

# ROAD CONSTRUCTION, STORM DRAINAGE AND GRADING PLANS FOR COLUMBIA VILLAGE OF RIVER HILL PHASE II SECTION 2 AREA 2

## FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 7/15/93  
 CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 7/15/93  
 CHIEF, BUREAU OF HIGHWAY Active DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 7/15/93  
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 7/26/93  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

ROAD	NAMES
① BRIGHT MEMORY DRIVE	⑨ JEWELLED HAND CIRCLE
② GLORIOUS LIGHT PLACE	⑩ BEST TIMES PATH
③ GARDEN WALK	⑪ MELLOW WINE WAY
④ GARDEN WALK	⑫ LIQUID LAUGHTER LANE
⑤ GOLDEN SEEDS ROW	⑬ TENDER MIST MEWS
⑥ EMPTY SONG ROAD	⑭ RIPE APPLE LANE
⑦ MORNING LIGHT TRAIL	⑮ GRATEFULL HEART GATE
⑧ WAKING DREAMS KNOLL	⑯ EVENING COMPANY CIRCLE

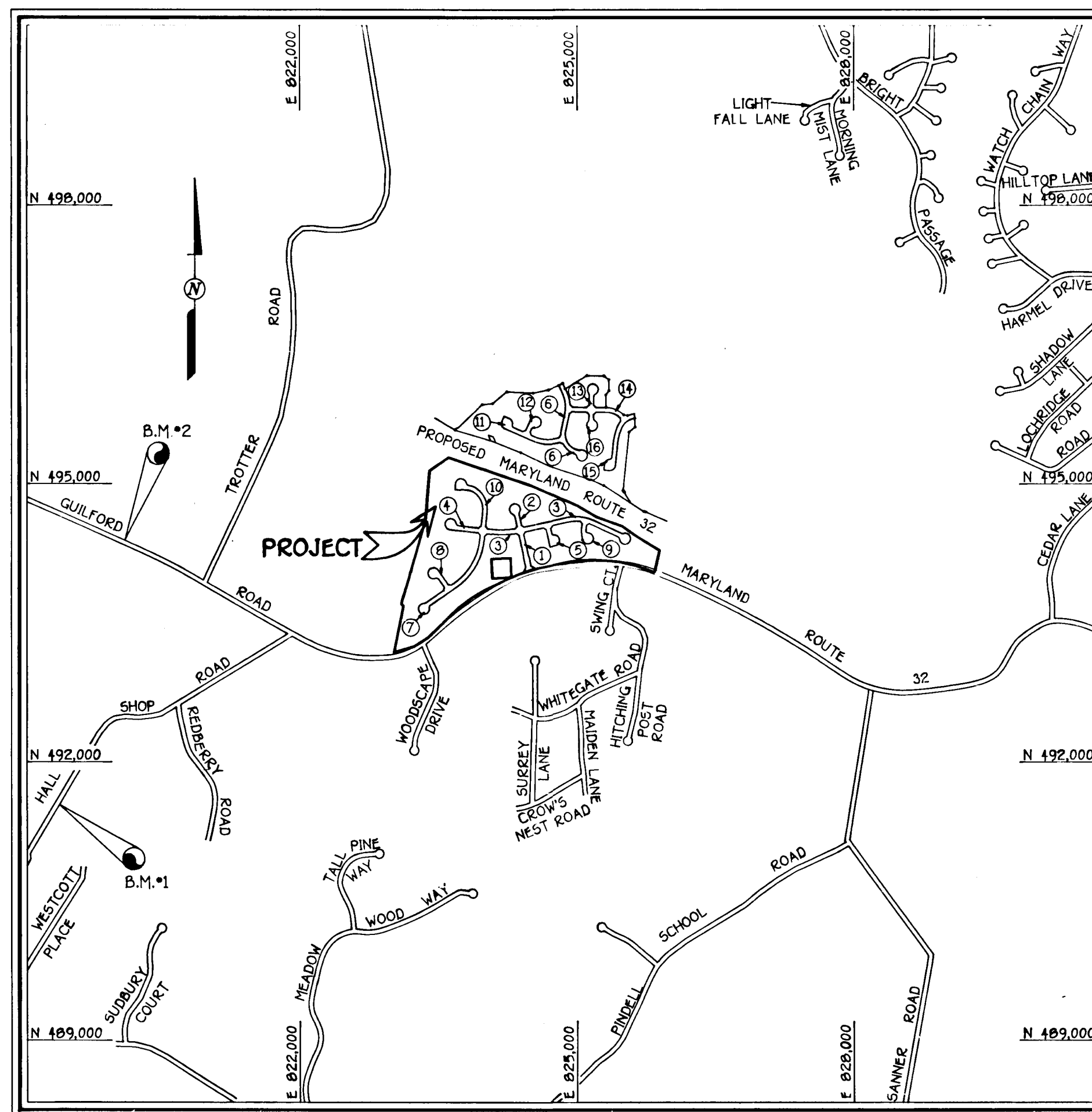
### BENCH MARKS

**B.M.\*1** ELEV.=496.095  
 REINFORCING ROD, 3/4" 0.6' BELOW SURFACE KNOWN AS HOWARD COUNTY CONTROL STATION 2337001-R WHICH IS SHOWN ON THE VICINITY MAP AND HAS THE FOLLOWING NORTHING AND EASTING:  
 NORTH: 491612.385 EAST: 819527.789

**B.M.\*2** ELEV.=472.122  
 CONCRETE MONUMENT 0.25' BELOW SURFACE KNOWN AS HOWARD COUNTY CONTROL STATION 2437003 WHICH IS SHOWN ON THE VICINITY MAP AND HAS THE FOLLOWING NORTHING AND EASTING:  
 NORTH: 494285.231 EAST: 820385.343

### SHEET INDEX

- (1) TITLE SHEET
- (2) GUILFORD ROAD WIDENING-PLAN & PROFILE  
BRIGHT MEMORY DRIVE-PLAN.
- (3) BRIGHT MEMORY DRIVE-PLAN & PROFILE, GLORIOUS LIGHT PLACE-PLAN & PROFILE,  
GARDEN WALK-PLAN
- (4) GARDEN WALK-PLAN & PROFILE, GOLDEN SEEDS ROW-PLAN,  
JEWELLED HAND CIRCLE-PLAN
- (5) GARDEN WALK-PLAN & PROFILE, MORNING LIGHT TRAIL-PLAN  
BEST TIMES PATH-PLAN
- (6) BEST TIMES PATH-PLAN & PROFILE, WAKING DREAMS KNOLL-PROFILE
- (7) MORNING LIGHT TRAIL-PLAN & PROFILE, WAKING DREAMS KNOLL-PLAN
- (8) JEWELLED HAND CIRCLE-PROFILE, GOLDEN SEEDS ROW-PROFILE
- (9) TYPICAL ROAD SECTION, NOTES & DETAILS
- (10) STORM DRAIN PROFILES
- (11) STORM DRAIN PROFILES
- (12) WATER QUALITY POND NOTES AND DETAILS
- (13) DRAINAGE AREA MAP
- (14) STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
- (15) STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
- (16) STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
- (17) SEDIMENT CONTROL NOTES AND DETAILS
- (18) ROAD ACCESS PROFILES AND DETAILS



—VICINITY MAP—  
SCALE: 1" = 1200'

### GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF CONSTRUCTION INSPECTION AT (410) 792-7272 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
4. LOCATION: MIDWAY BETWEEN SWING COURT AND WOODSCAPE DRIVE ALONG ROUTE 32. TAX MAP: \*35 P/O PARCEL: 70
5. ZONING: NEW TOWN
6. TOTAL AREA OF LOTS: 33,505 AC.\*
7. TOTAL AREA OF ROADS: 0.809 AC.\*
8. TOTAL NUMBER OF CREDITED OPEN SPACE LOTS: 3
9. TOTAL NUMBER OF NON-CREDITED OPEN SPACE LOTS: 0
10. OPEN SPACE - CREDITED: 14,010 AC.\*
11. OPEN SPACE -NON-CREDITED: 0.000 AC.\*
12. TOTAL AREA OF SUBMISSION: 57,224 AC.\*
13. TOTAL NUMBER OF LOTS: 127 BUILDABLE  
3 OPEN SPACE
14. PRELIMINARY PLAN FILE NUMBER 92-15 APPROVED ON FEBRUARY 10, 1993
15. THIS PLAN IS SUBJECT TO WAIVER WP 92-13 DATED SEPTEMBER 4, 1991 WHICH APPROVED THE FOLLOWING:  
 a) WAIVE SECTION 16.113(a)(1) ALLOWING THE CREATION OF CUL-DE-SAC STREETS WITH LENGTHS IN EXCESS OF 1,200 FEET AND ANTICIPATED ADTS IN EXCESS OF 1,000. THIS REQUEST WAS GRANTED FOR ROADS 00,MM,X,AA,BB,JJ,FF,LLL AND TT AS LABELLED ON SKETCH PLAN S-91-03. -SEE NOTE # 28 BELOW
16. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
16. TOPOGRAPHY SHOWN HEREON IS FROM AERIAL MAPS FLOWN IN 1989 BY MAPPING ASSOCIATES, INC.
17. LIGHT POLES AND FIXTURES FOR STREET LIGHTS SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III, ROADS AND BRIDGES.
19. PUBLIC WATER AND PUBLIC SEWER SYSTEMS ARE TO BE UTILIZED FOR THIS SITE WHICH IS IN THE MIDDLE PATUXENT DRAINAGE AREA.
20. STORMWATER MANAGEMENT FOR THIS DEVELOPMENT ARE DETENTION FACILITIES, CREATED BY ROAD PILLS, WHICH WAS DESIGNED BY WHITMAN, REQUARDT & ASSOCIATES. WATER QUALITY IS PROVIDED BY EXTENDED DETENTION BASINS DESIGNED BY FISHER, COLLINS, & CARTER, INC.
21. THE PRELIMINARY 100-YEAR FLOODPLAIN STUDY HAS BEEN PREPARED BY WHITMAN, REQUARDT AND ASSOCIATES APPROVED ON FEBRUARY 10, 1993
22. WETLANDS DELINEATION IS PROVIDED BY GEO-TECHNOLOGY ASSOCIATES, INC. APPROVED ON FEBRUARY 10, 1993
23. TRAFFIC STUDY WAS PREPARED BY GOROVE/SLADE ASSOCIATES APPROVED ON
24. NOISE STUDY WAS PREPARED BY POLYSONICS, INC. & STAIANO ENGINEERING INC. APPROVED ON FEB 10, 1993
25. GEOTECHNICAL STUDY FOR STORMWATER MANAGEMENT IS PROVIDED BY THE ROBERT BALTER COMPANY APPROVED ON FEBRUARY 10, 1993
26. BOUNDARY SURVEY WAS PREPARED BY KCI, INC.
27. FOR RIP-RAP SPECIFICATIONS & DESIGN DATA, SEE DETAIL SHEET 2
28. AMENDMENTS TO WAIVER WP-92-13 WERE APPROVED BY DPZ ON 6-17-93 AND INCLUDED:  
 A) SECT. 16.124 REQUIREMENT TO EXTEND SIDEWALKS TO HALF WAY AROUND CUL-DE-SAC BULBS SO THAT SUCH SIDEWALKS EXTEND ONLY TO OPEN SPACE OPENINGS IF PROVIDED, OR TERMINATE AT NECK OF CUL-DE-SAC BULB.  
 B) SECT. 16.116 (a) (2) & (3) REQUIREMENTS FOR WETLAND AND STREAM BUFFERS, SO THAT GRADING FOR PROPOSED WATER QUALITY FACILITIES AND DAM RECONSTRUCTION MAY OCCUR WITHIN THESE BUFFERS.
29. ALL RAMPS SHALL BE IN ACCORDANCE WITH A.D.A. REQUIREMENTS.

AS-BUILT

SHANAHAN ENGINEERING & LAND SURVEYING  
 8726 TOWN & COUNTRY BLVD  
 SUITE 101  
 ELICOTT CITY, MARYLAND 21117  
 PROFESSIONAL ENGINEER  
*[Signature]* 7/15/93  
 PROFESSIONAL L.E. # 10649

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 CHARLES J. GROVO SR.  
 DATE

**OWNER AND DEVELOPER**

**HOWARD RESEARCH AND DEVELOPMENT, CORP**  
 THE ROUSE BUILDING  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

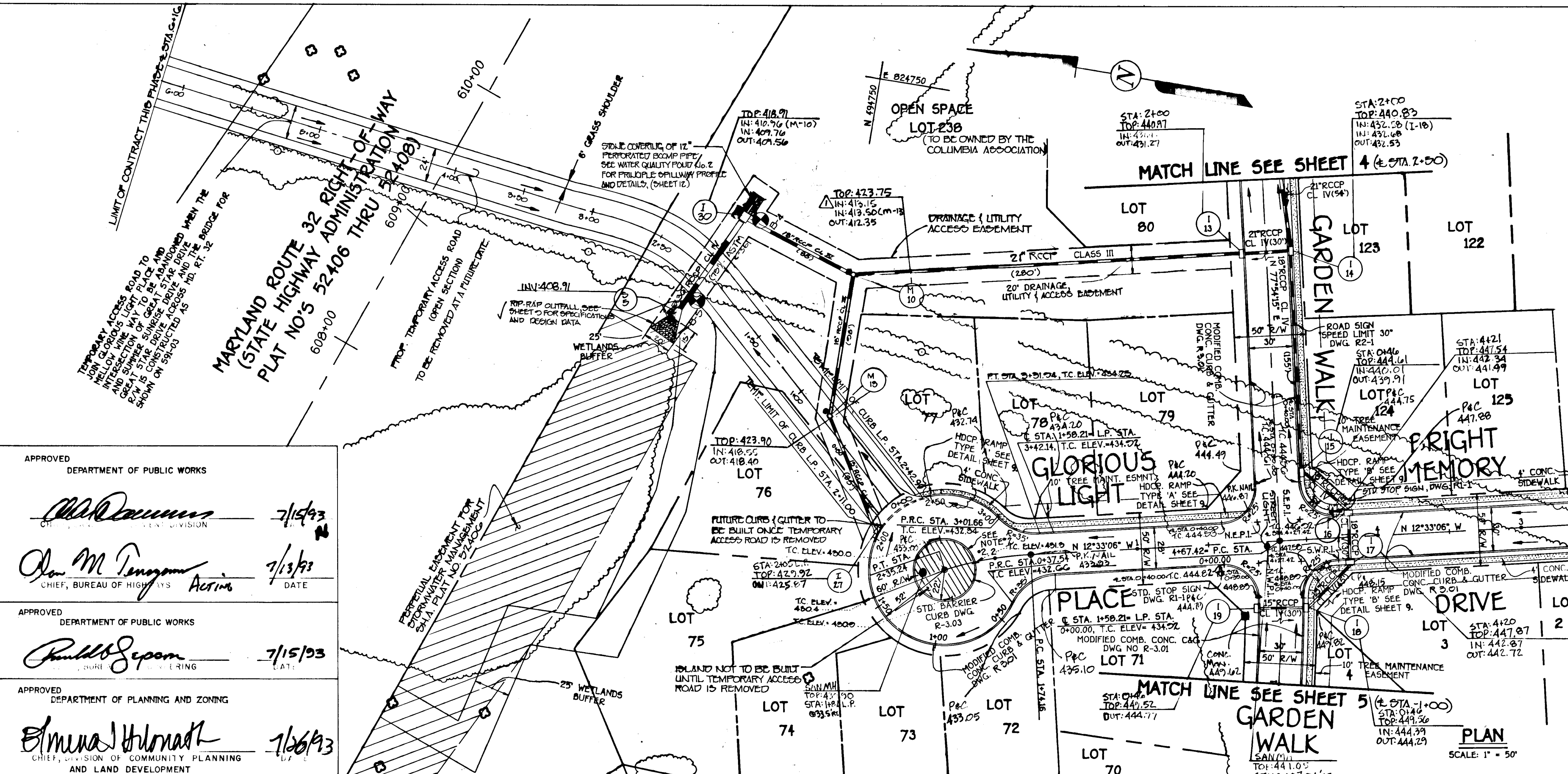
**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 971 BALTIMORE NATIONAL FREE, SUITE 100  
 ELICOTT CITY, MARYLAND 21042  
 (410) 401-2895

1487



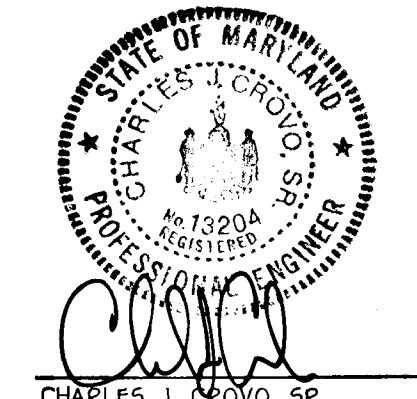
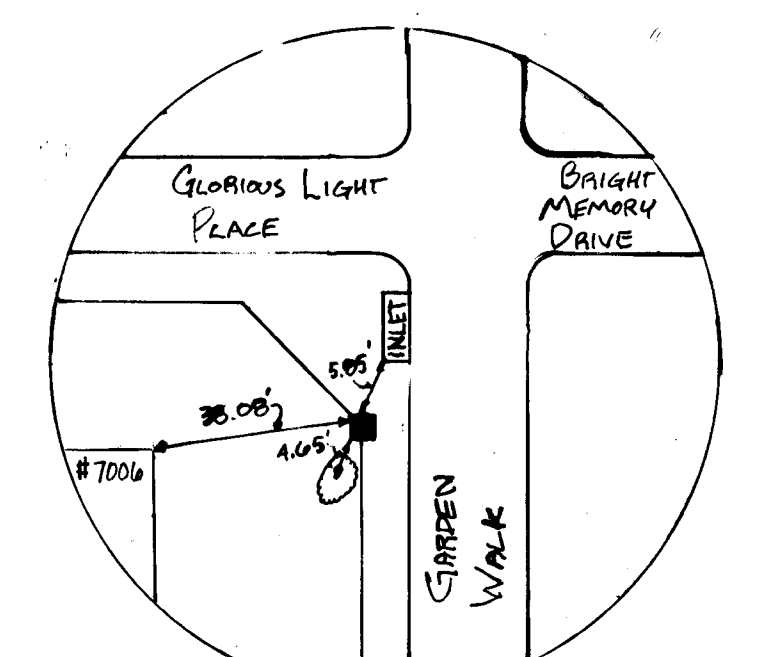
DATE	
BY	
PLAN	
NO.	
NO.	

DATE	
BY	
PROFILE	
NO.	
NO.	



GLORIOUS LIGHT PLACE Q CURVE DATA		GARDEN WALK Q CURVE DATA	
STA. 1+74.16	TO STA. 2+35.24	STA. 0+00.00	TO STA. -2+97.43
R= 250.00'		R= 924.77'	
L= 61.09'		L= 297.43' (L=100' THIS SHEET)	
DELTA= 14°00'00"		DELTA= 18°25'40"	
TANGENT= 30.70'		TANGENT= 150.01'	
CHD. BRG. & DIST.= N 19°33'06" W, 60.93'		CHD. BRG. & DIST.= S 87°07'05" W, 296.15'	

- NOTES**
- 1) - DENOTES EX POWER POLE TO BE REMOVED OR RELOCATED BY ELECTRICAL, GAS AND ELECTRIC.
  - 2) CONTRACTOR WILL NOT CONSTRUCT THE ISLAND AT THE CENTER OF GLORIOUS LIGHT PLACE UNTIL THE TEMPORARY ROAD CROSSING IS REMOVED.
  - 3) \* - DELICATED 14' PROFILE FIBERGLASS 100 WATT HIGH PRESSURE SODIUM LAMP MODERN POST TOP FIXTURE TO BE INSTALLED BY B.G. & E.



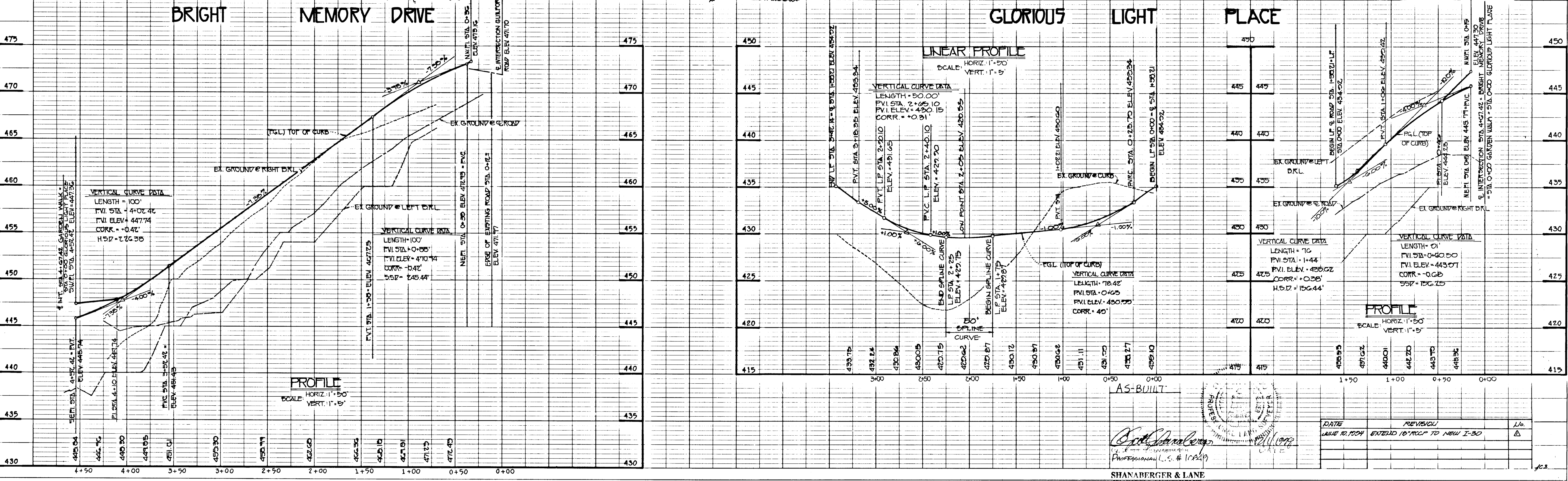
**VILLAGE OF RIVER HILL**  
SECTION 2 AREA 2  
PHASE II  
LOTS 1-127 & 237-239  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**BRIGHT MEMORY DRIVE PLAN & PROFILE**  
**GLORIOUS LIGHT PLACE PLAN & PROFILE**  
**GARDEN WALK PLAN**

**OWNER AND DEVELOPER**  
HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

SCALE: AS SHOWN DATE: SEPT 25, 1992 DWG. NO. 3 OF 18  
DES. R. ISAACS DRN. R. ISAACS CHK. C. CROVO, SE.

**FISHER, COLLINS, AND CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS AND LAND SURVEYORS  
9171 BALTIMORE NATIONAL PIKE, SUITE 100  
ELICOTT CITY, MARYLAND 21042  
TEL: (410) 616-2855 FAX: (410) 750-3784



**AS-BUILT**

*Shanaberger & Lane*  
Professional Engineer  
Professional L.S. # 10829

SHANBERGER & LANE  
8726 TOWN & COUNTRY BLVD.  
SUITE 104  
ELICOTT CITY, MARYLAND 21043

DATE	REVISION	L.P.
JUNE 10, 1994	EXTEND 10' R/W TO NEW I-30	Δ



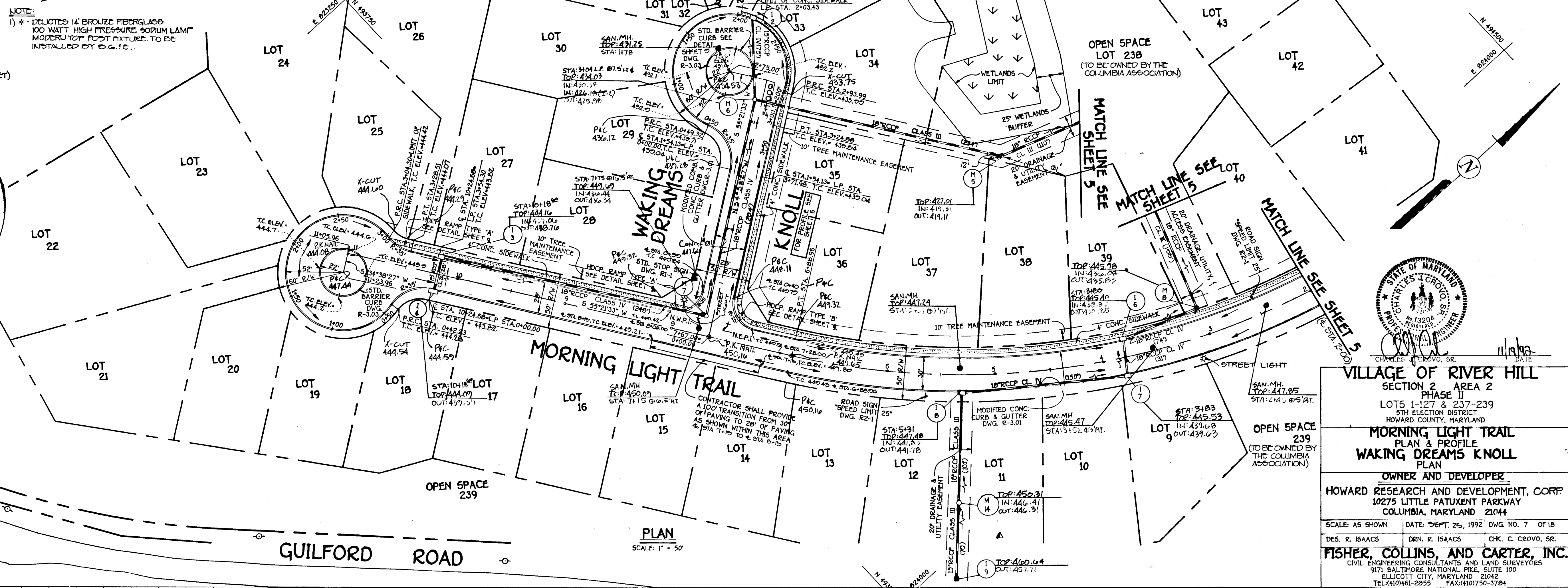
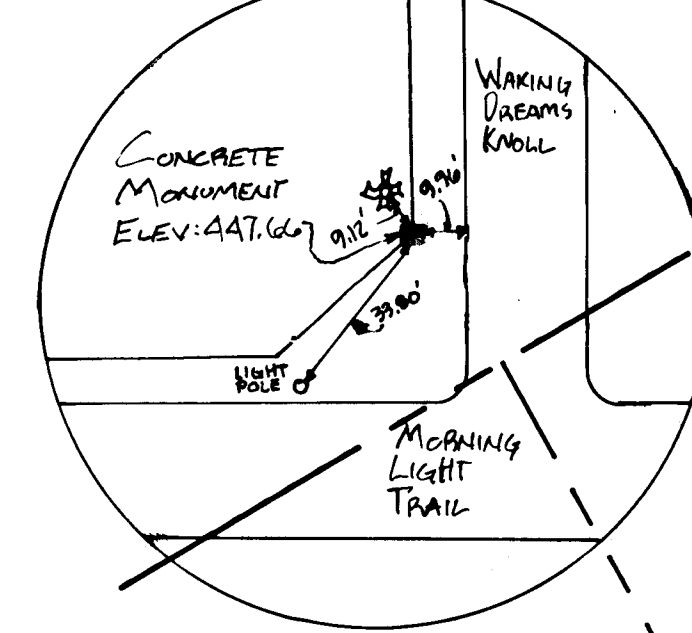




**MORNING LIGHT TRAIL  
Q CURVE DATA**

STA. 0+89.99 TO STA. 6+88.96  
 R=700.00'  
 L=598.98' (L=400.00' THIS SHEET)  
 DELTA=49°01'37"  
 TANGENT=319.21'  
 CHD. BRG. & DIST.= S 30°50'44" W. 580.87'

NOTE:  
 1) \* DELICATES 1/4" BROUZE FIBERGLASS  
 100 WATT HIGH PRESSURE SODIUM LAMP  
 MODERN TOP POST MIXTURE TO BE  
 INSTALLED BY O.G.P.C.



PLAN  
SCALE: 1" = 50'

DATE	BY	NO.	REVISION	DATE
		1	ADD M-H. BETWEEN I-O AND I-P	8/19/94

NO.	REVISION	DATE
1	ADD M-H. BETWEEN I-O AND I-P	8/19/94

APPROVED DEPARTMENT OF PUBLIC WORKS

*Charles Crovo, Sr.* 7/15/93  
 CHIEF, DIVISION

*Oliver M. Torgerson* 7/13/93  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED DEPARTMENT OF PUBLIC WORKS

*Paul J. Seaman* 7/15/93  
 CHIEF, BUREAU OF ENGINEERING

APPROVED DEPARTMENT OF PLANNING AND ZONING

*Shirley Klonath* 7/26/93  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

STATE OF MARYLAND  
 CHARLES CROVO, SR.  
 LICENSE NO. 11199  
 DATE 11/19/93

**VILLAGE OF RIVER HILL  
 SECTION 2 AREA 2  
 PHASE II  
 LOTS 1-127 & 237-239  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND**

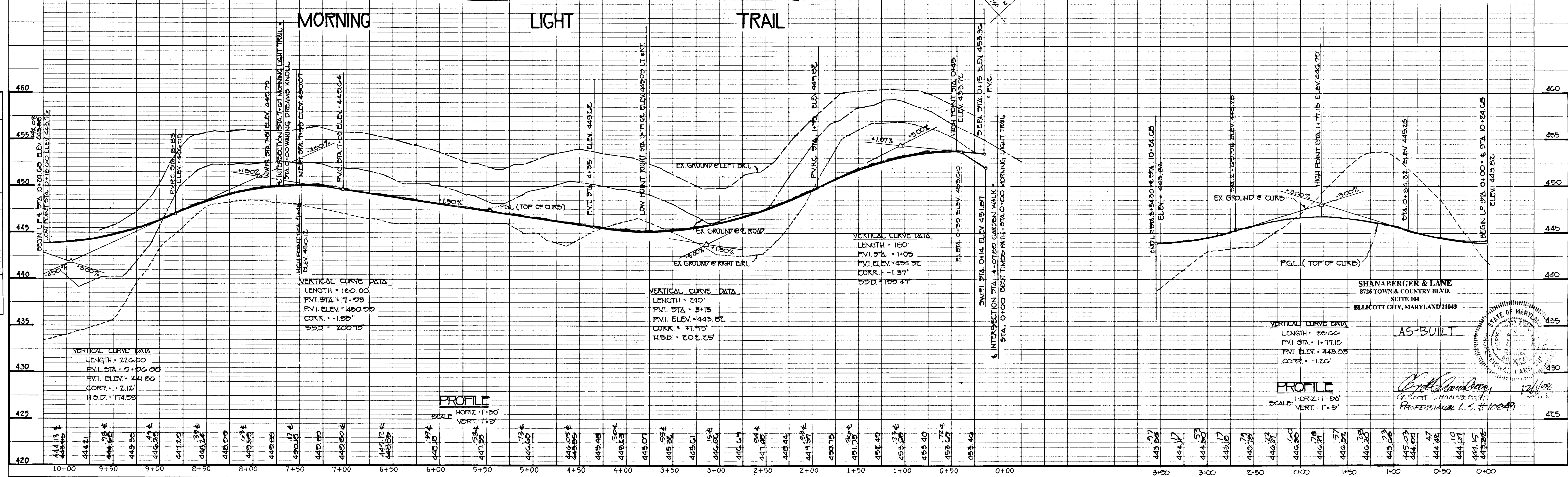
**MORNING LIGHT TRAIL  
 WAKING DREAMS KNOLL  
 PLAN**

OWNER AND DEVELOPER  
**HOWARD RESEARCH AND DEVELOPMENT, CORP.  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044**

SCALE: AS SHOWN DATE: DEPT. 25, 1992 DWG. NO. 7 OF 18  
 DES. R. ISAACS DRN. R. ISAACS CHK. C. CROVO, SR.

**FISHER, COLLINS, AND CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS AND LAND SURVEYORS  
 9171 BALTIMORE NATIONAL PIKE, SUITE 100  
 ELLICOTT CITY, MARYLAND 21114  
 TEL: (410) 661-2955 FAX: (410) 750-3784

DATE	BY	NO.	REVISION	DATE
		1	ADD M-H. BETWEEN I-O AND I-P	8/19/94



SHANBERGER & LANE  
 8726 TOWN & COUNTRY BLVD.  
 SUITE 104  
 ELLICOTT CITY, MARYLAND 21143

AS-BUILT

*Shan Berger* 12/1/93  
 PROFESSIONAL L.S. #10849

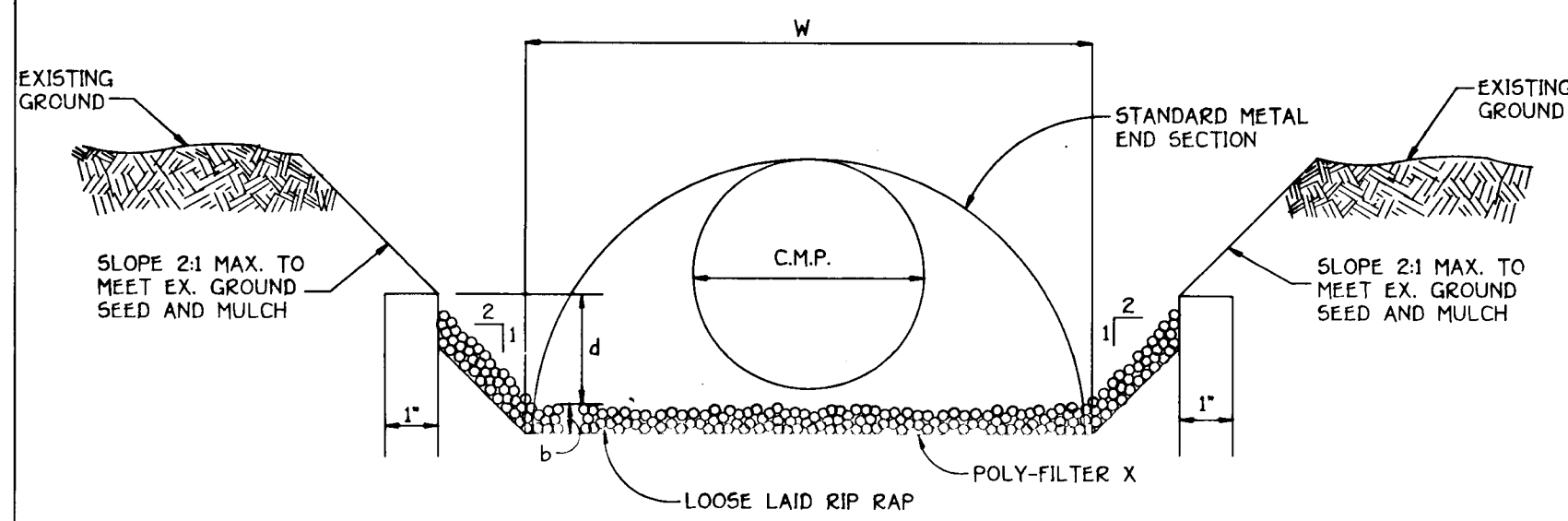
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**CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS**

- The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
- Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.



**RIP RAP CHANNEL DETAIL**  
NO SCALE

**RIP-RAP CHANNEL DESIGN DATA**

STRUCTURE	AREA sq.ft.	WETTED PERIMETER	R	R <sup>2/3</sup>	S	S <sup>1/2</sup>	W	d	N	V	Q	RIP-RAP SIZE	BLANKET THICKNESS	LENGTH
* 5-3	20.18	14.32'	1.4092	1.26	0.005	0.071	3.50	2.42	0.035	3.79	75.96	6"	9"	14'
5-5	12.69	13.27'	0.9548	0.97	0.005	0.071	7.75	1.24	0.035	2.92	34.62	6"	9"	14'
5-9	7.38	10.57	0.8067	0.922	0.005	0.071	5.00	1.25	0.035	2.70	24.36	6"	9"	14'
5-10	4.15	7.35	0.562	0.681	0.005	0.071	4.00	0.77	0.035	2.05	16.60	4"	6"	6'

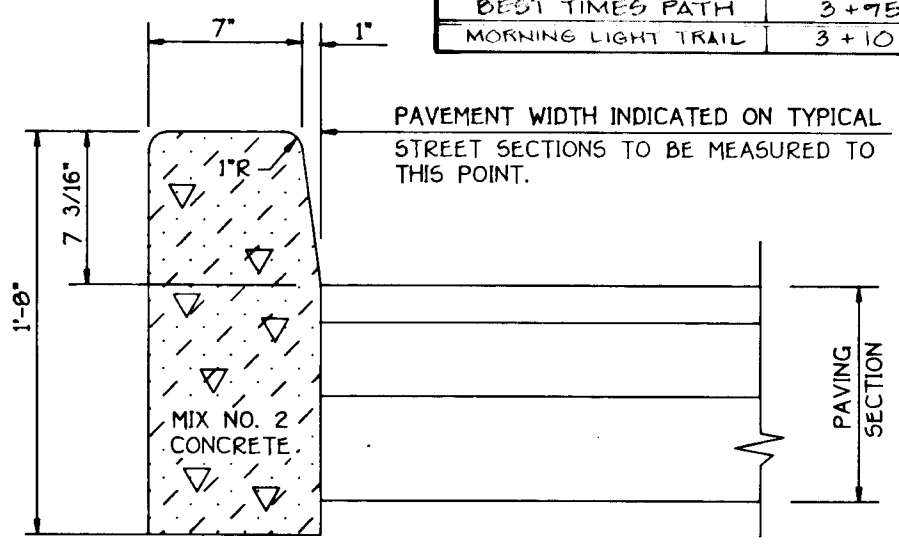
\* COMP 15 FOR 100 YEAR Q.

**STREET LIGHT LOCATION CHART**

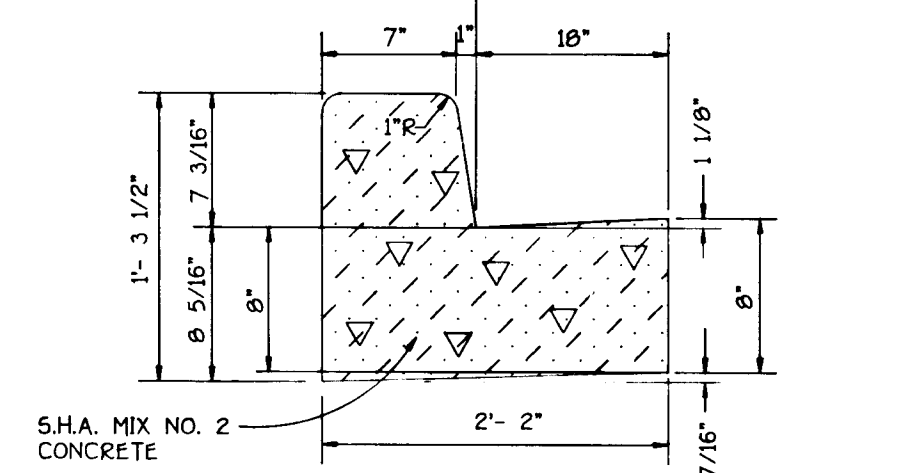
ROAD NAME	4. STATION	OFFSET	STREET LIGHT TYPE
BRIGHT MEMORY DRIVE	0+54	34 RT	1
BRIGHT MEMORY DRIVE	4+55	19' LT	2
GARDEN WALK	2+76	25 RT	2
GARDEN WALK	7+00	25 RT	2
GARDEN WALK	3+75	31 RT	2
MORNING LIGHT TRAIL	7+80-50	12.5 RT	2
BEST TIMES PATH	3+75	16.5 RT	2
MORNING LIGHT TRAIL	3+10	17' LT	2

**STREET LIGHT TYPE DESCRIPTION**

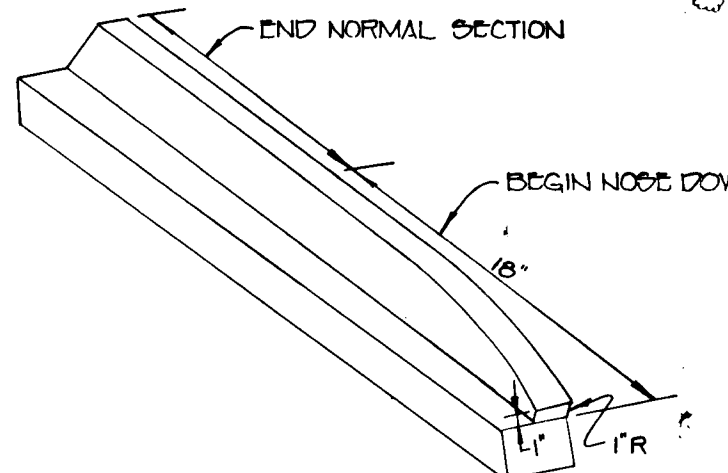
STREET LIGHT TYPE	DESCRIPTION
1	REPRESENTS 250 WATT HIGH PRESSURE SODIUM VAPOR FIXTURE (BROWN) WITH CUT-OFF OPTICS, MOUNTED AT 30' USING A 1 1/2" ARM ON A BREAKAWAY TRANSFORMER BASE STEEL POLE (BROWN METAL FINISH). LOCATE 6" BEHIND FACE OF CURB TO BE INSTALLED BY NO. 20
2	REPRESENTS 100 WATT HIGH PRESSURE SODIUM VAPOR MODERNA FOSTER TOP FIXTURE (BROWN) MOUNTED ON A 1/4" BRONZE FIBERGLASS EMBEDDED POLE TO BE INSTALLED BY 0.81E



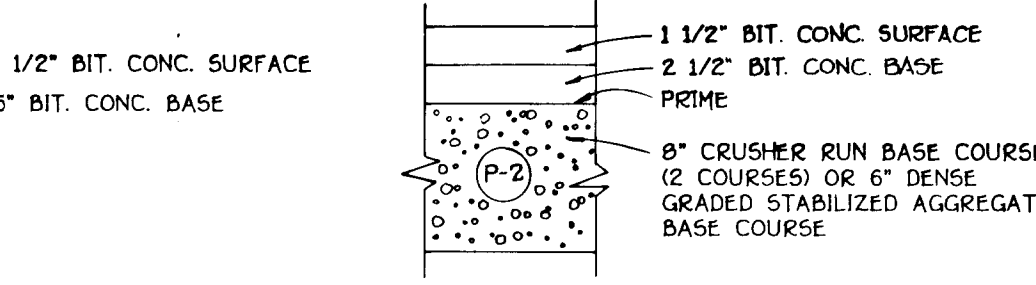
**STANDARD BARRIER CURB**  
NO SCALE



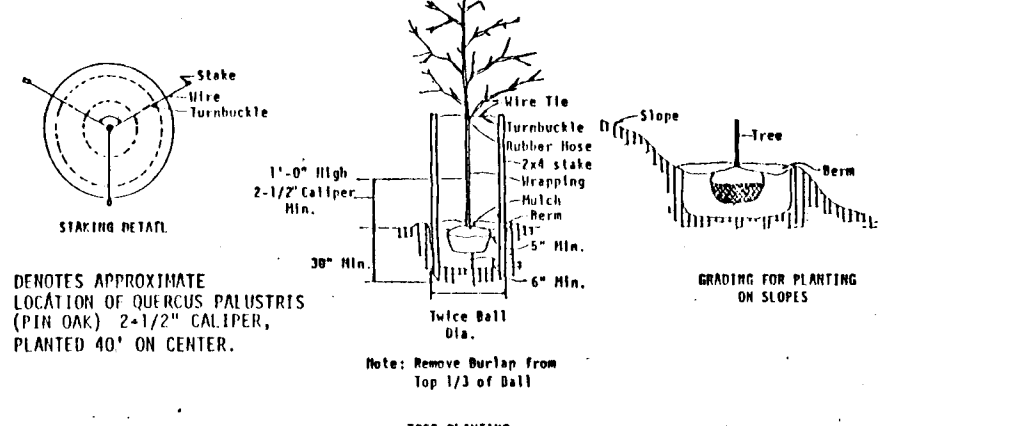
**STANDARD 7' COMB. CONC. CURB AND GUTTER**  
NO SCALE



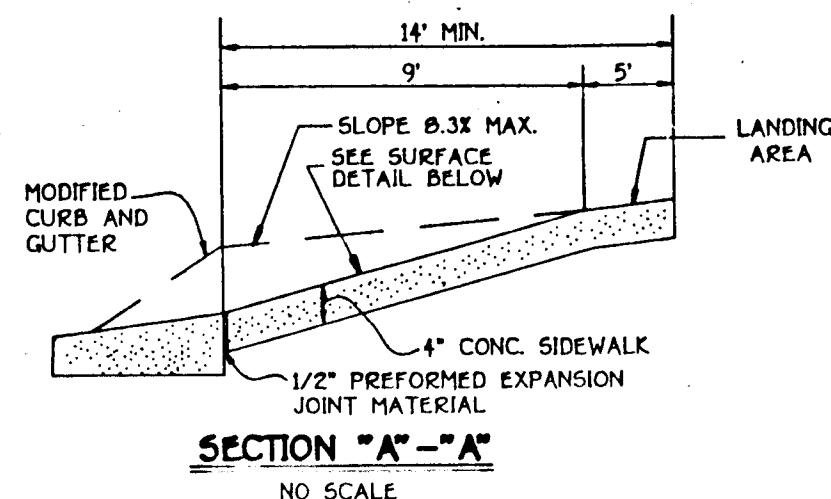
**NOSE DOWN CURB DETAIL**  
NO SCALE



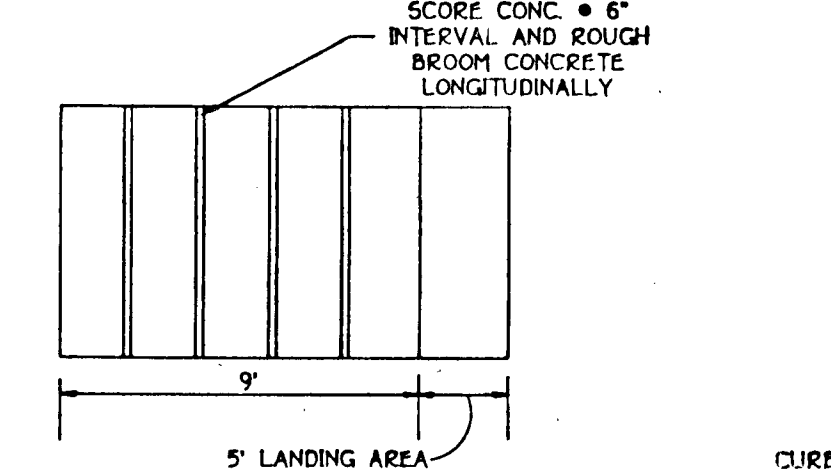
**PAVING SECTION P-2**  
NO SCALE



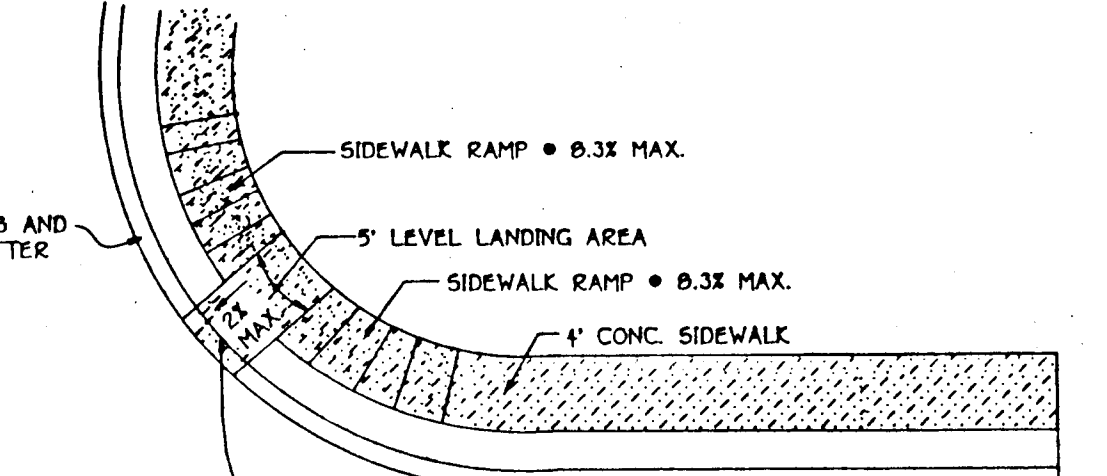
**TREE PLANTING DETAIL**  
NO SCALE



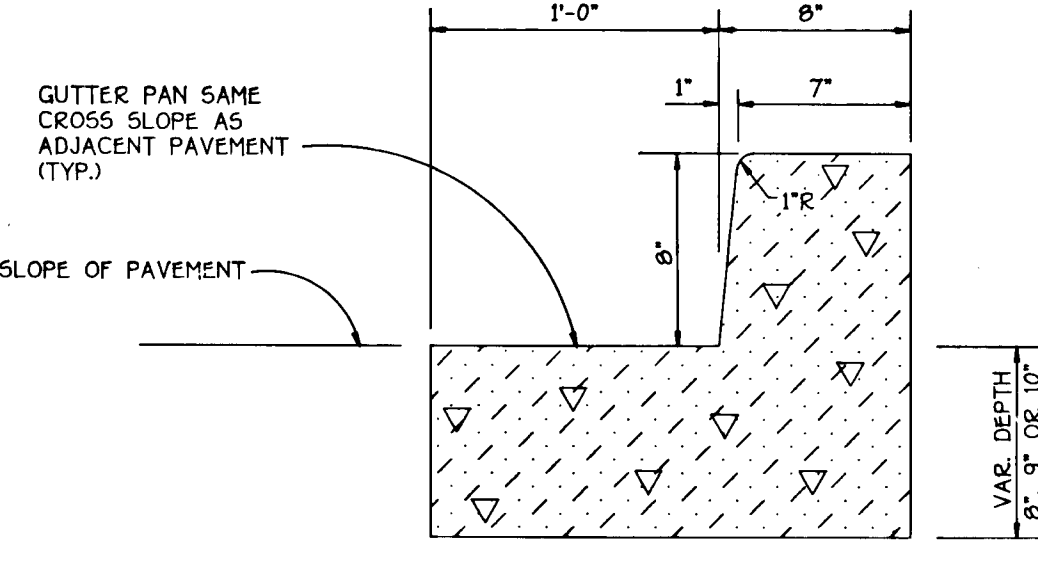
**SECTION 'A'-A'**  
NO SCALE



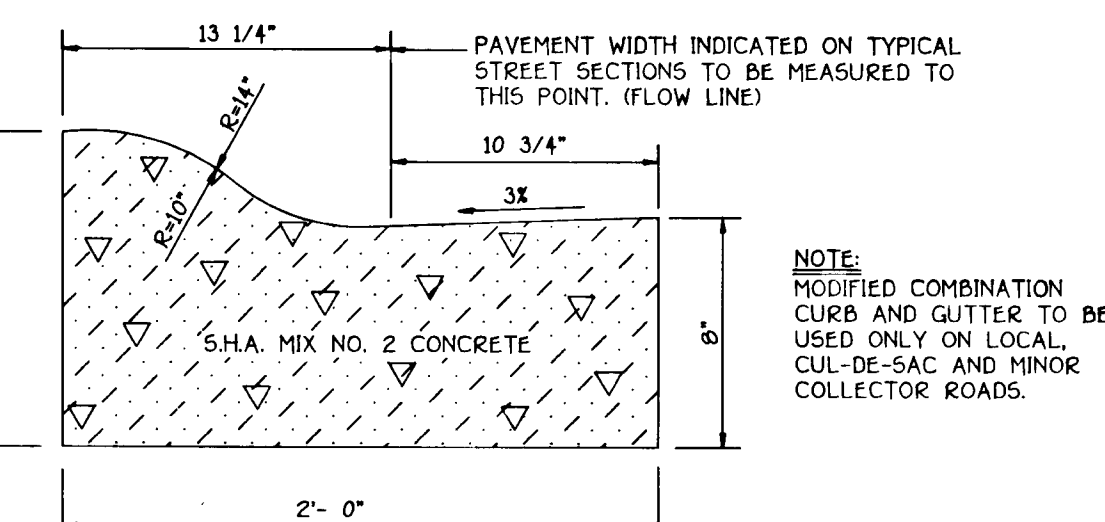
**HANDICAP RAMP SURFACE DETAIL**  
NO SCALE



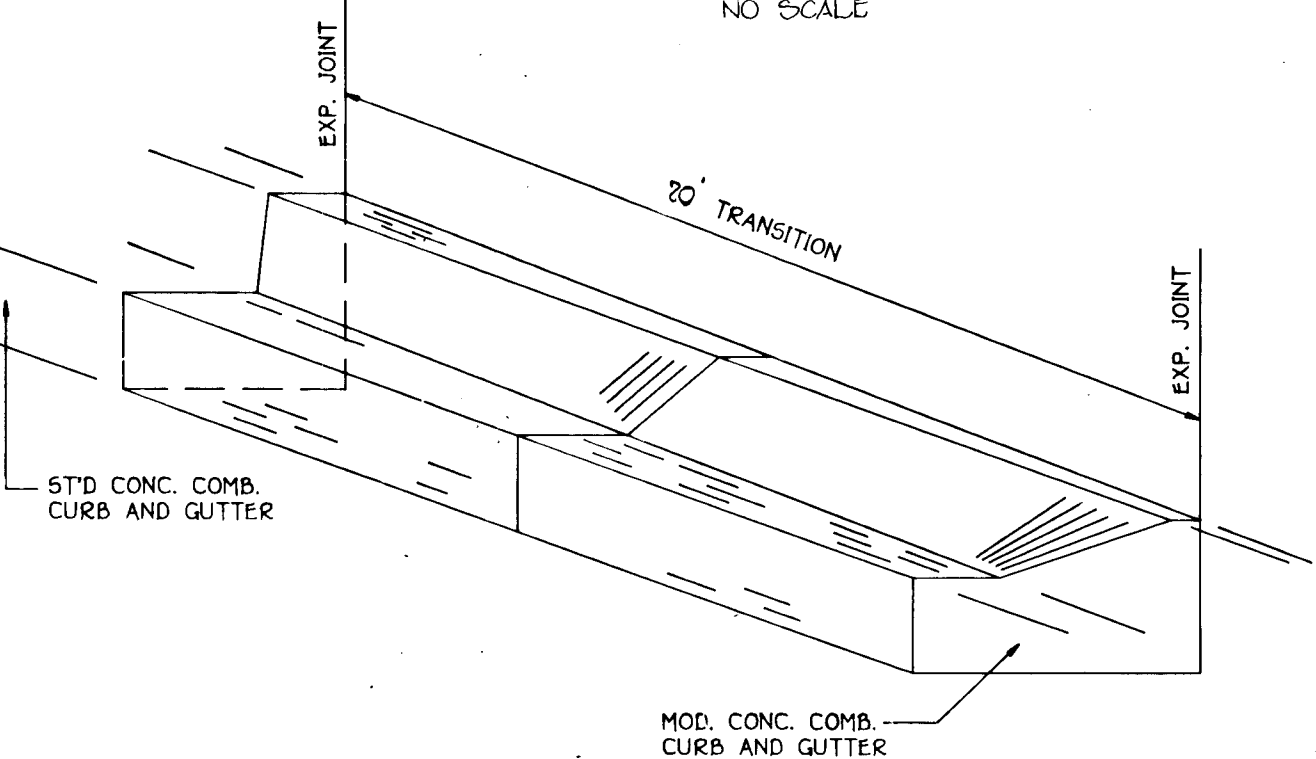
**TYPE 'B' SIDEWALK RAMP**  
NO SCALE



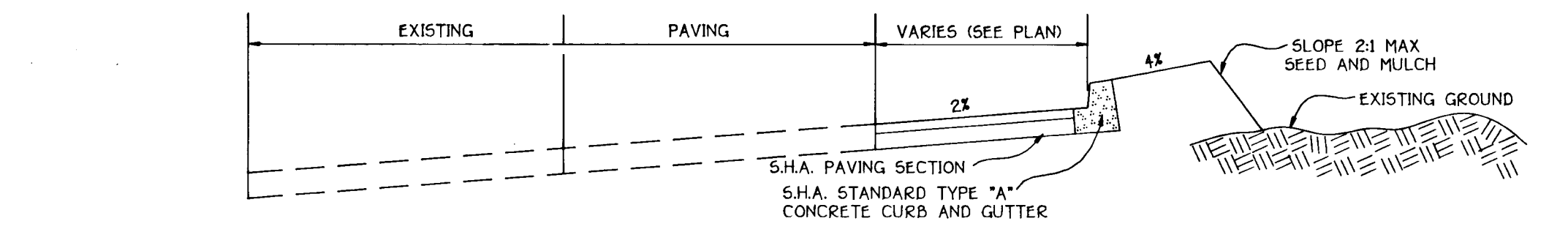
**S.H.A. TYPE 'A' COMBINATION CURB & GUTTER**  
NO SCALE



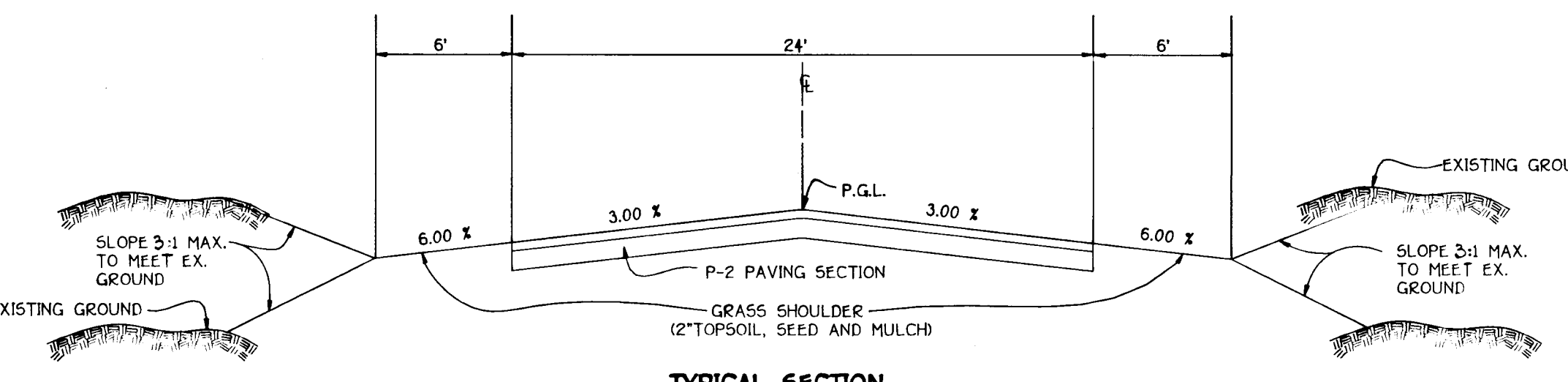
**MODIFIED COMBINATION CURB AND GUTTER**  
NO SCALE



**CURB TRANSITION DETAIL**  
NO SCALE



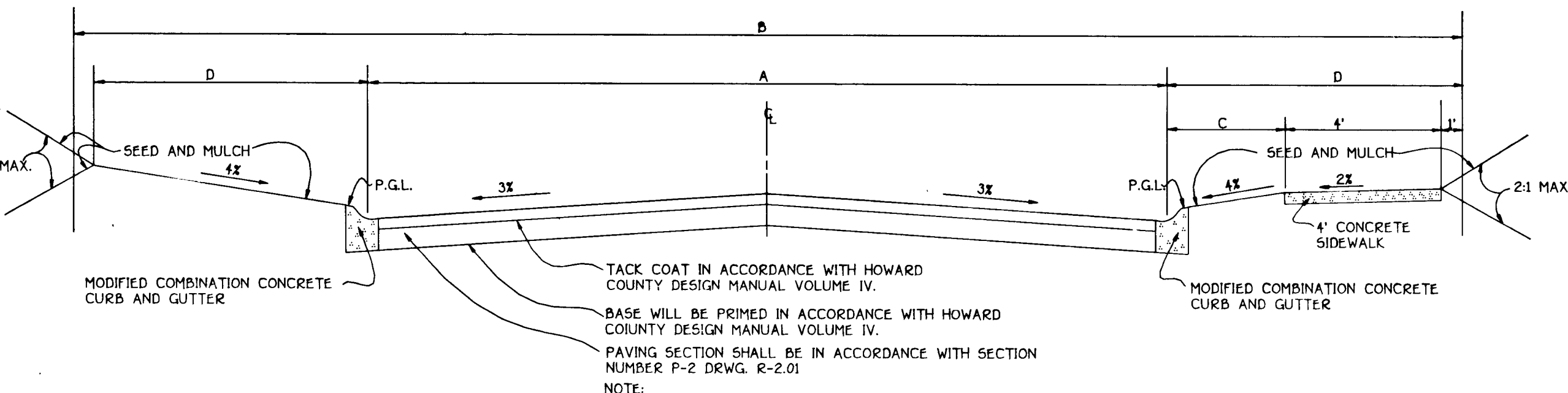
**TYPICAL S.H.A. WIDENING SECTION**  
NO SCALE



**TYPICAL SECTION TEMPORARY ACCESS ROAD**  
NO SCALE

**ROADWAY INFORMATION CHART**

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	A	B	C	D	STATION LIMITS	PAVING SECTION
BRIGHT MEMORY DRIVE	LOCAL ROAD	30 M.P.H.	N.T.	46'	60'	2'	7'	0+00 TO 1+50	P-2
BRIGHT MEMORY DRIVE	LOCAL ROAD	30 M.P.H.	N.T.	VARIES	VARIES	VARIES	VARIES	1+50 TO 2+50	P-2
BRIGHT MEMORY DRIVE	LOCAL ROAD	30 M.P.H.	N.T.	30'	50'	5'	10'	2+50 TO 4+67.42	P-2
GLORIOUS LIGHT PLACE	CUL-DE-SAC	25 M.P.H.	N.T.	28'	50'	6'	11'	0+00 TO 1+58.21	P-2
GARDEN WALK	LOCAL ROAD	30 M.P.H.	N.T.	30'	50'	5'	10'	-4+07.89 TO 3+00	P-2
GARDEN WALK	CUL-DE-SAC	25 M.P.H.	N.T.	28'	50'	6'	11'	-4+07.89 TO -6+80.02	P-2
GARDEN WALK	CUL-DE-SAC	25 M.P.H.	N.T.	28'	50'	6'	11'	3+00 TO 11+92.15	P-2
GOLDEN SEEDS ROW	CUL-DE-SAC	25 M.P.H.	N.T.	28'	50'	6'	11'	0+00 TO 0+99.13	P-2
JEWELLED HAND CIRCLE	CUL-DE-SAC	25 M.P.H.	N.T.	28'	50'	6'	11'	0+00 TO 1+12.85	P-2
BEST TIMES PATH	CUL-DE-SAC	25 M.P.H.	N.T.	28'	50'	6'	11'	0+00 TO 5+53.52	P-2
MORNING LIGHT TRAIL	LOCAL ROAD	30 M.P.H.	N.T.	30'	50'	5'	10'	0+00 TO 7+67.00	P-2
MORNING LIGHT TRAIL	CUL-DE-SAC	25 M.P.H.	N.T.	28'	50'	6'	11'	7+67.00 TO 10+24.68	P-2
WAKING DREAMS KNOLL	CUL-DE-SAC	25 M.P.H.	N.T.	28'	50'	6'	11'	0+00 TO 1+54.13	P-2



**TYPICAL ROADWAY SECTION**  
NO SCALE

**OWNER AND DEVELOPER**  
HOWARD RESEARCH AND DEVELOPMENT, CORP  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

**FISHER, COLLINS & CARTER, INC.**  
1971 BALTIMORE NATIONAL PIKE, SUITE 100  
ELLCOTT CITY, MARYLAND 21042  
(410) 481-2855

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Charles J. Crovo, Sr.* 7/15/93 DATE  
CHIEF, LAND DEVELOPMENT DIVISION  
APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John M. Torgerson* 7/13/93 DATE  
CHIEF, BUREAU OF HIGHWAYS  
APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Charles J. Crovo, Sr.* 7/15/93 DATE  
CHIEF, BUREAU OF ENGINEERING  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Shirley Blomatt* 7/26/93 DATE  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

TYPICAL ROAD SECTION,  
NOTES AND DETAILS  
**VILLAGE OF RIVER HILL**  
SECTION 2 AREA 2  
PHASE II  
LOTS 1-127 & 237-239  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SEPTEMBER 25, 1992  
SHEET 9 OF 18



CHARLES J. CROVO, SR. DATE

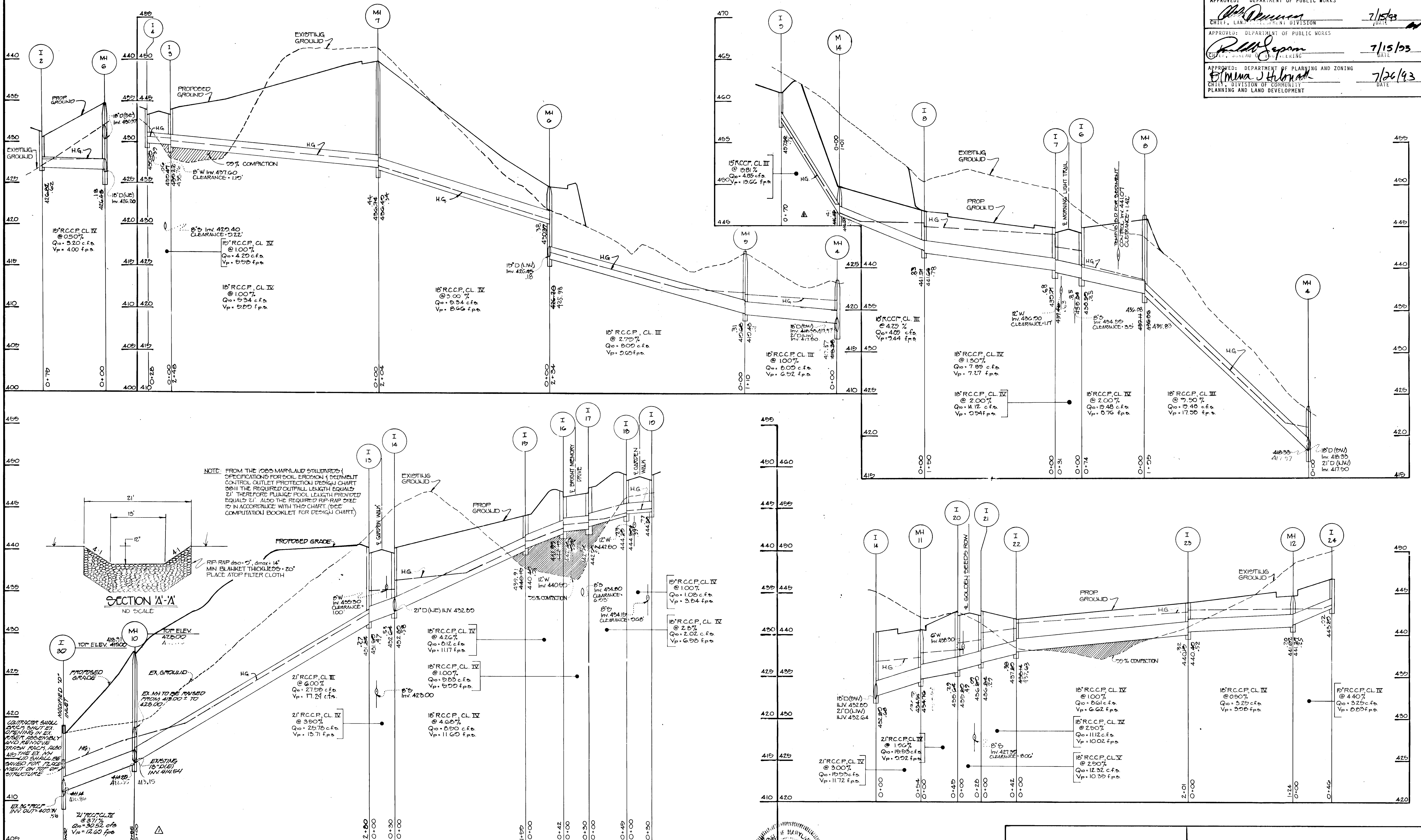
DATE	REVISION	NO.
JUNE 14, 1994	REVISE 10-10 TO E-30	1
AUGUST 15, 1994	ADD 10-14 TO PROFILE	2

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John M. Tamm* Chief, Bureau of Highways 7/13/93 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John P. ...* Chief, Land Development Division 7/15/93 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Robert ...* Chief, Bureau of Planning 7/15/93 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Elmina J. ...* Chief, Division of Community Planning and Land Development 7/26/93 DATE



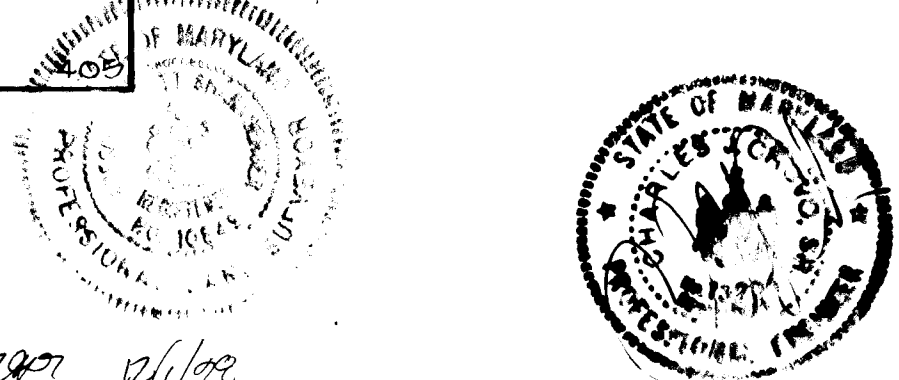
1487

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 7171 BALTIMORE NATIONAL PIKE, SUITE 100  
 ELLICOTT CITY, MARYLAND 21114  
 TELEPHONE: (410) 451-0225  
 FAX: (410) 790-3784

**SHANABERGER & LANE**  
 8726 TOWN & COUNTRY BLVD.  
 SUITE 104  
 ELLICOTT CITY, MARYLAND 21115

AS-BUILT

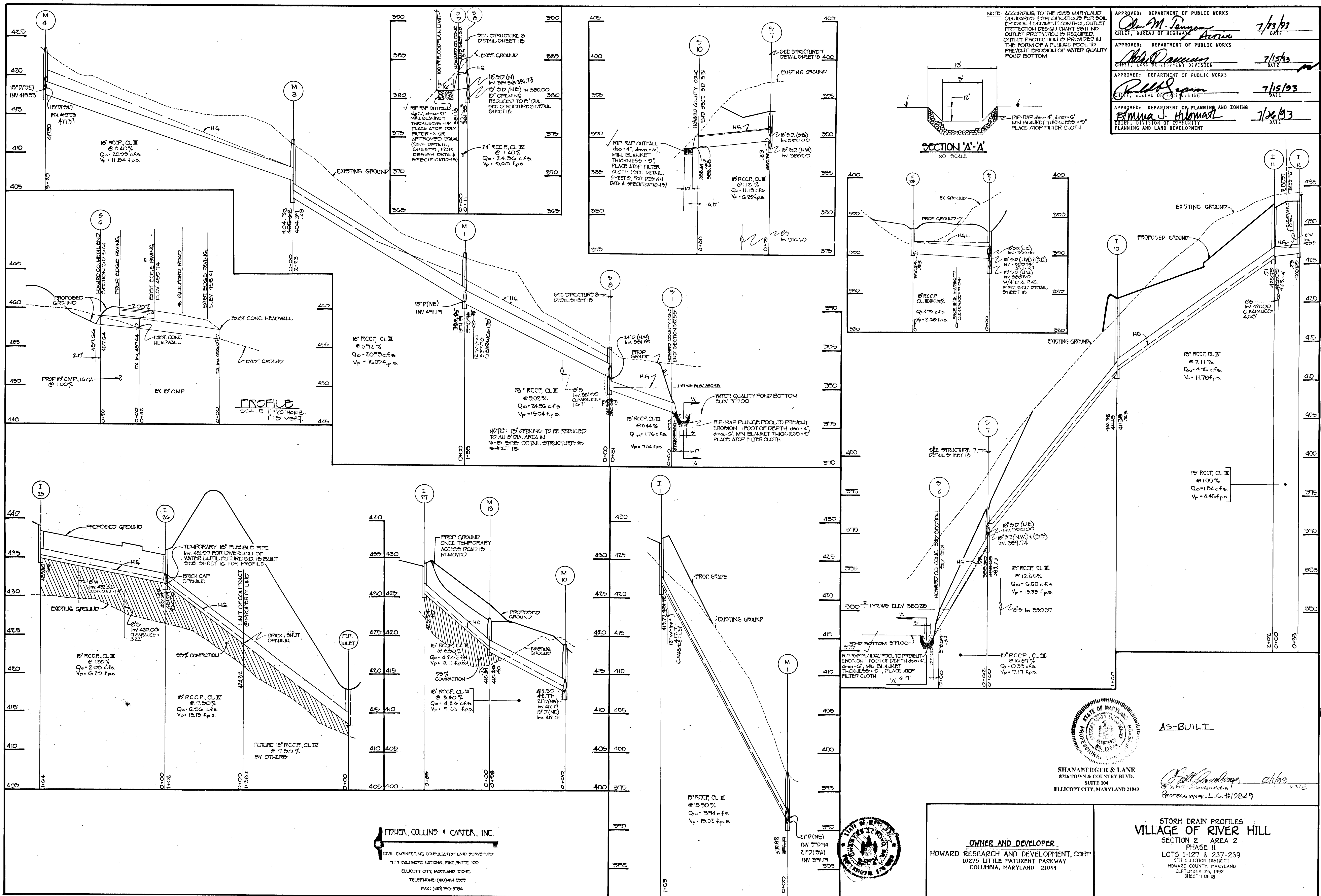
*Shanaberg*  
 G. Scott Shanaberg  
 PROFESSIONAL L.S. #10849



**OWNER AND DEVELOPER**  
 HOWARD RESEARCH AND DEVELOPMENT, CORP  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

**STORM DRAIN PROFILES**  
**VILLAGE OF RIVER HILL**  
 SECTION 2 AREA 2  
 PHASE II  
 LOTS 1-127 & 237-239  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SEPTEMBER 25, 1992  
 SHEET 10 OF 18

1487



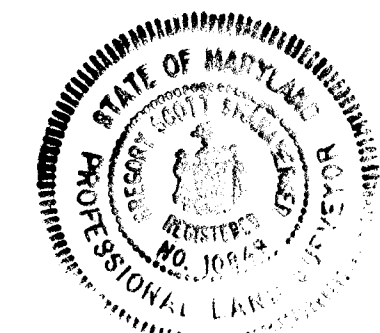
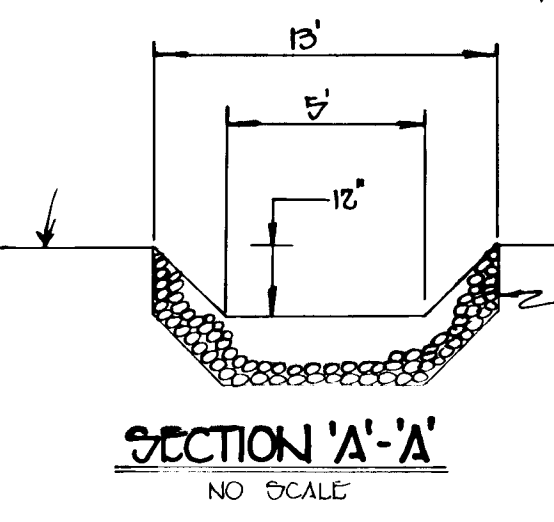
NOTE: ACCORDING TO THE 2005 MARYLAND STANDARD SPECIFICATIONS FOR SOIL PROTECTION & EROSION CONTROL, OUTLET PROTECTION DESIGN CHART 3611, NO OUTLET PROTECTION IS REQUIRED. OUTLET PROTECTION IS PROVIDED IN THE FORM OF A PLUME POOL TO PREVENT EROSION OF WATER QUALITY POND BOTTOM.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John M. Pennington* 7/13/93  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John Pennington* 7/15/93  
 CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John Pennington* 7/15/93  
 CHIEF, BUREAU OF CLIMATE MARKING

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Emma J. Homan* 7/26/93  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT



SHANABERGER & LANE  
 8726 TOWN & COUNTRY BLVD.  
 SUITE 104  
 ELLICOTT CITY, MARYLAND 21045

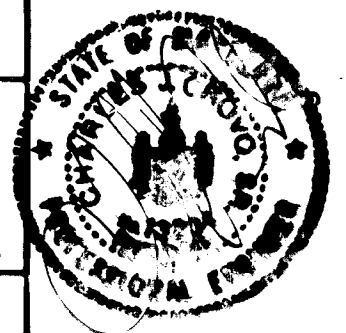
AS-BUILT

*John Pennington* 7/15/93  
 PROFESSIONAL L.S. #10829

OWNER AND DEVELOPER  
 HOWARD RESEARCH AND DEVELOPMENT, CORP.  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

STORM DRAIN PROFILES  
 VILLAGE OF RIVER HILL  
 SECTION 2 AREA 2  
 PHASE II  
 LOTS 1-127 & 237-239  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SEPTEMBER 23, 1992  
 SHEET 11 OF 18

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 7171 BALTIMORE NATIONAL PIKE, SUITE 100  
 ELLICOTT CITY, MARYLAND 21042  
 TELEPHONE: (410) 461-0200  
 FAX: (410) 750-3704

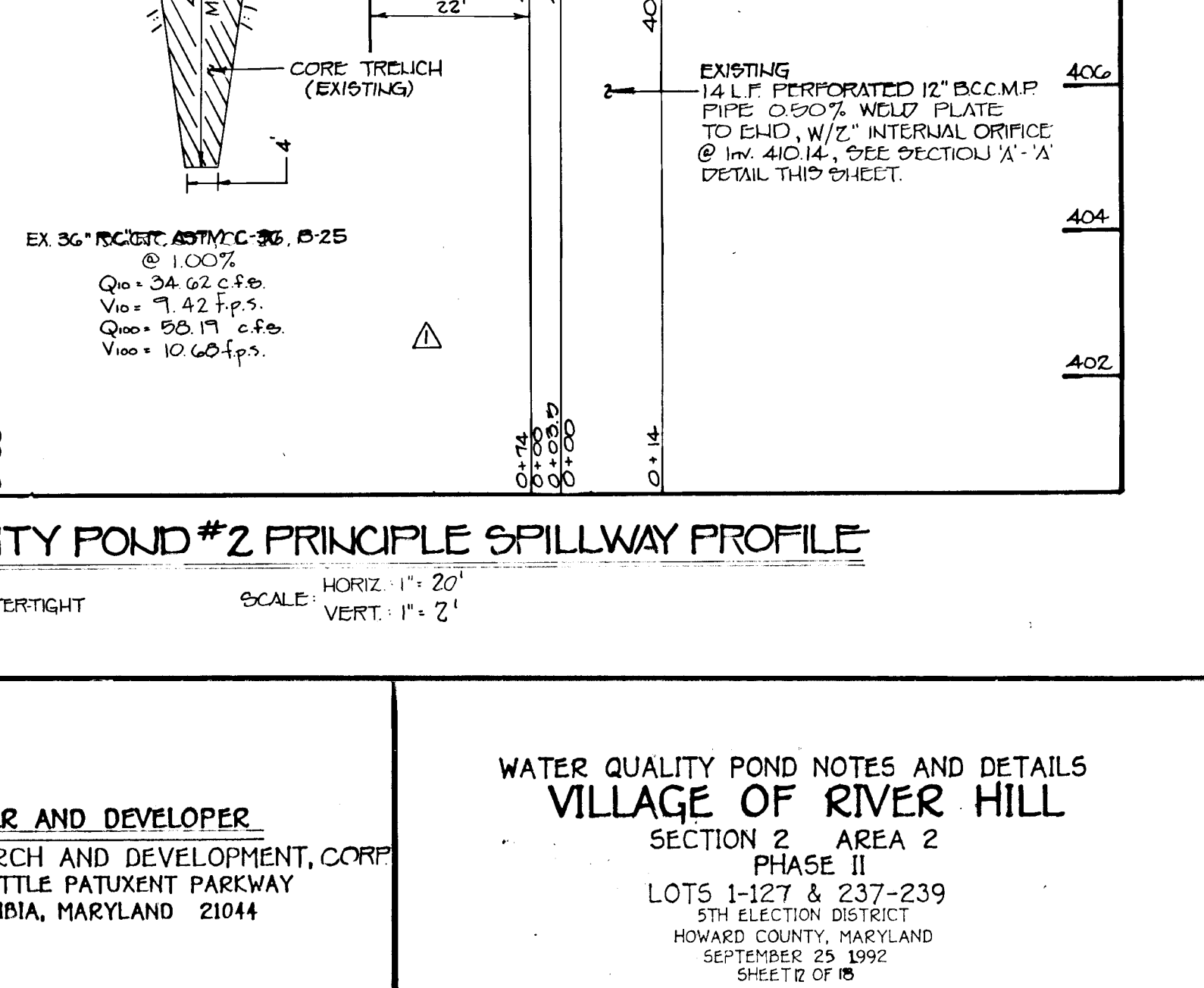
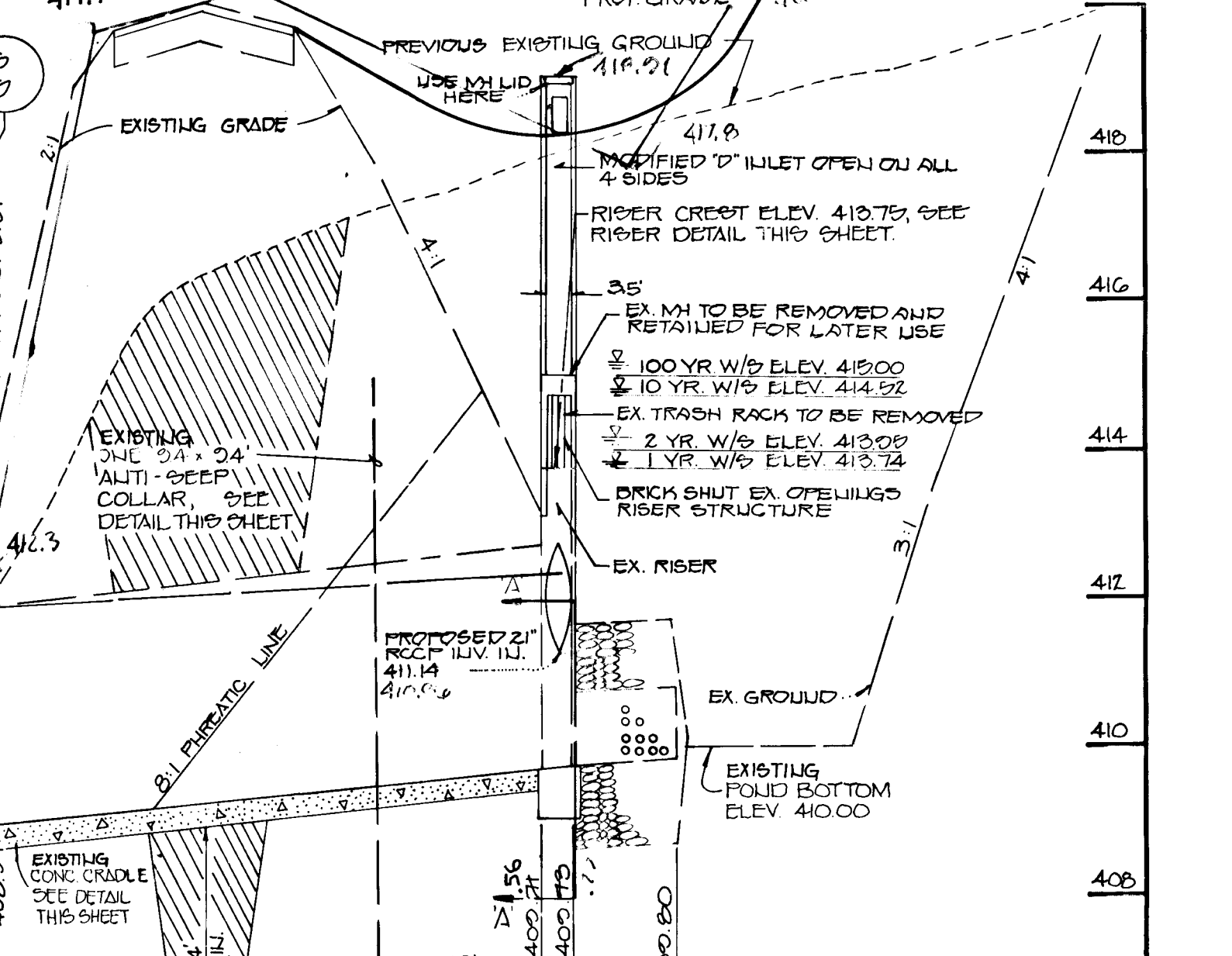
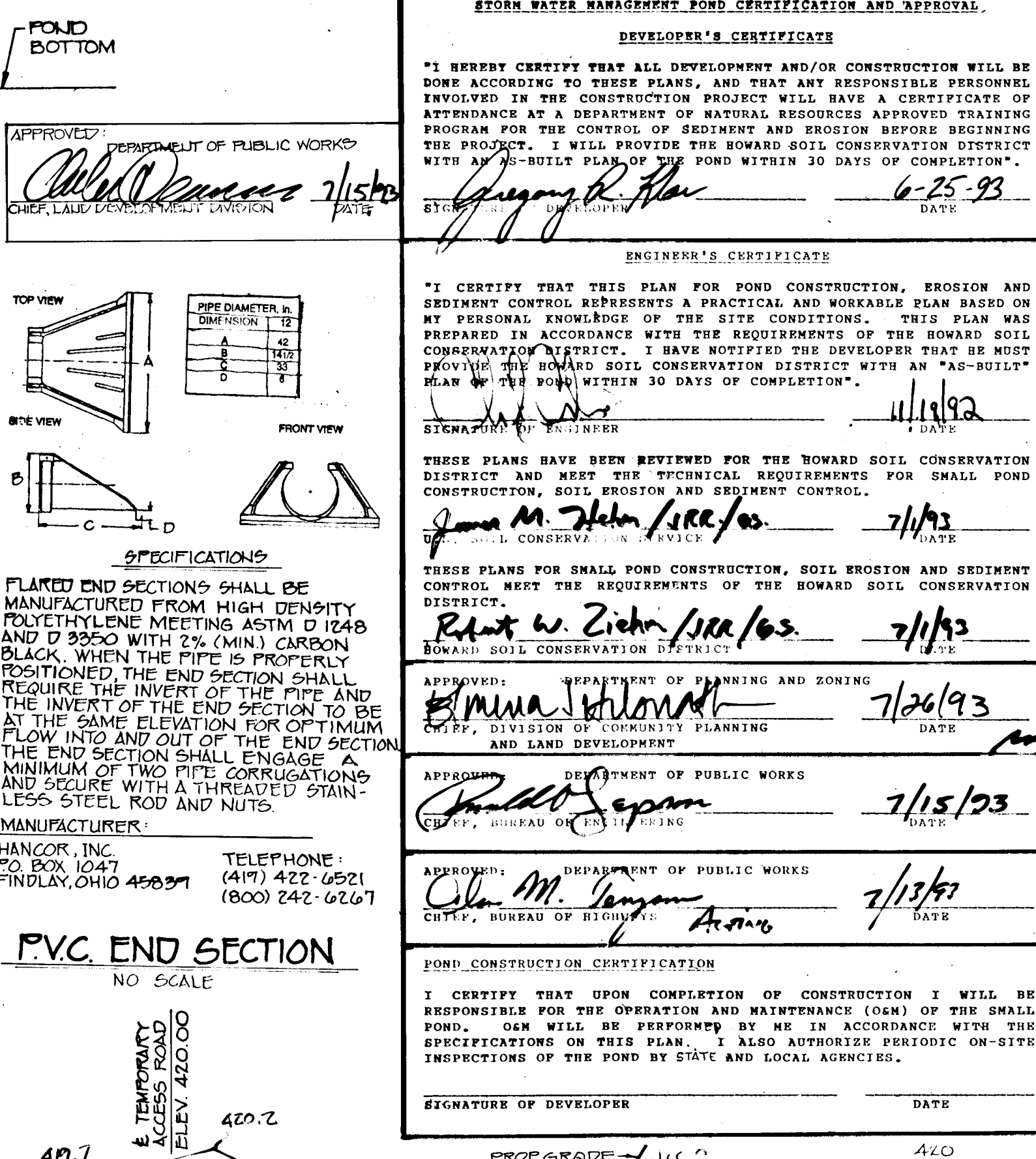
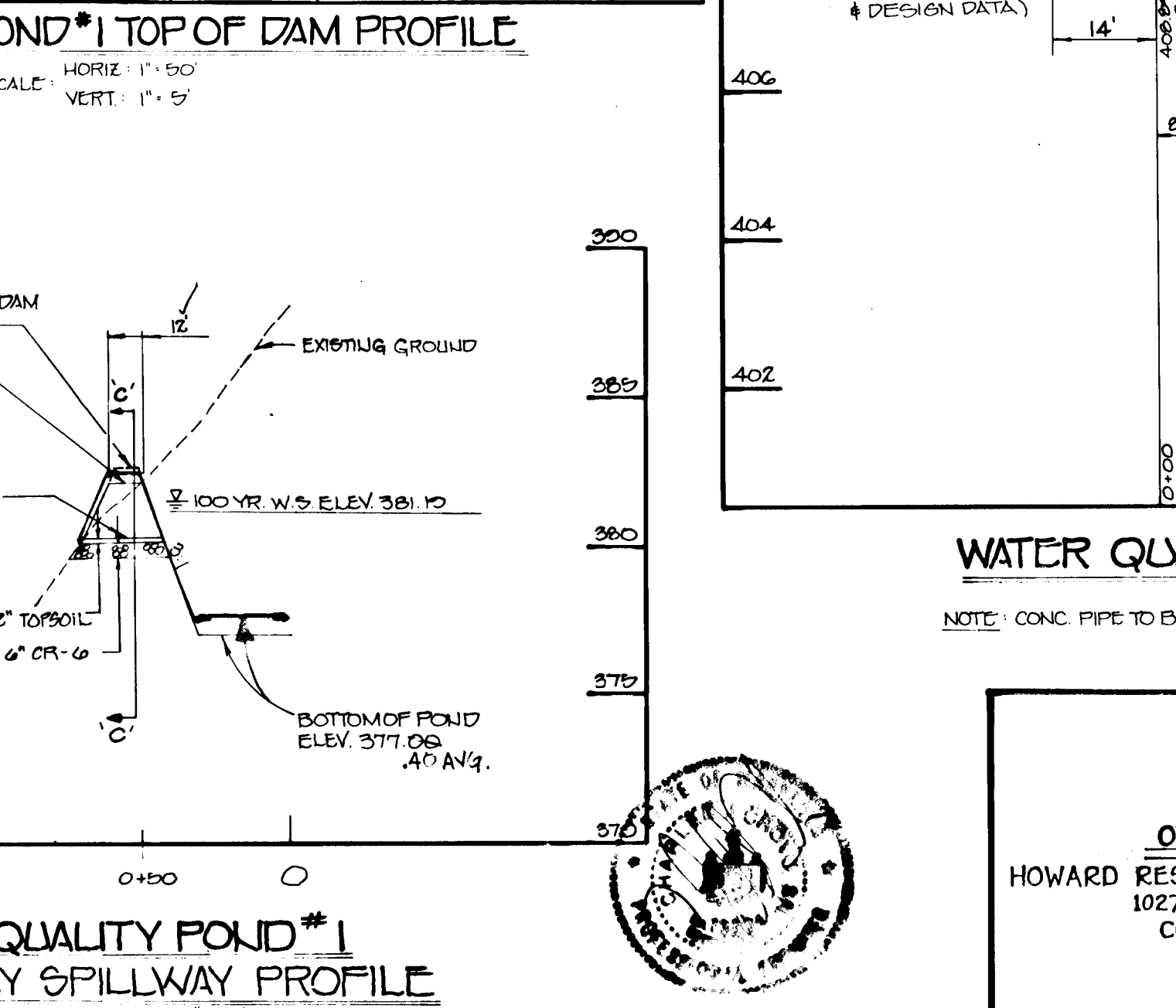
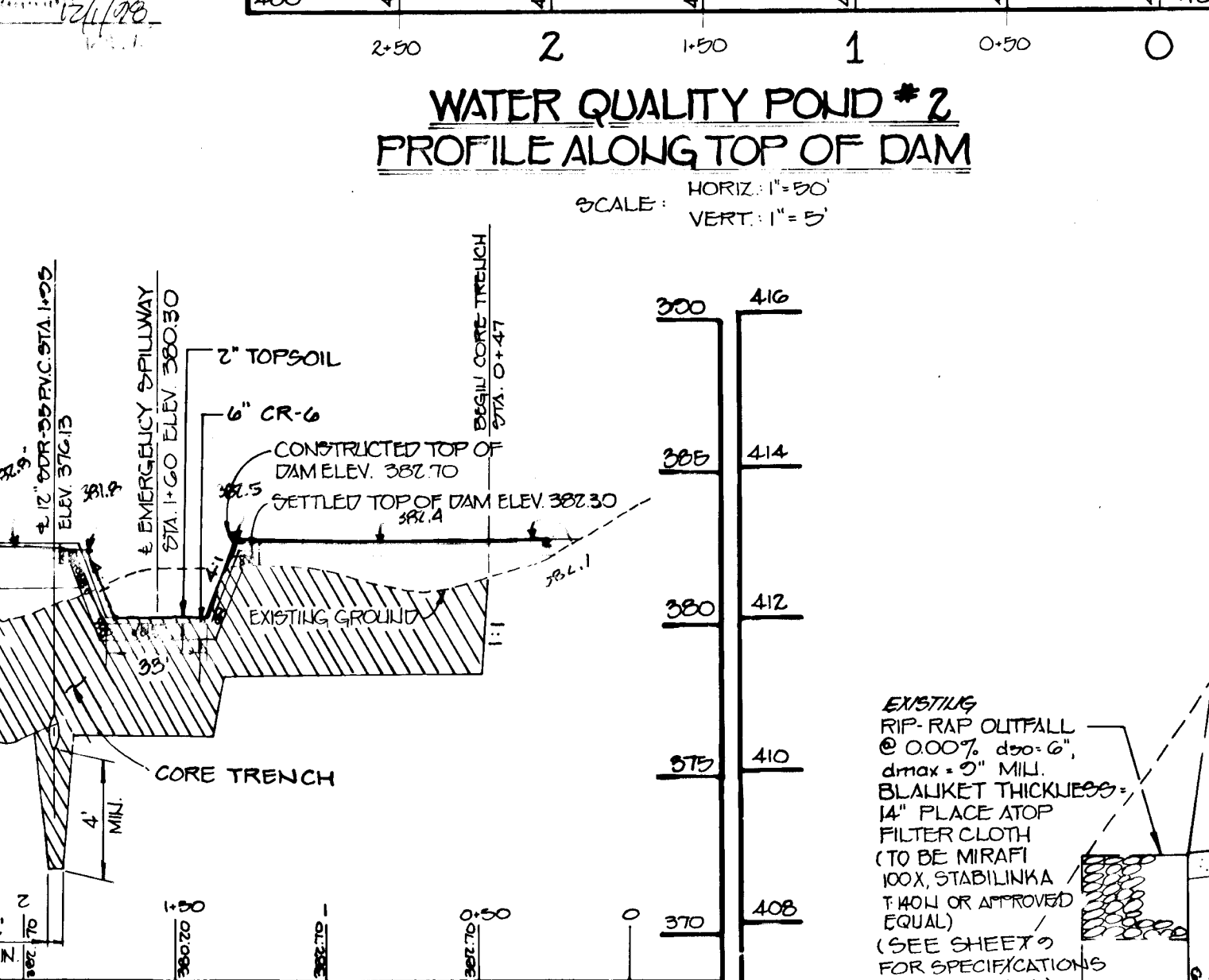
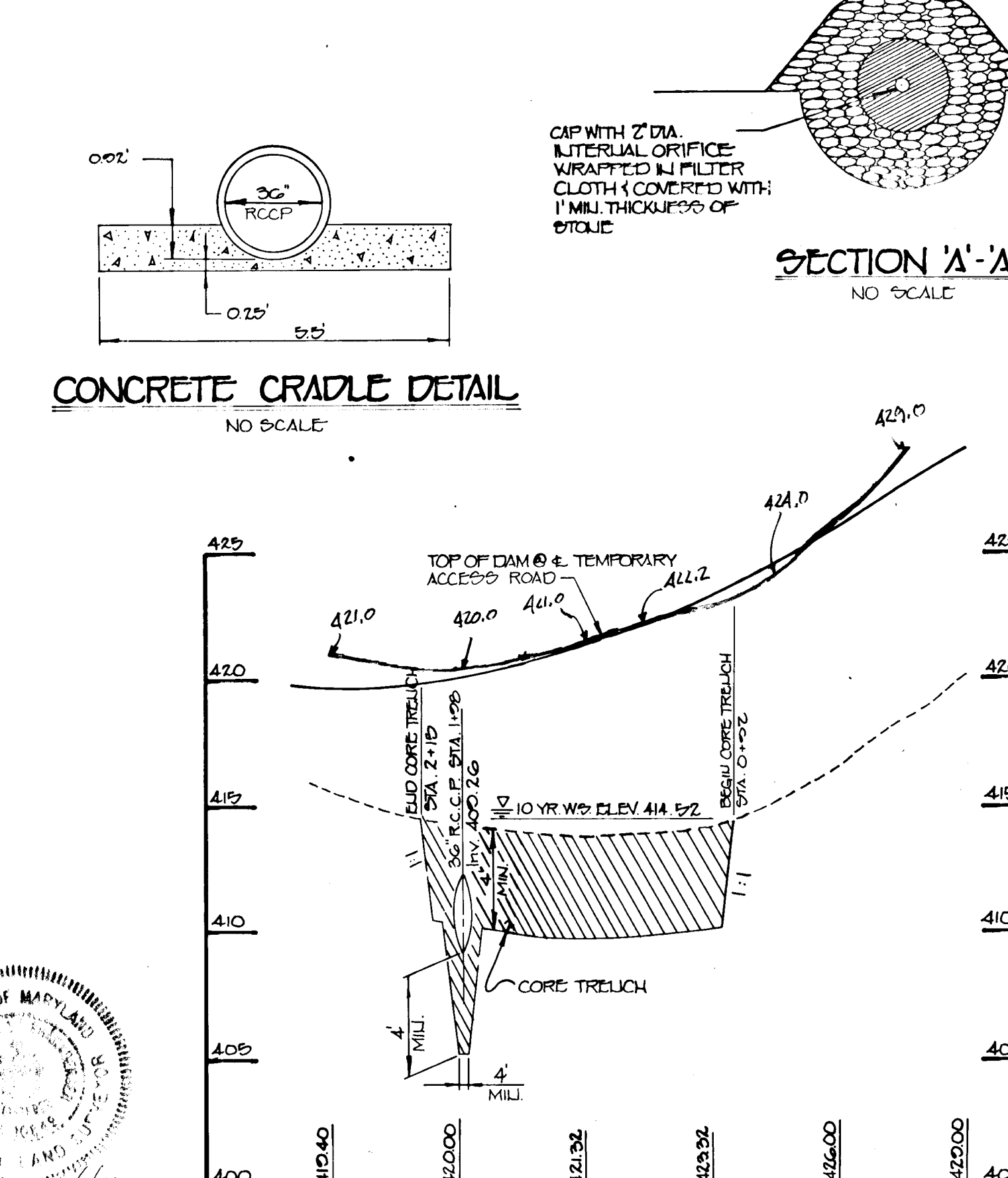
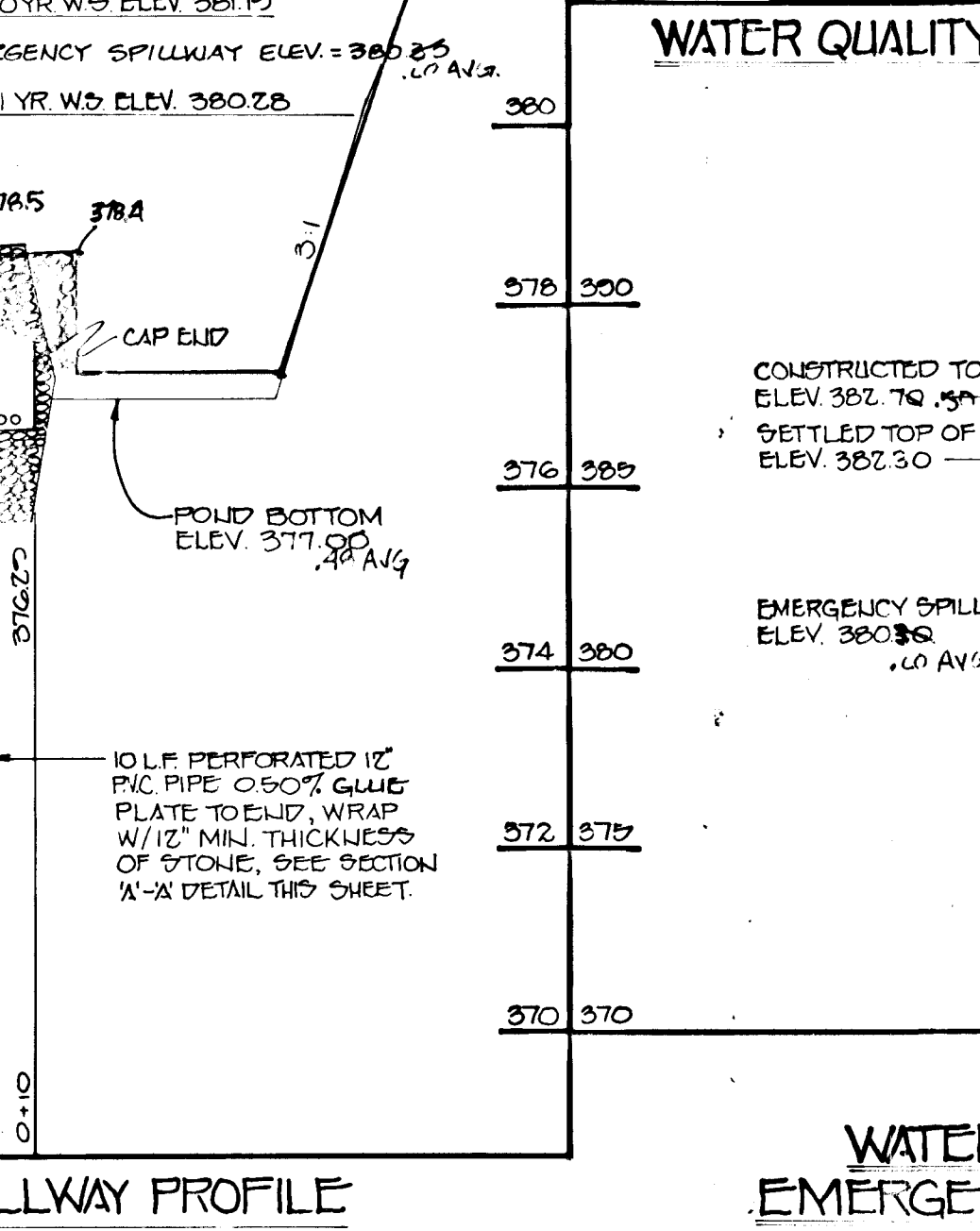
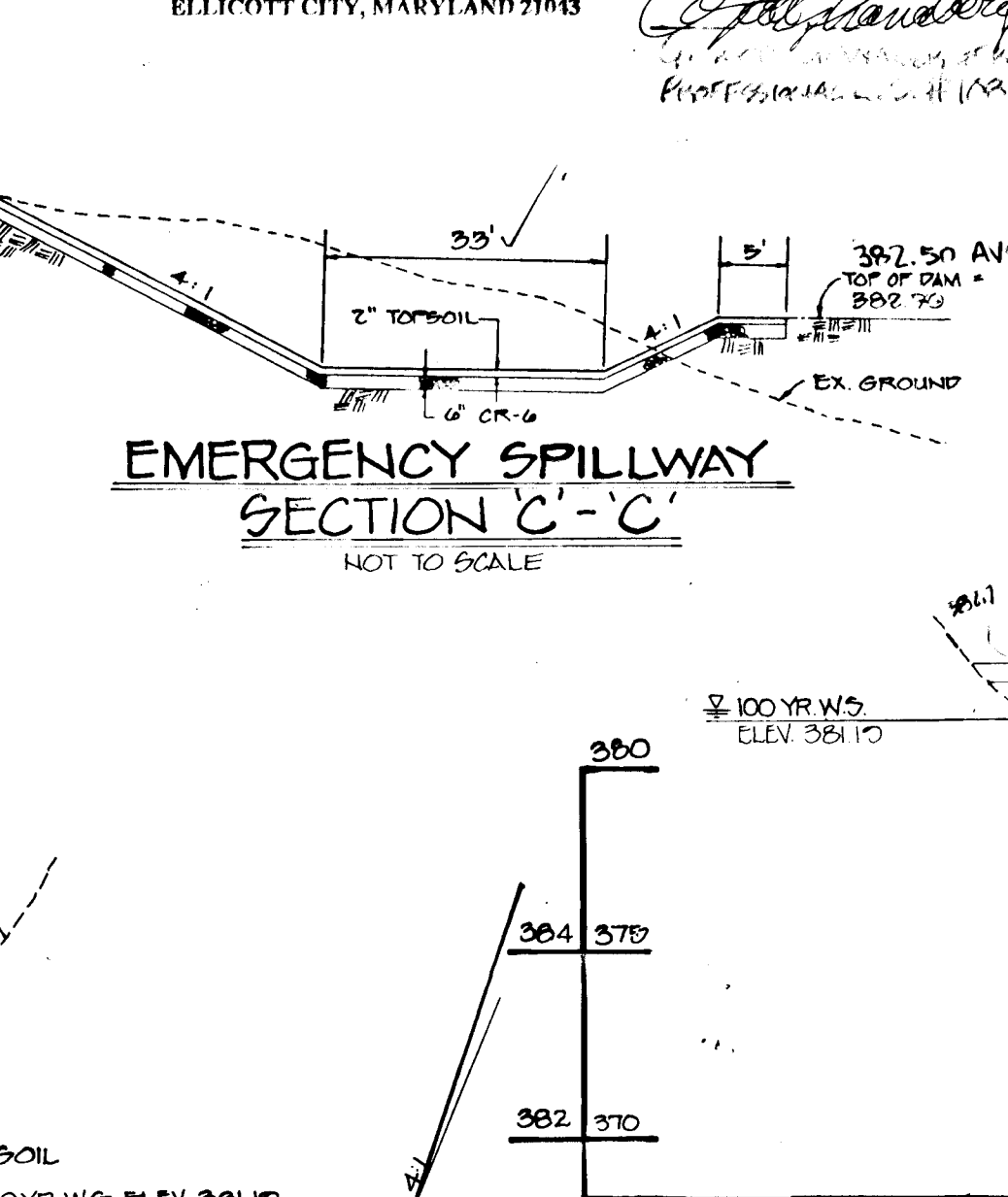
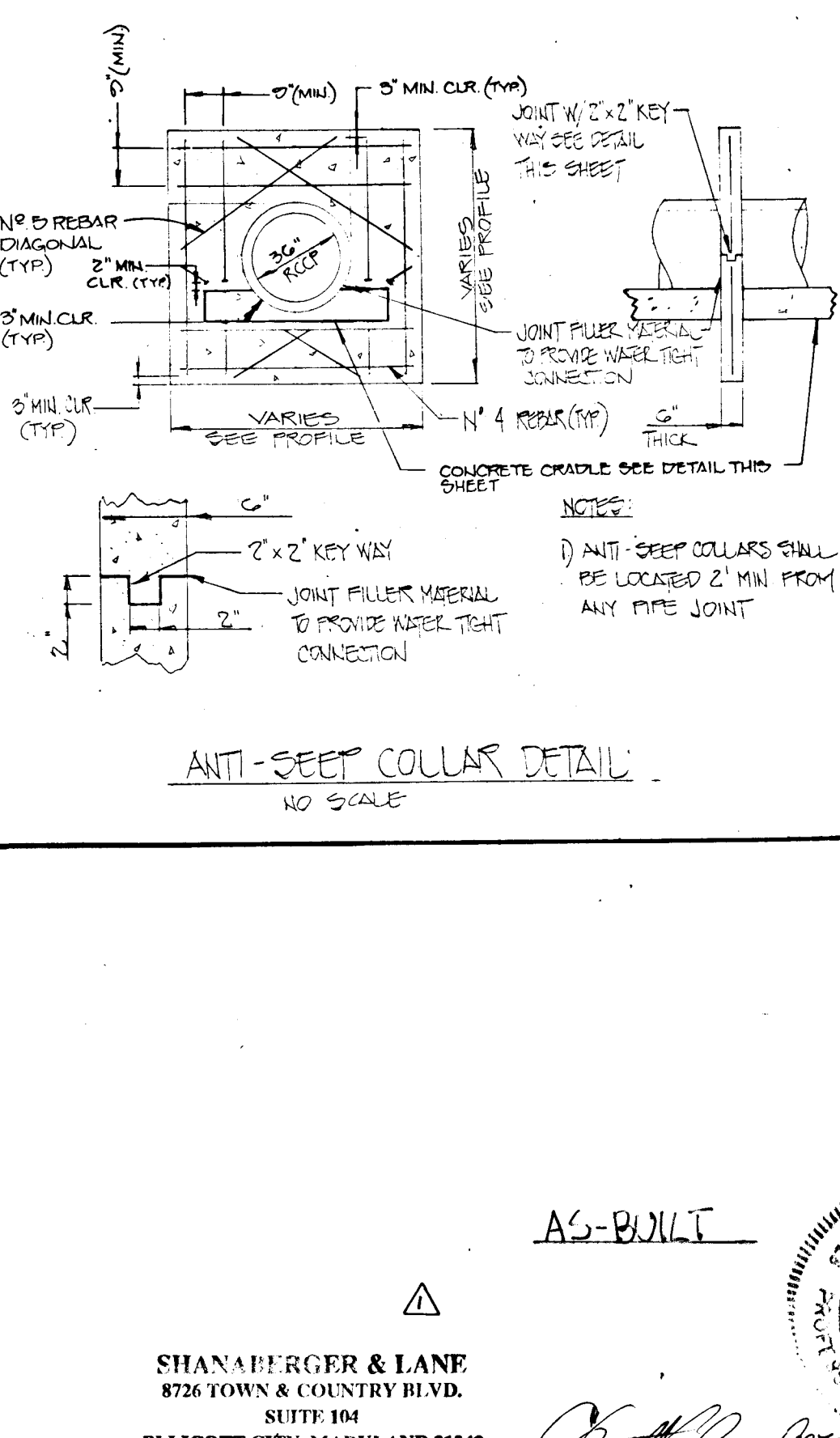
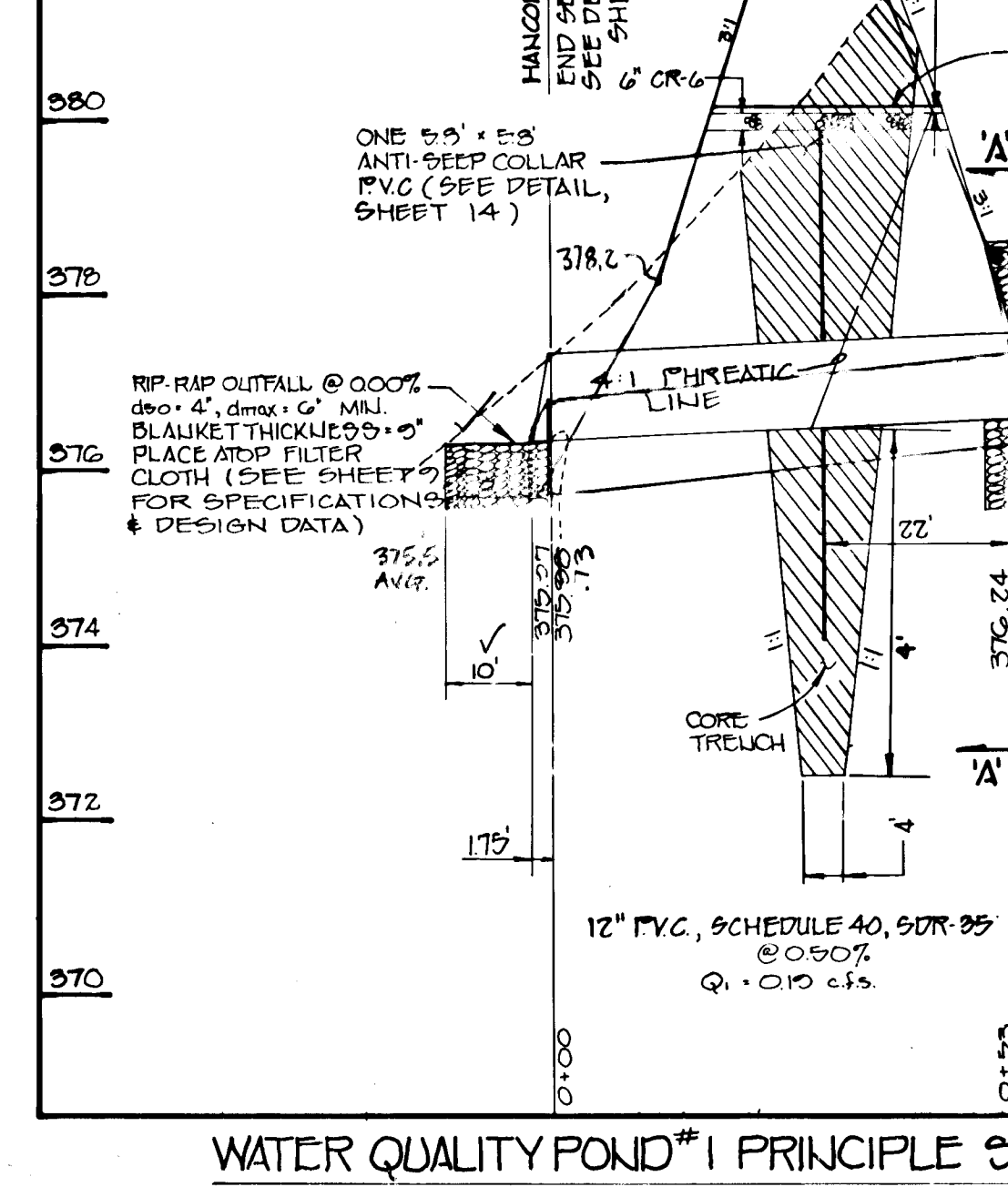
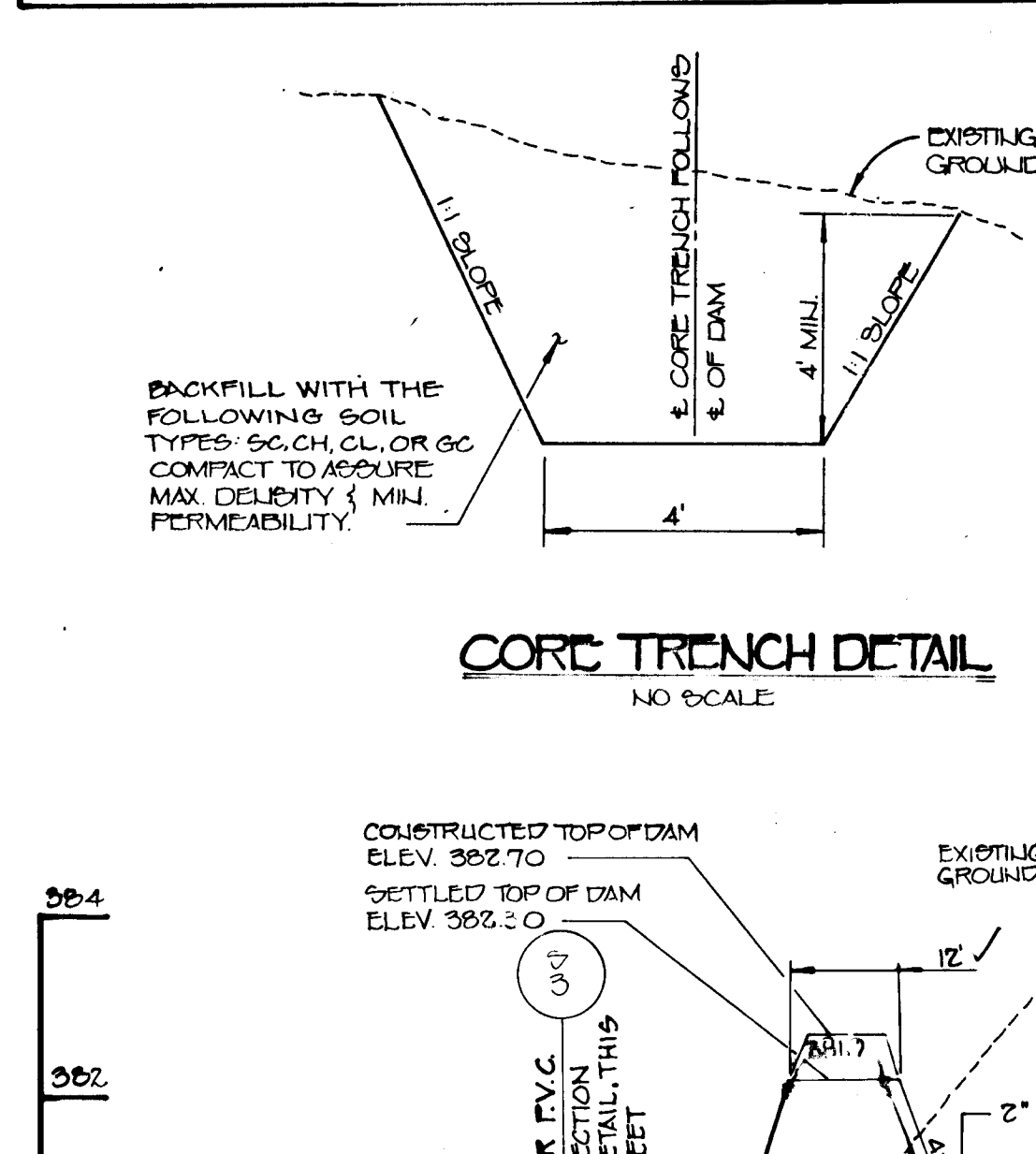
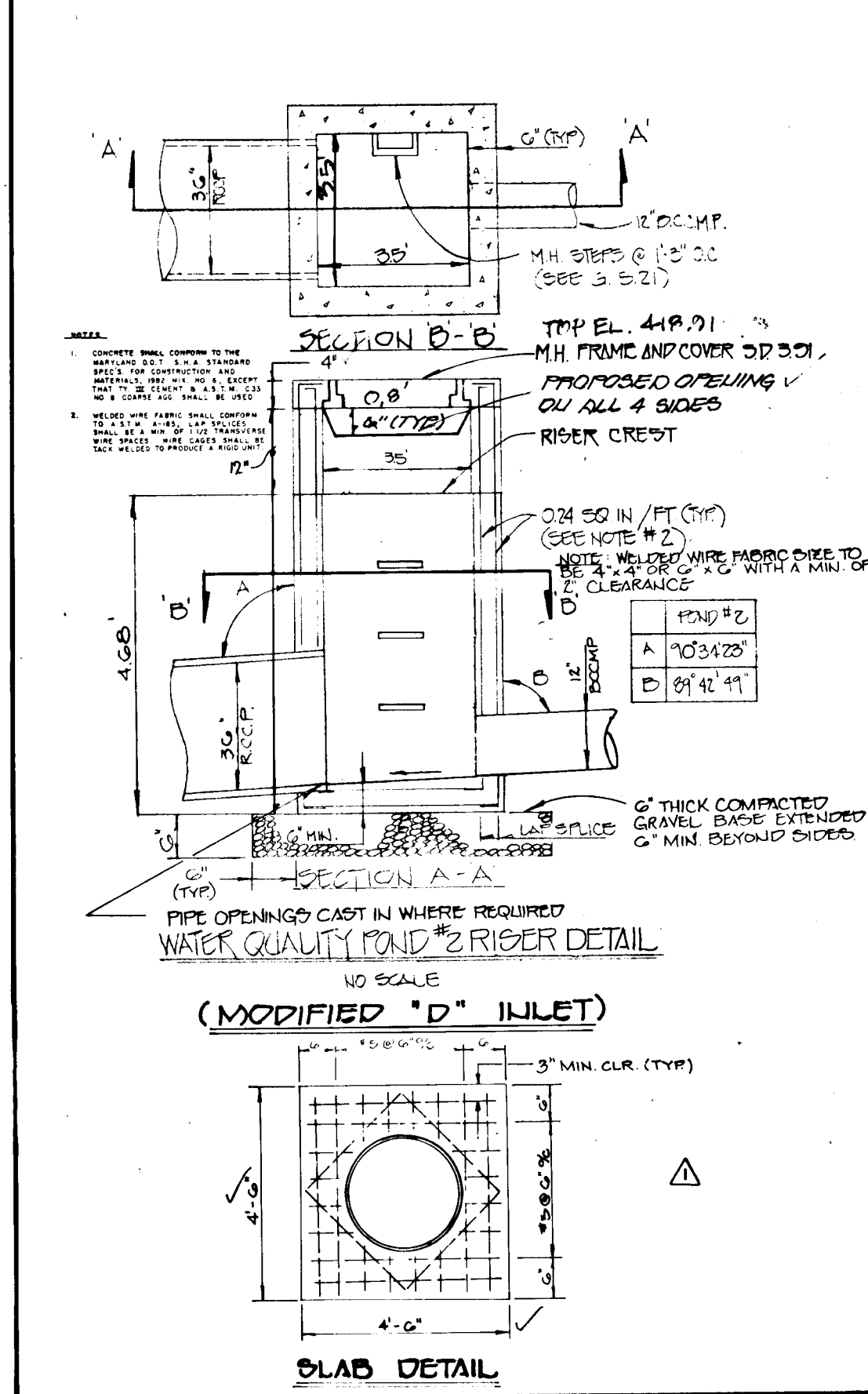


GENERAL NOTES

These specifications are intended to be used in conjunction with the Standard Specifications for Public Works Construction, 1992 Edition, published by the State of Maryland. All references to AS-BUILT and AS-BUILT specifications apply to the most recent version.

1. General: The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate agencies. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate agencies.

OPERATION AND MAINTENANCE SPECIFICATIONS
I HEREBY CERTIFY THAT I WILL OPERATE AND MAINTAIN THE COMPLETED POND IN ACCORDANCE WITH THE FOLLOWING:
1. PERIODIC INSPECTIONS OF THE FACILITY WILL BE MADE TO IDENTIFY POTENTIAL PROBLEMS THAT MAY AFFECT ITS SAFETY.



STORM WATER MANAGEMENT POND CERTIFICATION AND APPROVAL.
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF APPROVAL FROM THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

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.

THREE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT AND THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

POND CONSTRUCTION CERTIFICATION
I CERTIFY THAT UPON COMPLETION OF CONSTRUCTION I WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE (O&M) OF THE SMALL POND. O&M WILL BE PERFORMED BY ME IN ACCORDANCE WITH THE SPECIFICATIONS ON THESE PLANS. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS OF THE POND BY STATE AND LOCAL AGENCIES.

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT, CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
WATER QUALITY POND NOTES AND DETAILS
SECTION 2
PHASE II
LOTS 1-127 & 237-239
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SEPTEMBER 25 1992
SHEET 12 OF 15

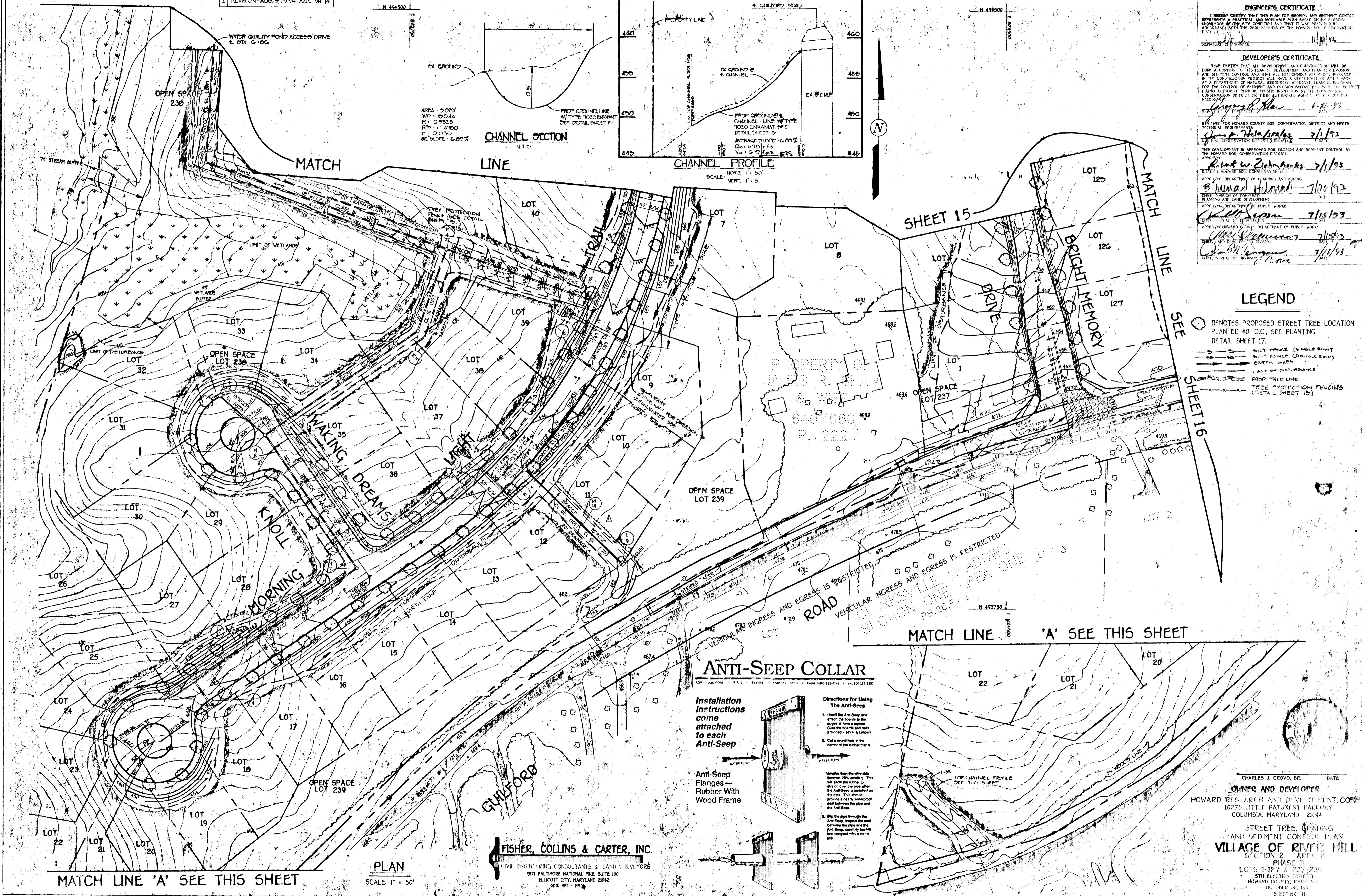
1487

FISHER, COLLING & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS - LAND SURVEYORS
7171 BALTIMORE NATIONAL PIKE, SUITE 100
ELICOTT CITY, MARYLAND 21042
TELEPHONE: (410) 461-0555
FAX: (410) 750-3704





1 REVISION AUG 15, 1974 ARJ MH 14



**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 BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MARYLAND.  
 SIGNATURE OF ENGINEER: *[Signature]* DATE: 7/15/93

**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 DESIGNER'S PROVISIONS SET FORTH 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 BEING IN FULL FORCE. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT OF THESE ACTIVITIES AND THAT I WILL BEIFIED NECESSARY.  
 SIGNATURE OF DEVELOPER: *[Signature]* DATE: 6-25-93

APPROVED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS:  
 DISTRICT SOIL CONSERVATION DISTRICT: *[Signature]* DATE: 7/1/93

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.  
 APPROVED:  
 DEPARTMENT OF PLANNING AND ZONING  
 CHIEF DIVISION OF CONSTRUCTION PLANNING AND LAND DEVELOPMENT: *[Signature]* DATE: 7/15/93

APPROVED DEPARTMENT OF PUBLIC WORKS  
 CHIEF: *[Signature]* DATE: 7/15/93

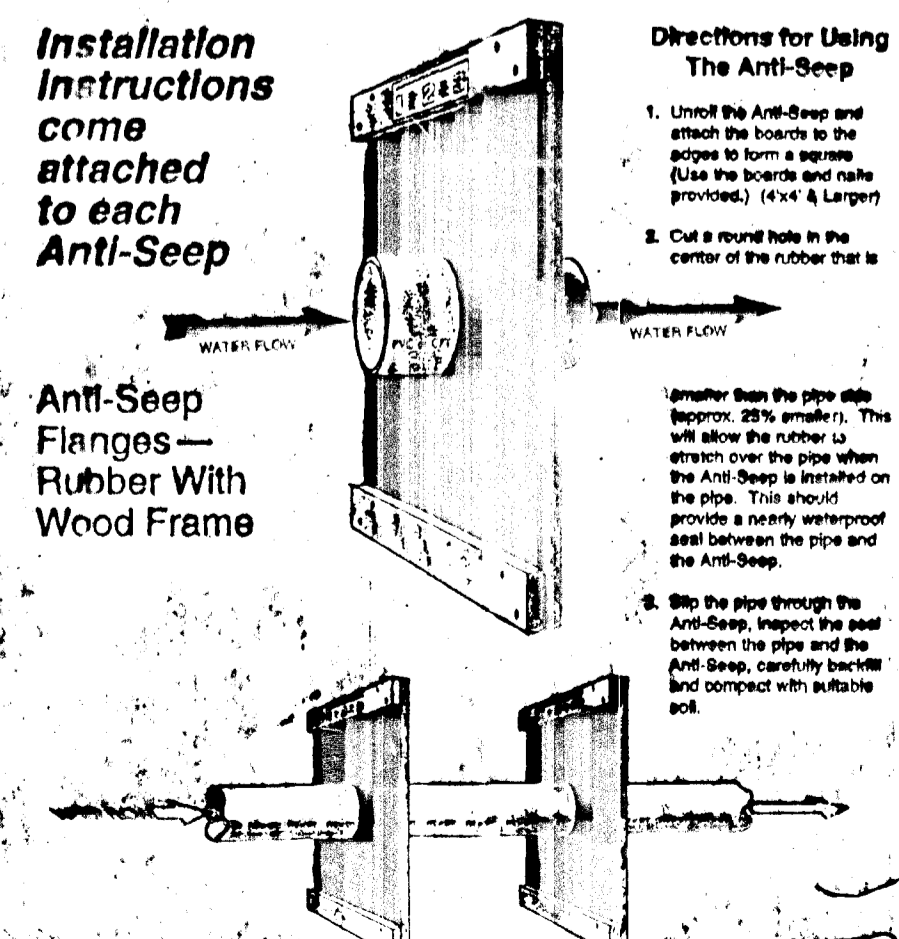
APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 CHIEF: *[Signature]* DATE: 7/15/93

CHIEF, BUREAU OF HIGHWAYS: *[Signature]* DATE: 7/15/93

**LEGEND**

- DENOTES PROPOSED STREET TREE LOCATION PLANTED 40' O.C., SEE PLANTING DETAIL SHEET 17.
- SILT FENCE (SINGLE ROW)
- SILT FENCE (DOUBLE ROW)
- EARTH DIKES
- LIMIT OF DISTURBANCE
- PROP TREE LINE
- TREE PROTECTION FENCING (DETAIL SHEET 15)

**ANTI-SEEP COLLAR**



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND DEVELOPERS  
 971 BALTIMORE NATIONAL Pkwy, SUITE 100  
 ELLICOTT CITY, MARYLAND 21112  
 (410) 481-2926

CHARLES J. GROVO, SR. DATE: \_\_\_\_\_  
**OWNER AND DEVELOPER**  
 HOWARD RESEARCH AND DEVELOPMENT, CORP.  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN  
**VILLAGE OF RIVER HILL**  
 SECTION 2, AREA 2  
 PHASE II  
 LOTS 1-127 & 237-239  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 OCTOBER 20, 1993  
 SHEET NO. 16

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

MATCH LINE 'A' SEE THIS SHEET

MATCH LINE 'A' SEE THIS SHEET

**PERMIT SHEET 1**  
 EXISTING AND PROPOSED  
 ELEVATIONS: 570.00 TO 575.00  
 ELEV. @ STORAGE PIT: 570.00  
 RIVER CATCH BASIN ELEV.: 570.00  
 BOTTOM ELEV.: 570.00  
 CLEARANCE ELEV.: 570.00  
 SIDE SLOPE: 3:1  
 NOTE: SEE PERMIT SHEET  
 11 FOR PROFILE, OFFSET  
 11-17

PERMIT SHEET FOR  
 STORMWATER MANAGEMENT  
 DHA PLAT NO. 52407

REVISED GRADING ALONG LOTS 77-77 AND OPEN  
 SPACE LOT 238, AUGUST 16, 1994

**DEVELOPER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THE PLAN FOR THE PROPOSED DEVELOPMENT OF THE VILLAGE OF RIVER HILL SECTION 2, AREA 2, PHASE II, IS ACCORDING TO THE PLAN OF DEVELOPMENT AND PLAN FOR EROSION CONTROL AND SEDIMENT CONTROL AND THAT ALL NECESSARY PERMITS HAVE BEEN OBTAINED FROM THE APPROPRIATE AGENCIES AND THAT THE DEVELOPMENT WILL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMITS. I ALSO AUTHORIZE PERSONS OTHER THAN MYSELF TO BE EMPLOYED BY ME TO CONDUCT THE DEVELOPMENT OF THE PROJECT AS NECESSARY.  
 DATE: 6/25/93  
 DEVELOPER: *Shanabarger & Lane*

**APPROVED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND HOVED TECHNICAL REQUIREMENTS**  
 DATE: 7/1/93  
 SOIL CONSERVATION DISTRICT: *John A. Williams*

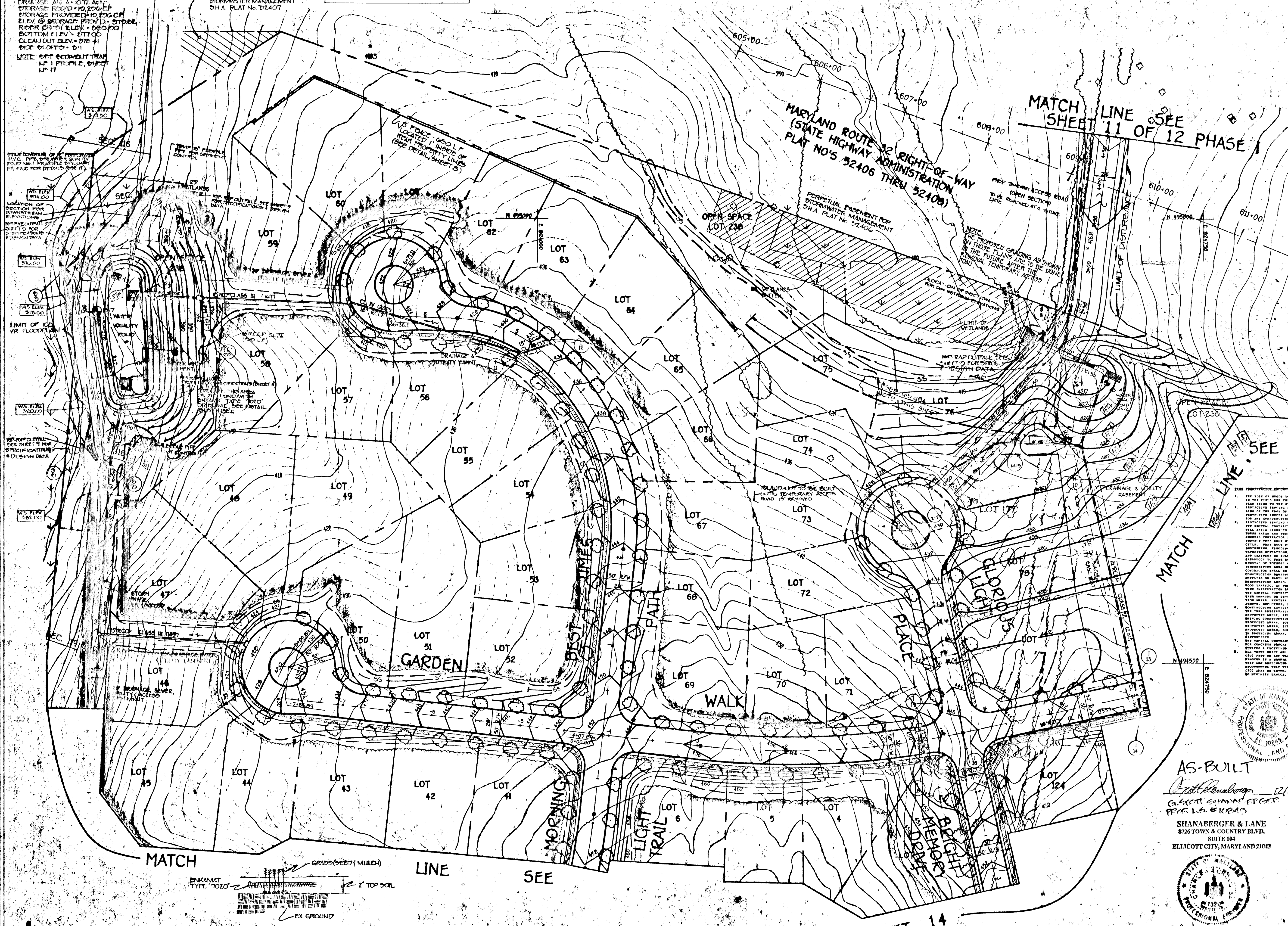
**THE DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT**  
 DATE: 7/1/93  
 HOWARD COUNTY CONSERVATION DISTRICT: *Robert W. Zickler*

**APPROVED DEPARTMENT OF PLANNING AND ZONING**  
 DATE: 7/26/93  
 DEPARTMENT OF PLANNING AND ZONING: *Shanabarger & Lane*

**APPROVED DEPARTMENT OF PUBLIC WORKS**  
 DATE: 7/15/93  
 DEPARTMENT OF PUBLIC WORKS: *Shanabarger & Lane*

**APPROVED DEPARTMENT OF PUBLIC WORKS**  
 DATE: 7/15/93  
 DEPARTMENT OF PUBLIC WORKS: *Shanabarger & Lane*

\*The 65-dBA Noise Contour Line represents the approximate location of the 65-dBA (decibel) noise exposure level generated by MD. 32 traffic in the year 2018 based upon assumptions about actual conditions at that time. This value represents the average sound level during the single noisiest one-hour period of vehicular traffic during a typical day. This calculation is based on the State Highway Administration's estimate of year 2018 highway traffic volume. The contour line drawn on this plan is advisory, as required by Howard County Design Manual, Volume III, Chapter 5, revised February 1992, and cannot be considered to locate exactly the 65-dBA exposure.



- 2018 PREDICTION PROCEDURE**
1. THE SIZE OF WOODS TO BE PROTECTED WILL BE BASED ON THE SIZE OF THE APPROVED PROTECTED AREAS.
  2. PROTECTIVE TREE FENCING SHALL BE CONSTRUCTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
  3. PROTECTIVE TREE FENCING SHALL BE CONSTRUCTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
  4. PROTECTIVE TREE FENCING SHALL BE CONSTRUCTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
  5. PROTECTIVE TREE FENCING SHALL BE CONSTRUCTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
  6. PROTECTIVE TREE FENCING SHALL BE CONSTRUCTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
  7. PROTECTIVE TREE FENCING SHALL BE CONSTRUCTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
  8. PROTECTIVE TREE FENCING SHALL BE CONSTRUCTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
- PROTECTIVE TREE FENCING ELEVATION DETAIL**
- 

- LEGEND**
- DENOTES PROPOSED STREET TREE LOCATION PLANTED 40' O.C., SEE PLANTING DETAIL SHEET 17.
  - SILT FENCE (SINGLE ROW)
  - SILT FENCE (DOUBLE ROW)
  - LIMIT OF DISTURBANCE
  - PARTIAL DIRT
  - TREE PROTECTION FENCING (DETAIL, THIS SHEET)
  - DENOTES SOIL BORING LOCATION (FOR PROFILES SEE SHEET 19)
  - PROTECTIVE TREE LINE

**AS-BUILT**  
*Shanabarger & Lane*  
 8726 TOWN & COUNTRY BLVD.  
 SUITE 104  
 ELLICOTT CITY, MARYLAND 21043



**FISHER, COLLINS & CARTER, INC.** ENKAMAT PLACEMENT DETAIL  
 CIVIL ENGINEERING, CONSULTANTS & LAND SURVEYORS  
 917 BALTIMORE NATIONAL PIKE, SUITE 100  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-1995

**OWNER AND DEVELOPER**  
 HOWARD RESEARCH AND DEVELOPMENT, CORP.  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

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

**SHEET 14**

**STREET TREE, GRADING AND SEDIMENT CONTROL PLAN**  
**VILLAGE OF RIVER HILL**  
 SECTION 2, AREA 2  
 PHASE II  
 LOTS 1-127 & 237-239  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 OCTOBER 30, 1992  
 SHEET 14 OF 18

REVISION - REMOVED PROFILE TEMPORARY FLEXIBLE PIPE 1-26 DETAIL, REVISE GRADING, AUGUST 16, 1994

**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 COUNTY CONSERVATION DISTRICT.  
 SIGNATURE: *Charles W. Zick* DATE: 7/15/93  
 TITLE: REGISTERED PROFESSIONAL ENGINEER

**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 APPROPRIATE PRECAUTIONS WILL BE TAKEN TO PROTECT THE ENVIRONMENT AND TO PREVENT POLLUTION OF THE ADJACENT WATERWAYS. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT TO DETERMINE IF THE EROSION AND SEDIMENT CONTROL MEASURES ARE BEING MAINTAINED AS REQUIRED.  
 SIGNATURE: *John W. Zick* DATE: 7/15/93  
 TITLE: REGISTERED PROFESSIONAL ENGINEER

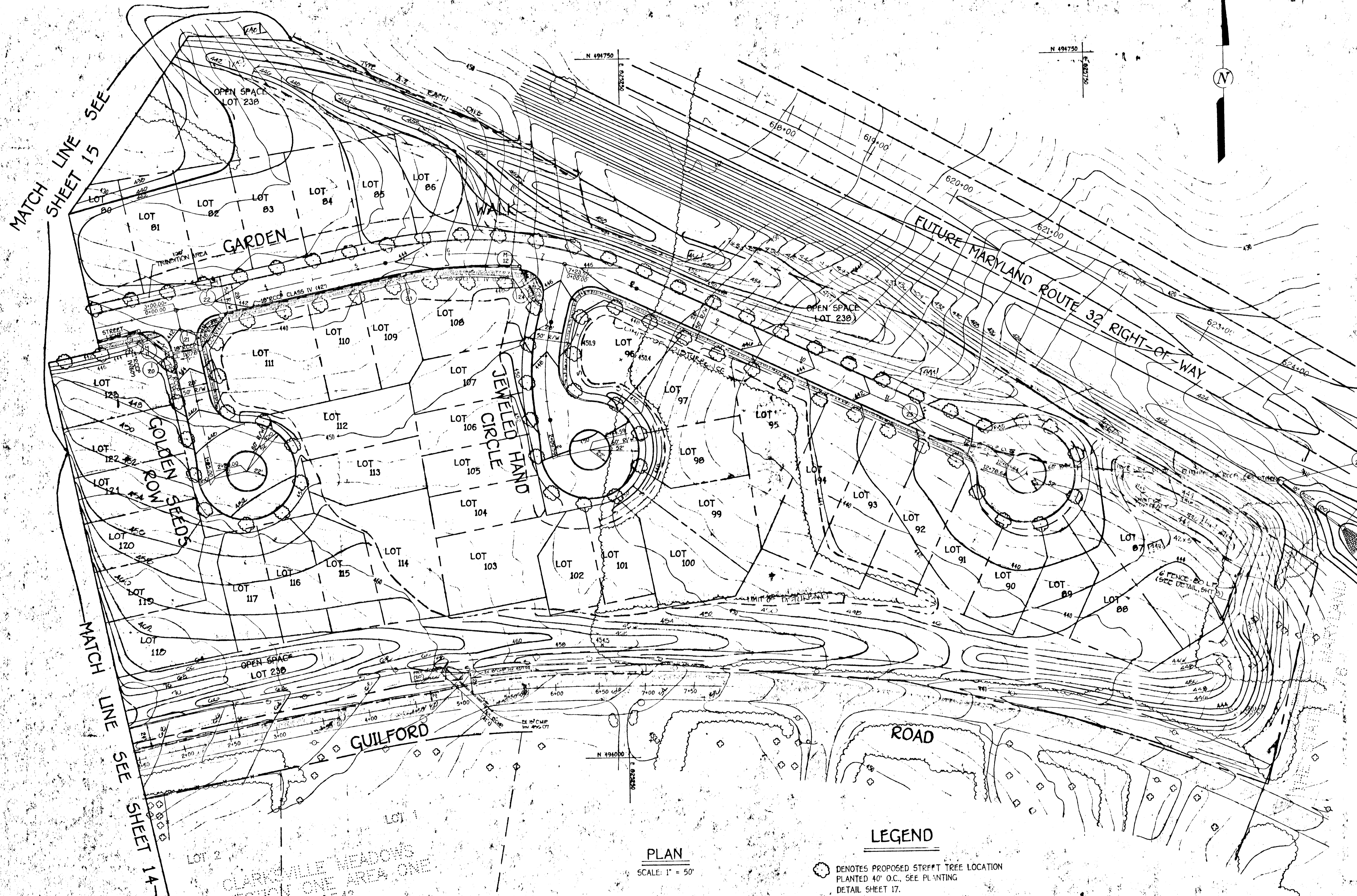
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND METS TECHNICAL REQUIREMENTS  
 SIGNATURE: *John W. Zick* DATE: 7/15/93  
 TITLE: REGISTERED PROFESSIONAL ENGINEER

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY CONSERVATION DISTRICT.  
 APPROVED: *John W. Zick* DATE: 7/15/93  
 TITLE: REGISTERED PROFESSIONAL ENGINEER

APPROVED DEPARTMENT OF PLANNING AND ZONING  
 SIGNATURE: *Mima J. Kuhn* DATE: 7/26/93  
 TITLE: DEPUTY DIRECTOR

APPROVED DEPARTMENT OF PUBLIC WORKS  
 SIGNATURE: *James B. Egan* DATE: 7/15/93  
 TITLE: DEPUTY DIRECTOR

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 SIGNATURE: *Charles W. Zick* DATE: 7/15/93  
 TITLE: REGISTERED PROFESSIONAL ENGINEER



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

**LEGEND**

○ DENOTES PROPOSED STREET TREE LOCATION PLANTED 40' O.C., SEE PLANTING DETAIL SHEET 17.

**LEGEND**

—○— SILT FENCE  
 ——— EARTH DIKE  
 - - - - - LIMIT OF DISTURBANCE  
 ○ PROPOSED TREE LOC.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 901 BALTIMORE NATIONAL PIKE, SUITE 100  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2955

**OWNER AND DEVELOPER**  
 HOWARD RESEARCH AND DEVELOPMENT, CORP.  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044



**AS-BUILT**

*Charles W. Zick*  
 G. SCOTT SHANBERGER, P.E. DATE: 7/15/93  
 PROF. LS. #100849

**SHANBERGER & LANE**  
 8726 TOWN & COUNTRY BLVD.  
 SUITE 104  
 ELLICOTT CITY, MARYLAND 21043

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN  
**VILLAGE OF RIVER HILL**  
 SECTION 2, AREA 2  
 PHASE II  
 LOTS 1-127 & 230-239  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 OCTOBER 30, 1993  
 SHEET 104



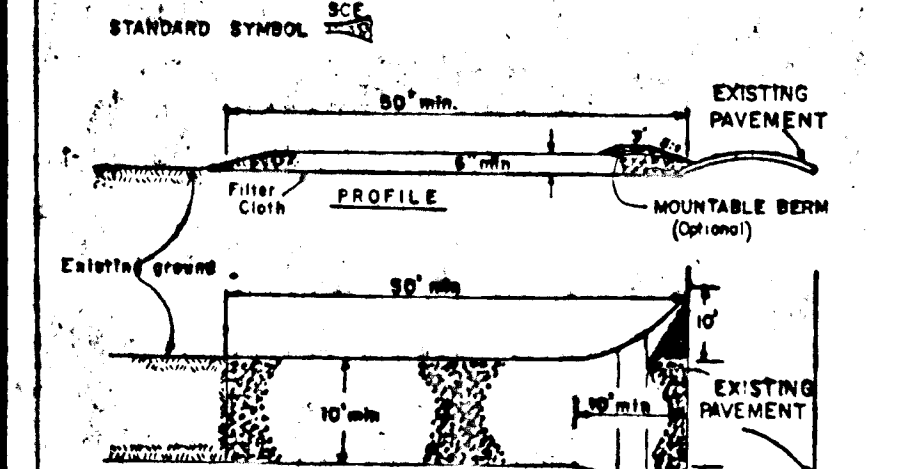
SEDIMENT CONTROL NOTES

- 1) A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (992-2437).
- 2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 3) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERIMETER SLOPES AND ALL GREATER THAN 3:1, 6) 18 DAYS AS TO ALL OTHER DISTURBED OR GRATED AREAS OF THE PROJECT SITE.
- 4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 5) 500 (SEC. 54), TEMPORARY SEEDING (SEC. 5) 500 AND MULCHING (SEC. 6). TEMPORARY STABILIZATION MATERIALS WITH MULCH MULCH CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 7) SITE ANALYSIS

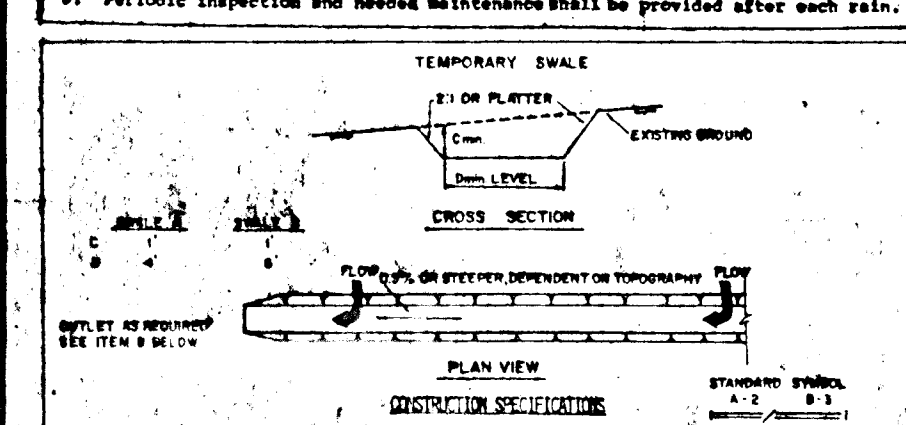
- 8) TOTAL AREA OF SITE 50.00 ACRES
- 9) AREA TO BE ROOFED OR PAVED 11.00 ACRES
- 10) AREA TO BE VEGETATIVELY STABILIZED 39.00 ACRES
- 11) TOTAL CUT 11,000 CU.YDS.
- 12) TOTAL FILL 11,000 CU.YDS.
- 13) WASTE/WATER BORROW AREA LOCATION 100 YDS. FROM PERIMETER
- 14) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY CONSTRUCTION ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 15) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEFINED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 16) 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 CONTROL MEASURES BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

- 17) PERMANENT SEEDING NOTES
- 18) APPLY TO GRADES OR CLEARER AREAS WHERE SEEDING IS REQUIRED. FURTHER DISTURBANCE OF SOIL SHALL BE PROHIBITED UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 19) SEED PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY HARROW, DISKING OR OTHER MEANS PRIOR TO SEEDING. IF NOT PREVIOUSLY DISPOSED, REMOVE ALL WEEDS AND STUBBLE FROM SEEDING AREA.
- 20) SEEDING: APPLY 2 TONS PER ACRE POLYMERIC LIME (80 LB/1000 SOIL) TO ALL SEEDING AREAS. APPLY 100 LBS PER ACRE OF 10-10-10 FERTILIZER (4 LB/1000 SOIL) TO ALL SEEDING AREAS.
- 21) SEEDING: APPLY 100 LBS PER ACRE OF 10-10-10 FERTILIZER (4 LB/1000 SOIL) TO ALL SEEDING AREAS.
- 22) SEEDING: APPLY 100 LBS PER ACRE OF 10-10-10 FERTILIZER (4 LB/1000 SOIL) TO ALL SEEDING AREAS.

STABILIZED CONSTRUCTION ENTRANCE

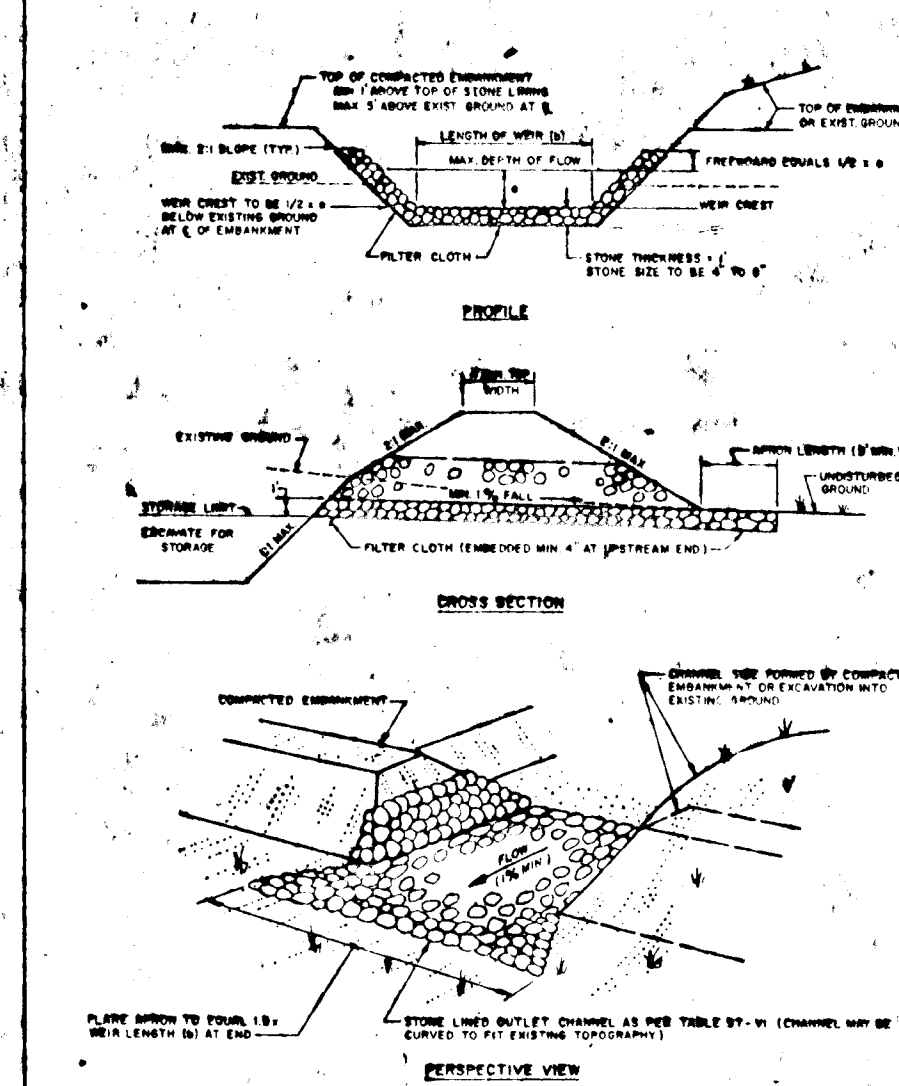


- 1. Stone #16 - 12" x 18" or equivalent (recycled concrete equivalent).
- 2. Length - As required, but not less than 50 feet (except on a single residential lot where a 20 foot minimum length would apply).
- 3. Whiteness - Not less than 85% (as measured by the full width at points where ingress or egress occurs).
- 4. Height - Not less than 12" from the top of the full width at points where ingress or egress occurs.
- 5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be replaced until the stone is in place.
- 6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 6" slope will be provided.
- 7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or blowing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleaning of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public right-of-way must be removed immediately.
- 8. Washing - 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 stone and washed water shall be captured and contained in a device.
- 9. Periodic inspection and needed maintenance shall be provided after each rain.



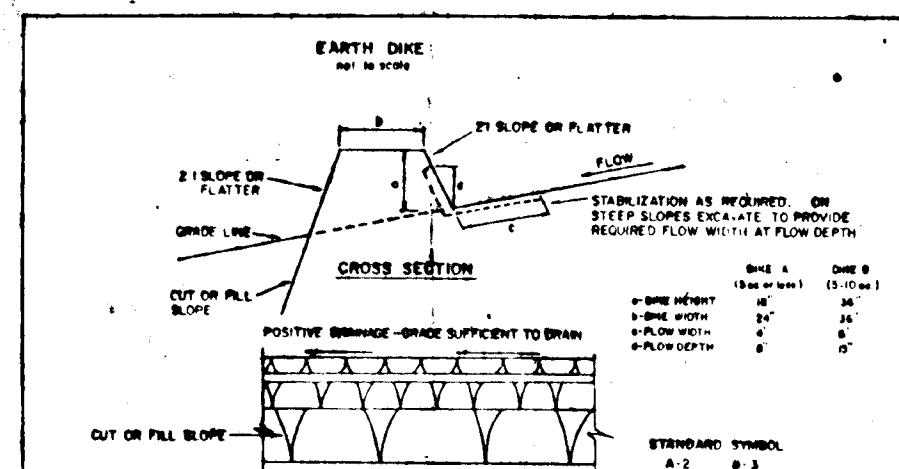
- 1. All temporary swales shall have a minimum depth of 6 inches.
- 2. Swales shall be located in a disturbed area shall be located to a minimum trapping device.
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TRAP OUTLET SEDIMENT TRAP ST-VI

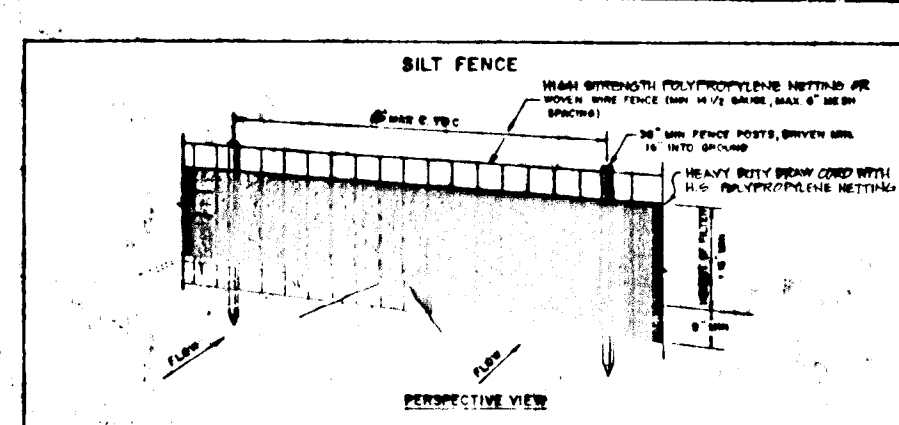


- 1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- 2. The fill material for the embankment shall be free of organic or other woody vegetation as well as oversized stones, roots, organic material or other objectionable material. The embankment shall be completed by excavating with equipment while it is being constructed. Maximum height of embankment shall be five (5) feet, measured at centerline of embankment.
- 3. All fill slopes shall be 2:1 or flatter; top slopes 1:1 or flatter.
- 4. Elevation of the top of any dike directing water into trap must equal or exceed the height of embankment.
- 5. Storage area provided shall be figured by computing the volume available within the outlet channel up to an elevation of one (1) foot below the level weir crest.
- 6. Filter cloth shall be placed over the bottom and side of the outlet channel prior to placement of stone. Sections of fabric must overlap at least one (1) foot when section meets the entrance placed on top. Fabric shall be embedded at least six (6) inches into existing ground at entrance of outlet channel.
- 7. Stone used in the outlet channel shall be four (4) to eight (8) inches (grit) to provide a filtering effect; a layer of filter cloth shall be embedded one (1) foot back into the upstream face of the outlet stone or one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.
- 8. Sediment shall be removed and trap returned 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.
- 9. The structure shall be inspected after each rain and repaired as needed.
- 10. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- 11. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
- 12. Drainage area for this practice is limited to 15 acres or less.

PROFILE OF TEMPORARY PIPE NO. 1 FOR DIVERSION OF CLEAN WATER

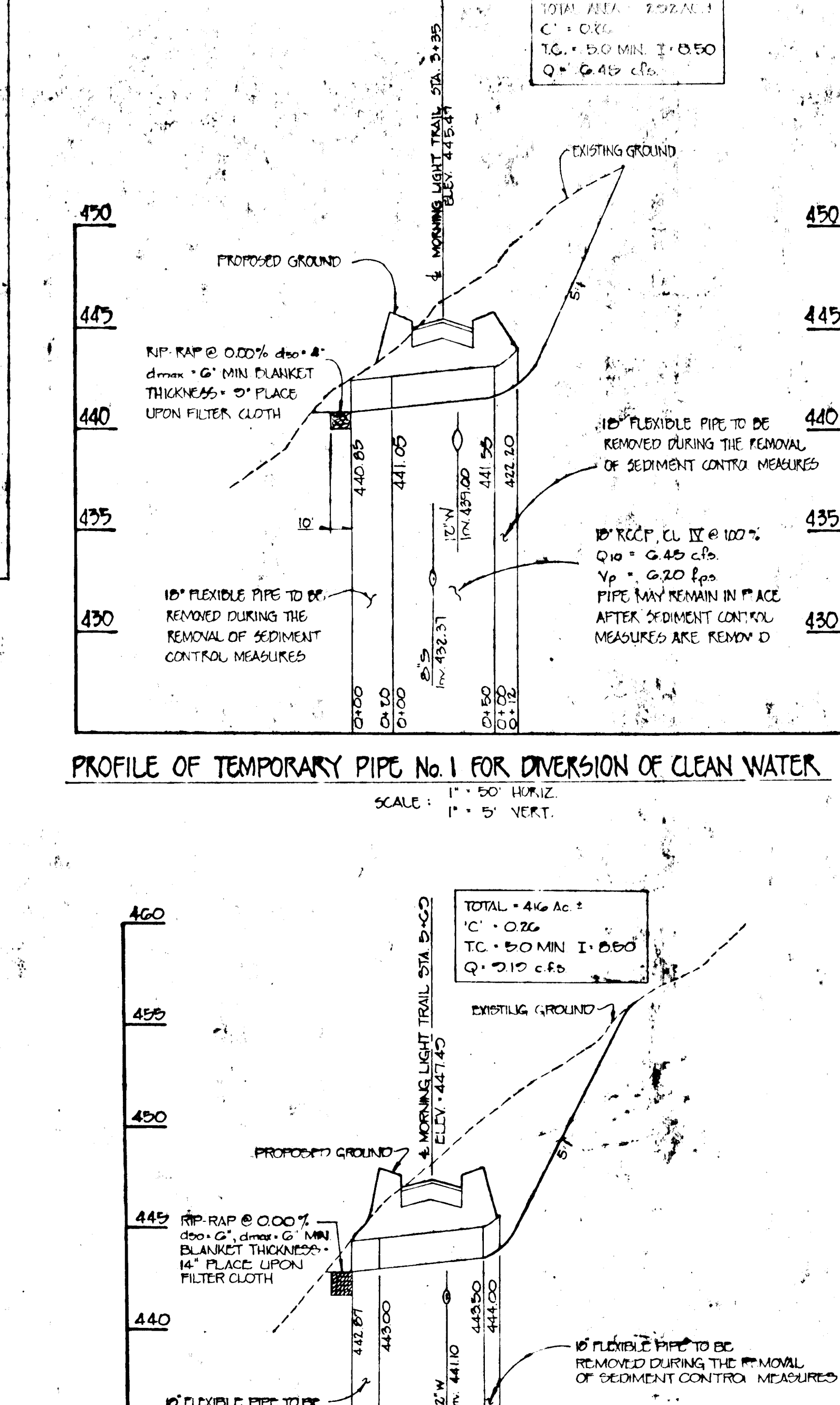


- 1. All dikes shall be constructed by earthmoving equipment.
- 2. Dikes shall be constructed to a minimum height of 12 inches above the existing ground.
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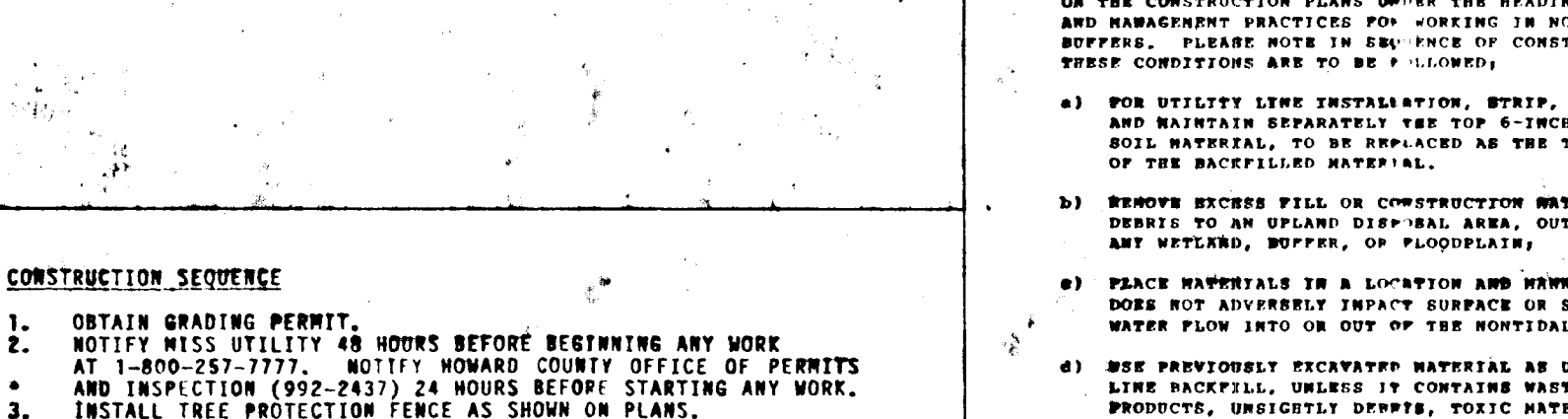


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PROFILE OF TEMPORARY PIPE NO. 2 FOR DIVERSION OF CLEAN WATER

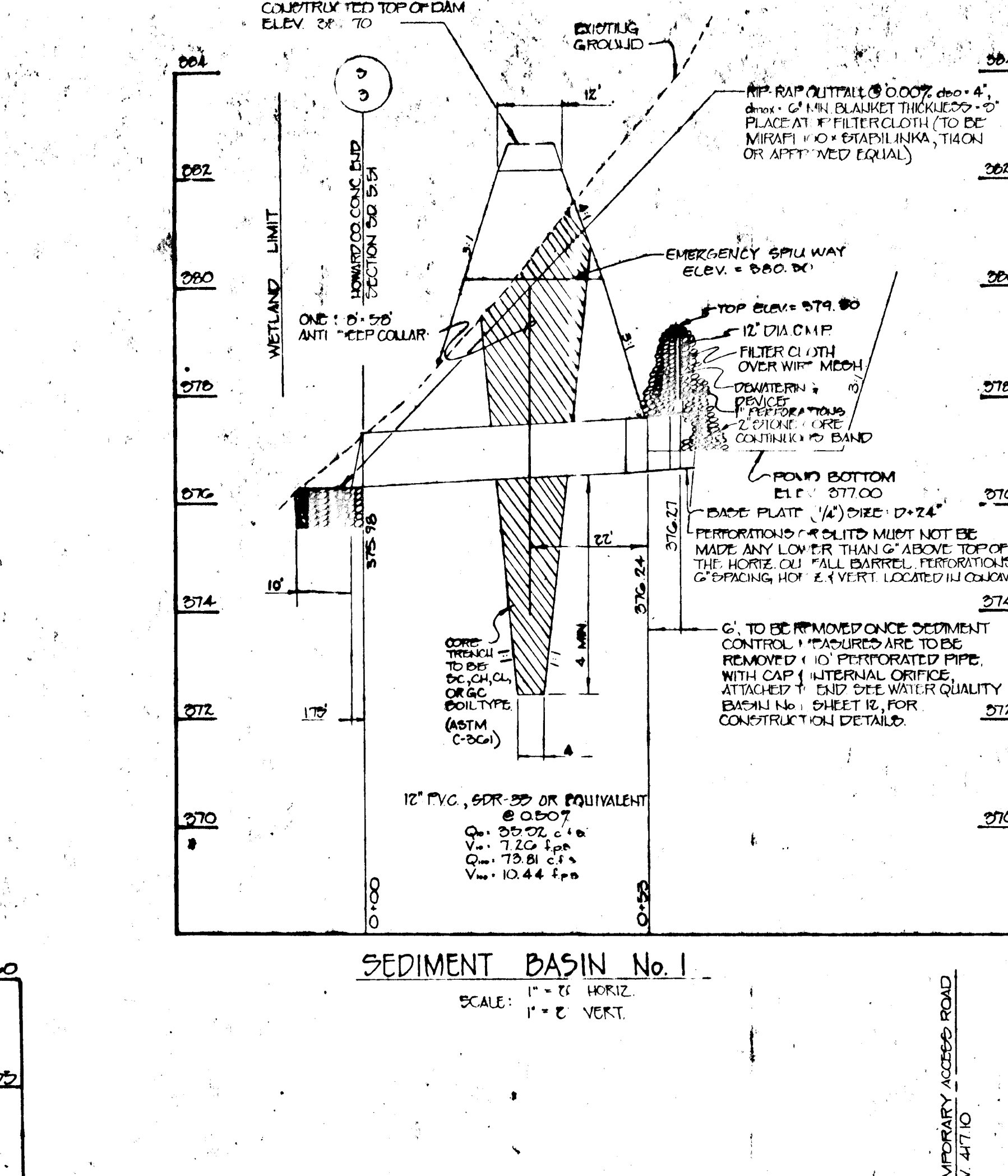


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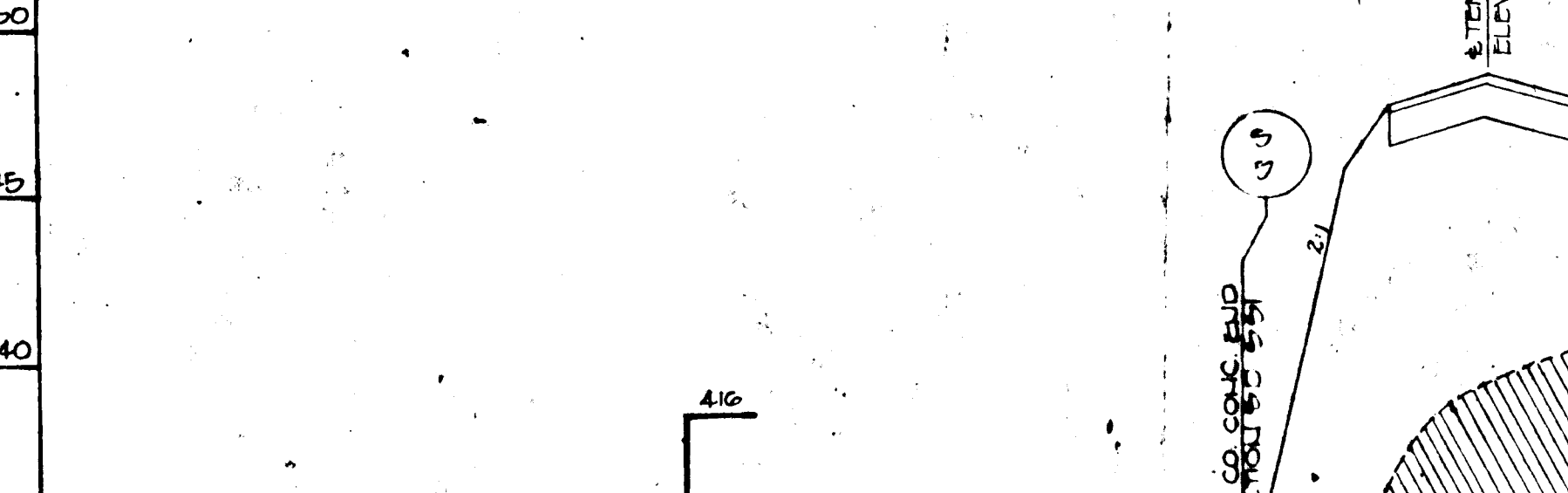


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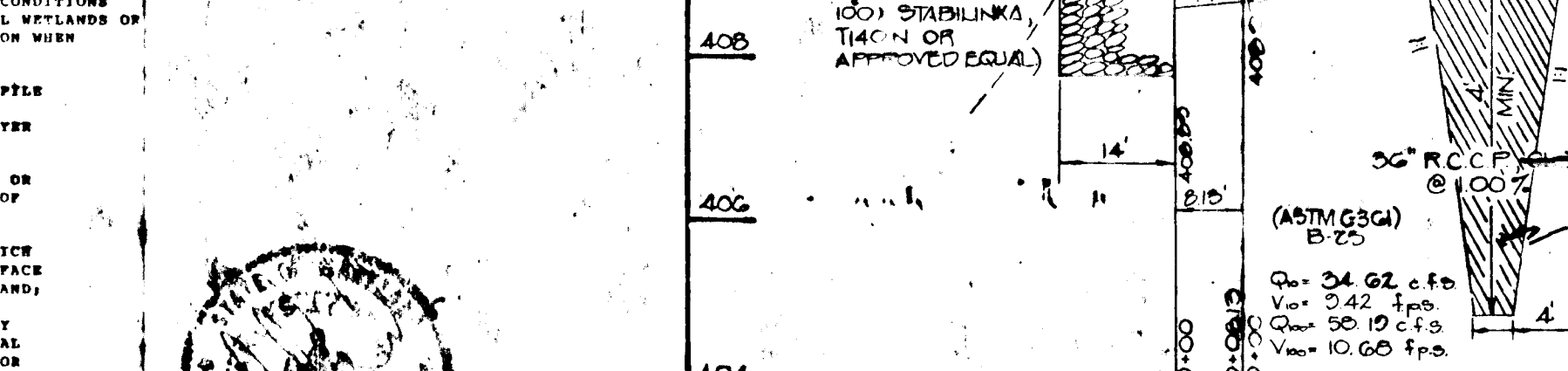
SEDIMENT BASIN No. 1



- 1. The following conditions listed below must be included on the construction plans under the heading of CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN SENSITIVE WETLANDS OR BUFFERS. PLEASE NOTE IN ALL CASES OF CONSTRUCTION WHEN THESE CONDITIONS ARE TO BE FOLLOWED:
- 2. FOR UTILITY LINE INSTALLATION, STUMP, STOCKPILE AND MAINTAIN SEPARATELY THE TOP 6-INCHES OF SOIL MATERIAL, TO BE REPLACED AS THE TOP LAYER OF THE BACKFILLED MATERIAL.
- 3. REMOVE EXCESS FILL OR CONSTRUCTION MATERIAL OR DEBRIS TO AN UPLAND DISPOSAL AREA, OUTSIDE OF ANY WETLAND, BUFFER, OR FLOODPLAIN.
- 4. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE WETLAND, BUFFER, OR FLOODPLAIN.
- 5. PREPARE ANY WETLAND VEGETATION AND BUFFER PROTECTION WHICH IS NECESSARY TO MAINTAIN THE INTEGRITY OF THE WETLAND, BUFFER, OR FLOODPLAIN.
- 6. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE OF THE SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS.
- 7. SEDIMENT SHALL BE REMOVED FROM THE TEMPORARY S.W.M. BASINS WHEN THE CLEANEST ELEVATIONS HAVE BEEN REACHED. SEDIMENT MUST BE PLACED UP HILL FROM THE TRAPS. INSTALL REMAINING STORM DRAINS.
- 8. CONSTRUCT CURB AND GUTTER AND INSTALL BASE COURSE.
- 9. REMOVE SEDIMENT FROM ROADWAYS AND DRESS STONE CONSTRUCTION ENTRANCE AS REQUIRED.
- 10. FLUSH STORM DRAIN SYSTEM, TO REMOVE ANY TRAPPED SEDIMENT, REMOVE FLEXIBLE PIPES AT TRAP NO. 3 AND ENDS OF DIVERSION PIPES.
- 11. APPLY TACK COAT TO SUB-BASE AND LAY SURFACE COURSE.
- 12. REMOVE ALL SEDIMENT CONTROL MEASURES AND NOTIFY TEMPORARY SEDIMENT CONTROL BASINS TO WATER QUALITY POD SPECIFICATIONS AS SHOWN ON STORM DRAIN PROFILES, UPON SEDIMENT CONTROL INSPECTOR'S APPROVAL AND GRADE SITE TO ITS ULTIMATE CONDITION AT TRAP NO. 3.
- 13. ALL DISTURBED AREAS DUE TO REMOVAL OF SEDIMENT CONTROL MEASURES SHALL BE GRADED AND STABILIZED BY PERMANENT SEEDING.



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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 CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

APPROVED: DEPARTMENT OF PUBLIC WORKS

APPROVED: DEPARTMENT OF PUBLIC WORKS

APPROVED: DEPARTMENT OF PUBLIC WORKS

APPROVED: DEPARTMENT OF PUBLIC WORKS

APPROVED: DEPARTMENT OF PUBLIC WORKS

SEDIMENT CONTROL NOTES AND DETAILS

SEDIMENT CONTROL NOTES AND DETAILS VILLAGE OF RIVER HILL SECTION 2 AREA 2 PHASE II LOTS 1-127 & 237-239 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SEPTEMBER 25, 1992

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS/LAND SURVEYORS 1711 BELMONT NATIONAL PIKE, SUITE 100 ELLETTTS CITY, MARYLAND 21042 TELEPHONE (410) 461-2200 FAX: (410) 790-7704

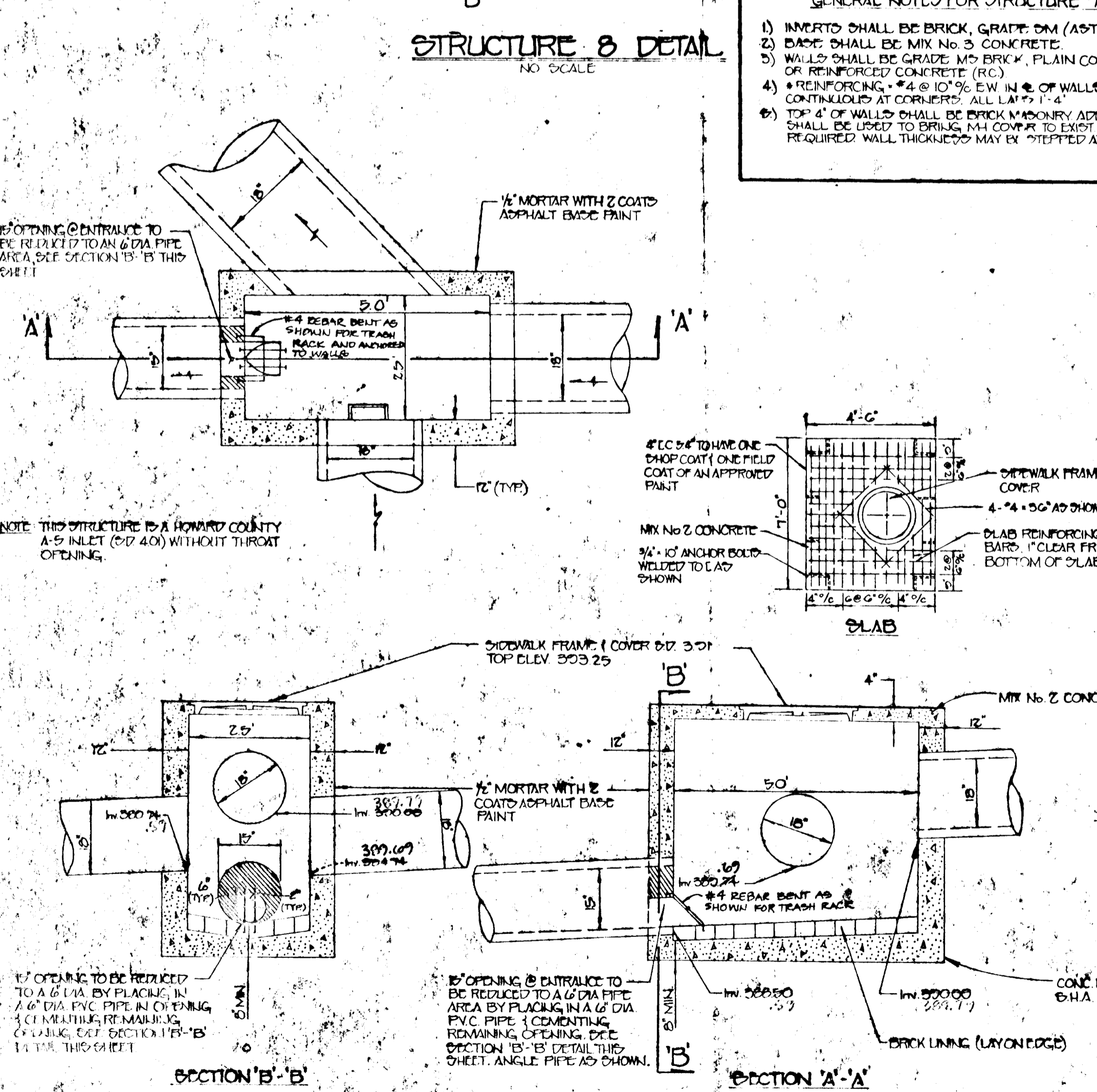
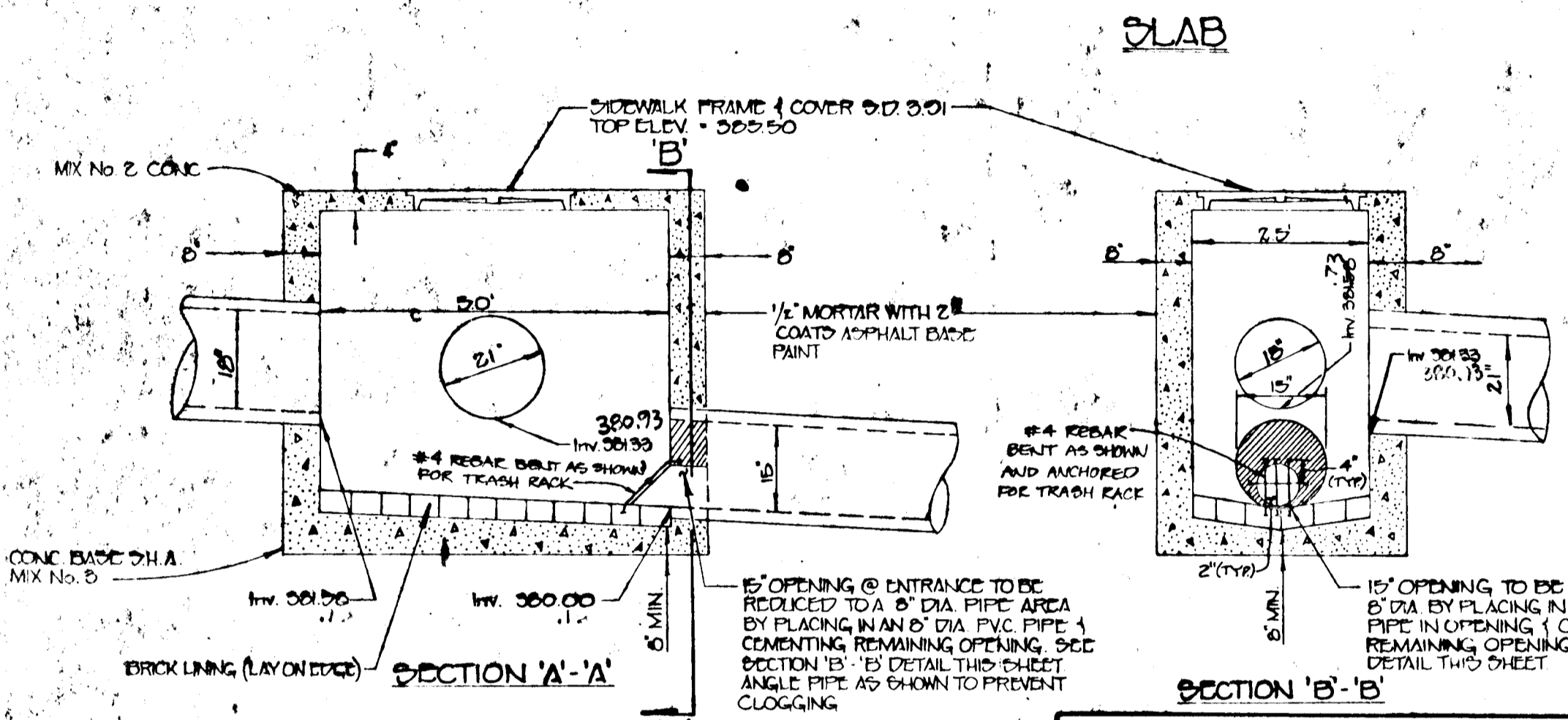
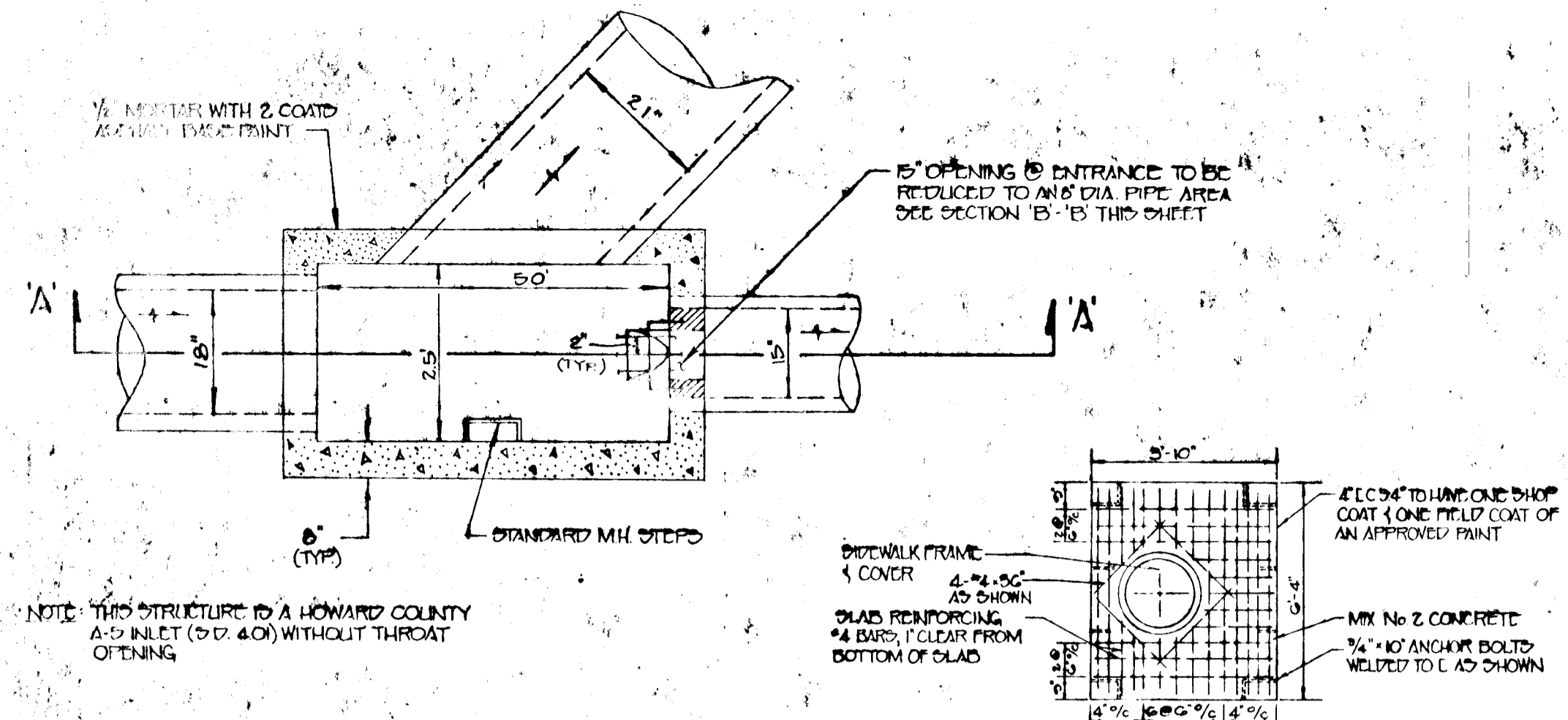
OWNER AND DEVELOPER HOWARD RESEARCH AND DEVELOPMENT CORP 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Chas. M. Langston* 7/18/93  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*William J. ...* 7/15/93  
 CHIEF, LAND DEVELOPMENT DIVISION

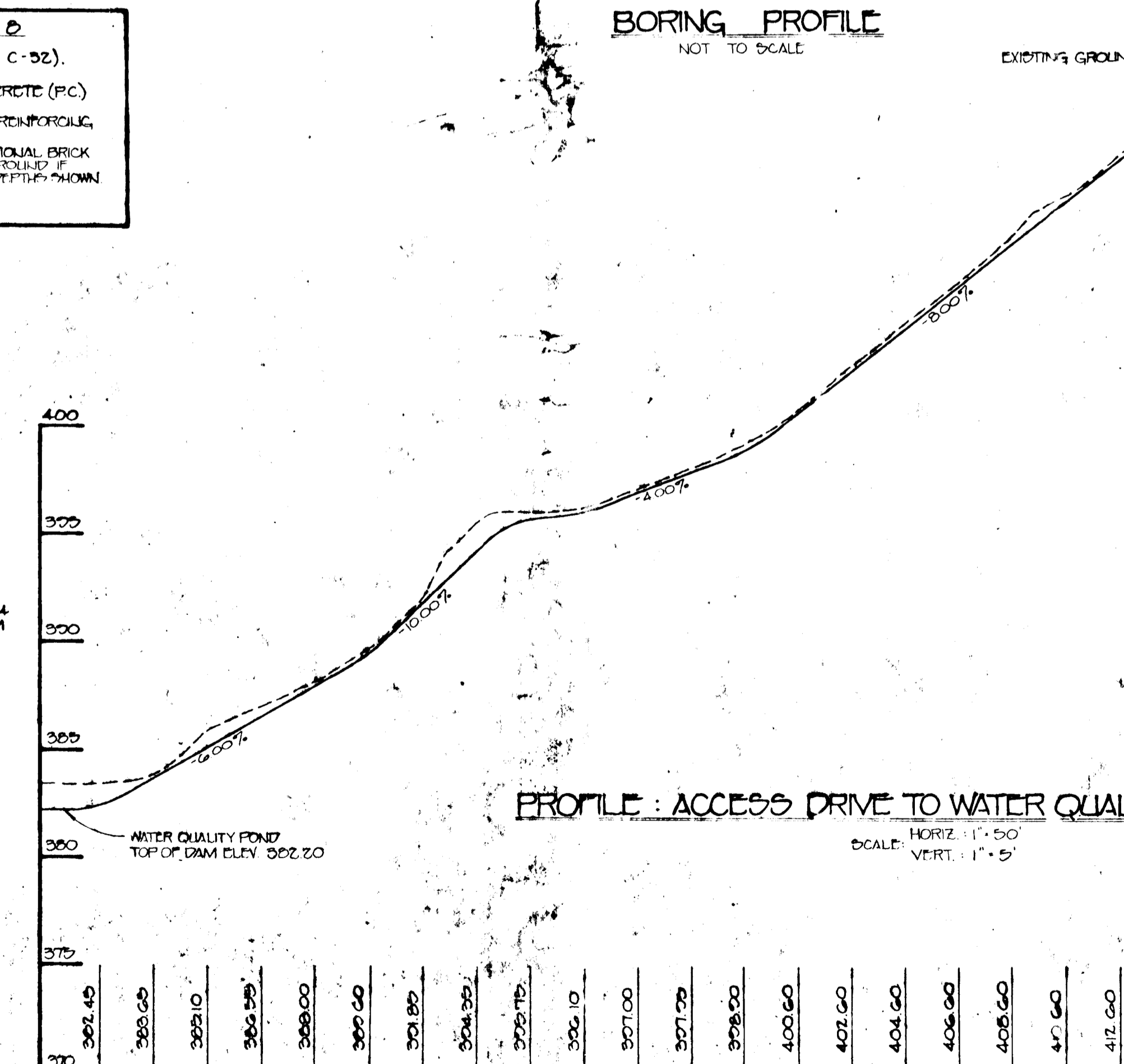
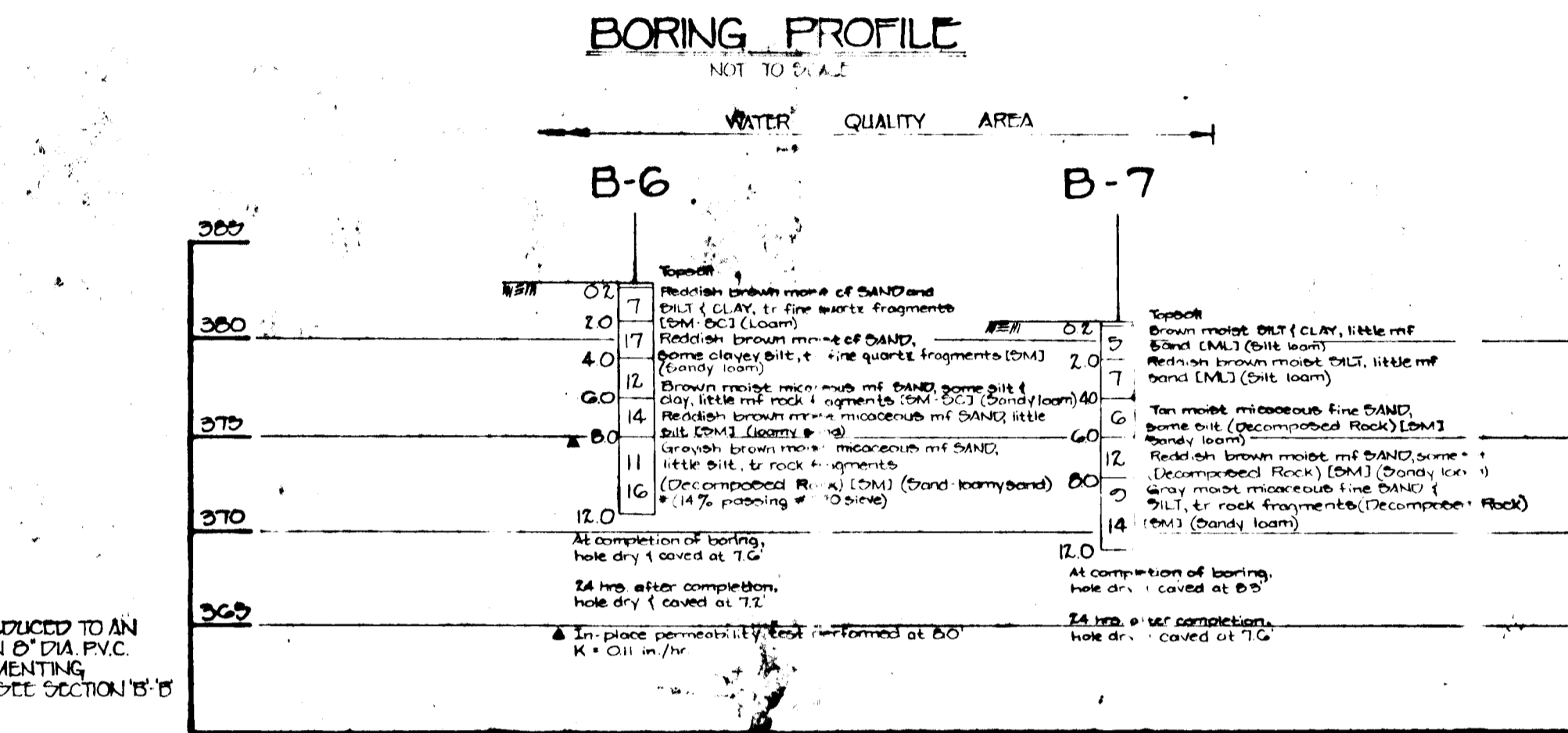
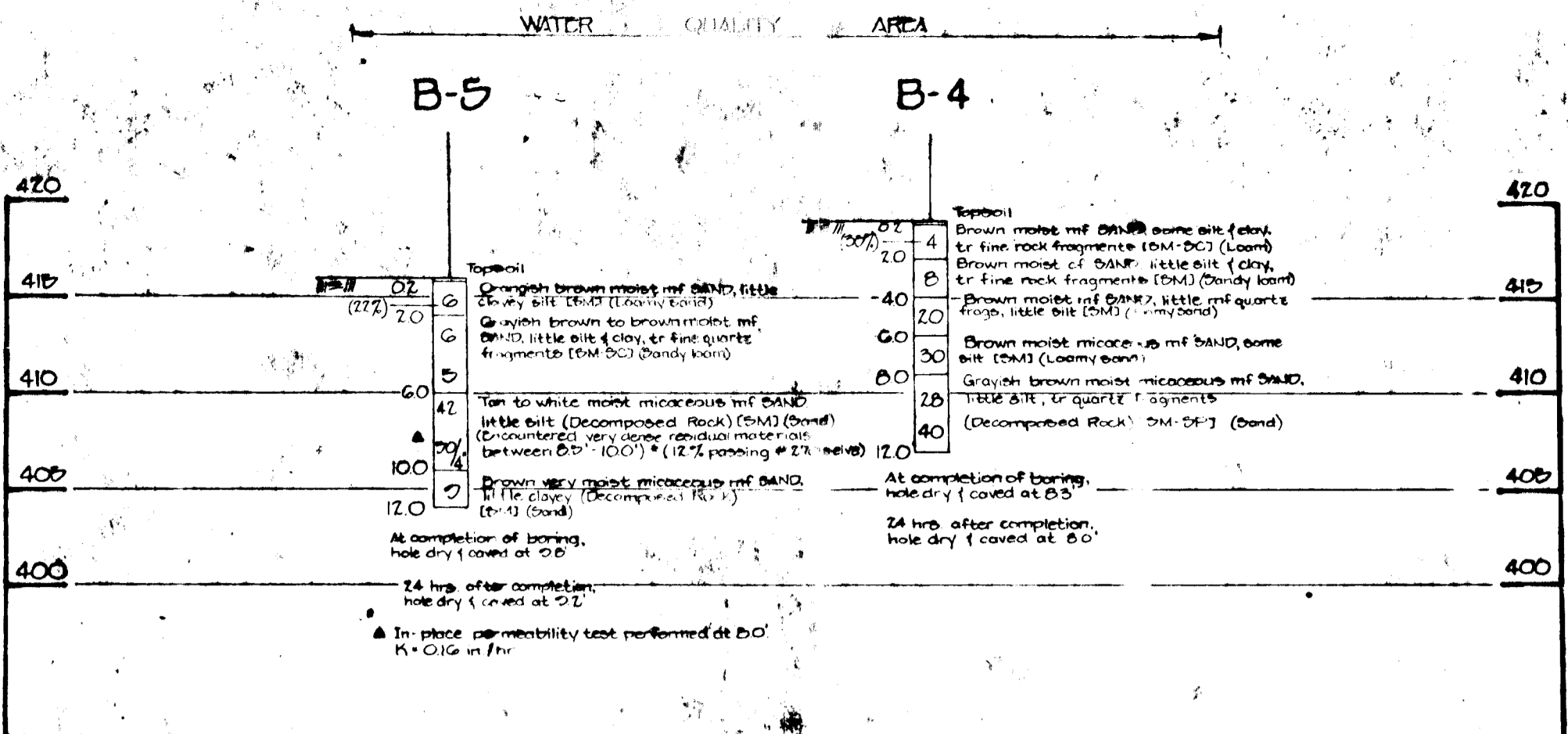
APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Paul ...* 7/15/93  
 CHIEF, BUREAU OF ENGINEERING

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Emma ...* 7/26/93  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT



OWNER, COLLINS & CARTER, INC.

NOTE: THIS STRUCTURE IS A HOWARD COUNTY A-5 INLET (5'-0\"/>



OWNER AND DEVELOPER  
 HOWARD RESEARCH AND DEVELOPMENT, INC.  
 10215 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

REVISION-AUGUST 12, 1994, REMOVED POND #2 ACCESS ROAD PROFILE.

AS-BUILT

SHANBERGER & LANE  
 8726 TOWN & COUNTRY BLVD.  
 SUITE 104  
 ELLICOTT CITY, MARYLAND 21043

Professional Engineer Seal: State of Maryland, Professional Land Surveyor, License No. 100949, Date 12/1/92.

VILLAGE OF RIVER HILL  
 SECTION 2 - ANNEX  
 PHASE II  
 LOTS 1-126 & 231-249  
 5th ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: SEPTEMBER 28, 1990  
 SHEET 109