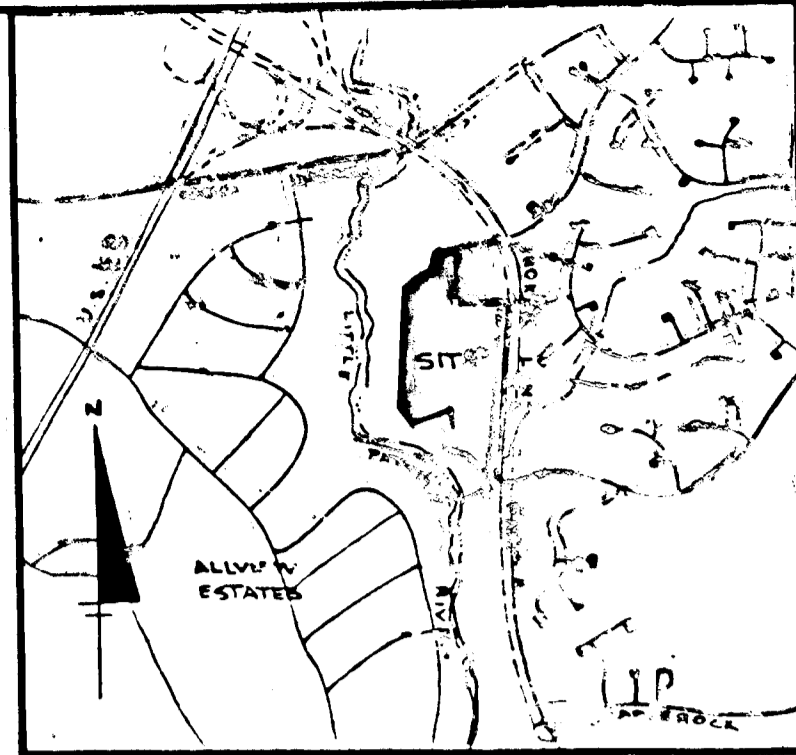


VILLAGE OF OWEN BROWN

SECTION 5, AREA 1

6TH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



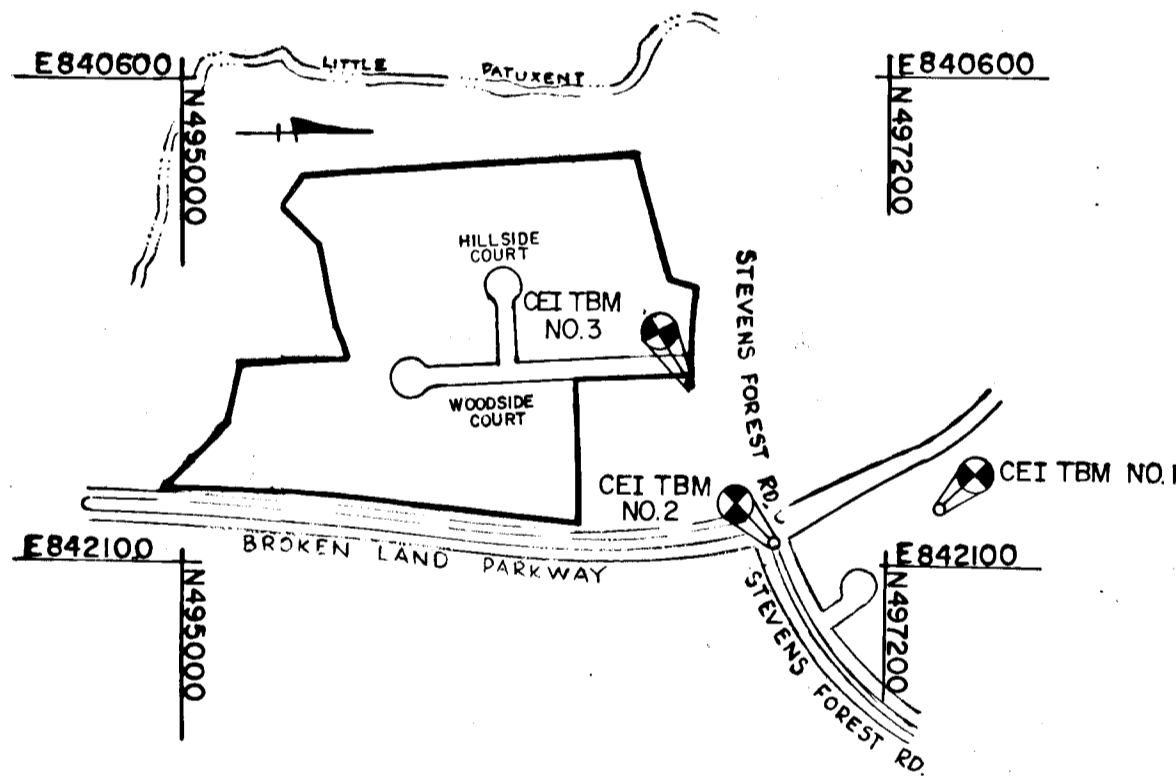
VICINITY MAP
SCALE: 1"=200'

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
2. ALL UTILITIES SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF CONSTRUCTION.
3. ALL INLETS SHALL BE HOWARD COUNTY STANDARDS UNLESS OTHERWISE SHOWN.
4. STORM DRAIN TRENCHES WITHIN ROAD RIGHTS OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
5. 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.
6. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES WHERE DIRECTED BY THE ENGINEER A MINIMUM OF TWO WEEKS IN ADVANCE OF ANY CONSTRUCTION.
7. TEMPORARY COMPACTED 18" HIGH EARTH FILL DIVERSION DIKES SHALL BE CONSTRUCTED ABOVE THE LIPS 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.
8. CONTRACTOR TO NOTIFY THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS. TELEPHONE NO. 992-2436.
9. ALL DISTURBED SLOPE AREAS TO BE STABILIZED AS SOON AS GRADING IS COMPLETED.
10. ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM OF 28 DAYS STRENGTH OF 3500 p.s.i.
11. ALL SWALES AND SLOPES SHALL BE PERMANENTLY SEEDED. SEE THE SEED SPECIFICATIONS ON SHEET 9.
12. INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1978 OR LATEST REVISION.
13. STABILENKA (FILTER CLOTH T-100) OR EQUAL SHALL BE PLACED UNDER ALL STONE RIPRAP (FULL WIDTH AND LENGTH OF STONE).
14. STONE FOR RIPRAP SHALL BE AS SPECIFIED ON THE DRAWINGS. ALL RIPRAP SHALL BE UNPAVED.
15. CONTRACTOR TO NOTIFY "MISS UTILITY" PHONE (1) 539-0100 AT LEAST THREE (3) DAYS BEFORE STARTING WORK SHOWN ON THIS/THESE DRAWING(S).
16. DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III STANDARDS. DESIGN SPEED FOR ALL ROADS - 35 MPH.
17. ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM 1929.
18. ALL COORDINATES BASED ON MARYLAND STATE GRID SYSTEM.
19. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
20. CONTRACTOR TO RESTORE ALL EXISTING PAVING, SIDEWALKS OR LAWNS AFFECTED BY THE CONSTRUCTION SHOWN HEREON TO A CONDITION COMPARABLE TO THAT EXISTING PRIOR TO CONSTRUCTION.
21. REFER TO APPROVED GP-86-47 FOR SEDIMENT CONTROL DEVICES THAT ARE TO BE MAINTAINED DURING CONSTRUCTION OF THIS CONTRACT. SEE DRAWINGS 7 THRU 9 FOR ANY REVISIONS REQUIRED BY THIS WORK.
22. ALL STORM DRAIN BEDDING TO BE CLASS C EXCEPT WHERE OTHERWISE NOTED.
23. TOP OF INLET ELEVATIONS SHOWN ARE GIVEN AT THE TOP OF CURB AT THE CENTER OF THE INLET.

BENCH MARKS

- CEI TBM NO. 1 X-CUT ON 2" ANCHOR BOLT OF B&E POWER POLE #425328 ELEV. 319.85
- ✓ CEI TBM NO. 2 X-CUT ON TOP OF CURB AT NOSE OF ISLAND ON STEVENS FOREST ROAD AT THE INTERSECTION WITH BROKEN LAND PARKWAY ELEV. 345.79
- ✓ CEI TBM NO. 3 X-CUT ON TOP OF CURB AT STEVENS FOREST ROAD AND RELIABLE STORE ENTRANCE ELEV. 345.86



PLAN

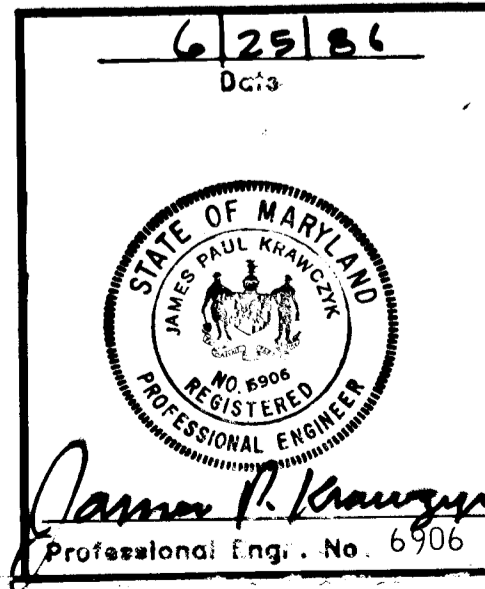
SCALE: 1"=100'

AS-BUILT SURVEY
8/21/87

DEPARTMENT OF PUBLIC WORKS		
Chief, Bureau of Engineering		10-8-86
DEPARTMENT OF PLANNING AND ZONING		
Chief, Div. of Land Development and Zoning Admin.		10-3-86
Date	No.	Revision Description
OWNER AND DEVELOPER		
THE HOWARD PARK ARCHITECTURAL DEVELOPMENT CORPORATION		
THE ROUSE COMPANY 10275 Maple Glen Parkway Columbia, Maryland 21044		
CENTURY ENGINEERING, INC.		
CONSULTING ENGINEERS AND PLANNERS TOWSON, MARYLAND 21286		
SECTION 5 AREA 1 TAX MAP NO. PARCEL 431 6TH ELECTION DISTRICT HOWARD COUNTY, M.D.		
TITLE SHEET		
Des. By	RFM	Proj. No. 85-0107
Drn. By	MH/FM	Date: 6-23-86
Chk. By	JPK	Appr. 1 OF 9

NO.	DESCRIPTION
1	TITLE SHEET
2	ROADWAY PLAN & PROFILE WOODSIDE COURT
3	ROADWAY PLAN & PROFILE W DETAILS HILLSIDE COURT
4	STORM DRAIN PROFILE
5	STORM DRAIN PROFILE
6	DRAINAGE AREA MAP
7	GRADING AND SEDIMENT CONTROL PLAN
8	GRADING AND SEDIMENT CONTROL PLAN
9	SEDIMENT CONTROL DETAILS

AS-BUILT SURVEY CERTIFIED BY
JAMES PAUL KRACZYK REG.-PE.
NO 6906 ON JUNE 25, 1986



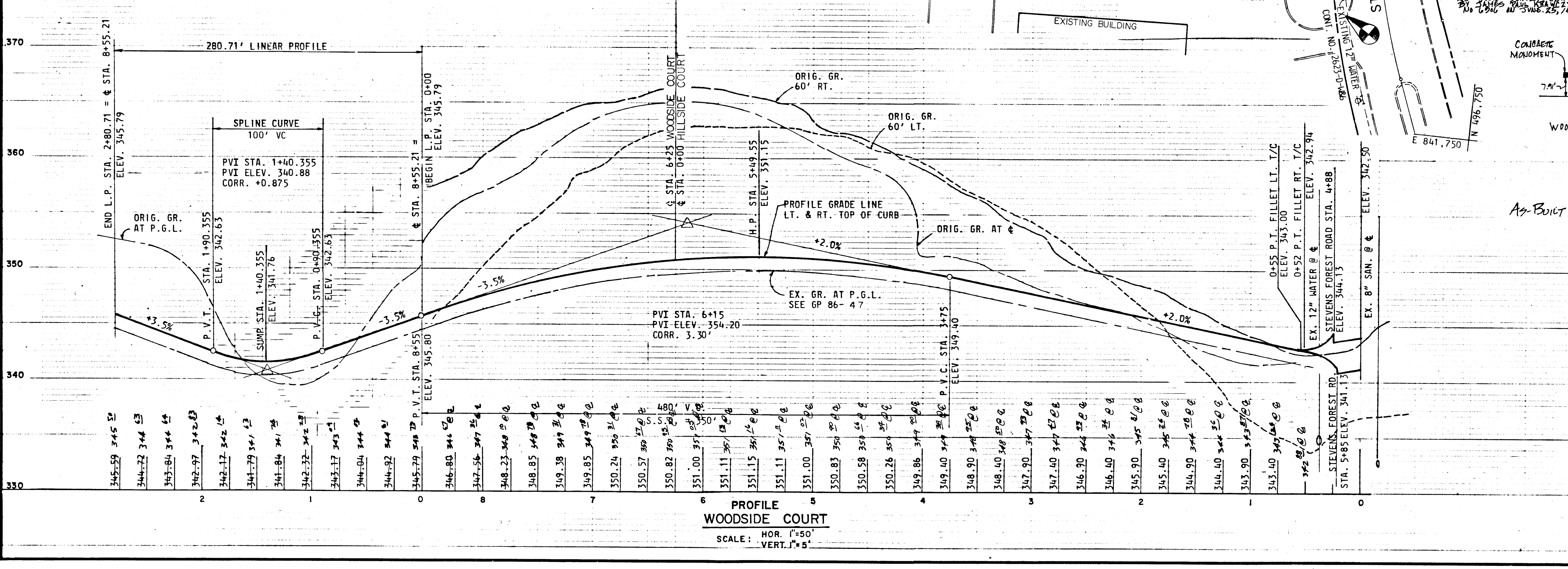
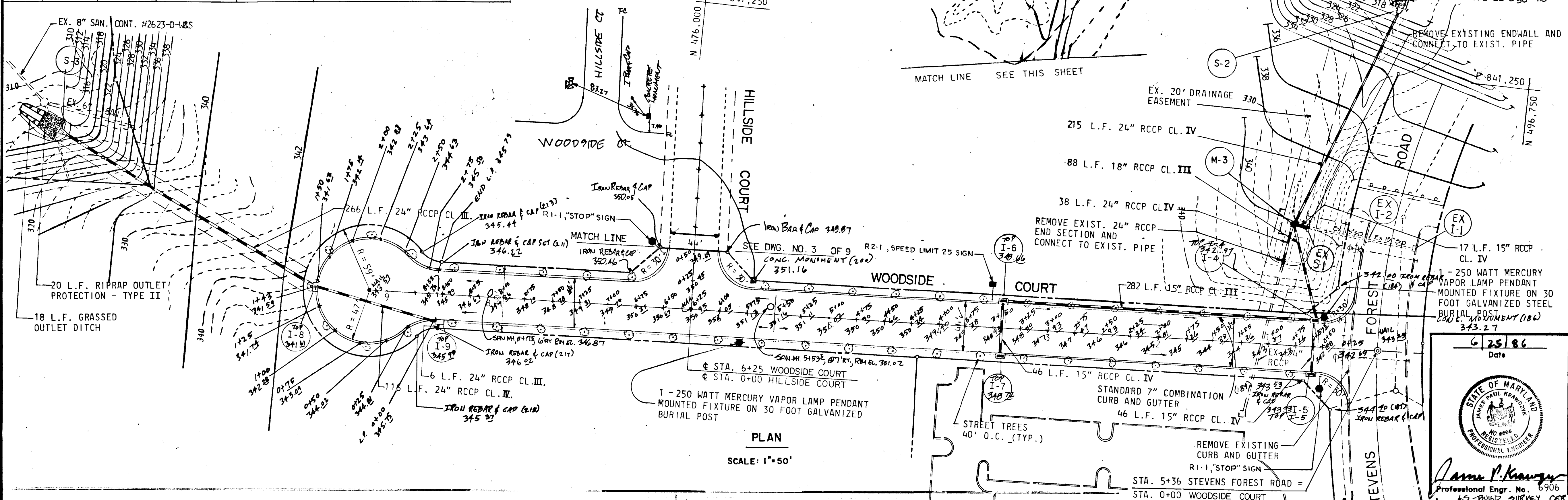
AS-BUILT
6/25/86

F-87-02

STRUCT. NO.	STATION	OFFSET	TYPE	TOP ELEV.	REMARKS
I-4	0+58	22' RT.	STD. A-5W/DEFLECT	343.06 342.97	HOWARD CO. DETAIL SD 4.01 & 4.83
I-5	0+58	22' LT.	STD. A-5W/DEFLECT	343.06 343.03	HOWARD CO. DETAIL SD 4.01 & 4.83
I-6	3+40	22' RT.	STD. A-5W/DEFLECT	348.70 348.66	HOWARD CO. DETAIL SD 4.01 & 4.83
I-7	3+40	22' LT.	STD. A-5W/DEFLECT	348.70 348.72	HOWARD CO. DETAIL SD 4.04 & 4.83
I-8	L.P. 1+40	-	STD. A-5	347.76 341.61	HOWARD CO. DETAIL SD 4.01
I-9	8+52	22' LT.	STD. A-5W/DEFLECT	345.90 345.99	HOWARD CO. DETAIL SD 4.01 & 4.83
S-2	SEE PLAN	SEE PLAN	STD. END SEC.	SEE PROFILE	HOWARD CO. DETAIL SD 5.51
S-3	SEE PLAN	SEE PLAN	STD. END SEC.	SEE PROFILE	HOWARD CO. DETAIL SD 5.51
M-3	SEE PLAN	SEE PLAN	STD. MANHOLE	SEE PROFILE	HOWARD CO. DETAIL ST 5.12

PLAN	DATE
SURVEYED	
PLOTTED	
CHECKED	
BY	
DATE	

PROFILE	DATE
SURVEYED	
PLOTTED	
CHECKED	
BY	
DATE	



DEPARTMENT OF PUBLIC WORKS

John M. Warkentin
 CHIEF, BUREAU OF ENGINEERING DATE 10-2-86

DEPARTMENT OF PLANNING AND ZONING

John M. Warkentin 10-2-86
 CHIEF DIV. OF LAND DEVEL. AND ZONING ADM. DATE

Date	No	Revision Description
8-10-87	1	REMOVE DEFLECTOR, I-5 + ADD RIP RAP S-2

OWNER AND DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE COMPANY
 10275 Little Patuxent Parkway
 Columbia, Maryland 21044

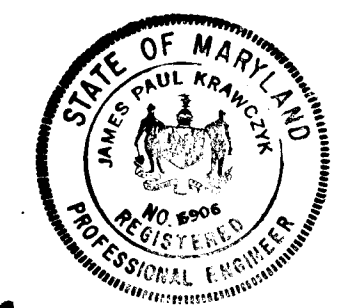
CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS - PLANNERS
 32 WEST ROAD
 TOWSON, MARYLAND 21204

AREA: VILLAGE OF OWEN BROWN
 SECTION 5 AREA I TAX MAP 36 PARCEL 431
 6th ELECTION DISTRICT OF HOWARD COUNTY, MD.

TITLE: **WOODSIDE COURT
 PLAN AND PROFILE**

Des By: RFM Scale: AS SHOWN Proj No: 85-0107
 Dwn By: FM/MH Date: 6-23-86
 Chk By: JPK Approved

Professional Engr. No. 6906
James P. Kraeger
 REGISTERED PROFESSIONAL ENGINEER
 No. 6906 IN STATE 25, 1086



AS-BUILT SURVEY 8/21/1987

STRUCT. NO.	STATION	OFFSET	TYPE	TOP ELEV.	REMARKS
I-1	LP 1+40.35	-	STD. A-5 DEPRESSED	340.30	HOWARD CO. DETAIL SD 4.01 & 4.81
I-2	2+00	22' LT.	STD. A-5 W/DEFLECT.	344.59	HOWARD CO. DETAIL SD 4.01 & 4.83
I-3	2+00	22' RT.	STD. A-5 W/DEFLECT.	344.59	HOWARD CO. DETAIL SD 4.01 & 4.83
M-1	SEE PLAN	SEE PLAN	STD. MANHOLE	SEE PROFILE	HOWARD CO. DETAIL G 5.11
S-1	SEE PLAN	SEE PLAN	STD. END SEC.	SEE PROFILE	HOWARD CO. DETAIL SD 5.61
M-2	SEE PLAN	SEE PLAN	STD. MANHOLE	SEE PROFILE	HOWARD CO. DETAIL G 5.11

DEPARTMENT OF PUBLIC WORKS
James P. Krausz 10-18-86
 CHIEF, BUREAU OF ENGINEERING DATE

DEPARTMENT OF PLANNING AND ZONING
John W. Lawrence 10-3-86
 CHIEF DIV. OF LAND LEVEL, AND ZONING ADM. DATE

Date	No	Revision Description


OWNER AND DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE COMPANY
 10275 Little Patuxent Parkway
 Columbia, Maryland 21044

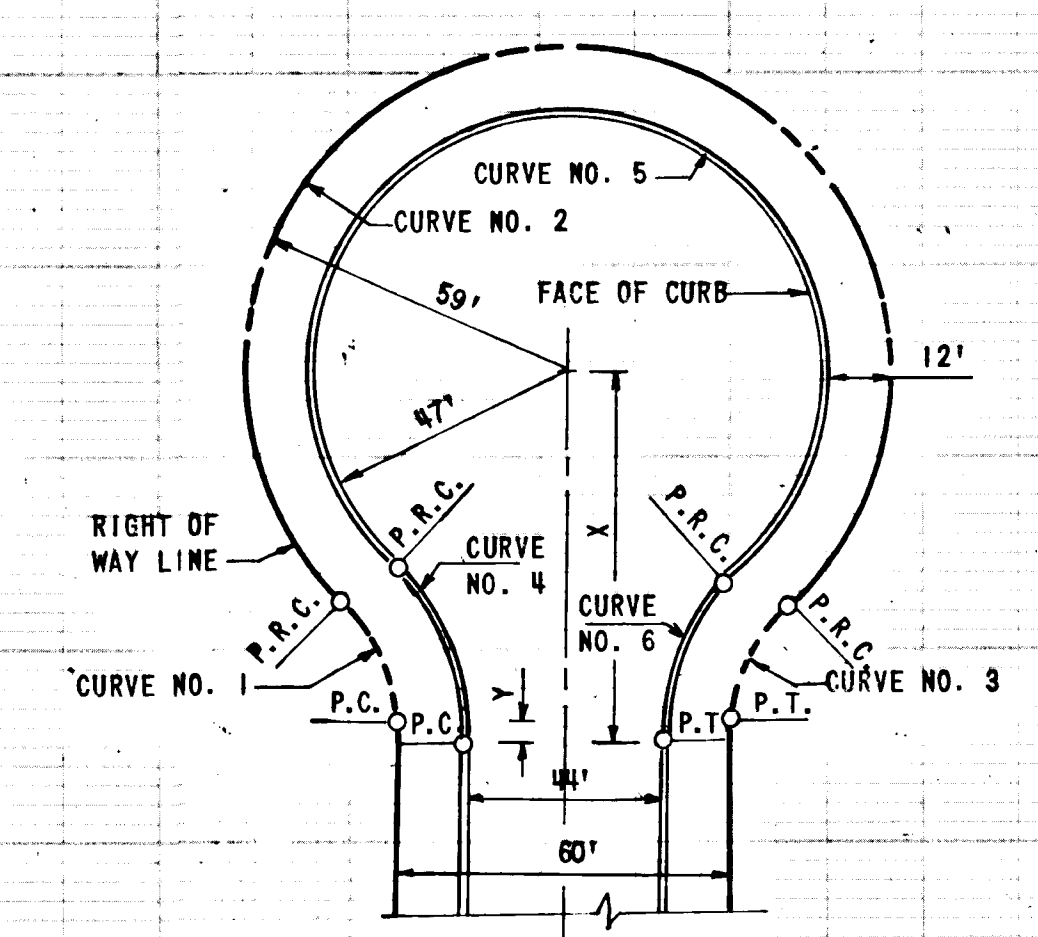
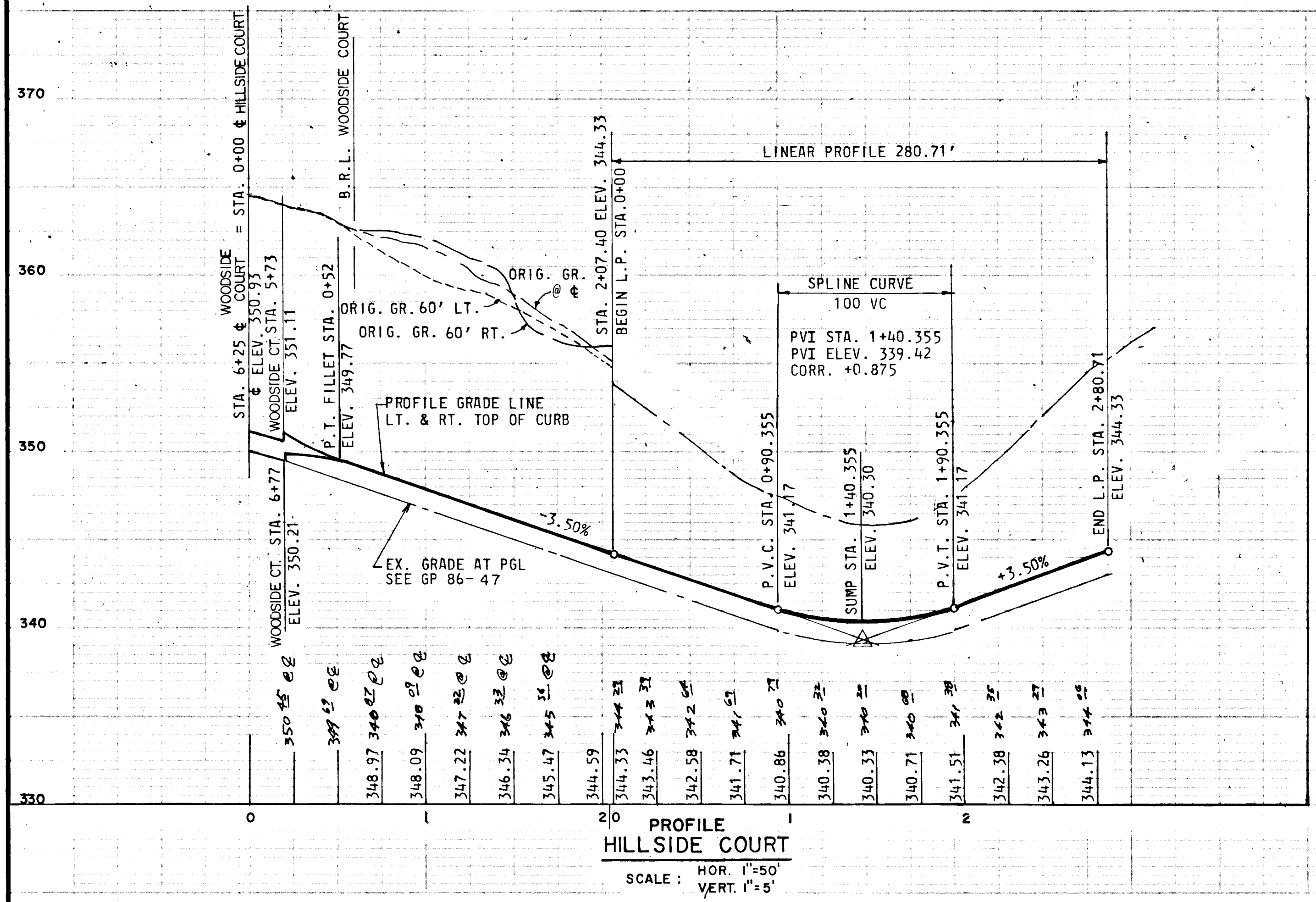
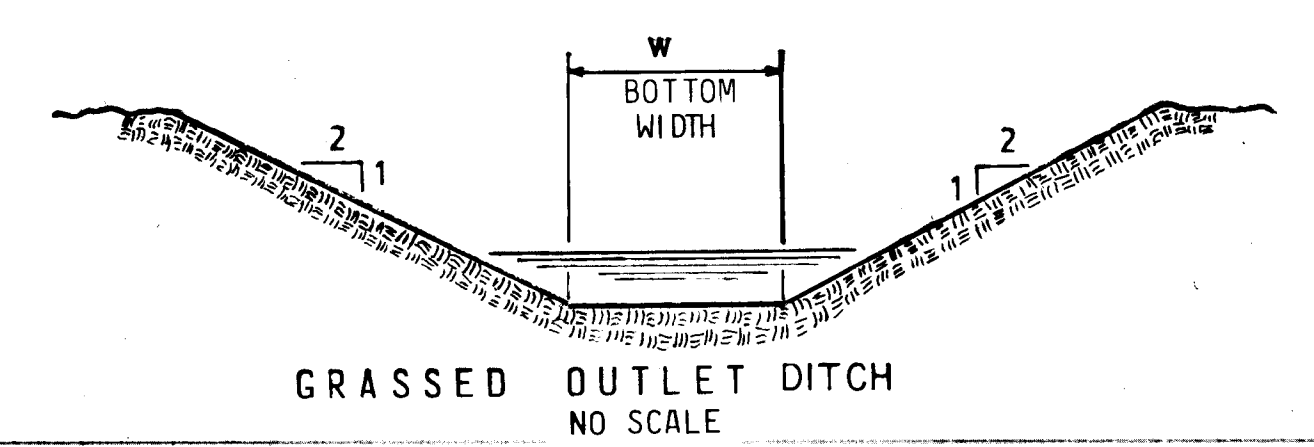
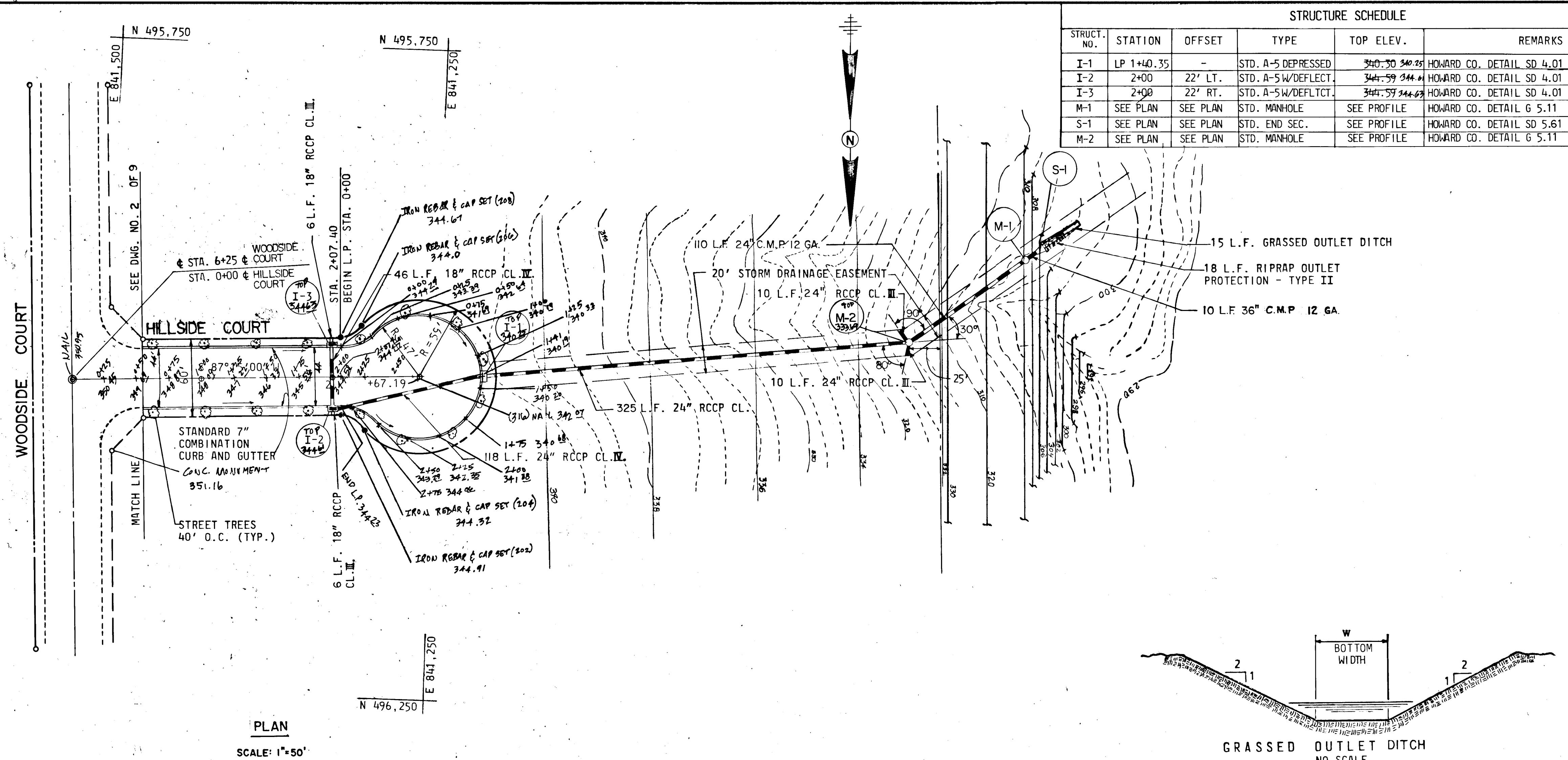
CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS - PLANNERS
 32 WEST ROAD
 TOWSON, MARYLAND 21204

AREA VILLAGE OF OWEN BROWN
 SECTION 5 AREA I TAX MAP 36 PARCEL 431
 6th ELECTION DISTRICT OF HOWARD COUNTY, MD.

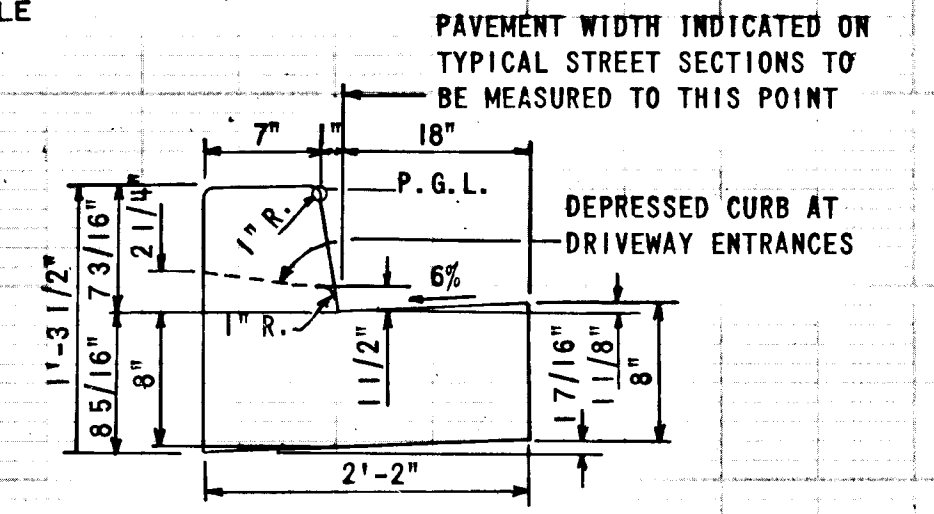
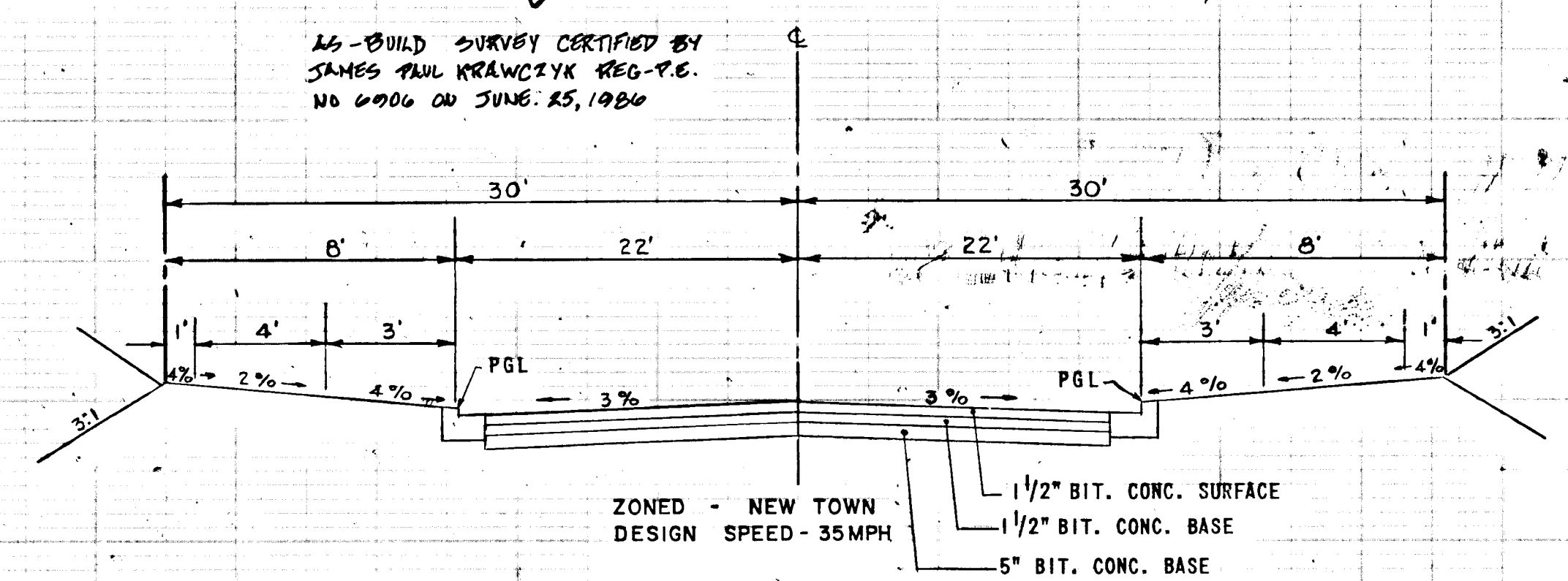
TITLE HILLSIDE COURT
 PLAN AND PROFILE

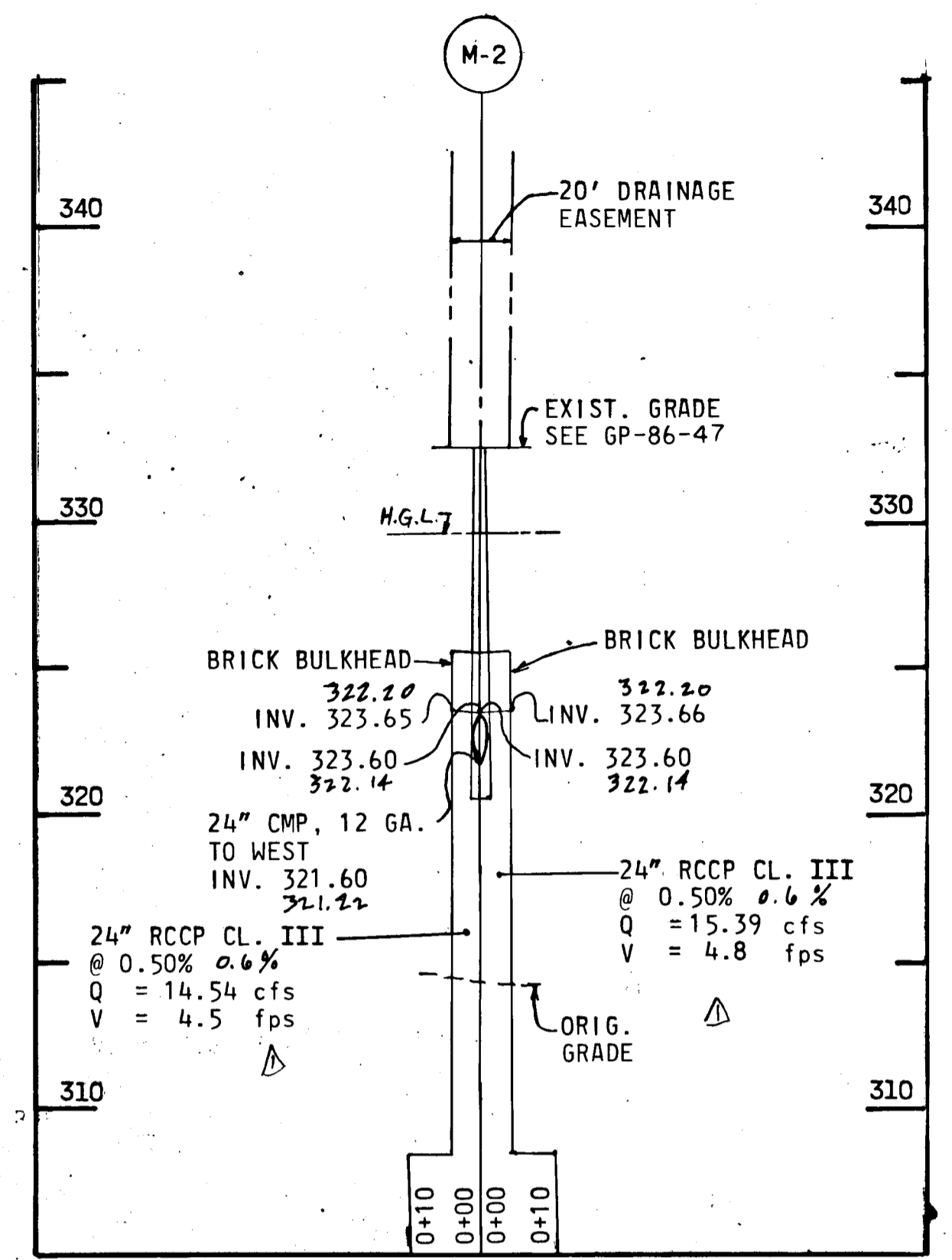
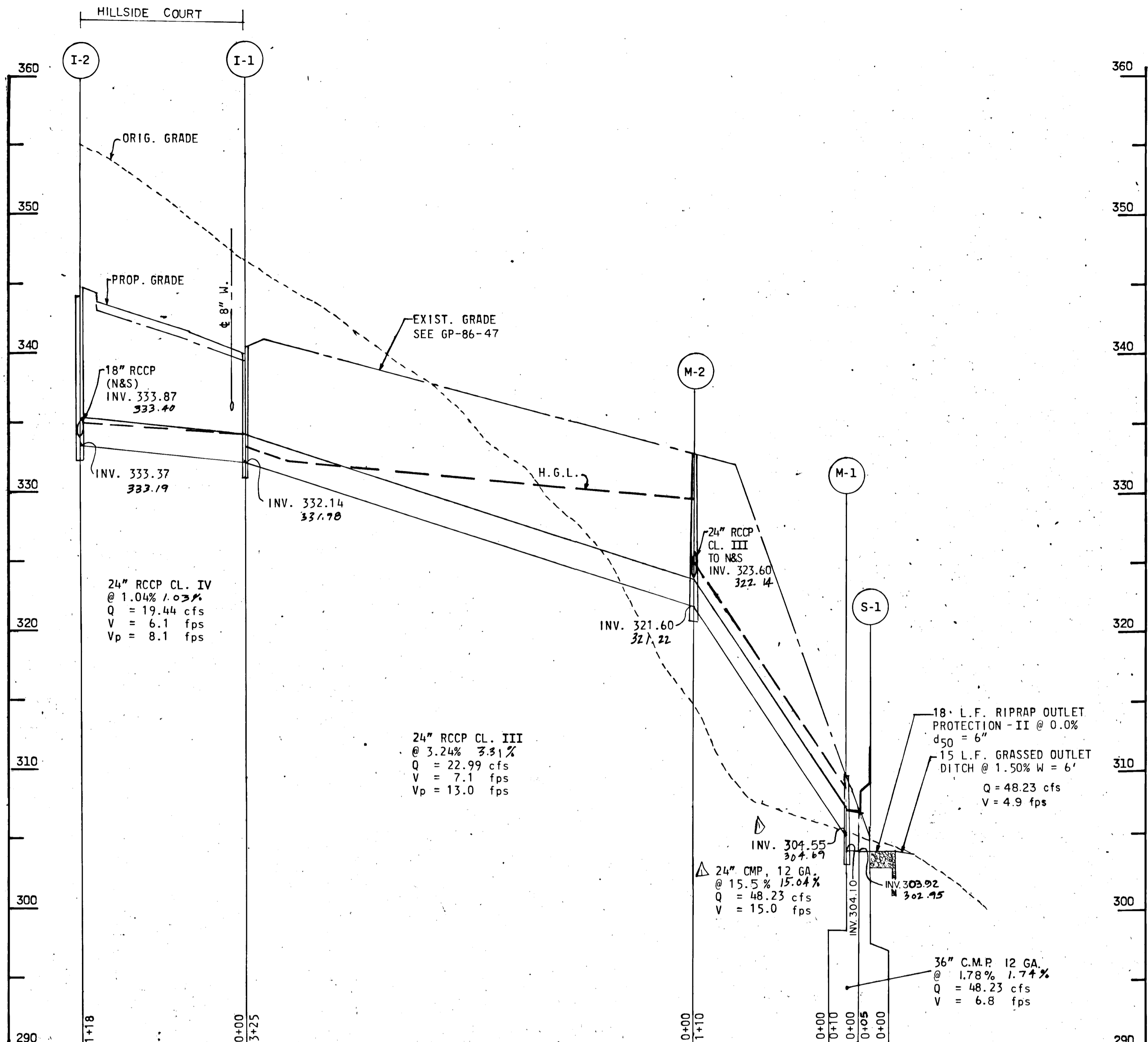
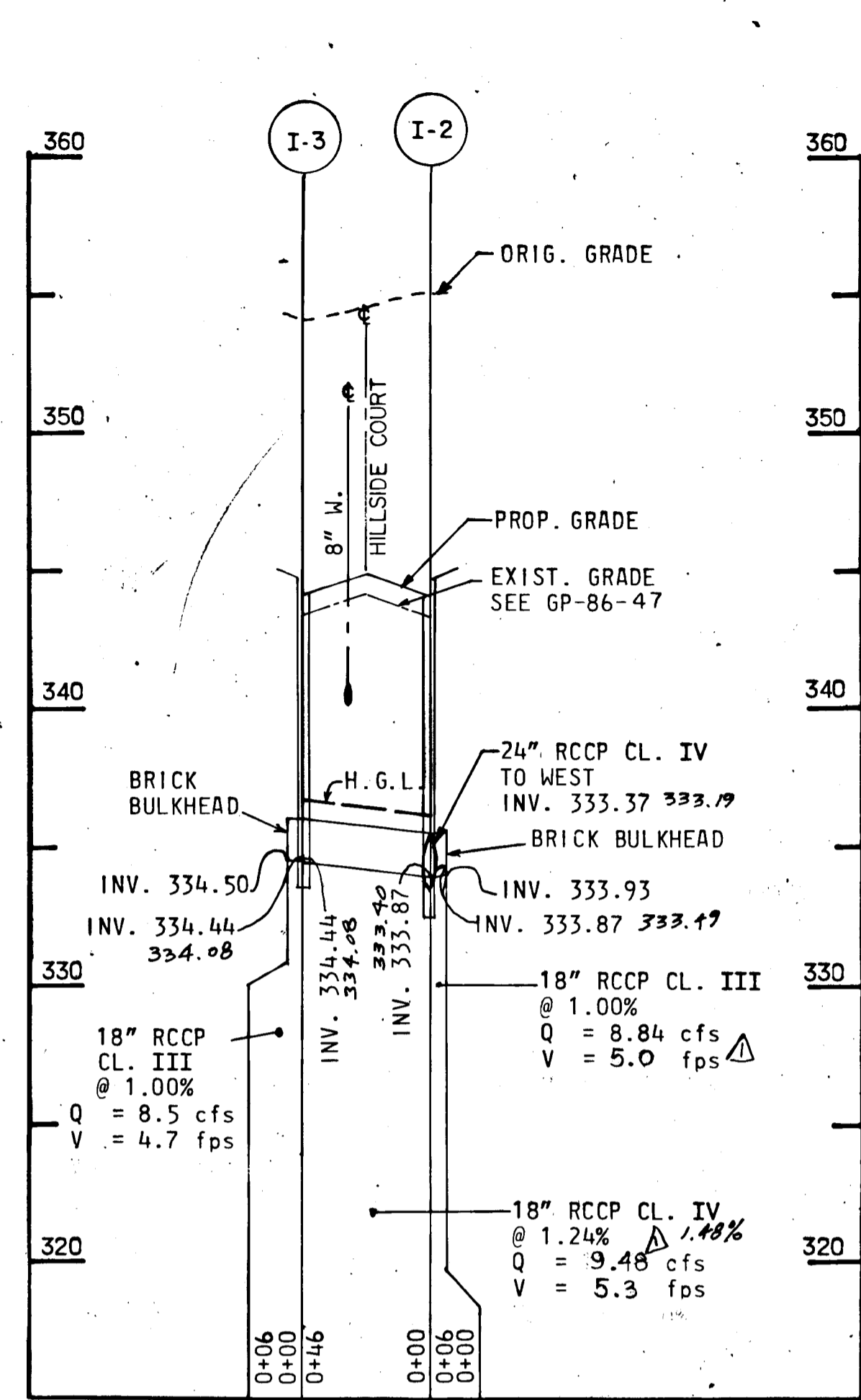
Des By RFM Scale AS SHOWN
 Drn By FM/MH Date 6-23-86
 Chk By JPK Approved

6/25/86
 Date

James P. Krausz
 Professional Engr. No. 6906



CURVE DATA				
COMMERCIAL-INDUSTRIAL (44' APPROACH)				
X = 59.79', Y = 3.70' L.P. = 280.71'				
CURVE 1 & 3	2	4 & 6	5	
Δ	49°05'54"	278°11'48"	45°22'54"	270°45'47"
R	25.00'	59.00'	37.00'	47.00'
L	21.42'	286.47'	29.30'	222.11'
T	11.42'	-	15.47'	-
L.C.	20.77'	-	28.55'	-

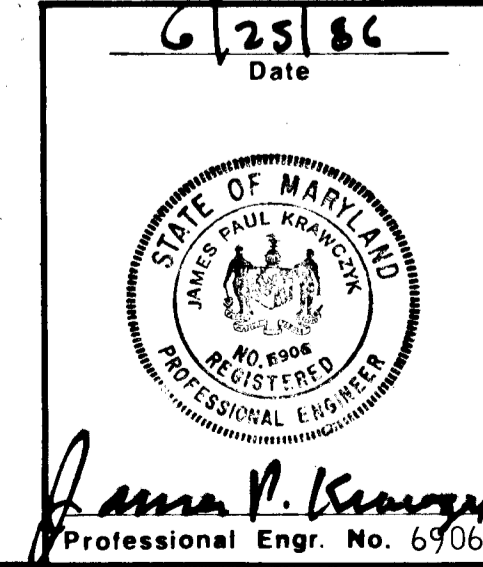




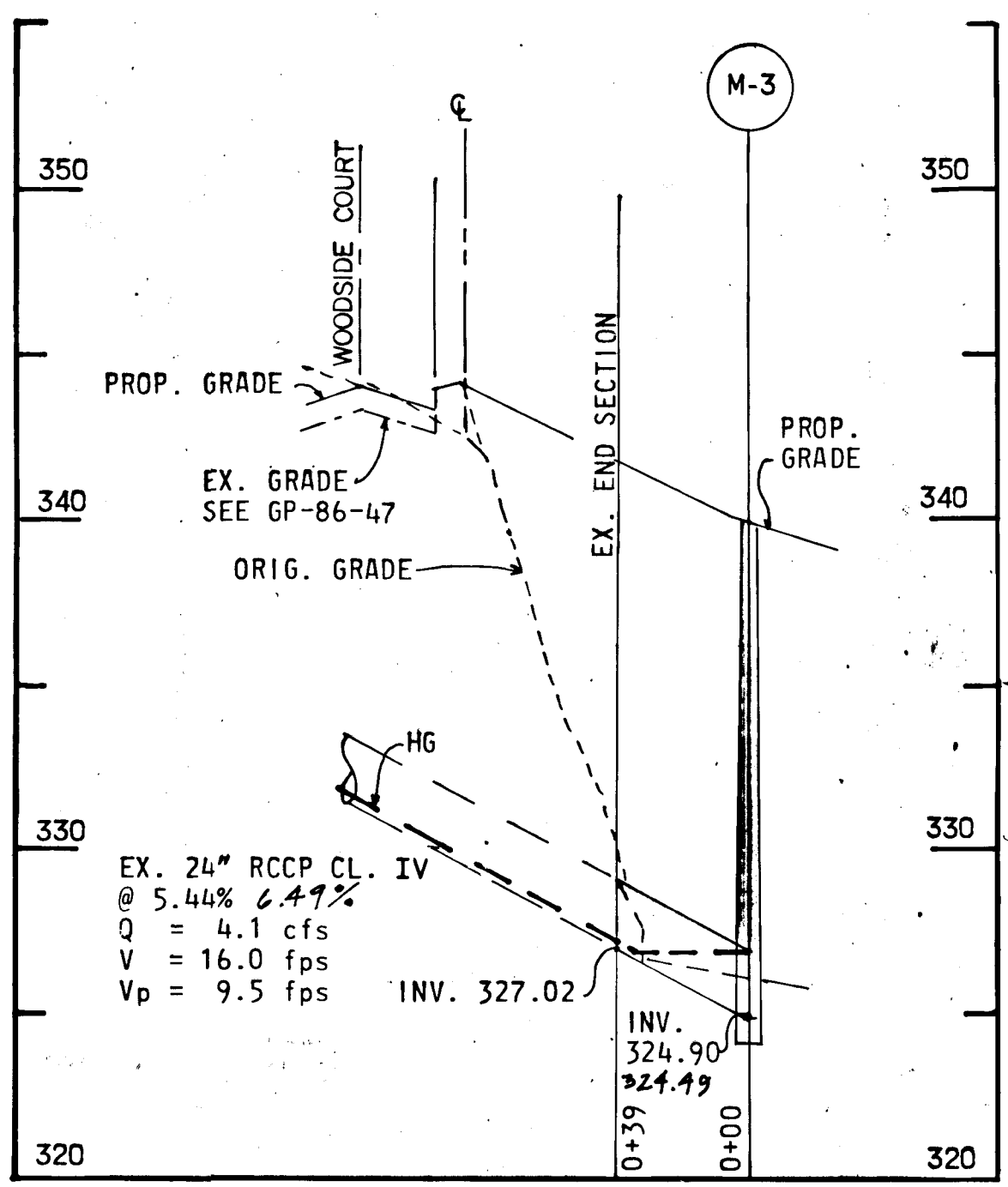
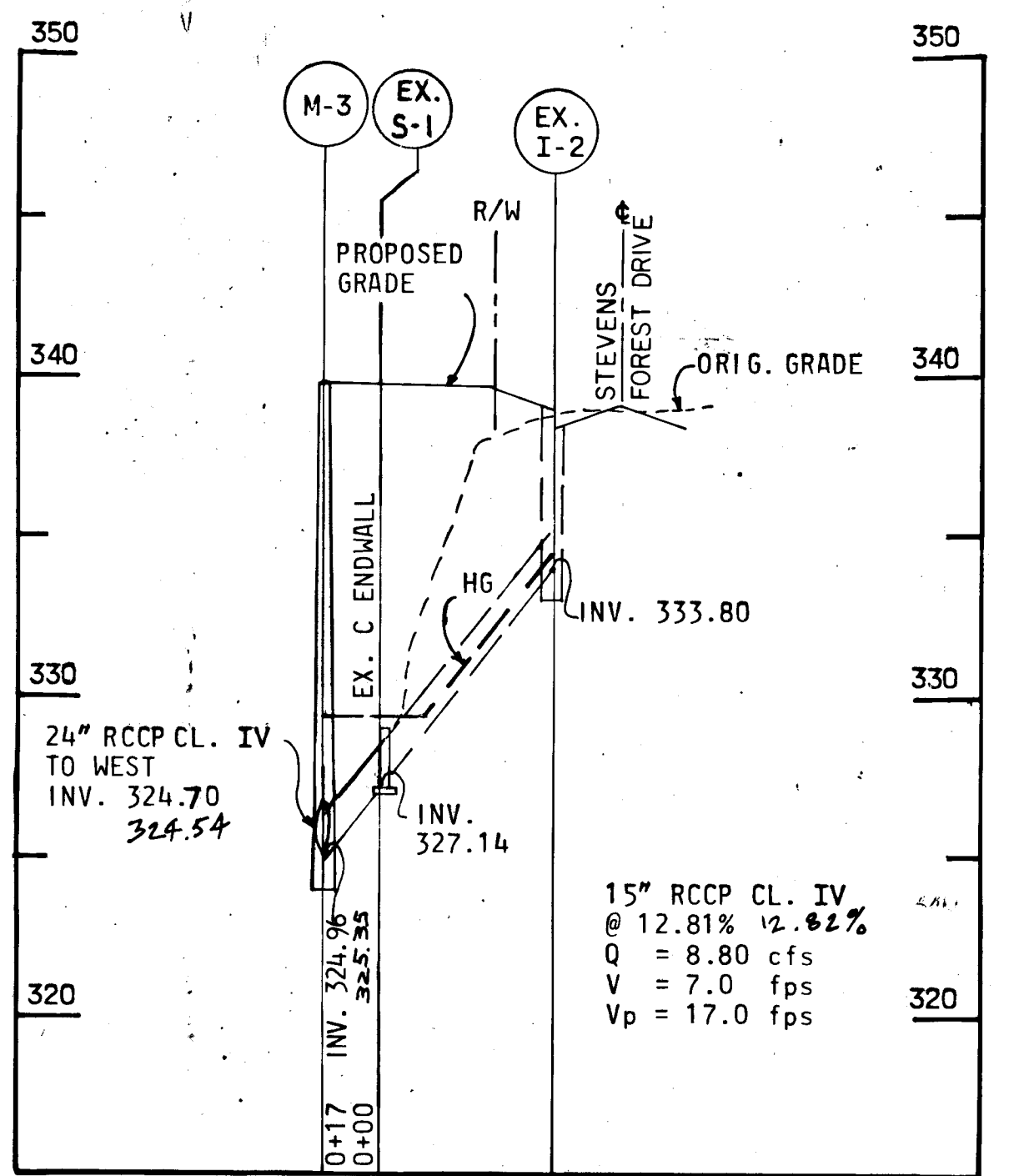
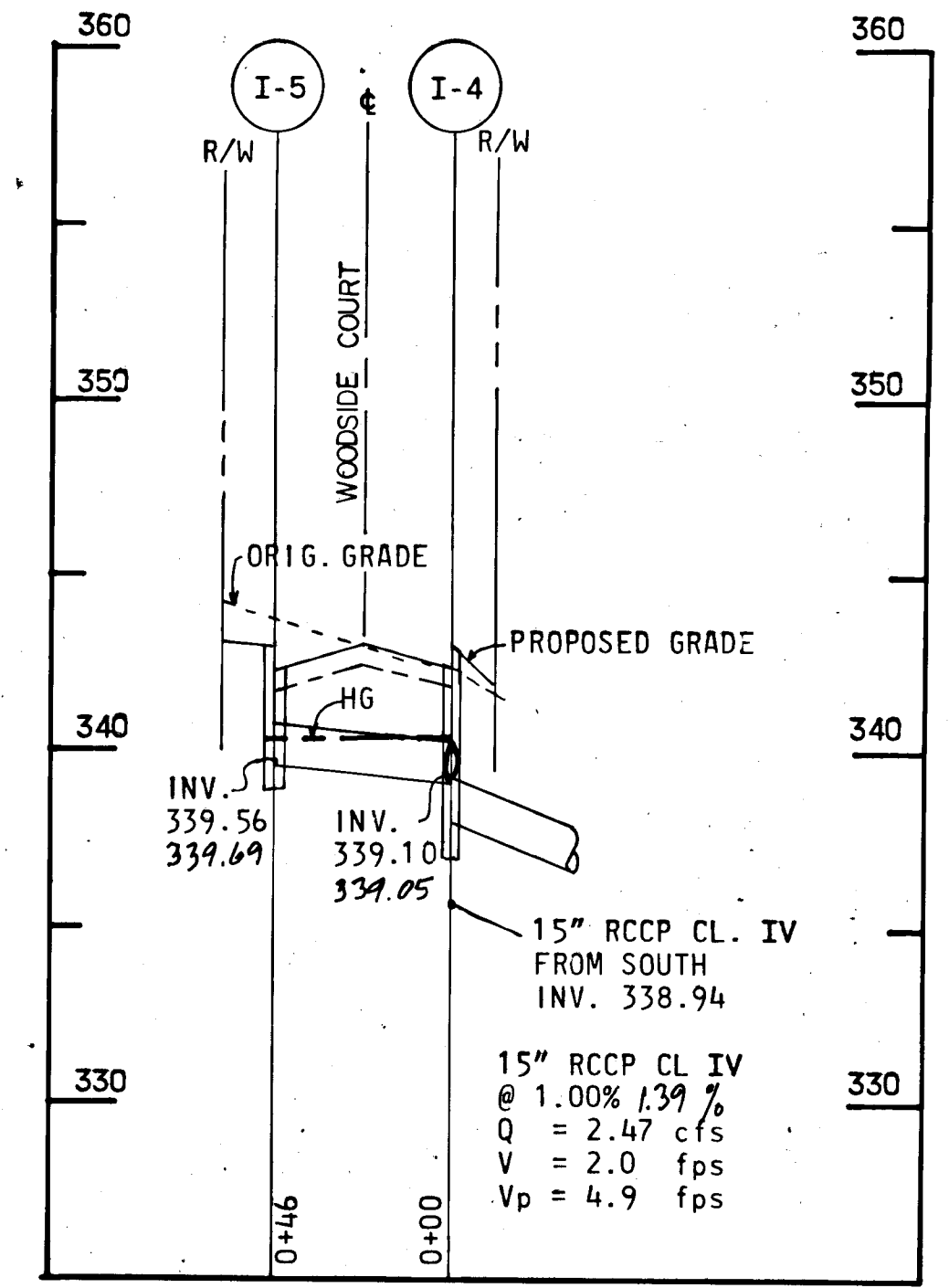
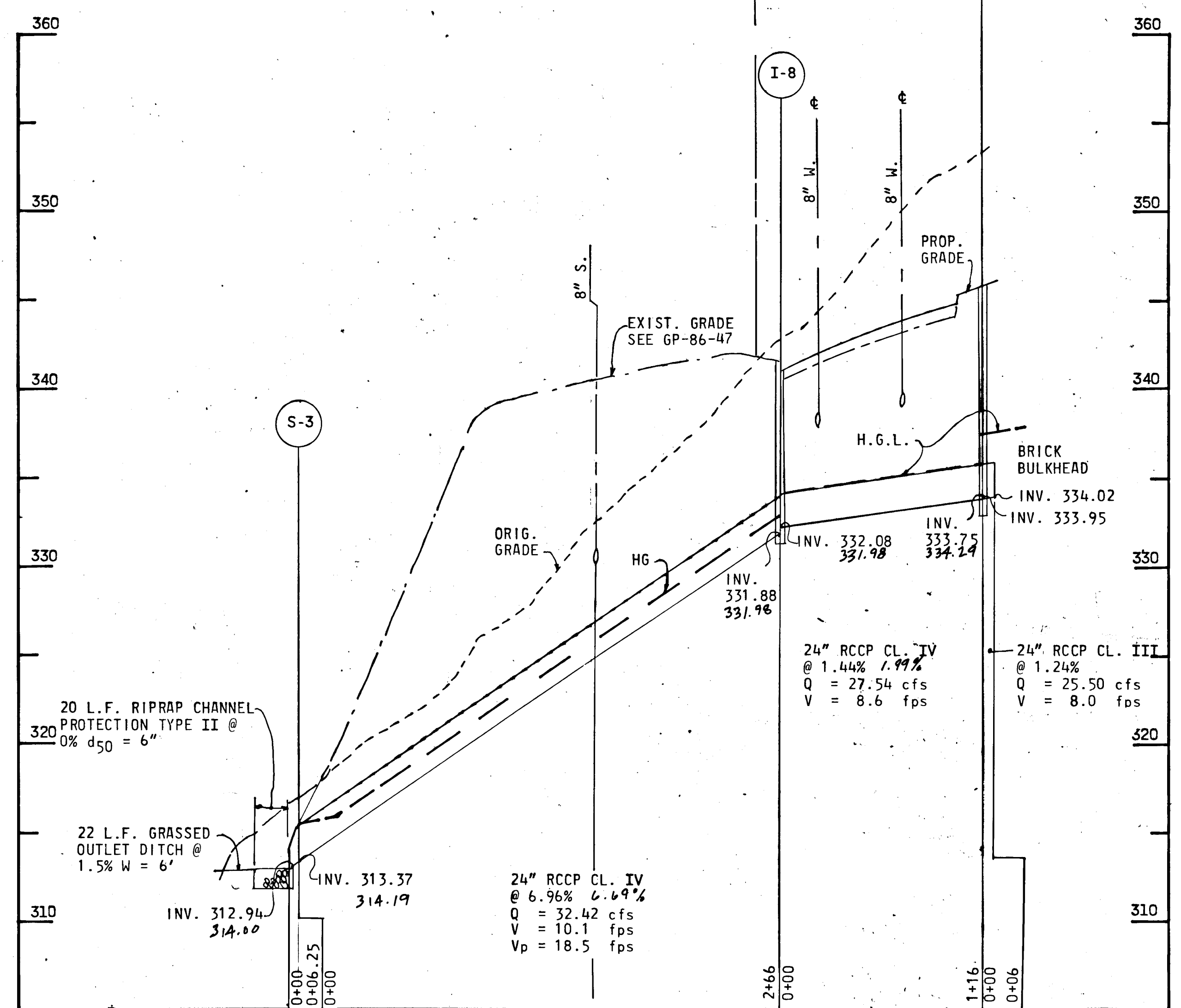
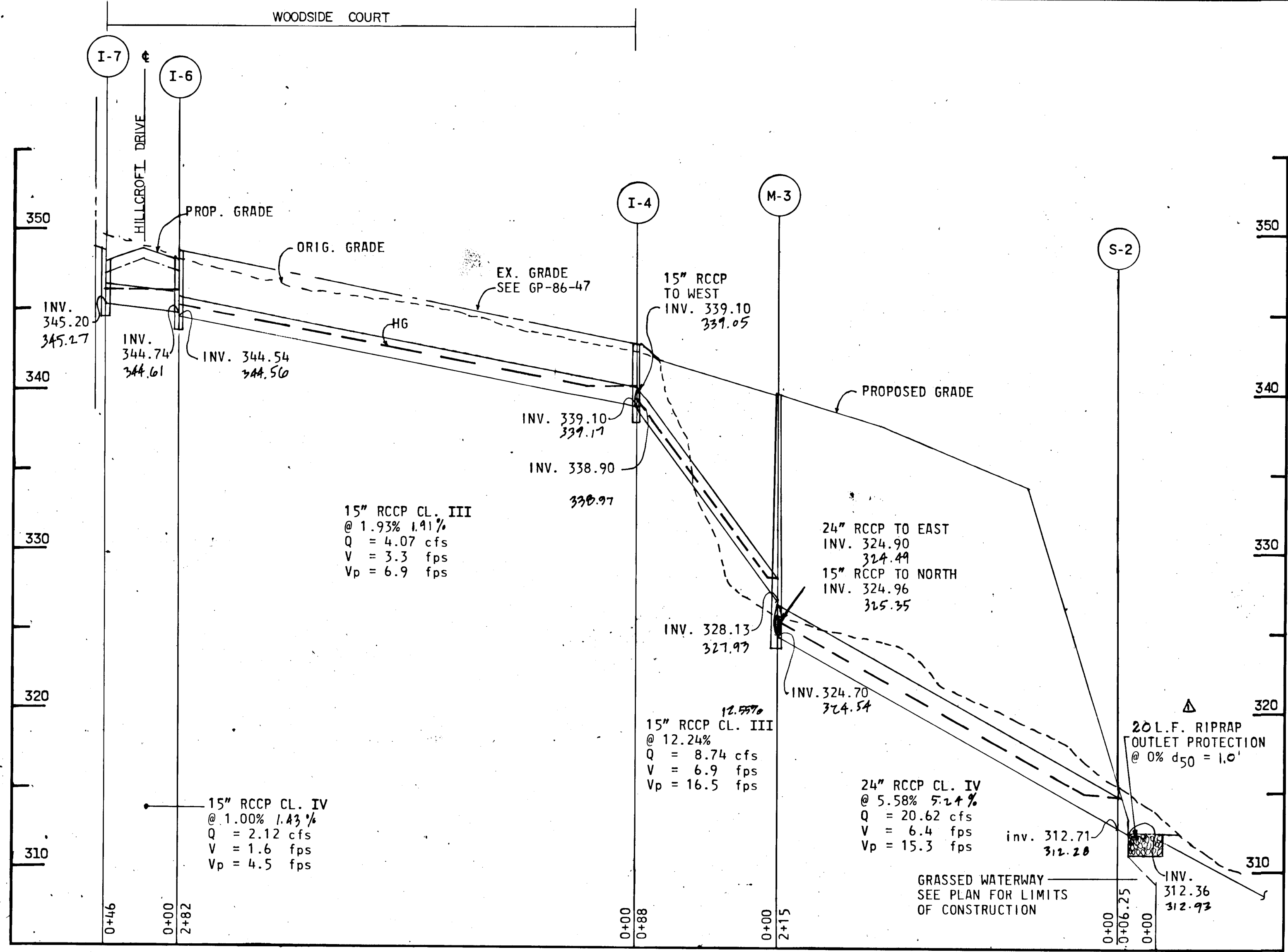
PROFILES
 HORIZ. 1" = 50'
 SCALE: VERT. 1" = 5'

AS-BUILT SURVEY 2/21/1987

AS-BUILT SURVEY CERTIFIED BY
 JAMES PAUL KRAWCZYK REG.-P.E.
 No 6906 ON JULY 25, 1986



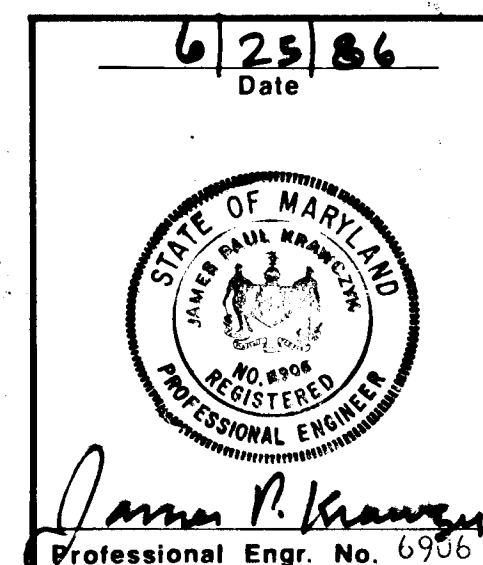
DEPARTMENT OF PUBLIC WORKS	
DATE: 6/25/86	
DEPARTMENT OF PLANNING AND ZONING	
CHIEF DIV. OF LAND DEVEL. AND ZONING ADM. DATE: 11/24/86	
Date	Revision Description
11/24/86	1 Changed Data + Add H.G.L. Line
OWNER AND DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE COMPANY 10275 Little Patuxent Parkway Columbia, Maryland 21044	
CENTURY ENGINEERING, INC. CONSULTING ENGINEERS • PLANNERS 32 WEST ROAD TOWSON, MARYLAND 21204	
AREA: VILLAGE OF OWEN BROWN	
SECTION 5 AREA I TAX MAP 36 PARCEL 431 6th ELECTION DISTRICT OF HOWARD COUNTY, MD.	
TITLE: STORM DRAIN PROFILES	
Des By RFM	Scale AS SHOWN
Proj No 85-0107	
Dwn By FM	Date 6-23-86
Chk By JPK	Approved
Drawing No. 4	OF 9



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

AS BUILT SURVEY 6/21/87

AS-BUILT SURVEY CERTIFIED BY
JAMES PAUL KRANCIK REG-P.E.
NO. 6906 ON JUNE 25, 1986



DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING

DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIV. OF LAND DEVEL. AND ZONING ADM.

Date	No	Revision Description
6-10-87	1	CHANGE RIPRAP S-2 L=20L.F. d ₅₀ =1.0'

OWNER AND DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE COMPANY
10275 Little Patuxent Parkway
Columbia, Maryland 21044

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS • PLANNERS
TOWSON, MARYLAND 21286

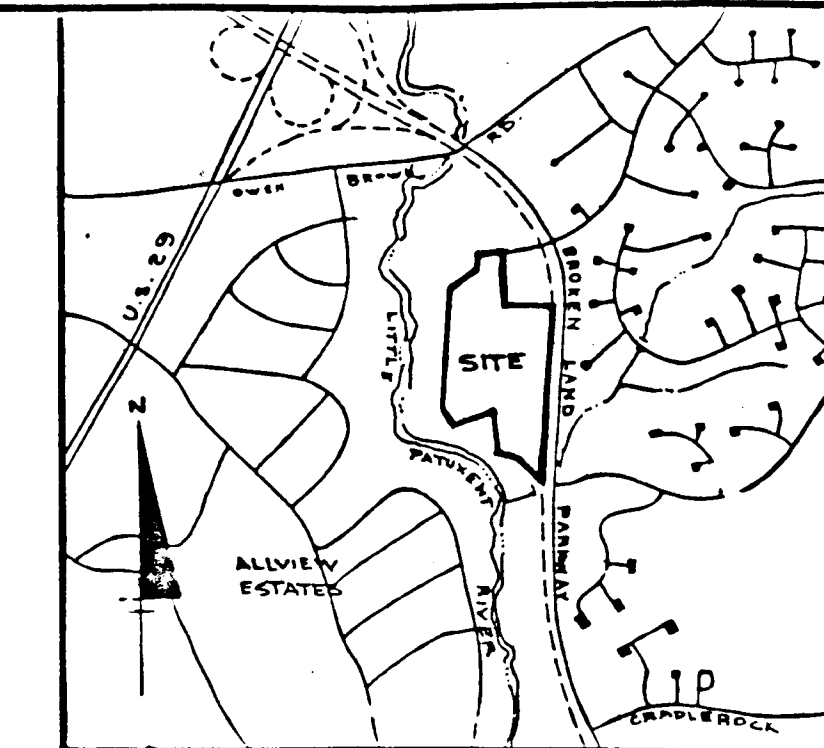
AREA VILLAGE OF OWEN BROWN
SECTION 5 AREA 1 TAX MAP 36 PARCEL 431
6th ELECTION DISTRICT OF HOWARD COUNTY, MD.

TITLE STORM DRAIN PROFILES

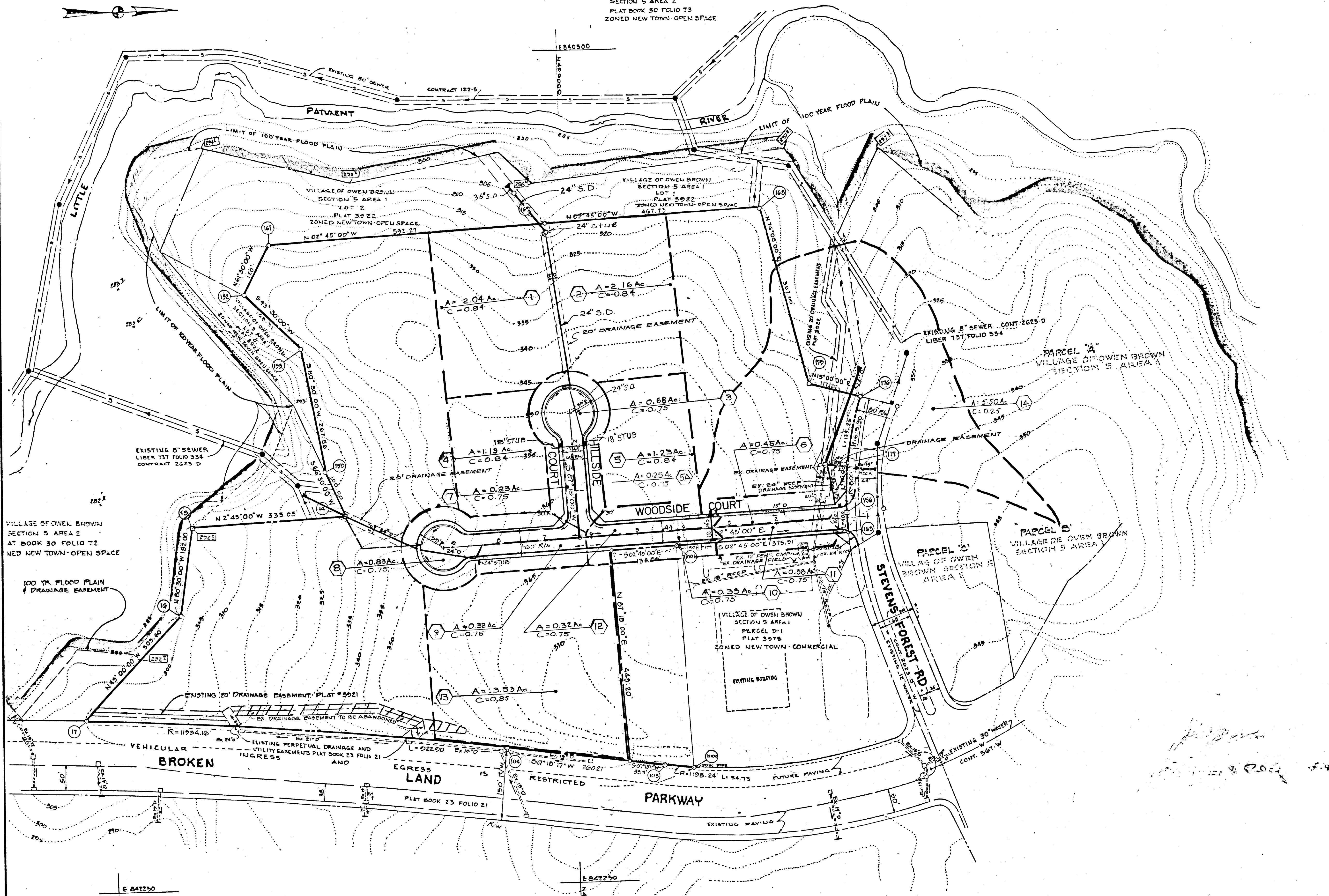
Des By	RFM	Scale	AS SHOWN	Proj No	65-0107
Drn By	FM	Date	6-23-86	Drawing No.	5 OF 9
Chk By	JPK	Approved			

AS BUILT
6/25/86
F-87-02

VILLAGE OF OWEN BROWN
SECTION 5 AREA 2
PLAT BOOK 30 FOLIO T3
ZONED NEW TOWN-OPEN SPACE



VICINITY MAP
SCALE: 1" = 200'



DEPARTMENT OF PUBLIC WORKS		
<i>[Signature]</i> 10-2-86 CHIEF, BUREAU OF ENGINEERING DATE		
DEPARTMENT OF PLANNING AND ZONING		
<i>[Signature]</i> 10-7-86 CHIEF, DIV. OF LAND DEVEL. AND ZONING ADM. DATE		
Date	No	Revision Description
OWNER AND DEVELOPER		
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE COMPANY 10275 Little Patuxent Parkway Columbia, Maryland 21044		
CENTURY ENGINEERING, INC. CONSULTING ENGINEERS - PLANNERS 32 WEST ROAD TOWSON, MARYLAND 21204		
AREA		
VILLAGE OF OWEN BROWN SECTION 5 AREA 1 TAX MAP 36 PARCEL 431 6th ELECTION DISTRICT OF HOWARD COUNTY, MD		
TITLE		
DRAINAGE AREA MAP		
Des By K.Q.	Scale 1" = 100'	Proj No 25-0107
Drn By R.F.	Date 6/23/86	Drawing No. 6 OF 9
Chk By J.P.K.	Approved	

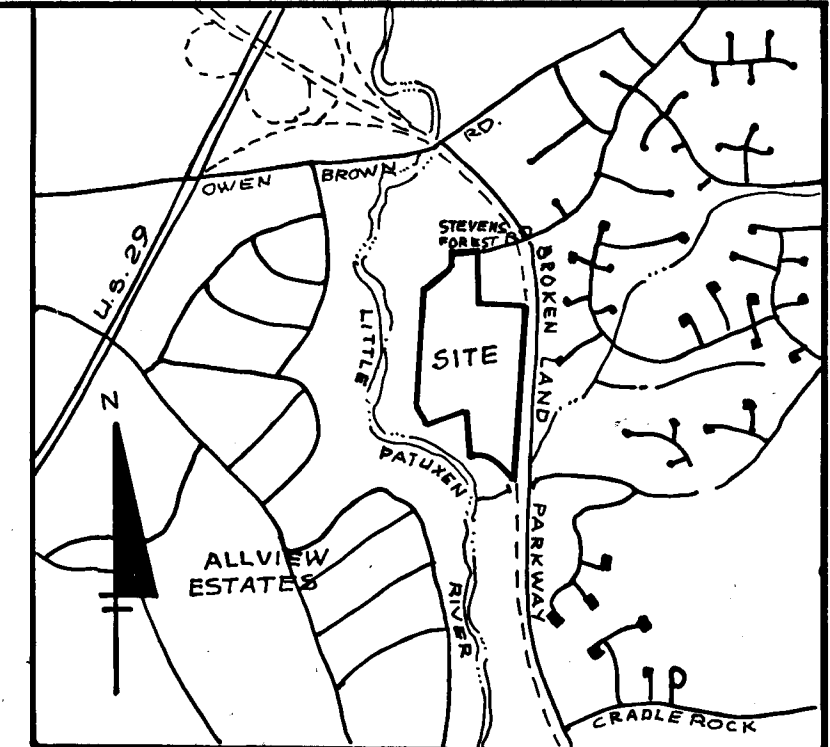
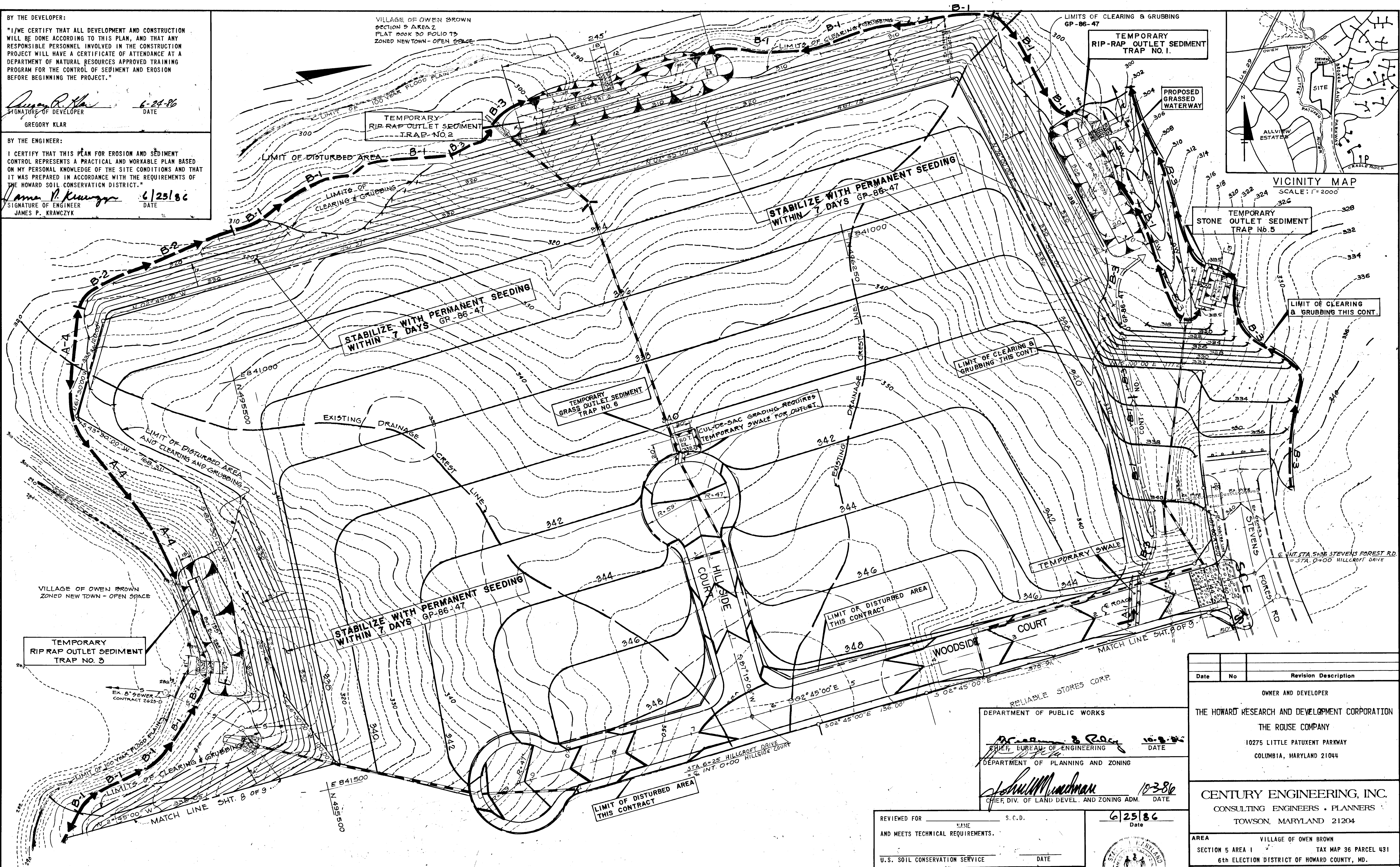
6/25/86
Date

[Signature]
Professional Engr. No. 6306

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 AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT."
Gregory Klar
 SIGNATURE OF DEVELOPER
 GREGORY KLAR
 6-24-86
 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."
James P. Kranczyk
 SIGNATURE OF ENGINEER
 JAMES P. KRANCZYK
 6/25/86
 DATE

VILLAGE OF OWEN BROWN
 SECTION 5 AREA 2
 PLAT BOOK 30 FOLIO 75
 ZONED NEW TOWN - OPEN SPACE



VICINITY MAP
 SCALE: 1" = 2000'

- NOTE:
1. FOR SEDIMENT CONTROL DETAILS SEE DWG. NO. 9 OF 9.
 2. SEED AND MULCH ALL DISTURBED AREAS IMMEDIATELY AFTER GRADING.
 3. 3:1 PERIMETER SLOPES SHALL BE STABILIZED WITH PERMANENT SEEDING WITHIN 7 DAYS.
 4. REFER TO APPROVED GRADING PLAN GP-86-47

RELIABLE STORES CORP.
 DEPARTMENT OF PUBLIC WORKS
William B. Raley
 CHIEF, BUREAU OF ENGINEERING
 DEPARTMENT OF PLANNING AND ZONING
William M. Madman
 CHIEF, DIV. OF LAND DEVEL. AND ZONING ADM.
 DATE 10-3-86

REVIEWED FOR _____ S.C.D.
 AND MEETS TECHNICAL REQUIREMENTS.
 U.S. SOIL CONSERVATION SERVICE DATE _____
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Stephen E. Smith
 HOWARD S.C.D. DATE 10/3/86

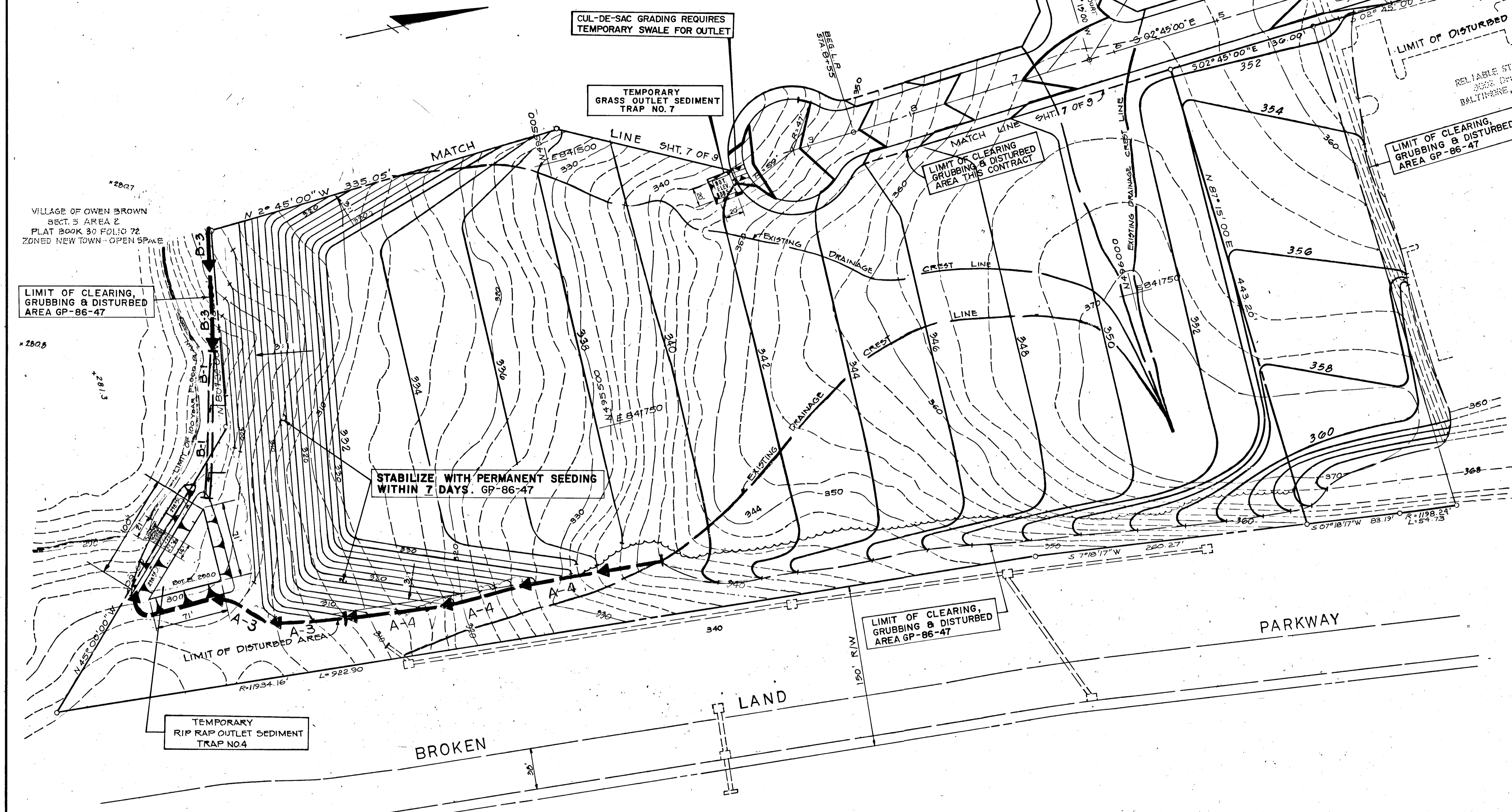
6/25/86
 Date

 Professional Engr. No. _____

Date	No.	Revision Description
OWNER AND DEVELOPER		
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION		
THE ROUSE COMPANY		
10275 LITTLE PATUXENT PARKWAY		
COLUMBIA, MARYLAND 21044		
CENTURY ENGINEERING, INC.		
CONSULTING ENGINEERS - PLANNERS		
TOWSON, MARYLAND 21204		
AREA	VILLAGE OF OWEN BROWN	TAX MAP 36 PARCEL 431
SECTION	SECTION 5 AREA 1	6th ELECTION DISTRICT OF HOWARD COUNTY, MD.
TITLE	GRADING & SEDIMENT CONTROL PLAN HILLCROFT	
Des By	G.P.Z.	Scale 1" = 50'
Drn By	R.F.	Date 6/23/86
Chk By	J.P.K.	Approved
Proj No	85-0107	Drawing No. 7 OF 9

TRAP NO.	OUTLET LENGTH (B)	TRAP DEPTH (D)	FLOW DEPTH (C)	WEIR ELEV.	DRAINAGE AREA	DISTURBED AREA	BOTTOM DIMENSION	VOL. REQ'D		BOTTOM ELEV.	CLEANOUT ELEV.	EMBANKMT ELEV.
								REQ'D	PROV.			
R.O.S.T. 1	10 FT.	4 FT.	2 FT.	302.0	7.94 Ac.	7.94 Ac.	145' x 20'	14,232	14,304	297.0	299.0	306.0
R.O.S.T. 2	12 FT.	4 FT.	2 FT.	296.0	10.38 Ac.	10.38 Ac.	245' x 15'	18,084	19,104	291.0	293.0	300.0
R.O.S.T. 3	14 FT.	4 FT.	1.5 FT.	290.0	5.85 Ac.	5.85 Ac.	125' x 15'	10,930	10,564	285.0	287.0	293.25
R.O.S.T. 4	14 FT.	4 FT.	1.5 FT.	299.0	6.18 Ac.	6.18 Ac.	100' x 11' 11"	11,124	11,250	290.0	292.0	298.25
S.O.S.T. 5	5 FT.	3 FT.	NA	318.5	0.74 Ac.	0.74 Ac.	25' x 13'	1,332	1,344	313.5	315.0	318.5
G.O.S.T. 6	CREST WIDTH 24 FT.	2.1 FT.	NA	340.1	0.54 Ac.	0.54 Ac.	20' x 20'	972	1016	338.2	340.5	NA
G.O.S.T. 7	26 FT.	3 FT.	NA	341.5	0.71 Ac.	0.71 Ac.	20' x 20'	1,278	1,587	338.5	340.0	NA

- NOTE:
- FOR SEDIMENT CONTROL DETAILS SEE DRAWING NO. 9 OF 9.
 - SEED & MULCH ALL DISTURBED AREAS IMMEDIATELY AFTER GRADING.
 - 3:1 PERIMETER SLOPE SHALL BE STABILIZED WITH PERMANENT SEEDING WITHIN 7 DAYS.
 - REFER TO APPROVED GRADING PLAN GP-86-47.



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 AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT."
 Signature of Developer: *Gregory Klar* DATE: 6-24-86
 GREGORY KLAR

BY THE ENGINEER:
 I CERTIFY THAT HIS 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: *James P. Krawczyk* DATE: 6/25/86
 JAMES P. KRAWCZYK

REVIEWED FOR HOWARD S.C.D. NAME AND MEETS TECHNICAL REQUIREMENTS.
 Signature: *Stephen M. Holm* DATE: 10-3-86
 U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: *Stephen L. Frank* DATE: 10/3/86
 HOWARD S.C.D.

Date	No	Revision Description

OWNER AND DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE COMPANY,
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS - PLANNERS
 TOWSON, MARYLAND 21204

AREA VILLAGE OF OWEN BROWN
 SECTION 5 AREA 1 TAX MAP 36 PARCEL 431
 6th ELECTION DISTRICT OF HOWARD COUNTY, MD.

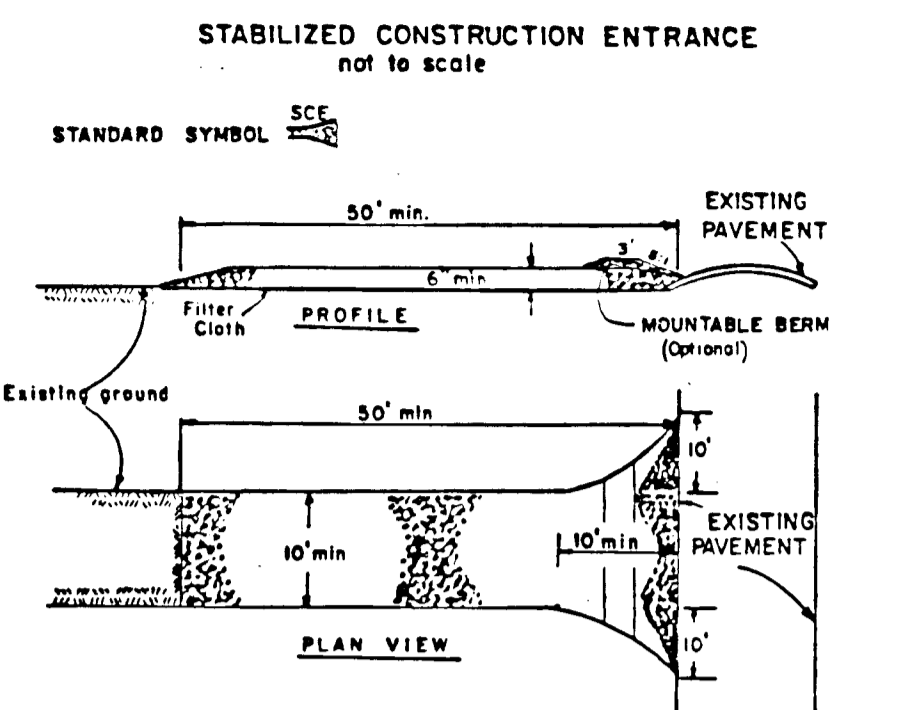
TITLE GRADING & SEDIMENT CONTROL PLAN

Des By G.D.Z. Scale 1" = 50' Proj No 85-0107
 Drn By J.P. Date 6/23/86 Drawing No. 8 OF 9
 Chk By J.P.K. Approved

DEPARTMENT OF PUBLIC WORKS
 Signature: *William J. ...* DATE: 10-3-86
 CHIEF, BUREAU OF ENGINEERING

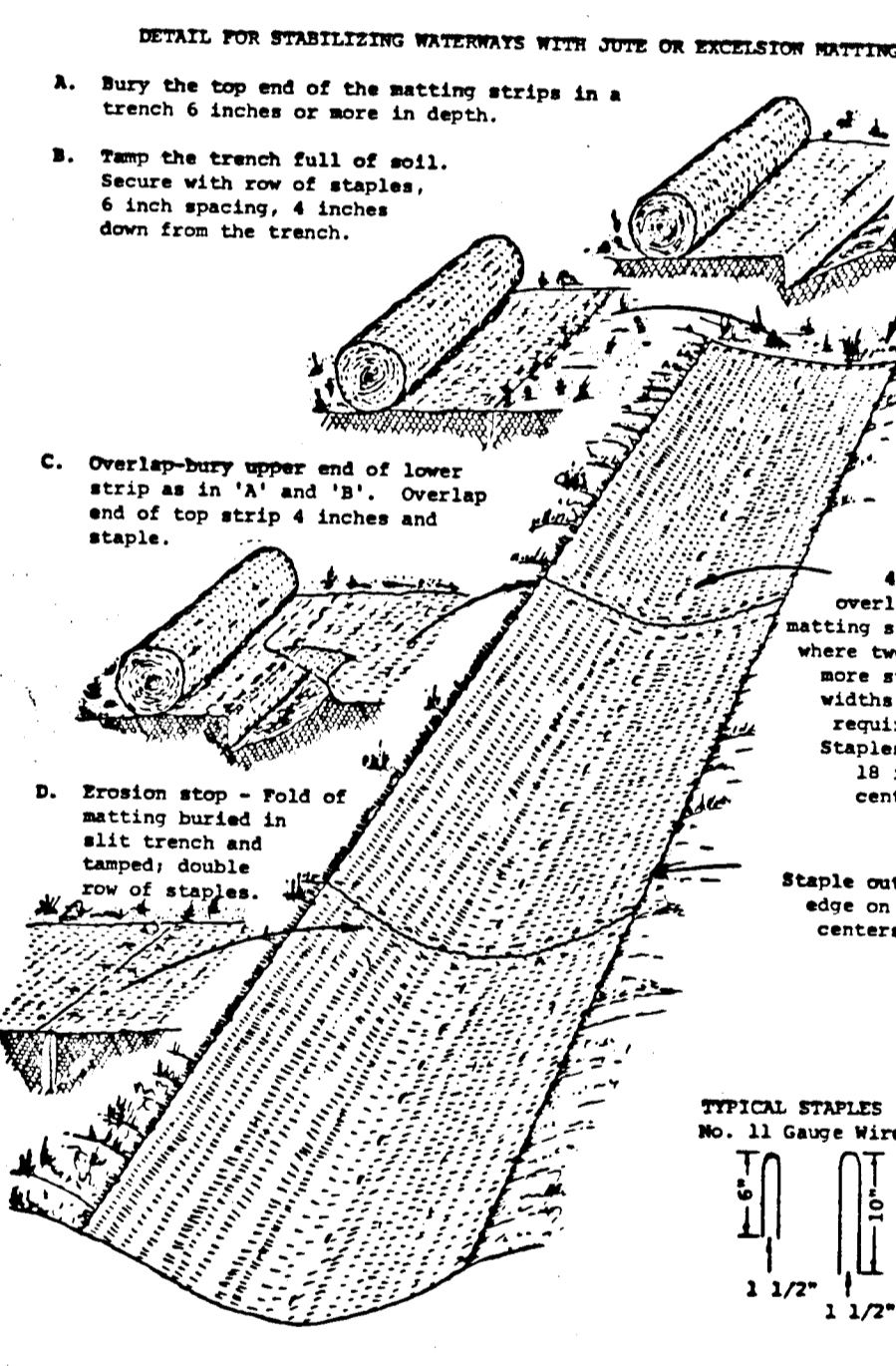
DEPARTMENT OF PLANNING AND ZONING
 Signature: *William ...* DATE: 10-3-86
 CHIEF DIV. OF LAND DEVL. AND ZONING ADM.

6/25/86
 Date
 Signature: *James P. Krawczyk*
 Professional Engr. No. 6906

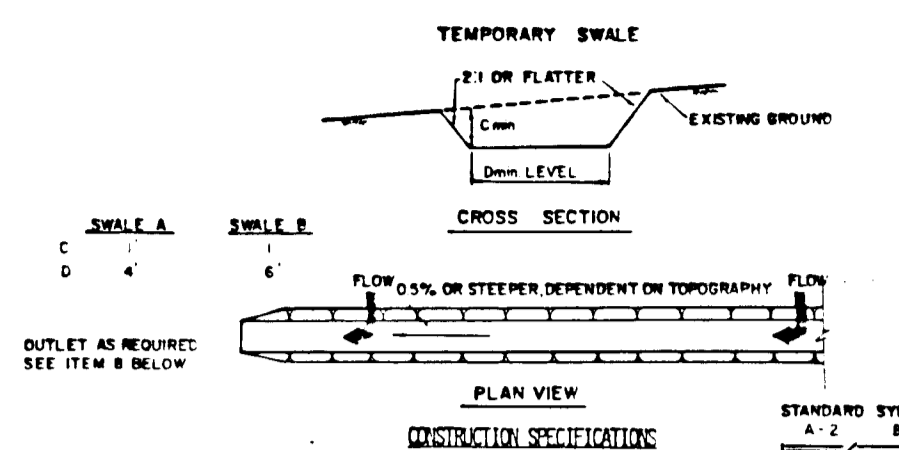
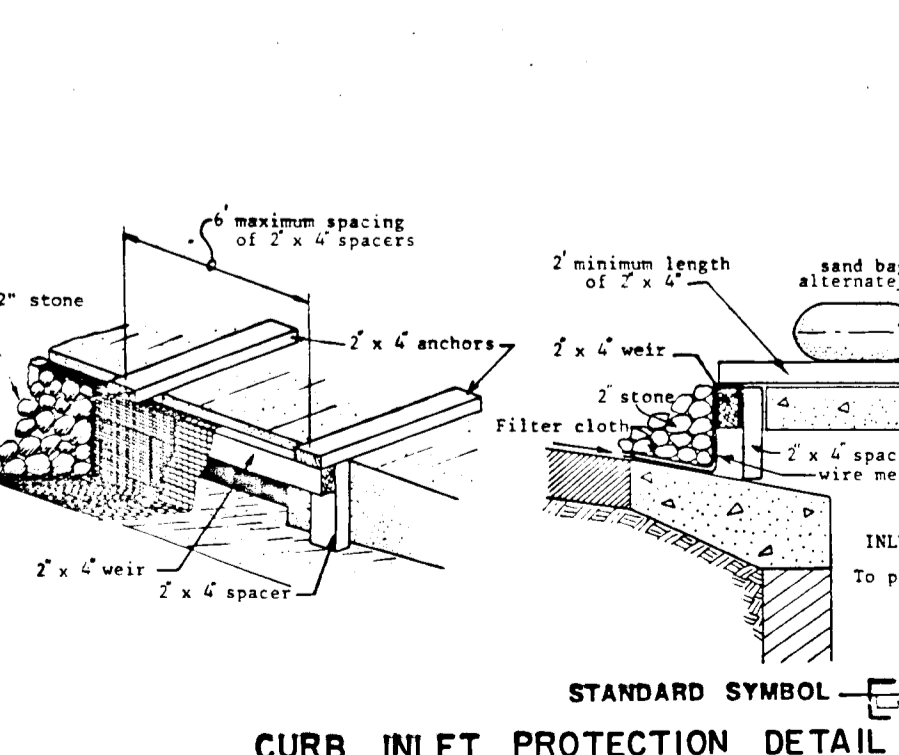


- CONSTRUCTION SPECIFICATIONS**
- Stone Size - One 12" stone, or reclaimed or recycled concrete equivalent.
 - Length - As required, but not less than 50 feet (except on a single residential lot where a 30 foot minimum length would apply).
 - Thickness - Not less than six (6) inches.
 - Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
 - Filter cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residential lot.
 - Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mounatable beam with 3:1 slopes will be permitted.
 - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleaning of any measures used to trap sediment. All sediment applied, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 - Washing - Stone 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.
 - Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE DETAIL



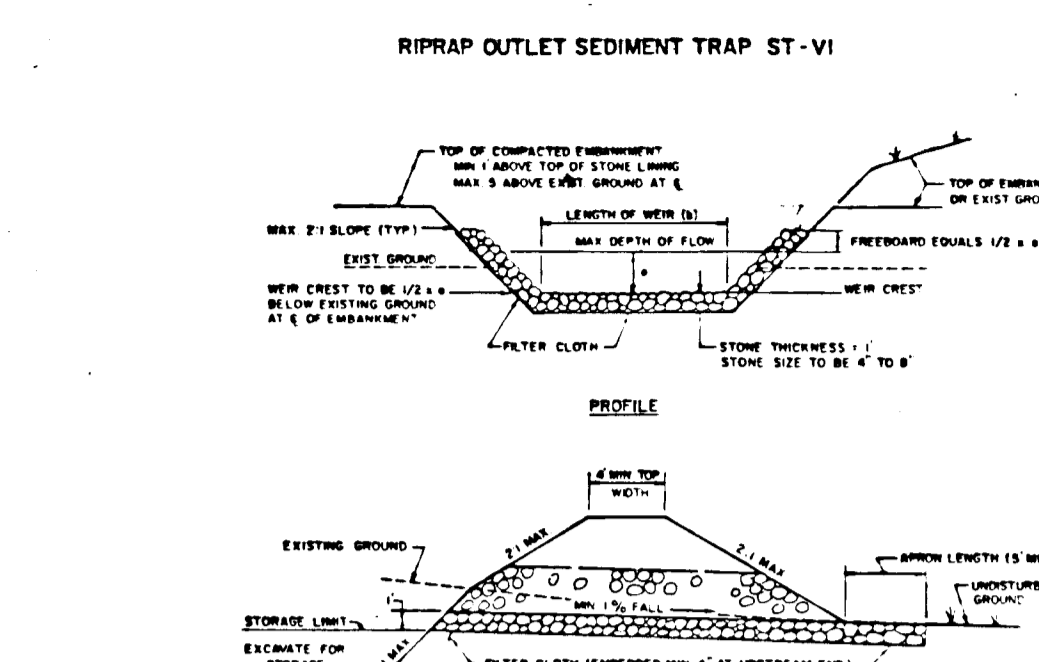
DETAIL FOR STABILIZING WATERWAYS



- All temporary swales shall have uninterrupted positive grade to an outlet.
- Diverted runoff from a disturbed area shall be conveyed to a sediment trapping device.
- Diverted runoff from an undisturbed area shall outlet directly into an undisturbed stabilized area at non-erosive velocity.
- All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
- The swale 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.
- Fills shall be compacted by earth moving equipment.
- All earth removed and not needed in construction shall be placed so that it will not interfere with the functioning of the swale.
- Stabilization shall be as per the chart below:

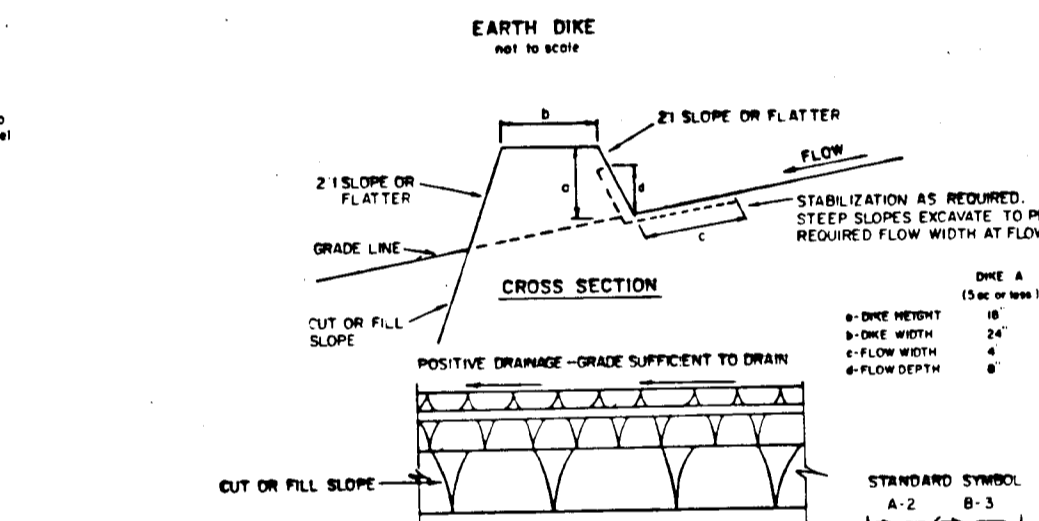
TYPE OF TREATMENT	CORRECTION	A (S AC OR LESS)	B (S AC - 10 AC)
1	0.5-3.0 AC	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0 AC	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELLEN
3	5.1-8.0 AC	SEED WITH JUTE OR EXCELLEN	LINED RIP-RAP 4-8"
4	8.1-20+ AC	LINED 4-8" RIP-RAP	ENGINEERED DESIGN

TEMPORARY SWALE DETAIL



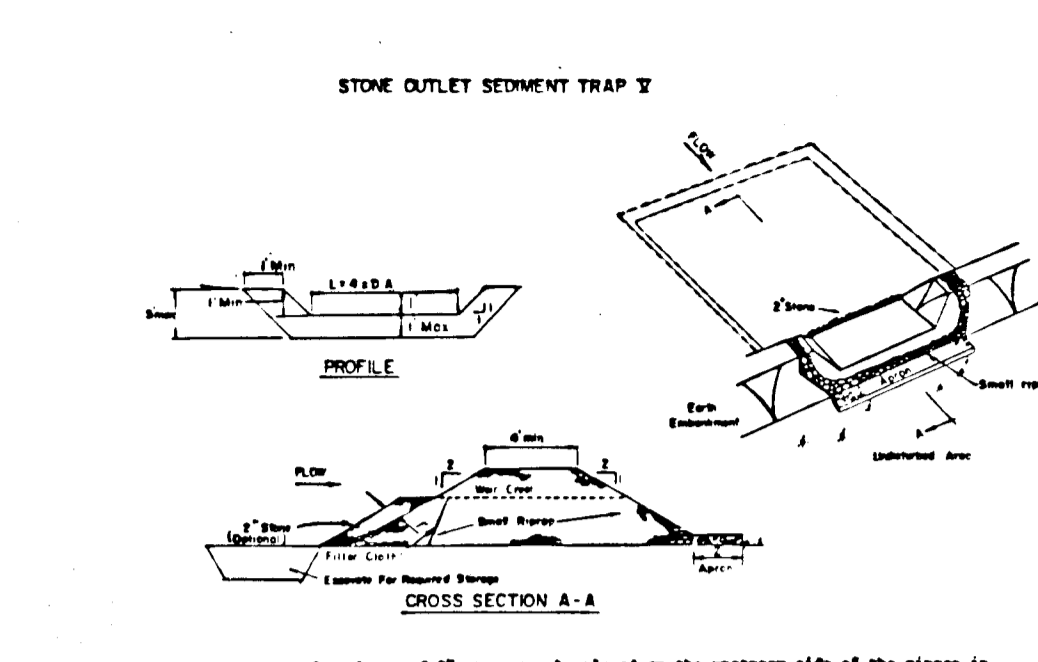
- All dikes shall be compacted by earth-moving equipment.
- All dikes shall have positive drainage to an outlet.
- Top width may be wider and side slopes may be flatter if desired to facilitate crossing by construction traffic.
- FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
- EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF SEDIMENT. RUNOFF 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.
- STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH; (B) FLOW CHANNEL; (C) FLOW CHANNEL, AS PER THE CHART BELOW:

RIPRAP OUTLET SEDIMENT TRAP DETAIL



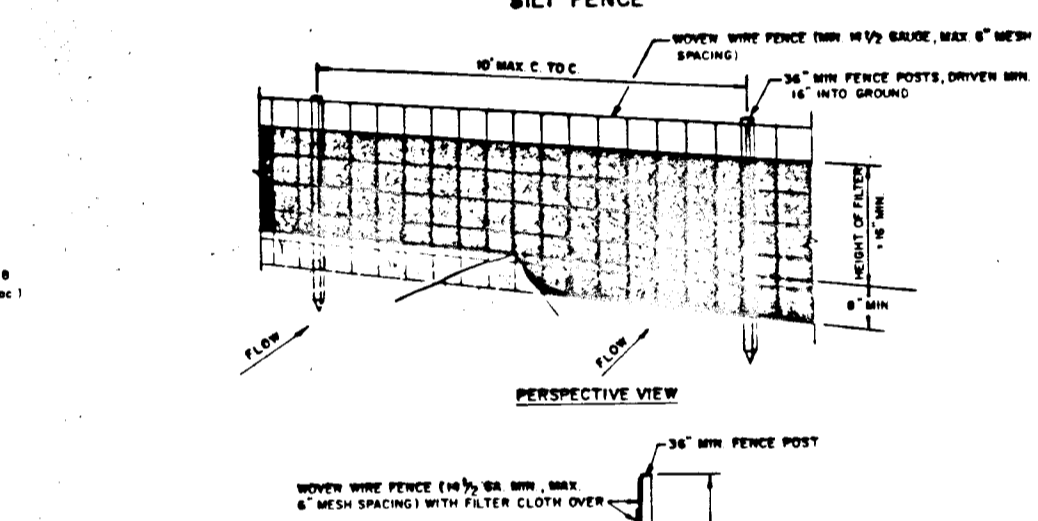
- When wire fence is fastened securely to fence posts with wire ties or staples.
- Filter cloth to be fastened securely to fence posts with wire ties or staples.
- When the sections of filter cloth are joined, each end shall be overlapped by six inches and folded.
- Maintenance shall be performed as needed and material removed when needed.

EARTH DIKE DETAIL



- When wire fence is fastened securely to fence posts with wire ties or staples.
- Filter cloth to be fastened securely to fence posts with wire ties or staples.
- When the sections of filter cloth are joined, each end shall be overlapped by six inches and folded.
- Maintenance shall be performed as needed and material removed when needed.

STONE OUTLET SEDIMENT TRAP DETAIL



- When wire fence is fastened securely to fence posts with wire ties or staples.
- Filter cloth to be fastened securely to fence posts with wire ties or staples.
- When the sections of filter cloth are joined, each end shall be overlapped by six inches and folded.
- Maintenance shall be performed as needed and material removed when needed.

SILT FENCE DETAIL

SEDIMENT CONTROL NOTES

- 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. (892-2437)
- 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.
- Following initial soil disturbance or redistribution, 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.
- 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.
- 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) and Sec. 54), temporary seedings (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.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permanent stabilization has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	29.96	Acres
Area to be Seeded	1.91	Acres
Area to be vegetatively stabilized	0.50	Acres
Total Area	2.41	Acres
Total Seed	1,800	Lbs.
Total Mulch	1,800	Cu. Yds.
- Any sediment control practice which is disturbed by grading activity or other construction shall be repaired on the same day of disturbance.

TEMPORARY SEEDING

- Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.
- Seeding Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding.
- 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 75 bushel per acre of annual ryegrass (3.2 lbs/1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 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 soil.
- Mulching: Apply 1) 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.

PERMANENT SEEDING

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Seeding Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding.
- Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:
- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Barrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureamote fertilizer (9 lbs/1000 sq. ft.).
 - 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. Barrow 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 80 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall fescue. For the period May 1 thru July 31, seed with 80 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 soil. Option (3) seed with 80 lbs/acre Kentucky 31 Tall fescue and mulch with 2 tons/acre well anchored straw.
- Mulching - Apply 1) 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 gals. per acre (8 gal/1000 sq ft) for anchoring.
- Maintenance - Inspect all seeded areas and make needed repairs, replacements and re-seeding.

- SEQUENCE OF CONSTRUCTION**
- OBTAIN GRADING PERMIT.
 - NOTIFY THE DPW SEDIMENT CONTROL INSPECTOR OF HOWARD COUNTY, 24 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.
 - STAKE OUT LIMITS OF WORK, PROPOSED ROADS, GRADING AND SEDIMENT AND EROSION CONTROL STRUCTURES.
 - MAINTAIN EXISTING STABILIZED CONSTRUCTION ENTRANCE AND MAINTAIN TEMPORARY SWALE LOCATED AT ENTRANCE TO PERMIT TRAFFIC CROSSING. REFER TO APPROVED PLAN GP-86-47.
 - CLEAR, GRUB AND REMOVE DEBRIS FROM SITE.
 - CONSTRUCT EARTH DIKES.
 - EXCAVATE AND GRADE PROPOSED GRASSED WATERWAY.
 - EXCAVATE SEDIMENT TRAP NO. 5 AND INCREASE SEDIMENT TRAP NO. 1 TO DIMENSIONS SHOWN ON THE PLANS.
 - PRIOR TO REMOVAL OF EXISTING SEDIMENT TRAPS NO. 2, 3 & 4, CONSTRUCT SEDIMENT TRAPS NO. 6 & 7.
 - PROVIDE TEMPORARY SWALES, STABILIZE CONSTRUCTION ENTRANCE DURING GRADING OPERATIONS.
 - BEGIN UTILITY AND STORM DRAIN CONSTRUCTION.
 - STORM DRAIN INLETS SHALL BE BLOCKED AND TEMPORARY SWALES WILL BE MAINTAINED WITH CURB OPENINGS UNTIL ROADBED IS STABILIZED.
 - BEGIN GRADING IN AREA NEAR END OF STEVENS FOREST ROAD.
 - BEGIN ROAD GRADING, CURB & GUTTER PLACEMENT AND PAVING.
 - CONTRACTOR IS GIVEN 180 DAYS FROM THE TIME THE AREA IS DISTURBED TO THE TIME THE AREA SHALL BE STABILIZED. CONTRACTOR SHALL STABILIZE SUCH AREAS IN ACCORDANCE WITH THE TEMPORARY SEEDING NOTES.
 - UPON COMPLETION OF ALL GRADING OPERATIONS AND APPROVAL BY HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR, PUMP OUT AND BACKFILL ALL TRAPS. REMOVE TEMPORARY SWALES, STABILIZE CONSTRUCTION ENTRANCE AND EARTH DIKES. STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES.

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 at a Department of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project."

James P. Krawczyk 6-25-86
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."

James P. Krawczyk 6/25/86
Signature of Engineer Date

Reviewed for HOWARD S.C.D. Name: _____ and needs Technical Requirements. Date: 10-3-86

Stephen L. Hinkle 10/3/86
Howard S.C.D. Date

OWNER AND DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION

THE ROUSE COMPANY
10275 Little Patuxent Parkway
Columbia, Maryland 21044

CENTURY ENGINEERING, INC.

CONSULTING ENGINEERS • PLANNERS
32 WEST ROAD
TOWSON, MARYLAND 21204

AREA VILLAGE OF OWEN BROWN
SECTION 5 AREA 1 TAX MAP 36 PARCEL 431
6th ELECTION DISTRICT OF HOWARD COUNTY, MD

TITLE EROSION & SEDIMENT CONTROL DETAILS

Des By	RFM	Scale	NO SCALE	Proj No	85-0107
Drn By	FM	Date	6/23/86	Drawing No.	9 OF 9
Chk By	J.P.K.	Approved			

DEPARTMENT OF PUBLIC WORKS

6/23/86 Date

STATE OF MARYLAND PROFESSIONAL ENGINEER

DEPARTMENT OF PLANNING AND ZONING

10-3-86 DATE

Professional Engr. No. 6906

6/23/86 Date

STATE OF MARYLAND PROFESSIONAL ENGINEER

DEPARTMENT OF PLANNING AND ZONING

10-3-86 DATE

Professional Engr. No. 6906