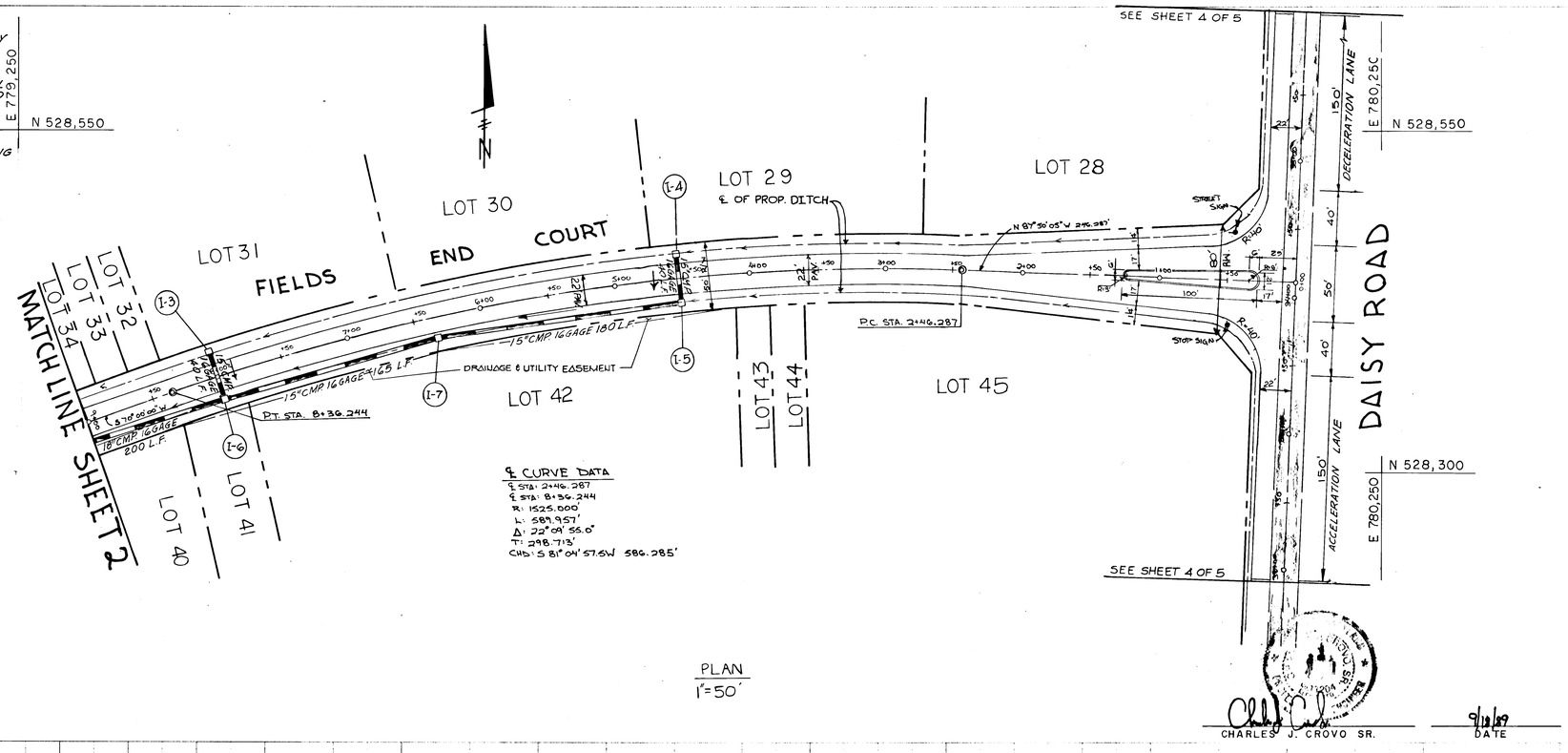
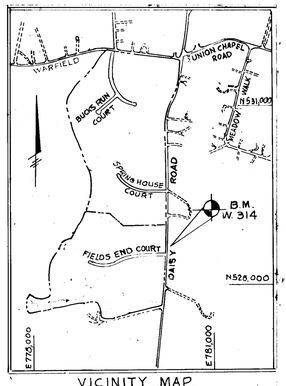
GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
2. ALL UTILITY COMPANIES MUST BE NOTIFIED 24 HOURS IN ADVANCE OF ANY CONSTRUCTION.
3. STORM DRAINAGE TRENCHES WITHIN ROAD RIGHTS OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
4. ANY DAMAGE TO PUBLIC RIGHTS OF WAY SHALL BE AT THE CONTRACTORS EXPENSE.
5. CONTRACTOR TO NOTIFY THE HOWARD COUNTY INSPECTION AND SURVEY DIVISION AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWING, TELEPHONE 792-7272.
6. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1978 EDITION.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV STANDARDS SPECIFICATIONS AND DETAILS FOR CONSTRUCTION 1989 AMENDMENTS.



℄ CURVE DATA
℄ STA: 2+46.287
℄ STA: 8+36.244
R: 1525.000'
L: 589.957'
Δ: 22°09'55.0"
T: 298.713'
CHD: S 81°04'57.5W 586.285'

PLAN
1"=50'



VICINITY MAP
SCALE: 1" = 1200'

BENCH MARK

TRAV. PT. W-314 — ELEV. 562.30
REBAR SET 185' N/E OF INTERSECTION OF DAISY RD. AND FIELDS END COURT

APPROVED
DEPARTMENT OF PUBLIC WORKS
6/11/90
CHIEF, BUREAU OF ENGINEERING — DATE

5/16/90
CHIEF, BUREAU OF TRAFFIC ENGINEERING

APPROVED
DEPARTMENT OF PUBLIC WORKS
6-12-90
CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED
DEPARTMENT OF PLANNING AND ZONING
6/28/90
CHIEF, DIVISION OF COMPREHENSIVE PLANNING AND LAND DEVELOPMENT

PLAN		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	ALIGNMENT CHECKED		
	R/W CHECKED		

WARFIELD'S GRANT
SECTION I, AREA 3
LOTS 28 - 45
4TH. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

FIELDS END COURT
PLAN AND PROFILE

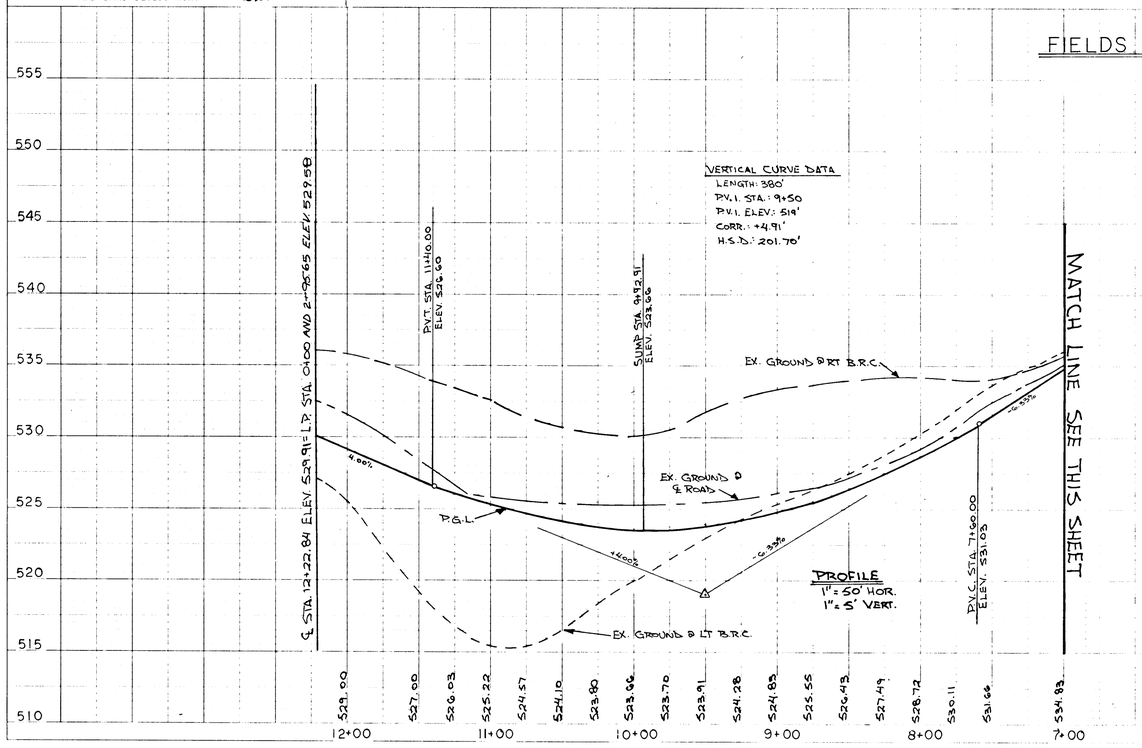
OWNER AND DEVELOPER
WARFIELD'S GRANT LTD. PARTNERSHIP
P.O. BOX 122
ELLICOTT CITY, MARYLAND 21043

SCALE AS SHOWN	DATE 2/14/1990	DWG. NO. 1 OF 5
DES. Z.Y. FISCH	DFT. D. GROSS	CHK. C.J. CROVO

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE — ELLICOTT CITY, MARYLAND 21043

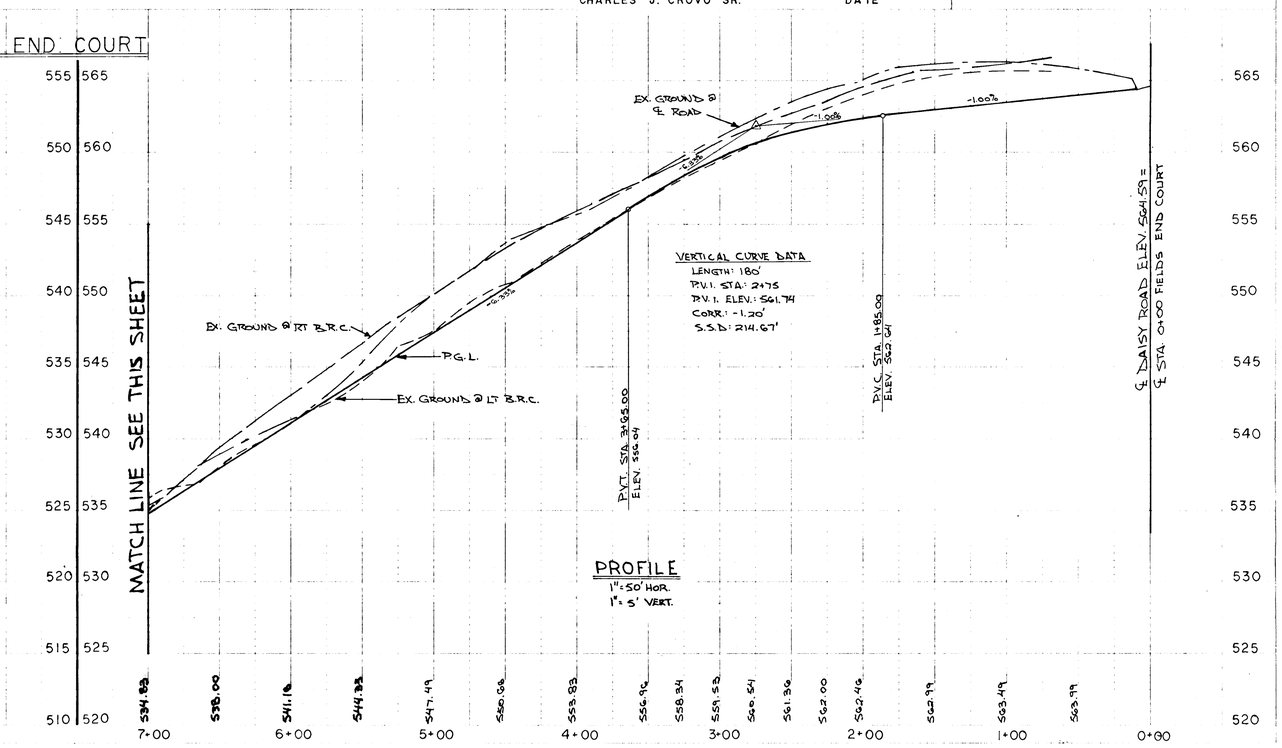
CHARLES J. CROVO SR. — 9/18/89 DATE

PROFILE		BY	DATE
NOTE BOOK NO.	SURVEYED		
	PLOTTED		
	GRADES CHECKED		
	B.M. NOTED		
	STRUCTURE NOTATIONS CHKD.		



VERTICAL CURVE DATA
LENGTH: 380'
P.V.I. STA.: 9+50
P.V.I. ELEV.: 519'
CORR.: +4.91'
H.S.D.: 201.70'

PROFILE
1" = 50' HOR.
1" = 5' VERT.



VERTICAL CURVE DATA
LENGTH: 180'
P.V.I. STA.: 2+75
P.V.I. ELEV.: 561.74
CORR.: -1.20'
S.S.D.: 214.67'

PROFILE
1" = 50' HOR.
1" = 5' VERT.

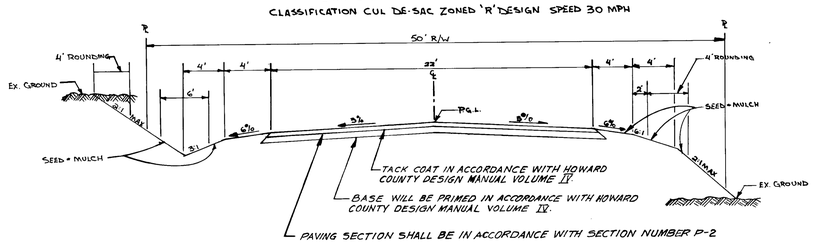
1574

F-90-58

FIELDS END COURT

LIMITS ℄ STA. 0+00 TO ℄ STA. 13+01.025

CLASSIFICATION CUL DE-SAC ZONED 'R' DESIGN SPEED 30 MPH

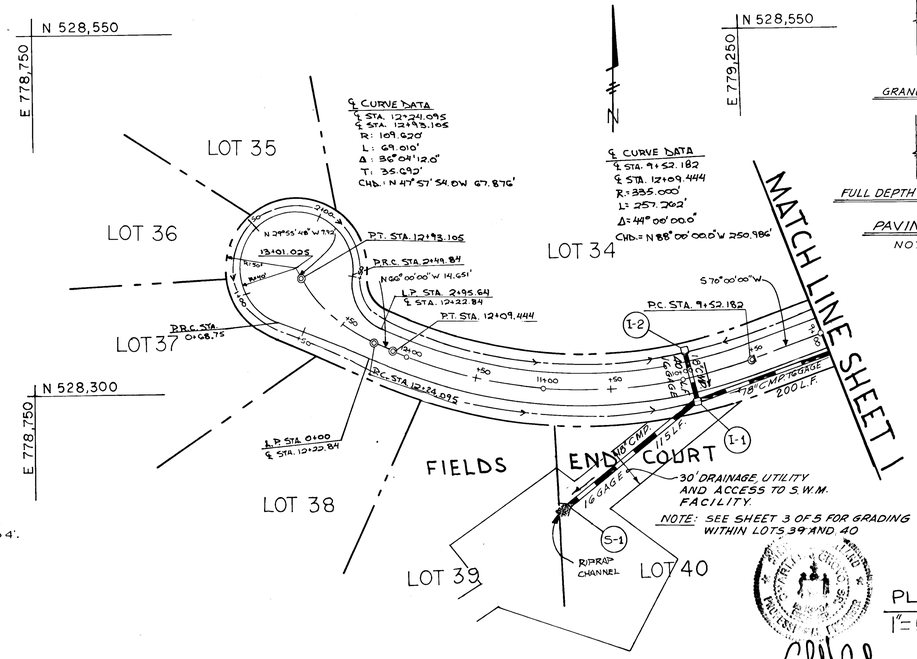


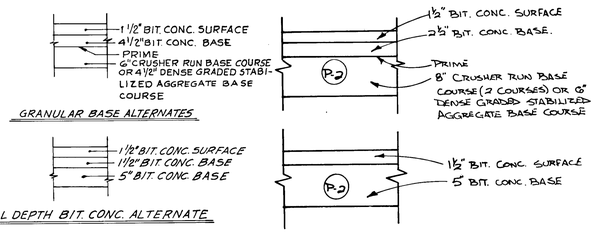
NOTE:

ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV. STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

TYPICAL ROADWAY SECTION

NOT TO SCALE





PAVING SECTION P-3

NOT TO SCALE

PAVING SECTION P-2

NOT TO SCALE

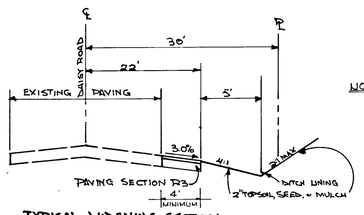
APPROVED
DEPARTMENT OF PUBLIC WORKS
6/11/90
DIRECTOR DATE

5/17/90
CHIEF, BUREAU OF HIGHWAYS

APPROVED
DEPARTMENT OF PUBLIC WORKS
6-12-90
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED
DEPARTMENT OF PLANNING AND ZONING
6/25/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

PLAN		BY	DATE
SURVEYED			
PLOTTED			
ALIGNMENT CHECKED			
RT. OF WAY CHECKED			
NOTE BOOK			
NO.			



NOTE: MINIMUM PAVING WIDTH FOR WIDENING OF EX. PAVEMENT IS 4'.

TYPICAL WIDENING SECTION
DAISY ROAD AT INTERSECTION

NO SCALE

WARFIELD'S GRANT
SECTION 1, AREA 3
LOTS 28 - 47
4TH. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

FIELDS END COURT
DETAILS, PLAN AND PROFILE

OWNER AND DEVELOPER
WARFIELD'S GRANT LTD. PARTNERSHIP
P.O. BOX 122
ELLICOTT CITY, MARYLAND 21043

SCALE AS SHOWN | DATE 2/14/1990 | DWG NO 2 OF 5
DES. Z.Y. FISCH | DRN. D. GROSS | CK. C.J. CROVO

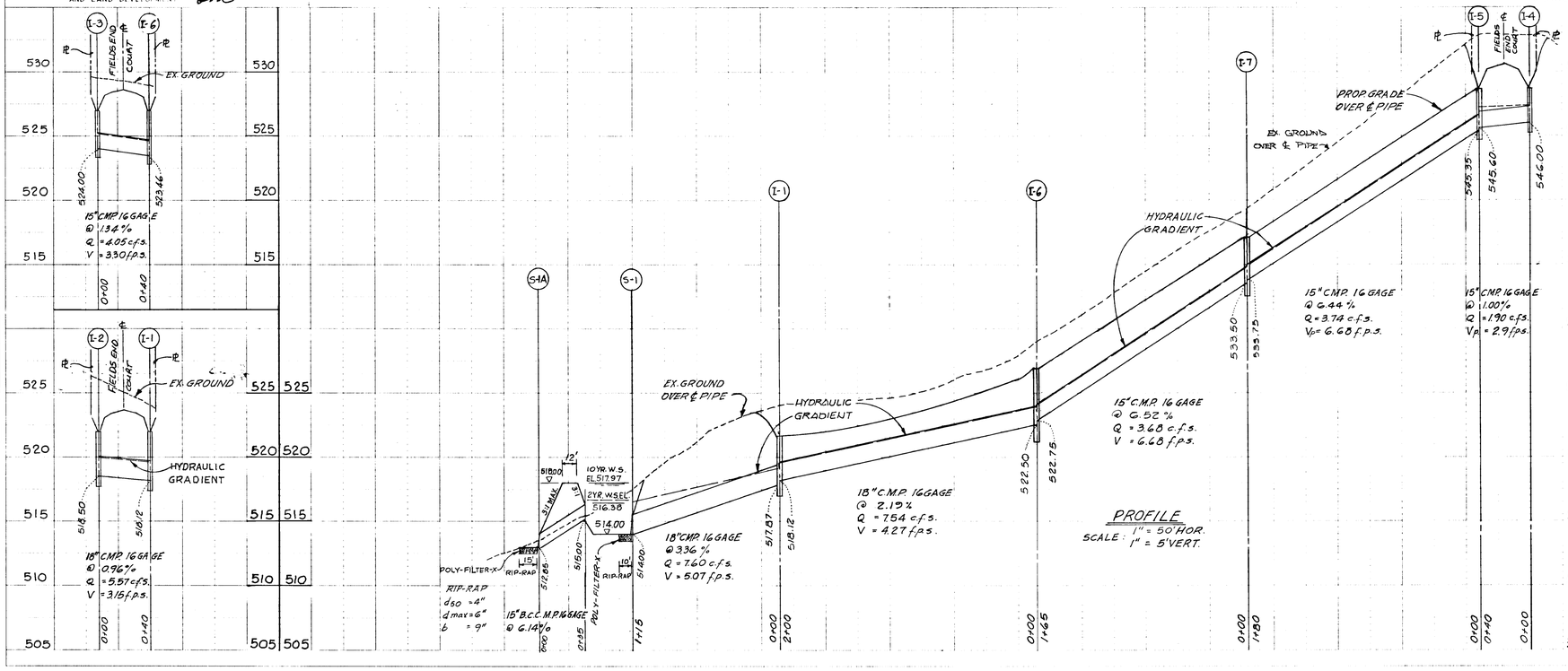
FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

PLAN
1" = 50'

CHARLES J. CROVO SR.

9/18/89
DATE

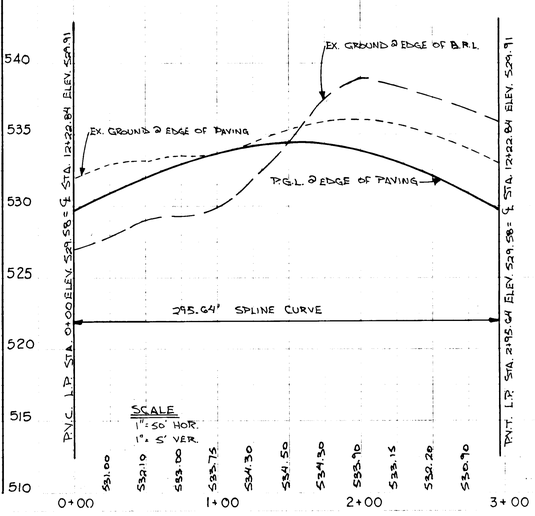
PROFILE		BY	DATE
SURVEYED			
PLOTTED			
GRADES CHECKED			
STRUCTURE NOTATIONS CHKD.			
NOTE BOOK			
NO.			



PROFILE

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

LINEAR PROFILE
FIELDS END COURT



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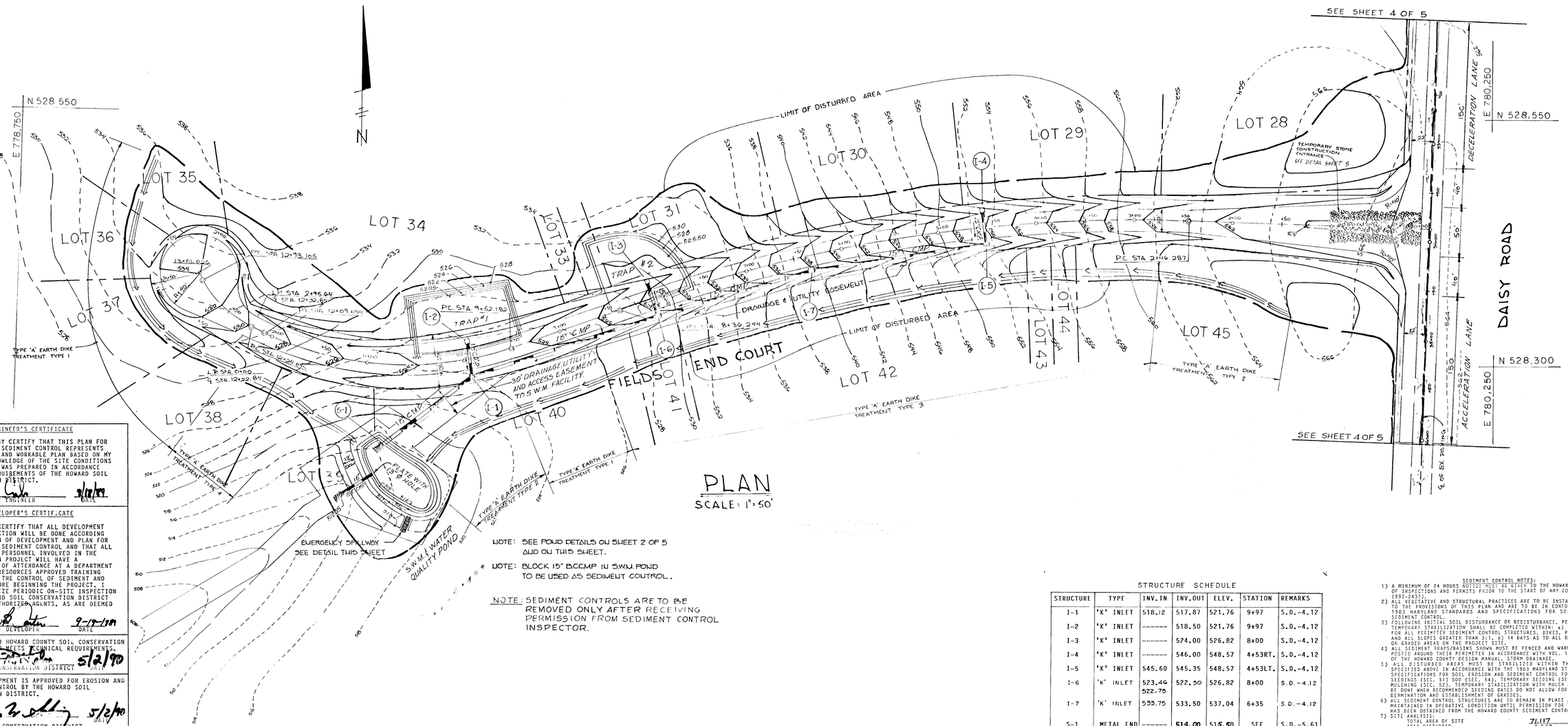
TRAP #1
STORM INLET SEDIMENT TRAP
DRAINAGE AREA : 3.00Ac.±
STORAGE REQUIRED : 5,400 Cu.Ft.
STORAGE PROVIDED : 7,125 Cu.Ft.
STORAGE DEPTH : 1.25'
BOTTOM ELEV. : 520.50
TOP INLET ELEV : 521.76

TRAP #2
STORM INLET SEDIMENT TRAP
DRAINAGE AREA : 2.89Ac.±
STORAGE REQUIRED : 5,202 Cu.Ft.
STORAGE PROVIDED :
STORAGE DEPTH : 1.31'
BOTTOM ELEV : 525.5
TOP INLET ELEV : 526.81



PLAN
SCALE: 1"=50'

NOTE: SEE POND DETAILS ON SHEET 2 OF 5 AND ON THIS SHEET.

NOTE: BLOCK 15" BCCMP IN S.W.M. POND TO BE USED AS SEDIMENT CONTROL.

NOTE: SEDIMENT CONTROLS ARE TO BE REMOVED ONLY AFTER RECEIVING PERMISSION FROM SEDIMENT CONTROL INSPECTOR.

ENGINEER'S CERTIFICATE

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

SIGNATURE OF ENGINEER — DATE 9/18/89

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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 OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY".

SIGNATURE OF DEVELOPER — DATE 9-18-1989

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/2/90

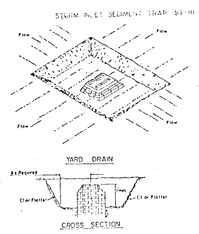
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED:
DIRECTOR, HOWARD SOIL CONSERVATION DISTRICT — DATE 5/2/90

APPROVED: DEPT. OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 6/22/89

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 6-12-90

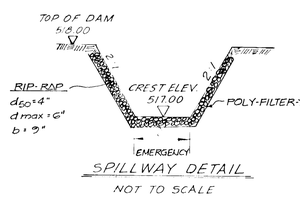
APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 5/7/90

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION — DATE 6/6/90



CONSTRUCTION SPECIFICATION FOR ST-III

1. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to ½ the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
2. The volume of sediment storage shall be 1800 cubic feet per acre of contributory drainage.
3. The structure shall be inspected after each rain and repairs made as needed.
4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
5. The sediment trap shall be removed and the area rehabilitated when the contributed drainage area has been properly stabilized.
6. All cut slopes shall be 1:1 or flatter.



CONSTRUCTION SEQUENCE

1. OBTAIN GRADING PERMIT.
2. EXTEND EX. 18" C.M.P. AT STA. 38+65 DAISY ROAD AND INSTALL S-2 SHOWN ON SHEET 4.
3. INSTALL STRAW BAIL DIKES AND OR SILT FENCE ALONG DAISY ROAD AS SHOWN ON SHEET 4.
4. WIDEN AND GRADE DAISY ROAD ACCORDING TO TYPICAL WIDENING SECTION AND PLAN VIEW AS SHOWN ON SHEET 4.
5. CONSTRUCT STONE CONSTRUCTION ENTRANCE.
6. CONSTRUCT STORMDRAIN SYSTEM FROM S-1 TO I-5.
7. INSTALL EARTH DIKES AS SHOWN ON SHEET 3.
8. INSTALL STORM INLET, SEDIMENT TRAPS #1 AND #2, AS SHOWN ON SHEET 3.
9. INSTALL S.W.M. FACILITY.
10. CLEAR FIELDS END COURT TO SUBGRADE.
11. GRADE SCOPE AREAS BETWEEN EXISTING GROUND AND EDGE OF PAVING.
12. DURING CONSTRUCTION SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS WHEN THE CLEANOUT ELEVATION HAS BEEN REACH.
13. REMOVE STONE CONSTRUCTION ENTRANCE.
14. CLEAN BASE COURSE. APPLY TACK COAT TO BASE COURSE AND LAY SURFACE COURSE. STABILIZE ALL AREAS USING PERMANENT SEEDING.
15. REMOVE STORM INLET SEDIMENT TRAPS AND EARTH DIKES ONCE DISTURBED AREAS HAVE BEEN STABILIZED.
16. INSTALL RIP-RAP AT OUTFALLS AS SHOWN ON PLAN.
17. ALL DISTURBED AREAS DUE TO REMOVAL OF SEDIMENT CONTROL MEASURES SHALL BE GRADED AND STABILIZED BY PERMANENT SEEDING.
18. 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, SWALES, DITCH PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, b) 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
19. NOTIFY HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS FOR FINAL INSPECTION AT DURATION OF PROJECT.

STRUCTURE SCHEDULE

STRUCTURE	TYPE	INV.IN	INV.OUT	ELEV.	STATION	REMARKS
I-1	'K' INLET	518.12	517.87	521.76	9+97	S.D.-4.12
I-2	'K' INLET	-------	518.50	521.76	9+97	S.D.-4.12
I-3	'K' INLET	-------	524.00	526.82	8+00	S.D.-4.12
I-4	'K' INLET	-------	546.00	548.57	4+53RT.	S.D.-4.12
I-5	'K' INLET	545.60	545.35	548.57	4+53LT.	S.D.-4.12
I-6	'K' INLET	523.46 522.75	522.50	526.82	8+00	S.D.-4.12
I-7	'K' INLET	533.75	533.50	537.04	6+35	S.D.-4.12
S-1	METAL END SECTION	-------	514.00	515.50	SEE PLAN	S.D.-5.61

SEDIMENT CONTROL NOTES:

1) A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (992-2437).
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 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
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	71.117	ACRES
AREA DISTURBED	5.567	ACRES
AREA TO BE ROOFED OR PAVED	0.915	ACRES
AREA TO BE VEGETATIVELY STABILIZED	4.652	ACRES
TOTAL CUT	7,780	CU.YDS.
TOTAL FILL	7,780	CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A	CU.YDS.

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 CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW 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.

FISHER, COLLINS AND CARTER, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043

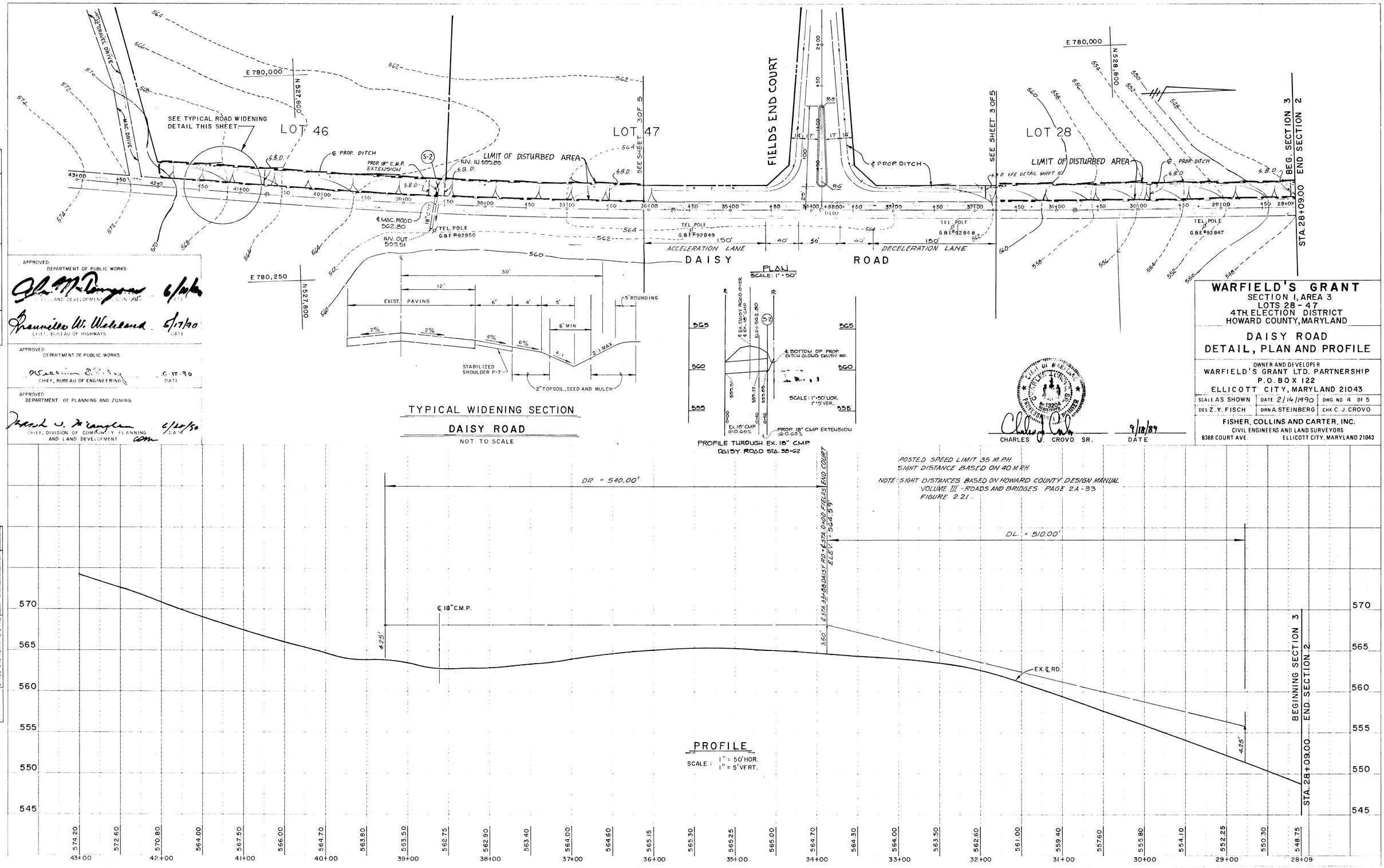
OWNER AND DEVELOPER
WARFIELD'S GRANT LTD. PARTNERSHIP
P.O. BOX 122
ELLICOTT CITY, MARYLAND 21043

CHARLES W. CROVO SR. — DATE 9/18/89

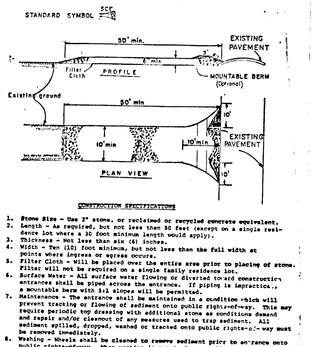
GRADING AND SEDIMENT CONTROL PLAN
WARFIELD'S GRANT
SECTION 1, AREA 3
LOTS 28-46
4TH. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 13 PARCEL : 128
SCALE AS SHOWN FEBRUARY 14, 1990
SHEET 3 OF 5

F-90-58

1574

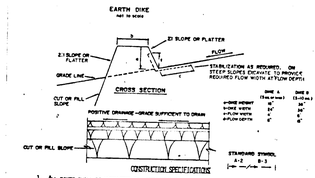

SEE TYPICAL ROAD WIDENING DETAIL THIS SHEET
LOT 46
LOT 47
LOT 28
FIELDS END COURT
LIMIT OF DISTURBED AREA
℄ PROP. DITCH
PROP. 18" C.M.P. EXTENSION
INV. IN 555.85
INV. OUT 552.51
℄ MAC. ROAD 562.80
TEL. POLE G&E #92850
TEL. POLE G&E #92849
TEL. POLE G&E #92848
TEL. POLE G&E #92847
ACCELERATION LANE
DECELERATION LANE
DAISY ROAD
SEE SHEET 3 OF 5
SEE DETAIL SHEET 5
E 780,000
N 527,800
E 780,250
N 527,800
N 528,800
BEG. SECTION 3
END SECTION 2
STA. 28+09.00
EXIST. PAVING
5' ROUNDING
6' MIN
2:1 MAX
STABILIZED SHOULDER P-7
2" TOPSOIL, SEED AND MULCH
TYPICAL WIDENING SECTION
DAISY ROAD
NOT TO SCALE
PLAN
SCALE: 1" = 50'
℄ EX. DAISY ROAD OVER ℄ EX. 18" CMP
ELEV. 562.80
℄ BOTTOM OF PROP. DITCH ALONG DAISY RD.
SCALE: 1" = 50' HOR. 1" = 5' VER.
EX. 18" CMP @ 0.65%
PROP. 18" CMP EXTENSION @ 0.65%
PROFILE THROUGH EX. 18" CMP
DAISY ROAD STA. 38+62
D.R. = 540.00'
D.L. = 510.00'
℄ 18" C.M.P.
℄ STA. 33+08 DAISY RD = ℄ STA. 0+00 FIELDS END COURT
ELEV. = 564.59
EX. ℄ RD.
BEGINNING SECTION 3
END SECTION 2
STA. 28+09.00
PROFILE
SCALE: 1" = 50' HOR. 1" = 5' VERT.
POSTED SPEED LIMIT 35 M.P.H.
SIGHT DISTANCE BASED ON 40 M.P.H.
NOTE: SIGHT DISTANCES BASED ON HOWARD COUNTY DESIGN MANUAL VOLUME III - ROADS AND BRIDGES PAGE 2.A-33 FIGURE 2.21.
APPROVED DEPARTMENT OF PUBLIC WORKS
6/1/90
5/17/90
APPROVED DEPARTMENT OF PUBLIC WORKS
6-17-90
APPROVED DEPARTMENT OF PLANNING AND ZONING
6/20/90
PLAN
NOTE BOOK NO.
SURVEYED
PLOTTED
PROJECT CHECKED
R/W CHECKED
RT OF WAY CHECKED
DATE
BY
PROFILE
NOTE BOOK NO.
SURVEYED
PLOTTED
PROJECT CHECKED
R/W NOTED
STRUCTURE NOTATNS CHKD
WARFIELD'S GRANT
SECTION 1, AREA 3
LOTS 28 - 47
4TH. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DAISY ROAD
DETAIL, PLAN AND PROFILE
OWNER AND DEVELOPER
WARFIELD'S GRANT LTD. PARTNERSHIP
P.O. BOX 122
ELLICOTT CITY, MARYLAND 21043
SCALE AS SHOWN
DATE 2/14/1990
DWG. NO. 4 OF 5
DES. Z. Y. FISCH
DRN. A. STEINBERG
CHK. C. J. CROVO
FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043
CHARLES J. CROVO SR.
9/18/89
DATE
1674
F-90-58

STABILIZED CONSTRUCTION ENTRANCE
not to scale



CONSTRUCTION SPECIFICATIONS

1. Stone Size – Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length – As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness – Not less than six (6) inches.
4. Width – Ten (10) feet minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth – Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water – All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance – The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing – Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.



CONSTRUCTION SPECIFICATIONS

1. All DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL BE CONSTRUCTED TO ALIGNMENT TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE DIRECTED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHENEVER POSSIBLE. DIVE CHANNEL ON THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND SOD OR STRAW MULCH (IF NOT IN SEEDING SEASON), (B) FLOW CHANNEL AS PER THE CHART BELOW.

TYPE OF TREATMENT	CHANNEL GRADE	FLOW CHANNEL STABILIZATION: DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 6-8"
4	8.1-20%	LINED RIP-RAP 6-8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. STONE TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
D. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

PERMANENT SEEDING NOTES:

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED 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: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
1) PREFERRED: APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BARROW SEEDING.
MARROW OR DISC INTO UPPER THREE-INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER 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. MARROW OR DISC INTO UPPER THREE-INCHES OF SOIL.

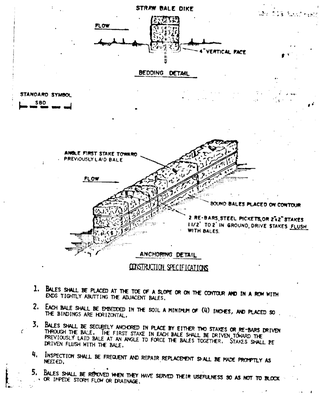
SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15. SEED WITH 60 LBS. PER ACRE (1.4 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31. SEED WITH 40 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS/1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28. PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.
MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OR 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.

TEMPORARY SEEDING NOTES:

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

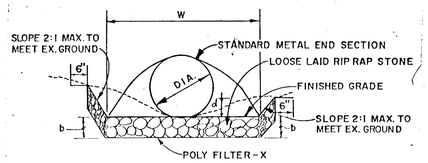
SEEDBED PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. IF NOT PREVIOUSLY LOOSENED.
SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.).
SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15. SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14. SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28. PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE 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 GAL PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 348 GAL 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.



CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT BALE BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR DIVERT STORM FLOW OR DRAINAGE.



RIP-RAP CHANNEL DETAIL
NO SCALE

AREA 1

RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	A ac	P ft.	R	R2/3	S %	S½	n	Q cfs	V fps.	d ft.	W ft.	RIP-RAP SIZE d 50	RIP-RAP SIZE d MAX	b
S-1	6.87	10.26	0.67	0.76	0.5%	0.0707	0.04	14.82	2.01	0.84	6.5	4"	6"	9"
S-2	6.84	9.77	0.70	0.79	0.5%	0.0707	0.04	14.16	2.07	0.91	5.7	4"	6"	9"

AREA 2

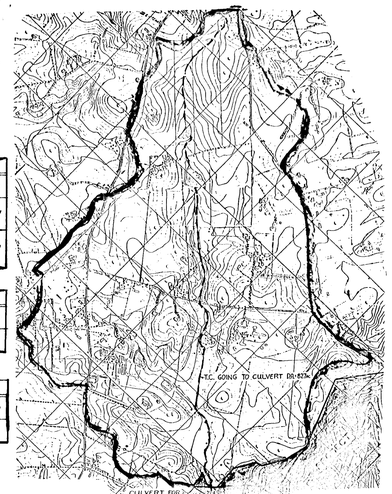
RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	A ac	P ft.	R	R2/3	S %	S½	n	Q cfs	V fps.	d ft.	W ft.	RIP-RAP SIZE d 50	RIP-RAP SIZE d MAX	b
S-1	11.77	13.47	0.87	0.916	0.5%	0.0707	0.04	28.33	2.41	1.10	8.50	6"	9"	14"

AREA 3

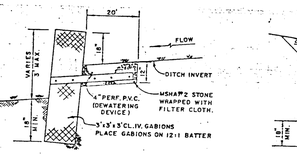
RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	A ac	P ft.	R	R2/3	S %	S½	n	Q cfs	V fps.	d ft.	W ft.	RIP-RAP SIZE d 50	RIP-RAP SIZE d MAX	b
S-1	4.42	7.91	0.5588	0.6784	0.5%	0.0707	0.04	7.87	1.78	0.74	4.6	4"	6"	9"

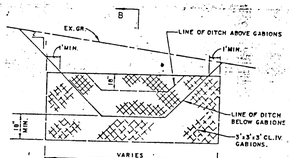


OFF SITE DRAINAGE AREA MAP
SCALE: 1" = 1400'

NOTE: LOCATION OF DITCH MAY BE REVISED TO FIT FIELD CONDITIONS AFTER APPROVAL OF ENGINEER



SECTION B-B



SECTION A-A

DETAIL OF GABION BAFFLE
NOT TO SCALE

APPROVED: DEPT. OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 6/20/90
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION — DATE 6/18/90
CHIEF, BUREAU OF HIGHWAYS — DATE 5/7/90
CHIEF, BUREAU OF ENGINEERING — DATE 6-12-90

DRAINAGE AREA TABULATION
SECTION 1/AREA 1

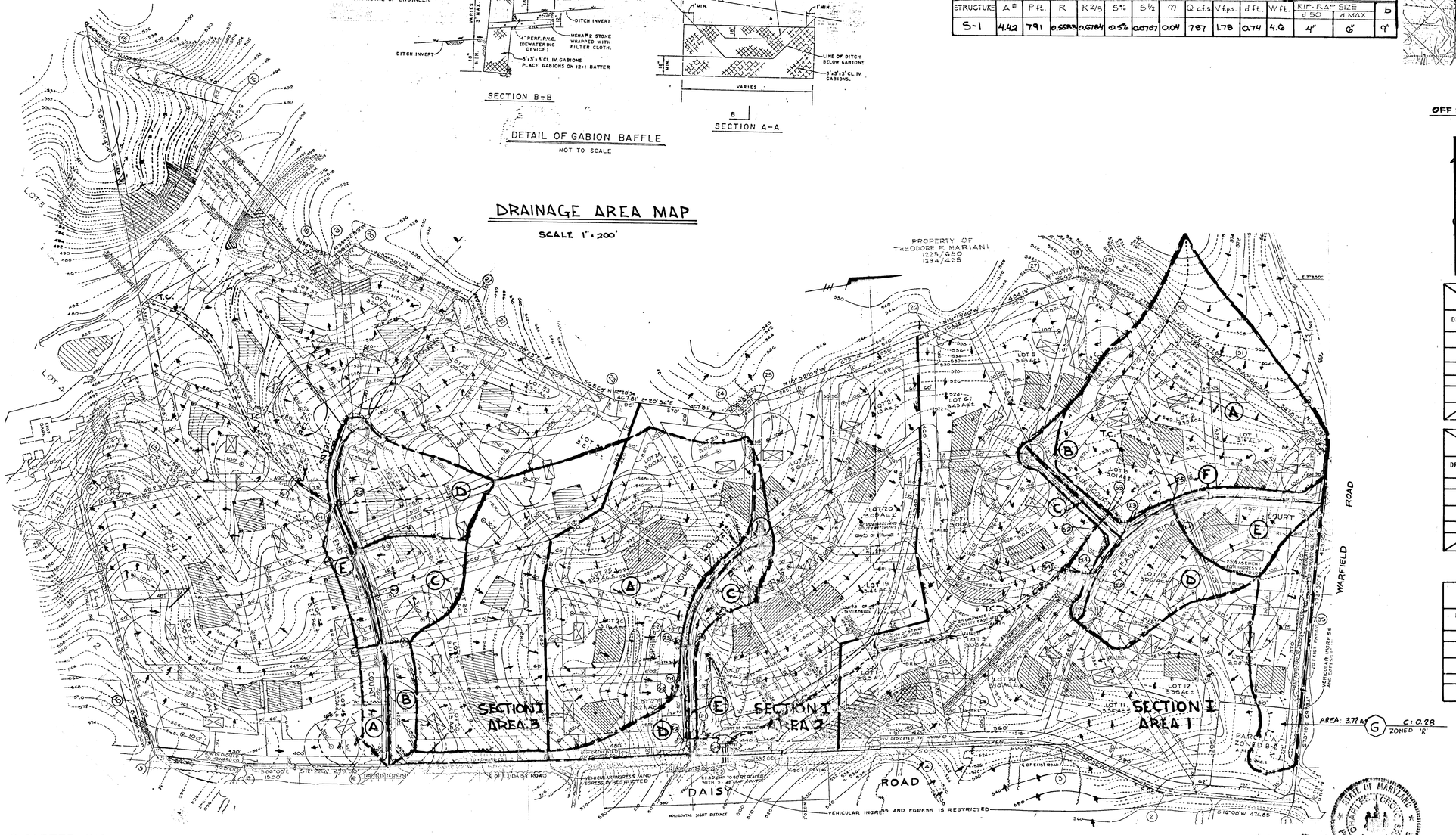
DRAINAGE AREA	GOING TO	AREA AC.±	Cw	ZONED
A	S-3	14.20	0.24	"R"
B	I-3	0.60	0.40	"R"
C	I-1	0.39	0.61	"R"
D	I-2	3.44	0.28	"R"
E	I-4	2.15	0.28	"R"
F	I-5	0.38	0.61	"R"

DRAINAGE AREA TABULATION
SECTION 1/AREA 2

DRAINAGE AREA	GOING TO	AREA AC.±	Cw	ZONED
A	S-2	2.85	0.24	"R"
B	I-3	0.99	0.47	"R"
C	I-4	0.91	0.37	"R"
D	I-2	2.93	0.33	"R"
E	I-1	0.26	0.50	"R"

DRAINAGE AREA TABULATION
SECTION 1/AREA 3

DRAINAGE AREA	GOING TO	AREA AC.±	Cw	ZONED
A	I-5	1.1	0.32	"R"
B	I-4	1.1	0.32	"R"
C	I-3	2.89	0.26	"R"
D	I-2	3.82	0.27	"R"
E	I-1	1.3	0.32	"R"



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS & LAND SURVEYORS
8388 COURT AVE.
ELLICOTT CITY, MD. 21043

OWNER AND DEVELOPER
WARFIELD'S GRANT LTD. PARTNERSHIP
P.O. BOX 122
ELLICOTT CITY, MARYLAND 21043

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER CHARLES J. CROVO JR. No. 8000 — 9/18/89
CHARLES J. CROVO SR. DATE

DRAINAGE AREA MAPS AND DETAILS
WARFIELD'S GRANT
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 13 PARCEL : 128
SCALE : AS SHOWN FEBRUARY 14, 1990
SHEET 5 OF 5

1574

F-90-58