

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILES OF ROADWAYS
3	PROFILES AND DETAILS
4	DETAILS
5	DRAINAGE AREA MAP & STORM WATER MANAGEMENT PLAN
6	S.W.M., SEDIMENT CONTROL & GRADING PLAN & DETAILS

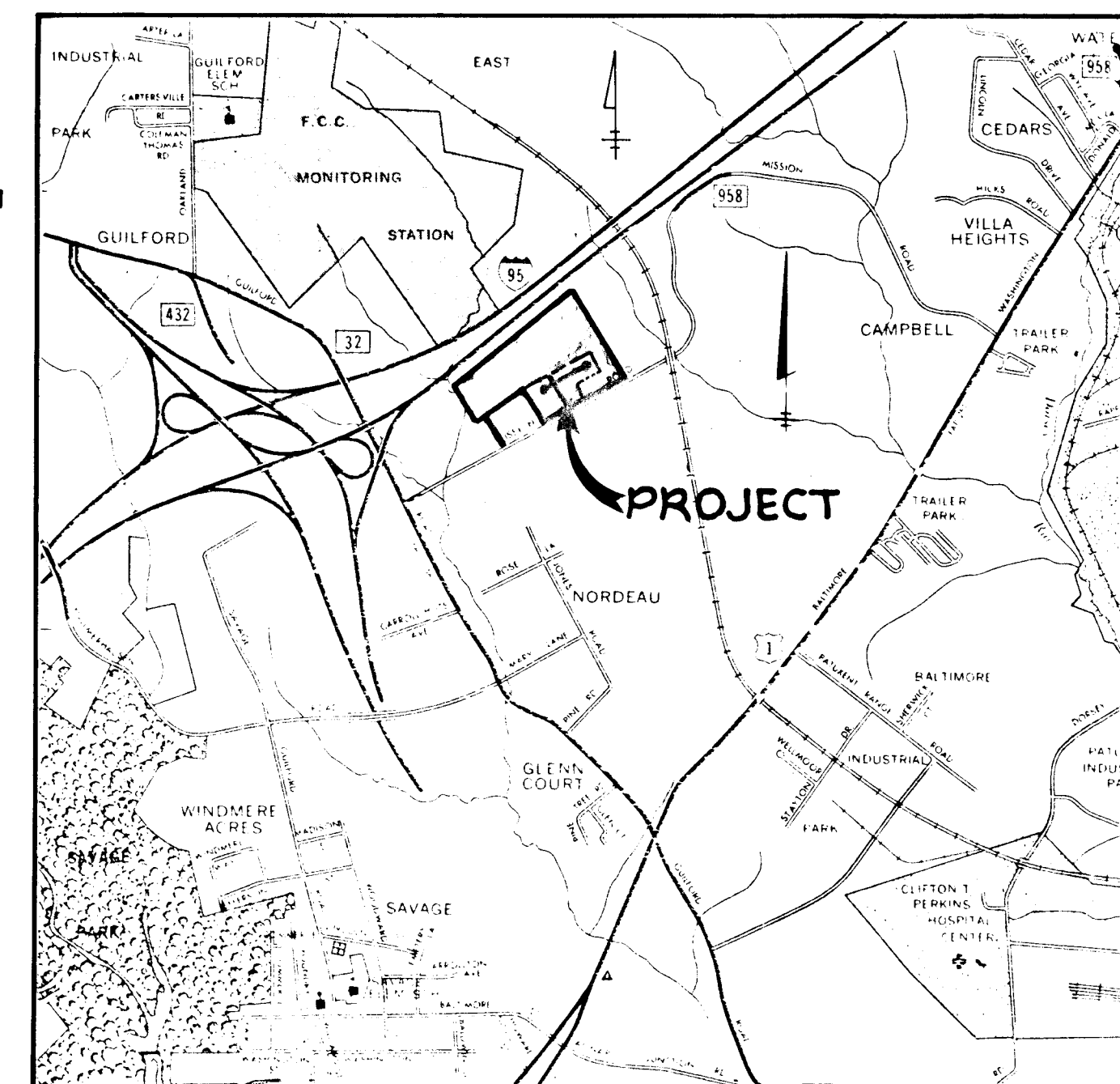
# ROADWAY, STORM DRAIN & STORM WATER MANAGEMENT

# MISSION HEIGHTS

## SECTION I

### 6TH ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND

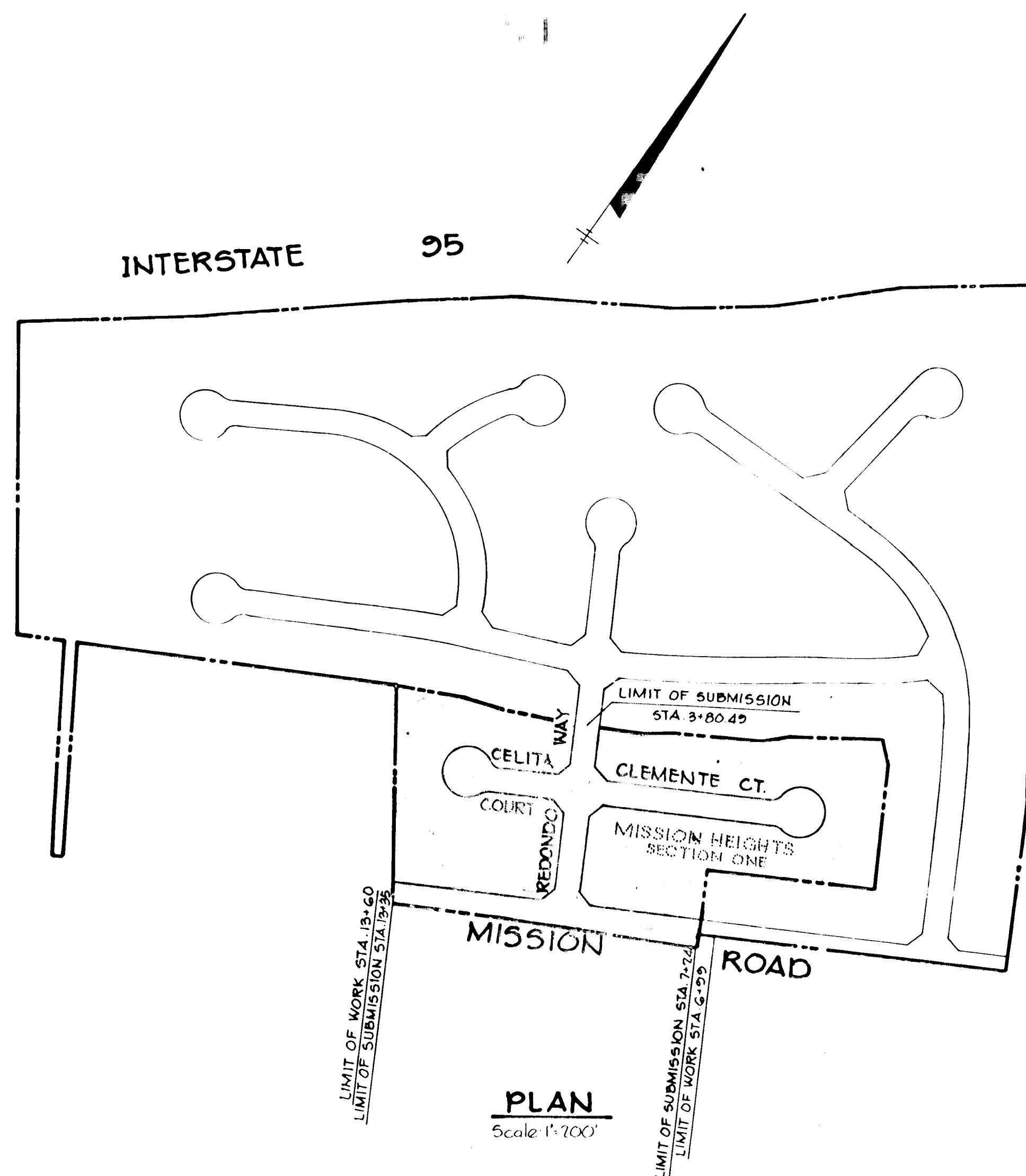


VICINITY MAP  
SCALE: 1" = 2,000'

GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR ROAD CONSTRUCTION.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION 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 CONSTRUCTION OPERATIONS.
- CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES AT LEAST THREE DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS:
 

BELL TELEPHONE SYSTEM	393-3649
LONG DISTANCE CABLE DIVISION	393-3553 OR 3554
BALTIMORE GAS AND ELECTRIC COMPANY	539-8000 EXT. 691
HOWARD COUNTY BUREAU OF UTILITIES	992-2300
HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION	992-2417/2418
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURB RETURNS SHALL HAVE 45.0' RADII UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1971 EDITION.
- 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.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:  
ALL CUL-DE-SACS DESIGNED FOR 25 M.P.H., ALL LOCAL STREETS DESIGNED FOR 30 M.P.H.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM 1929.
- ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM 95% COMPACTION.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- SUBJECT PROPERTY ZONED R-5C PER 10-3-77 COMPREHENSIVE ZONING PLAN.



PLAN  
Scale: 1" = 200'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>J. Ripley (acting chief)</i> 8/18/81	
APPROVED: GREENBRIAR VENTURE <i>William E. Ripley</i> 9/9/81	
DATE	REVISION
1-15-81	REVISED AS PER H.C. COMMENTS DATED 5-21-81
4-20-81	REVISED AS PER H.C. COMMENTS DATED 4-1-81
OWNER: GREENBRIAR VENTURE 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	
DEVELOPER: SECURITY DEVELOPMENT CORPORATION 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043	
PROJECT: MISSION HEIGHTS SECTION I AREA 1 LOTS 1 THRU 37	
AREA: TAX MAP NO. 42 RESUBDIVISION OF PARCELS 77 & 371 ELECTION DISTRICT N <sup>o</sup> 6 HOWARD COUNTY, MARYLAND	
TITLE: TITLE SHEET	
<b>Riemer-Tracy &amp; Associates, Inc.</b> 8558 Baltimore National Pike Ellicott City, Maryland 21043 (301) 461-2690 Land Planning, Design & Civil Engineering	
DATE: 6-5-81	DESIGNED BY: R.J.W.
	DRAWN BY: D.A.M.
	PROJECT NO: 0720
	DATE: 2/19/81
	SCALE: 1" = 200'
	DRAWING NO. 1 OF 6
 <i>William Rasch</i> PROFESSIONAL ENGR. NO. 5166	
AS-BUILT 6-9-83 REVISED 1-15-82 7-81-93 AUGUST 13, 1981	

NOTE HORIZONTAL AND VERTICAL CONTROL REFERENCES:  
HOWARD COUNTY MON. No. 2243001, 2243002 & 2142003

AS-BUILT JUNE 9, 1983  
AS-BUILT SURVEY CERTIFIED BY WILLIAM RASCH, MD. PROFESSIONAL ENGINEER No.

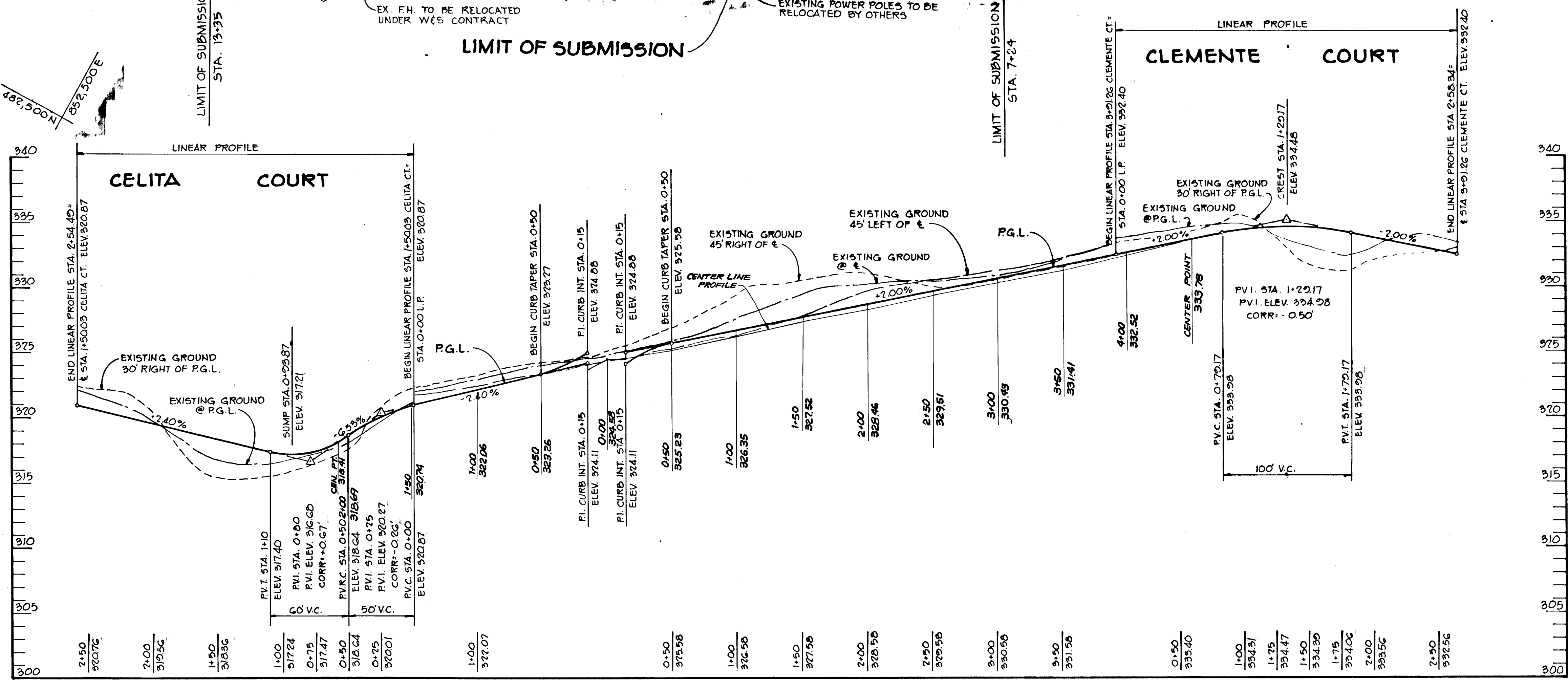
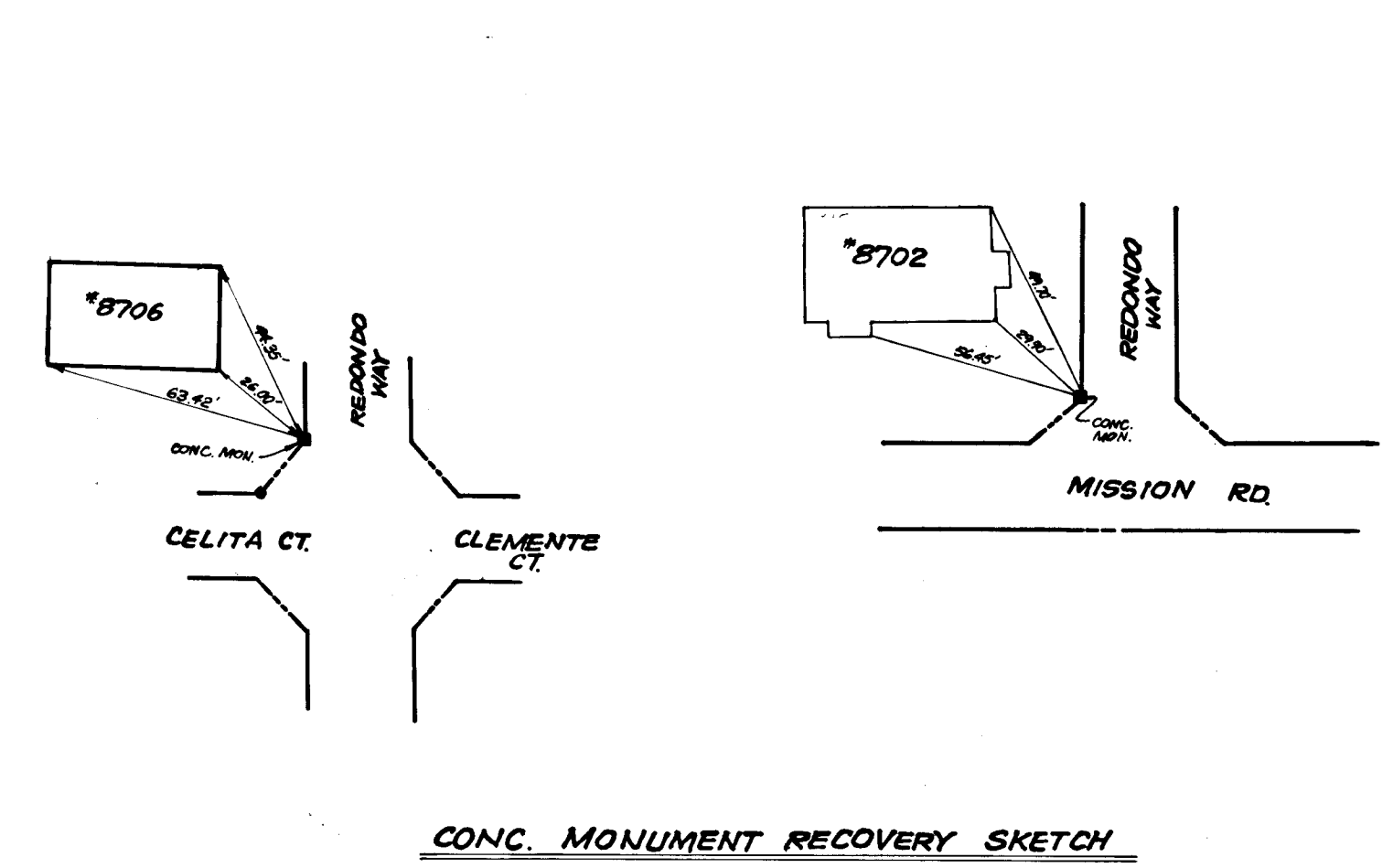
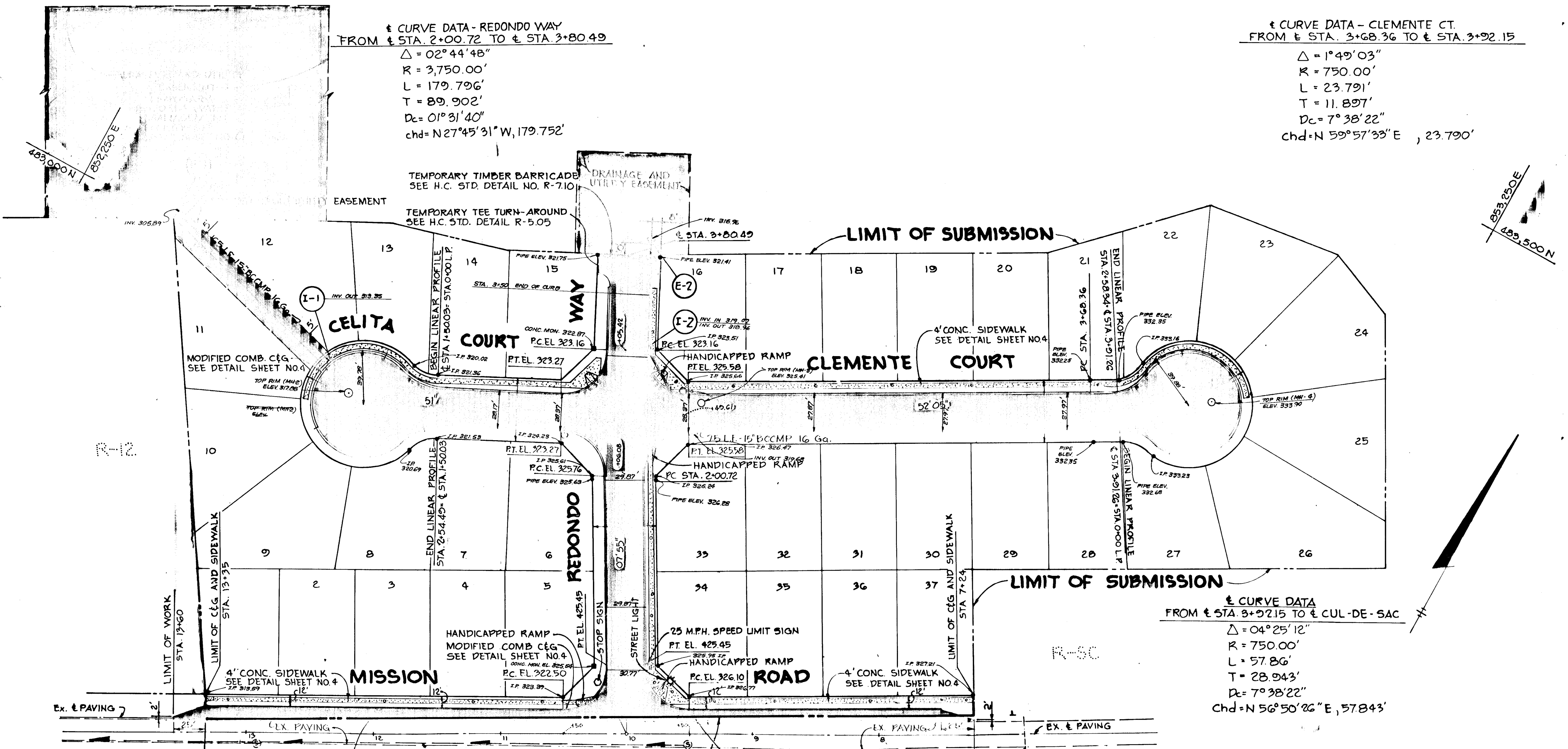
AS-BUILT 6-9-83 REVISED 1-15-82

MANUFACTURED BY BURNING CO., INC.

CURVE DATA - REDONDO WAY  
 FROM STA. 2+00.72 TO STA. 3+80.49  
 $\Delta = 02^{\circ}44'48''$   
 $R = 3,750.00'$   
 $L = 179.796'$   
 $T = 89.902'$   
 $D_c = 01^{\circ}31'40''$   
 $Chd = N27^{\circ}45'31''W, 179.752'$

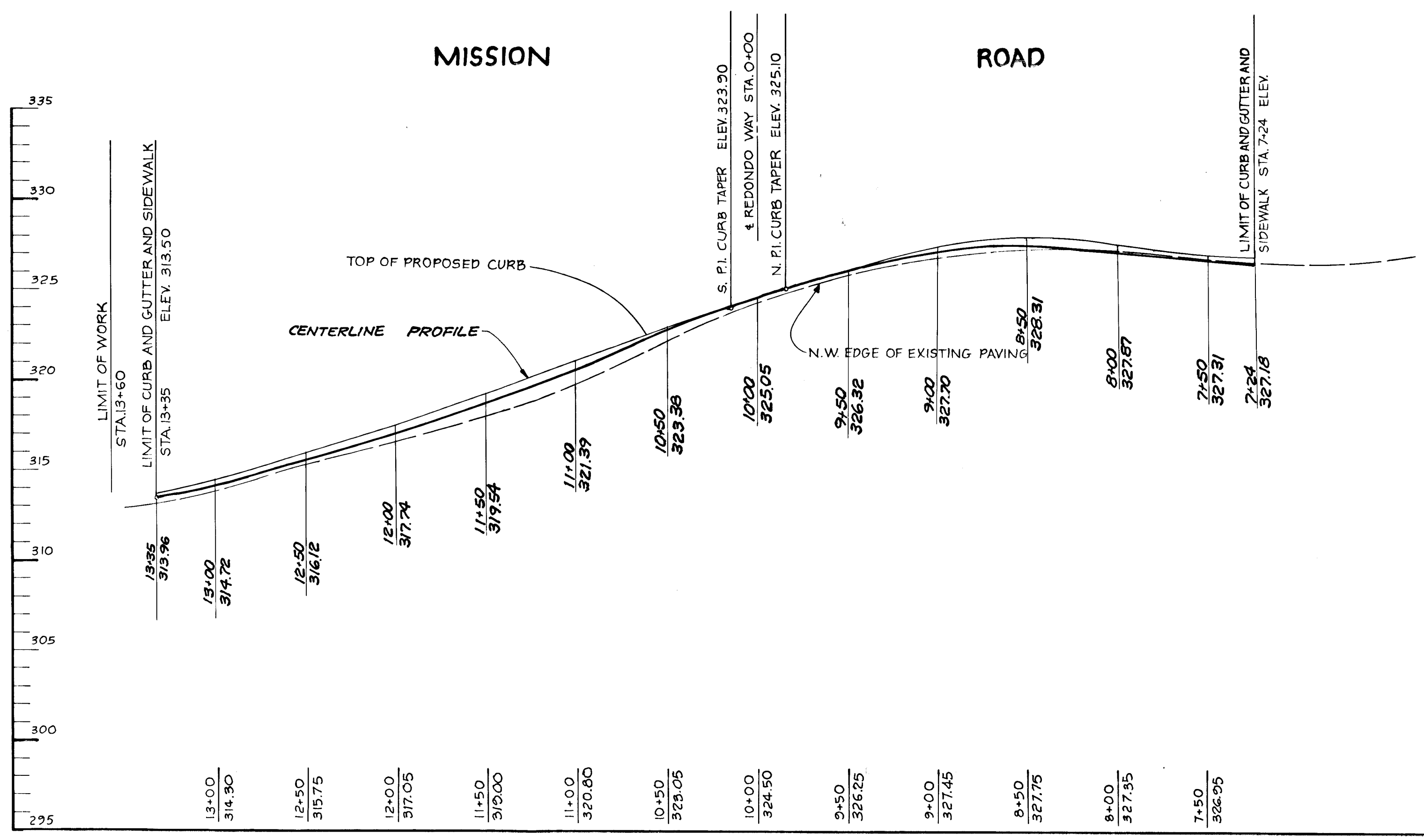
CURVE DATA - CLEMENTE CT.  
 FROM STA. 3+68.36 TO STA. 3+92.15  
 $\Delta = 1^{\circ}49'03''$   
 $R = 750.00'$   
 $L = 23.791'$   
 $T = 11.897'$   
 $D_c = 7^{\circ}38'22''$   
 $Chd = N59^{\circ}57'33''E, 23.790'$

CURVE DATA  
 FROM STA. 3+92.15 TO STA. CUL-DE-SAC  
 $\Delta = 04^{\circ}25'12''$   
 $R = 750.00'$   
 $L = 57.86'$   
 $T = 28.943'$   
 $D_c = 7^{\circ}38'22''$   
 $Chd = N56^{\circ}50'26''E, 57.843'$

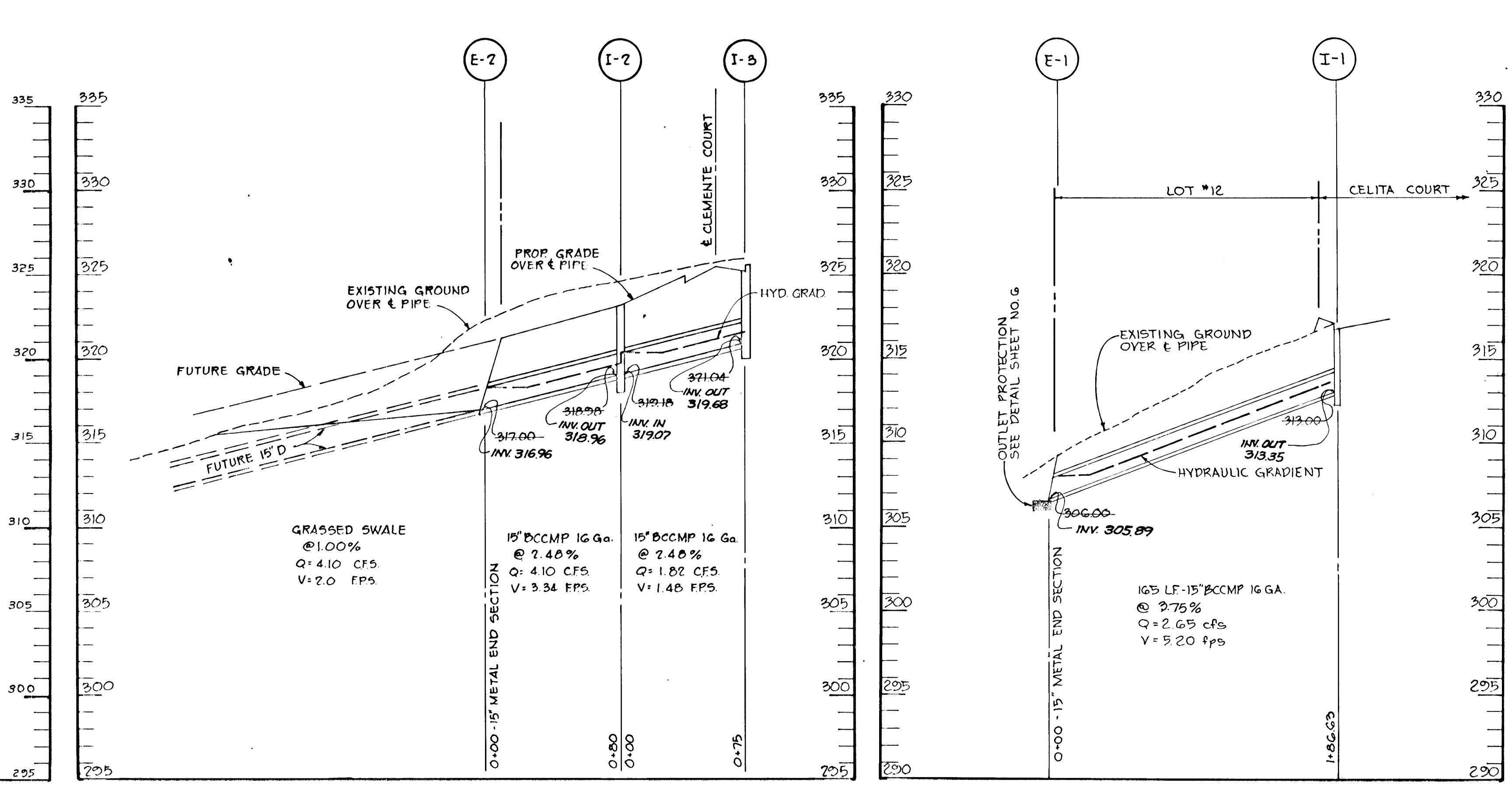


APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING <i>J. Proby (Acting Chief)</i> 8/18/81 CHIEF, DIVISION OF PLANNING, DEVELOPMENT AND ZONING ADMINISTRATION	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
DESIGNED BY: <i>M. S. R. R.</i> 9/18/81	DATE
5-28-81	REVISED AS PER H.C. COMMENTS DATED 5-21-81
4-20-81	REVISED AS PER H.C. COMMENTS DATED 4-1-81
DATE	REVISION
OWNER	GREENBRIAR VENTURE 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043
DEVELOPER	SECURITY DEVELOPMENT CORPORATION 8450 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21043
PROJECT	MISSION HEIGHTS SECTION 1 AREA 1 LOTS 1 THRU 37
AREA	TAX MAP NO. 42 RESUBDIVISION OF PARCELS 77 & 871 ELECTION DISTRICT N'G HOWARD COUNTY, MARYLAND
TITLE	PLAN AND PROFILE OF ROADWAYS
<b>Riemer - Tracy &amp; Associates, Inc.</b> 8659 Baltimore National Pike Ellicott City, Maryland 21043 (301) 461-2690 Land Planning, Design & Civil Engineering	
DATE 6-5-81	DESIGNED BY: R.J.W.
	DRAWN BY: D.A.M.
	PROJECT NO: 0280
	DATE: 2/10/81
	SCALE: 1" = 50'
PROFESSIONAL ENGR. NO. 05566	DRAWING NO. 2 OF 6

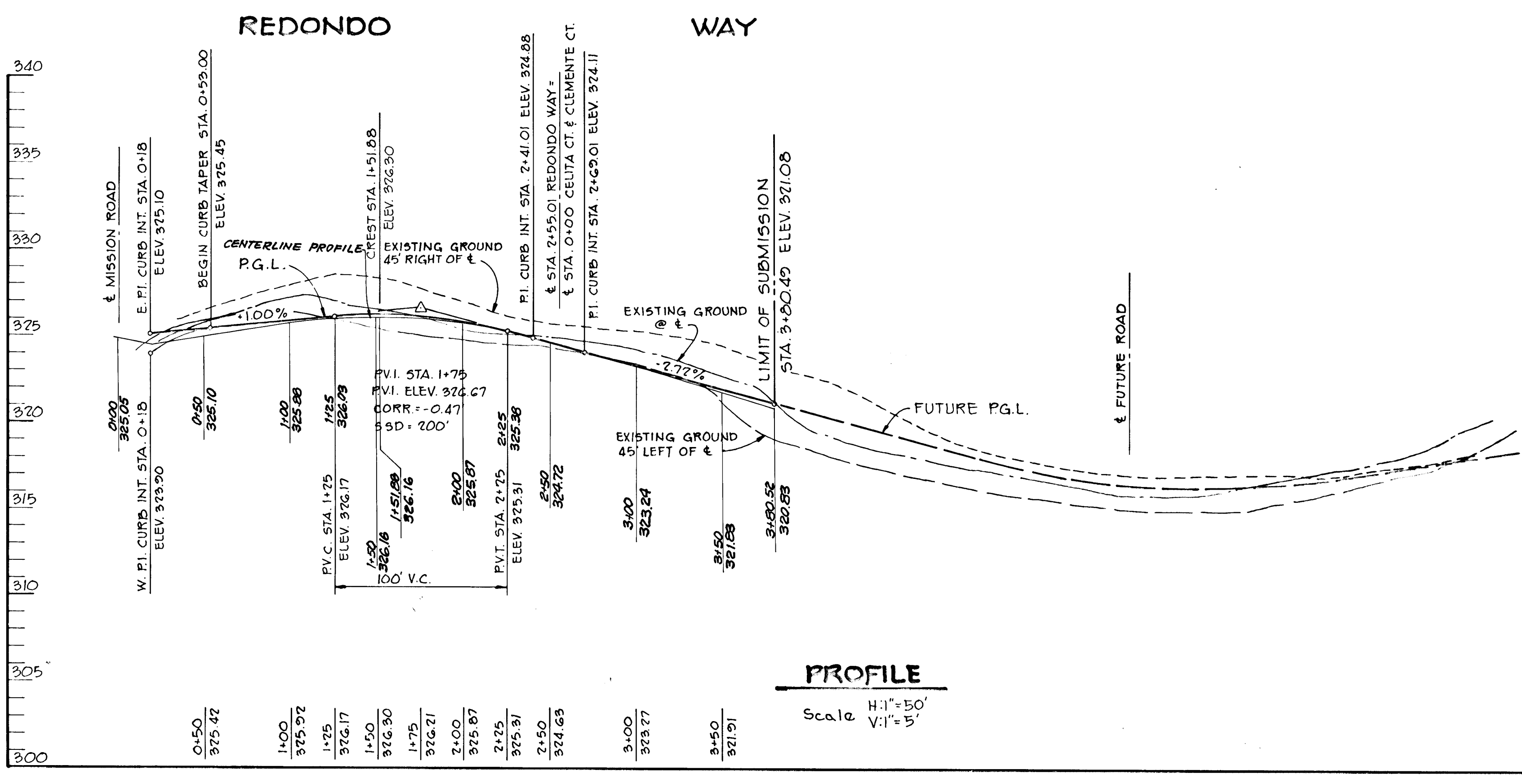




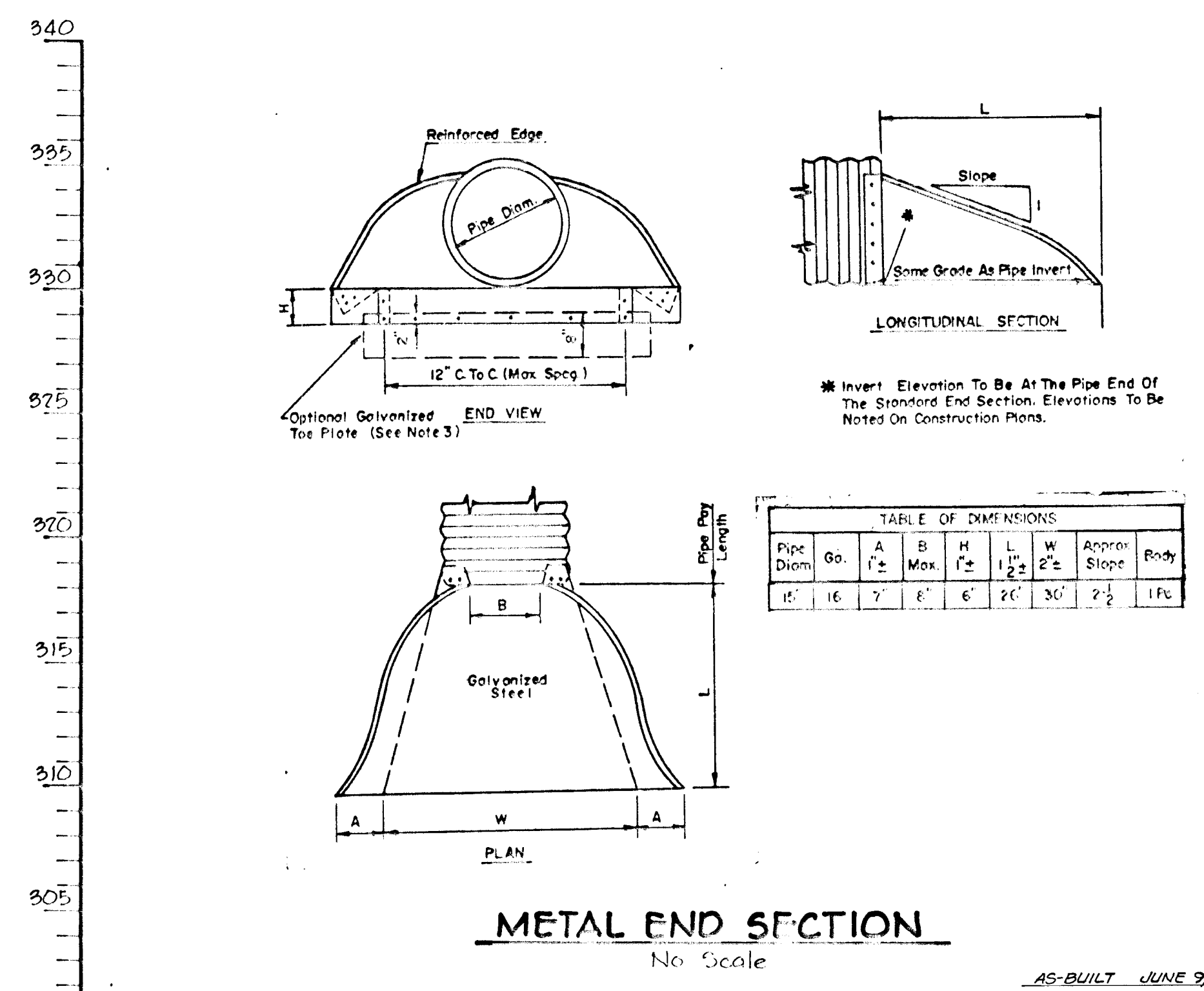
**PROFILE**  
Scale: H: 1" = 50'  
V: 1" = 5'



**PROFILES**  
SCALE: H: 1" = 50'  
V: 1" = 5'



**PROFILE**  
Scale: H: 1" = 50'  
V: 1" = 5'



**METAL END SECTION**  
No Scale

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*J. P. ...* 8/18/81  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*William G. Rasch* 9/18/81  
 CHIEF, BUREAU OF ENGINEERING

5-28-81 REVISD AS PER H.C. COMMENTS DATED 5-21-81  
 4-20-81 REVISD AS PER H.C. COMMENTS DATED 4-1-81

OWNER: GREENBRIAR VENTURE  
 8450 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21043

DEVELOPER: SECURITY DEVELOPMENT CORPORATION  
 8450 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21043

PROJECT: MISSION HEIGHTS  
 SECTION 1, AREA 1  
 LOTS 1 THRU 37

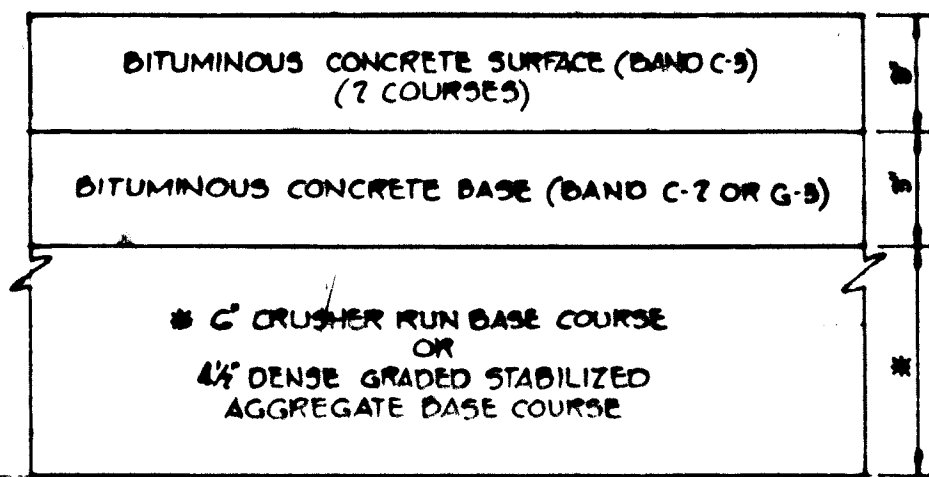
AREA: TAX MAP NO. 47  
 RESUBDIVISION OF PARCELS 77 & 371  
 ELECTION DISTRICT N<sup>o</sup> 6 HOWARD COUNTY, MARYLAND

TITLE: PROFILES AND DETAILS

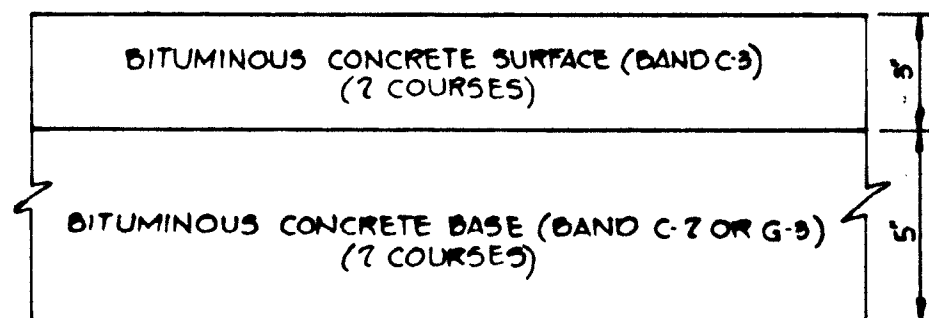
**Riemer - Tracy & Associates, Inc.**  
 8659 Baltimore National Pike  
 Ellicott City, Maryland 21043  
 (301) 461-2690  
 Land Planning, Design & Civil Engineering

DESIGNED BY: J.K.T.  
 DRAWN BY: L.S.T.  
 PROJECT NO: 0280  
 DATE: 2/19/81  
 SCALE: AS SHOWN  
 DRAWING NO. 3 OF 6

AS-BUILT - JUNE 9, 1983  
 AS-BUILT SURVEY CERTIFIED BY  
 WILLIAM G. RASCH, MD, PROFESSIONAL  
 ENGINEER No.



(ALTERNATE PAVING)



HOWARD COUNTY STANDARD (DRAWING NO. 8)

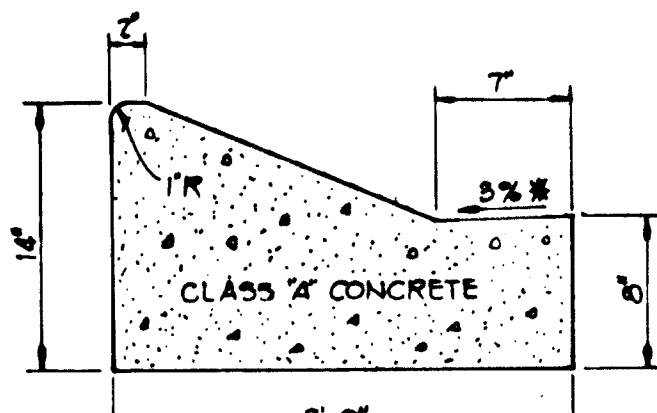
CLEARING AND GRADING ARTICLE C-1  
 SUBGRADE ARTICLE C-2  
 BASE COURSE ARTICLE C-3 OR C-35  
 SURFACE COURSE ARTICLE C-31

(8" PAVING)

- NOTES:
1. A TACK COAT IS REQUIRED IN ACCORDANCE WITH SECTION C-31-4 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS
  2. BASE WILL BE PRIMED IN ACCORDANCE WITH SECTION C-30-3 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS
  3. TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS

TYPICAL 8" PAVING SECTION

No Scale

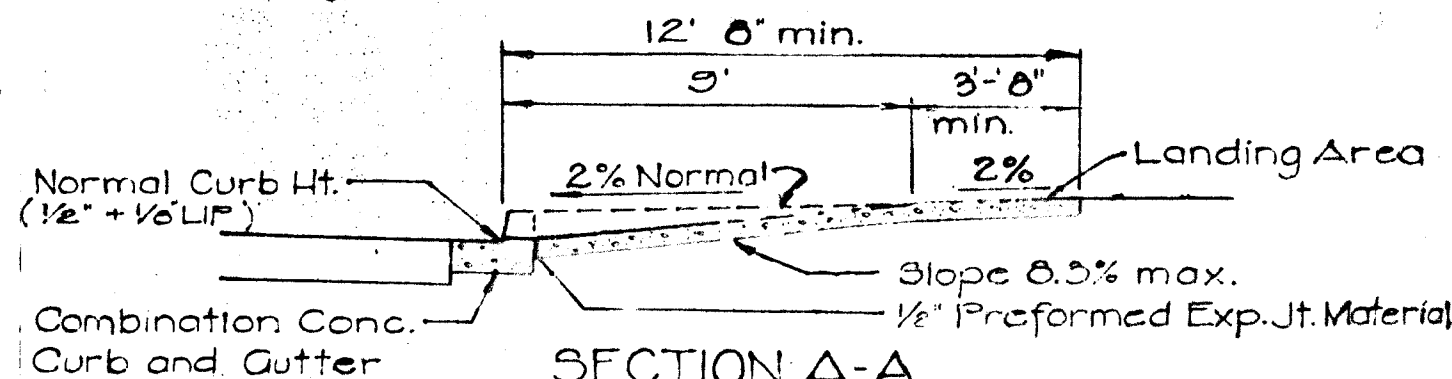
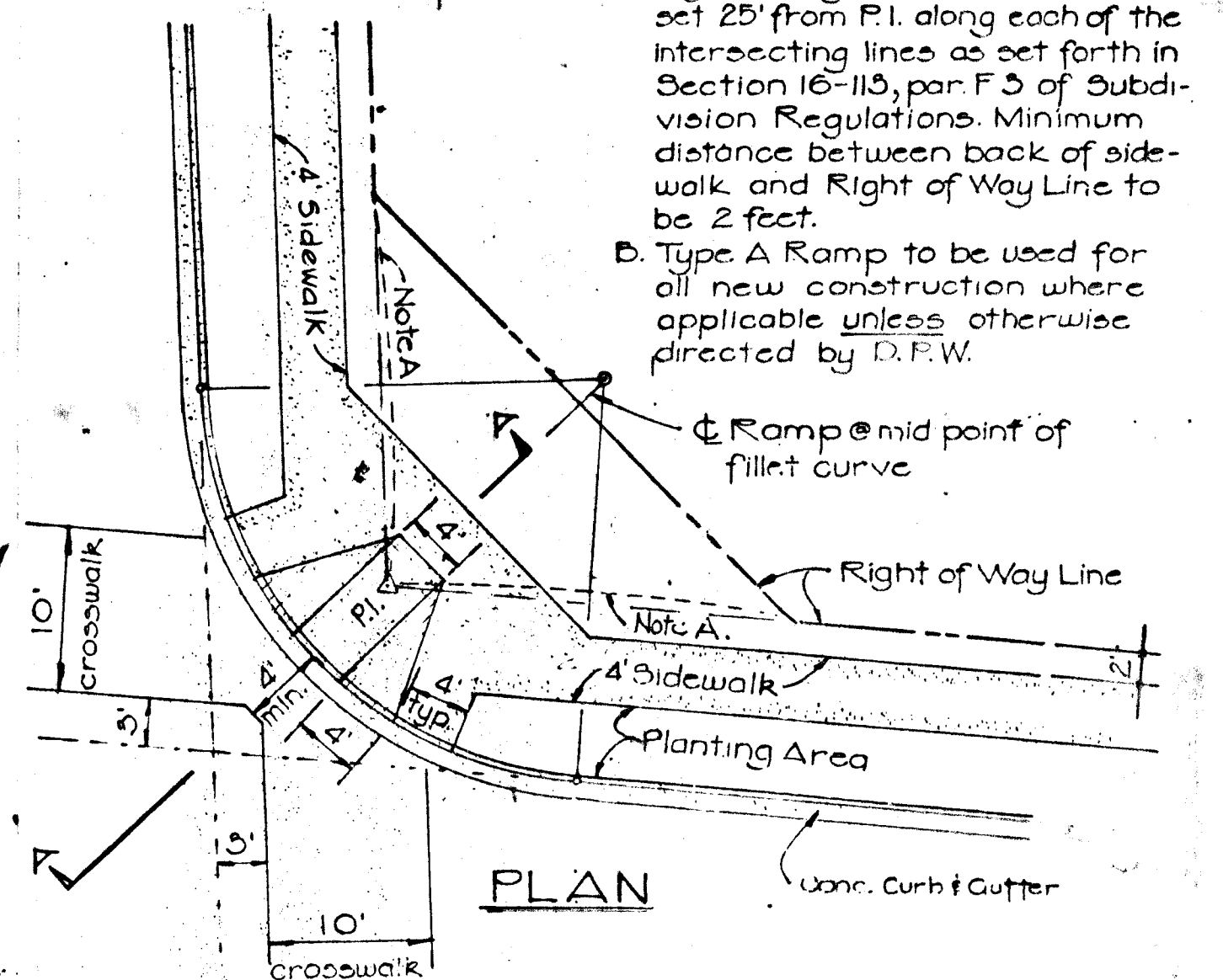


HOWARD COUNTY STANDARD (DRAWING NO. 11)

\* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE MATERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.

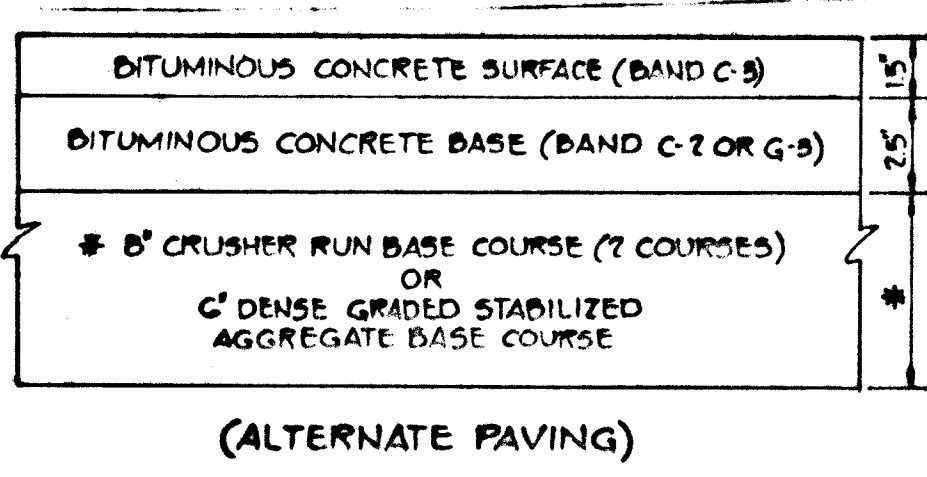
MODIFIED COMBINATION CURB AND GUTTER

No Scale

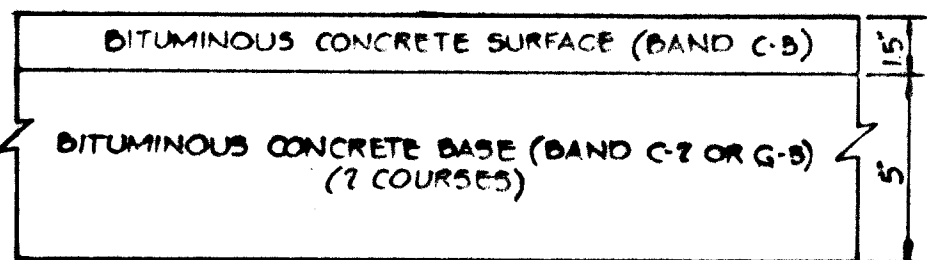


HANDICAPPED RAMP DETAIL

No Scale



(ALTERNATE PAVING)



HOWARD COUNTY STANDARD (DRAWING NO. 8)

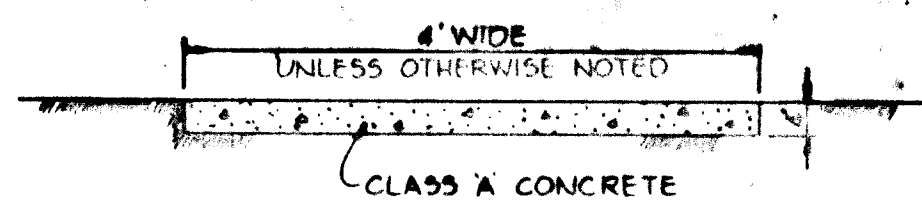
CLEARING AND GRADING ARTICLE C-1  
 SUBGRADE ARTICLE C-2  
 BASE COURSE ARTICLE C-3 OR C-35  
 SURFACE COURSE ARTICLE C-31

(6 1/2\"/>

- NOTES:
1. A TACK COAT IS REQUIRED IN ACCORDANCE WITH SECTION C-31-4 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS
  2. BASE WILL BE PRIMED IN ACCORDANCE WITH SECTION C-30-3 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS
  3. TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS

TYPICAL 6 1/2\"/>

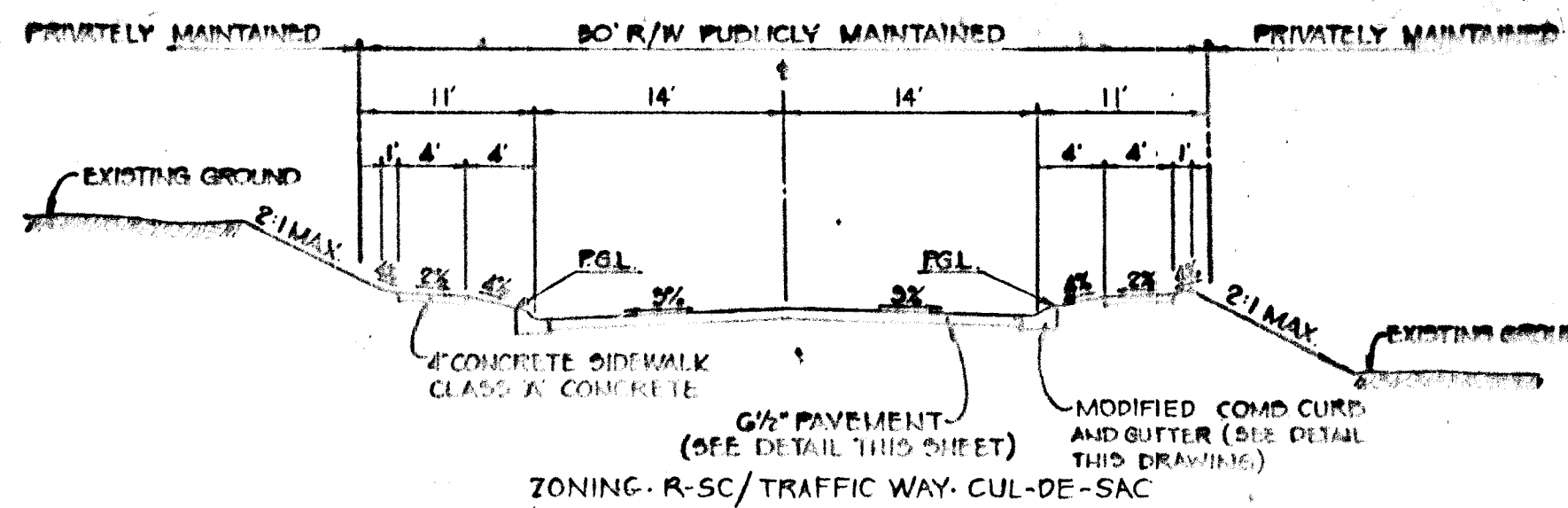
No Scale



SIDEWALK DETAIL

No Scale

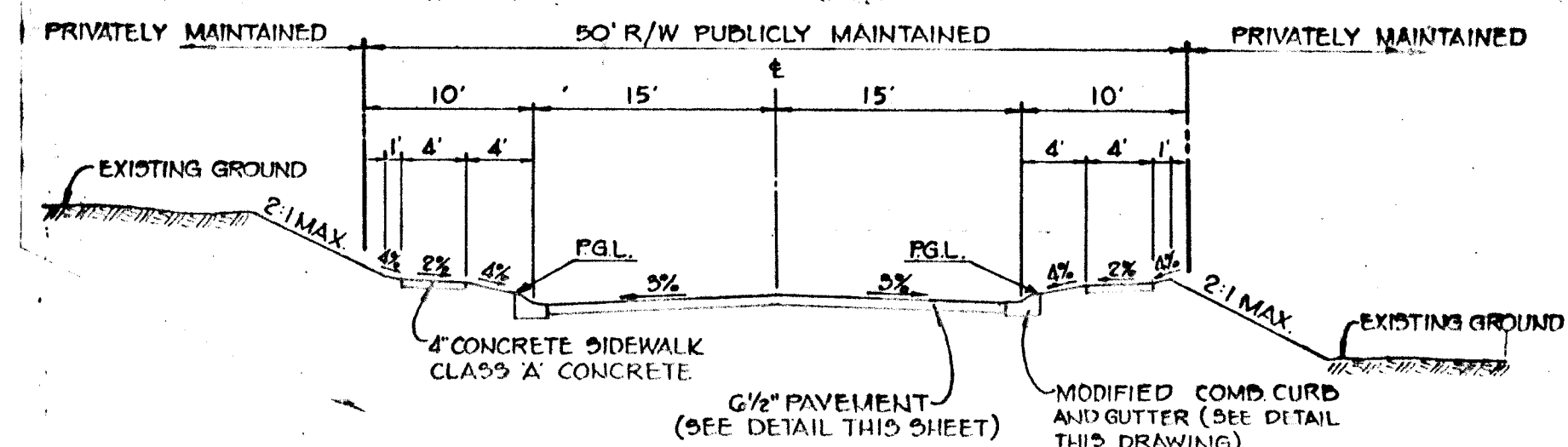
- NOTES:
- A. Right of Way Line truncation to be set 25' from P.I. along each of the intersecting lines as set forth in Section 16-115, par. F.3 of Subdivision Regulations. Minimum distance between back of sidewalk and Right of Way Line to be 2 feet.
  - B. Type A Ramp to be used for all new construction where applicable unless otherwise directed by D.F.W.



TYPICAL SECTION CUL-DE-SAC

No Scale

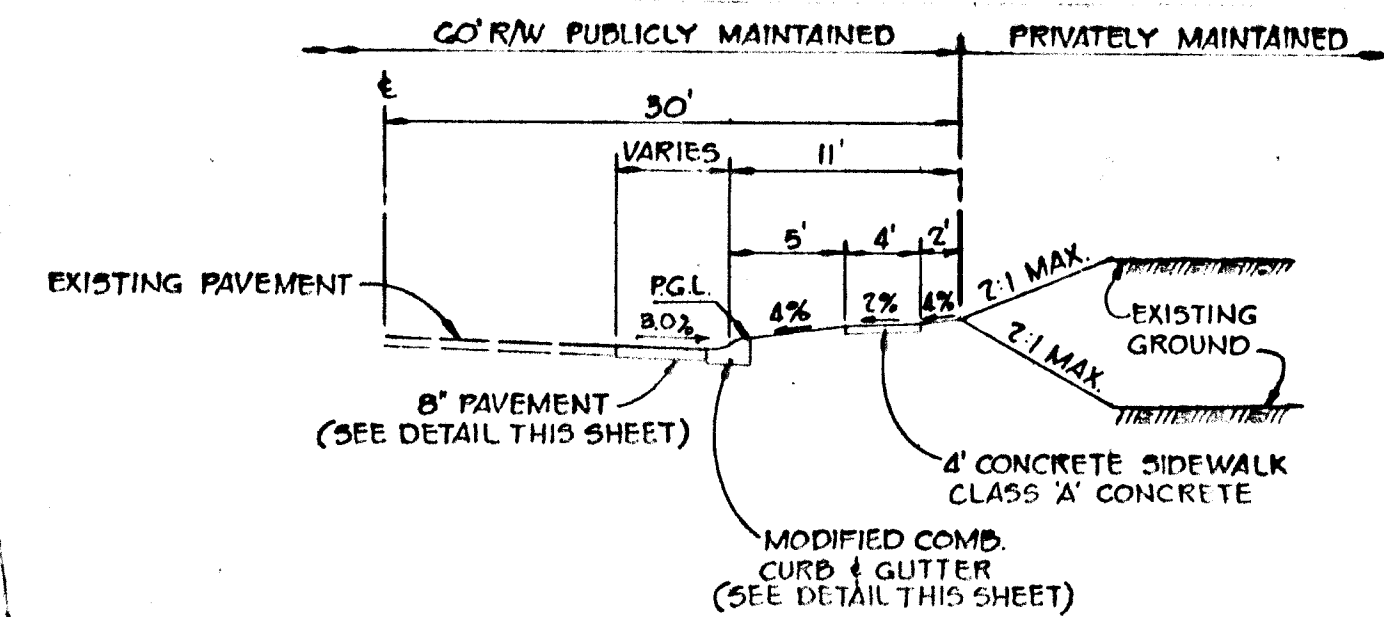
ROAD	STA. TO STA.
CELTIA COURT	0+00 - 1+48.85
CLEMENTE COURT	0+00 - 3+22.15



TYPICAL SECTION LOCAL STREET

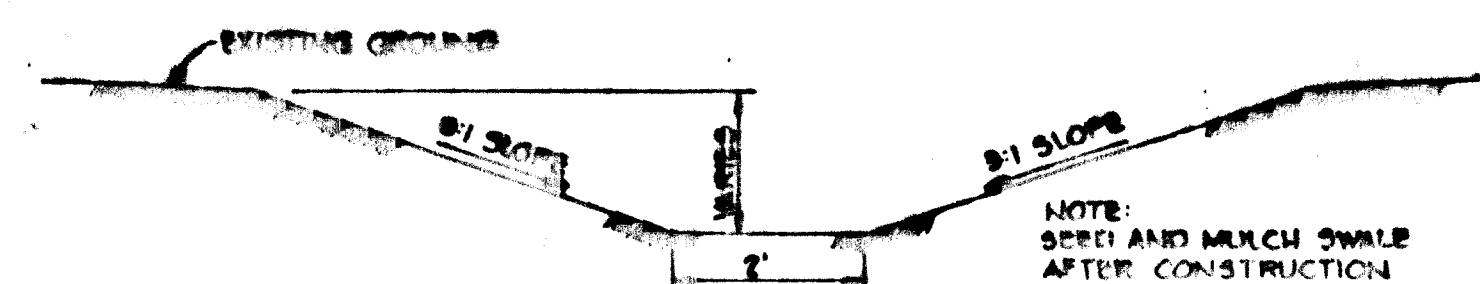
No Scale

ROAD	STA. TO STA.
REDONDO WAY	0+00 - 3+80.49



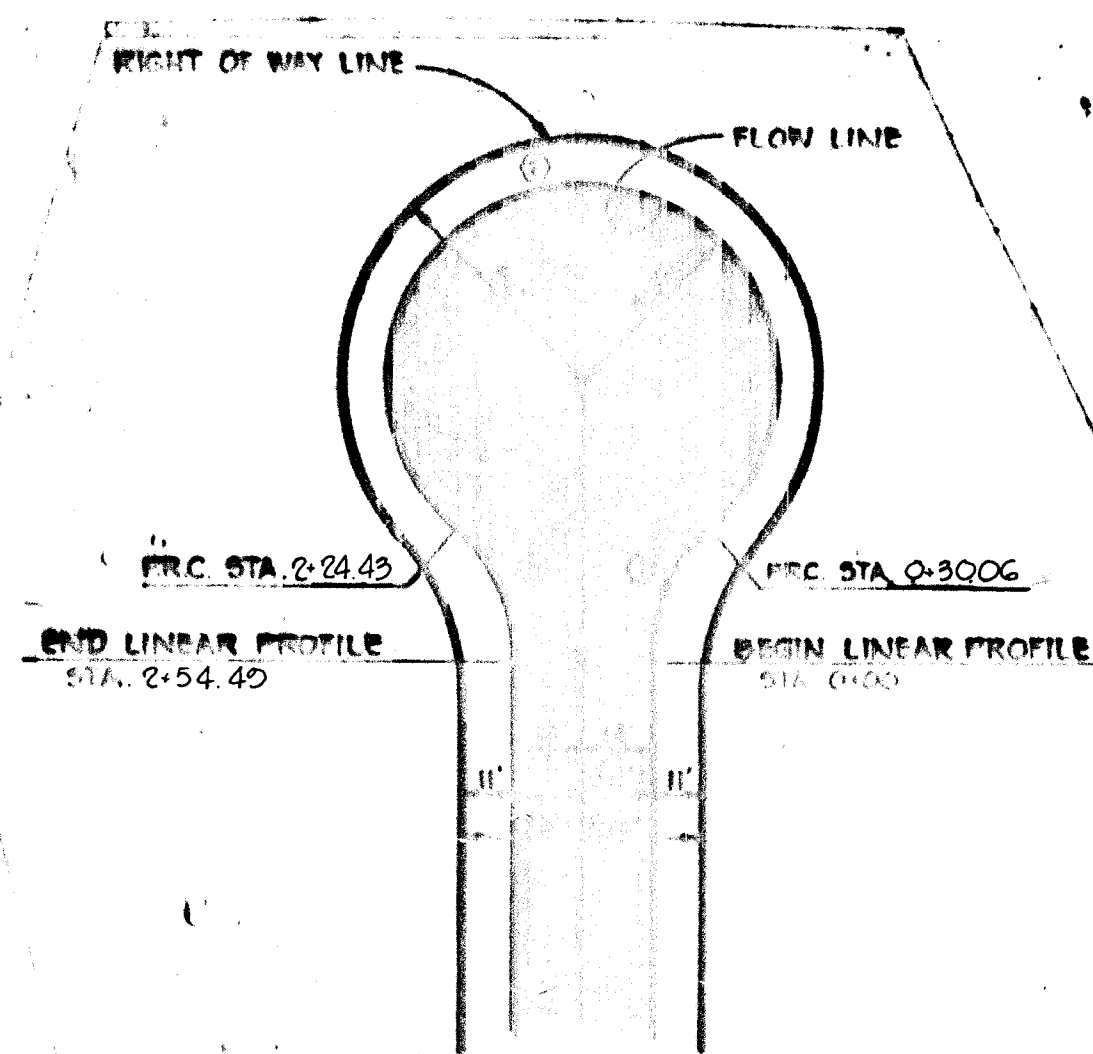
TYPICAL SECTION FOR MISSION ROAD WIDENING

No Scale

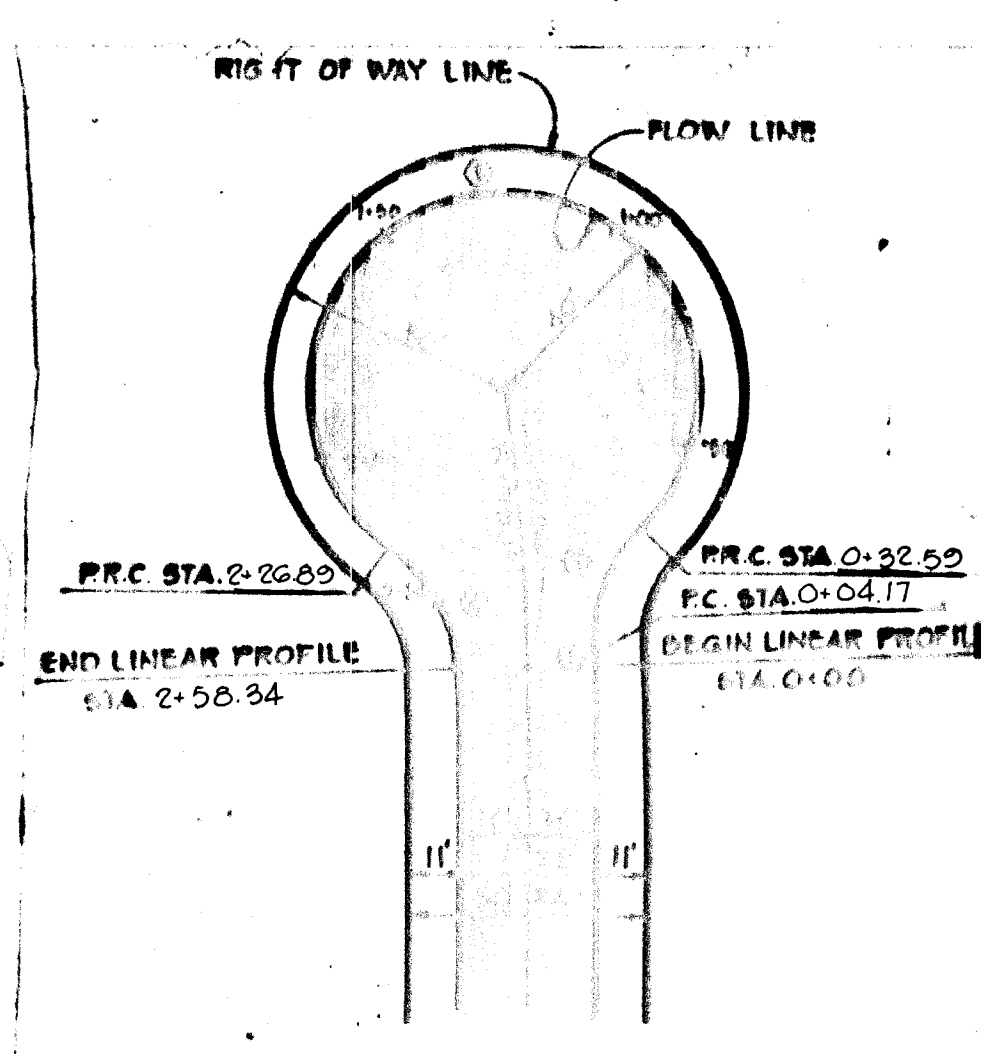


GRASSED SWALE

No Scale



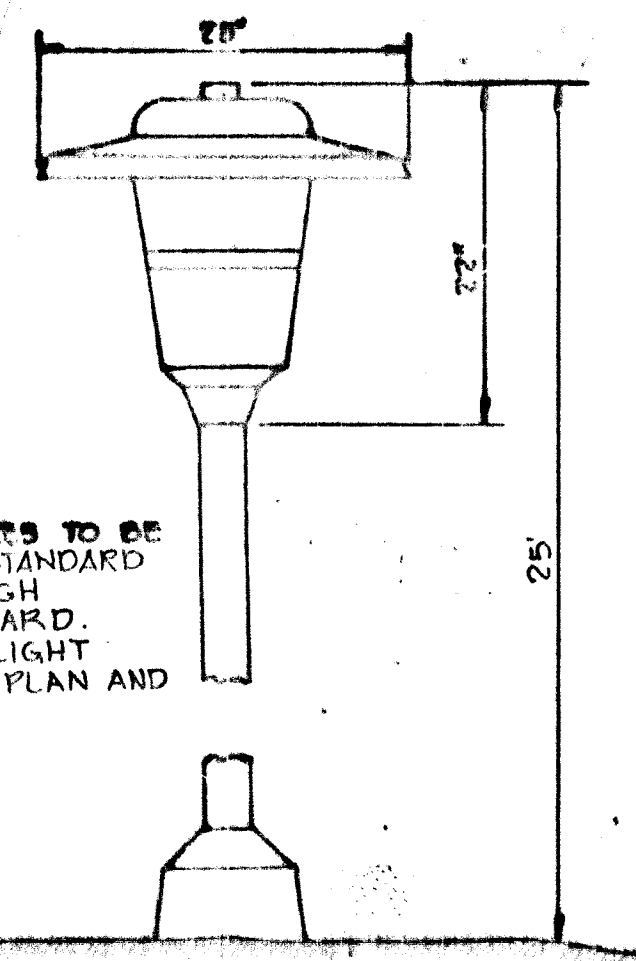
FLOW LINE CURVE DATA				
CURVE	RADIUS	LENGTH	Δ	TAN.
(1)	50.00	30.00	49°12'24"	16.03'
(2)	40.00	19.437'	278°24'40"	-
(3)	35.00	30.06'	49°12'24"	16.03'



FLOW LINE CURVE DATA				
CURVE	RADIUS	LENGTH	Δ	TAN.
(1)	25.00	4.17'	00°18'41"	2.08'
(2)	35.00	28.42'	46°31'15"	15.04'
(3)	40.00	19.430'	278°19'14"	-
(4)	35.00	31.45'	51°20'18"	16.88'

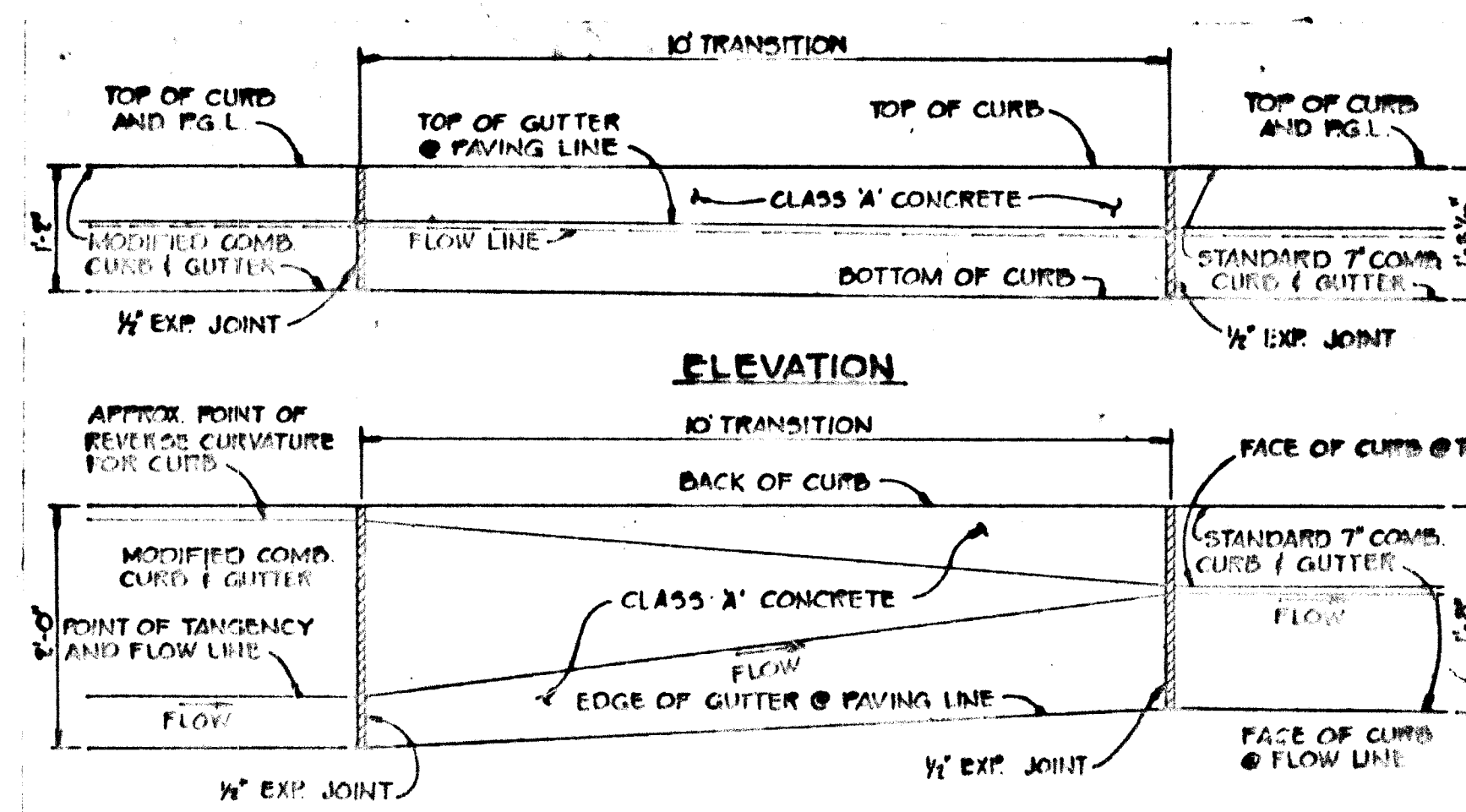
CUL-DE-SAC DETAILS

No Scale



DETAIL - LIGHTING FIXTURE

No Scale



CURB TRANSITION DETAIL @ INLETS

No Scale

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING  
*J. Ripley (acting chief)* 8/18/81  
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*William D. Riley* 9-9-81  
 CHIEF, BUREAU OF ENGINEERING

5-28-81 Δ REVISED AS PER H.C. COMMENTS DATED 5-21-81  
 4-20-81 Δ REVISED AS PER H.C. COMMENTS DATED 4-1-81  
 DATE NO. REVISION

OWNER: GREENBRIAR VENTURE  
 8450 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21043

DEVELOPER: SECURITY DEVELOPMENT CORPORATION  
 8450 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21043

PROJECT: MISSION HEIGHTS  
 SECTION 1, AREA 1  
 LOTS 1 THRU 37

AREA TAX MAP NO. 42  
 RESUBDIVISION OF PARCELS 77 & 371  
 ELECTION DISTRICT N°6 HOWARD COUNTY, MARYLAND

TITLE: DETAIL SHEET

**TR** **Riemer - Tracy & Associates, Inc.**  
 8550 Baltimore National Pike  
 Ellicott City, Maryland 21043  
 (301) 461-2690  
 Land Planning, Design & Civil Engineering

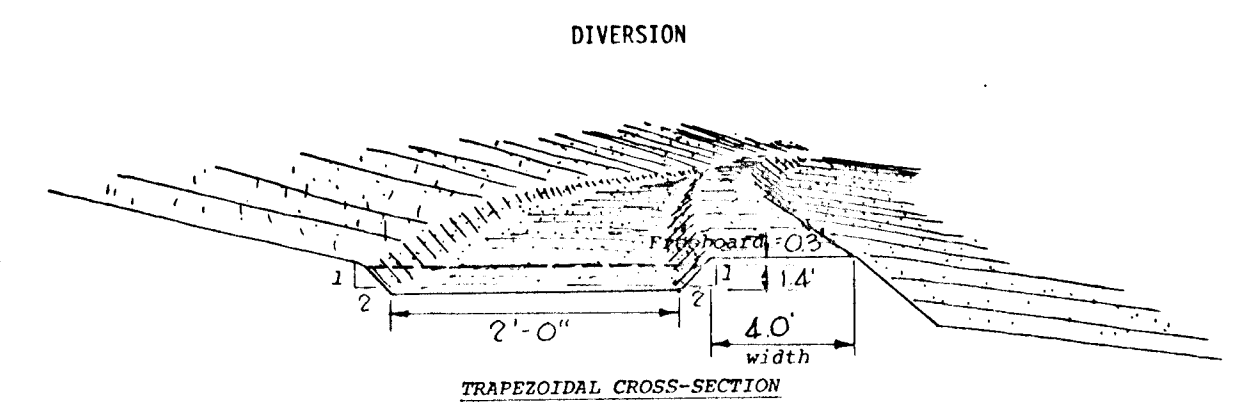
6-51 UNIT  
 DESIGNED BY: J.K.T.  
 DRAWN BY: R.J.W.  
 PROJECT NO: 0280  
 DATE: 2/19/81  
 SCALE: AS SHOWN  
 DRAWING NO. 4 OF 6



*James H. Tracy*  
 PROFESSIONAL ENGR. NO. 9366



STRUCTURE SCHEDULE						
NO	TYPE	INV. IN	INV. OUT	TOP ELEVATION	DESCRIPTION	LOCATION
I-1	A-5	—	313.00	317.12	H.C. STD. D-G4 A	DELTA COURT L.P. STA. 0+24.78
I-2	A-5	312.18	318.98	323.16	H.C. STD. D-G4 A	REDONDO WAY STA. 3+02.50
I-3	A-5	—	321.04	325.58	H.C. STD. D-G4 A	CLEMENTE COURT STA. 0+54.14 RT.
E-1	15' CONC. END SECTION	306.53	—	—	SEE DETAIL DWG. NO. 4	SEE PLAN
E-2	15' METAL END SECTION	317.00	—	—	SEE DETAIL DWG. NO. 3	SEE PLAN



- Construction Specifications**
- 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 diversion.
  - The diversion shall be excavated or shaped to line, grade, and cross section as required to meet the criteria specified herein, and be free of irregularities which will impede normal flow.
  - Fill shall be compacted as needed to prevent unequal settlement that would cause damage in the completed diversion.
  - All earth removed and not needed in construction shall be spread or disposed of so that it will not interfere with the functioning of the diversion.
  - Stabilization shall be done according to the appropriate Standard and Specifications for Vegetative Practices.
    - A. For design velocities of less than 3.5 ft. per sec., seeding and mulching may be used for the establishment of the vegetation. It is recommended that, when conditions permit, temporary diversions or other means be used to prevent water from entering the diversion during the establishment of the vegetation.
    - B. For design velocities of more than 3.5 ft. per sec., the diversion shall be stabilized with rock, with seeding protected by jute or excelsior matting or with seeding and mulching including temporary diversion of water until the vegetation is established. See the Standard and Specifications for Protective Materials.

1822,800 E  
1482,500 N

95

INTERSTATE

DIVERSION  
No Scale

Reviewed for Howard S.C.D.  
Name  
and State Technical Requirements  
James H. Tracy Date 8-17-81  
Signature  
U.S. Soil Conservation Service

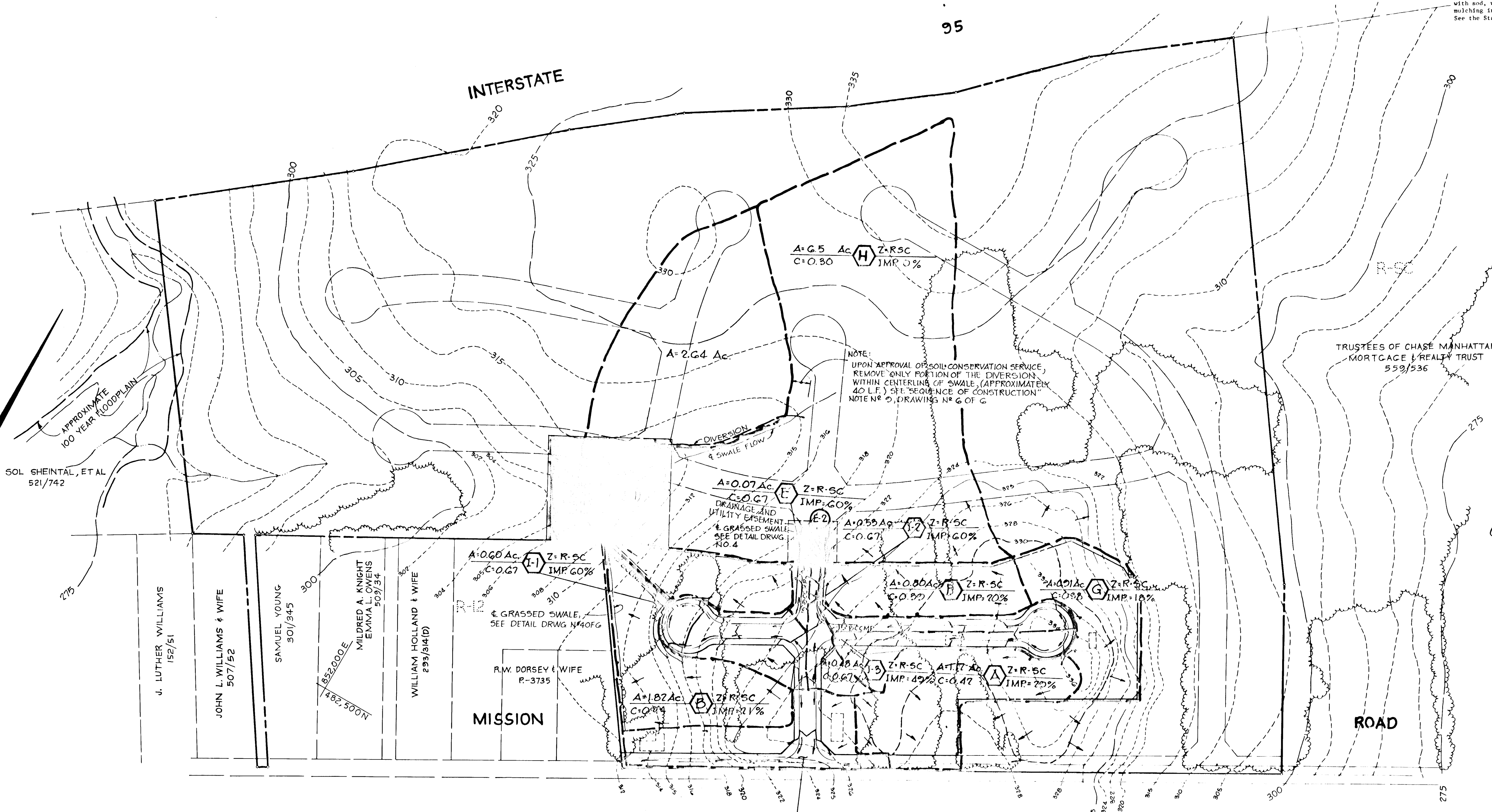
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
Approved Howard S.C.D. Date 8-17-81  
Howard S.C.D.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
William E. Riley 8/19/81  
CHIEF, BUREAU OF ENGINEERING DATE  
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING ADMINISTRATION  
J. Riley (acting chief) 8/18/81

5-28-81 Δ REVISED AS PER H.C. COMMENTS DATED 5-21-81  
4-20-81 Δ REVISED AS PER H.C. COMMENTS DATED 4-1-81  
DATE NO REVISION  
DEVELOPER:  
SECURITY DEVELOPMENT CORPORATION  
8450 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21043  
OWNER:  
GREENBRIAR VENTURE  
8450 BALTIMORE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21043  
PROJECT: MISSION HEIGHTS SECTION 1, AREA 1 LOTS 1 THRU 37  
AREA: TAX MAP NO. 42  
RESUBDIVISION OF PARCELS 77 & 371  
ELECTION DISTRICT N°6 HOWARD COUNTY, MARYLAND  
TITLE: DRAINAGE AREA MAP & S.W.M. PLAN

**Riemer - Tracy & Associates, Inc.**  
8659 Eastmore National Pike  
Ellicott City, Maryland 21043  
(301) 461-2600  
Land Planning, Design & Civil Engineering

6-5-81 DATE  
DESIGNED BY: R.J.W.  
DRAWN BY: L.S.T.  
PROJECT NO: 0280  
DATE: 2/19/81  
SCALE: 1"=100'  
DRAWING NO. 5 OF 6  
James H. Tracy  
PROFESSIONAL ENGINEER NO. 5966



PLAN  
SCALE 1"=100'



**SEDIMENT CONTROL CONSTRUCTION NOTES**  
GENERAL 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 (922-2070).
2. ALL SEDIMENT CONTROL STRUCTURES WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE.
3. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
4. ALL DISTURBED AREAS ARE TO BE DRESSED AND STABILIZED ACCORDING TO THE TEMPORARY OR PERMANENT SEEDING SCHEDULES AS SOON AS PROPER WEATHER CONDITIONS EXIST FOR THE ESTABLISHMENT OF A PERMANENT VEGETATIVE COVER.
5. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN THE DEPTH REACHES THE CLEAN OUT ELEVATION SHOWN ON THE PLANS.
6. FERTILIZER AND LIME RATES MAY BE CHANGED THROUGH AUTHORIZATION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT IF SOIL TESTS DETERMINE A REDUCTION IN THE SPECIFIED RATES IS JUSTIFIED.
7. 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.
8. REFERENCES CALLED FOR ON THE SEDIMENT CONTROL CONSTRUCTION PLAN AND DETAILS ARE MADE TO "THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS".
9. SEDIMENT CONTROL WILL BE INSTALLED BEFORE CLEARING AND GRUBBING REMAINDER OF SITE.

**TEMPORARY SEEDING**

AREA TO BE SEEDED SHALL BE RECENTLY LOOSENEED. IF THE GROUND IS PACKED, CRUSTED OR HARD, THE TOP LAYER OF SOIL SHALL BE LOOSENEED BY DISCING, RACKING OR OTHER ACCEPTABLE MEANS.

- A. APPLY 10-20-10 FERTILIZER (OR EQUIVALENT) AT THE RATE OF 600 LBS. PER ACRE OR 15 LBS. PER 1000 SQ. FT.
- B. WHERE SOIL IS KNOWN TO BE HIGHLY ACID, APPLY DOLOMITIC LIMESTONE AT THE RATE OF 1 TON PER ACRE.
- C. WORK BOTH INTO SOIL AND SEED WITH CYCLONE SEEDER, DRILL, CULTIPAKER SEEDER OR HYDROSEEDER (SLURRY WILL INCLUDE SEED AND FERTILIZER) AT THE RATE OF 40 LBS. PER ACRE OF ITALIAN OR PERENNIAL RYEGRASS.
- D. MULCH WITH UNWEATHERED SMALL GRAIN STRAW AT THE RATE OF 1 1/2 TO 2 TONS PER ACRE AND ANCHOR WITH A CUTBACK ASPHALT OR EMULSIFIED ASPHALT AT THE RATE OF 5 GAL. PER 1000 SQ. FT.

**PERMANENT SEEDING**

FINAL STABILIZATION WILL TAKE PLACE AS SOON AS POSSIBLE AS WEATHER CONDITIONS PERMIT, AS FOLLOWS:

- A. APPLY DOLOMITIC LIMESTONE AT THE RATE OF 2 TONS PER ACRE (ONE TON PER ACRE IF APPLICATION OF TON PER ACRE WAS MADE FOR TEMPORARY SEEDING).
- B. APPLY 0-20-20 FERTILIZER AT THE RATE OF 600 LBS. PER ACRE HARROW OR DISC LIME AND 0-20-20 FERTILIZER INTO THE SOIL TO A MINIMUM DEPTH OF 3" LAWS OR HIGH MAINTENANCE AREAS WILL BE DRAGGED AND LEVELED WITH A YORK RAKE. AT THE TIME OF SEEDING APPLY 400 POUNDS OF 38-0-0 UREAFORM FERTILIZER AND 500 LBS. OF 10-20-20 OR EQUIVALENT FERTILIZER PER ACRE.
- C. SEED WITH A MIXTURE OF CERTIFIED "MERION" KENTUCKY BLUEGRASS - 40 LBS. PER ACRE; COMMON KENTUCKY BLUEGRASS @ 40 LBS. PER ACRE; RED FESCUE, PENNLAWN OR JAMESTOWN @ 20 LBS. PER ACRE.
- D. MULCH WITH UNWEATHERED SMALL GRAIN STRAW AT THE RATE OF 1 1/2 TO 2 TONS PER ACRE AND ANCHOR WITH A CUTBACK ASPHALT OR EMULSIFIED ASPHALT AT THE RATE OF 5 GAL. PER 1000 SQ. FT.
- E. SEED ALL SLOPES WITH A MIXTURE OF CERTIFIED KENTUCKY 31 TALL FESCUE @ 50 LBS. PER ACRE AND INOCULATED KOREAN LESPEDEZA @ 15 LBS. PER ACRE.

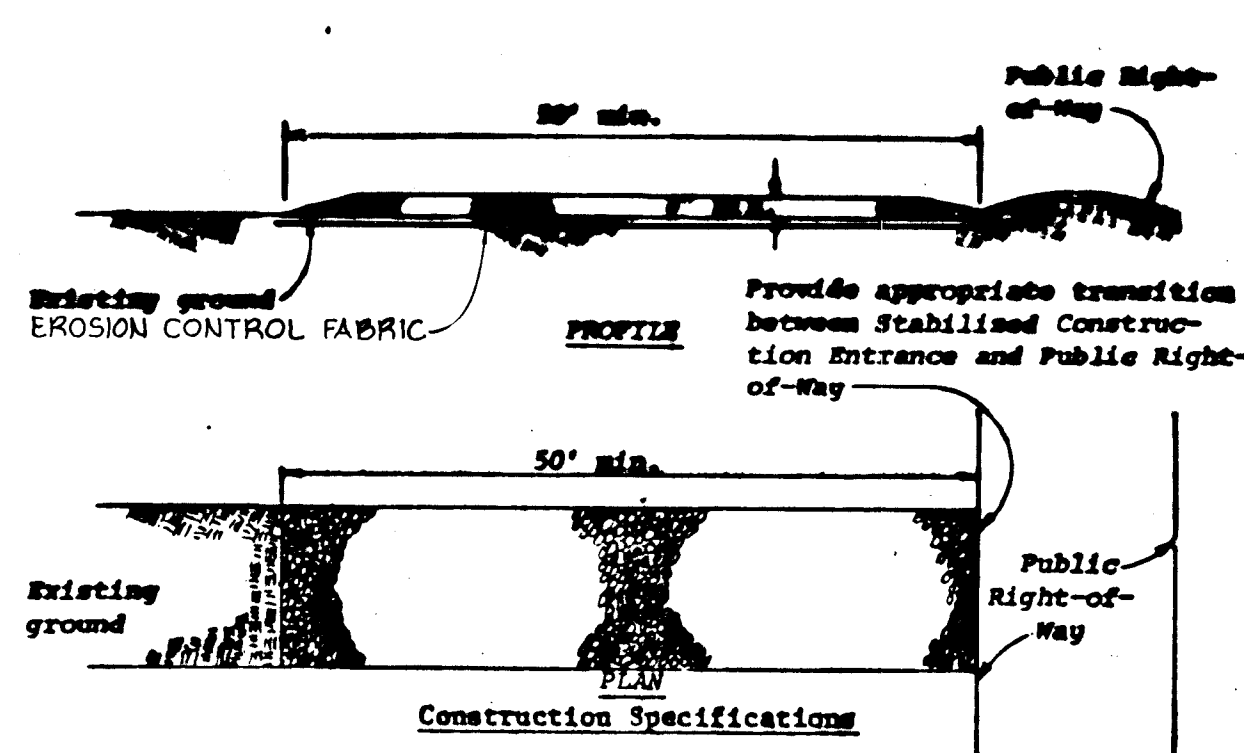
**SEQUENCE OF CONSTRUCTION**

1. OBTAIN A GRADING PERMIT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
3. CLEAR AND GRUB AREAS FOR SEDIMENT CONTROL/STORM WATER MANAGEMENT STRUCTURES ONLY.
4. INSTALL STORM WATER MANAGEMENT FACILITY WITH STONE FILTER AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDING NOTES.
5. INSTALL STRAW BALE DIKES AND PERIMETER DIKE AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDING NOTES.
6. COMPLETE ALL SITE GRADING.
7. INSTALL UTILITIES. BLOCK INLETS IN ACCORDANCE WITH DETAIL.
8. COMPLETE ALL SITE WORK AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
9. UPON APPROVAL OF THE SOIL CONSERVATION SERVICE, REMOVE ALL SEDIMENT CONTROL DEVICES AND CONVERT THE SEDIMENT BASIN INTO STORM WATER MANAGEMENT FACILITY AS FOLLOWS:
  - A. REMOVE ALL SEDIMENT. SPREAD ON SITE AND SEED IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
  - B. REMOVE STONE FILTER AT 18" DRAIN.
  - C. SEED ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.

**SEDIMENT TRAP DATA**

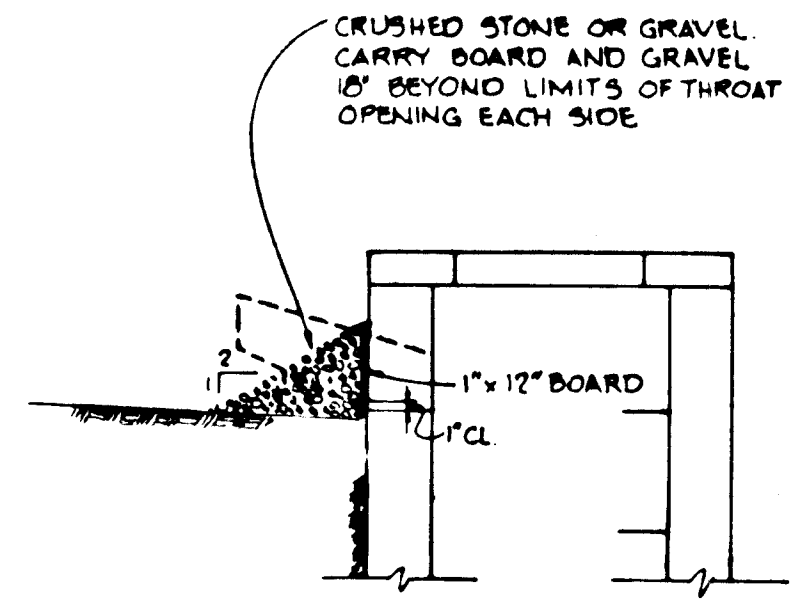
DRAINAGE AREA	=	6.75 ACRES
DISTURBED AREA	=	1.8 ACRES
REQUIRED STORAGE	=	12,150 FT. <sup>3</sup>
AVAILABLE STORAGE	=	14,760 FT. <sup>3</sup>
*TRAP DIMENSIONS	=	140' x 110'
BOTTOM ELEVATION	=	105.0
OVERFLOW ELEVATION	=	107.4
CLEANOUT ELEVATION	=	106.2

\*AT STORAGE ELEVATION

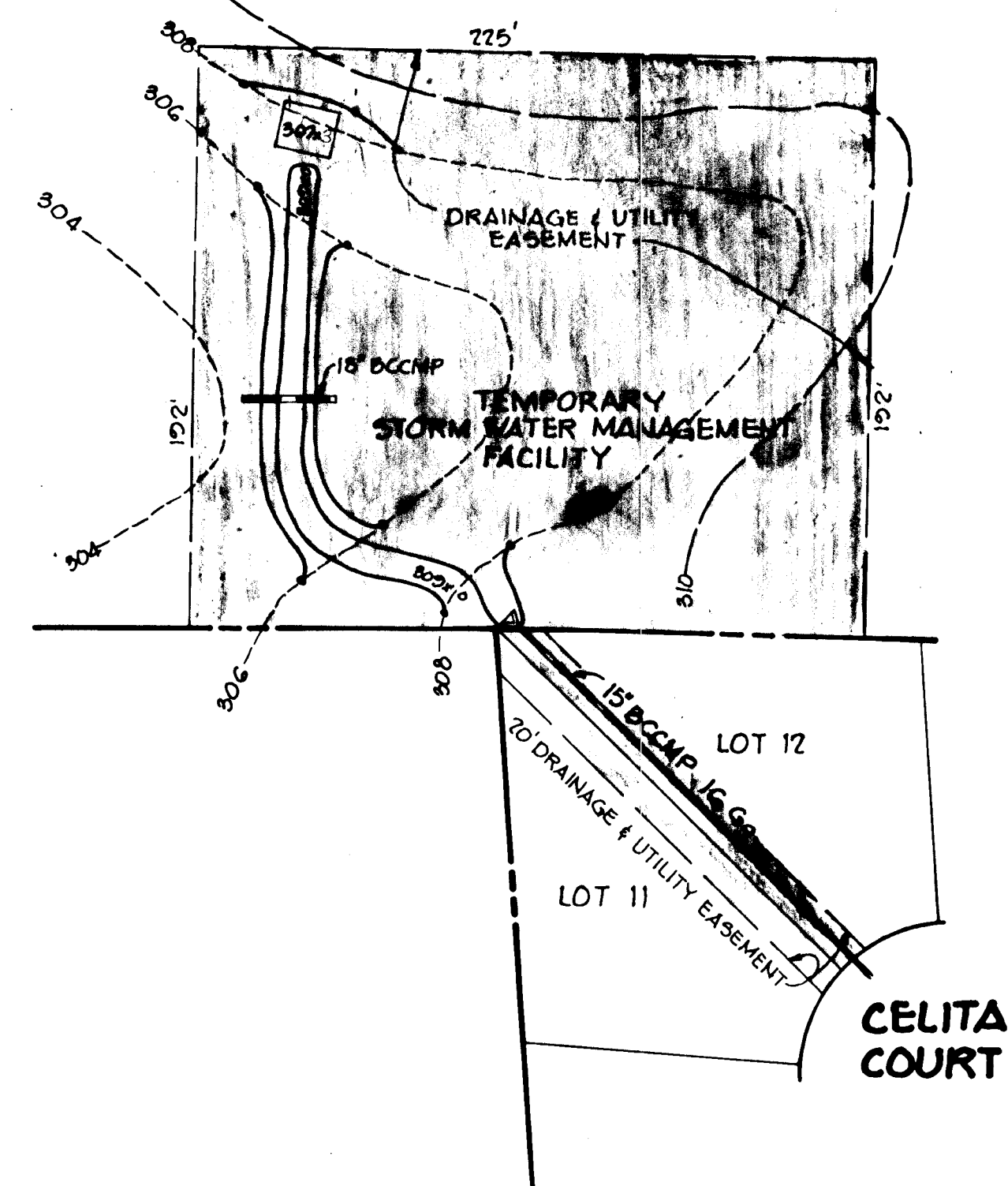


- Construction Specifications**
1. Stone size - Use MSHA size No. 2 (2-1/2" to 1") or AASHTO designation M43, size No. 2 (2-1/2" to 1-1/2"). Use crushed stone.
  2. Length - As effective, but not less than 50 feet.
  3. Thickness - Not less than eight (8) inches.
  4. Width - Not less than full width of all points of ingress or egress.
  5. Washing - When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it shall be done on an area stabilized with crushed stone which drains into an approved sediment trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch, or watercourse through use of sand bags, gravel, boards or other approved methods.
  6. 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 cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.

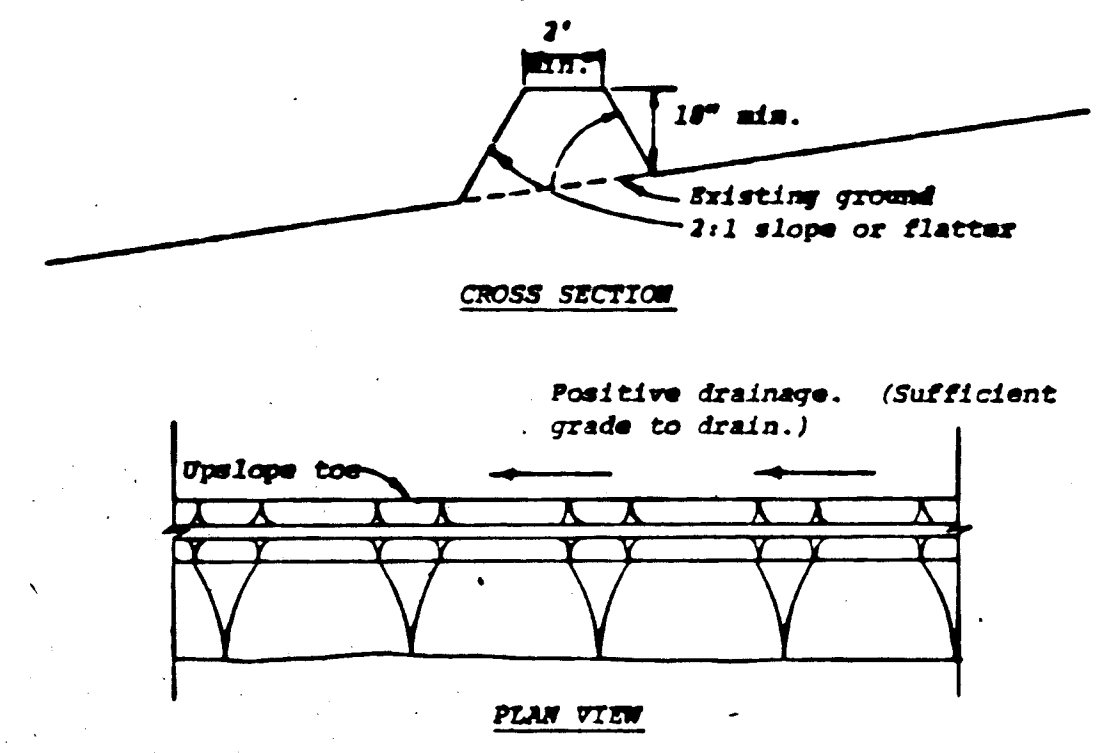
**STABILIZED CONSTRUCTION ENTRANCE**  
No Scale



**TYPICAL INLET BLOCKING DETAIL**  
No Scale

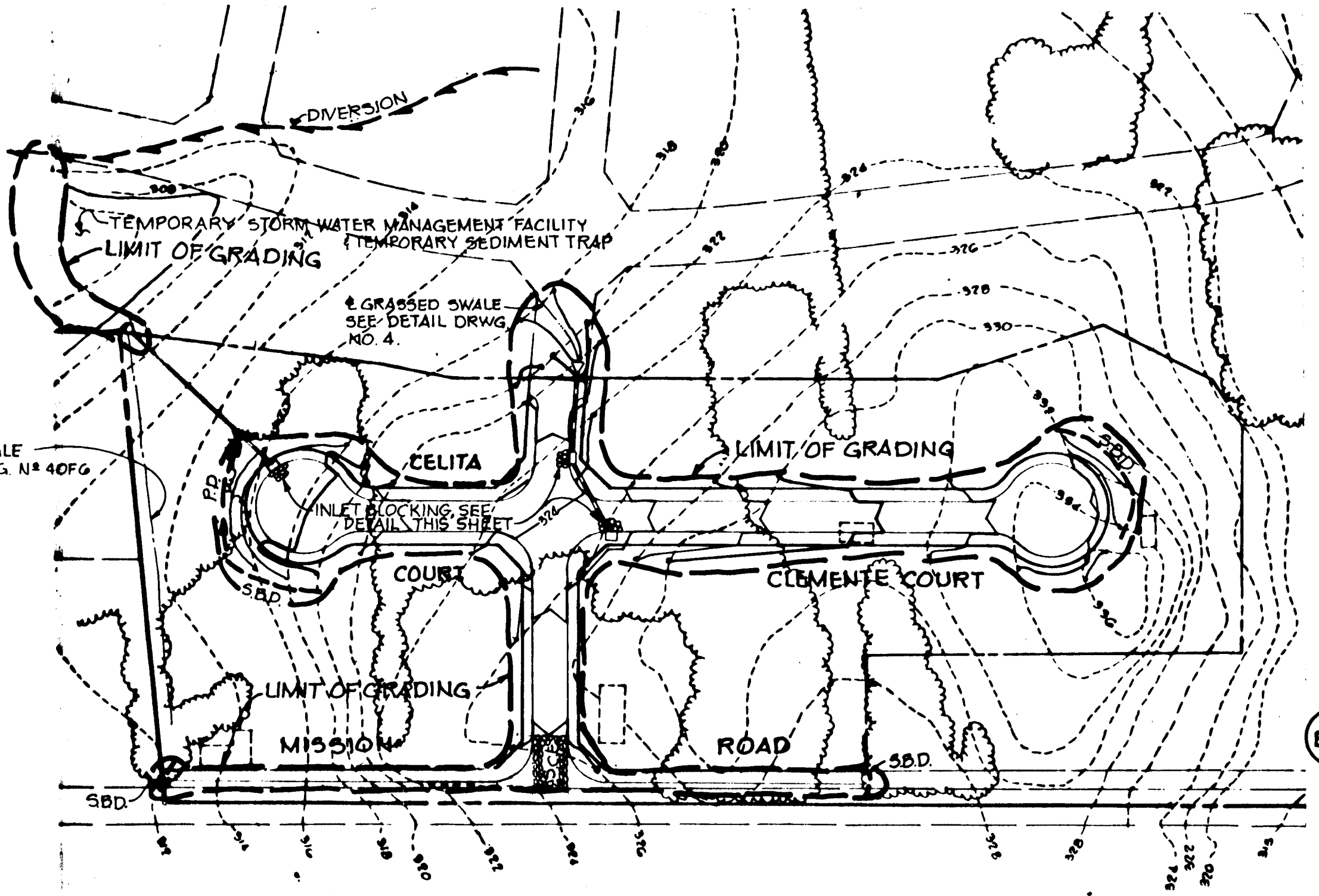


**STORM WATER MANAGEMENT PLAN**  
Scale: 1"=50'

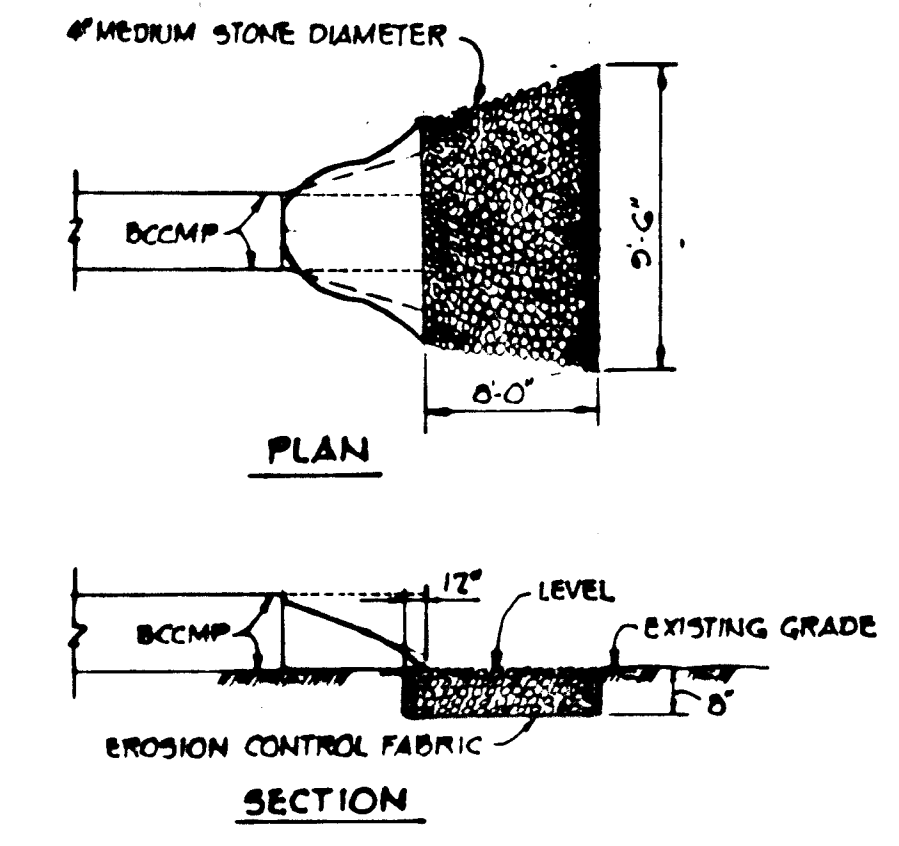


- Construction Specifications**
1. All dikes shall be machine compacted.
  2. All perimeter dikes shall have positive drainage to an outlet.
  3. A. Diverted runoff from a protected or stabilized upland area shall outlet directly onto an undisturbed stabilized area or into a level spreader or grade stabilization structure.
  3. B. Diverted runoff from a disturbed or exposed upland area shall be conveyed to a sediment trapping device such as sediment trap or a sediment basin or to an area protected by any of these practices.
  4. Stabilization, when required, shall be done in accordance with Standard and Specifications for Grassed Waterway. The minimum area to be stabilized shall be the channel flow area.
  5. Periodic inspection and required maintenance shall be provided.

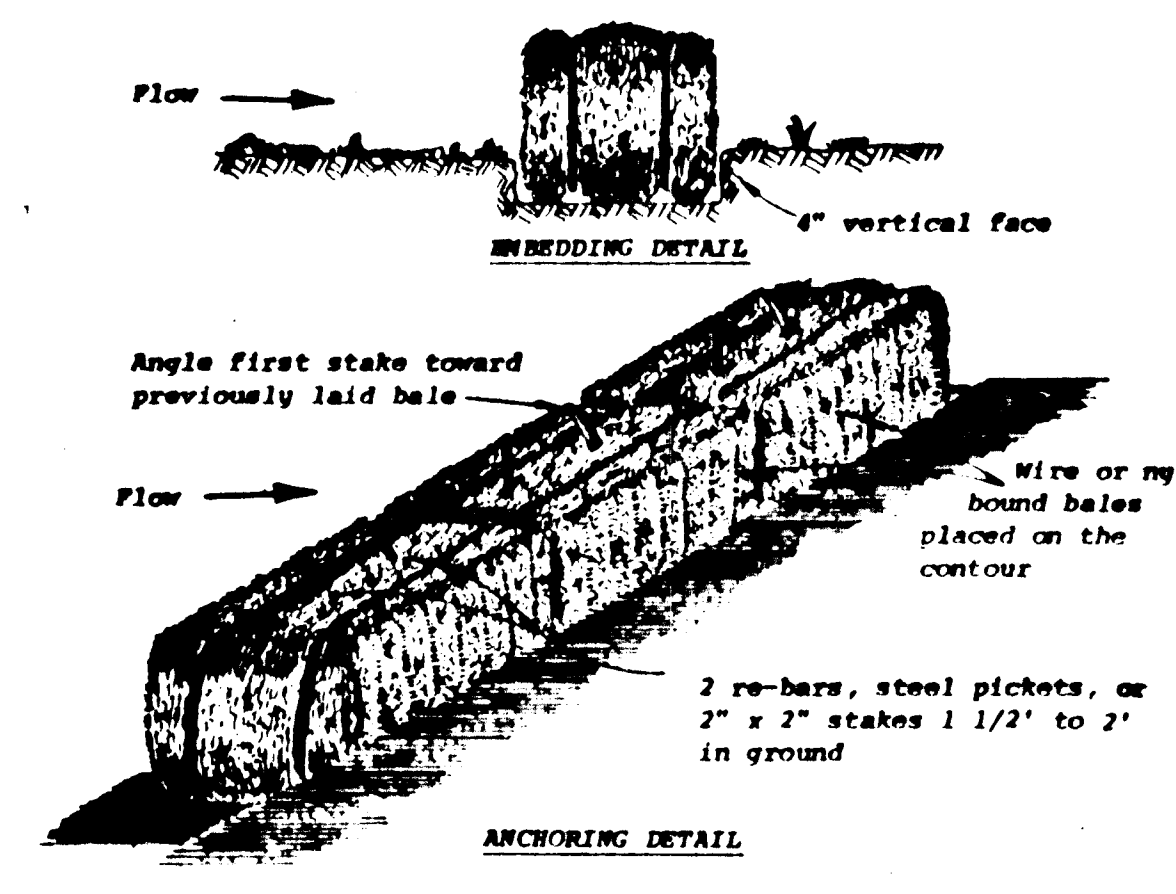
**PERIMETER DIKE**  
No Scale



**SEDIMENT CONTROL PLAN**  
Scale: 1"=100'

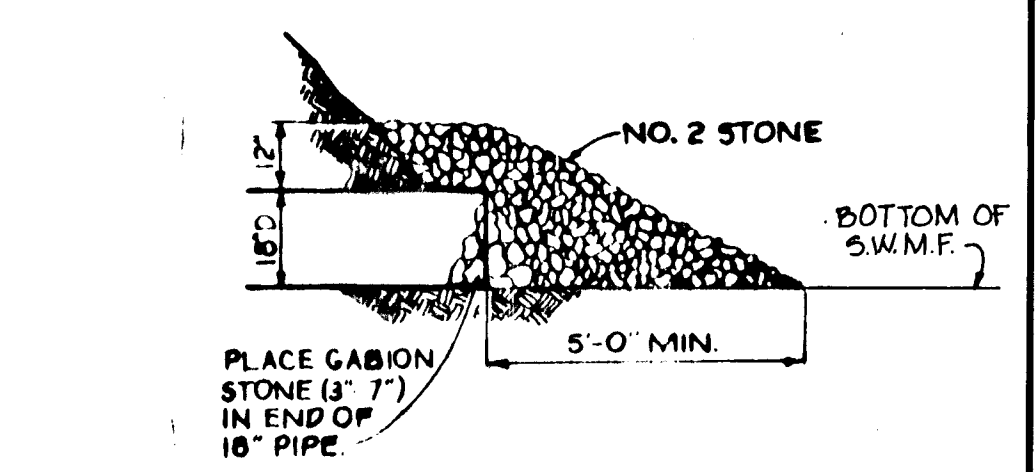


**OUTLET PROTECTION DETAIL**  
No Scale



- Construction Specifications**
1. Bales shall be placed in a row with ends tightly abutting the adjacent bales.
  2. Each bale shall be embedded in the soil a minimum of 4".
  3. Bales shall be securely anchored in place by stakes or re-bars driven through the bales. The first stake in each bale shall be angled toward previously laid bale to force bales together.
  4. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
  5. Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

**STRAW BALE DIKE**  
No Scale



**DETAIL OF STONE FILTER AT 18" OUTLET PIPE**  
No Scale

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*William E. Ryan* 9/9/81  
CHIEF, BUREAU OF ENGINEERING

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING  
*J. Ripley (acting chief)* 8/8/81  
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT  
*William V. Rowe* 8-17-81  
HOWARD S.C.D. DATE

REVIEWED FOR HOWARD COUNTY S.C.D. NAME  
AND MEETS TECHNICAL REQUIREMENTS  
*James M. Helms* 8-17-81  
SIGNATURE DATE  
U.S. SOIL CONSERVATION SERVICE

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 COUNTY SOIL CONSERVATION DISTRICT."  
*James K. Tracy* 2-24-81  
JAMES K. TRACY DATE

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 R. Moxley, Jr.* 2/19/81  
JAMES R. MOXLEY, JR. (PRES) DATE

5-28-81 REVISD AS PER H.C. COMMENTS DATED 5-21-81  
4-20-81 REVISD AS PER H.C. COMMENTS DATED 4-1-81

OWNER: GREENBRIAR VENTURE  
8450 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21043

DEVELOPER: SECURITY DEVELOPMENT CORPORATION  
8450 BALTIMORE NATIONAL PIKE  
ELLICOTT CITY, MARYLAND 21043

PROJECT: MISSION HEIGHTS  
SECTION 1, AREA 1  
LOTS 1 THRU 27

AREA: TAX MAP NO. 42  
RESUBDIVISION OF PARCELS 774 371  
ELECTION DISTRICT #6 HOWARD COUNTY, MARYLAND

TITLE: STORM WATER MANAGEMENT, SEDIMENT CONTROL AND GRADING PLAN AND DETAILS

**Riemer Tracy & Associates, Inc.**  
8659 Baltimore National Pike  
Ellicott City, Maryland 21043  
(301) 461-2690  
Land Planning, Design & Civil Engineering

DATE: 6-5-81  
DESIGNED BY: J.K.T.  
DRAWN BY: D.A.M.  
PROJECT NO.: 0280  
DATE: 2/19/81  
SCALE: AS SHOWN  
DRAWING NO.: C OF C