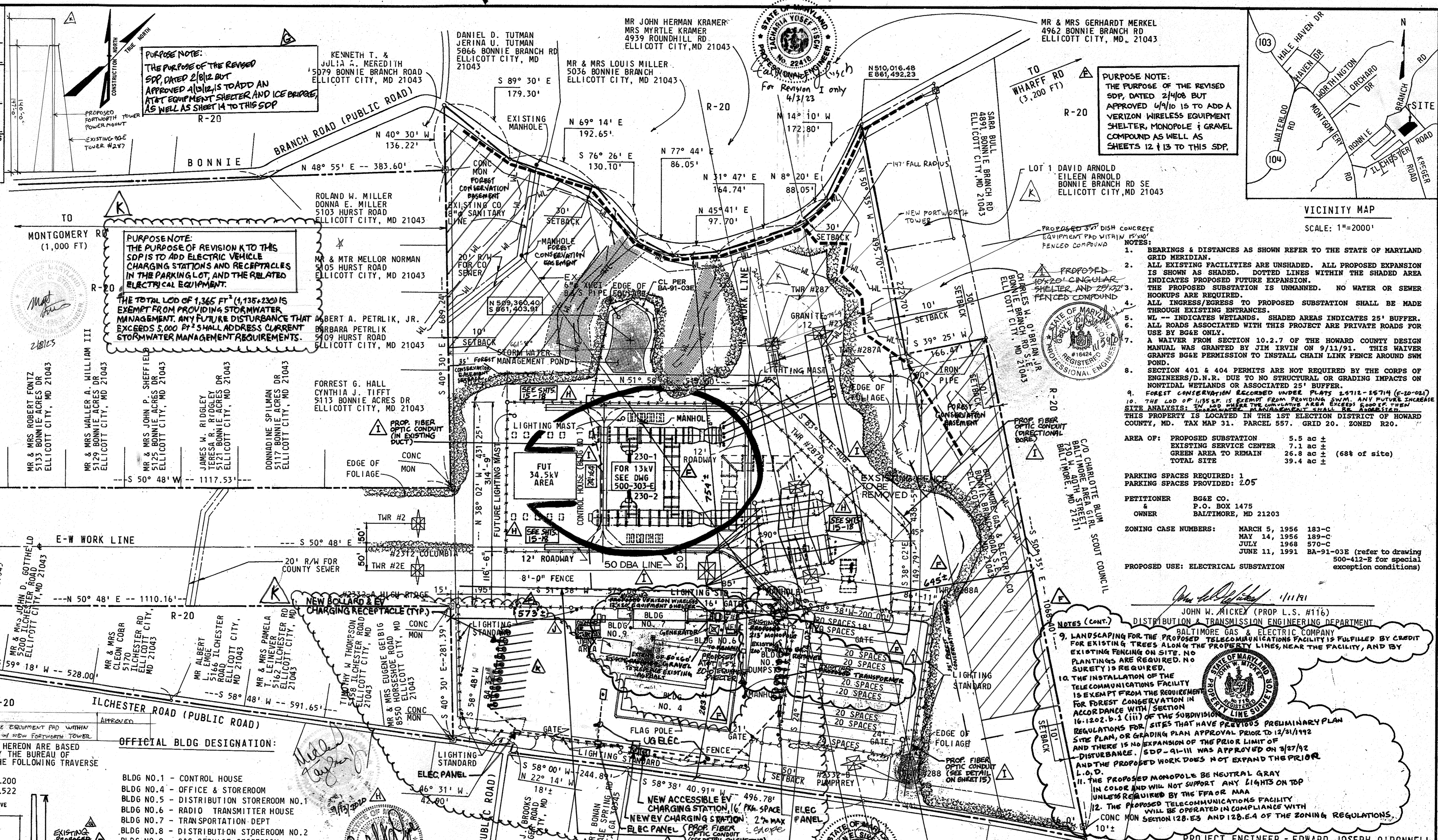


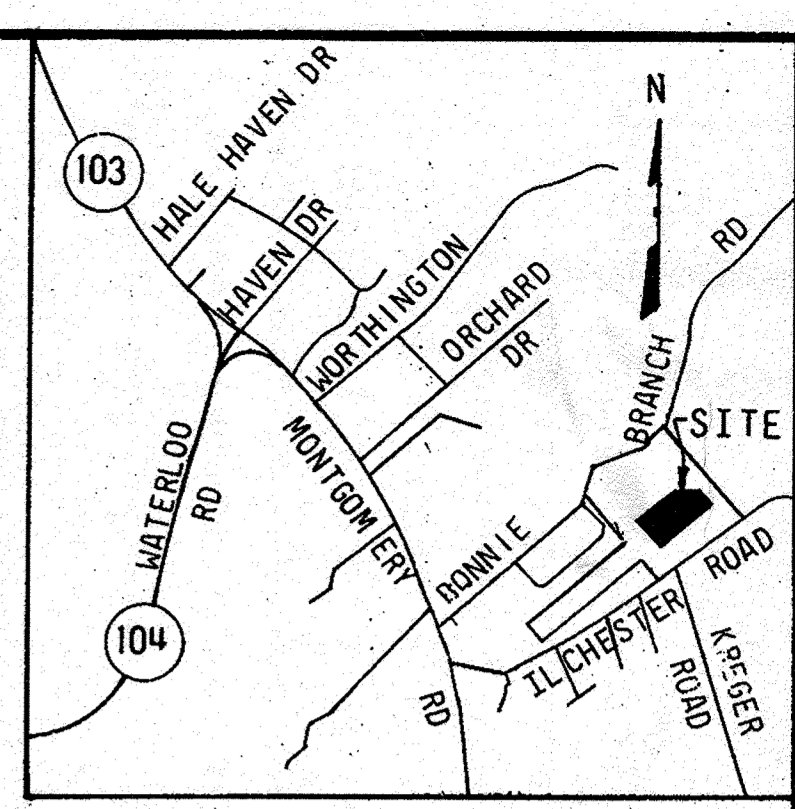
APPROVED: FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DIRECTOR: *[Signature]* DATE: 3/20/92  
 CHIEF, BUREAU OF ENGINEERING: *[Signature]* DATE: 2-18-92  
 APPROVED: HOWARD COUNTY, DEPARTMENT OF PLANNING AND ZONING  
 PLANNING DIRECTOR: *[Signature]* DATE: 3/27/92  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: *[Signature]* DATE: 3/27/92  
 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
 HOWARD COUNTY HEALTH DEPARTMENT  
 COUNTY HEALTH OFFICER: *[Signature]* DATE: 3-24-92



**PURPOSE NOTE:**  
 THE PURPOSE OF THE REVISED SDP, DATED 2/10/92 BUT APPROVED 4/12/92 IS TO ADD AN AT&T EQUIPMENT SHELTER AND ICE STORAGE, AS WELL AS SHEET 14 TO THIS SDP.

**PURPOSE NOTE:**  
 THE PURPOSE OF REVISION K TO THIS SDP IS TO ADD ELECTRIC VEHICLE CHARGING STATIONS AND RECEPTACLES IN THE PARKING LOT, AND THE RELATED ELECTRICAL EQUIPMENT.

**PURPOSE NOTE:**  
 THE PURPOSE OF THE REVISED SDP, DATED 2/10/92 BUT APPROVED 4/12/92 IS TO ADD A VERIZON WIRELESS EQUIPMENT SHELTER, MONOPOLE & GRAVEL COMPOUND AS WELL AS SHEETS 12 & 13 TO THIS SDP.



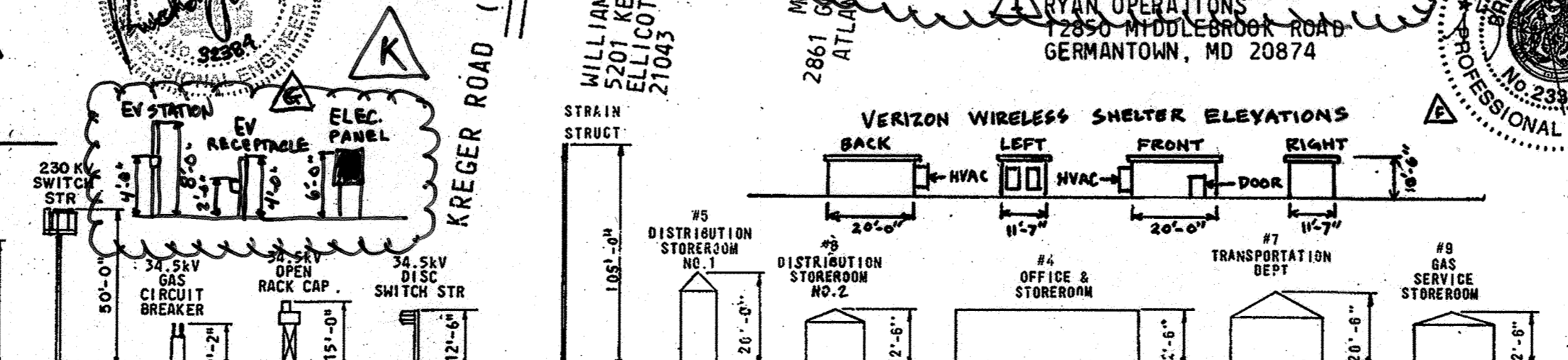
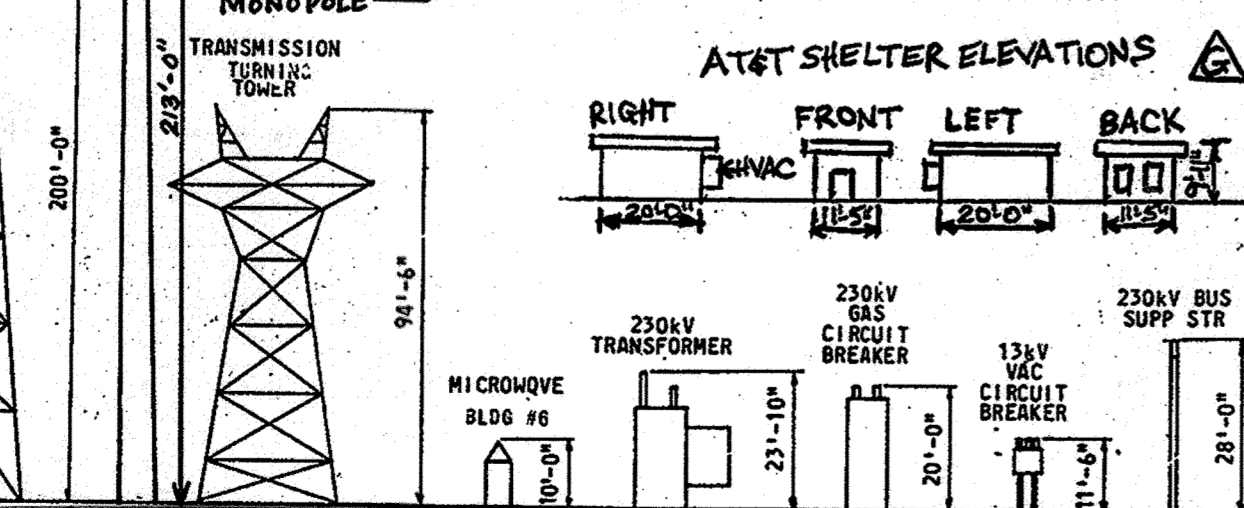
- NOTES:**
- BEARINGS & DISTANCES AS SHOWN REFER TO THE STATE OF MARYLAND GRID MERIDIAN.
  - ALL EXISTING FACILITIES ARE UNSHADED. ALL PROPOSED EXPANSION IS SHOWN AS SHADED. DOTTED LINES WITHIN THE SHADED AREA INDICATES PROPOSED FUTURE EXPANSION.
  - THE PROPOSED SUBSTATION IS UNMANNED. NO WATER OR SEWER HOOKUPS ARE REQUIRED.
  - ALL INGRESS/EGRESS TO PROPOSED SUBSTATION SHALL BE MADE THROUGH EXISTING ENTRANCES.
  - WL - INDICATES WETLANDS. SHADED AREAS INDICATES 25' BUFFER. ALL ROADS ASSOCIATED WITH THIS PROJECT ARE PRIVATE ROADS FOR USE BY BG&E ONLY.
  - A WAIVER FROM SECTION 10.2.7 OF THE HOWARD COUNTY DESIGN MANUAL WAS GRANTED BY JIM IRVIN ON 9/11/91. THIS WAIVER GRANTS BG&E PERMISSION TO INSTALL CHAIN LINK FENCE AROUND SWM POND.
  - SECTION 401 & 404 PERMITS ARE NOT REQUIRED BY THE CORPS OF ENGINEERS/D.N.R. DUE TO NO STRUCTURAL OR GRADING IMPACTS ON NONWATER WETLANDS OR ASSOCIATED 25' BUFFER.
  - FOREST CONSERVATION RECORDED UNDER PLATS 2-6712-25714 (2-10-02) & 2-6712-25715 (2-10-02). THE LOT OF 19557 IS EXEMPT FROM PROVIDING SWM. ANY FUTURE INCREASE SITE ANALYSIS: 2% BUFFER UNDER THE COMBINATION AREA EXCEPT 5000 SF. THEN THIS PROPERTY IS LOCATED IN THE 1ST ELECTION DISTRICT OF HOWARD COUNTY, MD. TAX MAP 31. PARCEL 557. GRID 20. ZONED R20.
- AREA OF: PROPOSED SUBSTATION 5.5 ac ±  
 EXISTING SERVICE CENTER 7.1 ac ±  
 GREEN AREA TO REMAIN 26.8 ac ± (68% of site)  
 TOTAL SITE 39.4 ac ±
- PARKING SPACES REQUIRED: 1  
 PARKING SPACES PROVIDED: 205
- PETITIONER: BG&E CO.  
 OWNER: P.O. BOX 1475 BALTIMORE, MD 21203
- ZONING CASE NUMBERS:  
 MARCH 5, 1956 183-C  
 MAY 14, 1956 189-C  
 JUNE 1, 1958 570-C  
 JUNE 11, 1991 BA-91-03E (refer to drawing 500-412-E for special exception conditions)
- PROPOSED USE: ELECTRICAL SUBSTATION

**OFFICIAL BLDG DESIGNATION:**

REV	DATE	DESCRIPTION	APPROVED
K	1/4/93	PROPOSED 5x7' DISH CONCRETE EQUIPMENT PAD WITHIN 15'x16' FENCED COMPOUND OF NEW FORTNORTH TOWER	

ALL COORDINATES AND BEARINGS SHOWN HEREON ARE BASED ON COORDINATE VALUES ESTABLISHED BY THE BUREAU OF ENGINEERING OF HOWARD COUNTY FOR THE FOLLOWING TRAVERSE STATIONS  
 NO.2844007 N508,941.902 E862,452.200  
 NO.2844008 N508,504.635 E861,697.522

**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. 28935 EXPIRATION DATE: 11/5/93



REV	DATE	DESCRIPTION	APPROVED
K	12/19/92	ELEC. VEHICLE CHARGING STATIONS	
I	3-31-93	ADDED FIBER OPTIC LINES, ERI	
H	9-13-92	PROPOSED DIESEL TANK	

REV	DATE	DESCRIPTION	APPROVED
G	2/10/92	AT&T EQUIPMENT SHELTER & ICE STORAGE	

Rev	Date	J.C./Est. No.	Description	Approved
F	2/4/08		VERIZON WIRELESS EQUIPMENT SHELTER, MONOPOLE & GRAVEL COMPOUND	
E	1/24/04		CIRCULAR EQUIPMENT SHELTER AND FENCED COMPOUND ADDED. SEE SHEET 14	
	1990	EC-1117 EC-1118 37874012	230-13KV SUBSTATION & 4-13KV FDRS #8381, #8382, #8383 & #8384	
A	3-7-91		AS NOTED ABOVE	
B	4-24-91	EW-1117 EC-1118 37874012	REV AS PER COUNTY INFORMATION WE	
C	7/31/91	EC-1117 EC-1118 37874012	REV AS PER COUNTY INFORMATION	
D	11/7/91	EC-1117 EC-1118 37874012	REV AS PER COUNTY INFORMATION	

**CERTIFICATION BY THE ENGINEER:**  
 I HEREBY 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 COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DISTRICT THAT I MUST PROVIDE EROSION CONTROL 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.

**CERTIFICATION BY THE DEVELOPER:**  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THIS PLAN AND THAT AN APPROPRIATE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPT. OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION CONTROL 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 THE DISTRICT TO CONDUCT AN INSPECTION OF THE HOWARD SOIL CONSERVATION DISTRICT.

PROPERTY ±39.4 ACRES LOT/PARCEL #: 6/557  
 SUBSTATION ±5.6 ACRES  
 TAX/ZONE MAP: ELECT DISTR CENSUS TR: 31 6011  
 SEWER CODE: 1255018  
 TAX ACCOUNT NO. 6-000-0031-5800

**SHEET 1 OF 11**

REVISED SITE DEVELOPMENT PLAN  
 BG&E SUBSTATION  
 HOWARD SERVICE CENTER  
 5130 ILLICESTER ROAD

HOWARD 2

**BALTIMORE GAS AND ELECTRIC COMPANY**  
 ELECTRIC SYSTEM ENGINEERING

DESIGN GROUP: *[Signature]*  
 Designer: *[Signature]*  
 Drawn: *[Signature]*  
 Checked: *[Signature]*  
 App'd: *[Signature]*  
 Date App'd: 12-6-92

File Scale 1"=100'-0"  
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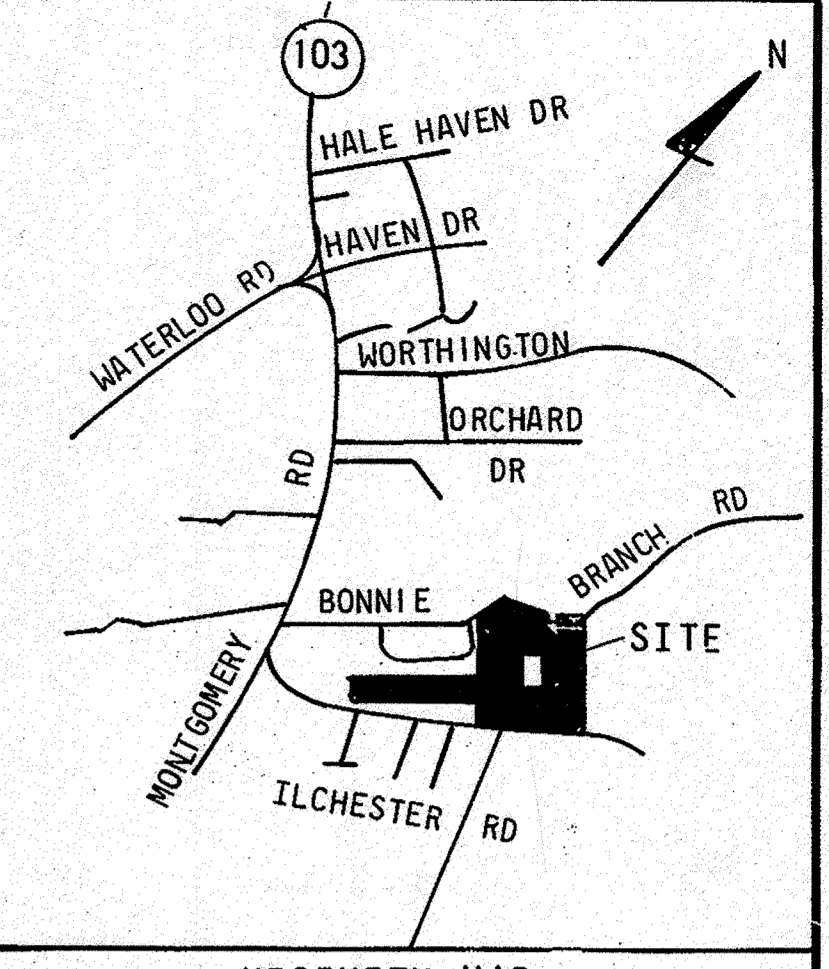






REV	DATE	DESCRIPTION	APPROVED
K	1/4/23	PROPOSED 5x7' DISH CONCRETE EQUIPMENT PAD WITHIN 15'x10' FENCED COMPOUND W/ NEW FORTWORTH TOWER	

APPROVED: HOWARD COUNTY, THE DEPARTMENT OF PLANNING AND ZONING.  
 PLANNING DIRECTOR: *James R. Butler* DATE: 3/27/92  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: *Richard Blood* DATE: 2/27/92  
 APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.  
 DIRECTOR: *James P. ...* DATE: 3/20/92  
 CHIEF, BUREAU OF ... DATE: 2/10/92  
 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT  
*Joseph W. Boyle* 3-24-92  
 COUNTY HEALTH OFFICER 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* 2/10/92  
 HOWARD S.C.D. 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.  
*James M. Hester* 2/12/92  
 U.S. SOIL CONSERVATION SERVICE DATE

REV	DATE	DESCRIPTION	APPROVED
H	9-13-20	SMALL STORM DRAIN & FENCE REPLACEMENT ADDED. SEE SHEETS 15-18	
G	2/8/12	AT&T EQUIPMENT SHELTER & ICE BRIDGE	

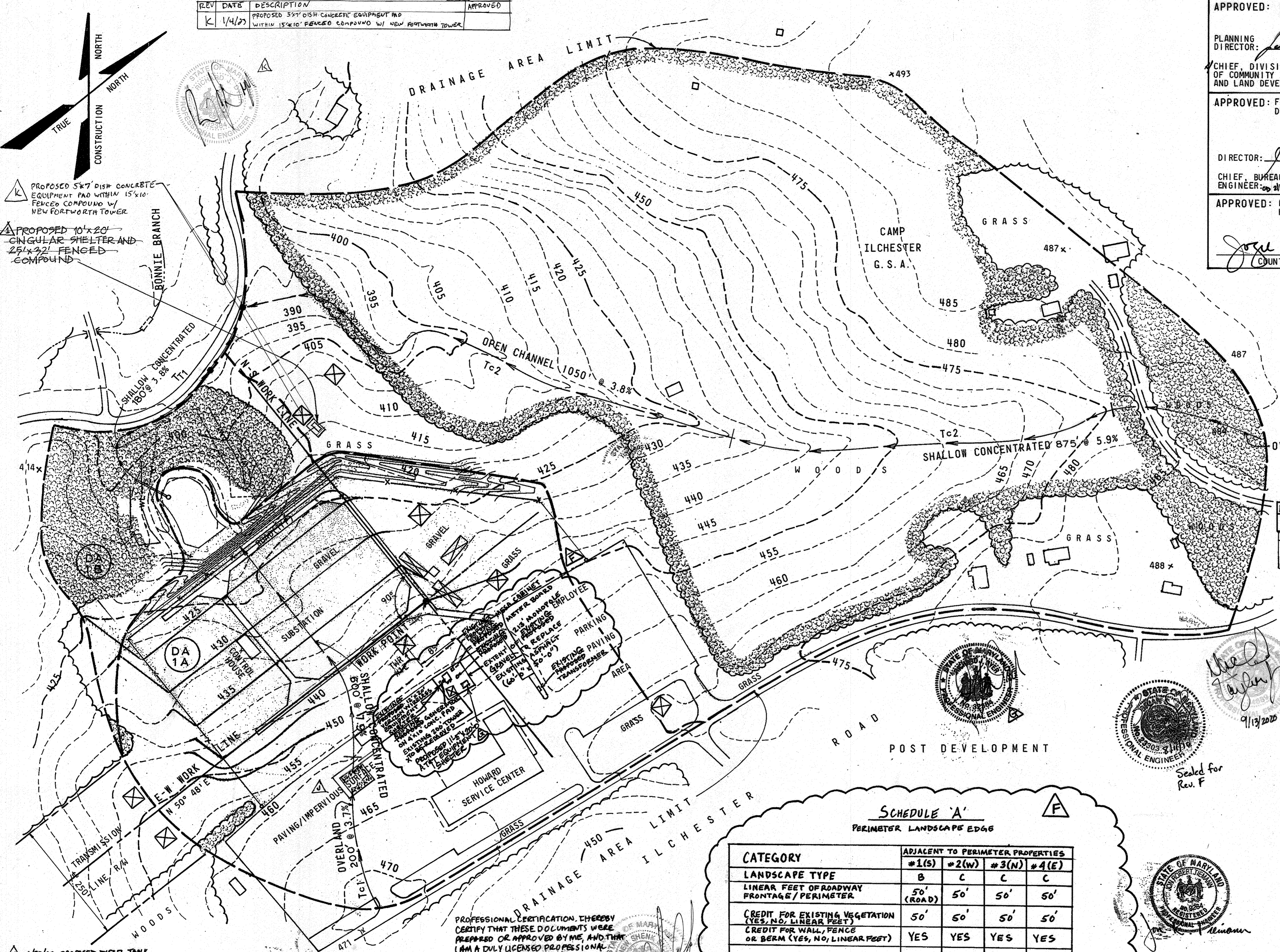
ELECTION DISTRICT NO. 1  
 HOWARD COUNTY TAX MAP 31  
 LOT/PARCEL #557

SITE DATA  
 POST DEVELOPMENT

DRAINAGE AREA 1A	SQ. FT.	ACRES	RCN
BRUSH (GRASS)	194,000	4.5	65
WOODS	240,000	5.5	89
GRAVEL	261,000	6.0	98
IMPERVIOUS (ROADS/ROOFTOPS)			
<b>SUBTOTAL</b>	<b>695,000</b>	<b>16.0</b>	<b>86</b> <<== WEIGHTED RCN

DRAINAGE AREA 1B	SQ. FT.	ACRES	RCN
BRUSH (GRASS)	55,000	1.3	65
WOODS	109,000	2.5	70
GRAVEL			
IMPERVIOUS (ROADS/ROOFTOPS)			
<b>SUBTOTAL</b>	<b>164,000</b>	<b>3.8</b>	<b>68</b> <<== WEIGHTED RCN
<b>TOTAL DRAINAGE AREA 1</b>	<b>859,000</b>	<b>19.7</b>	<b>82</b> <<== WEIGHTED RCN

DRAINAGE AREA 2	SQ. FT.	ACRES	RCN
BRUSH (GRASS)	359,000	8.2	65
WOODS	1,275,000	29.3	70
GRAVEL	46,000	1.1	98
IMPERVIOUS (ROADS/ROOFTOPS)			
<b>TOTAL DRAINAGE AREA 2</b>	<b>1,680,000</b>	<b>38.6</b>	<b>70</b> <<== WEIGHTED RCN
<b>TOTAL DRAINAGE AREAS 1&amp;2</b>	<b>2,539,000</b>	<b>58.3</b>	<b>74</b> <<== WEIGHTED RCN



**SCHEDULE 'A'**  
 PERIMETER LANDSCAPE EDGES

CATEGORY	ADJACENT TO PERIMETER PROPERTIES			
	#1(S)	#2(W)	#3(N)	#4(E)
LANDSCAPE TYPE	B	C	C	C
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	50' (ROAD)	50'	50'	50'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	50'	50'	50'	50'
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	YES	YES	YES	YES
NUMBER OF PLANTS REQUIRED				
SHADE TREES	0	0	0	0
EVERGREEN TREES	0	0	0	0
SHRUBS	0	0	0	0
NUMBER OF PLANTS PROVIDED				
SHADE TREES	0	0	0	0
EVERGREEN TREES	0	0	0	0
SHRUBS (2:1 SUBSTITUTION)	0	0	0	0

COMMENTS: CREDIT IS CLAIMED FOR EXISTING SHADE TREES AND EVERGREEN TREES ALONG ALL PROPERTY BOUNDARIES, AS WELL AS EXISTING CHAINLINK FENCE. IT IS ALSO NOTED THAT THE TOWER, BASE AND EQUIPMENT SHELTER/COMPOUND ARE SURROUNDED BY EXISTING BUILDINGS AND WILL NOT BE VISIBLE FROM THE PROPERTY BOUNDARIES.

6/30/22 PROPOSED DIESEL TANK

**CERTIFICATION BY THE ENGINEER**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*Jon L. Tilmann*  
 ENGINEER  
 DATE: 12/18/19

**CERTIFICATION BY THE DEVELOPER**  
 I/we certify that all development and construction will be done in accordance to this plan and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the Environment approved training program for the control of sediment and erosion control 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 inspections by the Howard Soil Conservation District.  
*David C. Wood*  
 DEVELOPER  
 DATE: 8/9/19

REV	DATE	J.O./Est. No.	DESCRIPTION	APPROVED	DESIGN GROUP
F	2/4/08		VERIZON WIRELESS EQUIPMENT SHELTER, MONOPOLE, & GRAVEL COMPOUND		
Rev	1990	EC-1117 EC-1118 37874012	230-13KV SUBSTATION & 4-13KV FDRS #8381, 8382, 8383 & 8384		ENGINEERING Civil: <i>...</i> Elec: <i>...</i> Proj. Engr: <i>...</i> Prin. Engr: <i>...</i> Supv. Engr: <i>...</i>
A	4/24/91	EC-1117 EC-1118 37874012	REV AS PER COUNTY INFORMATION	ARC	
B	7/31/91	EC-1117 EC-1118 37874012	REV AS PER COUNTY INFORMATION	ARC	
C	11/7/91	EC-1117 EC-1118 37874012	REV AS PER COUNTY INFORMATION	ARC	
D	11/24/04		SINGULAR EQUIPMENT SHELTER AND FENCED COMPOUND ADDED (SEE NOTE # 1)		

SHEET 3 OF 11 12/18/19 5

DRAINAGE AREA MAP  
 POST-DEVELOPMENT  
 BG & E SUBSTATION  
 HOWARD SERVICE CENTER  
 5130 ILCHESTER ROAD  
 REVISED SITE DEVELOPMENT PLAN  
 230-34.5 & 230-13KV SUBSTATION

HOWARD

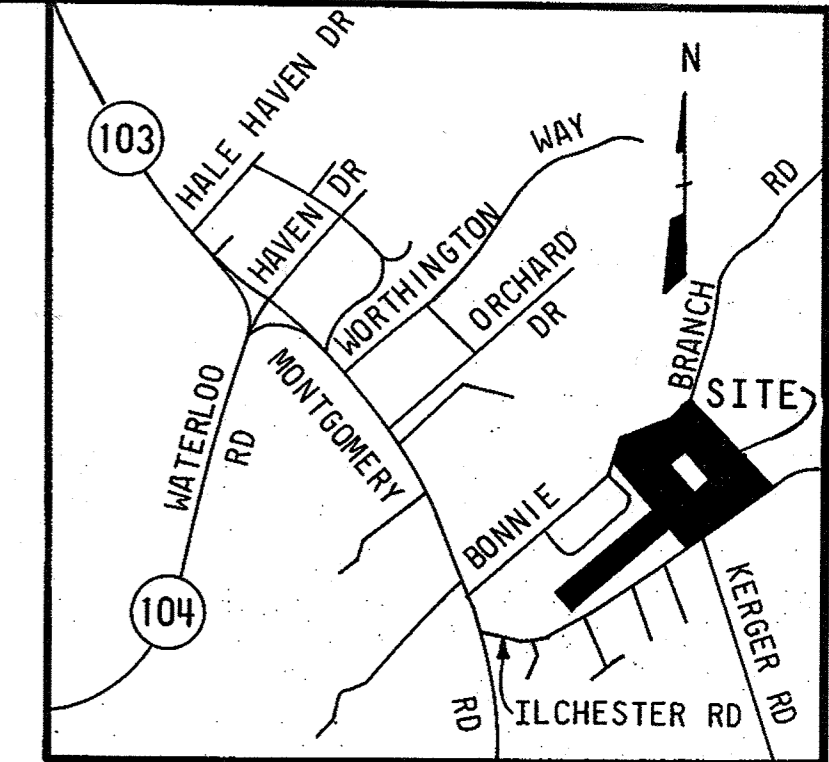
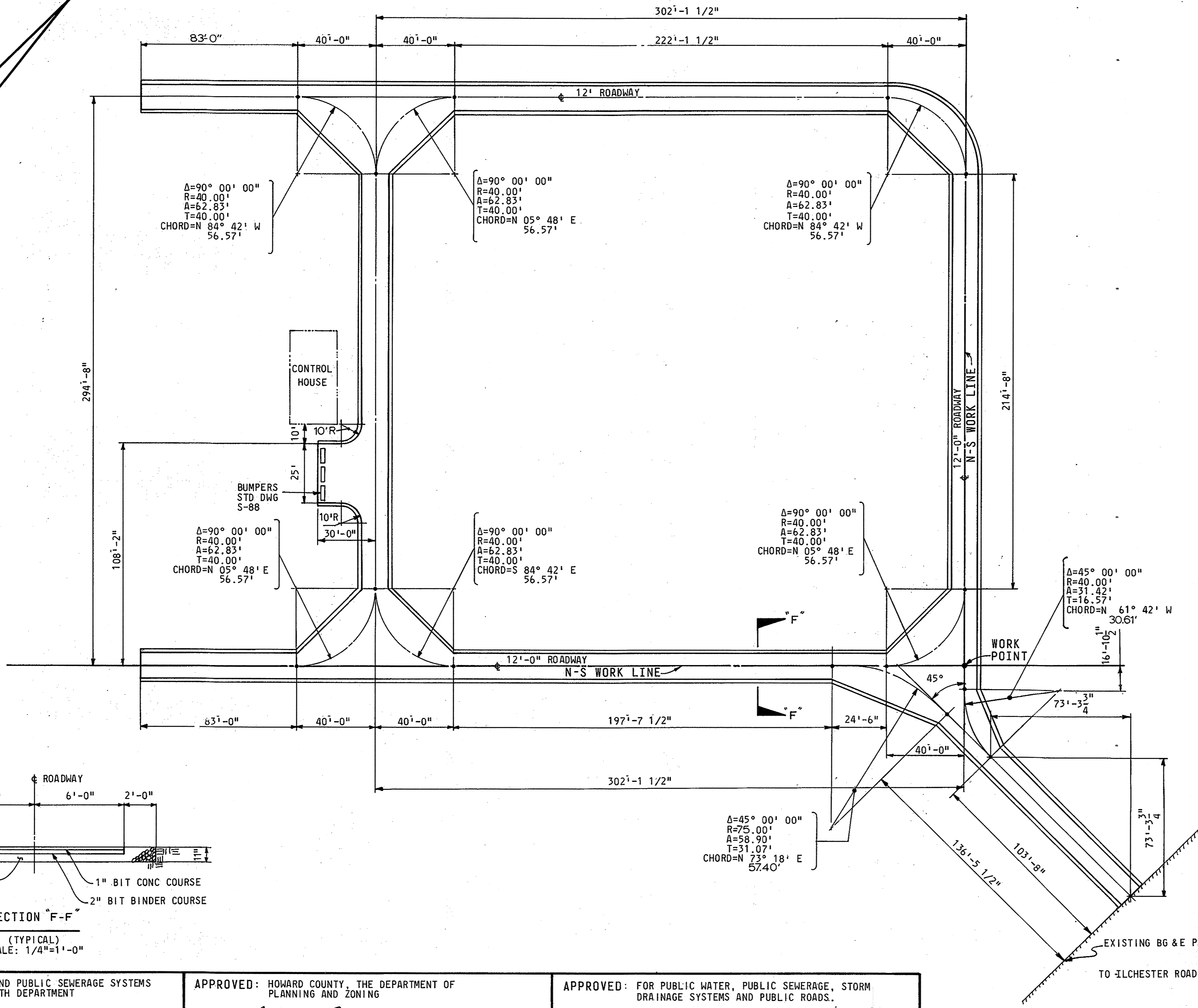
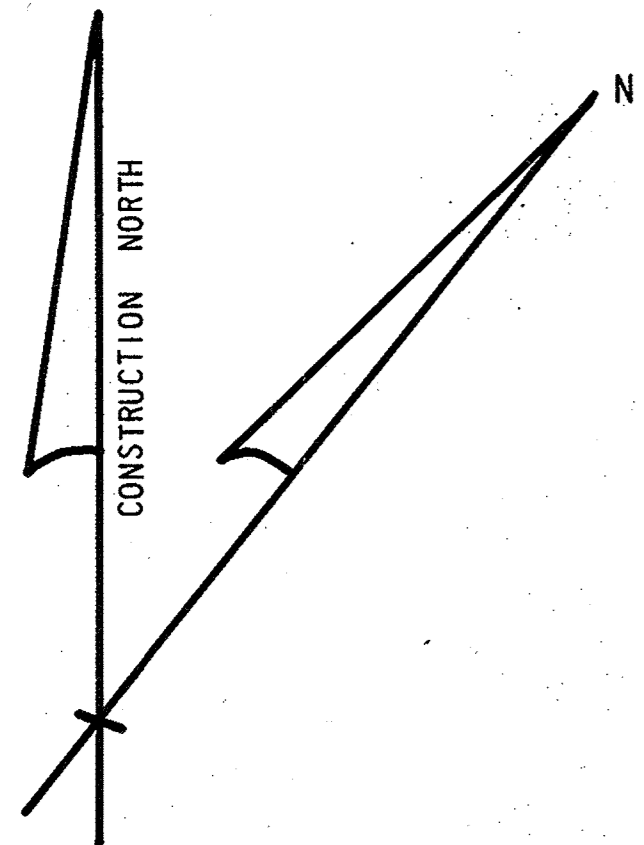
BALTIMORE GAS AND ELECTRIC COMPANY  
 ELECTRIC SYSTEM ENGINEERING

Scale 1"=100'-0"  
 Microfilmed  
 Dwg. No. 500-405-E  
 Date App'd: 2-6-92

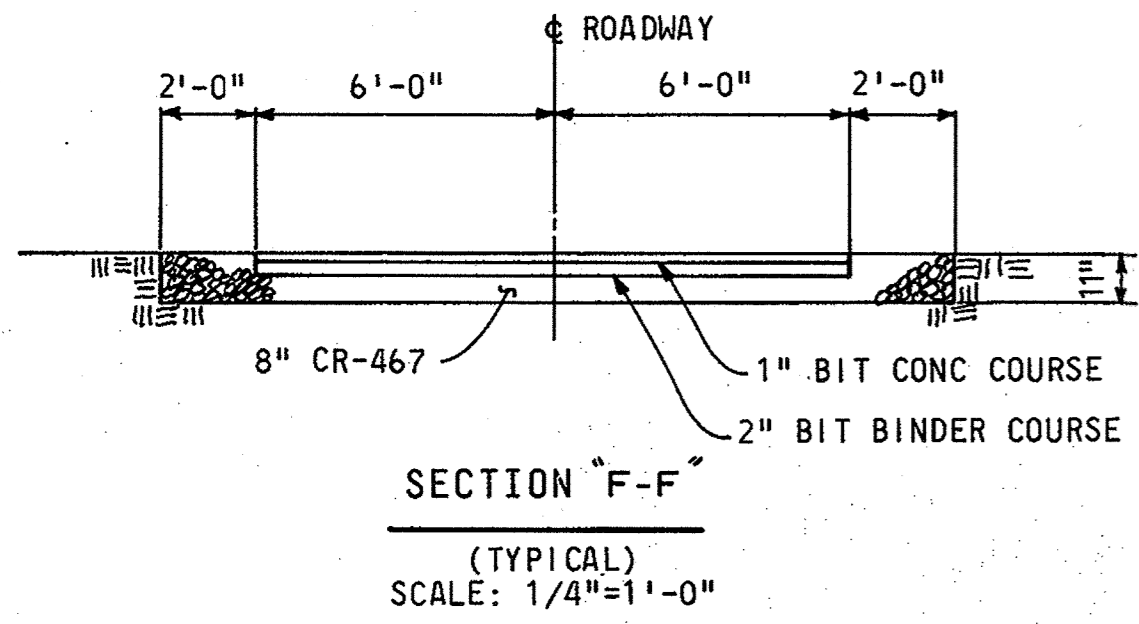








VICINITY PLAN  
SCALE: 1"=2000'



- NOTES:
- ROADWAY: COMPACT SUBGRADE TO 95% DENSITY AS DETERMINED BY (ASTM-1557-70). INSTALL 8" OF CR-467 CRUSHED STONE BASE IN TWO LIFTS & COMPACT EACH LIFT WITH A 10 TON ROLLER (MIN. 6 PASSES). INSTALL 2" BITUMINOUS BINDER COURSE. (BI BAND). INSTALL 1" BITUMINOUS CONCRETE SURFACE. (SN BAND) AS PER MARYLAND STATE HIGHWAY ADMINISTRATION SPEC.
  - ALL ROADS ASSOCIATED WITH THIS PROJECT ARE PRIVATE ROADS FOR USE BY BG & E ONLY.
  - EXISTING ENTRANCES TO ILCHESTER ROAD WILL NOT BE AFFECTED BY THIS PROJECT.

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

APPROVED: HOWARD COUNTY, THE DEPARTMENT OF  
PLANNING AND ZONING

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM  
DRAINAGE SYSTEMS AND PUBLIC ROADS.

PLANNING DIRECTOR: *James R. Bette* DATE: 3/27/92

DIRECTOR: *James G. Lee* DATE: 3/26/92

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: *Richard Blood* DATE: 3/27/92

CHIEF, BUREAU OF ENGINEERING: *Robert E. Riley* DATE: 3/27/92

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

APPROVED: *Robert E. Ziehm* 2/12/92  
HOWARD S.C.D. DATE

*James H. Hite* 2/12/92  
U.S. SOIL CONSERVATION SERVICE DATE

CERTIFICATION BY THE ENGINEER

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*John R. Trimmer*  
ENGINEER DATE: 12/19/91

CERTIFICATION BY THE DEVELOPER

I/we certify that all development and construction will be done in accordance to this plan and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the Environment approved training program for the control of sediment and erosion control 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 inspections by the Howard Soil Conservation District.

*David C. Wood*  
DEVELOPER DATE: 2/9/91

STATE OF MARYLAND PROFESSIONAL ENGINEER

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER

REV.	DATE	J.O./Est. No.	DESCRIPTION	APPROVED
H	9-13-20		SWALE, STORM DRAIN & FENCE REPLACEMENT ADDED. SEE SHEETS 15-18	
1990		EC-1117 EC-1118 37874012	230-13KV SUBSTATION & 4-13KV FDRS #8381, 8382, 8383 & 8384	
A	4-17-91	EC-1117 EC-1118 37874012	REVISED ROADWAY DIMENSIONS	PEC
B	5-30-91	EC-1117 EC-1118 37874012	REVISED ROADWAY DIMENSIONS	RTG, J.C.
C	11/7/91	EC-1117 EC-1118 37874012	REV PER COUNTY INFORMATION	RTG

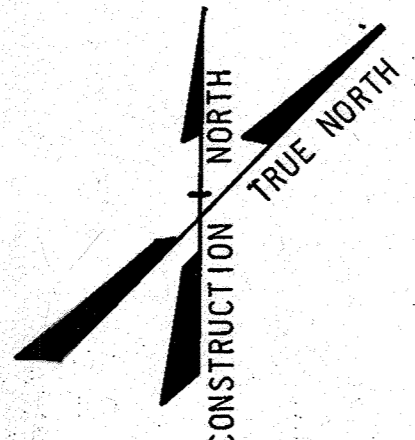
Rev.	Date	J.O./Est. No.	Description	Approved
1990		EC-1117 EC-1118 37874012	230-13KV SUBSTATION & 4-13KV FDRS #8381, 8382, 8383 & 8384	
A	4-17-91	EC-1117 EC-1118 37874012	REVISED ROADWAY DIMENSIONS	PEC
B	5-30-91	EC-1117 EC-1118 37874012	REVISED ROADWAY DIMENSIONS	RTG, J.C.
C	11/7/91	EC-1117 EC-1118 37874012	REV PER COUNTY INFORMATION	RTG





**CERTIFICATION BY THE ENGINEER**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*John R. Timmerman*  
 ENGINEER  
 DATE: 12/10/91



**CERTIFICATION BY THE DEVELOPER**  
 I/we certify that all development and construction will be done in accordance to this plan and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the Environment approved training program for the control of sediment and erosion control 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 inspections by the Howard Soil Conservation District.

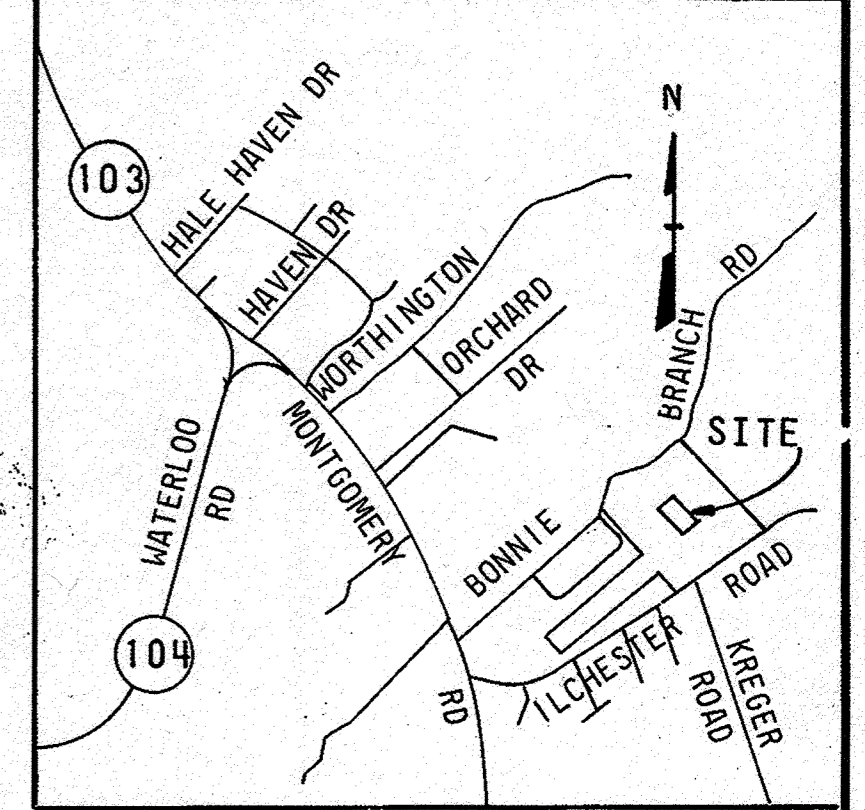
*David C. Wood*  
 DEVELOPER  
 DATE: 8/9/91

HOWARD COUNTY  
 TAX MAP 31  
 PARCEL 557 LOT 6

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
 DATE: 3/20/92  
 DIRECTOR: *[Signature]*  
 CHIEF, BUREAU OF ENGINEERING  
 DATE: 2-18-92

APPROVED: HOWARD COUNTY, THE DEPARTMENT OF PLANNING AND ZONING  
 DATE: 3/27/92  
 PLANNING DIRECTOR: *[Signature]*  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
 DATE: 3/27/92

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
 HOWARD COUNTY HEALTH DEPARTMENT  
 DATE: 3-24-92  
 COUNTY HEALTH OFFICER: *[Signature]*

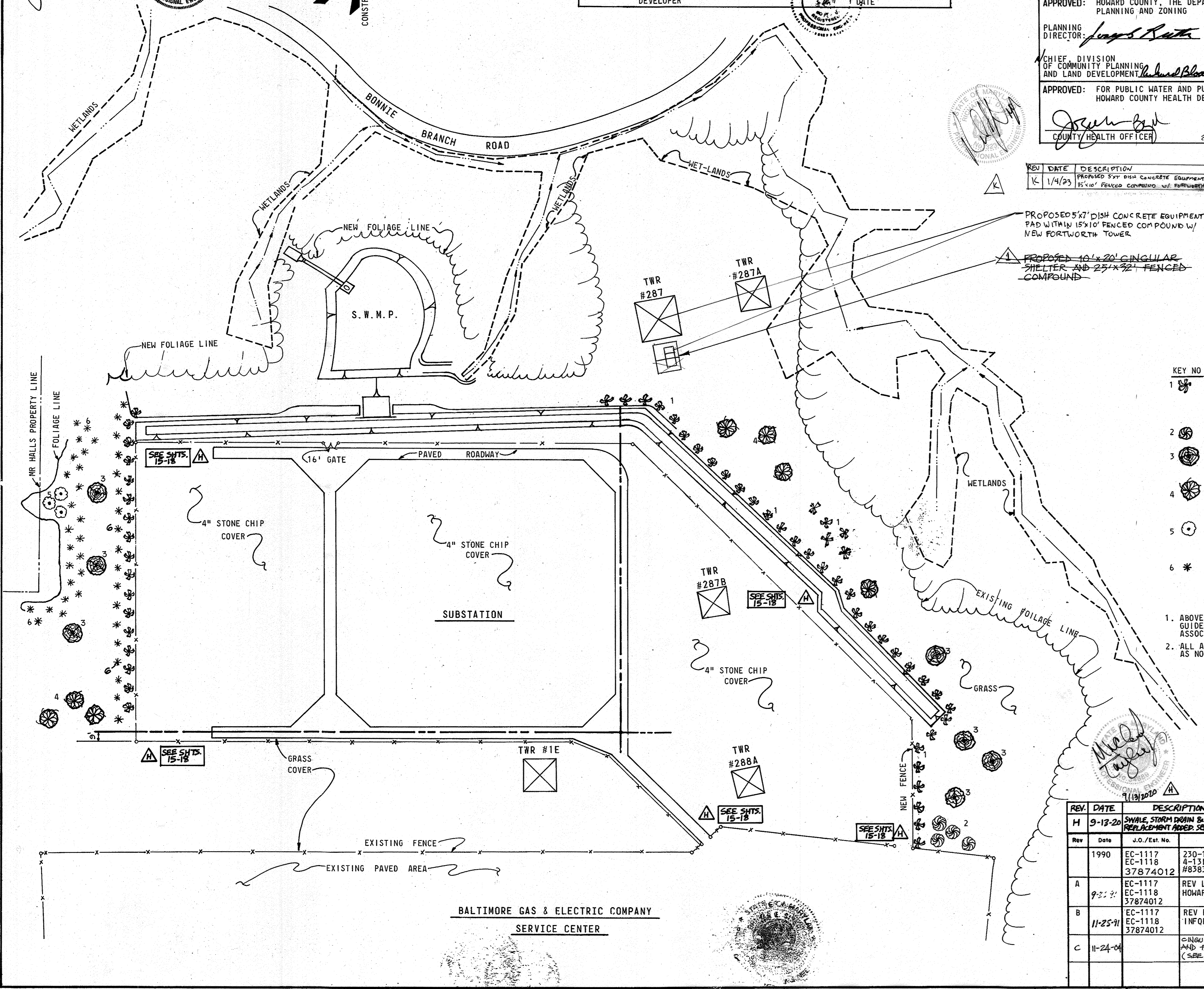


THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: *[Signature]* 2/12/92  
 HOWARD S.C.D. 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.

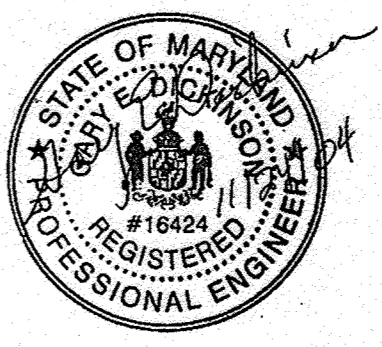
*[Signature]* 2/12/92  
 U.S. SOIL CONSERVATION SERVICE DATE



REV	DATE	DESCRIPTION	APPROVED
K	1/4/93	PROPOSED 5'x7' DISH CONCRETE EQUIPMENT PAD WITHIN 15'x10' FENCED COMPOUND W/ FORTWORTH TOWER	

PROPOSED 5'x7' DISH CONCRETE EQUIPMENT PAD WITHIN 15'x10' FENCED COMPOUND W/ NEW FORTWORTH TOWER

PROPOSED 10'x20' CIRCULAR SHELTER AND 25'x32' FENCED COMPOUND



**PLANT LIST**

KEY NO	NO. REQ	PLANT NAME	SIZE
1	56	PINUS THUNBERGII JAPANESE BLACKPINE	6'-7& B & B
2	4	JUNIPERUS CHINENSIS, HETZII GLAUCA (HERTZII BLUE JUNIPER)	3'-4' B & B OR CONTAINER
3	7	PYRUS CALLERYANA REDSPIRE (REDSPIRE PEAR)	6'-8' B & B OR CONTAINER
4	7	MALUS RADIANT (FLOWERING CRAB)	6'-8' B & B OR CONTAINER
5		PICEA PUNGENS GLAUCA COLORADO BLUE SPRUCE	6'-7' B & B
6		PICEA ABIES NORWAY SPRUCE	6'-7' B & B

- NOTES
- ABOVE LANDSCAPING TO BE DONE IN ACCORDANCE WITH "LANDSCAPE SPECIFICATIONS GUIDELINES" FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS BY LANDSCAPE CONTRACTORS ASSOCIATION AND APPROVED BY AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.
  - ALL ABOVE PLANTS AND TREES TO BE PLANTED A MIN OF 5' OFF FENCED AREA OR AS NOTED.

REV.	DATE	DESCRIPTION	APPROVED
H	9-13-20	SWALE, STORM DRAIN & FENCE REPLACEMENT ADDED. SEE SHTS. 15-18.	
	1990	EC-1117 230-13KV SUBSTATION & EC-1118 4-13KV FDRS #8381, #8382, #8383, #8384 37874012	
A	9-22-91	EC-1117 REV LANDSCAPING PER EC-1118 HOWARD COUNTY 37874012	
B	11-25-91	EC-1117 REV PER COUNTY EC-1118 INFORMATION 37874012	
C	11-24-04	CIRCULAR EQUIPMENT SHELTER AND FENCED COMPOUND ADDED - (SEE NOTE # 1)	

SHEET 6 OF 11 15118 7

LANDSCAPING  
 BG & E SUBSTATION  
 HOWARD SERVICE CENTER  
 5130 ILCHESTER ROAD  
 REVISED SITE DEVELOPMENT PLAN  
 230KV-34.5 & 230-13KV SUBSTATION  
 HOWARD

BALTIMORE GAS AND ELECTRIC COMPANY  
 ELECTRIC SYSTEMS ENGINEERING

ENGINEERING  
 Civil.....  
 Elec.....  
 Proj. Mgr. *[Signature]*  
 Prin. Engr.....  
 Supv. Engr.....

DESIGN GROUP  
 Designer *[Signature]*  
 Crown M. BOOKMAN  
 Checked W. EHATT  
 App'd. *[Signature]*  
 Date App'd. *[Signature]*

File Scale 1" = 50'-0"  
 Microfilmed Dwg. No. 500-406-E  
 Rev. C

BALTIMORE GAS & ELECTRIC COMPANY  
 SERVICE CENTER



**CERTIFICATION BY THE DEVELOPER**

I/we certify that all development and construction will be done in accordance to this plan and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the Environment approved training program for the control of sediment and erosion control 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 inspections by the Howard Soil Conservation District.

Developer: *David C. Wood*  
 DATE: *8/9/91*



**CERTIFICATION BY THE ENGINEER**

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Engineer: *Van E. Trivison*  
 DATE: *8/9/91*

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.

Reviewed: *John M. Hahn* 2/12/92  
 DATE: *2/12/92*

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

Reviewed: *Robert Zielon* 2/12/92  
 DATE: *2/12/92*

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

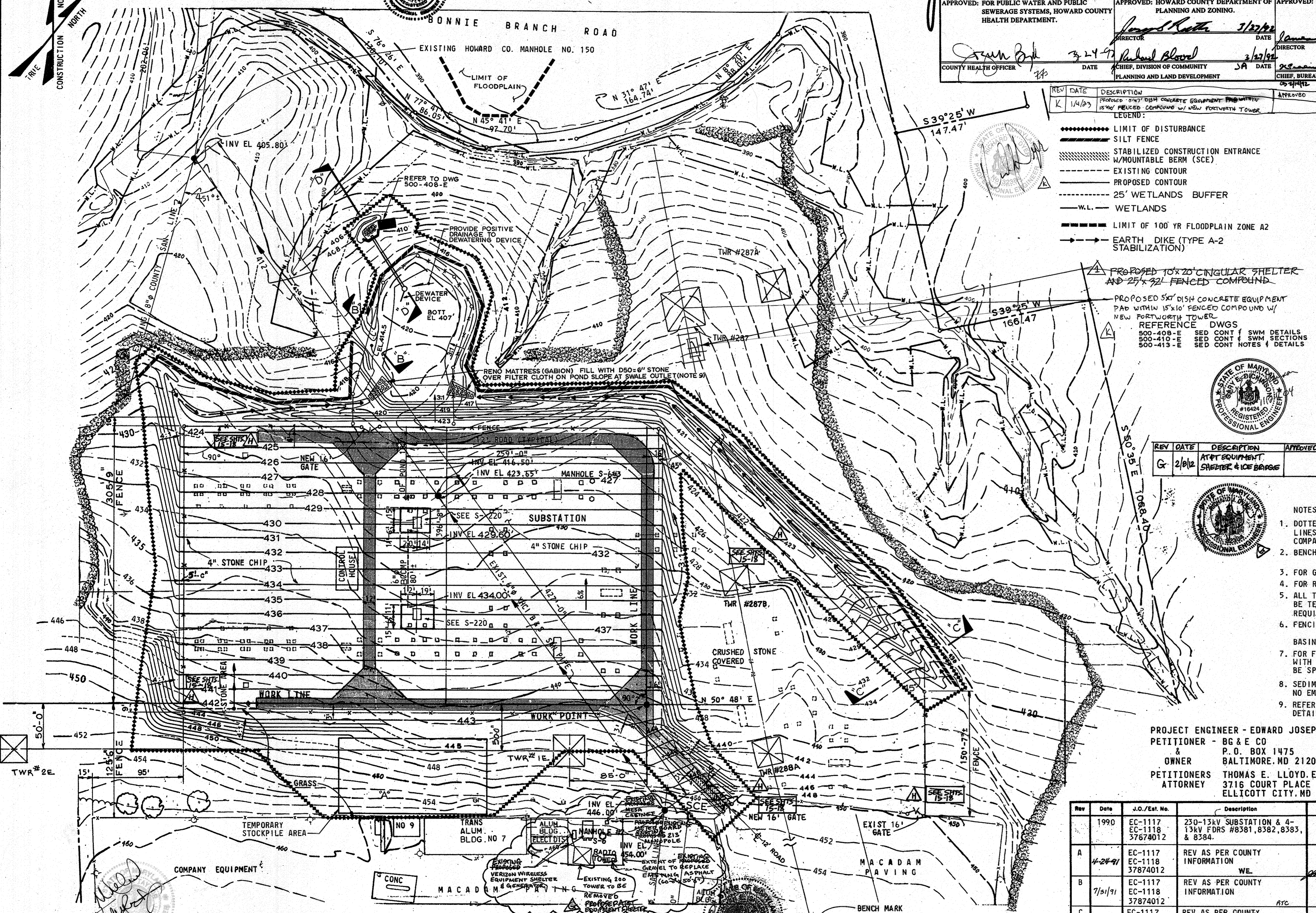
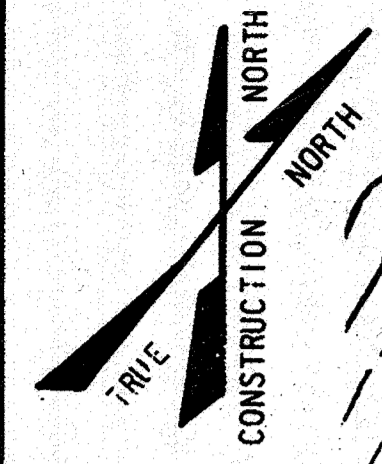
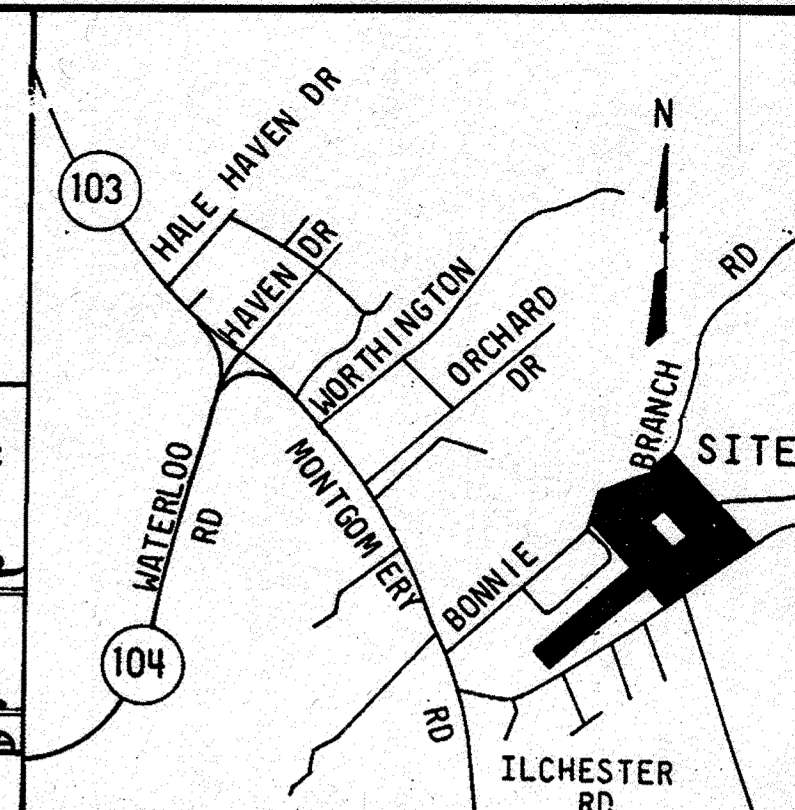
County Health Officer: *John B. ...* DATE: *3/27/92*

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Director: *Richard Blood* DATE: *3/27/92*

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.

Director: *James P. ...* DATE: *3/27/92*



REV	DATE	DESCRIPTION	APPROVED
K	1/4/93	PROPOSED 10'x20' CONCRETE EQUIPMENT PAD WITH 15'x10' FENCED COMPOUND W/ NEW FORTWORTH TOWER REFERENCE DWGS	

- LEGEND:**
- LIMIT OF DISTURBANCE
  - SILT FENCE
  - STABILIZED CONSTRUCTION ENTRANCE W/MOUNTABLE BERM (SCE)
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - 25' WETLANDS BUFFER
  - W.L. --- WETLANDS
  - LIMIT OF 100 YR FLOODPLAIN ZONE A2
  - EARTH DIKE (TYPE A-2 STABILIZATION)

**PURPOSE OF POND** (check all that apply)

Stormwater Mgmt. - Wet  
 Stormwater Mgmt. - Dry  
 Infiltration  
 Sediment Control

Water Supply/Irrigation  
 Livestock/Wildlife/Fish  
 Flood Control  
 Fire Control  
 Recreation  
 Other

**EMBANKMENT**

Top Elev: 416.5 ft.	Storage at DW: 2.37 ac-ft
Normal Pool Elev: 416.0 ft.	Max Fill Height: 0.5 ft.
Top Width: 10.0 ft.	Side Slopes: U.S. 3:1
	D.S. 3:1

**PRINCIPAL SPILLWAY**

Diameter: 24 inches Capacity: 34.5 CFS

BCCMP  Alum  RCP  PVC  Other (Specify)

**EMERGENCY SPILLWAY**

Crest Elev: 414.5 ft. Design Storm Frequency: 100 yr  
 Bottom Width: 14.0 ft. Capacity: 33 CFS  
 Side Slopes: 3:1 Velocity: 4.0 ft/sec  
 Spillway Protection:  Grass  Riprap  Gabions  Other

**DISTANCES BELOW POND TO**

Property Line: 125 ft.  
 Public Road: 125 ft.

REV	DATE	DESCRIPTION	APPROVED
G	2/12/92	ADDED EQUIPMENT SHELTER & ICE BARGE	



Soil Conservation District (Name): *HOWARD*  
 SCS, District Conservationist (Sign): *John M. Hahn*  
 Date: *2/12/92*

- NOTES:**
- DOTTED CONTOUR LINES INDICATE EXISTING TOP OF GRADE. SOLID CONTOUR LINES (INDICATE NEW TOP OF FINISH GRADE). ALL FILL TO BE WELL COMPACTED TO 95% OF MAXIMUM DENSITY (ASTM D1557-70).
  - BENCH MARK: TOP OF CONCRETE MON EL 471.65'. LOCATED C OF TOWER NO. 288, SOUTHEAST CORNER OF PROPERTY.
  - FOR GRADING DETAILS, NOTES & SECTIONS, REFER TO DWG 500-410-E.
  - FOR ROADWAY DETAILS, SEE DWG 500-411-E.
  - ALL TOPSOIL THAT IS REMOVED DURING INITIAL GRADING OPERATIONS SHALL BE TEMPORARILY STORED IN THE DESIGNATED STORAGE AREA UNTIL IT IS REQUIRED FOR FINAL GRADING.
  - FENCING NOTE: IF REQUIRED BY THE SEDIMENT CONTROL INSPECTOR FENCING SHALL BE INSTALLED TO PREVENT ACCESS TO THE BASIN BY CHILDREN.
  - FOR FINAL BASIN DREDGE, ALL SPOIL MATERIAL WILL BE TAKEN TO A SITE WITH AN APPROVED SEDIMENT CONTROL PLAN AND GRADING PERMIT OR WILL BE SPREAD ON THIS SITE AND PROTECTED WITH SLIT FENCE ON LOW SIDE.
  - SEDIMENT CONTROL POND WILL BE CONSTRUCTED BY EXCAVATION ONLY. NO EMBANKMENT (BERM) IS REQUIRED.
  - REFER TO DWG 500-408-E FOR RENO MATTRESS DETAIL.

PROJECT ENGINEER - EDWARD JOSEPH O'DONNELL  
 PETITIONER - BG & E CO  
 & BALTIMORE, MD 21203  
 OWNER  
 PETITIONERS THOMAS E. LLOYD, ESQ  
 ATTORNEY 3716 COURT PLACE  
 ELLICOTT CITY, MD 21043



SHEET 7 OF 11 13/18

REV	DATE	DESCRIPTION	APPROVED
H	9-13-20	SWALE, STORM DRAIN & FENCE REPLACEMENT ADDED. SEE SHEETS 15-18	

Rev	Date	J.O./Est. No.	Description	Approved
	1990	EC-1117 EC-1118 37674012	230-13KV SUBSTATION & 4-13KV FDRS #8381, 8382, 8383, & 8384.	
A	4-24-91	EC-1117 EC-1118 37874012	REV AS PER COUNTY INFORMATION WE.	
B	7/31/91	EC-1117 EC-1118 37874012	REV AS PER COUNTY INFORMATION	ATC
C	11/7/91	EC-1117 EC-1118 37874012	REV AS PER COUNTY INFORMATION	RTC
D	11/24/04		CIRCULAR EQUIPMENT SHELTER AND FENCED COMPOUND ADDED (SEE NOTE #2)	
F	2/4/08		VERIZON WIRELESS EQUIPMENT SHELTER, MONOPOLE, & GABION COMPOUND	

**SEDIMENT CONTROL PLAN**  
 BG & E SUBSTATION  
 HOWARD SERVICE CENTER  
 5130 ILCHESTER ROAD  
 REVISED SITE DEVELOPMENT PLAN  
 230-34.5 & 230-13KV SUBSTATION

**HOWARD**

**BALTIMORE GAS AND ELECTRIC COMPANY**  
 ELECTRIC SYSTEM ENGINEERING

Scale 1"=50'-0"  
 Dwg No. 500-407-E

Scaled for Revision F



ELECTION DISTRICT NO. 1  
HOWARD COUNTY TAX MAP 31  
LOT/PARCEL #557

**CERTIFICATION BY THE DEVELOPER**

I/we certify that all development and construction will be done in accordance to this plan and that any responsible personnel involved in the construction project will have a certificate of attendance at a department of the Environment approved training program for the control of sediment and erosion control 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 inspections by the Howard Soil Conservation District.

*David C. Wood*  
DEVELOPER



8/9/91  
DATE

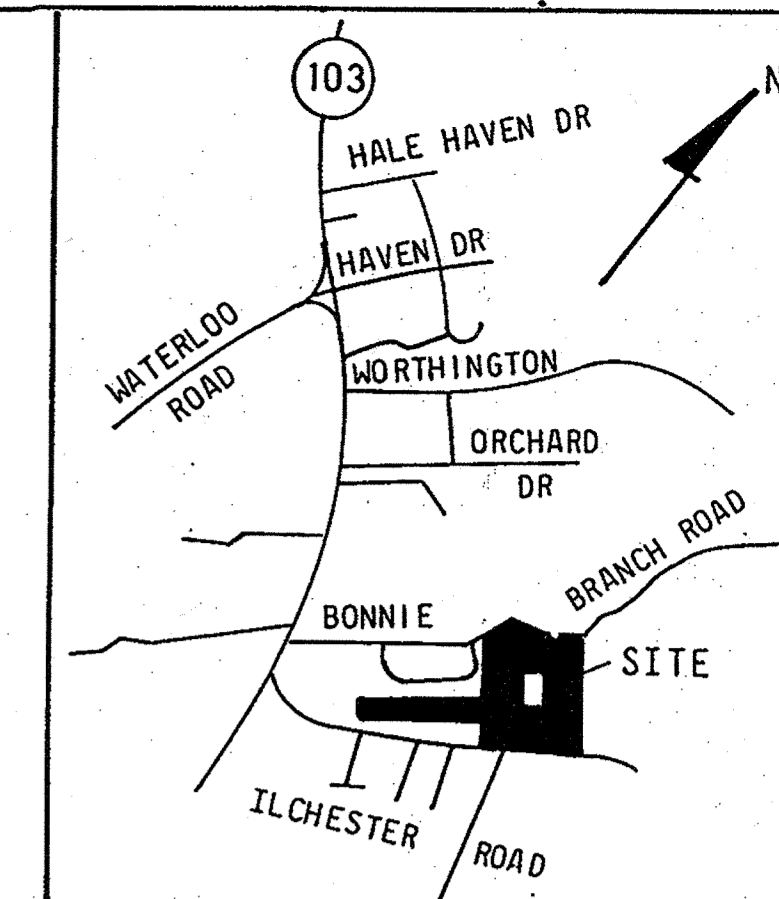
**CERTIFICATION BY THE ENGINEER**

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

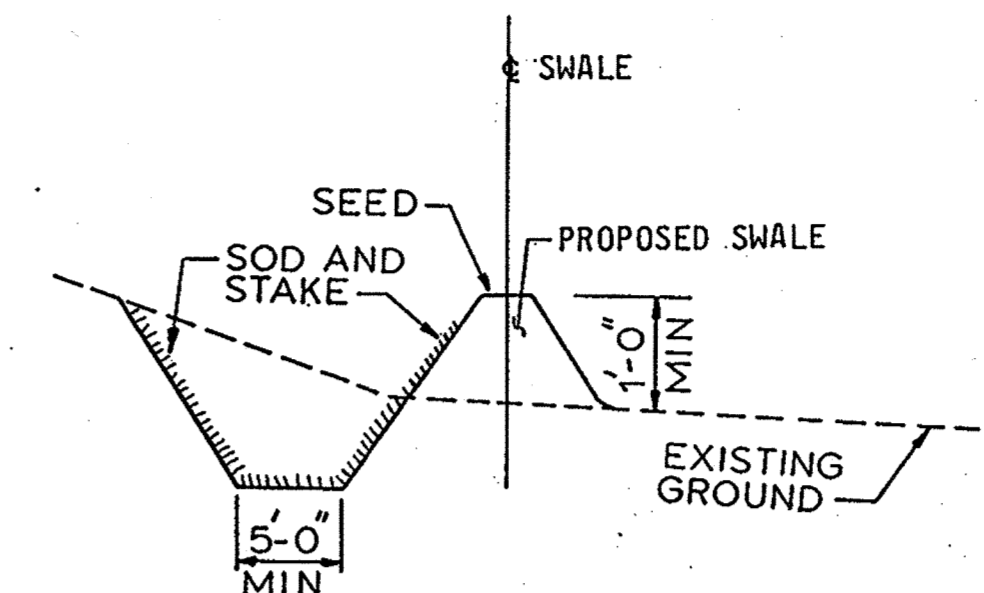
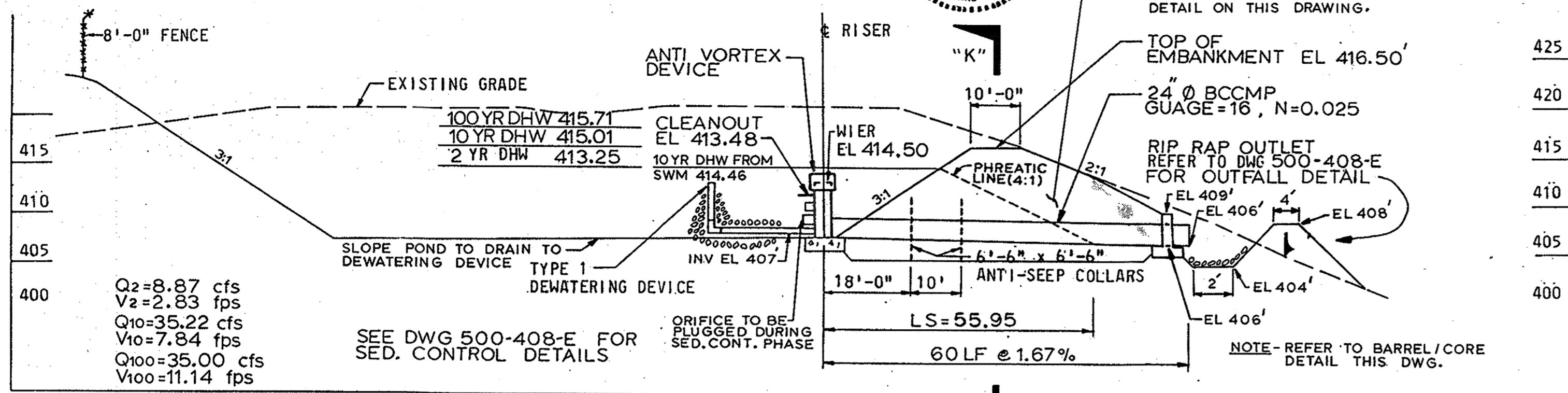
*John L. Tension*  
ENGINEER



12/10/91  
DATE

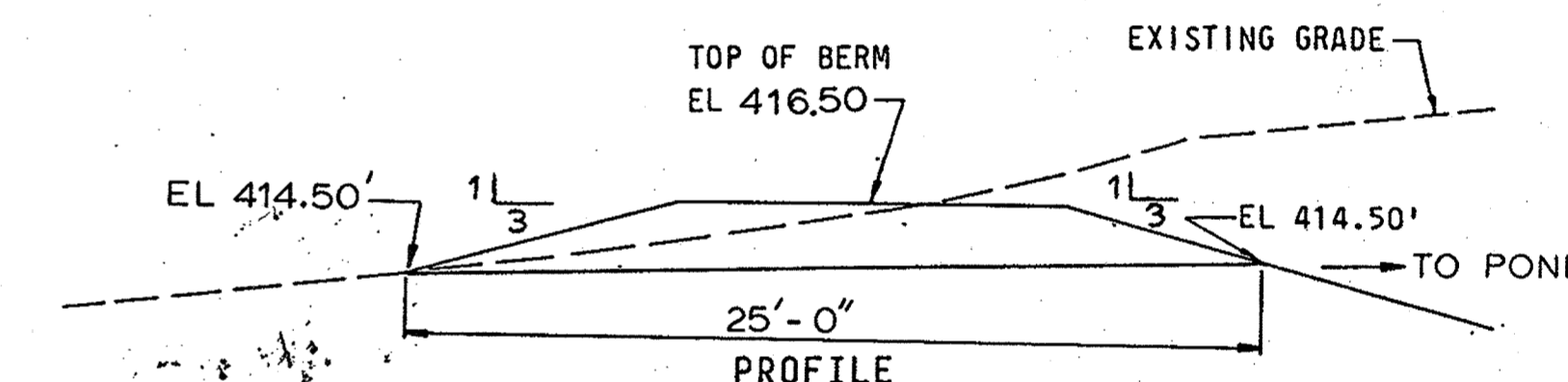
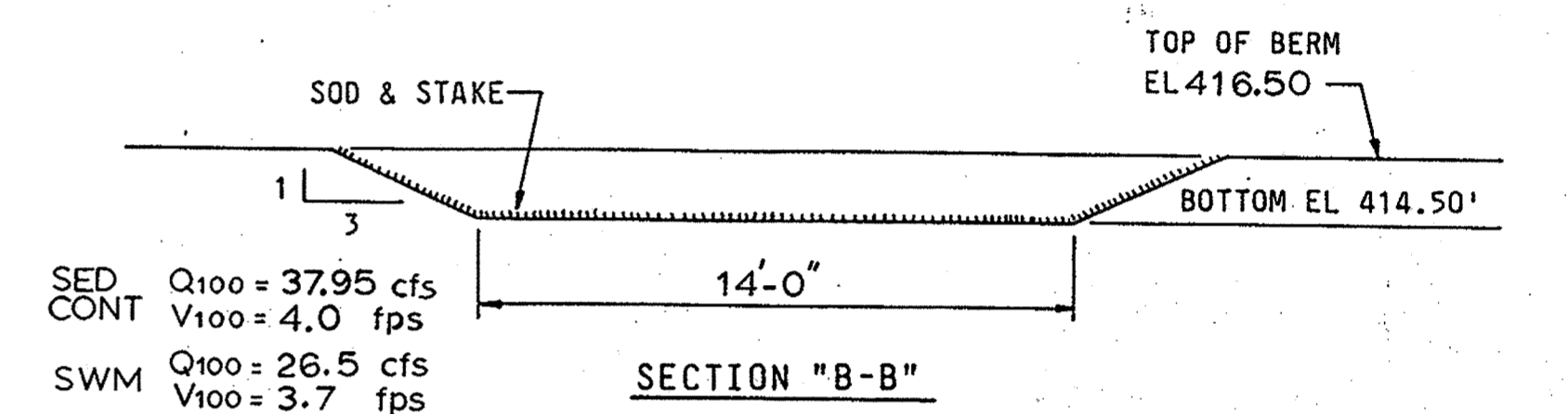
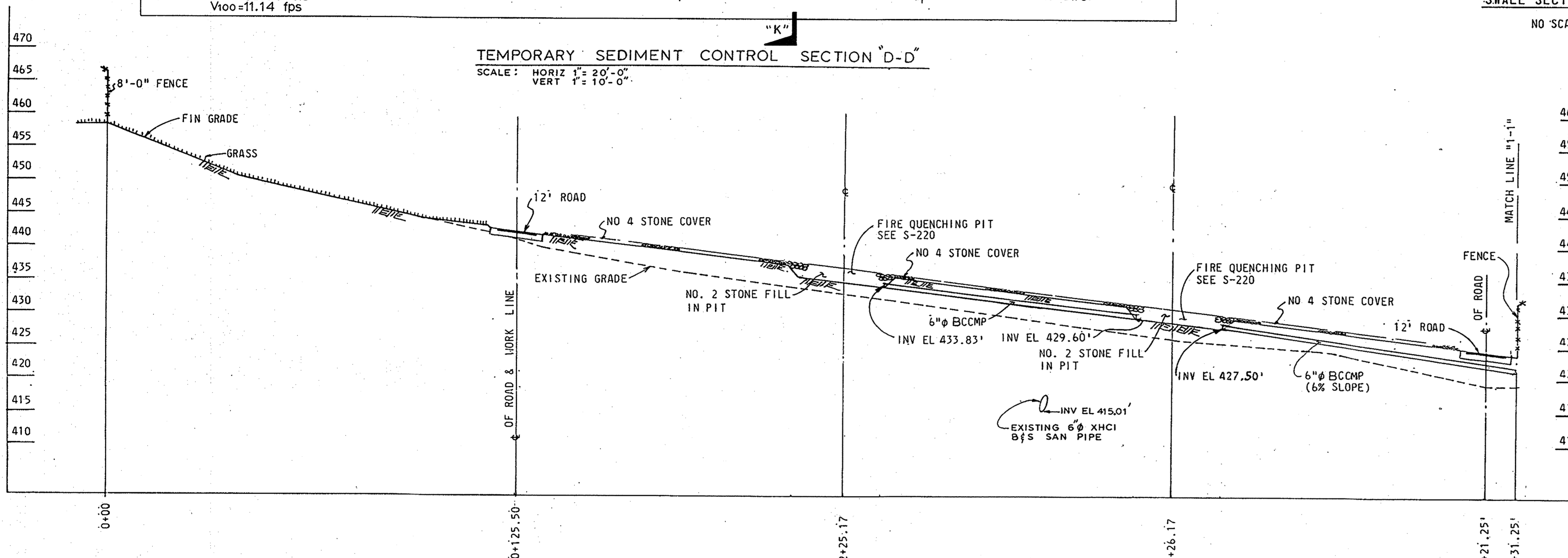


VICINITY MAP  
SCALE: 1"=2000'



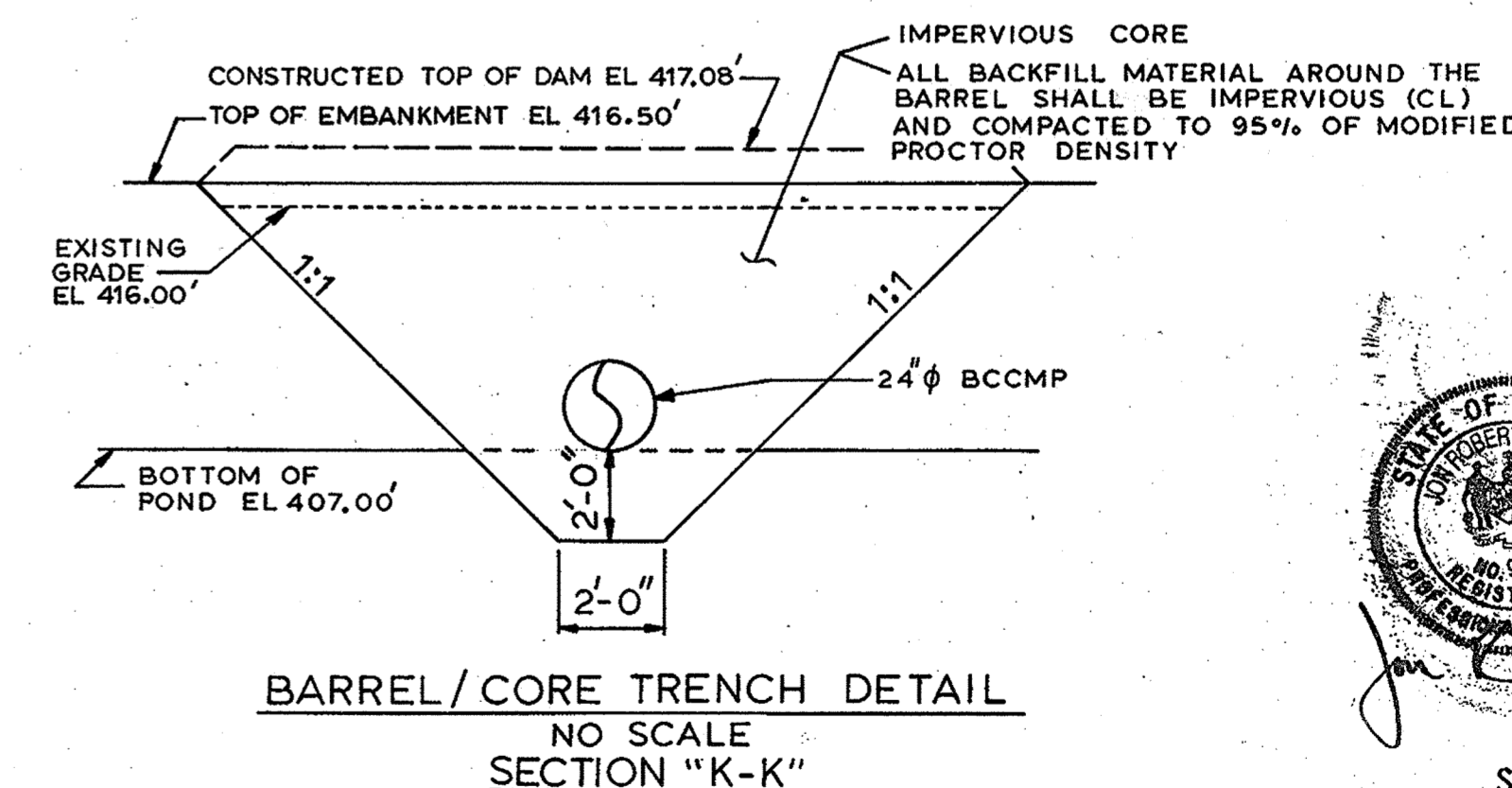
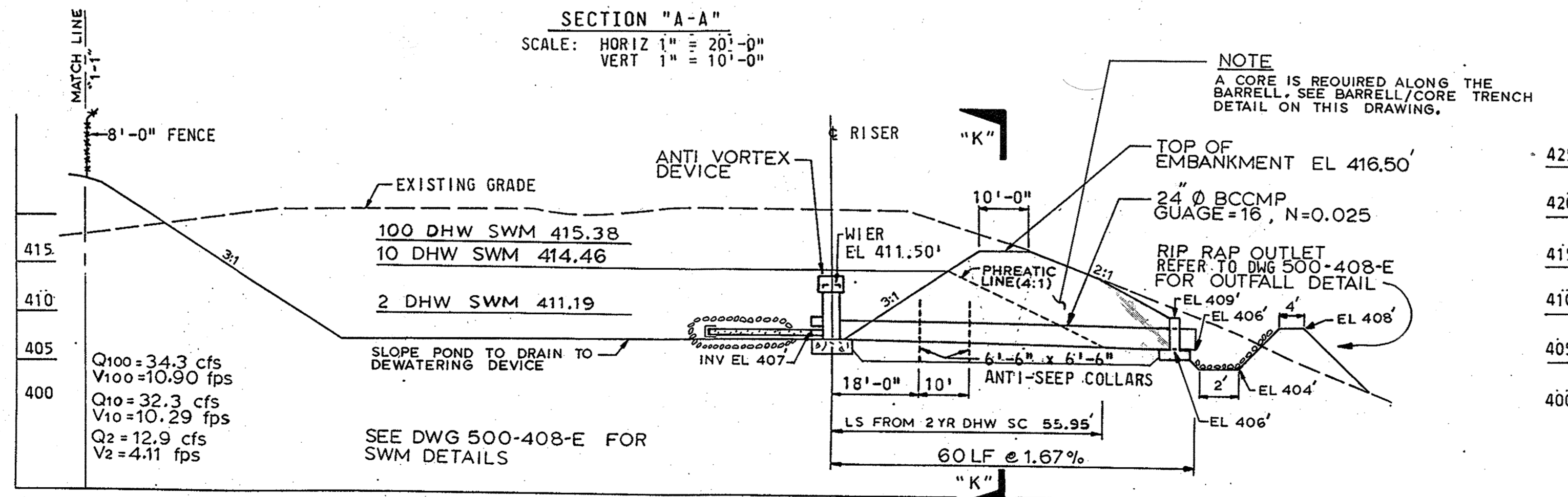
**TEMPORARY SEDIMENT CONTROL SECTION "D-D"**

SCALE: HORIZ 1"=20'-0"  
VERT 1"=10'-0"



**SECTION "A-A"**

SCALE: HORIZ 1"=20'-0"  
VERT 1"=10'-0"



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

*John R. ...* 3-24-92  
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND  
ZONING

*James R. ...* 3/27/92  
DIRECTOR DATE

*Richard Blood* 3/27/92  
CHIEF, DIVISION OF COMMUNITY  
PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM  
DRAINAGE SYSTEMS AND PUBLIC ROADS

*James G. ...* 3/20/92  
DIRECTOR DATE

*John ...* 2-10-92  
CHIEF, BUREAU OF ENGINEERING DATE

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

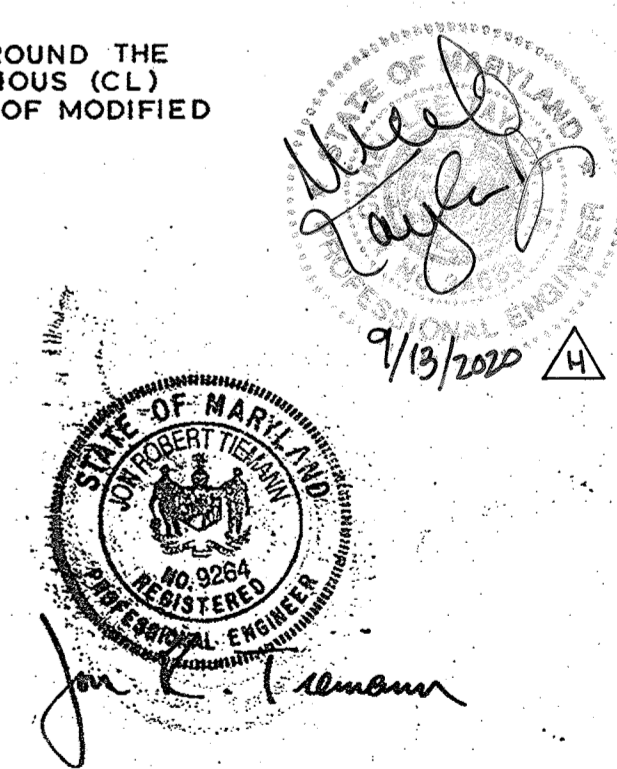
APPROVED: *Robert W. Zidner* 2/12/92  
HOWARD S.C.D. DATE

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.

*John ...* 2/12/92  
U.S. SOIL CONSERVATION SERVICE DATE

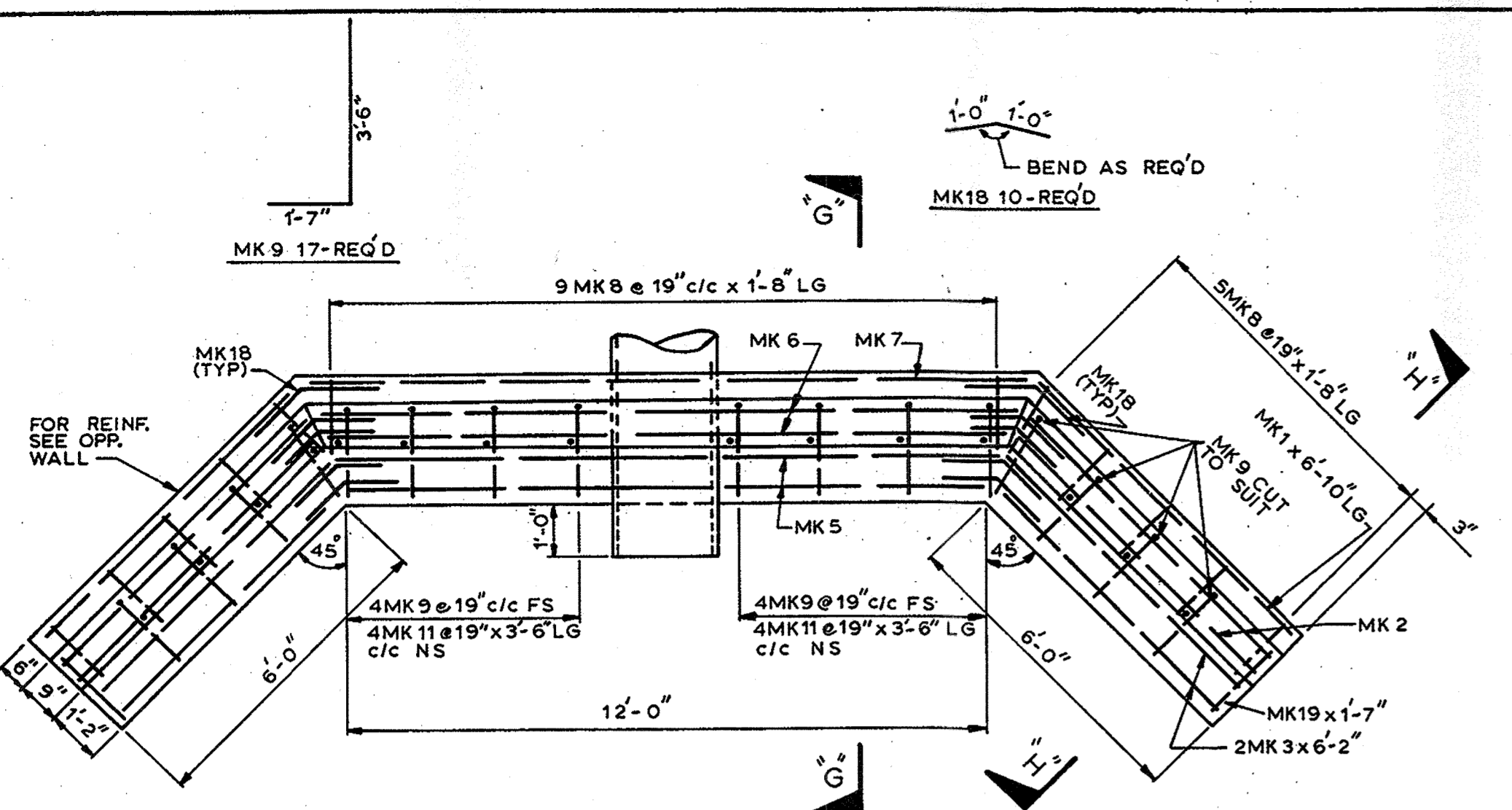
REFERENCE DWGS:  
500-403-E GRADING PLAN  
500-407-E SEDIMENT CONTROL PLAN  
500-408-E SED CONT & SWM DETAILS

Rev	Date	J.O./Est. No.	Description	Approved	ENGINEERING	SEDIMENT CONTROL & STORMWATER MANAGEMENT SECTIONS BG & E SUBSTATION HOWARD SERVICE CENTER 5130 ILCHESTER ROAD REVISED SITE DEVELOPMENT PLAN 230-34.5 & 230-13KV SUBSTATION
	1990	EC-1117 EC-1118 37874012	230-13KV SUBSTATION & 4-13KV FDRS #8381, 8382, 8383 & 8384		Civil... <i>CTJ</i> Elec... Proj. Mgr... <i>E.T.O.</i> Prin. Engr... Supr. Engr...	HOWARD
A	11/7/91	EC-1117 EC-1118 37874012	REV PER COUNTY INFORMATION			BALTIMORE GAS AND ELECTRIC COMPANY ELECTRIC SYSTEM ENGINEERING
H	9-13-20		SWALE, STORM DRAIN & FENCE REPLACEMENT ADDED. SEE SHTS 15-18		DESIGN GROUP Designer... Drawn... Checked... Appd... Date Appd...	File... Scale AS SHOWN Microfilmed... Dwg. 500-410-E Orig. Ld. Rev. No.

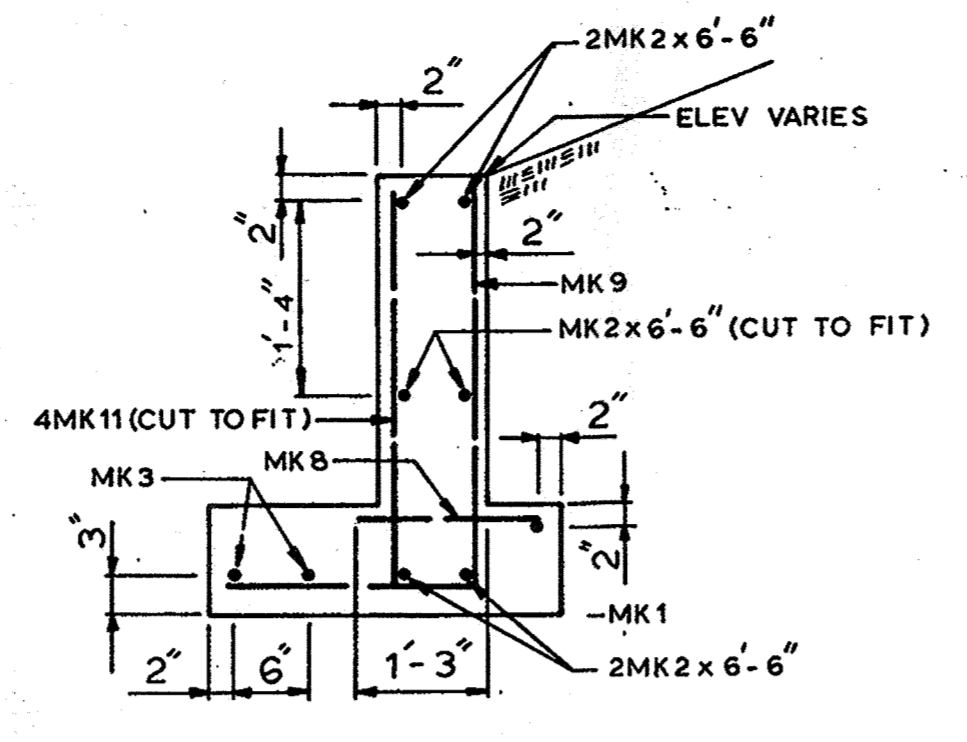


SHEET 8 OF 11 13/18 4

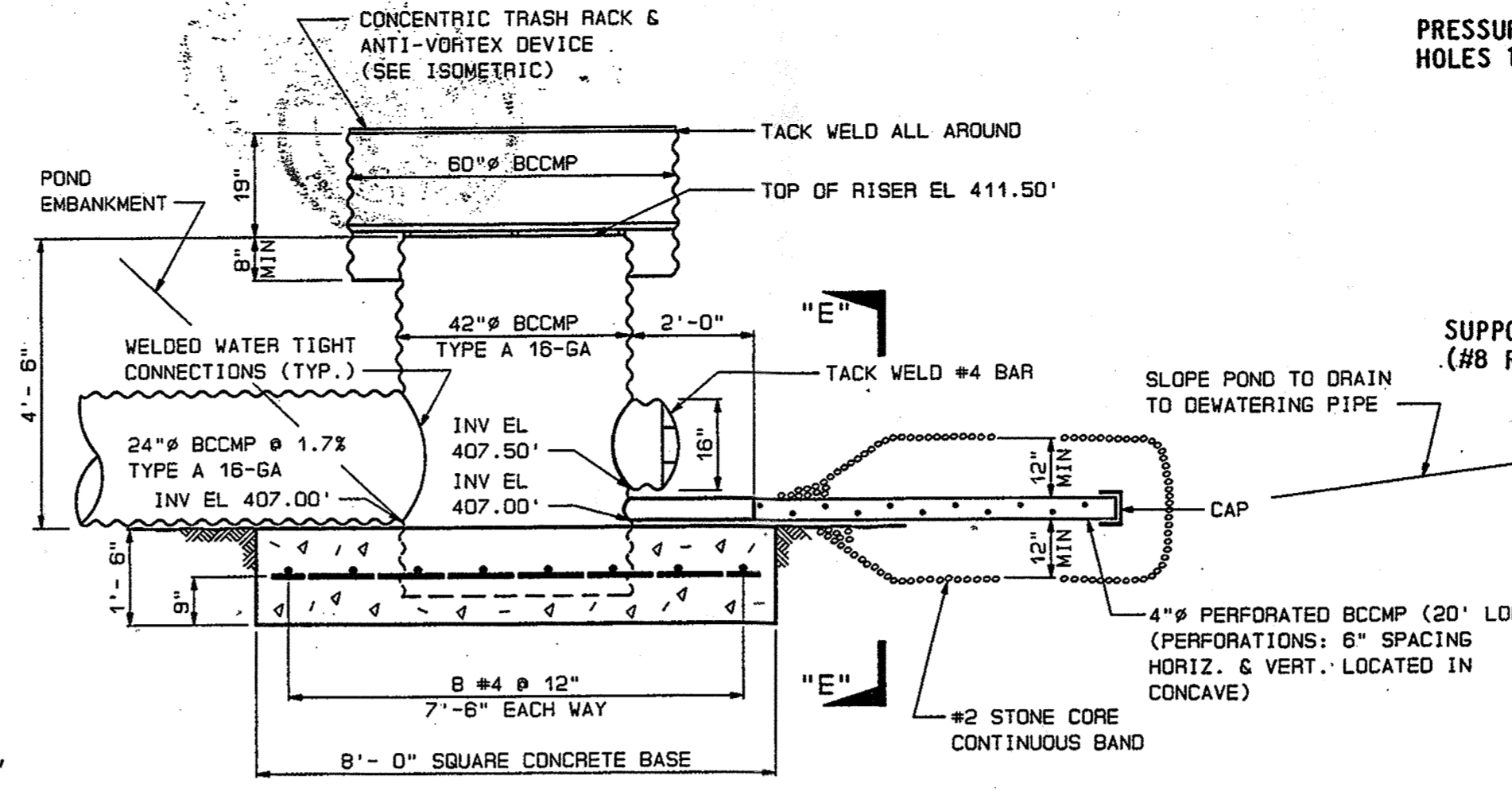




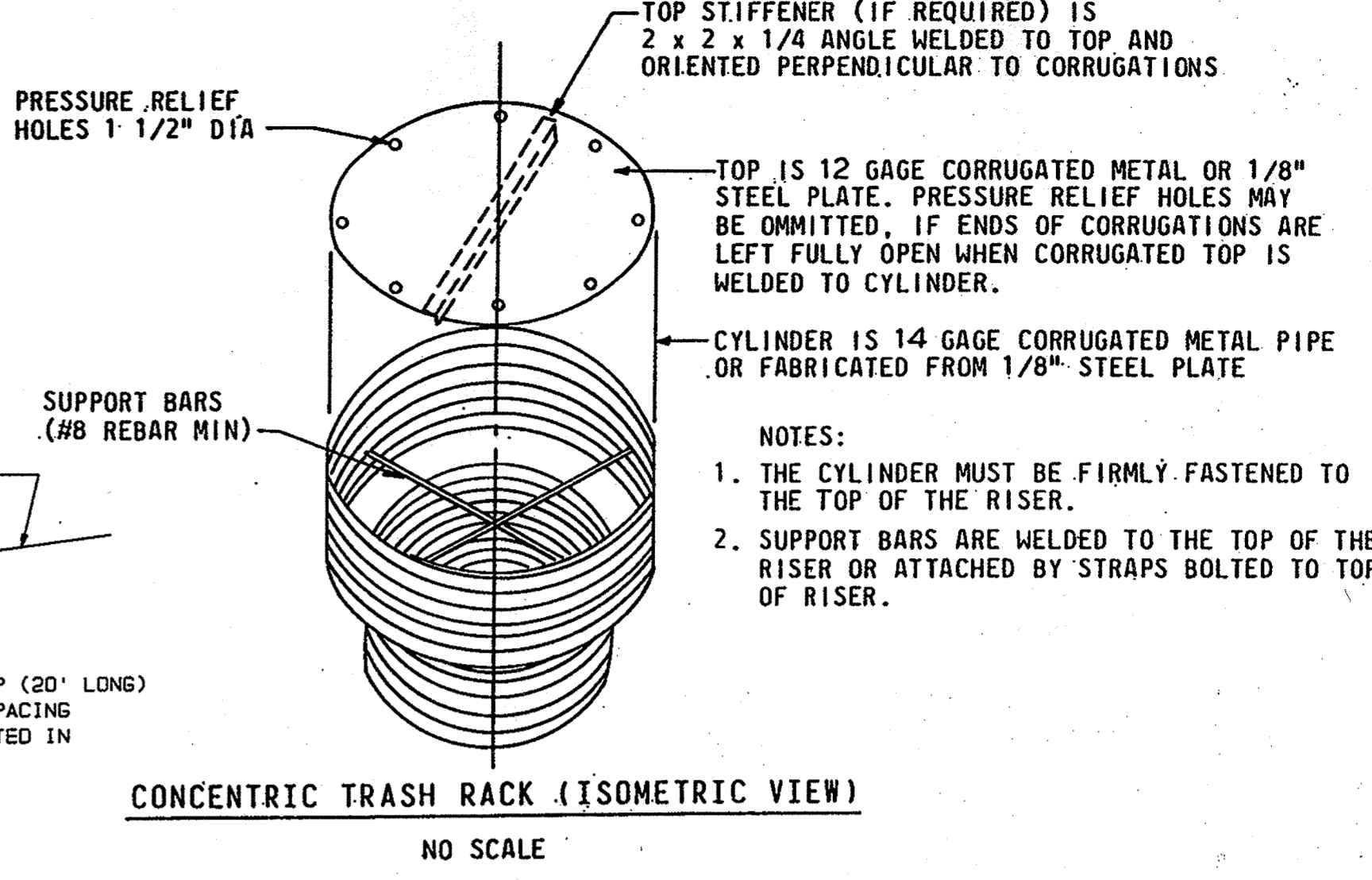
PLAN  
SCALE: 3/8"=1'-0"  
NOTE: ALL REBARS #4 UNLESS NOTED  
OUTFALL DETAIL



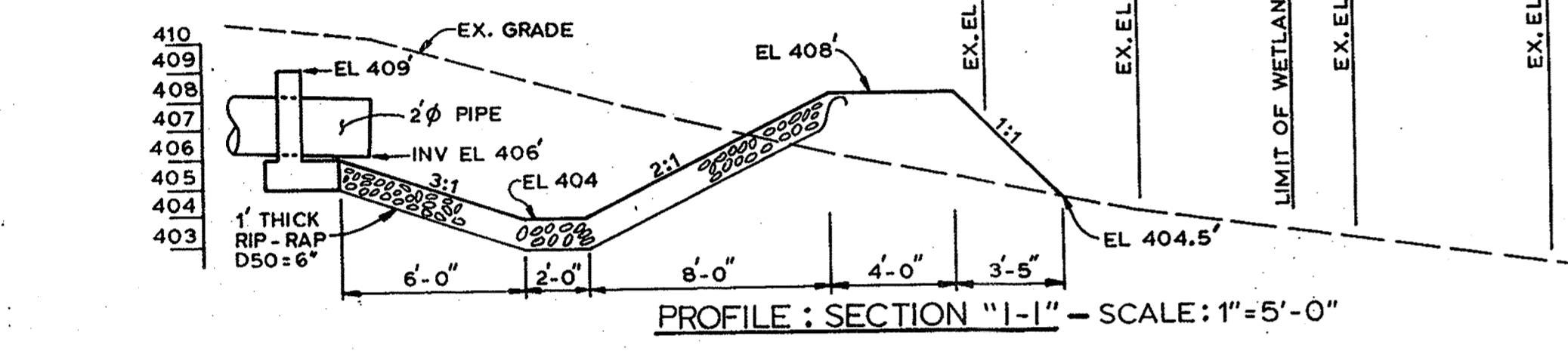
SECTION "H-H"  
SCALE: 3/4"=1'-0"



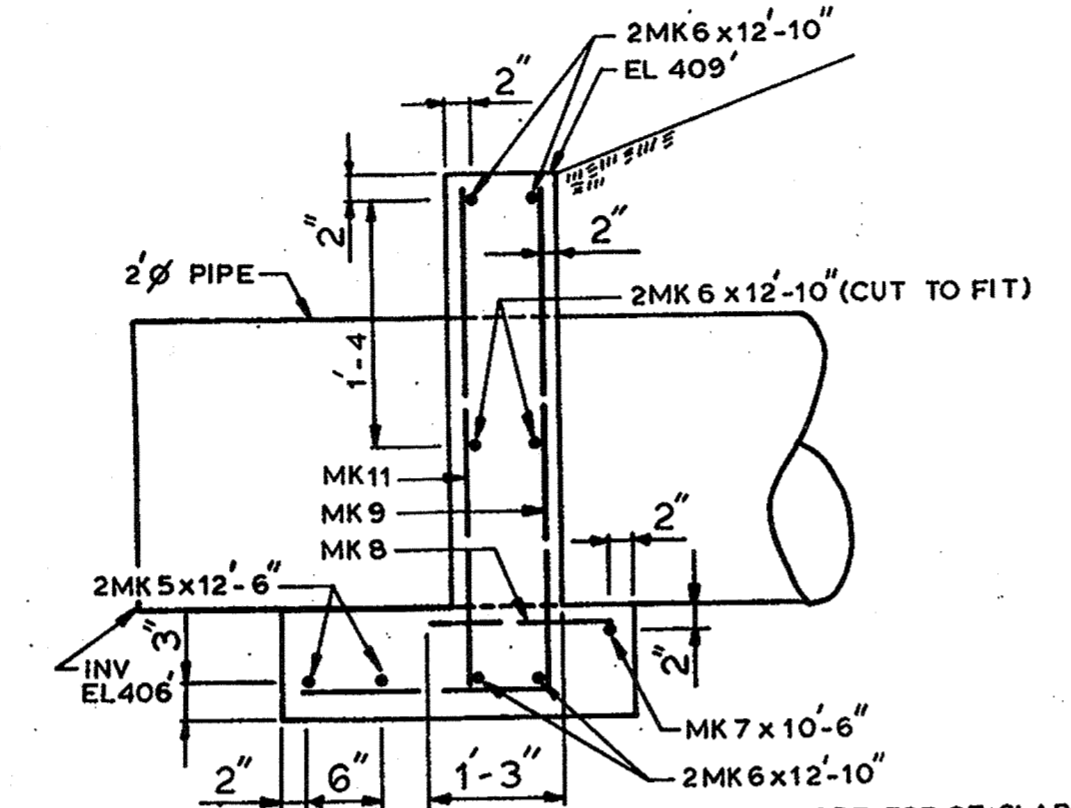
CONCENTRIC TRASH RACK, ANTI-VORTEX DEVICE  
AND POND RISER DETAIL (STORM WATER MGMT PHASE)



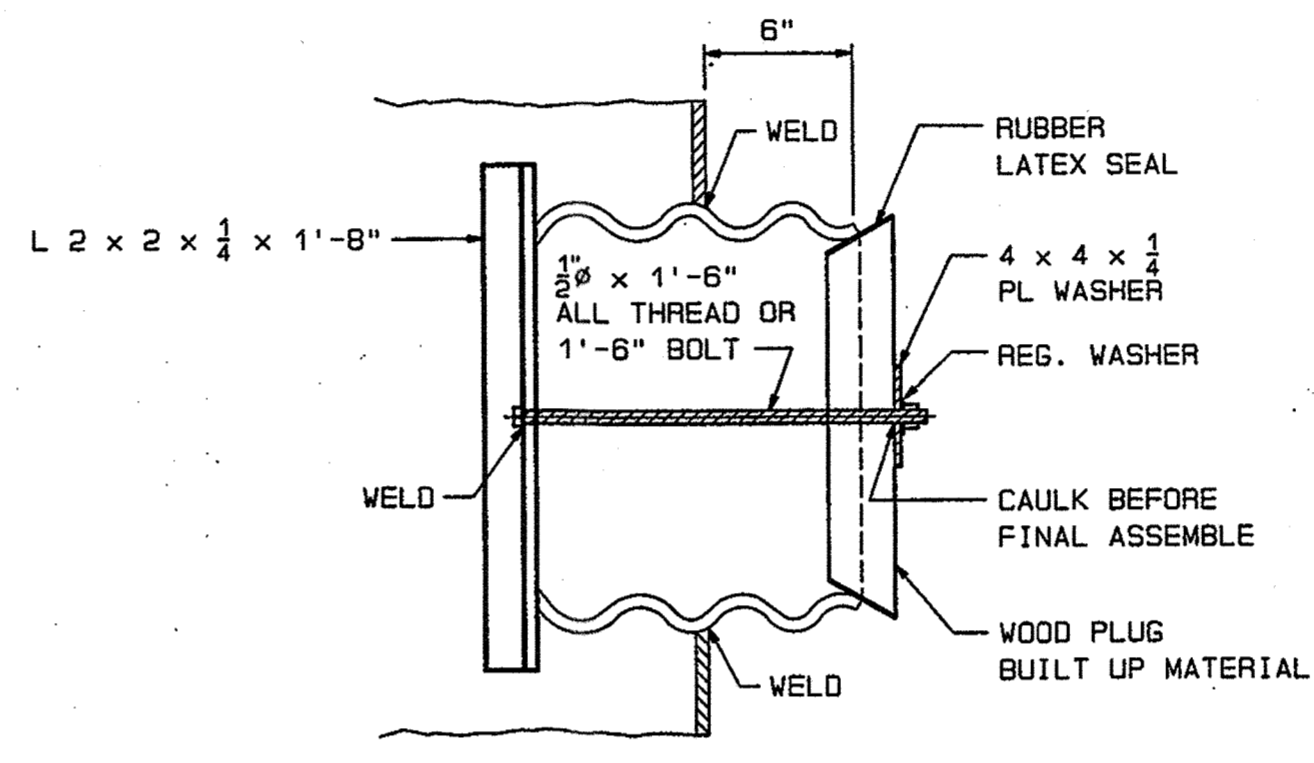
CONCENTRIC TRASH RACK (ISOMETRIC VIEW)  
NO SCALE



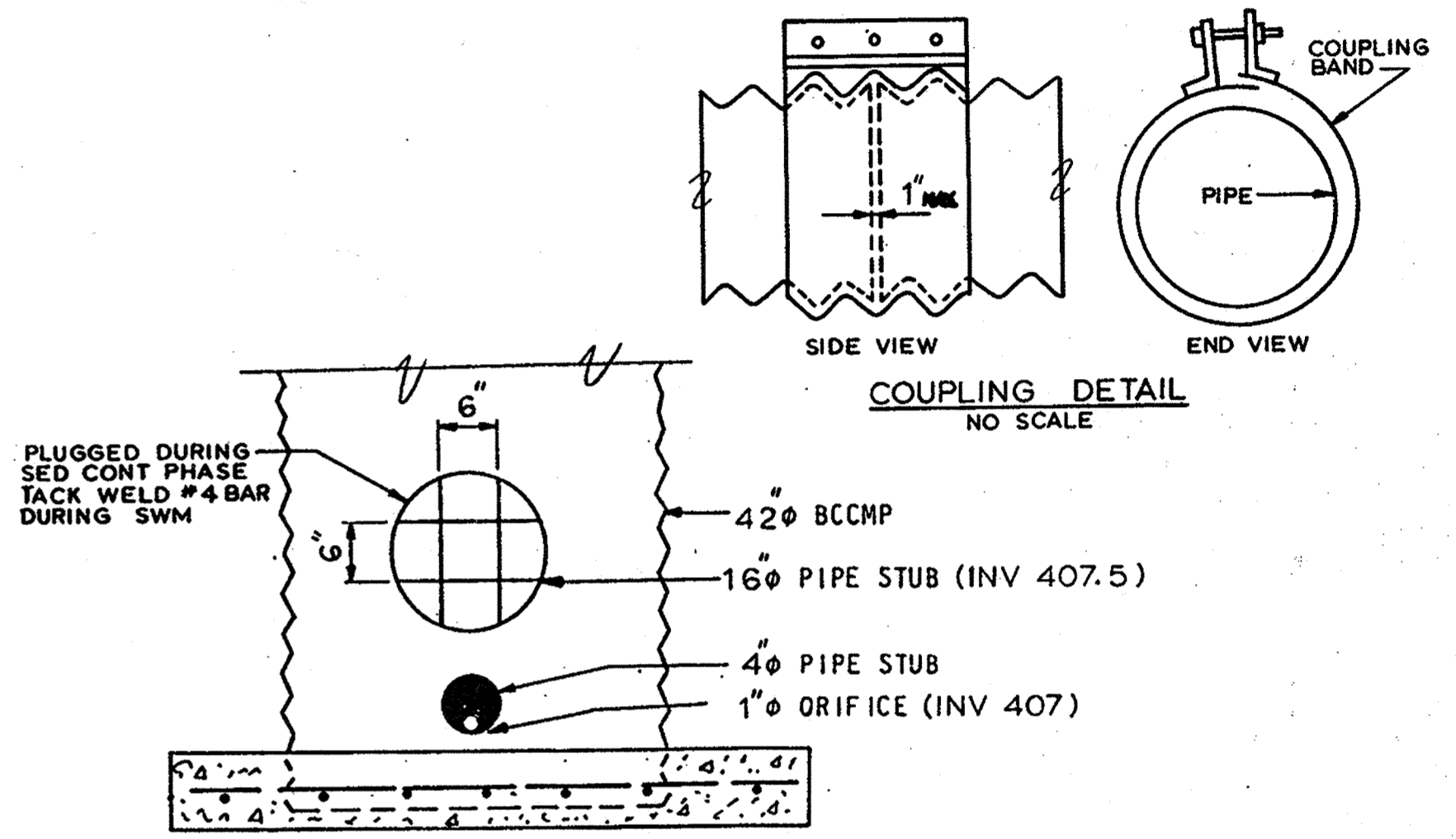
PROFILE: SECTION "I-I" - SCALE: 1"=5'-0"



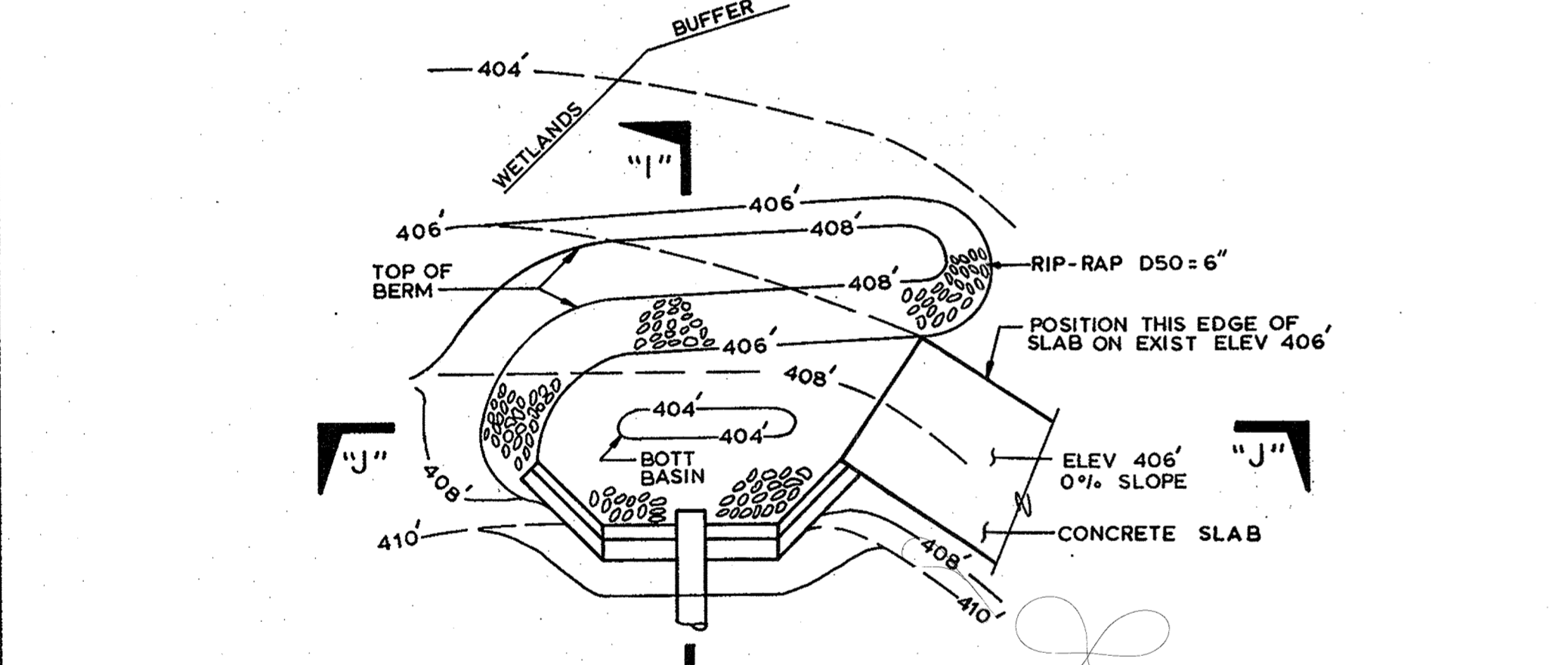
SECTION "G-G"  
SCALE: 3/4"=1'-0"



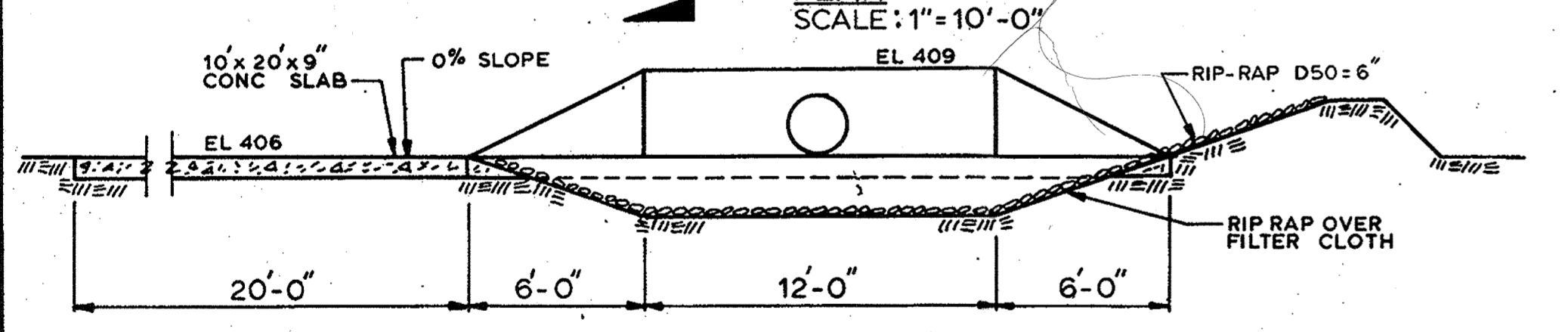
ORIFICE PLUG DETAIL  
SCALE: 2"=1'-0"



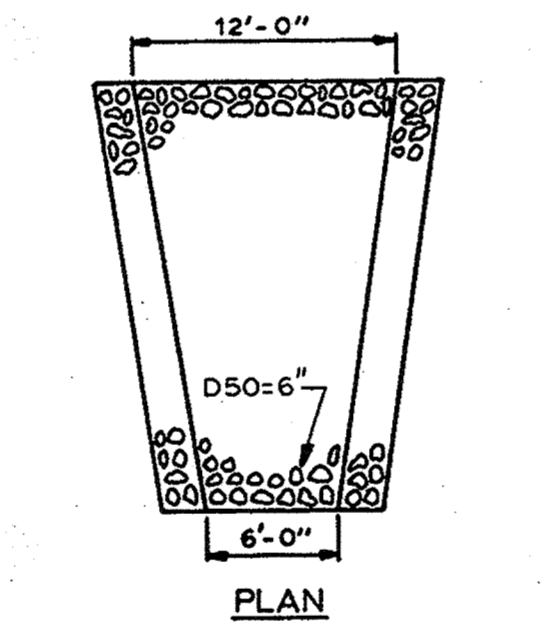
COUPLING DETAIL  
NO SCALE



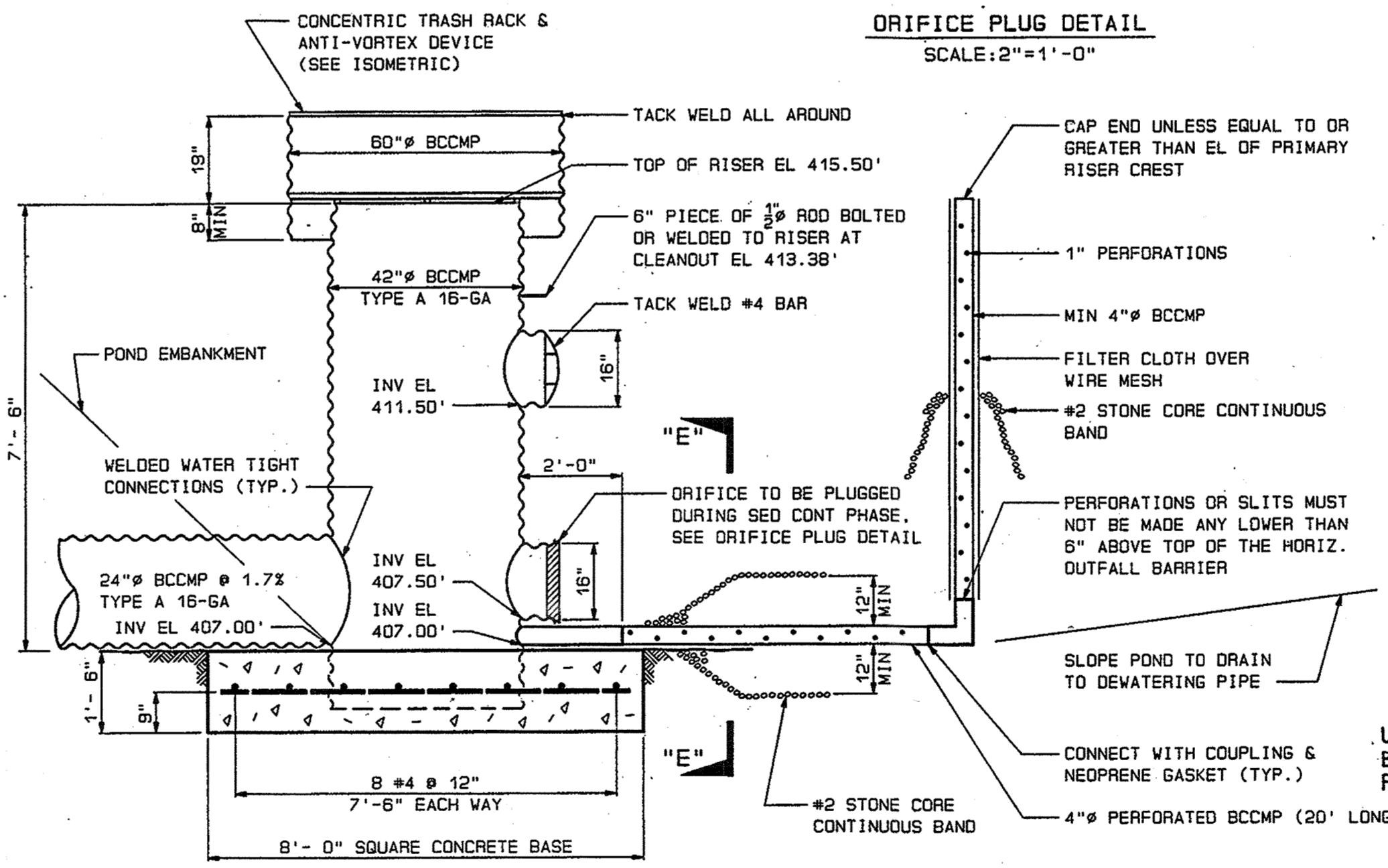
PLAN  
SCALE: 1"=10'-0"



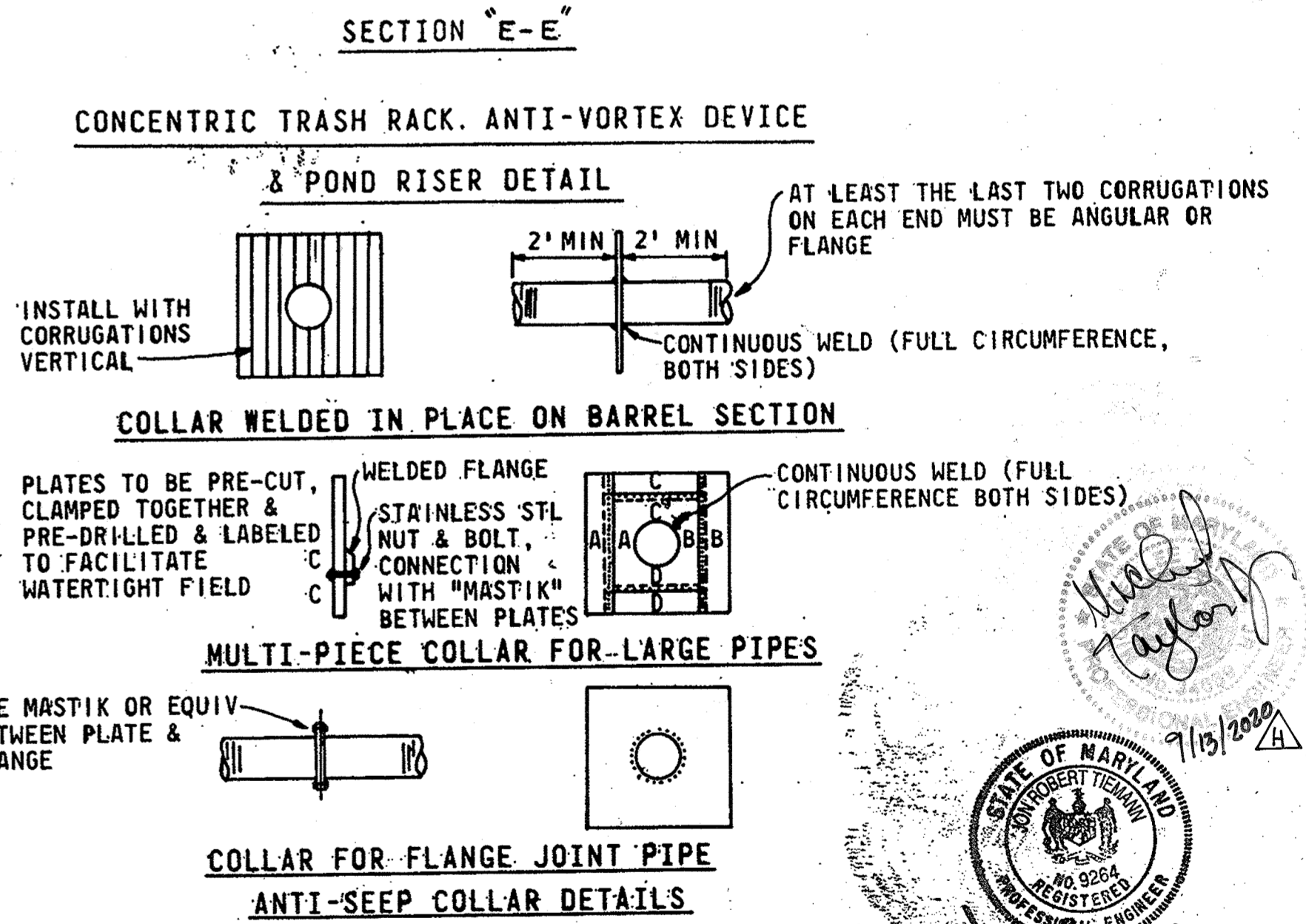
ELEVATION: SECT "J-J"  
SCALE: 1"=5'-0"



RENO MATTRESS DETAIL  
NO SCALE



CONCENTRIC TRASH RACK, ANTI-VORTEX DEVICE  
AND POND RISER DETAIL (SEDIMENT CONTROL PHASE)



CONCENTRIC TRASH RACK, ANTI-VORTEX DEVICE  
& POND RISER DETAIL

COLLAR FOR FLANGE JOINT PIPE  
ANTI-SEEP COLLAR DETAILS

ELECTION DISTRICT NO. 1  
HOWARD CO  
TAX MAP 31  
PARCEL 557 LOT

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.  
DI DIRECTOR: *James G. ...* DATE: 3/20/92  
CHIEF, BUREAU OF ENGINEERING: *...* DATE: 2-18-92

APPROVED: HOWARD COUNTY, THE DEPARTMENT OF PLANNING AND ZONING  
PLANNING DIRECTOR: *...* DATE: 3/27/92  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: *Richard Blood* DATE: 2/27/92

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT  
*Joselyn ...* COUNTY HEALTH OFFICER DATE: 3-24-92

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 DATE: 2/12/92

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
APPROVED: *Robert J. John* 2/10/92  
HOWARD S. C. D. DATE

CERTIFICATION BY THE ENGINEER  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*...* ENGINEER DATE: 8/9/91

CERTIFICATION BY THE DEVELOPER  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*David C. Wood* DEVELOPER DATE: 5/9/91

REFERENCE DWG  
500-403-E GRADING PLAN  
500-407-E SEDIMENT CONT PLAN  
500-410-E SED CONT & SWM SECTIONS

Rev	Date	J.O./Est. No.	Description	Approved	ENGINEERING
	1990	EC-1117 EC-1118 3787401.2	230-13KV SUBSTATION & 4-13KV FDRS #8381, 8382, 8383 & 8384		Civil: <i>...</i> Elec: <i>...</i> Proj. Engr. <i>...</i> Prin. Engr. <i>...</i> Supr. Engr. <i>...</i>
A	4-22-91	EC-1117 EC-1118 3787401.2	REV AS PER COUNTY INFORMATION	<i>WE</i>	
B	8/7/91	EC-1117 EC-1118 3787401.2	REV AS PER COUNTY INFORMATION	<i>ATC</i>	
C	11/7/91	EC-1117 EC-1118 3787401.2	REV AS PER COUNTY INFORMATION	<i>ATC</i>	
H	9-13-20		SWALE, STORM DRAIN & FENCE REPLACEMENT ADDED. SEE SHTS. 15-18		DESIGN GROUP Design: <i>...</i> Drawn: <i>...</i> Checked: <i>...</i> Appr. <i>...</i> Date: <i>...</i>

SHEET 9 OF 11 131418 45

File	Scale	Rev
Microfilmed Orig. D	NONE	C
Dwg. No.	500-408-E	



These specifications are appropriate to all ponds within the scope of the Standard for practices MD-57A. All references to ASTM and AASHTO specifications apply to the most recent version.

**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 reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

**Earth Fill**

**Material:** The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, or greater than 1/2 inch frozen or other objectionable materials. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

**Placement:** Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into 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 or compaction shall be achieved by a minimum of four

complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within ± 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be measured by AASHTO Method T-99.

**Cut Off Trench:** The cutoff trench shall be excavated into impervious material along or parallel to the crestline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

**Structure Backfill**

Backfill adjacent to pipes or structures 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 manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

**Pipe Conduits**

All pipes shall be circular in cross section.

**Corrugated Metal Pipe:** All of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bluminous coated and shall conform to the requirements of AASHTO Specification M-190 or M-211 with watertight coupling bands. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bluminous coating compound.

bluminous coating damaged or otherwise removed shall be replaced with cold applied bluminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon, Plast-Coat, Bio-Koat, and Bio-2-Lay. Coated composite steel pipe shall meet the requirements of AASHTO M-245 and M-246.

**Materials - (Aluminum Coated Steel Pipe)** - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bluminous coating compound.

**Materials - (Aluminum Pipe)** - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-190 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

**Coupling bands, anti-seep collars, end sections, etc.,** must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

**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. 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.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 48" in diameter: flanges on both ends of the pipe, a 12" wide standard lap band with 12" wide by 3/8" thick closed coil circular neoprene gasket; and a 12" wide lugger type band with 12" wide by 3/8" thick closed coil circular neoprene gasket having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 48" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed coil circular neoprene gasket will be installed on the end of each pipe for a total of 24".

Helically corrugated pipe shall have either continuously welded seams or have lock seams.

**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.

**Backfilling shall conform to "Structure Backfill."**

**Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.**

**Reinforced Concrete Pipe:** All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361. An approved equivalent is AWWA Specification C-302.
2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe to a depth of at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.
3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.

**Backfilling shall conform to "Structure Backfill."**

**Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.**

**Polyvinyl Chloride (PVC) Pipe:** All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
2. Joints and connections to anti-seep collars shall be completely watertight.

**Care of Water during Construction**

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

**Concrete**  
Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3

**Rock Riprap**  
All rock shall be dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering. The rock fragments shall be angular to subrounded in shape. The least dimension of an individual rock fragment shall be not less than one-third the greatest dimension of the fragment.

The rock shall have the following properties:

1. Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
2. Absorption not more than three percent.
3. Soundness: Weight loss in five cycles not more than 20 percent when sodium sulfate is used.

Bulk specific gravity and absorption shall be determined according to ASTM C 127. The test for soundness shall be performed according to ASTM C 88.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction, and Materials, Section 919.12.

**Erosion and Sediment Control**  
Construction operations will be carried out in such a manner that erosion will be controlled and water and pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans that detail erosion and sediment control measures to be employed during the construction process.

**NOTES:**

1. SITE ANALYSIS: TOTAL AREA OF SITE - 16.0 AC, AREA DISTURBED - 5.0 AC, AREA TO BE ROOFED OR PAVED - 3.4 AC, AREA TO BE VEGETATIVELY STABILIZED - 1.7 AC, TOTAL CUT - 13,500 CU YDS, TOTAL FILL - 10,900 CU YDS, OFFSITE WASTE/BORROW AREA LOCATION - ONSITE WASTE/BORROW AREA.
2. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (880-3450).
3. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE
4. 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.
5. ALL SEDIMENT TRAPS/DAYS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL 1 CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
6. 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 BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
7. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITE WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

**PERMANENT SEEDING NOTES**

SEEDBED PREPARATION: LOOSEN UPPER 3 INCHES OF SOIL BY RAKING DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING IF NOT PREVIOUSLY LOOSENED. (SEE NOTE #11 ABOVE).

SOIL AMENDMENTS:

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 UREA FORM 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 (0.5 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING:

APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE:

INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDING.

**TEMPORARY SEEDING NOTES**

SEEDBED PREPARATION: LOOSEN UPPER 3 INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING IF NOT PREVIOUSLY LOOSENED. (SEE NOTE #11 ABOVE).

SOIL AMENDMENTS:

APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) NOV. FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOV 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 (70-90 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.

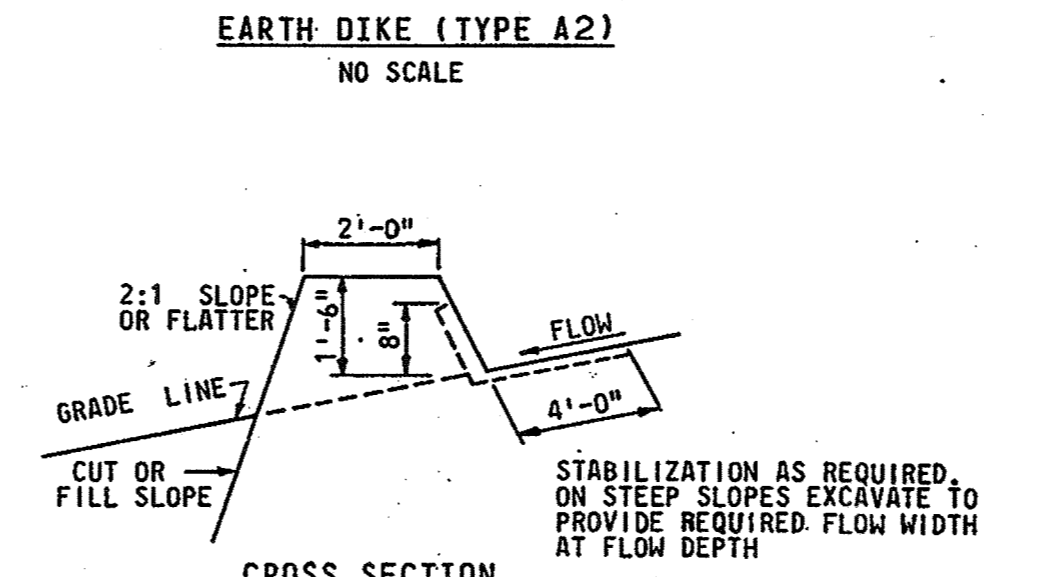
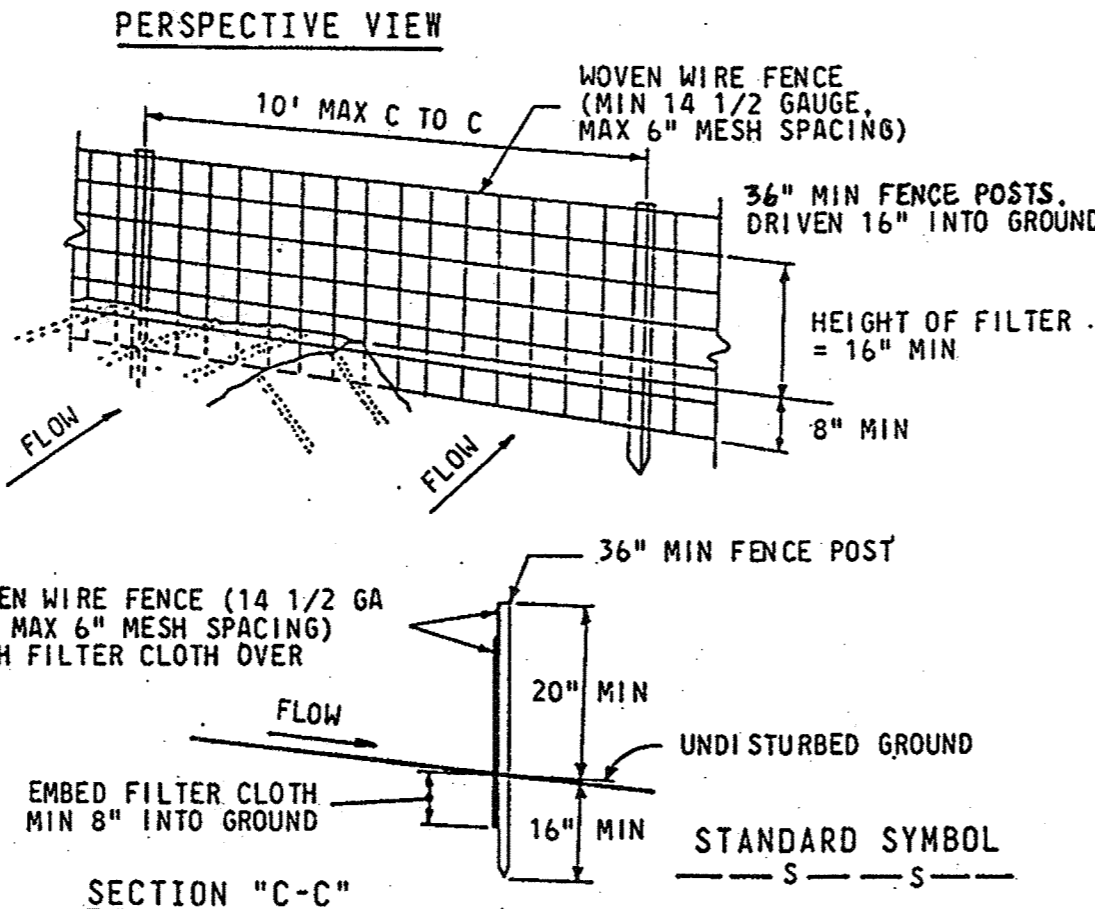
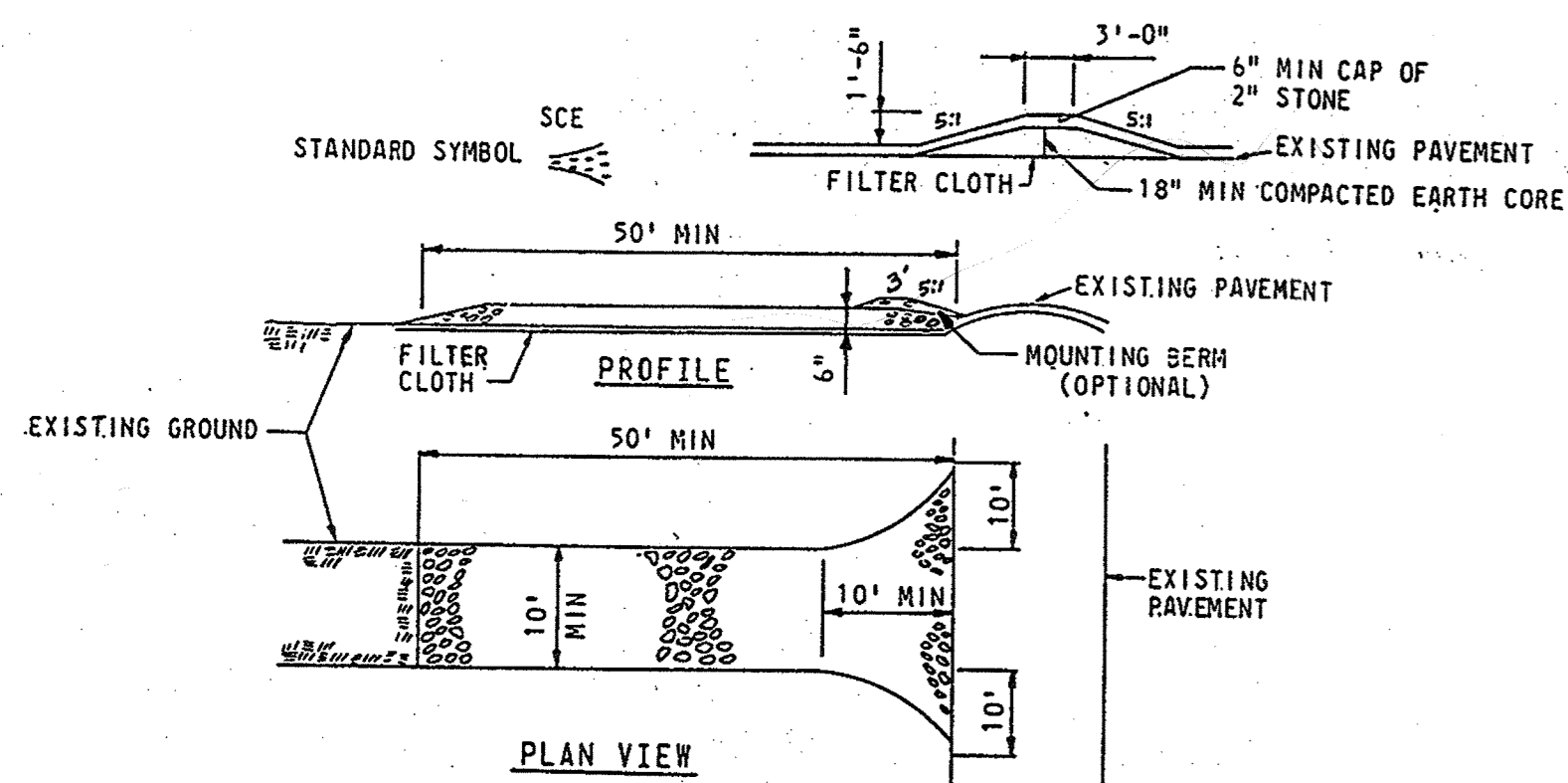
**SEQUENCE OF OPERATIONS**

1. OBTAIN REQUIRED PERMITS \_\_\_\_\_ 10/91
2. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS 24 HOURS PRIOR TO THE START OF CONSTRUCTION \_\_\_\_\_ 10/91
3. CLEAR AND GRUB FOR SEDIMENT CONTROLS \_\_\_\_\_ 10/91
4. INSTALL ALL SEDIMENT CONTROLS INCLUDING THE SEDIMENT CONTROL POND AND EARTH DIKE, EARTH DIKE, POND AND ASSOCIATED APPURTENANCES SHALL BE IMMEDIATELY STABILIZED WITH PERMANENT SEED & MULCH \_\_\_\_\_ 10/91
5. FINISH ANY NECESSARY CLEARING AND GRUBBING \_\_\_\_\_ 10/91
6. GRADE SITE LAY BASE COURSE AND STABILIZE WITH TEMPORARY SEEDING \_\_\_\_\_ 11/91
7. CONSTRUCT FACILITIES AND ROADWAY \_\_\_\_\_ 11/91
8. SEED AND MULCH EXPOSED AREAS WITH PERMANENT SEEDING \_\_\_\_\_ 7/92
9. ONCE SITE IS STABLE AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR \_\_\_\_\_ 8/92
  - a) REMOVE ACCUMULATED SEDIMENT FROM CONTROL STRUCTURES AND DISPOSE OF AS DIRECTED BY SEDIMENT CONTROL INSPECTOR.
  - b) REMOVE SEDIMENT CONTROLS.
  - c) PERFORM FINAL GRADING WHERE NECESSARY.
  - d) SEED AND MULCH AREAS DISTURBED BY SEDIMENT CONTROLS WITH PERMANENT SEEDING.

REFERENCE DWG 500-407-E SED CONT PLAN

Rev	Date	J.O./Est. No.	Description	Approved	ENGINEERING	SEDIMENT CONTROL NOTES & DETAILS
	1991	EC-1117 EC-1118 37874012	230-13KV SUBSTATION & 4-13KV FDRS #8381, 8382, 8383 8384		Civil Elec Proj. Engr Proj. Mgr Prin. Engr Supv. Engr	BG & E SUBSTATION HOWARD SERVICE CENTER 5130 ILCHESTER ROAD REVISED SITE DEVELOPMENT PLAN 230-34.5 & 230-13KV SUBSTATION
A	11/7/91	EC-1117 EC-1118 37874012	REV PER COUNTY INFORMATION			HOWARD
H	9-13-20		SMALL, STORM DRAIN & FENCE REPLACEMENT ADDED. SEE SITS. 15-18			BALTIMORE GAS AND ELECTRIC COMPANY ELECTRIC SYSTEM ENGINEERING

**POND 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.

- 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 OVERLAPPED 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 MIRAFL 100X, STABILINKA T140N OR APPROVED EQUAL.  
PREFABRICATED UNIT: GE OR AB, ENVIRONMENT, OR APPROVED EQUAL.

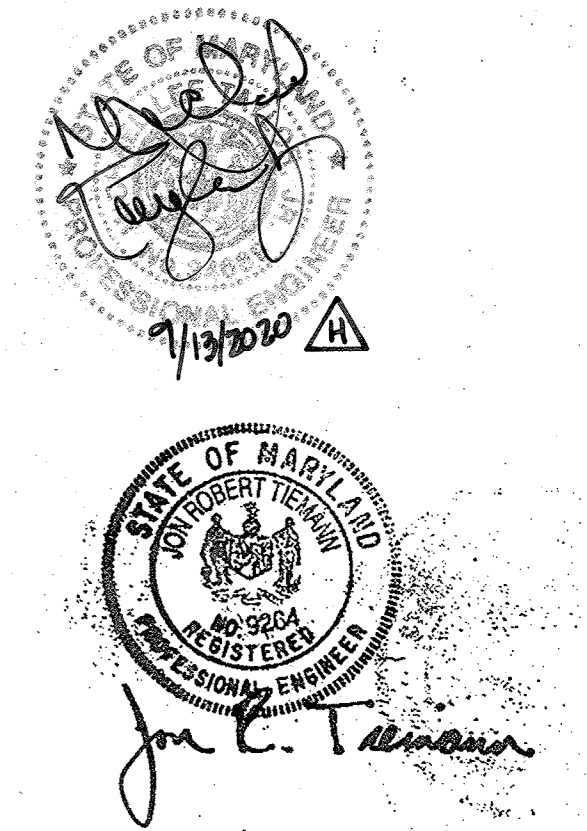
**CONSTRUCTION SPECIFICATIONS**

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 CHART BELOW.

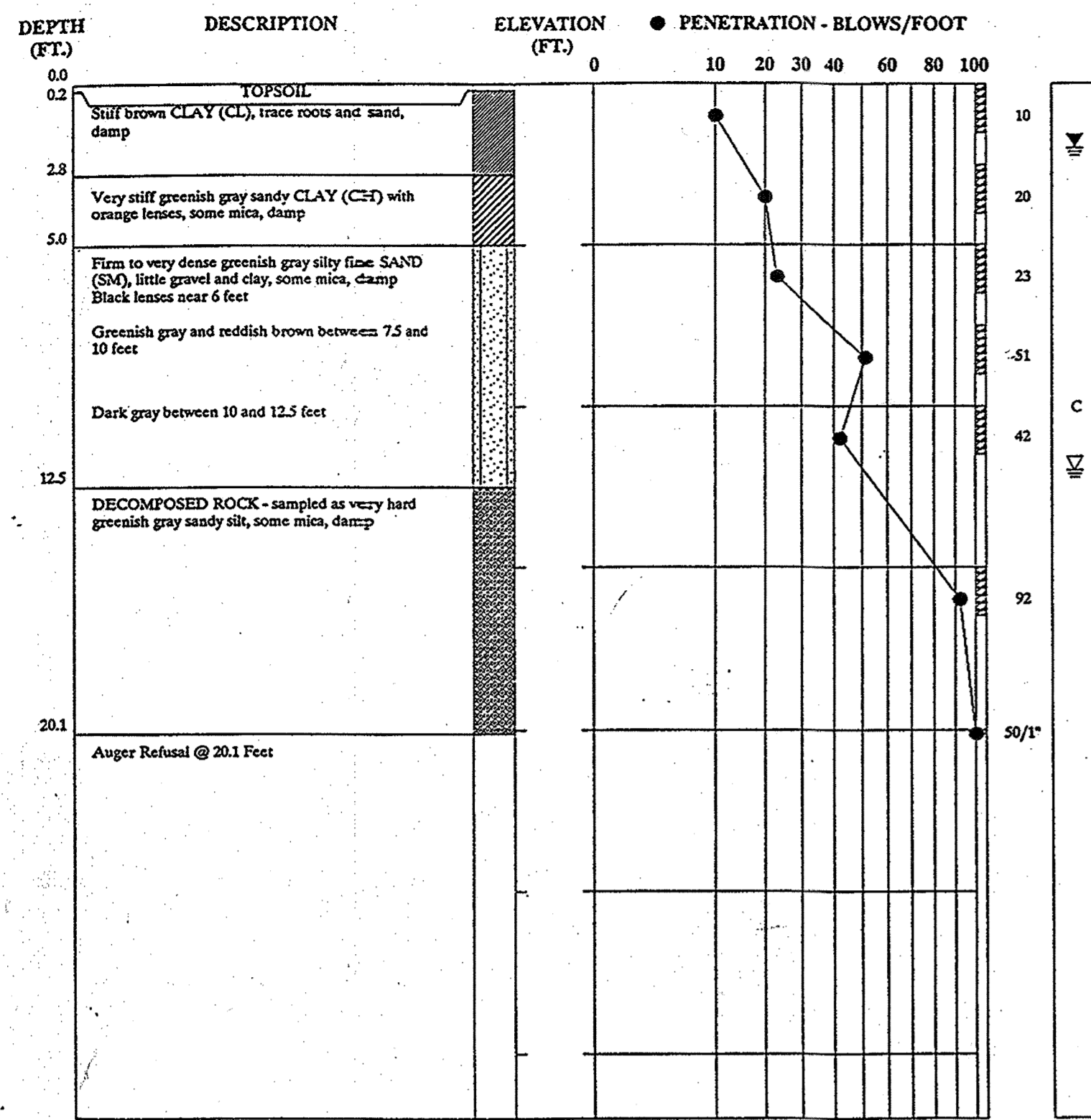
TYPE OF TREATMENT	FLOW CHANNEL GRADE	DIKE A
1	-5.3-.0%	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE
4	8.1-20%	LINED RIP-RAP 4-8"

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.

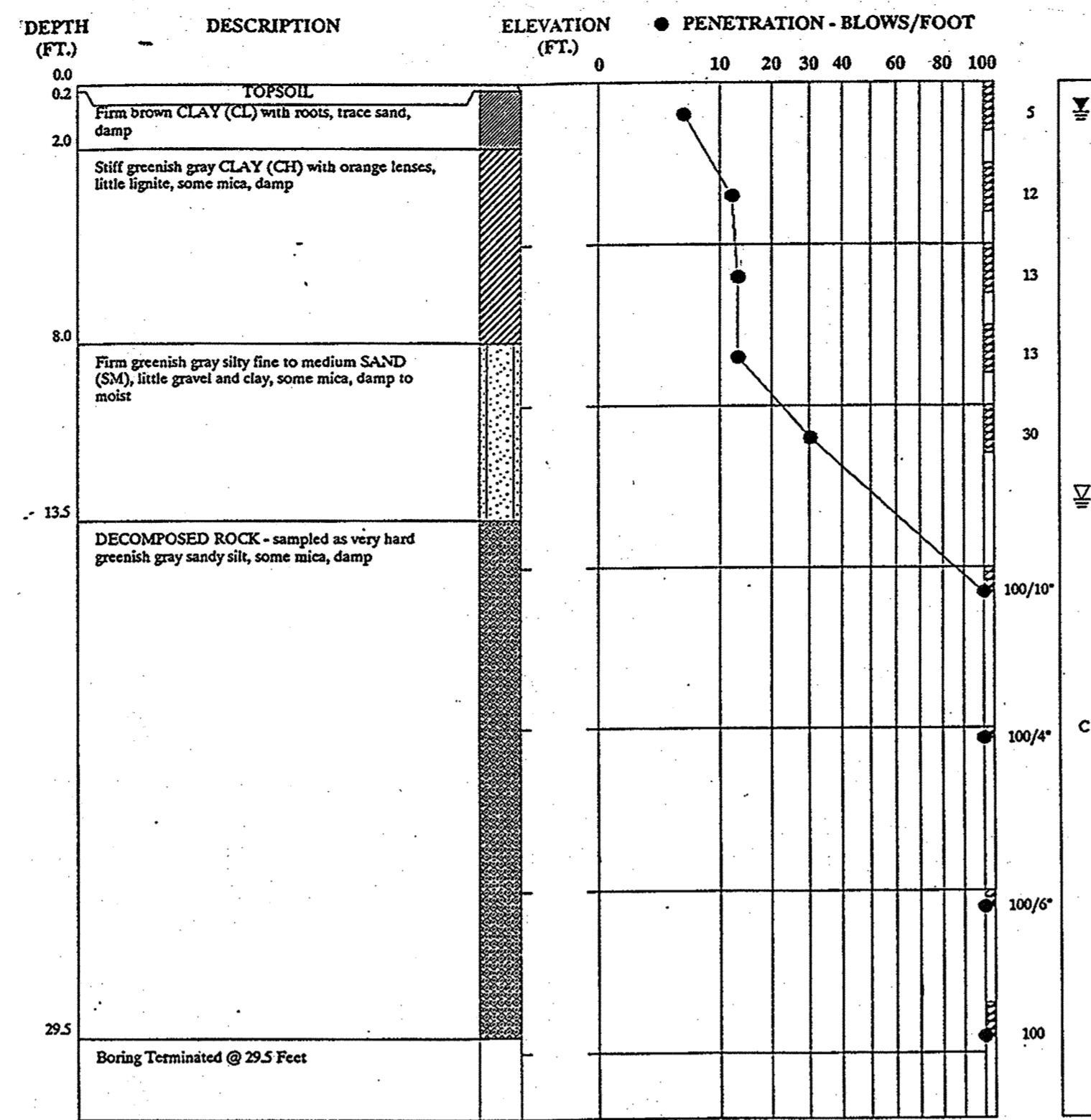
ELECTION DISTRICT NO. 1 HOWARD CO TAX MAP 31 PARCEL 557 LOT	APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS DIRECTOR: <i>James P. Shaw</i> DATE: 3/20/92 CHIEF, BUREAU OF ENGINEERING: <i>Richard E. Ryan</i> DATE: 2-18-92	APPROVED: HOWARD COUNTY, THE DEPARTMENT OF PLANNING AND ZONING PLANNING DIRECTOR: <i>Joseph H. Smith</i> DATE: 3/27/92 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: <i>Richard Blood</i> DATE: 3/27/92	APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT COUNTY HEALTH OFFICER: <i>Joan J. Wood</i> DATE: 3-24-92
	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. APPROVED: <i>Robert J. Zich</i> DATE: 2/12/92 HOWARD S.C.E. DATE	THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. APPROVED: <i>Robert J. Zich</i> DATE: 2/12/92 HOWARD S.C.E. DATE	I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. APPROVED: <i>Joan R. Tamman</i> DATE: 12/10/91 ENGINEER







TEST BORING RECORD	
BORING NUMBER	B-29
DATE DRILLED	December 17, 1990
PROJECT NUMBER	B0-1108
PROJECT	BG & E Howard Substation
PAGE 1 OF 1	



TEST BORING RECORD	
BORING NUMBER	B-30
DATE DRILLED	December 17, 1990
PROJECT NUMBER	B0-1108
PROJECT	BG & E Howard Substation
PAGE 1 OF 1	

**SITE VEGETATION**

The site was divided, in the field, into different vegetation units or plant communities. Four vegetation units were identified on the site. Two were identified as having wetland characteristics, while two vegetation units were identified as having non-wetland (upland) characteristics. Limits of the vegetation units are shown on the plan prepared by Spotts, Steven and McCoy, Inc. Area estimates for each unit have been calculated by means of computer interpolation (Digitizing). The following discussion details characteristics of each vegetation unit.

The Meadow Non-Wetland vegetation unit comprises approximately 60.3 percent or 20.05 acres of the total study area acreage. The dominant herbaceous species in this vegetation unit are grass, dogbane, English plantain, wild carrot, poison ivy and virginia creeper. Shrubs and tree species were generally absent. All of this vegetation unit has been mowed this season.

The Meadow Wetland vegetation unit comprises approximately 0.4 percent or 0.13 acres of the total study area acreage. The dominant herbaceous species found in this unit are Cyperus strigosus, beggars tick and arrow leaf tear thumb. No tree or shrub species were found in this unit.

The Forested Non-Wetlands vegetation unit comprises approximately 33.8 percent or 11.23 acres of the total study area acreage. This vegetation unit is found adjacent to the forested wetlands and along Bonnie Branch Road. The dominant herbaceous species in this vegetation unit are American beech, beechdrops, tulip poplar, eulalia grass and spicebush. Lesser amounts of white ash, white oak, Japanese honeysuckle and musclewood were found through-out this vegetation unit.

The Forested Wetlands vegetation unit comprises approximately 6.0 percent or 1.97 acres of the total study area acreage. This vegetation unit is found adjacent to two small streams and a drainage ditch along Bonnie Branch Road. The dominant herbaceous species in this unit, along the streams, are jewelweed, eulalia grass, and false nettle. Dominant shrub species include spicebush and elderberry. Hydrophytic tree species were generally lacking. Most trees covering this area are located outside the wetlands. The dominant herbaceous species found in the road ditch are halberdleaf tear thumb, jewelweed and eulalia grass.

Table 4-1 lists in detail the vegetation identified on site, each plant's wetlands rating and the type of area in which the plant was recorded.

**TABLE 4-1 COMPREHENSIVE SITE VEGETATION LIST**

SCIENTIFIC NAME	COMMON NAME	USFWS RATING	HABITAT WET UP
Acer negundo	Box elder	FAC+	X
Acer rubrum	Red maple	FACU	X
Achillea millefolium	Yarrow	FACU	X X
Arisaema triphyllum	Jack-in-the-pulpit	FACW-	X X
Asclepias incarnata	Swamp milkweed	OBL	X X
Asclepias syriaca	Common milkweed	NL	X X
Boehmeria cylindrica	False nettle	FACW+	X X
Carpinus caroliniana	Musclewood	FACU	X X
Cornus florida	Flowering dogwood	FACU-	X X
Cyperus strigosus	Straw-colored sedge	FACW	X X
Daucus carota	Wild carrot	NL	X X
Epifagus virginiana	Beechdrops	NL	X X
Eulalia viminea	Eulalia grass	FACU	X X
Fagus grandifolia	American beech	FACU	X X
Fraxinus americana	White ash	FACU	X X
Impatiens capensis	Jewelweed	FACW	X X
Lindera benzoin	Spicebush	FACW-	X X
Liriodendron tulipifera	Yellowpoplar	FACU	X X
Lonicera japonica	Japanese honeysuckle	FAC-	X X
Oxalis europaea	Yellow wood sorrel	NL	X X
Oxalis montana	Wood sorrel	FAC-	X X
Parthenocissus quinquifolia	Virginia creeper	FACU	X X
Pilea pumila	Clearweed	FACW	X X
Plantago lanceolata	English plantain	NL	X X
Poa spp.	Grass		X X
Polygonum arifolium	Halberdleaf tear thumb	OBL	X X
Polygonum persicaria	Lady's thumb	FACW	X X
Polygonum sagittatum	Arrowleaf tear-thumb	OBL	X X
Polygonum virginianum	Virginia knotweed	FACU	X X
Quercus alba	White oak	FACU	X X
Sambucus canadensis	Elderberry	FACW-	X X
Solanum carolinense	Horse nettle	NL	X X
Toxicodendron radicans	Poison ivy	FACU	X X
Vernonia noveboracensis	NY ironweed	FACW+	X X

**Definitions of USFWS Ratings**

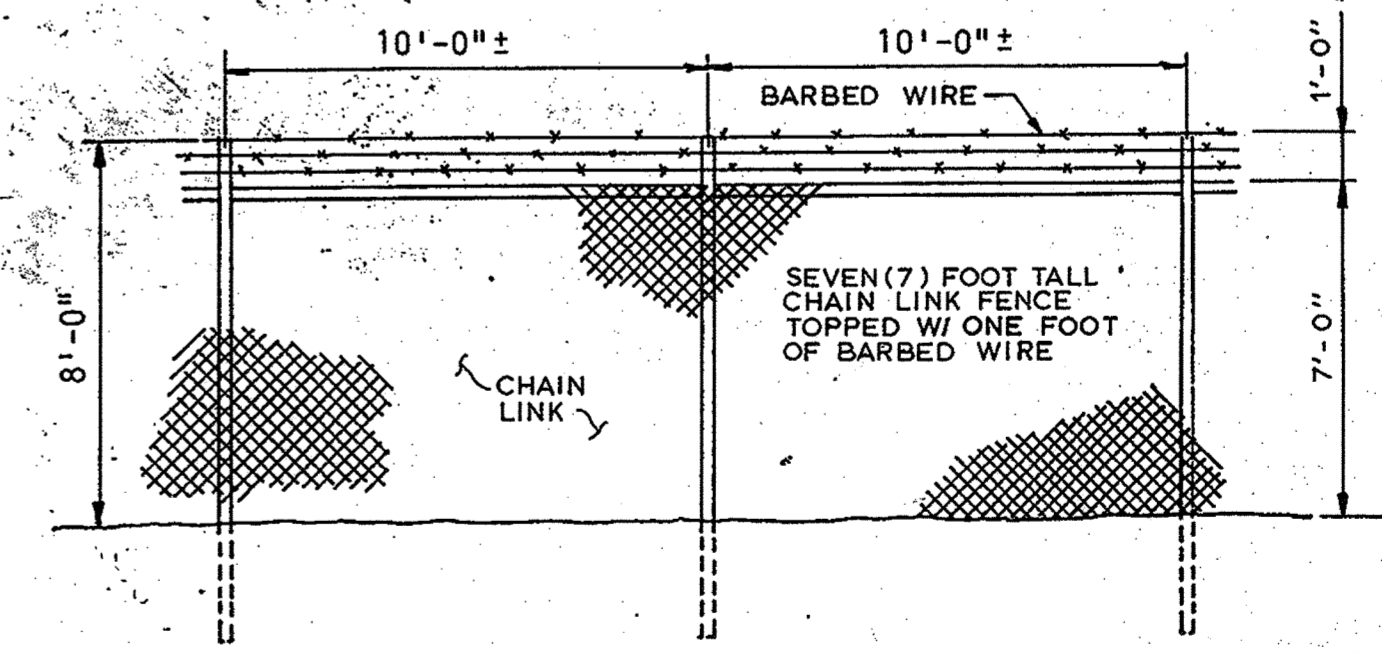
- OBL** Obligate - Always found in wetlands under natural (not planted) conditions (frequency greater than 99%) but may persist in non-wetlands if planted there by man or in wetlands that have been drained, filled or otherwise transformed into non-wetlands.
  - FACW** Facultative Wetland - Usually found in wetlands (67%-99% frequency) but occasionally found in non-wetlands.
  - FAC** Facultative - Sometimes found in wetlands (34%-66% frequency) but also occurs in non-wetlands.
  - FACU** Facultative Upland - seldom found in wetlands (1%-33% frequency) and usually occurs in non-wetlands.
  - UPL** Upland - Not found in wetlands (<1% frequency) in this region.
  - NC** Species recently added to the Regional list.
  - NL** Species not listed on the 1988 Wetland Plant List.
  - A negative sign following the USFWS rating indicates a species less frequently found in wetlands.
  - + A positive sign following the USFWS rating indicates a species more frequently found in wetlands.
- All ratings are taken from the National List of Plant Species That Occur In Wetlands: Northeast (Region 1), 1988.

**SPECIAL EXCEPTION CONDITIONS FROM JUNE 11, 1991 HOWARD SUBSTATION ZONING HEARING (BA-91-E)**

- THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATIONS AND GUIDELINES, INCLUDING, BUT NOT LIMITED TO, THOSE PERTAINING TO LIMITATIONS ON NOISE LEVELS.
- THE PETITIONER SHALL SUBMIT A SITE DEVELOPMENT PLAN TO THE DEPARTMENT OF PLANNING AND ZONING WITHIN SIX (6) MONTHS OF THE DATE OF THIS ORDER.
- THE SPECIAL EXCEPTION IS LIMITED TO THE INSTALLATION AND OPERATION OF THE EQUIPMENT AS DESIGNATED ON THE PETITIONER'S EXHIBIT NUMBER ONE, AND NOT TO ANY OTHER BUILDINGS, STRUCTURES, ADDITIONS OR USES; ANY OTHER FUTURE TRANSFORMERS, CAPACITORS, STRUCTURES, ADDITIONS, ACTIVITIES, OR EQUIPMENT NOT INDICATED ON PETITIONER'S EXHIBIT NUMBER ONE ARE NOT APPROVED AND ARE NOT A PART OF THIS GRANTED SPECIAL EXCEPTION.
- THE PETITIONER SHALL COMPLY WITH TESTIMONY PRESENTED AND CONSULT WITH THE VICINAL PROPERTY OWNERS TO DEVELOP AN AGREED UPON LANDSCAPING PLAN FOR THE SCREENING OF THE SITE; HOWEVER, AT MINIMUM, THE SITE SHALL BE SCREENED FROM THE VICINAL PROPERTIES BY A STAGGERED DOUBLE LINE OF EVERGREEN TREES AT LEAST SIX (6) FEET TALL TO BE PLANTED AND MAINTAINED FOR THE LIFE OF THE SPECIAL EXCEPTION ALONG THE NORTHERN AND SOUTHWESTERN LOT LINES. FOR SAFETY PURPOSES, THERE SHALL BE BREAK IN THE SCREENING IN FRONT OF THE STORM WATER MANAGEMENT POND, SO AS TO CREATE A LINE OF SIGHT FROM THE OFFICE BUILDING INTO THE STORM WATER MANAGEMENT AREA.
- THE PETITIONER SHALL COMPLY WITH TESTIMONY PRESENTED AND SURROUND THE PROPOSED STORM WATER MANAGEMENT POND WITH A SEVEN (7) FOOT TALL CHAIN LINK FENCE TOPPED WITH A ONE (1) FOOT OF BARBED WIRE; SAID FENCE SHALL COMPLY WITH THE DEPARTMENT OF PUBLIC WORKS REQUIREMENTS FOR ACCESS TO THE STORM WATER MANAGEMENT POND.
- THE PETITIONER SHALL COMPLY WITH TESTIMONY PRESENTED AND PAINT THE LIGHTNING MASTS THROUGHOUT THE SITE SKY BLUE IN COLOR.
- THE PETITIONER SHALL COMPLY WITH TESTIMONY PRESENTED AND PAINT THE PROPOSED SWITCHGEAR BUILDING THEREIN A NEUTRAL, "DESERT TAN" IN COLOR.
- THE PETITIONER SHALL COMPLY WITH TESTIMONY PRESENTED AND LIMIT THE NOISE EMANATING FROM THE FACILITY TO NO LOUDER THAN FIFTY (50) DECIBELS AT THE PROPERTY LINE.

**GRADING NOTES**

- GRADING:** DOTTED CONTOUR LINES INDICATE EXISTING TOP OF GRADE. SOLID CONTOUR LINES INDICATE NEW TOP OF FINISH GRADE. ALL FILL TO BE WELL COMPACTED TO 95% OF MAXIMUM DENSITY (ASTM D1557-70).
- FENCE:** TO BE CHAIN LINK CONSTRUCTION WITH AN OVERALL HEIGHT OF 8'-0" CONSISTING OF 7'-0" OF FABRIC WITH THREE (3) STRANDS OF BARBED WIRE TURNED OUT.
- STONE AREA:** FENCED IN AREA OR AS NOTED TO BE COVERED WITH 4" OF STONE COVER OVER NEW GRADE. STONE COVER GRADUATION SHALL BE IN ACCORDANCE WITH MARYLAND STATE HIGHWAY ADMINISTRATION SHA-4. STONE SHALL BE GRAY IN COLOR WITH A LOS ANGELES ABRASION RATING LESS THAN 50%.
- ROADWAY:** COMPACT SUBGRADE TO 95% DENSITY AS DETERMINED BY ASTM -1557-70. INSTALL 8" OF CR-467 CRUSHED STONE BASE IN TWO LIFTS AND COMPACT EACH LIFT WITH A 10 TON ROLLER. INSTALL 2" BITUMINUS BINDER COURSE (BI BAND). INSTALL 1" BITUMINUS CONCRETE SURFACE (SN BAND) AS PER MARYLAND STATE HIGHWAY ADMINISTRATION SPEC.
- CONSTRUCTION FORCES SHALL MINIMIZE THE DESTRUCTION OF TREES AND OTHER VEGETATION WHEREVER POSSIBLE.
- HOWARD SUBSTATION IS AN UNATTENDED SUBSTATION AND NO PERMANENT EMPLOYEES WILL BE STATIONED ON THE PREMISES.
- NO WATER SERVICE, SANITARY SEWAGE SERVICE, SUBSURFACE STORM DRAINAGE OR OTHER PLUMBING WILL BE REQUIRED OR INSTALLED.
- BENCH MARK:** TOP OF CONCRETE MON EL 471.65' LOCATED C. OF TOWER NO. 288, SOUTHEAST CORNER OF PROPERTY.



REFERENCE DWGS 500-401-E SITE DEVELOPMENT 500-403-E GRADING PLAN

ELECTION DISTRICT NO. 1 HOWARD CO TAX MAP 31 PARCEL 557 LOT	APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. DI RECTOR: <i>James M. Linn</i> DATE: 3/27/92	APPROVED: HOWARD COUNTY, THE DEPARTMENT OF PLANNING AND ZONING PLANNING DIRECTOR: <i>James M. Linn</i> DATE: 3/27/92	APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT COUNTY HEALTH OFFICER: <i>John R. Tramm</i> DATE: 3-24-92
	CHIEF, BUREAU OF ENGINEERING: <i>Robert J. Ziehm</i> DATE: 2-18-92	CHIEF, DIVISION OF LAND DEVELOPMENT: <i>Richard Blood</i> DATE: 3/27/92	
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	THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. APPROVED: <i>Robert J. Ziehm</i> 2/18/92 HOWARD S.C. DATE	CERTIFICATION BY THE ENGINEER I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. <i>John R. Tramm</i> 8/9/91 ENGINEER DATE	CERTIFICATION BY THE DEVELOPER I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. <i>David C. Wood</i> 8/9/91 DEVELOPER DATE

Rev	Date	J.O./Est. No.	Description	Approved
	1991	EC-1117 EC-1118 37874012	230-13KV SUBSTATION & 4-13KV FDRS #8381, 8382, 8383 8384	
A	11/7/91	EC-1117 EC-1118 37874012	REV AS PER COUNTY INFORMATION ATC	
H	9-13-20		SWALE, STORM DRAIN & FENCE REPLACEMENT ADDED. SEE SHTS. 15-18	

ENGINEERING	Civil.....	Elect.....	Proj. Engr.....	Prin. Mgr.....	Prin. Engr.....	Supv. Engr.....
DESIGN GROUP	Designer.....	Drawn.....	Checked.....	Appd.....	Date Appd.....	

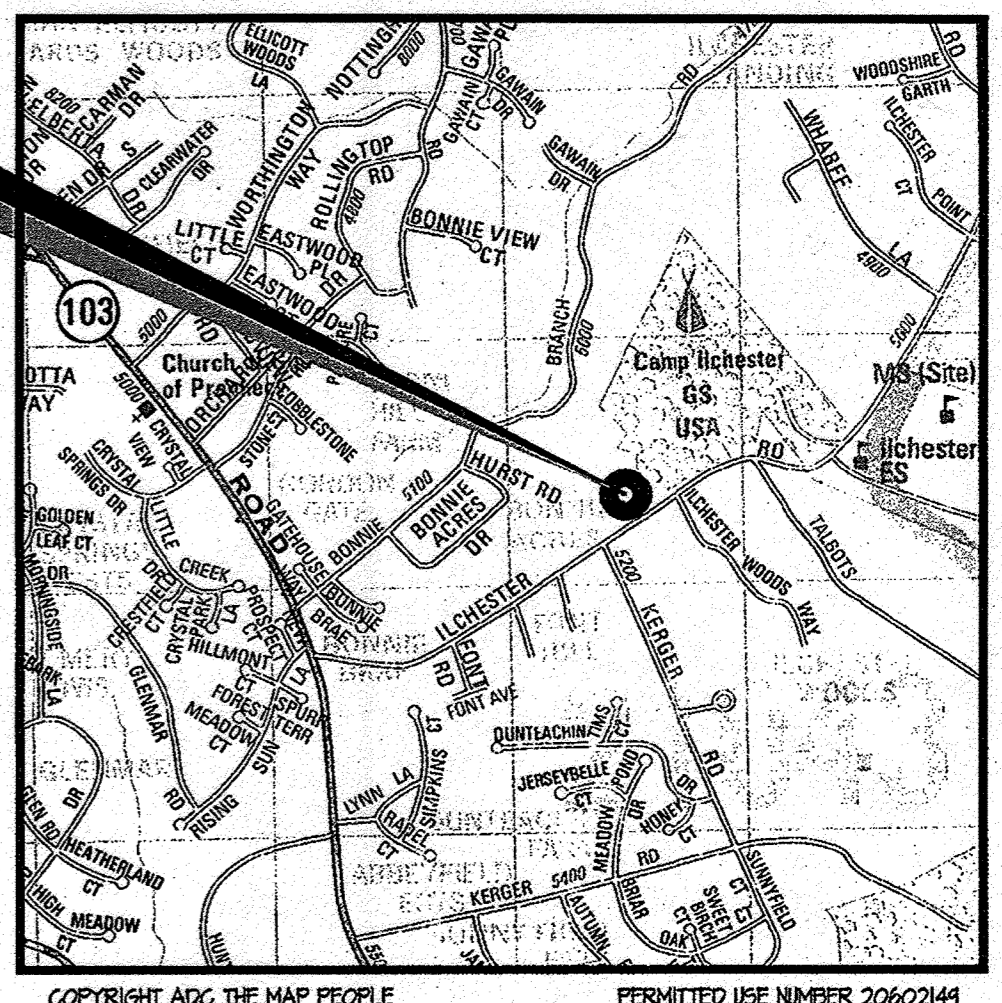
MISC DETAILS & NOTES	BG & E SUBSTATION	HOWARD SERVICE CENTER	5130 ILCHESTER ROAD	REVISED SITE DEVELOPMENT PLAN	230-34.5 & 230-13KV SUBSTATION	HOWARD
BALTIMORE GAS AND ELECTRIC COMPANY	ELECTRIC SYSTEM ENGINEERING	File	Scale NONE	Rev.	Microfilmed	Dwg. 500-412-E



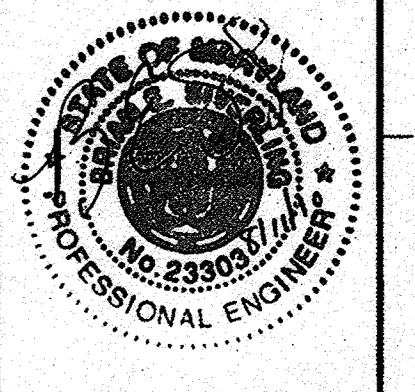
A B C D E F G H J K L M N P Q R

**EXISTING SITE ELEMENTS**

PROPOSED GRAVEL AREA	
PROPOSED LIMIT OF DISTURBANCE	
1' CONTOUR LINE	
5' CONTOUR LINE	
CHAIN LINK FENCE	
PROPOSED ELECTRIC	
PROPOSED TELEPHONE	
LIGHT POLE	
UTILITY POLE	



**MRA**  
**MORRIS & RITCHE ASSOCIATES, INC.**  
 Civil/Structural Engineers  
 1200-C East Joppa Road, Suite 606  
 Towson, Maryland 21286  
 410-582-1000  
 410-582-1748 Fax



**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23903, EXPIRATION DATE: 07/01/2010.

**PURPOSE NOTE:**  
 THE PURPOSE OF THE REVISED SDP, DATED 2/14/08 BUT APPROVED 4/9/10 IS TO ADD A VERIZON WIRELESS EQUIPMENT SHELTER, MONOPOLE & GRAVEL COMPOUND AS WELL AS SHEETS 12 & 13 TO THIS SDP.

**VICINITY MAP**  
 NOT TO SCALE

**SITE NOTES:**

1. APPLICANT: VERIZON WIRELESS  
 4000 JUNCTION DRIVE  
 ANNAPOLIS JUNCTION, MD 20701  
 TEL: (801) 512-2000  
 FAX: (801) 512-2106
2. APPLICANT'S ATTORNEY: JAY LOSE  
 VENABLE LLP  
 750 EAST PRATT STREET  
 BALTIMORE, MARYLAND 21202  
 (410) 538-2801
3. PROPERTY OWNER: BALTIMORE GAS & ELECTRIC CO  
 ATTN: TAX ACCOUNTING  
 PO BOX 1475  
 BALTIMORE, MARYLAND 21205-1475
4. SITE DATA: MAP: 51, PARCEL: 957  
 DEED REF: 1) 1407/481  
 2) 2300/388  
 PARCEL ID: 14C158-422  
 TRACT AREA: 185.96 ACRES  
 DISTRICT: C1  
 ADDRESS: 5150 ILCHESTER ROAD  
 ELICOTT CITY, 21048  
 EXISTING USE: TELECOMMUNICATIONS
5. ZONING: R-20
6. HORIZONTAL AND VERTICAL CONTROL SHOWN HEREON IS BASED ON A GPS LATITUDE BY MORRIS & RITCHE ASSOCIATES, INC. DATED JANUARY 2008.  
 LATITUDE: N84° 19' 51.25"  
 LONGITUDE: W74° 46' 51.82"  
 GROUND ELEVATION: 455.0' AML (AVG.)  
 PROPOSED STRUCTURE HEIGHT: 215.00' AGL / 671.00' AML
7. TOTAL DISTURBED AREA = 3305 SF
8. THE PROPOSED FACILITIES WILL CONSIST OF ONE (1) 20' LONG x 11'-2" WIDE x 10'-2" HIGH UNCOUPLED COMMUNICATIONS EQUIPMENT WITHIN A 20'x20' GRAVEL AREA. FIFTEEN (15) ANTENNAS SHALL BE MOUNTED ON AN PROPOSED 215'-0" MONOPOLE WITH A RAD CENTER AT AN ELEVATION OF 16'-0" ABOVE GRADE LEVEL FOR THE RECEPTION OF VERIZON WIRELESS TELECOMMUNICATIONS.
9. THE STRUCTURE WILL NOT SUPPORT LIGHTS OR SIGNS UNLESS REQUIRED FOR AIRCRAFT WARNING OR OTHER SAFETY RECORDS.
10. THE APPLICANT WILL PROVIDE A CERTIFICATION FROM A REGISTERED ENGINEER THAT THE STRUCTURE WILL MEET THE APPLICABLE DESIGN STANDARDS FOR WIND LOADS, OF THE ELECTRONIC INDUSTRIES ASSOCIATES (EIA).
11. IF THE ANTENNAS ARE NO LONGER USED FOR TELECOMMUNICATIONS PURPOSES FOR A CONTINUOUS PERIOD OF ONE (1) YEAR, THEY SHALL BE REMOVED BY THE ANTENNA OWNER AT OWNER'S EXPENSE.
12. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THIS FACILITY.
13. STORMWATER MANAGEMENT NOTE: NO STORMWATER MANAGEMENT IS REQUIRED FOR THIS SITE.
14. THE EXTERIOR OF THE SHELTER SHALL BE A MASHED STONE FINISH.
15. BOUNDARY SHOWN PER COUNTY RECORDS. EXISTING SITE FEATURES SHOWN PER SURVEY BY MORRIS & RITCHE ASSOCIATES, INC. DATED JANUARY 2008.
16. THIS PLAN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. PLAN IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.
17. ALL DETAILS SHOWN ARE "STANDARD" OR "TYPICAL" FOR REFERENCE ONLY. FOR ACTUAL DETAILS, SEE ARCHITECTURAL, STRUCTURAL, OR CONSTRUCTION PLANS BY OTHERS.
18. STRUCTURAL ANALYSIS/DESIGN TO BE PERFORMED BY OTHERS AT CLIENT AND/OR OWNER'S DISCRETION PRIOR TO COMMENCEMENT OF ANY WORK.
19. THE COMMUNICATIONS SHELTER SHALL BE UNMANNED, WITH INFREQUENT VISITS (FOUR OR FEWER PER YEAR) BY MAINTENANCE PERSONNEL, AND WITH NO PARKING FOR MORE THAN ONE VEHICLE. THE PROPOSED FACILITY IS NOT FOR HUMAN HABITATION AND THEREFORE HANDICAP ACCESS IS NOT REQUIRED.
20. THE PROPOSED COMMUNICATIONS SHELTER, ANTENNAS AND RELATED MOUNTING DEVICES DO NOT EXCEED TWELVE (12) FEET IN TOTAL HEIGHT.
21. THESE PLANS COMPLY WITH THE CONDITIONS NOTED IN CONDITIONAL USE CASE BA-04-0286C

**GENERAL NOTES:**

1. CONTRACTOR SHALL NOTIFY "MISS UTILITY" (BU) 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS BY TEST PIT AS NECESSARY. LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. DAMAGE TO UTILITIES OR PROPERTY OF OTHER BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES, THE LATEST EDITION THEREOF.
3. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
4. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS.
5. THESE PLANS ARE NOT FOR RECORDATION OR CONVEYANCE.
6. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.

**verizon wireless**  
 BG & E SUBSTATION, HOWARD SERVICE CENTER  
 5150 ILCHESTER ROAD, ELICOTT CITY  
 HOWARD COUNTY, MARYLAND 21048

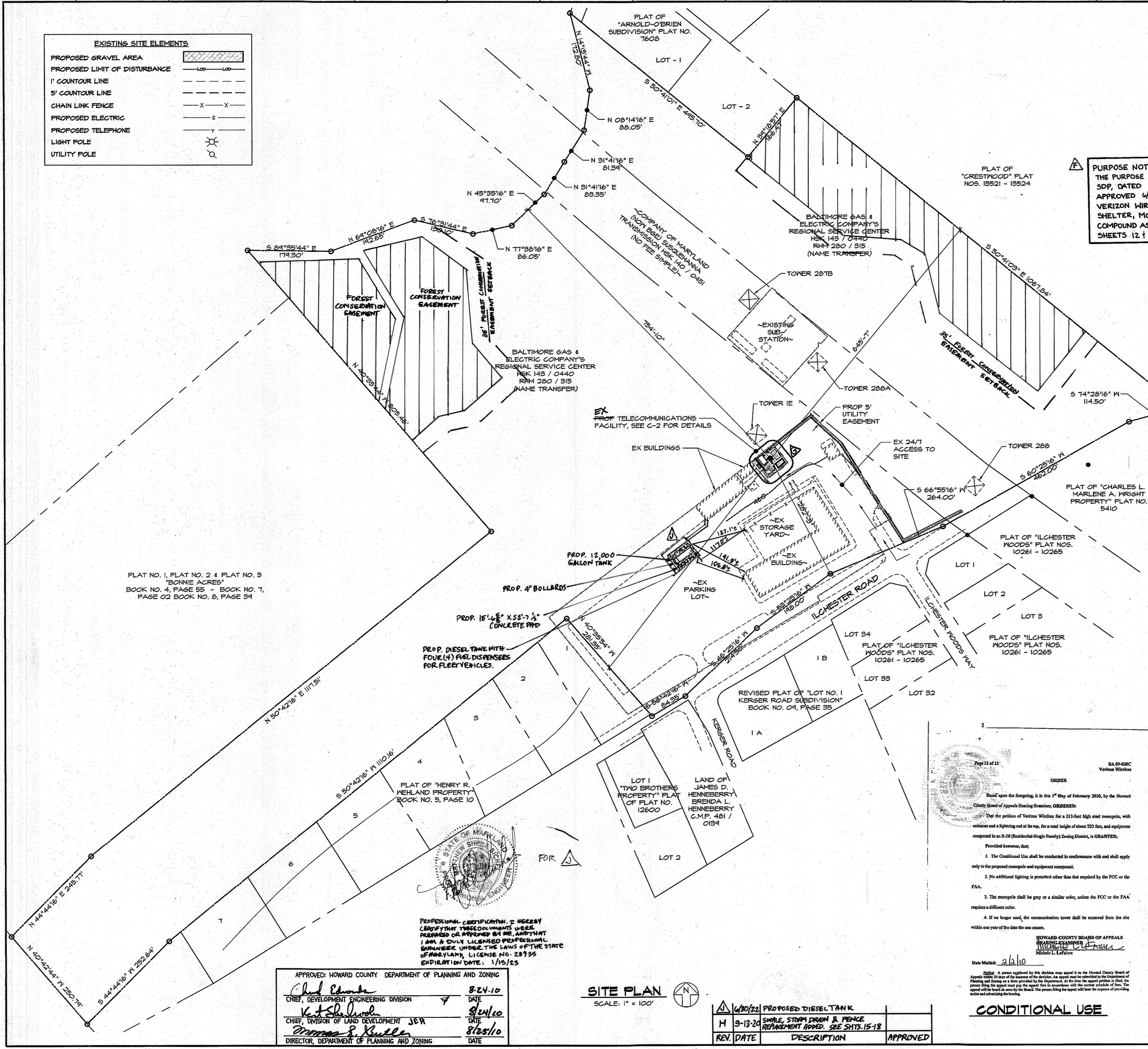
**REVISIONS:**

NO.	DESCRIPTION	DATE
1	ZONING DWGS	1/10/08
2	BGE COMMENTS	6/16/09
3	BGE REV./BID	1/19/10
4	PERMIT DWGS	3/23/10
5	PURPOSE NOTE	4/9/10
6	PERMIT EQUIPMENT SHEETS	2/8/12

**LAST REV.:**  
 PROJECT NO: 10427.478  
 DATE: JAN 9, 2008  
 SCALE: AS NOTED

**Title:**  
 Site Plan

**SHEET:**  
 C-1  
 SHEET 12 OF 14 & 18  
 SDP-01-111



**ORDER**  
 BA 09-038C  
 Verizon Wireless

Based upon the foregoing, it is this 1<sup>st</sup> Day of February 2010, by the Howard County Board of Appeals Hearing Examiner, ORDERED:

That the petition of Verizon Wireless for a 215-foot high steel monopole, with antennas and a lightning rod at its top, for a total height of about 223 feet, and equipment compound in an R-20 (Residential-Single Family) Zoning District, is GRANTED.

Provided however, that:

1. The Conditional Use shall be conducted in conformance with and shall apply only to the proposed monopole and equipment compound.
2. No additional lighting is permitted other than that required by the FCC or the FAA.
3. The monopole shall be grey or a similar color, unless the FCC or the FAA require a different color.
4. If no longer used, the communication tower shall be removed from the site within one year of the date the use ceases.

Dated this 26<sup>th</sup> day of February 2010.

HOWARD COUNTY BOARD OF APPEALS  
 HEARING EXAMINER  
 Michael L. LaVigne

**811**  
 Know what's below.  
 Call before you dig.

PROTECT YOURSELF, ONE THREE WORKING DAYS NOTICE

THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPLICABLE.

**CONDITIONAL USE**

DATE: 2/10/10

9/13/2010

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Edwards*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 8/24/10

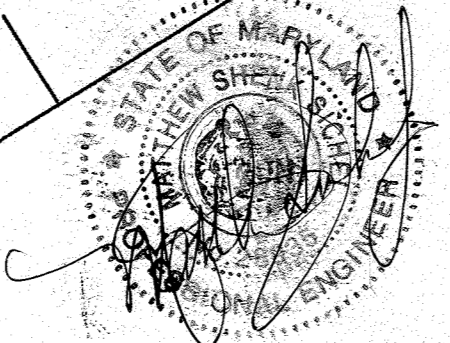
*K. J. Shulard*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 8/23/10

*Mamas S. Kuzler*  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING  
 DATE: 8/23/10

**SITE PLAN**  
 SCALE: 1" = 100'

REV.	DATE	DESCRIPTION	APPROVED
1	4/30/22	PROPOSED DIESEL TANK	
2	9-13-20	SMALL STORM DRAIN & FENCE REPLACEMENT ADDED. SEE SHTS. 15-18	

**PROFESSIONAL CERTIFICATION:** I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28795, EXPIRATION DATE: 1/15/25



PLAT NO. 1, PLAT NO. 2 & PLAT NO. 3  
 "BONNIE ACRES"  
 BOOK NO. 4, PAGE 55 - BOOK NO. 7,  
 PAGE 02 BOOK NO. 8, PAGE 54

PROP. 12,000 GALLON TANK  
 PROP. 4' BOLLARDS  
 PROP. 15'-6" X 52'-7 1/2" CONCRETE PAD  
 PROP. DIESEL TANK WITH FOUR (4) FUEL DISPENSERS FOR FLEET VEHICLES.

PLAT OF "HENRY R. WELAND PROPERTY"  
 BOOK NO. 5, PAGE 10

LOT 1 "TWO BROTHERS PROPERTY"  
 PLAT NO. 12600

LAND OF JAMES D. HENNEBERRY  
 BRENDA L. HENNEBERRY  
 C.M.P. 481 / 0134

REVISED PLAT OF "LOT NO. 1 KERGER ROAD SUBDIVISION"  
 BOOK NO. 09, PAGE 35

PLAT OF "ILCHESTER WOODS"  
 PLAT NOS. 10261 - 10265

PLAT OF "CHARLES L. & MARLENE A. WRIGHT PROPERTY"  
 PLAT NO. 5410

EX. PROP. TELECOMMUNICATIONS FACILITY, SEE C-2 FOR DETAILS

EXISTING SUB-STATION

PROP. 5' UTILITY EASEMENT

EX. 24/7 ACCESS TO SITE

EX. STORAGE YARD

EX. BUILDINGS

EX. PARKING LOT

EX. BUILDINGS

EX. STORAGE YARD

EX. BUILDINGS

EX. PARKING LOT

EX. BUILDINGS

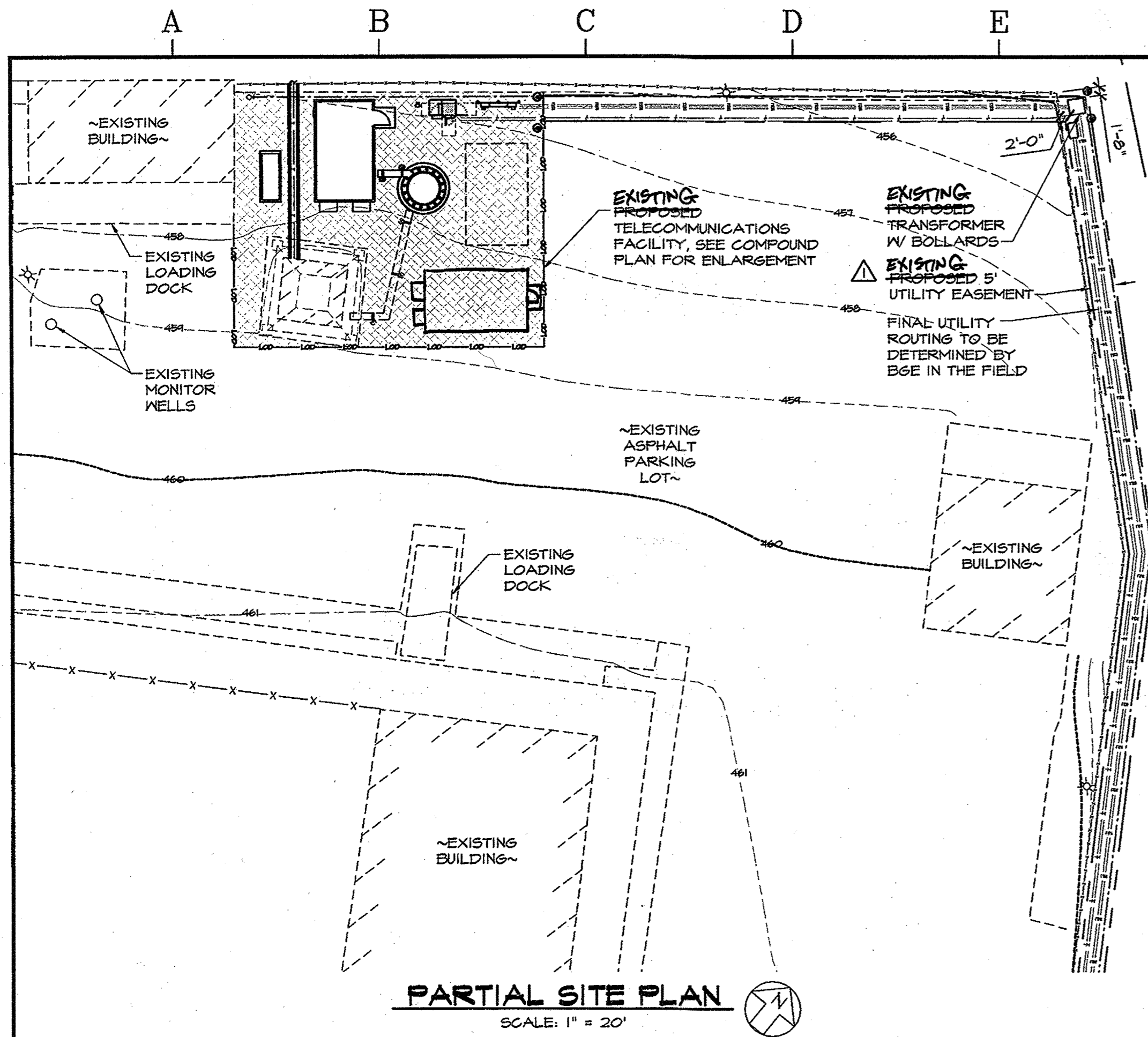
EX. STORAGE YARD

EX. BUILDINGS

EX. PARKING LOT

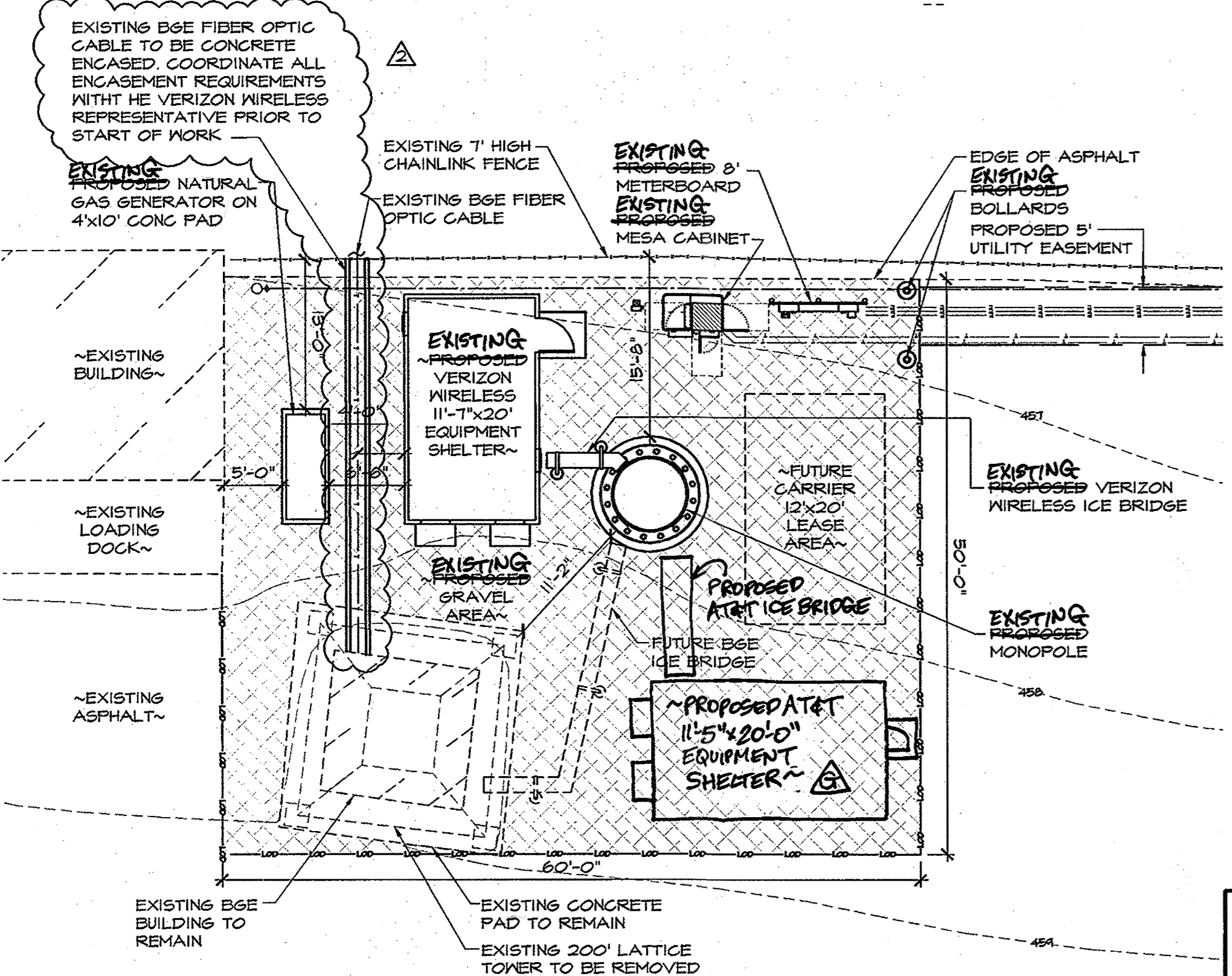
EX. BUILDINGS



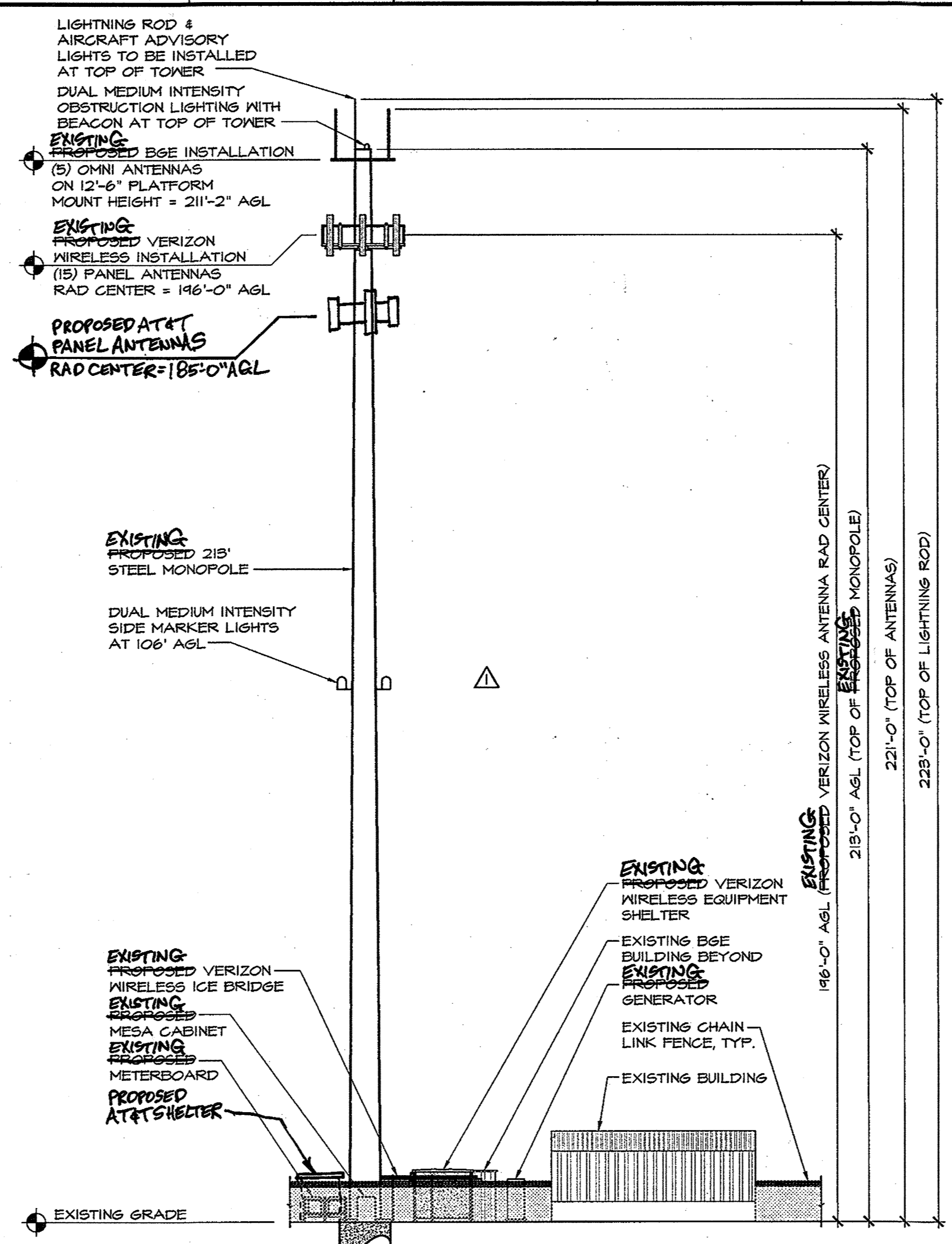


**PARTIAL SITE PLAN**  
SCALE: 1" = 20'

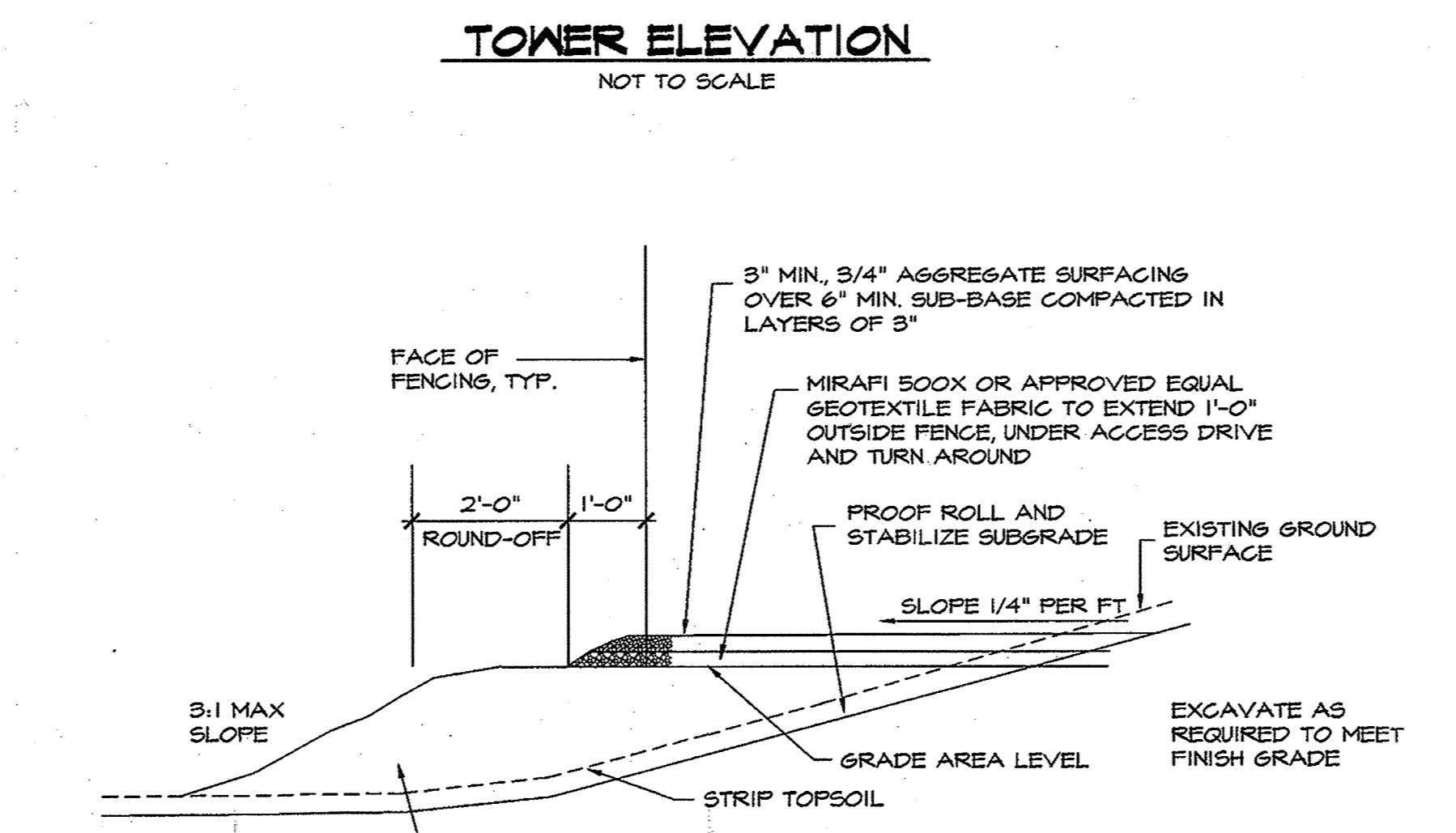
EXISTING SITE ELEMENTS	
PROPOSED GRAVEL AREA	
PROPOSED LIMIT OF DISTURBANCE	
1' CONTOUR LINE	
5' CONTOUR LINE	
CHAIN LINK FENCE	
PROPOSED ELECTRIC	
PROPOSED TELEPHONE	
LIGHT POLE	
UTILITY POLE	



**COMPOUND PLAN**  
SCALE: 1" = 10'



**TOWER ELEVATION**  
NOT TO SCALE



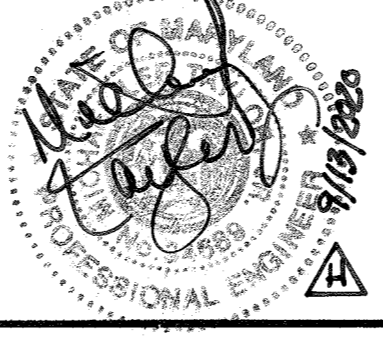
**CONSTRUCTION NOTES:**

- CLEAR AND GRUB THE LAND ALONG THE ACCESS DRIVE.
- REMOVE ALL EXISTING ORGANIC MATERIAL TO SUITABLE SUBGRADE.
- PLACE GEOTEXTILE FABRIC OVER SUBGRADE AND THEN PLACE AGGREGATE BASE.
- GRAVEL SUBBASE SPECIFICATION:  
MARYLAND DOT: SECTION 304 GRADED AGGREGATE BASE COURSE  
VIRGINIA DHT: SECTION 210 AGGREGATE BASE COURSE

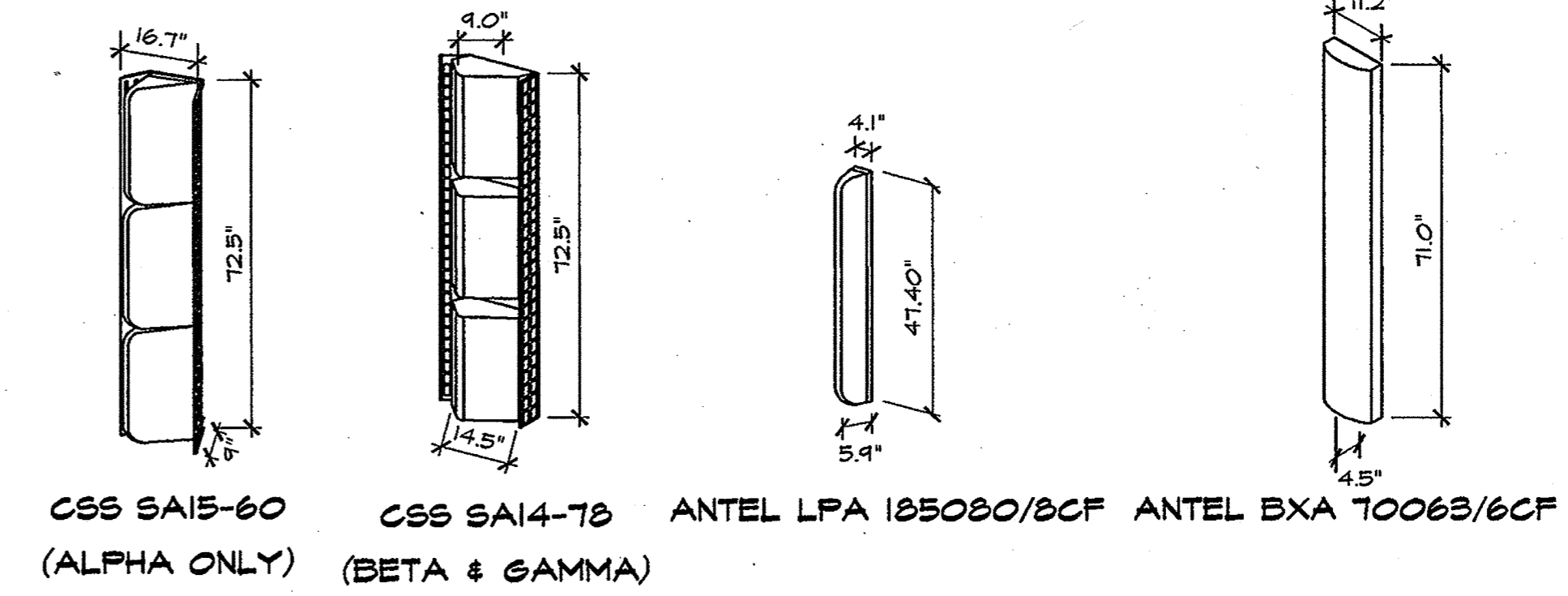
**LEASE AREA, ACCESS DRIVE AND TURN AROUND AREA SURFACING**

SCALE: N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Chief, Development Engineering Division*  
 DATE: 8/24/10  
*Chief, Division of Land Development*  
 DATE: 8/24/10  
*Director, Department of Planning and Zoning*  
 DATE: 8/25/10

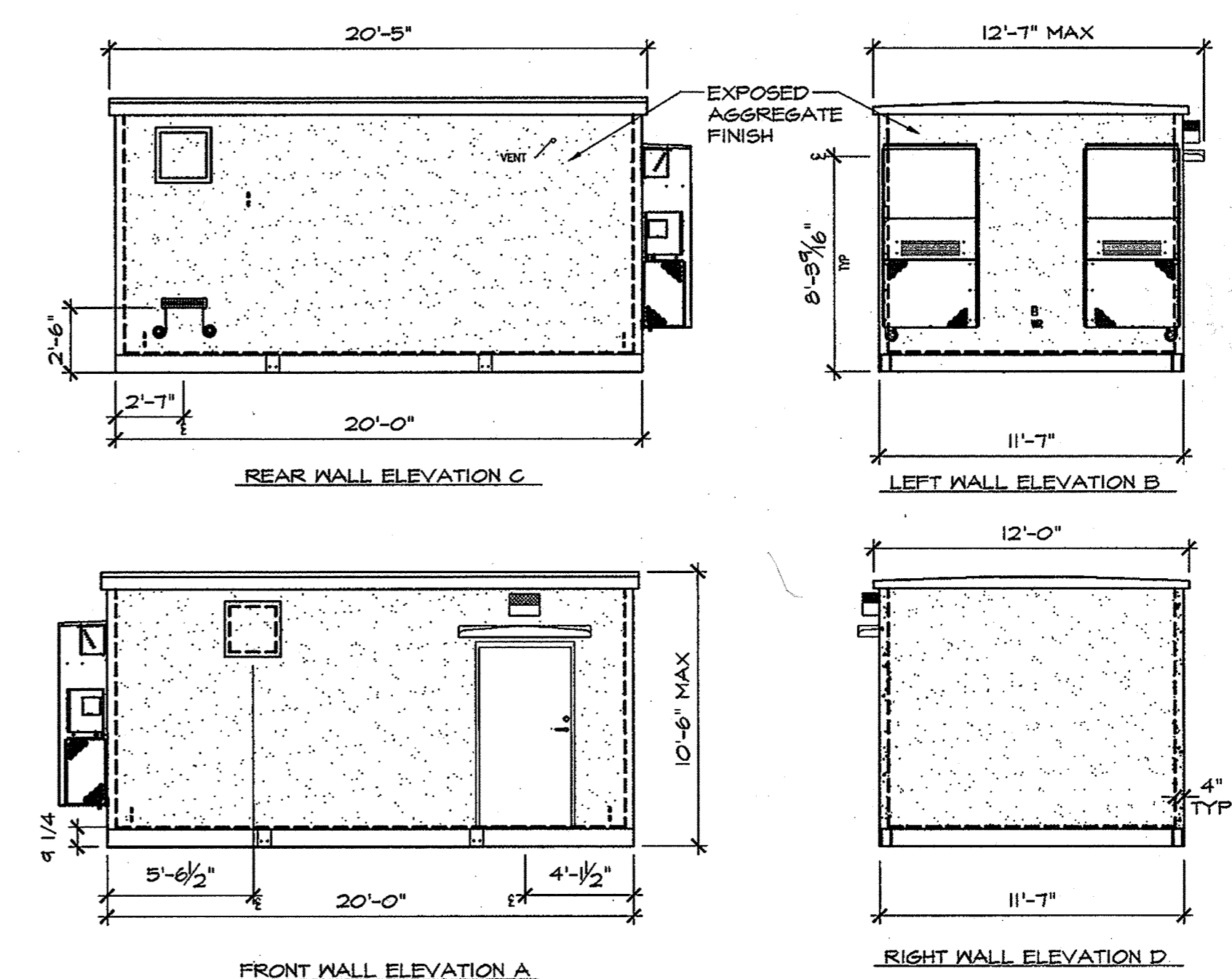


REV	DATE	DESCRIPTION	APPROVED
H	9-13-20	SWALE, STORM DRAIN & FENCE REPLACEMENT ADDED. SEE SHEETS 15-18	

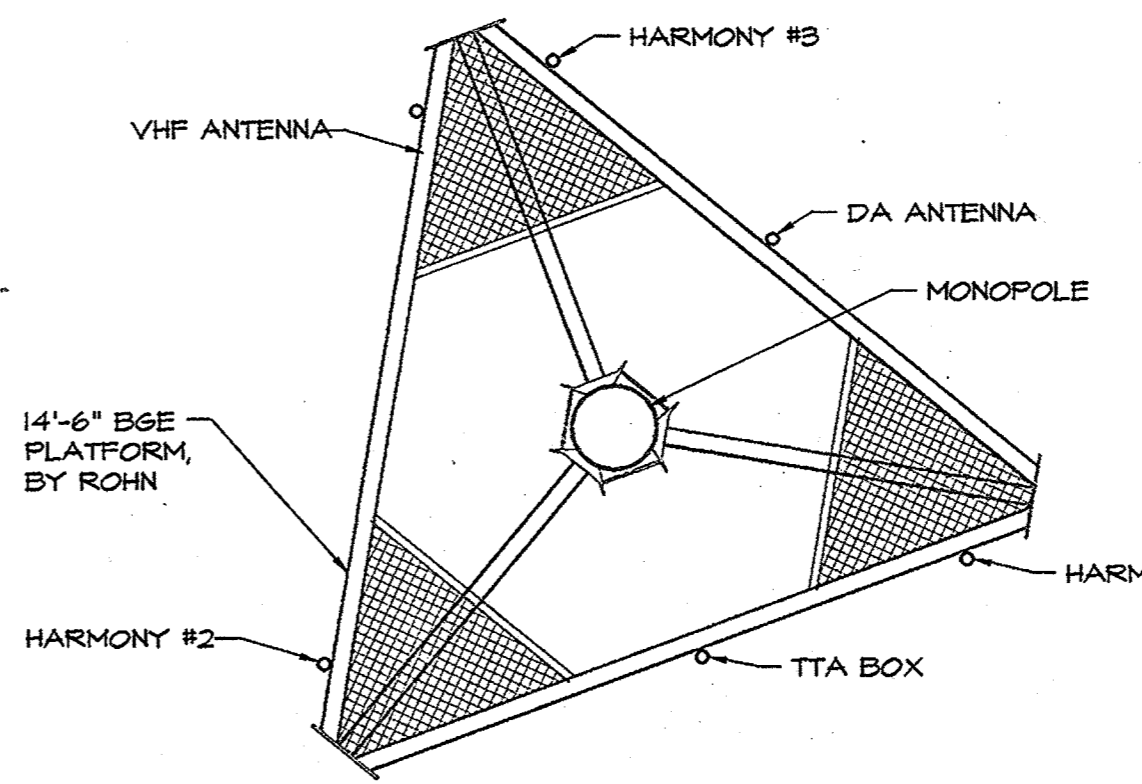


**VERIZON WIRELESS ANTENNA DETAILS**

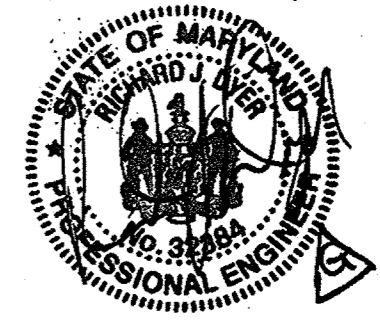
NOT TO SCALE



**TYP. VERIZON WIRELESS SHELTER ELEVATIONS**  
DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.



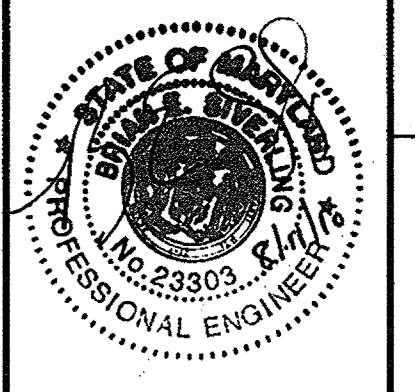
**EXISTING PROPOSED BGE ANTENNA SECTOR PLAN**  
SCALE: 1/4" = 1'-0"



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Call before you dig.

PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE  
 THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPROPRIATE.

**MRA**  
 MORRIS & RITCHIE ASSOCIATES, INC.  
 Civil/Structural Engineers  
 1220-O East Joppa Road, Suite 606  
 Tysons, Maryland 21286  
 410-821-1000  
 410-821-1748 Fax



PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23909, EXPIRATION DATE 07/07/2010.

**verizon wireless**  
 BGE SUBSTATION, HOWARD SERVICE CENTER  
 5150 ILCHESTER ROAD, ELLICOTT CITY  
 HOWARD COUNTY, MARYLAND 21048

REVISIONS:

NO.	DESCRIPTION	DATE
ZONING DWGS	1/10/08	
BGE COMMENTS	6/16/08	
BGE REV./BID	1/19/10	
PERMIT DWGS	3/23/10	
ACTIVE SHEET	2/8/12	

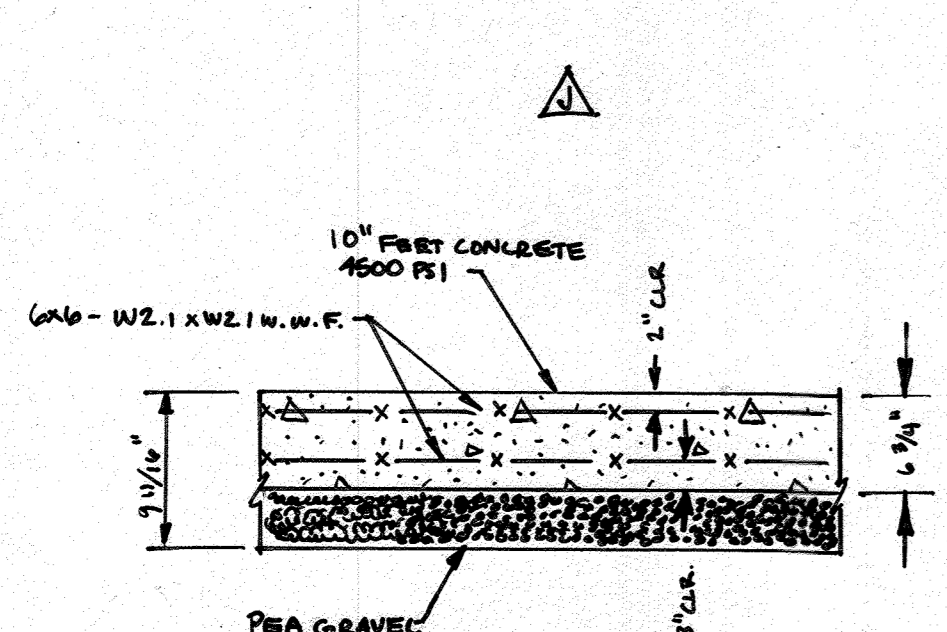
LAST REV.:  
 PROJECT NO: 10427.478  
 DATE: JAN 9, 2008  
 SCALE: AS NOTED

Site Details

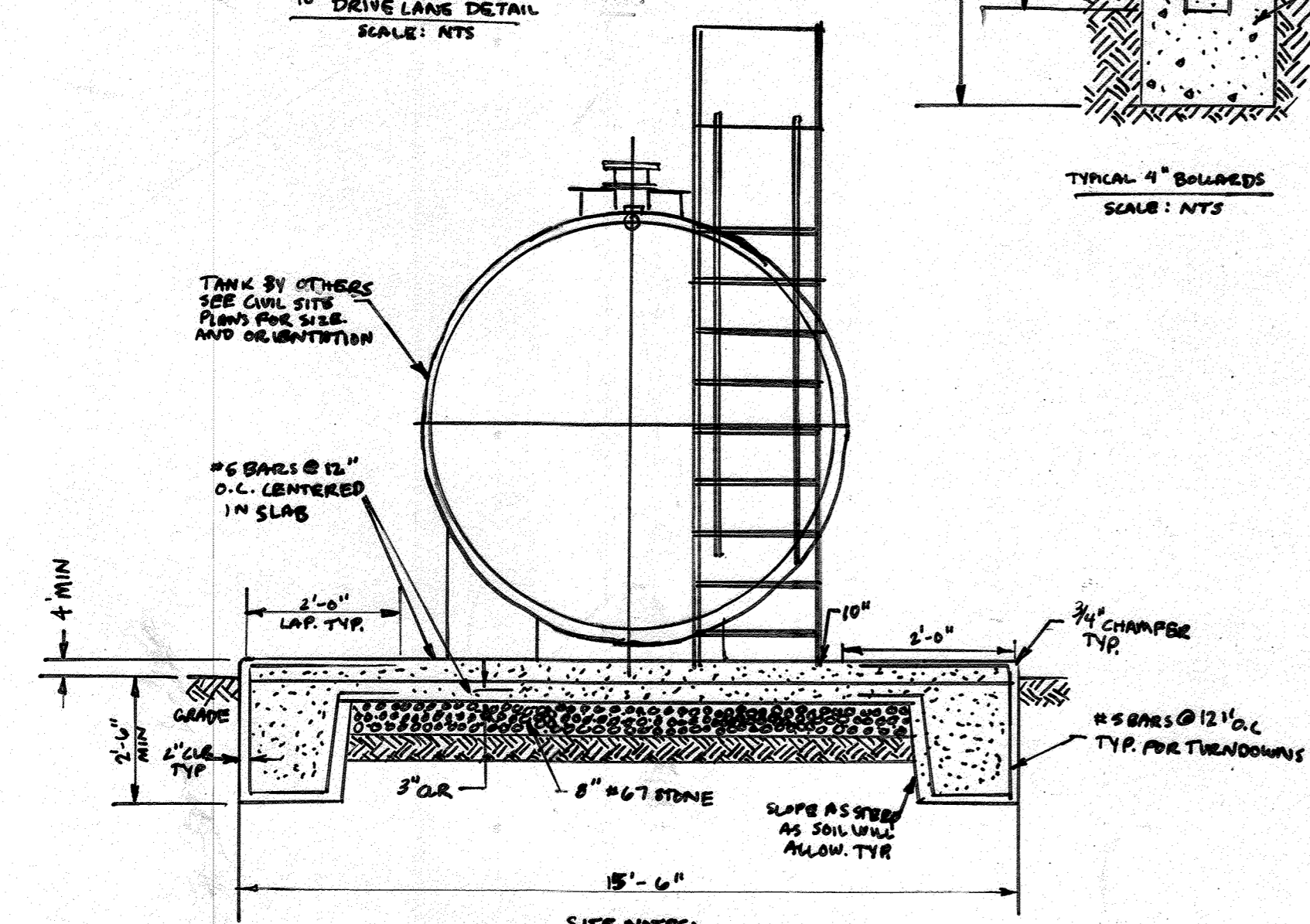
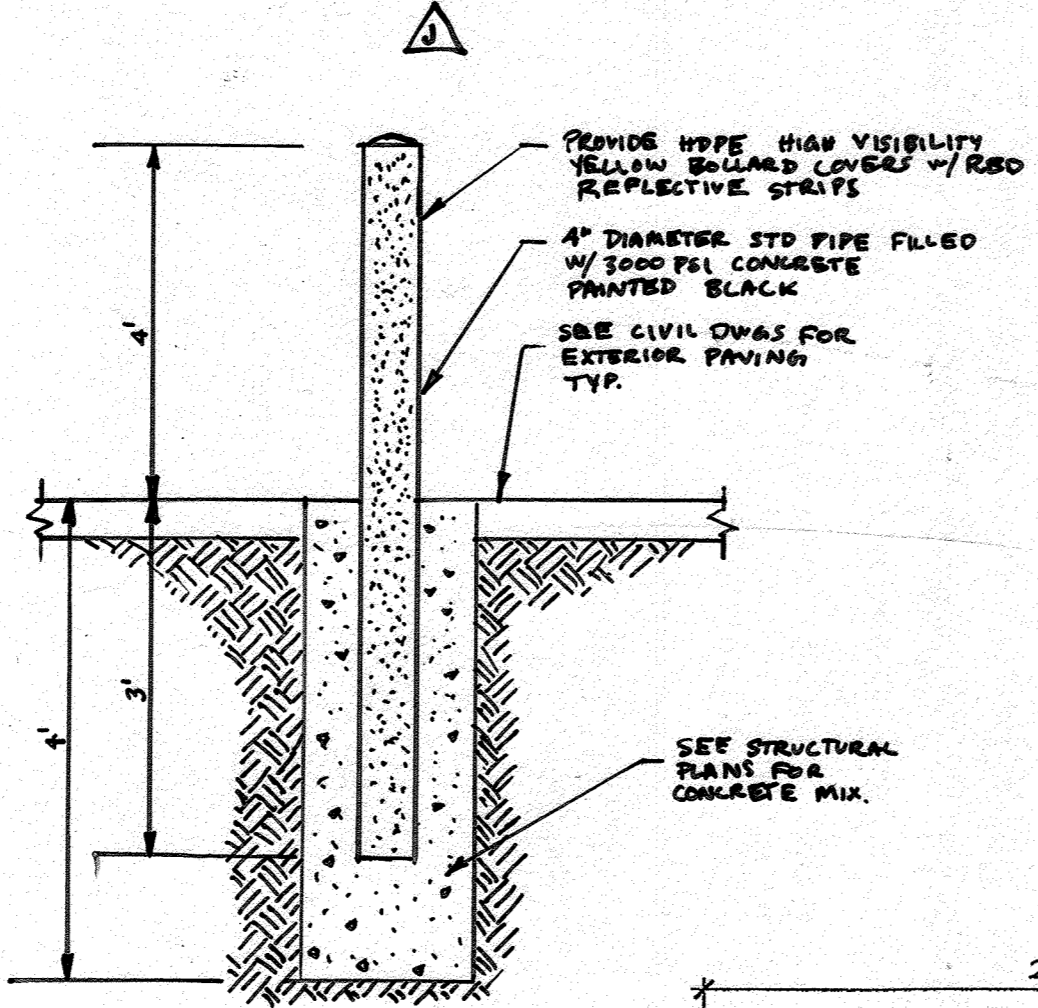
SHEET:  
**C-2**  
 SHEET 13 OF 14/18  
 207-91-111

REVISED SITE DEVELOPMENT PLAN

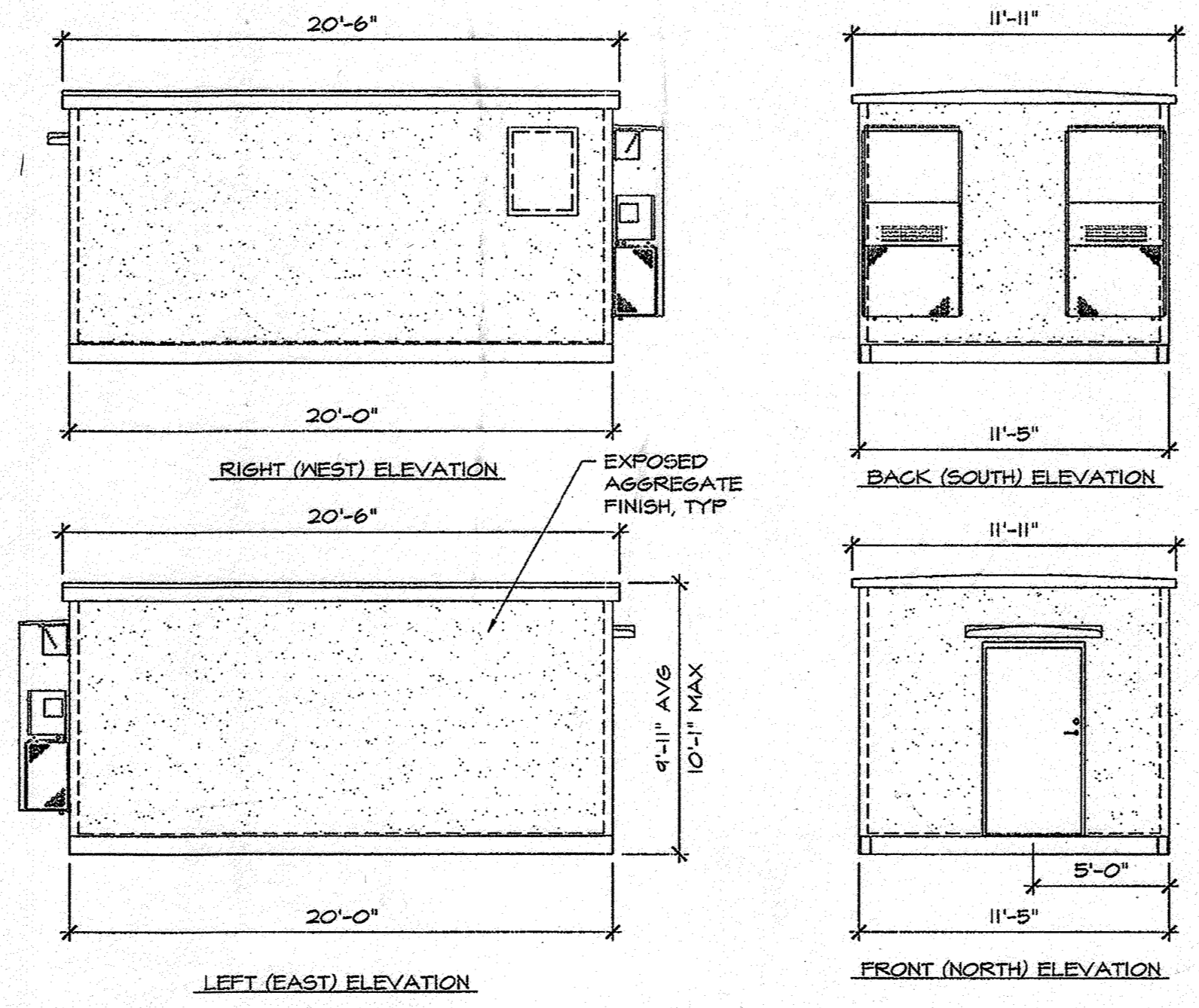




NOTES:  
1. EXPANSION JOINTS SHALL BE AT THE LOCATIONS SHOWN ON THE PLANS, CENTRAL JOINTS @ 20'-0" MAX.  
2. STATE CONTRACTOR SHALL SUBMIT JOINT LAYOUT FOR APPROVAL PRIOR TO CONSTRUCTION

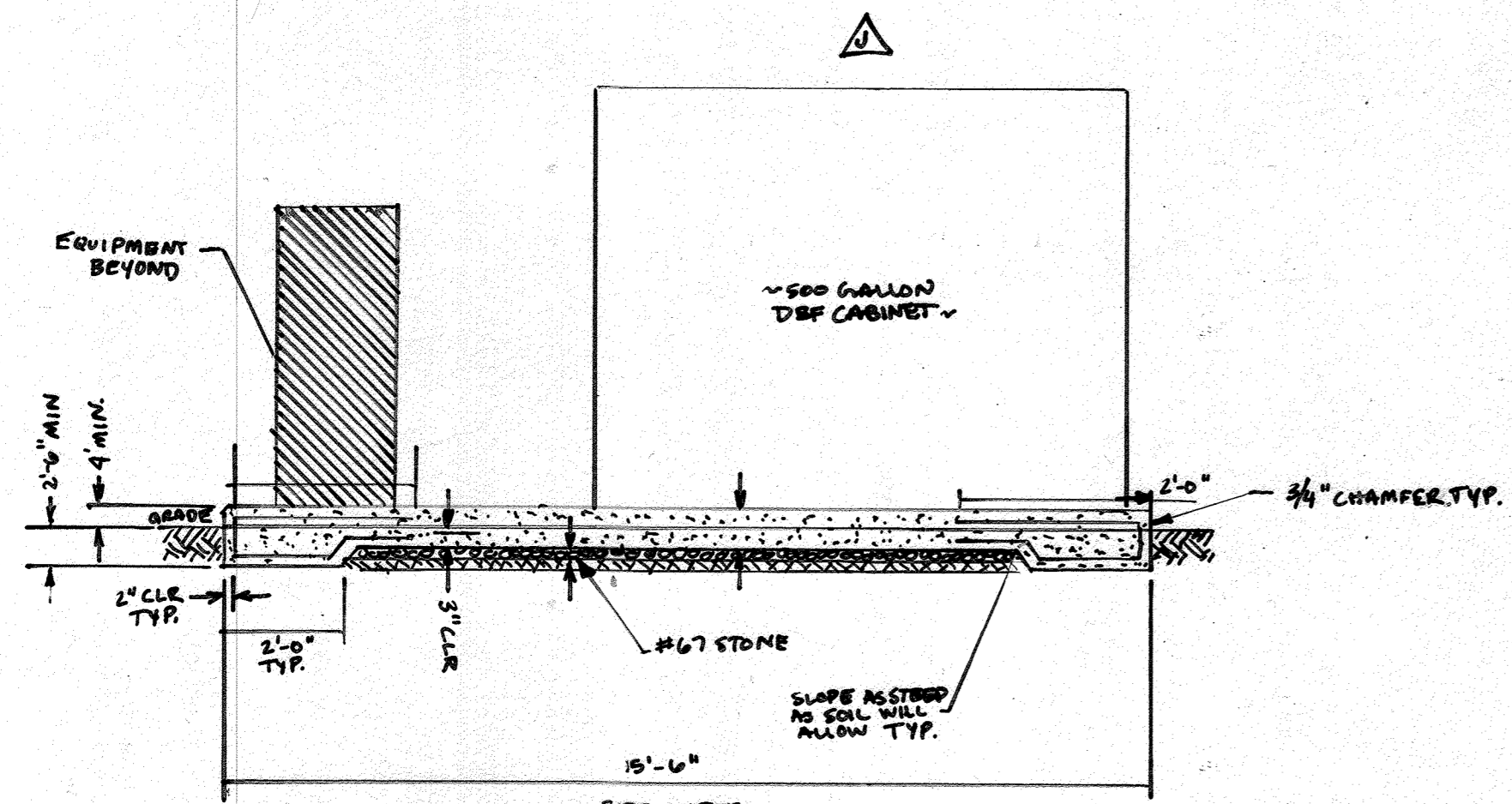
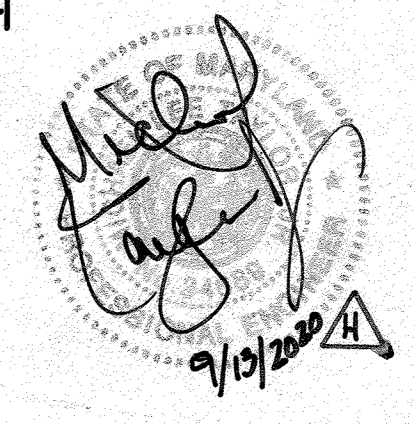


SITE NOTES:  
1. SEE CIVIL SITE PLANS FOR PAD LOCATION AND ORIENTATION



PURPOSE NOTE:  
THE PURPOSE OF THE REVISED SDP, DATED 02/08/12 BUT APPROVED 04/13/12 IS TO ADD AN AT&T EQUIPMENT SHELTER AND ICE BRIDGE, AS WELL AS SHEET 14 TO THIS SDP.

REV.	DATE	DESCRIPTION	APPROVED
H	9-13-20	SWALE, STORM DRAIN & FENCE REFRESHMENT ADDED. SEE SPTS. 15-18	



SITE NOTES:  
1. SEE CIVIL SITE PLANS FOR PAD LOCATION AND ORIENTATION

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28935 EXPIRATION DATE: 1/15/23

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

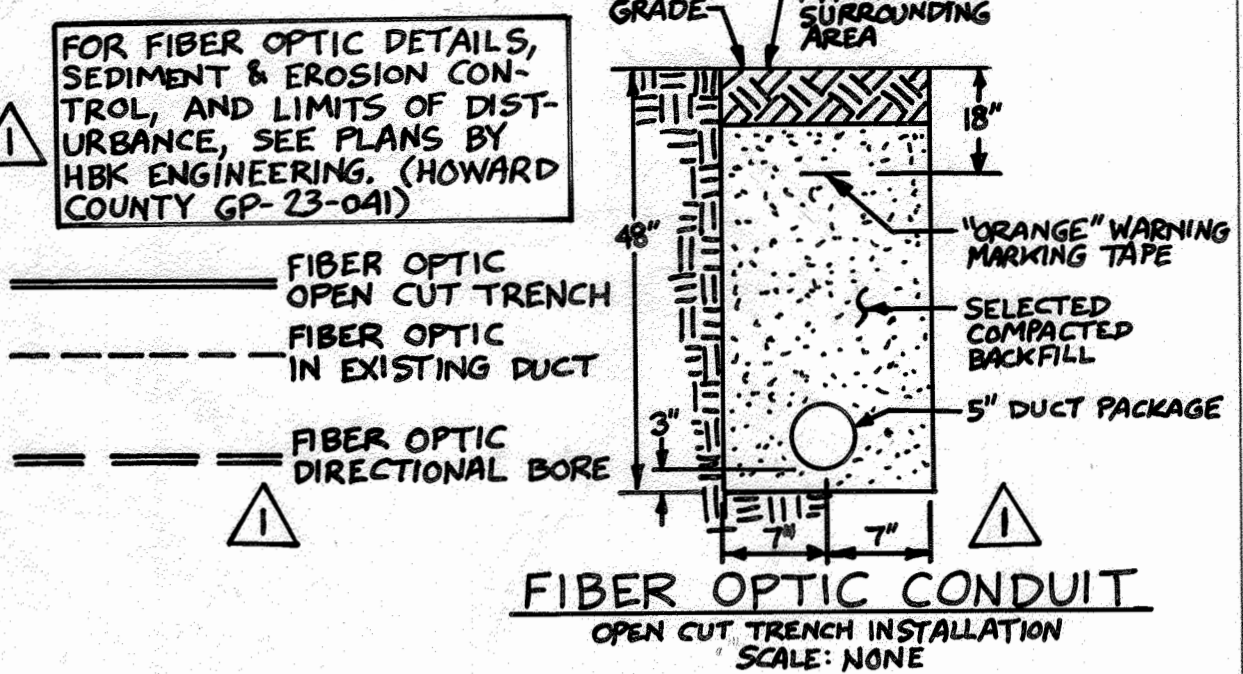
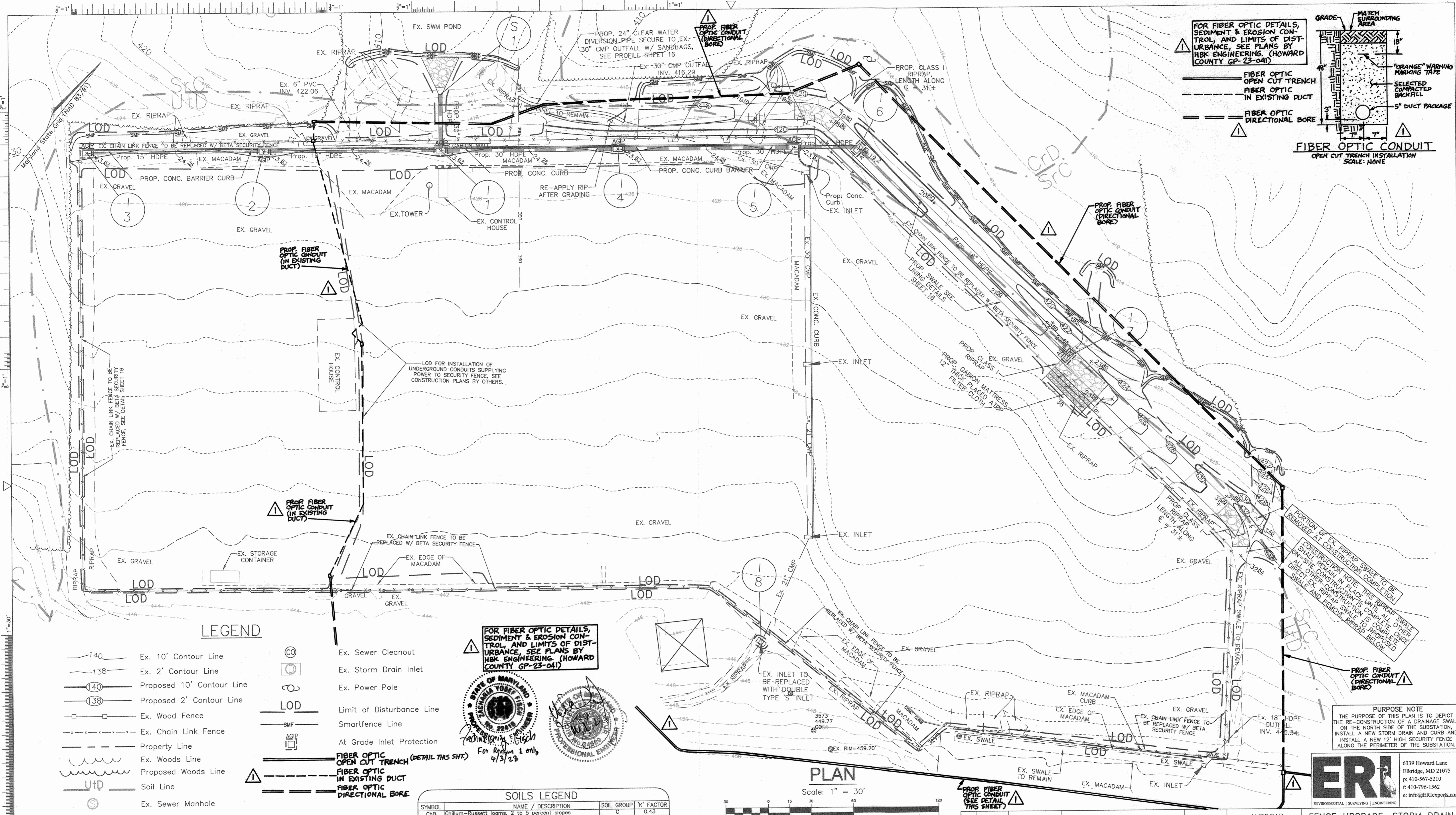
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	6/5/12 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	6/10/12 DATE
<i>[Signature]</i> DIRECTOR, DEPARTMENT OF PLANNING AND ZONING	6/7/12 DATE

REVISED SITE DEVELOPMENT PLAN

<p><b>BECHTEL COMMUNICATIONS</b> 9200 BERGER RD, COLUMBIA, MD 21046 PHONE: (443) 546-2309</p>	<p>7150 STANDARD DRIVE HANOVER, MD 21076</p>	<p><b>BGE TOWER: HOWARD COMM TOWER</b> AT&amp;T SITE NAME: ILCHESTER SITE NO: 0308 FA NUMBER: 10005971 ELECTRIC SERVICE ADDRESS: 2R 5130 ILCHESTER ROAD ELLCOTT CITY, MD 21043 HOWARD COUNTY</p>	<p><b>MORRIS &amp; RITCHIE ASSOCIATES, INC.</b> Civil / Structural Engineers 1220-C East Joppa Road, Suite 505 Towson, Maryland 21286 410-821-1690 410-821-1748 Fax</p>	<p>PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28935 EXPIRATION DATE: 1/15/23</p>	<p>6/30/12 PROPOSED DIESEL TANK</p>	<p>SHELTER ELEVATIONS</p>
					<p>02/08/12 AT&amp;T EQUIPMENT SHELTER</p>	

SDP-91-111

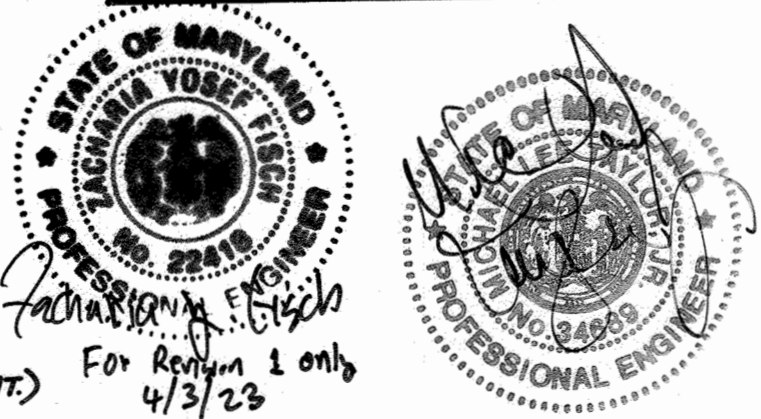




**LEGEND**

- 140 — Ex. 10' Contour Line
- 138 — Ex. 2' Contour Line
- ① 140 — Proposed 10' Contour Line
- ① 138 — Proposed 2' Contour Line
- — Ex. Wood Fence
- — Ex. Chain Link Fence
- — Property Line
- — Ex. Woods Line
- — Proposed Woods Line
- — Soil Line
- ⊙ — Ex. Sewer Manhole
- ⊙ — Ex. Sewer Cleanout
- ⊙ — Ex. Storm Drain Inlet
- ⊙ — Ex. Power Pole
- — LOD — Limit of Disturbance Line
- — SMF — Smartfence Line
- — AGIP — At Grade Inlet Protection
- — FIBER OPTIC OPEN CUT TRENCH (DETAIL THIS SHEET)
- — FIBER OPTIC IN EXISTING DUCT
- — FIBER OPTIC DIRECTIONAL BORE

FOR FIBER OPTIC DETAILS, SEDIMENT & EROSION CONTROL, AND LIMITS OF DISTURBANCE, SEE PLANS BY HBK ENGINEERING, (HOWARD COUNTY GP-23-041)



**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	SOIL GROUP	'K' FACTOR
ChB	Chillum-Russell loams, 2 to 5 percent slopes	C	0.43
CrD	Croom and Evesboro soils, 10 to 15 percent slopes	C	0.32
SoB	Sassafras loam, 2 to 5 percent slopes	B	0.32
SrC	Sassafras and Croom soils, 5 to 10 percent slopes	B	0.32
UD	Urban land-Udorthents complex, 0 to 15 percent slopes	D	-

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

APPROVED: *John P. Rutter* 10/7/20  
HOWARD SCD DATE

APPROVED: *Gregory J. Ruppel* 10/16/2020  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
DIRECTOR DATE

**DEVELOPER'S CERTIFICATE**  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

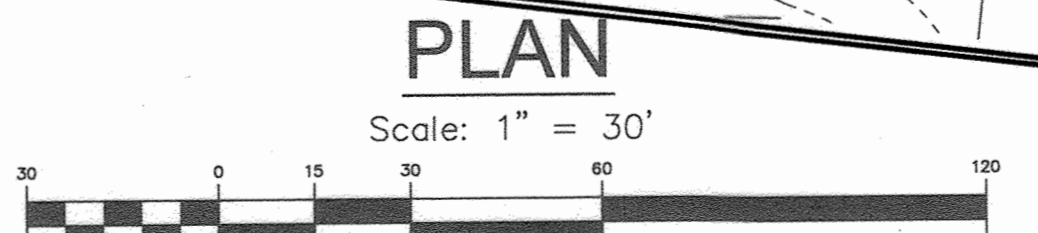
*Gregory J. Ruppel* 10/16/2020  
SIGNATURE OF DEVELOPER DATE

**ENGINEER'S CERTIFICATE**  
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

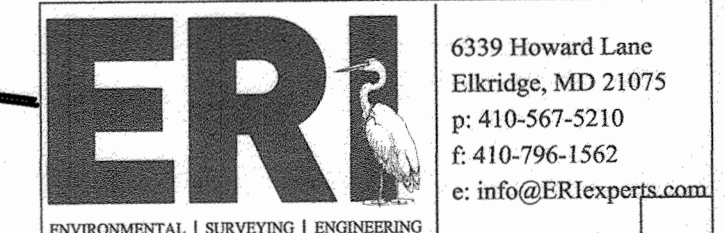
*Gregory J. Ruppel* 7/22/2020  
SIGNATURE OF ENGINEER DATE

**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. #34689, Expiration Date: 7/08/2021.

**DEVELOPER**  
BALTIMORE GAS AND ELECTRIC COMPANY  
SPRING GARDENS COMPLEX  
1699 LEADENHALL STREET  
BALTIMORE, MARYLAND 21230  
ATTN: GREGORY J. KAPPLER  
(667) 313-1095



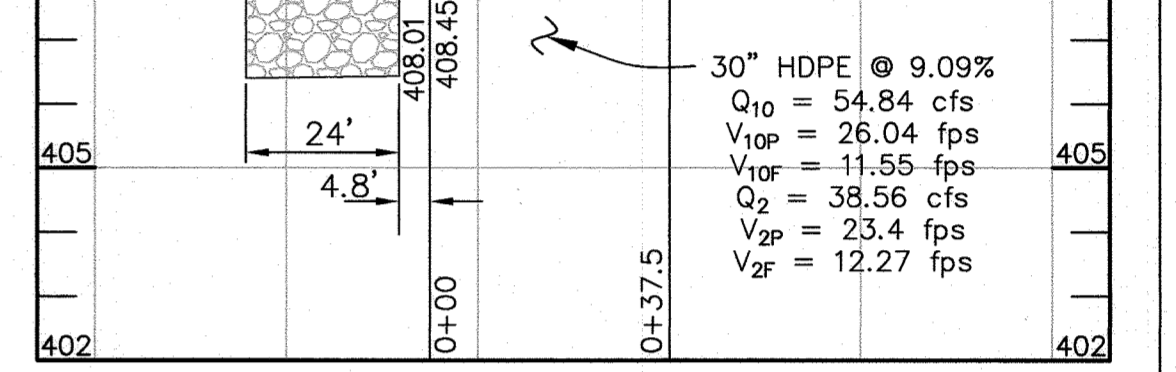
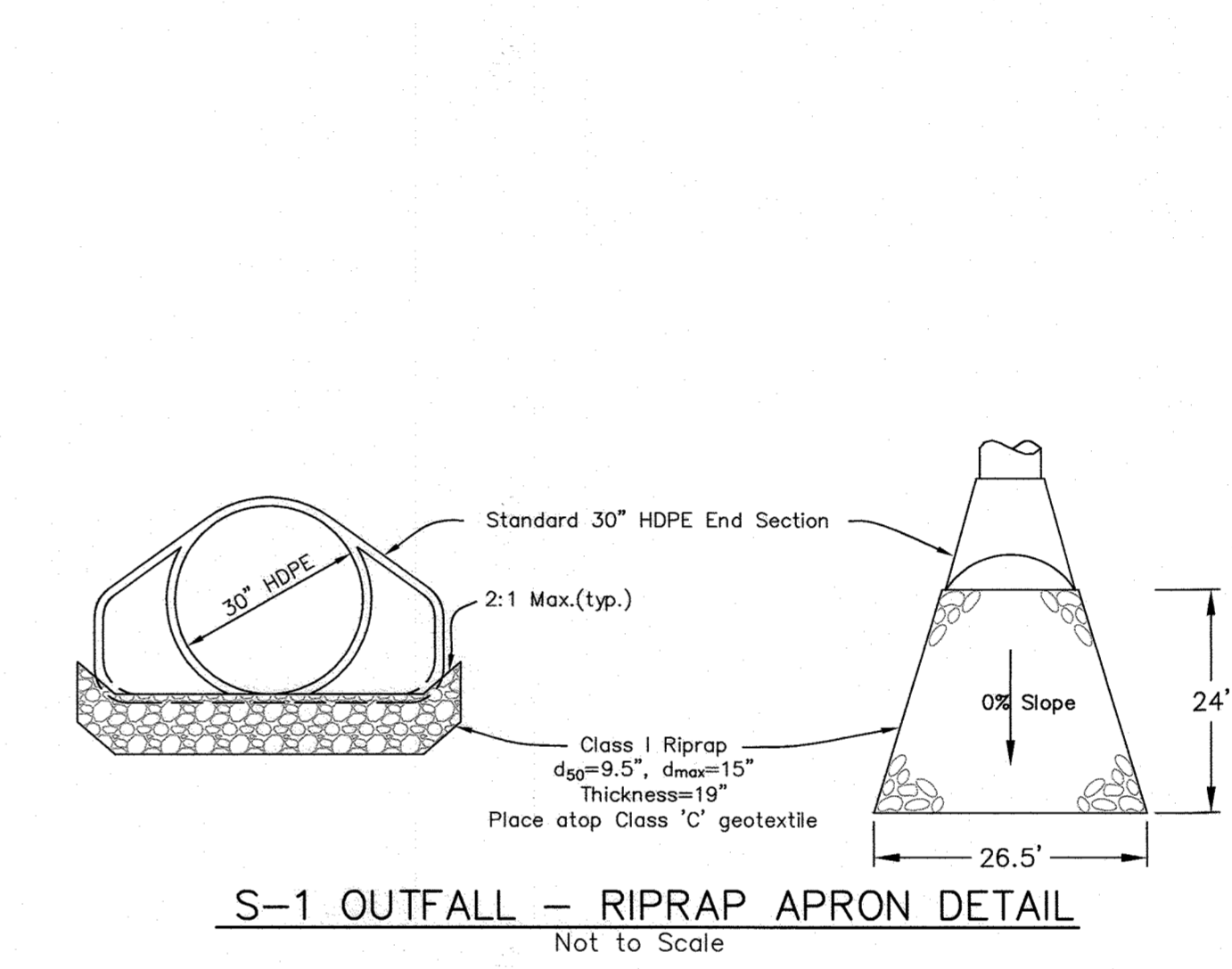
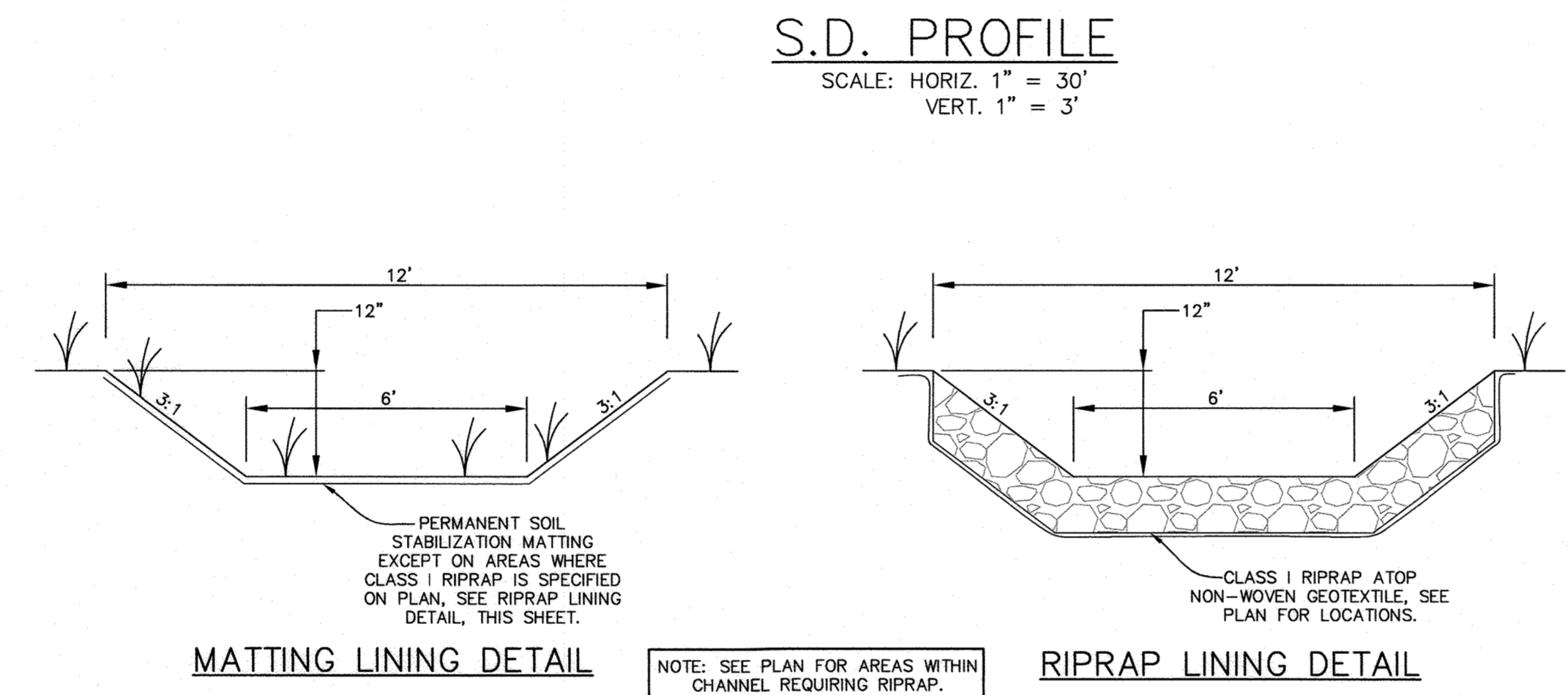
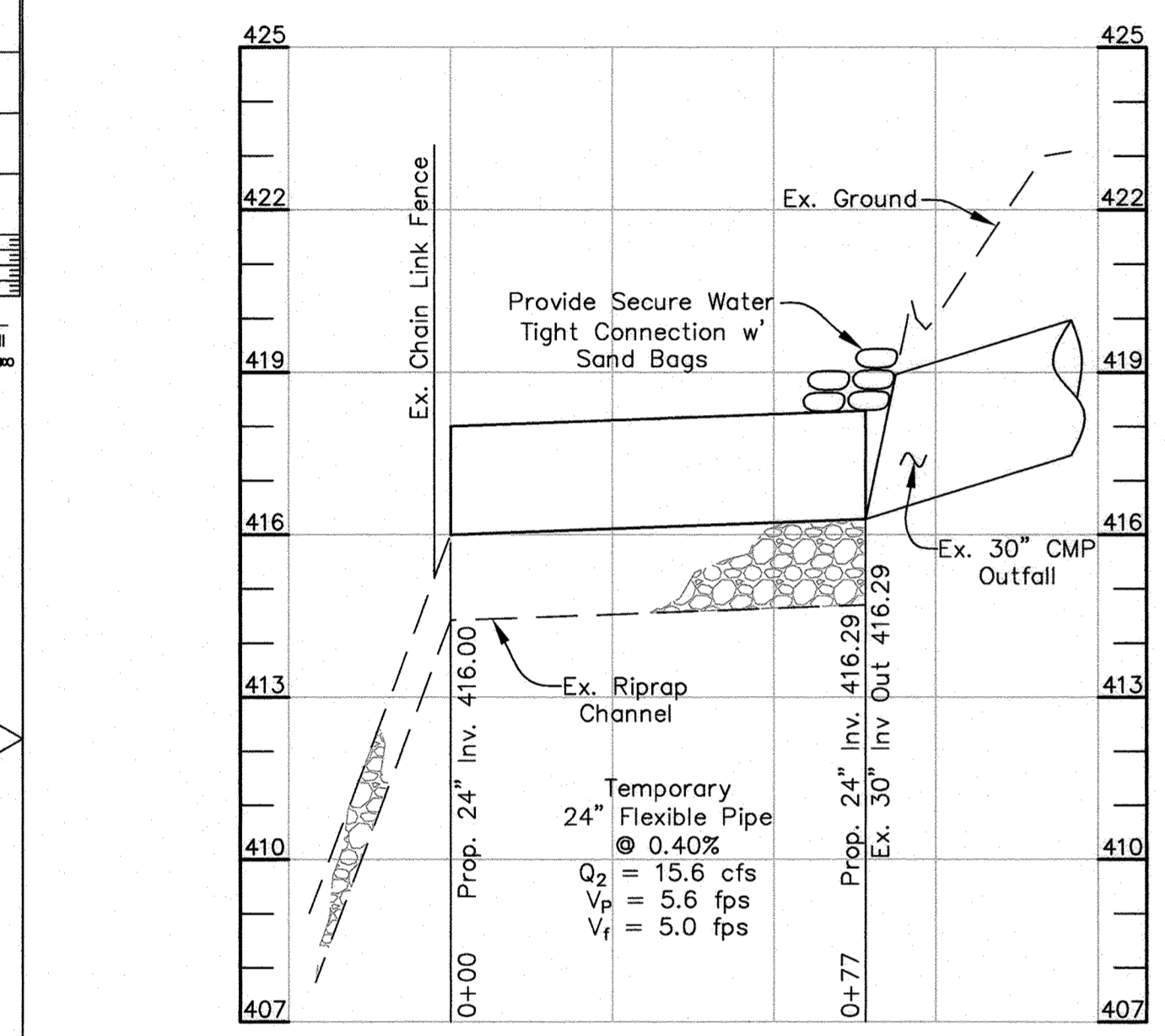
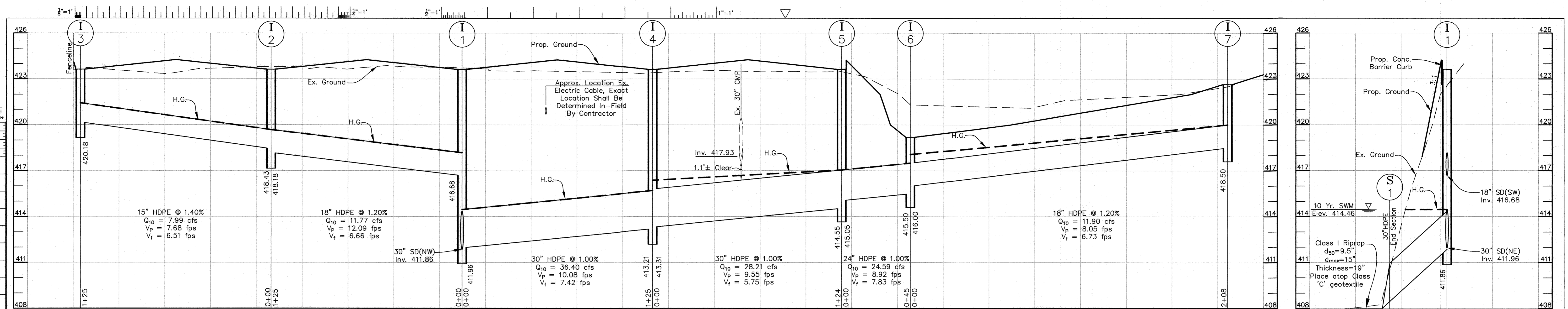
REV.	DATE	ACCOUNT NO.	DESCRIPTION	APPROVED	AUTOCAD
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					CIVIL
					ELEC.
					PROJ. ENG.
					PRIN. ENG.
					SUPV. ENG.
					DESIGN GROUP
					DESIGNED MT
					DRAWN CRH2
					CHECKED ZYF/SLH
					APPROVED
					DATE 9-22-20



6339 Howard Lane  
Elkridge, MD 21075  
p: 410-567-5210  
f: 410-796-1562  
e: info@ERITechnics.com

**BGE** SCALE As Shown  
DWG NO. 500-401-E  
REV





SIZE	TYPE	LENGTH
15"	HDPE	125'
18"	HDPE	333'
24"	HDPE	43'
30"	HDPE	286.5'

PRIVATE - STORM DRAIN STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
I-1	Double Type 'S' Inlet	N 570,006.96 E 1,373,914.91	423.63	418.43	411.86	Detail D-4.25
I-2	Double Type 'S' Inlet	N 569,927.70 E 1,373,818.39	423.63	418.43	418.18	Detail D-4.25
I-3	Double Type 'S' Inlet	N 569,848.44 E 1,373,721.87	423.63	---	420.18	Detail D-4.25
I-4	Double Type 'S' Inlet	N 570,086.22 E 1,374,011.43	423.63	413.31	413.21	Detail D-4.25
I-5	Double Type 'S' Inlet	N 570,165.00 E 1,374,107.36	423.63	415.05	414.55	Detail D-4.25
I-6	Double Type 'S' Inlet	N 570,183.00 E 1,374,143.40	419.20	416.00	415.50	Detail D-4.25
I-7	Double Type 'S' Inlet	N 570,172.85 E 1,374,350.38	422.65	---	418.50	Detail D-4.25
I-8	Double Type 'S' Inlet	N 569,880.29 E 1,374,308.10	442.70	---	439.70	Detail D-4.25
S-1	HDPE End Section	N 570,037.35 E 1,373,889.96	---	408.45	---	30" HDPE End Sect.

- STRUCTURE SCHEDULE NOTES:
- The top elevations for all inlets are the top of the grate elevation.
  - The End Section coordinate location corresponds to the point where the end section meets the center of incoming pipe.

TEMPORARY CLEAN WATER DIVERSION PIPE PROFILE  
Hor.: 1" = 30'  
Vert.: 1" = 3'

PROPOSED SWALE LINING DETAILS  
Not to Scale

S-1 OUTFALL - RIPRAP APRON DETAIL  
Not to Scale

PRIVATE PIPE SCHEDULE

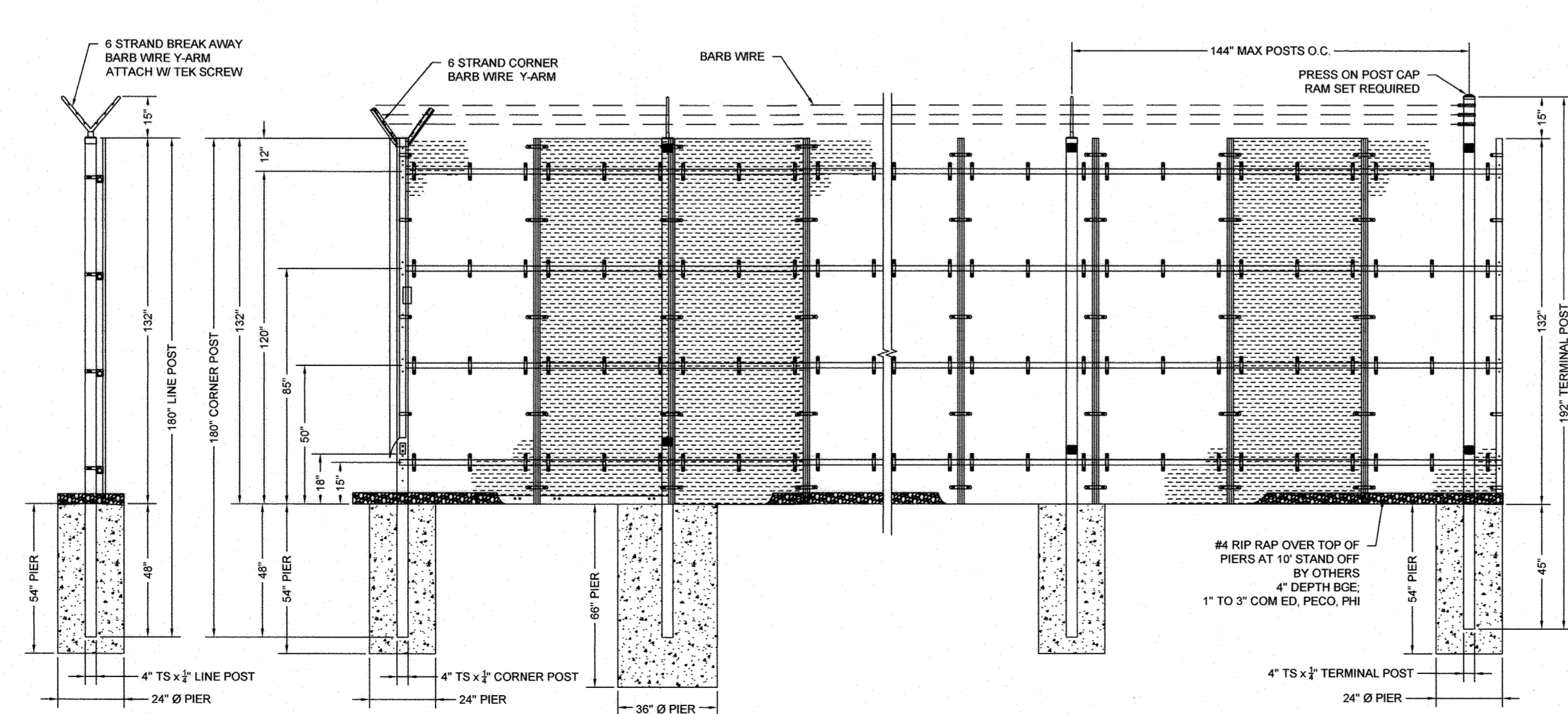
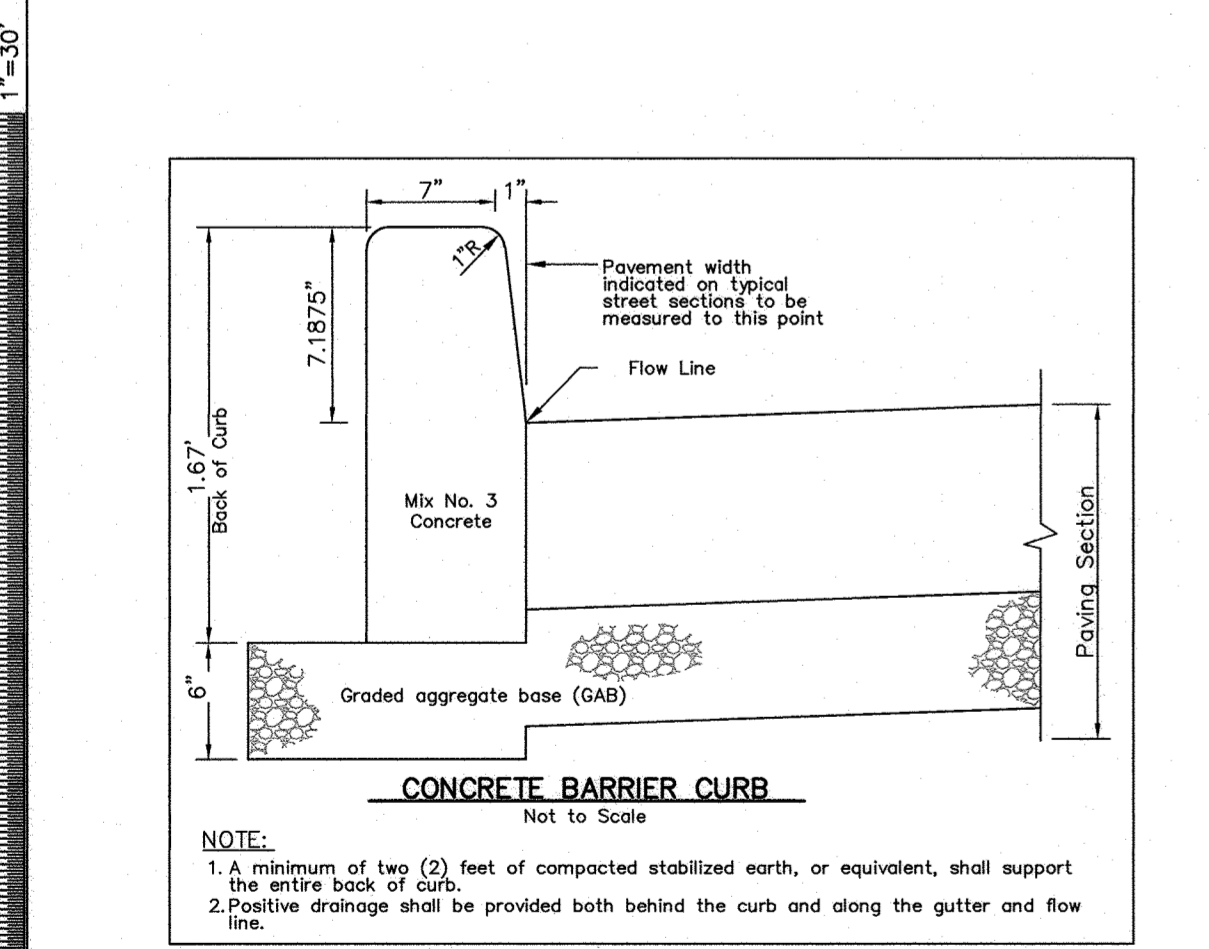
**PURPOSE NOTE**  
THE PURPOSE OF THIS PLAN IS TO DEPICT THE RE-CONSTRUCTION OF A DRAINAGE SWALE ON THE NORTH SIDE OF THE SUBSTATION, INSTALL A NEW STORM DRAIN AND CURB AND INSTALL A NEW 12' HIGH SECURITY FENCE ALONG THE PERIMETER OF THE SUBSTATION.

**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. #34689, Expiration Date: 7/08/2021.

**ERI**  
ENVIRONMENTAL | SURVEYING | ENGINEERING  
6339 Howard Lane  
Elkridge, MD 21075  
p: 410-567-5210  
f: 410-796-1562  
e: info@ERIEngineers.com

**STORM DRAIN PROFILES AND DETAILS**  
BGE SUBSTATION  
HOWARD SERVICE CENTER  
5130 ILCHESTER ROAD  
REVISED SITE DEVELOPMENT PLAN  
SHEET 16 OF 18

SCALE: As Shown  
DWG NO. 500-401-E



BETA SECURITY FENCE TYPICAL DETAIL  
Not to Scale

DEVELOPER  
BALTIMORE GAS AND ELECTRIC COMPANY  
SPRING GARDENS COMPLEX  
1699 LEADENHALL STREET  
BALTIMORE, MARYLAND 21230  
ATTN: GREGORY J. KAPPLER  
(667) 313-1095

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

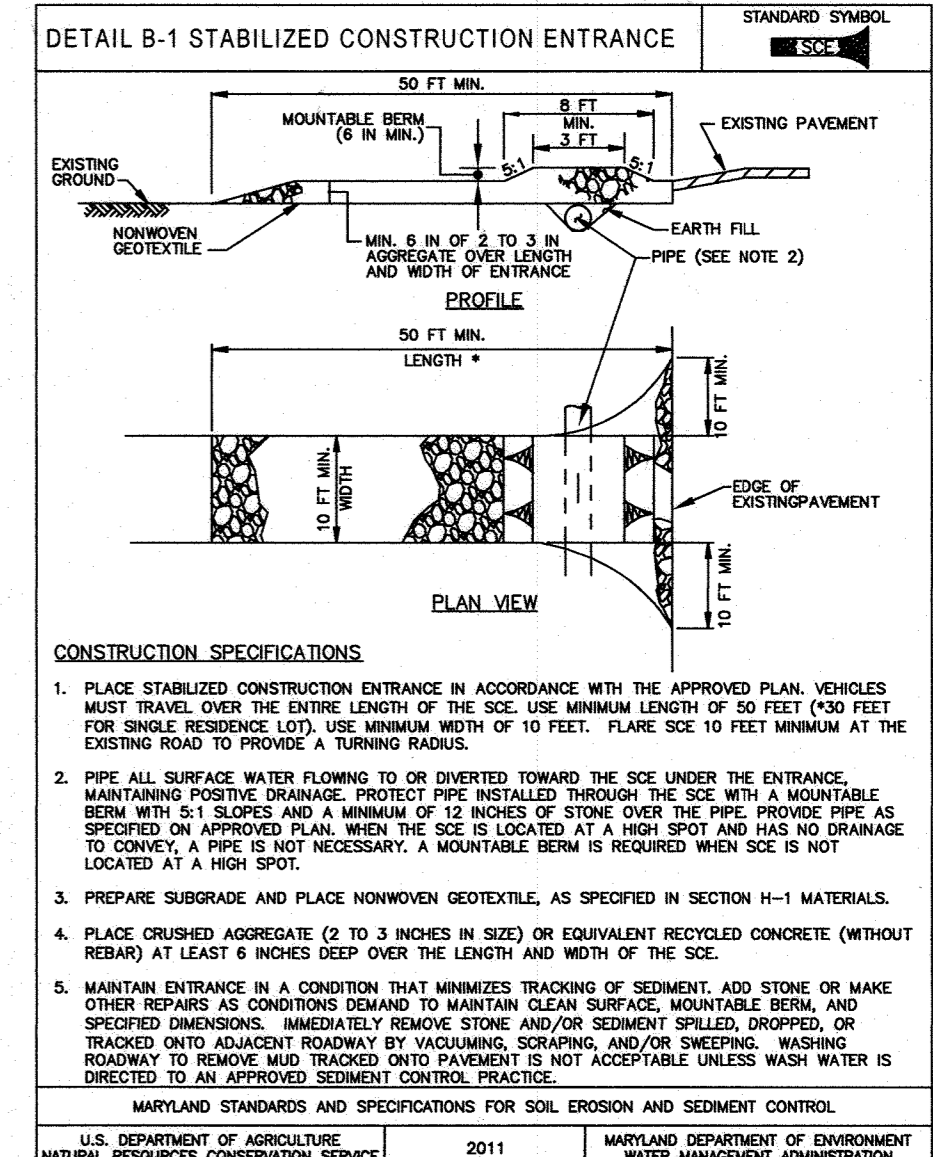
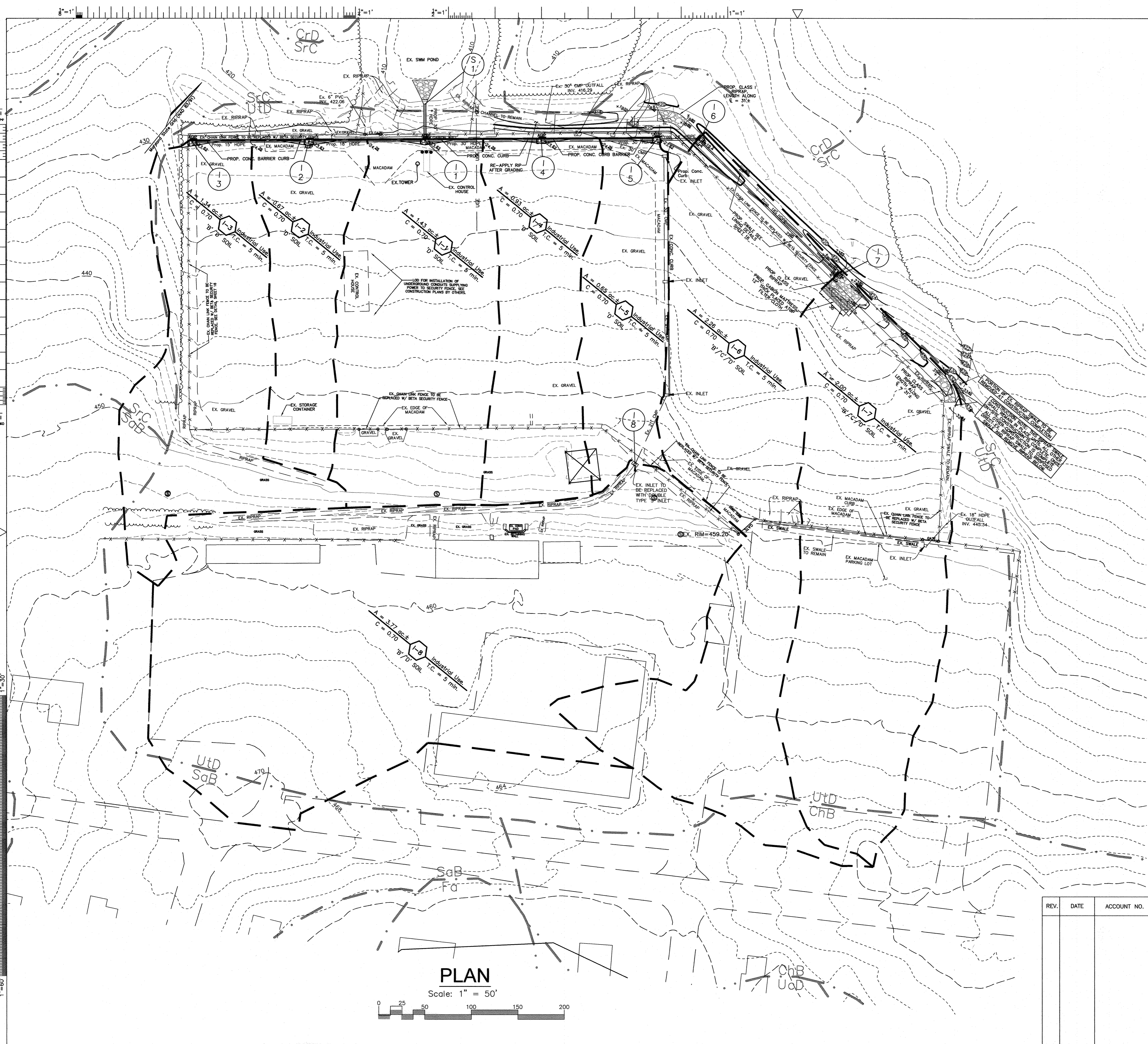
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 11/20/20

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 10/30/20

DIRECTOR DATE: 11-3-20

REV.	DATE	ACCOUNT NO.	DESCRIPTION	APPROVED





THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 John R. Roberts 10/7/20  
 HOWARD SCD DATE

**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Gregory J. Kappler 10/6/2020  
 SIGNATURE OF DEVELOPER DATE

**ENGINEER'S CERTIFICATE**  
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature] 9/22/2020  
 SIGNATURE OF ENGINEER DATE

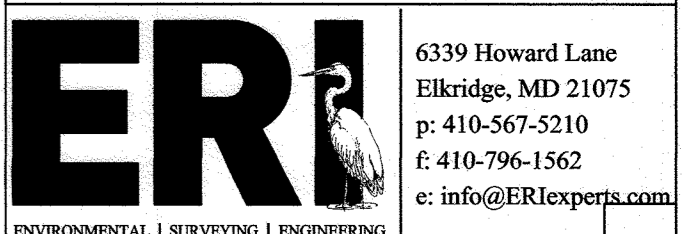
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 10/20/20  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
 [Signature] 10/20/20  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
 [Signature] 11-3-20  
 DIRECTOR DATE



**PURPOSE NOTE**  
 THE PURPOSE OF THIS PLAN IS TO DEPICT THE RE-CONSTRUCTION OF A DRAINAGE SWALE ON THE NORTH SIDE OF THE SUBSTATION, INSTALL A NEW STORM DRAIN AND CURB AND INSTALL A NEW 12" HIGH SECURITY FENCE ALONG THE PERIMETER OF THE SUBSTATION.

**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. #34689, Expiration Date: 7/08/2021.

DEVELOPER  
 BALTIMORE GAS AND ELECTRIC COMPANY  
 SPRING GARDENS COMPLEX  
 1699 LEADENHALL STREET  
 BALTIMORE, MARYLAND 21230  
 ATTN: GREGORY J. KAPPLER  
 (667) 313-1095



**STORM DRAIN DRAINAGE AREA MAP AND DETAILS BGE SUBSTATION HOWARD SERVICE CENTER 5130 ILCHESTER ROAD REVISED SITE DEVELOPMENT PLAN SHEET 17 OF 18**

REV.	DATE	ACCOUNT NO.	DESCRIPTION	APPROVED	AUTOCAD
					ENGINEERING
					CIVIL
					ELEC.
					PROJ. ENG.
					PROJ. MGR.
					PRIN. ENG.
					SUPV. ENG.
					DESIGN GROUP
					DESIGNED MT
					DRAWN CRHZ
					CHECKED ZYF
					APPROVED
					DATE 1JULY2020

SCALE As Shown  
 DWG NO. 500-401-E

SDP-91-111



**B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

**Definition:** The process of preparing the soils to sustain adequate vegetative stabilization.

**Purpose:** To provide a suitable soil medium for vegetative growth.

**Conditions Where Practice Applies:** Where vegetative stabilization is to be established.

**Criteria:**

- Soil Preparation**
  - Temporary Stabilization
    - Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable equipment or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
    - Apply fertilizer and lime as prescribed on the plans.
  - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
- Permanent Stabilization**
  - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
    - Soil pH between 6.0 and 7.0.
    - Soluble salts less than 500 parts per million (ppm).
    - Soil contains less than 40 percent clay (though fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception to this rule may be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
  - Soil contains 1.5 percent minimum organic matter by weight.
  - Soil contains sufficient pore space to permit adequate root penetration.

**Effects on Water Quality and Quantity:**

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

**Sediment control practices must remain in place during grading, seeded preparation, seeding, mulching, and vegetative establishment.**

**Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and seedings within the planting season.**

- Adequate vegetative stabilization requires 95 percent groundcover.
- If an area has less than 40 percent groundcover, reestablish following the original recommendations for lime, fertilizer, seeded preparation, and seeding.
- If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
- Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

**B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS**

**Definition:** The process of preparing the soils to sustain adequate vegetative stabilization.

**Purpose:** To provide a suitable soil medium for vegetative growth.

**Conditions Where Practice Applies:** Where vegetative stabilization is to be established.

**Criteria:**

- Soil Preparation**
  - Temporary Stabilization
    - Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable equipment or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
    - Apply fertilizer and lime as prescribed on the plans.
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  - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
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  - Soil contains sufficient pore space to permit adequate root penetration.

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Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

**Sediment control practices must remain in place during grading, seeded preparation, seeding, mulching, and vegetative establishment.**

**Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and seedings within the planting season.**

- Adequate vegetative stabilization requires 95 percent groundcover.
- If an area has less than 40 percent groundcover, reestablish following the original recommendations for lime, fertilizer, seeded preparation, and seeding.
- If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
- Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

**B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING**

**Definition:** The application of seed and mulch to establish vegetative cover.

**Purpose:** To protect disturbed soils from erosion during and at the end of construction.

**Conditions Where Practice Applies:** To the surface of all perimeter contours, slopes, and any disturbed area not under active grading.

**Criteria:**

- Seeding**
  - Specifications
    - All seed must meet the requirements of the Maryland State Seed Law. All seed must meet the requirements to be tested by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
    - Much alone may be applied between the fall and spring seeding dates if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
    - Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
    - Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for pest control. If such materials have elapsed (14 days min.) to permit dissipation of phytotoxic materials, sod or seed may be placed on the soil.
  - Application
    - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
      - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
    - Drill or Outdragger Seeding: Mechanized seeders that apply and cover seed with soil.
      - Outdragger seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
    - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
  - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes rates and fertilizer).
    - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P2O5 (phosphorus), 200 pounds per acre; K2O (potassium), 200 pounds per acre.
    - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
    - Mix seed and fertilizer on site and seed immediately without interruption.
  - When hydroseeding do not incorporate seed into the soil.

**B. Mulching**

- Mulch Materials (in order of preference)
  - Straw consisting of thoroughly threshed, dry, oat, or barley and conspicuously bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and must be moist, moldy, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
  - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
    - WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
    - WCFM material must not contain germinants or compounds at concentration levels that will be phytotoxic.
  - WCFM must conform to the following physical requirements: fiber length of approximately 1/8 millimeter; maximum particle size of approximately 1 millimeter; pH range of 4.0 to 8.5; ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
- Application
  - Apply mulch to all seeded areas immediately after seeding.
  - When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
  - Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- Anchoring
  - Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
    - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface to a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
    - Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  - Synthetic binders such as Acrylic DLR (Ago-Tack), DCA-70, Petro-Tack, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
  - Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

**B-4-4 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION**

**Definition:** To stabilize disturbed soils with permanent vegetation.

**Purpose:** To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

**Conditions Where Practice Applies:** Exposed soils where ground cover is needed for 6 months or more.

**Criteria:**

- General Use**
  - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
  - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planning.
  - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.
  - For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (1500 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures**
  - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
  - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
    - Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars: Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
    - Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where rapid establishment is desired and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
    - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes Certified Tall Fescue Cultivars 85 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
    - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.
  - Note: Select turfgrass varieties from those listed in the most current University of Maryland Publication, *Agromemo #77, "Turfgrass Cultivar Recommendations for Maryland"*. Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.
- Ideal Times of Seeding for Turf Grass Mixtures**
  - Western MD: March 15 to June 1, August 1 to October 15 (Hardiness Zones: 5b, 6a)
  - Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 6b)
  - Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)
- Sod:** To provide quick cover on disturbed areas (2:1 grade or flatter).
  - General Specifications
    - Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
    - Sod must be machine cut to a uniform soil thickness of 1/2 inch, plus or minus 1/4 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
    - Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
    - Sod must not be harvested or transported when moisture content (excessively dry or wet) may adversely affect its survival.
    - Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period must be approved by an agronomist or soil scientist prior to its installation.
  - Sod Installation
    - In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
    - After the first week, sod watering is required as necessary to maintain adequate moisture content.
    - Do not mow until the sod is firmly rooted. No more than 1/2 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 1 1/2 inches unless otherwise specified.

**HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES**

- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1885 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following steps:
  - Prior to the start of earth disturbance.
  - Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
  - Prior to the start of another phase of construction or opening of another grading unit.
  - Prior to the removal or modification of sediment control practices.
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter contours, slopes, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto (Sec. B-4-2), permanent seeding (Sec. B-4-3), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications (Sec. B-4-8) in excess of 20 ft. must be benched with stable auto. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization and be protected with a sediment control structure.
- All sediment control structures are to remain in place, and are to be maintained in operative condition until their removal has been obtained from the CID.
- Site Analysis:**

Total Area of Site:	0.96 Acres (LOD)
Area Disturbed:	0.14 Acres
Area to be roofed or paved:	0.14 Acres
Area to be Vegetatively Stabilized:	0.82 Acres
Total:	0.96 Acres

Offsite waste/borrow area location: \*\*
- Any sediment control practice which is disturbed by grading activity for the purpose of utilities must be replaced on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the CID, the site and all controls shall be inspected by the contractor weekly, and the next day after each rain event. A written report by the contractor, made available upon request, is the output of every inspection and should include:
  - Inspection date
  - Inspection time (part, pre-storm event, during rain event)
  - Name and title of inspector
  - Weather information (current conditions as well as time and amount of last recorded precipitation)
  - Brief description of project's status (e.g., percent complete) and/or current activities
  - Evidence of sediment discharges
  - Identification of plan deficiencies
  - Identification of sediment controls that require maintenance
  - Identification of missing or improperly installed sediment controls
  - Compliance status regarding the sequence of construction and stabilization requirements
  - Photographs
  - Monitoring/sampling
  - Maintenance and/or corrective action performed
  - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
- Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.
- Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID, per the list of HSCD-approved field changes.
- Disturbance shall not occur outside the LOD. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.
- Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
- Topsoil shall be stockpiled and preserved on-site for redistribution into final grade.
- All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be installed at 25' minimum intervals, with lower ends curled uphill by 2' in elevation.
- Stream channels must not be disturbed during the following restricted time periods (inclusive):
  - Use I and IP March 1 - June 15
- A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.
  - Earth work quantities are solely for the purpose of calculating fees. Contractor to verify quantities prior to the start of construction.
  - To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved active grading permit.

All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto (see Standard Sediment Control Note #2)

**Permanent Seeding Summary**

No.	Species	Application Rate (lb./ac)	Seeding Dates	Seeding Depth	Fertilizer Rate (10-20-20)			Lime Rate
					N	P2O5	K2O	
1	Deer	20	2/15-4/30 **	1/2 - 1 in.	45 lb/ac	90 lb/ac	90 lb/ac	2 tons/ac
3	Sheep Fescue	20	2/15-4/30 **	1/2 - 1 in.	45 lb/ac	90 lb/ac	90 lb/ac	2 tons/ac
8	Tall Fescue	100	3/1-5/15	1/2 - 1 in.	45 lb/ac	90 lb/ac	90 lb/ac	2 tons/ac

\* For mix no. 3: For the period 6/1 to 8/14 add either 2.5 lb./ac. Foxtail Millet or 2.5 lb./ac. Pearl Millet and for the period 8/15 thru 11/30 add 2.5 lb./ac. Oct 1 permanent seed mix.  
\* For mix no. 8: For the period 6/1 to 8/14 add either 5.0 lb./ac. Foxtail Millet or 5.0 lb./ac. Pearl Millet and for the period 10/16 thru 11/30 add 2.5 lb./ac. Oct 1 permanent seed mix (mix no. 3).

\*\* Warm-season grasses need a soil temperature of at least 50 degrees F in order to germinate. If soil temperatures are cooler than 50 degrees, or moisture is not adequate, the seeds will remain dormant until conditions are favorable. In general, planting during the latter portion of this period allows more time for weed emergence and weed control prior to planting. When selecting a planting date, consider the need for control vs. the likelihood of having sufficient moisture for later plantings, especially on droughty sites.

**B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION**

**Definition:** To stabilize disturbed soils with vegetation for up to 6 months.

**Purpose:** To use fast growing vegetation that provides cover on disturbed soils.

**Conditions Where Practice Applies:** Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

**Criteria:**

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seedlings. If this summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For sites having topsoil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1 and maintain until the next seeding season.

**Temporary Seeding Summary**

No.	Species	Application Rate (lb./ac)	Seeding Dates	Seeding Depth	Fertilizer Rate (10-20-20)			Lime Rate
					N	P2O5	K2O	
1	Annual Ryegrass	40	2/15-4/30	1/2 in.	436 lb/ac	872 lb/ac	872 lb/ac	2 tons/ac
2	Foxtail Millet	30	5/1-8/14	1/2 in.	436 lb/ac	872 lb/ac	872 lb/ac	2 tons/ac

