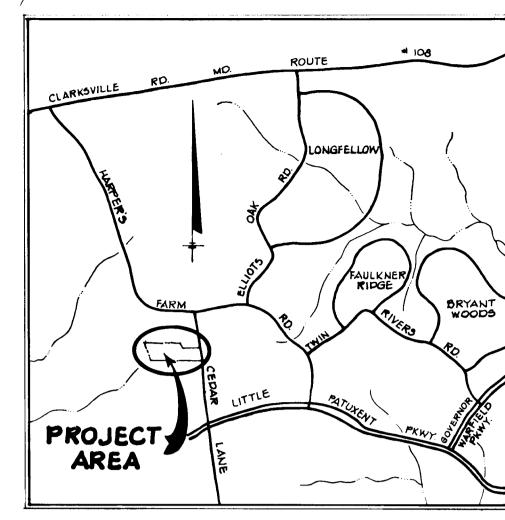
	SHEET INDEX
NO.	DESCRIPTION
1	TITLE SHEET
2	DRAINAGE AREA MAP & STORM WATER MANAGEMENT PLAN
3	PLAN AND PROFILE - SUFFIELD COURT
4	STORM DRAIN PROFILES
5	ROADWAY DETAILS
G	STORM DRAIN, & STORM WATER MANAGEMENT DETAILS
7	GRADING AND SEDIMENT CONTROL PLAN
පි	SEDIMENT CONTROL DETAILS
0	STOPM WATER MANAGEMENT FACILITY SPECIFICATIONS

ROADWAY, STORM DRAIN & STORM WATER MANAGEMENT

SCARBOROUGH

5 TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



GENERAL NOTES

- 'A. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOW THE CONTRACTOR SHALL TAKE ALL MECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED AMEDIATELY AT THE CONTRACTOR'S EXPENSE
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES WHERE DIRECTED BY THE ENGINEER. A MINIMUM OF THE WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS
- M. COMFRACTOR TO NOTIFY THE FOLLOWING UTILITIES AT LEAST THREE DAYS BEFORE STARTING WORK SHOW ON THIS THESE DRAWINGS

BELL TELEPHONE SYSTEM LONG DISTANCE CABLE DIVISION

BALTO. GAS AND ELECTRIC COMPANY

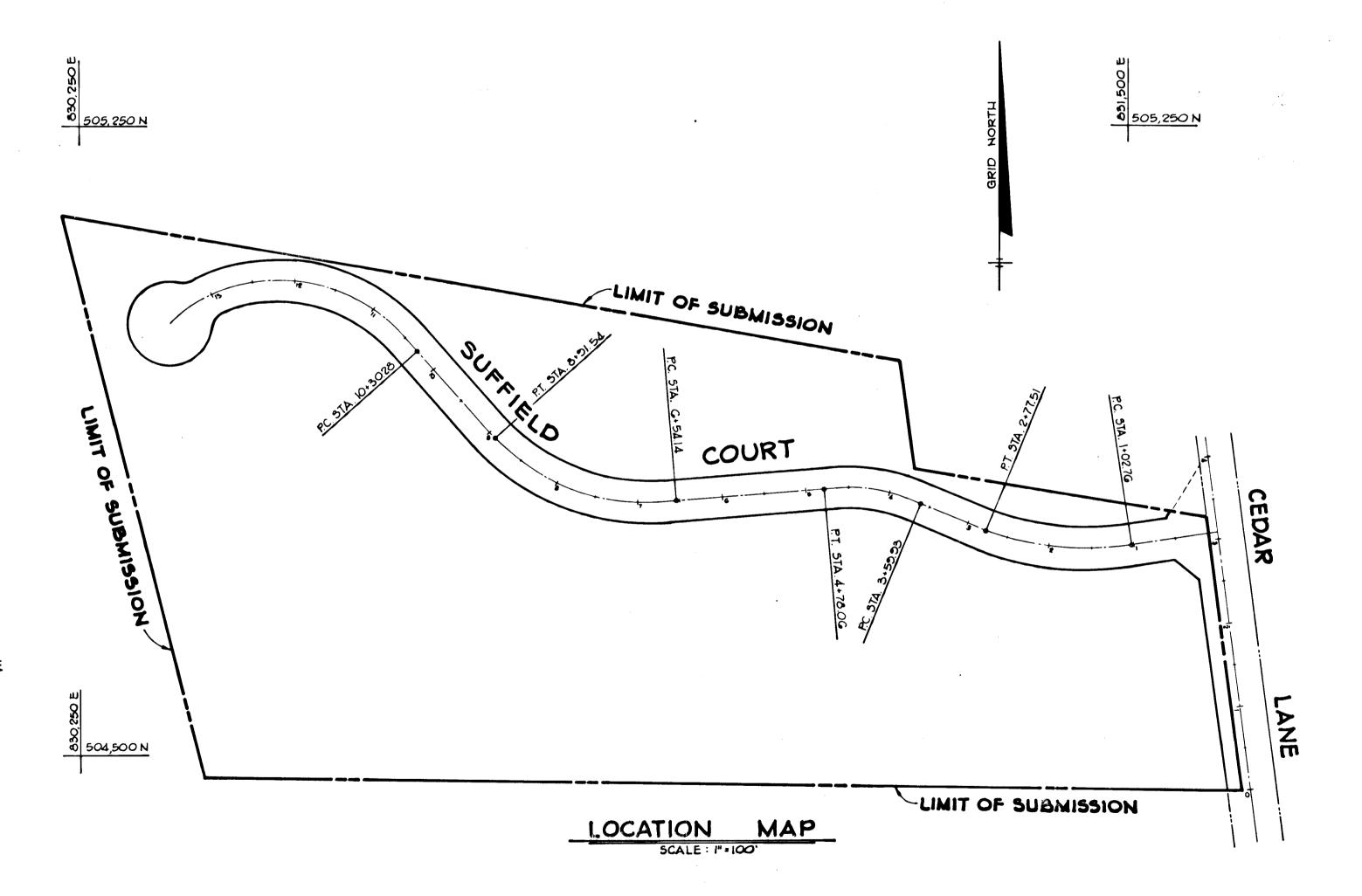
. •

393 **3649** 393 3553 ... 3554 539 8000 F/1.691

- 4. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS
- 6. ALL STREET CURB RETURNS SHALL HAVE 35.0' RADII UNLESS OTHERWISE NOTED.
- 7. STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
- A. IMSTALLATION OF TRAFFIC CONTROL DEVICES MARKING AND SIGNING SHALL BE IN ACCORDANCE MATO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1971 EDITION.
- 9. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- MESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOC OF STATE HIGHWAY COFICIAL STAMBARDS:

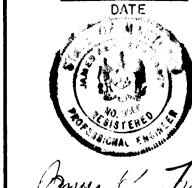
ALL 50' R W' 4 25 M.P.H.

- 11. ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM 1929.
- MA. AL FILL AREAS TO BE COMPACTED TO A MINIMUM 95 COMPACTION
- 13. SUBJECT PROPERTY ZONED R-SA PER 10-03-77 COMPREHENSIVE ZONING PLAN.



APPROVED: APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING. REVISION OWNER SCARBOROUGH JOINT VENTURE 12400 CLARKSVILLE PIKE CLARKSVILLE, MARYLAND 21029 DEVELOPER JACYN DEVELOPMENT GROUP 12400 CLARKSVILLE PIKE CLARKSVILLE MARYLAND 21029 SCARBOROUGH OTS I THRU G5 AND C-1 THRU C-GO ELECTION DISTRICT Nº5 HOWARD COUNTY, MARYLAND TAX MAP Nº 29 PARCELS Nº 71,58 & 109 TITLE SHEET Riemer · Tracy & Associates, Inc. 8659 Baltimore National Pike Ellicott City, Maryland 21043 (301) 461-2690 Land Planning, Design & Civil Engineering

AS-BUILT SURVEY VERIFIED BY JAMES K. TRACY MD. REG. PPOFESSIONAL ENGINEER No. 9566 AS OF 8-12-81

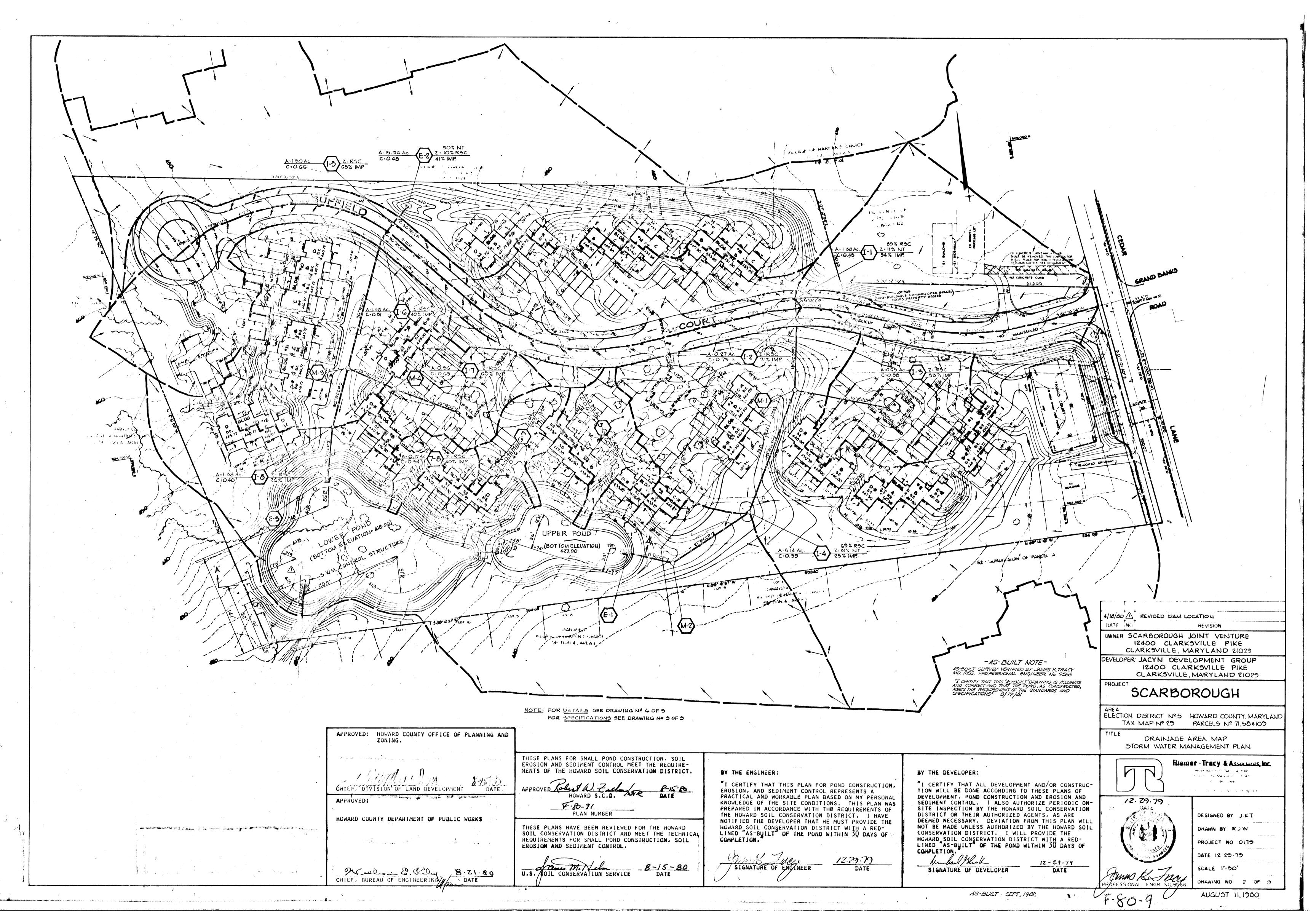


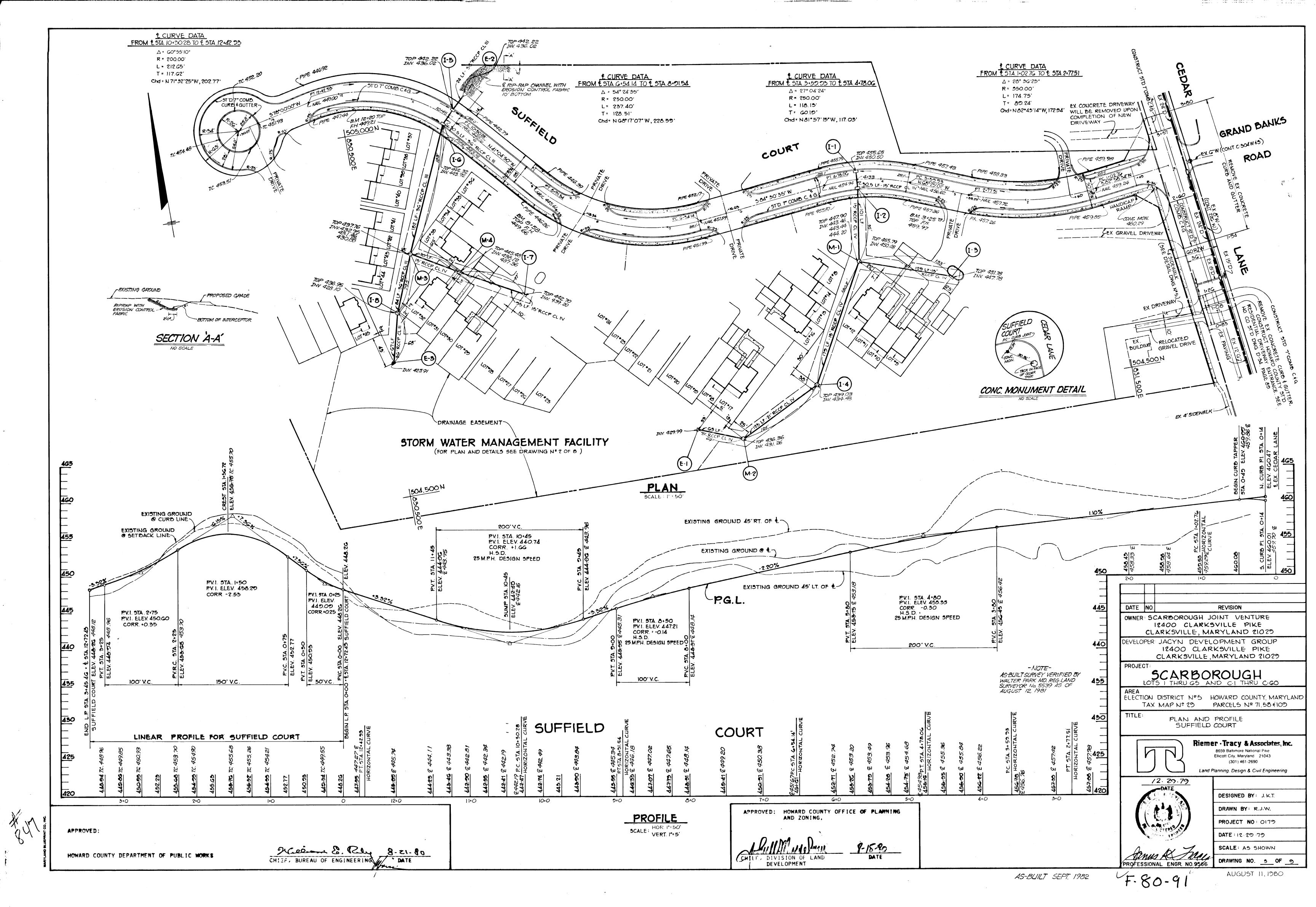
DESIGNED BY: JKT DRAWN BY: RJW

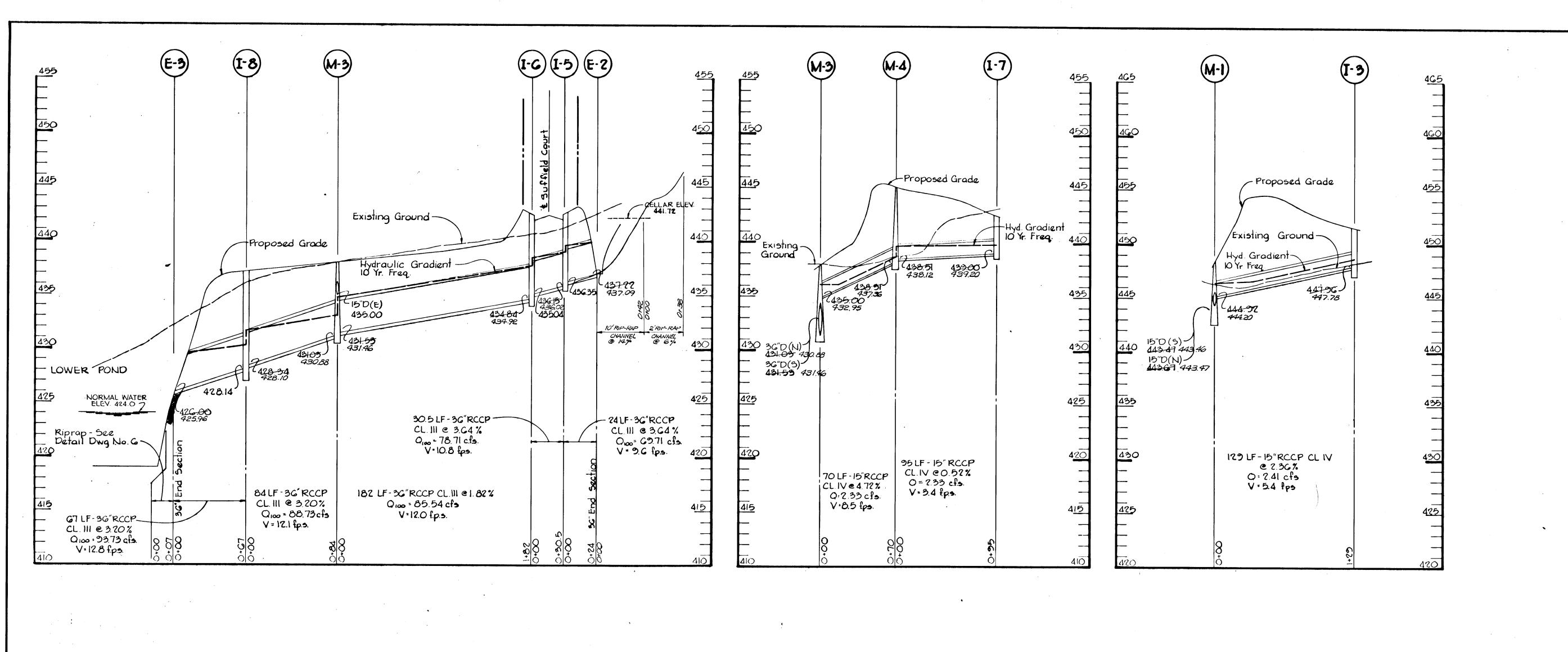
PROJECT NO: 0179 DATE: 12.29.79 SCALE: 1"=100 DRAWING NO. 1 OF 9

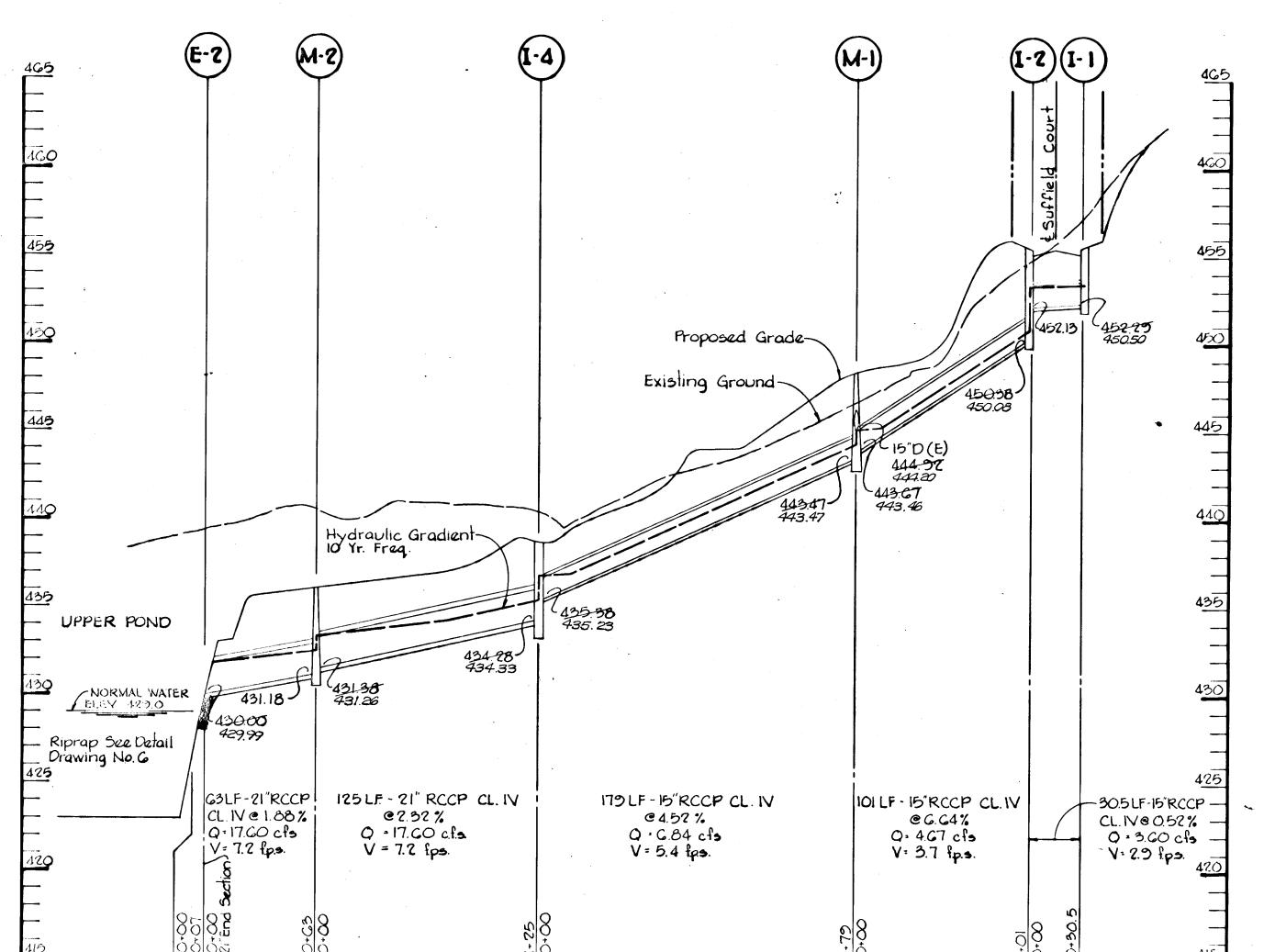
AS-BUILT SEPT., 1982

AUGUST 11, 1980









AS-BUILT SURVEY VERIFIED BY WALTER PARK MD. REG. LAND SURVEYOR No. 5539 AS OF AUGUST 12, 1981

DATE NO. REVISION OWNER SCARBOROUGH JOINT VENTURE 12400 CLARKSVILLE PIKE CLARKSVILLE, MARYLAND 21029 DEVELOPER: JACYN DEVELOPMENT GROUP 12400 CLARKSVILLE PIKE CLARKSVILLE, MARYLAND 21029 PROJECT: SCARBOROUGH LOTS I THRU G5 AND C-1 THRU C-GO

APPROVED:

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

CHIEF, BUREAU OF ENGINEERING -

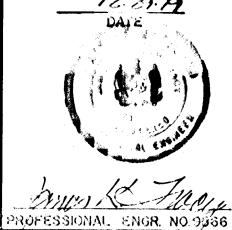
CHIEF DIVISION OF LAND
DEVELOPMENT

STRUCTURE SCHEDULE									
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	REMARKS			
[-1	A - 5	Sta. 4+33 l4' Rt.		452.29	455.79	H.C. S'TD 64-A			
r - 2	Δ - 5	Sta. 4+33 14' Lt.	452.13	450.38	455.79	H.C. STD 64-A			
[- 3	A · 5	See Plan		447.96	452.08	H.C. STD D-98			
T -4	C	See Plan 🐣	435.38	434.28	438.80	H.C. STD 64-C			
_C - 5 [Α-10	Sta. 10+45 14' Rt.	436.35	436.15	442.40	H.C. STD 64-A			
1. 6	Λ-5	Sta. 10+45 14' Rt.	435.04	434.84	442.40	H.C. STD 64-A			
<u>t - 7 </u>	A-3	See Plan	-	439.00	442.50	H.C. STD D-98			
<u>I -8</u>	'C'	See Plan	428.34	428.14	437.00	H.C. STD 64-C			
M - L	Manhole	See Plan	443.67	443.47	448.30	H.C. S'TD D-103			
M -2	Manhole	See Plan	431.38	431.18	436.10	H.C. STD D-103			
M - 3	Manhole	See Plan	431.53	431.03	438.00	H.C. STD D-103			
M - 4	Manhole	See Plan	438.51	438.31	445.00	H.C. STD D-103			
E-1	21 End Sect.	See Plan	430.0	-	431.75	Flared End			
B 3	2611 171-1 0-11					Sect. Jutlet			
E-2	36" End Sect.	See Plan	-	437.22	440.20	Flared End			
						Sect. Inlet			
E-3	36" End Sect.	See Plan	426.00	, -	429.00	Flared End			
						Sect. Outlet			

TITLE: STORM DRAIN PROFILES

AREA ELECTION DISTRICT Nº5 HOWARD COUNTY, MARYLAND





TAX MAP Nº 29

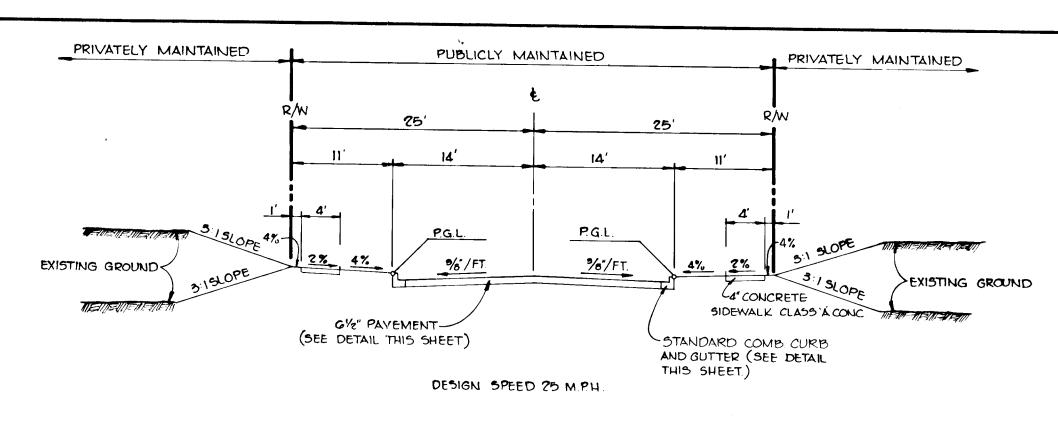
DESIGNED BY: JKT DRAWN BY: RJW PROJECT NO: 0179 DATE: 12 29 79 SCALE: H:1"-50", V:1"-5"

DRAWING NO. 4 OF 9

PARCELS Nº 71,58 \$109

AS-BUILT SEPT., 1982

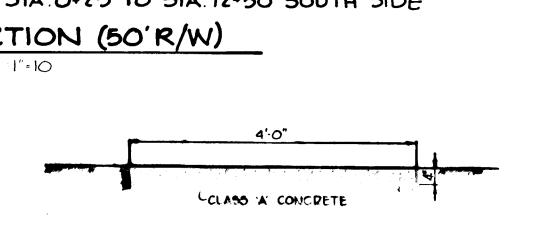
08C1,11 T2UDUA



LIMITS OF SIDEWALK : FROM STA. 0+25 TO STA. 9+10 NORTH SIDE FROM STA. 0+75 TO STA. 12+50 SOUTH SIDE

TYPICAL SECTION (50'R/W)

Scale 1"=10



SIDEWALK DETAIL

No Scale

HOWARD COUNTY STANDARD (DRAWING D.S. PAGE GO)

DITUMINOUS CONCRETE BASE (GRAVEL MIX)

BITUMINOUS CONCRETE SURFACE (BAND C 3)

CLEARING AND GRADING SUBGRADE BASE COURSE

SURFACE COURSE

ARTICLE C-1 ARTICLE C.2 ARTICLE C-99 ARTICLE C-91

Gh" PAVING

I A TACK COAT 15 REQUIRED IN ACCORDANCE WITH SECTION C-31-4 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS.

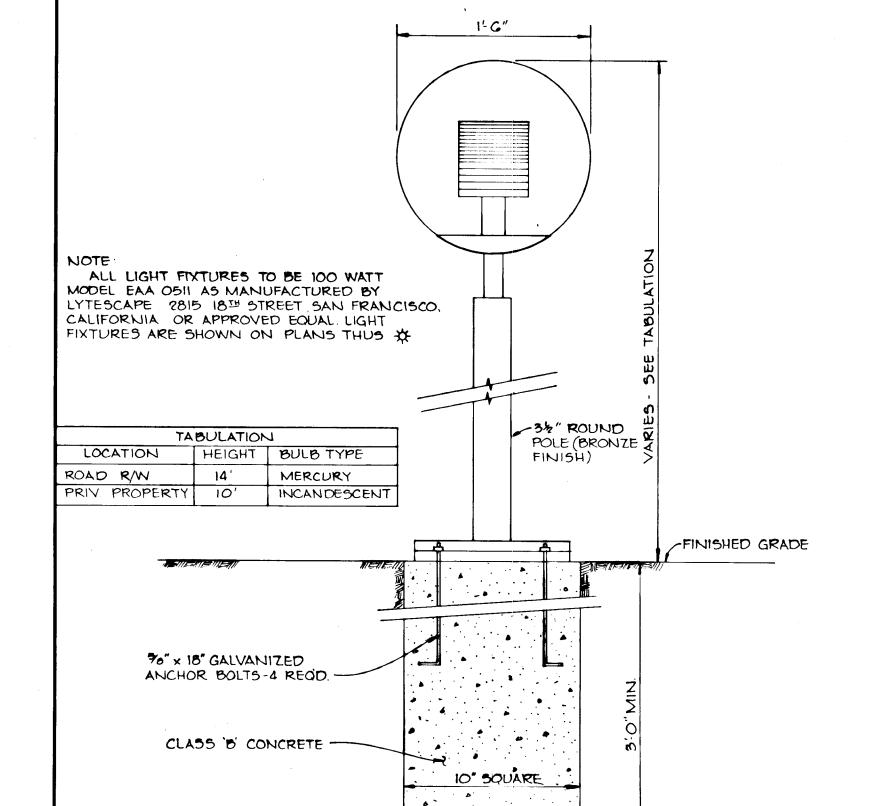
- ? BASE WILL BE PRIMED IN ACCORDANCE WITH SECTION C-30 3 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS
- 9 TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS

TYPICAL PAVING SECTION

No Scale

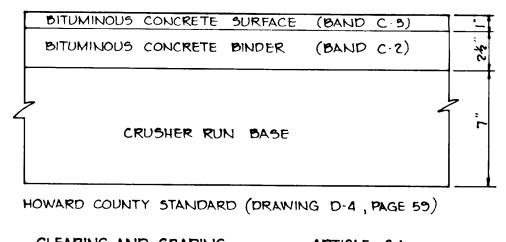


HOWARD COUNTY STANDARD (DRAWING D-40, PAGE 35)



LIGHTING DETAIL

No Scale



ARTICLE C-1 ARTICLE C-2 CLEARING AND GRADING

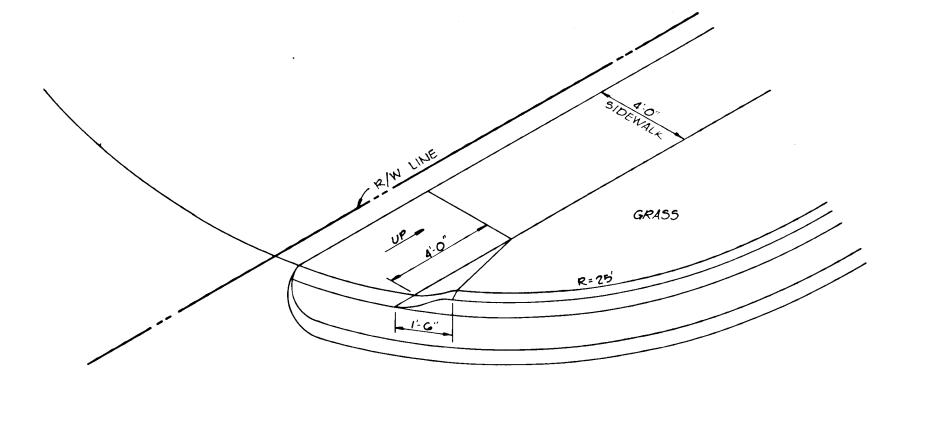
SUBGRADE BASE COURSE BINDER COURSE SURFACE COURSE

10%" PAVING

ARTICLE C-75
ARTICLE C-31 OR C-33
ARTICLE C-31

NOTES:

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

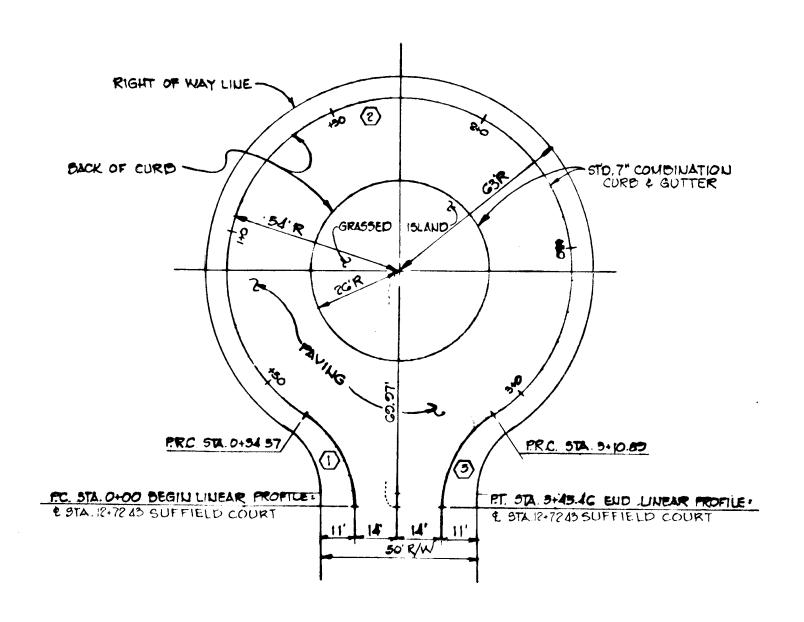


INTERSECTION OF CEDAR LANE AND SUFFIELD COURT

INTERSECTION OF SUFFIELD COURT AND PRIVATE PARKING AREAS

TYPICAL HANDICAPPED RAMPS

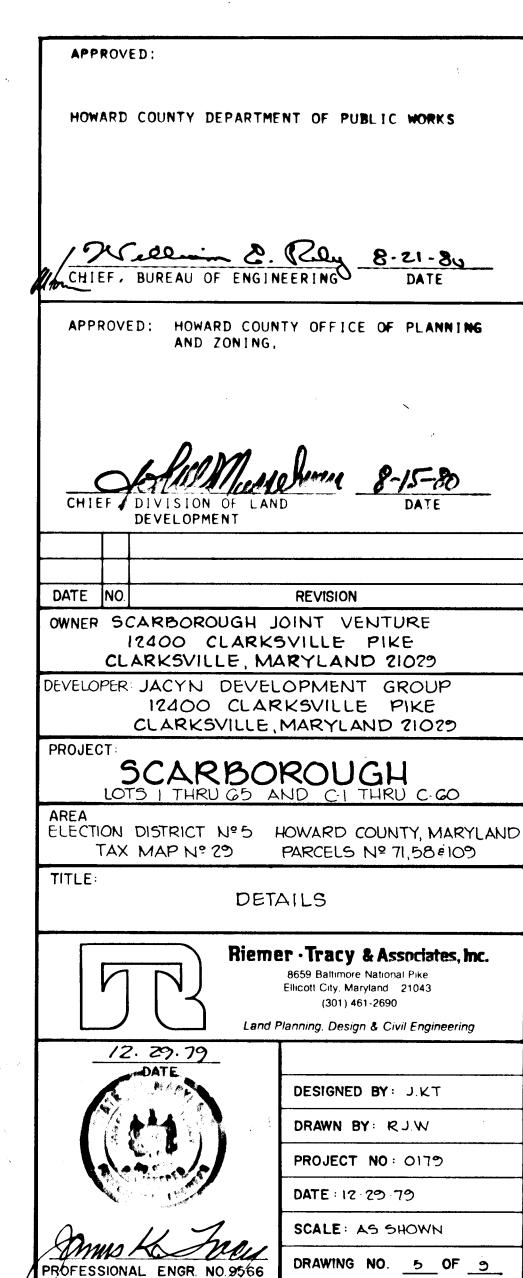
No Scale



		CURVE	DATA	\		
10.	RAD.	Δ	TAN	ARC.	CHD.	L.C.B.
1	35.00	56° 35' 35"	10.64	34.57'	35. VO	5 45°42'08" W
(P)	54.00	299*11'10"	-	27G.92'	59.4G	M 15.00,00. M
②	35.00'	56°35'30"	18.84	54.571	33.18	5 73°42'08"E

CUL-DE-SAC DETAIL

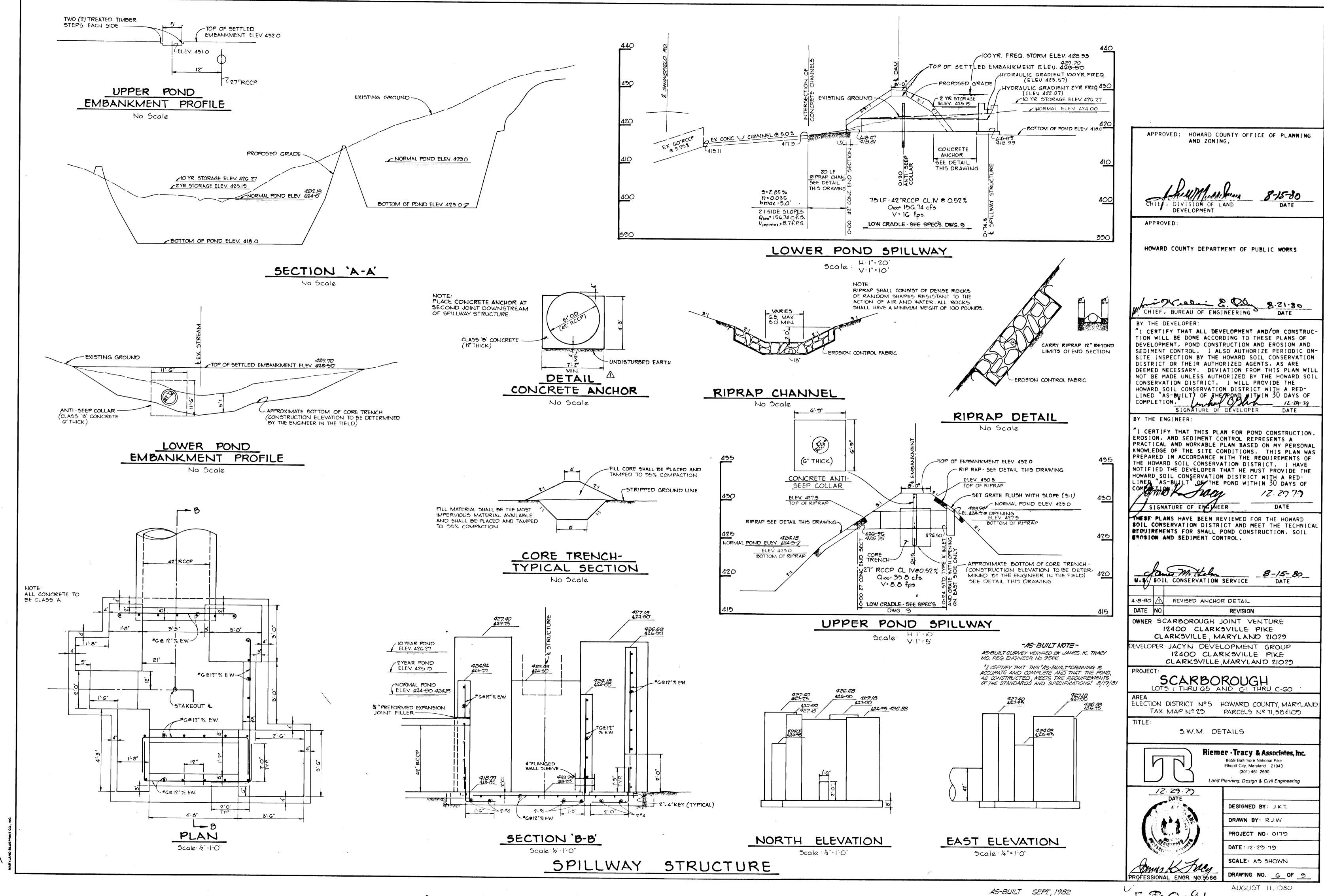
No Scale

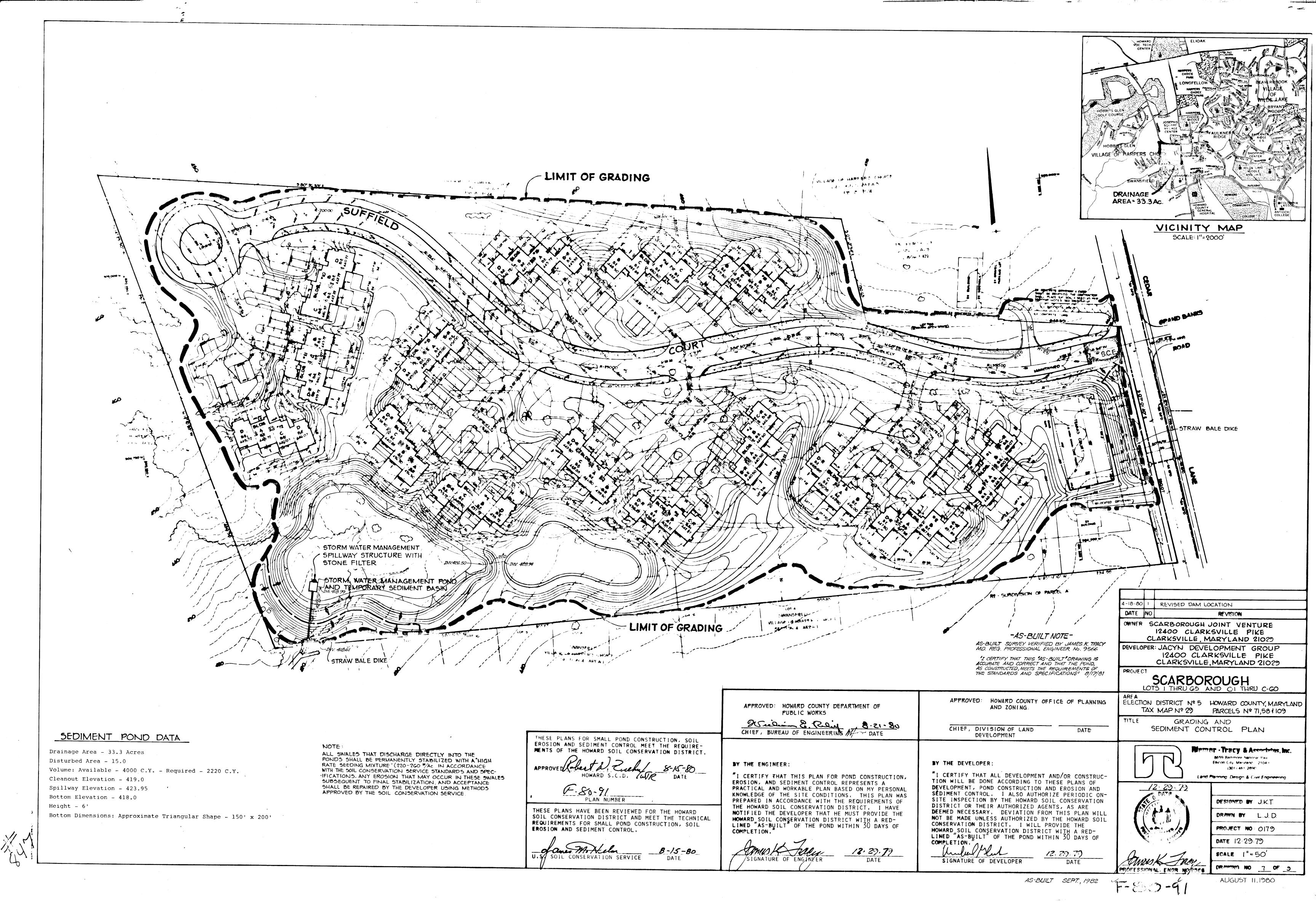


ALTERNATE PAVING SECTION No Scale

V F-80-94

AUGUST 11, 1980





SEDIMENT CONTROL CONSTRUCTION NOTES GENERAL NOIES

- 1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (922-2070).
- 2. ALL SEDIMENT CONTROL STRUCTURES WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CON-TROL IN DEVELOPING AREAS" AS PREPARED BY THE U.S. DEPARTMENT OF AGRI-CULTURE SOIL CONSERVATION SERVICE.
- 3. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
- 4. ALL DISTURBED AREAS ARE TO BE DRESSED AND STABILIZED ACCORDING TO THE TEMPORARY OR PERMANENT SEEDING SCHEDULES AS SOON AS PROPER WEATHER CONDITIONS EXIST FOR THE ESTABLISHMENT OF A PERMANENT VEGETATIVE COVER.
- 5. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN THE DEPTH REACHES THE CLEAN OUT ELEVATION SHOWN ON THE PLANS.
- 6. FERTILIZER AND LIME RATES MAY BE CHANGED THROUGH AUTHORIZATION BY THE HOWARD SOIL CONSERVATION DISTRICT IF SOIL TESTS DETERMINE A REDUCTION IN THE SPECIFIED RATES IS JUSTIFIED.
- 7. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL
- 8. REFERENCES CALLED FOR ON THE SEDIMENT CONTROL CONSTRUCTION PLAN AND DETAILS ARE MADE TO "THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS".

TEMPORARY SEEDING

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

- A. APPLY 10-20-10 fertilizer (or equivalent) at the rate of $600~{\rm LBS}$. Per acre or $15~{\rm LBS}$. Per $1000~{\rm SQ}$. Ft.
- B. WHERE SOIL IS KNOWN TO BE HIGHLY ACID, APPLY DOLOMITIC LIMESTONE AT THE RATE OF 1 TON PER ACRE.
- C. WORK BOTH INTO SOIL AND SEED WITH CYCLONE SEEDER, DRILL, CULTIPAKER SEEDER OR HYDROSEEDER (SLURRY WILL INCLUDE SEED AND FERTILIZER) AT THE RATE OF 40 LBS. PER ACRE OF ITALIAN OR PERENNIAL RYEGRASS.
- D. MULCH WITH UNWEATHERED SMALL GRAIN STRAW AT THE RATE OF 1 1/2 to 2 TONS, PER ACRE AND ANCHOR WITH A CUTBACK ASPHALT OR EMULSIFIED ASPHALT AT THE RATE OF 5 GAL. PER 1000 SQ. FT.

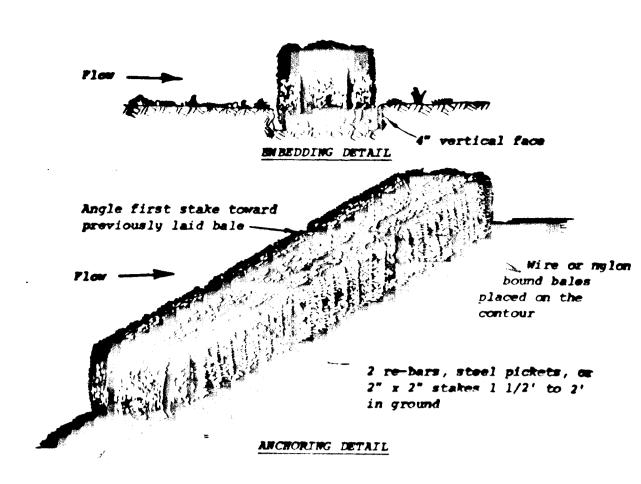
PERMANENT SEEDING

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

- A. APPLY DOLOMITIC LIMESTONE AT THE RATE OF 2 TONS PER ACRE (ONE TONE PER ACRE IF APPLICATION OF TON PER ACRE WAS MADE FOR TEMPORARY SEEDING),
- B. APPLY 0-20-20 FERTILIZER AT THE RATE OF 600 LBS. PER ACRE HARROW OR DISC LIME AND 0-20-20 FERTILIZER INTO THE SOIL TO A MINIMUM DEPTH OF 3" LAWNS OR HIGH MAINTENANCE AREAS WILL BE DRAGGED AND LEVELED WITH A YORK RAKE. AT THE TIME OF SEEDING APPLY 400 POUNDS OF 38-0-0 UREAFORM FERTILIZER AND 500 LBS. OF 10-20-20 OR EQUIVALENT FERTILIZER PER ACRE.
- C. SEED WITH A MIXTURE OF CERTIFIED "MERION" KENTUCKY BLUEGRASS 40 LBS. PER ACRE; COMMON KENTUCKY BLUEGRASS @ 40 LBS. PER ACRE; RED FESCUE, PENNLAWN OR JAMESTOWN & 20 LBS. PER ACRE.
- D. MULCH WITH UNWEATHERED SMALL GRAIN STRAW AT THE RATE OF $1\ 1/2$ to $2\ {
 m tons}$ PER ACRE AND ANCHOR WITH A CUTBACK ASPHALT OR EMULSIFIED ASPHALT AT THE RATE OF 5 GAL. PER 1000 SQ. FT.
- E. SEED ALL SLOPES WITH A MIXTURE OF CERTIFIED KENTUCKY_31 TALL FESCUE @ 50 LBS. PER ACRE AND INOCULATED KOREAN LESPEDEZA @ 15 LBS. PER ACRE.

SEQUENCE OF CONSTRUCTION

- 1. Obtain Grading Permit
- 2. Install Stabilized Construction Entrance
- 3. Install Straw Bale Dikes
- 4. Install Stormwater Management Pipe Spillway and Spillway Structure with Stone Filter
- 5. Construct Stormwater Management Embankment and Ponds and Seed Per Temporary Seeding Notes.
- 6. Remove Three (3) Existing Sediment Traps With Stone Outlet Structures.
- 7. Complete all site work and stabilize all disturbed Areas in Accordance with Permanent Seeding Notes.
- 8. Upon approval of the Soil Conservation District, remove all straw bales and convert sediment basin into stormwater management pond as follows:
- a Upper Pond: Impounded water shall be pumped through the 27" spillway pipe. Lower Pond: Impounded water shall be pumped into concrete spillway structure and discharged through 42-inch spillway pipe.
- b. Sediment shall be removed and the pond areas restored to their original dimensions as shown on Drawing No. 2 of 8.
- c. Removed sediment shall be deposited in the northwesterly most corner of the site and shall be spread and stabilized in accordance with the permanent seeding notes.



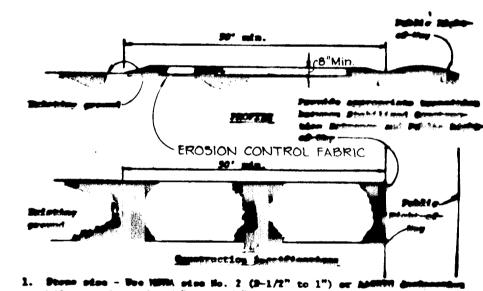
Construction Specifications

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

Breinage area less than 1/2 acre.

STRAW BALE DIKE

No Scale

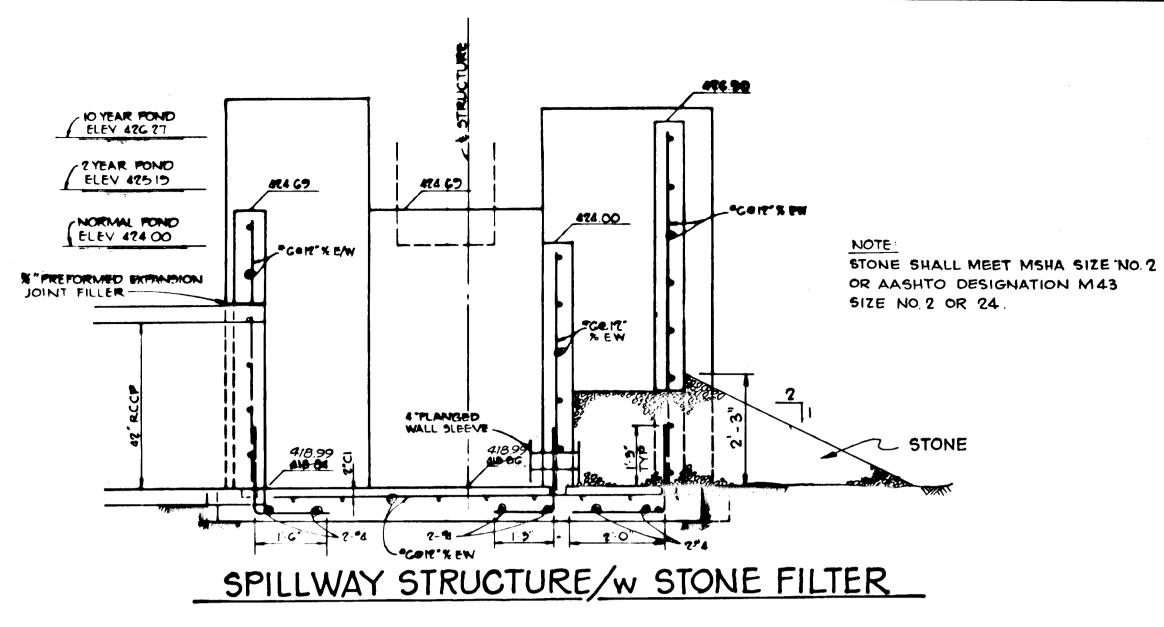


- Thickness Not less than eight (0) inches.
- 5. Marking When meronnery, whomis shall be classed to remove authorize it shall be done on an area stabilized with equated strong which depty
- through use of send bags, gravel, beards or other approved quelishe. prevent tranking or floring of sedtment onto public ragion-of-comp. This may require periodic top drawning with addirshmed strong as essditions derived and repetr and/or element of any procures and to continuer. All sediment spilled, dropped, upshed as procured appropriate

be prevented from entering any steam drawn, ditch, or watermannents

STABILIZED CONSTRUCTION ENTRANCE

No Scale



SECTION Scale: 1/2"=1-0"

BY THE DEVELOPER:

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUC-TION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT, POND CONSTRUCTION AND EROSION AND SEDIMENT CONTROL. I ALSO AUTHORIZE PERIODIC 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 RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.

APPROVED: HOWARD COUNTY OFFICE OF PLANNING

AND ZONING.

THESE PLANS FOR SMALL POND CONSTRUCTION; SOIL

EROSION AND SEDIMENT CONTROL MEET THE REQUIRE-

MENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: HOWARD COUNTY DEPARTMENT OF

CHIEF, BUREAU OF ENGINEERING DATE

Wielin & Rely 1 8-21-80

PUBLIC WORKS

The Wusselman

PLAN NUMBER

CHIEF, DIVISION OF LAND

DEVELOPMENT

12.29.79 SIGNATURE OF DEVELOPER

BY THE ENGINEER:

"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 RED-LINED "AS-BUILT" OF THE PUND WITHIN 30 DAYS OF

DATE

12.29 70

SIGNATURE OF ENGINEER

THA'S DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

DATE NO.

REVISION OWNER: SCARBOROUGH JOINT VENTURE 12400 CLARKSVILLE PIKE CLARKSVILLE, MARYLAND 21029

DEVELOPER JACYN DEVELOPMENT GROUP 12400 CLARKSVILLE PIKE CLARKSVILLE, MARYLAND 21029

SCARBOROUGH LOTS I THRU G5 AND C-I THRU C-GO

ELECTION DISTRICT Nº5 HOWARD COUNTY, MARYLAND TAX MAP Nº 20 PARCELS Nº 71.58 \$ 109

SEDIMENT CONTROL DETAILS



Riemer · Tracy & Associates, Inc. 8659 Baltimore National Pike Ellicott City, Maryland 21043

(301) 461-2690 Land Planning, Design & Civil Engineering

12.29-79

PROFESSIONAL ENGR. NO. 9566

DESIGNED BY: J.K.T. DRAWN BY: R.J.W.

PROJECT NO: 0179 DATE: 12·29·79

SCALE: AS SHOWN

08C1,11 T2UDUA

DRAWING NO. 8 OF 9

AS-BLIILT SLIRVEY VERIFIED BY JAMES K.TRACY MD. REG. PROFESSIONAL ENGINEER No. 9566 AS OF AUGUST 12, 1981

i. <u>site preparation</u>

Areas under the borrow areas, embankment, and structural works shall be cleared, grubbed and the topsoil stripped to remove all trees, vegetation, roots or other objectionable material. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas covered by the 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.

All cleared and grubbed material shall be disposed of outside 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

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize 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.

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.

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 sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

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 governed by the equipment used for excavation, 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 driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall the contractor drive equipment 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.

A compared to the second of the compared of th

A. Reinforced Oncrete Pipe

- 1. Materials Reinforced concrete pipe shall have a rubber gesket joint and shall equal or exceed ASTM Specification C-361. Approved equivalents are AWMA Specification C-300. 301, and 302.
- 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 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
- 4. Backfilling shall conform to structural backfill as shown above.
- 5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.
- B. For pipes of other materials, specific specifications shall be shown on the drawings.

CONCRETE

1. Materials

- a. Cement Normal Portland cement shall conform to the latest ASTM Specification C-150.
- b: Water The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
- c. Sand The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve. Limestone sand shall not be used.
- d. Coarse Aggregate The coarse aggregate shall be cleam, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-1/2) inches.
- e. Reinforcing Steel The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.
- 2. 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. gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-1/2. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in
- 3. 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 mixer and of the introduction of the materials, including water, into the mixer. Water shall be added prior to, during, and following the mixercharging operations. Excessive overmixing requiring the addition of water to preserve the required 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.
- 4. 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 shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

The inside of forms shall 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.

- 5. 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.
- 6. Consolidating Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be suplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.
- Finishing Defective concrete, honeycombed areas, voids left by the 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.
- 8. Protection and Curing Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first 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 compounds may also be used.
- 9. Placing Temperature Concrete may not be placed at temperatures below 37° F with the temperature falling, or 34° with the temperature rising.

VI. STABILIZATION

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

COMPLETION. SIGNATURE OF DEVELOPER COMPLETION. EROSION AND SEDIMENT CONTROL. . CONSERVATION SERVICE

HOWARD COUNTY OFFICE OF PLANNING DIVISION OF LAND DEVELOPMENT THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIRE-MENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. PLAN NUMBER APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BY THE DEVELOPER: "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUC-

TION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT, POND CONSTRUCTION AND EROSION AND SEDIMENT CONTROL. I ALSO AUTHORIZE PERIODIC 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 COMSERVATION DISTRICT. I WILL PROVIDE THE MOMARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF 2.22.80

BY THE ENGINEER:

"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 PREPAMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOMARD SOIL CONSERVATION DISTRICT. I HAVE MOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE MOMARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL RECHIREMENTS FOR SMALL POND CONSTRUCTION, SOIL

REVISION

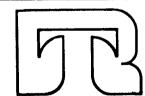
OWNER SCARBOROUGH JOINT VENTURE 12400 CLARKSVILLE PIKE CLARKSVILLE, MARYLAND 21029

DEVELOPER: JACYN DEVELOPMENT GROUP 12400 CLARKSVILLE PIKE CLARKSVILLE, MARYLAND 21029

SCARBOROUGH LOTS I THRU G5 AND C-1 THRU C-GO

ELECTION DISTRICT Nº5 HOWARD COUNTY, MARYLAND TAX MAP Nº 29 PARCELS Nº 71,58 \$ 109

STORM WATER MANAGEMENT FACILITY SPECIFICATIONS



Riemer · Tracy & Associates, Inc.

8659 Battimore National Pike Ellicott City, Maryland 21043 (301) 461-2690 Land Planning, Design & Civil Engineering

DESIGNED BY: J.K.T. DRAWN BY: J. K.T.

PROJECT NO: 0179

DATE: 2.22.80 SCALE: NONE

DRAWING NO. 5 OF 9

AUGUST 11,1980