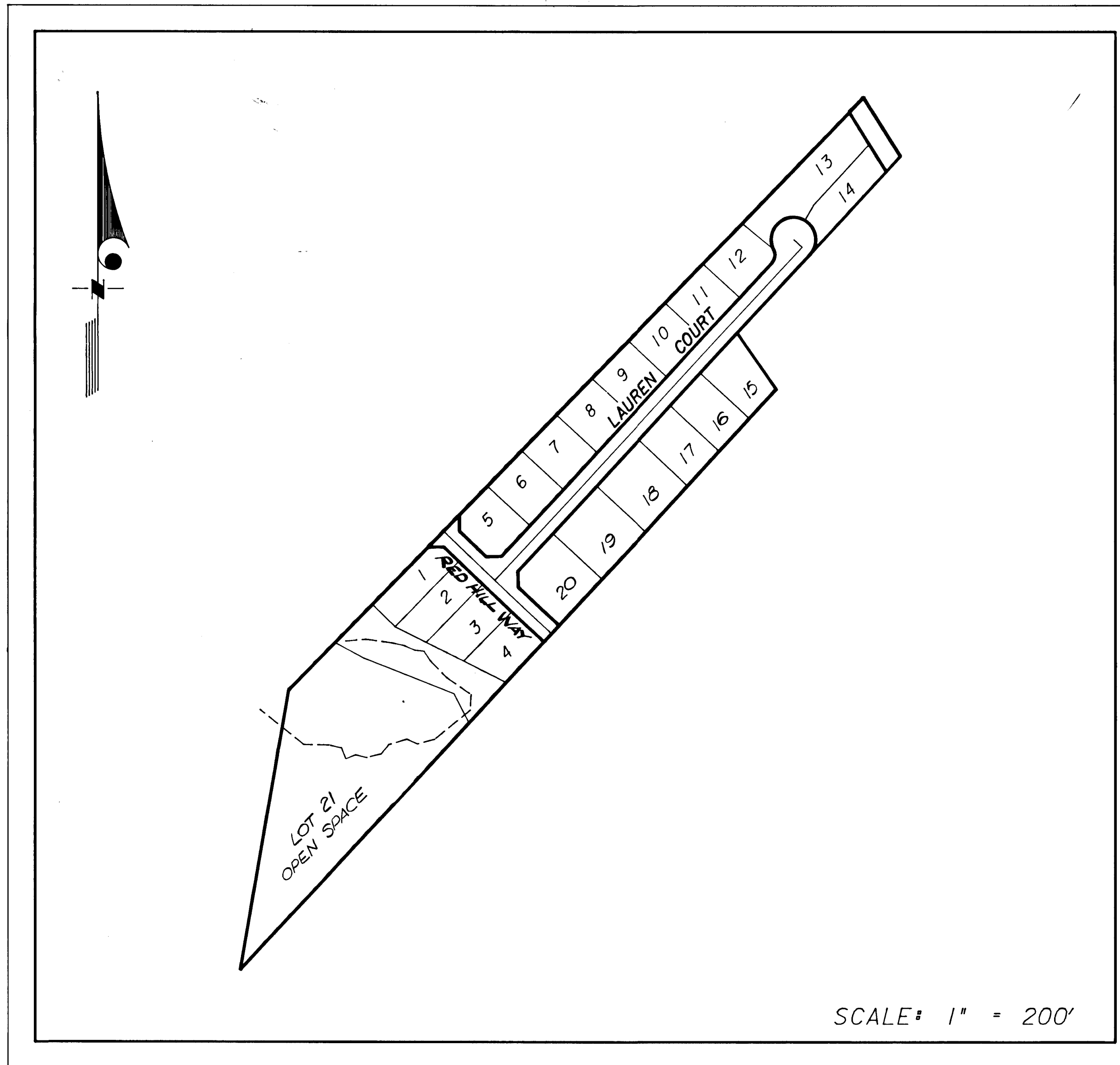
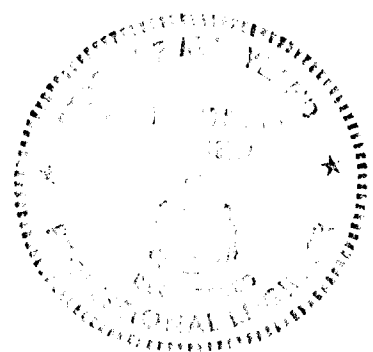


INDEX	
SHEET NO.	TITLE
1	TITLE SHEET
2	GRADE ESTABLISHMENT, STORM DRAINAGE & PAVING
3	GRADE ESTABLISHMENT, STORM DRAINAGE & PAVING
4	STORM DRAIN PROFILES
5	SEDIMENT CONTROL PLAN
6	SEDIMENT CONTROL PLAN
7	SEDIMENT CONTROL DETAILS
8	DRAINAGE AREA MAP
9	DRAINAGE AREA MAP
10	
11	
12	
13	
14	
15	
16	
17	
18	



GENERAL NOTES
STORM DRAIN NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL. IV, DETAILS AND SPECIFICATIONS FOR CONSTRUCTION.
- ALL UTILITY COMPANIES SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF CONSTRUCTION.
- ALL INLETS SHALL BE HOWARD COUNTY STANDARD UNLESS OTHERWISE SHOWN.
- ALL STREET CURB RETURNS SHALL HAVE A 30.0' RADIUS UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATIONS.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES WHERE DIRECTED BY THE ENGINEER A MINIMUM OF TWO WEEKS IN ADVANCE OF ANY CONSTRUCTION.
- TEMPORARY COMPACTED 18" HIGH EARTH FILL DIVERSION DIKES SHALL BE CONSTRUCTED ABOUT THE TOES OF FILL SLOPES ON THE R.O.W. CONCURRENTLY WITH THE INITIAL GRADING AND DIRECTED TO UNDISTURBED SOD AREAS AT THE END OF EACH DAY.
- CONTRACTOR TO NOTIFY THE HOWARD COUNTY DEPT. OF INSPECTIONS AND PERMITS AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS. TELEPHONE NO. 992-2436.
- DISTURBED SLOPE AREA TO BE STABILIZED AS SOON AS GRADING IS COMPLETED.
- ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3500 P.S.I.
- ALL SWALES AND SLOPES SHALL BE PERMANENTLY SEEDED. SEE THE SEED SPECIFICATIONS ON SHEET 7.
- TRAFFIC CONTROL DEVICES AND THEIR INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 1981 REVISED EDITION.
- POLY-FILTER-X OR EQUAL SHALL BE PLACED UNDER ALL STONE RIP RAP (FULL WIDTH AND LENGTH OF STONE).
- STONE FOR RIP RAP SHALL BE AS SPECIFIED ON THE DRAWINGS. ALL RIP RAP SHALL BE UNPAVED UNLESS OTHERWISE NOTED.
- STUBS FOR 6" P.V.C. UNDERDRAIN PIPE TO BE INSTALLED AT CENTER OF EACH WALL OF EVERY INLET.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 531-5533
 - BALTIMORE GAS & ELECTRIC COMPANY - UNDERGROUND ELECTRIC DISTRIBUTION CUSTOMER SERVICE - 685-0123
 - BALTIMORE GAS & ELECTRIC COMPANY - UNDERGROUND GAS DISTRIBUTION CUSTOMER SERVICE - 685-0123
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 992-2366
 - CHESAPEAKE & POTOMAC TELEPHONE COMPANY - 725-9976
 - AMERICAN TELEPHONE & TELEGRAPH - CABLE LOCATION DIVISION 393-3553
 - MISS UTILITY - 795-1390
- STREET TREES (GG TOTAL) THE LOCATION, TYPE AND NUMBER OF TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITION AND BUILDERS LANDSCAPE PROGRAM. BOND RELEASE IS CONTINGENT UPON SECTION 15.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE OFFICE OF PLANNING AND ZONING.
- PROVIDE ONE (1) 175 WATT "MODERN" MERCURY VAPOR LAMP POST TOP FIXTURES ON A 14 FOOT GRAY FIBERGLASS POLE LOCATED 2-10' FROM BACK OF THE CURB AT THE INTERSECTION OF LAUREN COURT AND RED HILL WAY ON THE NORTHEAST SIDE.



Robert H. Marmon
ROBERT H. MARMON, P.E. • 10537

MONTGOMERY ESTATES

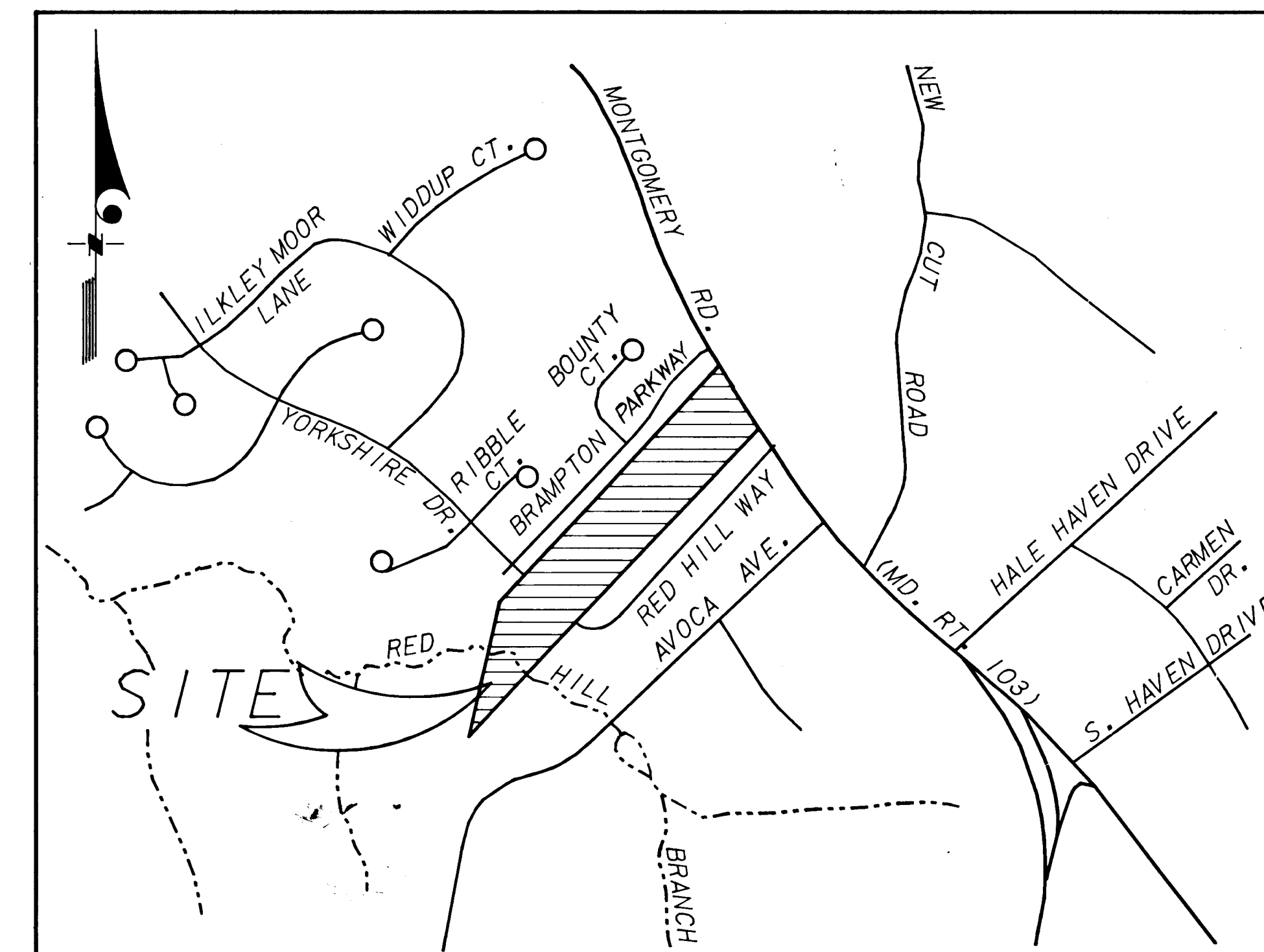
ELLCOTT CITY, MARYLAND

CONTRACT NO. 1

ROAD CONSTRUCTION DRAWINGS

LAUREN COURT, STA. 0+00 TO 10+43.36

RED HILL WAY, STA. 13+67.93 TO 17+02.50



VICINITY MAP

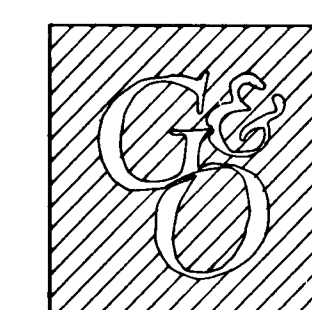
SCALE: 1" = 600'

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
Robert H. Marmon 5/17/88
 CHIEF, BUREAU OF HIGHWAYS
Emilio J. Scam 5/17/88
 CHIEF, LAND DEVELOPMENT DIVISION
Drayton W. Welton 5/18/88
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
Robert H. Marmon 5/27/88
 CHIEF, BUREAU OF COMMUNITY PLANNING & LAND DEVELOPMENT

OWNER:
 J.H.P. DEVELOPMENT CO., INC.
 908 YORK ROAD
 TOWSON, MARYLAND 21204

No.	REVISION	DATE	BY

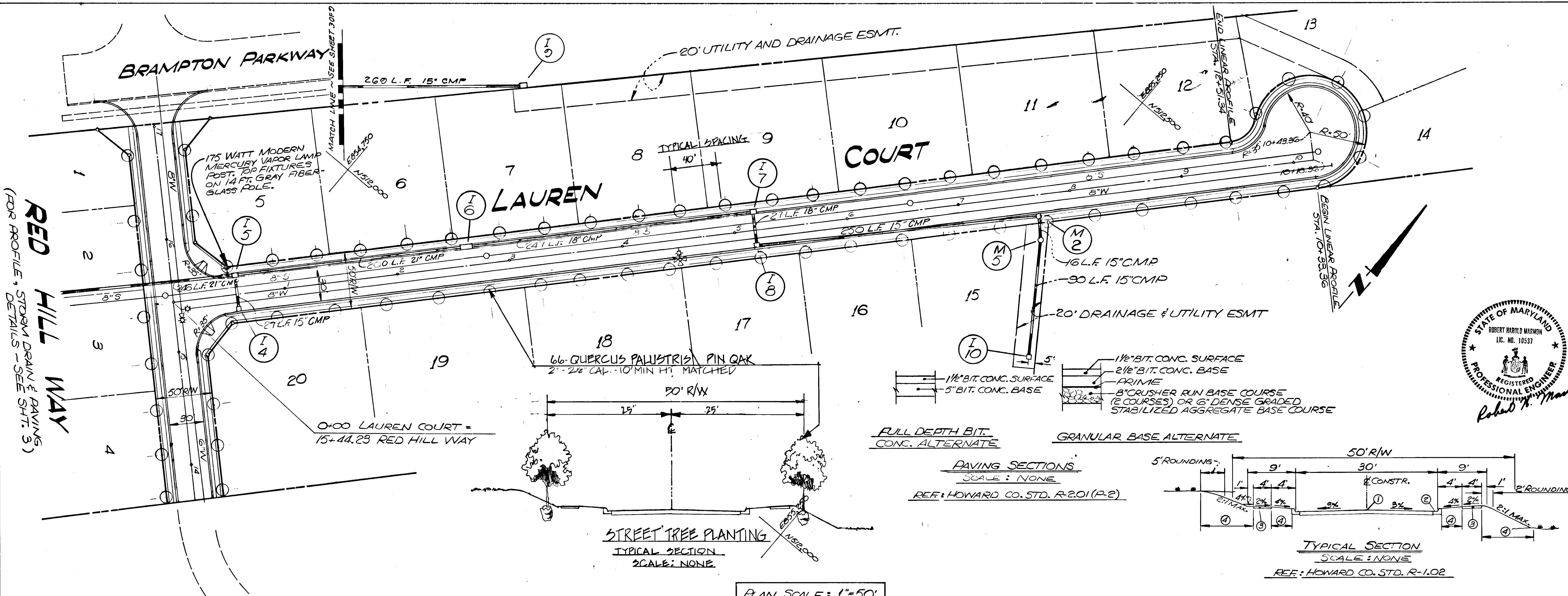


ENGINEERS ARCHITECTS PLANNERS SCIENTISTS SURVEYORS PHOTOGRAMMETRISTS
GREENHORNE & O'MARA, INC.
 113 WEST ROAD, SUITE 208
 BALTIMORE, MD. 21204
 (301) 298-4100
 ANNAPOLIS, MD ATLANTA, GA AURORA, CO CULPEPER, VA EXPORT, PA FAIRFAX, VA
 GREENBELT, MD MANASSAS, VA ROCKVILLE, MD RALEIGH, NC TAMPA, FL

MONTGOMERY ESTATES

2ND ELECTION DISTRICT
 PARCEL 15 TAX MAP 31
 HOWARD COUNTY, MARYLAND

JDP DESIGN	SCALE AS SHOWN
CADD DRAWN	1 OF 9
RHM CHECKED	SHEET
DEC. '87 DATE	B-1018-X JOB No. FILE No.

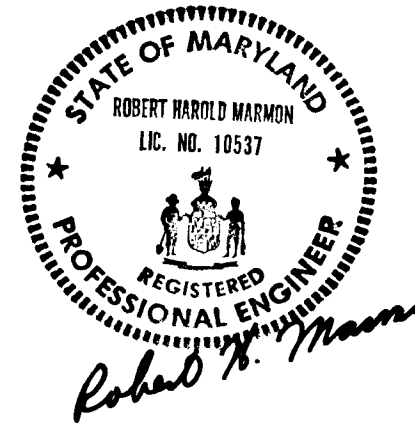


APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
Paul J. ... 5/17/88
 CHIEF, LAND DEVELOPMENT DIVISION
Donald W. Welton 5/18/88
 CHIEF, BUREAU OF HIGHWAYS
... 5-18-88
 CHIEF, BUREAU OF ENGINEERING
 APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
... 5/27/88
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT

MONTGOMERY ESTATES
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER & DEVELOPER
J.H.P. DEVELOPMENT CO., INC.
 908 YORK ROAD
 TOWSON, MARYLAND 21204

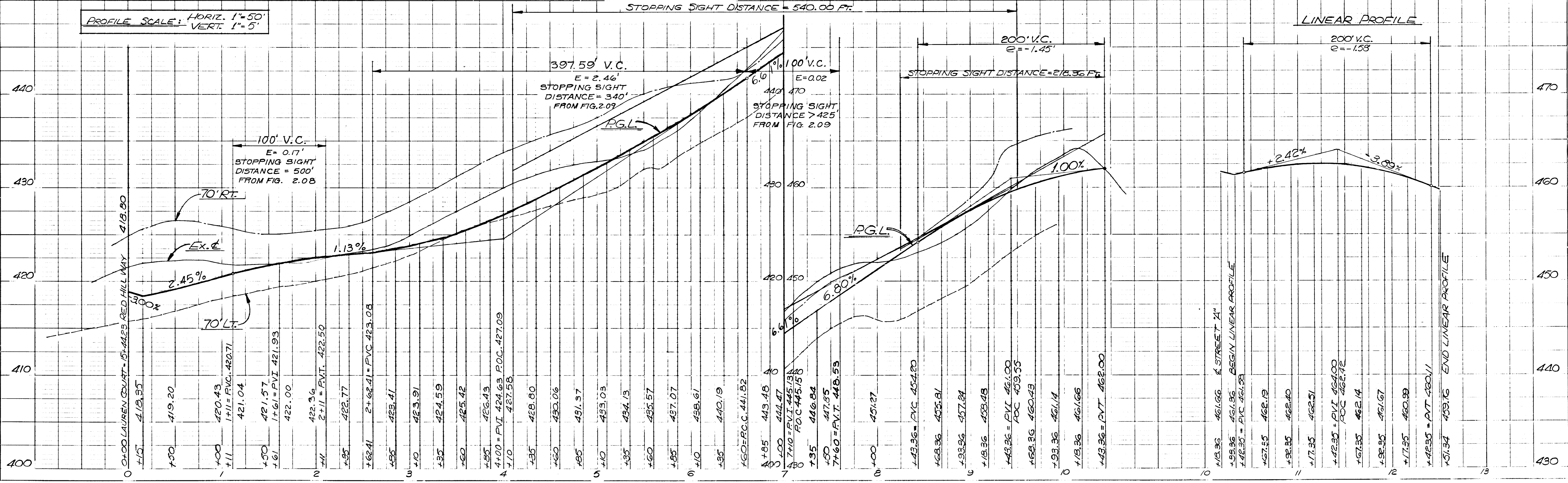
GREENHORNE AND O'MARA, INC.
 ENGINEERS ARCHITECTS PLANNERS SURVEYORS
 113 WEST ROAD SUITE 208
 TOWSON, MARYLAND 21204
 (301) 296-4100



TITLE
**GRADE ESTABLISHMENT
 STORM DRAINAGE AND PAVING**

DESIGNED BY: DLM SCALE: AS SHOWN PROJECT NO.
 DRAWN BY: JDL DATE: DEC, '87 DRAWING NUMBER
 CHECKED BY: RHM APPROVED: 2 OF 9

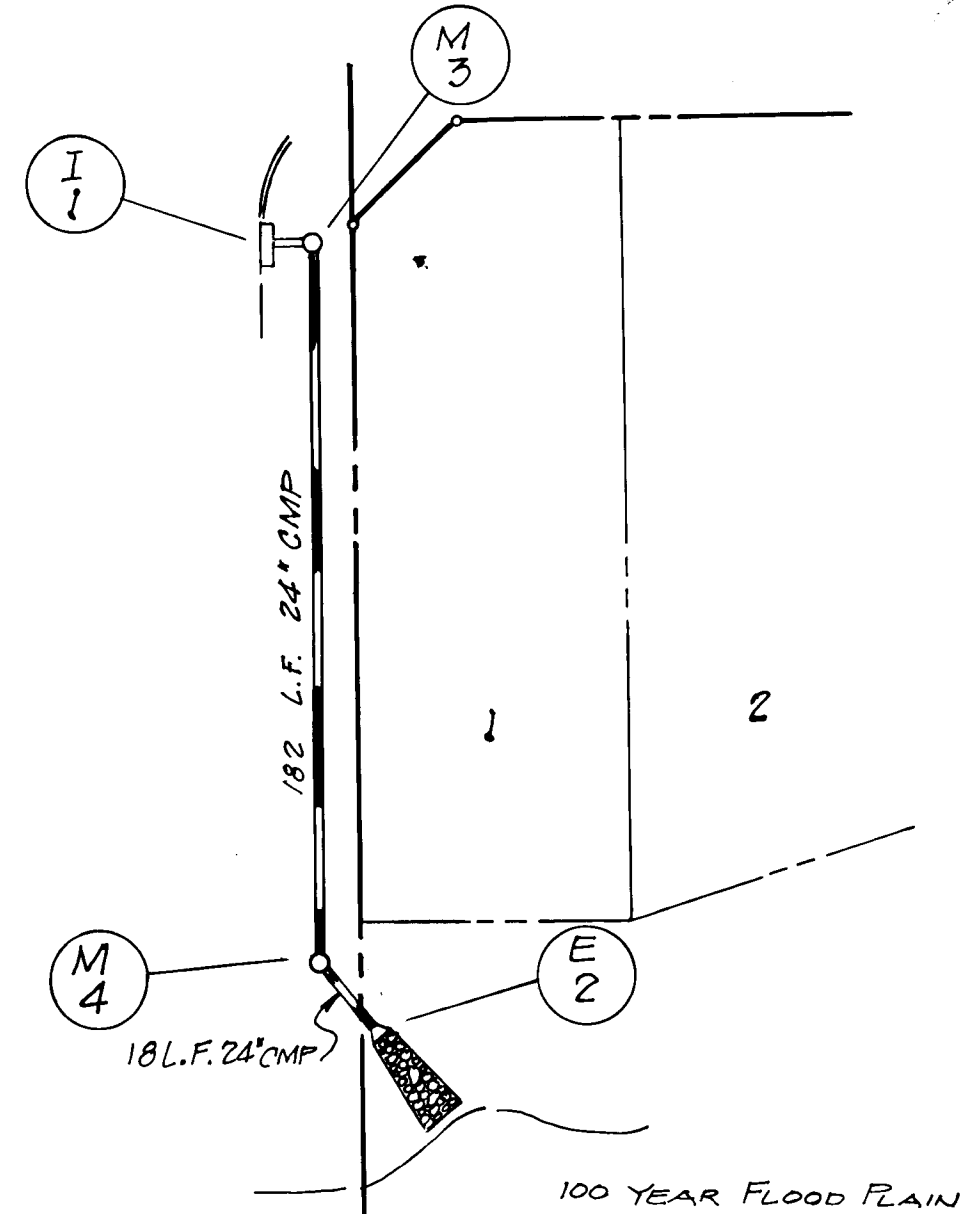
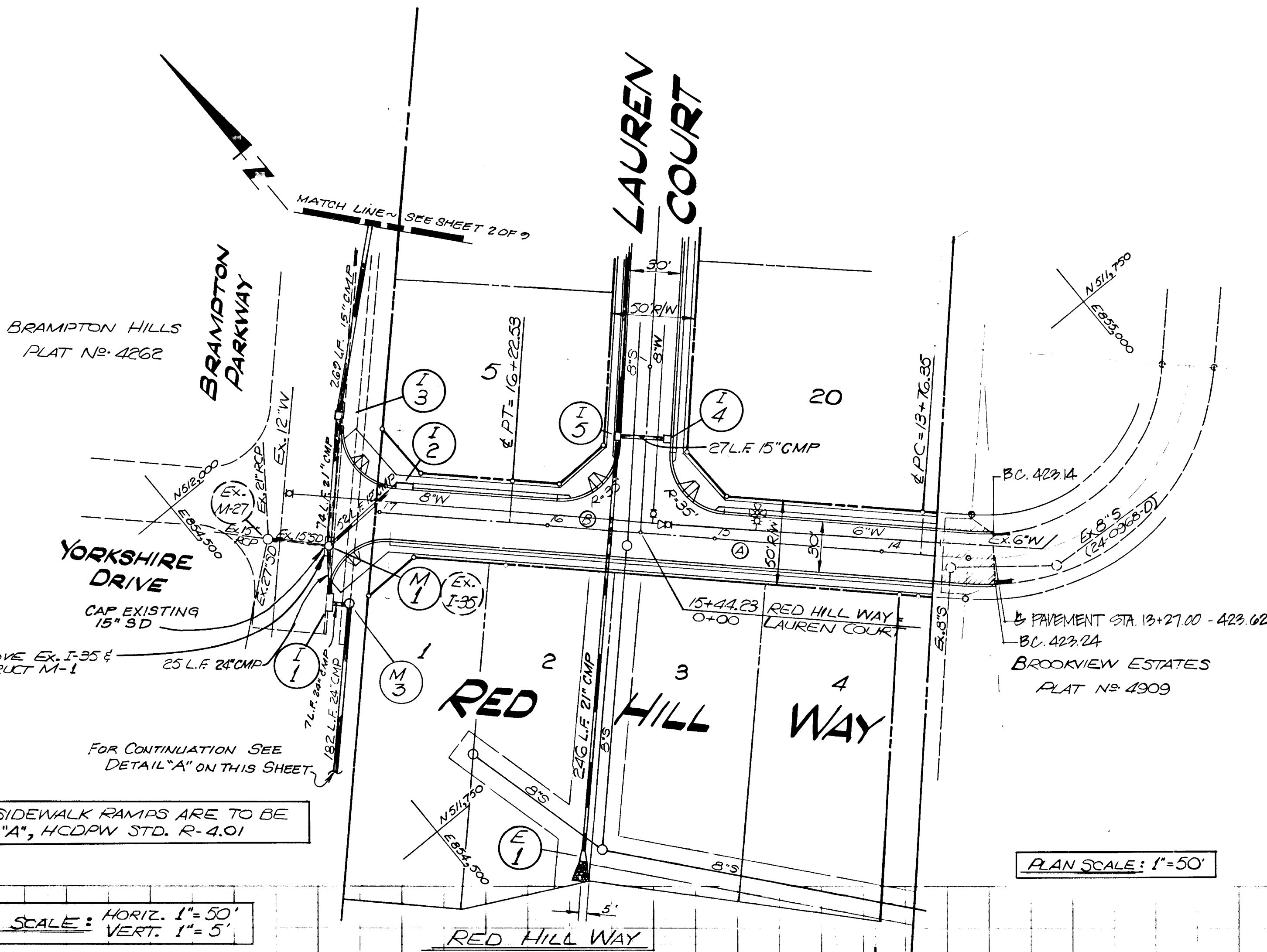
- ① PROFILE GRADE LINE (PGL)
- ② HOWARD CO. STD. R-3.01 COMB. CURB & GUTTER
- ③ HOWARD CO. STD. R-3.05 4" CONC. SIDEWALK
- ④ 2" TOPSOIL, SEED & MULCH



CURVE DATA

CURVE (A)
 R = 10,000.00'
 A = 167.88'
 Δ = 00° 57' 43"
 T = 83.94'
 C.D. = N 46° 11' 39" W - 167.88'

CURVE (B)
 R = 10,000.00'
 A = 73.30'
 Δ = 00° 26' 55"
 T = 33.15'
 C.D. = N 46° 02' 20" W - 73.30'



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

Paul D. ... 5/17/88
 CHIEF, LAND DEVELOPMENT DIVISION

Daniel W. ... 5/18/88
 CHIEF, BUREAU OF HIGHWAYS

... 5-18-88
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

... 5/27/88
 CHIEF, DIV. OF COMMUNITY PLANNING & LAND DEVELOPMENT

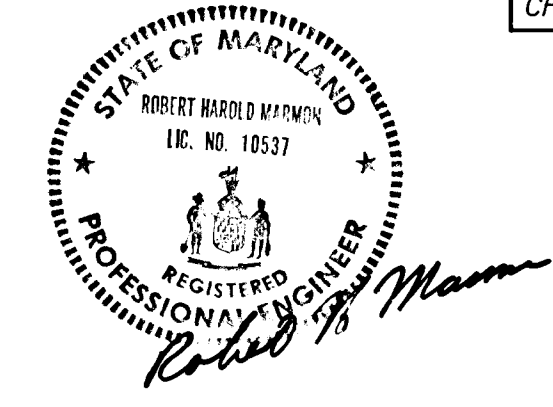
MONTGOMERY ESTATES
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER & DEVELOPER
J.H.P. DEVELOPMENT CO., INC.
 908 YORK ROAD
 TOWSON, MARYLAND 21204

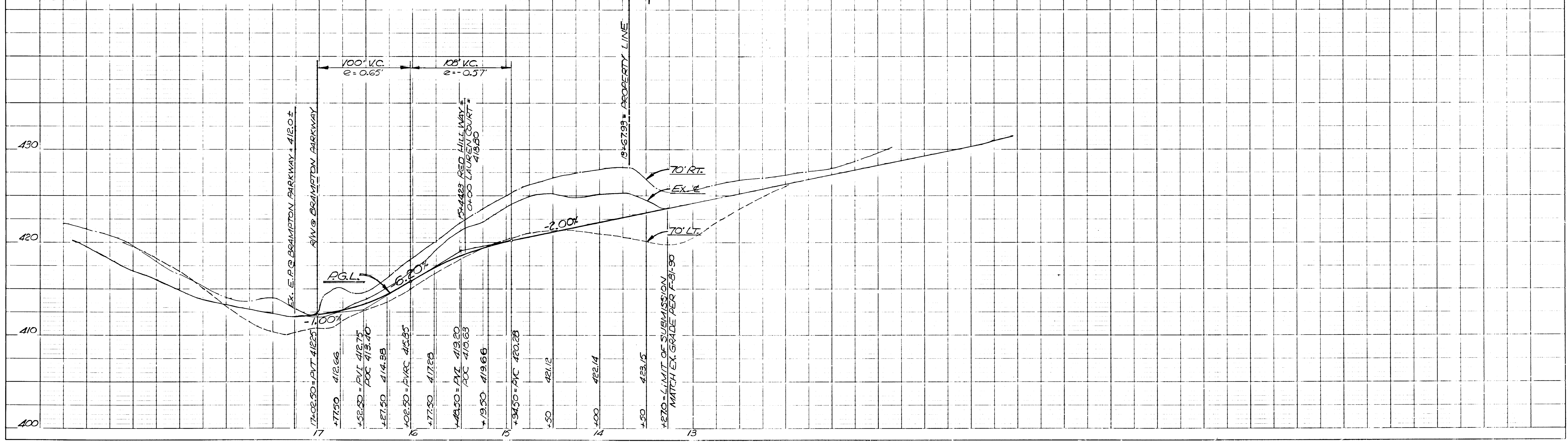
GREENHORNE AND O'MARA, INC.
 ENGINEERS ARCHITECTS PLANNERS SURVEYORS
 113 WEST ROAD SUITE 208
 TOWSON, MARYLAND 21204
 (301) 296-4100

TITLE
**GRADE ESTABLISHMENT
 STORM DRAINAGE AND PAVING**

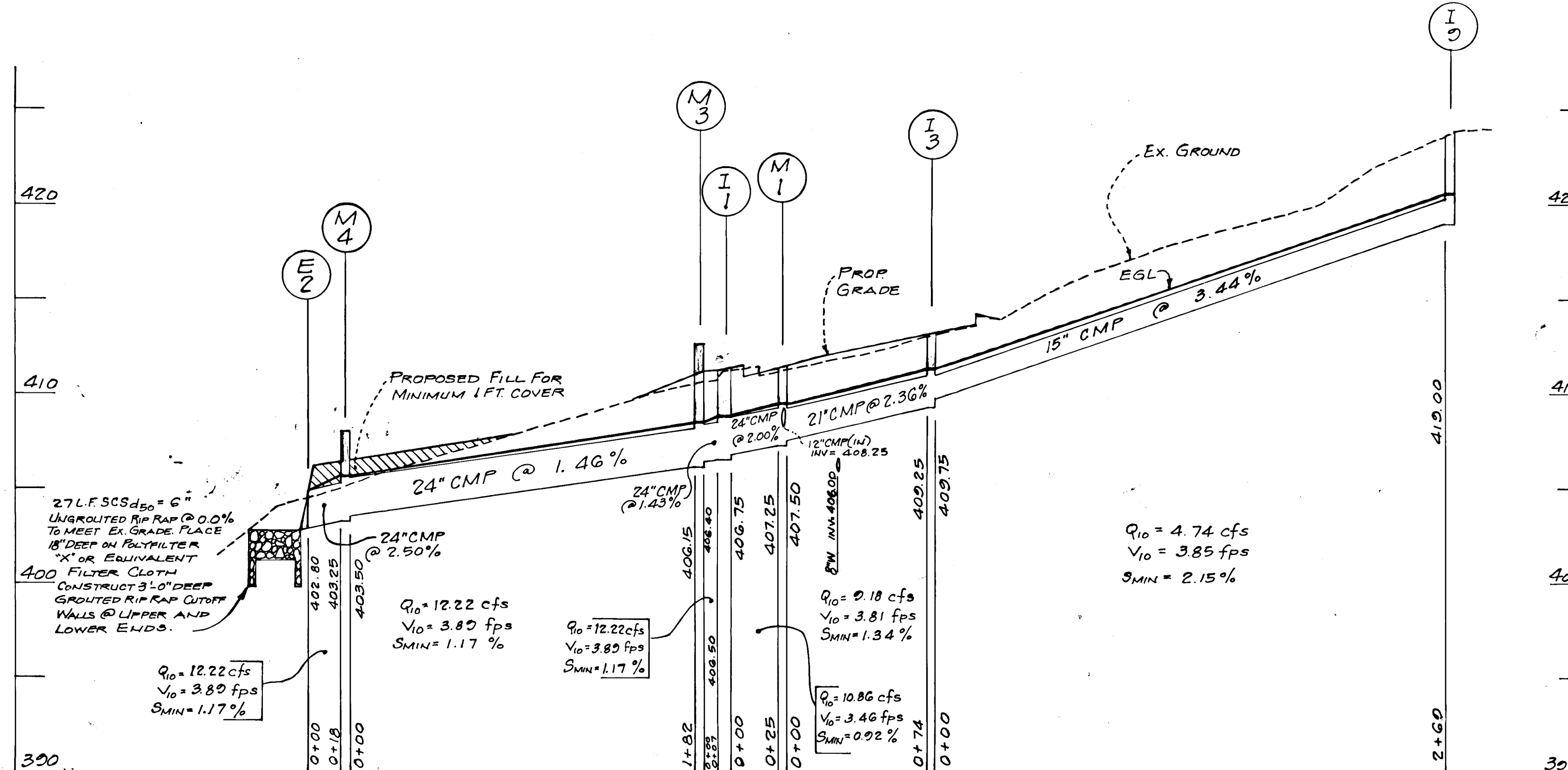
DESIGNED BY: DLM SCALE: AS SHOWN PROJECT NO.
 DRAWN BY: JDP DATE: DEC, '87 DRAWING NUMBER
 CHECKED BY: RHM APPROVED: 3 OF 9



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

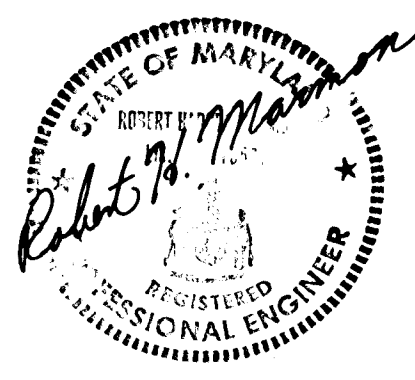


1362



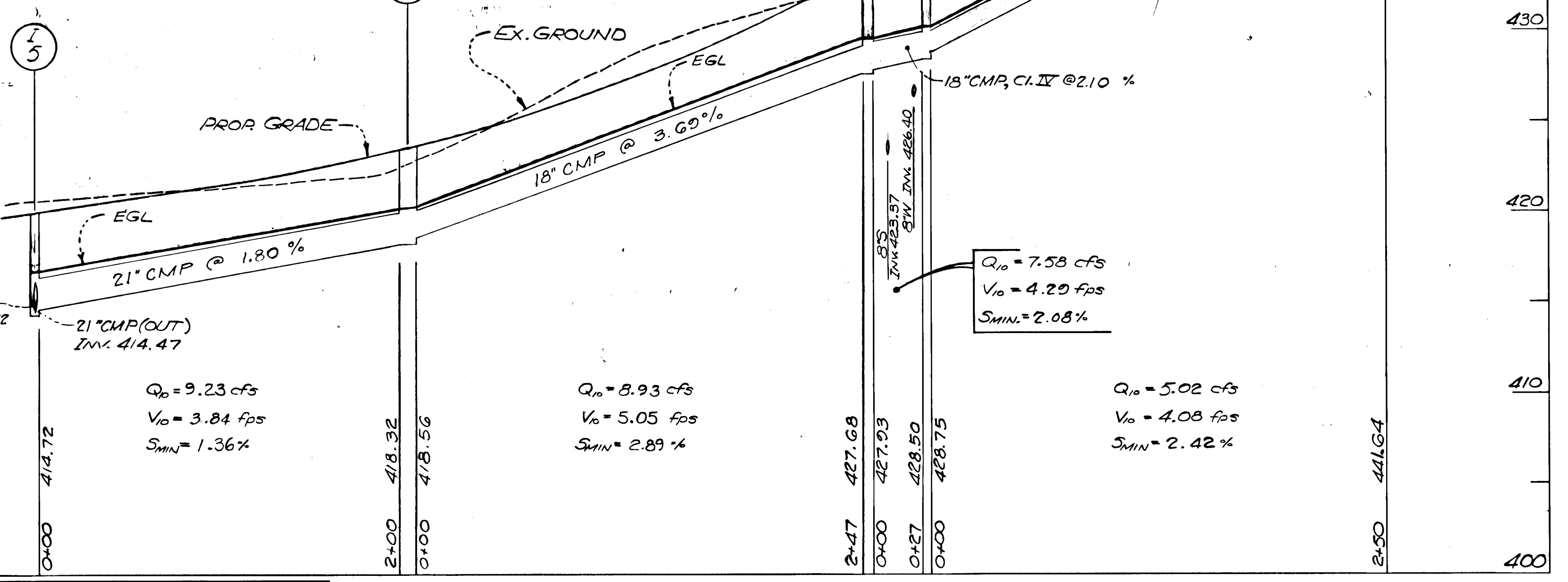
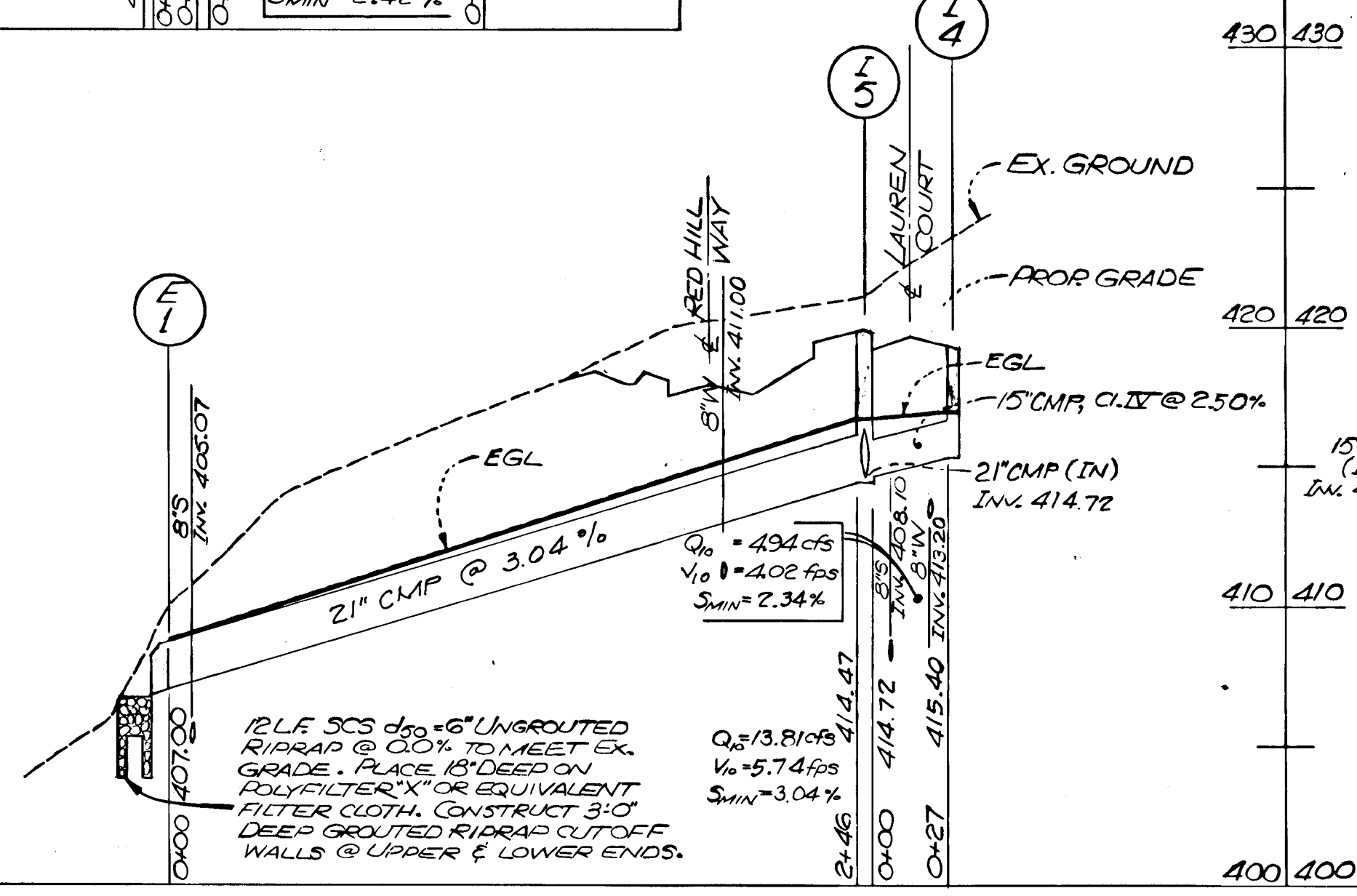
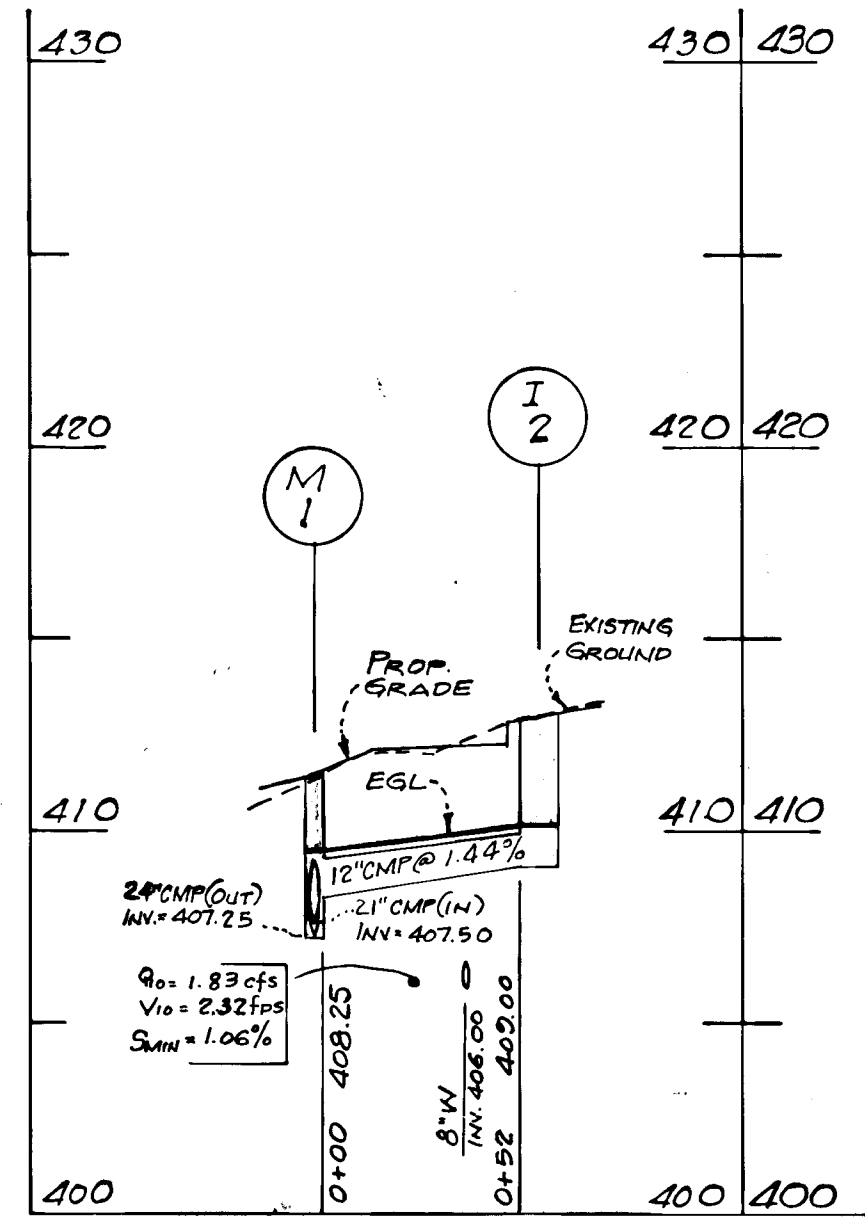
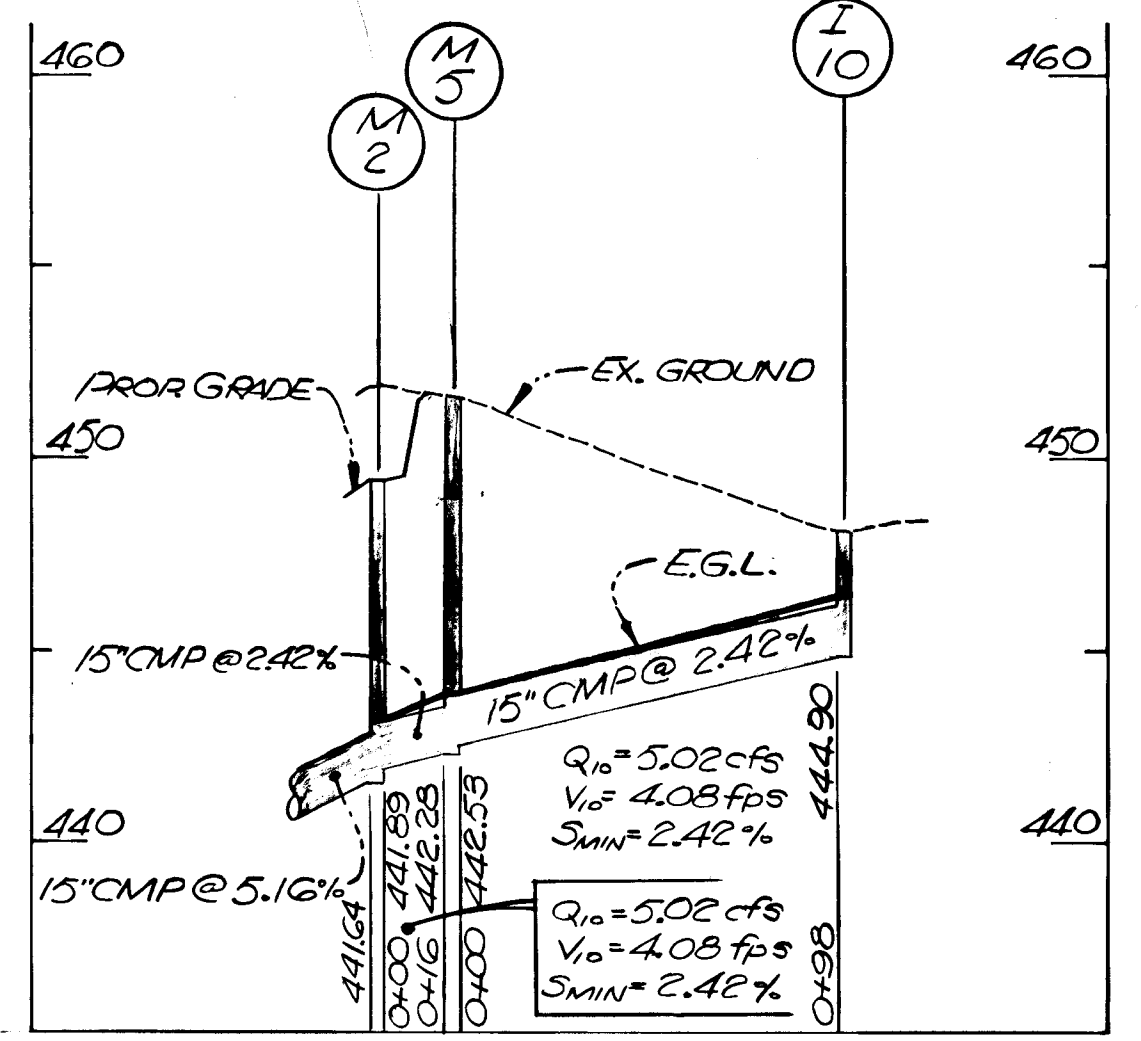
No.	TYPE	INVERT ELEVATION		TOP ELEVATION		REMARKS
		IN	OUT	UPPER	LOWER	
I-1	A-10 INLET	406.75	406.50	411.32	411.06	HCDPW STD. SD 4.02
I-2	A-10 INLET	---	409.00	412.80	412.50	HCDPW STD. SD 4.02
I-3	DEPRESSED 15\"/>					

APPROVED: HOWARD CO. DEPT. OF PUBLIC WORKS
Paul W. ... 5/17/88
 DATE
Dennise W. Wehland 5/18/88
 DATE
... 5-18-88
 DATE
 APPROVED: HOWARD CO. OFFICE OF PLANNING & ZONING
... 5/27/88
 DATE



*NOTE: CONSTRUCT A-5 INLET WITHOUT CURB & APRON. USE BRICK TO FORM 6" OPENING.

DIA.	TYPE	LENGTH
12"	CMP (16ga), 2 3/8 x 1/2	52 LF
15"	CMP (16ga), 2 3/8 x 1/2	660 LF
18"	CMP (16ga), 2 3/8 x 1/2	274 LF
21"	CMP (16ga), 2 3/8 x 1/2	520 LF
24"	CMP (16ga), 2 3/8 x 1/2	232 LF



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

OWNER:
 J.H.P. DEVELOPMENT CO., INC.
 908 YORK ROAD
 TOWSON, MARYLAND 21204

No.	REVISION	DATE	BY



ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS • PHOTOGRAMMETRISTS
GREENHORNE & O'MARA, INC.
 113 WEST ROAD, SUITE 208, BALTIMORE, MARYLAND 21204
 (301) 296-4100
 ANNAPOLIS, MD • ATLANTA, GA • AURORA, CO • CULPEPER, VA • EXPORT, PA • FAIRFAX, VA
 GREENBELT, MD • MANASSAS, VA • MONROE, MI • RALEIGH, NC • ROCKVILLE, MD • TAMPA, FL

STORM DRAIN PROFILES
MONTGOMERY ESTATES
 PARCEL 15 TAX MAP 31
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

JCH DESIGN	SCALE AS SHOWN
JDR/DM DRAWN	4 OF 9
RHM CHECKED	SHEET
Nov. '87 DATE	JOB No. B-1018-X FILE No.

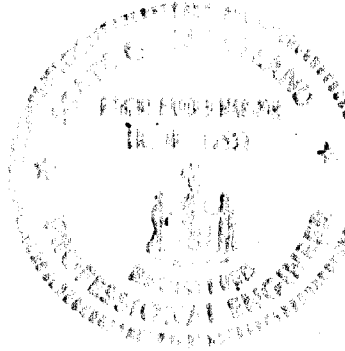
SEDIMENT CONTROL

By the Developer:
 "I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance of a Department of Natural Resources Approved Training Program for the control of Sediment and Erosion before beginning the project."
Mark S. Klein 4-14-88
 Signature of Developer Date

By the Engineer:
 "I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."
Robert N. Mammern 4-12-88
 Signature of Engineer Date

Reviewed for HOWARD S.C.D.
 Name
 on meets Technical Requirements.
James M. Hulm 4/28/88
 U.S. Soil Conservation Service Date

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
Shelton L. Hulm 4/28/88
 Howard S.C.D. Date



GENERAL NOTES:

- SITE SUMMARY:**
 - EXISTING ZONING R-20
 - TOTAL AREA 13.80 AC.
 - AREA OF PROPOSED LOTS 7.52 AC.
 - AREA OF PROPOSED ROADS 2.00 AC.
 - AREA OF FLOOD PLAIN 2.03 AC.
 - AREA OF COMMON OPEN SPACE 2.26 AC.
- SOILS MAP - SHT. 20 OF HOWARD COUNTY SO. SURVEY**
- TOPOGRAPHY SHOWN HEREON IS FROM A FIELD SURVEY BY GREENHORNE & O'MARA.**
- FLOOD PLAIN INFORMATION IS FROM HOWARD COUNTY FLOOD INSURANCE STUDY.**
- STREET TREES WILL BE LOCATED PER SECTION 16.13 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.**
- ROADS, WATER & SEWER WILL BE DEDICATED TO PUBLIC USE.**
- LOT COMPUTATIONS:**

LOT #	SIZE (SQ. FT.)	NO. OF LOTS	AREA OF LOTS (ACRES)	PERCENTAGE OPEN SPACE IN AREA	AREA OF OPEN SPACE (ACRES)
21, 22 & 23	15,000	3	3.73 AC.	30 PERCENT	1.12 AC.
14, 15, 16, 17, 18, 19, 20	16,000 TO 17,999	0	N/A	10 PERCENT	N/A
16, 17, 18, 19, 20	16,000 TO 17,999	0	N/A	20 PERCENT	0.07 AC.
14, 15, 16, 17, 18, 19	14,000 TO 15,999	15	5.00 AC.	30 PERCENT	1.50 AC.
TOTALS		21	13.80 AC.		1.80 AC.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

Paul J. Logan 5/17/88
 CHIEF, LAND DEVELOPMENT DIVISION DATE

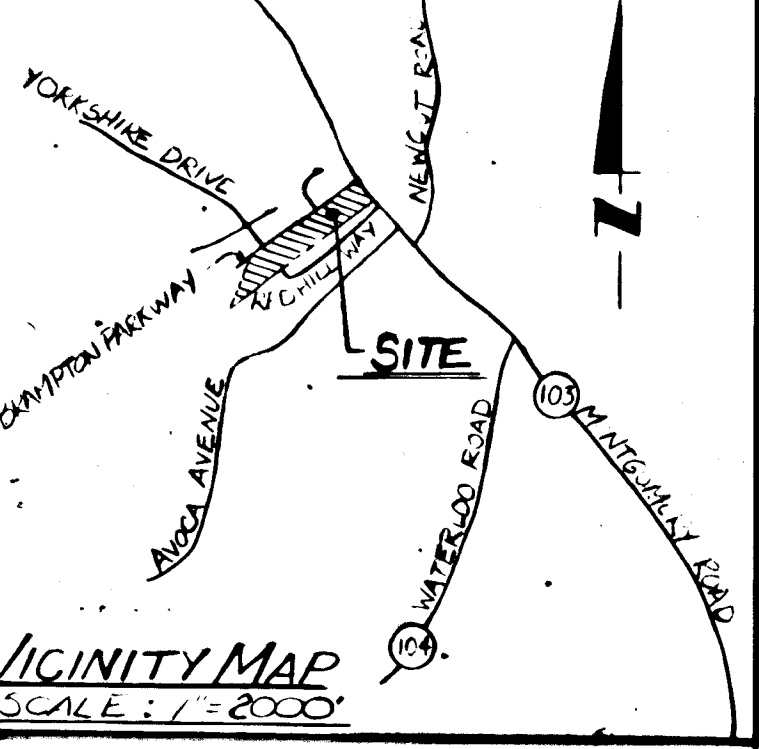
Deanne W. Weiland 5/18/88
 CHIEF, BUREAU OF HIGHWAYS DATE

John P. Quinn 5-18-88
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

Joseph R. Hutto 5/27/88
 CHIEF, OFFICE OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

RIPRAP OUTLET SEDIMENT TRAP #1
 DRAINAGE AREA = 16.53 AC.
 REQ'D STORAGE = 17,944 FT.³
 BOTTOM ELEV. = 410.6 FT.
 CREST ELEV. = 415.5 FT.
 CREST LENGTH = 18'
 TOP OF EMBANKMENT ELEV. = 419.0 FT.
 AVG. BOTTOM DIMENSIONS = 43' x 52'
 STORAGE DEPTH = 4.0'
 APPROX. STOR. PROVIDED = 12,130 FT.³
 MAX. SIDE SLOPES = 1:1 CUT 2:1 FILL
 CLEAN OUT ELEV. = 416.5 FT.

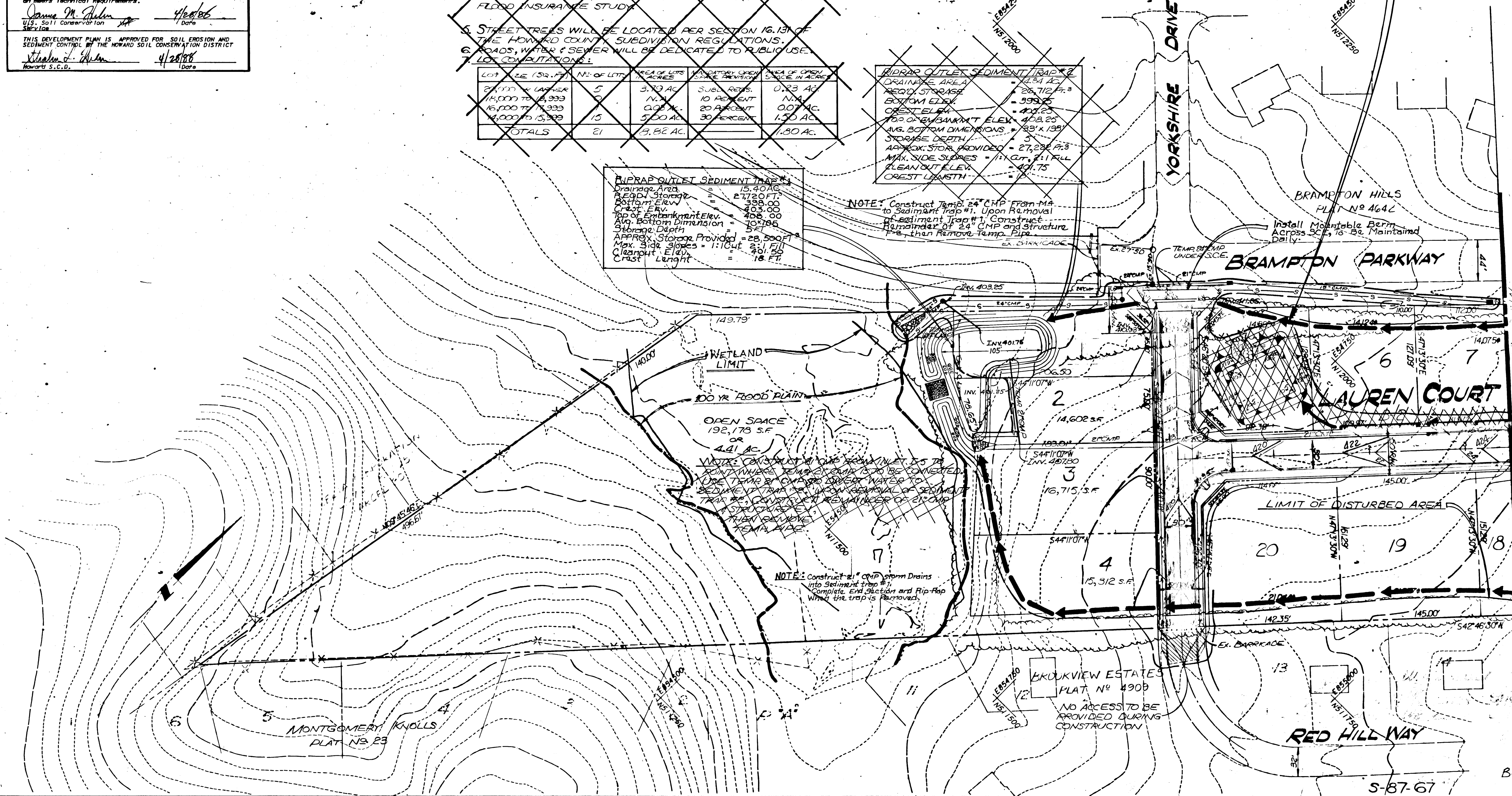


RIPRAP OUTLET SEDIMENT TRAP #2
 DRAINAGE AREA = 1.84 AC.
 REQ'D STORAGE = 2,712 FT.³
 BOTTOM ELEV. = 593.25
 CREST ELEV. = 403.25
 TOP OF EMBANKMENT ELEV. = 408.25
 AVG. BOTTOM DIMENSIONS = 33' x 135'
 STORAGE DEPTH = 5'
 APPROX. STOR. PROVIDED = 27,232 FT.³
 MAX. SIDE SLOPES = 1:1 CUT 2:1 FILL
 CLEAN OUT ELEV. = 401.75
 CREST LENGTH = 18'

RIPRAP OUTLET SEDIMENT TRAP #3
 Drainage Area = 15.40 AC.
 REQ'D Storage = 2,720 FT.³
 Bottom Elev. = 403.00
 Crest Elev. = 405.00
 Top of Embankment Elev. = 408.00
 Avg. Bottom Dimension = 10' x 185'
 Storage Depth = 10'
 Approx. Storage Provided = 28,500 FT.³
 Max. Side Slopes = 1:1 Cut 2:1 Fill
 Cleanout Elev. = 401.50
 Crest Length = 18 FT.

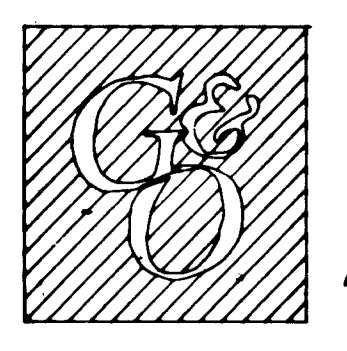
NOTE: Construct 24" CMP from M4 to Sediment Trap #1. Upon Removal of Sediment Trap #1, Construct Remainder of 24" CMP and Structure P-8, then Remove Temp. Pipe.

NOTE: Construct 24" CMP storm Drains into Sediment Trap #1. Complete End Station and Rip-Rap When the trap is removed.



OWNER:
J.H.P. DEVELOPMENT CO., INC.
 908 YORK ROAD
 TOWSON, MARYLAND 21204

No.	REVISION	DATE	BY
1	REV. TRAP #2; ADD TEMP PIPE NOTE	4/24/88	GE0
2	Eliminate Trap #2 Add Rev. Trap #1	7/28/88	KAM
3	REV. SED Trap #1	8/22/88	KAM
4	ADDED NEW GRADES TO LAUREN CT.	3/13/89	KRM



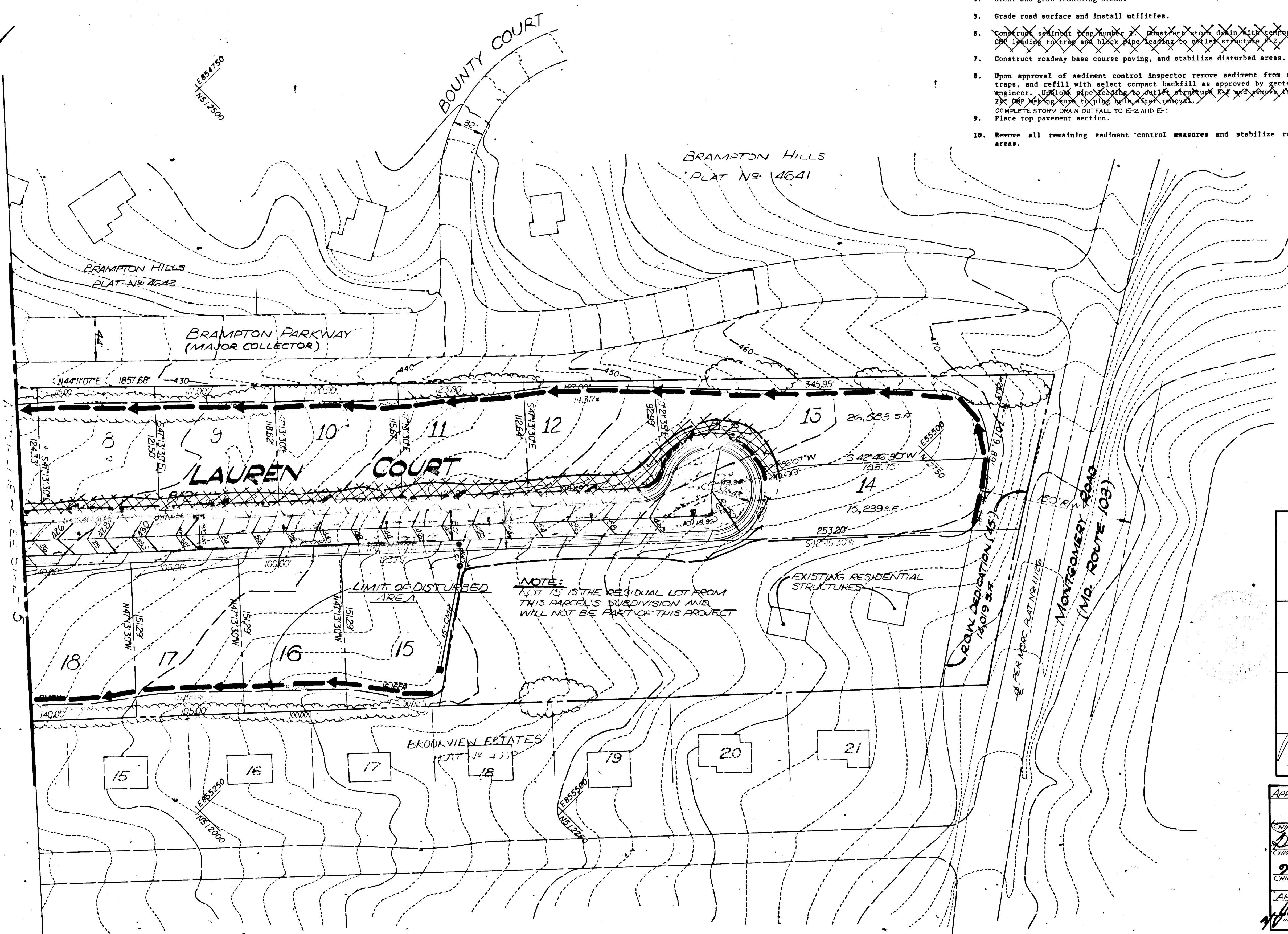
ENGINEERS ARCHITECTS PLANNERS SCIENTISTS SURVEYORS PHOTOGRAMMETRISTS
GREENHORNE & O'MARA, INC.
 113 WEST ROAD, SUITE 208
 BALTIMORE, MD. 21204
 (301) 298-4100
 ANNAPOLIS, MD ATLANTA, GA AURORA, CO CULPEPER, VA EXPORT, PA FAIRFAX, VA
 GREENBELT, MD MANASSAS, VA BALTIMORE, MD RALEIGH, NC TAMPA, FL

SEDIMENT CONTROL PLAN
MONTGOMERY ESTATES
 2ND ELECTION DISTRICT
 PARCEL 15 TAX MAP 31
 HOWARD COUNTY, MARYLAND

REM DESIGN SCALE P=50'
 JDP DRAWN 5 OF 9
 RHM CHECKED SHEET
 Nov. '87 DATE
 JOB No. B-1013-X
 FILE No. F-88-162

1367

1. Obtain grading permit.
2. Construct stabilized construction entrance as shown with temporary 24" CMP under it.
3. Clear and grub areas necessary to construct sediment control measures. Construct sediment trap number 1 and dike necessary to provide positive flow into the trap. Install sediment silt fence. Maintain sediment control measures everyday.
4. Clear and grub remaining areas.
5. Grade road surface and install utilities.
6. Construct sediment trap number 2. Construct storm drain with temporary 24" CMP leading to trap and block pipe leading to outlet structure #2.
7. Construct roadway base course paving, and stabilize disturbed areas.
8. Upon approval of sediment control inspector remove sediment from sediment traps, and refill with select compact backfill as approved by geotechnical engineer. Unblock pipe leading to outlet structure #2 and remove temporary 24" CMP leading to trap and block pipe. Complete storm drain outfall to E-2A1D E-1. Place top pavement section.
9. Remove all remaining sediment control measures and stabilize remaining areas.



SEDIMENT CONTROL

By the Developer:
 I certify that all development and construction will be done according to this plan, and that every 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.
 Signature of Developer: M. J. K... Date: 4-14-88

By the Engineer:
 I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.
 Signature of Engineer: Robert H. Mason Date: 4-12-88

Reviewed for HOWARD S.C.D. Name: Howard S.C.D.
 on meets Technical Requirements. Signature: Robert H. Mason Date: 4-28-88
 U.S. Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 Signature: Howard S.C.D. Date: 4/28/88

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 Signature: Donald J. Ryan Date: 5/17/88
 CHIEF, LAND DEVELOPMENT DIVISION

Signature: Dorville W. Ueland Date: 5/19/88
 CHIEF, BUREAU OF HIGHWAYS

Signature: William J. Ryan Date: 5-18-88
 CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
 Signature: Joseph R. Kelly Date: 5/27/88
 CHIEF, OFFICE OF COMMUNITY PLANNING & LAND DEVELOPMENT

OWNER:
J.H.R. DEVELOPMENT CO., INC.
 908 YORK ROAD
 TOWSON, MARYLAND 21204

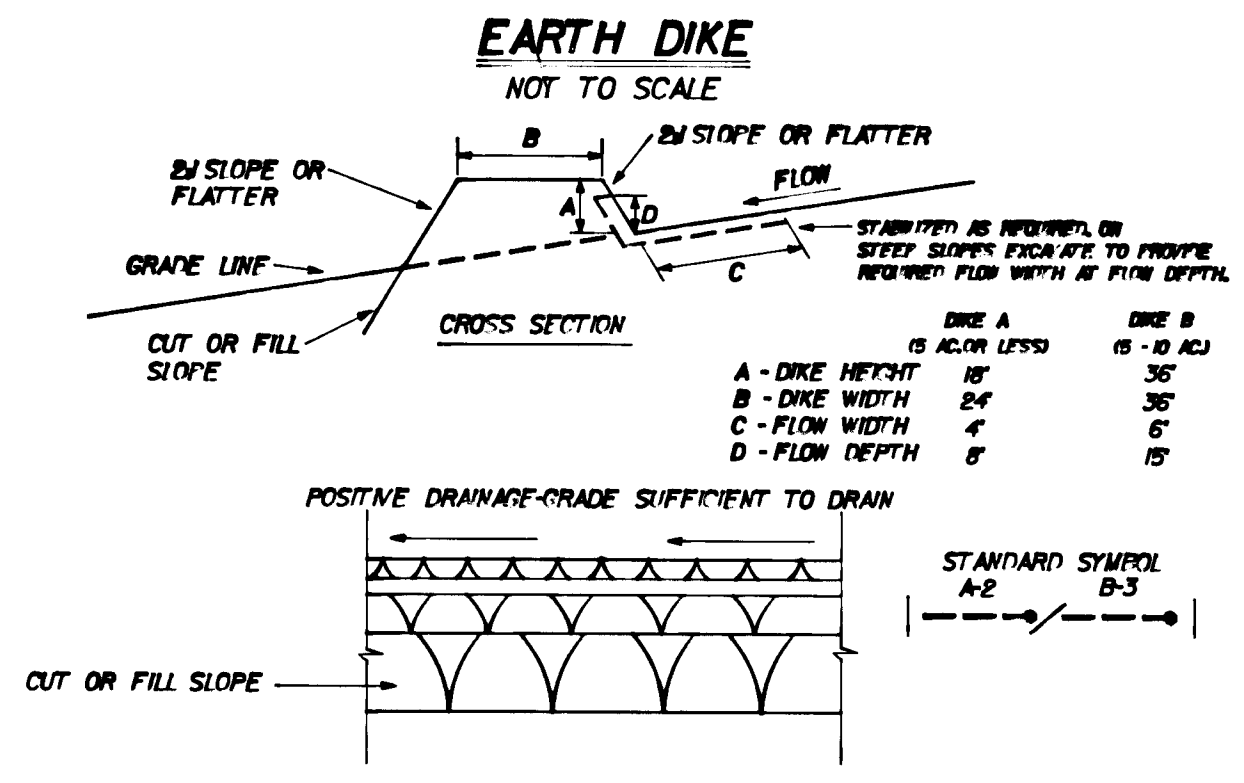
No.	REVISION	DATE	BY
2	ELIMINATE TRAP #2, ADD REV. TRAP #1	7/28/88	K.A.M.
3	ADDED NEW GRADES TO LAUREN COURT	3/3/87	KRM

GREENHORNE & O'MARA, INC.
 113 WEST ROAD, SUITE 208
 BALTIMORE, MD. 21204
 (301)296-4100

ANNAPOLIS, MD ATLANTA, GA AURORA, CO CULPEPER, VA EXPORT, PA FAIRFAX, VA
 GREENBELT, MD MANASSAS, VA BALTIMORE, MD RALEIGH, NC TAMPA, FL

SEDIMENT CONTROL PLAN
MONTGOMERY ESTATES
 2ND ELECTION DISTRICT
 PARCEL 15 TAX MAP 31
 HOWARD COUNTY, MARYLAND

REM DESIGN	SCALE 1"=50'
JDP DRAWN	6 OF 9
RHM CHECKED	SHEET
NOV, '87 DATE	B-1013-X JOB No. FILE No.



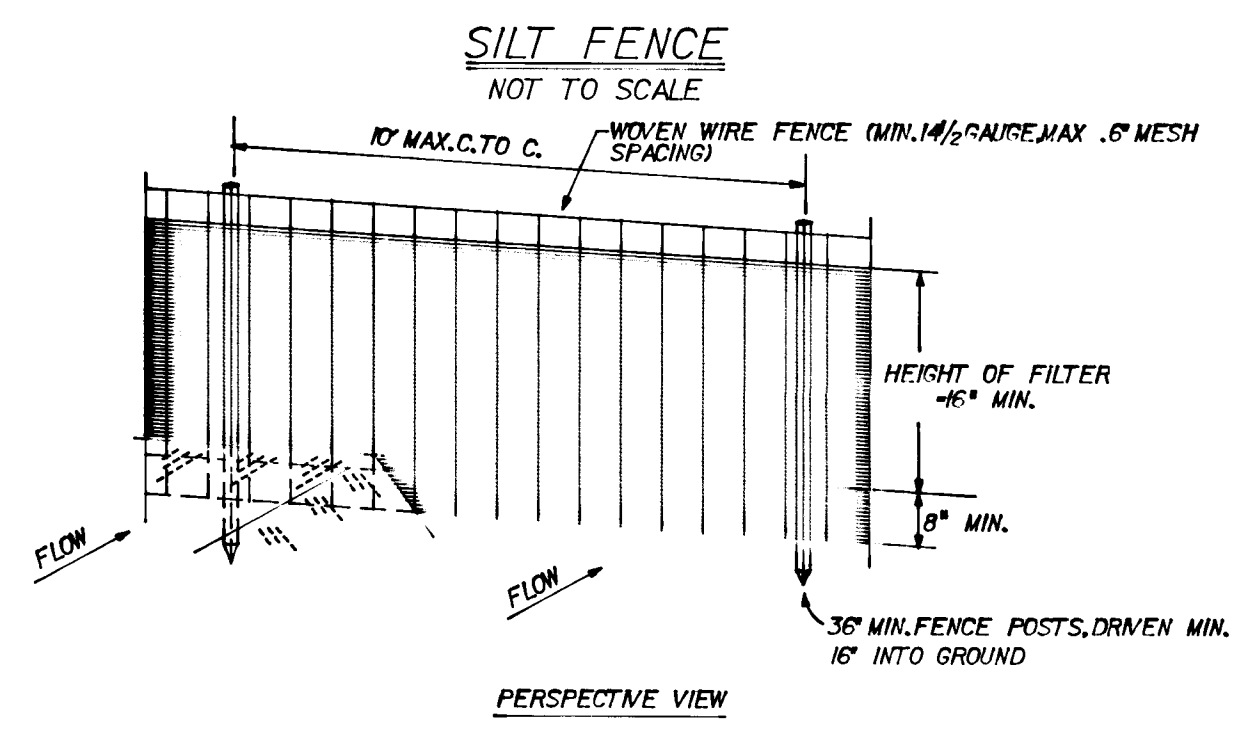
CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE 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. RIMOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	5-30%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	31-50%	SEED AND STRAW MULCH SEED USING JUTE OR 2" STONE	SEED USING JUTE OR 2" STONE
3	51-80%	SEED WITH JUTE OR 2" STONE	LINED RIP-RAP 4" ENGINEERING DESIGN
4	81-20%	LINED RIP-RAP 4"	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. RIP-RAP 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.
 7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



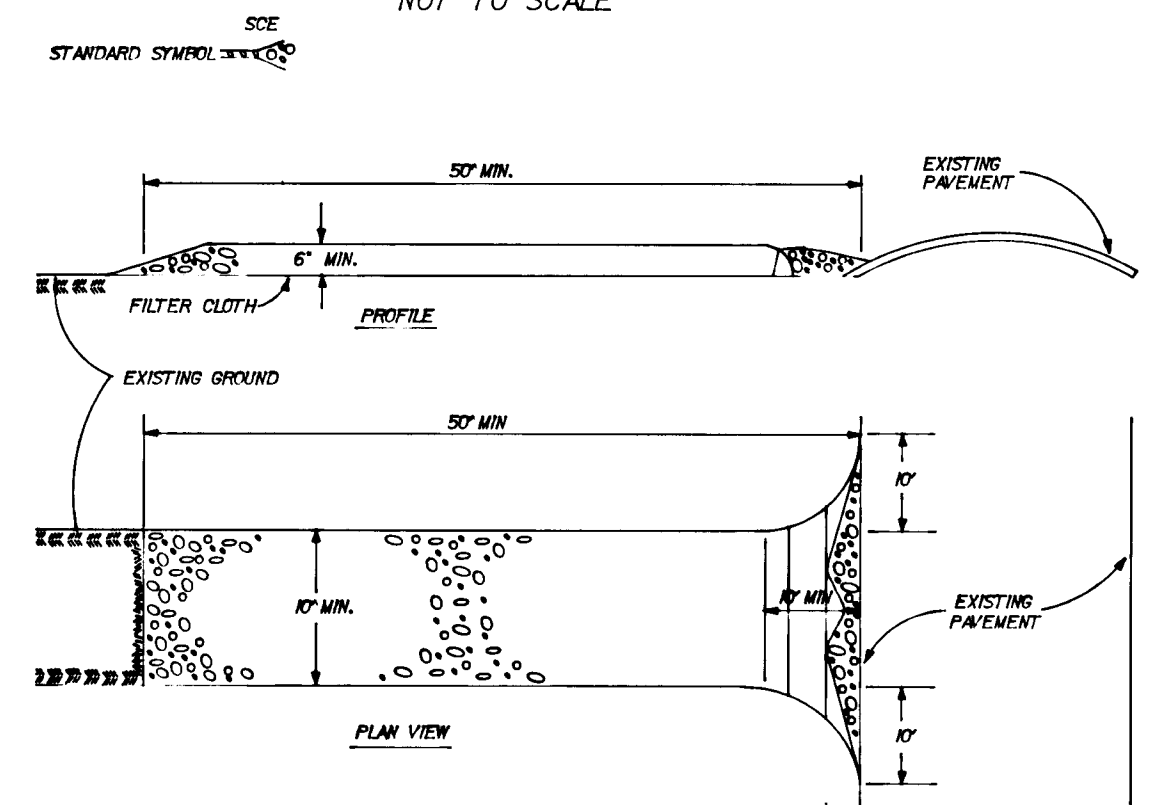
CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
 2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 2' AT TOP AND MID SECTION.
 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
 4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
- POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
 FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING
 FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA THOM OR APPROVED EQUAL
 PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION.
2. ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH 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 PERMANENT SEDIMENT CONTROL STRUCTURES, DIKES, PERMANENT SLOPES AND ALL SLOPES GREATER THAN 3:1 B) 14 DAYS 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 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: 13.79 ACRES
 - AREA DISTURBED: 9.00 ACRES
 - AREA TO BE ROOFED OR PAVED: 1.23 ACRES
 - AREA TO BE VEGETATIVELY STABILIZED: 1.54 ACRES
 - TOTAL CUT: 3790 CU. YDS.
 - TOTAL FILL: 430 CU. YDS.
 - OFFSITE WASTE/ AREA LOCATION:
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED OR REINSTALLED ON THE SAME DATE 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 BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

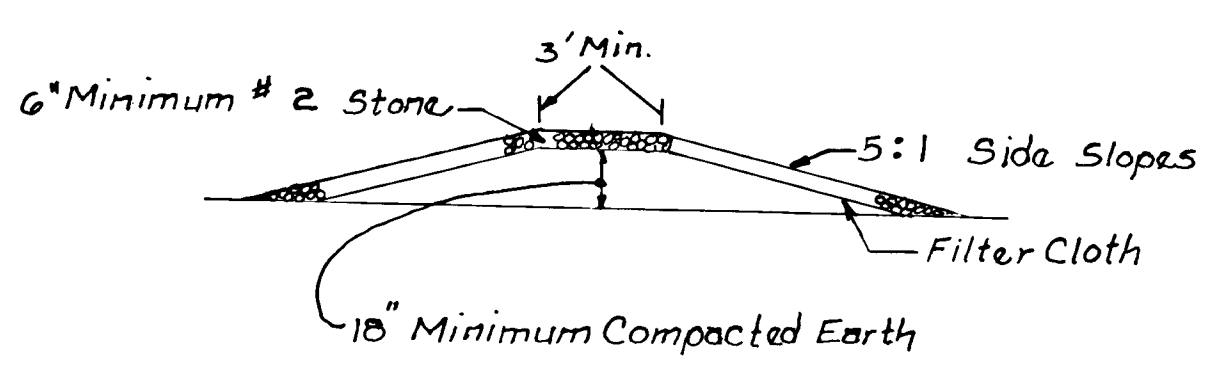
STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE



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) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH 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.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAYS. 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.

MOUNTABLE BERM



PERMANENT SEEDING NOTES

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

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

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/100 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/100 sq ft) before seeding. Harrow or disc into upper three inches of soil.
- 2 Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

Seeding - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (1 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February, 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/100 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool of 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.

Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft)

Seeding: For period March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushels per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 1 lb per acre of weeping lovegrass (1.07 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) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 DATE: 5-18-88
 CHIEF, BUREAU OF ENGINEERING
 DATE: 5/17/88
 CHIEF, LAND DEVELOPMENT DIVISION
 DATE: 5/17/88
 CHIEF, BUREAU OF HIGHWAYS

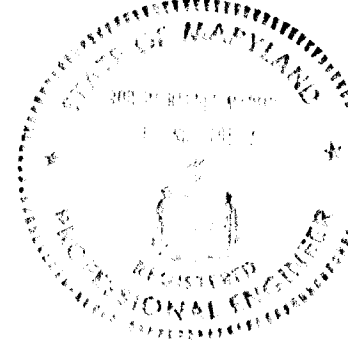
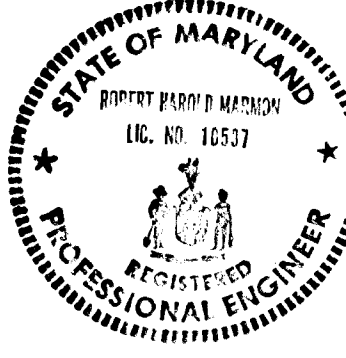
APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING
 DATE: 5/17/88
 CHIEF, OFFICE OF COMMUNITY PLANNING & LAND DEVELOPMENT

By the Developer:
 I/We certify that all development and construction will be done according to this plan, and that many responsible persons involved in the construction project will have a certification of attendance at a Department of Natural Resources Approved Training Program for the control of Sediment and Erosion before beginning the project.
 Signature of Developer: 4-14-88
 Date

By the Engineer:
 I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.
 Signature of Engineer: Robert H. Thomas, 1-12-88
 Date

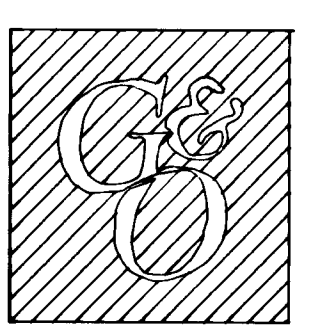
Reviewed for HOWARD S.C.D.
 Name: on memo Technical Requirements, 4-28-88
 U.S. Soil Conservation Safety Team
 Date

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 Signature of District: 4/28/88
 Date



OWNER:
 J.H.P. DEVELOPMENT CO., INC.
 908 YORK ROAD
 TOWSON, MARYLAND 21204

No.	REVISION	DATE	BY
2	Disturbed Area Increase, See Sheet 5 & 6	7-28-88	KAM



ENGINEERS ARCHITECTS PLANNERS SCIENTISTS SURVEYORS PHOTOGRAMMETRISTS
GREENHORNE & O'MARA, INC.
 113 WEST ROAD, SUITE 208
 BALTIMORE, MD. 21204
 (301)296-4100
 ANNAPOLIS, MD ATLANTA, GA AURORA, CO CULPEPER, VA EXPORT, PA FAIRFAX, VA GREENBELT, MD MANASSAS, VA ROCKVILLE, MD RALEIGH, NC TAMPA, FL

MONTGOMERY ESTATES
 2ND ELECTION DISTRICT
 PARCEL 15 TAX MAP 31
 HOWARD COUNTY, MARYLAND

REM DESIGN	SCALE	AS SHOWN
CADD DRAWN		
R/M CHECKED	SHEET	7 OF 9
DATE	JOB No.	B-10/B-X
	FILE No.	

GENERAL NOTES:

- SITE SUMMARY:**
 - A. EXISTING ZONING: R-20
 - B. TOTAL AREA: 13.80 AC.
 - C. AREA OF PROPOSED LOTS: 7.92 AC.
 - D. AREA OF PROPOSED ROADS: 2.00 AC.
 - E. AREA OF FLOOD PLAIN: 2.03 AC.
 - F. AREA OF COMMON/OPEN SPACE: 2.86 AC.
- SOILS MAP:** SHT. 20 OF HOWARD COUNTY SOIL SURVEY
- TOPOGRAPHY SHOWN HEREON IS FROM A FIELD SURVEY BY GREENHORNE & O'MARA.**
- FLOOD PLAIN INFORMATION IS FROM HOWARD COUNTY FLOOD INSURANCE STUDY.**
- STREET TREES WILL BE LOCATED PER SECTION 16.13 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.**
- ROADS, WATER & SEWER WILL BE DEDICATED TO PUBLIC USE.**
- LOT COMPUTATIONS:**

LOT SIZE (S.F.)	NO. LOTS	TOTAL AC.	% OF TOTAL AC.	AREA OF OPEN SPACE (S.F.)	% OF TOTAL AC.
18,000 S.F.	5	0.90 AC.	6.52 PERCENT	0.00 AC.	0.00 PERCENT
18,000 TO 18,999	0	N/A	0 PERCENT	N/A	N/A
18,000 TO 17,999	1	0.05 AC.	0.36 PERCENT	0.07 AC.	0.51 PERCENT
18,000 TO 17,999	5	0.25 AC.	1.81 PERCENT	0.00 AC.	0.00 PERCENT
TOTALS		1.25 AC.	9.09 PERCENT	0.07 AC.	0.51 PERCENT

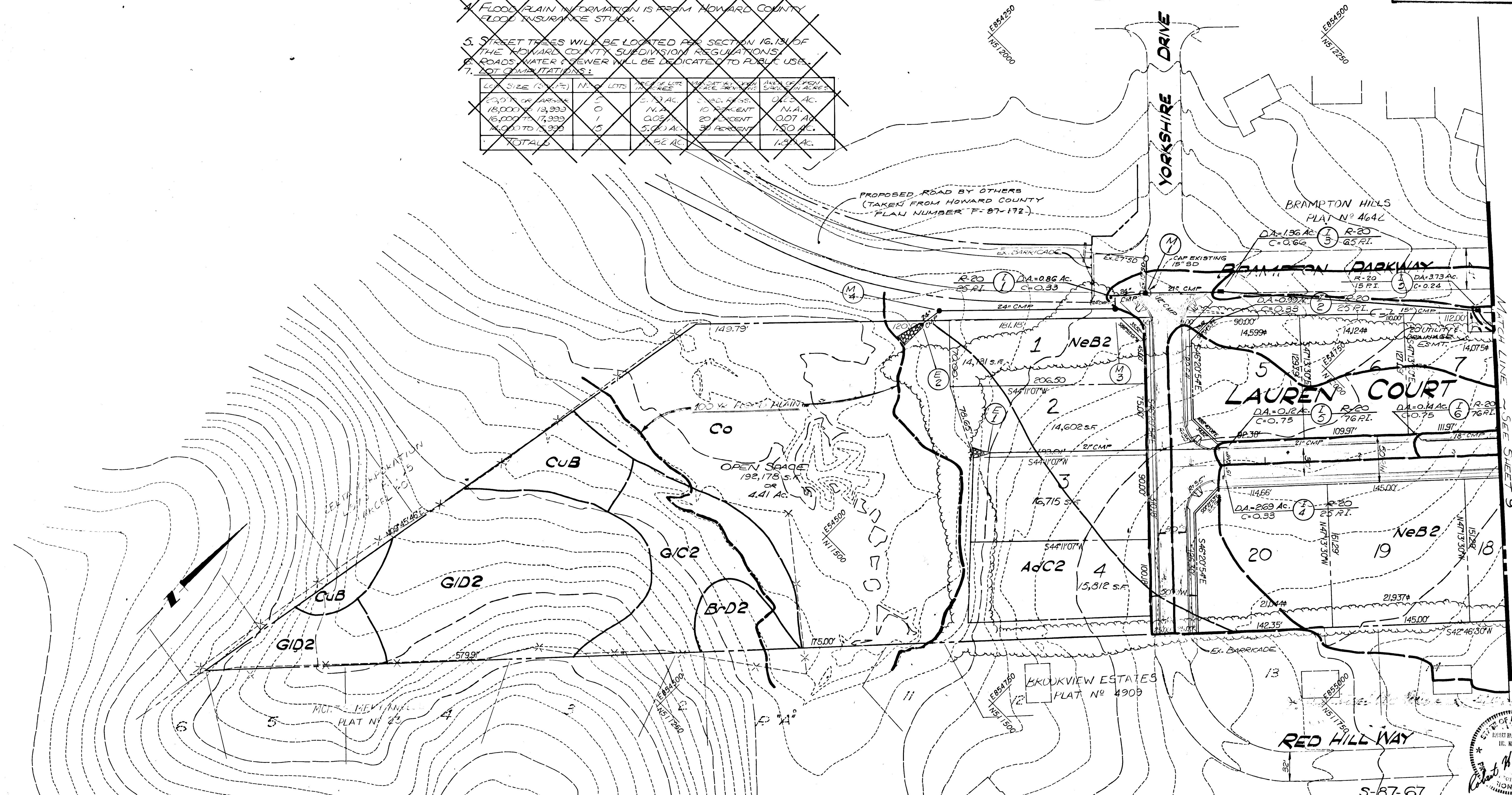
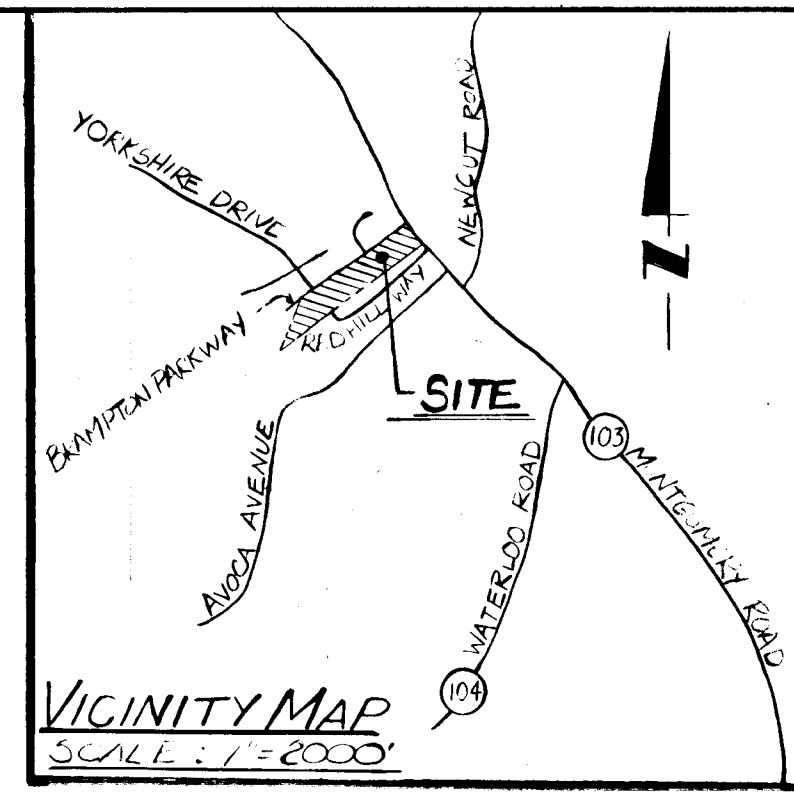
APPROVED: HOWARD CO. DEPT. OF PUBLIC WORKS

Paul D. Ryan 5/17/88
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Lawrence W. Weisand 5/15/88
 CHIEF, BUREAU OF HIGHWAYS DATE

John R. ... 5/15/88
 CHIEF, BUREAU OF ENGINEERING DATE

James ... 5/27/88
 CHIEF, DIV. OF COMMUNITY PLANNING & ZONING DATE



OWNER:
 J.H.P. DEVELOPMENT CO., INC.
 908 YORK ROAD
 TOWSON, MARYLAND 21204

No.	REVISION	DATE	BY

ENGINEERS ARCHITECTS PLANNERS SCIENTISTS SURVEYORS PHOTOGRAMMETRISTS
GREENHORNE & O'MARA, INC.
 113 WEST ROAD, SUITE 208
 BALTIMORE, MD. 21204
 (301) 298-4100
 ANNAPOLIS, MD ATLANTA, GA AURORA, CO CULPEPER, VA EXPORT, PA FAIRFAX, VA
 GREENBELT, MD MANASSAS, VA BALTIMORE, MD RALEIGH, NC TAMPA, FL

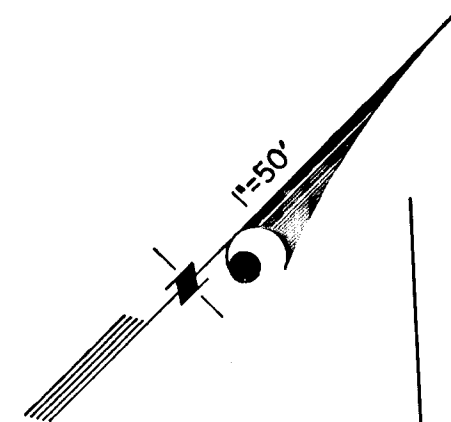
DRAINAGE AREA MAP
MONTGOMERY ESTATES
 2ND ELECTION DISTRICT
 PARCEL 15 TAX MAP 31
 HOWARD COUNTY, MARYLAND

JCH DESIGN	SCALE 1"=50'
JDP DRAWN	8 OF 9
RHM CHECKED	SHEET
NOV, 87 DATE	B-1018-X FILE No.



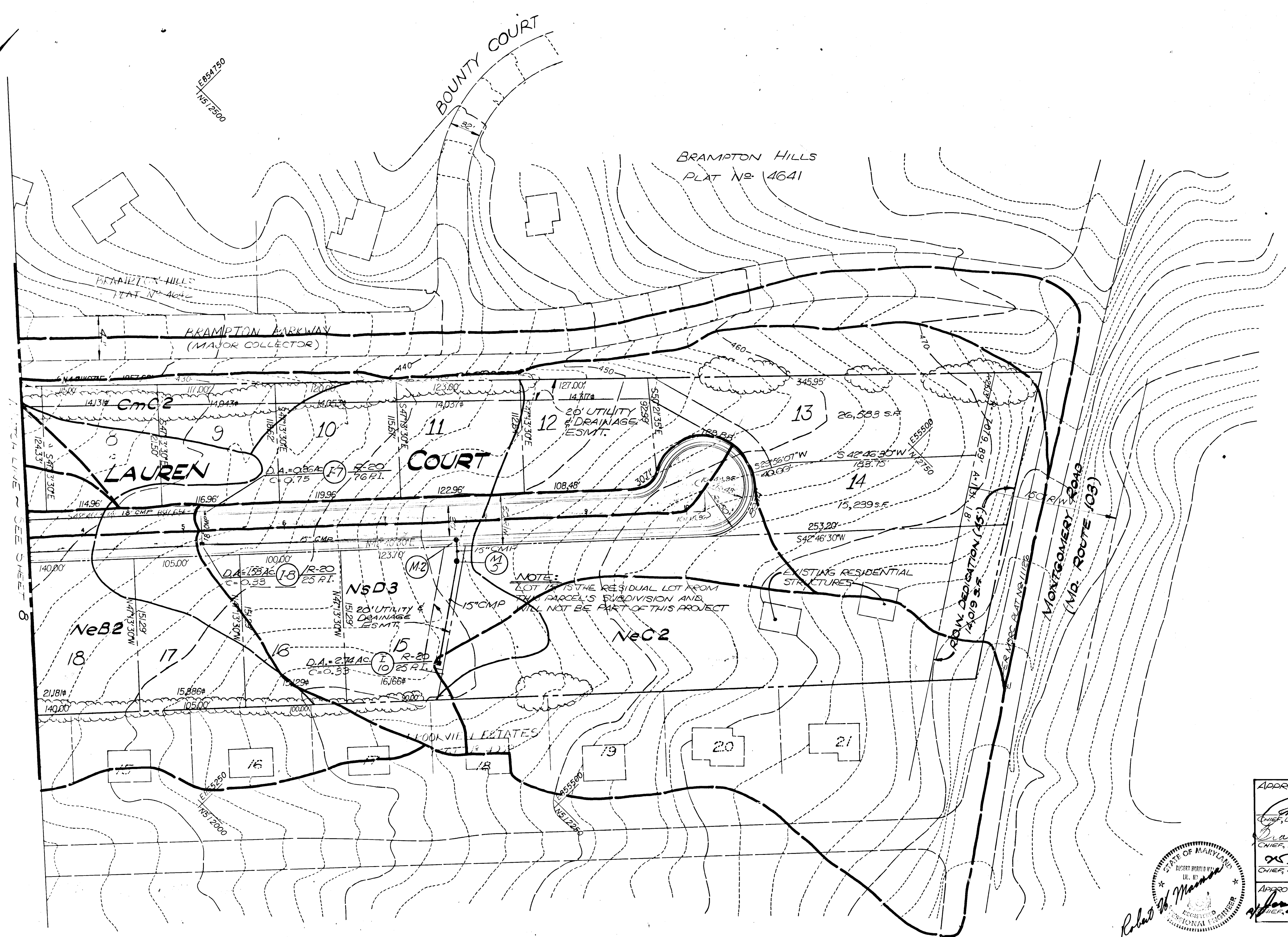
1362

1E854500
1N512250

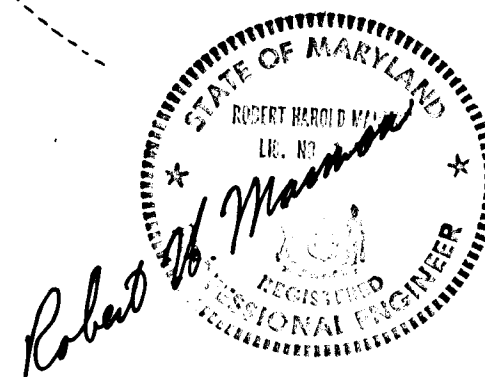


1E854750
1N512500

1E855000
1N511750

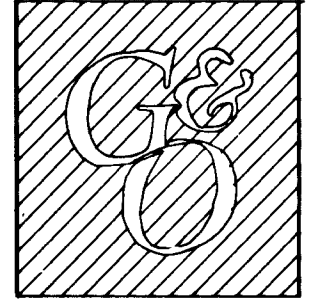


APPROVED: HOWARD CO. DEPT. OF PUBLIC WORKS
Robert W. Wilson 5/17/88
 CHIEF, LAND DEVELOPMENT DIVISION DATE
Robert W. Wilson 5/18/88
 CHIEF, BUREAU OF HIGHWAYS DATE
Robert W. Wilson 5/18/88
 CHIEF, BUREAU OF ENGINEERING DATE
 APPROVED: HOWARD CO. OFFICE OF PLANNING & ZONING
Robert W. Wilson 5/17/88
 CHIEF, BUREAU OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE



OWNER:
 J.H.R. DEVELOPMENT CO., INC.
 908 YORK ROAD
 TOWSON, MARYLAND 21204

No.	REVISION	DATE	BY



ENGINEERS ARCHITECTS PLANNERS SCIENTISTS SURVEYORS PHOTOGRAMMETRISTS
GREENHORNE & O'MARA, INC.
 113 WEST ROAD, SUITE 208
 BALTIMORE, MD. 21204
 (301)296-4100
 ANNAPOLIS, MD ATLANTA, GA AURORA, CO CULPEPER, VA EXPORT, PA FAIRFAX, VA
 GREENBELT, MD MANASSAS, VA BALTIMORE, MD RALEIGH, NC TAMPA, FL

DRAINAGE AREA MAP
MONTGOMERY ESTATES
 2ND ELECTION DISTRICT
 PARCEL 15 TAX MAP 31
 HOWARD COUNTY, MARYLAND

JCH DESIGN	SCALE 1"=50'
JDP DRAWN	9 OF 9
RHM CHECKED	SHEET
NOV, '87 DATE	FILE No.
JOB No.	FILE No.