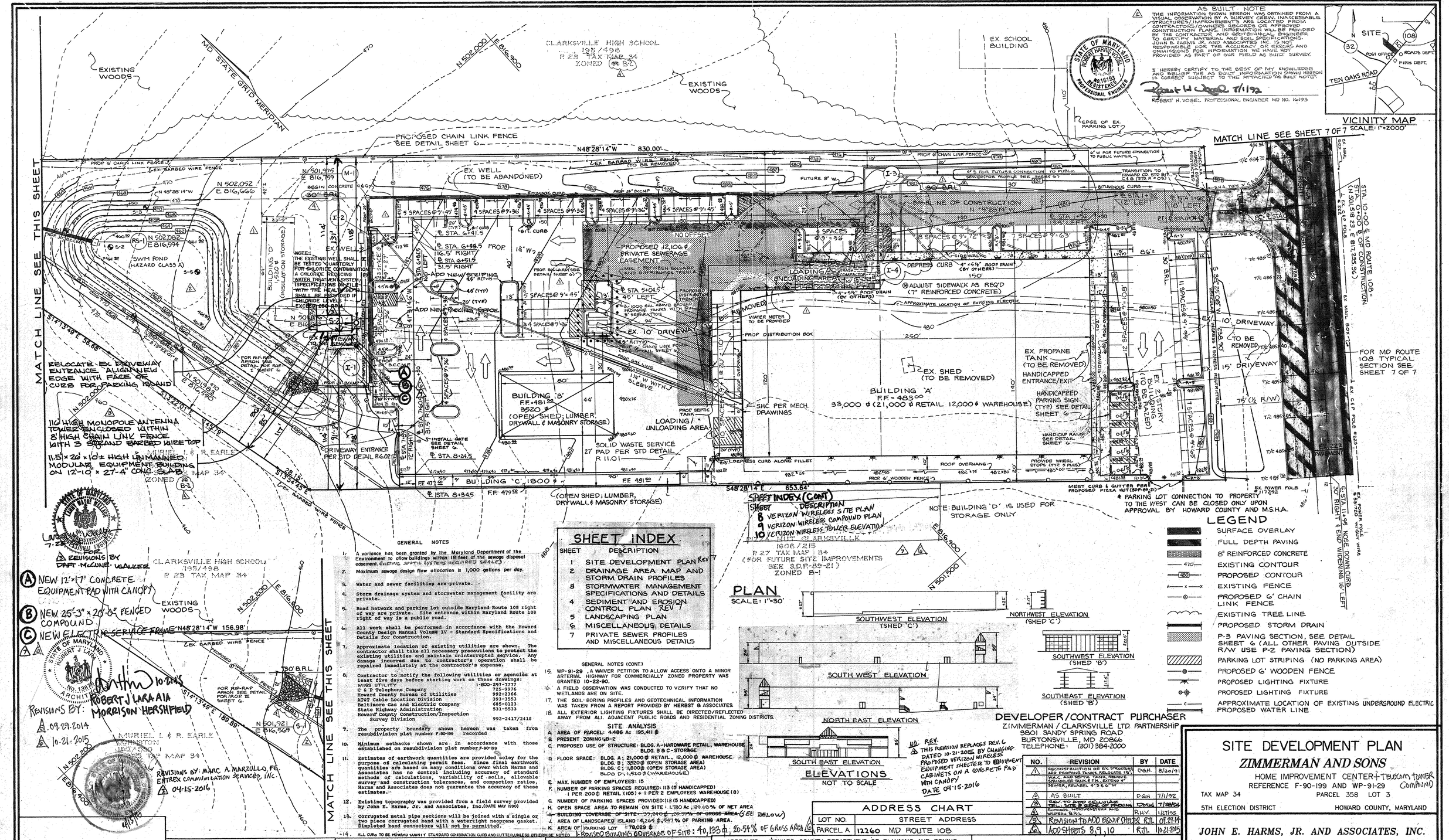

MATCH LINE SEE THIS SHEET
MATCH LINE SEE SHEET 7 OF 7
EXISTING WOODS
MD STATE GRID MERIDIAN
N 502,000 E 816,900
CLARKSVILLE HIGH SCHOOL
195/498
P 25 TAX MAP 34
ZONED B-2
EX. SCHOOL BUILDING
EDGE OF EX. PARKING LOT
PROPOSED CHAIN LINK FENCE SEE DETAIL SHEET 6
N48°28'14"W 830.00'
EX. BARBED WIRE FENCE (TO BE REMOVED)
EX. WELL (TO BE ABANDONED)
N 501,975 E 816,709
N 502,052 E 816,666
N 48°28'14"W
BEGIN CONCRETE
30' BRL
FUTURE 8" W.L.
PROP 24" RCCMP
BITUMINOUS CURB
PROP 6' CHAIN LINK FENCE
6" W FOR FUTURE CONNECTION TO PUBLIC WATER
4" S.L.R. FUTURE CONNECTION TO PUBLIC SEWER FOR PROFILE SEE SHEET 6
TRANSITION TO HOWARD CO STD B.R. C.L.G. (STD # 210.03)
SHA TYPE A C.L.G.
EX. MAIL BOX
EX. CAP POLE #222
EX. CAP POLE #223
RS-1
SWM POND (HAZARD CLASS A)
S-2
S-3
S-4
S-5
S-6
EX WELL #2
NOTE: THE EXISTING WELL SHALL BE TESTED QUARTERLY FOR CHLORIDE CONTAMINATION. A CHLORIDE REDUCING WATER TREATMENT SYSTEM (SPECIFICATIONS ON FILE WITH THE HEALTH DEPT.) SHALL BE PROVIDED IF CHLORIDE LEVELS EXCEED 250 PPM.
N 502,090 E 816,593
EX. DRIVEWAY TO BE REMOVED
RELOCATE EX. DRIVEWAY ENTRANCE. ALIGN NEW EDGE WITH FACE OF CURB FOR PARKING ISLAND
N 502,030 E 816,590
S13°43'01"E 38.88'
116' HIGH MONOPOLE ANTENNA TOWER ENCLOSED WITHIN 8' HIGH CHAIN LINK FENCE WITH 3 STRAND BARBED WIRE TOP
11.5' x 26' x 10'± HIGH UNMANNED MODULAR EQUIPMENT BUILDING ON 12'-10" x 27'-4" CONC. SLAB
MURIEL I. & R. EARLE
ERNSTON
195/498
P 25 TAX MAP 34
ZONED B-2
S13°43'45"E 28.16'
EX. BARBED WIRE FENCE
N 502,200 E 816,900
N 501,900
N 502,000
N 501,921 E 816,569
S13°43'48"E 189.99'
PROPOSED CHAIN LINK FENCE
30' B.R.L.
FOR RIP-RAP APRON SEE DETAIL FOR INLET E SHEET 6
EX. 10' DRIVEWAY
PROP. 10' DRIVEWAY
PROP. 6' CHAIN LINK FENCE SEE DETAIL SHEET 6
PROP. BOLLARD SEE DETAIL SHEET 6
PROP. DISTRIBUTION TRENCH
PROPOSED 12,106 ± PRIVATE SEWERAGE EASEMENT
MIN. DEPTH OF BOLLARD AND DISTRIBUTION TRENCH
NO OFFSET
LOADING & UNLOADING AREA
SNOW STORAGE AREA
EX. 2 STORY BUILDING (TO BE RAZED)
EX. SHED (TO BE REMOVED)
EX. PROPANE TANK (TO BE REMOVED)
HANDICAPPED ENTRANCE/EXIT
HANDICAPPED PARKING SIGN (TYP.) SEE DETAIL SHEET 6
BUILDING 'A' F.F.= 483.00 33,000 ± (21,000 ± RETAIL 12,000 ± WAREHOUSE)
BUILDING 'B' F.F.=481.35 3520 ± (OPEN SHED; LUMBER, DRYWALL & MASONRY STORAGE)
BUILDING 'C' 1800 ± (OPEN SHED; LUMBER, DRYWALL & MASONRY STORAGE)
F.F. 479.92
F.F. 481.60
F.F. 477.92
LOADING / UNLOADING AREA
SOLID WASTE SERVICE 27' PAD PER STD DETAIL R 11.01
PROP SEPTIC TANK
PROP DISTRIBUTION BOX
WATER METER TO BE PROVIDED
SHC PER MECH. DRAWINGS
INSTALL GATE SEE DETAIL SHEET 6
DRIVEWAY ENTRANCE PER STD DETAIL R-6.02
PROP 6" W WITH J SLEEVE
PROP 2" W
PROP 4" S
PROP 8" S
PROP 6" S
PROP 12" S
PROP 15" S
PROP 18" S
PROP 24" S
PROP 30" S
PROP 36" S
PROP 42" S
PROP 48" S
PROP 54" S
PROP 60" S
PROP 72" S
PROP 84" S
PROP 96" S
PROP 108" S
PROP 120" S
PROP 132" S
PROP 144" S
PROP 156" S
PROP 168" S
PROP 180" S
PROP 192" S
PROP 204" S
PROP

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	478.74**	474.60	473.00	S.D. 4.22 *
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	469.33	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

MATCH LINE SEE THIS SHEET

CLARKSVILLE HIGH SCHOOL
195/498
P 23 TAX MAP 34

EXISTING WOODS

MD STATE GRID MERIDIAN

N 502,000 E 816,900

EX. SCHOOL ENTRANCE

EDGE OF EX. PARKING LOT

EX. FENCE

EX. STOP SIGN

N48°28'14"W 830.00'

N48°28'14"W 55.29'

EX. BARBED WIRE FENCE

EX. WELL (TO BE ABANDONED)

EX. WELL

PROP 24" BCCMP

PROP 36" S.D.

PROP 1½" W

PROP 4" S.D.

PROP 6" PVC

6" W

30' BRL

BUILDING

EX. DRIVEWAY (TO BE REMOVED)

EX. 10' DRIVEWAY (TO BE REMOVED)

PROP ARRIVE PIST. REMOVES

4" x 5½" ROOF DRAIN (BY OTHERS)

APPROXIMATE LOCATION OF EXISTING ELECTRIC

ROOF OVERHANG

EX. PROPANE TANK (TO BE REMOVED)

EX. SHED (TO BE REMOVED)

EX. 2 STORY BUILDING (TO BE RAZED)

EX. 10' DRIVEWAY TO BE REMOVED

EX. 15' DRIVEWAY

EX. 22' PAVEMENT

75' (½ R/W)

℄ MD. ROUTE 108

EX. MAIL BOX

EX. C&P POLE #222

EX. C&P POLE #225

EX. POWER POLE #291720 W/GUY WIRE

EX. POWER POLE #111242

EX. ROBERT ROAD #111243

RS-1

I-1

I-2

I-3

I-4

M-1

S-1

S-2

C=0.75 55% IMP (B) A=0.66 Ac.

C=0.57 59% IMP (C) A=1.61 Ac.

C=0.86 100% IMP (D) A=0.03 Ac.

C=0.86 100% IMP (E) A=0.76 Ac.

C=0.61 65% IMP (A) A=0.99 Ac.

PROP SEPTIC TANK

S14°13'49"E 38.88'

S13°27'01"E 45.79'

S13°33'45"E 28.15'

S48°28'14"E 653.64'

S48°28'14"E 57.06'

SEE OFF-SITE DRAINAGE AREA

MURIEL I. & R. EARLE JOHNSTON
190/550
P 365 TAX MAP 34

CLARKSVILLE HIGH SCHOOL
195/498
P 23 TAX MAP 34

EXISTING WOODS

N48°28'14"W 156.98'

EX. BARBED WIRE FENCE

30' B.R.L.

S14°13'49"E 186.89'

MATCH LINE SEE THIS SHEET

MURIEL I. & R. EARLE JOHNSTON
190/550
P 365 TAP MAP 34

N 502,200 E 816,400

PIZZA HUT CLARKSVILLE
1808/215
P 27 TAX MAP 34

N 501,500 E 816,900

DRAINAGE AREA MAP

SCALE: 1"=30'

PROPOSED BUILDING FF=483.00

PROPOSED GRADE

EXISTING GROUND

10 YR HGL

RIP-RAP OUTLET PROTECTION III
d_{50} = 4"
d_{max} = 6"
MIN BLANKET THICKNESS=9"
@ 0.00 %

24" BCCMP (16 Ga.) @ 1.05%
Q_{10} = 20.78 cfs
V_{10} = 6.61 fps
$S_{H/B}$ = 2.88 %

10 YR WSEL = 468.00

24" BCCMP (16Ga.) @ 7.54 %

24" BCCMP (16Ga.) @ 1.30%

24" BCCMP (16 Ga.) @ 1.24 %

6" PVC @ 3.33 %

Q_{10} = 15.96 cfs
V_{10} = 5.08 fps
$S_{H/B}$ = 1.70 %

Q_{10} = 13.12 cfs
V_{10} = 4.18 fps
$S_{H/B}$ = 1.15 %

Q_{10} = 13.12 cfs
V_{10} = 4.18 fps
$S_{H/B}$ = 1.15 %

Q_{10} = 0.26 cfs
V_{10} = 1.32 fps
$S_{H/B}$ = 0.82 %

4" x 5½" ROOF DRAIN (BY OTHERS) 474.60

474.50

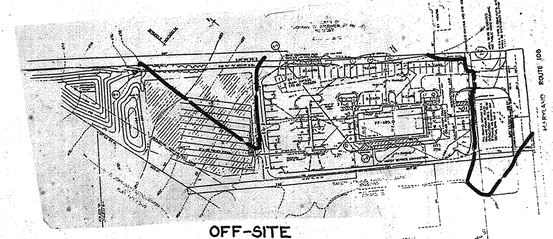
476.50

PROFILE

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

OFF-SITE DRAINAGE AREA

SCALE: 1"=100'



NO.	REVISION	BY	DATE
1	RECONSTRUCTION OF EX. STRUCTURE REMOVE P.H., EXTEND 4" SEWER RELABEL 4"S AND 6"W, REV. NUMBERS	DGH	8/30/91
2	ADD SHEETS 8, 9, 10 THIS REVISION INCLUDES REV. 6 DATED 10-31-2016 BY CHANGING PROPOSED VENTED DIRECTLY FROM HEAT SHELTER TO EQUIPMENT CABINETS IN A CONCRETE PAD WITH CANOPY	RJH MAM	10.31.16 04-15-16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 6/4/91

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

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

DIRECTOR — DATE 5/23/91

CHIEF, BUREAU OF ENGINEERING — DATE 5-23-91

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

COUNTY HEALTH OFFICER — DATE 5/10/91

DEVELOPER/CONTRACT PURCHASER

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

DRAINAGE AREA MAP & STORM DRAIN PROFILE

ZIMMERMAN AND SONS

HOME IMPROVEMENT CENTER + TRUCK RENTAL 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

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

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

SHEET 2 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.

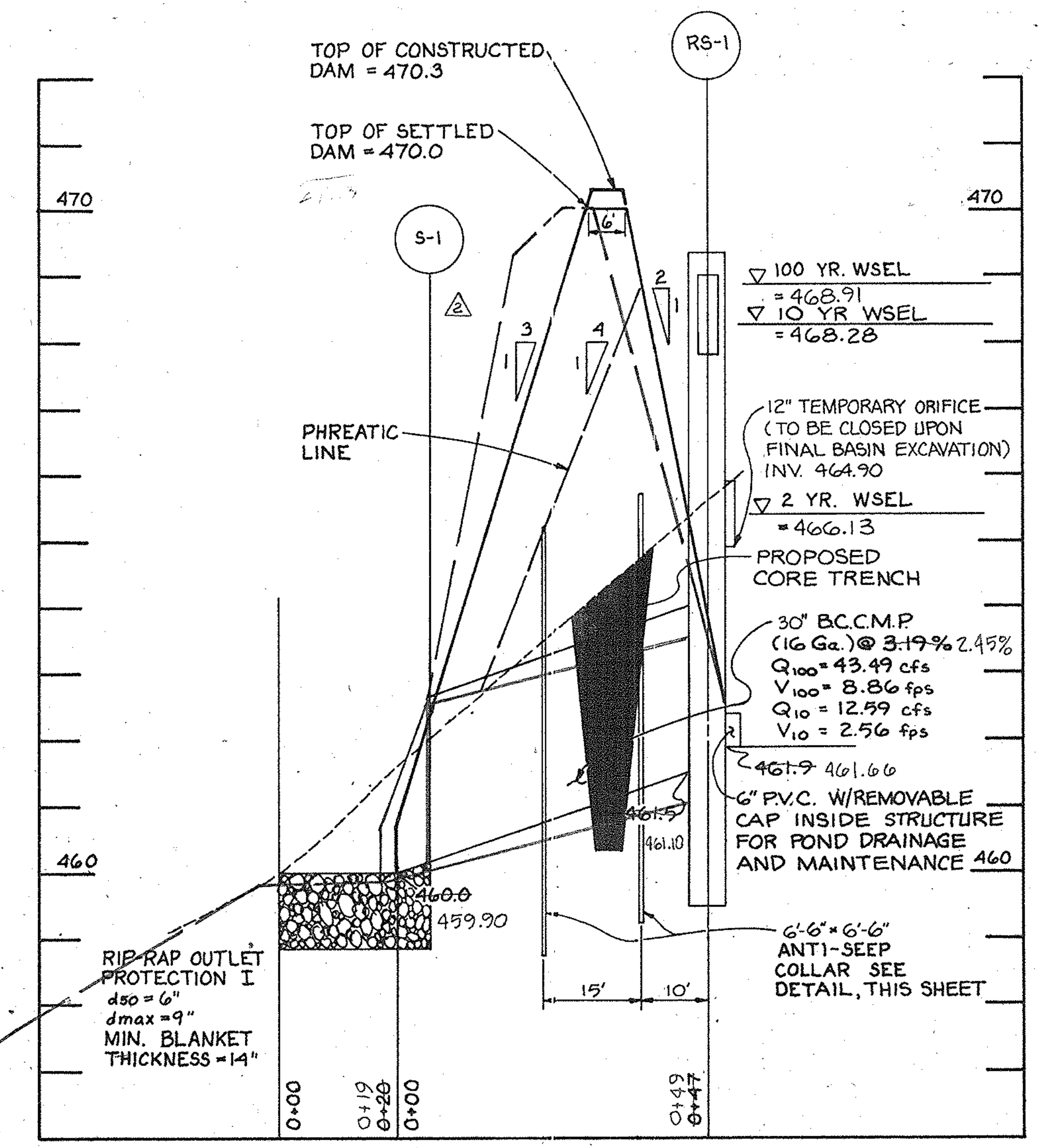
(B) TECHNIQUE ROTARY TILLERS OR DISC BARROWS WILL NORMALLY SERVE THIS PURPOSE. LIGHT TRACTORS SHALL BE EMPLOYED FOR THESE OPERATIONS. IN THE EVENT THAT HEAVY EQUIPTMENT HAS CAUSED DEEPER THAN NORMAL COMPACTION OF THE SURFACE, THESE OPERATIONS SHALL BE PRECEDED BY DEEP PLOWING. IN ITS FINAL CONDITION 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.

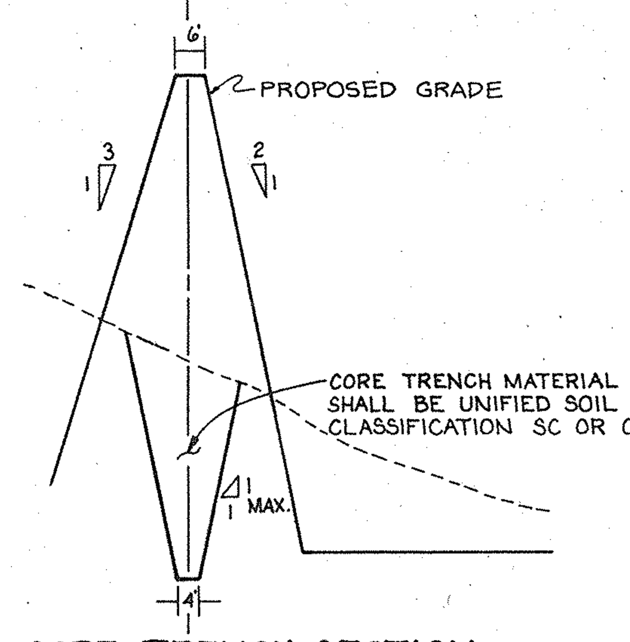
3.2.7.5 SIDE SLOPE MAINTENANCE

(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.

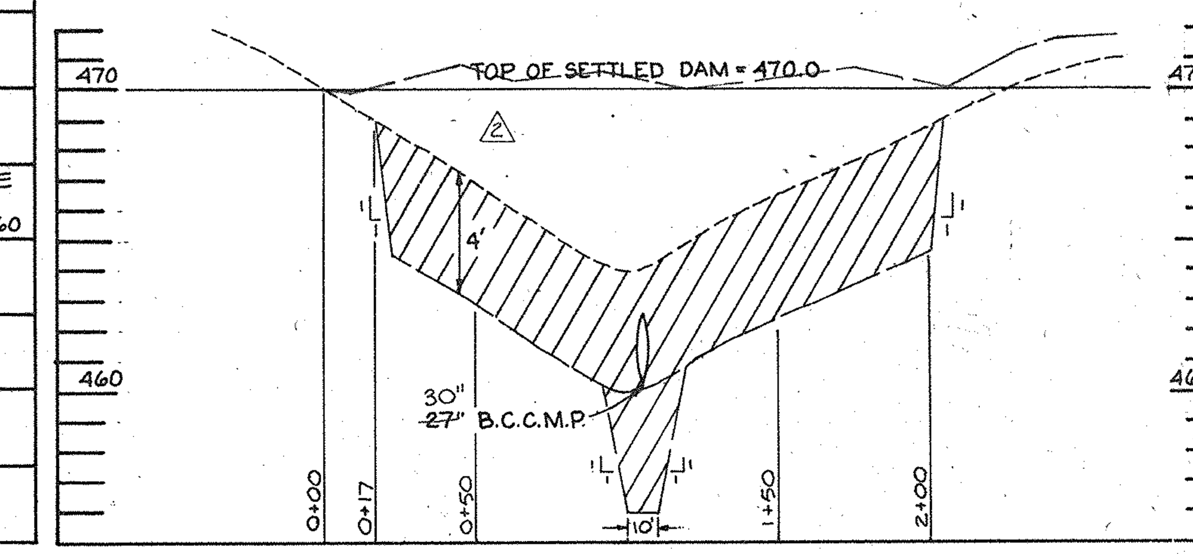
(B) FREQUENCY GRASSES OF THE FESCUE FAMILY ARE REQUIRED FOR SEEDING PRIMARILY DUE TO THEIR ADAPTABILITY TO DRY SANDY SOILS, DROUGHT RESISTANCE, HARDINESS AND ABILITY TO WITHSTAND BRIEF INUNDATIONS. THE USE OF FESCUES WILL ALSO PERMIT LONG INTERVALS BETWEEN MOWINGS. THIS IS IMPORTANT DUE TO THE RELATIVELY 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.



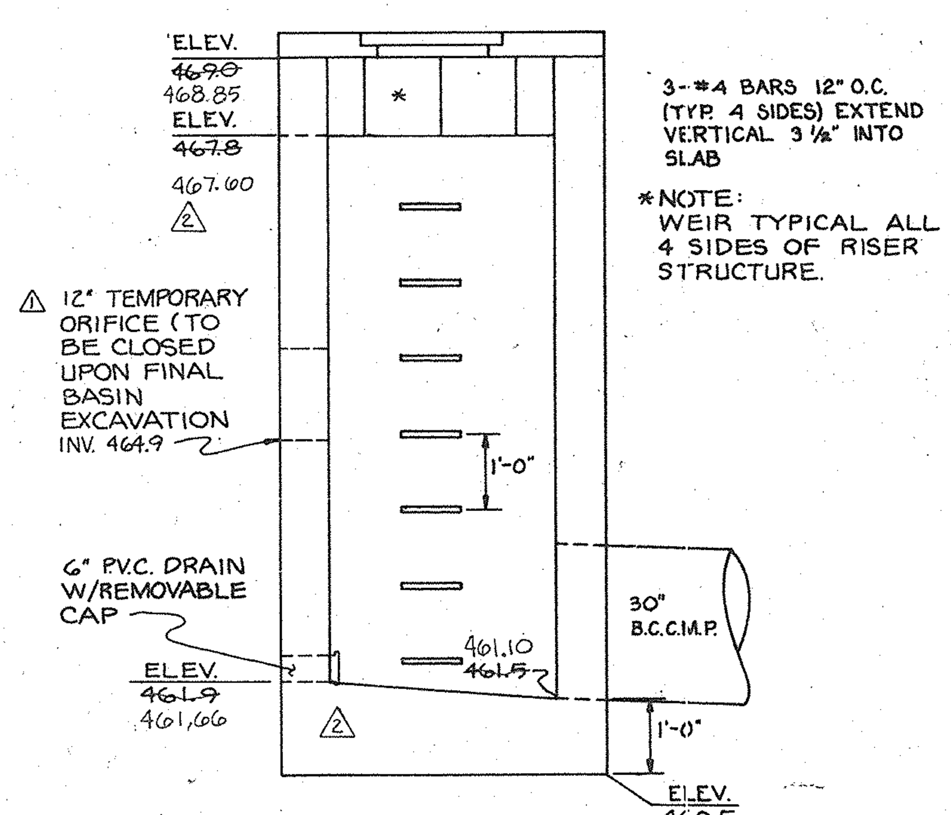
PROFILE
SCALE: HORIZ. 1"=20'
VERT. 1"=2'



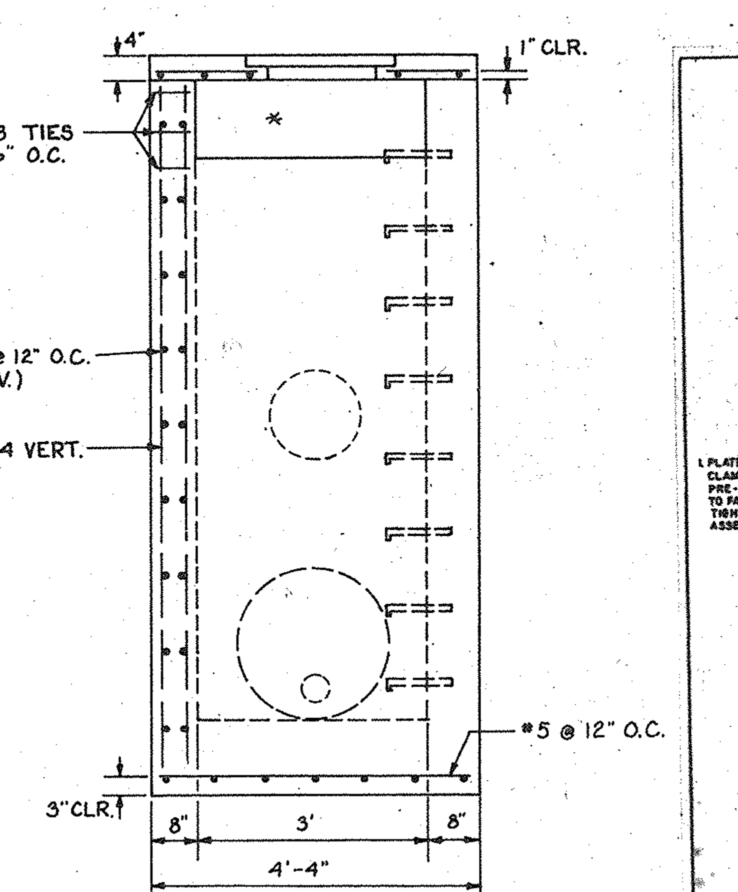
CORE TRENCH SECTION
NOT TO SCALE



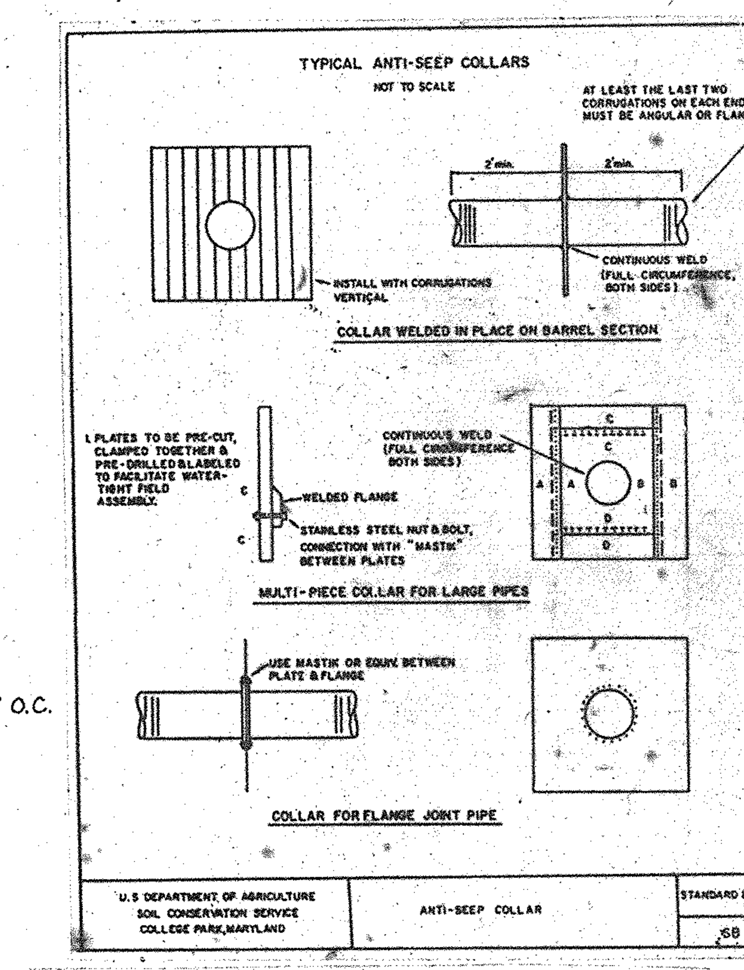
CROSS-SECTION ALONG ℄ OF EMBANKMENT
SCALE: HORIZ. 1"=50
VERT. 1"=5'



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.

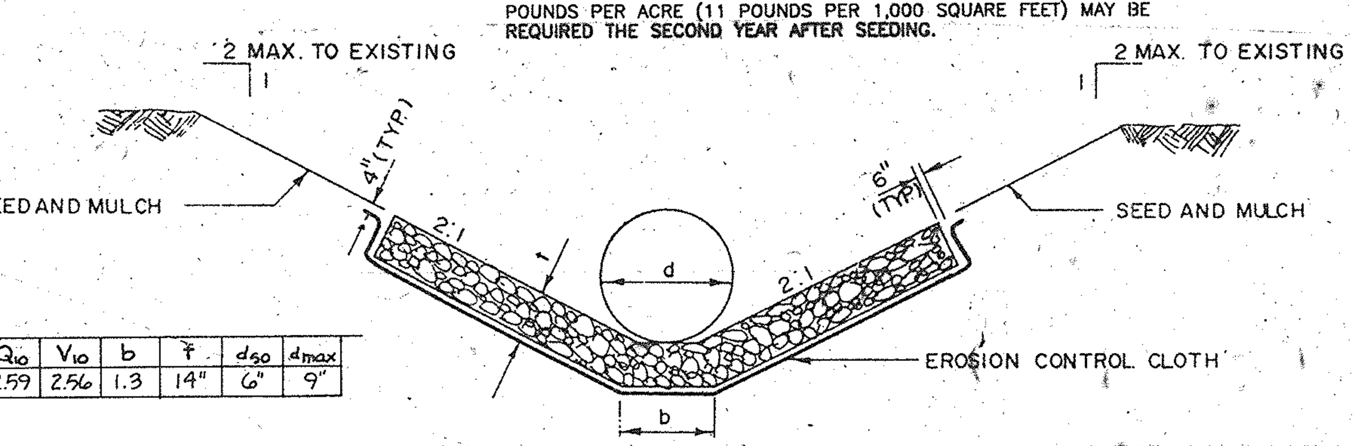
I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THE AS BUILT INFORMATION SHOWN HEREON IS CORRECT SUBJECT TO THE ATTACHED "AS BUILT NOTE".

Robert H. Vogel 7/1/92

ROBERT H. VOGEL PROFESSIONAL ENGINEER MD. NO. 16193

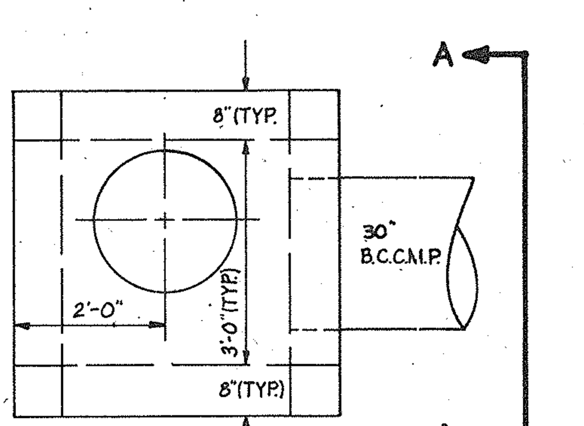
STATE OF MARYLAND ROBERT HARRIS VOGEL NO. 16193 REGISTERED PROFESSIONAL ENGINEER

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

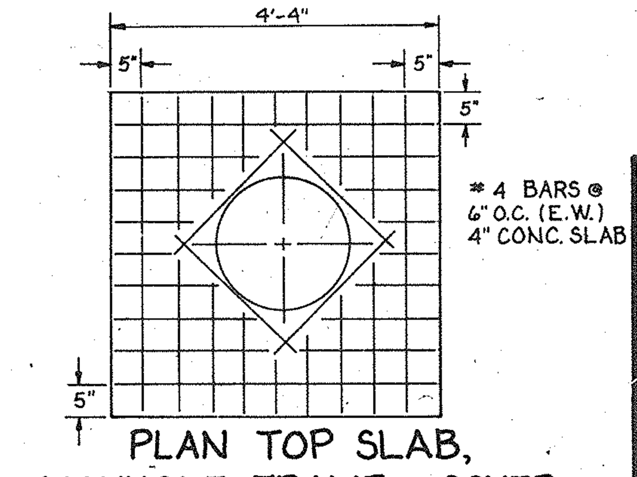


d	Q_{10}	V_{10}	b	T	d_{50}	d_{max}
30"	12.59	2.56	1.3	14"	6"	9"

SECTION @ OUTLET OF BARREL
NOT TO SCALE



SWM RELEASE STRUCTURE PLAN
NOT TO SCALE



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."

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.

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. Zeihm 5/1/91
HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

6/4/91
DIRECTOR — DATE

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

5/23/91 — 5-23-91
DIRECTOR — DATE — CHIEF, BUREAU OF ENGINEERING — DATE

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

Joyce M Boyd 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

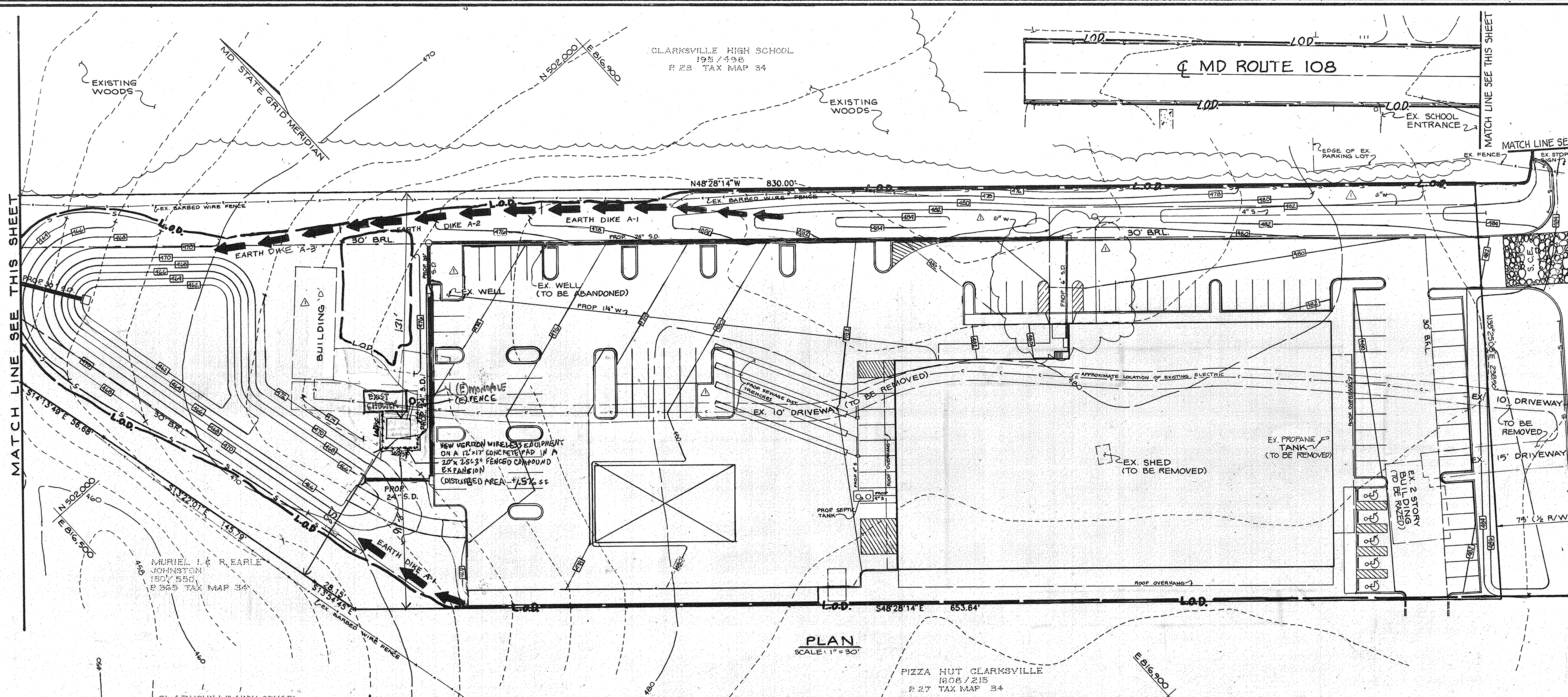
8808 CENTRE PARK DRIVE, COLUMBIA, MARYLAND 21045 — *SUITE 110, TELEPHONE (301) 740-5200*

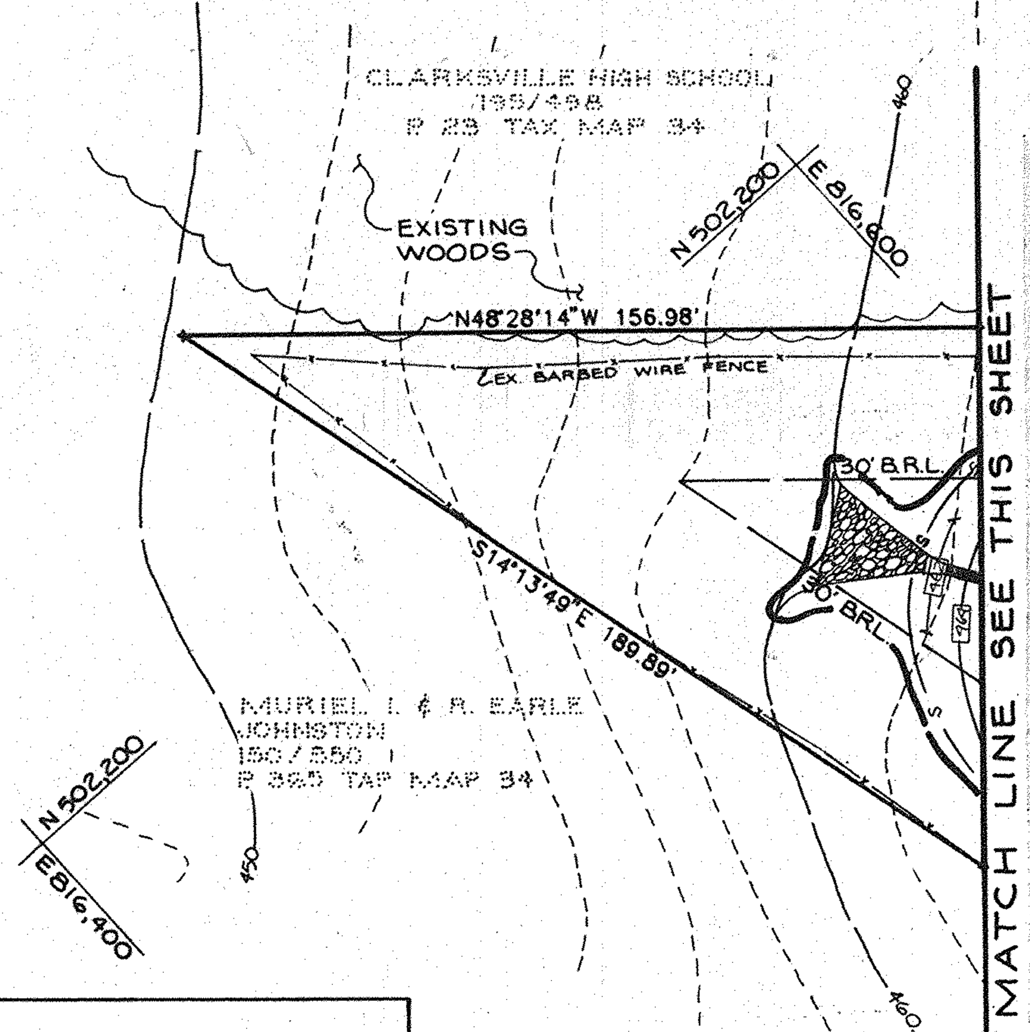
Robert H. Vogel 4/5/91
STATE OF MARYLAND ROBERT HARRIS VOGEL NO. 16193 REGISTERED PROFESSIONAL ENGINEER

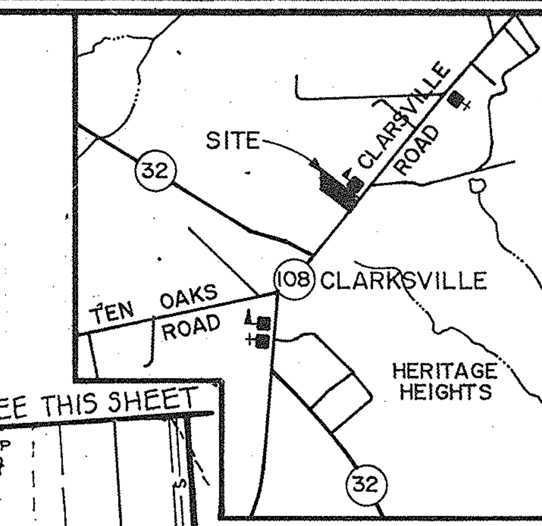
DESIGNED BY: T.A.B.
DRAWN BY: J.J.T.
CHECKED BY: R.H.V.
DATE: 6/25/90
SCALE: AS SHOWN
W.O. NO.: 45-90-004A

SHEET 3 OF 10

SDP 90-220







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
- 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.

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-[illegible]

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.

[signature] 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

[signature] 6/4/91
DIRECTOR DATE

[signature] 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

[signature] 5/23/91
DIRECTOR DATE

[signature] 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

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 SUITE 110
COLUMBIA, MARYLAND 21045 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

SDP 90-220

H3

MATCH LINE SEE THIS SHEET

EXISTING WOODS

MD STATE GRID MERIDIAN

N 502,000 E 816,900

CLARKSVILLE HIGH SCHOOL
195/498
P 23 TAX MAP 34
R

EXISTING WOODS

EX. SCHOOL ENTRANCE

EDGE OF EX. PARKING LOT

EX. FENCE

EX. STOP SIGN

EX. MAIL BOX

EX. MAIL BOX

℄ MD. ROUTE 108

EX. C&P POLE #222

EX. C&P POLE #23

EX. POWER POLE #1117242

EX. POWER POLE #39/720 W/GUY WIRE

EX. 22' PAVEMENT

EX. BARBED WIRE FENCE

N48°28'14"W 830.00'

30' BRL

EX. WELL

EX. WELL (TO BE ABANDONED)

PROP 1¼" W

6" W

BUILDING 'D'

NEW TREE TO MATCH TREE REMOVED FROM COMPOUND LOCATED IN APPROXIMATE LOCATION OF EXISTING ELECTRIC

EXISTING 22" OAK TREE IN MULCH RING TO BE REMOVED

PROP SEWAGE EJECTOR & FRANCHES

EX. 10' DRIVEWAY (TO BE REMOVED)

PROPOSED BUILDING 'A'

PROPOSED BUILDING 'B'

NOT BUILT

PROP SEPTIC TANK

PROP 4"ø S

CANOPY

PROPOSED BUILDING 'C'

ROOF OVERHANG

PROP DECORATIVE 6' WOODEN FENCE

S48°28'14"E 653.64'

EX. 10' DRIVEWAY TO BE REMOVED

EX. 2 STORY BUILDING (TO BE RAZED)

15' DRIVEWAY

75' ½ R/W

S41°13'46"E 36.68'

S31°22'01"E 145.78'

S51°34'45"E 288.15'

EX. BARBED WIRE FENCE

MURIEL I. & R. EARLE JOHNSTON
150/550
P 365 TAX MAP 34
R

N 502,000 E 816,500

PIZZA HUT CLARKSVILLE
808/215
P 27 TAX MAP 34
B-1

N 501,500 E 816,900

PLAN

SCALE: 1"=30'

CLARKSVILLE HIGH SCHOOL
195/498
P 23 TAX MAP 34
R

EXISTING WOODS

N 502,200 E 816,600

N48°28'14"W 156.98'

EX. BARBED WIRE FENCE

30' B.R.L.

S41°13'46"E 139.86'

MURIEL I. & R. EARLE JOHNSTON
150/550
P 365 TAP MAP 34
R

N 502,200 E 816,400

MATCH LINE SEE THIS SHEET

PLANTING NOTES

1. PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.
2. ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED AND HAVE A VIGOROUS ROOT SYSTEM. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS PLANTS FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUNSCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BOXERS AND ALL FORMS OF INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEELED-IN PLANTS OR PLANTS FROM COLD STORAGE WILL BE ACCEPTED.
3. UNLESS OTHERWISE SPECIFIED, ALL PLANT MATERIAL SHALL CONFORM TO "AMERICAN STANDARD FOR NURSERY STOCK", ANSI Z60.1-1986, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INCLUDING ALL ADDENDA.
4. UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATIONS SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS", (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, SEPTEMBER, 1981, INCLUDING ALL ADDENDA.
5. CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONTRACTORS AND "MISS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO UTILITIES AND MAY MAKE MINOR ADJUSTMENTS IN SPACING AND LOCATION OF PLANT MATERIALS TO AVOID CONFLICTS WITH UTILITIES.
7. PLANTING BEDS SHALL BE MULCHED WITH 3" OF SHREDDED HARDWOOD BARK MULCH. GROUNDCOVER BEDS SHALL BE MULCHED TO A DEPTH OF 2".
8. ALL AREAS WITHIN THE CONTRACT LIMIT NOT COVERED BY BUILDING, PAVING, PLANTING BEDS OR OTHERWISE DESIGNATED ON THE PLANS SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH "1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL". PERMANENT SEEDING SPECIFICATIONS, INCLUDING ALL ADDENDA
9. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL MATERIAL IN THE PROPER PLANTING SEASON FOR EACH PLANT TYPE.
10. PLANTING MIX SHALL BE AS FOLLOWS:

    DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE. ADD 3 LBS. OF STANDARD 10-10-10 FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL. ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX.

    TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.
11. THIS PLAN IS INTENDED FOR LANDSCAPE USE ONLY. SEE OTHER PLAN SHEETS FOR MORE INFORMATION ON GRADING, SEDIMENT CONTROL, LAYOUT, ETC.

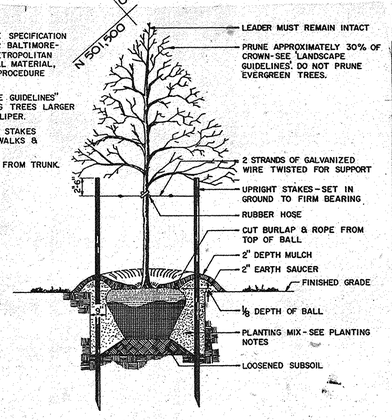
TREE SIZE HEIGHT	TREE SIZE CALIPER	STAKE	#	WIRE OR CABLE	TURNBUCKLE	HOSE
6'-8'	1"-1 1/2"	3' UPRIGHT	2	14 GAUGE WIRE	–	1/2"
8'-10'	1 1/2"-2"	5' OR 6' UPRIGHT	2	14 GAUGE WIRE	–	1/2"
10'-12'	2"-2 1/2"	7' OR 8' UPRIGHT	2	14 GAUGE WIRE	–	1/2"
12'-14'	2 1/2"-3"	2' GUY	3	12 GAUGE WIRE	–	1/2"
14'-16'	3"-4"	2' GUY	3	12 GAUGE WIRE	–	3/4"
16'-20'	4"-6"	30" GUY	3	12 GAUGE WIRE	–	3/4"
20' AND OVER	6" AND OVER	DEADMEN	3	3/16" CABLE	3/8"x 6"	3/4"

TREE SUPPORT SCHEDULE

DECIDUOUS AND EVERGREEN TREES

NOTES:

1. SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
2. SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2½" CALIPER.
3. PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
4. KEEP MULCH 1" FROM TRUNK.



TREE PLANTING AND STAKING

DECIDUOUS AND EVERGREEN TREES UP TO 2½" CALIPER NOT TO SCALE

PLANT LIST

QTY	KEY	BOTANICAL NAME/COMMON NAME	SIZE	ROOT	REMARKS
27	ARU	ACER RUBRUM/ RED MAPLE	2½"CAL.	B&B.	SINGLE, STRAIGHT LEADER.
13	SJR	SOPHORA JAPONICA REGENT/REGNT. SCHOLARTREE	2½"CAL.	B&B.	SINGLE, STRAIGHT LEADER.
26	TCO	TILIA CORDATA/LITTLELEAF LINDEN	2½"CAL.	B&B.	SINGLE, STRAIGHT LEADER.
8	TSC	TSUGA CANADENSIS/CANADIAN HEMLOCK	6'-7' HT.	B&B.	FULL & DENSE

NO.	REVISION	BY	DATE
1	ADDITIONS OF EX. ST. STRUCTURE REMOVE E.W.; EXTEND 4' S., RELABEL #'S & ℄ W, REV. ISLANDS	DSH	8/30/91
2	ADD SHEETS 8, 9, 10 THIS REVISION REPLACES ALL PREVIOUS VERSIONS	RJL	10.9.15
3	CHANGE OF PLUMBING, VESTIBULE, MULCH RING, REMOVE EX. SHED, ADD TO EQUIPMENT CABINETS AND A CONCRETE PAD W/ EX. CANOPY	MAM	04.15.246

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 6/14/91

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 6/13/91

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

DIRECTOR — DATE 5/23/91

CHIEF, BUREAU OF ENGINEERING — DATE 5/23/91

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

COUNTY HEALTH OFFICER — DATE 5/10/91

DEVELOPER / CONTRACT PURCHASER
ZIMMERMAN CLARKSVILLE LTD PARTNERSHIP
8801 SANDY SPRING ROAD
BURTONSVILLE, MD 20866
TELEPHONE: (301) 384-2000

LANDSCAPE 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 SUITE 110
COLUMBIA, MARYLAND 21045 TELEPHONE (301) 740-8200

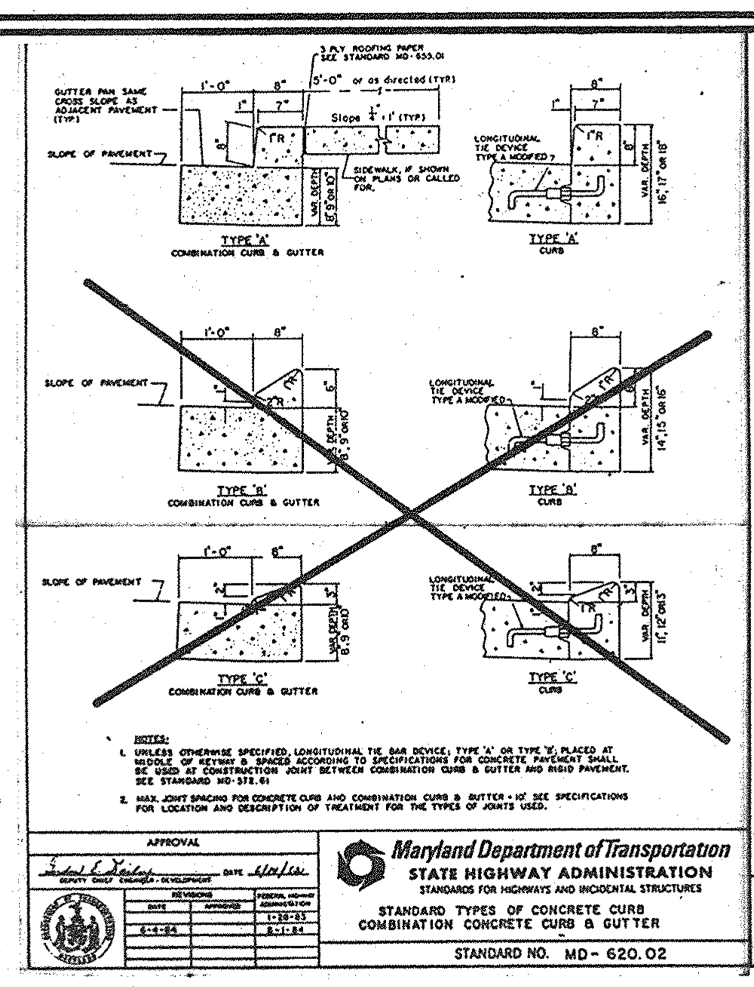
Robert H. Vogel 8/1/91

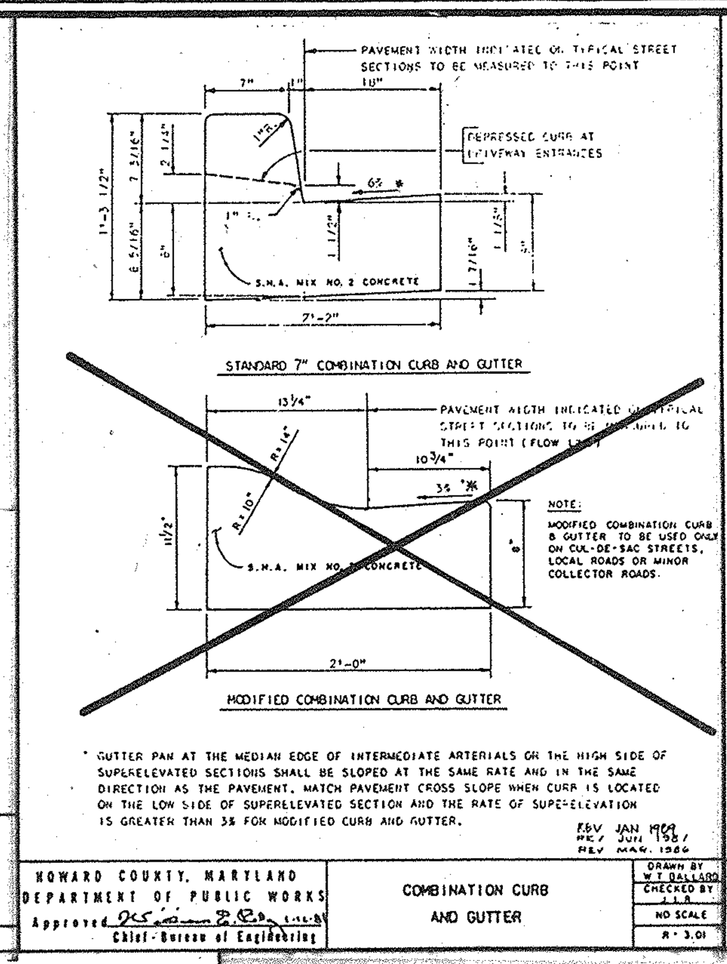
STATE OF MARYLAND ROBERT HARRIS VOGEL No. 10,161 REGISTERED PROFESSIONAL ENGINEER

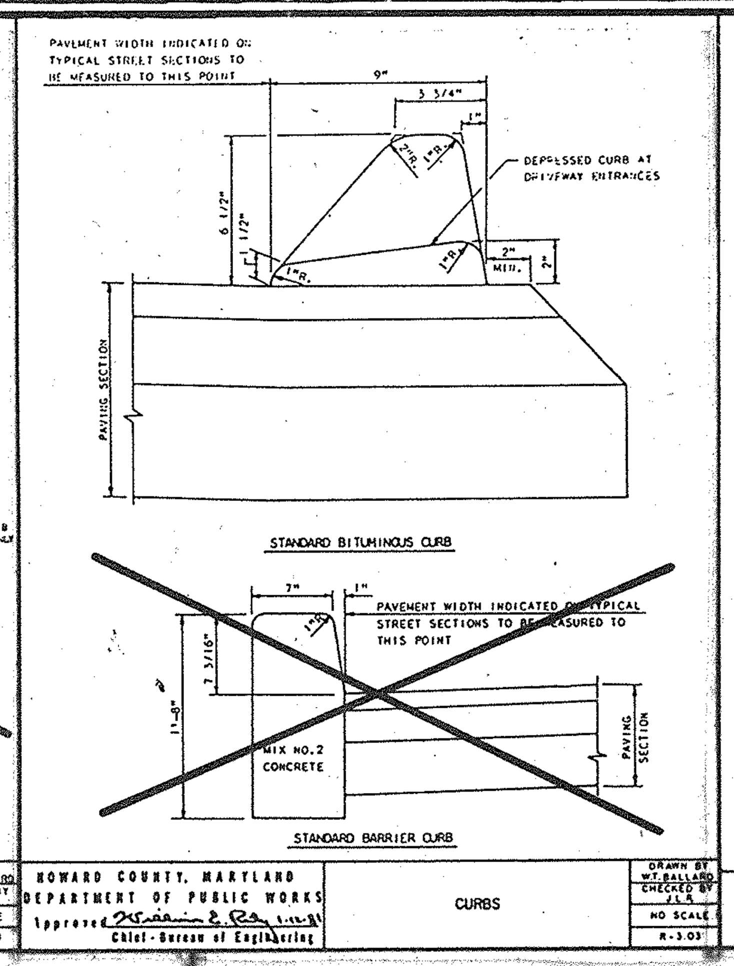
DESIGNED BY: P.F.A.
DRAWN BY: P.F.A.
CHECKED BY: S.E.M.
DATE: 6/25/90
SCALE: 1" = 30'
W.O. NO.: 45-90-004A

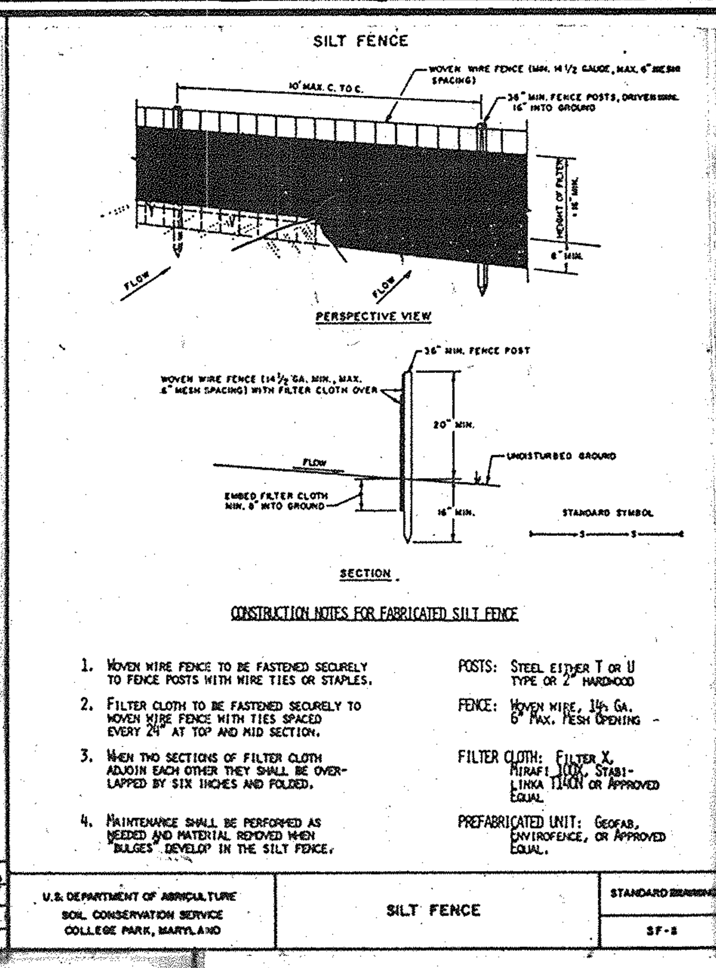
SHEET 5 OF 10

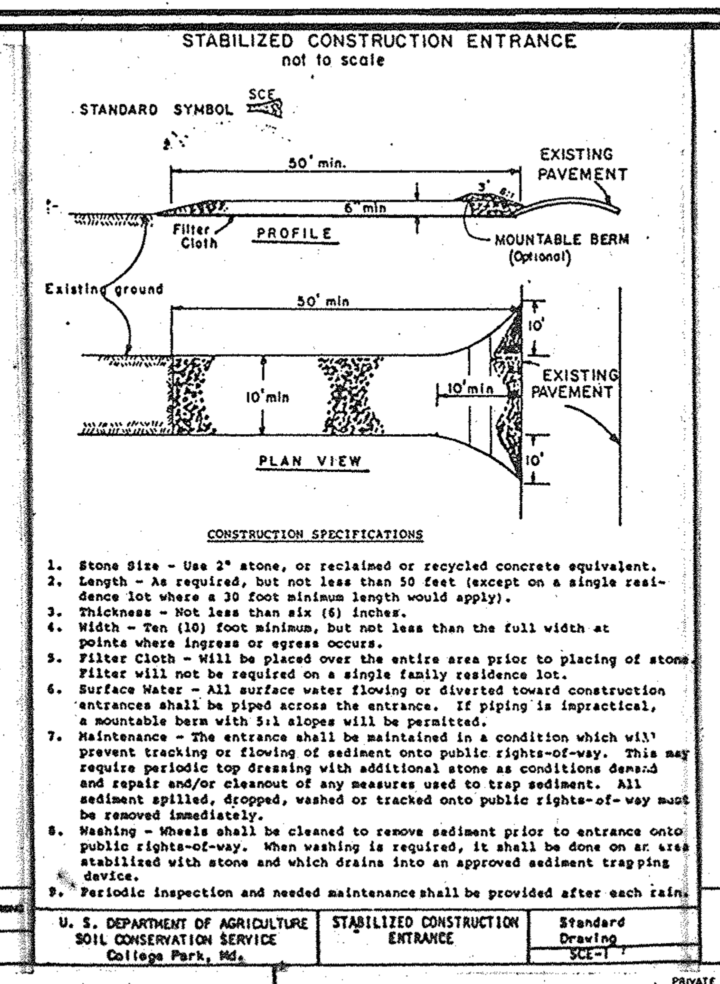
SDP 90-220

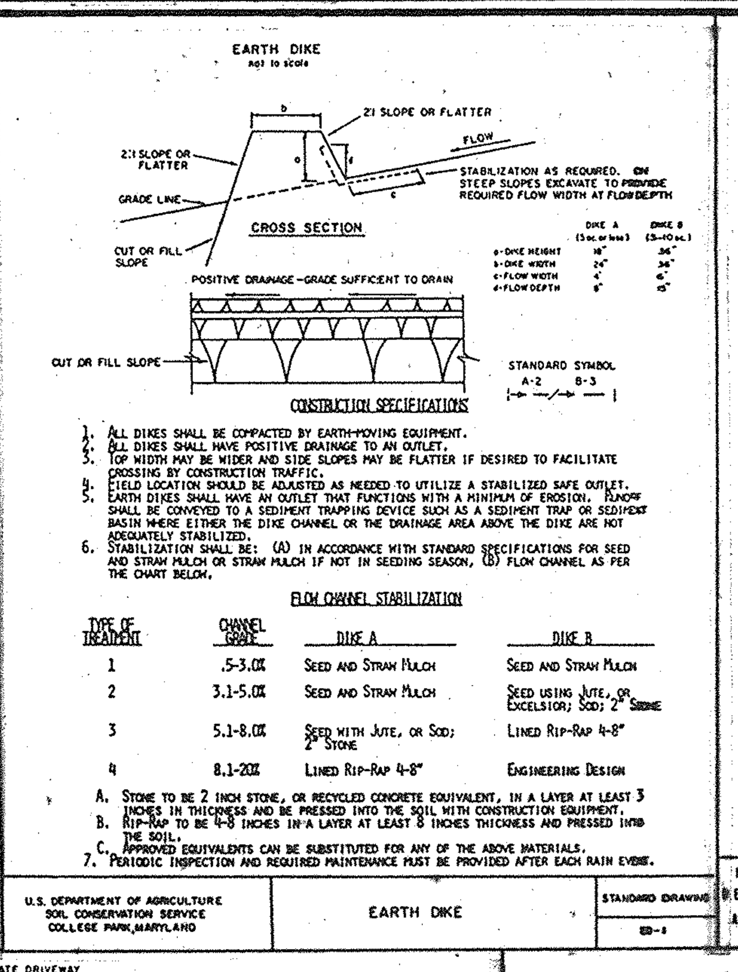


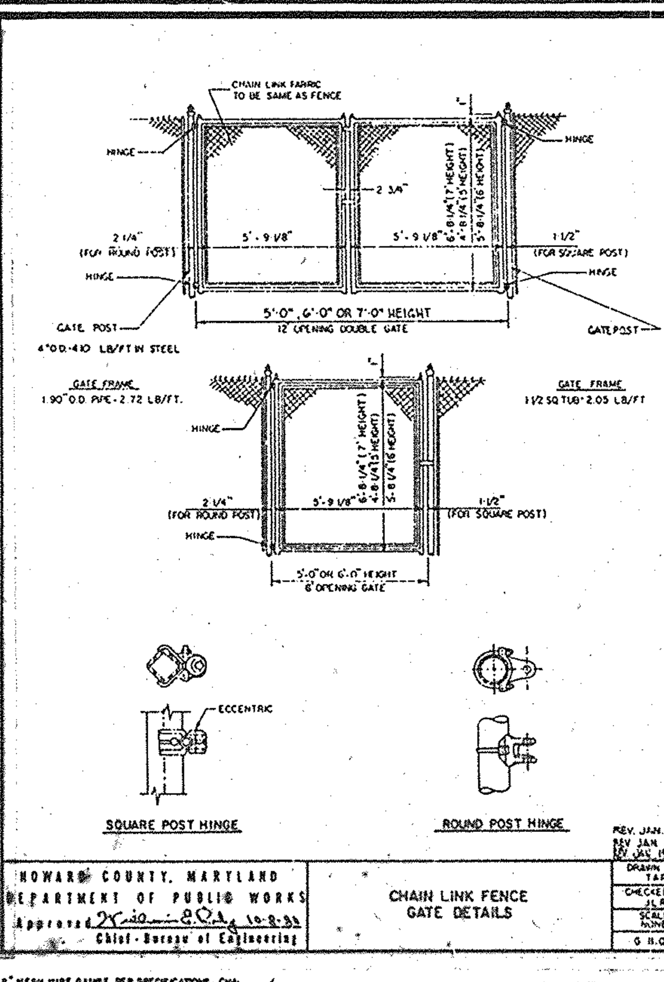


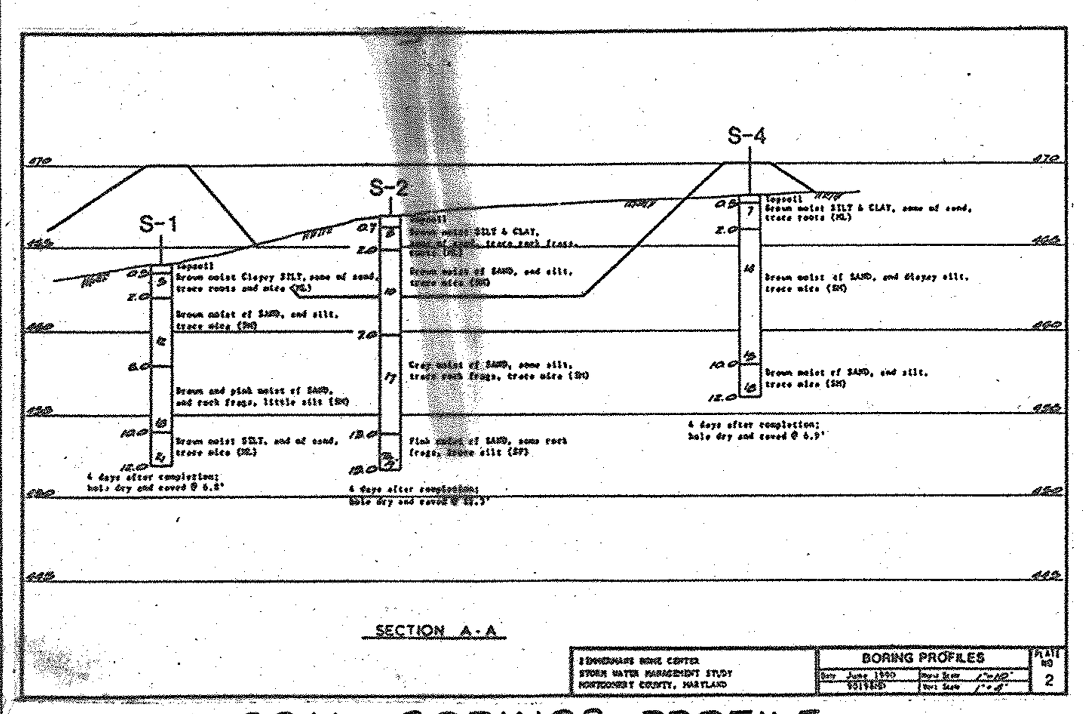




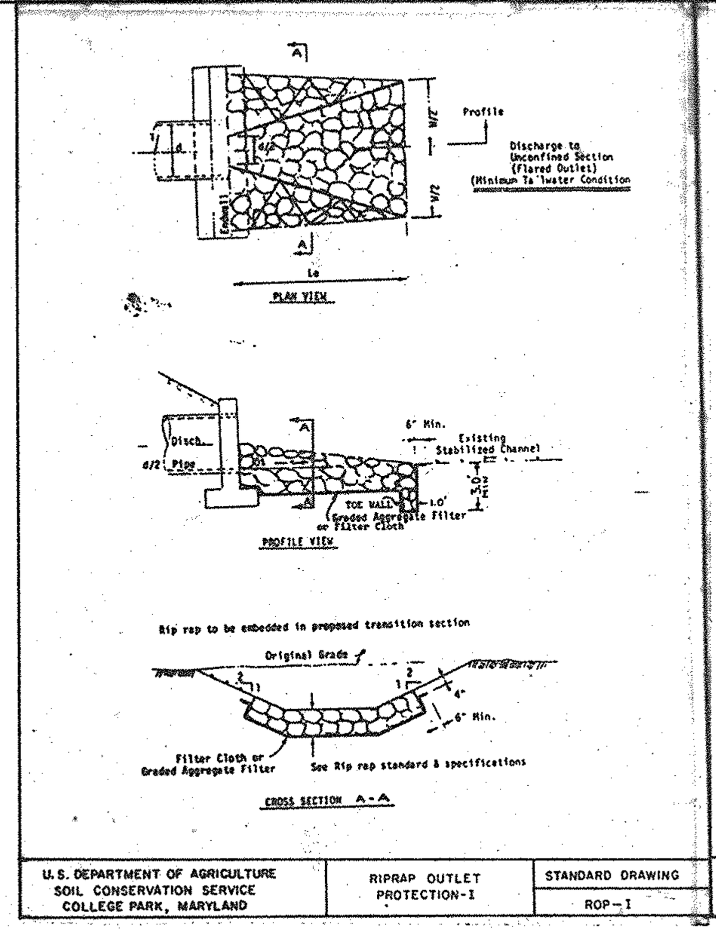


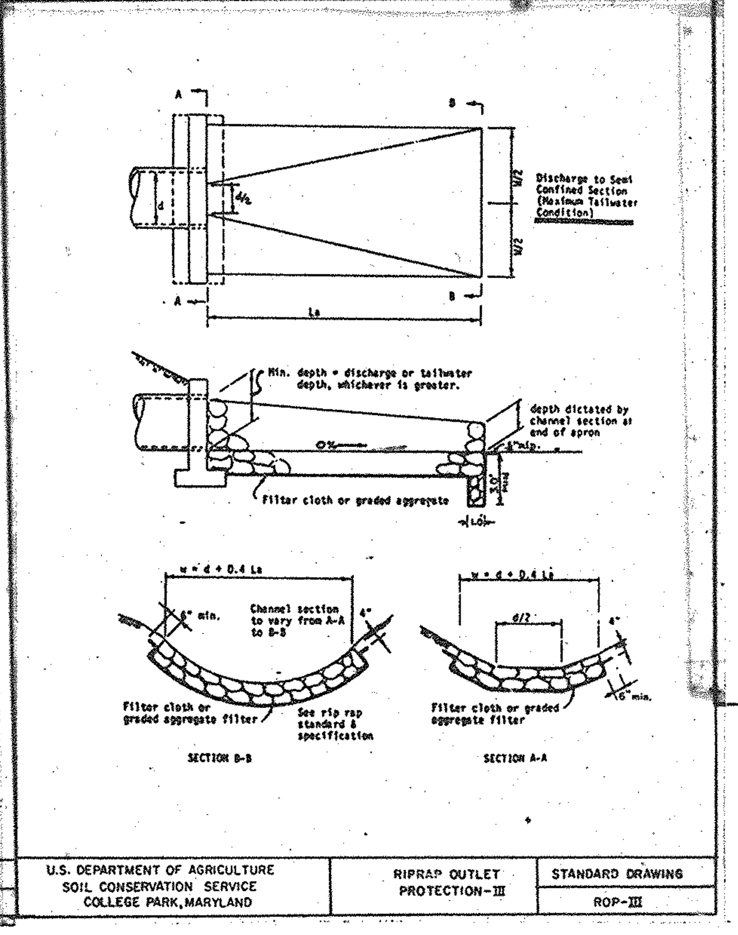


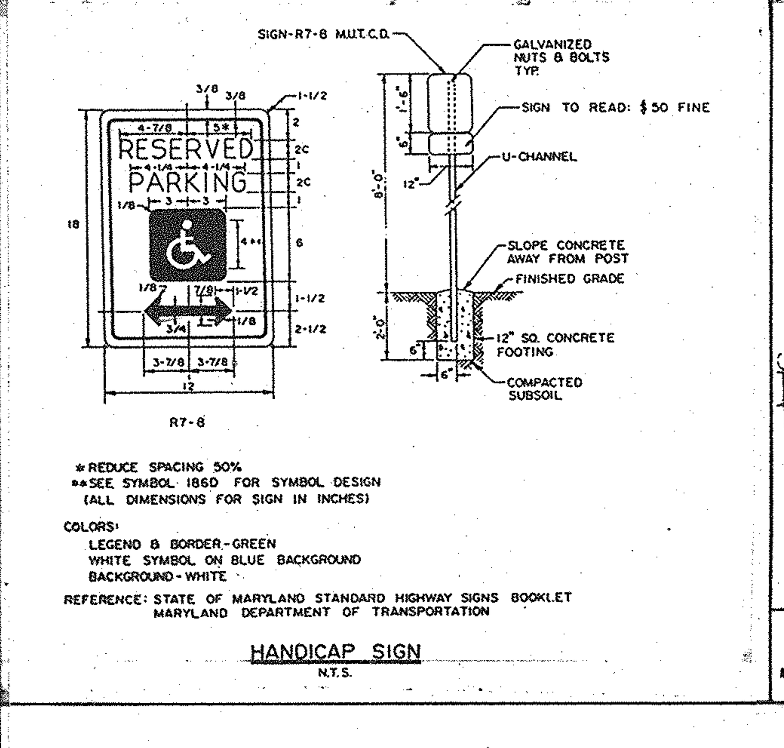


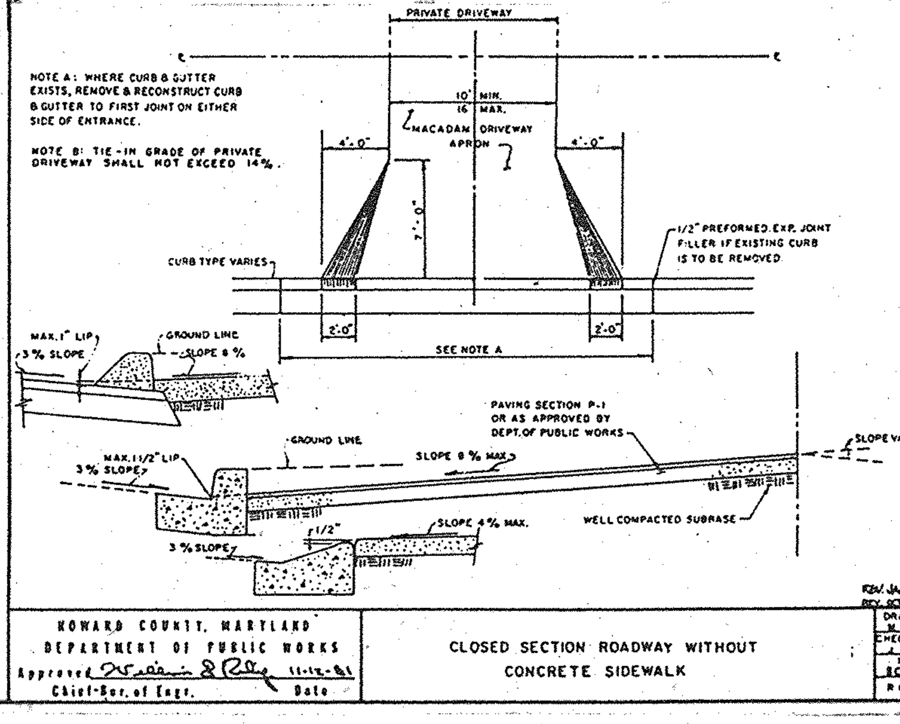


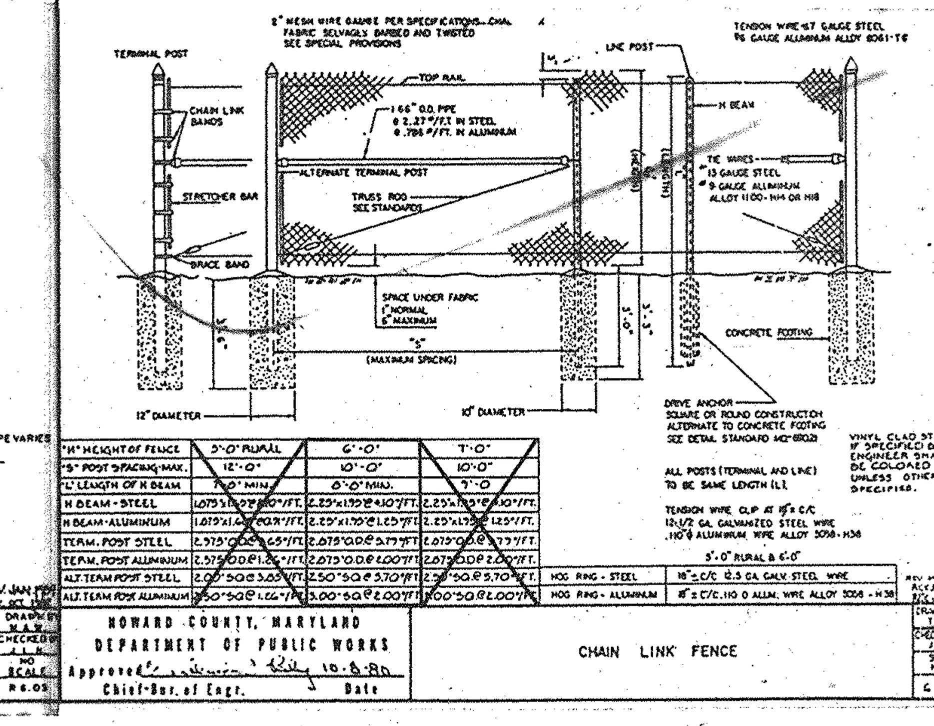
SOIL BORINGS PROFILE
NOT TO SCALE

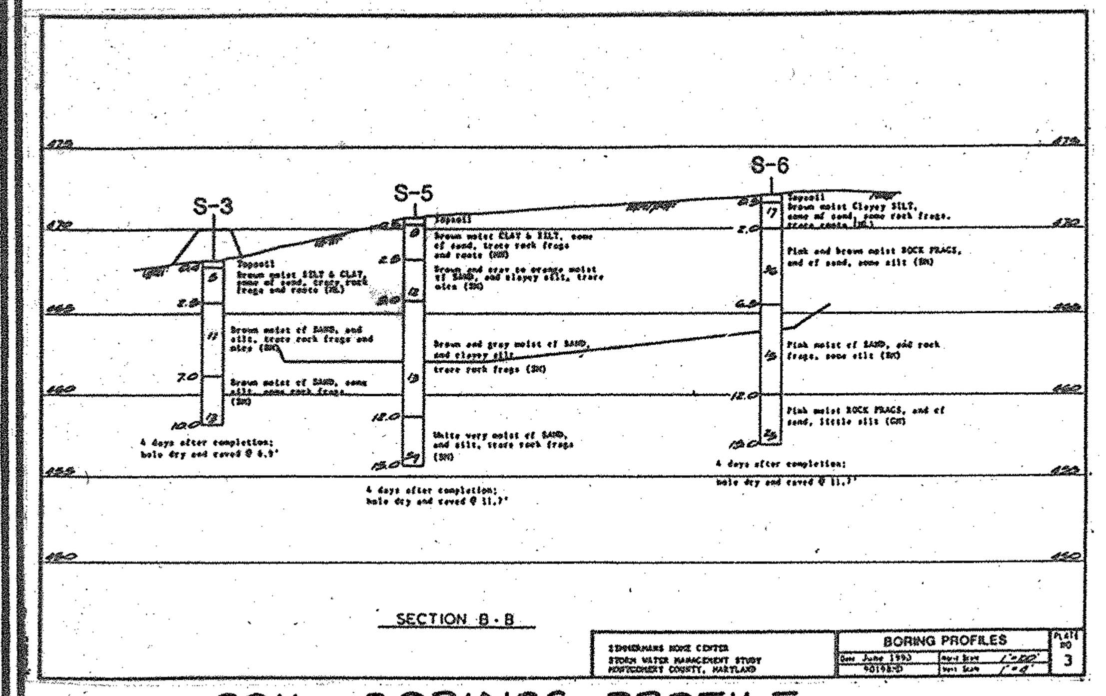










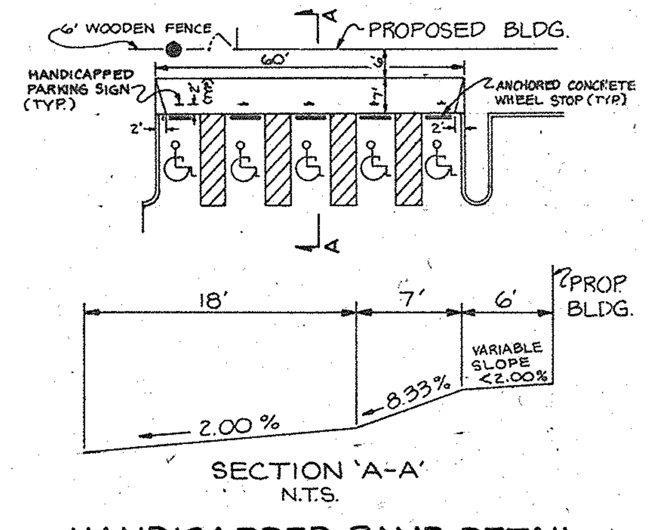


SOIL BORINGS PROFILE
NOT TO SCALE

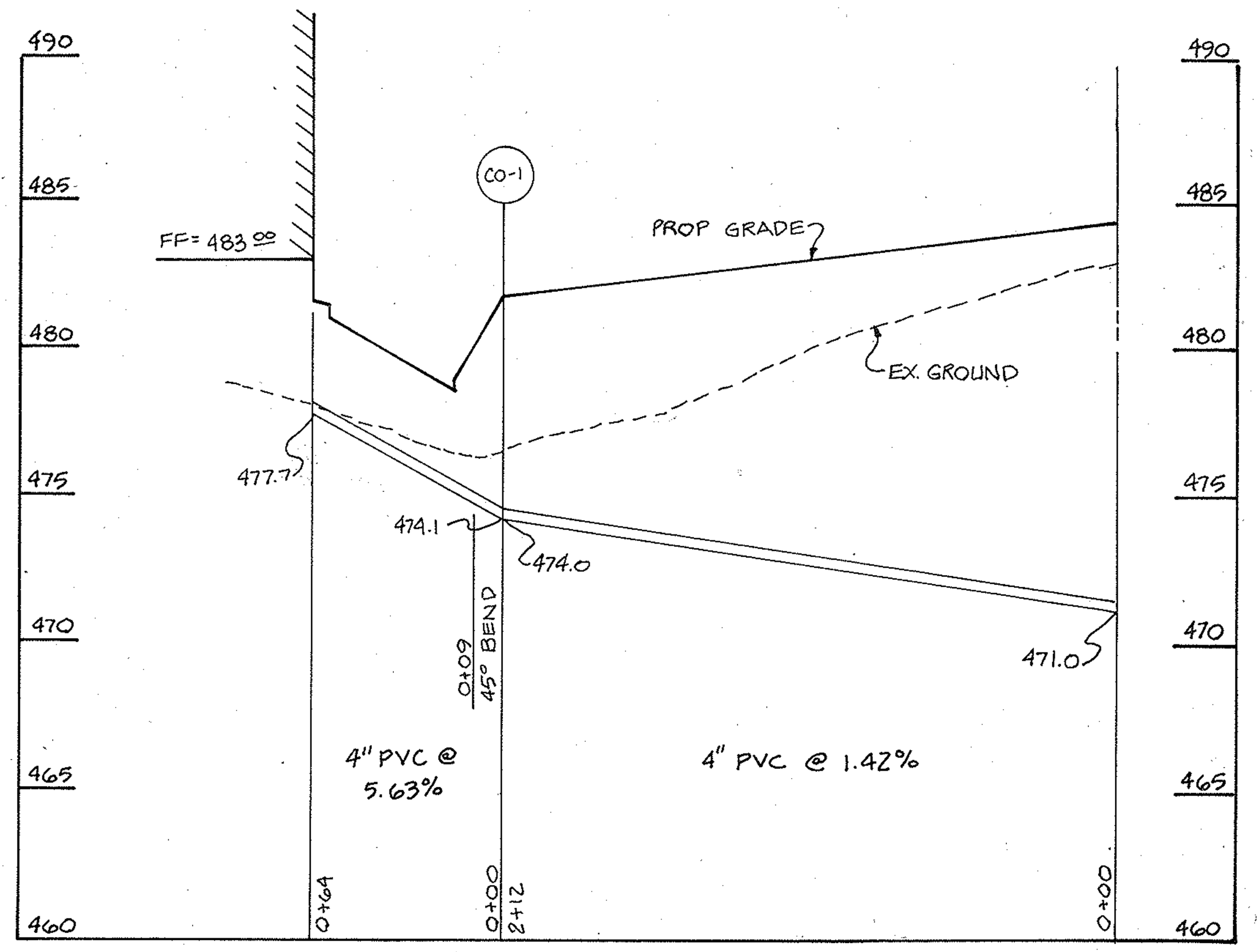
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS: FULL DEPTH BIT. CONC. ALTERNATIVE	PAVEMENT MATERIALS: GRANULAR BASE ALTERNATIVE
P-2	RESIDENTIAL ZONES — LOCAL, CUL-DE-SAC STS. ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS TRAVELWAYS — APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH 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

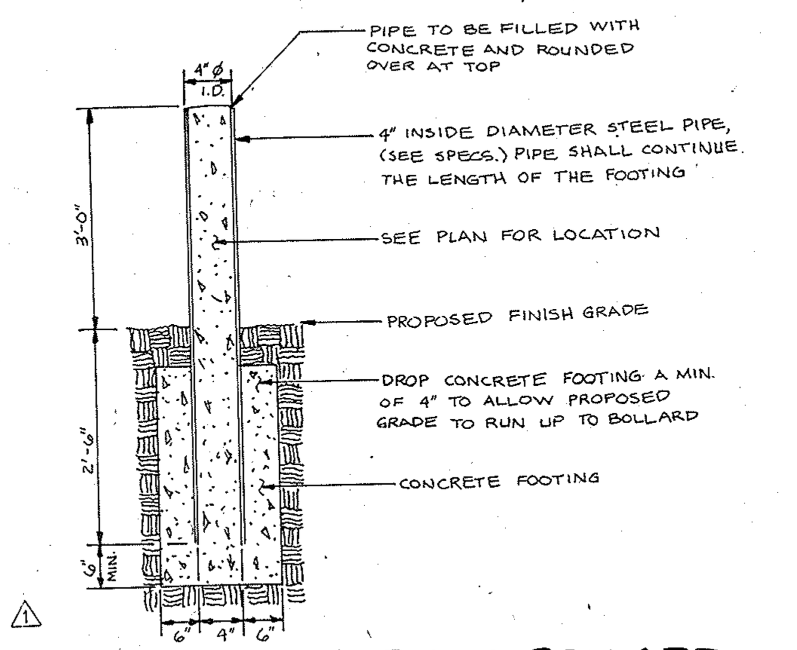
* FOR PAVING WITHIN STATE HIGHWAY LIMITS SEE "TYPICAL SECTION WIDENING MD ROUTE 108", THIS SHEET.



HANDICAPPED RAMP DETAIL

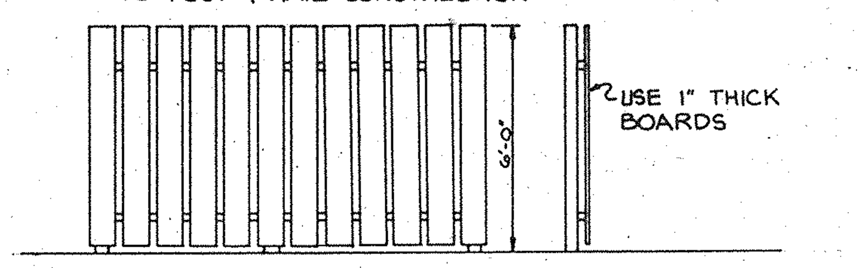


⚠ PROFILE: 4" SEWER FOR FUTURE PUBLIC CONNECTION
SCALE H: 1"=50'
V: 1"=5'



⚠ 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

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."

SIGNATURE OF ENGINEER — DATE 4/5/91

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 — DATE 4/23/91

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.

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

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 5/1/91

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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

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

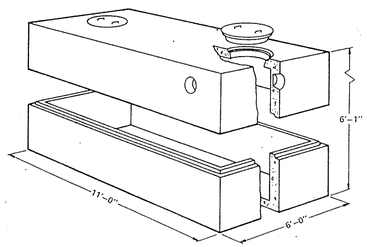
DIRECTOR — DATE
CHIEF, BUREAU OF ENGINEERING — DATE 5-23-91

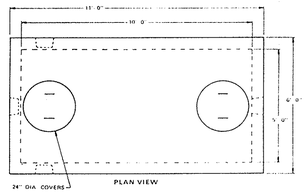
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

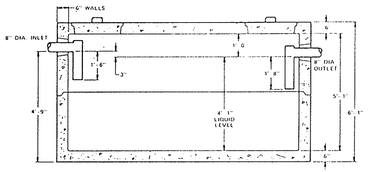
COUNTY HEALTH OFFICER — DATE 5/10/91

SDP 90-220

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



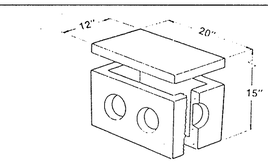




SPECIFICATIONS
CONCRETE MINIMUM STRENGTH — 5,000 P.S.I. @ 28 DAYS
STEEL REINFORCEMENT — ASTM A-615-79, GRADE 60, 1" MIN. COVER
DESIGN LOADING — AASHTO HS20-44
EARTH COVER — 0 to 5 FEET
WATER TABLE — 3½ FEET BELOW FINISH GRADE
CONSTRUCTION JOINT — SEALED WITH 1" DIA. BUTYL RUBBER OR EQUIVALENT
TEES —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

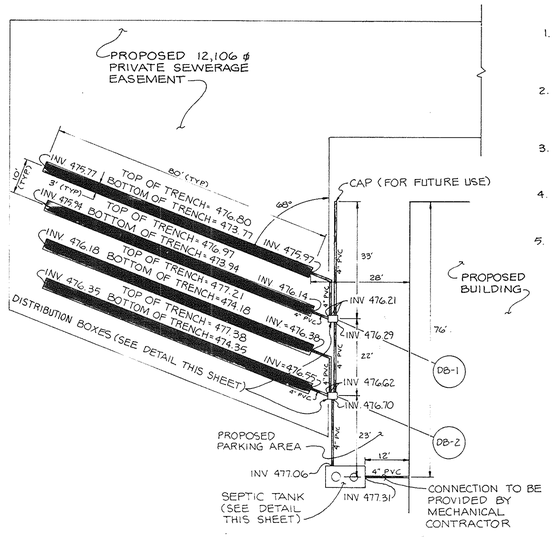
SEPTIC TANK DETAIL
NTS

* © 1983 ROTOMOLD & SONS, INC



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

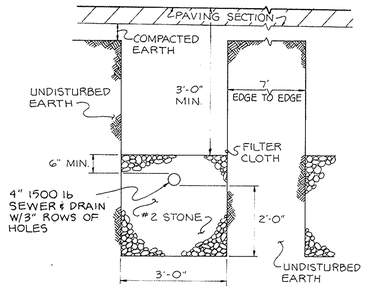
DISTRIBUTION BOX DETAIL
N.T.S.



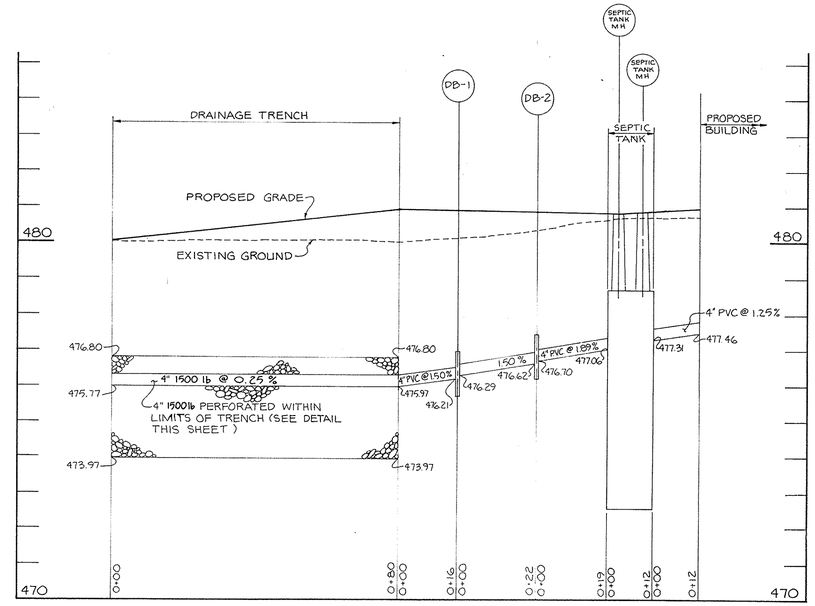
SCHEMATIC SEWER LAYOUT
SCALE: 1"=20'

TRENCH CONSTRUCTION NOTES

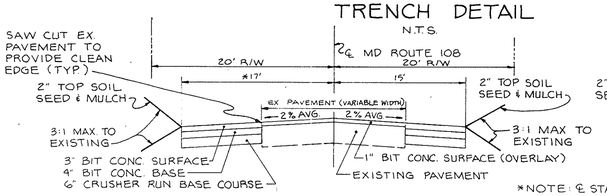
1. TRENCHES SHALL BE EXCAVATED USING A BACKHOE OR A WHEEL OR LADDER TYPE TRENCHER. FRONT-END LOADERS OR BULLDOZERS SHOULD NOT BE USED FOR TRENCH EXCAVATION.
2. EXCAVATED MATERIALS FROM THE TRENCHES SHALL BE PLACED AT A SUFFICIENT DISTANCE DOWNSLOPE OF THE TRENCHES TO AVOID MIGRATION OF SOILS BACK INTO 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.

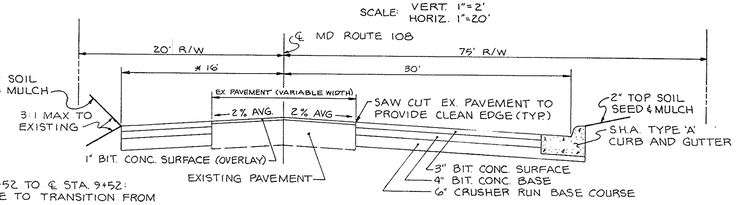


TYPICAL SEPTIC SYSTEM PROFILE
SCALE: VERT. 1"=2'
HORIZ. 1"=20'



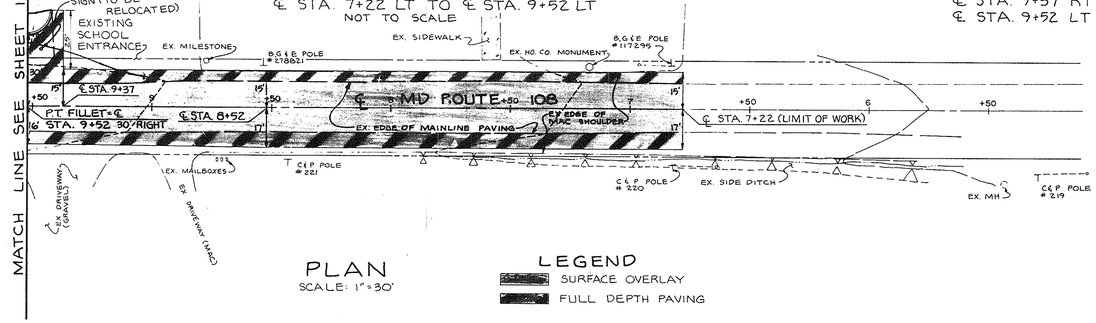
TYPICAL SECTION
WIDENING MD ROUTE 108
℄ STA. 7+22 RT TO ℄ STA. 9+37 RT
℄ STA. 7+22 LT TO ℄ STA. 9+52 LT
NOT TO SCALE

*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

SHEET 1 OF 7



PLAN
SCALE: 1"=30'

LEGEND
SURFACE OVERLAY
FULL DEPTH PAVING

PRIVATE SEWER PROFILES & MISCELLANEOUS DETAILS

ZIMMERMAN AND SONS

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

TAX MAP 34 PARCEL 358 LOT 3

5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DIRECTOR — DATE 6/24/91

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

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

DIRECTOR — DATE 5/28/91

CHIEF, BUREAU OF ENGINEERING — DATE 5-23-91

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

COUNTY HEALTH OFFICER — DATE 5/10/91

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

NO.	REVISION	BY	DATE
10	ADD SHEETS 8, 9, 10	RJL	6-24-15
9	THIS REVISION REPLACES ITEM 7 DATED 10-2-15 BY CHANGING PROPOSED VERTICAL ALIGNMENT OF STATE HIGHWAY SHOULDER TO EQUIPMENT CABINETS ON A CONCRETE PAD	MAN	01-13-2016

STATE OF MARYLAND — ROBERT HARRIS ODELL — No. 16193 — REGISTERED PROFESSIONAL ENGINEER — 5/6/91

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

SHEET 7 OF 10

SDP 90-220

113

A&E INC.-BALT

SITE INFORMATION

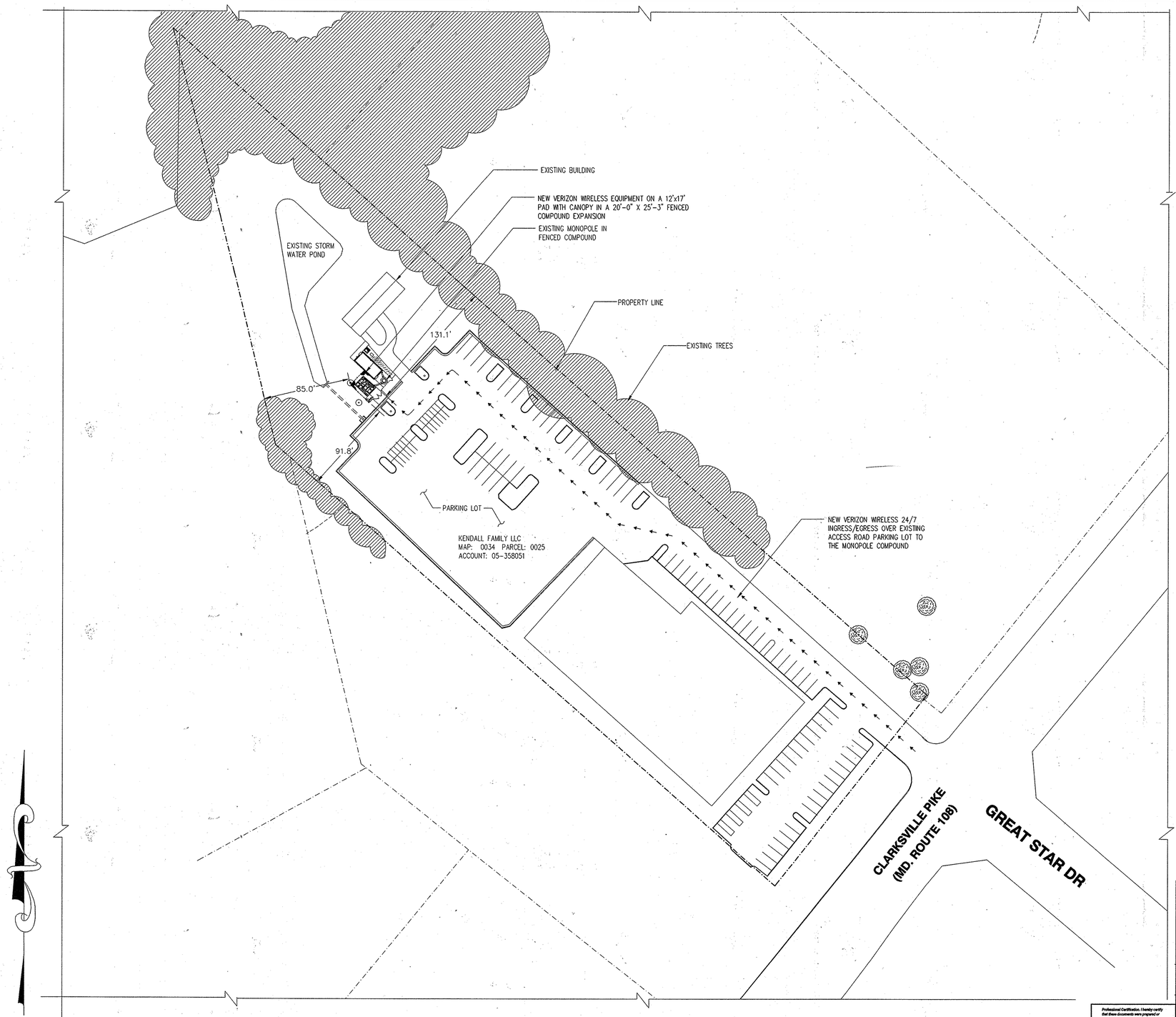
1.) SITE NAME: GREAT STAR
SEARCH RING: ATC ID 305180

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
REGISTERED PROFESSIONAL ENGINEER
4-15-16
12913
Professional Engineer No.

Subdivision Name	Section/Area	Lot/Parcel #
	N/A	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.	

APPROVALS

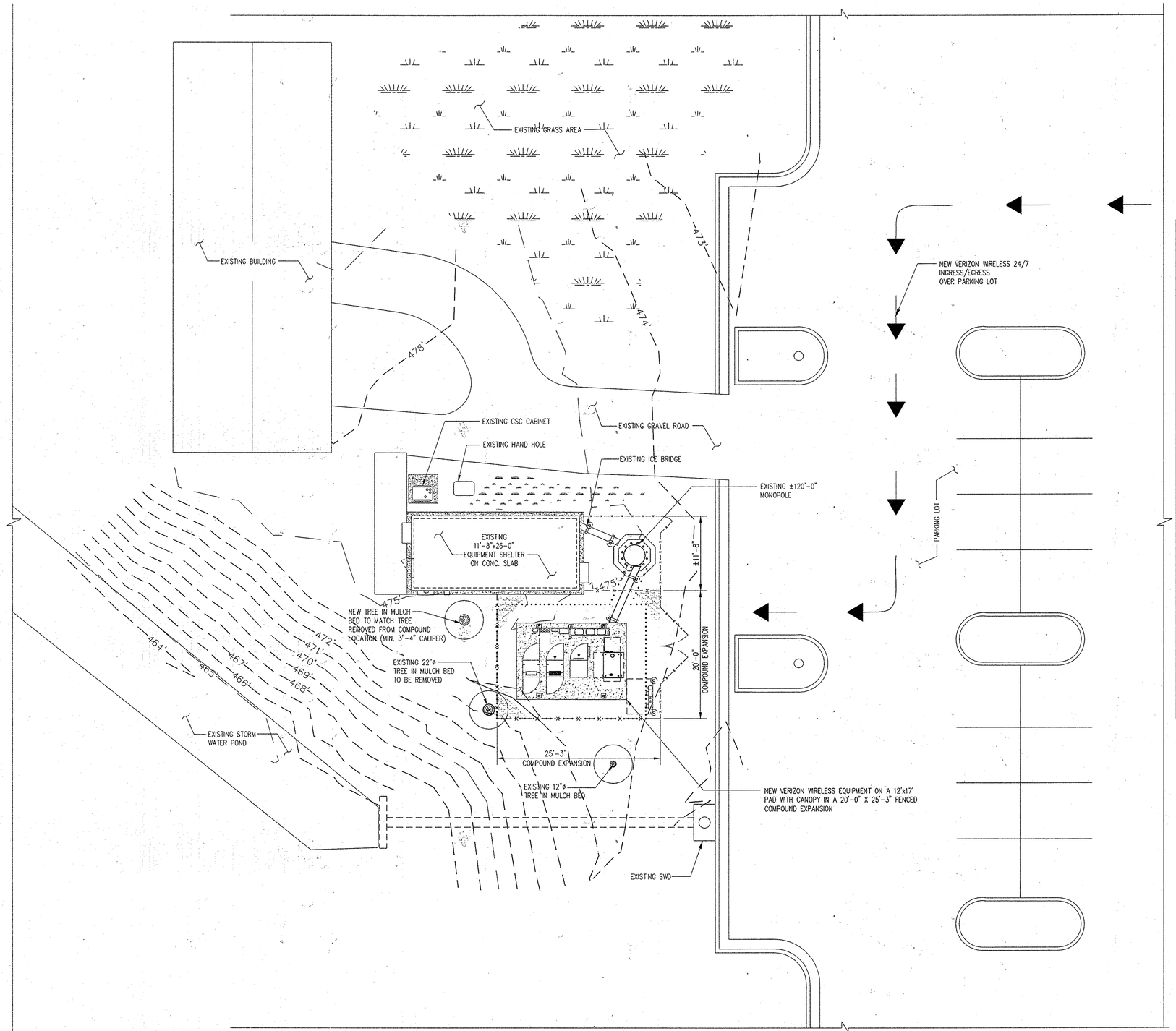
APPROVED: DEPARTMENT OF PLANNING AND ZONING

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

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-9-16

DIRECTOR — DATE 6-9-16

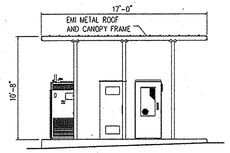
SDP-90-220



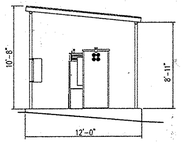
PARTIAL SITE PLAN

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

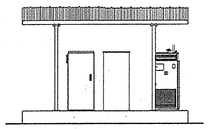
TRUE NORTH



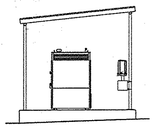
EAST ELEVATION



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)466-0900
FAX: (202)660-0991

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:

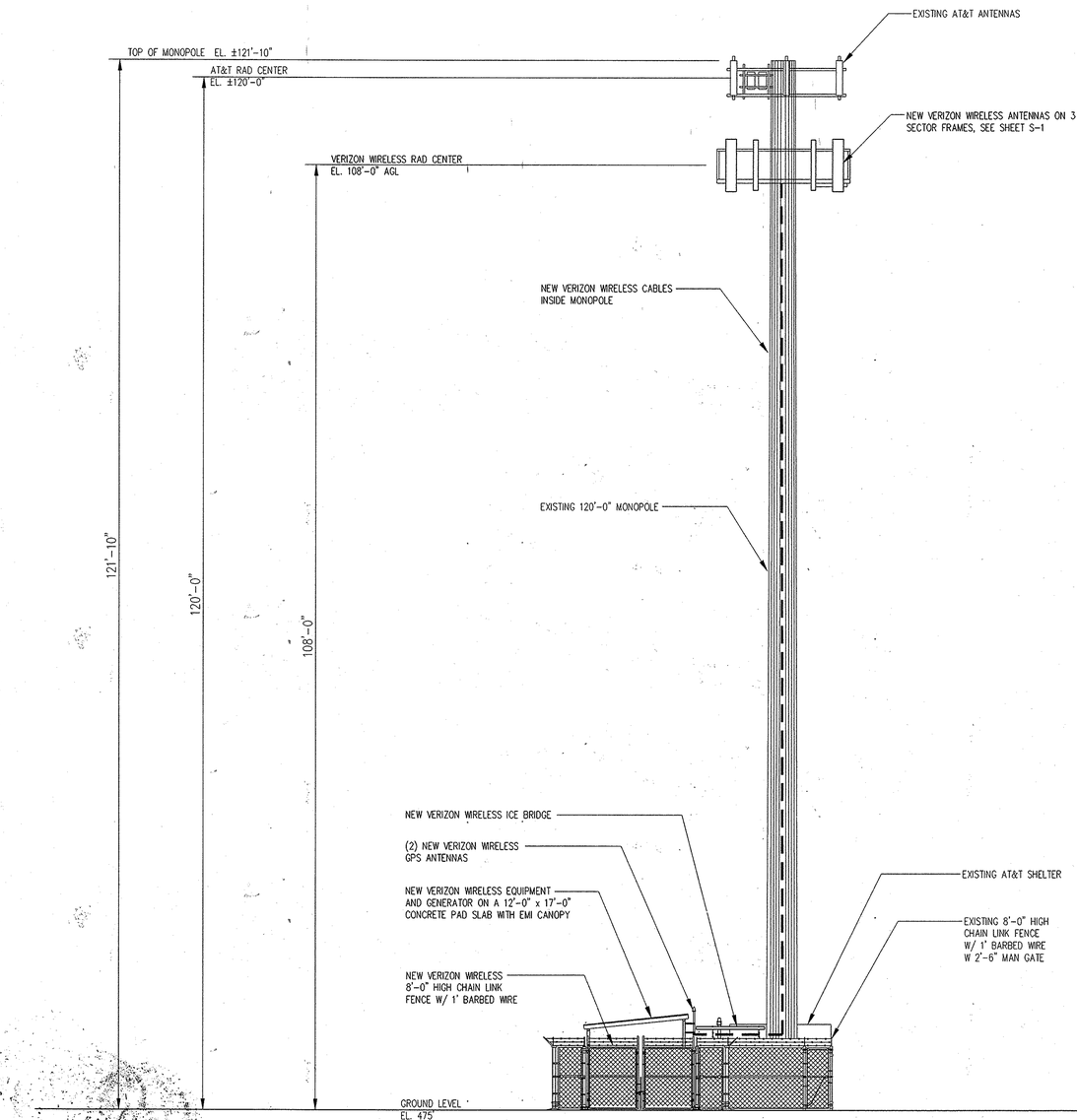
PARTIAL SITE PLAN

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, DIVISION OF LAND DEVELOPMENT — 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: 04/03/2018

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