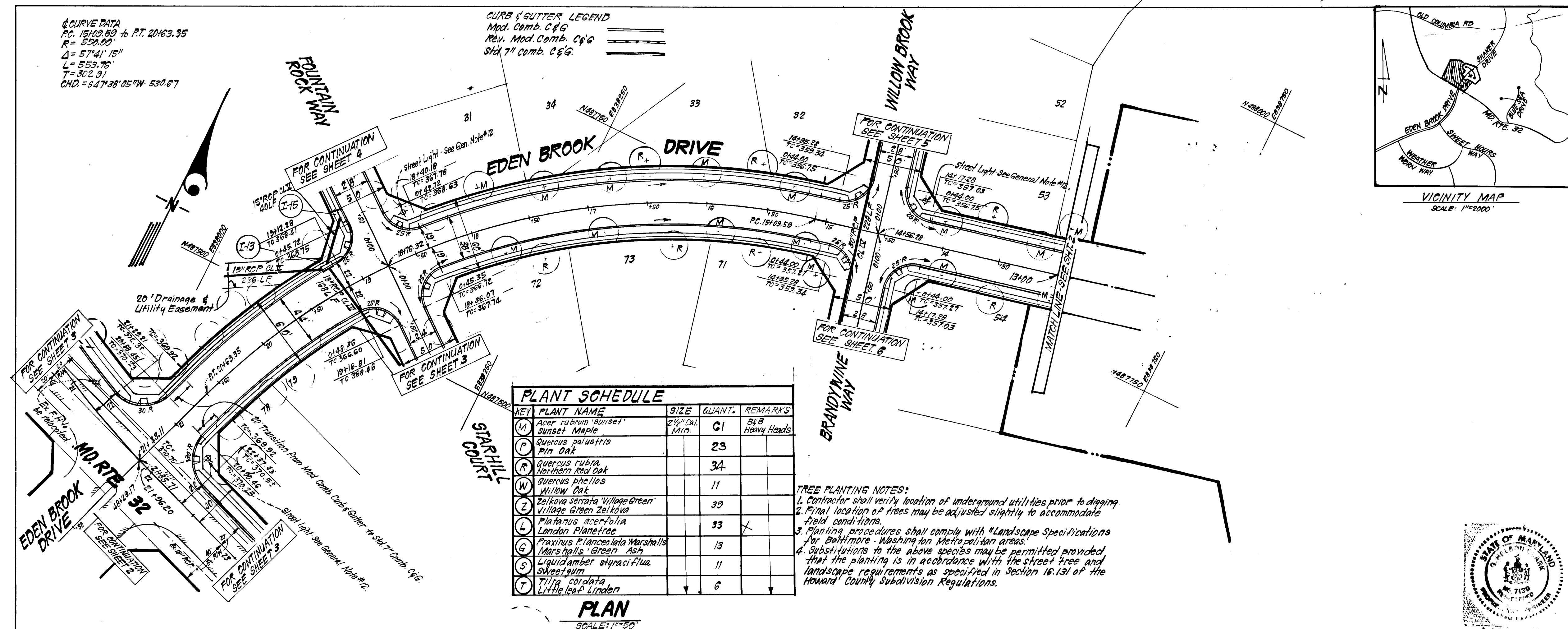


CURVE DATA  
 PC: 15100.53 to PT: 20163.95  
 R = 552.00  
 $\Delta = 57^{\circ}41'15''$   
 L = 553.76  
 T = 302.91  
 CHD = 547.38' 05" W. 530.67

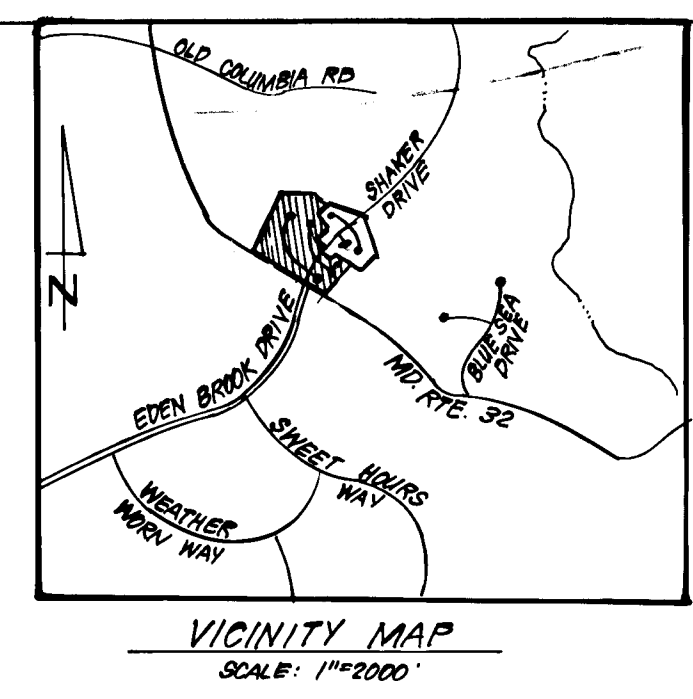
CURB & GUTTER LEGEND  
 Mod. Comb. C & G  
 Rev. Mod. Comb. C & G  
 Std 7" Comb. C & G



| KEY | PLANT NAME                      | SIZE       | QUANT. | REMARKS          |
|-----|---------------------------------|------------|--------|------------------|
| (M) | Acer rubrum 'Sunset'            | 2 1/2" DBH | 1      | 5' B Heavy Heads |
| (S) | Sunset Maple                    |            | 1      |                  |
| (Q) | Quercus palustris               |            | 23     |                  |
| (P) | Pin Oak                         |            | 34     |                  |
| (Q) | Quercus rubra                   |            | 11     |                  |
| (N) | Northern Red Oak                |            | 11     |                  |
| (W) | Willow Oak                      |            | 11     |                  |
| (Z) | Zelkova serrata 'Village Green' |            | 39     |                  |
| (V) | Village Green Zelkova           |            | 33     |                  |
| (L) | Linden                          |            | 13     |                  |
| (F) | Fraxinus Planceolata Marshall's |            | 11     |                  |
| (M) | Marshall's Green Ash            |            | 11     |                  |
| (L) | Liquidambar styraciflua         |            | 6      |                  |
| (S) | Sweetgum                        |            | 6      |                  |
| (T) | Tilia cordata                   |            |        |                  |
| (L) | Little leaf Linden              |            |        |                  |

**TREE PLANTING NOTES:**  
 1. Contractor shall verify location of underground utilities prior to digging.  
 2. Final location of trees may be adjusted slightly to accommodate field conditions.  
 3. Planting procedures shall comply with "Landscape Specifications for Baltimore - Washington Metropolitan Areas".  
 4. Substitutions to the above species may be permitted provided that the planting is in accordance with the street tree and landscape requirements as specified in Section 16.131 of the Howard County Subdivision Regulations.

**PLAN**  
 SCALE: 1" = 50'



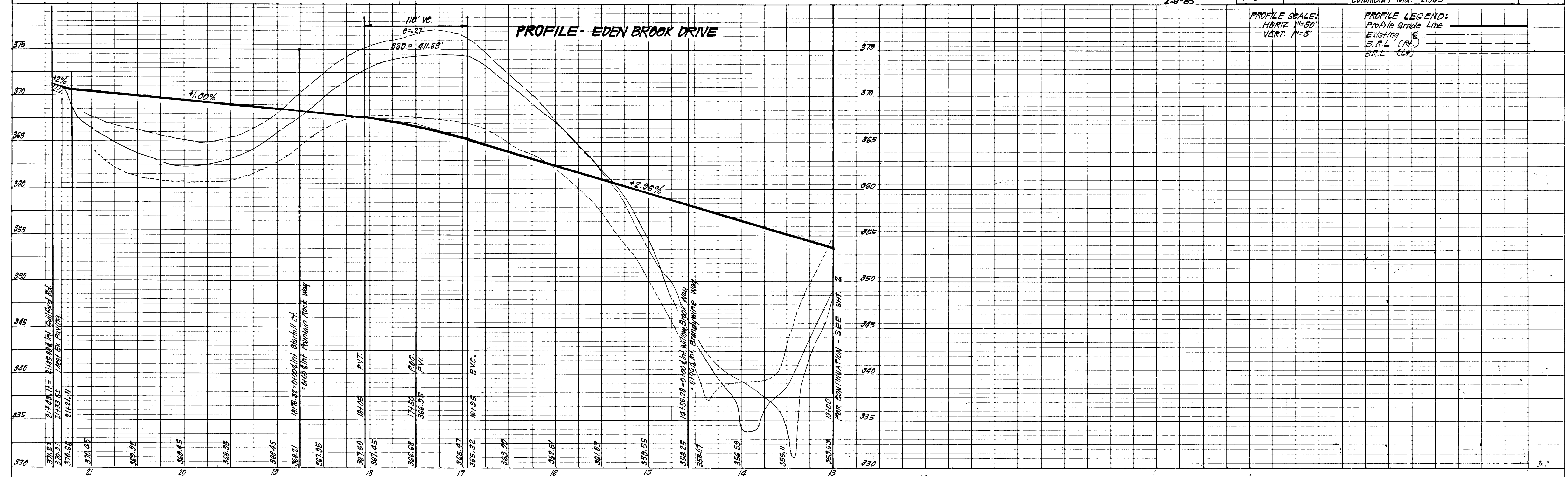
- GENERAL NOTES:**
- All storm drain and paving shall be constructed in accordance with the latest Details and Specifications of Howard County & Md SHA.
  - Types of Storm Drain Structures refer to the Standard Details of Ho. Co & Md SHA.
  - Trench compaction for Storm Drains, within Road or Street Rights of Way limits shall be in accordance with Howard Co. Design Manual Vol. III (Class C trench bedding to be used for all storm drain, unless shown otherwise, see det. sht. 6).
  - Information concerning underground utilities was obtained from available records, but the contractor must determine the exact location and elevation of the mains by digging test pits, by hand, at all utility crossings, well in advance of construction.
  - All utility companies shall be notified 24 hrs in advance of construction.
  - All traffic control devices, parking, and signing to be done in accordance with the "Manual of Uniform Traffic Control Devices," 1978 Edition.
  - Sag and Crest Vertical Curves were designed in accordance with Howard County Design Manual, Vol. III.
  - Provide Concrete Sidewalk Ramps, Ho. Co. Std. Type A, R. 4.01 where shown in plan.
  - Design Speed: See Chart Sht. 6.
  - Zoning: RSC
  - Contractor or Developer shall contact the Construction Inspection/Survey Division 24 hrs before commencing work at 792-7272.
  - Street Lights to be provided at following locations in accordance with Ho. Co. Design Manual Vol. III.
    - 250' With Mercury Vapor Lamp Pendant Mounted Fixture on 30' Galvanized Steel Pole at east corner of Eden Brook Drive and Guilford Road.
    - 250' With Mercury Vapor Lamp Pendant Mounted Fixtures on 25' Galvanized Steel Pole at Northeast Corner of Eden Brook Dr. & Fountain Rock Way, and N.E. Corner of Eden Brook Dr. & Willow Brook Way.
    - 175' With 25' With Mercury Vapor Lamp Pendant Mounted top fixture on 14' fiberless pole Sta. 3+30 Fountain Rock Way & 175' Fountain Rock Way.

APPROVED: Department of Public Works  
 Chief, Bureau of Engineering *[Signature]* 7-11-85 Date  
 APPROVED: Howard County Office of Planning & Zoning  
 Chief, Division of Land Development & Zoning Administration *[Signature]* 9985 Date

**CLARK • FINEFROCK & SACKETT**  
 ENGINEERS • PLANNERS • SURVEYORS  
 11314 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400

|          |        |          |          |
|----------|--------|----------|----------|
| DESIGNED | JLS    | SCALE    | AS SHOWN |
| DRAWN    | JLS    | DRAWING  | 10F14    |
| CHECKED  | JLS    | JOB NO.  | 84-061   |
| DATE     | 7-3-85 | FILE NO. | 84-061-D |

FOR: BRANTLY DEVELOPMENT CORP.  
 3501 TWIN KNOLLS ROAD  
 COLUMBIA, MD. 21045

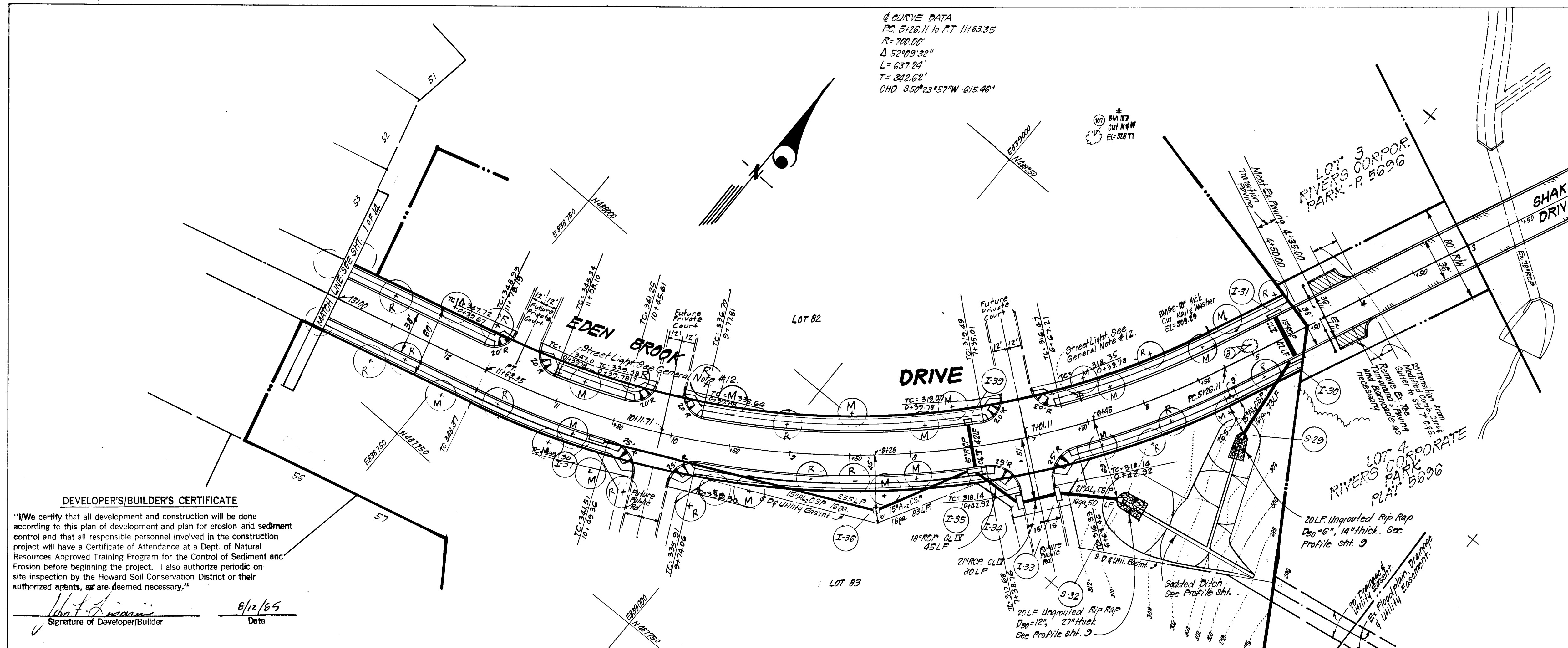


**PROFILE SCALE:**  
 HORIZ. 1" = 50'  
 VERT. 1" = 5'

**PROFILE LEGEND:**  
 Profile Grade Line  
 Existing E  
 B.R.L. (R.F.)  
 B.R.L. (L.F.)

#1156





| Nº | REVISIONS  | DATE    |
|----|--|---------|
| 1  | Added curb returns for future roads and adjusted storm drain I-33 to I-34 to reflect new road width. | 3-11-86 |

**ENGINEER'S CERTIFICATE**

I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Reviewed for: Howard S.C.D. Name  
 Date: 9/9/85  
 Signature: Stephen A. Rechs  
 Date: 9/9/85

G. Nelson Clark  
 State of Maryland  
 Professional Engineer  
 No. 2198  
 Exp. 12-31-85  
 Date: 7-5-85

**DEVELOPER'S/BUILDER'S CERTIFICATE**

"We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

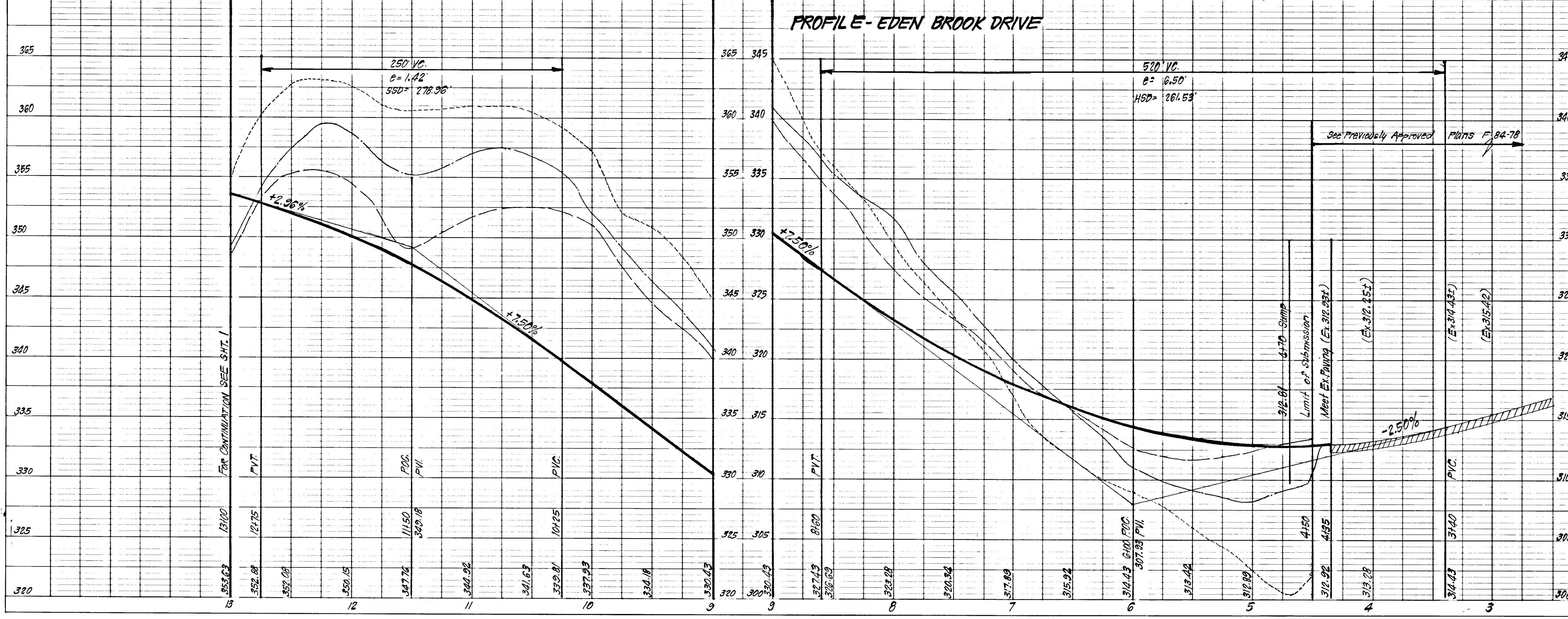
Signature of Developer/Builder: [Signature]  
 Date: 8/12/85

APPROVED: Department of Public Works  
 Chief, Bureau of Engineering: [Signature] Date: 9-11-85  
 APPROVED: Howard County Office of Planning & Zoning  
 Chief, Division of Land Development & Zoning Administration: John W. Muschman Date: 9-9-85

**CLARK · FINEFROCK & SACKETT**  
 ENGINEERS · PLANNERS · SURVEYORS

11315 LOCKWOOD DRIVE · SILVER SPRING MARYLAND 20904 · (301) 593-3400

|          |        |  |          |          |
|----------|--------|--|----------|----------|
| DESIGNED | JLS    | ROAD CONSTRUCTION PLANS<br>EDEN BROOK DRIVE                                    | SCALE    | AS SHOWN |
| DRAWN    | JLS    | <b>KINGS MEADE</b>   | DRAWING  | 2 OF 14  |
| CHECKED  | JLS    |  | JOB NO.  | 84-061   |
| DATE     | 7.3.85 | FOR: BRANTLY DEVELOPMENT CORP.<br>5501 TWIN KNOLLS ROAD<br>COLUMBIA, MD. 21045 | FILE NO. | 84-061-D |



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

PROFILE LEGEND:  
 Profile Grade Line  
 Existing G.  
 B.R.L. (R.R.)  
 B.R.L. (H)

#1156



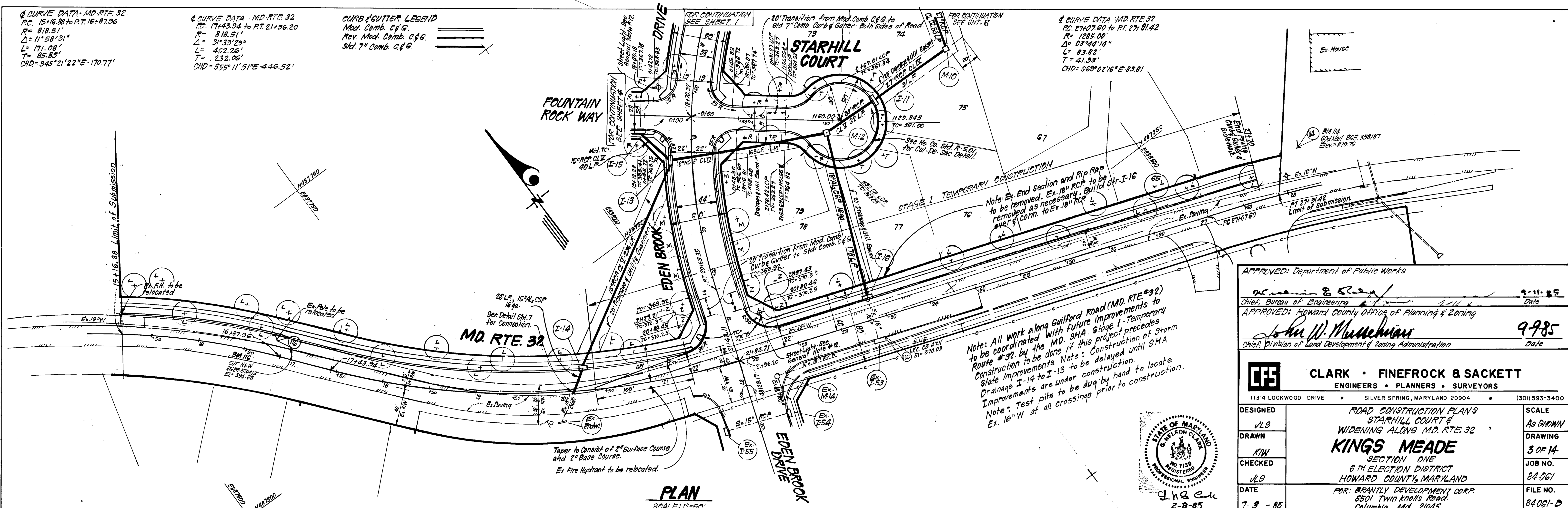
Q CURVE DATA - MD RTE 32  
 PC= 15+16.88 to PT= 16+87.96  
 R= 818.51'  
 $\Delta = 11^{\circ}58'31''$   
 L= 171.09'  
 T= 85.85'  
 CHD= S45°21'22"E-170.77'

Q CURVE DATA - MD RTE 32  
 PC= 17+43.94 to PT= 21+96.20  
 R= 818.51'  
 $\Delta = 31^{\circ}33'29''$   
 L= 452.26'  
 T= 232.06'  
 CHD= S55°11'51"E-446.52'

CURB & GUTTER LEGEND  
 Mod. Comb. C&G  
 Rev. Mod. Comb. C&G  
 Std. 7" Comb. C&G



Q CURVE DATA - MD RTE 32  
 PC= 27+07.60 to PT= 27+91.42  
 R= 1285.00'  
 $\Delta = 03^{\circ}44'14''$   
 L= 83.82'  
 T= 41.93'  
 CHD= S69°02'16"E-83.81'



**PLAN**  
 SCALE: 1"=50'

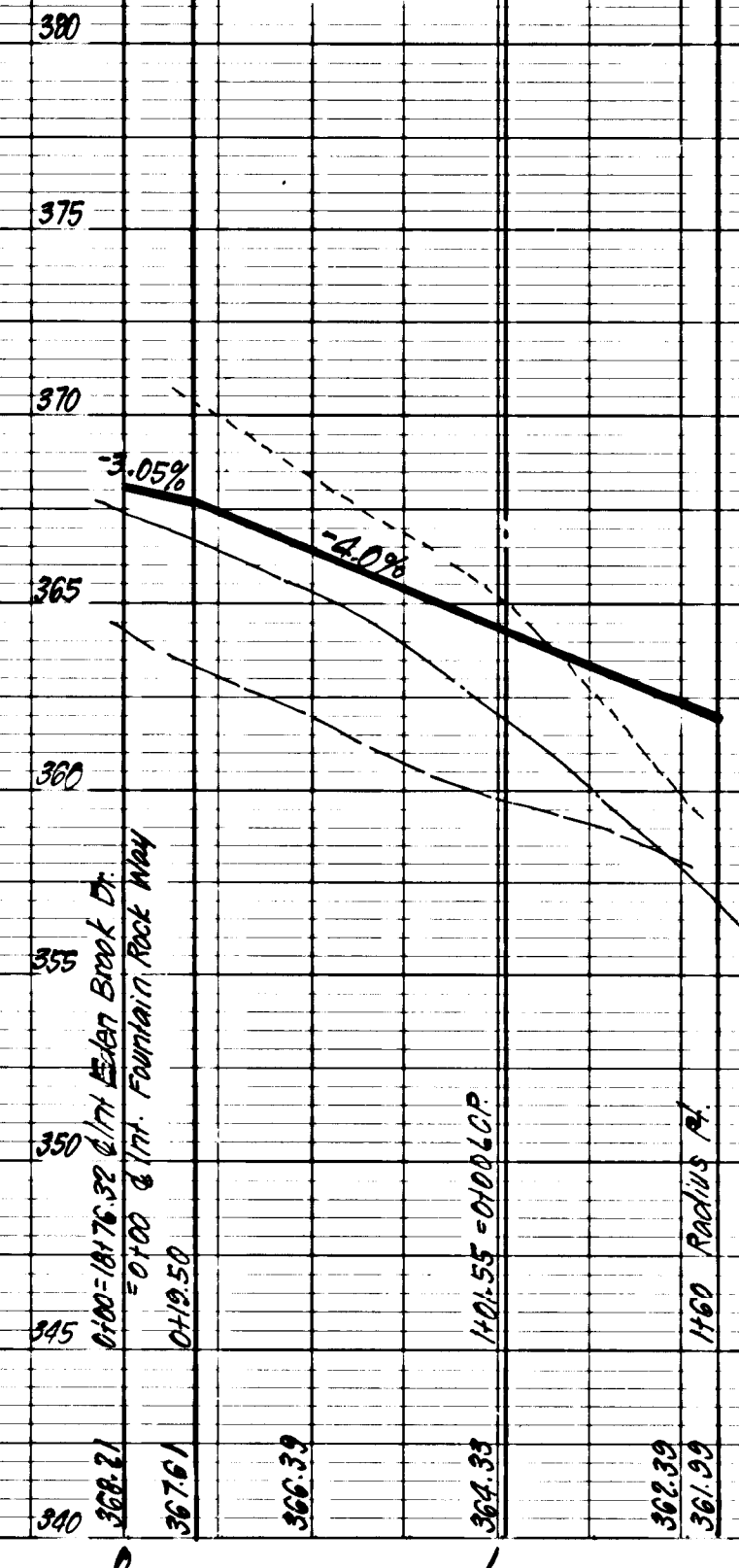
APPROVED: Department of Public Works  
 Chief, Bureau of Engineering  
 APPROVED: Howard County Office of Planning & Zoning  
 Chief, Division of Land Development & Zoning Administration

9-11-85  
 9-985  
 Date

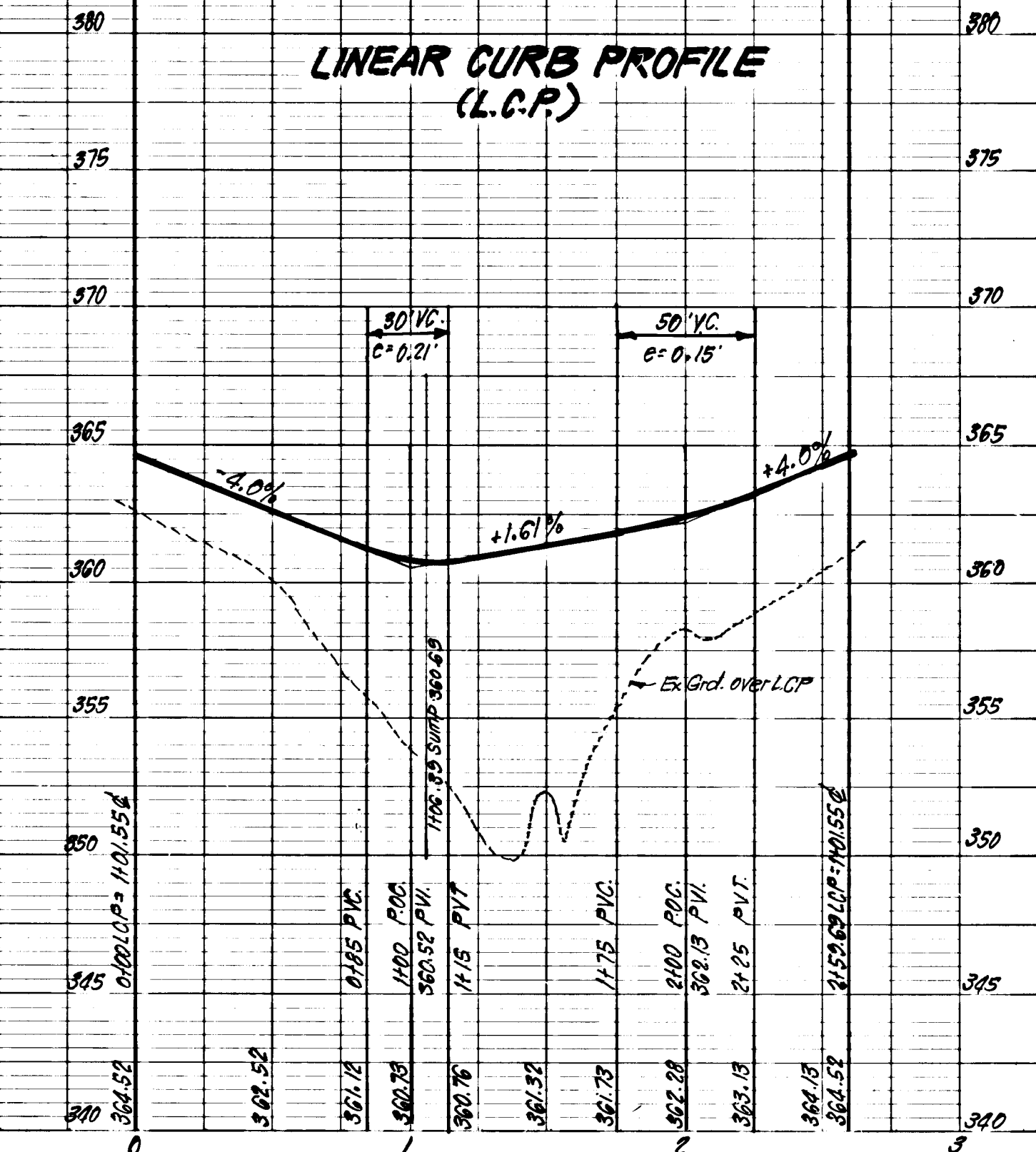
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|                 |  |                      |
|-----------------|--|----------------------|
| DESIGNED<br>VLS | ROAD CONSTRUCTION PLANS<br>STARHILL COURT<br>WIDENING ALONG MD. RTE. 32      | SCALE<br>AS SHOWN    |
| DRAWN<br>K/M    | <b>KINGS MEADE</b>   | DRAWING<br>3 OF 14   |
| CHECKED<br>VLS  | SECTION ONE<br>6TH ELECTION DISTRICT<br>HOWARD COUNTY, MARYLAND              | JOB NO.<br>84 061    |
| DATE<br>7-3-85  | FOR: BRANTLY DEVELOPMENT CORP.<br>5501 Twin Knolls Road<br>Columbia Md 21045 | FILE NO.<br>84 061-D |

**PROFILE  
 STARHILL CT.**

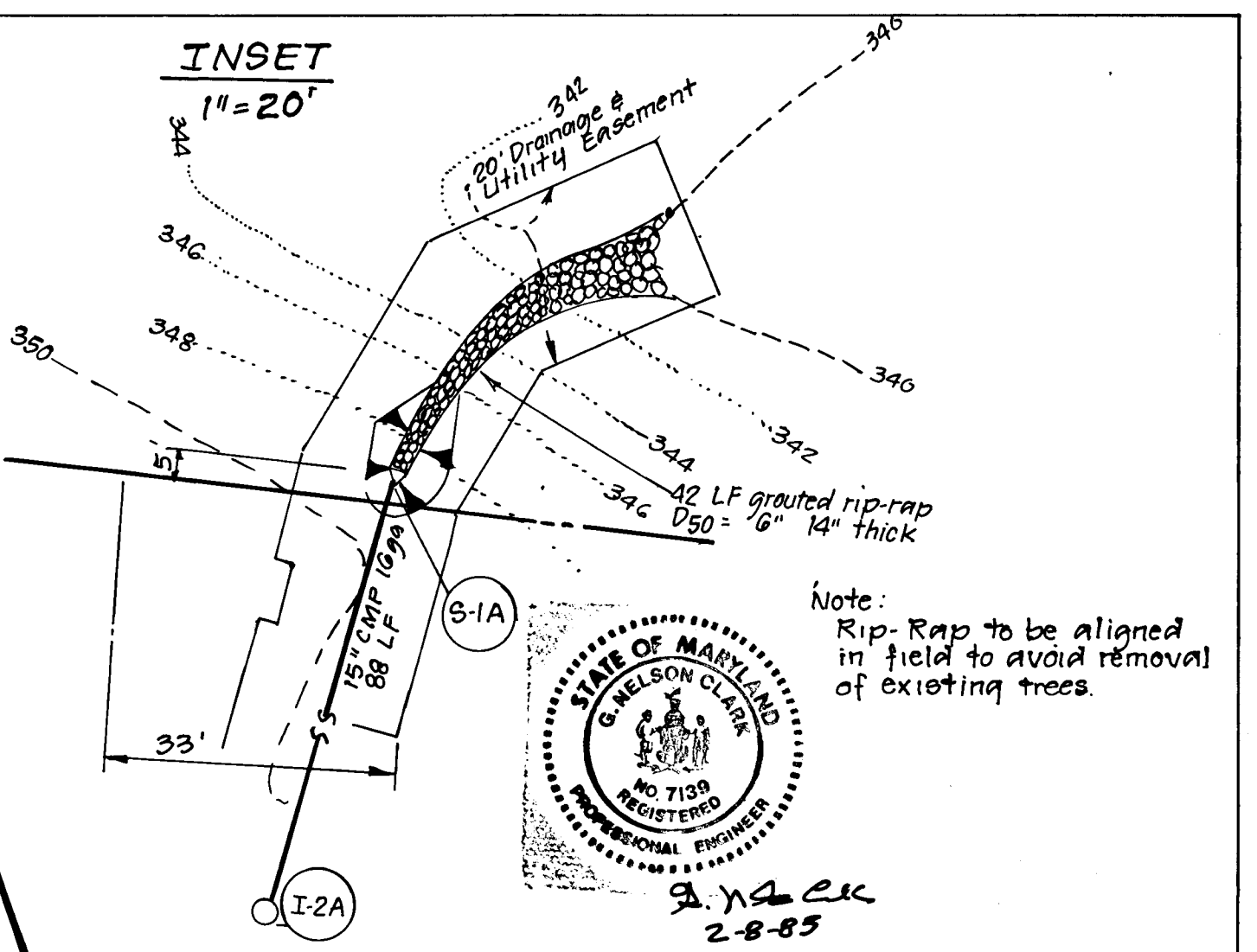
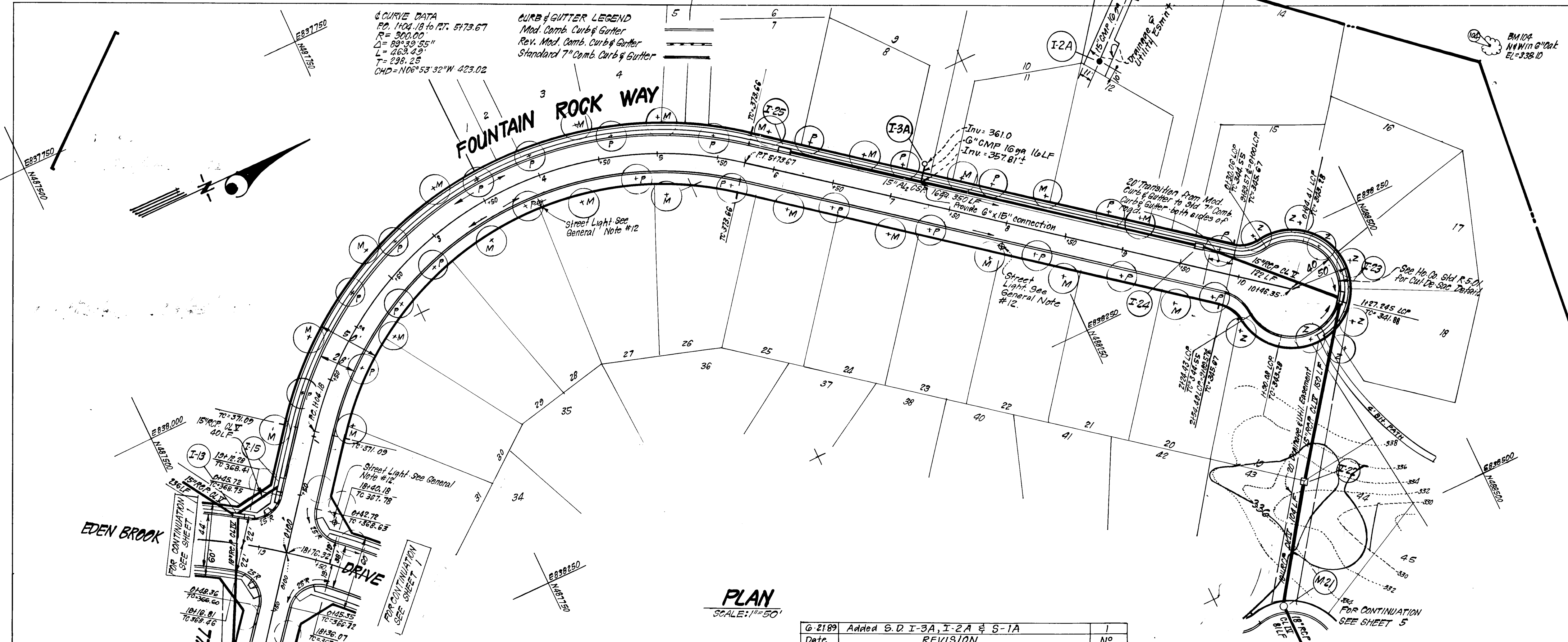


**LINEAR CURB PROFILE  
 (L.C.P.)**



F-1156





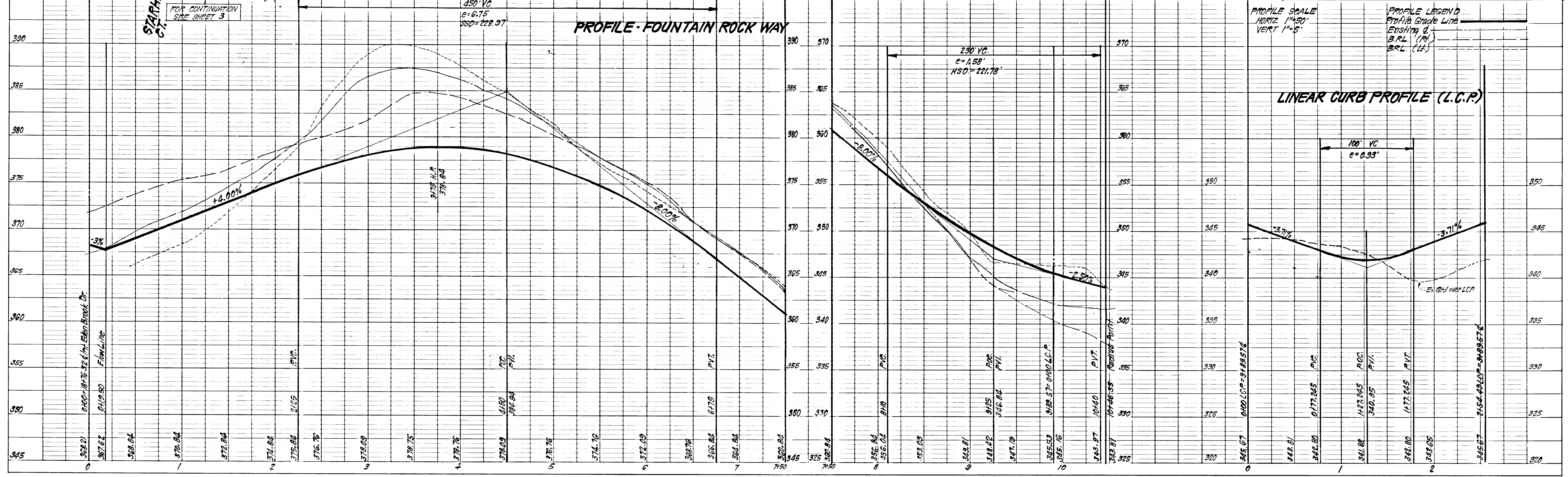
APPROVED: Department of Public Works  
 Chief, Bureau of Engineering  
 APPROVED: Howard County Office of Planning & Zoning  
 Chief, Division of Land Development & Zoning Administration

9-9-85

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1315 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301)593-3400

|          |        |   |                      |
|----------|--------|---|----------------------|
| DESIGNED | JLS    | ROAD CONSTRUCTION PLANS<br>FOUNTAIN ROCK WAY                                | SCALE<br>As SHOWN    |
| DRAWN    | KIW    | <b>KINGS MEADE</b>  | DRAWING<br>4 OF 14   |
| CHECKED  | JLS    | SECTION ONE<br>6 <sup>TH</sup> ELECTION DISTRICT<br>HOWARD COUNTY, MARYLAND | JOB NO.<br>84 061    |
| DATE     | 7-3-85 | FOR: BRANTLY DEVELOPMENT CORP.<br>5501 TWIN RIPS ROAD<br>COLUMBIA, MD 21045 | FILE NO.<br>84 061-D |



| Date   | REVISION                     | No |
|--------|------------------------------|----|
| G-2189 | Added S.D. I-3A, I-2A & S-1A | 1  |

F-85-103



**CURB & GUTTER LEGEND**  
 Mod. Comb. Curb & Gutter  
 Std. 7" Comb. Curb & Gutter

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Approved: *Stephen L. Fisher* 9/7/85  
 Howard S.C.D.

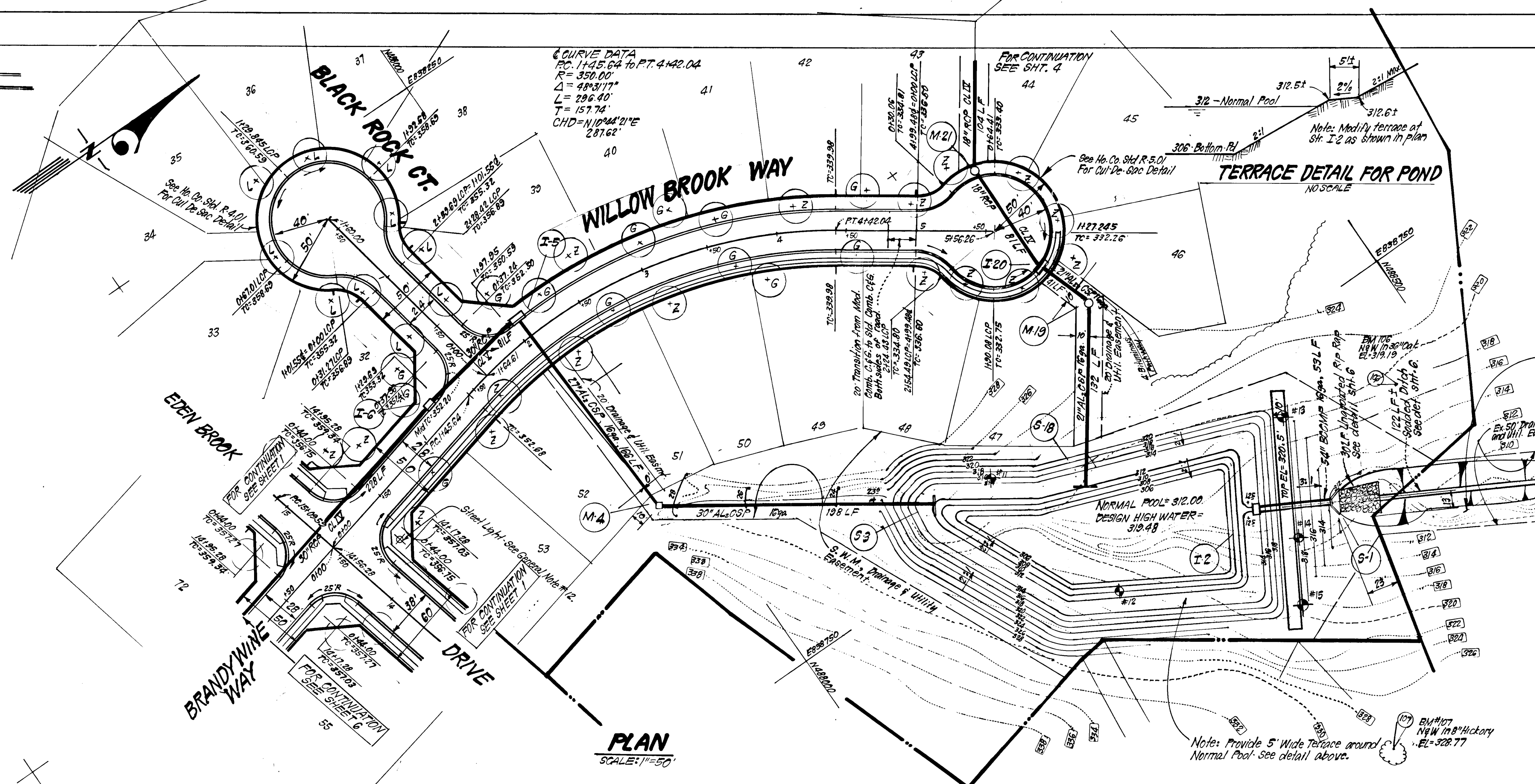
These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Reviewed: *John M. Selig* 9/9/85  
 U.S. Soil Conservation Service

**DEVELOPER'S CERTIFICATE**

"I certify that all development and/or construction will be done according to these plans of development, pond construction and erosion and sediment control. I also authorize possible on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary. Deviation from this plan will not be made unless authorized by the Howard Soil Conservation District. I will provide the Howard Soil Conservation District with a re-filled "as built" of the pond within 30 days of completion."

Signature: *Monte L. Spivack* 2/6/85  
 Date



**ENGINEER'S CERTIFICATE**

"I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he must provide the Howard Soil Conservation District with a re-filled "as built" of the pond within 30 days of completion."

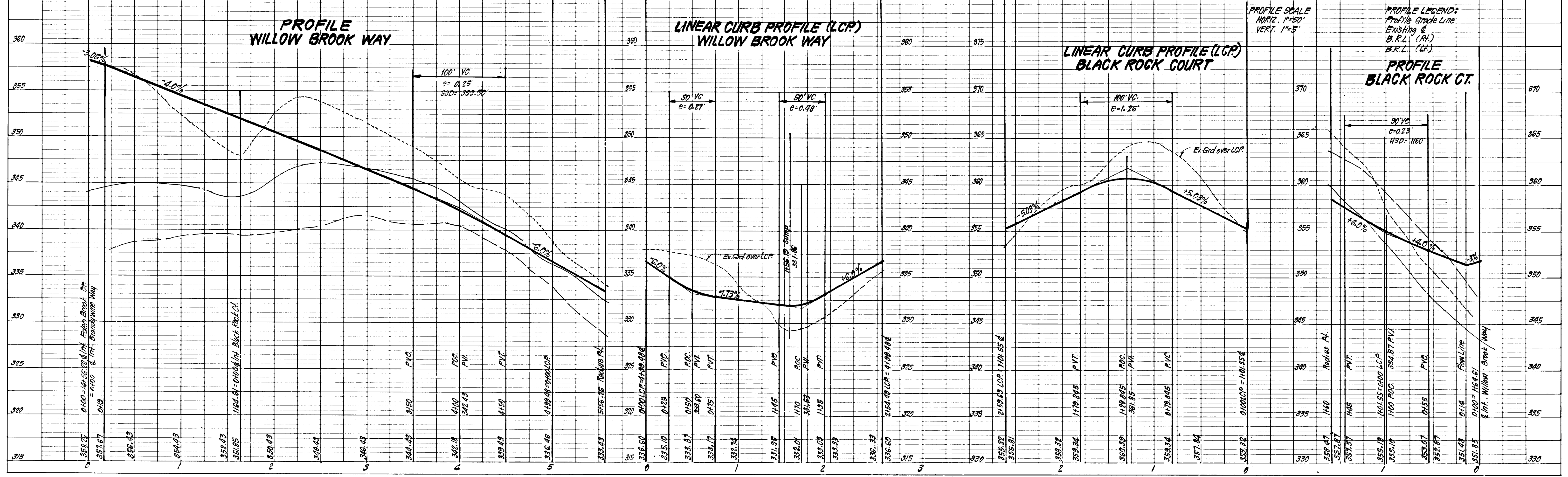
Signature: *John A. Cook* 2-8-85  
 Date



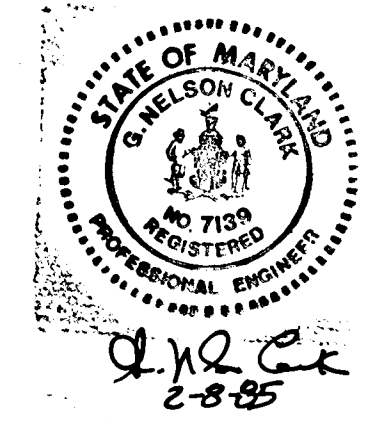
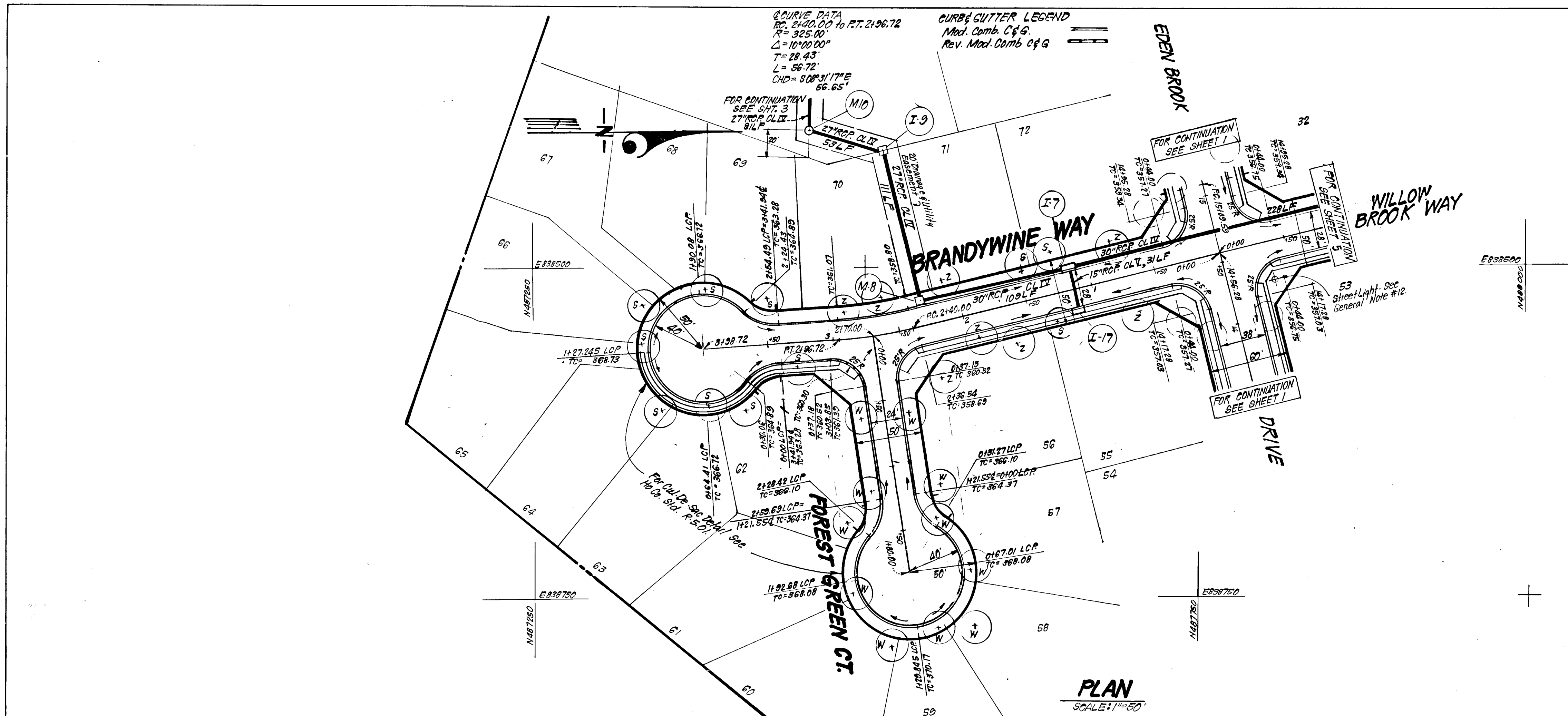
APPROVED: Department of Public Works  
*James E. R...* 9-11-85  
 Chief, Bureau of Engineering  
 APPROVED: Howard County Office of Planning & Zoning  
*John M. MacMahon* 9-9-85  
 Chief, Division of Land Development & Zoning Administration

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|          |        |   |          |          |
|----------|--------|---|----------|----------|
| DESIGNED | JLS    | ROAD CONSTRUCTION PLANS<br>WILLOW BROOK WAY AND<br>BLACK ROCK COURT                   | SCALE    | As SHOWN |
| DRAWN    | JLS    | <b>KINGS MEADE</b><br>SECTION ONE<br>6TH ELECTION DISTRICT<br>HOWARD COUNTY, MARYLAND | DRAWING  | 5 OF 14  |
| CHECKED  | JLS    |   | JOB NO.  | 84-061   |
| DATE     | 7-3-85 | FOR: BRANTLY DEVELOPMENT CORP.<br>5501 TWIN KNOLLS ROAD<br>Columbia Md 21045          | FILE NO. | 84-061-D |







APPROVED: Department of Public Works  
 Chief, Bureau of Engineering  
 APPROVED: Howard County Office of Planning & Zoning  
 Chief, Division of Land Development & Zoning Administration

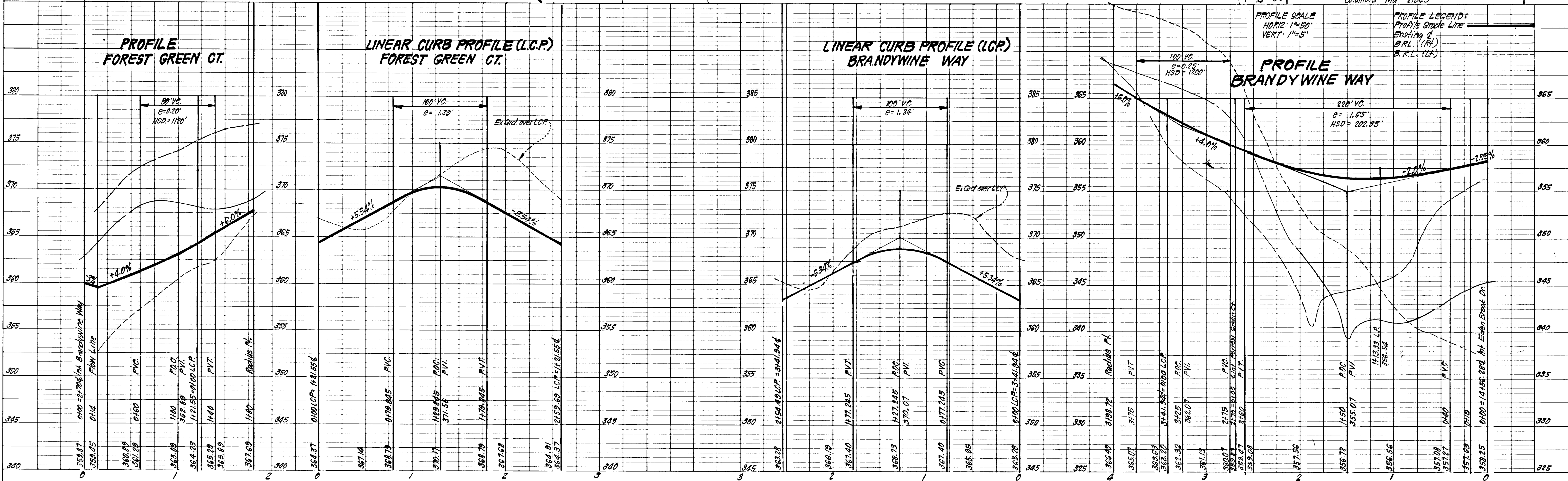
9-11-85  
 Date

998  
 Date

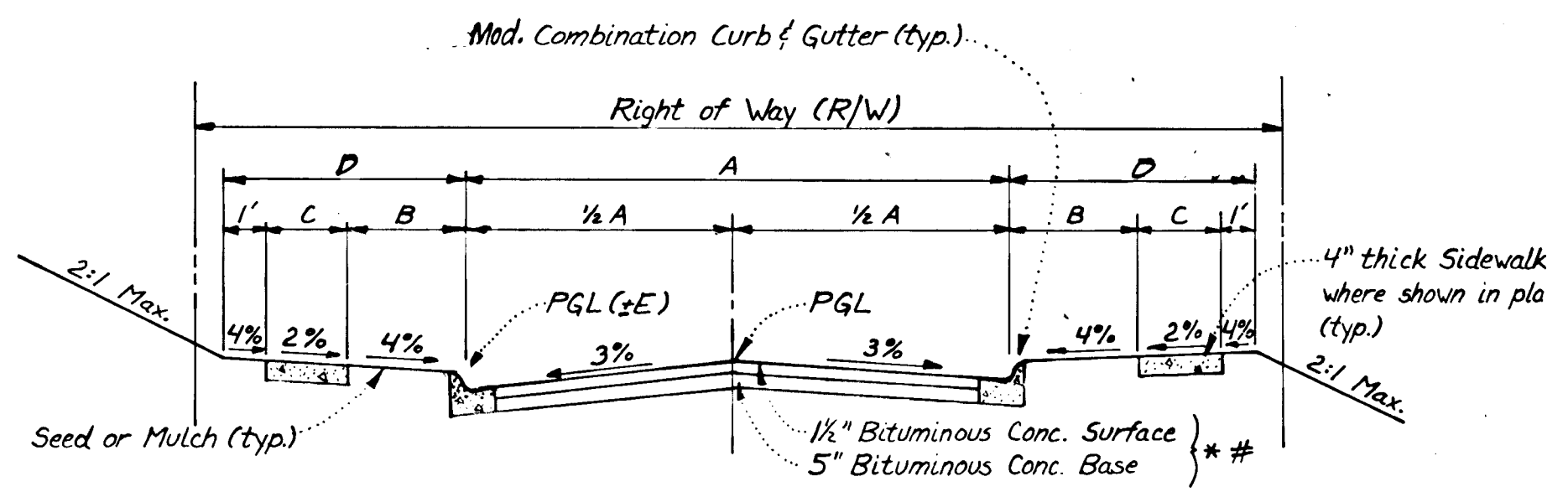
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1314 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593 3400

|                 |  |   |
|-----------------|--|---|
| DESIGNED<br>JLS | ROAD CONSTRUCTION PLANS<br>BRANDYWINE WAY AND<br>FOREST GREEN COURT<br><br><b>KINGS MEADE</b><br>SECTION ONE<br>6TH ELECTION DISTRICT<br>HOWARD COUNTY, MARYLAND | SCALE<br>As SHOWN   |
| DRAWN<br>KIW    |  | DRAWING<br>6 OF 14  |
| CHECKED<br>JLS  |  | JOB NO.<br>84-061   |
| DATE<br>7-3-85  |  | FILE NO.<br>84-061-D  |
|                 |  | FOR: BRANTLY DEVELOPMENT CORP<br>5501 Twin Knolls Road<br>Columbia Md 21045 |

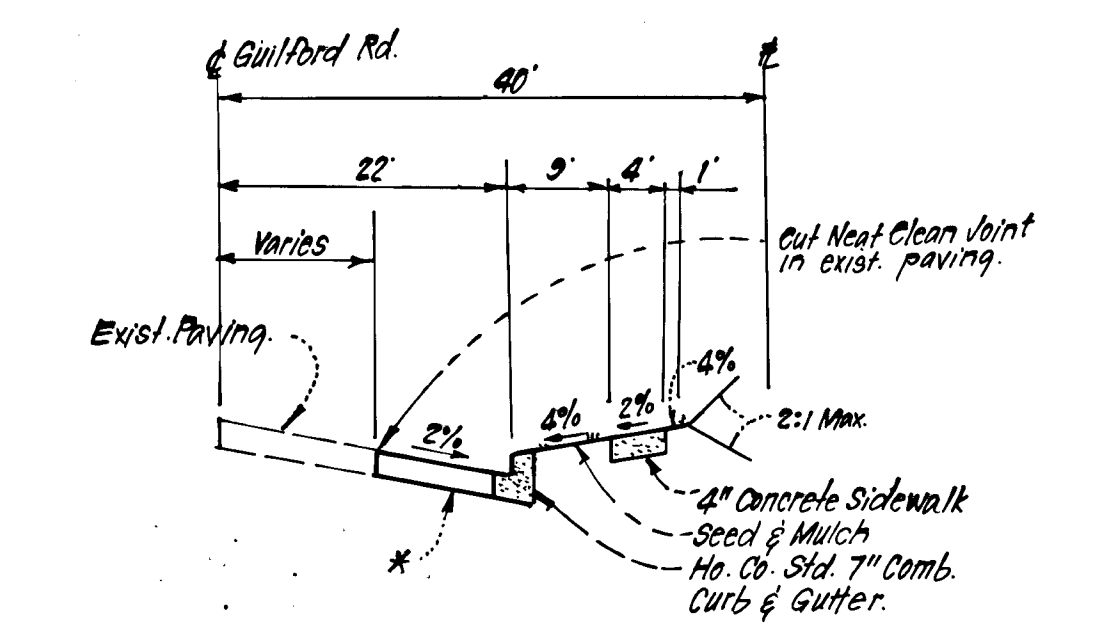






TYPICAL PAVING SECTION - PUBLIC ROADS

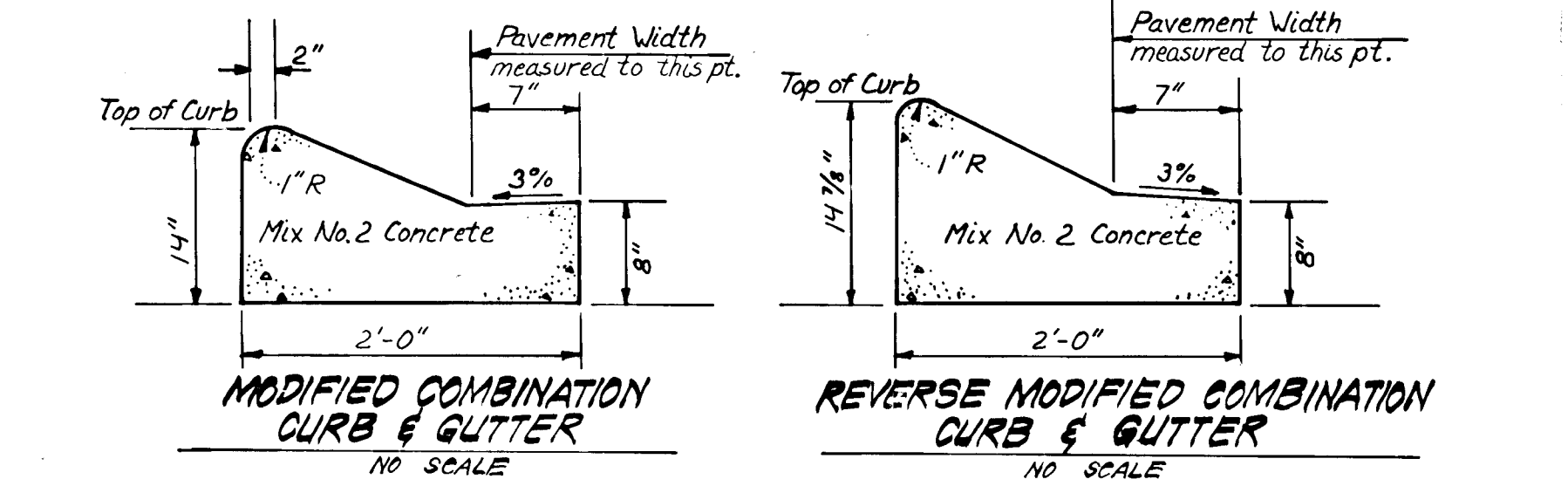
\* For Alternate Paving Section - See det. this sheet  
 # 1/2" Bit. Conc. Surface, 1/2" Bit. Conc. Base, 5" Bit. Conc. Base for Eden Brook Dr. Only.



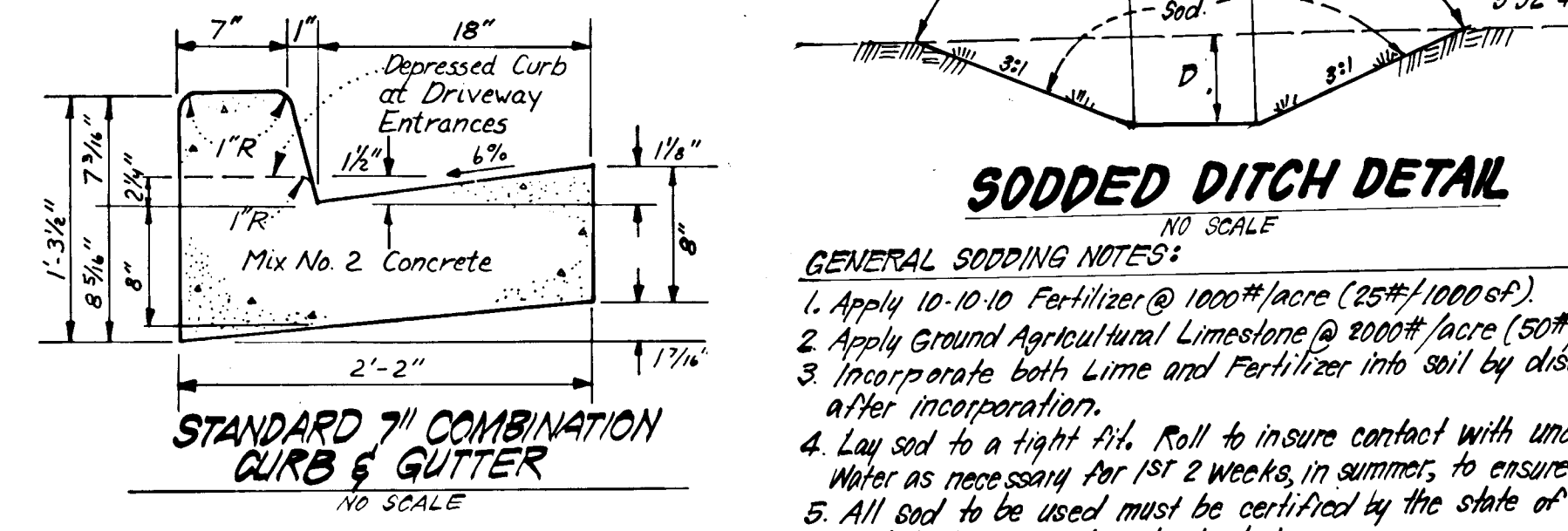
TYPICAL HALF SECTION - GUILFORD ROAD (MAJOR COLLECTOR)

NO SCALE

| STREET NAME & STATION                | TYPE OF TRAFFIC | A   | B  | C  | D   | R/W | ZONING | DESIGN SPEED | E   |
|--------------------------------------|-----------------|-----|----|----|-----|-----|--------|--------------|-----|
| EDEN BROOK DR. Sta. 4150 to 4170     | MINOR COLLECTOR | 38' | 6' | 4' | 11' | 60' | RSC    | 35 mph       | 107 |
| FOUNTAIN ROCK WAY Sta. 0100 to 0120  | CUL DE SAC      | 28' | 4' | 4' | 3'  | 50' | "      | 30 mph       | 108 |
| STARHILL COURT Sta. 0100 to 0120     | "               | 24' | -  | -  | 10' | 50' | "      | 25 mph       | 114 |
| WILLOW BROOK WAY Sta. 0100 to 0120   | "               | 28' | 4' | 4' | 3'  | 50' | "      | 25 mph       | 108 |
| BLACK ROCK COURT Sta. 0100 to 0120   | "               | 24' | -  | -  | 10' | 50' | "      | 25 mph       | 114 |
| BRANDYWINE WAY Sta. 0100 to 0120     | "               | 28' | 4' | 4' | 3'  | 50' | "      | 25 mph       | 108 |
| FOREST GREEN COURT Sta. 0100 to 0120 | "               | 24' | -  | -  | 10' | 50' | "      | 25 mph       | 114 |
| EDEN BROOK DR. Sta. 4170 to 4185     | MINOR COLLECTOR | 44' | 3' | 4' | 8'  | 60' | "      | 35 mph       | 116 |

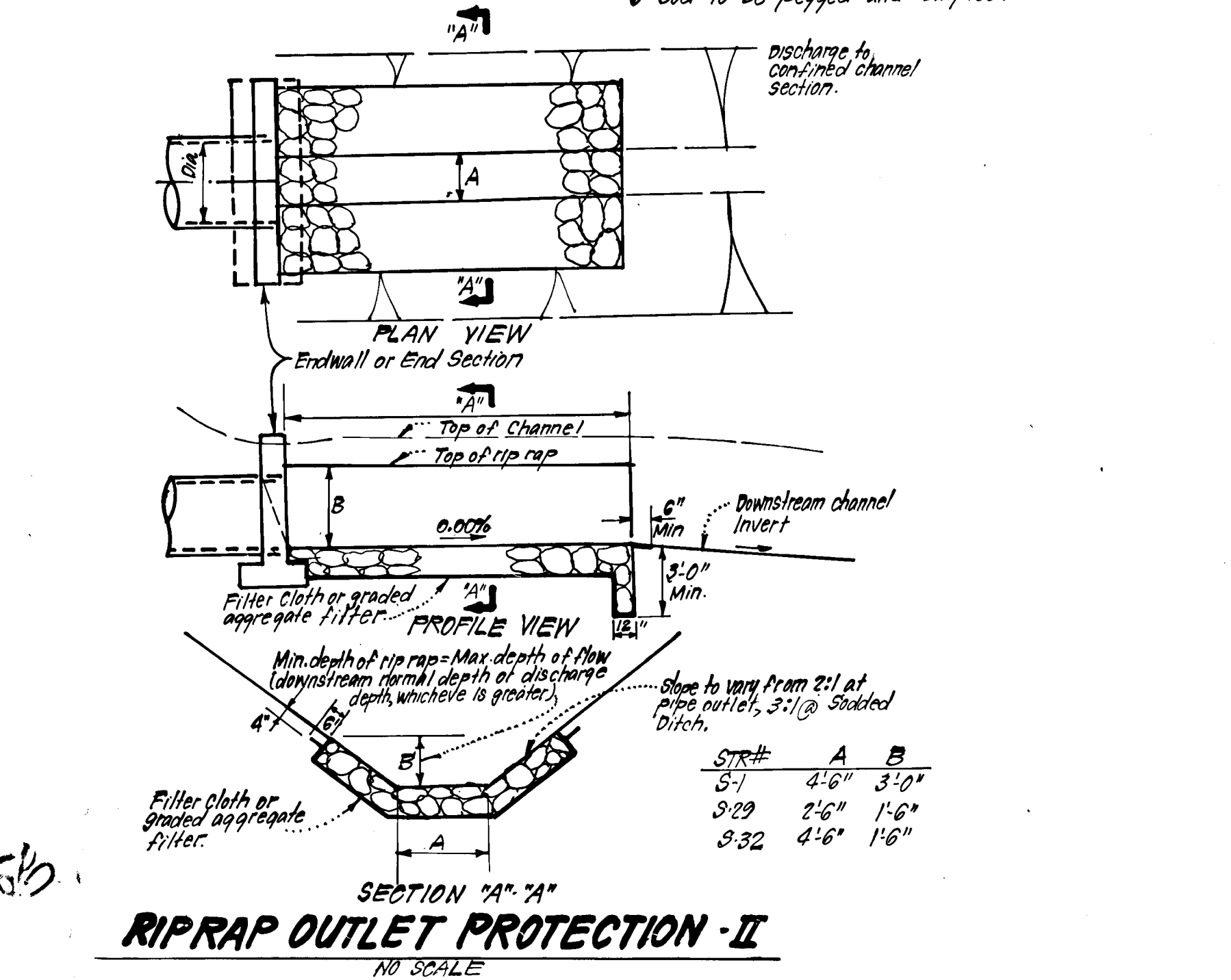


MODIFIED COMBINATION CURB & GUTTER  
 REVERSE MODIFIED COMBINATION CURB & GUTTER

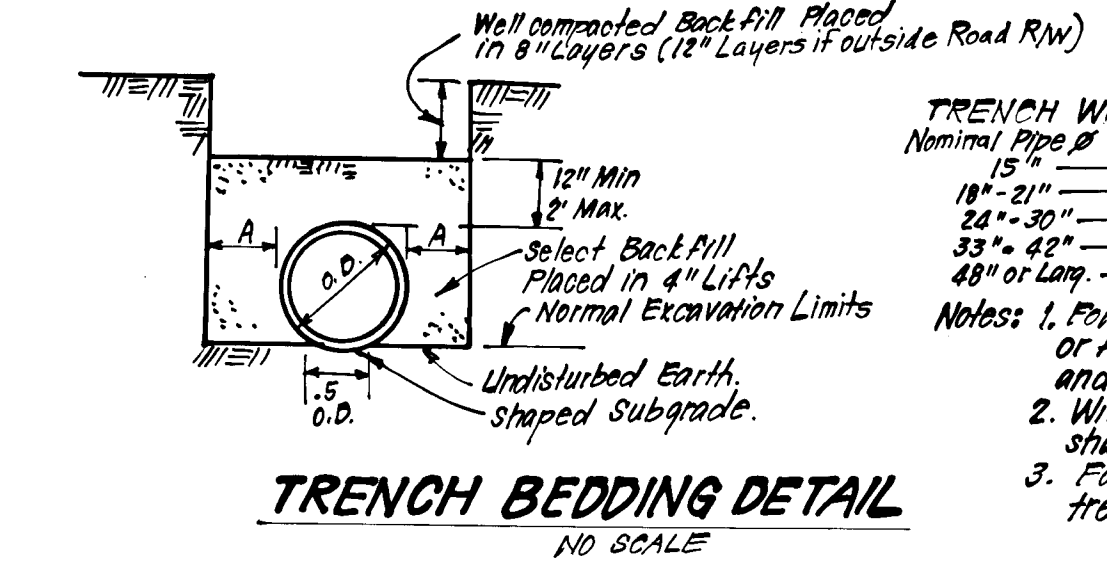


SODDED DITCH DETAIL

GENERAL SODDING NOTES:  
 1. Apply 10-10-10 Fertilizer @ 1000#/acre (25#/1000 sq ft)  
 2. Apply Ground Agricultural Limestone @ 200#/acre (50#/1000 sq ft)  
 3. Incorporate both Lime and Fertilizer into soil by disking. Firm up after incorporation.  
 4. Lay sod to a tight fit. Roll to insure contact with underlying soil. Water as necessary for 1st 2 weeks, in summer, to ensure establishment.  
 5. All sod to be used must be certified by the state of Maryland.  
 6. Sod to be pegged and stippled.



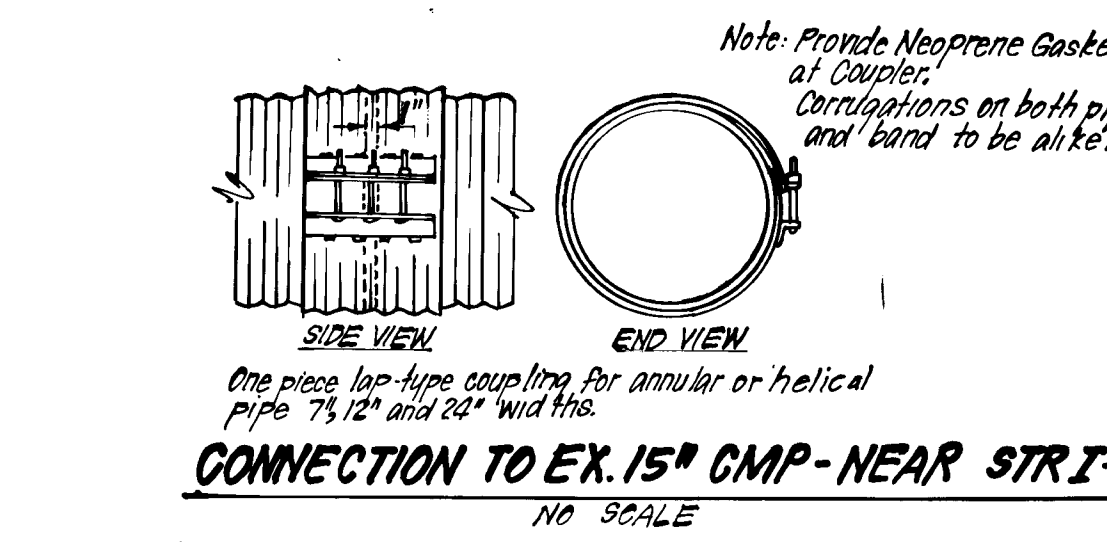
RIPRAP OUTLET PROTECTION - II



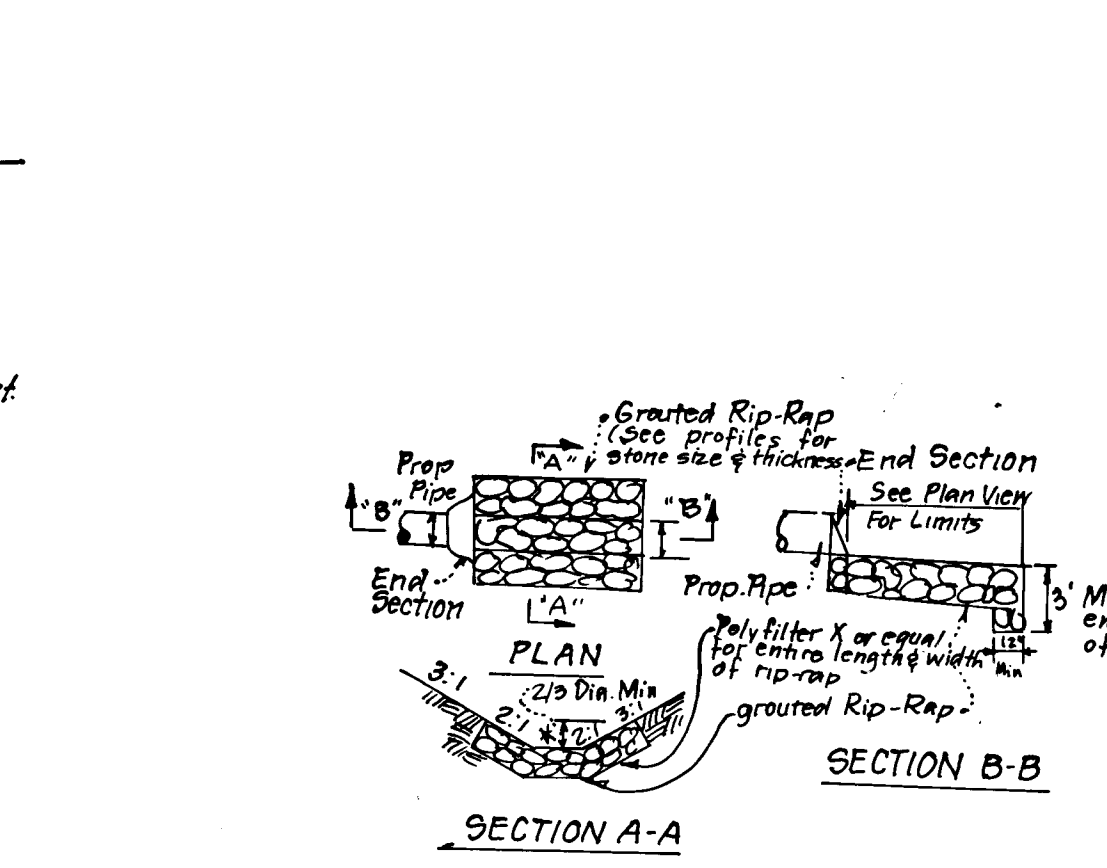
TRENCH BEDDING DETAIL

TRENCH WIDTH  
 Nominal Pipe Size  
 15" - 8"  
 18" - 10"  
 24" - 12"  
 30" - 15"  
 36" - 18"  
 48" or Long. - 18"

Notes: 1. For D.P. of pipe see Manufacturers Specs or Field measure circumference of pipe and divide by 3.14.  
 2. Within Road R/W, Trench Compaction Density shall be 95% as determined by AASHTO T-180 C.  
 3. For conditions requiring solid sheeting of trench shields, "A" shall not exceed 50'.



CONNECTION TO EX. 15" CMP - NEAR STR 14



GRADED RIP-RAP PAVING DETAILS STR 81A

|  |          |
|--|----------|
| Bituminous Conc Surface                          | 1/2"     |
| Bituminous Conc Base                             | 2 1/2"   |
| Prime  |          |
| 8" Crusher Run Base (Placed in 2 Courses)        | 8" or 6" |
| or   |          |
| 6" Dense Graded Stabilized Aggregate Base Course |          |

ALTERNATE PAVING SECTION FOR PUBLIC ROADS

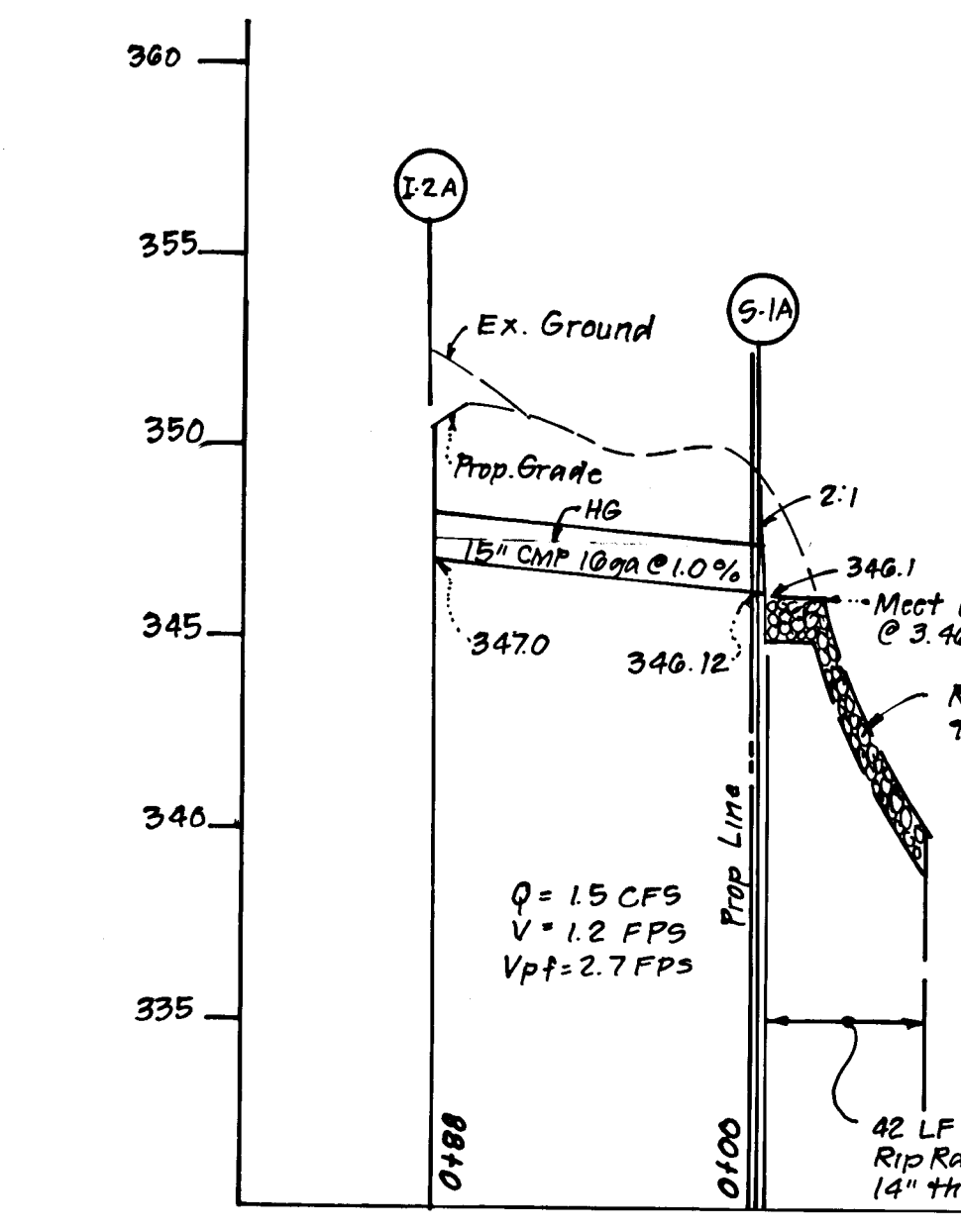
| SIZE | TYPE          | LENGTH |
|------|---------------|--------|
| 15"  | ALGOSP 16page | 767 LF |
| 15"  | RCP CL IV     | 513 LF |
| 15"  | RCP CL IV     | 150 LF |
| 18"  | ALGOSP 16page | 176 LF |
| 18"  | RCP CL IV     | 328 LF |
| 21"  | ALGOSP 16page | 166 LF |
| 21"  | ALGOSP 16page | 223 LF |
| 21"  | RCP CL IV     | 92 LF  |
| 27"  | RCP CL IV     | 255 LF |
| 30"  | RCP CL IV     | 337 LF |
| 30"  | RCP CL IV     | 81 LF  |
| 30"  | ALGOSP 16page | 198 LF |
| 54   | BCCMP 16page  | 53 LF  |
| 21"  | RCP CL IV     | 32 LF  |

PIPE SCHEDULE

| No.  | TYPE                        | INV. IN | INV. OUT | TOP ELEVATION |        | REMARKS              | LOCATION   |
|------|-----------------------------|---------|----------|---------------|--------|----------------------|--|
|      |                             |         |          | UPPER         | LOWER  |                      |  |
| S-1  | A-EndWall                   | 305.00  | 305.00   | -             | -      | Ho. Co. Std. SD 5.11 | 54'Dia See Plan                                    |
| I-2  | Special                     | 306.00  | 305.80   | 320.00        | -      | See det. str. 8      | W-5.0' See Plan                                    |
| S-3  | C-EndWall                   | 308.50  | 308.50   | -             | -      | Ho. Co. Std. SD 5.21 | Dia 30' See Plan                                   |
| M-4  | Shallow Brick Manhole       | 329.50  | 329.25   | 329.75        | -      | " " " " G-5.05       | 48" Dia See Plan                                   |
| I-5  | A-10 Inlet w/Deflec.        | 345.40  | 343.70   | 350.41        | 350.03 | " " " " SD 4.02      | W-4.0' Inlet 2106.45 Wil. Br. Wy. 14.83' Lt.       |
| I-6  | A-5 Inlet w/Deflec.         | 346.61  | 346.61   | 353.68        | 353.44 | " " " " SD 4.01      | W-4.0' Inlet 1123.63 Wil. Br. Wy. 14.83' Lt.       |
| I-7  | A-10 Inlet                  | 349.75  | 349.75   | 356.62        | 356.62 | " " " " SD 4.02      | W-4.0' Inlet 1113.33 Brandw. Wy. 14.83' Lt.        |
| M-8  | 50" Shallow Precast Manhole | 351.40  | 351.15   | 358.68        | -      | " " " " G-5.13       | 5'-0" Dia. Ltr. 2130.80 Brandw. Wy. 20' Rt.        |
| I-9  | D-10 Inlet                  | 353.20  | 352.97   | 359.83        | -      | " " " " SD 4.11      | 4'-0" Dia See Plan                                 |
| M-10 | 50" Shallow Precast Manhole | 354.00  | 353.90   | 360.80        | -      | " " " " G-5.13       | 5'-0" Dia See Plan                                 |
| I-11 | A-10 Inlet                  | 355.50  | 355.25   | 360.69        | -      | " " " " SD 4.02      | W-2'-6" Inlet 1104.81 LCP Starhill Ct.             |
| M-12 | Shallow Brick Manhole       | 357.15  | 356.71   | 362.27        | -      | " " " " G-5.05       | 48" Dia. Ltr. 1145.5 Starhill Ct. 13' Rt.          |
| I-13 | A-10 Inlet                  | 363.41  | 363.41   | 368.44        | -      | " " " " SD 4.02      | W-2'-6" Inlet 1121.20 Eden Brk. 2183' Lt.          |
| I-14 | A-5 Inlet w/Deflec.         | 373.07  | 371.61   | 377.78        | 377.51 | " " " " SD 4.01      | W-2'-6" Inlet 204' LG. Guilford Rd. 221' Lt.       |
| I-15 | A-10 Inlet w/Deflec.        | 365.50  | 363.31   | 368.87        | -      | " " " " SD 4.02      | W-2'-6" Inlet 0154.22 From Rock Wy. 14.83' Lt.     |
| I-16 | A-10 Inlet                  | 365.6   | 365.50   | 369.91        | -      | " " " " SD 4.02      | W-2'-6" Inlet 231' 30" Guilford Rd. 221' Lt.       |
| I-17 | A-10 Inlet                  | 367.50  | 367.50   | 368.62        | 368.62 | " " " " SD 4.02      | W-2'-6" Inlet 1113.33 Brandw. Wy. 14.83' Lt.       |
| M-18 | Brick Manhole               | 369.50  | 369.50   | -             | -      | " " " " SD 5.21      | Dia = 21" See Plan                                 |
| I-20 | A-10 Inlet                  | 375.00  | 374.75   | 381.86        | -      | " " " " SD 4.02      | W-2'-6" Inlet 1153.79 LCP Willow Brk. Wy.          |
| M-21 | Brick Manhole               | 377.10  | 377.00   | 383.37        | -      | " " " " G-5.01       | 48" Dia See Plan                                   |
| I-22 | D-10 Inlet                  | 379.00  | 379.75   | 384.83        | -      | " " " " SD 4.11      | 2'-6" Dia See Plan                                 |
| I-23 | A-10 Inlet                  | 387.80  | 386.87   | 391.88        | -      | " " " " SD 4.02      | W-2'-6" Inlet 1120.245 LCP Fountain Rock Wy.       |
| I-24 | A-5 Inlet w/Deflec.         | 342.00  | 341.56   | 346.79        | 346.53 | " " " " SD 4.01      | W-2'-6" Inlet 0163.57 From Rock Wy. 14.83' Lt.     |
| I-25 | A-10 Inlet w/Deflec.        | 365.50  | 365.50   | 372.14        | 371.46 | " " " " SD 4.02      | W-2'-6" Inlet 0106.07 Fountain Rock Wy. 14.83' Lt. |
| S-29 | Metal End Section           | 299.25  | 299.00   | -             | -      | " " " " SD 5.61      | Dia = 15" See Plan                                 |
| I-30 | A-10 Inlet                  | 308.00  | 307.60   | 312.74        | -      | " " " " SD 4.02      | W-2'-6" Inlet 4-70 Eden Brook 19.83' Lt.           |
| I-31 | A-10 Inlet                  | 308.50  | 308.50   | 312.74        | -      | " " " " SD 4.02      | W-2'-6" Inlet 4-70 Eden Brook 19.83' Lt.           |
| S-32 | Metal End Section           | 299.50  | 299.00   | -             | -      | " " " " SD 5.61      | Dia = 21" See Plan                                 |
| I-33 | A-10 Inlet w/Deflectors     | 310.00  | 308.56   | 318.52        | 318.21 | " " " " SD 4.02      | W-2'-6" Inlet See Plan                             |
| I-34 | A-10 Inlet w/Deflectors     | 312.50  | 312.25   | 318.52        | 318.21 | " " " " SD 4.02      | W-2'-6" Inlet See Plan                             |
| I-35 | A-10 Inlet w/Deflectors     | 315.50  | 314.04   | 320.41        | 319.82 | " " " " SD 4.02      | W-2'-6" Inlet 7147 Eden Brk. 19.83' Lt.            |
| I-36 | D-10 Inlet                  | 321.50  | 321.25   | 325.83        | -      | " " " " SD 4.11      | 2'-6" Dia Inlet 8128 Eden Brk. 45' Lt.             |
| I-37 | A-10 Inlet w/Deflectors     | 337.50  | 342.49   | 341.73        | -      | " " " " SD 4.02      | W-2'-6" Inlet 10158 Eden Brk. 19.83' Lt.           |
| I-39 | A-5 Inlet w/Deflectors      | 316.00  | 320.27   | 319.95        | -      | " " " " SD 4.01      | W-2'-6" Inlet 7147 Eden Brk. 19.83' Lt.            |

All Inverts to be fully developed except STR I-33.  
 See Ho. Co. Std. R-3.01a for Transition to Inlet.  
 See Ho. Co. Std. SD 4.83 for Inlet Deflectors.  
 Provide Slots in all sides.  
 Provide Slots in E.W. & S. Sides.  
 Use dimensions: B=10", E=21", H=2'-6", L=10'-3". See 18" Dia. for all other dimensions.

|      |                   |        |        |       |   |                      |         |          |
|------|-------------------|--------|--------|-------|---|----------------------|---------|----------|
| S-1A | Metal End Section | 346.12 | 346.10 | -     | - | Ho. Co. Std. SD 5.61 | 15" Dia | See Plan |
| I-2A | Yard Inlet        | -      | 347.0  | 350.5 | - | "                    | 4.14    | 2' Rd    |
| I-3A | Yard Inlet        | -      | 361.0  | 364.5 | - | Ho. Co. Std.         | 4.14    | 2' Rd    |



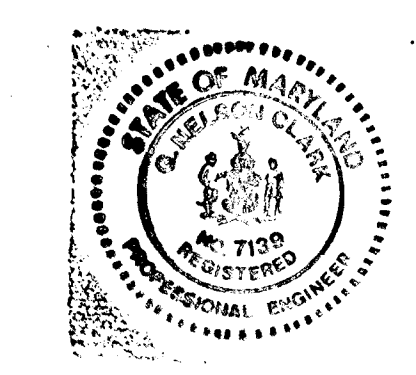
Ex. Ground  
 Prop. Grade  
 18" Dia 10m @ 1.0%  
 346.1  
 Meet ex. ground @ 3.46.1  
 Rip-Rap to be placed to meet ex. ground  
 Q = 1.5 CFS  
 V = 1.2 FPS  
 Vp = 2.7 FPS  
 42 LF grouted Rip-Rap D<sub>50</sub> = 6" 1/4" thick - see detail

3 Added Storm Drainage I-3A, I-2A, S-1A G-21-89

DEVELOPER/BUILDER'S CERTIFICATE  
 I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning this project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as deemed necessary.  
 Signature: [Signature] Date: 3/6/85

| 2   | Revised Structure Schedule | 3-11-86  |
|-----|----------------------------|----------|
| 1   | Revised Str. Schedule      | 11-13-85 |
| No. | REVISIONS                  | DATE     |

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] Date: 9-9-85  
 Chief, Division of Land Development & Zoning Administration



ENGINEER'S CERTIFICATE  
 I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.  
 Signature: [Signature] Date: 2-8-85  
 G. Nelson Clark

|  |              |
|--|--------------|
| Bituminous Conc Surface                          | 1/2"         |
| Bituminous Conc Base                             | 4 1/2"       |
| Prime  |              |
| 6" Crusher Run Base Course                       | 6" or 4 1/2" |
| or   |              |
| 4" Dense Graded Stabilized Aggregate Base Course |              |

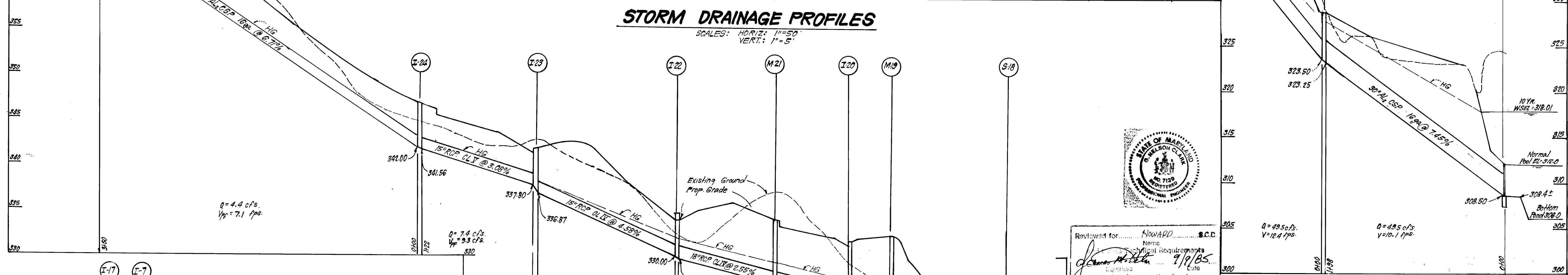
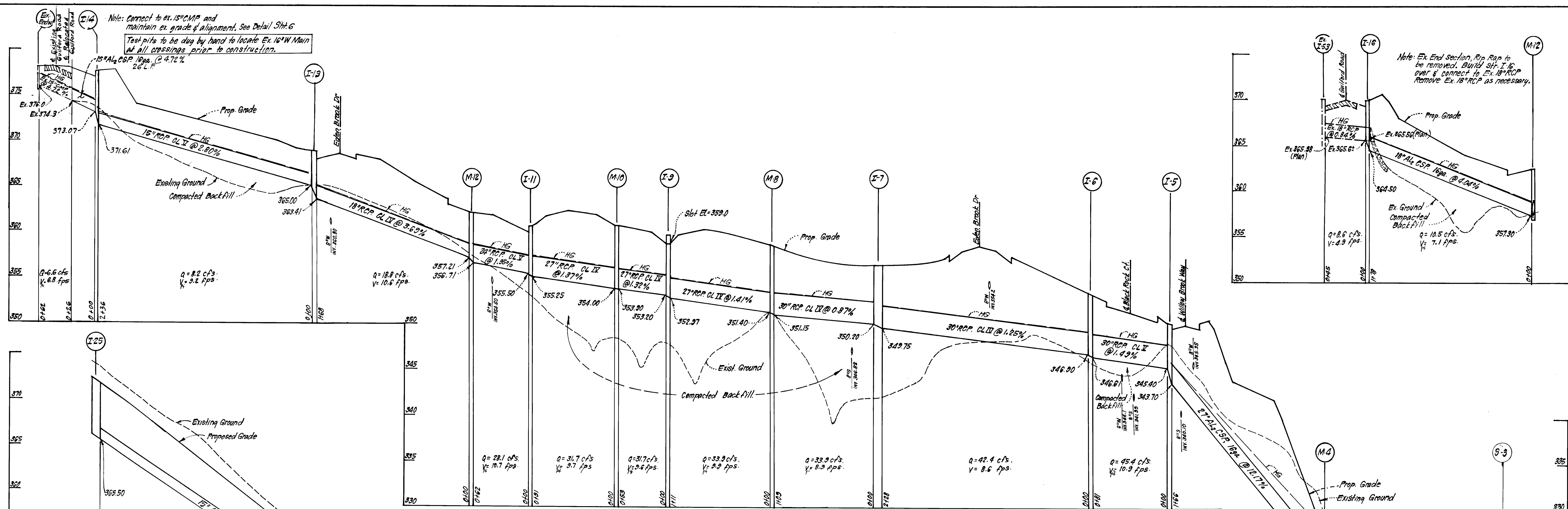
ALTERNATE PAVING SECTION FOR MAJOR & MINOR COLLECTOR AND GUILFORD ROAD - MD. RTE 32

Reviewed for [Signature] S.C.D.  
 [Signature] 9/9/85  
 U.S. Soil Conservation Service  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Signature: [Signature] Date: 9/9/85

|          |        |          |          |
|----------|--------|----------|----------|
| DESIGNED | JLS    | SCALE    | As SHOWN |
| DRAWN    | K/W    | DRAWING  | 7 OF 14  |
| CHECKED  | JLS    | JOB NO.  | 84-061   |
| DATE     | 7-3-85 | FILE NO. | 84-061-D |

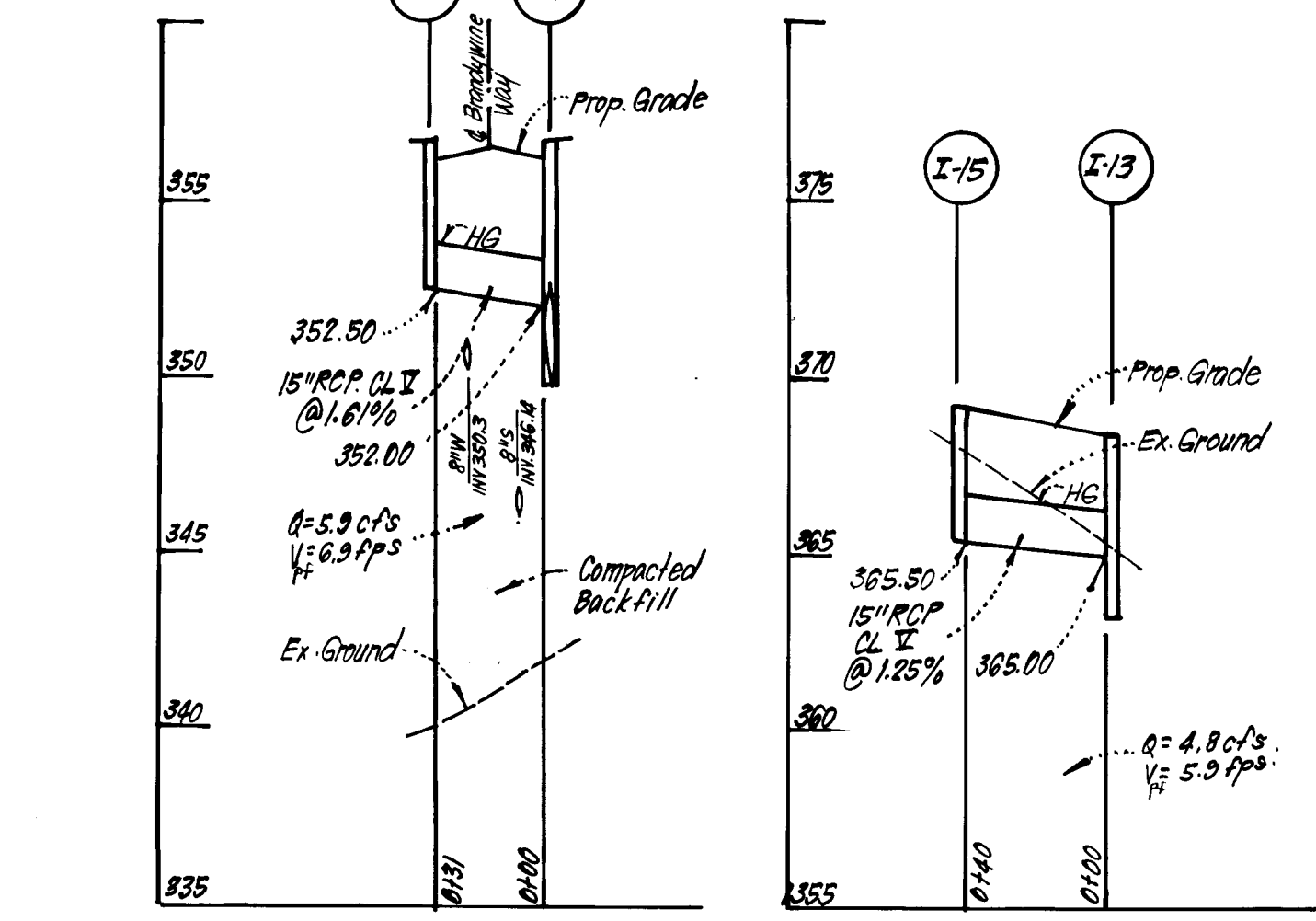
CLARK • FINEFROCK & SACKETT  
 ENGINEERS • PLANNERS • SURVEYORS  
 1115 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 593-3400  
 ROAD CONSTRUCTION PLANS  
 PAVING & STORM DRAIN DETAILS  
 KINGS MEADE  
 SECTION ONE  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 FOR: BRANDLYN DEVELOPMENT CORP  
 5501 TWIN KNOTS RD.  
 COLUMBIA MD 21045  
 F-85-103





**STORM DRAINAGE PROFILES**

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



#1156

**DEVELOPER'S/BUILDER'S CERTIFICATE**  
"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approval Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."  
Signature of Developer/Builder: [Signature] Date: 7/9/85

Reviewed for: **HOWARD S.C.D.**  
Name: [Signature]  
Date: 7/9/85  
Signature: [Signature]  
U.S. Soil Conservation Service  
FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
Approved: [Signature] 7/9/85  
Note: Adjust terrace as necessary to provide 1' Min. Cover over pipe.

**ENGINEER'S CERTIFICATE**  
I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.  
Signature: [Signature] 2-8-85  
G. Nelson Clark

|          |        |             |             |
|----------|--------|-------------|-------------|
| DESIGNED | JLS    | SCALE       | HOR: 1"=50' |
| DRAWN    | KIW    | VERT: 1"=5' | DRAWING     |
| CHECKED  | JLS    | 8 OF 14     |             |
| DATE     | 7-3-85 | JOB NO.     | 84-081      |
|          |        | FILE NO.    | 84-061-D    |

1 Revised Velocity between I-25 and I-24 11-13-85  
DATE

**REVISIONS**

|  |         |
|--|---------|
| APPROVED: Department of Public Works               | DATE    |
| [Signature] 9-11-85                                | 9-11-85 |
| APPROVED Howard County Office of Planning & Zoning | DATE    |
| [Signature] 9-9-85                                 | 9-9-85  |

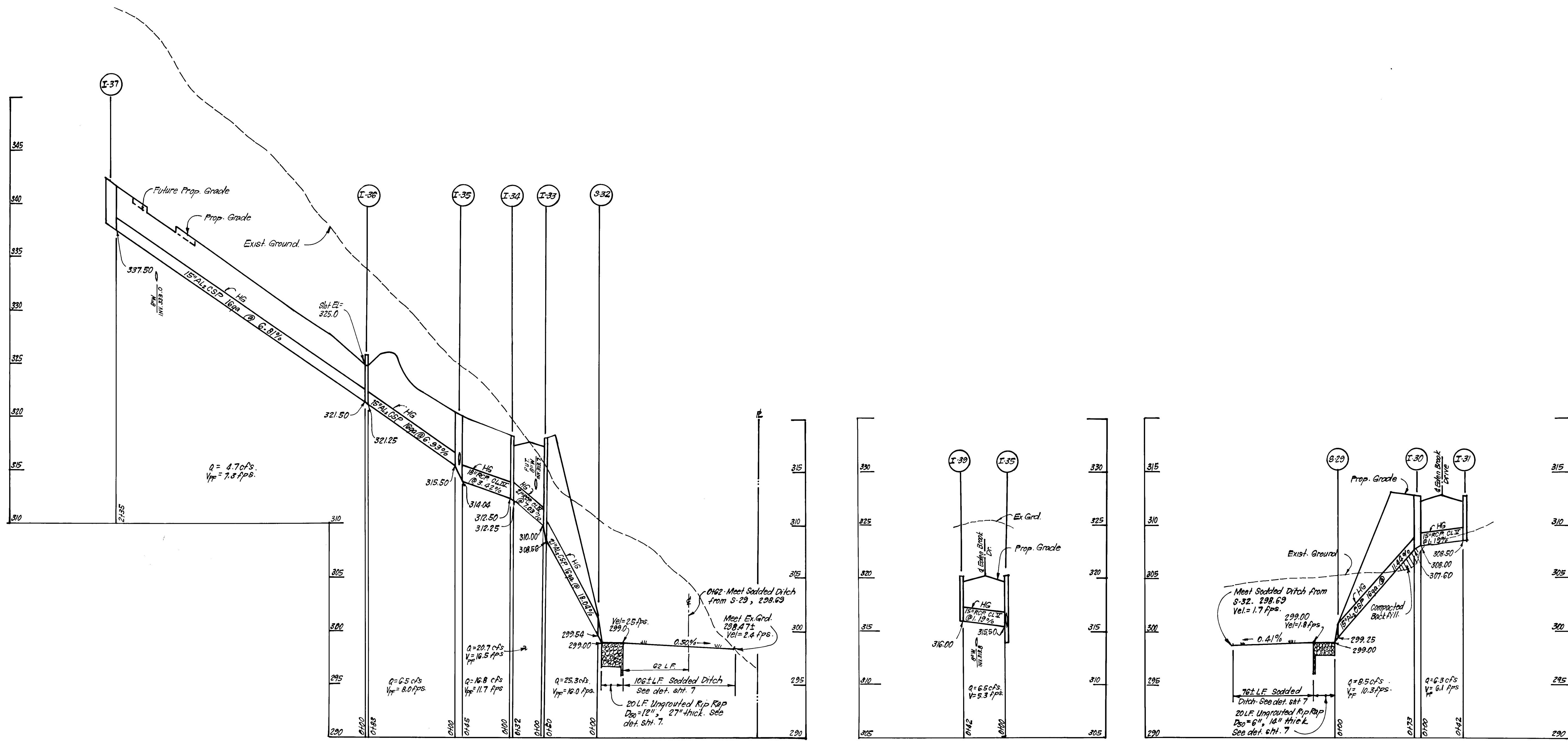
**CLARK • FINEFROCK & SACKETT**  
ENGINEERS • PLANNERS • SURVEYORS  
11315 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 593-3400

**ROAD CONSTRUCTION PLANS**  
**STORM DRAIN PROFILES**

**KINGS MEADE**  
SECTION ONE  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
FOR: BRANTLY DEVELOPMENT CORP  
5501 TWIM KITE LANE  
COLUMBIA, MD. 21045

F-85-103





**STORM DRAINAGE PROFILES**

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

Reviewed for Howard S.C.D.  
Name  
and meets Technical Requirements  
James M. Smith 9/9/85  
Signature Date  
U.S. Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

Stephen L. Fink 9/9/85  
Approved Date

**DEVELOPER'S/BUILDER'S CERTIFICATE**

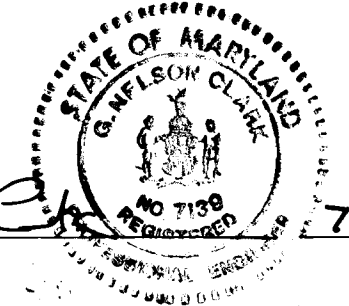
"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

[Signature] 8/14/85  
Signature of Developer/Builder Date

**ENGINEER'S CERTIFICATE**

I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

G. Nelson Clark 7-5-85  
G. Nelson Clark Date



|  |   |                                     |
|--|---|-------------------------------------|
| 1  | Revised pipe length & slope I-33 to I-34                    | 3-11-86                             |
| No   | REVISION  | DATE                                |
| APPROVED: Department of Public Works   |   |                                     |
|  | <u>[Signature]</u>  | 9-11-85                             |
|  | Chief, Bureau of Engineering                                | Date                                |
| APPROVED: Howard County Office of Planning & Zoning  |   |                                     |
|  | <u>[Signature]</u>  | 9-9-85                              |
|  | Chief, Division of Land Development & Zoning Administration | Date                                |
| <b>CLARK • FINEROCK &amp; SACKETT</b><br>ENGINEERS • PLANNERS • SURVEYORS<br>11315 LOCKWOOD DRIVE • SILVER SPRING, MARYLAND 20904 • (301) 593-3400 |   |                                     |
| DESIGNED   | <u>JLS</u>  | SCALE<br>HOR. 1"=50'<br>VERT. 1"=5' |
| DRAWN  | <u>K/W</u>  | DRAWING<br>90P/14                   |
| CHECKED  | <u>JLS</u>  | JOB NO.<br>84-061                   |
| DATE   | 7-3-85  | FILE NO.<br>84-061-D                |

F-85-103



**STORM WATER MANAGEMENT POND NOTES**

**I. SITE PREPARATION:**

- A. Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped no steeper than 1:1.
- B. Areas to be covered by pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface.
- C. All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

**II. EARTH FILL:**

- A. MATERIAL: The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversized stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.
- B. PLACEMENT: Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.
- C. COMPACTION: The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired, or vibratory roller. Fill material shall contain sufficient moisture so that the required degree of compaction can be obtained with the equipment used. Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.
- D. CUTOFF TRENCH: Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

**III. STRUCTURAL BACKFILL:**

Backfill material shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall be driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of the structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of twenty-four inches or greater over the structure or pipe.

**IV. PIPE CONDUITS: (All pipes shall be circular in cross-section)**

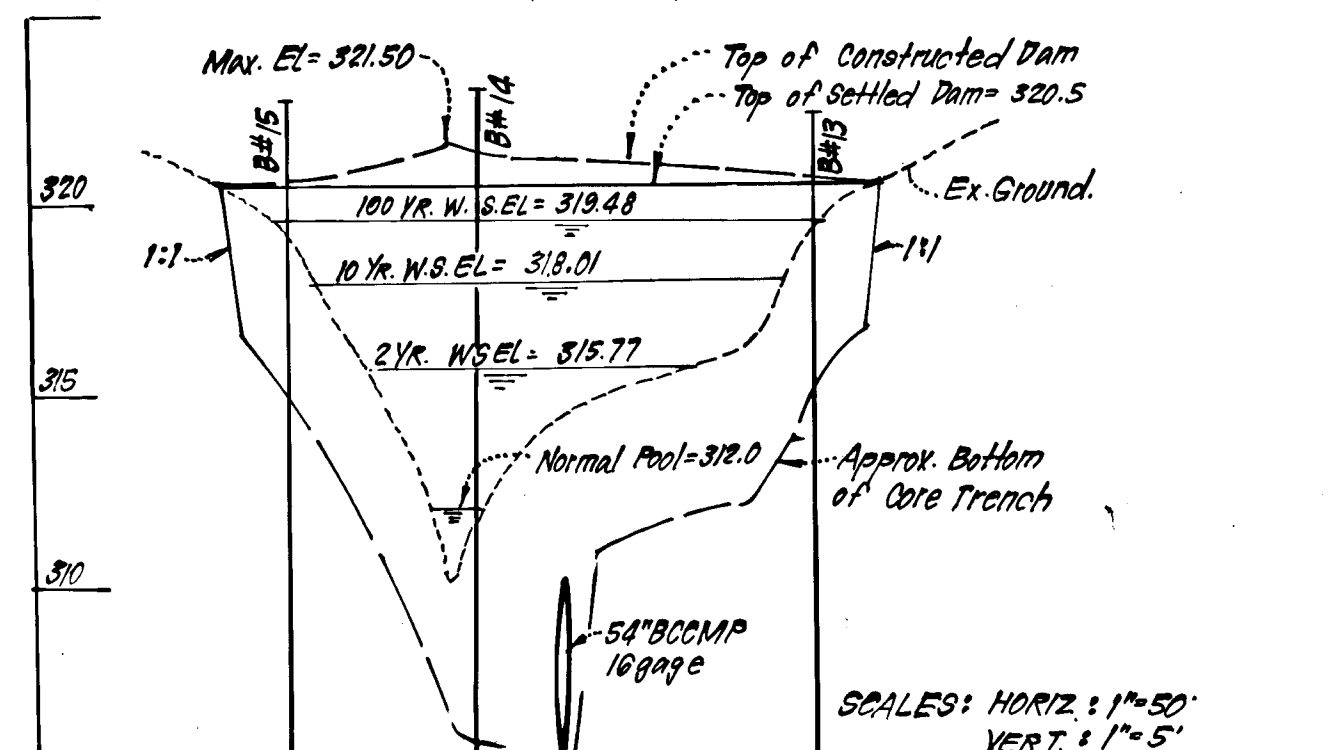
**A. CORRUGATED METAL PIPE:**

- 1. MATERIALS: (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specifications M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (0.01 mil) on both sides of the pipe. The following coatings are commercially available: Nexon, Plast-Cote, Bloc-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.
- MATERIALS (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-791 with watertight coupling bands or flanges.
- MATERIALS (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-186 or M-211 with watertight coupling bands or flanges. Coupling bands, anti-seep collars, end sections, etc. must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of Zinc Chromate Primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be less than 9 and greater than 4.
- 2. CONNECTIONS: All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.
- 3. BEDDING: The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- 4. LAYING PIPE: The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.
- 5. Backfilling shall conform to structural backfill as shown above.
- 6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

**B. REINFORCED CONCRETE PIPE:**

- 1. MATERIALS: Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. An approved equivalent is AWWA Specification C-301.
- 2. BEDDING: All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3" or as shown on the drawings.
- 3. LAYING PIPE: Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.
- 4. Backfilling shall conform to structural backfill as shown above.
- 5. Other details (anti-seep collars, valves, etc.) shall be shown on the drawings.

C. For pipes of other materials, specific specifications shall be shown on the drawings.



**PROFILE ALONG DAM-LOOKING UPSTREAM**

**V. CONCRETE:**

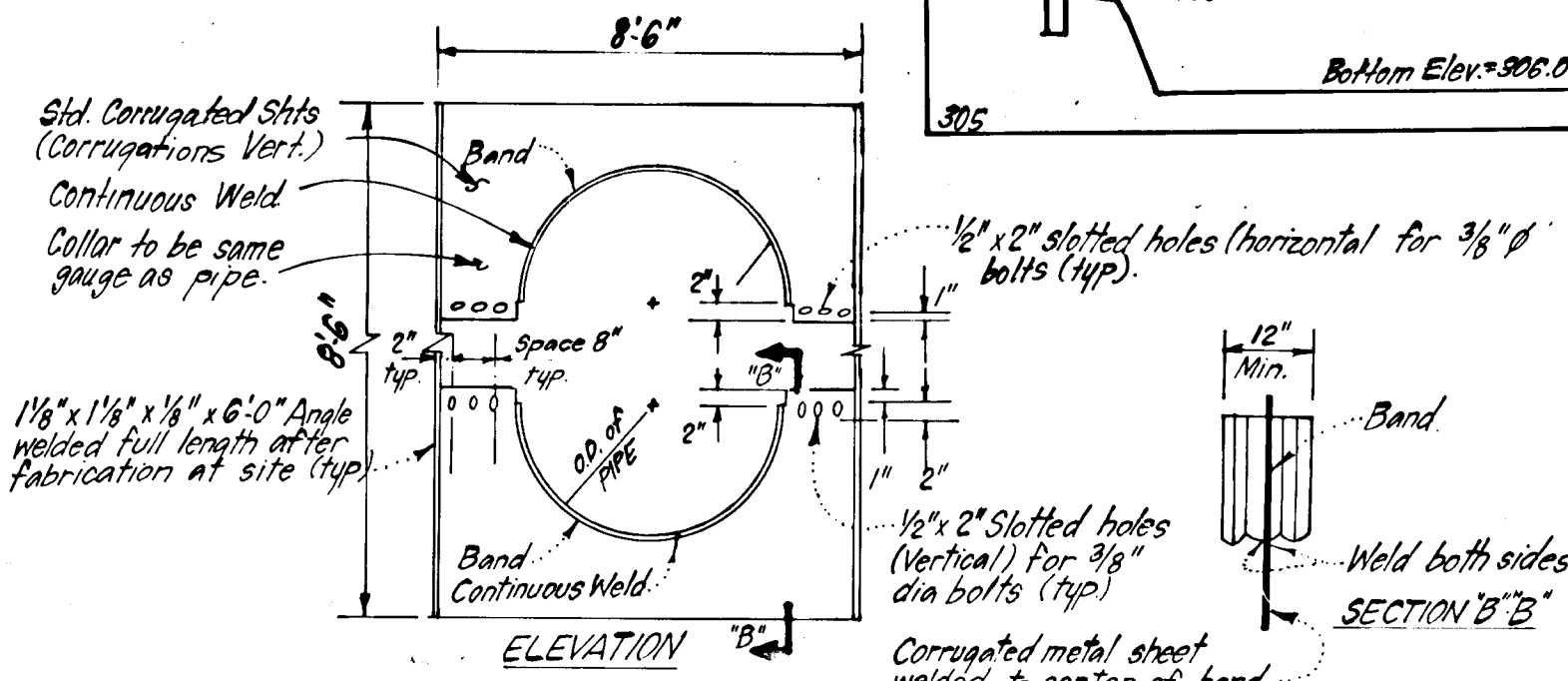
- A. MATERIALS:
  - 1. CEMENT - Normal Portland cement shall conform to latest ASTM Specification C-150.
  - 2. WATER - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
  - 3. SAND - The sand used in concrete shall be clean, hard, strong, and durable, and shall be well graded with 100% passing a one quarter inch sieve. Limestone sand shall not be used.
  - 4. COARSE AGGREGATE - The coarse aggregate shall be clean, hard, strong and durable, and free from clay and dirt. It shall be well graded with a maximum size of one-and-one-half (1 1/2) inches.
  - 5. REINFORCING STEEL - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.
- B. DESIGN MIX - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5 1/2 to 6 U.S. Gals. of water/94-pound bag of cement. The proportion of materials for the trial mix shall be 1-2-3 1/2. The combination of the aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.
- C. MIXING - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixture and of the introduction of the materials including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.
- D. FORMS - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping and vibration without deflection from the prescribed lines. They should be mortar-tight and constructed so they can be removed without hammering or prying against the concrete. The inside of the forms will be oiled with a non staining mineral oil or thoroughly wetted before concrete is placed. Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.
- E. REINFORCING STEEL - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.
- F. CONSOLIDATION - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.
- G. FINISHING - Defective concrete, honey combed areas, voids left by removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry patching mortar.
- H. PROTECTION AND CURING - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compound may also be used.
- I. PLACING TEMPERATURE - Concrete may not be placed at temperature below 32F with the temperature falling, or 34F with the temperature rising.

**VI. STABILIZATION:**

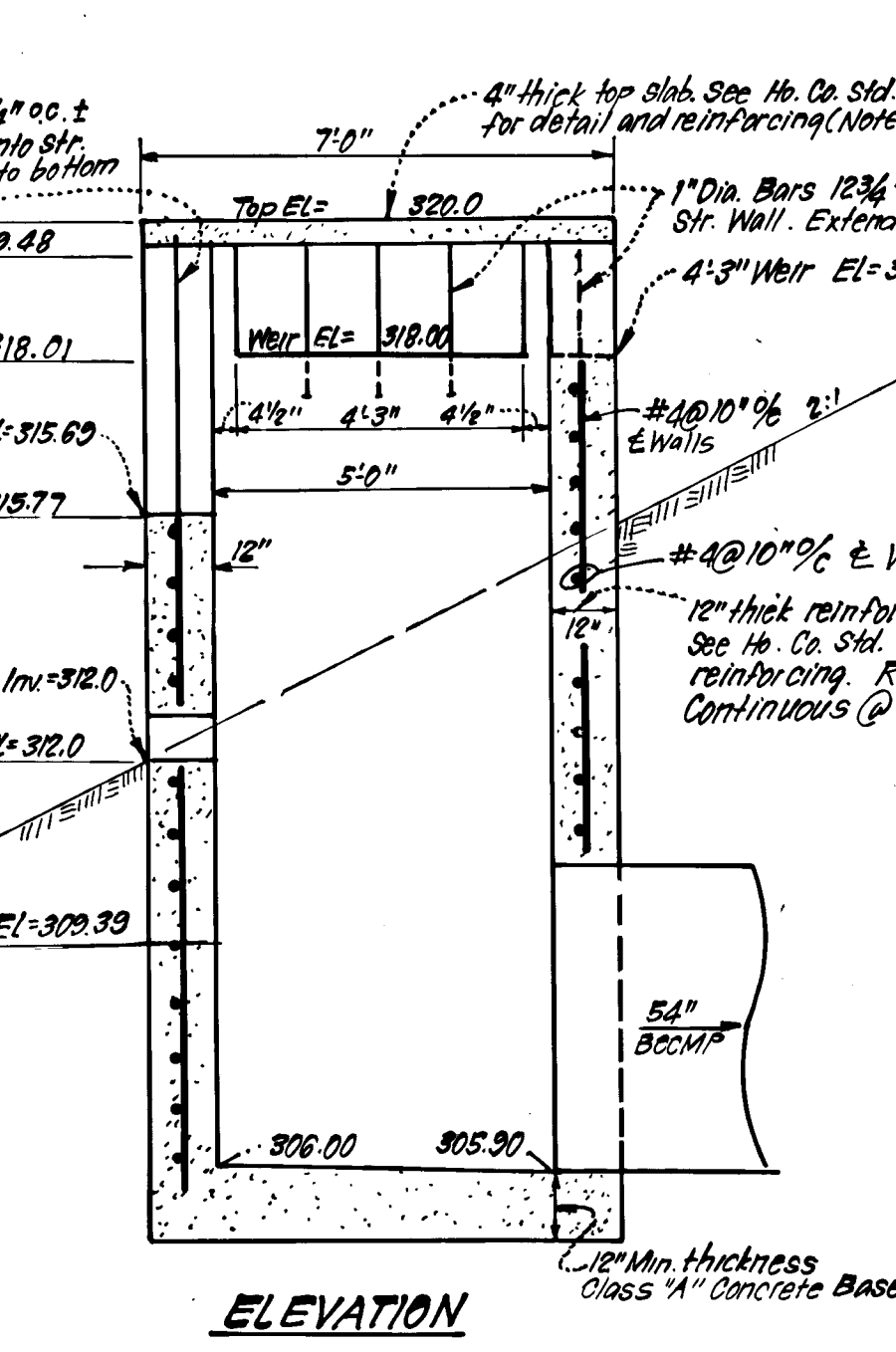
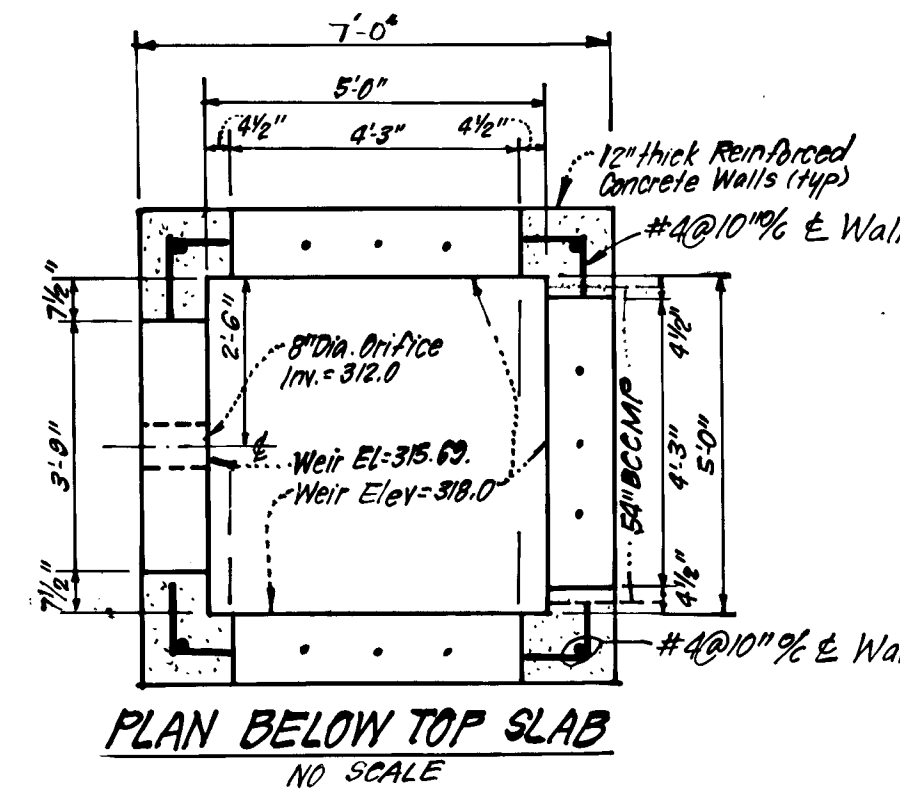
All borrow areas shall be graded to provide drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing, and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

**VII. EROSION AND SEDIMENT CONTROL:**

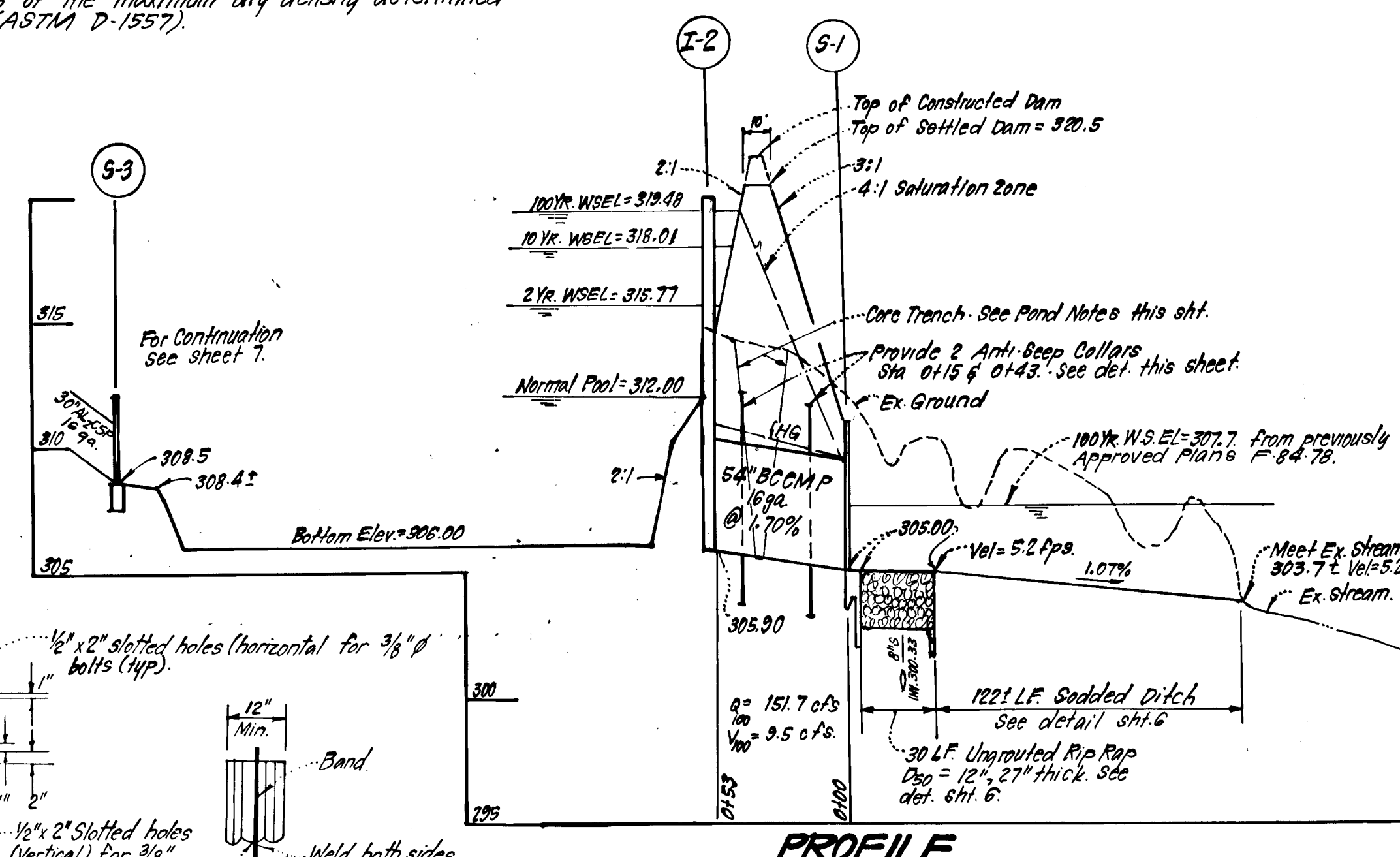
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process. \* It is recommended that the Storm Water Management Pond Dike, Embankment and Core be constructed in 8" thick layers, each compacted to a minimum of 95% of the maximum dry density determined by the standard moisture density relationship test (ASTM D-1557).



**CORRUGATED METAL ANTI-SEEP COLLAR DETAILS**



**SPECIAL STRUCTURE I-2**



**ENGINEER'S CERTIFICATE**  
I certify that this plan for pond construction, erosion, and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that the most provide the Howard Soil Conservation District with a red-lined "as built" of the pond within 30 days of completion.

*Q. W. Eck* 2-8-85  
Surveyor of Engineers

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
Approved: *Stephen A. Hule* 9/1/85  
District Engineer

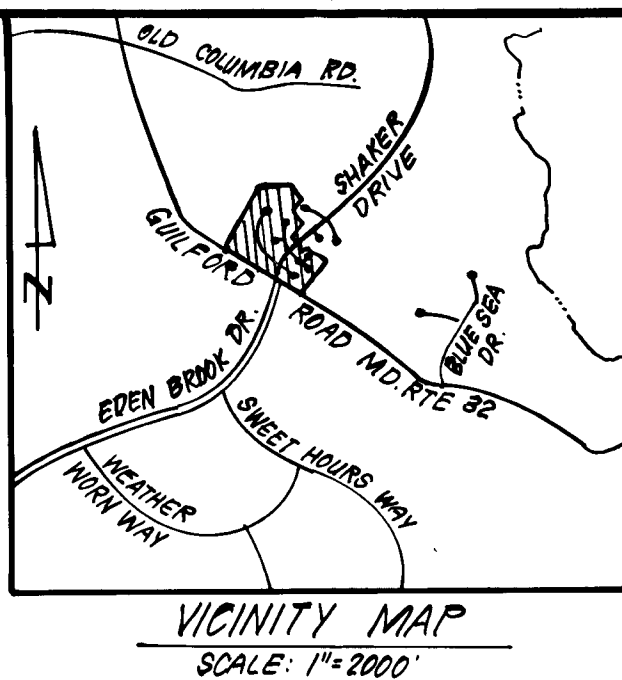
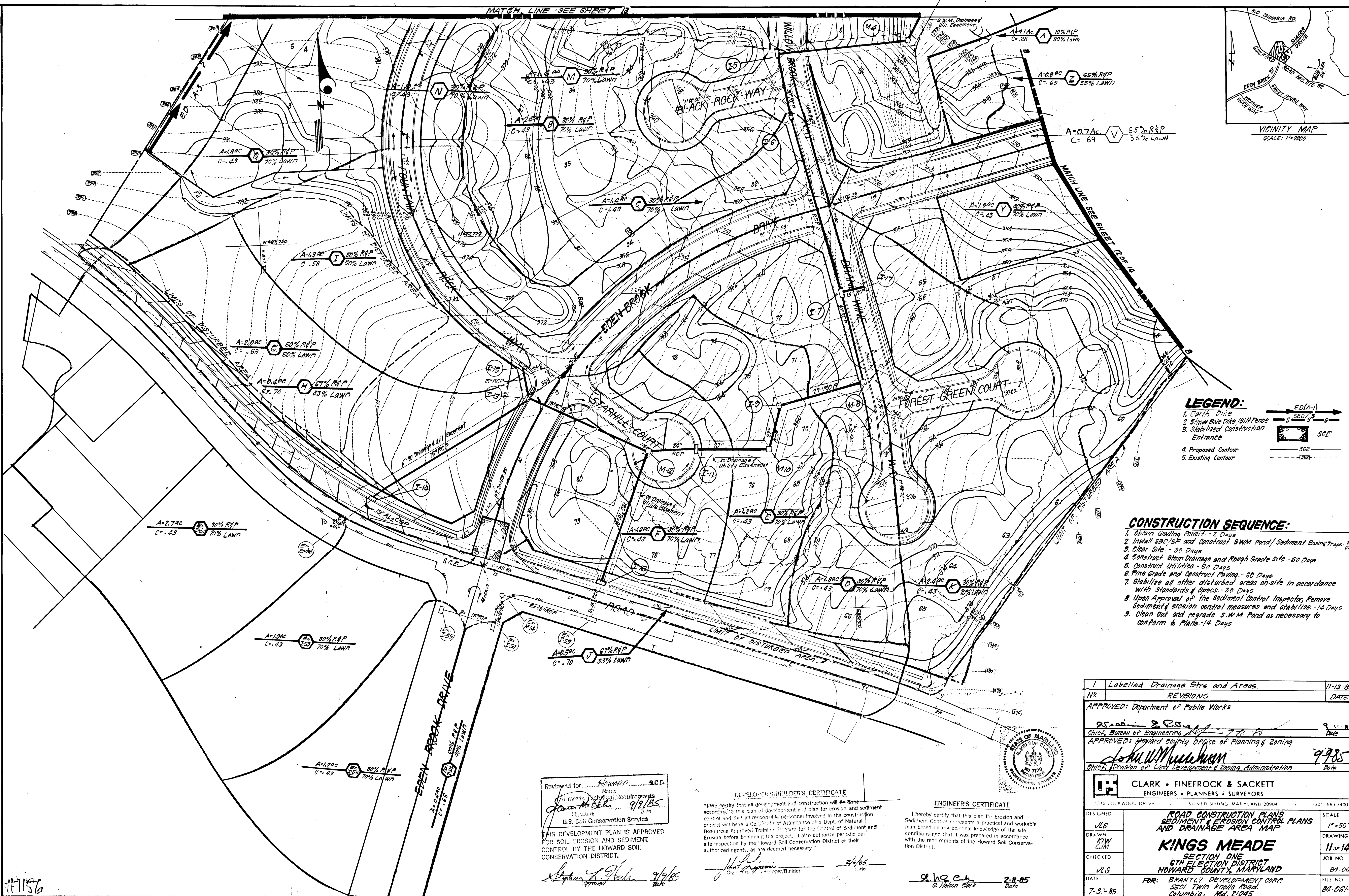
These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.  
*James M. Hule* 9/1/85  
District Engineer

**DEVELOPER'S CERTIFICATE**  
I certify that all development and/or construction will be done in accordance with the plans of development, and that erosion and sediment control measures will be installed and maintained in accordance with the plans. I will provide the Howard Soil Conservation District with a red-lined "as built" of the pond within 30 days of completion.  
*John P. Hule* 9/1/85  
Developer

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John P. Hule* 9/1/85  
Chief, Bureau of Engineering  
APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
*John P. Hule* 9/1/85  
Chief, Division of Land Use Planning & Zoning Administration

|   |                         |
|---|-------------------------|
| <b>CLARK · FINEFROCK &amp; SACKETT</b><br>ENGINEERS · PLANNERS · SURVEYORS<br>11315 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 593-3400 |                         |
| DESIGNED<br>JLS   | SCALE<br>As shown       |
| DRAWN<br>RW   | DRAWING NO.<br>10 OF 14 |
| CHECKED<br>JLS  | JOB NO.<br>84-061       |
| DATE<br>7-3-85  | FILE NO.<br>84-061-D    |





- LEGEND:**
- 1. Earth Dike
  - 2. Straw Bale Dike / Silt Fence
  - 3. Stabilized Construction Entrance
  - 4. Proposed Contour
  - 5. Existing Contour

- CONSTRUCTION SEQUENCE:**
1. Obtain Grading Permit - 2 Days
  2. Install SBD/SF and Construct SWM Pond / Sediment Basing Traps - 21 Days
  3. Clear Site - 30 Days
  4. Construct Storm Drainage and Rough Grade Site - 60 Days
  5. Construct Utilities - 60 Days
  6. Fine Grade and Construct Paving - 60 Days
  7. Stabilize all other disturbed areas on-site in accordance with Standards & Specs - 30 Days
  8. Upon Approval of the Sediment Control Inspector, Remove Sediment & erosion control measures and stabilize - 14 Days
  9. Clean Out and regrade S.W.M. Pond as necessary to conform to Plans - 14 Days

|    |                                    |          |
|----|------------------------------------|----------|
| 1  | Labelled Drainage Strs. and Areas. | 11-13-85 |
| Nº | REVISIONS                          | DATE     |

APPROVED: Department of Public Works  
 Chief, Bureau of Engineering  
 APPROVED: Howard County Office of Planning & Zoning  
 Chief, Division of Land Development & Zoning Administration

**CLARK • FINEFROCK & SACKETT**  
 ENGINEERS • PLANNERS • SURVEYORS  
 11315 LUKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 593-1400

|          |        |          |          |
|----------|--------|----------|----------|
| DESIGNED | JLS    | SCALE    | 1"=50'   |
| DRAWN    | KJM    | DRAWING  | 11 of 14 |
| CHECKED  | JLS    | JOB NO.  | 89-061   |
| DATE     | 7-3-85 | FILE NO. | 84.061-D |

Reviewed for: Howard S.C.D.  
 Name: \_\_\_\_\_  
 Date: 9/9/85  
 Signature: \_\_\_\_\_  
 U.S. Soil Conservation Service  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

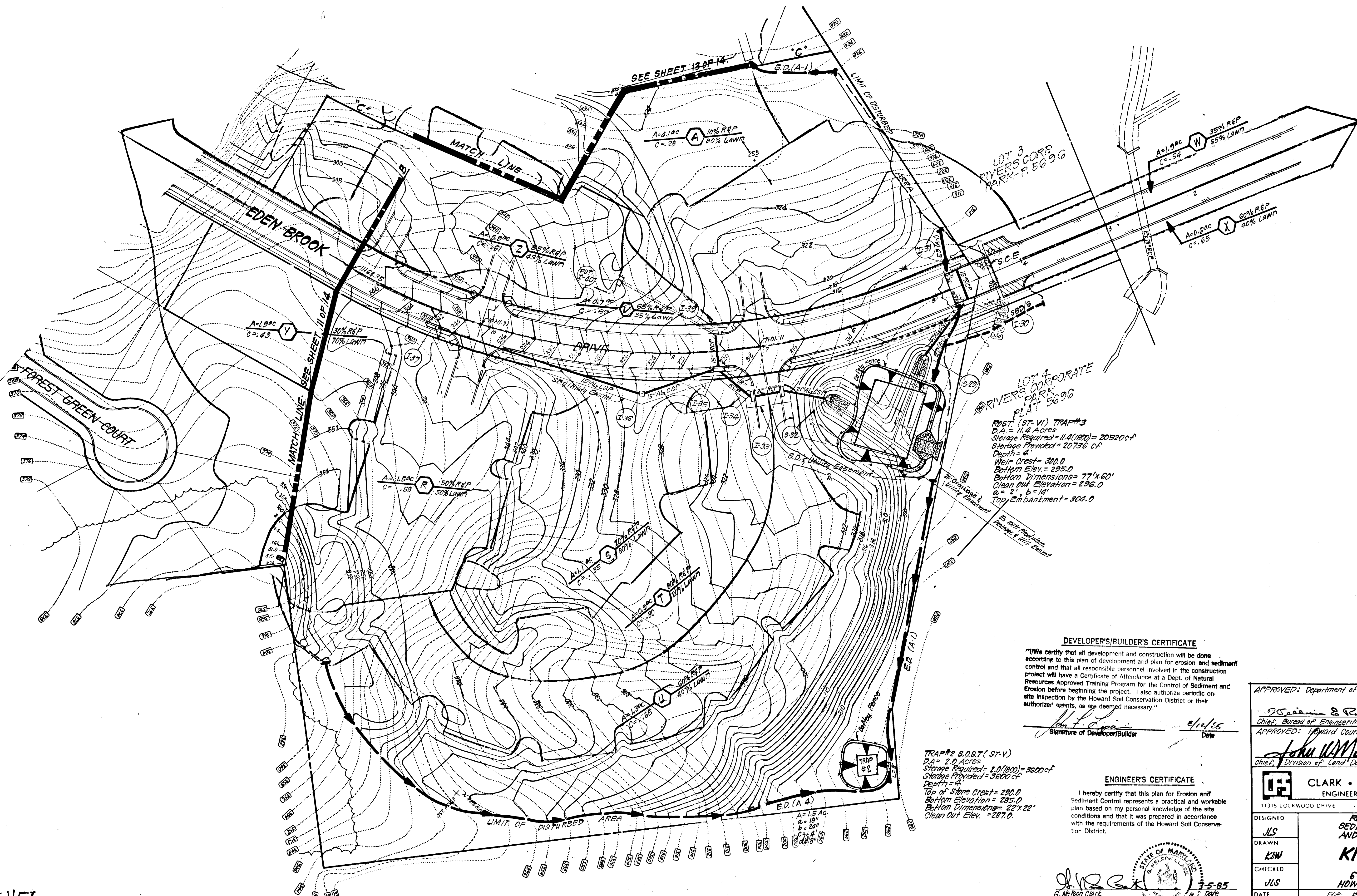
**DEVELOPER'S CERTIFICATE**  
 "I hereby certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."  
 Signature: \_\_\_\_\_ Date: 2/6/85

**ENGINEER'S CERTIFICATE**  
 I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.  
 Signature: \_\_\_\_\_ Date: 2-8-85

17156

F-85-103





LOT 3  
RIVERS CORP  
PARK-P. 56 916

LOT 4 PORATE  
RIVERS CORP  
PARK-P. 56 916

TRAP #1 (ST-VI) TRAP #3  
D.A. = 11.4 Acres  
Storage Required = 11.4(1800) = 20520 CF  
Storage Provided = 20736 CF  
Depth = 4'  
Weir Crest = 300.0  
Bottom Elev. = 295.0  
Bottom Dimensions = 77' x 60'  
Clean Out Elevation = 296.0  
a = 2', b = 14'  
Top Embankment = 304.0

TRAP #2 S.O.S.T. (ST-V)  
D.A. = 2.0 Acres  
Storage Required = 2.0(1800) = 3600 CF  
Storage Provided = 3600 CF  
Depth = 4'  
Top of Stone Crest = 290.0  
Bottom Elevation = 285.0  
Bottom Dimensions = 22' x 22'  
Clean Out Elev. = 287.0

Reviewed for Howard S.C.D.  
Name  
and meets Technical Requirements  
John M. Sackett 9/1/85  
Signature Date  
U.S. Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED  
FOR SOIL EROSION AND SEDIMENT  
CONTROL BY THE HOWARD SOIL  
CONSERVATION DISTRICT

Stephen K. Fisher 9/1/85  
Approved Date

**DEVELOPER'S/BUILDER'S CERTIFICATE**  
"I/we certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."  
John W. Muschman 9/1/85  
Signature of Developer/Builder Date

APPROVED: Department of Public Works  
John W. Muschman 9-1-85  
Chief, Bureau of Engineering Date  
APPROVED: Howard County Office of Planning & Zoning  
John W. Muschman 9-9-85  
Chief, Division of Land Development & Zoning Administration Date

**ENGINEER'S CERTIFICATE**  
I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.  
G. Nelson Clark 7-5-85  
Date

|  |   |                     |
|--|---|---------------------|
| <b>CLARK • FINEROCK &amp; SACKETT</b><br>ENGINEERS • PLANNERS • SURVEYORS<br>11315 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 593-3400 |   |                     |
| DESIGNED<br>JLS  | <b>ROAD CONSTRUCTION PLANS<br/>SEDIMENT &amp; EROSION CONTROL PLANS<br/>AND DRAINAGE AREA MAP</b><br><br><b>KINGS MEADE</b><br>SECTION ONE<br>6TH ELECTION DISTRICT<br>HOWARD COUNTY, MARYLAND<br><br>FOR: BRANTLY DEVELOPMENT CORP.<br>5501 TWIN KNOLLS ROAD<br>COLUMBIA, MD 21045 | SCALE<br>1" = 50'   |
| DRAWN<br>KJM   |   | DRAWING<br>12 of 14 |
| CHECKED<br>JLS   |   | JOB NO<br>84-061    |
| DATE<br>7-3-85   |   | FILE NO<br>84-061-D |

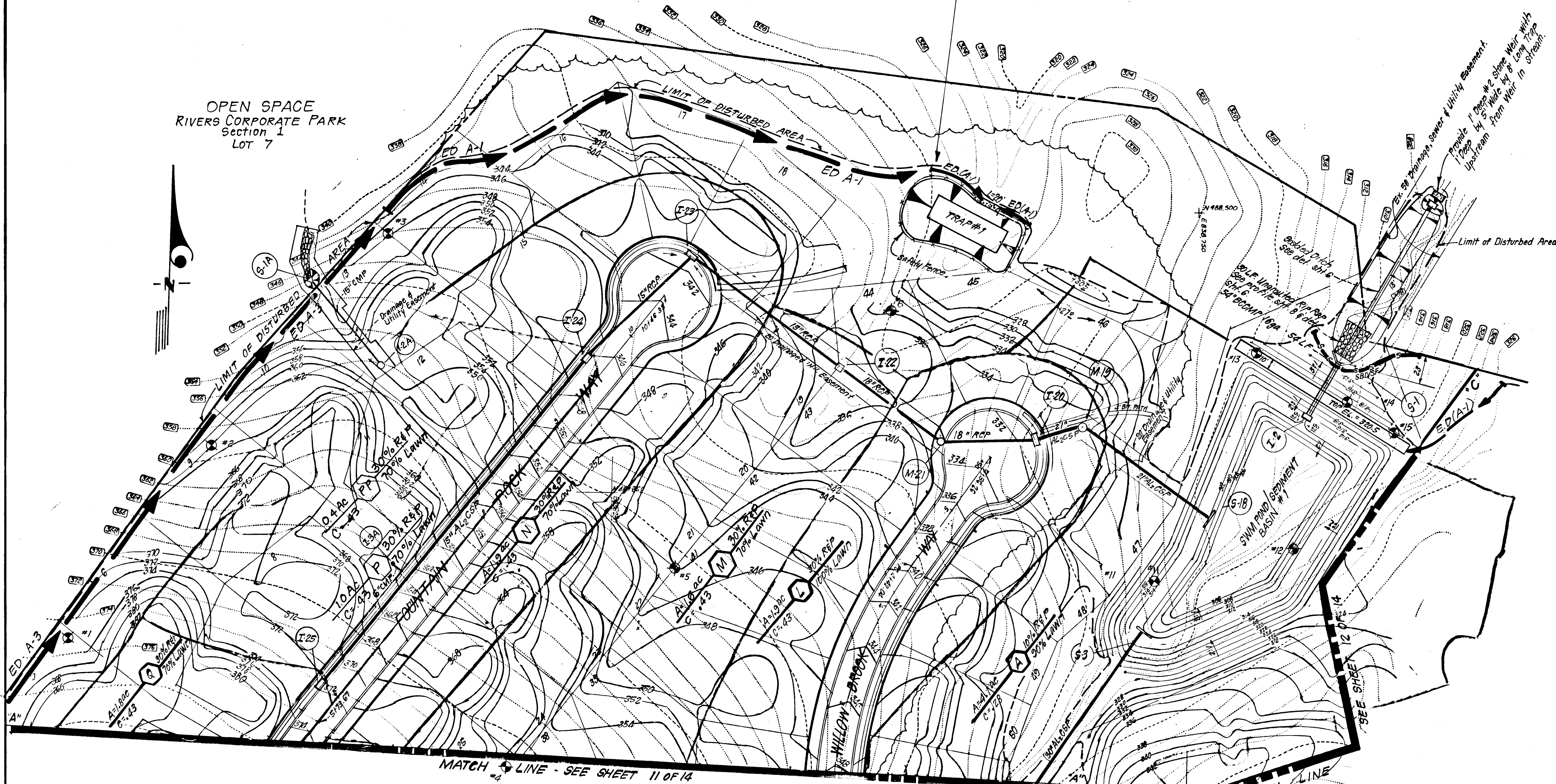
#1156

F-85-103



OPEN SPACE  
RIVERS CORPORATE PARK  
Section 1  
LOT 7

TRAP #1 SOST (ST-T)  
T.A. 5.0 Acres  
Storage Required = 5(1800) = 9000cf  
Storage Provided = 3000cf  
Depth = 4'  
Top of Stone Crest = 325.5  
Bottom Elev = 320.5  
Clean Out Elev = 322.5  
Bottom Dimensions = 67' x 22'



MATCH LINE - SEE SHEET 11 OF 14

MATCH LINE



Reviewed for: HOWARD S.C.D.  
Name  
Signature: [Signature] 9/9/85  
U.S. Soil Conservation Service  
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 9/3/85  
Approved Date

DEVELOPER'S/BUILDER'S CERTIFICATE  
"I hereby certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

[Signature] 2/6/85  
Signature Date

ENGINEER'S CERTIFICATE  
I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

[Signature] 2-8-85  
G. Nelson Clark Date

|     |  |          |
|-----|--|----------|
| 2   | Added Storm Drainage I-3A, I-2A & S-1A | 6-21-80  |
| 1   | Labelled Drainage Strs and Areas       | 11-13-85 |
| N/A | REVISIONS                              | DATE     |

APPROVED: Department of Public Works  
[Signature] 9-11-85  
Chief, Bureau of Engineering  
APPROVED: Howard County Office of Planning & Zoning  
[Signature] 9-9-85  
Chief, Division of Land Development & Zoning Administration

CLARK • FINEFROCK & SACKETT  
ENGINEERS • PLANNERS • SURVEYORS  
11315 LOCKWOOD DRIVE SILVER SPRING, MARYLAND 20904 (301) 593-4400

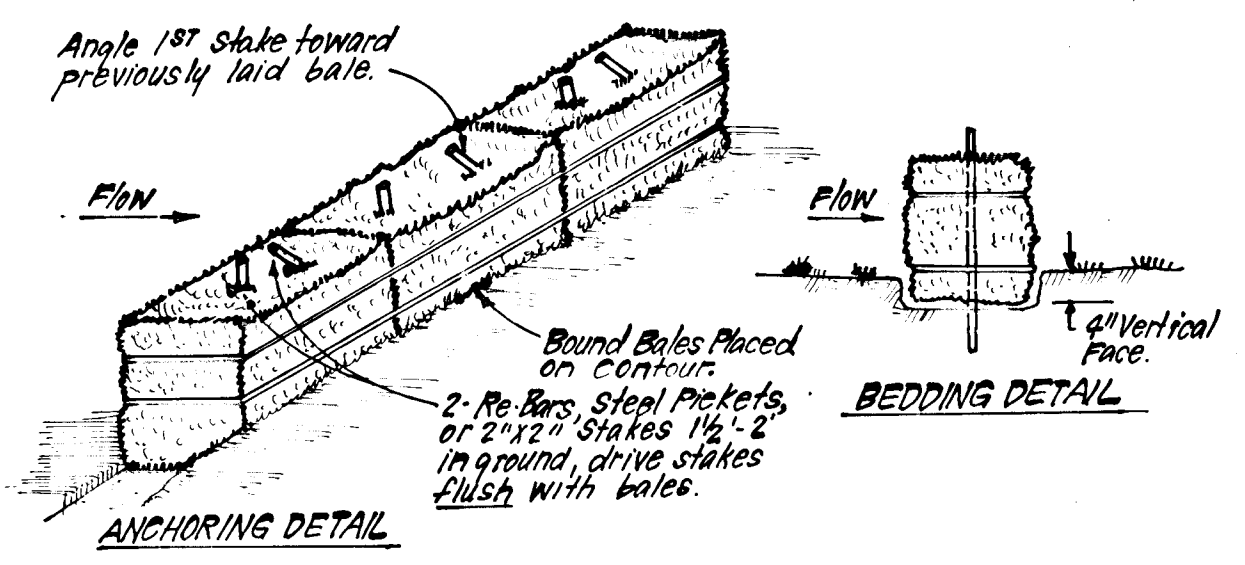
|          |        |          |          |
|----------|--------|----------|----------|
| DESIGNED | JUS    | SCALE    | 1" = 50' |
| DRAWN    | ESM    | DRAWING  | 13 of 14 |
| CHECKED  | JUS    | JOB NO.  | 84-061   |
| DATE     | 7-3-85 | FILE NO. | 84-061-D |

ROAD CONSTRUCTION PLANS  
SEDIMENT & EROSION CONTROL PLAN  
AND DRAINAGE AREA MAP  
**KINGS MEADE**  
SECTION ONE  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
FOR: BRANTLY DEVELOPMENT CORP.  
5501 TWIN KNIGHTS RD.  
COLUMBIA, MD 21045

# 1157

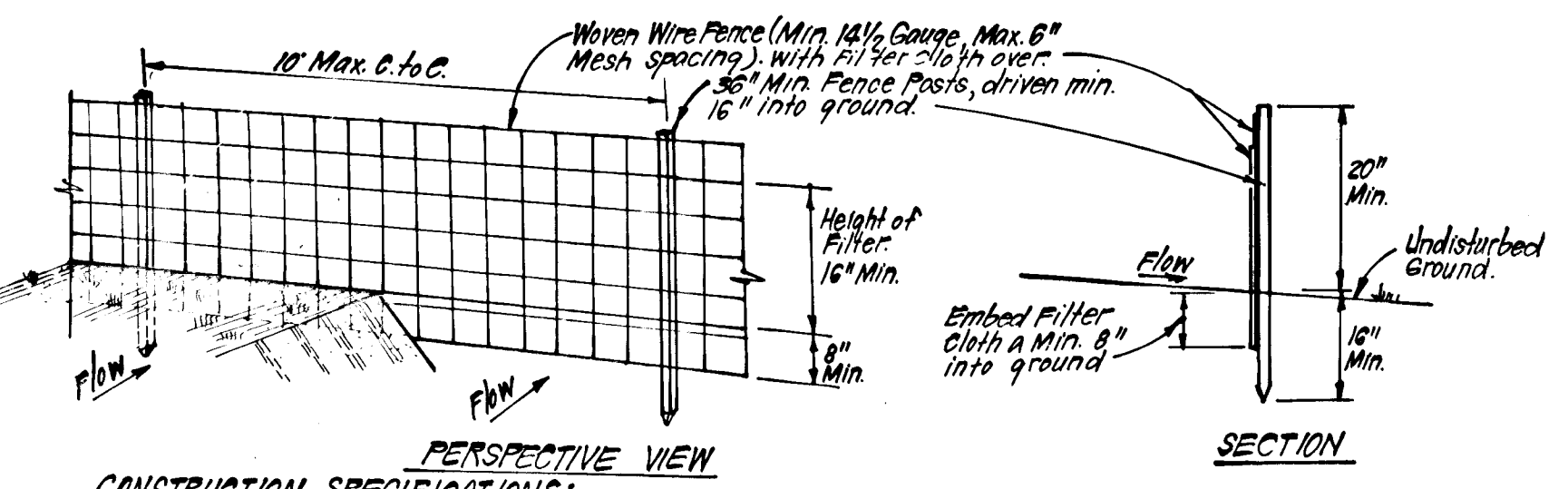
F-85-103





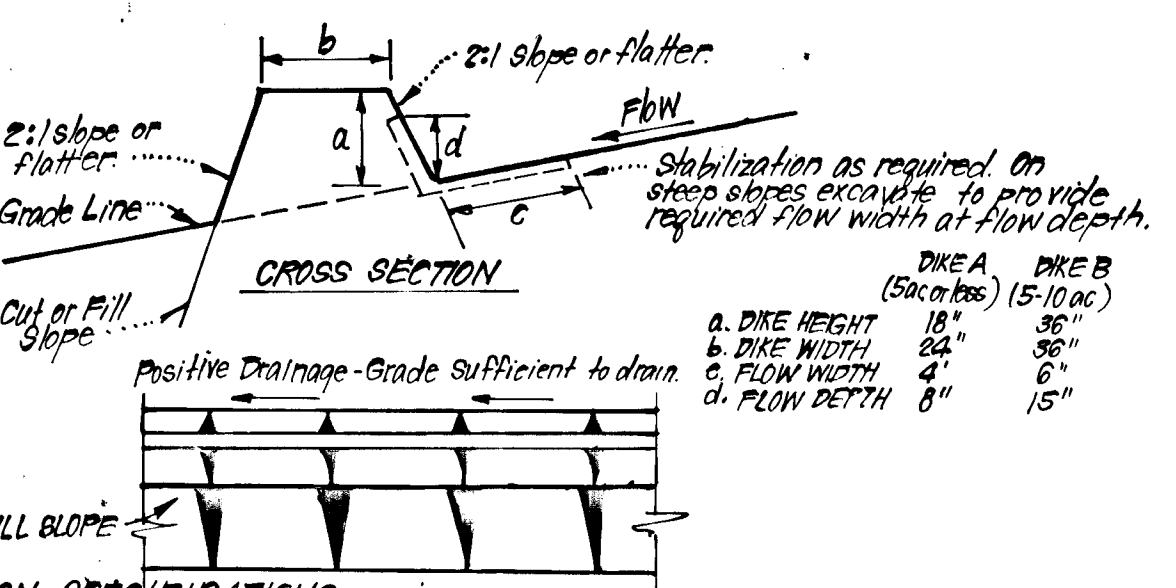
- CONSTRUCTION SPECIFICATIONS:**
- Bales shall be placed at the top of a slope or on the contour and in a row with ends tightly abutting the adjacent bales.
  - Each bale shall be embedded in the soil a min. of 4" and placed so the bindings are horizontal.
  - Bales shall be securely anchored in place by either 2 stakes or re-bars driven thru the bale. The 1st stake in each bale shall be driven toward the previously laid bale at an angle to force the bales together. Stakes shall be driven flush with the bale.
  - Inspection shall be frequent and repair alterations shall be made promptly as needed.
  - Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

**STRAW BALE DIKE DETAIL (SBD)**  
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
  - Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
  - When 2 sections of filter cloth adjoin each other they shall be overlapped by 6" and stapled.
  - Maintenance shall be performed as needed and material removed when "bulges" develop in silt fence.
- POSTS:** Steel either T or U Type or 2" Hardwood  
**FENCE:** Woven Wire, 1 1/2" Gauge  
 6" Max. Mesh Opening  
**FILTER CLOTH:** Filter, Mirafix 100X, Stabilink, T140N or Approved Equal  
**PREFABRICATED UNIT:** Geo-Fab, Envirofence, or Approved Equal

**SILT FENCE DETAIL (S)**  
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
- 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 erosion. Rip-rap 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 if not in seeding season, (B) flow channel as per chart below.

| TYPE OF TREATMENT | CHANNEL GRADE | DIKE A   | DIKE B                                    |
|-------------------|---------------|--|---|
| 1                 | 0.5 - 3.0%    | Seed & Straw Mulch                             | Seed or Straw Mulch                       |
| 2                 | 3.1 - 6.0%    | Seed & Straw Mulch                             | Seed w/straw, or Excelsior; Sod, 2" Stone |
| 3                 | 5.1 - 8.0%    | Seed w/straw, or Sod; 2" Stone                 | Lined Rip Rap 4" 8" Stone                 |
| 4                 | 8.1 - 20.0%   | Lined Rip Rap 4" 8" Stone (Engineering Design) |   |

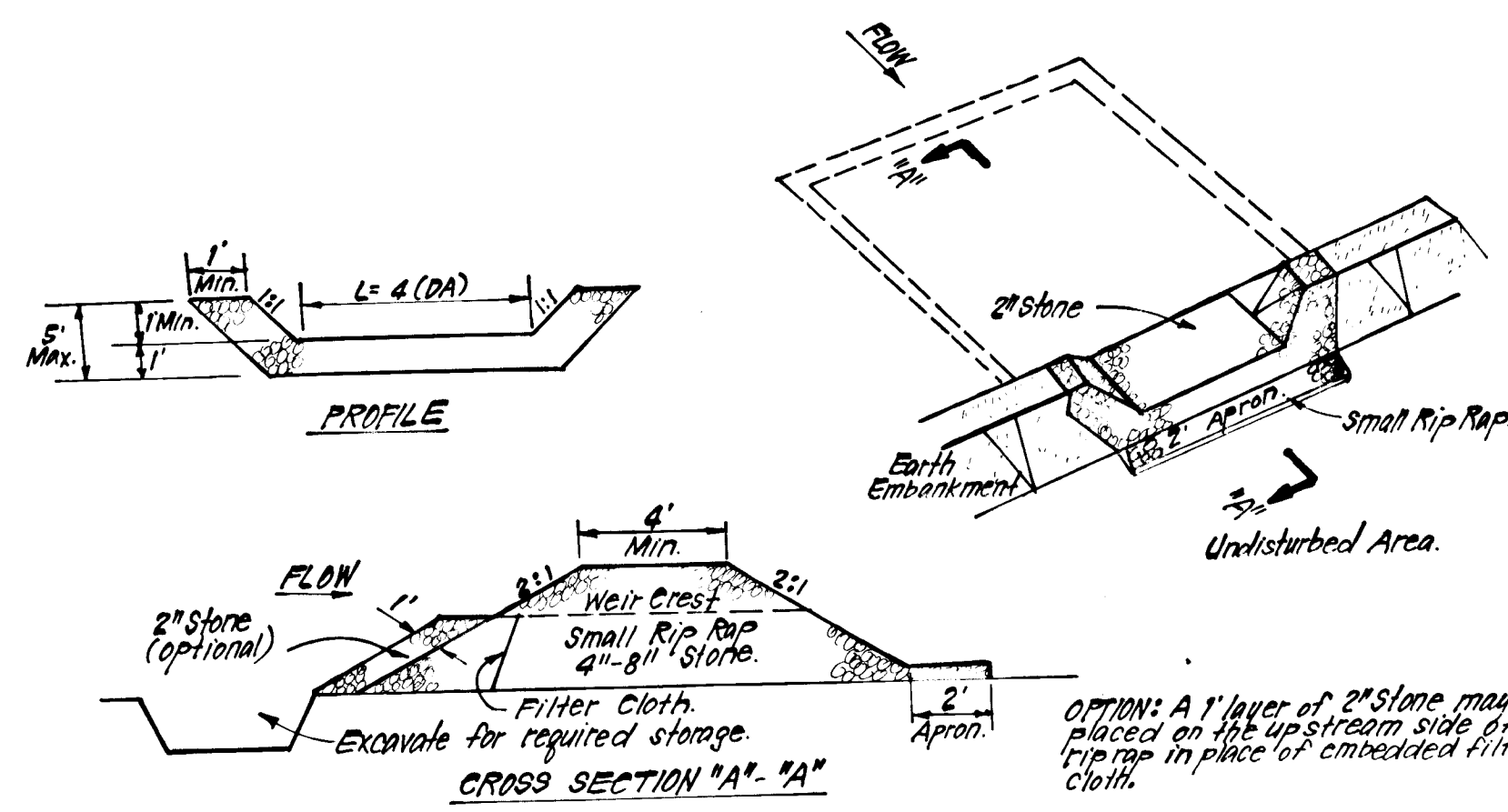
A. Stone to be 2" Stone, or recycled concrete equivalent, in a layer at least 3" thick and be pressed into soil with construction equipment.  
 B. Rip Rap to be 4"-8" in a layer at least 8" thick, pressed into soil.  
 C. Approved equivalents can be substituted for any of the above materials.

**EARTH DIKE DETAIL (E.D.)**  
NO SCALE

Reviewed for... *[Signature]* S.C.D.  
 and meets Technical Requirements  
*[Signature]* 7-9-85  
 Signature Date  
 U.S. Soil Conservation Service

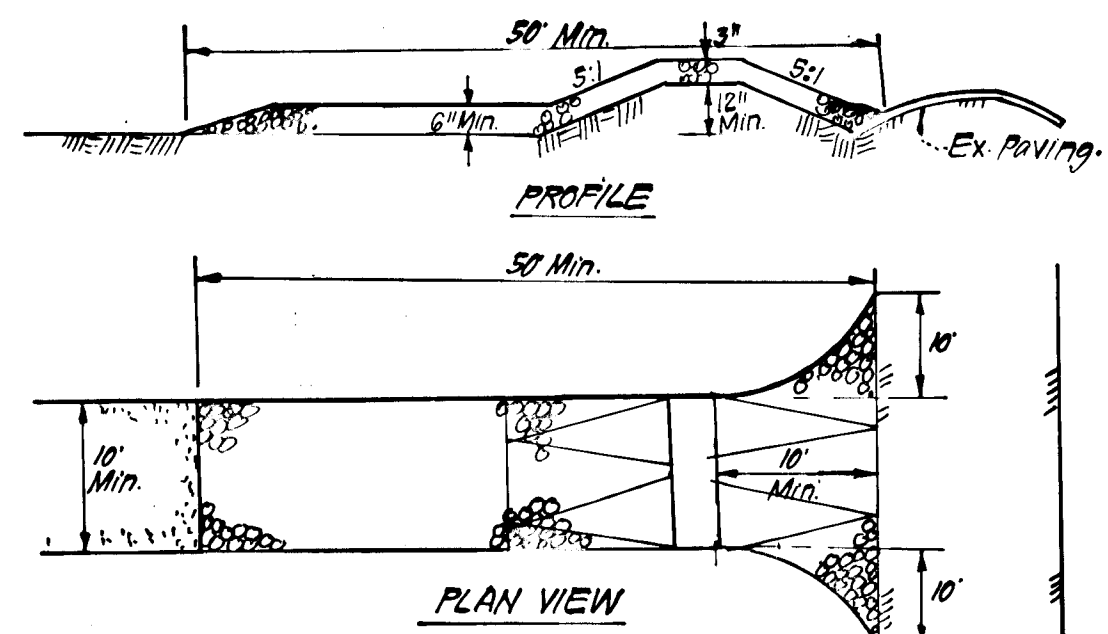
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 9/2/85  
 Approved Date



- CONSTRUCTION SPECIFICATIONS:**
- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
  - The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
  - All cut and fill slopes shall be 2:1 or flatter.
  - The stone used in the outlet shall be small rip-rap 4"-8" along with 1" thickness of 2" aggregate placed on the up-grade side on the small rip-rap or embedded filter cloth in the rip-rap.
  - Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap.
  - The structure shall be inspected after each rain and repairs made as needed.
  - Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
  - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

**STONE OUTLET SEDIMENT TRAP (S.O.ST.) STV.**  
NO SCALE



- CONSTRUCTION SPECIFICATIONS:**
- Stone Size - Use 2" Stone, or reclaimed or recycled concrete equivalent.
  - Length - As required, but not less than 50 feet (except on a single residence lot) where a 130' min. length would apply.
  - Thickness - Not less than 6"
  - Width - Ten feet min, but not less than the full width at point where ingress occurs.
  - Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
  - Surface Water - All surface water flowing or diverting toward construction entrances shall be piped across the entrance. If piping is impractical, a removable berm with 5:1 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 roping off or covering 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.
  - 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.
  - Periodic inspection and needed maintenance shall be provided after each rain.

**STABILIZED CONSTRUCTION ENTRANCE (S.C.E.)**  
NO SCALE

- 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. (992-2437)
  - 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) sod (Sec. 54), temporary stabilization with mulch (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 permission for their removal has been obtained from the Howard County Sediment Control Inspector
  - Site Analysis:
 

|                                    |                 |
|------------------------------------|-----------------|
| Total Area of Site                 | 45.69 Acres     |
| Area Disturbed                     | 40.60 Acres     |
| Area to be roofed or paved         | 4.610 Acres     |
| Area to be vegetatively stabilized | 35.99 Acres     |
| Total Cut                          | 190,970 Cu. yds |
| Total Fill                         | 206,470 Cu. yds |
| Offsite waste/borrow area location | N/A             |
  - Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
  - Additional sediment control must be provided, if deemed necessary by the Howard County DPM sediment control inspector.
  - 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 construction or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
  - If houses are to be constructed on an "As-Sold" basis, at random, Single Lot Sediment Control as shown below shall be implemented. N/A
  - All pipes to be blocked at the end of each day (see detail below).
  - The total amount of straw bale dikes/silt fence equals 240 L.F.

- CONSTRUCTION SPECIFICATIONS:**
- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
  - The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Max. height of embankment shall be 5' measured at 2' of embankment.
  - All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
  - Elevation of the top of any dike directing water into trap must equal or exceed height of embankment.
  - Storage area provided shall be required by computing the volume available behind the outlet channel up to an elevation of 1' below the low water table crest.
  - Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone.
  - Sections of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.
  - Stone used in the outlet channel shall be 4" to 8" rip-rap, to provide a filtering effect, a layer of filter cloth shall be embedded 1" back into the upstream face of the quiet stone or a 1" thick layer of 2" or finer aggregate shall be placed on the upstream face of the outlet.
  - Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
  - The structure shall be inspected after each rain and repaired as needed.
  - Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
  - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
  - Drainage area for this practice is limited to 15 acres or less.

**RIP-RAP OUTLET SEDIMENT TRAP - ST-VI.**  
NO SCALE

**DEVELOPER'S/BUILDER'S CERTIFICATE**

"I/We certify that all development and construction will be done according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of Natural Resources Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

*[Signature]* 8/12/85  
 Signature of Developer/Builder Date

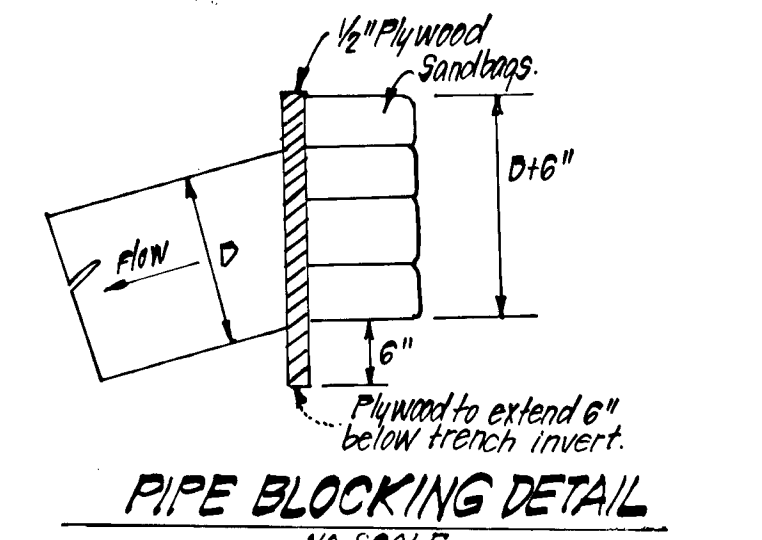
**ENGINEER'S CERTIFICATE**

I hereby certify that this plan for Erosion and Sediment Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

*[Signature]* 7-5-85  
 G. Nelson Clark Date



- PERMANENT SEEDING NOTES**
- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Seedbed Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.
- 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. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq ft).
  - Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.
- Seeding -** For the periods March 1 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 (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.
- Mulching -** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.
- Maintenance -** Inspect all seeded areas and make needed repairs, replacements and reseeding.
- TEMPORARY SEEDING NOTES**
- Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.
- Seedbed Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.
- 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 25 bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 15 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
- Mulching:** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.
- Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.



**PIPE BLOCKING DETAIL**  
NO SCALE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 9-11-85  
 Chief, Bureau of Engineering  
 APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
*[Signature]* 9-9-85  
 Chief, Division of Land Development & Zoning Administration

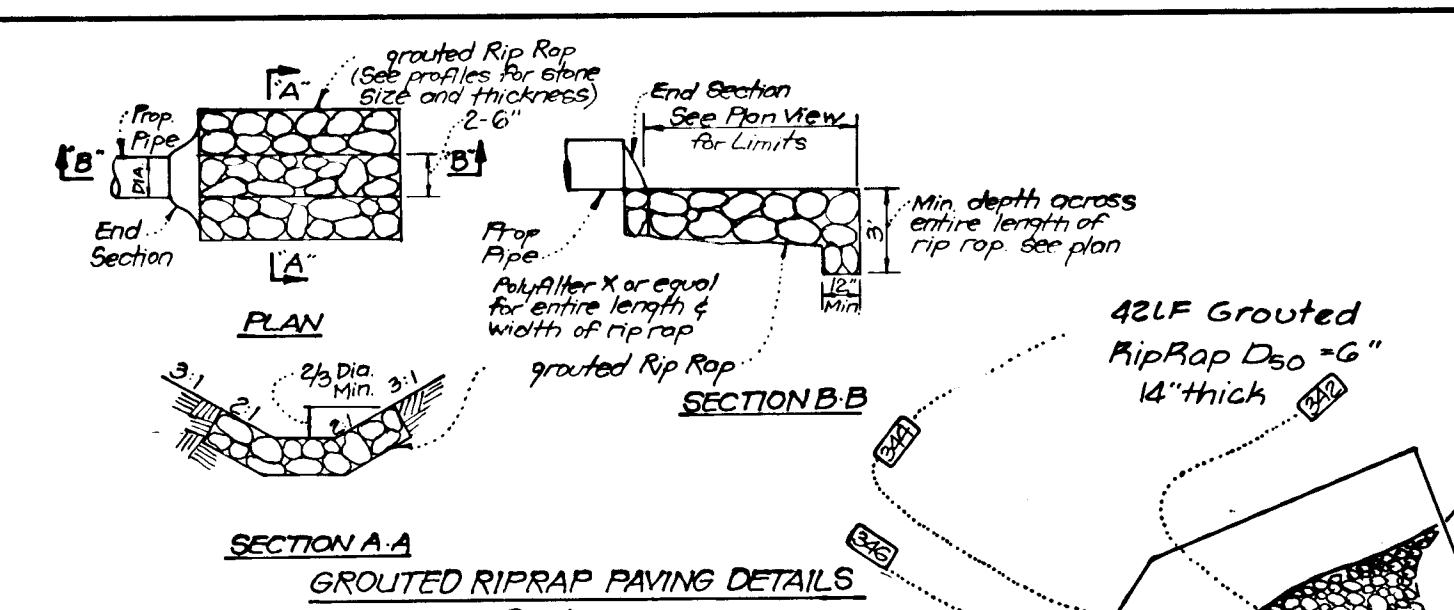
|          |  |   |  |          |
|----------|--|---|--|----------|
| DESIGNED |  | ROAD CONSTRUCTION PLANS<br>SEDIMENT & EROSION CONTROL DETAILS |  | SCALE    |
| JLS      |  |   |  | As SHOWN |
| DRAWN    |  | KINGS MEADE   |  | DRAWING  |
| KIW      |  | SECTION ONE   |  | 14 OF 14 |
| CHECKED  |  | 6TH ELECTION DISTRICT   |  | JOB NO.  |
| JLS      |  | HOWARD COUNTY, MARYLAND                                       |  | 84-061   |
| DATE     |  | FOR: BRANTLY DEVELOPMENT CORP.                                |  | FILE NO. |
| 7-3-85   |  | 5501 Twin Knolls Road<br>Columbia, Md. 21045                  |  | 84-061-D |



**LEGEND**

- Existing Contour -----
- Proposed Contour -----
- Existing Spot Elev. 349.2
- Proposed Spot Elev. +49.2
- Existing Trees (Symbol)
- Trees to be Saved (Symbol)
- Proposed Storm Drain 15" CMP (Symbol)

**VICINITY MAP**  
Scale: 1" = 2000'



Note:  
RipRap to be aligned  
infield to avoid  
removal of existing  
trees.



**PIPE SCHEDULE**

|                              |       |       |
|------------------------------|-------|-------|
| * 6" CMP                     | 16 ga | 16 LF |
| * 15" CMP                    | 16 ga | 88 LF |
| * 2 3/8" x 1/2" Corrugations |       |       |

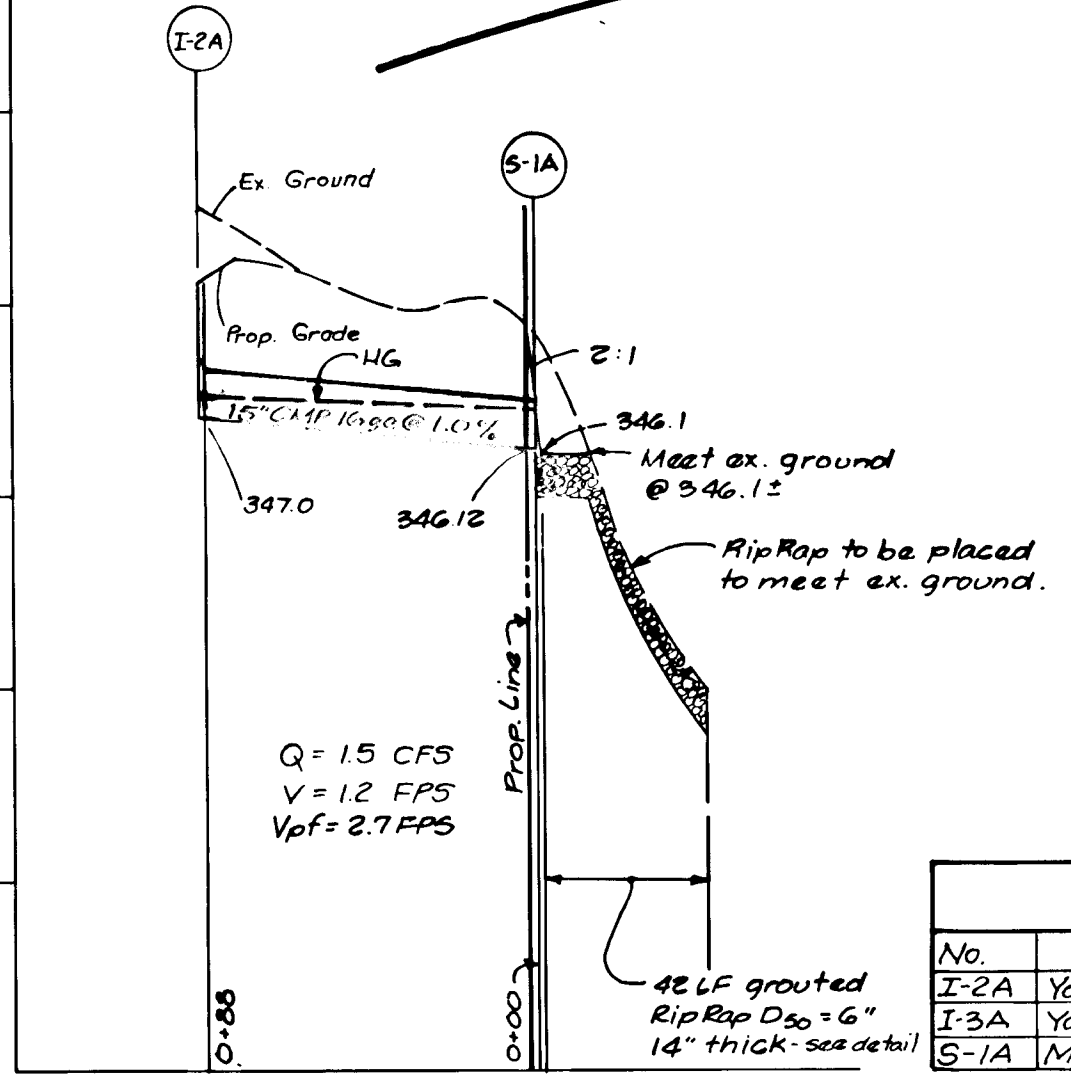
**GENERAL NOTES**

1. All storm drain and paving shall be constructed in accordance with the latest edition and specifications of Howard County & MD SHA.
2. Types of storm drainage refer to the standard details of Howard County & MD SHA.
3. Trench compaction for storm drains shall be in accordance with "Ho Co Design Manual, Vol. IX" Std. G 2.01.
4. Information concerning underground utilities was obtained from available records, but the contractor must determine the exact location and elevation of mains by digging test pits, by hand, at all utility crossings, well in advance of construction.
5. All utility companies shall be notified 24 hrs. in advance of construction.
6. The contractor or developer shall contact the Construction Inspection/Survey Division 24 hrs. in advance of commencement of work, ph. no. 792-2630.
7. As-built topo. was prepared by CLARK • FINEFROCK & SACKETT, INC.

**STRUCTURE SCHEDULE**

| No.  | TYPE              | Inv. in | Inv. out | Top Elev. | Remarks                         | Location  |
|------|-------------------|---------|----------|-----------|---------------------------------|-----------|
| I-2A | Yard Inlet        | 347.0   | 350.5    |           | Ho. Co. Std. S.D. 4.14 2' Rd.   | Spe. Plan |
| I-3A | Yard Inlet        | 341.0   | 344.5    |           |                                 |           |
| S-1A | Metal End Section | 346.12  | 346.10   |           | Ho. Co. Std. S.D. 5.61 15" Dia. |           |

△ All inverts to be fully developed



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

*Donald R. ...* 2/16/89  
Chief, Land Development Division Date

*Shawville W. ...* 2/6/89  
Chief, Bureau of Highways Date

*...* 2-6-89  
Chief, Bureau of Engineering Date

**CLARK • FINEFROCK & SACKETT, INC.**  
ENGINEERS • PLANNERS • SURVEYORS  
7135 MINSTREL WAY • COLUMBIA, MD. 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.

DESIGNED: JLS  
DRAWN: BAL  
CHECKED: JLS  
DATE: 9-28-88

**REGRAIDING PLAN**  
LOTS 4 Thru 15  
**KINGS MEADE**  
SECTION ONE

6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

FOR: RYAN HOMES, INC.  
9175 Guilford Road Suite 200  
Columbia, Maryland 21046

SCALE: 1" = 20'  
DRAWING: 1 OF 1  
JOB NO.: 85-023  
FILE NO.: 85-023X

