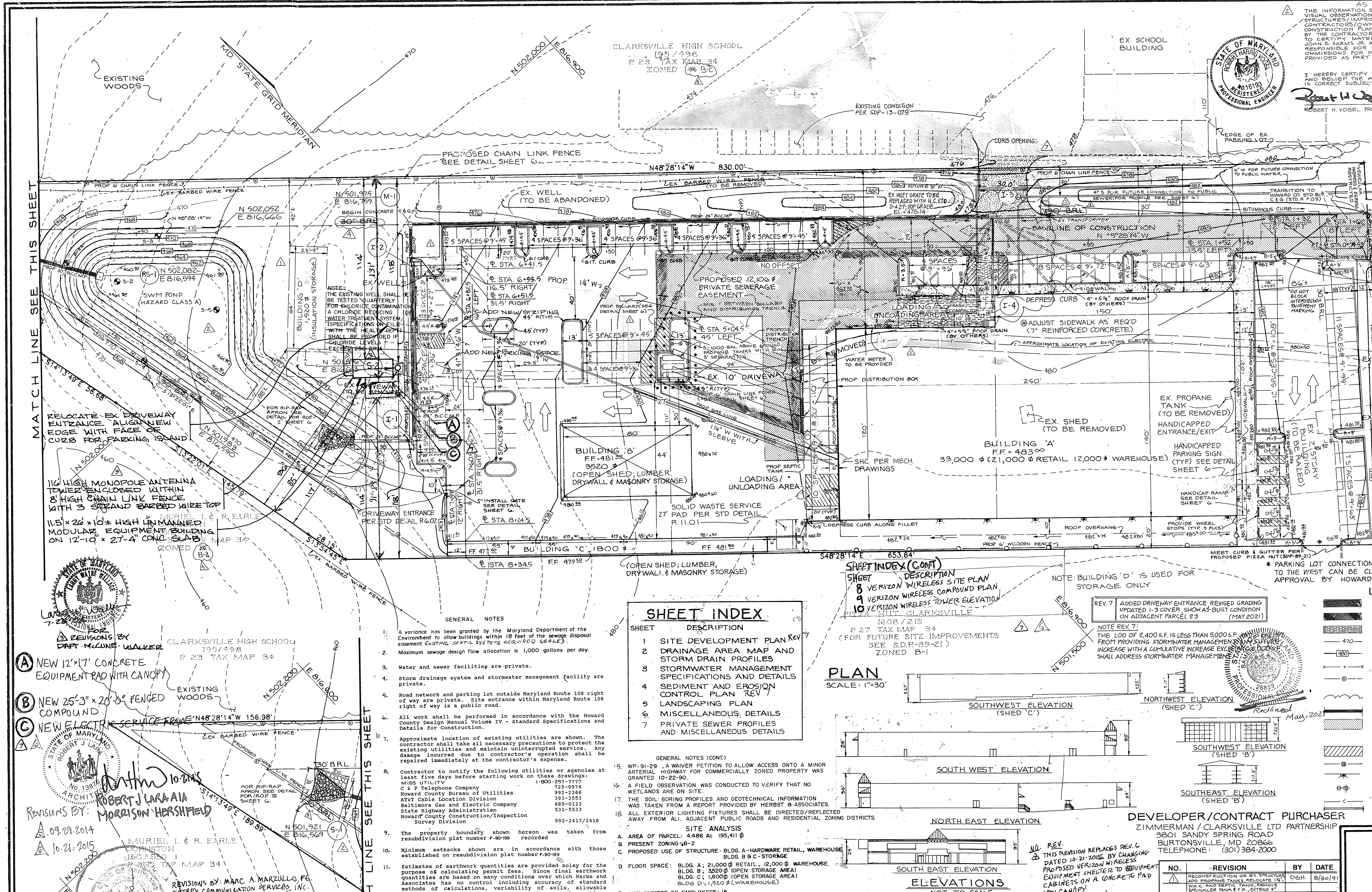
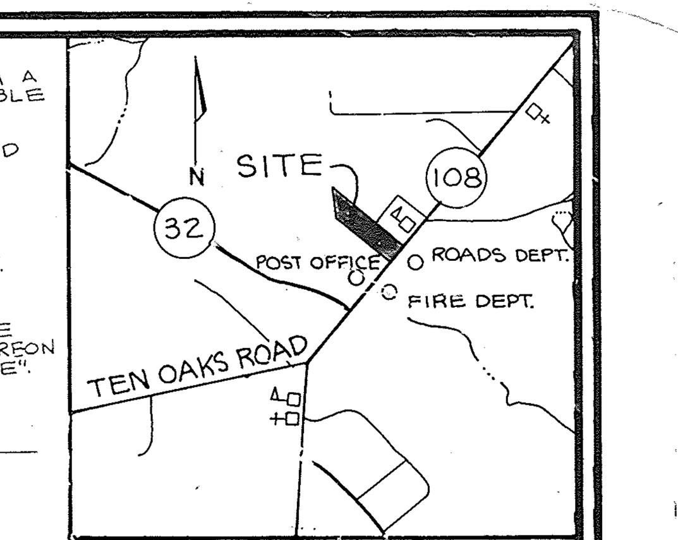




VICINITY MAP
SCALE: 1"=2000'

AS BUILT NOTE

THE INFORMATION SHOWN HEREON WAS OBTAINED FROM A VISUAL OBSERVATION BY A SURVEY CREW. INACCESSABLE STRUCTURES/IMPROVEMENTS ARE LOCATED FROM CONTRACTORS/OWNERS RECORDS OR APPROVED CONSTRUCTION PLANS. INFORMATION WILL BE PROVIDED BY THE CONTRACTOR AND GEOTECHNICAL ENGINEER TO CERTIFY MATERIAL AND SOIL SPECIFICATIONS. JOHN E. HARMS JR. AND ASSOCIATES INC. IS NOT RESPONSIBLE FOR THE ACCURACY OR ERRORS AND OMMISSIONS FOR INFORMATION WE HAVE NOT PROVIDED AS PART OF OUR FIELD AS BUILT SURVEY.

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THE AS BUILT INFORMATION SHOWN HEREON IS CORRECT SUBJECT TO THE ATTACHED "AS BUILT NOTE".

Robert H Vogel 7/1/92
ROBERT H. VOGEL PROFESSIONAL ENGINEER MD NO. 16193

GENERAL NOTES

1. A variance has been granted by the Maryland Department of the Environment to allow buildings within 18 feet of the sewage disposal easement. Existing septic systems required sealed.
2. Maximum sewage design flow allocation is 1,000 gallons per day.
3. Water and sewer facilities are private.
4. Storm drainage system and stormwater management facility are private.
5. Road network and parking lot outside Maryland Route 108 right of way are private. Site entrance within Maryland Route 108 right of way is a public road.
6. All work shall be performed in accordance with the Howard County Design Manual Volume IV - Standard Specifications and Details for Construction.
7. Approximate location of existing utilities are shown. The contractor shall take all necessary precautions to protect the existing utilities and maintain uninterrupted service. Any damage incurred due to contractor's operation shall be repaired immediately at the contractor's expense.
8. Contractor to notify the following utilities or agencies at least five days before starting work on these drawings:

MISS UTILITY	1-800-257-7777
C & P Telephone Company	725-9976
Howard County Bureau of Utilities	992-2366
AT&T Cable Location Division	393-3553
Baltimore Gas and Electric Company	685-0123
State Highway Administration	531-5533
Howard County Construction/Inspection Survey Division	992-2417/2418

9. The property boundary shown hereon was taken from resubdivision plat number F-90-199 recorded
10. Minimum setbacks shown are in accordance with those established on resubdivision plat number F-90-199
11. Estimates of earthwork quantities are provided soley for the purpose of calculating permit fees. Since final earthwork quantities are based on many conditions over which Harms and Associates has no control including accuracy of standard methods of calculations, variability of soils, allowable survey and construction tolerances, and compaction ratios, Harms and Associates does not guarantee the accuracy of these estimates.
12. Existing topography was provided from a field survey provided by John E. Harms, Jr. and Associates, Inc.(DATE MAY 1990)
13. Corrugated metal pipe sections will be joined with a single or two piece corrugated band with a watertight neoprene gasket. Dimpleted band connectors will not be permitted.
14. ALL CURB TO BE HOWARD COUNTY STANDARD COMBINATION CURB AND GUTTER,UNLESS OTHERWISE NOTED

GENERAL NOTES (CONT.)

15. WP-91-29 , A WAIVER PETITION TO ALLOW ACCESS ONTO A MINOR ARTERIAL HIGHWAY FOR COMMERCIALLY ZONED PROPERTY WAS GRANTED 10-22-90.
16. A FIELD OBSERVATION WAS CONDUCTED TO VERIFY THAT NO WETLANDS ARE ON SITE.
17. THE SOIL BORING PROFILES AND GEOTECHNICAL INFORMATION WAS TAKEN FROM A REPORT PROVIDED BY HERBST & ASSOCIATES.
18. ALL EXTERIOR LIGHTING FIXTURES SHALL BE DIRECTED/REFLECTED AWAY FROM ALL ADJACENT PUBLIC ROADS AND RESIDENTIAL ZONING DISTRICTS.

SITE ANALYSIS

A. AREA OF PARCEL: 4.486 Ac 195,411 ¢
B. PRESENT ZONING: B-2
C. PROPOSED USE OF STRUCTURE: BLDG. A-HARDWARE RETAIL, WAREHOUSE; BLDG. B & C-STORAGE
D. FLOOR SPACE: BLDG. A; 21,000 ¢ RETAIL, 12,000 ¢ WAREHOUSE. BLDG. B; 3520 ¢ (OPEN STORAGE AREA) BLDG. C; 1,800 ¢ (OPEN STORAGE AREA) BLDG D; 1,520 ¢ (WAREHOUSE)
E. MAX. NUMBER OF EMPLOYEES: 15
F. NUMBER OF PARKING SPACES REQUIRED: 113 (5 HANDICAPPED) 1 PER 200 ¢ RETAIL (105) + 1 PER 2 EMPLOYEES WAREHOUSE (8)
G. NUMBER OF PARKING SPACES PROVIDED: 113 (5 HANDICAPPED)
H. OPEN SPACE AREA TO REMAIN ON SITE: 1.780 Ac , 39.68 % OF NET AREA
I. ~~BUILDING COVERAGE OF SITE: 39,840 ¢ , 20.39% OF GROSS AREA~~ (SEE BELOW)
J. AREA OF LANDSCAPED ISLAND: 4,265 ¢, 5.47 % OF PARKING AREA.
K. AREA OF PARKING LOT: 78,029 ¢
I. REVISED BUILDING COVERAGE OF SITE: 40,133 ¢, 20.54% OF GROSS AREA

SHEET INDEX

SHEET	DESCRIPTION
1	SITE DEVELOPMENT PLAN Rev 7
2	DRAINAGE AREA MAP AND STORM DRAIN PROFILES
3	STORMWATER MANAGEMENT SPECIFICATIONS AND DETAILS
4	SEDIMENT AND EROSION CONTROL PLAN REV 7
5	LANDSCAPING PLAN
6	MISCELLANEOUS DETAILS
7	PRIVATE SEWER PROFILES AND MISCELLANEOUS DETAILS

SHEET INDEX (CONT)

SHEET	DESCRIPTION
8	VERIZON WIRELESS SITE PLAN
9	VERIZON WIRELESS COMPOUND PLAN
10	VERIZON WIRELESS TOWER ELEVATION

REV. 7	ADDED DRIVEWAY ENTRANCE, REVISED GRADING UPDATED I-3 COVER, SHOW AS-BUILT CONDITION ON ADJACENT PARCEL 23 (MAY 2021)

NOTE REV. 7:
THE LOD OF 2,400 S.F. IS LESS THAN 5,000 S.F. AND IS EXEMPT FROM PROVIDING STORMWATER MANAGEMENT. ANY FUTURE INCREASE WITH A CUMULATIVE INCREASE EXCEEDING 5,000 S.F. SHALL ADDRESS STORMWATER MANAGEMENT.

Redlined May, 2021

NO. REV. 7 THIS REVISION REPLACES REV. 6 DATED 10-21-2015 BY CHANGING PROPOSED VERIZON WIRELESS EQUIPMENT SHELTER TO EQUIPMENT CABINETS ON A CONCRETE PAD WITH CANOPY
DATE 04-15-2016

3 REVISIONS BY DAFT·McCUNE·WALKER
REVISIONS BY: ROBERT J LARA AIA MORRISON HERSHFIELD
5 09.29.2014
6 10.21.2015
REVISIONS BY: MARC A. MARZULLO, P.E. ENTREX COMMUNICATION SERVICES, INC.
7 04-15-2016

LEGEND

- SURFACE OVERLAY
- FULL DEPTH PAVING
- 8" REINFORCED CONCRETE
- 470 — EXISTING CONTOUR
- 480 — PROPOSED CONTOUR
- EXISTING FENCE
- PROPOSED 6' CHAIN LINK FENCE
- EXISTING TREE LINE
- PROPOSED STORM DRAIN
- P-3 PAVING SECTION, SEE DETAIL SHEET 6 (ALL OTHER PAVING OUTSIDE R/W USE P-2 PAVING SECTION)
- PARKING LOT STRIPING (NO PARKING AREA)
- PROPOSED 6' WOODEN FENCE
- PROPOSED LIGHTING FIXTURE
- PROPOSED LIGHTING FIXTURE
- APPROXIMATE LOCATION OF EXISTING UNDERGROUND ELECTRIC
- PROPOSED WATER LINE

DEVELOPER/CONTRACT PURCHASER

ZIMMERMAN / CLARKSVILLE LTD. PARTNERSHIP
3801 SANDY SPRING ROAD
BURTONSVILLE, MD 20866
TELEPHONE: (301) 384-2000

ADDRESS CHART

LOT NO.	STREET ADDRESS
PARCEL A	12260 MD ROUTE 108

NO.	REVISION	BY	DATE
1	RECONSTRUCTION OF EX. STRUCTURE ADD PROPANE TANKS, RELOCATE 1¼", W.H.C. AND SEPTIC TANK, REMOVE SPRINKLER TANK & F.H., EXTEND 4" SEWER, RELABEL 4"S & 6"W	DGH	8/30/91
2	AS BUILT	DGH	7/1/92
3	REV. TO ADD CELLULAR TEL. SITE @ REAR OF PARKING	DMW	7/28/94
4	ELIMINATE NORTHEASTERN AND WESTERN B.R.L.	R.H.V.	1/27/95
5	REVISION TO ADD EQUIP SHELTER	RJL	09.29.14
6	ADD SHEETS 8,9,10	RJL	10.21.2015

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 AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Robert H Vogel — SIGNATURE OF ENGINEER — 4/15/91 DATE

DEVELOPER'S CERTIFICATE

"I 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 ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — 4/25/91 DATE

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.

SOIL CONSERVATION SERVICE — 5/1/91 DATE

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

APPROVED — HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DIRECTOR — 6/4/91 DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — 6/3/91 DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — 5.23.91 DATE
CHIEF, BUREAU OF ENGINEERING — 5.23.91 DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
Joyce M Boyd — COUNTY HEALTH OFFICER — 5/10/91 DATE

SUBDIVISION NAME		SECTION/AREA		PARCEL NUMBER	
ZIMMERMAN AND SONS		N/A		PARCEL A	
PLAT NO.	BLOCK NO.	ZONE	TAX/ZONE	ELECT. DIST.	CENSUS TR.
9893	6	B-2	34	5th	6051
PRIVATE WATER CODE			PRIVATE SEWER CODE		

SITE DEVELOPMENT PLAN

ZIMMERMAN AND SONS

HOME IMPROVEMENT CENTER + TELECOM TOWER COMPOUND
REFERENCE F-90-199 AND WP-91-29
TAX MAP 34 — PARCEL 358 LOT 3
5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

JOHN E. HARMS, JR. AND ASSOCIATES, INC.
CONSULTING ENGINEERS - PLANNERS - SURVEYORS
8808 CENTRE PARK DRIVE, COLUMBIA, MARYLAND 21045 — SUITE 110 — TELEPHONE (301) 740-5200

DESIGNED BY: T.A.B.
DRAWN BY: D.G.H.
CHECKED BY: R.H.V.
DATE: 6/20/90
SCALE: AS SHOWN
W.O. NO.: 45-90-004A

SHEET 1 OF ~~7~~ 10

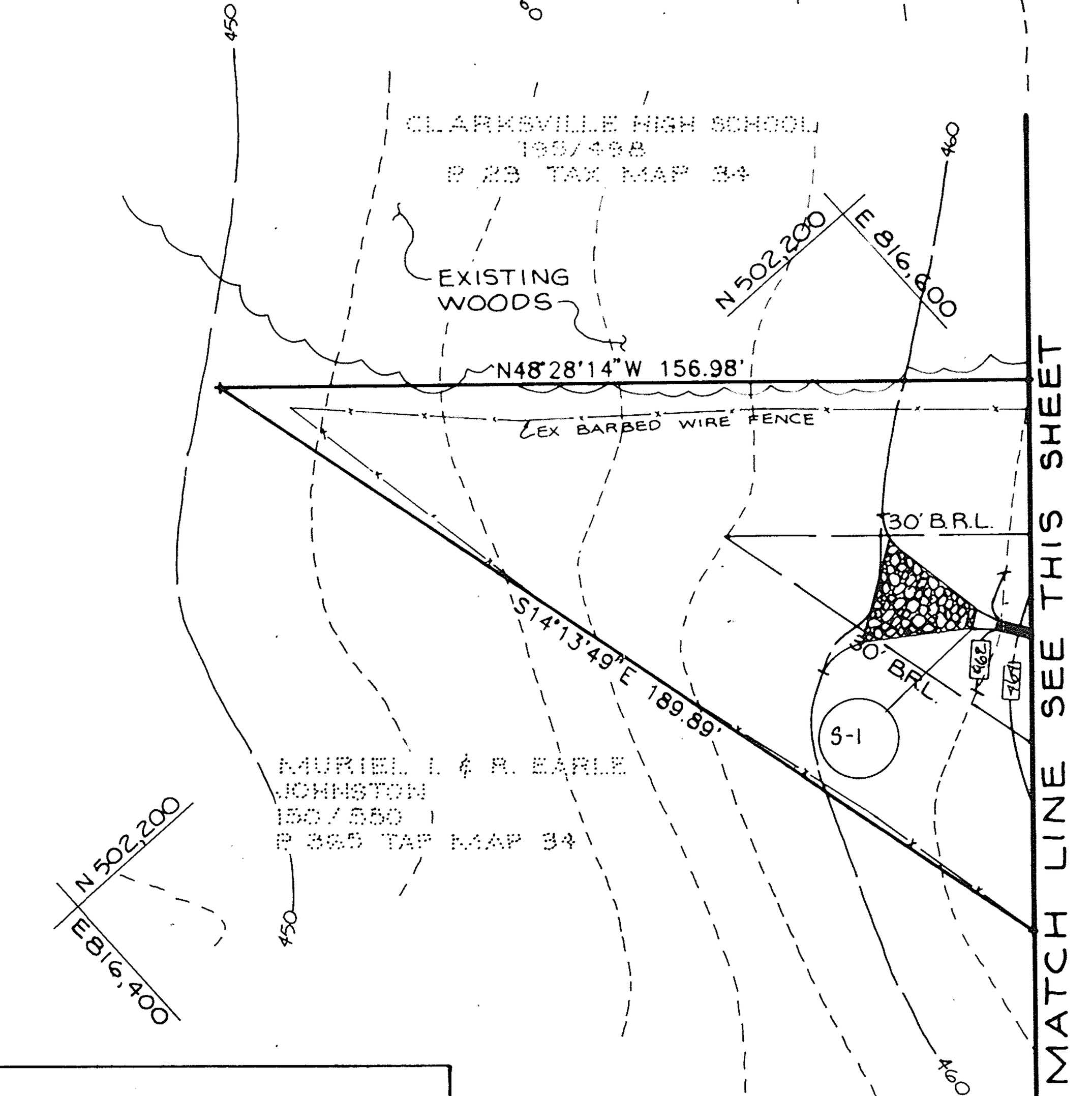
AS BUILT

SDP-90-220

STRUCTURE SCHEDULE

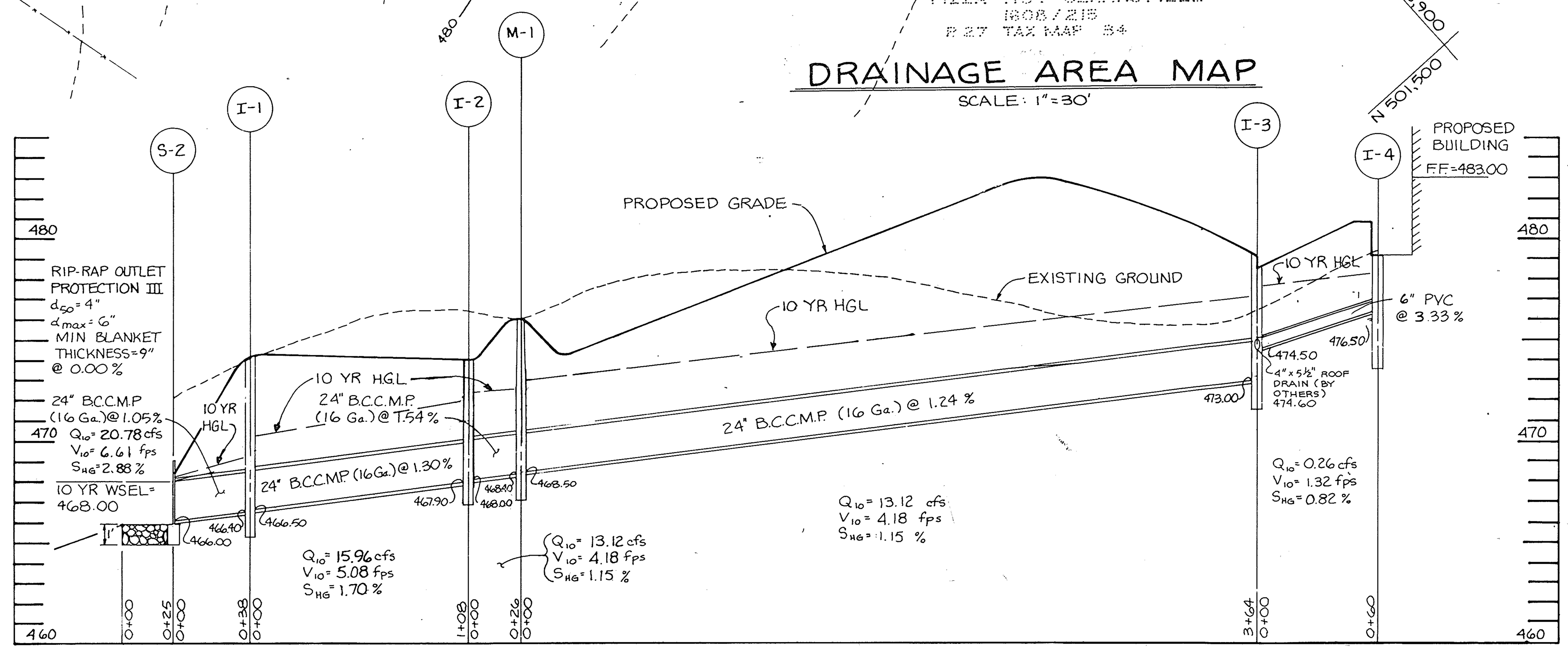
NO.	TYPE	TOP ELEV.	INV. IN.	INV. OUT	REMARKS
I-1	A-5 INLET	474.25**	466.50	466.40	S.D. 4.01 *
I-2	A-5 INLET	473.85**	468.00	467.90	S.D. 4.01 *
I-3	S COMBINATION INLET	478.14 *	474.60	473.00	S.D. 4.27*
I-4	NEENAH R 4990BX	479.13	N/A	476.00	OR EQUIVALENT
S-1	27 B.C.C.M.P. END SECTION	N/A	466.00	N/A	S.D. 5.61 *
S-2	TYPE 'C' ENDWALL (24")	N/A	465.00	N/A	S.D. 5.21 *
RS-1	STORMWATER MANAGEMENT RELEASE STRUCTURE	469.35	N/A	460.50	SEE DETAIL, SHEET 3
M-1	STD. PRECAST MANHOLE	477.00	468.50	468.40	G 5.11 *

* HOWARD COUNTY STANDARD DETAIL.
** TOP OF CURB ELEVATION

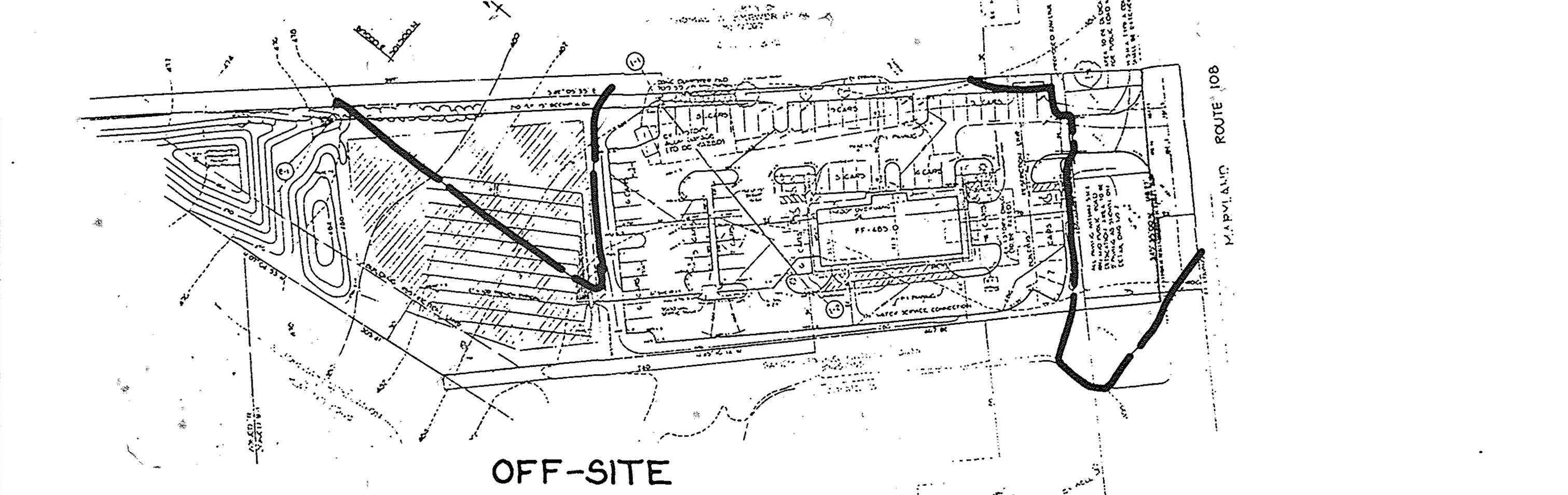


DRAINAGE AREA MAP

SCALE: 1"=30'



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



OFF-SITE DRAINAGE AREA

SCALE: 1"=100'

DEVELOPER/CONTRACT PURCHASER

ZIMMERMAN CLARKSVILLE LTD. PARTNERSHIP
3801 SANDY SPRING ROAD
BURTONSVILLE, MD. 20866
TELEPHONE: (301) 384-2000

STATE OF MARYLAND SAMER A. ALOMER 26859 PROFESSIONAL ENGINEER

Redlined - May 2021

REV 7	ADDED DRIVEWAY ENTRANCE, REVISED GRADING, UPDATED I-3 COVER, SHOW AS-BUILT CONDITION ON ADJACENT PARCEL 23 (APR. 2021)

NO.	REVISION	BY	DATE
1	RECONSTRUCTION OF EX. STRUCTURE REMOVE F.H., EXTEND 4" SEWER RELABEL 4"S AND 6"W, REV. ISLANDS	DGH	8/30/91
6	ADD SHEETS 8, 9, 10	RJL	10.21.15
7	THIS REVISION REPLACES REV. 6 DATED 10-21-2015 BY CHANGING PROPOSED VERIZON WIRELESS EQUIPMENT SHELTER TO EQUIPMENT CABINETS ON A CONCRETE PAD WITH CANOPY	MAM	04-15-16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[illegible] 6/4/91
DIRECTOR DATE

[illegible] 6/3/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[illegible] 5/23/91
DIRECTOR DATE

[illegible] 5-23-91
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

Joyce M Boyd [illegible] 5/10/91
COUNTY HEALTH OFFICER DATE

DRAINAGE AREA MAP & STORM DRAIN PROFILE

ZIMMERMAN AND SONS

HOME IMPROVEMENT CENTER + TELECOM TOWER COMPOUND
REFERENCE F-90-199 AND WP-91-29

TAX MAP 34 PARCEL 358 LOT 3

5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

JOHN E. HARMS, JR. AND ASSOCIATES, INC.

CONSULTING ENGINEERS - PLANNERS - SURVEYORS

8808 CENTRE PARK DRIVE COLUMBIA, MARYLAND 21045

SUITE 110 TELEPHONE (301) 740-5200

Robert H. Vogel 4/5/91

STATE OF MARYLAND ROBERT HARRIS VOGEL NO. 16193 REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: T.A.B.
DRAWN BY: D.G.H./J.J.T.
CHECKED BY: R.H.V.
DATE: 6/25/90
SCALE: AS SHOWN
W.O. NO.: 45-90-004A

2 SHEET OF 10

SDP 90-220

STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

I. SITE PREPARATION

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 TO NO STEEPER THAN 1:1.

AREAS TO BE COVERED BY THE POND OR RESERVOIR SHALL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIALS 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 AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOP SOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

II. EARTH FILL

MATERIAL

THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREA OR AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, 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 CONTINUOUSLY OVER THE ENTIRE LENGTH OF THE FILL. THE MOST POROUS BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT.

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, OF 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.

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.

CUTOFF TRENCH

WHERE SPECIFIED, A CUT-OFF TRENCH SHALL BE EXCAVATED ALONG OR PARALLEL TO THE CENTERLINE 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 SHALL 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 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 AI FULLY BITUMINOUS COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION 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 COATING SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THE FOLLOWING COATINGS ARE COMMERCIALLY AVAILABLE: NEXON, PLASTI-COTE, BLAC-KLAD, AND BETH-CU-LOY. COATED CORRUGATED STEEL PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M-245 AND M-246.

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 SET WITH INSIDE CIRCUMFERENTIAL LAPS POINTING DOWNSTREAM AND WITH THE LONGITUDINAL LAPS AT THE SIDES.

5. BACKFILLING SHALL CONFORM TO STRUCTURAL BACKFILL AS SHOWN ABOVE.

IV. CONCRETE

A. MATERIALS

1. CEMENT – NORMAL PORTLAND CEMENT SHALL CONFORM TO THE LATEST ASTM SPECIFICATIONS 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 PERCENT 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 OR 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-165.

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. 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 THE STRUCTURE.

C. MIXING–THE CONCRETE INGREDIENTS SHALL BE MIXED IN BATCH MIXERS UNTIL THE MIXTURE IS HOMOGENOUS 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 MIXER-CHARGING 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 NOT 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 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 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. CONSOLIDATING– 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, 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 THE 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 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.

I. PLACING TEMPERATURE – CONCRETE MAY NOT BE PLACED AT TEMPERATURE BELOW 37 DEGREES F WITH THE TEMPERATURE FALLING, OR 34 DEGREES F 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, LIMING, FERTILIZING AND MULCHING (IF REQUIRED) IN ACCORDANCE WITH THE VEGETATIVE TREATMENT SPECIFICATIONS.

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 SHALL BE FOLLOWED. DETAIL OF EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS SHALL BE IN ACCORDANCE WITH EROSION AND SEDIMENT CONTROL PLANS FOR THIS PROJECT.

THE CONSTRUCTION OF ALL INFILTRATION BASINS SHOULD COMPLY WITH THE CRITERIA SET FORTH IN THE MARYLAND SCS STANDARDS AND SPECIFICATIONS 378-PONDS DATED JULY, 1981 OR SUBSEQUENT REVISIONS AND THE ADDITIONAL CRITERIA PROVIDED BELOW.

3.2.6.1 SCHEDULE

THE SEQUENCE OF VARIOUS PHASES OF BASIN CONSTRUCTION SHALL BE COORDINATED WITH THE OVERALL PROJECT CONSTRUCTION SCHEDULE. A PROGRAM SHALL SCHEDULE ROUGH EXCAVATION OF THE BASIN WITH THE ROUGH GRADING PHASE OF THE PROJECT TO PERMIT USE OF THE MATERIAL AS FILL IN EARTHWORK AREAS. THE PARTIALLY EXCAVATED BASIN SHALL SERVE AS A SEDIMENTATION BASIN IN ORDER TO ASSIST IN EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION. HOWEVER, BASINS NEAR FINAL STAGES OF EXCAVATION SHOULD NEVER BE USED PREMATURELY FOR RUNOFF DISPOSAL. DRAINAGE FROM UNTREATED, FRESHLY CONSTRUCTED SLOPES WITHIN THE WATERSHED AREA WOULD LOAD THE NEWLY FORMED BASIN WITH A HEAVY CONCENTRATION OF FINE SEDIMENT. THIS COULD SERIOUSLY IMPAIR THE NATURAL INFILTRATION CHARACTERISTICS OF THE BASIN FLOOR. FINAL GRADE OF AN INFILTRATION BASIN SHALL NOT BE ATTAINED UNTIL AFTER ITS USE AS A SEDIMENT CONTROL BASIN IS COMPLETE.

SPECIFICATIONS FOR BASIN CONSTRUCTION SHOULD STATE: (1) (THE EARLIEST POINT IN PROGRESS WHEN STORM DRAINAGE MAY BE DIRECTION TO THE BASIN , AND (2) THE MEANS BY WHICH THIS DELAY IN USE IS TO BE ACCOMPLISHED. DUE TO THE WIDE VARIETY FO CONDITIONS ENCOUNTERED AMONG PROJECTS, EACH SHOULD BE SEPARATELY EVALUATED IN ORDER TO POSTPONE USE AS IS REASONABLY POSSIBLE.

3.2.6.2 EXCAVATION

INITIAL BASIN EXCAVATION SHALL BE CARRIED TO WITHIN 1 FOOT OF THE FINAL DEFERRED UNTIL ALL DISTURBED AREAS ON THE WATERSHED HAVE BEEN ESTABLISHED OR PROTECTED. THE FINAL PHASE EXCAVATION SHOULD REMOVE ALL ACCUMULATED SEDIMENT. RELATIVELY LIGHT TRACKED EQUIPTMENT IS RECOMMENDED FOR THIS OPERATION TO AVOID COMPACTION OF THE BASIN FLOOR. AFTER THE FINAL GRADING IS COMPLETED, THE BASIN FLOOR SHOULD BE DEEPLY TILLED BY MEANS OF ROTARY TILLERS OR DISC BARROWS TO PROVIDE A WELL-SERRATED, HIGHLY POROUS SURFACE TEXTURE.

3.2.6.3 LINING MATERIAL

INFILTRATION BASINS MAY BE LINED WITH A 6– TO 12-INCH LAYER OF FILTER MATERIAL SUCH AS COARSE SAND TO HELP PREVENT THE BUILDUP OF IMPERVIOUS DEPOSITS ON THE SOIL SURFACE. THE FILTER LAYER CAN BE REPLACED OR CLEANED WHEN IT BECOMES CLOGGED. WHEN A 6-INCH LAYER OF COARSE ORGANIC MATERIAL IS SPECIFIED FOR DISCING (SUCH AS HULLS, LEAVESM STEMS, ETC.) OR SPADING INTO THE BASIN FLOOR TO INCREASE THE PERMEABILITY OF THE SOILS, THE BASIN FLOOR SHOULD BE SOAKED OR INUNDATED FOR A BRIEF PERIOD, THEN ALLOWED TO DRY SUBSEQUENT TO THIS OPERATION. THIS INDUCES THE ORGANIC MATERIAL TO DECAY RAPIDLY, LOOSENING THE UPPER SOIL LAYER.

ESTABLISHING DENSE VEGETAION ON THE BASIN SIDE SLOPES AND FLOOR IS REQUIRED. A DENSE VEGETATIVE STAND WILL NOT ONLY PREVENT EROSION AND SLOUGHING, BUT WILL ALSO PROVIDE A NATURAL MEANS OF MAINTAINING RELATIVELY HIGH INFILTRATION RATES. EROSION PROTECTION OF INFLOW POINTS TO THE BASIN SHALL ALSO BE PROVIDED. REMOVAL OF ACCUMULATED SEDIMENT IS A PROBLEM ONLY AT THE BASIN FLOOR. LITTLE MAINTENANCE IS NORMALLY REQUIRED TO MAINTAIN THE INFILTRATION CAPACITY OF SLOPE AREAS.

SELECTION OF SUITABLE VEGETATIVE MATERIALS FOR THE SIDE SLOPE AND ALL OTHER AREAS TO BE STABILIZED WITH VEGETATION AND APPLICATION OF REQUIRED FERTILIZER AND MULCHES SHALL BE DONE IN ACCORDANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. LOCAL EXTENSION AGENCIES SHOULD ALSO BE CONSULTED.

3.2.1 MAINTENANCE

3.2.7.1 INSPECTION SCHEDULE

DRAINAGE SYSTEMS MUST BE INSPECTED ON A ROUTINE BASIS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. INSPECTIONS CAN BE ON A SEMIANNUAL BASIS BUT SHOULD ALWAYS BE CONDUCTED FOLLOWING MAJOR STORMS.

(A) PURPOSES IT IS NECESSARY TO RESTORE THE NATURAL INFILTRATION CAPACITY BY OVERCOMING THE EFFECTS OF SURFACE COMPACTION, AND TO CONTROL WEED GROWTH ON THE BASIN FLOOR.

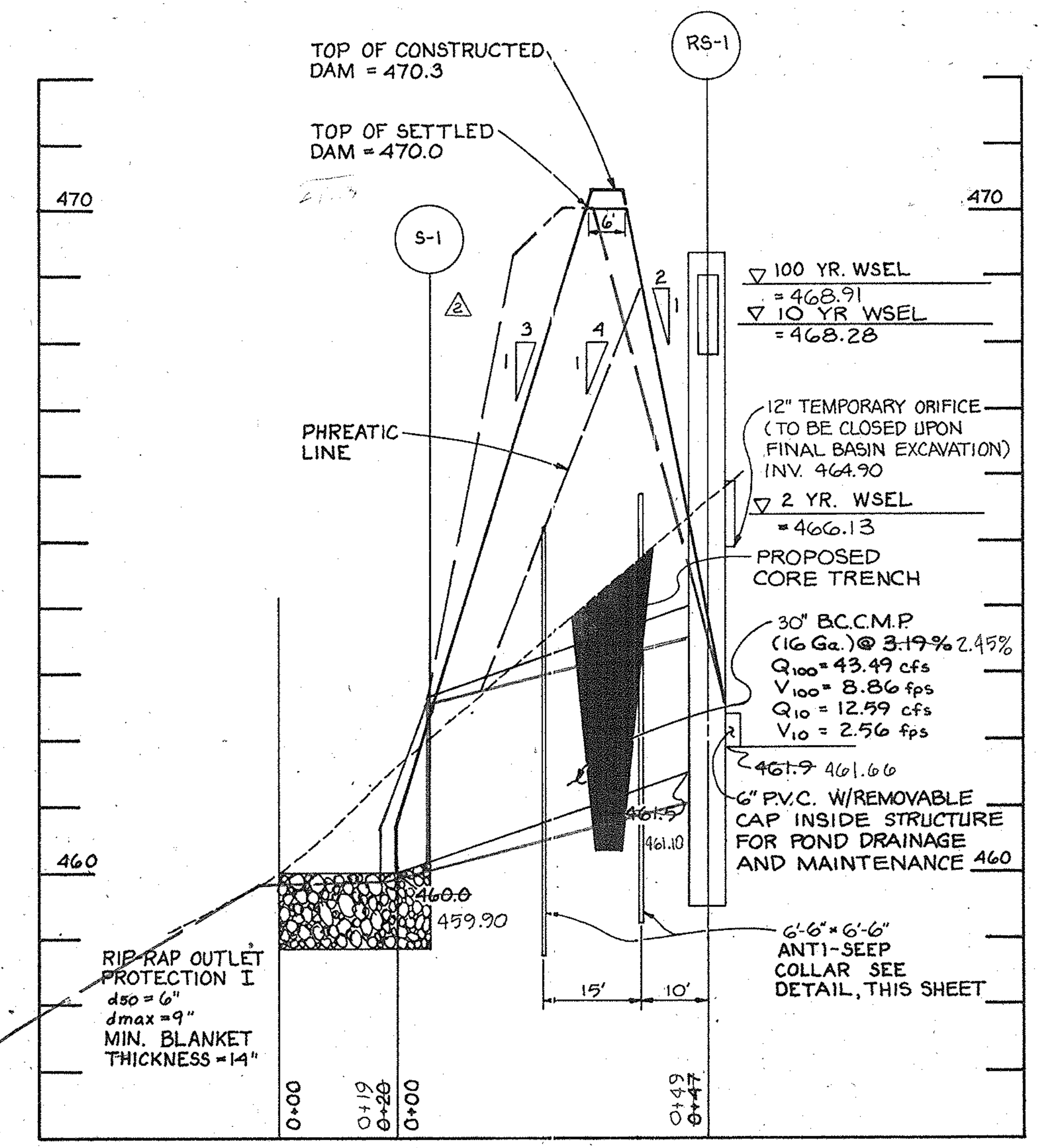
(B) TECHNIQUE ROTARY TILLERS OR DISC BARROWS WILL NORMALLY SERVE THIS PURPOSE. LIGHT TRACTORS SHALL BE EMPLOYED FOR THESE OPERATIONS. IN THE EVENT THAT HEAVY EQUIPTMENT HAS CAUSED DEEPER THAN NORMAL COMPACTION OF THE SURFACE, THESE OPERATIONS SHALL BE PRECEDED BY DEEP PLOWING. IN ITS FINAL CONDITION AFTER TILLING, THE BASIN FLOOR SHALL BE LEVEL, SMOOTH AND FREE OF RIDGES AND FURROWS TO EASE FUTURE REMOVAL OF SEDIMENT AND MINIMIZE THE MATERIAL TO BE REMOVED DURING FUTURE CLEANING OPERATIONS. A LEVELLING DRAG, TOWED BEHIND THE EQUIPTMENT ON THE LAST PASS, WILL ACCOMPLISH THIS.

(C) FREQUENCY IN THE SPRING, THE BASIN SURFACE IS USUALLY QUITE POROUS DUE TO THE EFFECTS OF FROST AND SUBSEQUENT THAWING. THE FILTRATION CAPACITY DIMINISHES RAPIDLY THEREAFTER. TO ENHANCE INFILTRATION CAPACITY, TILLING SHALL BE THOROUGH ONCE EACH SEASON, FROM LATE JUNE THROUGH SEPTEMBER. TO CONTROL VEGETATIVE GROWTH, AN ADDITIONAL LIGHT TILLAGE MAY BE ADVISABLE DURING THE GROWING SEASON. PRECAUTIONS MUST BE OBSERVED, HOWEVER, TO AVOID ANY POSSIBILITY OF WORKING SEDIMENT ACCUMULATIONS INTO THE BASIN FLOOR AS A PART OF LIGHT CULTIVATION FOR THE PURPOSE OF WEED CONTROL. IT IS THEREFORE STRESSED AGAIN THAT ANY CULTIVATION OR TILLING OPERATION BE PRECEDED IN ALL CASES BY CAREFUL SEDIMENT REMOVAL.

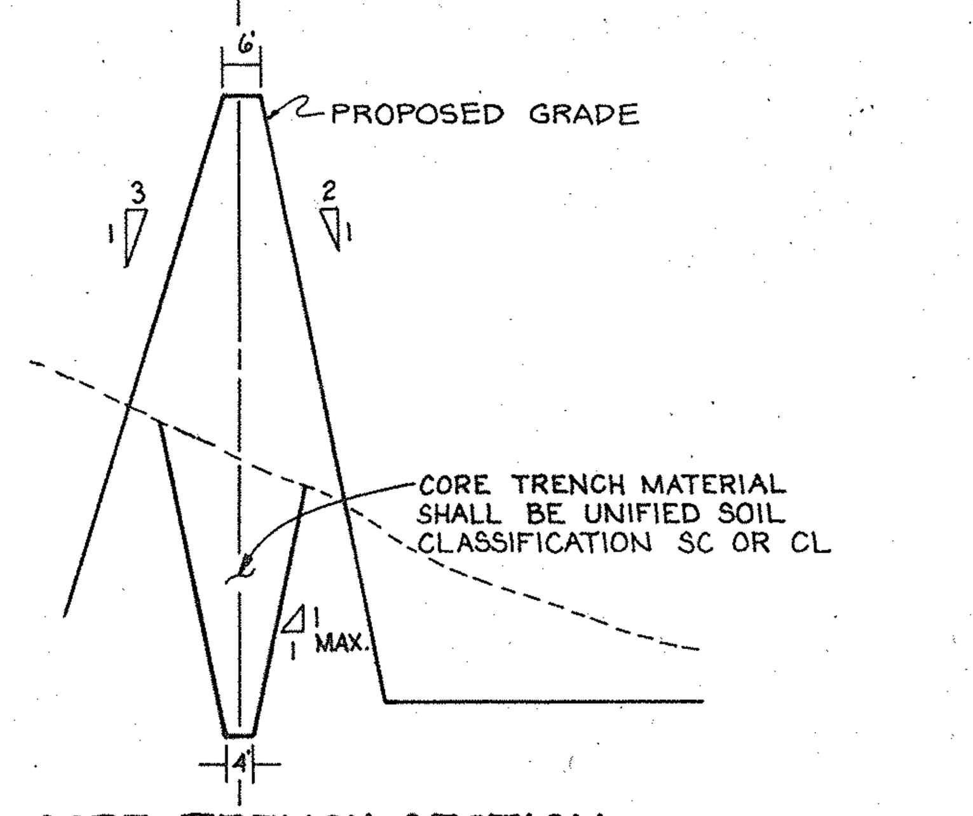
3.2.7.5 SIDE SLOPE MAINTENANCE

(A) PURPOSE TO PROMOTE A DENSE TURF WITH EXTENSIVE ROOT GROWTH, THEREBY, ENHANCING INFILTRATION THROUGH THE SLOPE SURFACE AND PREVENT WEEDS FROM GRADUALLY TAKING OVER THE SLOPE AREAS.

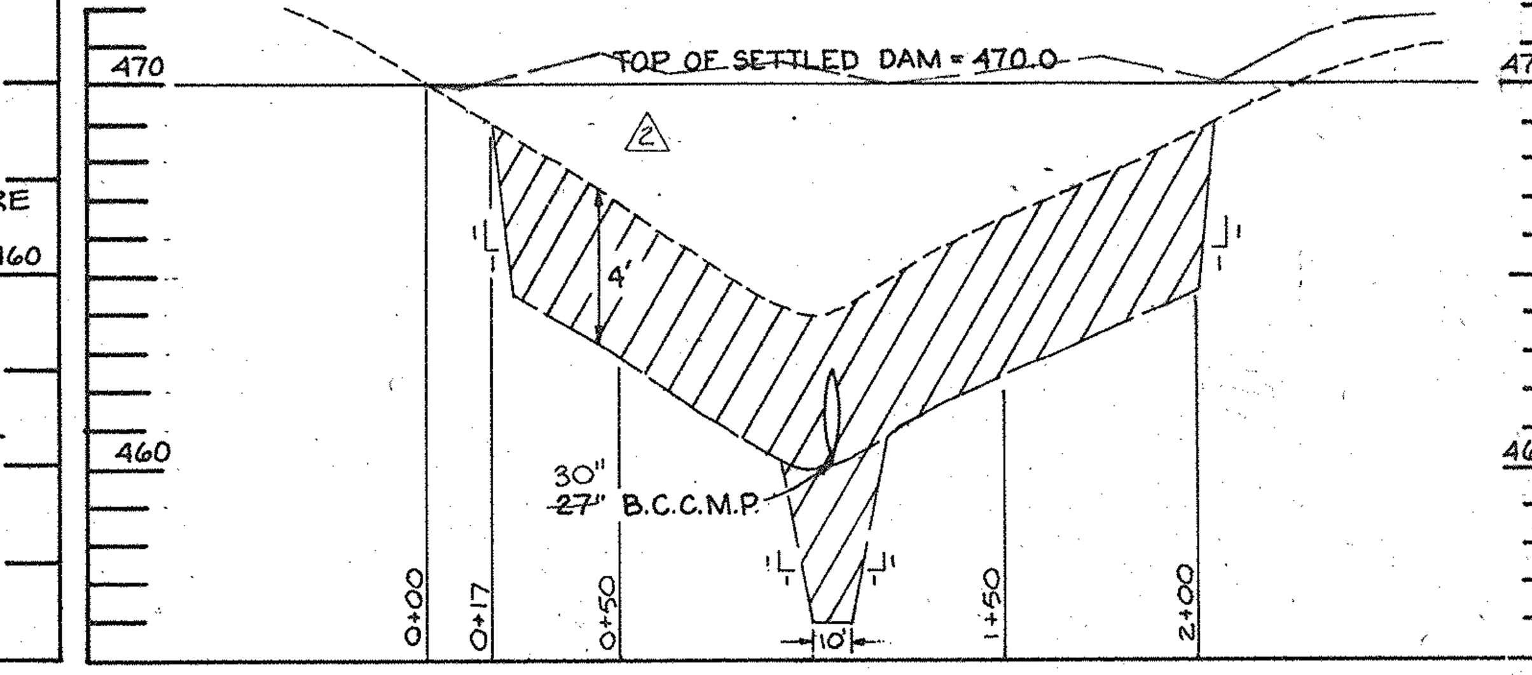
(B) FREQUENCY GRASSES OF THE FESCUE FAMILY ARE REQUIRED FOR SEEDING PRIMARILY DUE TO THEIR ADAPTABILITY TO DRY SANDY SOILS, DROUGHT RESISTANCE, HARDINESS AND ABILITY TO WITHSTAND BRIEF INUNDATIONS. THE USE OF FESCUES WILL ALSO PERMIT LONG INTERVALS BETWEEN MOWINGS. THIS IS IMPORTANT DUE TO THE RELATIVELY STEEP SLOPES WHICH MAKE MOWING DIFFICULT. MOWING TWICE A YEAR, ONCE IN JUNE AND AGAIN IN SEPTEMBER IS GENERALLY SATISFACTORY, REFERTILIZATION WITH 10-6-4 RATIO FERTILIZER AT A RATE OF 500 POUNDS PER ACRE (11 POUNDS PER 1,000 SQUARE FEET) MAY BE REQUIRED THE SECOND YEAR AFTER SEEDING.



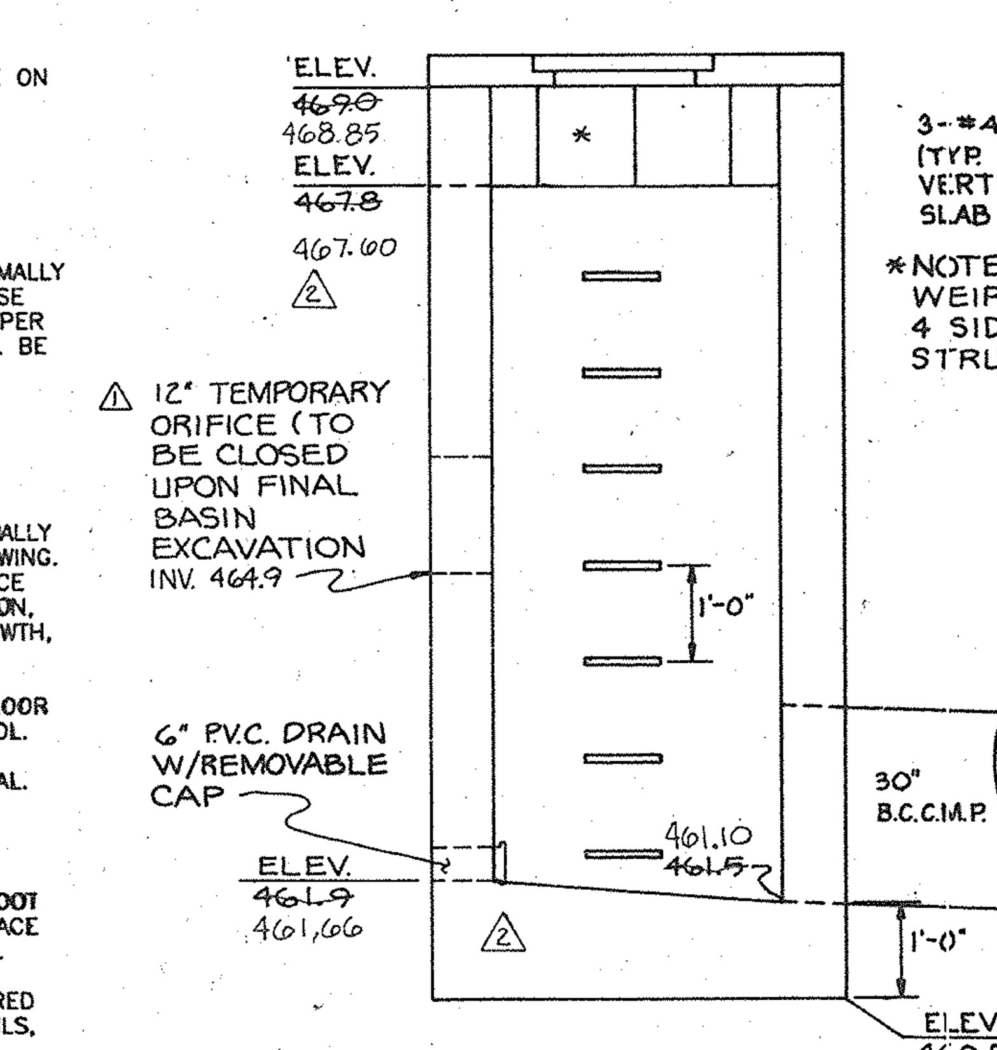
PROFILE
SCALE: HORIZ. 1"=20'
VERT. 1"=2'



CORE TRENCH SECTION
NOT TO SCALE



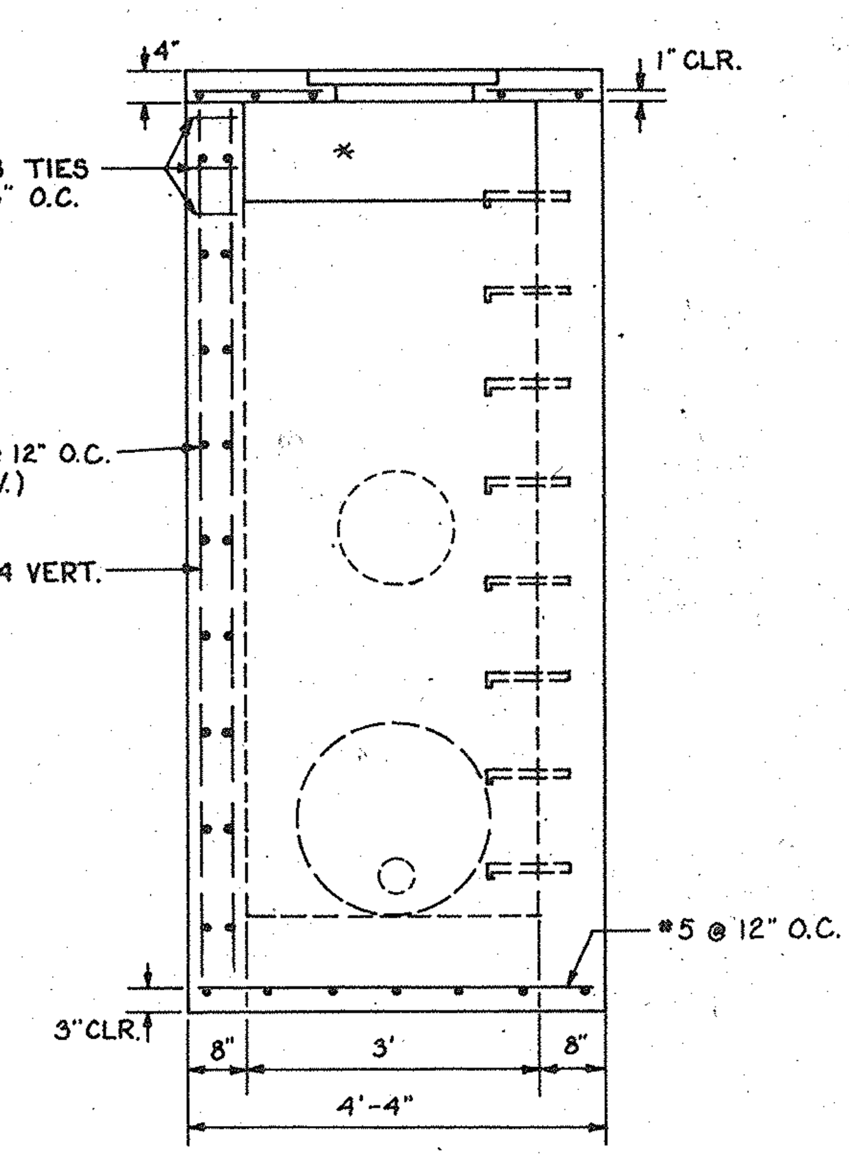
CROSS-SECTION ALONG ℄ OF EMBANKMENT
SCALE: HORIZ. 1"=50
VERT. 1"=5'



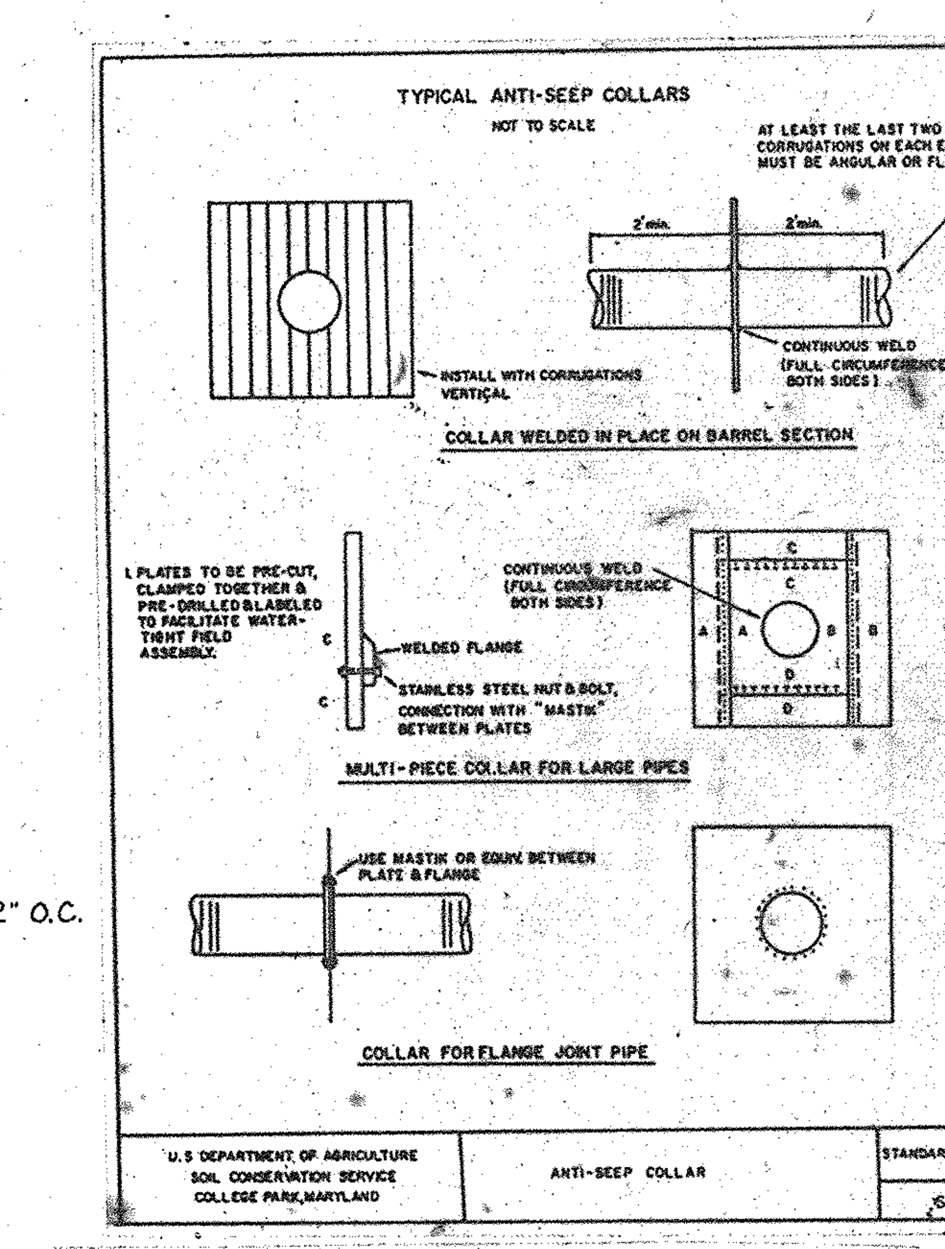
3-#4 BARS 12" O.C. (TYP. 4 SIDES) EXTEND VERTICAL 3 ½" INTO SLAB

*NOTE: WEIR TYPICAL ALL 4 SIDES OF RISER STRUCTURE.

ELEVATION B-B
NOT TO SCALE



ELEVATION A-A
NOT TO SCALE



NOTE: S.W.M. POND IS HAZARD CLASS 'A'.

AS BUILT NOTE

THE INFORMATION SHOWN HEREON WAS OBTAINED FROM A VISUAL OBSERVATION BY A SURVEY CREW INACCESSABLE STRUCTURES/ IMPROVEMENTS AS LOCATED FROM CONTRACTOR'S/ OWNER'S RECORDS OR APPROVED CONSTRUCTION PLANS. INFORMATION WILL BE PROVIDED BY THE CONTRACTOR AND GEOTECHNICAL ENGINEER TO CERTIFY MATERIAL AND SOIL SPECIFICATIONS. JOHN E. HARMS, JR. AND ASSOCIATES INC. IS NOT RESPONSIBLE FOR THE ACCURACY OR ERRORS AND OMMISSIONS FOR INFORMATION WE HAVE NOT PROVIDED AS PART OF OUR FIELD AS BUILT SURVEY.

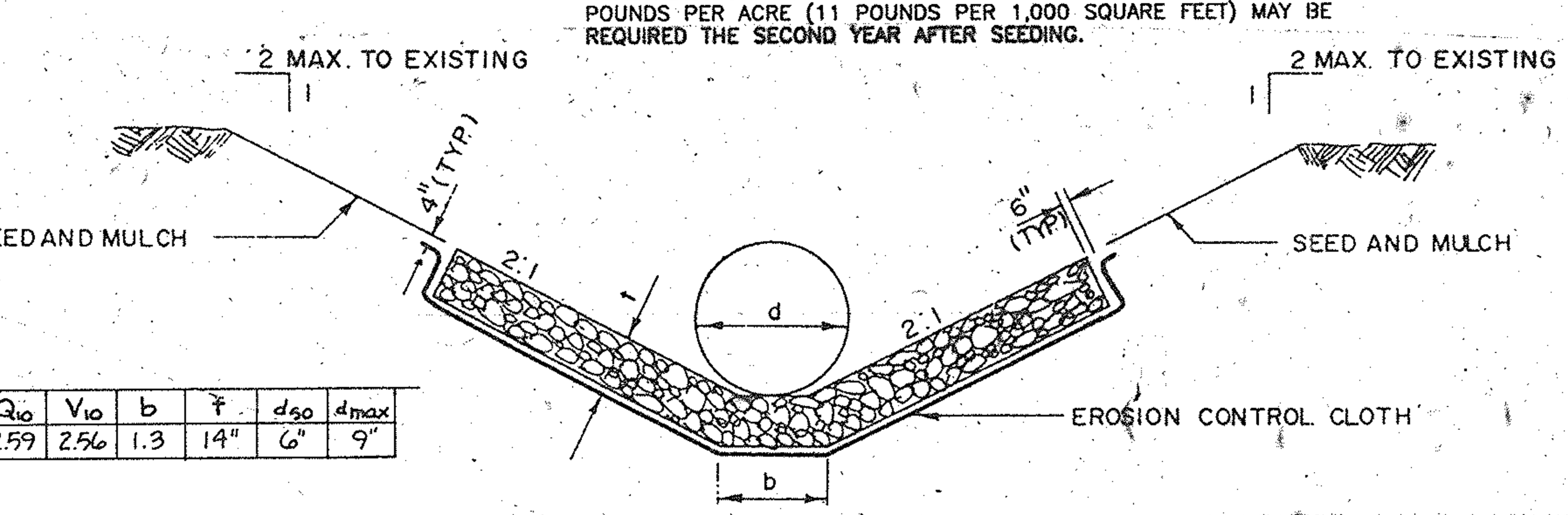
I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THE AS BUILT INFORMATION SHOWN HEREON IS CORRECT SUBJECT TO THE ATTACHED "AS BUILT NOTE".

[illegible] 7/1/92

ROBERT H. VOGEL, PROFESSIONAL ENGINEER MD. NO. 16193

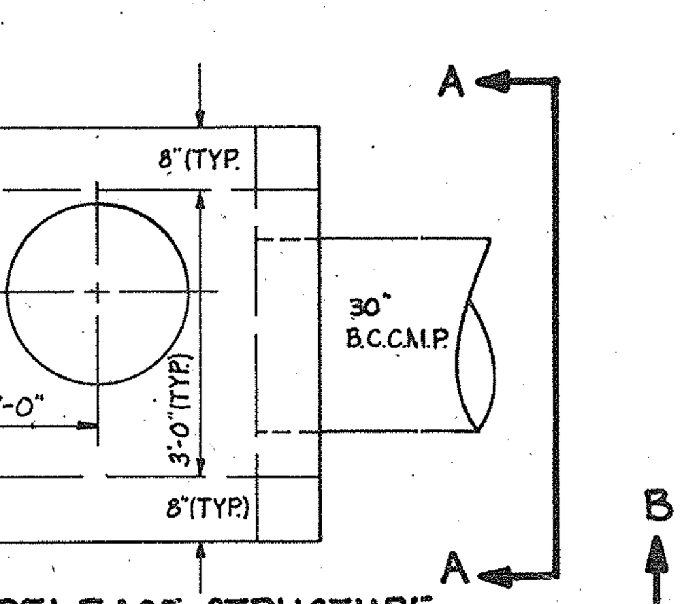
STATE OF MARYLAND ROBERT HARRIS VOGEL NO. 16193 REGISTERED PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE
2	AS BUILT	DGH.	7/1/92
6	ADD SHEETS 8, 9, 10	RJL	10-21-15
7	THIS REVISION REPLACES REV. 6 DATED 10-21-2015 BY CHANGING PROPOSED VERIZON WIRELESS EQUIPMENT SHELTER TO EQUIPMENT CABINETS ON A CONCRETE PAD	MAM	04-15-16

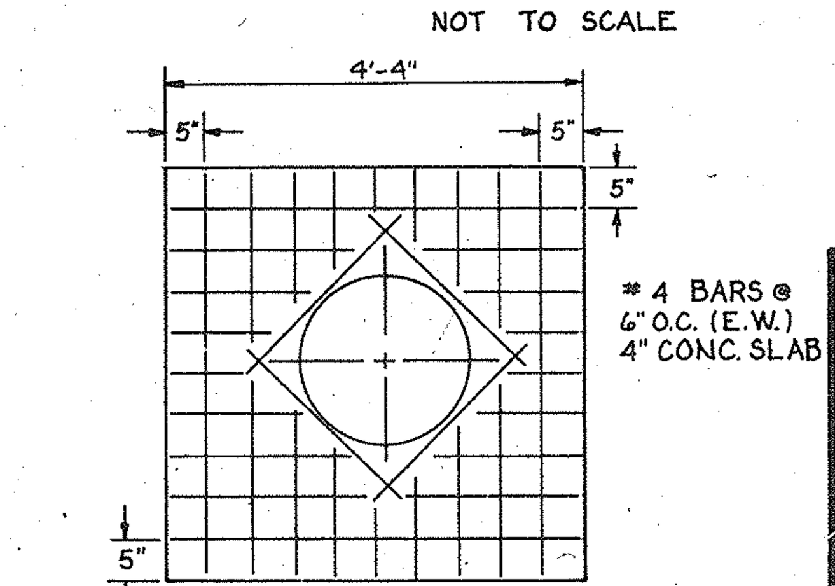


d	Q_{10}	V_{10}	b	₮	d_{50}	d_{max}
30"	12.59	2.56	1.3	14"	6"	9"

SECTION @ OUTLET OF BARREL
NOT TO SCALE



SWM RELEASE STRUCTURE PLAN
NOT TO SCALE



4 BARS @ 6" O.C. (E.W.)
4" CONC. SLAB

PLAN TOP SLAB, MANHOLE FRAME + COVER
NOT TO SCALE

DEVELOPER / CONTRACT PURCHASER
ZIMMERMAN CLARKSVILLE LTD PARTNERSHIP
3801 SANDY SPRING ROAD
BURTONSVILLE, MD 20866
TELEPHONE: (301)384-2000

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 AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Robert H. Vogel 4/5/91
SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

"I 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 ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

[illegible] 4/25/91
SIGNATURE OF DEVELOPER DATE

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.

[illegible] 5/1/91
U.S. SOIL CONSERVATION SERVICE DATE

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

APPROVED [illegible] 5/1/91
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[illegible] 6/4/91
DIRECTOR DATE

[illegible] 6/3/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[illegible] 5/23/91 [illegible] 5-23-91
DIRECTOR DATE CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

[illegible] 5/10/91
COUNTY HEALTH OFFICER DATE

STORMWATER MANAGEMENT SPECIFICATIONS AND DETAILS

ZIMMERMAN AND SONS

HOME IMPROVEMENT CENTER + TELECOM TOWER COMPOUND
REFERENCE F-90-199 AND WP-91-29

TAX MAP 34 PARCEL 358 LOT 3

5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

JOHN E. HARMS, JR. AND ASSOCIATES, INC.

CONSULTING ENGINEERS - PLANNERS - SURVEYORS

8808 CENTRE PARK DRIVE COLUMBIA, MARYLAND 21045

SUITE 110 TELEPHONE (301) 740-5200

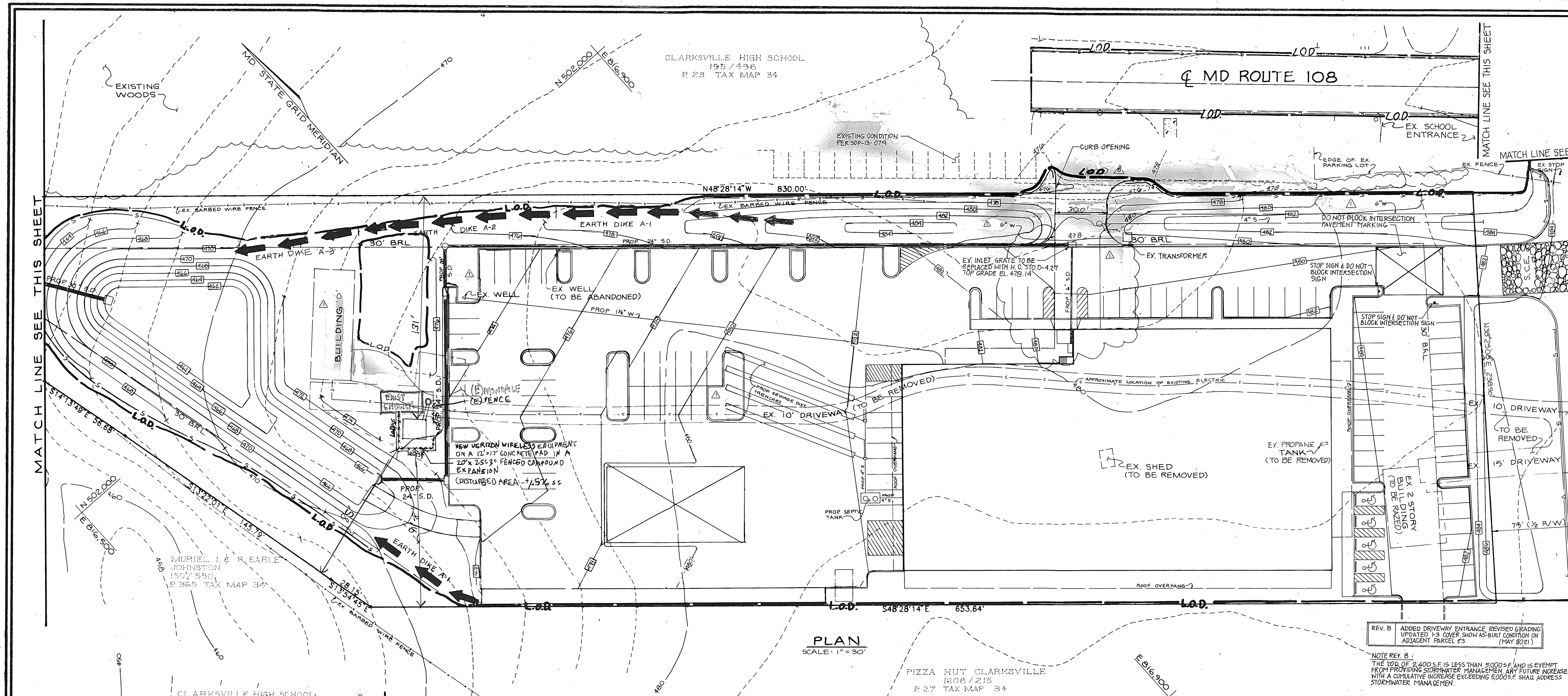
Robert H. Vogel 4/5/91

STATE OF MARYLAND ROBERT HARRIS VOGEL NO. 16193 REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: T.A.B.
DRAWN BY: J.J.T.
CHECKED BY: R.H.V.
DATE: 6/25/90
SCALE: AS SHOWN
W.O. NO.: 45-90-004A

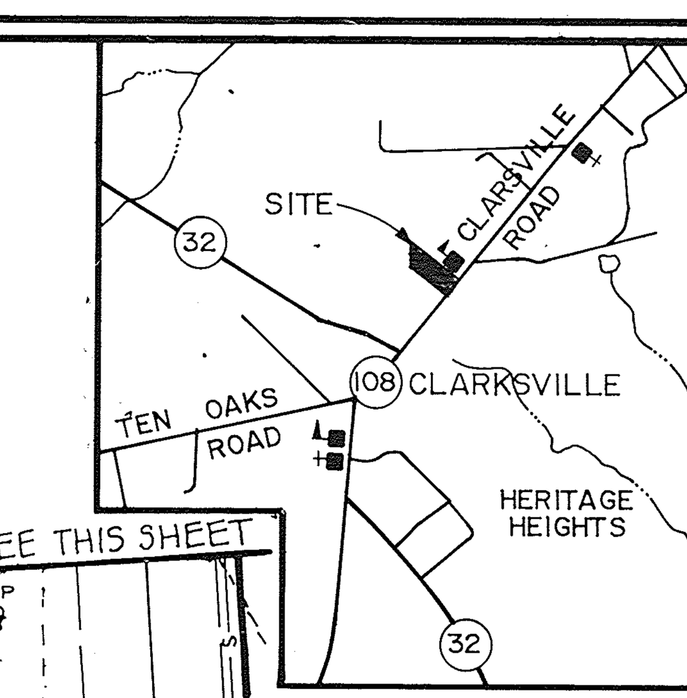
SHEET 3 OF 10

SDP 90-220

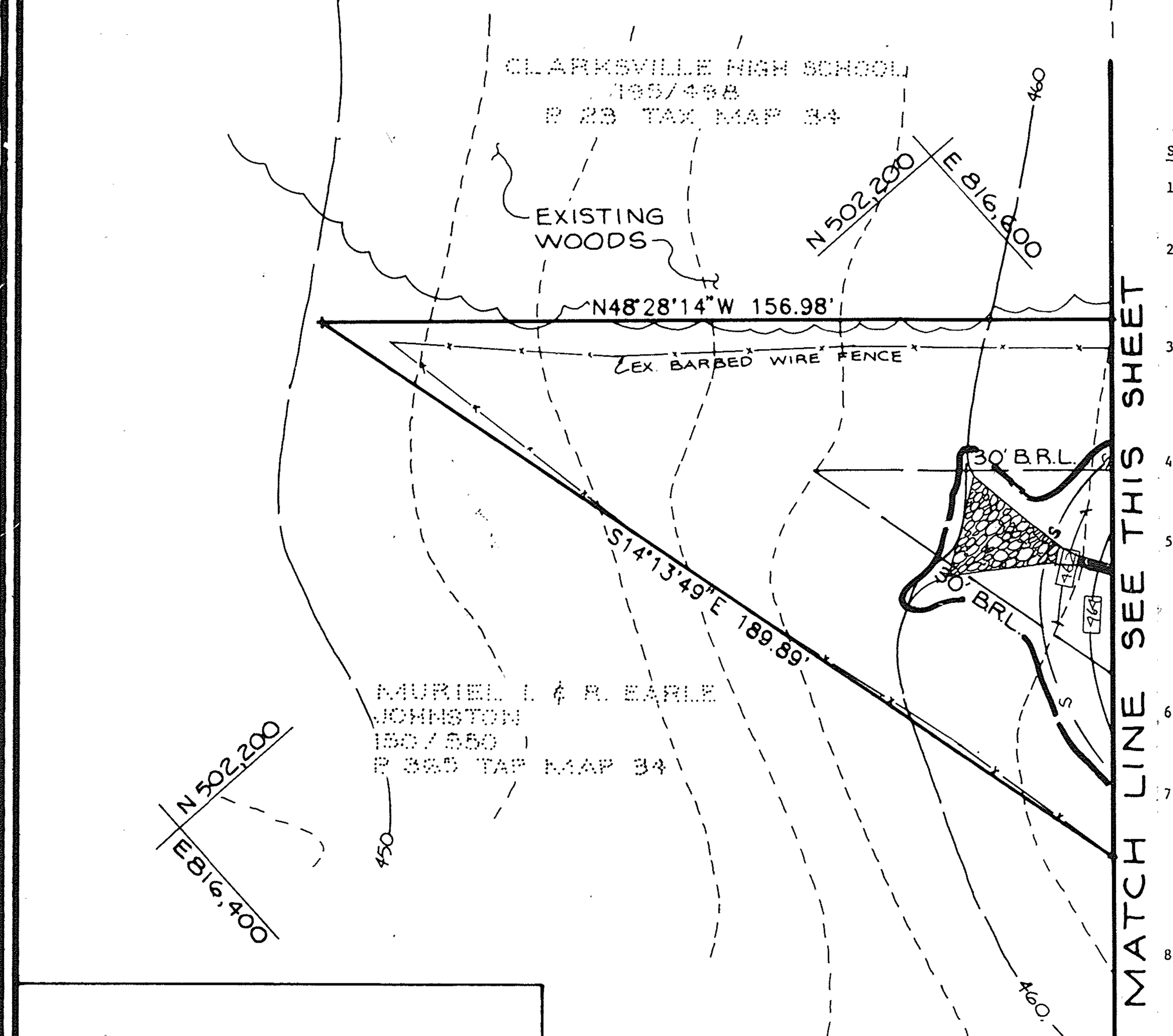


REV. 8	ADDED DRIVEWAY ENTRANCE, REVISED GRADING UPDATED 1-3 COVER, SHOW AS-BUILT CONDITION ON ADJACENT PARCEL E3 (MAY 2021)

NOTE REV. 8 :
THE LOD OF 2,400 S.F. IS LESS THAN 5,000 S.F. AND IS EXEMPT FROM PROVIDING STORMWATER MANAGEMEN. ANY FUTURE INCREASE WITH A CUMULATIVE INCREASE EXCEEDING 5,000 S.F. SHALL ADDRESS STORMWATER MANAGEMEN.



VICINITY MAP
SCALE: 1" = 2,000'



SEDIMENT CONTROL NOTES

1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits pror 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: 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.
4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chaper 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. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52.) Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6) 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
7) Site Analysis:

	ON SITE	OFF SITE	TOTAL
Total Area of Site	4.49	—	4.49 Ac
Area Disturbed	4.16	0.74	4.90 Ac
Area to be roofed or paved	2.67	0.54	3.00 Ac
Area to be vegetatively stabilized	1.49	0.20	1.61 Ac
Total Cut	6,500 Cu. yds		
Total Fill	6,500 Cu. yds		
Offsite waste/borrow area location	N/A		

8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

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, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules.

1) 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).

2. 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 anchor.

Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seedbed Preparations: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments: Apply 60 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 2 1/2 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 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use 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.

LEGEND

LIMIT OF DISTURBANCE	▬ ▬ ▬
EARTH DIKE	➡ ➡ ➡
SILT FENCE	S —— S —— S —— S
STABILIZED CONSTRUCTION ENTRANCE	S.C.E. ▨
PROPOSED STORMDRAIN SYSTEM	▬

SEQUENCE OF CONSTRUCTION

1. Obtain grading permit.
2. Notify Howard County Bureau of Inspection and Permits (992-2437) at least 24 hours before starting work.
3. Construct Stabilized Construction Entrance.
4. Install perimeter sediment control measures.
5. Construct RS-1 and stormwater management outfall S-1.
6. Construct infiltration basin. Initial basin excavation of stormwater management facility shall be made to elevation 463.00. Temporary 12" orifice shall be constructed at this time.
7. Clear, grub and rough grade site.
8. Begin construction of buildings A, B, and C.
9. Construct sewage disposal system and water service for Building A.
10. Construct storm drainage system.
11. Construct parking lot and improvements to Maryland Route 108.
12. Upon stabilization of contributing drainage area to infiltration basin, excavation of pond shall be made to finished bottom elevation 461.90 and temporary 12" orifice shall be plugged.
13. During grading and after each rainfall, the contractor shall inspect and provide necessary maintenance on the sediment and erosion control measures shown hereon.
14. During grading, sediment shall be removed form the sediment traps when the cleanout elevation has been reached.
15. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within:
   A. 7 calendar days for all perimeter sediment control structures, dikes, swales, ditch perimeter slopes and all slopes greater than 3:1.
   B, 14 days for all other disturbed areas.
16. With the approval of the Sediment Control Inspector, remove all sediment control structures.

STATE OF MARYLAND SAMER A. ALOMER 26859 PROFESSIONAL ENGINEER

Redlined May, 2021

NO.	REVISION	BY	DATE
1	RECONSTRUCTION OF EX STRUCTURE, REMOVE F.H., EXTEND 4"S, RELABEL 4"S & 6" W, REV. ISLANDS	DGH	8/30/91
6	ADD SHEETS 8, 9, 10	RJL	10.21.15
7	THIS REVISION REPLACES REV 6 DATED 10-21-15 BY CHANGING PROPOSED VERIZON WIRELESS EQUIPMENT SHELTER TO EQUIPMENT CABINETS ON A CONCRETE PAD WITH CANOPY	MAM	04.15.2016

DEVELOPER / CONTRACT PURCHASER
ZIMMERMAN CLARKSVILLE LTD PARTNERSHIP
3801 SANDY SPRING ROAD
BURTONSVILLE, MD 20866
TELEPHONE: (301)384-2000

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 AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Robert H. Vogel — 4/5/91
SIGNATURE OF ENGINEER — DATE

DEVELOPER'S CERTIFICATE

"I 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 ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Roy A. Zimmerman — 4/25/91
SIGNATURE OF DEVELOPER — DATE

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.

[illegible] — 5/1/91
U.S. SOIL CONSERVATION SERVICE — DATE

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

APPROVED: Robert W. Ziehm — 5/1/91
HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[illegible] — 6/4/91
DIRECTOR — DATE

[illegible] — 6/3/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[illegible] — 5/23/91
DIRECTOR — DATE

[illegible] — 5.23.91
CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

[illegible] — 5/10/91
COUNTY HEALTH OFFICER — DATE

SEDIMENT AND EROSION CONTROL PLAN
ZIMMERMAN AND SONS
HOME IMPROVEMENT CENTER + TELECOM TOWER COMPOUND
REFERENCE F-90-199 AND WP-91-29

TAX MAP 34 — PARCEL 358 LOT 3
5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

JOHN E. HARMS, JR. AND ASSOCIATES, INC.
CONSULTING ENGINEERS - PLANNERS - SURVEYORS
8808 CENTRE PARK DRIVE, COLUMBIA, MARYLAND 21045 — *SUITE 110* — *TELEPHONE (301) 740-5200*

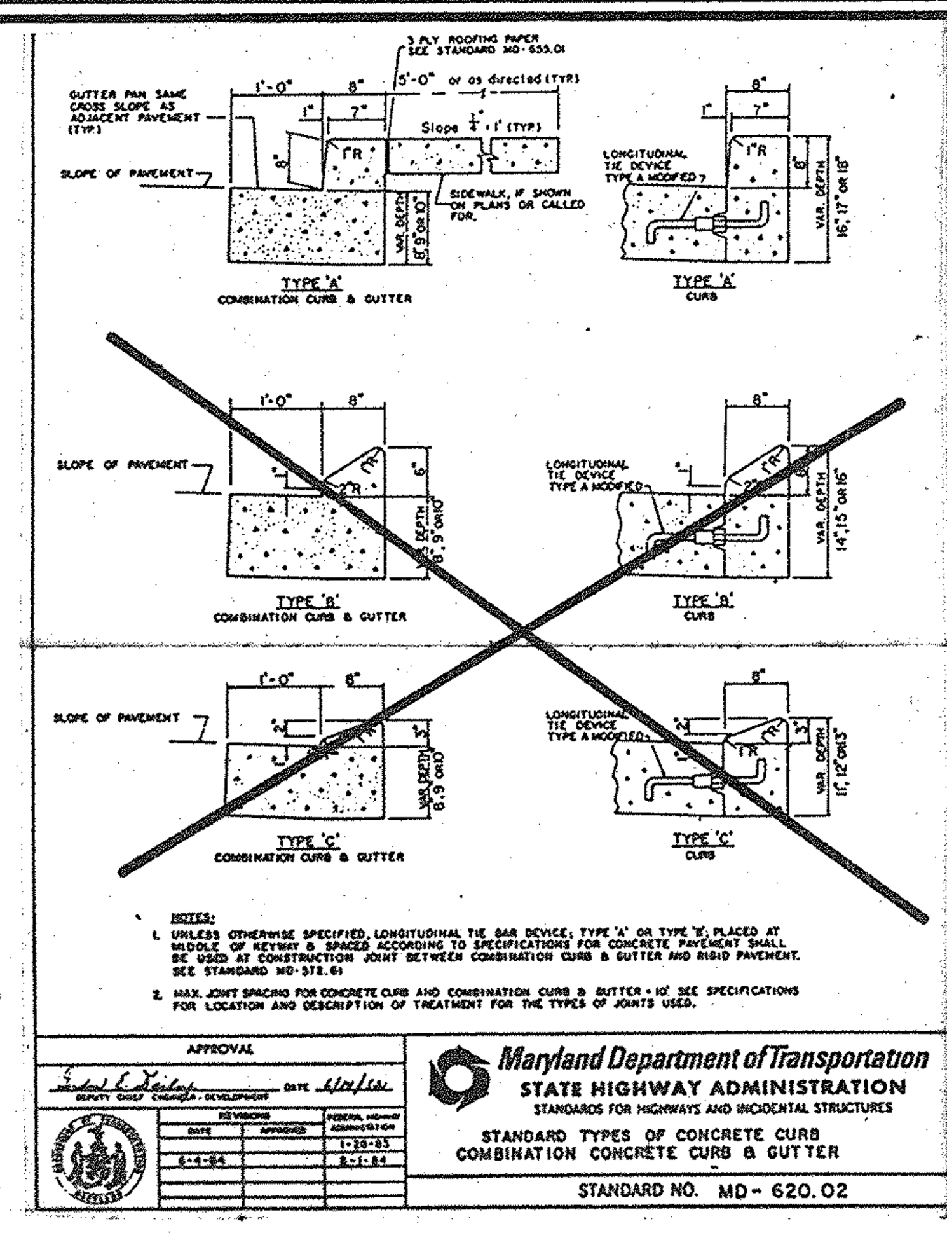
Robert H. Vogel 4/5/91
STATE OF MARYLAND ROBERT HARRIS VOGEL NO. 16193 REGISTERED PROFESSIONAL ENGINEER

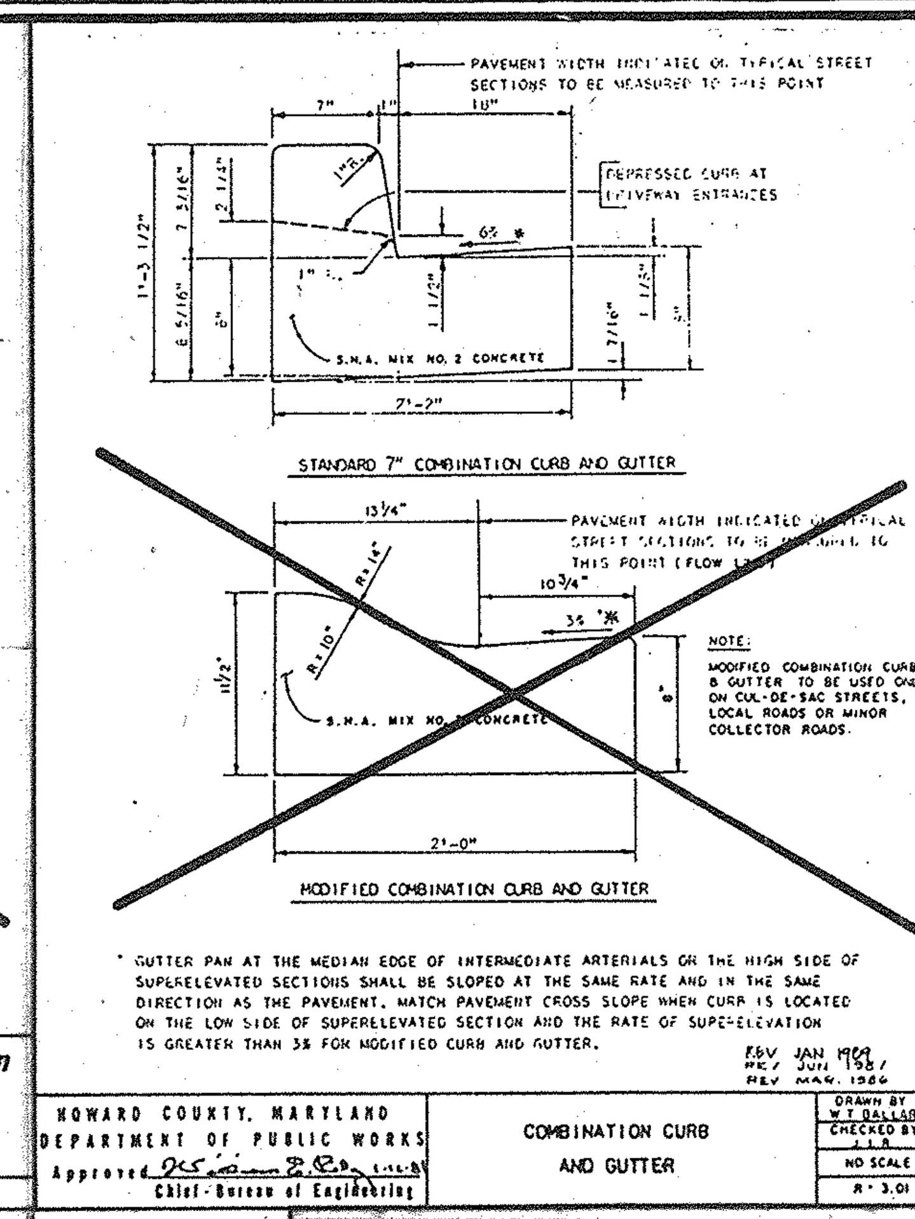
DESIGNED BY: T.A.B.
DRAWN BY: J.J.T.
CHECKED BY: R.H.V.
DATE: 6/25/90
SCALE: 1" = 30'
W.O. NO.: 45-90-004A

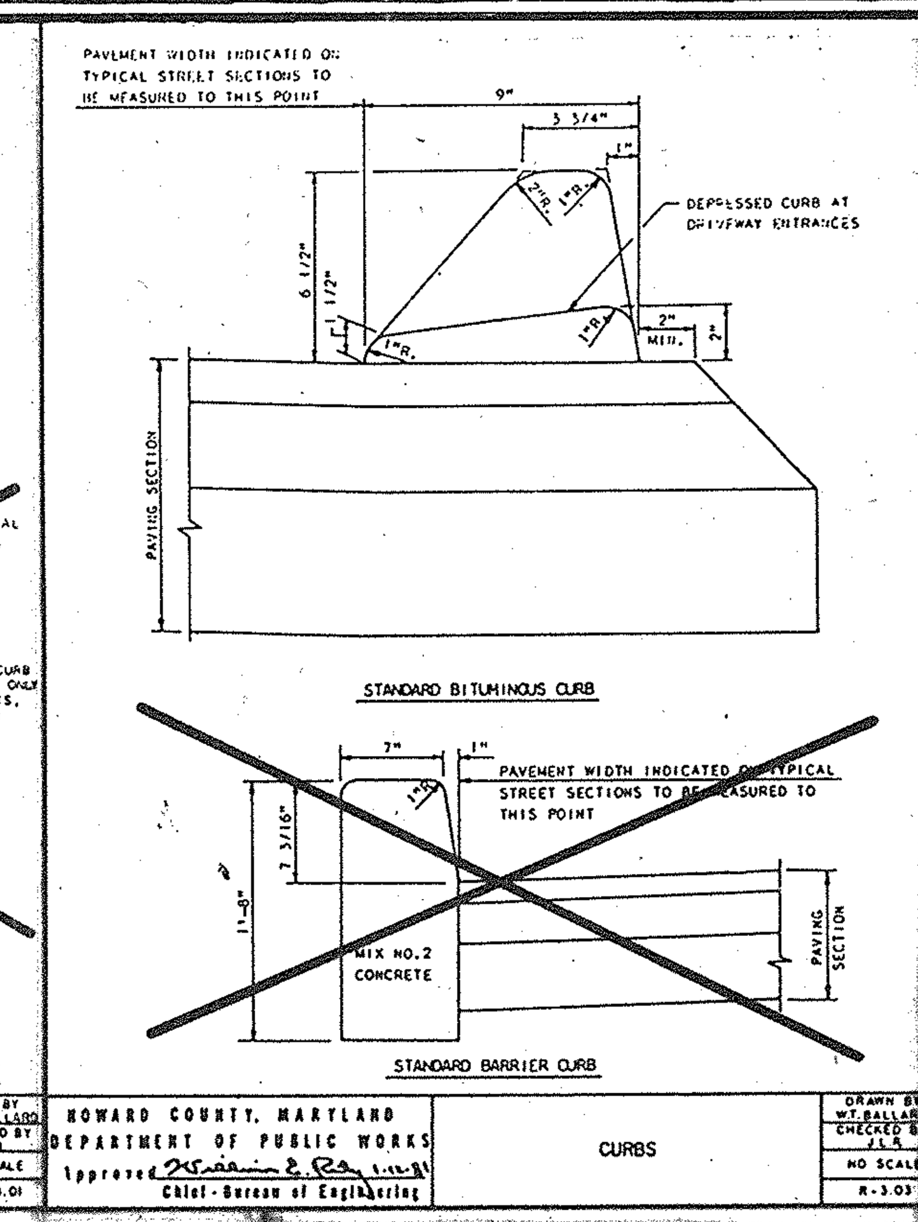
4 SHEET OF 10

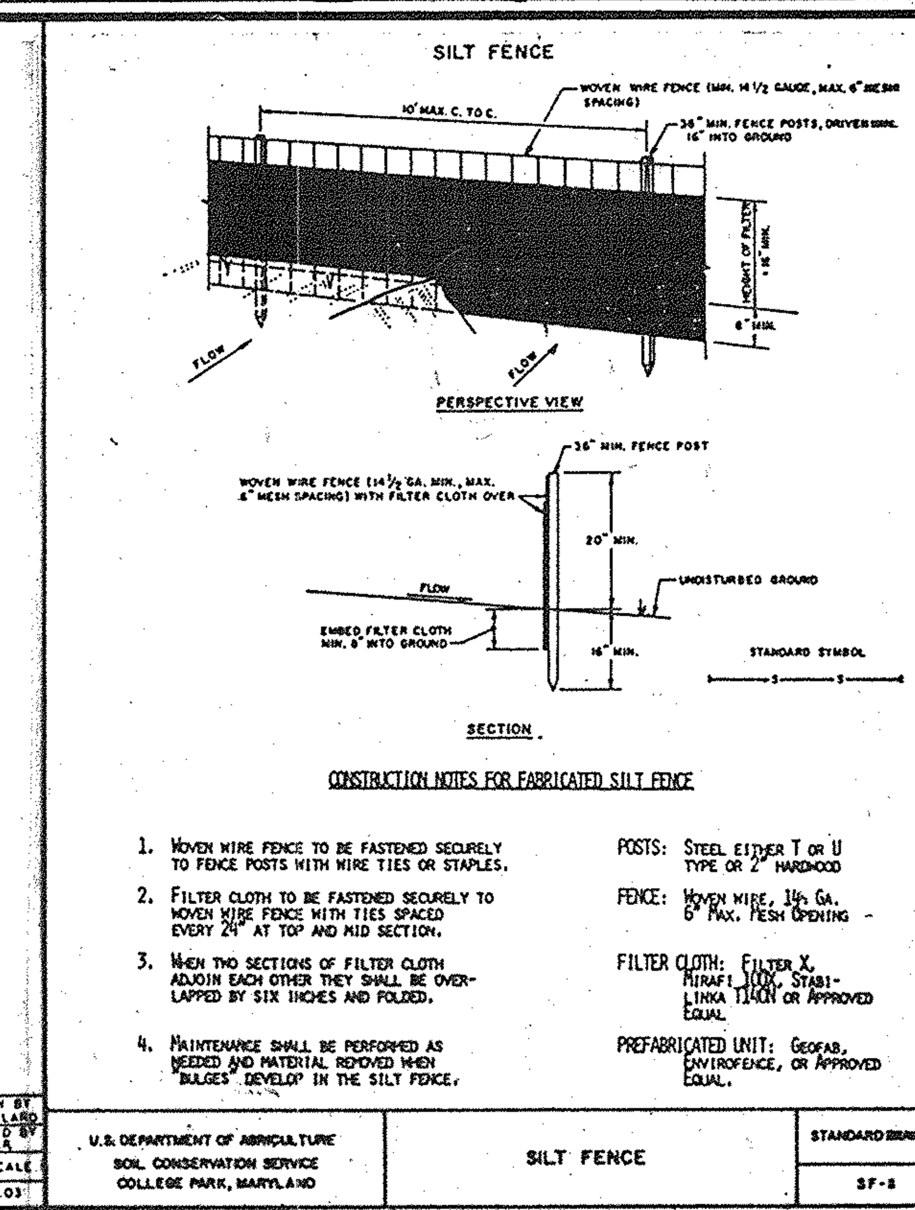
SDP 90-220

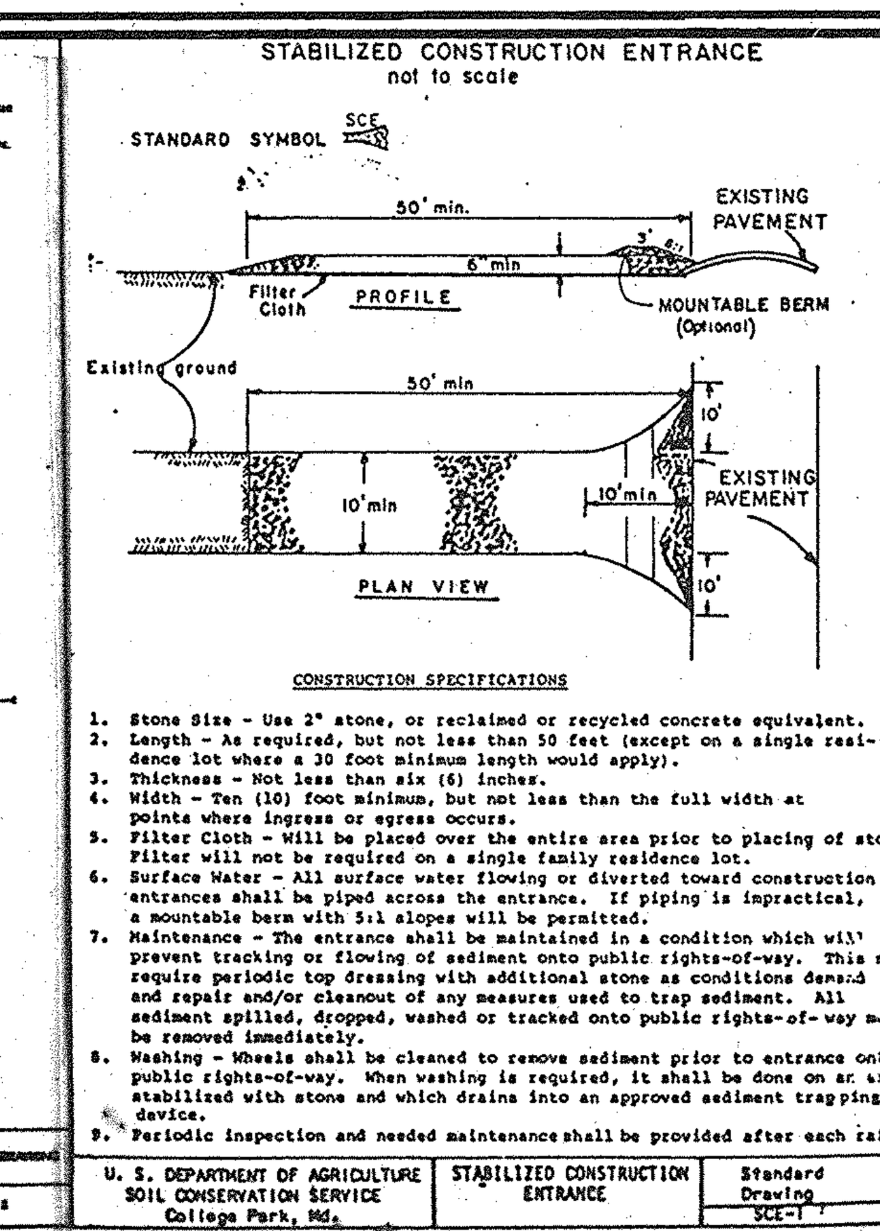
HS

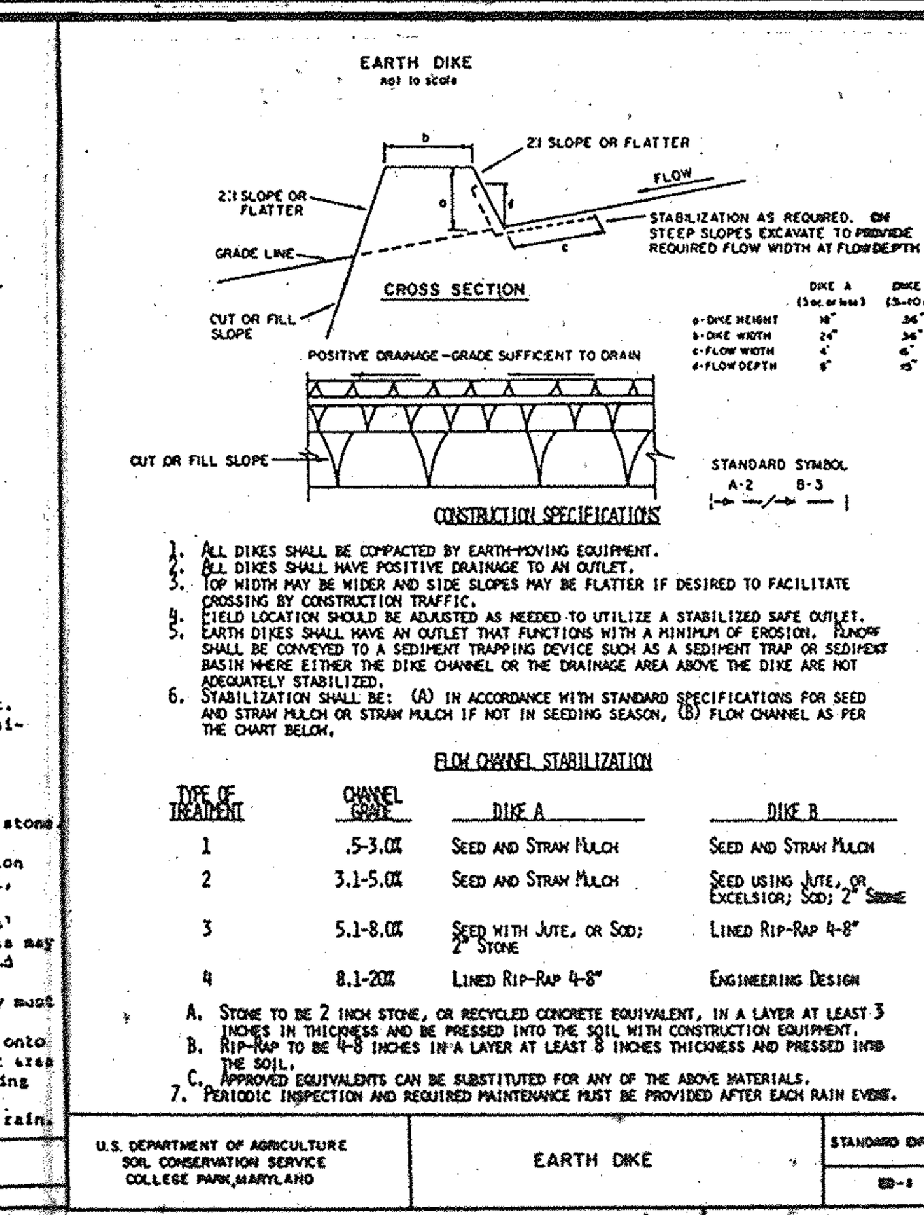

3-PLY ROOFING PAPER SEE STANDARD MD-655.01
GUTTER PAN SAME CROSS SLOPE AS ADJACENT PAVEMENT (TYP.)
SLOPE OF PAVEMENT
SIDEWALK, IF SHOWN ON PLANS OR CALLED FOR.
LONGITUDINAL TIE DEVICE TYPE A MODIFIED
TYPE 'A' COMBINATION CURB & GUTTER
TYPE 'A' CURB
TYPE 'B' COMBINATION CURB & GUTTER
TYPE 'B' CURB
TYPE 'C' COMBINATION CURB & GUTTER
TYPE 'C' CURB
NOTES:
1. UNLESS OTHERWISE SPECIFIED, LONGITUDINAL TIE BAR DEVICE; TYPE 'A' OR TYPE 'B', PLACED AT MIDDLE OF KEYWAY & SPACED ACCORDING TO SPECIFICATIONS FOR CONCRETE PAVEMENT SHALL BE USED AT CONSTRUCTION JOINT BETWEEN COMBINATION CURB & GUTTER AND RIGID PAVEMENT. SEE STANDARD MD-378.61
2. MAX. JOINT SPACING FOR CONCRETE CURB AND COMBINATION CURB & GUTTER = 10' SEE SPECIFICATIONS FOR LOCATION AND DESCRIPTION OF TREATMENT FOR THE TYPES OF JOINTS USED.
APPROVAL
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD TYPES OF CONCRETE CURB
COMBINATION CONCRETE CURB & GUTTER
STANDARD NO. MD- 620.02

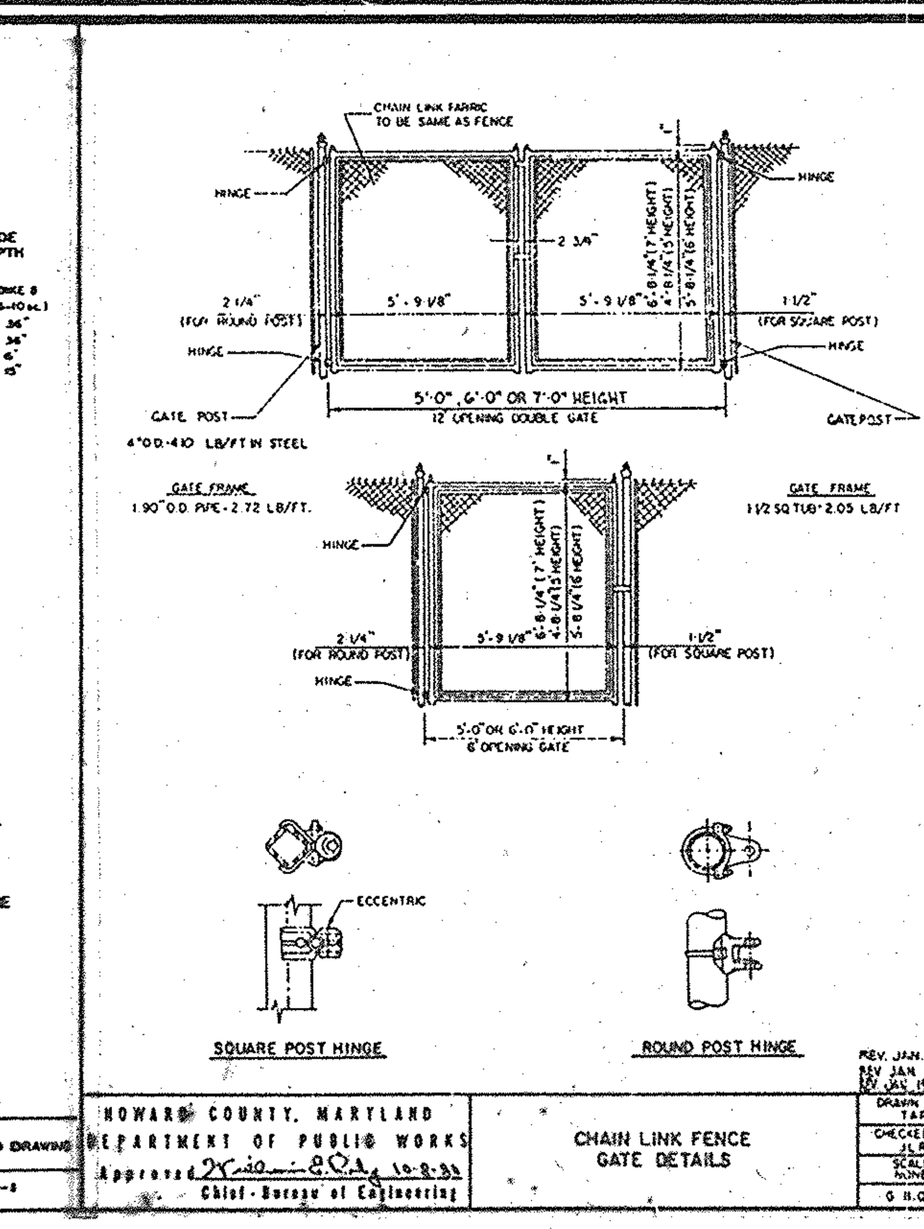

PAVEMENT WIDTH INDICATED ON TYPICAL STREET SECTIONS TO BE MEASURED TO THIS POINT
DEPRESSED CURB AT DRIVEWAY ENTRANCES
S.H.A. MIX NO. 2 CONCRETE
STANDARD 7" COMBINATION CURB AND GUTTER
NOTE:
MODIFIED COMBINATION CURB & GUTTER TO BE USED ONLY ON CUL-DE-SAC STREETS, LOCAL ROADS OR MINOR COLLECTOR ROADS.
MODIFIED COMBINATION CURB AND GUTTER
* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Chief - Bureau of Engineering
COMBINATION CURB AND GUTTER
NO SCALE
R - 3.01

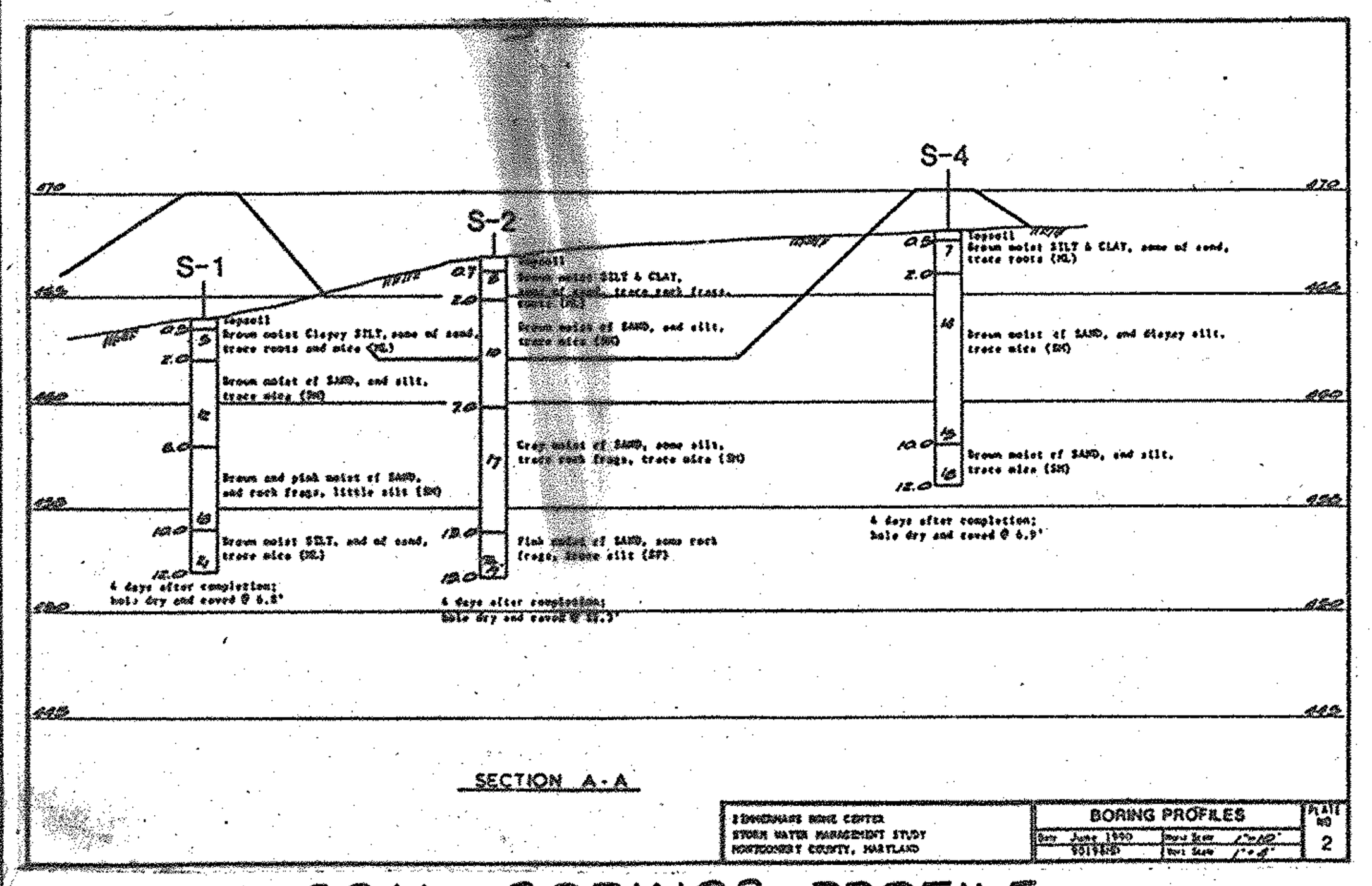

PAVEMENT WIDTH INDICATED ON TYPICAL STREET SECTIONS TO BE MEASURED TO THIS POINT
DEPRESSED CURB AT DRIVEWAY ENTRANCES
PAVING SECTION
STANDARD BITUMINOUS CURB
PAVEMENT WIDTH INDICATED ON TYPICAL STREET SECTIONS TO BE MEASURED TO THIS POINT
MIX NO. 2 CONCRETE
STANDARD BARRIER CURB
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Chief - Bureau of Engineering
CURBS
NO SCALE
R - 3.03


SILT FENCE
PERSPECTIVE VIEW
SECTION
CONSTRUCTION NOTES FOR FABRICATED SILT FENCE
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING
FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND
SILT FENCE
SF-8

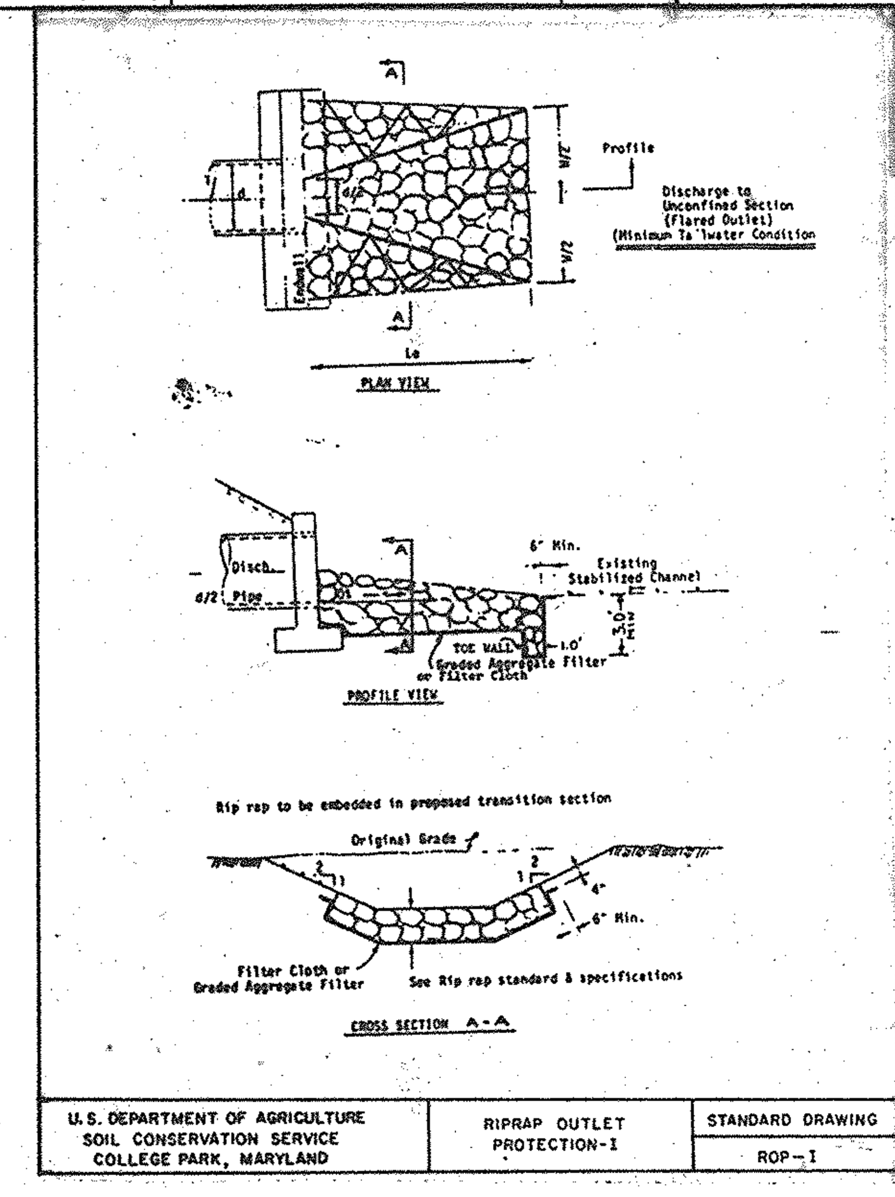

STABILIZED CONSTRUCTION ENTRANCE
not to scale
STANDARD SYMBOL SCE
EXISTING PAVEMENT
PROFILE
MOUNTABLE BERM (Optional)
Existing ground
PLAN VIEW
CONSTRUCTION SPECIFICATIONS
1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than 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 required on a single family residence lot.
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 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. 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.
9. Periodic inspection and needed maintenance shall be provided after each rain.
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE College Park, Md.
STABILIZED CONSTRUCTION ENTRANCE
Standard Drawing SCE-1

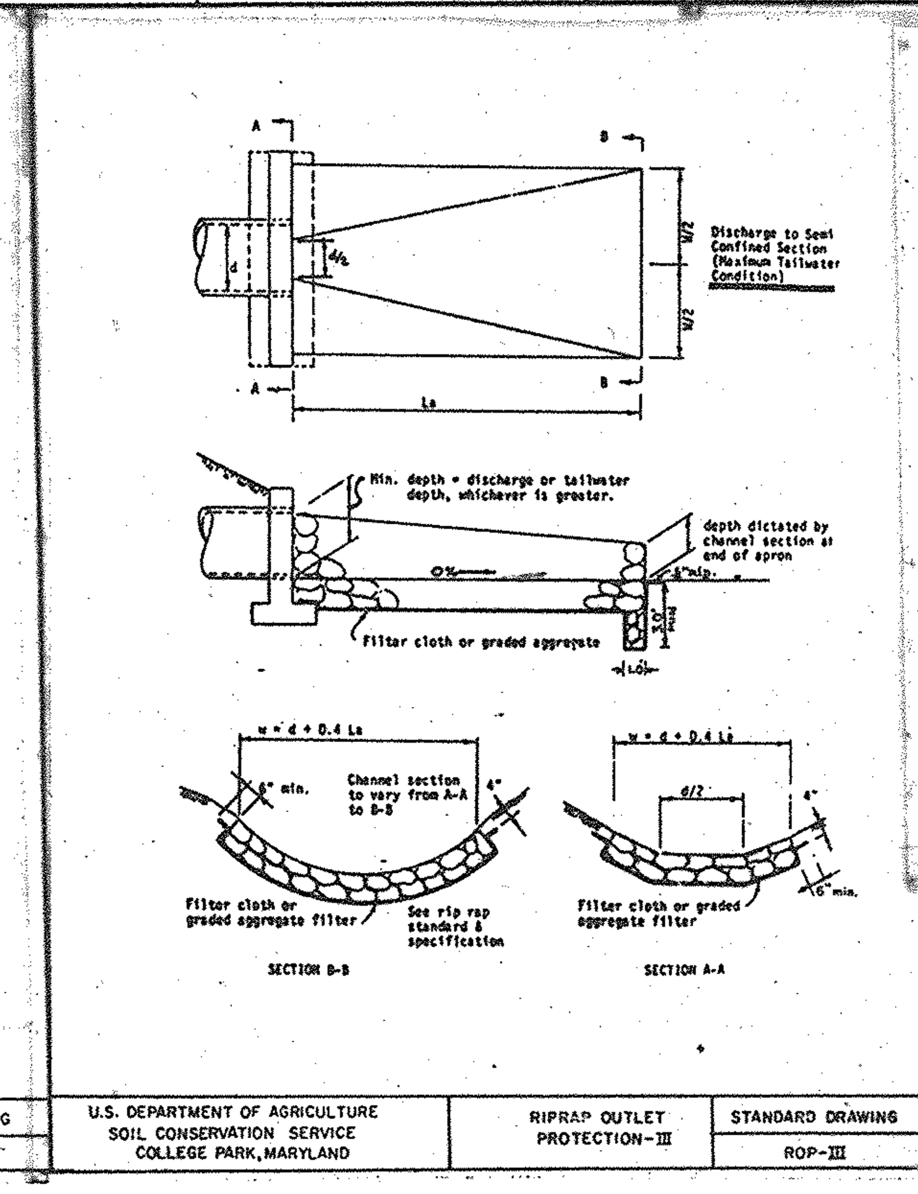

EARTH DIKE
CROSS SECTION
STANDARD SYMBOL
CONSTRUCTION SPECIFICATIONS
1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. 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 THE CHART BELOW.
FLOW CHANNEL STABILIZATION
TYPE OF TREATMENT | CHANNEL GRADE | DIKE A | DIKE B
1 | .5-3.0% | SEED AND STRAW MULCH | SEED AND STRAW MULCH
2 | 3.1-5.0% | SEED AND STRAW MULCH | SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3 | 5.1-8.0% | SEED WITH JUTE, OR SOD; 2" STONE | LINED RIP-RAP 4-8"
4 | 8.1-20% | LINED RIP-RAP 4-8" | ENGINEERING DESIGN
A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND
EARTH DIKE

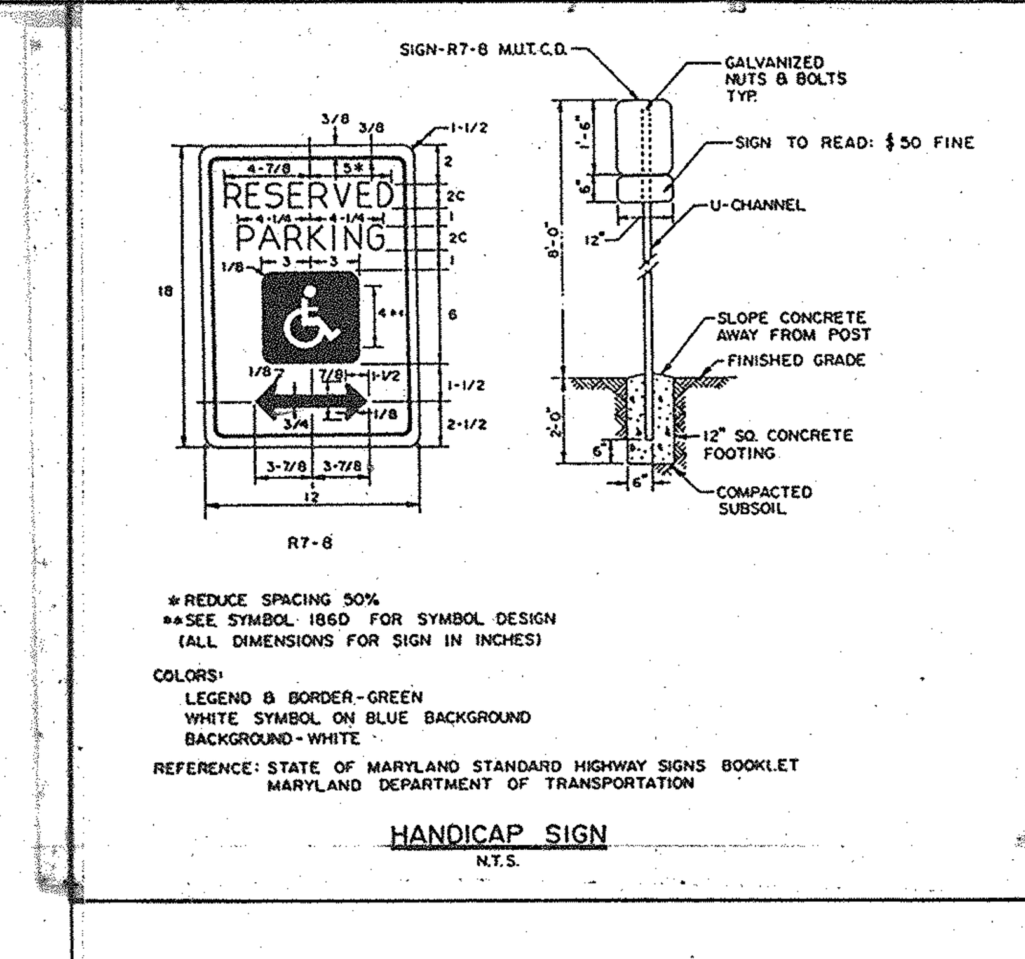


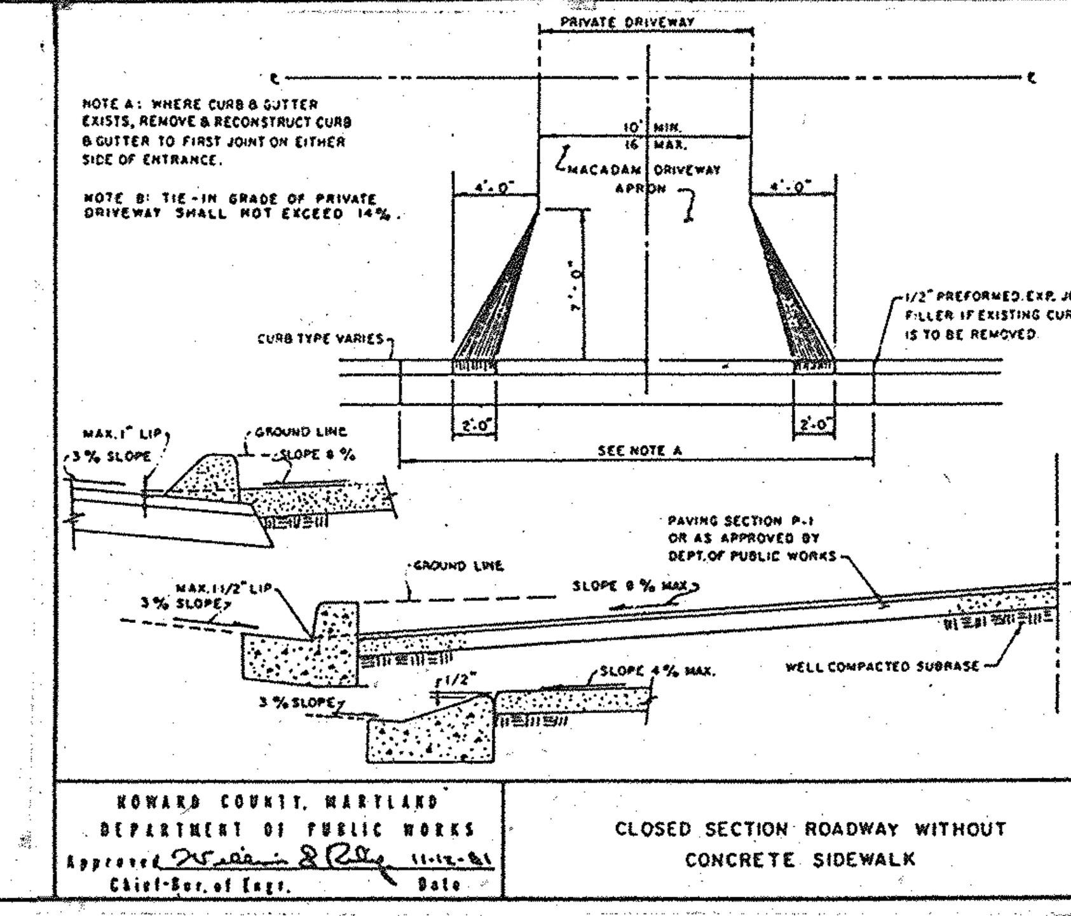


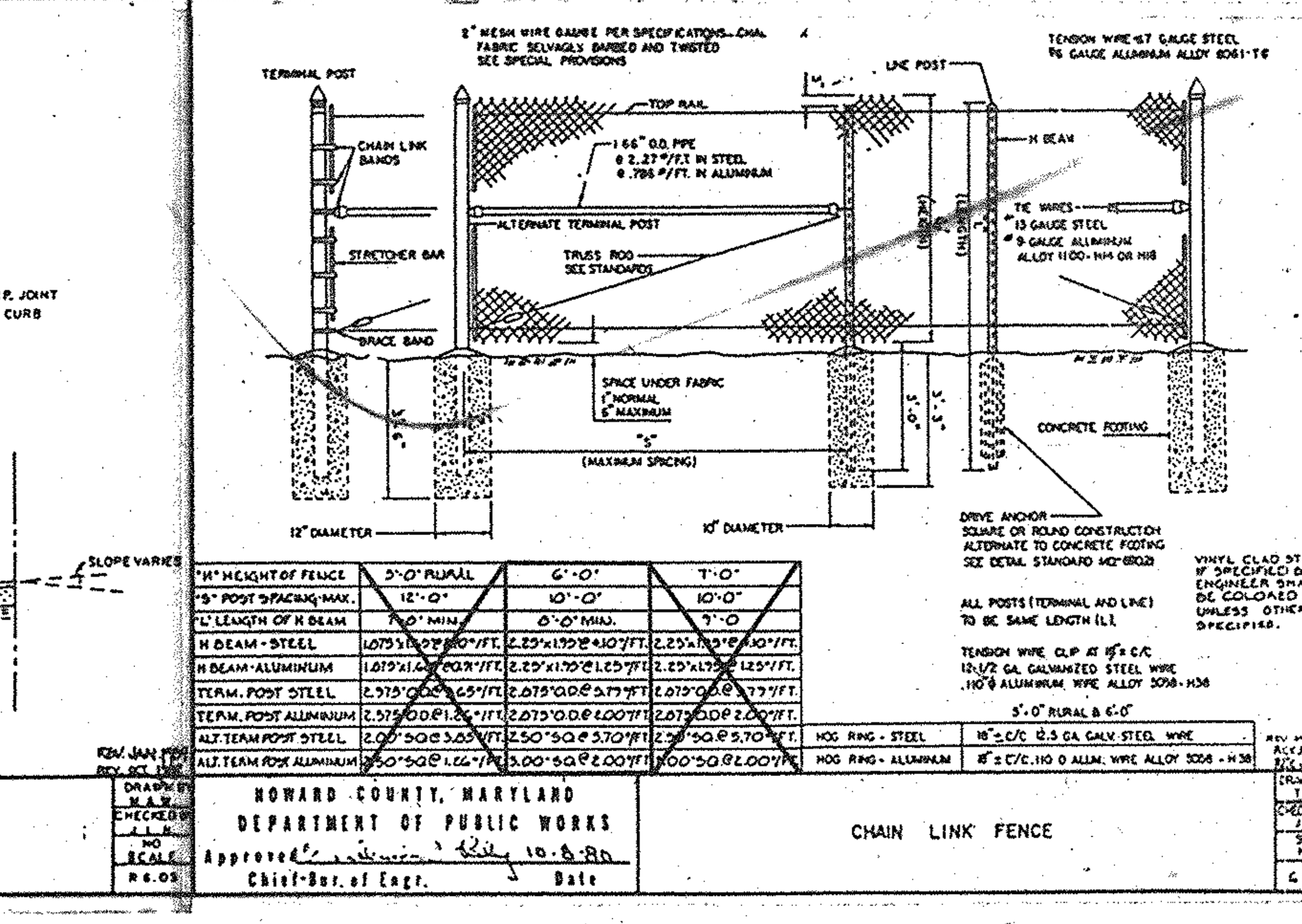
SOIL BORINGS PROFILE
NOT TO SCALE

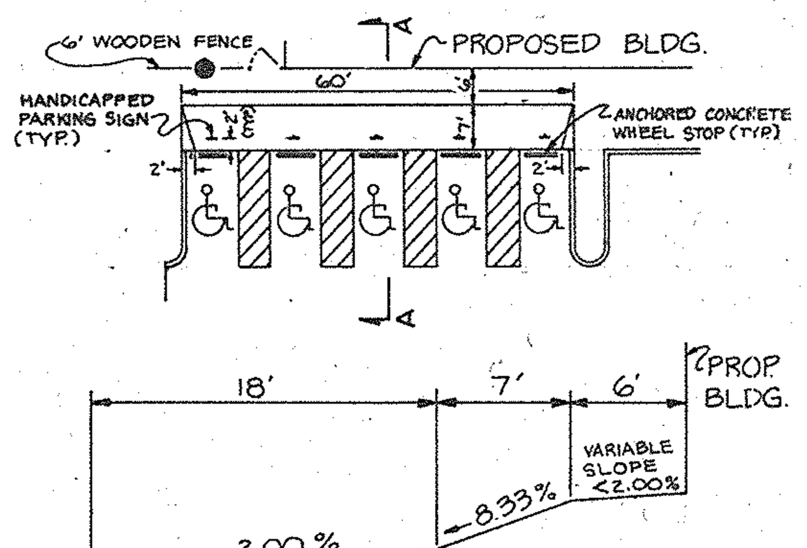





SIGN-R7-8 M.U.T.C.D.
GALVANIZED NUTS & BOLTS TYP.
SIGN TO READ: $50 FINE
U-CHANNEL
RESERVED PARKING
SLOPE CONCRETE AWAY FROM POST
FINISHED GRADE
12" SQ. CONCRETE FOOTING
COMPACTED SUBSOIL
R7-8
*REDUCE SPACING 50%
**SEE SYMBOL 186D FOR SYMBOL DESIGN (ALL DIMENSIONS FOR SIGN IN INCHES)
COLORS:
LEGEND & BORDER-GREEN
WHITE SYMBOL ON BLUE BACKGROUND
BACKGROUND-WHITE
REFERENCE: STATE OF MARYLAND STANDARD HIGHWAY SIGNS BOOKLET MARYLAND DEPARTMENT OF TRANSPORTATION
HANDICAP SIGN
N.T.S.


PRIVATE DRIVEWAY
NOTE A: WHERE CURB & GUTTER EXISTS, REMOVE & RECONSTRUCT CURB & GUTTER TO FIRST JOINT ON EITHER SIDE OF ENTRANCE.
NOTE B: TIE-IN GRADE OF PRIVATE DRIVEWAY SHALL NOT EXCEED 14%.
MACADAM DRIVEWAY APRON
1/2" PREFORMED EXP. JOINT FILLER IF EXISTING CURB IS TO BE REMOVED
SEE NOTE A
PAVING SECTION P-1 OR AS APPROVED BY DEPT. OF PUBLIC WORKS
WELL COMPACTED SUBBASE
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Chief-Bur. of Engr.
CLOSED SECTION ROADWAY WITHOUT CONCRETE SIDEWALK





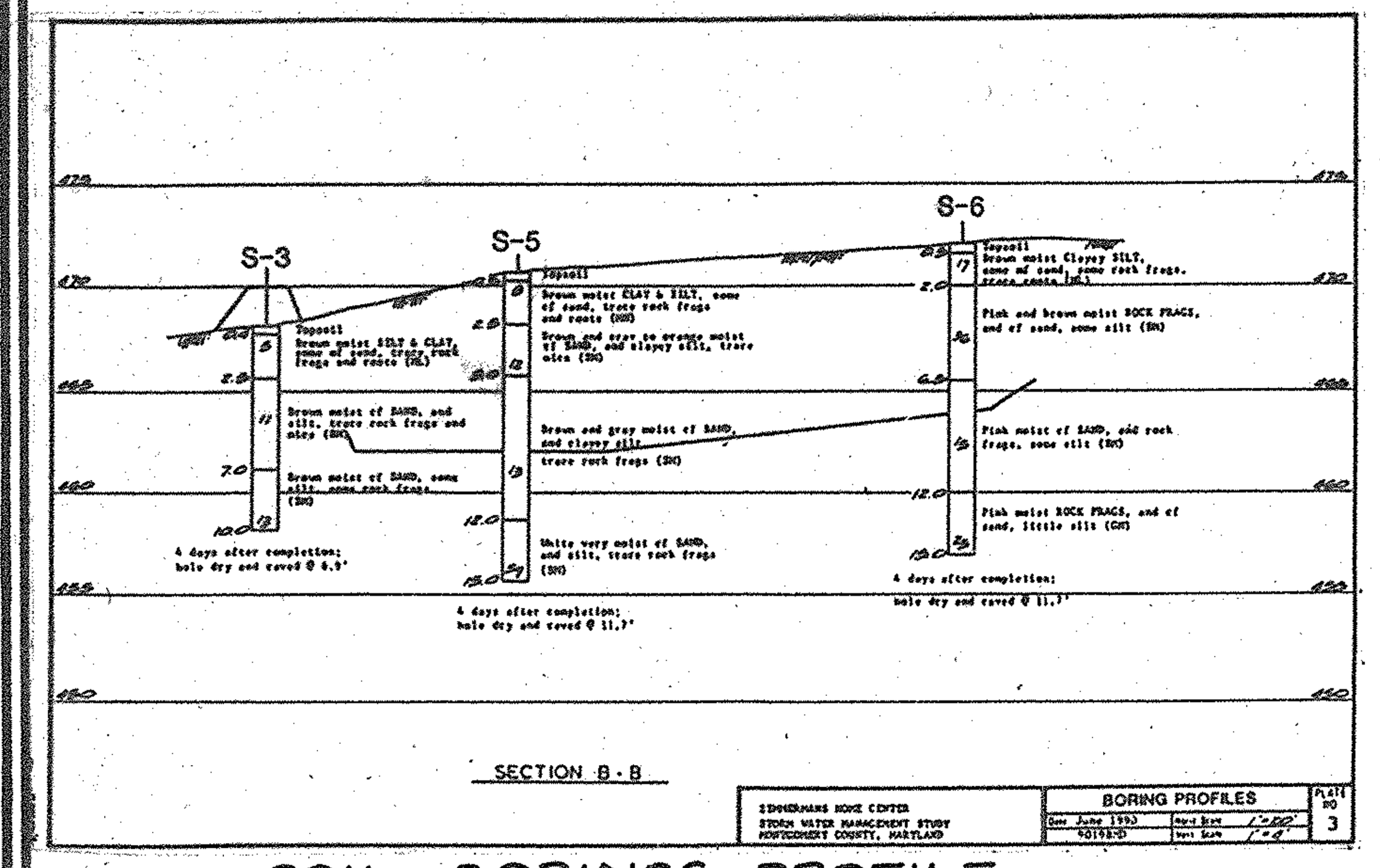
SECTION 'A-A'
N.T.S.

HANDICAPPED RAMP DETAIL

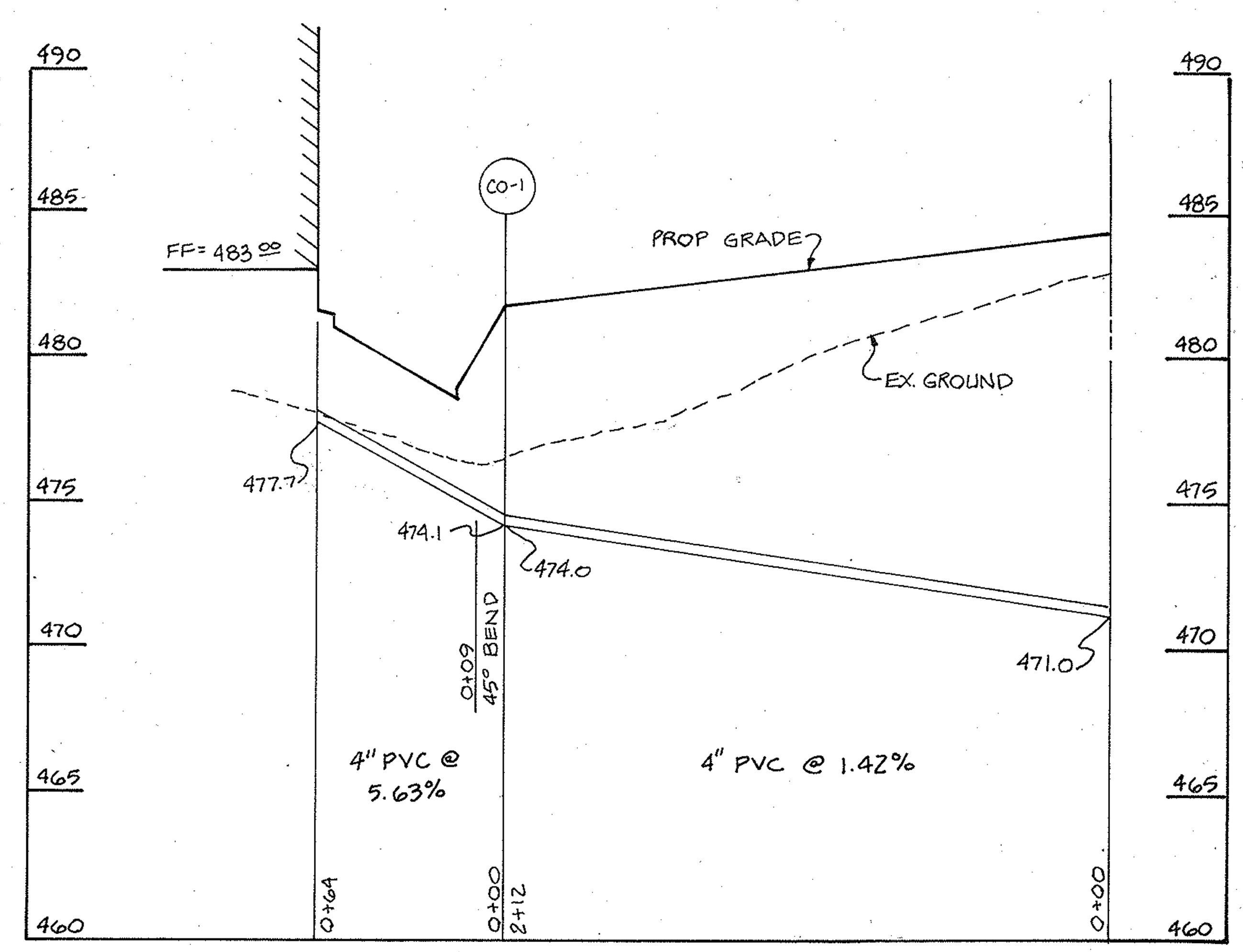
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS: FULL DEPTH BIT. CONC. ALTERNATIVE	PAVEMENT MATERIALS: GRANULAR BASE ALTERNATIVE
P-2	RESIDENTIAL ZONES LOCAL, CUL-DE-SAC STS. ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS TRAVELWAYS APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY*	1½" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1½" BIT. CONC. SURFACE 2½" BIT. CONC. BASE PRIME 8" CRUSHER RUN BASE COURSE (2 COURSES) OR 6" DENSE GRADED STABILIZED AGGREGATE BASE COURSE
P-3	RESIDENTIAL ZONES MINOR AND MAJOR COLLECTORS COMMERCIAL-INDUSTRIAL ZONES LOCAL AND CUL-DE-SAC STREETS ALLEYS TRAVELWAYS APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH MORE THAN 10 HEAVY TRUCKS PER DAY.*	1½" BIT. CONC. SURFACE 1½" BIT. CONC. BASE 5" BIT. CONC. BASE	1½" BIT. CONC. SURFACE 4½" BIT. CONC. BASE PRIME 6" CRUSHER RUN BASE COURSE OR 4½" DENSE GRADED STABILIZED AGGREGATE. BASE COURSE.

*PAVING SECTIONS

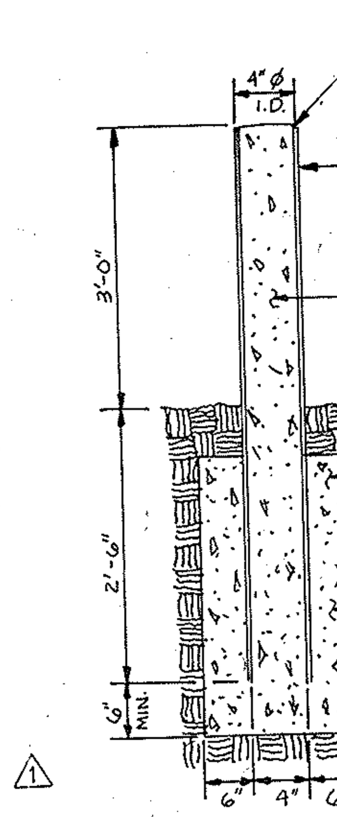
* FOR PAVING WITHIN STATE HIGHWAY LIMITS SEE "TYPICAL SECTION WIDENING MD ROUTE 108", THIS SHEET.



SOIL BORINGS PROFILE
NOT TO SCALE

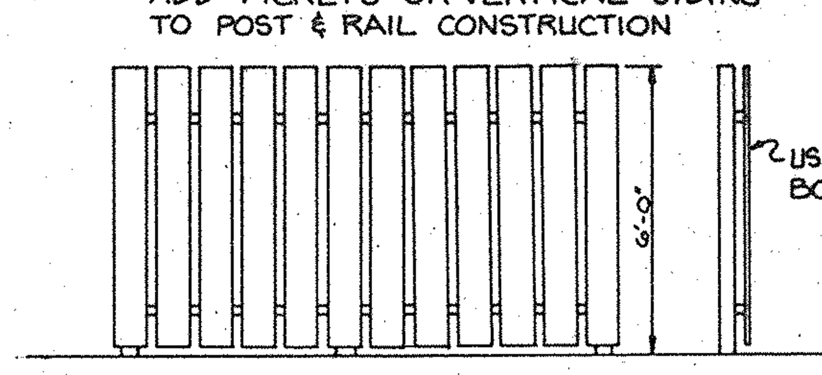


⚠ PROFILE: 4" SEWER FOR FUTURE PUBLIC CONNECTION
SCALE H: 1"=50'
V: 1"=5'


4" Ø I.D.
PIPE TO BE FILLED WITH CONCRETE AND ROUNDED OVER AT TOP
4" INSIDE DIAMETER STEEL PIPE, (SEE SPECS.) PIPE SHALL CONTINUE THE LENGTH OF THE FOOTING
SEE PLAN FOR LOCATION
PROPOSED FINISH GRADE
DROP CONCRETE FOOTING A MIN. OF 4" TO ALLOW PROPOSED GRADE TO RUN UP TO BOLLARD
CONCRETE FOOTING
3'-0"
2'-6"
6" MIN.
6" 4" 6"

⚠ STEEL AND CONCRETE BOLLARD
NOT TO SCALE

ADD PICKETS OR VERTICAL SIDING TO POST & RAIL CONSTRUCTION



WOODEN FENCE DETAIL
N.T.S.

DEVELOPER / CONTRACT PURCHASER
ZIMMERMAN CLARKSVILLE LTD PARTNERSHIP
3801 SANDY SPRING ROAD
BURTONSVILLE, MD 20866
TELEPHONE: (301)384-2000

NO.	REVISION	BY	DATE
1	ADD 4" SEWER PROFILE AND BOLLARD DETAIL	DGH	8/30/91
6	ADD SHEETS 8, 9, 10	RJL	10-21-15
7	THIS REVISION REPLACES REV. 6 DATED 10-21-15 BY CHANGING PROPOSED VERIZON WIRELESS EQUIPMENT SHELTER TO EQUIPMENT CABINETS ON A CONCRETE PAD	MAM	04-15-2016

MISCELLANEOUS DETAILS
ZIMMERMAN AND SONS
HOME IMPROVEMENT CENTER + TELECOM TOWER COMPOUND
REFERENCE F-90-199 AND WP-91-29
TAX MAP 34 PARCEL 358 LOT 3
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

JOHN E. HARMS, JR. AND ASSOCIATES, INC.
CONSULTING ENGINEERS - PLANNERS - SURVEYORS
8808 CENTRE PARK DRIVE SUITE 110
COLUMBIA, MARYLAND 21045 TELEPHONE (301) 740-5200

4/5/91
STATE OF MARYLAND ROBERT HARRIS VOGEL No.16193 REGISTERED PROFESSIONAL ENGINEER
Robert H. Vogel

DESIGNED BY: T.A.B.
DRAWN BY: D.G.H.
CHECKED BY: R.H.V.
DATE: 6/25/90
SCALE: AS SHOWN
W.O. NO.: 45-90-004A

6 SHEET OF 10

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 AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Robert H. Vogel 4/5/91
SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

"I 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 ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

[illegible] 4/27/91
SIGNATURE OF DEVELOPER DATE

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.

[illegible] 5/1/91
U.S. SOIL CONSERVATION SERVICE DATE

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

APPROVED: Robert W. Zieher 5/1/91
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[illegible] 6/4/91
DIRECTOR DATE
[illegible] 6/3/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

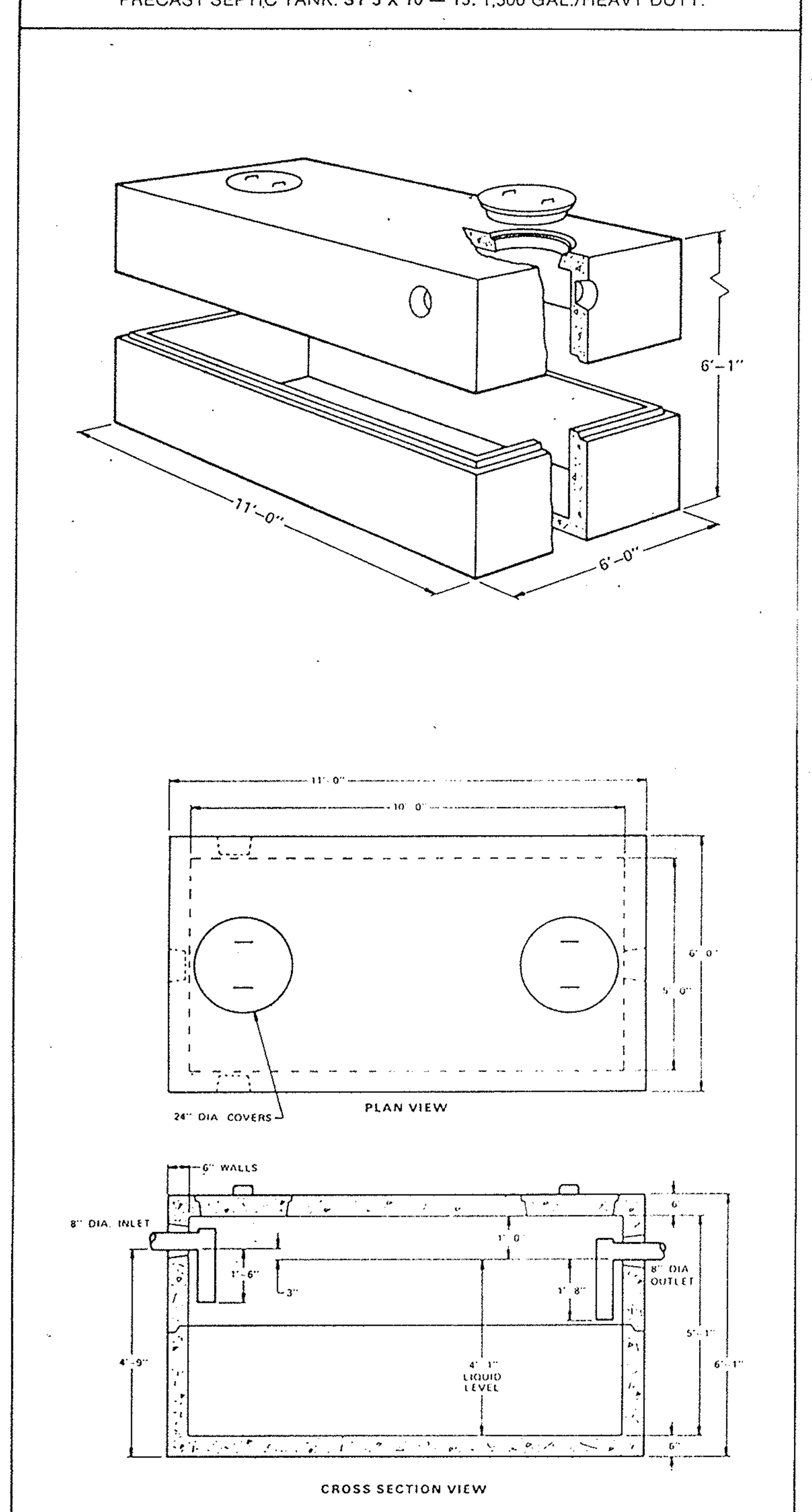
[illegible] [illegible] 5-23-91
DIRECTOR DATE CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

[illegible] 5/10/91
COUNTY HEALTH OFFICER DATE

SDP 90-220

PRECAST SEPTIC TANK. ST 5 X 10 — 15. 1,500 GAL./HEAVY DUTY.

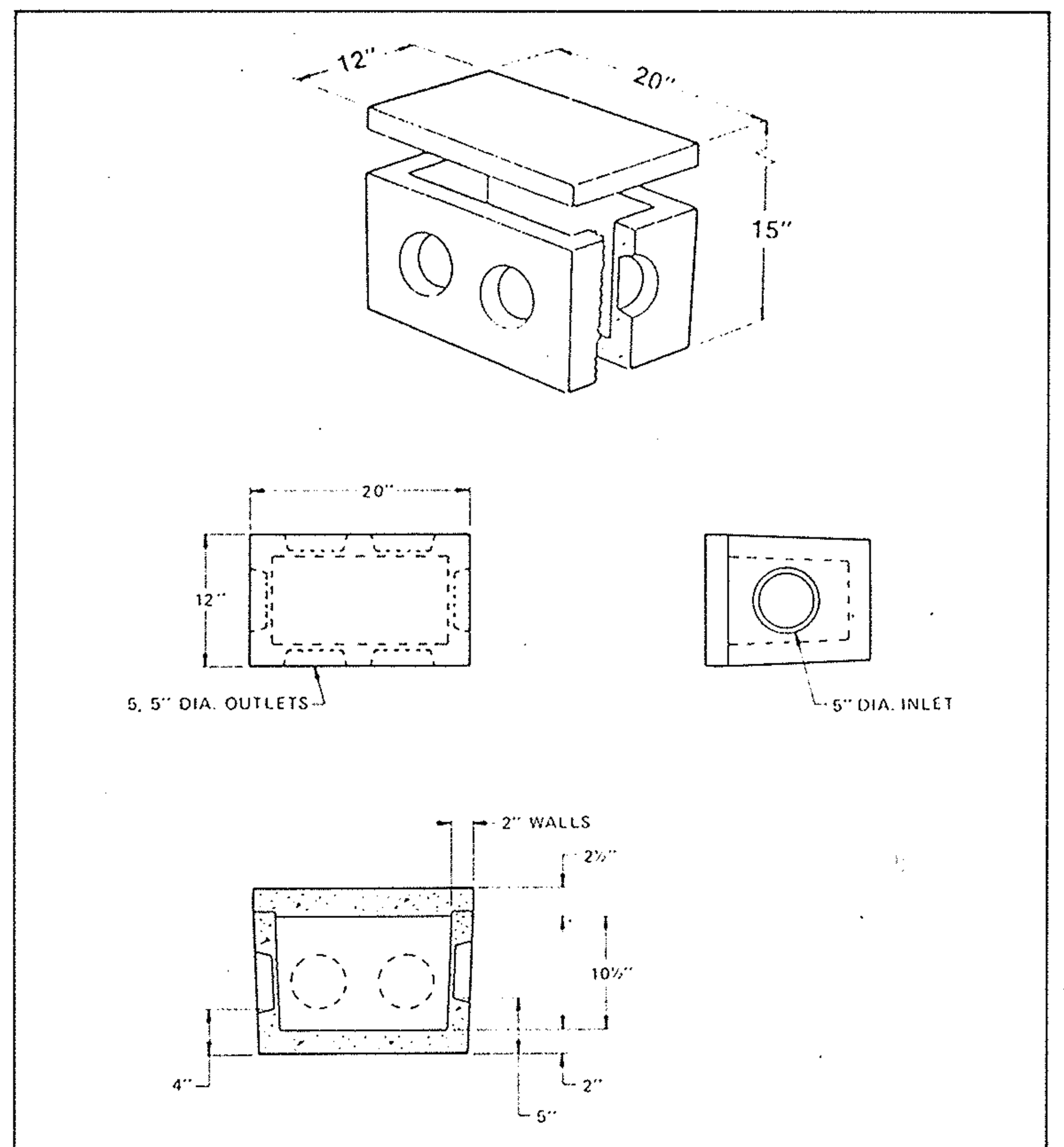


SPECIFICATIONS

CONCRETE MINIMUM STRENGTH — 5,000 P.S.I. @ 28 DAYS
STEEL REINFORCEMENT — ASTM A-615-79, GRADE 60, 1" MIN. COVER
DESIGN LOADING — AASHTO HS20-44
EARTH COVER — 0 to 5 FEET
WATER TABLE — 3½ FEET BELOW FINISH GRADE
CONSTRUCTION JOINT — SEALED WITH 1" DIA. BUTYL RUBBER OR EQUIVALENT
TEES — PROVIDED AND INSTALLED BY OTHERS

SEPTIC TANK DETAIL
NTS

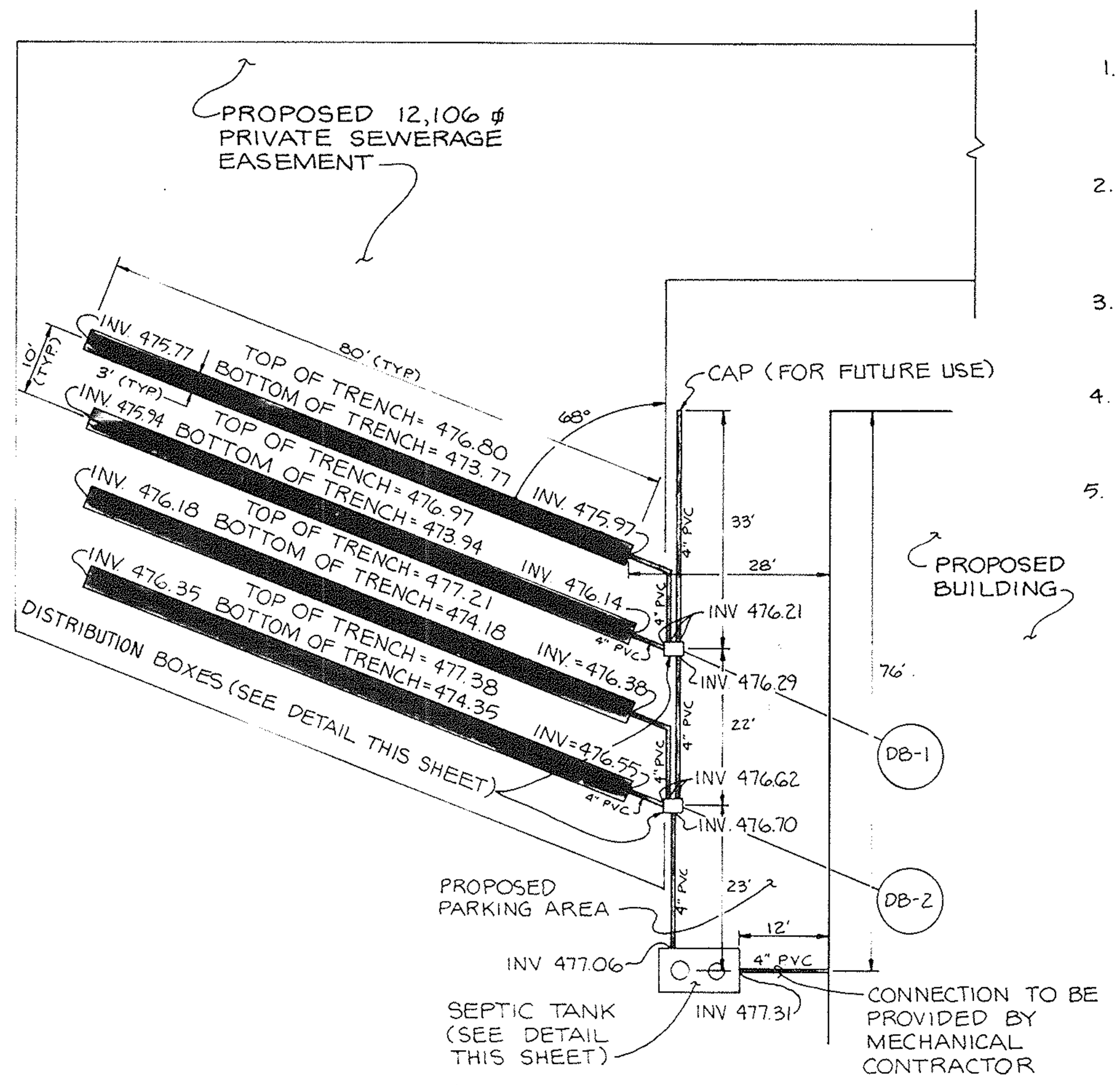
© 4-1983 ROTONDO & SONS, INC



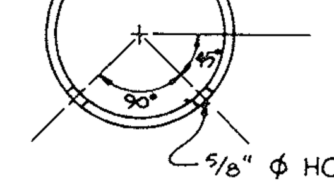
SPECIFICATIONS

• Concrete Minimum Strength — 4,000 P.S.I. @ 28 Days
• Steel Reinforcement — ASTM A-615-75, Grade 60, 1" Min. Cover

DISTRIBUTION BOX DETAIL
N.T.S.



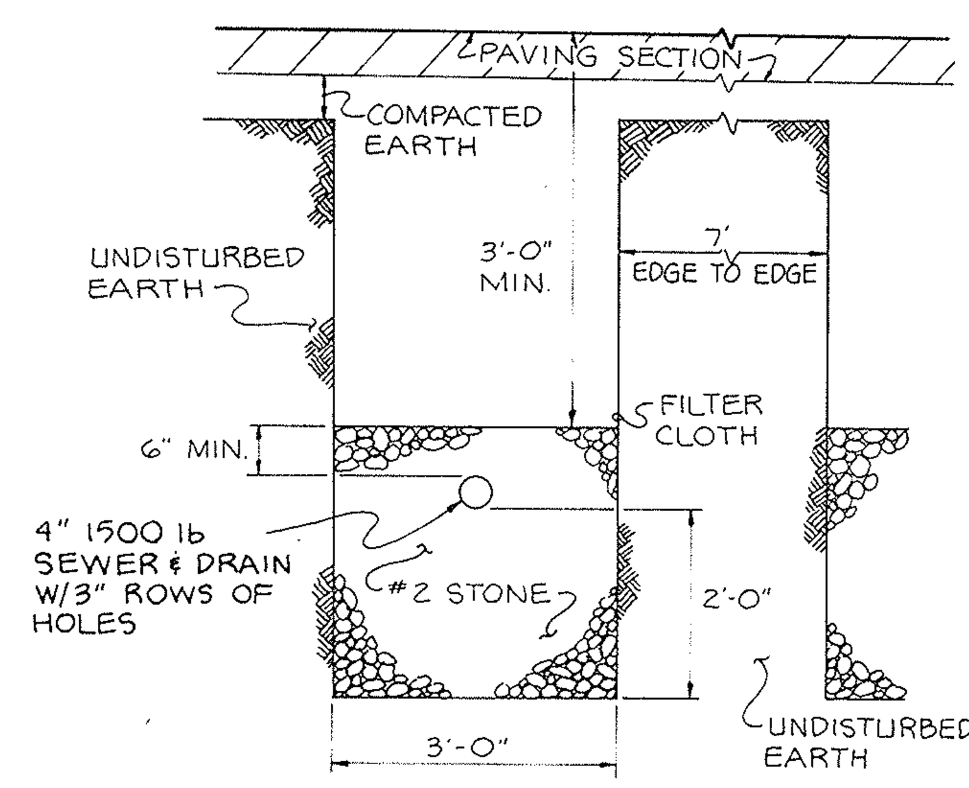
SCHEMATIC SEWER LAYOUT
SCALE: 1"=20'



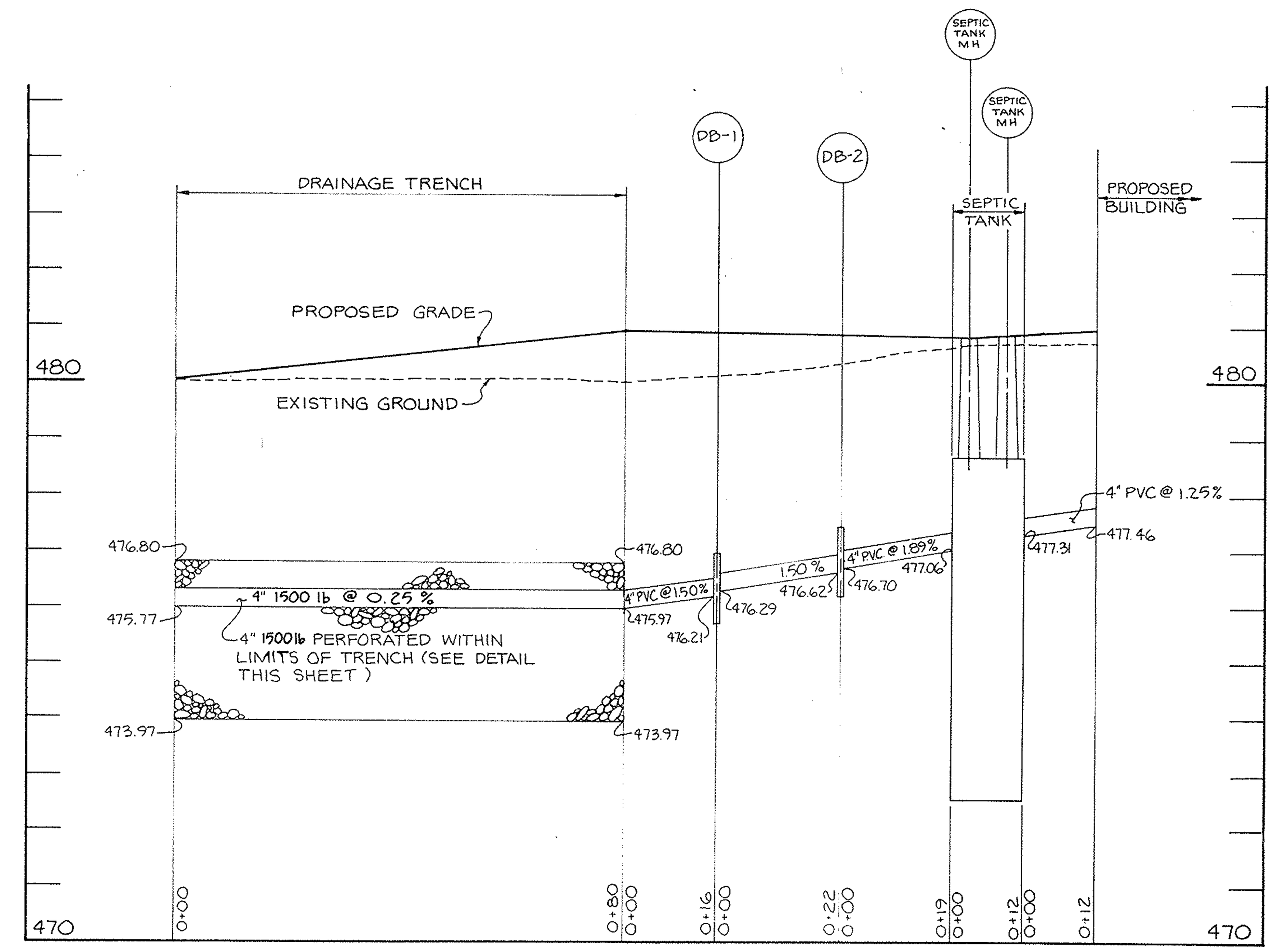
4" PERFORATED P.V.C. SECTION
N.T.S.

TRENCH CONSTRUCTION NOTES

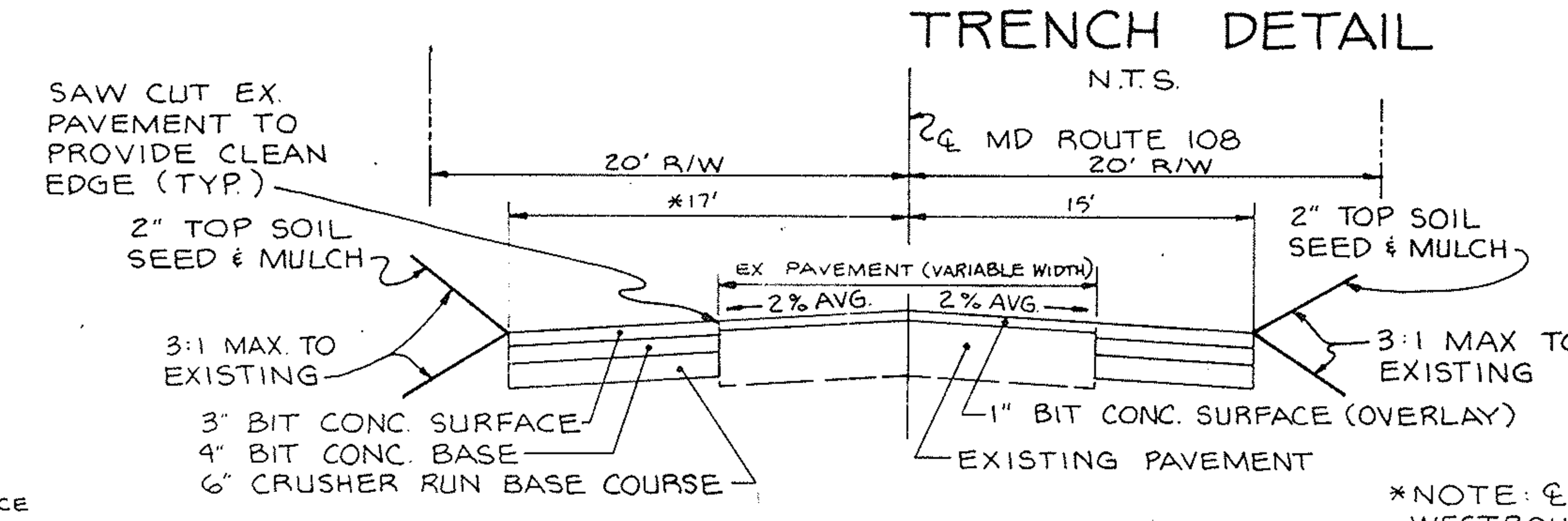
1. TRENCHES SHALL BE EXCAVATED USING A BACKHOE OR A WHEEL OR LADDER TYPE TRENCHER. FRONT-END LOADERS OR BULLDOZERS SHOULD NOT BE USED FOR TRENCH EXCAVATION.
2. EXCAVATED MATERIALS FROM THE TRENCHES SHALL BE PLACED AT A SUFFICIENT DISTANCE DOWNSLOPE OF THE TRENCHES TO AVOID MIGRATION OF SOILS BACK INTO THE TRENCH.
3. WORK SHALL BE SCHEDULED SUCH THAT THE TRENCHES CAN BE COVERED IN ONE DAY TO PREVENT WINDBLOWN OR WATERBORNE SEDIMENT FROM ENTERING THE TRENCH.
4. THE FIELD ENGINEER SHALL VERIFY THE CONSTRUCTED ELEVATIONS OF THE TRENCHES TO ENSURE A MINIMUM 3 FOOT COVER IS PROVIDED.
5. UPON COMPLETION OF TRENCH EXCAVATION AND PRIOR TO PLACEMENT OF PAVING, HEAVY CONSTRUCTION EQUIPMENT TRAFFIC SHALL BE DIVERTED FROM THE TRENCHES AND ADJACENT AREA.



TYPICAL SEPTIC SYSTEM TRENCH DETAIL
N.T.S.

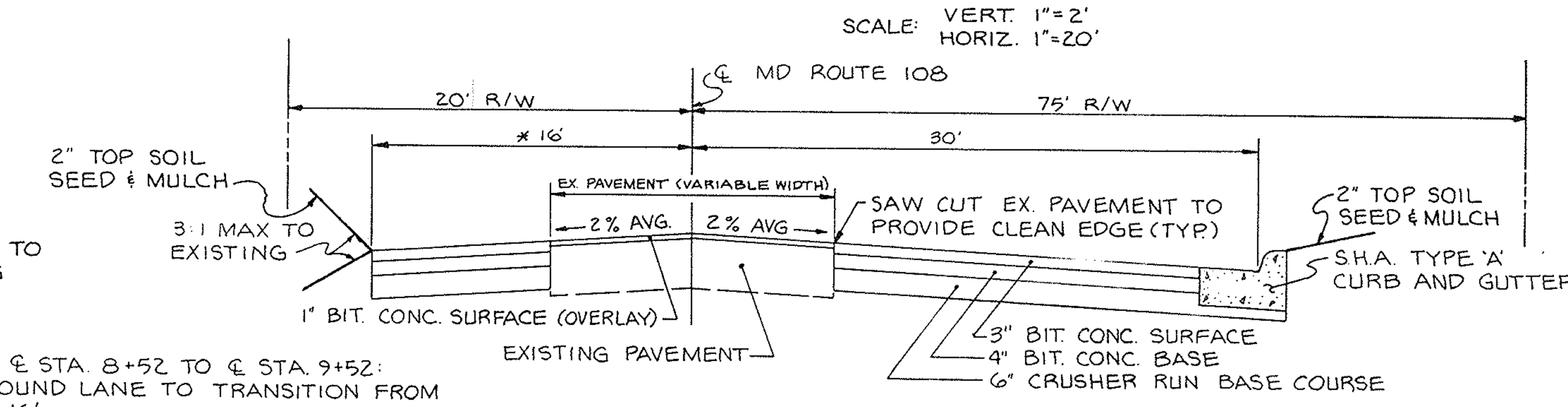


TYPICAL SEPTIC SYSTEM PROFILE
SCALE: VERT. 1"=2' HORIZ. 1"=20'

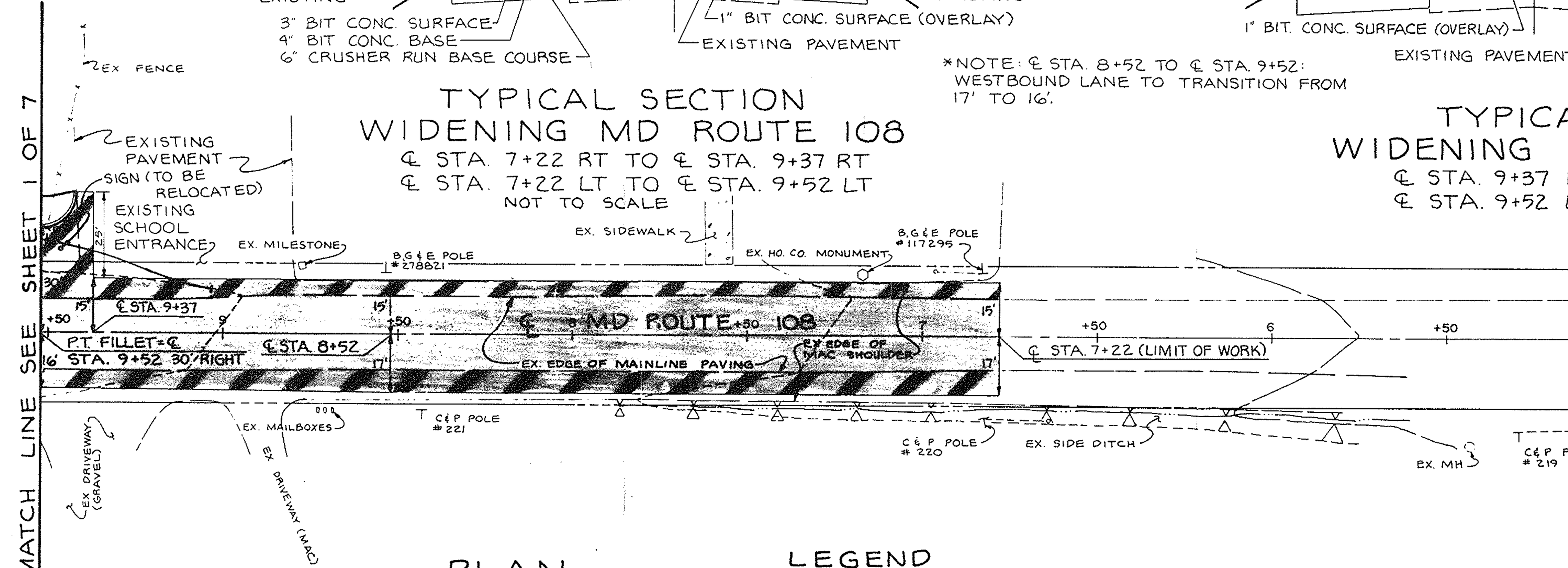


TYPICAL SECTION
WIDENING MD ROUTE 108
℄ STA. 7+22 RT TO ℄ STA. 9+37 RT
℄ STA. 7+22 LT TO ℄ STA. 9+52 LT
NOT TO SCALE

*NOTE: ℄ STA. 8+52 TO ℄ STA. 9+52: WESTBOUND LANE TO TRANSITION FROM 17' TO 16'.



TYPICAL SECTION
WIDENING MD ROUTE 108
℄ STA. 9+37 RT TO ℄ STA. 11+95 RT
℄ STA. 9+52 LT TO ℄ STA. 11+95 LT



PLAN
SCALE: 1"=30'

LEGEND
▨ SURFACE OVERLAY
■ FULL DEPTH PAVING

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[illegible] 6/4/91
DIRECTOR DATE
[illegible] 6/3/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[illegible] 5/23/91
DIRECTOR DATE
[illegible] 5-23-91
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
Joyce M Bayland per [illegible] 5/10/91
COUNTY HEALTH OFFICER DATE

NO.	REVISION	BY	DATE
6	ADD SHEETS 8, 9, 10	RJL	10-21-15
7	THIS REVISION REPLACES REV. 6 DATED 10-21-2015 BY CHANGING PROPOSED VERIZON WIRELESS EQUIPMENT SHELTER TO EQUIPMENT CABINETS ON A CONCRETE PAD	MAM	04-15-2016

Robert H. Vogel 4/5/91

STATE OF MARYLAND
ROBERT HARRIS VOGEL
No. 16193
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED BY: T.A.B.
DRAWN BY: D.G.H.
CHECKED BY: R.H.V.
DATE: 10/5/90
SCALE: AS SHOWN
W.O. NO. 45-90-004A

PRIVATE SEWER PROFILES & MISCELLANEOUS DETAILS
ZIMMERMAN AND SONS
HOME IMPROVEMENT CENTER + TELECOM TOWER COMPOUND
REFERENCE F-90-199 AND WP-91-29
TAX MAP 34 PARCEL 358 LOT 3
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

JOHN E. HARMS JR. AND ASSOCIATES INC.
CONSULTING ENGINEERS - PLANNERS - SURVEYORS
2 CENTRE PARK 8808 CENTRE PARK DRIVE SUITE 110
COLUMBIA, MARYLAND 21045 TELEPHONE (301) 740-5200

SDP 90-220

A&E INC-BALT

SITE INFORMATION

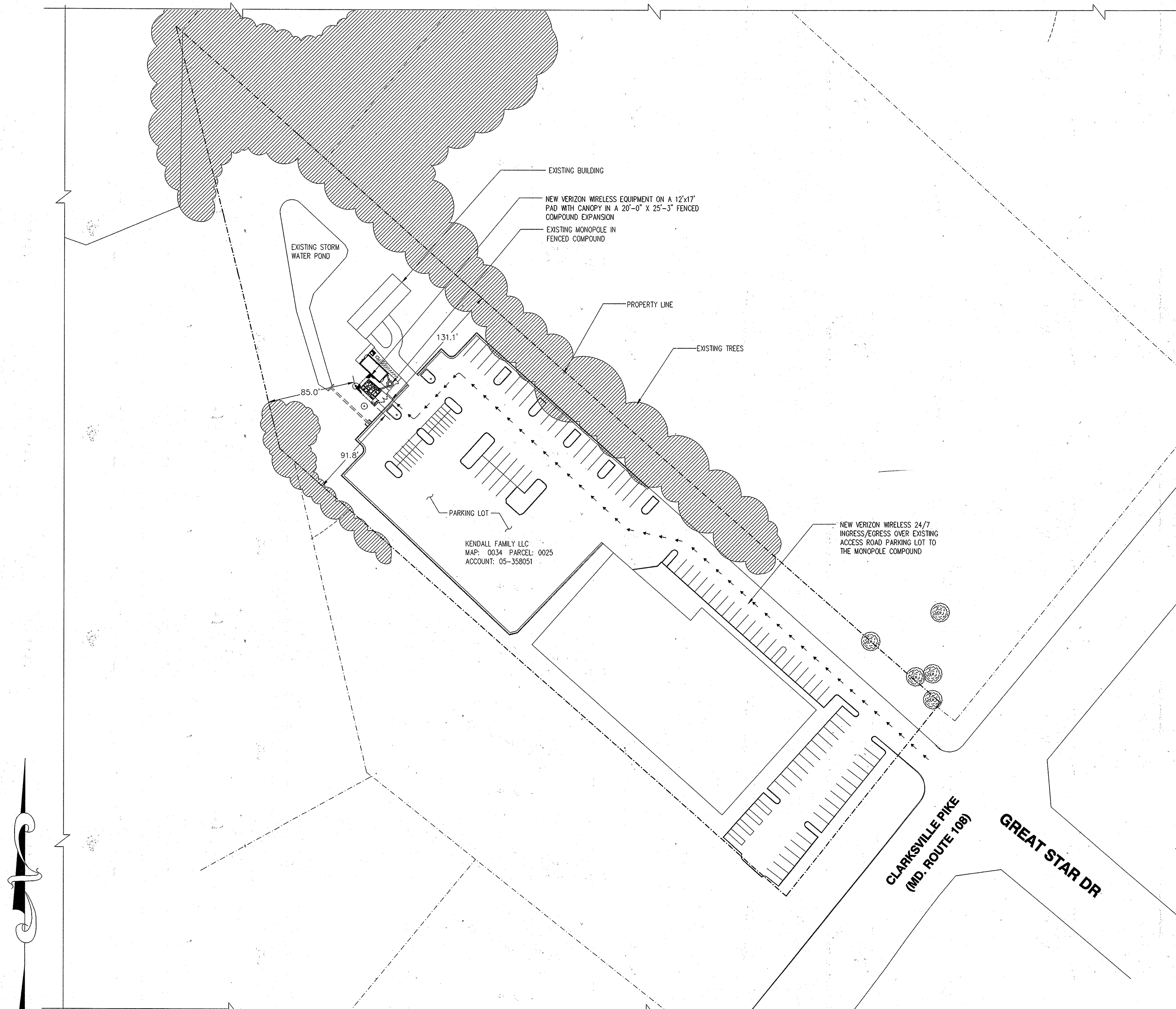
1.) SITE NAME: GREAT STAR
SEARCH RING: ATC ID 305180

2.) THIS IS NOT A BOUNDARY SURVEY AND IS NOT TO BE USED FOR THE TRANSFER OF PROPERTY.

3.) THE SUBJECT PARCEL INFORMATION;
OWNER: KENDALL FAMILY LLC
PREMISES ADDRESS: 12660 CLARKSVILLE PIKE
CLARKSVILLE, MD 21029

MAILING ADDRESS: 12660 CLARKSVILLE PIKE
CLARKSVILLE, MD 21029

COUNTY: HOWARD COUNTY
MAP: 0034 PARCEL: 0025
DISTRICT: 05 ACCOUNT: 358051



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

SITE PLAN
SCALE: 1" = 50'-0"

TRUE NORTH

Date:	No.	Revision Description
04-12-16	7	REVISE VERIZON WIRELESS EQUIPMENT SHELTER TO EQUIPMENT CABINETS WITH CANOPY AND GENERATOR IN NEW EXPANDED EQUIPMENT COMPOUND (NOTE: THIS REV. 7 REPLACES REV. 6 DATED 10/21/15)

SITE DEVELOPMENT PLAN
ZIMMERMAN AND SONS
HOME IMPROVEMENT CENTER AND
TELECOMMUNICATIONS TOWER COMPOUND
REFERENCE F-90-199 AND WP-91-29

OWNER:
KENDALL FAMILY LLC
12660 CLARKSVILLE PIKE
CLARKSVILLE, MD 21029

DEVELOPER:
VERIZON WIRELESS
7600 MONTPELIER ROAD
LAUREL, MD 20723

entrex
communication services, inc.
6600 Rockledge Drive, Suite 550
Bethesda, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12913, Expiration Date: 04/03/2018

04/12/16
Date

STATE OF MARYLAND
No. 12913
PROFESSIONAL ENGINEER
[illegible]
4-15-16

12913
Professional Engineer No.

APPROVALS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

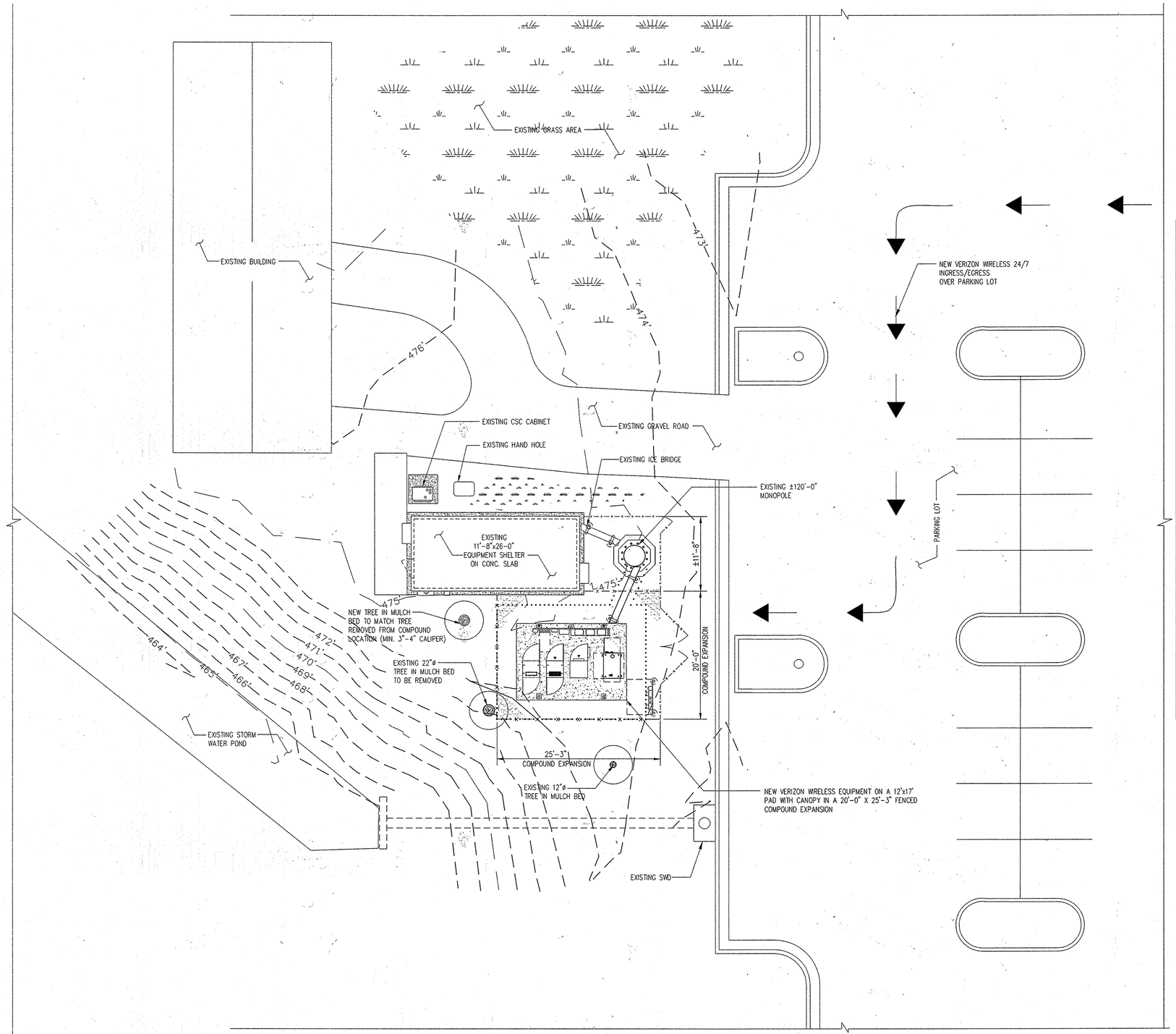
[illegible]	6-7-16
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
[illegible]	6-9-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
[illegible]	6-9-16
DIRECTOR	DATE

Subdivision Name		Section/Area N/A		Lot/Parcel #: Parcel 25	
LIBER: 9774 FOLIO: 359	GRID: 6	Zone:	Tax/zone map 34	Elect. Dis 5	Census Tract:
WATER CODE					

TITLE: **SITE PLAN**

Des. By	M.A.	Scale:	Entrex Proj. No.: 1102.320	
Drn. By	M.A.	Date: 04-08-16	**8 of 10**	
Chk. By	M.M.	Aproved: M.M.		

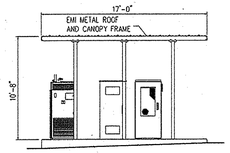
SDP - 90 - 220



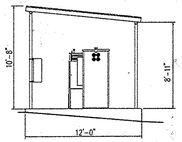
PARTIAL SITE PLAN

SCALE: 1/8"=1'-0"

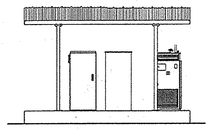
TRUE NORTH



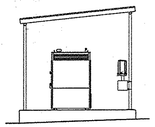
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

CANOPY DETAILS (N.T.S.)

Date:	No.	Revision Description
04-12-16	7	REVISE VERIZON WIRELESS EQUIPMENT SHELTER TO EQUIPMENT CABINETS WITH CANOPY AND GENERATOR IN NEW EXPANDED EQUIPMENT COMPOUND (NOTE: THIS REV. 7 REPLACES REV. 6 DATED 10/21/15)

SITE DEVELOPMENT PLAN
ZIMMERMAN AND SONS
HOME IMPROVEMENT CENTER AND
TELECOMMUNICATIONS TOWER COMPOUND
REFERENCE F-90-199 AND WP-91-29

OWNER:
KENDALL FAMILY LLC
12660 CLARKSVILLE PIKE
CLARKSVILLE, MD 21029

DEVELOPER:
VERIZON WIRELESS
7600 MONTPELIER ROAD
LAUREL, MD 20723

entrex
communication services, inc.
6600 Rockledge Drive, Suite 550
Bethesda, MD 20817
PHONE: (202)408-0900
FAX: (202)408-0991

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12913, Expiration Date: 04/03/2019

04/12/16
Date

12913
Professional Engineer No.

Subdivision Name		Section/Area N/A		Lot/Parcel # Parcel 25	
LIBER: 9774 FOLIO: 359	GRID: 6	Zone:	Tax/zone map: 34	Elect. Dis: 5	Census Tract:
WATER CODE					

TITLE:

PARTIAL SITE PLAN

Des. By	M.A.	Scale:	Entrex Proj. No.: 1102.320
Drn. By	M.A.	Date: 04-08-16	9 of 10
Chk. By	M.M.	Aprvwd: M.M.	

SDP - 90 - 220

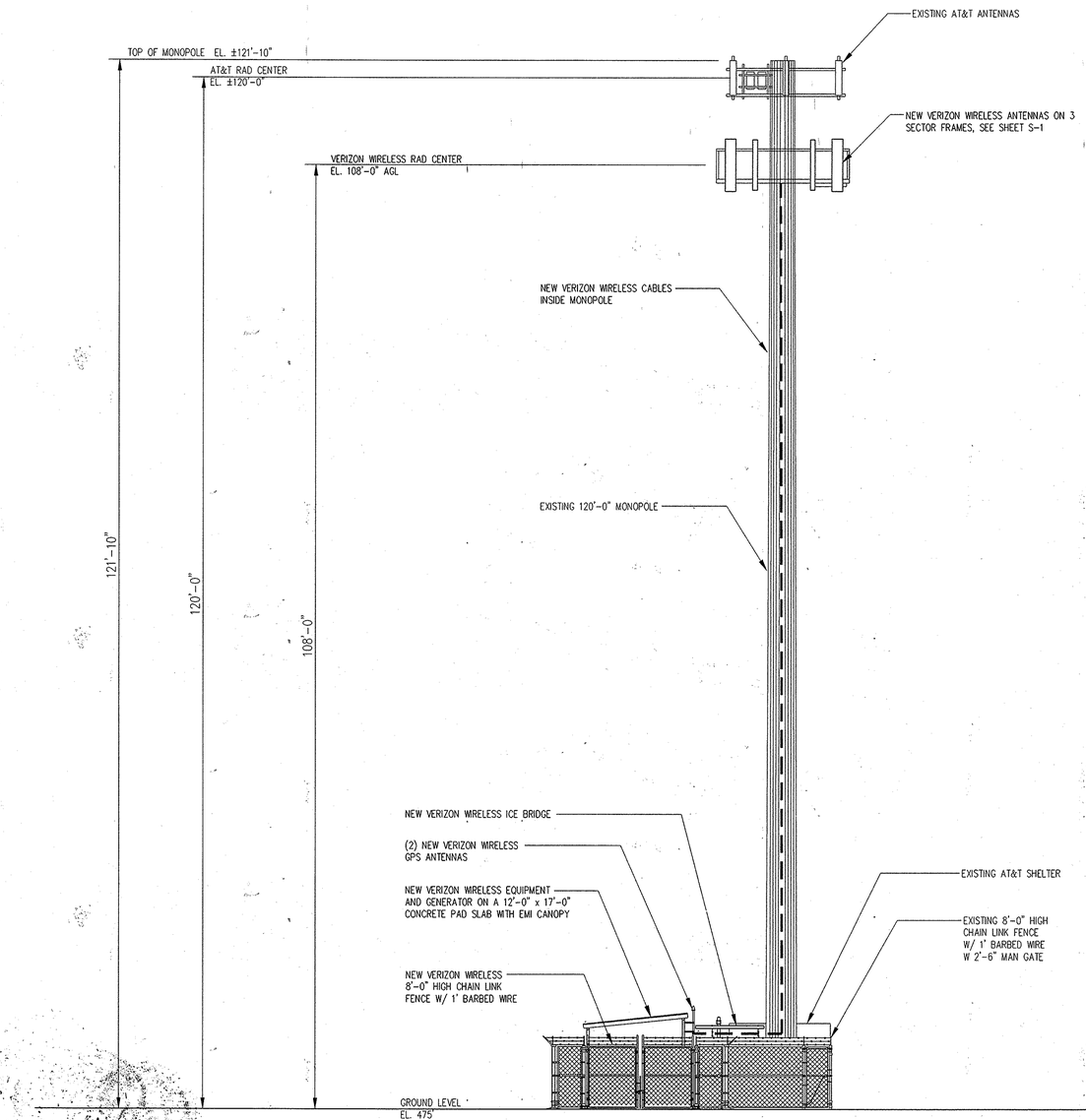
APPROVALS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6.7.16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6.9.16

DIRECTOR — DATE 6.9.16



MONOPOLE ELEVATION

SCALE: 1/8"=1'-0"

APPROVALS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6-7-16

CHIEF, PERMITS & LICENSES DIVISION — DATE 6-9-16

DIRECTOR — DATE 6-9-16

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12913, Expiration Date: 04/01/2018

04/12/16
Date

12913
Professional Engineer No.

Date:	No.	Revision Description
04-12-16	7	REVISE VERIZON WIRELESS EQUIPMENT SHELTER TO EQUIPMENT CABINETS WITH CANOPY AND GENERATOR IN NEW EXPANDED EQUIPMENT COMPOUND (NOTE: THIS REV. 7 REPLACES REV. 6 DATED 10/21/15)

SITE DEVELOPMENT PLAN
ZIMMERMAN AND SONS
HOME IMPROVEMENT CENTER AND TELECOMMUNICATIONS TOWER COMPOUND
REFERENCE F-90-199 AND WP-91-29

OWNER:
KENDALL FAMILY, LLC
12660 CLARKSVILLE PIKE
CLARKSVILLE, MD 21029

DEVELOPER:
VERIZON WIRELESS
7600 MONTPELIER ROAD
LAUREL, MD 20723

entrex
communication services, inc.
6600 Rockledge Drive, Suite 550
Bethesda, MD 20817
PHONE: (202)408-0360
FAX: (202)408-0961

Subdivision Name		Section/Area N/A		Lot/Parcel # Parcel 25	
LIBER: 9774 FOLIO: 359	ORIG: 6	Zone:	Tax/zone map: 34	Elect. Dis: 5	Census Tract:
WATER CODE					

TITLE:

MONOPOLE ELEVATION

Des. By	M.A.	Scale:	Entrex Proj. No.: 1102.320
Dm. By	M.A.	Date: 04-08-16	**10 of 10**
Chk. By	M.M.	Aproved: M.M.	

SDP - 90 - 220