ROADWAYS, STORM DRAINAGE AND STORM WATER MANAGEMENT

QUARTERFIELD

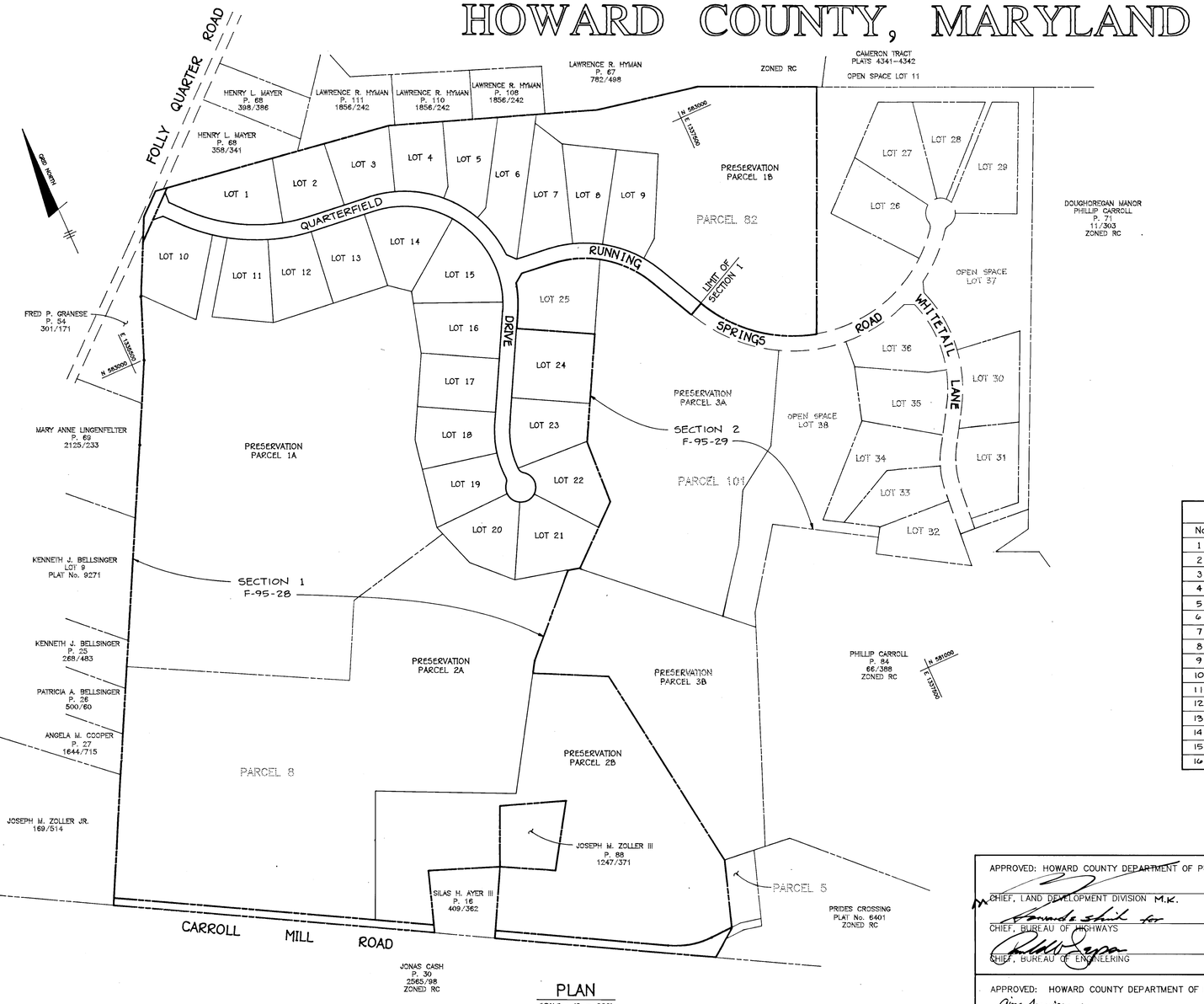
SECTION 1

3rd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

CENTERLINE CONTROL DATA			
ROAD	STATION	NORTH	EAST
QUARTERFIELD DRIVE	0+00	583462.9498	1335782.7941
	P.C. 1+07.18	583382.7220	1335853.8612
	P.T. 5+51.44	583183.9011	1336239.8428
	P.C. 7+59.92	583161.9588	1336447.1681
	P.T. 14+46.48	582647.2616	1336718.1150
	P.C. 18+18.21	582320.3650	1336541.1258
	P.T. 20+43.30	582102.1596	1336510.3591
RUNNING SPRINGS ROAD	0+00	582778.2868	1336758.5146
	P.C. 1+55.41	582762.4718	1336913.1224
	P.T. 5+36.42	582553.4850	1337212.1674
	P.C. 7+03.97	582402.8258	1337285.4704

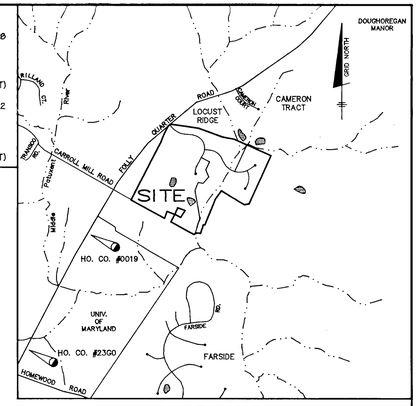
STREET LIGHT LEGEND			
ROAD	℄ STATION	OFFSET	TYPE
QUARTERFIELD DRIVE	0+28	30' LEFT	100 WATT HP SODIUM VAPOR TRADITIONAIRE POST TOP FIXTURE MOUNTED ON 14' BLACK FIBERGLASS EMBEDDED POLE
RUNNING SPRINGS ROAD	0+30	28' LEFT	



PLAN

SCALE : 1" = 200'

BENCH MARKS (NAD 83)	
HO. CO. #23G0	ELEV. 365.318
CONCRETE MONUMENT. 0 METER STATION, FOLLY QUARTER ROAD BASELINE.	
N 577270.5758	E 1332002.5800 (FEET)
HO. CO. #0019	ELEV. 385.872
CONCRETE MONUMENT. 1100 METER STATION, FOLLY QUARTER ROAD BASELINE.	
N 580468.1082	E 1333675.5124 (FEET)



VICINITY MAP

SCALE : 1"=2000'

GENERAL NOTES

1. All construction shall be in accordance with the latest standards and specifications of Howard County, plus MSHA standards and specifications, if applicable.
2. The contractor shall notify the Department of Public Works Construction Inspection Division at (410) 313-1880 at least 24 hours prior to the start of work.
3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
4. Project Backround :
   Location : Tax Map 23 - Parcels 8 and 82
   Zoning : R-C District
   Section 1
   Total Tract Area : 156.58 Ac.
   Section Area : 105.58 Ac.
   Number of Proposed Lots : 24 Cluster, 4 Preservation
   Date Preliminary Plan Approved : May 11, 1994
   DPZ Reference # : P-94-03
5. Traffic control devices, markings, and signing shall be in accordance with the most current 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.
6. Topography taken from field run survey by TSA Group, Inc. dated 7/94. Contour interval is 2 feet.
7. Howard County monuments 23G0 and 0019 used for horizontal datum.(NAD 83). Monuments 3138003 and 3138004 used for vertical datum. (NAD 27).
8. Street light placement and type of fixture and pole selected shall be in accordance with the Howard County design manual, volume III (1993) and as modified by the guidelines for street lights in residential developements (June 1993), which determine lateral and longitudinal placement.
9. Water and Sewer service for this project shall be private. A well shall be located on each lot in accordance with all Health Dept. standards. Sewer service shall be provided by individual septic fields at a minimum of 10,000 s.f. per lot. A percolation certification plan shall be approved by the Health Department.
10. Floodplain Study compiled by TSA Group, Inc., 11/93. Approved 5/11/94.
11. Wetlands Delineation compiled by James H. Cook, R.P.F. 3/93. Approved 5/11/94.
12. Traffic Study compiled by Lee Cunningham & Assoc., Inc. 2/93. Approved 7/93.
13. Noise Study not required for this project.
14. Forest Conservation Plan compiled by James H. Cook, R.P.F. 11/93. Approved 7/94. REVISED 12/94.
15. Unless noted as "private", all easements are public.
16. No clearing, grading or construction is permitted within wetlands, stream buffers or forest conservation areas.
17. REQUEST FOR FEE-IN-LIEU OF ROAD IMPROVEMENTS TO CARROLL MILL ROAD WAS APPROVED BY THE DIRECTOR OF PUBLIC WORKS ON OCTOBER 27, 1994 SUBJECT TO APPROVED COST ESTIMATE.
18. ALL ROAD FILLS SHALL BE COMPACTED TO 95% AS DETERMINED BY AASHTO T-180.
19. PURSUANT TO OCTOBER 27, 1994 LETTER BY THE DIRECTOR OF PUBLIC WORKS, " THE LOT AREA MEETS THE STORMWATER MANAGEMENT EXEMPTION CRITERIA, BUT QUANTITY AND QUALITY MUST BE PROVIDED FOR ROADWAY SURFACES IN THE EXISTING POND " QUANTITY CONTROL FOR THE ENTIRE PROJECT (SECT. 1 & 2) IS PROVIDED IN THE EXISTING FARM PONDS. QUALITY CONTROL IS PROVIDED FOR THE ROADWAY BY 1) RETENTION IN THE EXISTING PONDS AND 2) SHALLOW MARSH WETLAND. ALL SWM AREAS ARE TO BE PRIVATELY OWNED AND MAINTAINED. GEOTECHNICAL EVALUATION OF THE EXISTING FARM PONDS PROVIDED BY MILES-CAGNEY 12/94.

SHEET INDEX	
No.	DESCRIPTION
1	TITLE SHEET
2	ROAD PLAN
3	ROAD PLAN
4	ROAD PROFILES
5	ROAD PROFILES
6	DRAINAGE AREA MAP
7	DRAINAGE AREA MAP
8	STORM DRAIN PROFILES AND DETAILS
9	GRADING PLAN
10	GRADING PLAN
11	SWM DETAILS
12	SWM DETAILS
13	SEDIMENT CONTROL PLAN
14	SEDIMENT CONTROL PLAN
15	SED. CONTROL NOTES AND DETAILS
16	LANDSCAPE PLAN

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/21/95

CHIEF, BUREAU OF HIGHWAYS — DATE 6-27-95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH — DATE 7/5/95

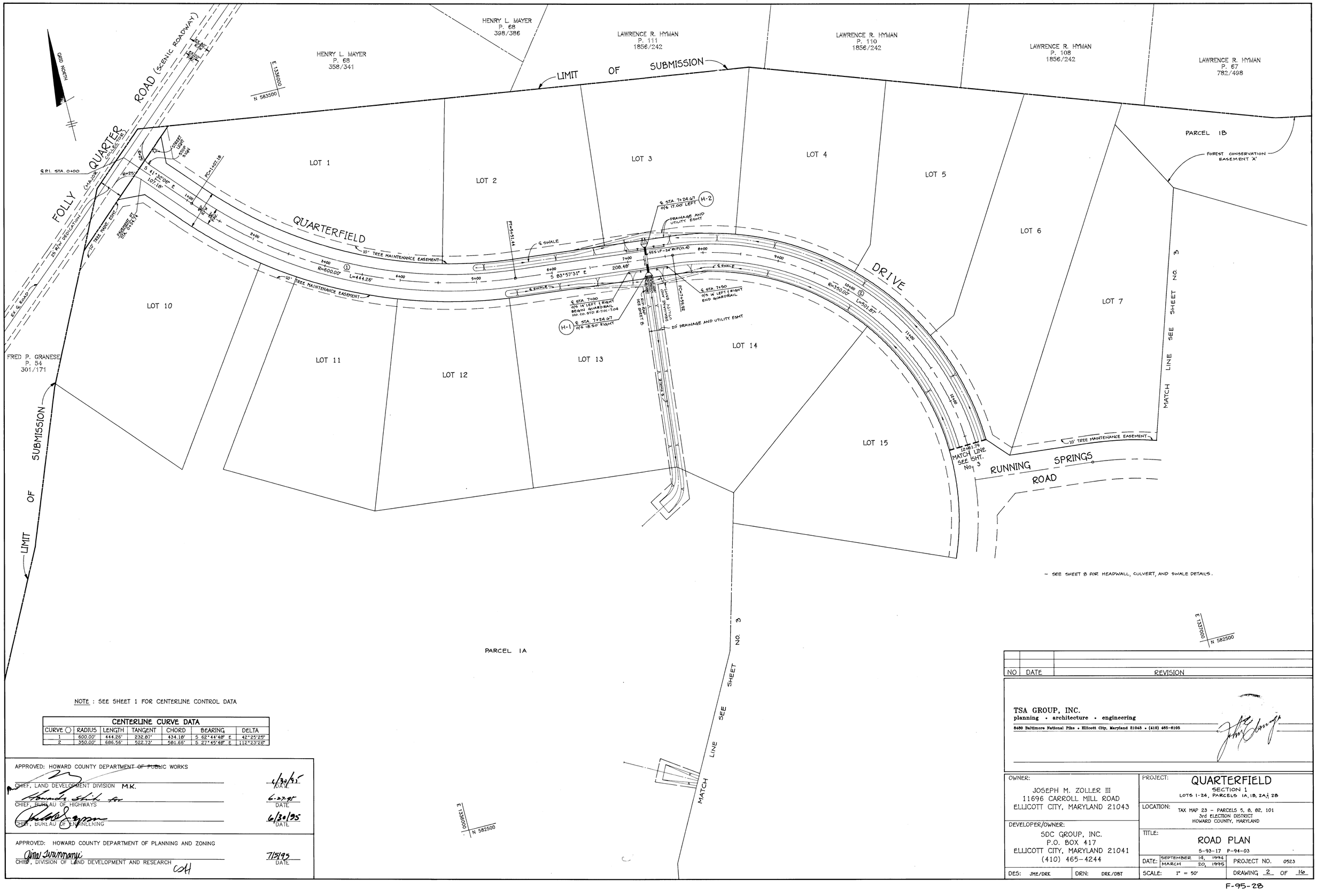
NO	DATE	REVISION
2	1-2-96	REVISE WETLAND MITIGATION AREAS
1	11-3-95	LOWER QUARTERFIELD DRIVE FROM STA. 2+50 TO END
3	8-5-96	REVISE PAVEMENT WIDTH TO 22', NO PAVED SHOULDER, REVISE DRAINAGE ESMTS.
4	8-5-96	REVISE WETLAND MITIGATION AREA 'C'

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

OWNER: JOSEPH M. ZOLLER III, 11696 CARROLL MILL ROAD, ELLICOTT CITY, MARYLAND 21043	PROJECT: QUARTERFIELD, SECTION 1, LOTS 1-24, PARCELS 1A, 1B, 2A, & 2B
DEVELOPER/OWNER: SDC GROUP, INC., P.O. BOX 417, ELLICOTT CITY, MARYLAND 21041, (410) 465-4244	LOCATION: TAX MAP 23 - PARCELS 5, 8, 82, 101, 3rd ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
	TITLE: TITLE SHEET, S-95-17 P-94-03
	DATE: SEPTEMBER 14, 1994 / MARCH 20, 1995 — PROJECT NO. 0523
DES: JME/DRK — DRN: DRK/DBT	SCALE: AS SHOWN — DRAWING 1 OF 16

1738

F-95-28



NOTE : SEE SHEET 1 FOR CENTERLINE CONTROL DATA

CENTERLINE CURVE DATA

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	600.00'	444.26'	232.87'	434.18'	S 62°44'48" E	42°25'25"
2	350.00'	686.56'	522.73'	581.65'	S 27°45'48" E	112°23'26"

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/30/95

CHIEF, BUREAU OF HIGHWAYS — DATE 6-27-95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH — DATE 7/5/95

NO	DATE	REVISION

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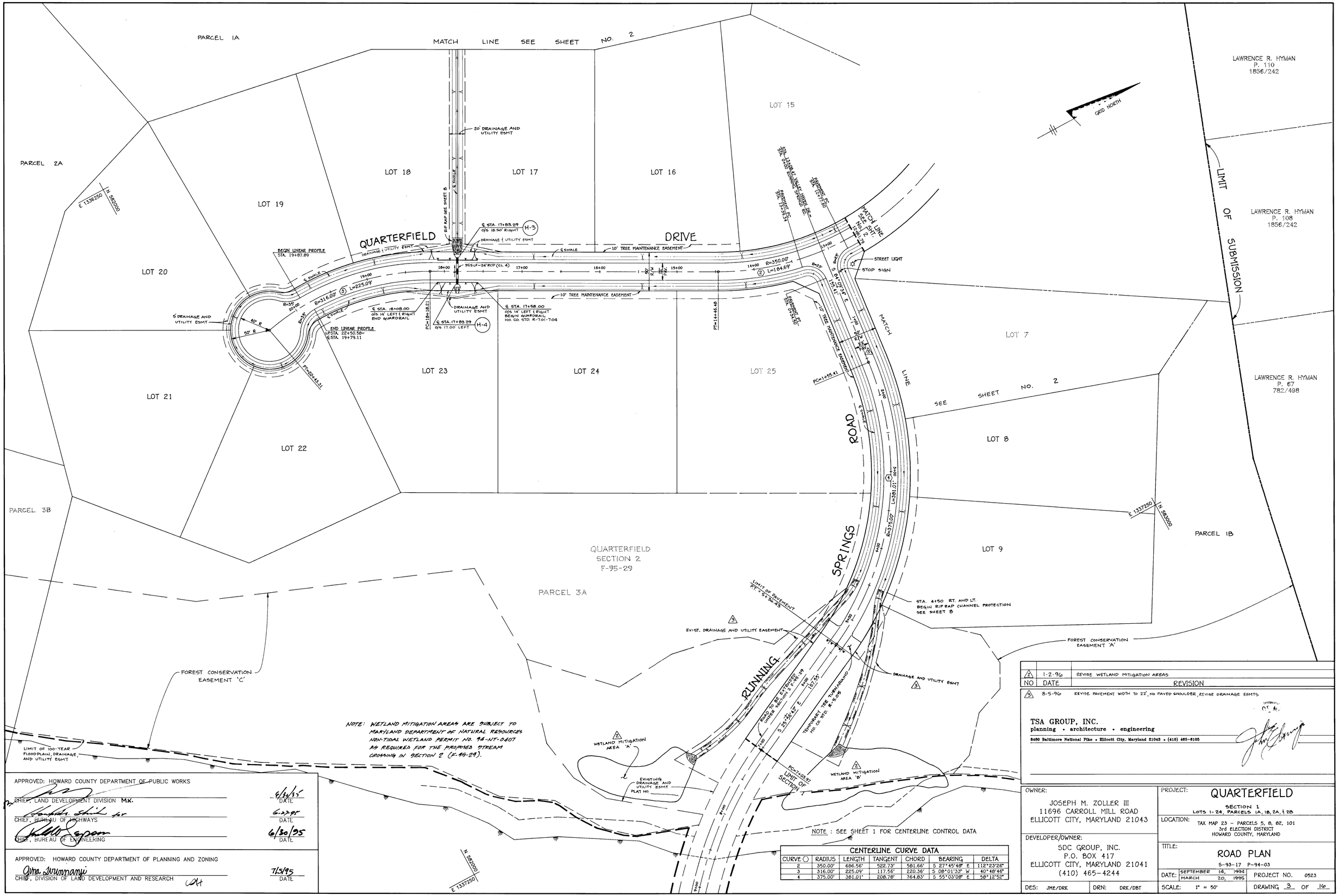
DEVELOPER/OWNER: SDC GROUP, INC., P.O. BOX 417, ELLICOTT CITY, MARYLAND 21041, (410) 465-4244	LOCATION: TAX MAP 23 - PARCELS 5, 8, 82, 101, 3rd ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
	TITLE: ROAD PLAN, S-93-17 P-94-03
DES: JME/DRK — DRN: DRK/DBT	DATE: SEPTEMBER 14, 1994; MARCH 20, 1995 — PROJECT NO. 0523
	SCALE: 1" = 50' — DRAWING 2 OF 10

1738

F-95-28



NOTE: WETLAND MITIGATION AREAS ARE SUBJECT TO MARYLAND DEPARTMENT OF NATURAL RESOURCES NON-TIDAL WETLAND PERMIT NO. 94-NT-0407 AS REQUIRED FOR THE PROPOSED STREAM CROSSING IN SECTION 2 (F-95-29).

NOTE : SEE SHEET 1 FOR CENTERLINE CONTROL DATA

CENTERLINE CURVE DATA

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
2	350.00'	686.56'	522.73'	581.66'	S 27°45'48" E	112°23'26"
3	316.00'	225.09'	117.56'	220.36'	S 08°01'33" W	40°48'46"
4	375.00'	381.01'	208.78'	364.83'	S 55°03'08" E	58°12'52"

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/29/95

CHIEF, BUREAU OF HIGHWAYS — DATE 6.27.95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH — DATE 7/5/95

NO	DATE	REVISION
2	1-2-96	REVISE WETLAND MITIGATION AREAS
1	8-5-96	REVISE PAVEMENT WIDTH TO 22', NO PAVED SHOULDER, REVISE DRAINAGE ESMTS.

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ELLICOTT CITY, MARYLAND 21043

DEVELOPER/OWNER:
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P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT: QUARTERFIELD
SECTION 1
LOTS 1-24, PARCELS 1A, 1B, 2A, & 2B

LOCATION: TAX MAP 23 - PARCELS 5, 8, 82, 101
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: ROAD PLAN
S-93-17 P-94-03

DATE: SEPTEMBER 14, 1994
MARCH 20, 1995

PROJECT NO. 0523

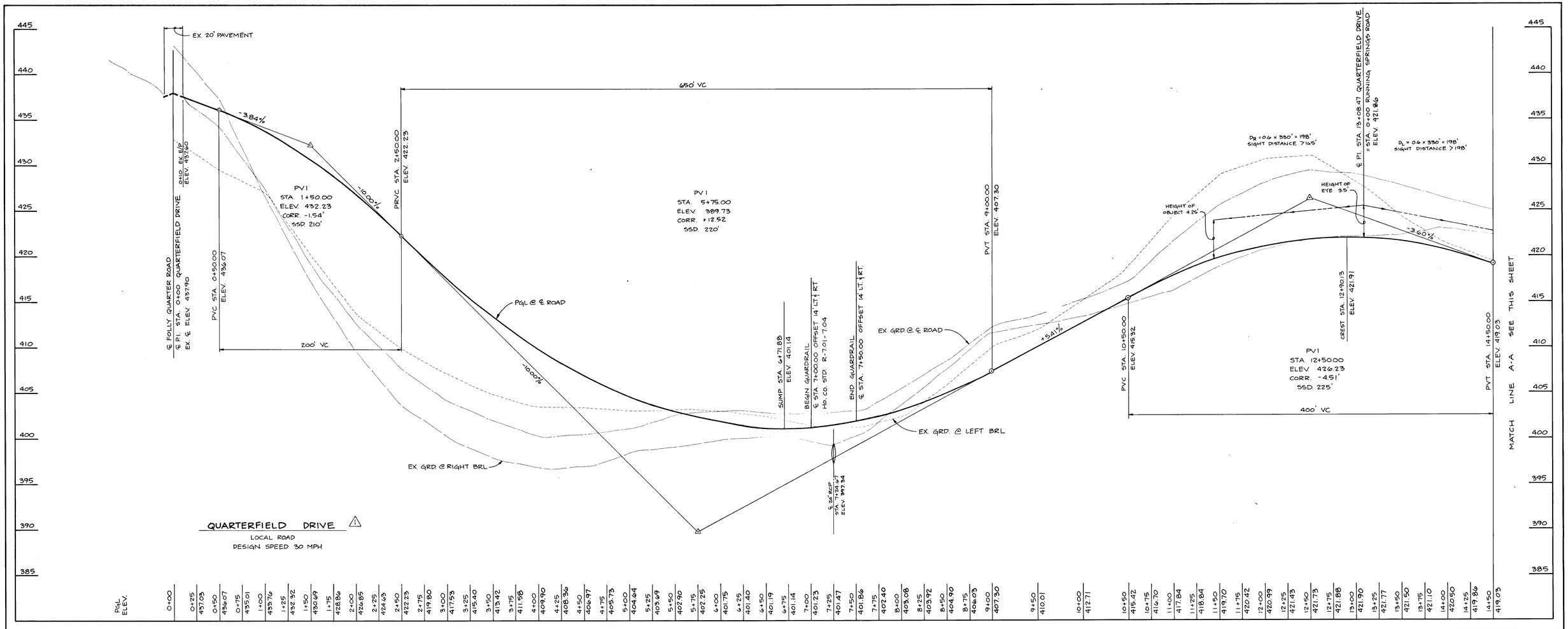
DES: JME/DRE DRN: DRE/DBT

SCALE: 1" = 50'

DRAWING 3 OF 16

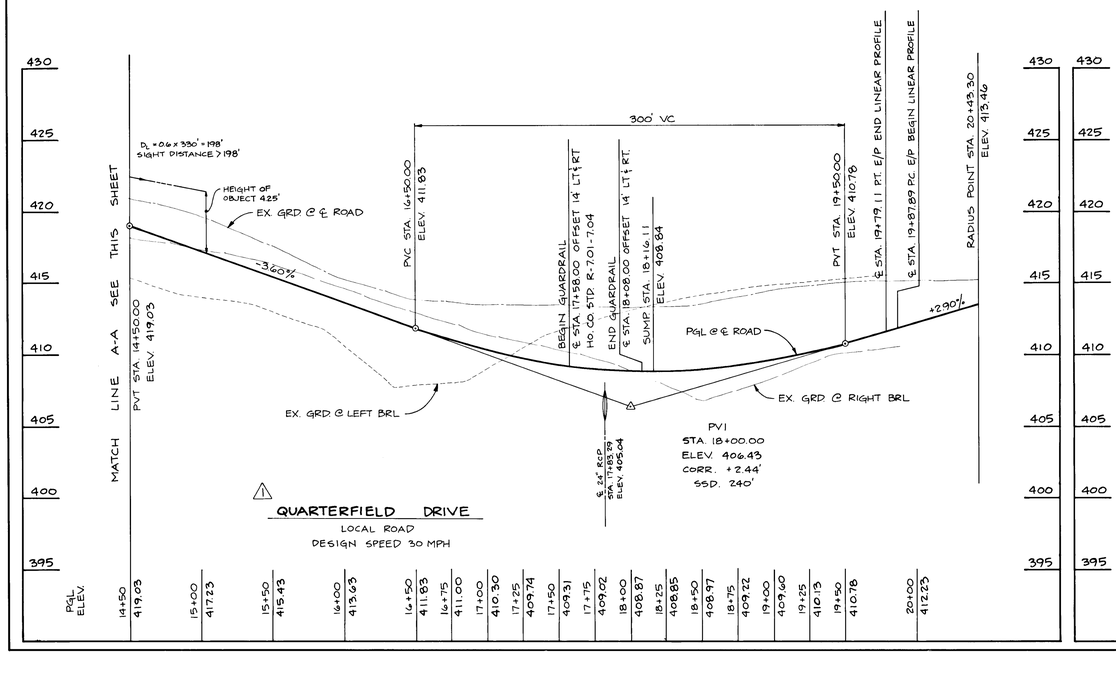
1738

F-95-28



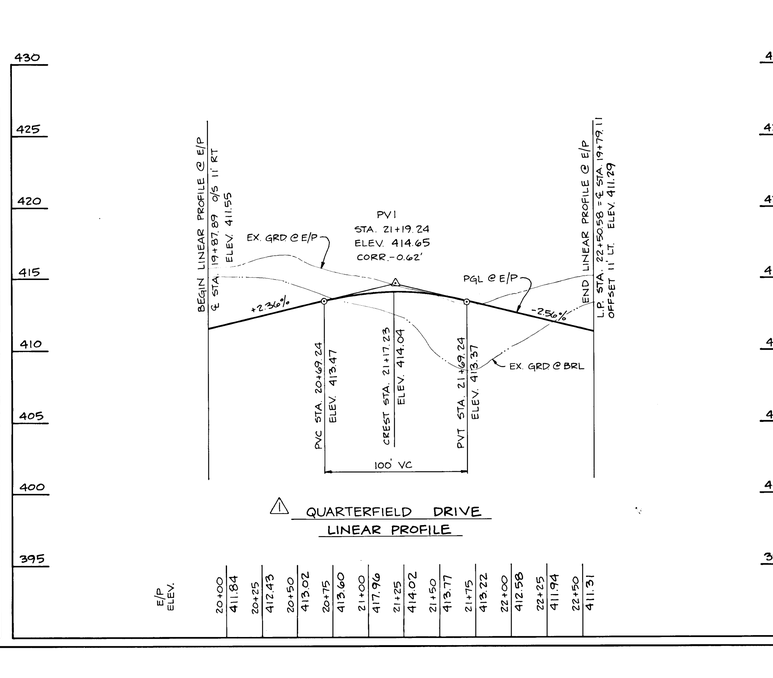
⚠ QUARTERFIELD DRIVE

LOCAL ROAD
DESIGN SPEED 30 MPH



⚠ QUARTERFIELD DRIVE

LOCAL ROAD
DESIGN SPEED 30 MPH



⚠ QUARTERFIELD DRIVE
LINEAR PROFILE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/30/95

CHIEF, BUREAU OF HIGHWAYS — DATE 6/29/95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH — DATE 7/5/95

NO	DATE	REVISION
⚠ 1	11-3-95	LOWER QUARTERFIELD DRIVE FROM STA. 2+50 TO END

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PROJECT: QUARTERFIELD
SECTION 1
LOTS 1-24, PARCELS 1A, 1B, 2A, & 2B

LOCATION: TAX MAP 23 - PARCELS 5, 8, 82, 101
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: ROAD PROFILES
5-93-17 P-94-03

DATE: SEPTEMBER 14, 1994; MARCH 20, 1995
PROJECT NO. 0523

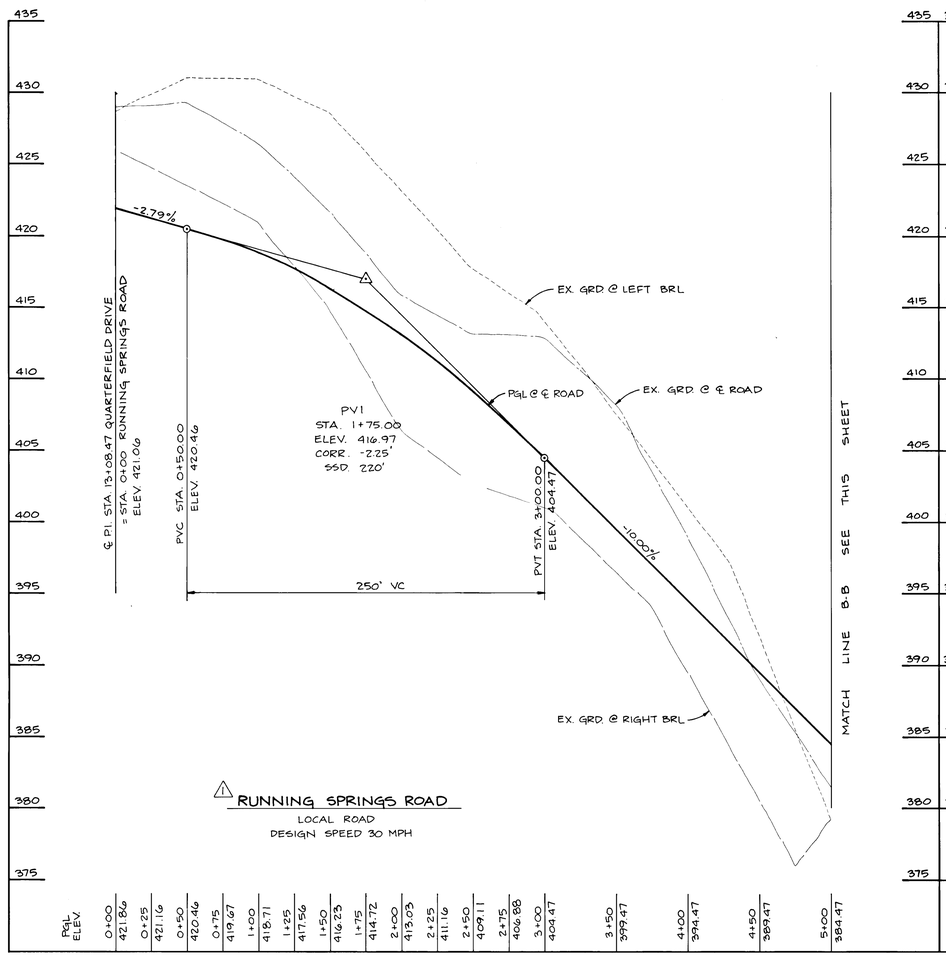
DES: JME | DRN: DRK/DBT

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

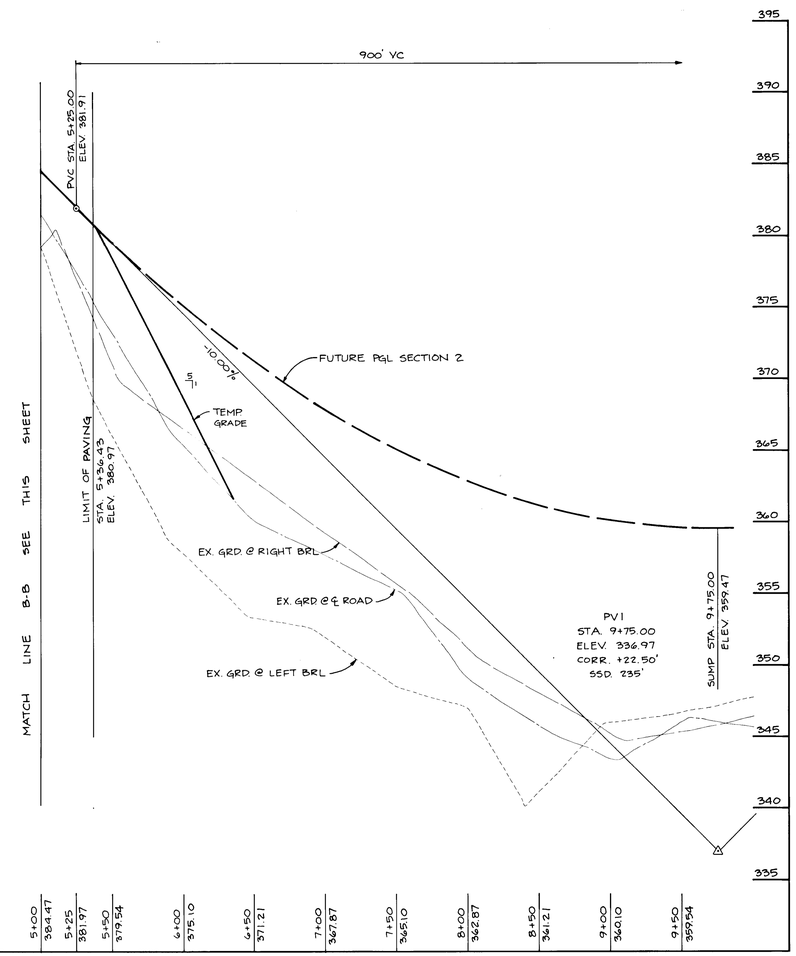
DRAWING 4 OF 16

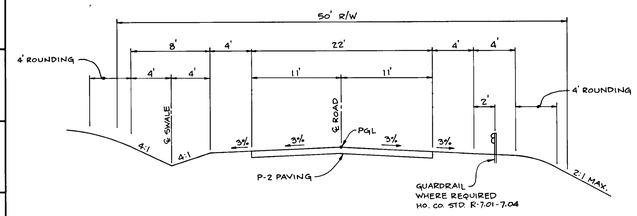
17738

F-95-28

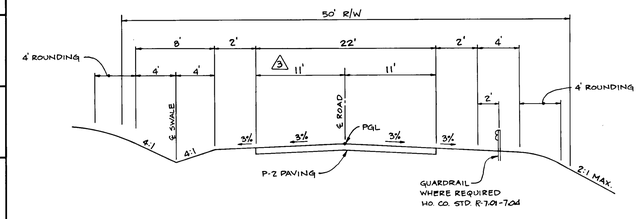


⚠1 RUNNING SPRINGS ROAD
LOCAL ROAD
DESIGN SPEED 30 MPH





⚠3 QUARTERFIELD DRIVE
TYPICAL SECTION
NOT TO SCALE



⚠3 RUNNING SPRINGS ROAD
TYPICAL SECTION
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/30/95

CHIEF, BUREAU OF HIGHWAYS — DATE 6-27-95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH — DATE 7/5/95

NO	DATE	REVISION
⚠1	11-3-95	LOWER QUARTERFIELD DRIVE FROM STA. 2+50 TO END
⚠3	8-5-96	REVISE PAVEMENT WIDTH TO 22', NO PAVED SHOULDER

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PROJECT: QUARTERFIELD
SECTION 1
LOTS 1-24, PARCELS 1A, 1B, 2A, & 2B

LOCATION: TAX MAP 23 – PARCELS 5, 8, 82, 101
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: ROAD PROFILES
5-93-17 P-94-03

DATE: SEPTEMBER 14, 1994 / MARCH 20, 1995

PROJECT NO. 0523

DES: JME | DRN: DRK/DBT

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

DRAWING 5 OF 16

1738

F-95-28


GRID NORTH
FOLLY QUARTER ROAD
QUARTERFIELD DRIVE
RUNNING SPRINGS ROAD
WHITE FALL LANE
LIMIT OF SUBMISSION
HENRY L. MAYER P. 68 398/386
HENRY L. MAYER P. 68 358/341
LAWRENCE R. HYMAN P. 111 1856/242
LAWRENCE R. HYMAN P. 110 1856/242
LAWRENCE R. HYMAN P. 108 1856/242
LAWRENCE R. HYMAN P. 67 782/498
CAMERON TRACT PLATS 4341-4342
OPEN SPACE LOT 11
ZONED RC
DOUGHOREGAN MANOR PHILLIP CARROLL P. 71 11/303 ZONED RC
FRED P. GRANESE P. 54 301/171
MARY ANNE LINGENFELTER P. 69 2125/233
KENNETH J. BELLSINGER LOT 9 PLAT No. 9271
KENNETH J. BELLSINGER P. 251 268/483
PATRICIA A. BELLSINGER P. 26 500/60
ANGELA M. COOPER P. 27 1644/715
PHILLIP CARROLL P. 84 66/388 ZONED RC
PARCEL 82
PARCEL 101
WETLAND MITIGATION AREA 'C'
WETLAND AREA 'B'
WETLAND AREA 'A'
LIMIT OF WETLANDS
LIMIT OF 100-YEAR FLOODPLAIN
EXIST. POND
FARM POND #1 (RETENTION)
25' WETLANDS BUFFER
Tc TRAVEL PATH PRE-DEVELOPMENT
Tc TRAVEL PATH POST-DEVELOPMENT
SEE SHEET NO. 7 OF 16
MATCH LINE
* SEE SHEET 7 FOR SWM DATA

NO	DATE	REVISION
2	1-2-96	REVISE WETLAND MITIGATION AREAS
4	8-5-96	REVISE WETLAND MITIGATION AREA 'C'

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APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/30/95
CHIEF, BUREAU OF HIGHWAYS — DATE 6-27-95
CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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PROJECT: QUARTERFIELD
SECTION 1
LOTS 1-24, PARCELS 1A, 1B, 2A & 2B

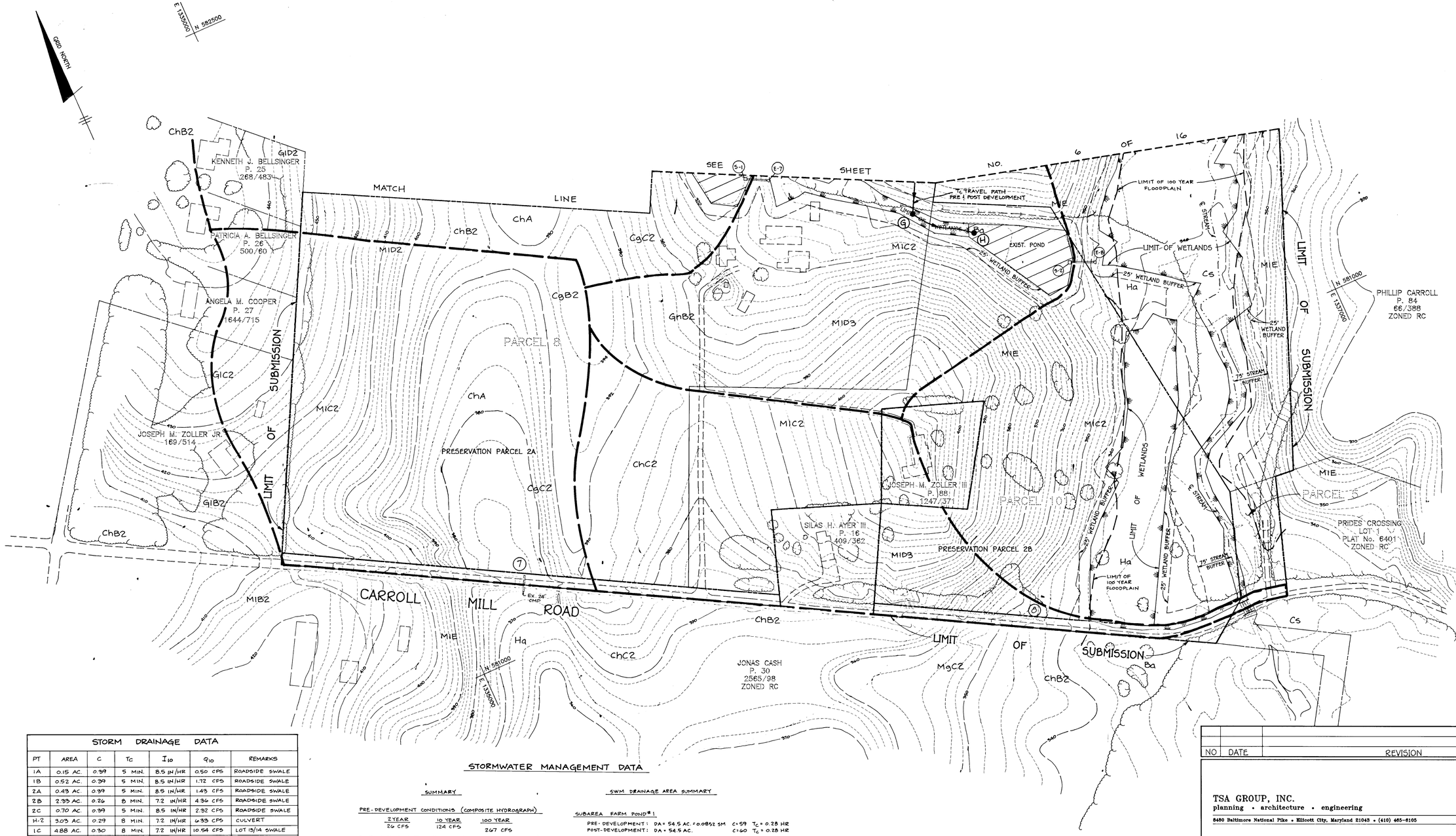
LOCATION: TAX MAP 23 – PARCELS 5, 8, 82, 101
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: DRAINAGE AREA MAP
5-93-17 P-94-03

DATE: SEPTEMBER 14, 1994; MARCH 20, 1995
PROJECT NO. 0523
DES: JME
DRN: DRK/DBT
SCALE: 1" = 100'
DRAWING 6 OF 16

F-95-28

1738.



STORM DRAINAGE DATA

PT	AREA	C	Tc	I_{10}	Q_{10}	REMARKS
1A	0.15 AC.	0.39	5 MIN.	8.5 IN/HR	0.50 CFS	ROADSIDE SWALE
1B	0.52 AC.	0.39	5 MIN.	8.5 IN/HR	1.72 CFS	ROADSIDE SWALE
2A	0.43 AC.	0.39	5 MIN.	8.5 IN/HR	1.43 CFS	ROADSIDE SWALE
2B	2.33 AC.	0.26	8 MIN.	7.2 IN/HR	4.36 CFS	ROADSIDE SWALE
2C	0.70 AC.	0.39	5 MIN.	8.5 IN/HR	2.32 CFS	ROADSIDE SWALE
H-2	3.03 AC.	0.29	8 MIN.	7.2 IN/HR	6.33 CFS	CULVERT
1C	4.88 AC.	0.30	8 MIN.	7.2 IN/HR	10.54 CFS	LOT 13/14 SWALE
3A	0.46 AC.	0.39	5 MIN.	8.5 IN/HR	1.52 CFS	ROADSIDE SWALE
3B	0.37 AC.	0.39	5 MIN.	8.5 IN/HR	1.23 CFS	ROADSIDE SWALE
4A	0.44 AC.	0.39	5 MIN.	8.5 IN/HR	1.46 CFS	ROADSIDE SWALE
4B	0.51 AC.	0.39	5 MIN.	8.5 IN/HR	1.69 CFS	ROADSIDE SWALE
H-4	0.95 AC.	0.39	5 MIN.	8.5 IN/HR	3.15 CFS	CULVERT
3C	2.02 AC.	0.39	5 MIN.	8.5 IN/HR	6.70 CFS	LOT 17/18 SWALE
5	1.08 AC.	0.29	6 MIN.	8.0 IN/HR	2.51 CFS	ROADSIDE SWALE
6	0.46 AC.	0.39	5 MIN.	8.5 IN/HR	1.52 CFS	ROADSIDE SWALE
7	12.1 AC.	0.16	12 MIN	6.1 IN/HR	11.8 CFS	EX. CULVERT
8	8.7 AC	0.16	19 MIN	5.5 IN/HR	8.2 CFS	—

STORMWATER MANAGEMENT DATA

SUMMARY

PRE-DEVELOPMENT CONDITIONS (COMPOSITE HYDROGRAPH)

2 YEAR	10 YEAR	100 YEAR
26 CFS	124 CFS	247 CFS

POST-DEVELOPMENT CONDITIONS (COMPOSITE HYDROGRAPH)

2 YEAR	10 YEAR	100 YEAR
9 CFS	46 CFS	135 CFS

FARM POND #1

2 YEAR	10 YEAR	100 YEAR
6 CFS	34 CFS	100 CFS
WSEL 364.4	WSEL 365.9	WSEL 367.5

FARM POND #2

2 YEAR	10 YEAR	100 YEAR
6 CFS	33 CFS	114 CFS
WSEL 350.1	WSEL 351.3	WSEL 352.4

SWM DRAINAGE AREA SUMMARY

SUBAREA FARM POND #1
PRE-DEVELOPMENT: DA = 54.5 AC. = 0.0852 SM C=59 T_c = 0.28 HR
POST-DEVELOPMENT: DA = 54.5 AC. C=60 T_c = 0.28 HR

SUBAREA FARM POND #2
PRE-DEVELOPMENT: DA = 13.2 AC. = 0.0206 SM C=63 T_c = 0.18 HR
POST-DEVELOPMENT: SAME

SUBAREA WETLAND AREA #1
PRE-DEVELOPMENT: DA = 2.6 AC. = 0.0041 SM C=58 T_c = 0.18 HR
POST-DEVELOPMENT: DA = 2.6 AC. C=62 T_c = 0.15 HR

SUBAREA WETLAND AREA #2
PRE-DEVELOPMENT: DA = 6.7 AC. = 0.0105 SM C=58 T_c = 0.17 HR
POST-DEVELOPMENT: DA = 6.7 AC. C=59 T_c = 0.17 HR

SUBAREA SECTION 2
PRE-DEVELOPMENT: DA = 13.2 AC. = 0.0206 SM C=56 T_c = 0.21 HR
POST-DEVELOPMENT: DA = 13.2 AC. C=58 T_c = 0.21 HR

NO	DATE	REVISION

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — 5/31/95 DATE

CHIEF, BUREAU OF HIGHWAYS — 6.27.95 DATE

CHIEF, BUREAU OF ENGINEERING — 6/30/95 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH — 7/5/95 DATE

OWNER:
JOSEPH M. ZOLLER III
11696 CARROLL MILL ROAD
ELLICOTT CITY, MARYLAND 21043

DEVELOPER\OWNER:
SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT: QUARTERFIELD
SECTION 1
LOTS 1-24, PARCELS 1A, 1B, 2A, & 2B

LOCATION: TAX MAP 23 – PARCELS 5, 8, 82, 101
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

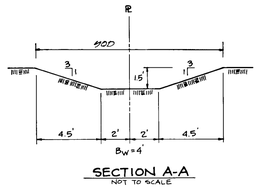
TITLE: DRAINAGE AREA MAP
5-93-17 P-94-03

DATE: SEPTEMBER 14, 1994; MARCH 20, 1995 — PROJECT NO. 0523

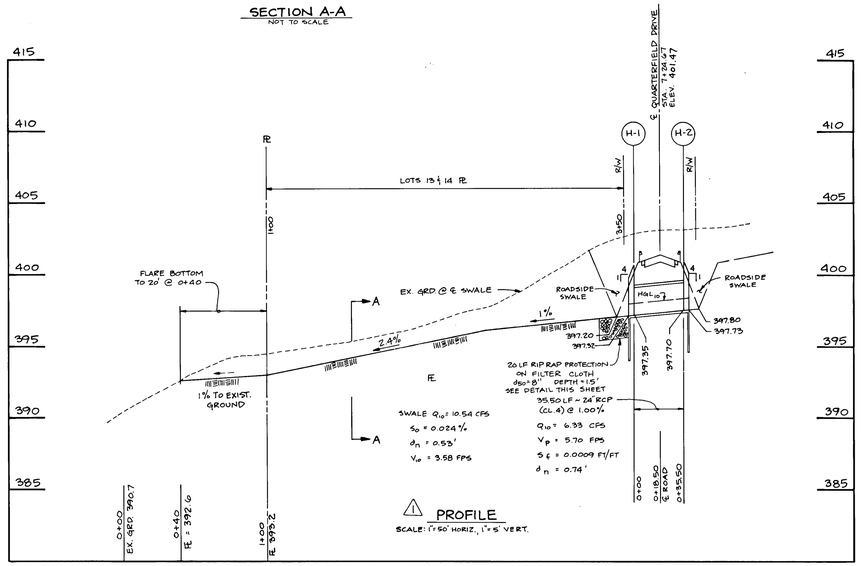
DES: JME — DRN: DRR/DBT — SCALE: 1" = 100' — DRAWING 7 OF 16

F-95-28

F-95-28



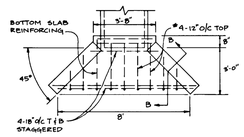
SECTION A-A
NOT TO SCALE



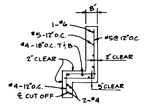
⚠ PROFILE
SCALE: 1"=50' HORIZ., 1"=5' VERT.

NOTES:

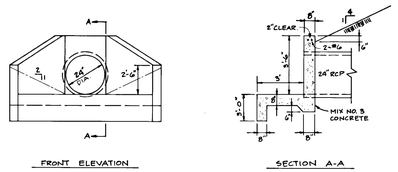
1. ALL CONCRETE SHALL BE MIX. NO. 3.
2. ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENT OF ASTM A615 GRADE 60.
3. ALL EXPOSED CORNERS ARE TO BE CHAMFERED ¾ INCH.



PLAN



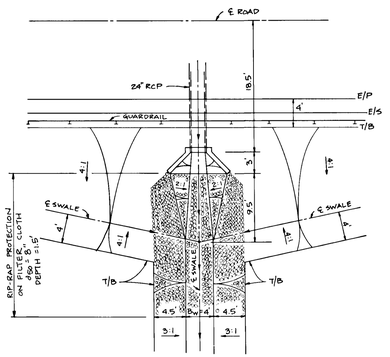
SECTION B-B



FRONT ELEVATION

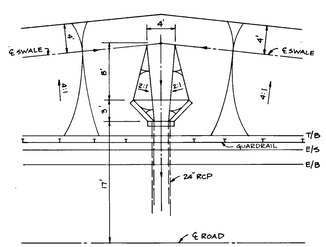
SECTION A-A

H-1, 2, 3, 4
HEADWALL DETAIL
NOT TO SCALE



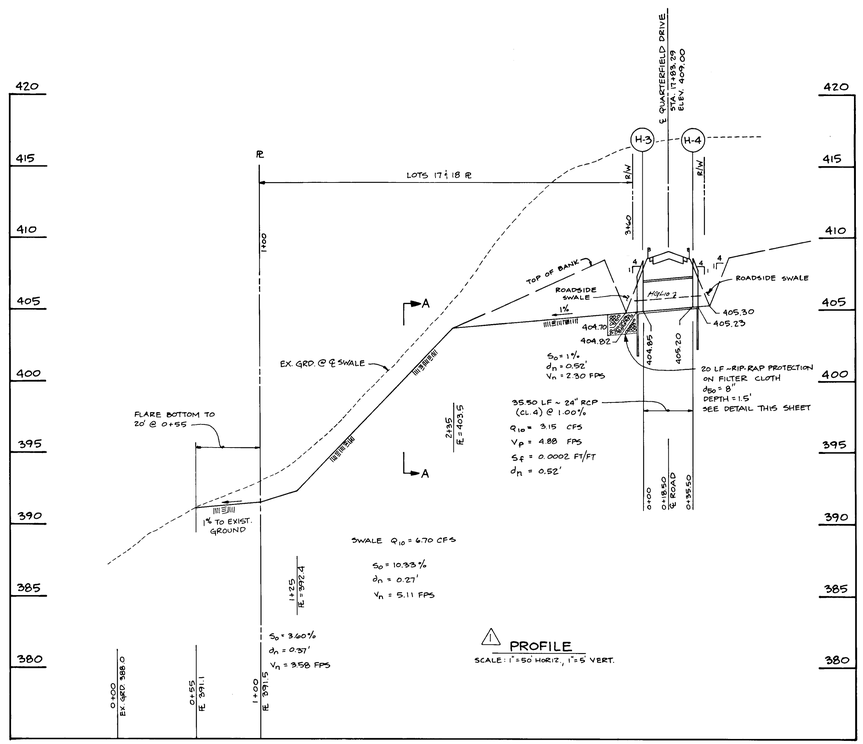
PLAN

DOWNSTREAM
HEADWALL & SWALE
DETAIL
NOT TO SCALE
H-1 AND H-3



PLAN

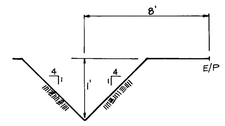
UPSTREAM
HEADWALL & SWALE
DETAIL
NOT TO SCALE
H-2 AND H-4



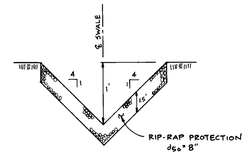
⚠ PROFILE
SCALE: 1"=50' HORIZ., 1"=5' VERT.

ROADSIDE SWALE DATA

ROADWAY	STATION	Q_{10}	S_o	n	V_{10}	d_n	COVER
QUARTERFIELD DR.	LT. 5+00.00 TO 7+24.67	4.36 CFS	0.016 Ft/Ft AVG.	0.04	2.27	0.69	SEED & MULCH
QUARTERFIELD DR.	RT. 5+39.63 TO 7+24.67	0.50 CFS	0.017 Ft/Ft AVG.	0.04	1.35	0.30	SEED & MULCH
QUARTERFIELD DR.	LT. 7+24.67 TO 13+00.00	2.32 CFS	0.060 Ft/Ft MAX.	0.04	3.18	0.43	SOLID SOD
QUARTERFIELD DR.	RT. 7+24.67 TO 13+00.00	1.72 CFS	0.060 Ft/Ft MAX.	0.04	2.95	0.38	SOLID SOD
QUARTERFIELD DR.	LT. 13+00.00 TO 17+83.29	1.46 CFS	0.036 Ft/Ft	0.04	2.34	0.39	SEED & MULCH
QUARTERFIELD DR.	RT. 13+00.00 TO 17+83.29	1.52 CFS	0.036 Ft/Ft	0.04	2.37	0.40	SEED & MULCH
QUARTERFIELD DR.	LT. 17+83.29 TO L.P. 21+17.23	1.69 CFS	0.029 Ft/Ft	0.04	2.24	0.43	SEED & MULCH
QUARTERFIELD DR.	RT. 17+83.29 TO L.P. 21+17.23	1.23 CFS	0.029 Ft/Ft	0.04	2.07	0.39	SEED & MULCH
RUNNING SPRINGS	LT. 0+25.00 TO 4+50.00	2.51 CFS	0.10 Ft/Ft	0.04	3.93	0.40	SOLID SOD
RUNNING SPRINGS	RT. 0+25.00 TO 4+50.00	1.52 CFS	0.10 Ft/Ft	0.04	3.47	0.33	SOLID SOD



ROADSIDE SWALE
TYPICAL SECTION
NOT TO SCALE



RIP-RAP SWALE
(RUNNING SPRINGS STA. 4+50 TO TOE OF WETLAND AREA LT. & RT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/30/95

CHIEF, BUREAU OF HIGHWAYS — DATE 6-27-95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH — DATE 7/5/95

NO	DATE	REVISION
1	11-3-95	LOWER QUARTERFIELD DRIVE FROM STA. 21+50 TO END

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-8105

OWNER: JOSEPH M. ZOLLER III, 11696 CARROLL MILL ROAD, ELLICOTT CITY, MARYLAND 21043	PROJECT: QUARTERFIELD, SECTION 1, LOTS 1-24, PARCELS 1A, 1B, 2A, & 2B
DEVELOPER/OWNER: SDC GROUP, INC., P.O. BOX 417, ELLICOTT CITY, MARYLAND 21041, (410) 465-4244	LOCATION: TAX MAP 23 - PARCELS 5, 8, 82, 101, 3rd ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
	TITLE: STORM DRAIN PROFILES AND DETAILS, S-93-17 P-94-03
	DATE: SEPTEMBER 14, 1994 / MARCH 20, 1995 — PROJECT NO. 0523
DES: JME — DRN: DRK/DBT	SCALE: AS SHOWN — DRAWING 8 OF 16

F-95-28

F-95-28

HENRY L. MAYER P. 68 398/386

HENRY L. MAYER P. 68 358/341

LAWRENCE R. HYMAN P. 111 1856/242

LAWRENCE R. HYMAN P. 110 1856/242

LAWRENCE R. HYMAN P. 108 1856/242

LAWRENCE R. HYMAN P. 67 782/498

LIMIT OF SUBMISSION

GRID NORTH

E 1335750

N 582500

FOLLY QUARTER ROAD

PRESERVATION PARCEL 1B NON-BUILDABLE

FOREST CONSERVATION EASEMENT 'A'

LOT 1

LOT 2

LOT 3

LOT 4

LOT 5

LOT 6

LOT 7

LOT 10

LOT 11

LOT 12

LOT 13

LOT 14

LOT 15

QUARTERFIELD DRIVE

H-1

H-2

24" RCP

RIP RAP SEE SHEET 8

MATCH LINE SEE SHEET NO. 10

RUNNING SPRINGS ROAD

N 582750

E 1337000

FRED P. GRANESE P. 54 301/171

LIMIT OF SUBMISSION

PRESERVATION PARCEL 1A SINGLE RESIDENCE AND FARMLAND

E 1335750

N 582750

MATCH LINE SEE SHEET NO. 10

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.

James R. Moxley Jr. 9-14-95

DEVELOPER – JAMES R. MOXLEY JR. PRESIDENT – SDC GROUP, INC. DATE

BY THE ENGINEER:

"I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONNAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER – JOHN M. ELORRIAGA, P.E. # 16891 DATE

NO	DATE	REVISION
1	11-3-95	LOWER QUARTERFIELD DRIVE FROM STA. 2+50 TO END

JME 5/1/95

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.

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. 6/26/95 DATE

CHIEF, BUREAU OF HIGHWAYS 6-27-95 DATE

CHIEF, BUREAU OF ENGINEERING 6/30/95 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH 7/3/95 DATE

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

OWNER:
JOSEPH M. ZOLLER III
11696 CARROLL MILL ROAD
ELLICOTT CITY, MARYLAND 21043

DEVELOPER/OWNER:
SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT: QUARTERFIELD
SECTION 1
LOTS 1-24, PARCELS 1A, 1B, 2A, & 2B

LOCATION: TAX MAP 23 – PARCELS 5, 8, 82, 101
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: GRADING PLAN
S-93-17 P-94-03

DATE: SEPTEMBER 14, 1994 / MARCH 20, 1995

PROJECT NO. 0523

DES: JME DRN: DRK/DBT

SCALE: 1" = 50'

DRAWING 9 OF 16

1738

F-95-28

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/30/95

CHIEF, BUREAU OF HIGHWAYS — DATE 6-27-95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH — DATE 7/5/95

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.

DEVELOPER – JAMES R. MOXLEY JR.
PRESIDENT – SDC GROUP, INC. — DATE 9-14-94

BY THE ENGINEER:

"I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONNAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER – JOHN M. ELORRIAGA, P.E. # 16891 — DATE 9/15/94

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.

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.

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/1/95

NOTE: WETLAND MITIGATION AREAS ARE SUBJECT TO MARYLAND DEPT. OF NATURAL RESOURCES NON-TIDAL WETLAND PERMIT NO. 94-NT-0407 AS REQUIRED FOR THE PROPOSED STREAM CROSSING IN SECTION 2 F-95-29.

MAINTENANCE AND MONITORING OF THE MITIGATION AREAS SHALL BE THE DEVELOPERS RESPONSIBILITY FOR TIME PERIOD SPECIFIED BY THE DEPT. OF NATURAL RESOURCES IN AGREEMENT BETWEEN DEVELOPER AND STATE.

NO	DATE	REVISION
2	1-2-96	REVISE WETLAND MITIGATION AREAS
1	11-3-95	LOWER QUARTERFIELD DRIVE FROM STA. 2+50 TO END
3	8-5-96	REVISE PAVEMENT WIDTH TO 22', NO PAVED SHOULDER

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

OWNER:
JOSEPH M. ZOLLER III
11696 CARROLL MILL ROAD
ELLICOTT CITY, MARYLAND 21043

DEVELOPER/OWNER:
SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT: QUARTERFIELD
SECTION 1
LOTS 1-24, PARCELS 1A, 1B, 2A, & 2B

LOCATION: TAX MAP 23 – PARCELS 5, 8, 82, 101
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

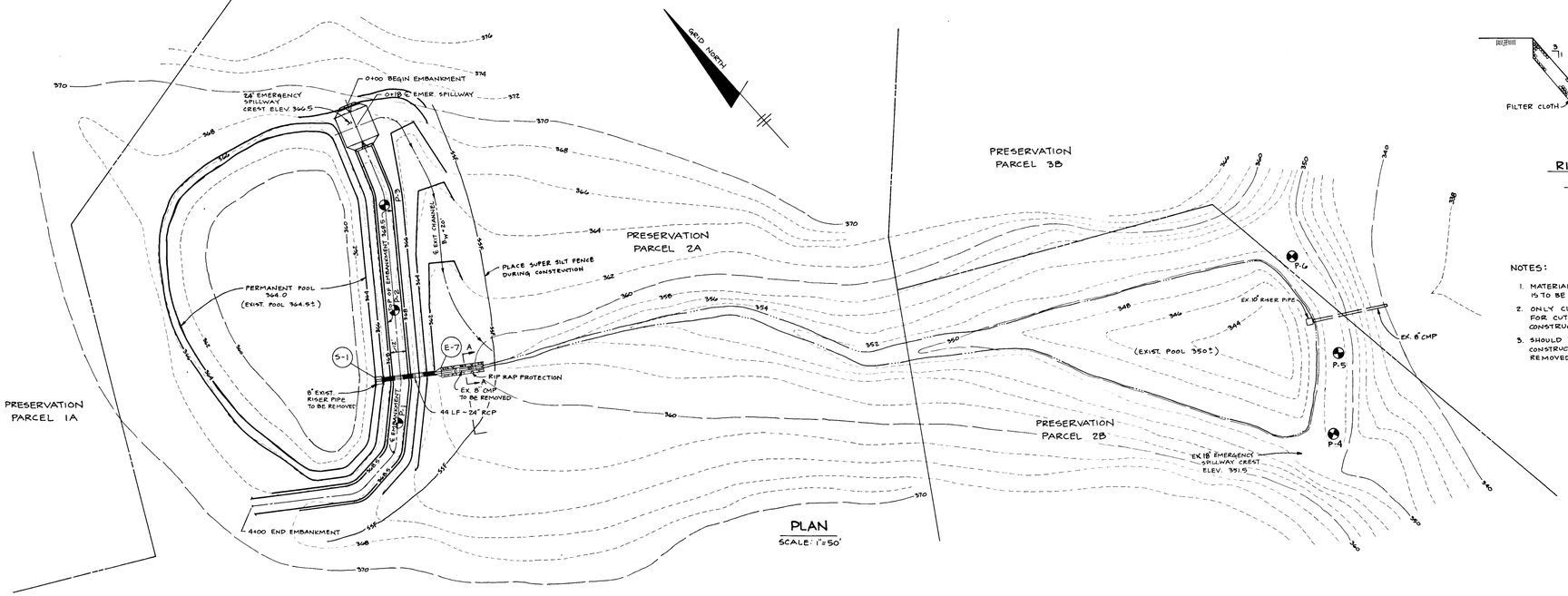
TITLE: GRADING PLAN
5-93-17 P-94-03

DATE: SEPTEMBER 14, 1994 / MARCH 20, 1995 — PROJECT NO. 0523

DES: JME — DRN: DRK/DBT — SCALE: 1" = 50' — DRAWING 10 OF 16

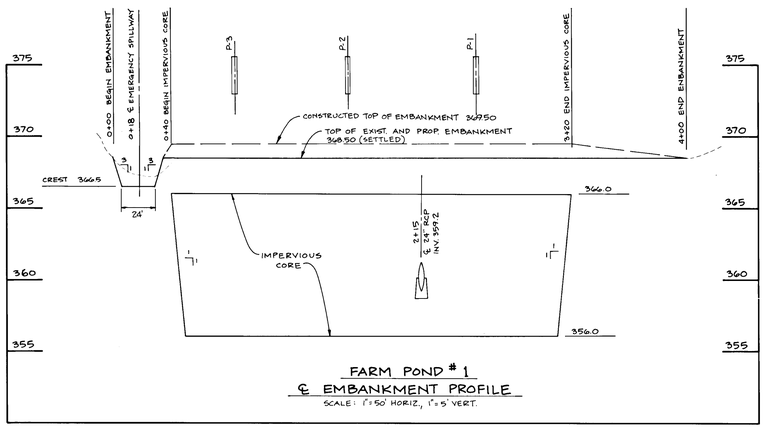
F-95-28

1738



PLAN

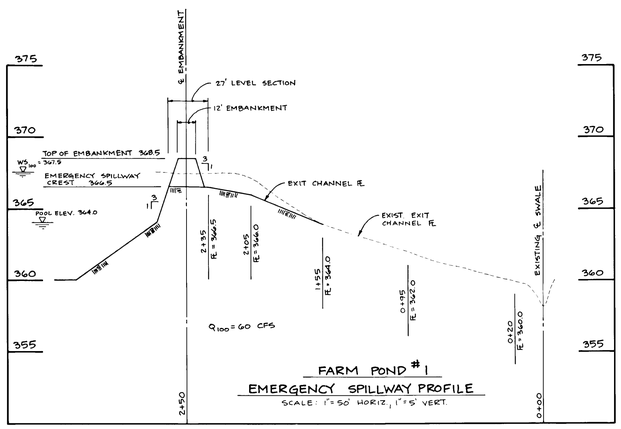
SCALE: 1"=50'



FARM POND # 1

℄ EMBANKMENT PROFILE

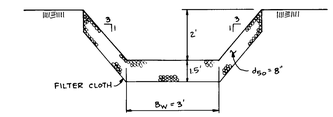
SCALE: 1"=50' HORIZ., 1"=5' VERT.



FARM POND # 1

EMERGENCY SPILLWAY PROFILE

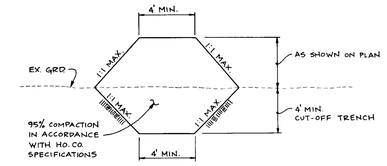
SCALE: 1"=50' HORIZ., 1"=5' VERT.



RIP RAP CHANNEL

SECTION AA

NOT TO SCALE



CORE TRENCH SECTION

NOT TO SCALE

NOTES:

1. MATERIAL FOR EMBANKMENT CONSTRUCTION IS TO BE USCS GC, SC, CH, OR CL.
2. ONLY CL, CH, OR SC SOILS ARE TO BE USED FOR CUT-OFF TRENCH AND IMPERVIOUS CORE CONSTRUCTION.
3. SHOULD THERE BE WATER ENCOUNTERED DURING CONSTRUCTION OF CUT-OFF TRENCH, IT SHOULD BE REMOVED BY PUMPING.

NOTE :

INSPECTION OF THE POND(S) SHOWN HEREON 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.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

JOHN M. ELORRIAGA — PE No. _____ DATE _____

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

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."

DEVELOPER — JAMES R. MOXLEY, JR. PRESIDENT - SDC GROUP, INC. — DATE 12/20/94

BY THE ENGINEER:

"I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONNAL 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."

ENGINEER — JOHN M. ELORRIAGA, P.E. # 16891 — DATE 12/20/94

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.

U.S. SOIL CONSERVATION SERVICE — DATE 5/1/95

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/1/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/7/95

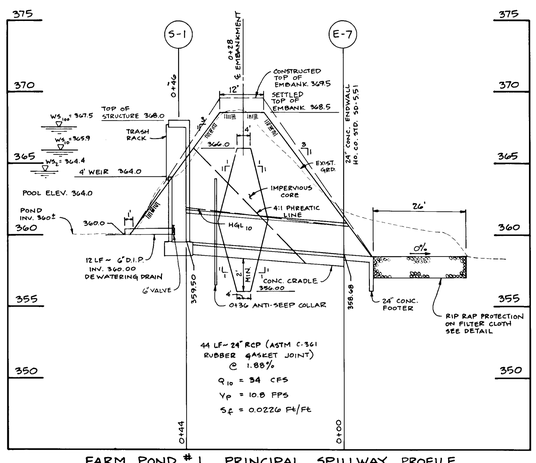
CHIEF, BUREAU OF HIGHWAYS — DATE 6-27-95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH CDH — DATE 7/5/95

* THE EXISTING 8" PIPE RISER/BARREL IS TO BE REMOVED.



FARM POND # 1 PRINCIPAL SPILLWAY PROFILE

SCALE: 1"=20' HORIZ., 1"=5' VERT.

OPERATION AND MAINTENANCE SCHEDULE
STORMWATER MANAGEMENT FACILITY

ROUTINE MAINTENANCE

1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, THE BOTTOM OF THE POND, AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIP RAP OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE

1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERE WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY'S DEPARTMENT OF PUBLIC WORKS.

THE HOWARD SOIL CONSERVATION DISTRICT HAS GRANTED A WAIVER TO THE REQUIREMENT TO UPGRADE THE LOWER POND, MARCH 1995.

* SEE SHEET 15 OF 16 FOR BORING LOGS.

NO	DATE	REVISION

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

OWNER:
JOSEPH M. ZOLLER III
11696 CARROLL MILL ROAD
ELLICOTT CITY, MARYLAND 21043

DEVELOPER/OWNER:
SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21043
(410) 465-4244

PROJECT: QUARTERFIELD
SECTION 1
LOTS 1-24, PARCELS 1A, 1B, 2A, & 2B

LOCATION: TAX MAP 23 - PARCELS 5, 8, 82, 101
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: STORMWATER MANAGEMENT DETAILS

5-93-17 P-94-03

DATE: SEPTEMBER 14, 1994; MARCH 20, 1995 — PROJECT NO. 0523

DES: JME — DRN: DRK/DBT — SCALE: AS SHOWN — DRAWING 11 OF 16

F-95-28

STORMWATER MANAGEMENT NOTES

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots 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, stumps, 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 not 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 +/- 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 along or parallel 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, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

   Materials – (Aluminum Coated 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-196 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material as the pipe. Metals must 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 re-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 circular neoprene gasket; and a 12" wide hugger 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 circular neoprene gasket will be installed on the end of each pipe for a total of 24". Helically corrugated pipe shall have either continuously welded seams or have lock seams.

4. 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.

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 up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 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

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.

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

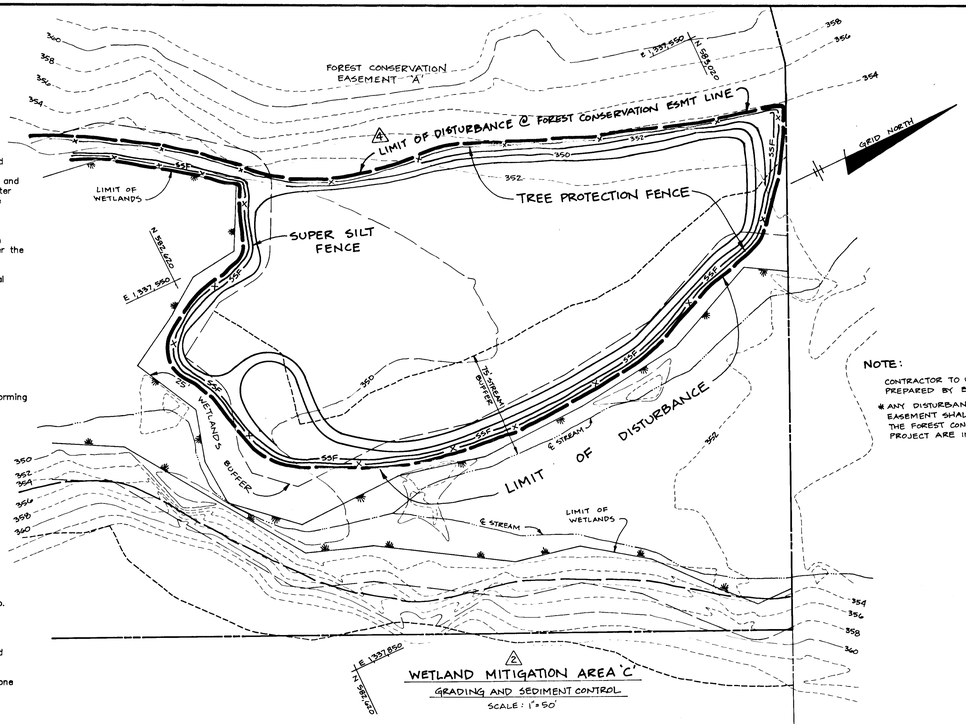
All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also 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 sightly condition. All exposed surfaces of the embankment, spillway, spoil 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-342) 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.



NOTE:
CONTRACTOR TO USE APPROVED WETLAND MITIGATION PLANS PREPARED BY BIOHABITATS, INC. FOR ALL CONSTRUCTION DETAILS.

* ANY DISTURBANCE TO THE EXISTING FOREST CONSERVATION EASEMENT SHALL BE MITIGATED BY THE PROPOSED WORK. THE FOREST CONSERVATION RETENTION EASEMENTS FOR THIS PROJECT ARE IN EXCESS OF THE MINIMUM REQUIRED.

NOTE : INSPECTION OF THE POND(S) SHOWN HEREON 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.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

JOHN M. ELORRIAGA — PE No. _____ DATE _____

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

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."

DEVELOPER – JAMES R. MOXLEY JR. — DATE 12/20/94
PRESIDENT – SDC GROUP, INC.

BY THE ENGINEER:

"I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONNAL 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."

ENGINEER – JOHN M. ELORRIAGA, P.E. # 16891 — DATE 12/20/94

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.

U.S. SOIL CONSERVATION SERVICE — DATE 3/1/95

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/1/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC ~~WORKS~~

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/20/95

CHIEF, BUREAU OF HIGHWAYS — DATE 6.27.95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH COH — DATE 7/5/95

NO	DATE	REVISION
2	1-2-96	REVISE WETLAND MITIGATION AREAS
4	8-5-96	CORRECT WETLAND MITIGATION AREA 'C' LIMIT OF DISTUEBANCE

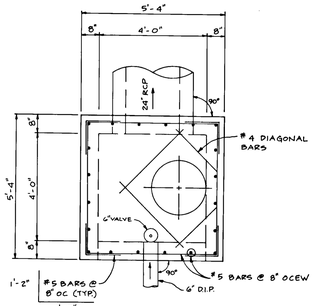
TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

SCS DETAIL
RE: ES-154
ANTI-SEEP COLLAR
NOT TO SCALE

SIDES OF ANTI-SEEP COLLARS TO BE FORMED ABOVE BOTTOM OF CRADLE.

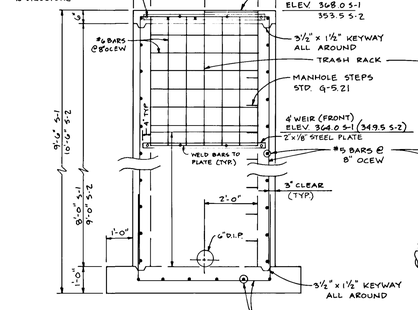
1. POUR CONCRETE TO UNDISTURBED EARTH. REMOVE SHEETING BEFORE POURING CONCRETE OR LEAVE LOWER PORTION OF SHEETING IN PLACE.
2. CONCRETE CRADLE TO BE PLACED FOR ENTIRE LENGTH OF PIPE.
3. ASPHALT JOINT FILLER TO BE INSTALLED BETWEEN ALL CONCRETE SURFACES EXCEPT BETWEEN CRADLE AND PIPE.

SCS TR 46 CRADLE RE: ES-120
CONCRETE CRADLE DETAIL
NOT TO SCALE

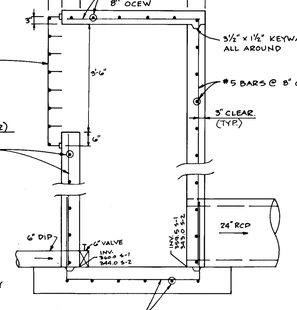


PLAN
SCALE: 3/8" = 1'-0"

* TRASH RACK IS TO BE GALVANIZED AFTER FABRICATION. PAINT RACK BATTLESHIP GRAY.



FRONT ELEVATION
SCALE: 3/8" = 1'-0"



SIDE ELEVATION
SCALE: 3/8" = 1'-0"

OWNER: JOSEPH M. ZOLLER III, 11696 CARROLL MILL ROAD, ELLICOTT CITY, MARYLAND 21043	PROJECT: QUARTERFIELD, SECTION 1, LOTS 1-24, PARCELS 1A, 1B, 2A & 2B
DEVELOPER/OWNER: SDC GROUP, INC., P.O. BOX 417, ELLICOTT CITY, MARYLAND 21041, (410) 465-4244	LOCATION: TAX MAP 23 – PARCELS 5, 8, 82, 101, 3rd ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
	TITLE: STORMWATER MANAGEMENT NOTES AND DETAILS, 5-93-17 P-94-03
	DATE: SEPTEMBER 14, 1994; MARCH 20, 1995 — PROJECT NO. 0523
DES: JME — DRN: DRR/DBT	SCALE: AS SHOWN — DRAWING 12 OF 16

F-95-28

SEDIMENT TRAP DATA

	#1	#2
DRAINAGE AREA	10 AC.	3 AC.
TOTAL STORAGE REQUIRED	36,000 CF.	10,800 CF
WET STORAGE	18,000 CF	5,400 CF
DRY STORAGE	18,000 CF	5,400 CF
TOTAL STORAGE PROVIDED	36,400 CF	13,350 CF
BOTTOM DIMENSION	125'x60'	90'x40'
STORAGE DEPTH	4'	3'
BOTTOM ELEVATION	386	386
TOP OF EMBANKMENT	392	391
EMBANKMENT WIDTH	4'	4'
SPILLWAY CREST ELEVATION	390	389
SPILLWAY CREST LENGTH	12'	12'
CLEANOUT ELEVATION	387	386.75

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."

DEVELOPER - JAMES R. MOXLEY JR. — DATE
PRESIDENT - SDC GROUP, INC.

BY THE ENGINEER:

"I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONNAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

ENGINEER - JOHN M. ELCRRIAGA, P.E. # 16891 — 9/15/94 DATE

NO	DATE	REVISION
1	11-3-95	LOWER QUARTERFIELD DRIVE FROM STA. 2+50 TO END

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.

Patricia Engle — 5/1/95

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

Robert W. Zihm — 5/1/95 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

— 6/30/95
DIVISION M.K.
— 6-27-95 DATE
— 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

— 7/5/95
DEVELOPMENT AND RESEARCH COH — DATE

TSA GROUP, INC.
planning • architecture • engineering

OWNER:

DEVELOPER/OWNER:
SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT:
QUARTERFIELD

TITLE:
SEDIMENT CONTROL PLAN

S-93-17 P-94-03

DATE: SEPTEMBER 14, 1994 / MARCH 20, 1995 — PROJECT NO. 0523

DES: JME — DRN: DRK/DBT — DRAWING 13 OF 16

F-95-28

1733

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/30/95

CHIEF, BUREAU OF HIGHWAYS — DATE 6-27-95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH — DATE 7/5/95

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.

DEVELOPER - JAMES R. MOXLEY JR.
PRESIDENT - SDC GROUP, INC. — DATE 9-14-94

BY THE ENGINEER:

"I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONNAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER - JOHN M. ELORRIAGA, P.E. # 16891 — DATE 9/15/94

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.

— DATE 5/1/95

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

— DATE 5/1/95

NO	DATE	REVISION
2	1-2-96	REVISE WETLAND MITIGATION AREAS
1	11-3-95	LOWER QUARTERFIELD DRIVE FROM STA. 2+50 TO END
3	8-5-96	REVISE PAVEMENT WIDTH TO 22', NO PAVED SHOULDER
4	8-5-96	REVISE WETLAND MITIGATION AREA 'C' LIMIT OF DISTURBANCE

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

OWNER:
JOSEPH M. ZOLLER III
11696 CARROLL MILL ROAD
ELLICOTT CITY, MARYLAND 21043

DEVELOPER/OWNER:
SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
(410) 465-4244

PROJECT: QUARTERFIELD
SECTION 1
LOTS 1-24 PARCELS 1A 1B, 2A & 2B

LOCATION: TAX MAP 23 - PARCEL 7, 8, 92, 101
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL PLAN
S-93-17 P-94-03

DATE: MARCH 20, 1995

DES: JME | DRN: DRK/DBT | SCALE: 1" = 50' | DRAWING 14 OF 16

F-95-28

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 24 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, (313–1850).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL", REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:

TOTAL AREA OF SITE	105.8 AC
AREA DISTURBED	10.0 AC
AREA TO BE ROOFED OR PAVED	2.5 AC
AREA TO BE VEGETATIVELY STABILIZED	7.5 AC
TOTAL CUT (TOPSOIL 12,400 CY)	35,500 CY
TOTAL FILL	30,300 CY
OFFSITE WASTE/BORROW AREA LOCATION	F-95-29

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 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

TEMPORARY 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 PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2–1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH 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 SOD.

MULCHING: APPLY 1–1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED 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.

PERMANENT SEEDBED PREPARATION

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

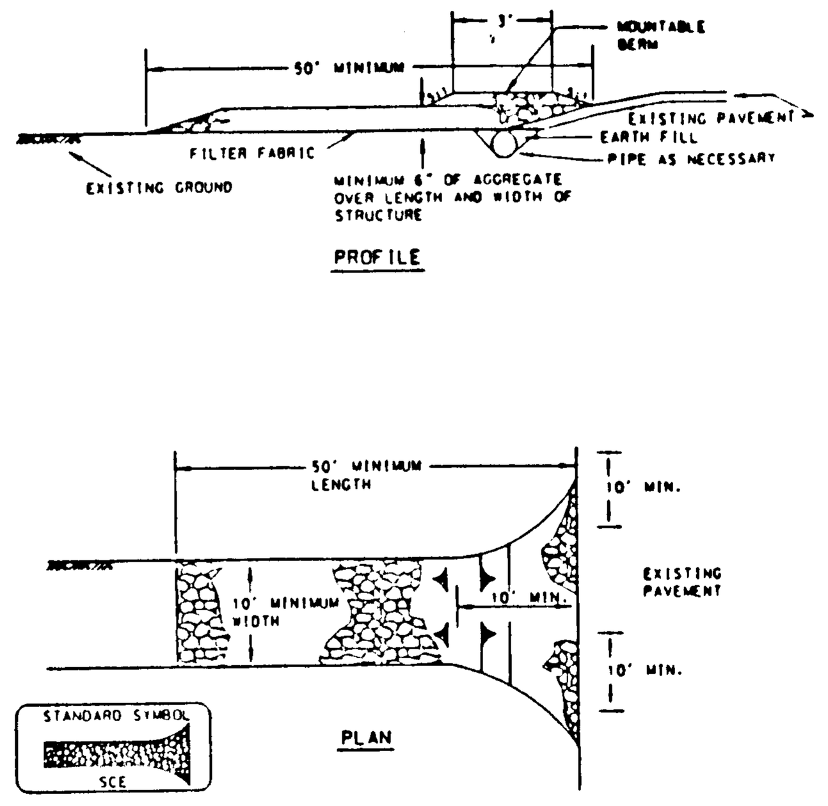
SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ON OF THE FOLLOWING SCHEDULES:

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– UREAFORM 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 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH 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 SOD. 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 UNROTTED 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.

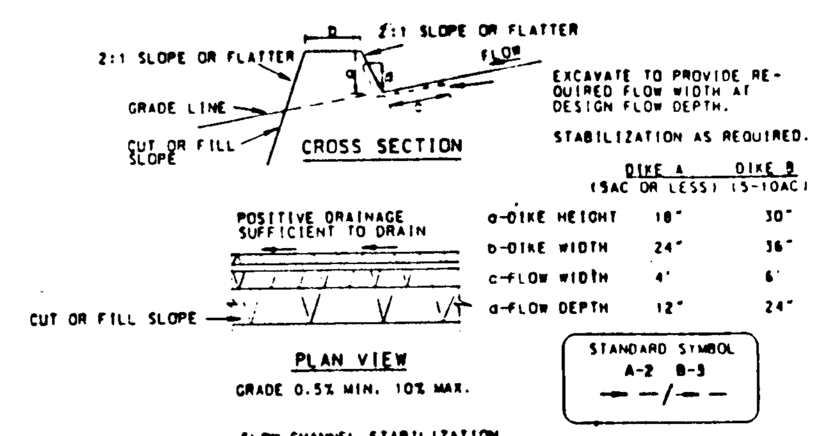
MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.



Construction Specification

1. Length – minimum of 50' (30' for single residence lot).
2. Width – 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residence to use geotextile.
4. Stone – crushed aggregate (2" to 3"), or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

STABILIZED CONSTRUCTION ENTRANCE



	DIKE A (5AC OR LESS)	DIKE B (5-10AC)
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

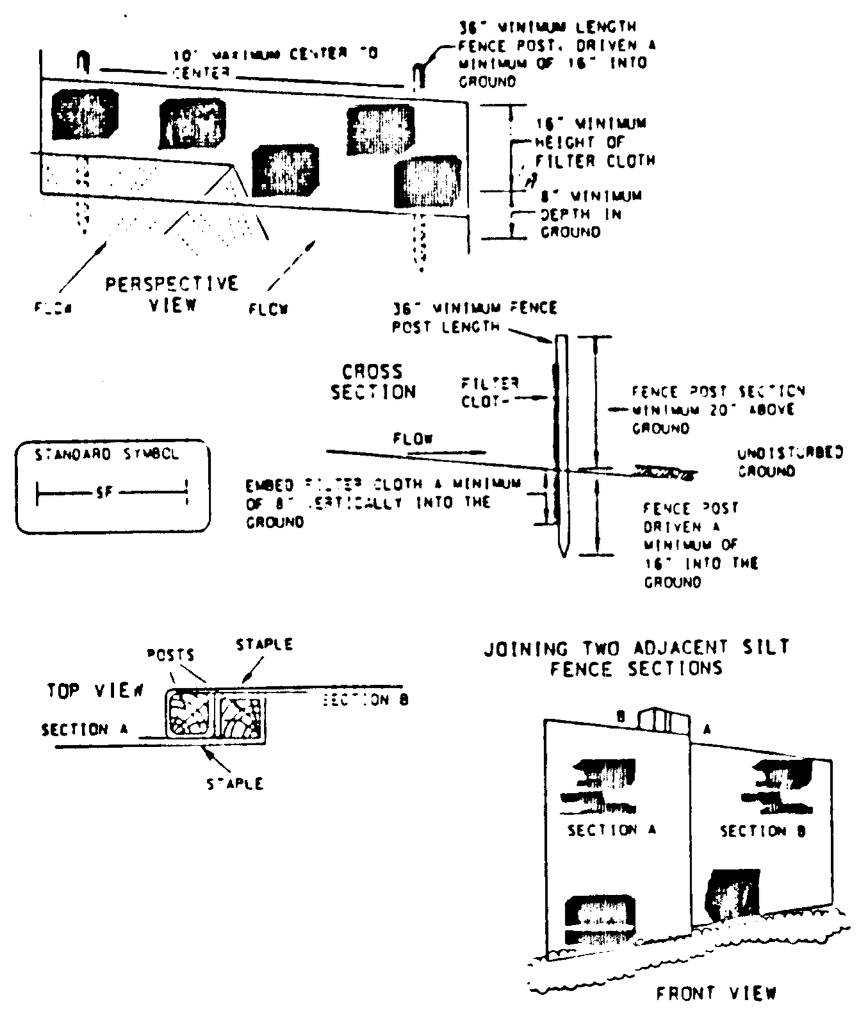
FLOW CHANNEL STABILIZATION

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. Line with geotextile Class C and Class I rip-rap or recycled concrete equivalent.
4. (Type B only) Line with geotextile Class C and Class II rip-rap.

CONSTRUCTION SPECIFICATIONS

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from an disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed-stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed on construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

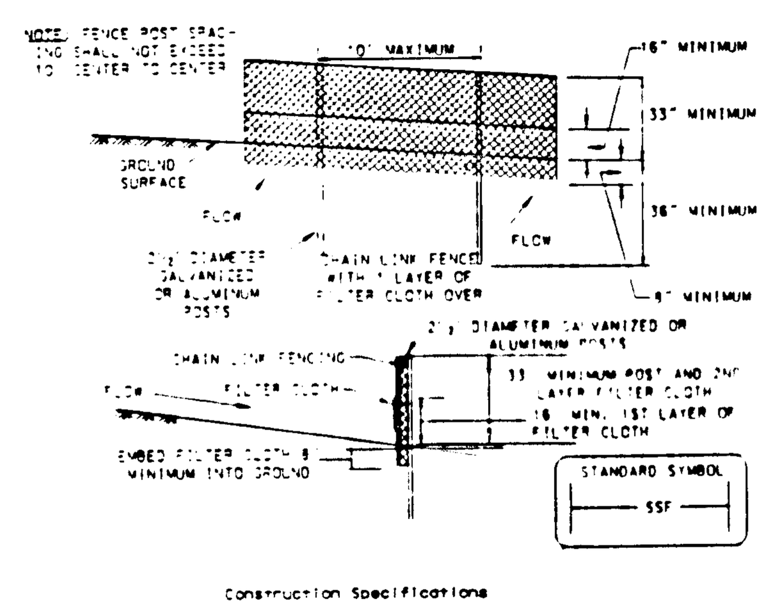
EARTH DIKE



Construction Specifications

1. A detail of the silt fence shall be shown on the plan, and contain the following minimum requirements:
   a. The type, size, and spacing of fence posts.
   b. The type of filter cloth used.
   c. The method of fastening the filter cloth to the fencing support.
   d. Accumulated sediment must be removed when it reaches 50% of the height of the fabric.
2. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
3. Design computations are not required.
4. All silt fences shall be placed as close to the contour as possible.
5. The area below the fence must be undisturbed or stabilized.
6. Silt Fence Fabric: The fabric shall meet the Filter fabric specifications listed in Table 27.
7. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts, 2"x 2", with a minimum cross sectional area of 3.0 square inches will be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.

SILT FENCE

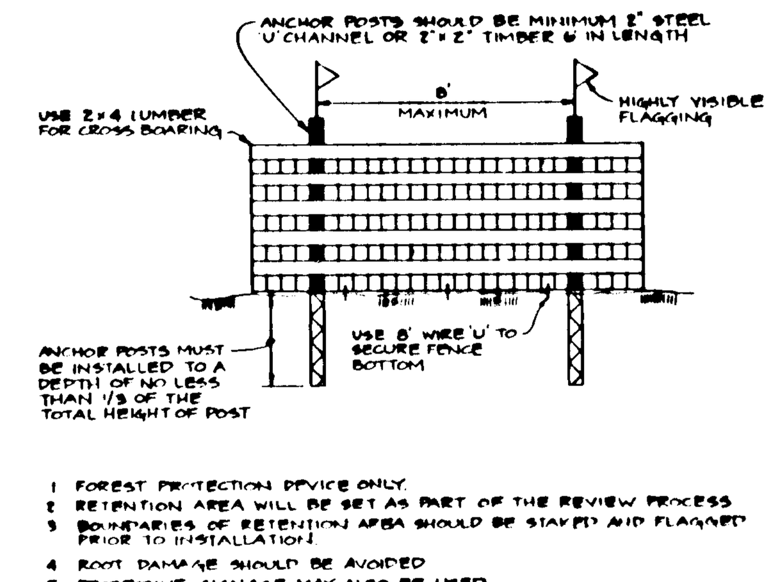


Construction Specifications

Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.

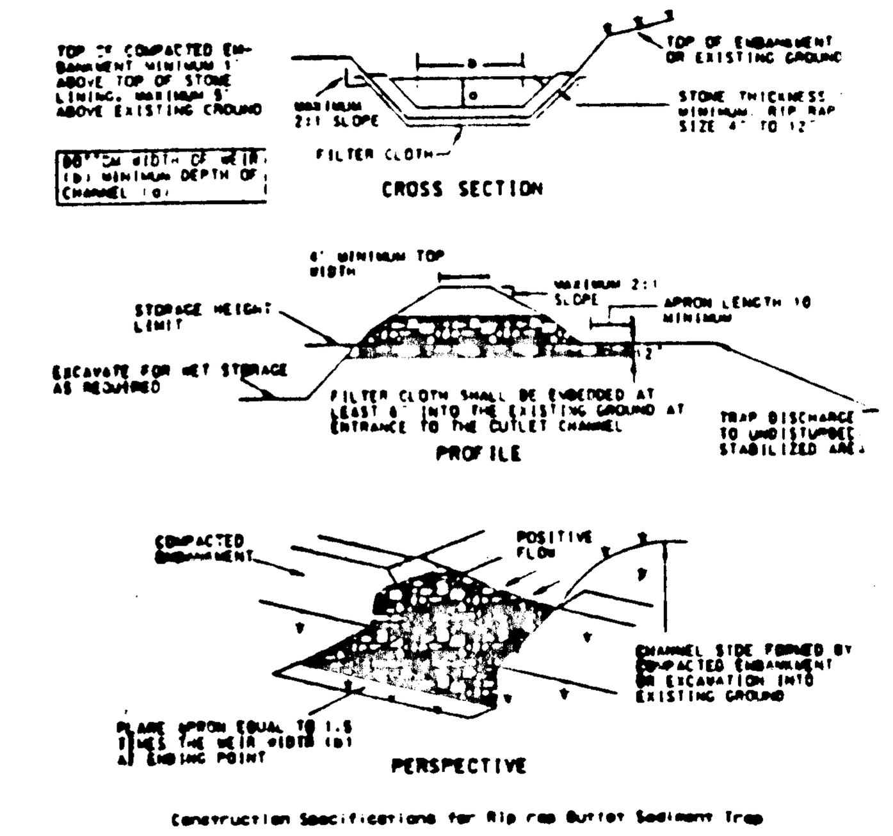
1. The poles do not need to set in concrete.
2. Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence.

SUPER SILT FENCE



1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLATION.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION FENCE
NO SCALE



Construction Specifications for Rip rap Outlet Sediment Trap

1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be five (5) feet, measured at centerline of embankment.
3. All cut and fill slopes shall be 2:1 or flatter.
4. Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.
5. Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 9).
6. Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.
7. Stone used in the outlet channel shall be 4" to 12" rip rap.
8. Outlet – An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge end shall be provided as necessary in accordance with the Standards and Specifications for Rock Outlet Protection.
9. Outlet channel must have positive drainage from the trap.
10. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
11. The structure shall be inspected periodically after each rain and repaired as needed.
12. Construction of traps shall be carried out in such a manner that sediment pollution is abated.
13. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
14. Drainage area for this practice is limited to 10 acres or less.

STONE OUTLET SEDIMENT TRAP

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE AND SUPER SILT FENCE. INSTALL SEDIMENT TRAPS, SWALES TO TRAPS AND EARTH DIKES. STABILIZE. TSWM IS PROVIDED IN SOST#1.
3. COMMENCE ROAD AND SITE GRADING.
4. CONSTRUCT STORM DRAIN CULVERTS TO PREVENT RUNOFF FROM BEING TRAPPED BEHIND ROADWAY.
5. COMPLETE ROADWAY TO SUBGRADE. STABILIZE ROADSIDE SWALES.
6. REMOVE SOST#3 AND COMMENCE MITIGATION GRADING. STABILIZE WITH WETLAND GRASS MIX. MITIGATION PLANTING SHALL BE PROVIDED CONCURRENT WITH SECTION 2 STREAM CROSSING WORK.
7. CONSTRUCT PAVING.
8. FINAL GRADE SITE AND PERMANENTLY STABILIZE.
9. UPGRADE FARM POND #1.
10. INSTALL LANDSCAPING.
11. UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT TRAPS AND ALL SEDIMENT CONTROL DEVICES. PERMANENTLY STABILIZE AS REQUIRED.

Boring P-1

Project Name Zoller Property — Boring # P-1 — Location Howard County, Maryland — Job # 94035M
Datum — Surf. Elev 368.5 — Date Started 12-2-94 — SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 inches — Pipe Size 2.0 inches OD — Hole Diameter 8" — Rock Core Dia. — Boring Method HSA — Foreman W. Stephens — Inspector — Date Completed 12-2-94

ELEV	SOIL DESCRIPTION	STRA DEPTH	DEPTH SCALE	CON	BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					No Topsoil
	Brown, moist, loose to medium dense, fine sandy Silt (ML) trace rock fragments (Fill)			D	2-2-2	1	18"	No groundwater encountered while drilling; *Caved at 11.0'
				D	6-9-51/1	2	12"	
			5	1	3-5-9	3	18"	
	Orange and gray, moist, stiff, Silt clayey Silt (ML)	7.0		1	2-5-7	4	18"	
			10	1	3-4-7	5	18"	
	Orange-brown, moist, dense micaceous sandy Silt (ML)	12.0	15	D	14-18-24	6	18"	
	Boring Terminated at 16.5	16.5	20					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE — SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST — GROUND WATER DEPTH: AT COMPLETION 9.5' FT; AFTER 24 Hrs. 10.0' FT — BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS

Boring P-2

Project Name Zoller Property — Boring # P-2 — Location Howard County, Maryland — Job # 94035M
Datum — Surf. Elev 368.5 — Date Started 12-2-94 — SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 inches — Pipe Size 2.0 inches OD — Hole Diameter 8" — Rock Core Dia. — Boring Method HSA — Foreman W. Stephens — Inspector — Date Completed 12-2-94

ELEV	SOIL DESCRIPTION	STRA DEPTH	DEPTH SCALE	CON	BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					No Topsoil
	Brown, moist, loose to medium dense, silt-sandy Silt (ML) Fill			1	2-3-3	1	18"	No groundwater encountered while drilling
				1	5-7-9	2	18"	*Caved at 4.0'
			5	1	2-3-4	3	18"	
	Dark brown, moist, medium stiff, clayey Silt (ML-CL) trace roots	7.0		1	2-3-4	4	18"	
	Orange and gray, moist, medium stiff, Silt-clayey Silt (ML-CL)	9.5	10	1	3-3-5	5	18"	
	Tan, moist, very dense, silty fine to coarse Sand (SM)	13.0	15	D	28-51/3	6	8"	
	Boring Terminated at 16.5	16.5	20					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE — SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST — GROUND WATER DEPTH: AT COMPLETION Dry* FT; AFTER 24 Hrs. Dry* FT — BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS

Boring P-3

Project Name Zoller Property — Boring # P-3 — Location Howard County, Maryland — Job # 94035M
Datum — Surf. Elev 368.5 — Date Started 12-2-94 — SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 inches — Pipe Size 2.0 inches OD — Hole Diameter 8" — Rock Core Dia. — Boring Method HSA — Foreman W. Stephens — Inspector — Date Completed 12-2-94

ELEV	SOIL DESCRIPTION	STRA DEPTH	DEPTH SCALE	CON	BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					No Topsoil
	Brown, moist, loose to medium dense, Silt-Sandy Silt (ML) Fill			1	2-3-4	1	18"	Groundwater encountered at 15.0' while drilling
				1	5-7-9	2	18"	*Caved at 11.0'
			5	1	3-5-4	3	18"	
	Orange and gray, moist, medium stiff to stiff clayey Silt (ML-CL)	7.0		1	1-3-4	4	18"	
			10	1	3-5-6	5	18"	
	Tan, moist, medium dense, silty Sand (SM)	14.0	15	D	8-7-23	6	18"	
	Boring Terminated at 16.5'	16.5	20					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE — SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST — GROUND WATER DEPTH: AT COMPLETION 9.0' FT; AFTER 24 Hrs. 10.0' FT — BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS

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.

James R Moxley Jr — 9-14-94
DEVELOPER – JAMES R. MOXLEY JR. PRESIDENT – SDC GROUP, INC. — DATE

BY THE ENGINEER:

"I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONNAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John Elorriaga — 9/5/94
ENGINEER – JOHN M. ELORRIAGA, P.E. # 16891 — 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

Patricia Engle — 5/1/95
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.

Robert W. [illegible] — 5/1/95
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

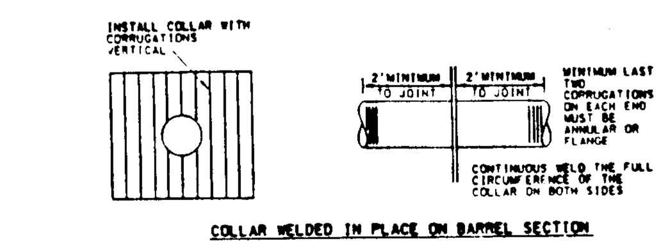
[signature] — 6/21/95
CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE

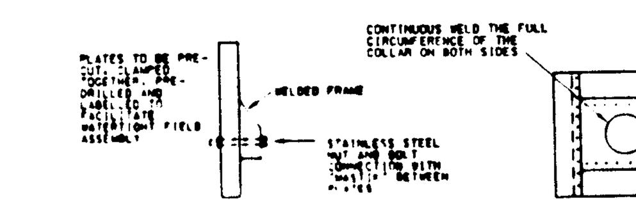
[signature] for — 6-27-95
CHIEF, BUREAU OF HIGHWAYS — DATE

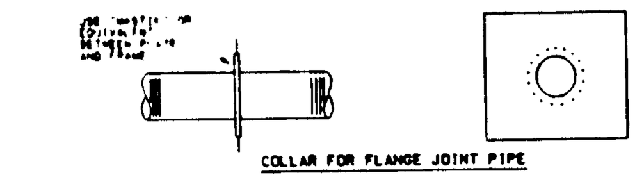
[signature] — 6/30/95
CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

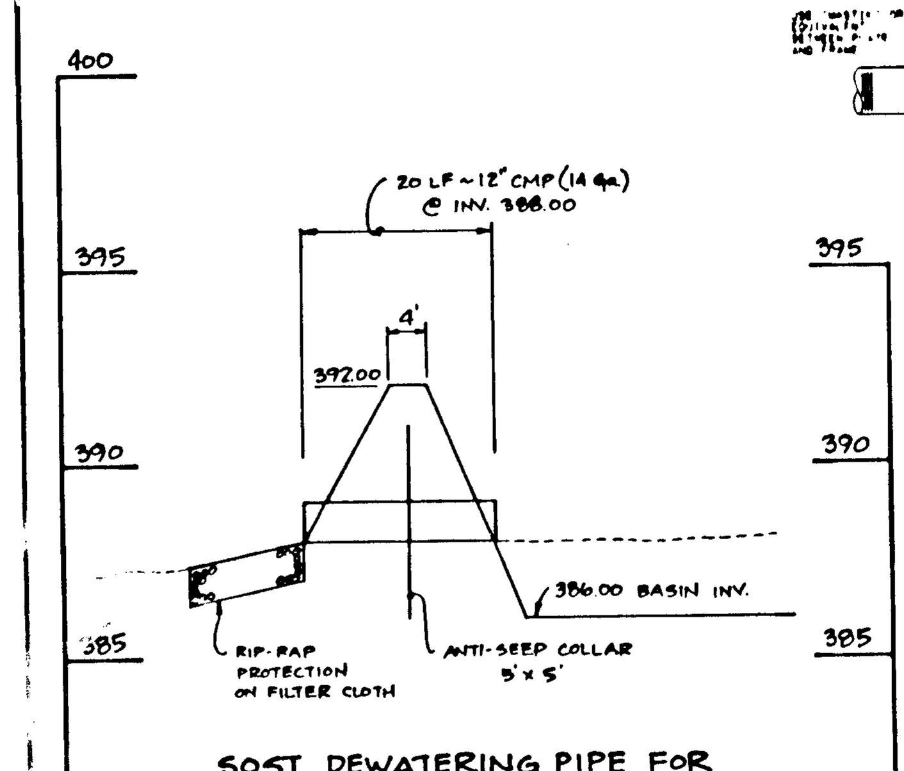
Gino Tremmary — 7/5/95
CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH COH — DATE



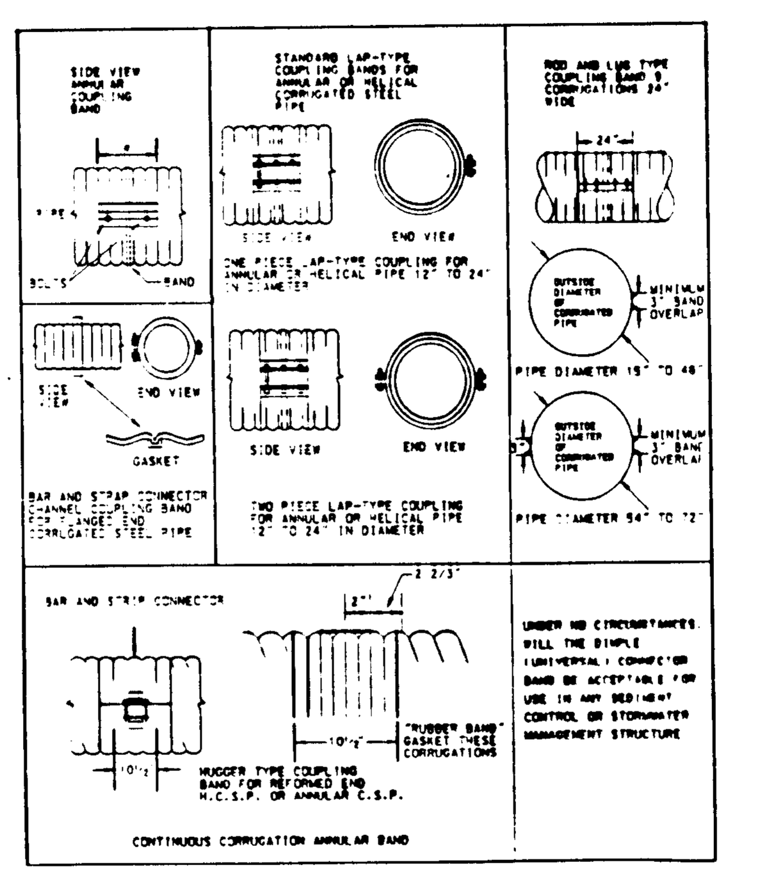




TYPICAL ANTI-SEEP COLLARS TSWM 12" CMP



SOST DEWATERING PIPE FOR TSWM PROFILE
SCALE: 1"= 20' HORIZ., 1"= 5' VERTICAL



TYPES OF COUPLERS FOR CORRUGATED STEEL PIPE

Boring P-4

Project Name Zoller Property — Boring # P-4 — Location Howard County, Maryland — Job # 94035M
Datum — Surf. Elev 355.5 — Date Started 12-2-94 — SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 inches — Pipe Size 2.0 inches OD — Hole Diameter 8" — Rock Core Dia. — Boring Method HSA — Foreman W. Stephens — Inspector — Date Completed 12-2-94

ELEV	SOIL DESCRIPTION	STRA DEPTH	DEPTH SCALE	CON	BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Orange-brown, moist, very loose to loose, micaceous sandy Silt (ML) Fill			D	1-2-2	1	7"	No Topsoil; No Groundwater encountered while drilling
				D	3-3-6	2	18"	*Caved at 10.0'; **Caved at 10.5'
	Orange-brown, moist, loose, micaceous sandy Silt (ML)	5.0	5	D	3-3-4	3	18"	
				D	4-6-4	4	8"	
	Orange, moist, loose, Silt-fine sandy Silt (ML)	9.5	10	D	3-6-6	5	18"	
	Brown, moist, medium dense, micaceous sandy Silt (ML)	13.0	15	D	4-8-11	6	18"	
	Boring Terminated at 16.5	16.5	20					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE — SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST — GROUND WATER DEPTH: AT COMPLETION Dry* FT; AFTER 24 Hrs. Dry** FT — BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS

Boring P-5

Project Name Zoller Property — Boring # P-5 — Location Howard County, Maryland — Job # 94035M
Datum — Surf. Elev 355.5 — Date Started 12-2-94 — SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 inches — Pipe Size 2.0 inches OD — Hole Diameter 8" — Rock Core Dia. — Boring Method HSA — Foreman W. Stephens — Inspector — Date Completed 12-2-94

ELEV	SOIL DESCRIPTION	STRA DEPTH	DEPTH SCALE	CON	BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					1" Topsoil
	Brown and orange-brown, moist, very loose, micaceous sandy Silt (ML) Fill			1	2-2-3	1	14"	Groundwater encountered at 10.0 while drilling
				1	3-4-6	2	18"	*Caved at 11.5'; **Caved at 9.5'
			5	1	2-3-3	3	18"	
				1	2-1-2	4	18"	
	Brown, moist to wet, very loose Silt (ML) trace roots	9.5	10					
	Brown, moist, medium dense, micaceous sandy Silt (ML)	11.0		1	2-3-1	5	18"	
			15	D	2-5-10	6	18"	
	Boring Terminated at 16.5	16.5	20					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE — SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST — GROUND WATER DEPTH: AT COMPLETION Dry* FT; AFTER 24 Hrs. 8.5'** FT — BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS

Boring P-6

Project Name Zoller Property — Boring # P-6 — Location Howard County, Maryland — Job # 94035M
Datum — Surf. Elev 355.5 — Date Started 12-2-94 — SAMPLER: Hammer Wt. 140 Lbs. — Hammer Drop 30 inches — Pipe Size 2.0 inches OD — Hole Diameter 8" — Rock Core Dia. — Boring Method HSA — Foreman W. Stephens — Inspector — Date Completed 12-2-94

ELEV	SOIL DESCRIPTION	STRA DEPTH	DEPTH SCALE	CON	BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					No Topsoil
	Brown, moist, loose, micaceous sandy Silt (ML) Fill			1	3-4-5	1	17"	Groundwater encountered at 15.0 while drilling
				1	4-6-4	2	18"	*Caved at 12.0'; **Caved at 13.0'
			5	1	3-3-4	3	18"	
	Brown, moist, loose to very loose, micaceous sandy Silt (ML)	7.0		1	1-2-4	4	18"	
			10	1	2-2-2	5	14"	
	Orange, wet, loose, sandy silt (ML) trace to little fine gravel	13.0	15	D	3-3-4	6	6"	
	Boring Terminated at 16.5	16.5	20					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT-PRESSED SHELBY TUBE; CA-CONTINUOUS FLIGHT AUGER; RC-ROCK CORE — SAMPLE CONDITIONS: D-DISINTEGRATED; I-INTACT; U-UNDISTURBED; L-LOST — GROUND WATER DEPTH: AT COMPLETION Dry* FT; AFTER 24 Hrs. Dry** FT — BORING METHOD: HSA-HOLLOW STEM AUGERS; CFA-CONT. FLIGHT AUGERS; DC-DRIVING CASING; MD-MUD DRILLING
STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS

NO	DATE	REVISION

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

OWNER: JOSEPH M. ZOLLER III, 11696 CARROLL MILL ROAD, ELLICOTT CITY, MARYLAND 21043

DEVELOPER\OWNER: SDC GROUP, INC., P.O. BOX 417, ELLICOTT CITY, MARYLAND 21041, (410) 465-4244

PROJECT: QUARTERFIELD SECTION 1 — LOTS 1-24, PARCELS 1A, 1B, 2A, & 2B

LOCATION: TAX MAP 23 – PARCELS 5, 8, 82, 101, 3rd ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL NOTES AND DETAILS — 5-93-17 P-94-03

DATE: SEPTEMBER 14, 1994; MARCH 20, 1995 — PROJECT NO. 0523

DES: JME — DRN: DRK/DBT — SCALE: AS SHOWN — DRAWING 15 OF 16

F-95-28

1738

GRID NORTH

HENRY L. MAYER P. 68 398/386

HENRY L. MAYER P. 68 358/341

LAWRENCE R. HYMAN P. 111 1856/242

LAWRENCE R. HYMAN P. 110 1856/242

LAWRENCE R. HYMAN P. 108 1856/242

LAWRENCE R. HYMAN P. 67 782/498

LIMIT OF SUBMISSION

ZONED RC

CAMERON TRACT PLATS 4341-4342

OPEN SPACE LOT 11

PARCEL 82

N 583000 E 1337500

LIMIT OF WETLANDS

℄ STREAM

WETLAND MITIGATION AREA C

WETLAND MITIGATION AREA B

WETLAND MITIGATION AREA A

LIMIT OF SECTION

FOLLY QUARTER ROAD

QUARTERFIELD DRIVE

RUNNING SPRINGS ROAD

WHITETAIL LANE

LOT 1 LOT 2 LOT 3 LOT 4 LOT 5 LOT 6 LOT 7 LOT 8 LOT 9 LOT 10 LOT 11 LOT 12 LOT 13 LOT 14 LOT 15 LOT 16 LOT 17 LOT 18 LOT 19 LOT 20 LOT 21 LOT 22 LOT 23 LOT 24 LOT 25

LOT 26 LOT 27 LOT 28 LOT 29 LOT 30 LOT 31 LOT 32 LOT 33 LOT 34 LOT 35 LOT 36

PARCEL 101

DOUGHOREGAN MANOR PHILLIP CARROLL P. 71 11/303 ZONED RC

LIMIT OF SUBMISSION

FRED P. GRANESE P. 54 301/171

N 583000 E 1335500

MARY ANNE LINGENFELTER P. 69 2125/233

KENNETH J. BELLSINGER LOT 9 PLAT No. 9271

KENNETH J. BELLSINGER P. 25 268/483

PATRICIA A. BELLSINGER P. 28 500/60

ANGELA M. COOPER P. 27 1644/715

LIMIT OF SUBMISSION

PLANT LIST KEY

SYMBOL	NAME	QUANTITY
++	RED MAPLE	40
oo	LONDON PLANE TREE	12
⊕	SAWTOOTH OAK	9
·	NORTHERN RED OAK	18
+	JAPANESE ZELKOVA	133
		212

2½" MIN. CALIPER B&B

NOTE: PLANTING FOR WETLAND MITIGATION AREAS SUBJECT TO DEPT. OF NATURAL RESOURCES NON-TIDAL WETLAND PERMIT NO. 94-NT-0407

LIMIT OF 100-YEAR FLOODPLAIN

NOTE:

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 83 LANDSCAPE TREES, IN THE AMOUNT OF $8300 IS PART OF THE DEVELOPER'S AGREEMENT.

SCHEDULE A

PERIMETER LANDSCAPE EDGE - (CLUSTER SUBDIV. ONLY)

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	B	A
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	0 LF	5000 LF
CREDIT FOR EXIST. VEGETATION	NO	NO
CREDIT FOR WALL, FENCE, OR BERM	NO	NO
NUMBER OF PLANTS REQUIRED		
SHADE TREES	0	83
EVERGREENS	0	0
SHRUBS	0	0

SCHEDULES B, C, AND D ARE NOT APPLICABLE TO THIS PROJECT.

LANDSCAPING NOTES:

1. PERIMETER LANDSCAPING WHERE REQUIRED SHALL BE PROVIDED BY THE DEVELOPER.
2. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE STREET TREES.

N 582000 E 1335500

EXIST. POND

LIMIT OF WETLANDS

PARCEL B

EXIST. POND

PHILLIP CARROLL P. 84 66/388 ZONED RC

℄ STREAM

LIMIT OF WETLANDS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION M.K. — DATE 6/6/95

CHIEF, BUREAU OF HIGHWAYS — DATE 6.27.95

CHIEF, BUREAU OF ENGINEERING — DATE 6/30/95

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH COH — DATE 7/5/95

NO	DATE	REVISION
2	1-2-96	REVISE WETLAND MITIGATION AREAS

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (410) 465-6105

OWNER:
JOSEPH M. ZOLLER III
11696 CARROLL MILL ROAD
ELLICOTT CITY, MARYLAND 21043

DEVELOPER/OWNER:
SDC GROUP, INC.
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
(410) 465-4244

DES: JME DRN: DRK/DBT

PROJECT: QUARTERFIELD
SECTION 1
LOTS 1-24, PARCELS 1A, 1B, 2A, 2B

LOCATION: TAX MAP 23 - PARCELS 5, & 101
3rd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: LANDSCAPE PLAN
S-93-17 P-94-03

DATE: SEPTEMBER 14, 1994; MARCH 20, 1995 — PROJECT NO. 0523

SCALE: 1" = 100' — DRAWING 16 OF 16

1738

F-95-28