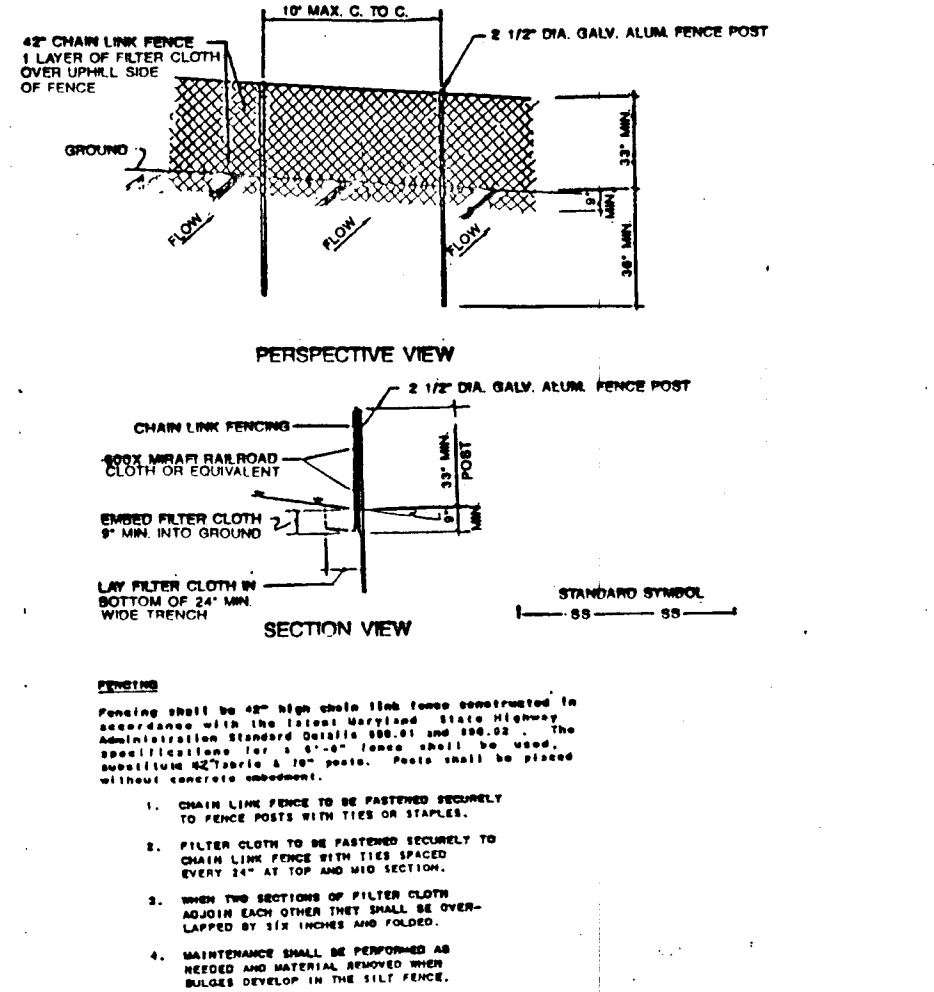
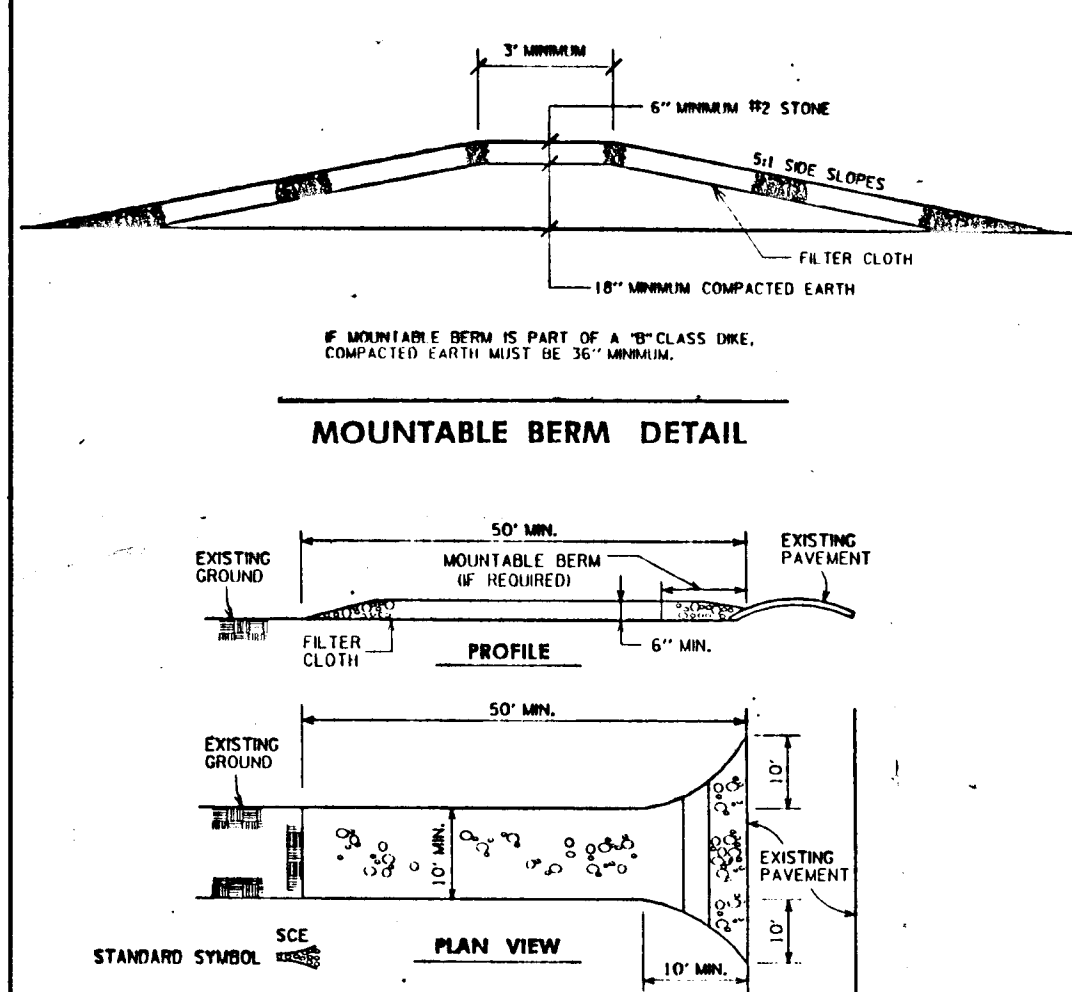
Approved for Howard S.C.D. and meets Technical Requirements
Patricia Engler 12/28/93
U.S. Soil Conservation Service Date

This Development Plan is Approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.
John R. Wilson 12/29/93
Howard S.C.D. Date

DEVELOPER'S CERTIFICATION:
"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."
Gregory R. Klar 12-10-93
Date

ENGINEER'S CERTIFICATION:
"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."
John W. Ranacher, Sr. 12-10-93
Date

NOISE BERM MUST BE GRADED PER THE APPROVED NOISE STUDY AFTER TEMPORARY STOCKPILE HAS BEEN REMOVED.



TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Soil Preparation - Loosen upper three inches of soil by raking, disking 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 October 15, seed with 2-1/2 bushels per acre of annual ryegrass (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 15 thru February 28, protect site by applying 2 tons per acre of well-rotted straw mulch and seed as soon as possible in the spring, or use sod.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of untreated wood free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gal per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 ft. or higher, use 340 gal per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1993 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

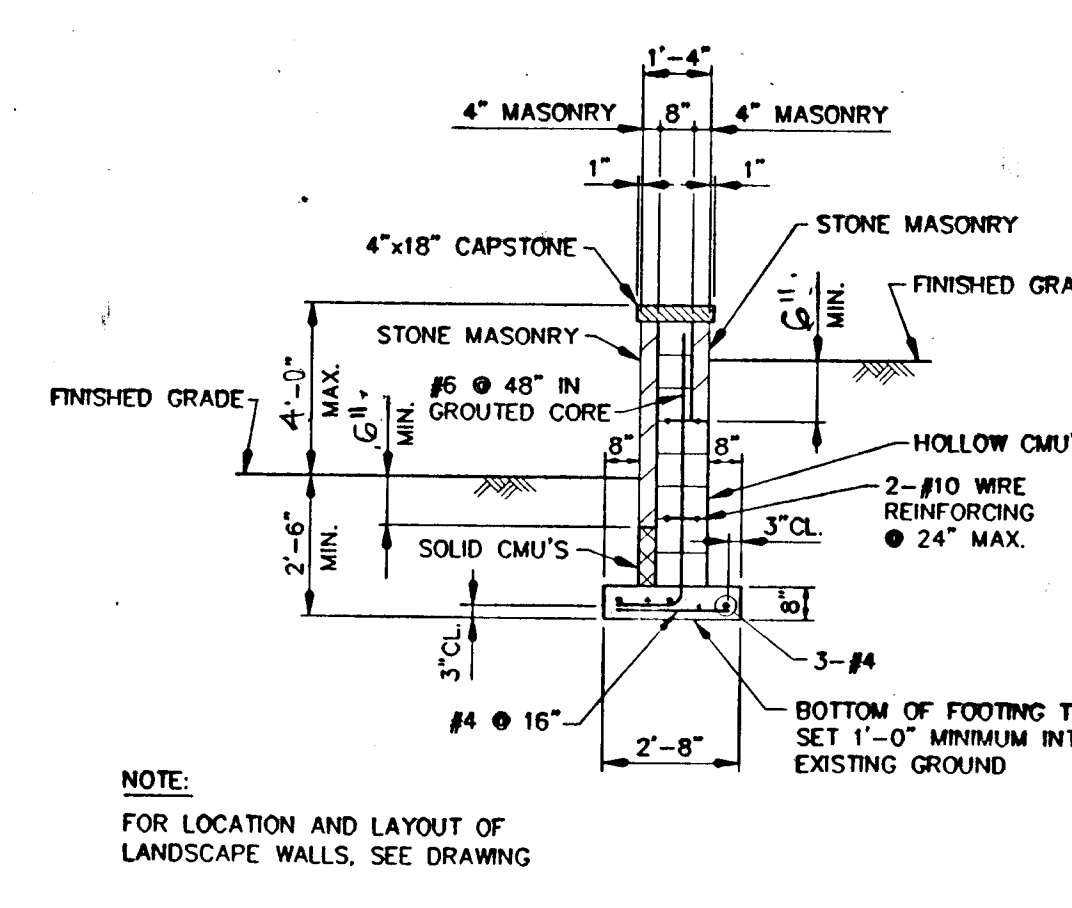
Soil Preparation - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments - In lieu of soil test recommendations, use one of the following schedules:

- Option 1** - 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 disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.).
- Option 2** - 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 disk into upper three inches of soil.
- Option 3** - Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well-rotted straw.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of untreated small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gal per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 340 gal/acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance - Inspect all seeding areas and make needed repairs, replacements and reseedings.



LANDSCAPE WALL DETAIL
NOT TO SCALE

DEVELOPER'S CERTIFICATION:

I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Approval from a Department of the Environment Approval Training Program for the Control of Sediment and Erosion before beginning the project. I also warrant periodic on-site inspection by the Howard Soil Conservation District.

John R. Kolar 12/10/93
Date

ENGINEER'S CERTIFICATION:

I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that I will cooperate in accordance with the requirements of the Howard Soil Conservation District.

John W. Romche, Sr. 12/10/93
Date

Reviewed by Howard S.C.D. Engineer Technical Requirements
Beth Ann Egler 12/28/93
Date
U.S. Soil Conservation Service

This Development Plan is Approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.
John R. Kolar 12/29/93
Date

Sequence of Construction

- Obtain a grading permit.
- Notify the Howard County Office of Inspections and Permits (313-1855) a minimum of 48 hours prior to the start of any construction.
- Clear and grub for and install sediment and erosion control measures or devices.
- Clear, grub, and strip and grade site.
- Stabilize all nonactive graded surfaces with temporary seeding.
- Install utilities.
- Repair any sediment or erosion control devices disturbed during utility construction.
- Fine grade all road surfaces. Install curb and gutters. Apply road subbase.
- Fine grade remaining disturbed area and permanently stabilize those areas.
- Pave road.
- Flush storm drain system.
- With the prior permission of the Sediment Control Inspector and the Howard County Sediment Control Division, remove sediment controls except Trap No. 2.
- Fine grade and stabilize these areas. Sediment Trap No. 2 is to be cleaned and restored to construction specifications to provide interim water quality management. AFTER WATER QUALITY FACILITIES IN PHASE 2 ARE COMPLETED, TRAP # 2 AND 18" TEMPORARY COTTALE PIPE ARE TO BE REMOVED.

APPROVED HOWARD COUNTY DEPT. OF PUBLIC WORKS

Andrew M. Daneker 2-4-94
DATE
CHIEF, BUREAU OF HIGHWAYS

Donald D. Seaton 2/17/94
DATE
CHIEF, BUREAU OF ENGINEERING

John D. Duncanson 2/16/94
DATE
CHIEF, LAND DEVELOPMENT DIVISION

APPROVED HOWARD COUNTY DEPT. OF PLANNING AND ZONING

John Duncanson 2/18/94
DATE
CHIEF, LAND DEVELOPMENT AND RESEARCH

Date No. Revision Description

HARPER'S CHOICE
OWNER / DEVELOPER

THE HOWARD RESEARCH & DEVELOPMENT CO.
THE ROUSE COMPANY
10275 LITTLE PATUXEN PARKWAY
COLUMBIA, MARYLAND 21044

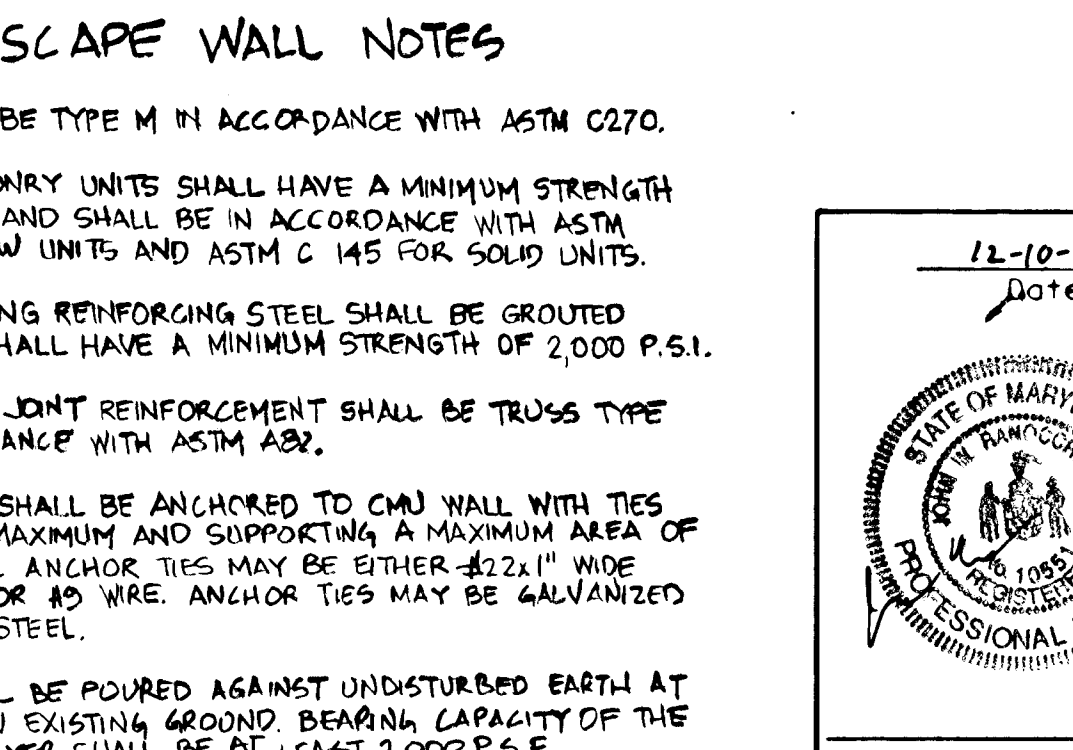
Daft · McCune · Walker, Inc.
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410-286-1513
Fax 286-4705

AREA SECTION 5 AREA 9 PHASE 1
TAX MAP 29 PARCEL 128
80 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE SEDIMENT CONTROL PLAN
DETAILS

Des By CRW Scale AS NOTED Proj. No. 92023
Drn By CRW Date 6-14-93
Cht By JWR Approved 9 OF 9

Professional Engr. No. 10551



F-93-141