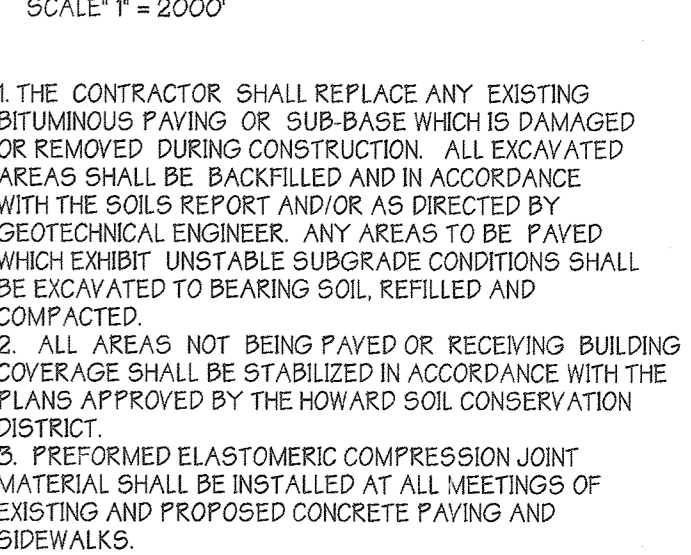


Construction Notes

1. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT 410-313-1000 AT LEAST 24 HOURS PRIOR TO STARTING ANY OF THE WORK SHOWN HEREON.
2. ALL PLAN DIMENSIONS ARE GIVEN TO FACE OF CURB UNLESS OTHERWISE NOTED. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS.
3. THE CONTRACTOR SHALL NOTE THAT IN CASE OF DISCREPANCY BETWEEN ANY SCALED DIMENSIONS AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
4. CONTRACTOR SHALL MEET ALL EXISTING IMPROVEMENTS SMOOTHLY FOR LINE, GRADE AND FINISH.
5. ALL WORK SHOWN ON THESE PLANS SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND OF THE MARYLAND STATE HIGHWAY ADMINISTRATION AND THE HOWARD COUNTY PLUMBING CODE, UNLESS OTHERWISE NOTED.
6. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM SUCH WORK. THE COST OF SUCH WORK SHALL BE INCLUDED IN THE BASE BID.
7. THE CONTRACTOR SHALL INSPECT THE SITE TO DETERMINE IF ANY TREES, PAVING, ETC. ARE TO BE REMOVED PRIOR TO PLACING A BID ON SUCH ITEMS.
8. THE LOCATIONS OF EXISTING UTILITIES SHOWN HEREON ARE APPROXIMATE ONLY AND ARE FOR THE CONVEYANCE OF THE CONTRACTOR ONLY. THE LOCATIONS ARE TAKEN FROM EXISTING RECORDS AND DO NOT REPRESENT FIELD-VERIFIED LOCATIONS. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 A MINIMUM OF 5 WORKING DAYS PRIOR TO DIGGING. THE CONTRACTOR SHALL CONTACT G. W. STEPHENS AND THE OWNER OF THE UTILITY IMMEDIATELY. ANY DAMAGE OR DISRUPTION OF SERVICE SHALL BE AT THE EXPENSE OF THE CONTRACTOR. RELOCATION OF ANY EXISTING UTILITIES, IF NECESSARY, SHALL BE AT THE EXPENSE OF THE OWNER. THE CONTRACTOR SHALL COORDINATE RELOCATION OF THESE FACILITIES, IF NECESSARY.
9. CONTRACTOR SHALL PROTECT ALL EXISTING TREES OUTSIDE THE LIMIT OF DISTURBANCE AT ALL TIMES DURING CONSTRUCTION.
10. CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS NOT SCHEDULED FOR REMOVAL OR DEMOLITION. COST OF REPAIR TO EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE BASE BID. ALL EXISTING SITE FEATURES NOT BEING RETAINED SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED LOCATION. ANY DAMAGE TO OFFSITE ROADS, RIGHTS OF WAY, OR ADJACENT PROPERTY SHALL BE REPAIRED IMMEDIATELY AT THE EXPENSE OF THE CONTRACTOR.
11. THE CONTRACTOR SHALL CLEAR THE PROJECT SITE OF ALL TREES, PAVING STRUCTURES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS OTHERWISE NOTED ON THE PLAN.
12. ONLY SUITABLE MATERIAL SHALL BE USED AS FILL AND ALL FILL SHALL BE PLACED AND COMPACTED AS SPECIFIED IN THE SOILS REPORT PREPARED FOR THIS SITE OR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. ALL 2:1 SLOPES SHOWN HEREON EXCEPTING THOSE ASSOCIATED WITH LANDSCAPE BERMING, ALL GRADING UNDER PROPOSED PAVING, AND ALL FILL AND COMPACTION SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.
13. CONTRACTOR SHALL PROVIDE MINIMUM 4 FOOT BENCH AT EDGE OF PAVING IN FILL AREAS. MAXIMUM SLOPE OF BENCH SHALL BE 4% (1/4 IN PER FOOT).
14. MAXIMUM SLOPE SHALL BE 2 HORIZONTAL TO 1 VERTICAL.
15. CONTRACTOR SHALL PLACE A WITNESS POST AT THE TERMINUS OF ALL UTILITY STUBS.
16. ALL UTILITIES INSTALLED SHALL RECEIVE FULL TRENCH COMPACTION.
17. CONTRACTOR SHALL PROVIDE A MINIMUM OF 1 FOOT OF PROTECTIVE FILL OVER STORM DRAIN PIPES DURING CONSTRUCTION.
18. CONTRACTOR SHALL PROVIDE ALL PAVEMENT MARKINGS AND SIGNAGE FOR HANDICAPPED PARKING SPACES INDICATED HEREON IN ACCORDANCE WITH ALL APPLICABLE CODES. ALL PAVEMENT MARKINGS TO BE TRAFFIC WHITE.
19. ALL HANDICAPPED FACILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH THE "DESIGN OF BARRIER FREE FACILITIES" AND THE MARYLAND BUILDING CODE FOR THE HANDICAPPED, AND AGED, LATEST EDITION.
20. ALL TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES". ALL STREET AND REGULATORY SIGNS SHALL BE INSTALLED PRIOR TO INSTALLATION OF FINISHED PAVING.

Location Map



Benchmarks :

- WR & A BM #2352 ELEVATION: 359.29' IRON PIPE 240 FEET RIGHT OF CENTERLINE STA. 15+00, COLUMBIA GATEWAY DRIVE
- WR & A BM #714 ELEVATION: 315.29' 230 FEET RIGHT OF CENTERLINE STA. 34+30 COLUMBIA GATEWAY DRIVE

Sheet Index

SHEET #1 -	SITE PLAN
SHEET #2 -	SITE DETAILS
SHEET #3 -	SITE DETAILS
SHEET #4 -	DRAINAGE AREA MAP, STORM DRAIN PROFILES & SEWER PROFILE
SHEET #5 -	STORMCEPTOR PLAN & DETAILS
SHEET #6 -	SEDIMENT CONTROL PLAN
SHEET #7 -	SEDIMENT CONTROL NOTES & DETAILS
SHEET #8 -	SEDIMENT BASIN PLAN & PROFILES
SHEET #9 -	SEDIMENT BASIN NOTES & DETAILS
SHEET #10 -	STORMWATER MANAGEMENT DRAINAGE AREA MAPS
SHEET #11 -	STORMWATER MANAGEMENT PLAN & PROFILES
SHEET #12 -	STORMWATER MANAGEMENT NOTES & DETAILS
SHEET #13 -	LANDSCAPE PLAN

Site Data

TOTAL AREA OF SITE	376,224.90 SQ. FT. OR 8.6369 AC.-/1
EXISTING ZONING	M-1
PROPERTY REFERENCE	444/0347
EXISTING USE	VACANT
PROPOSED USE	OFFICE
BUILDING COVERAGE	20,525 SQ. FT.
% BUILDING COVERAGE	0.57 %
FLOOR AREA RATIO	0.57 %
AREA TO BE PAVED PLUS BUILDING AREA	5.60 AC.-/1
OPEN SPACE	
TOTAL AREA OF PARKING LOT	3.41 AC.-/1
% PARKING LOT COVERAGE	0.95 %
AREA TO BE DISTURBED	336,700.00 SQ. FT. OR 7.75 AC.-/1
AREA TO BE VEGETATIVELY STABILIZED	132,422.40 SQ. FT. OR 3.04 AC.-/1
PREVIOUS SKETCH NO.	6 05 20
PRELIMINARY NO.	P 06 22
FINAL PLAN NO.	F 08 15, F 12 02

Parking Tabulation

REQUIRED
OFFICE - GENERAL 114,100 SQ. FT.
@ 3.3 P.S. / 1,000 SQ. FT. = 377 P.S.
PROVIDED
473 SPACES (INCLUDES 9 HANDICAPPED)

Legend

Ex. 2' Contours	394
Ex. 10' Contours	395
Prop. 2' Contours	394
Prop. 10' Contours	395
Ex. Curb & Gutter	
Prop. Curb & Gutter	
Bldg. Restriction Line	
Ex. Sanitary	
Ex. Storm Drain	
Ex. Water	
Prop. Sanitary	
Prop. Storm Drain	
Prop. Water	
Heavy Duty Paving (P-2)	
Light Duty Paving (P-3)	

Note:

ALL EXTERIOR LIGHTING MUST COMPLY WITH ZONING REGULATION SPECIFICATIONS 134 OUTDOOR LIGHTING

Note:

WETLANDS SHOWN HERE ON MAY BE IMPACTED PER WATER QUALITY CERTIFICATION WETLAND PERMIT NUMBER 180001010 / 08-WQ-0481

Note:

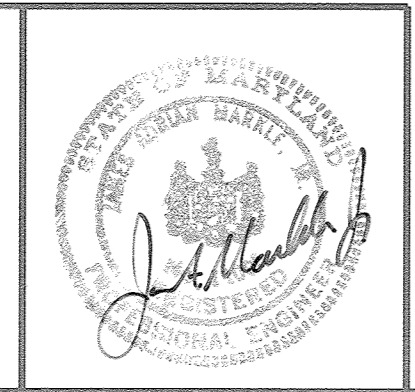
FOR TRAFFIC CONTROL DETAILS SEE SHEET 3 OF 13

NOTE:

ALL STORM DRAINS TO BE RCCP OR HDPE UNLESS OTHERWISE NOTED.

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120



NOTE: The owner shall provide a separate and independent sewer connection for each tenant or occupant of any building, shown on this site development plan who will discharge non-domestic waste to the public sewerage system if each separate and independent sewer connection shall include a standard manhole and other waste pretreatment devices as required and approved by Howard County. Waste lines on the interior of the building shall be designed, constructed or modified such that non-domestic waste will be discharged to the separate and independent sewer connection. No tenant or occupant of any building shown on this site development plan shall discharge regulated non-domestic waste to the public sewerage system prior to installation of the separate and independent sewer connection and related interior waste lines. The above statement shall apply to all initial and future occupants or tenants.

OWNER / DEVELOPER

CORPORATE GATESPRING II, LLC
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: K.E.
CHECKED BY: P.R.C.

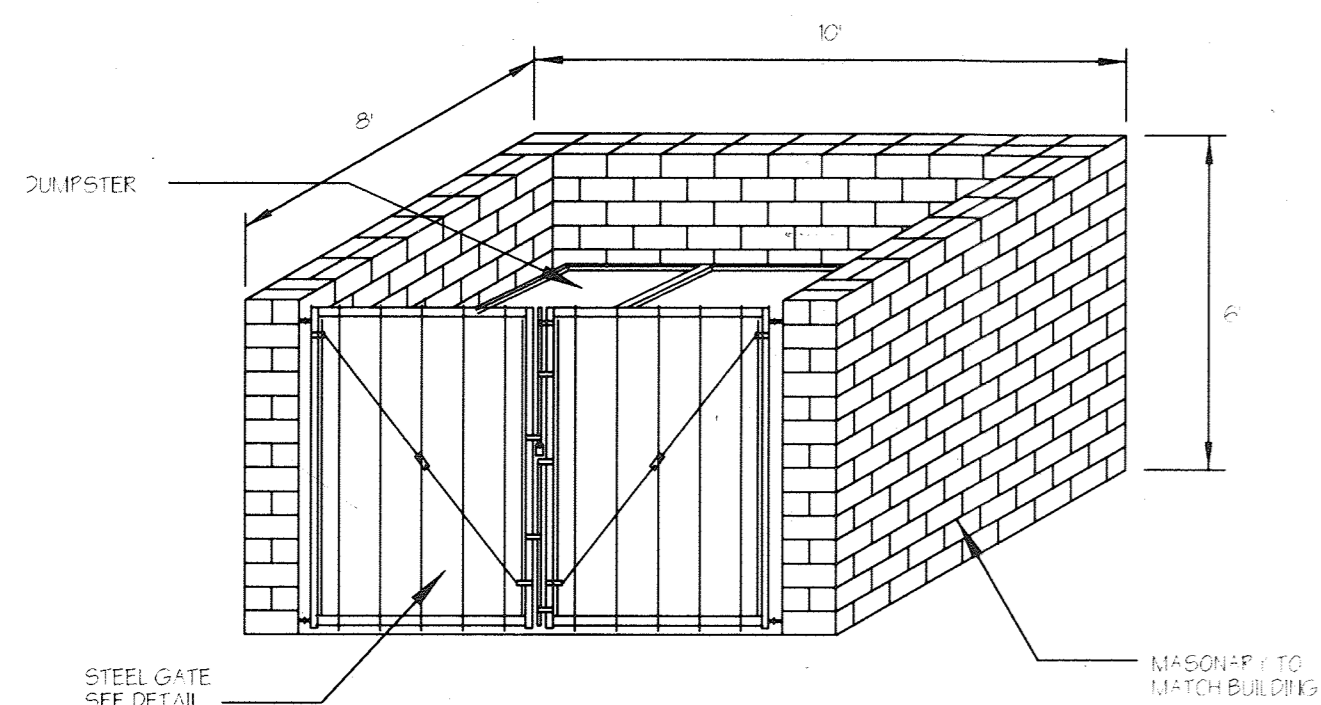
REVISIONS
10/29/98 - GWS EXTENDED PARKING TO CORNER TO CONNECT PAGE 5-20 TO PAGE 5-21. SEE WALKWAY BETWEEN WOODLANDS I AND II REVISIONS

SITE PLAN
COLUMBIA GATEWAY PARCEL S-20
COLUMBIA GATEWAY WOODLANDS II

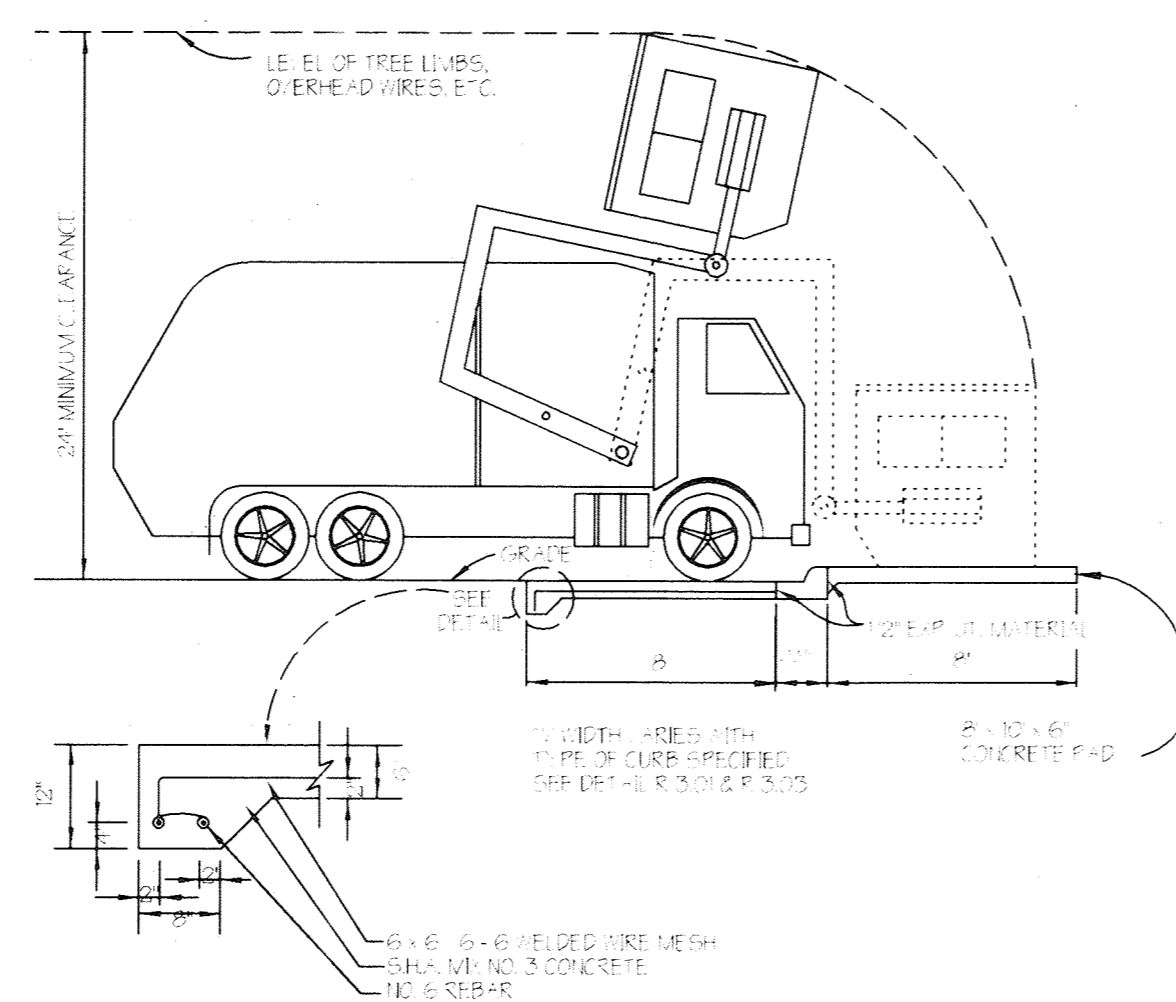
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ELECTION DISTRICT: 6
HOWARD CO., MARYLAND

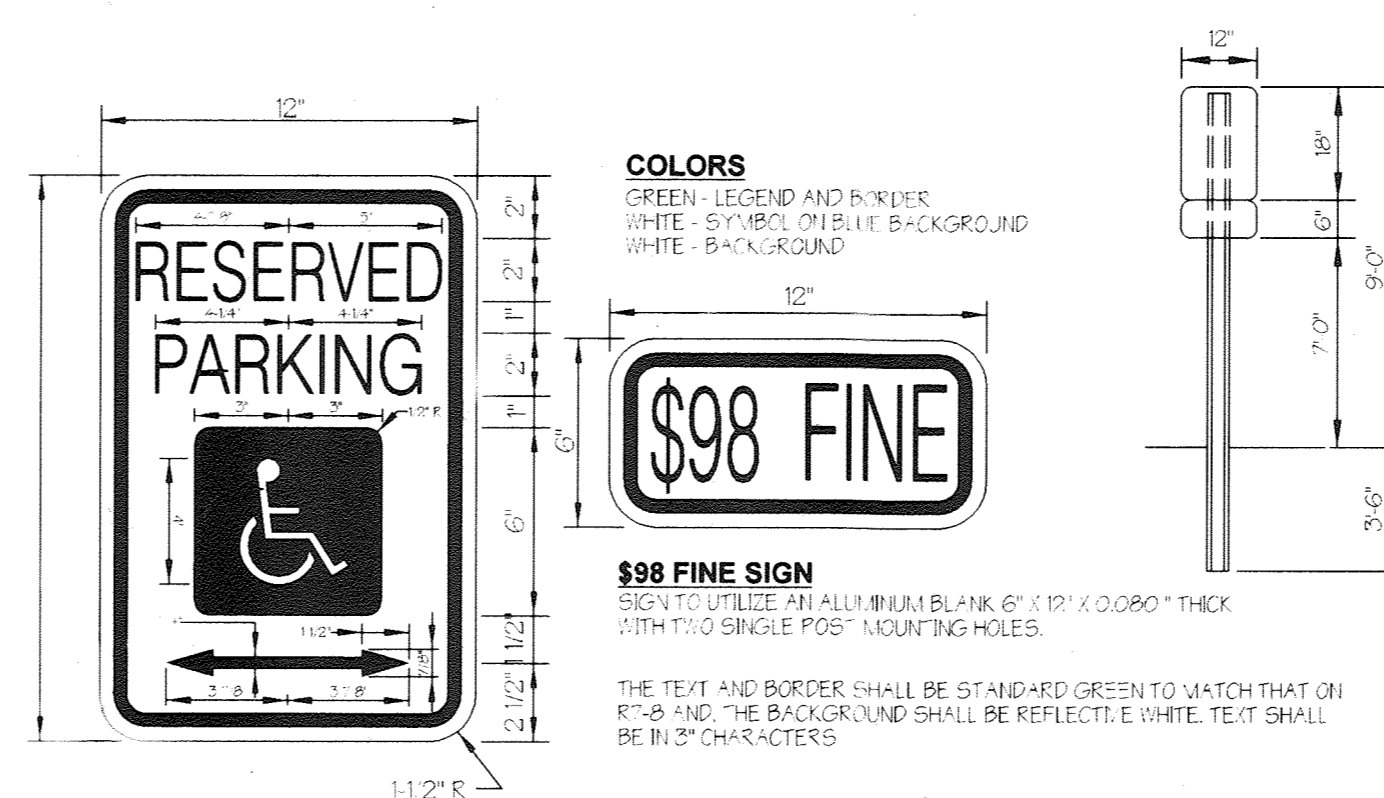
SCALE: As Shown
SHT. 1 OF 13 DATE: MAY 01, 1998



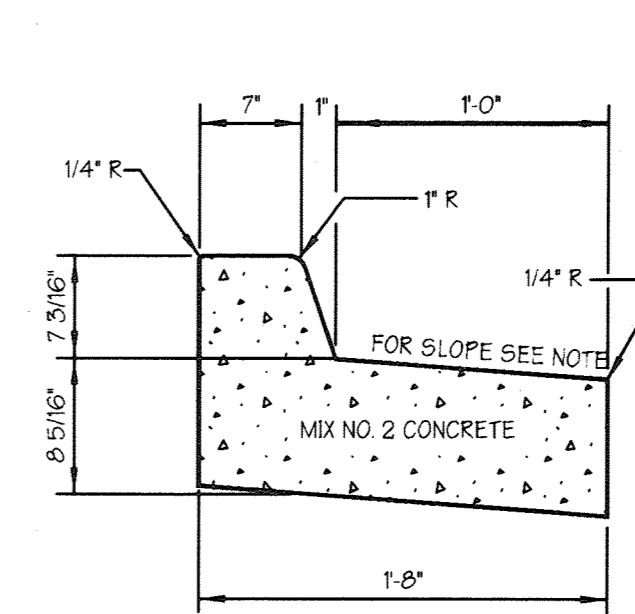
Dumpster Enclosure Detail
NOT TO SCALE



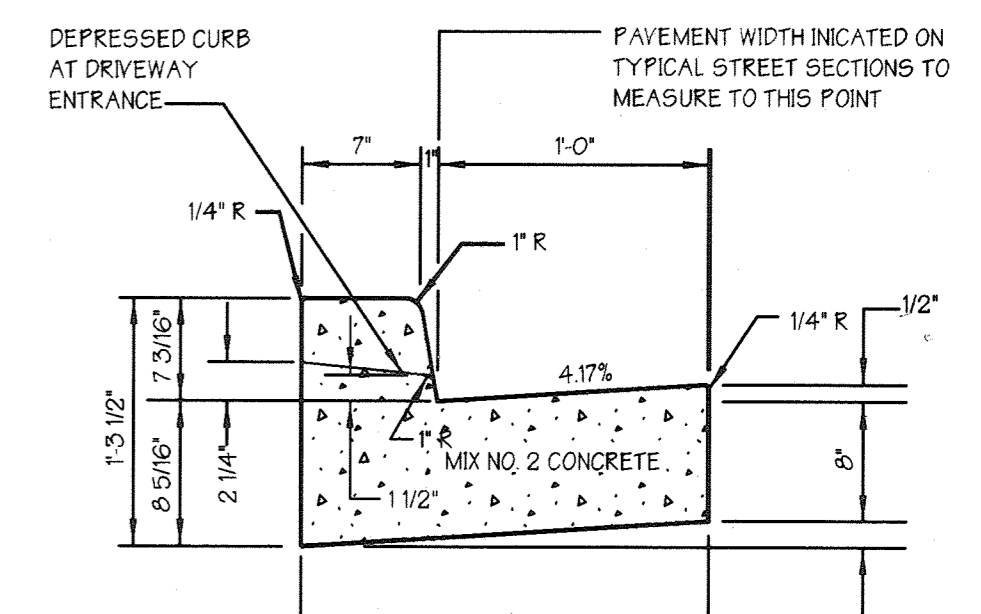
Solid Waste Service Pad
NOT TO SCALE



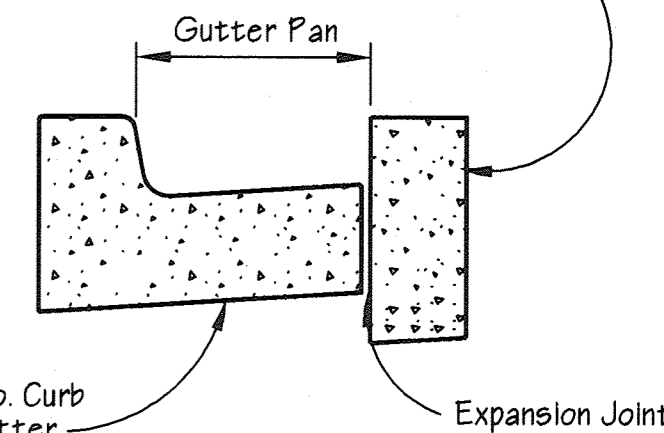
Handicapped Parking Sign Detail



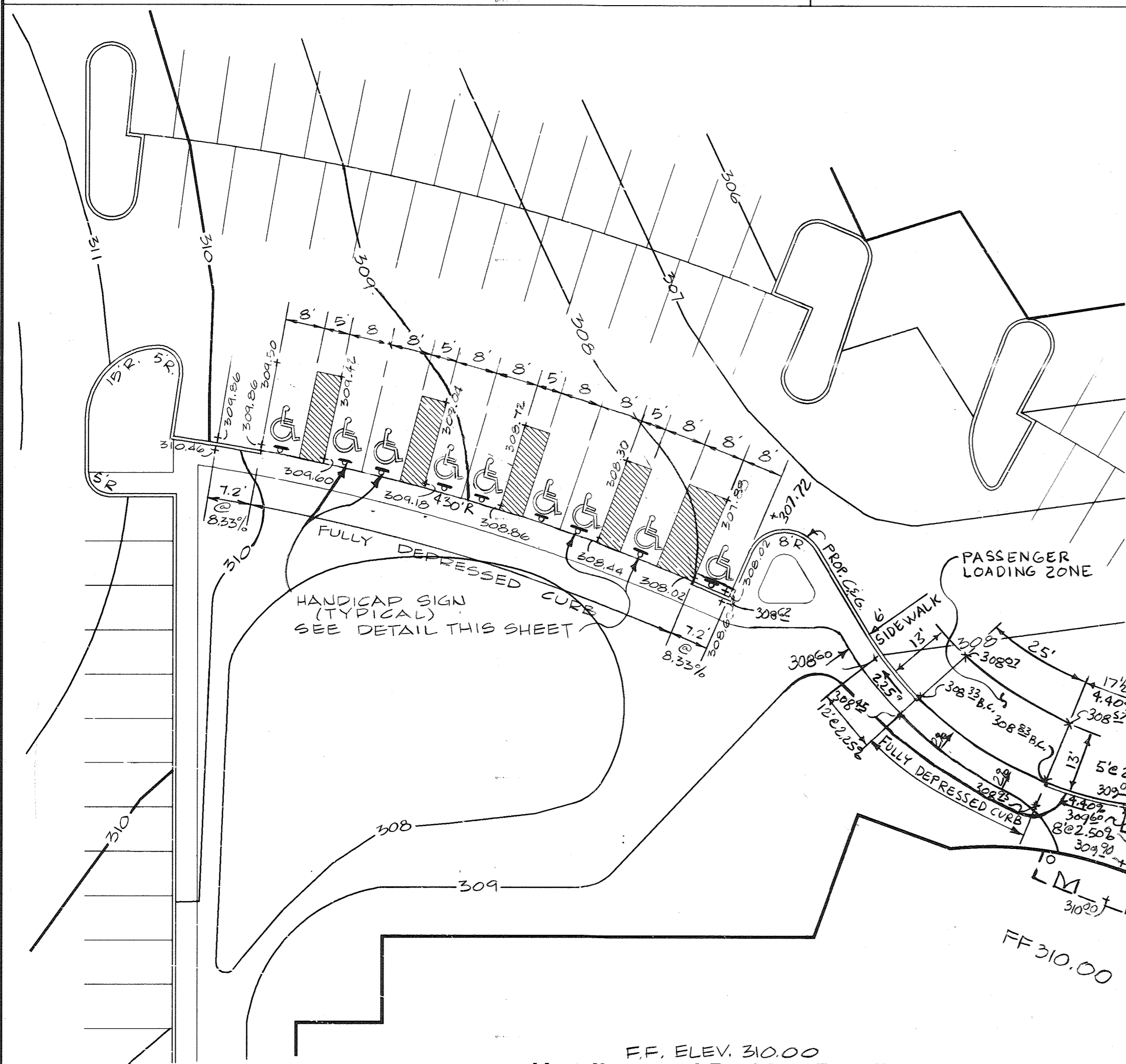
REVERSE SLOPE CURB AND GUTTER
NOT TO SCALE



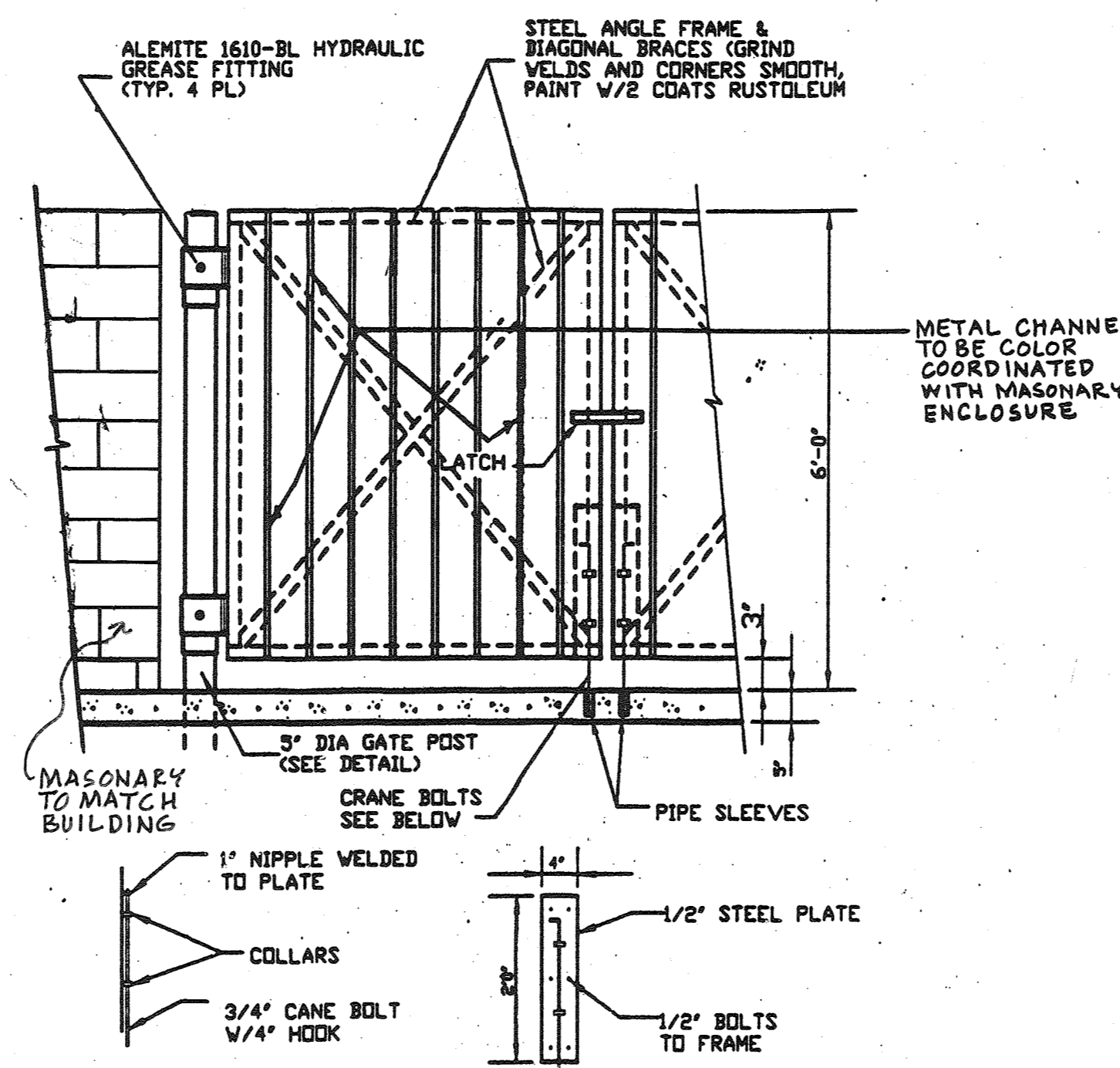
CURB AND GUTTER DETAIL
NOT TO SCALE
SEE HO. CO. STD. DTL. R-3.01
Std. Howard Co. Curb Minus Gutter Pan SDT. DTL. R-3.03



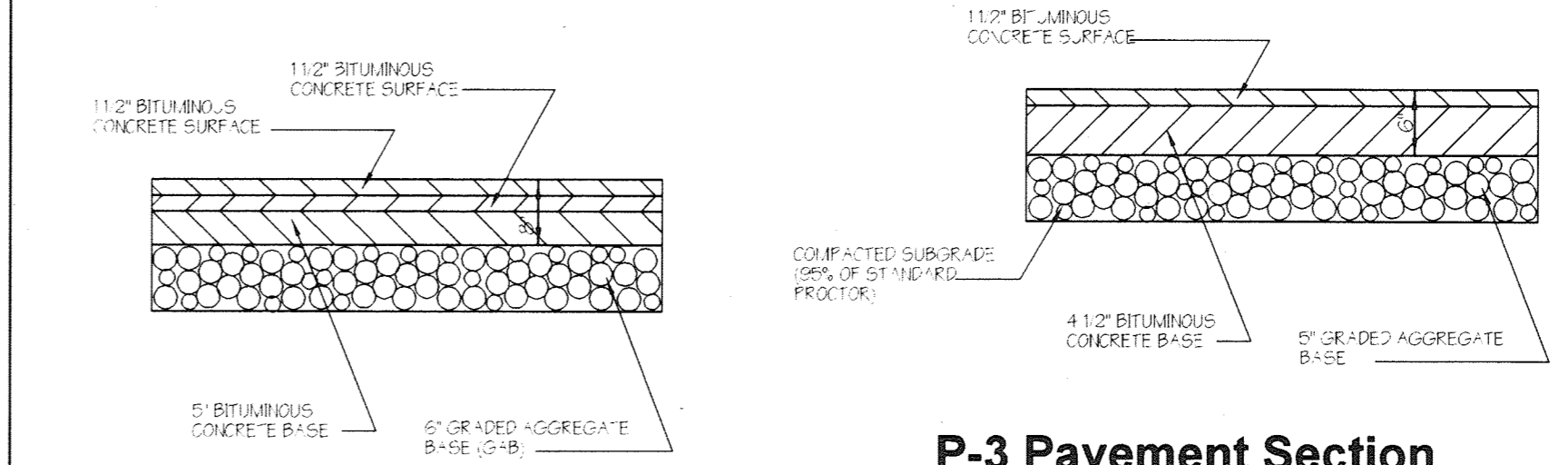
Curb Opening Detail
NOT TO SCALE



Handicap Parking Detail
SCALE: 1" = 20'



TRASH ENCLOSURE GATE & MOUNTING DETAILS
SCALE: 1/2" = 1'-0"

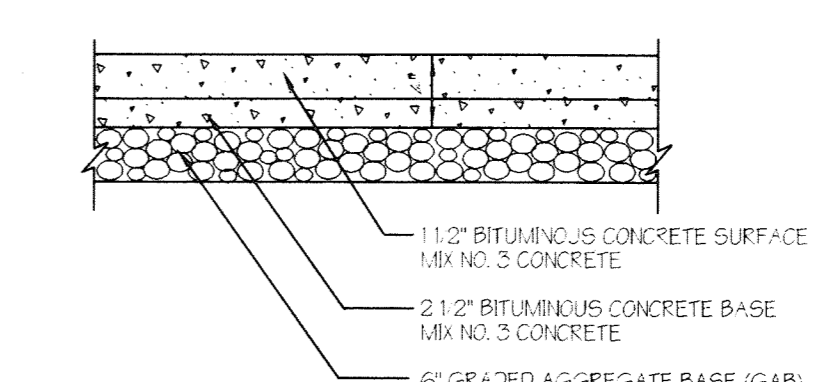


P-5 Pavement Section
NOT TO SCALE
AT COLUMBIA GATEWAY DRIVE DECELERATION LANE

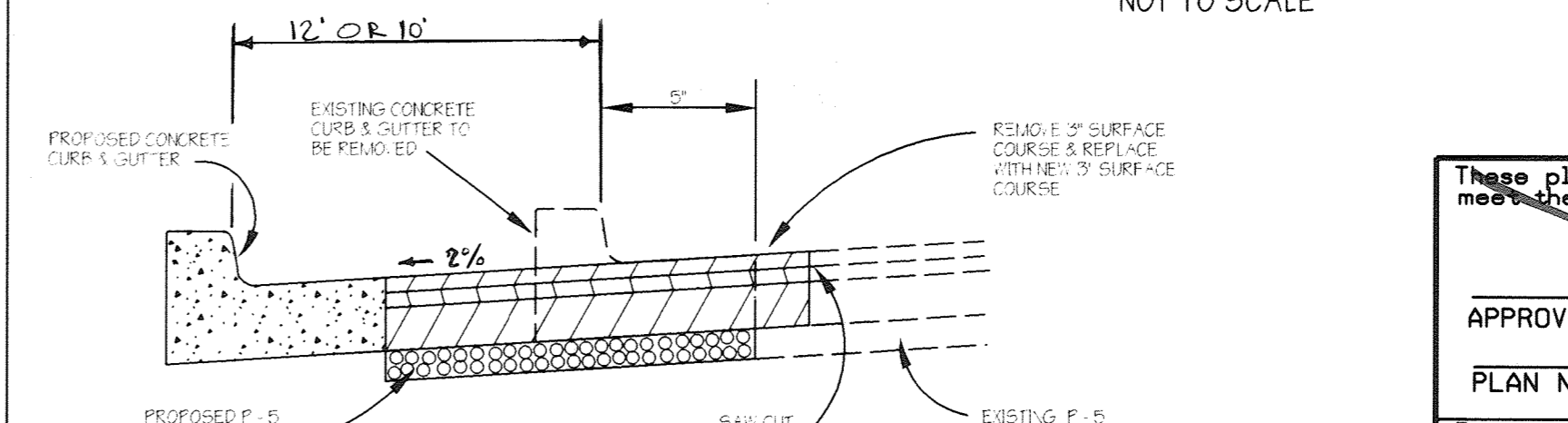
NOTES:

- 1. ALL PAVING TO BE P-2 PAVING UNLESS OTHERWISE NOTED.
- 2. ALL PAVING FOR CONCRETE CURB AND GUTTER TO BE S UNLESS OTHERWISE NOTED.

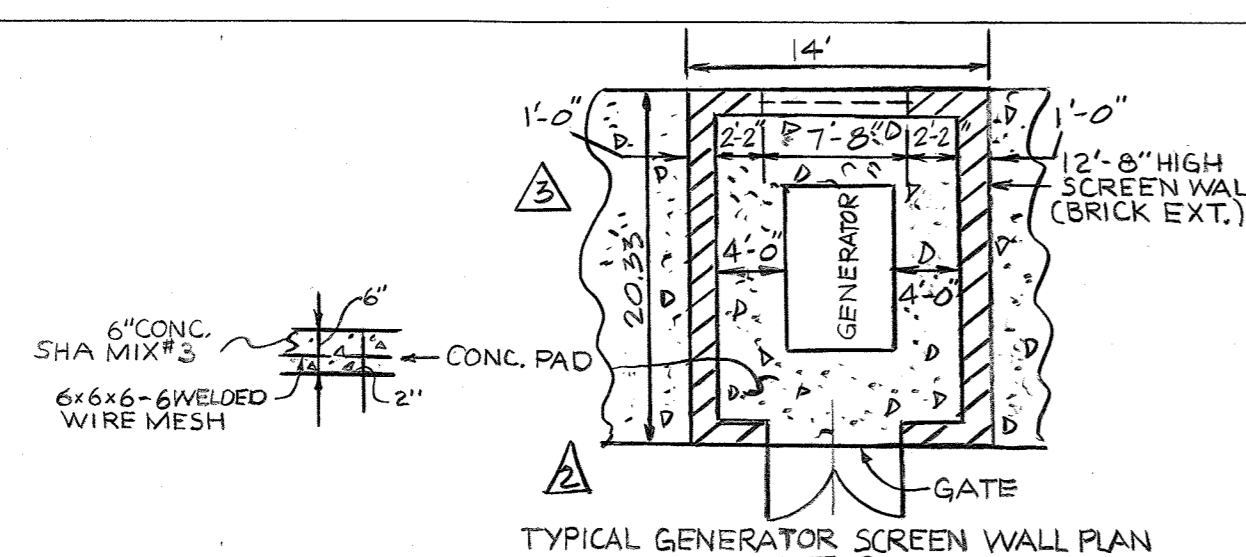
P-3 Pavement Section
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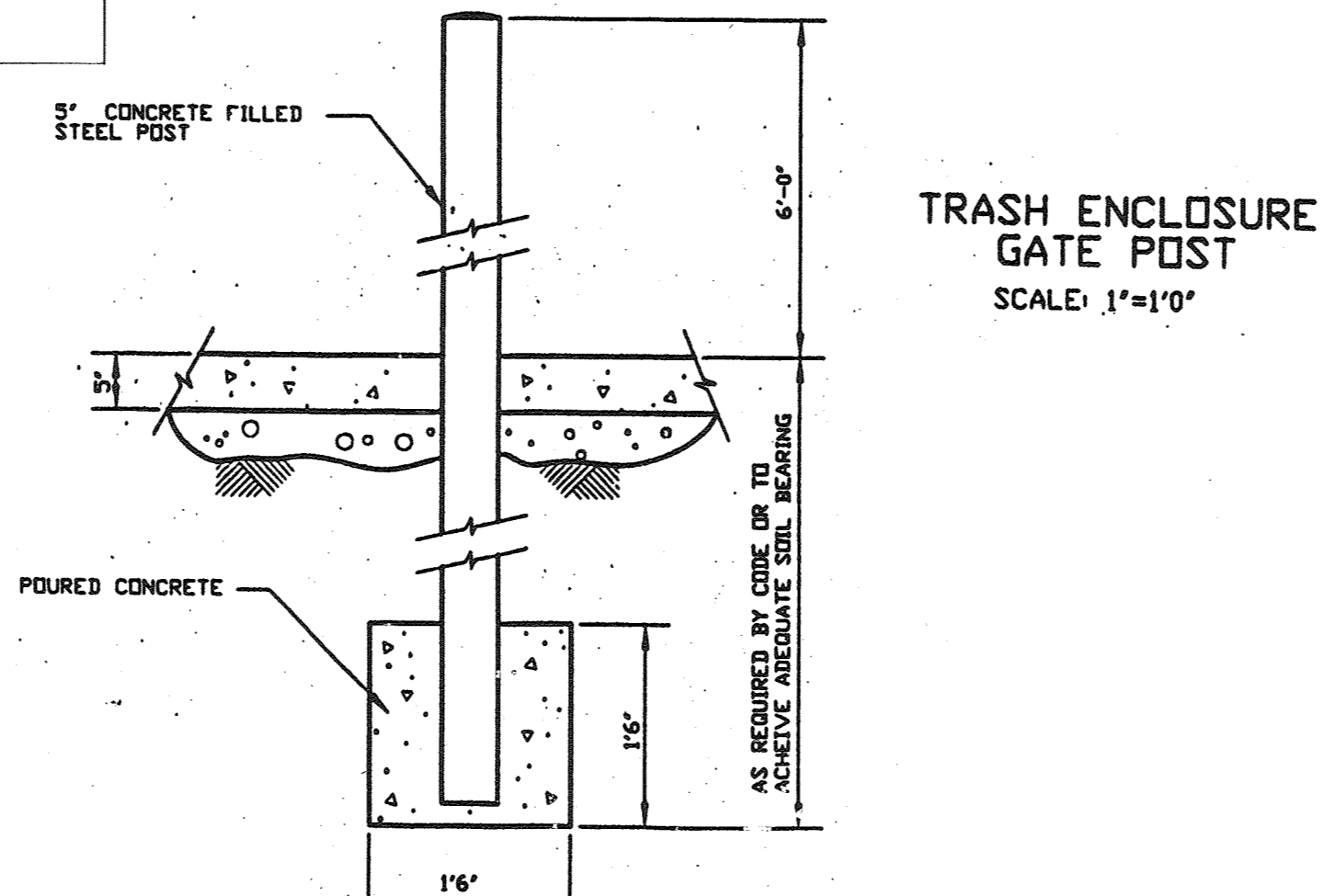
P-2 Pavement Section
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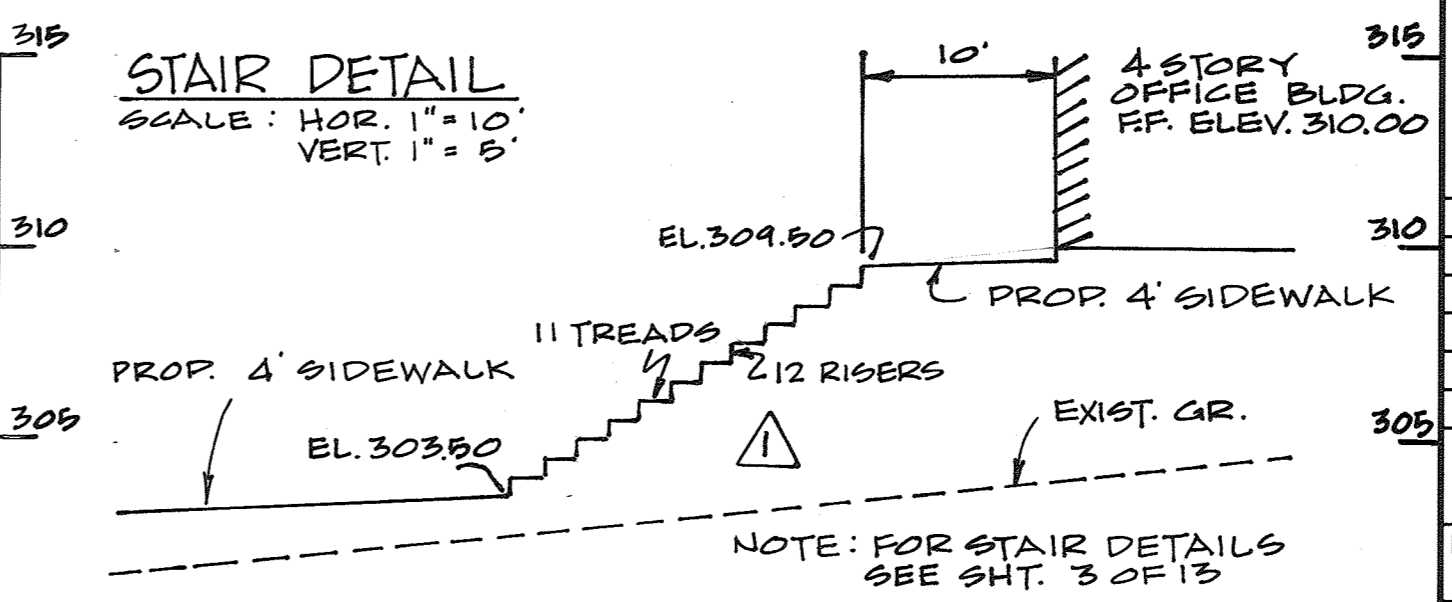
Typical Road - Widening Section
NOT TO SCALE
AT COLUMBIA GATEWAY DRIVE DECELERATION LANE
STD. HOWARD COUNTY DESIGN MANUAL IV DETAIL R-10.01



TYPICAL GENERATOR SCREEN WALL PLAN
N.T.S.



TRASH ENCLOSURE GATE POST
SCALE: 1" = 1'-0"



STAIR DETAIL
SCALE: HOR. 1" = 10', VERT. 1" = 8'

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120



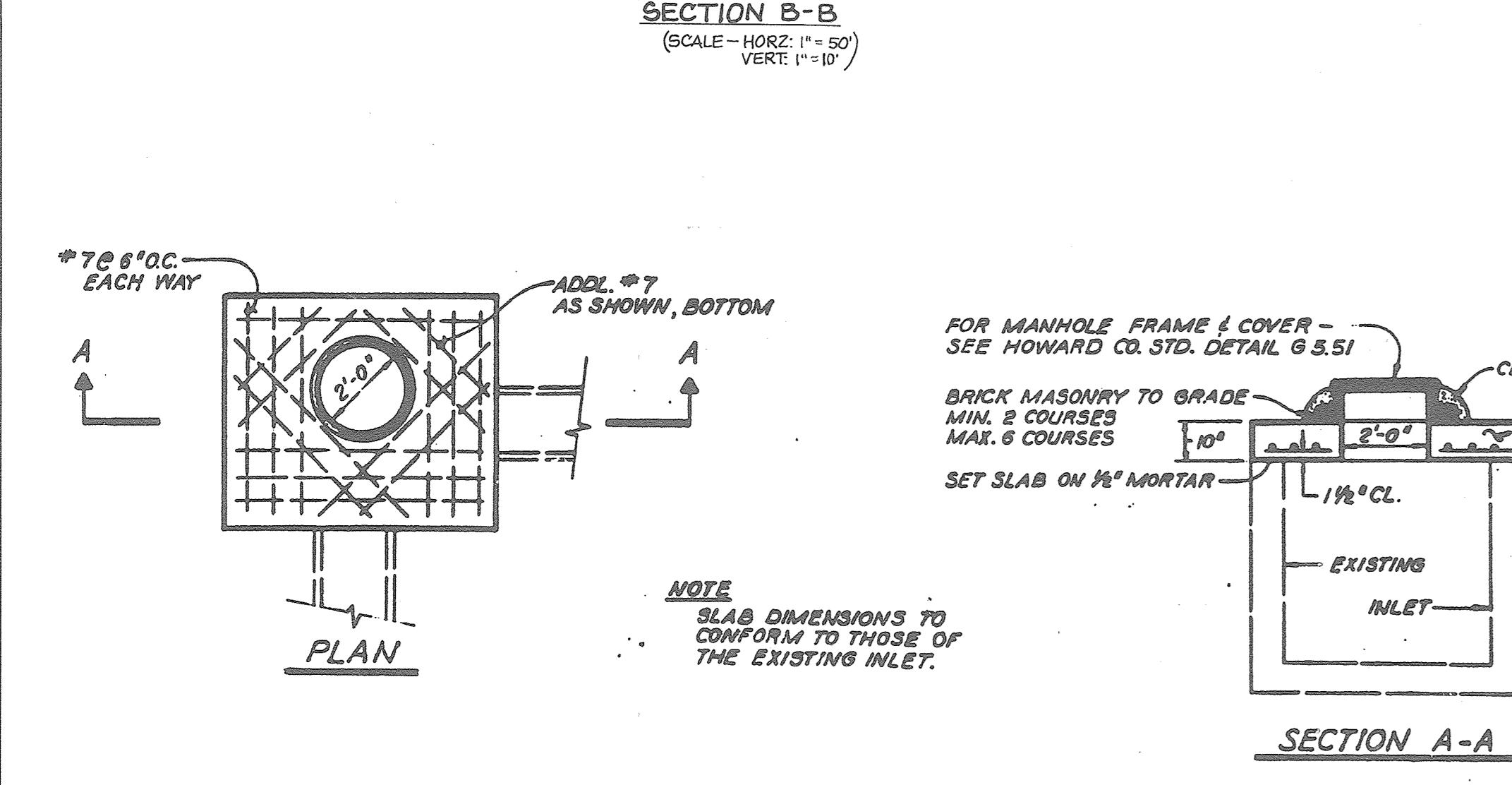
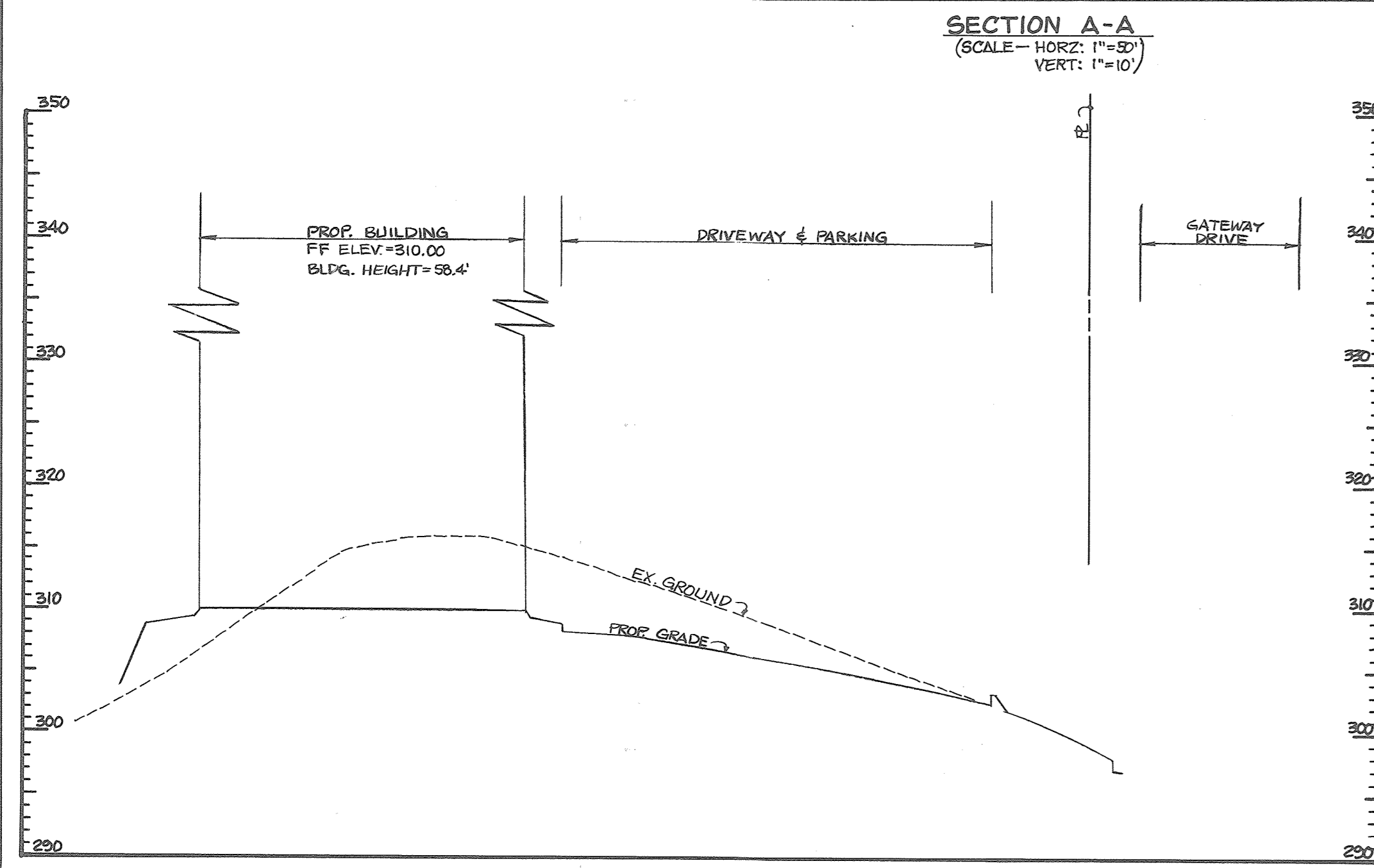
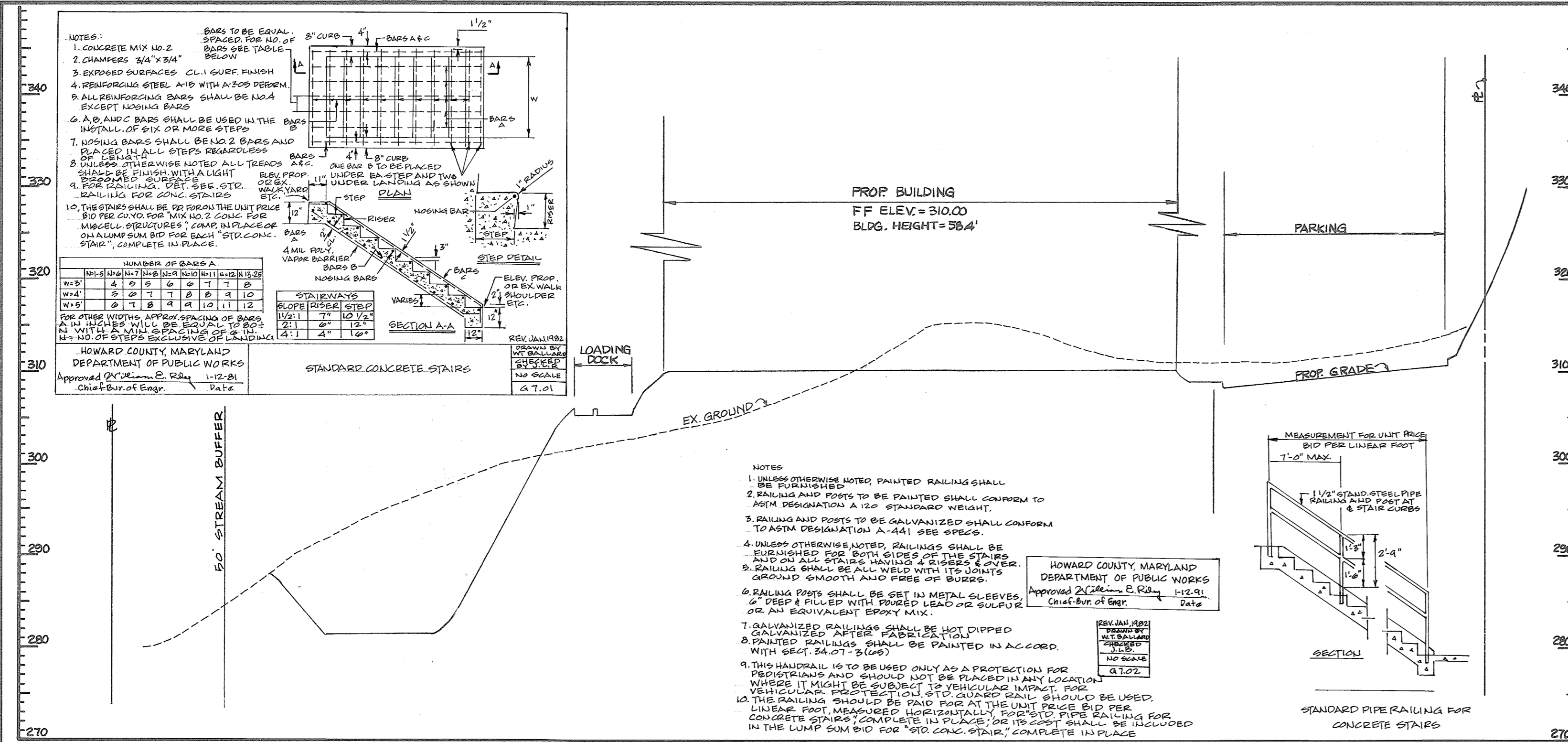
REVISIONS
2/29/2000 - GWS REVISED DIMENSIONS FOR TYPICAL GENERATOR SCREEN WALL PLAN.

OWNER / DEVELOPER
CORPORATE GATESPRING II, LLC
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

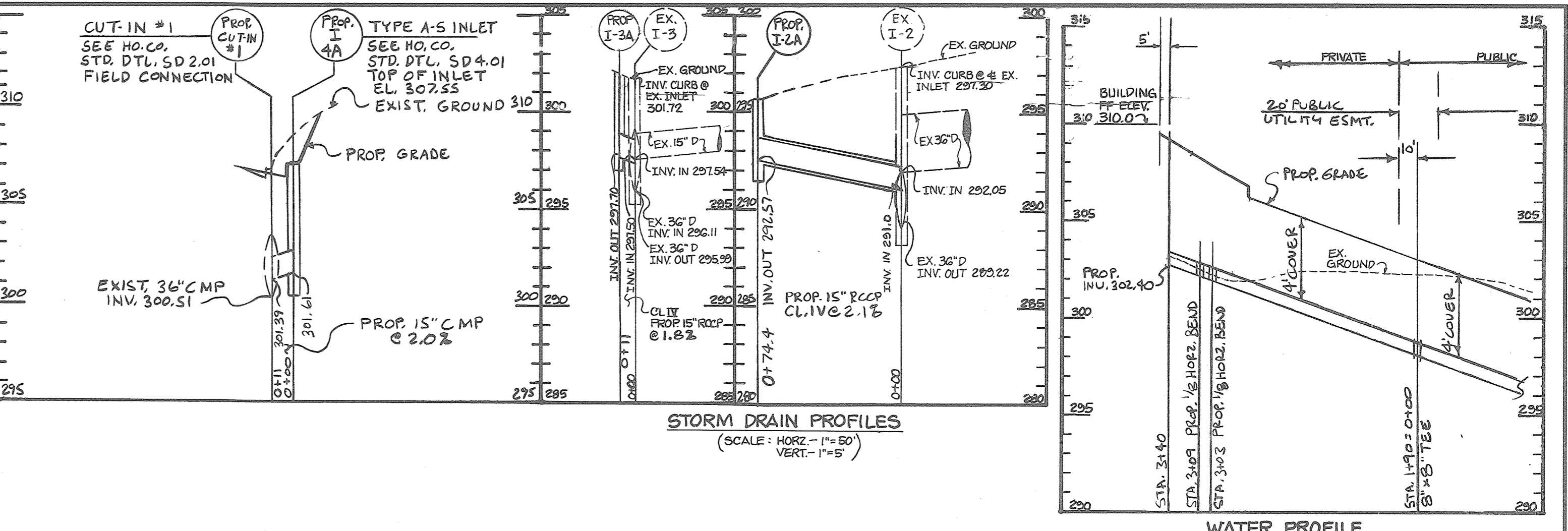
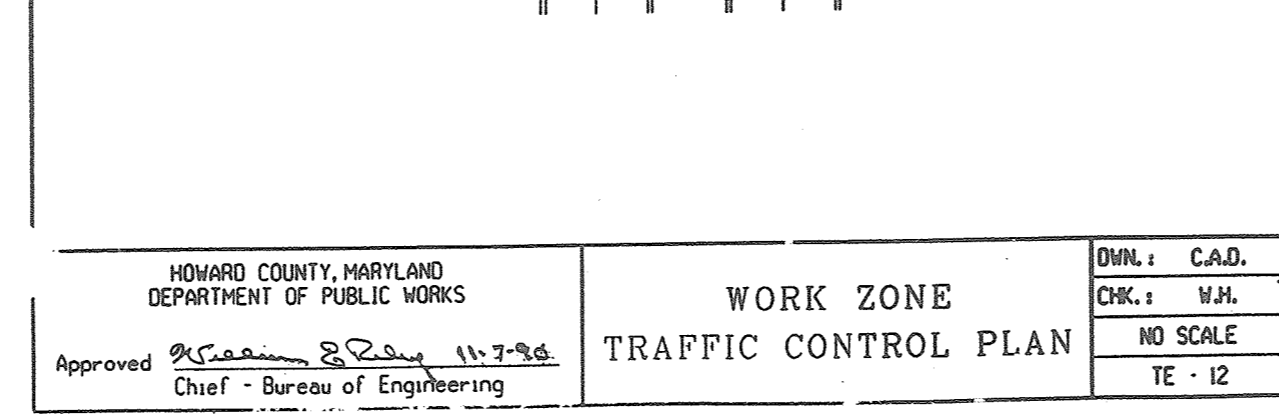
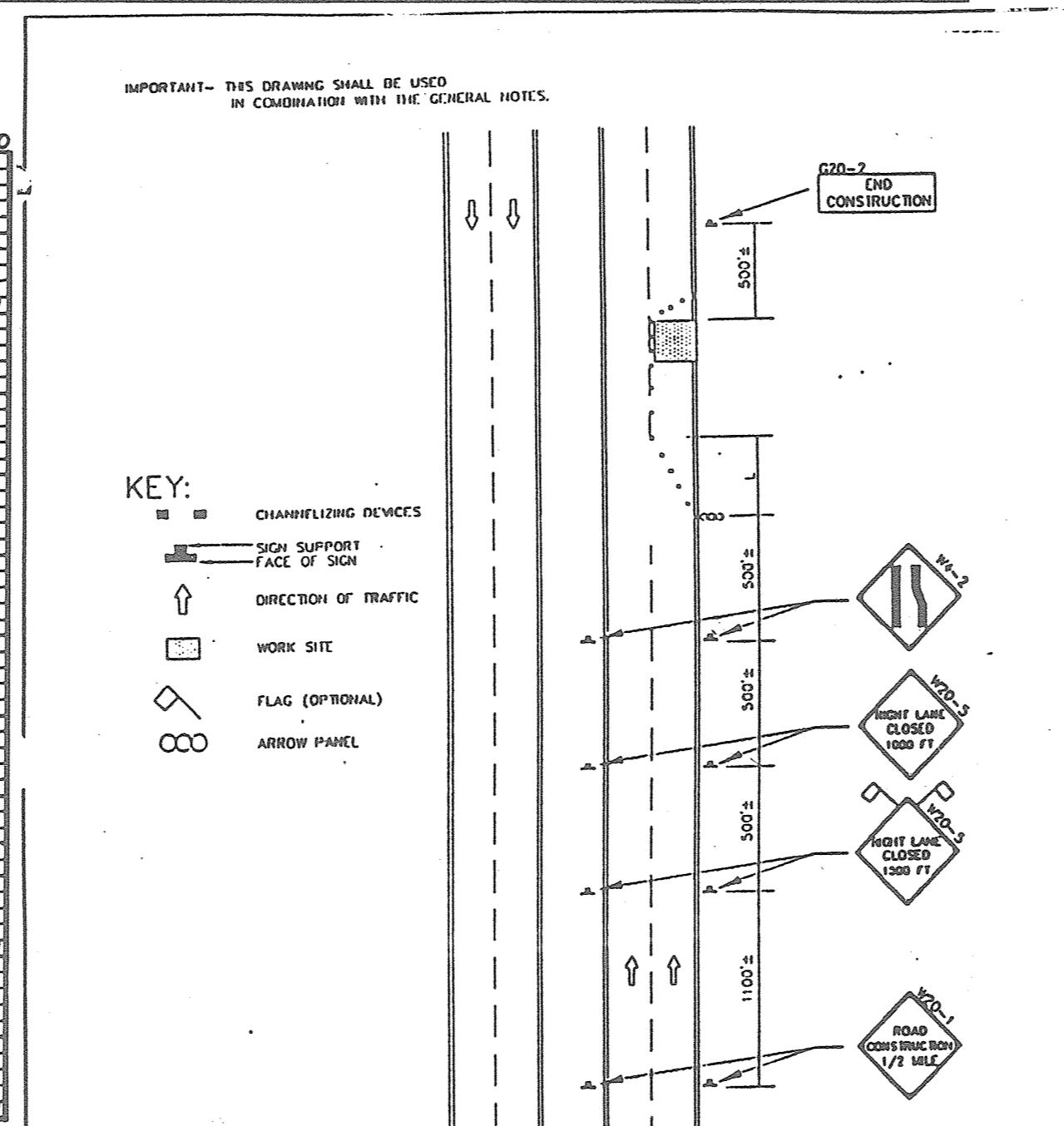
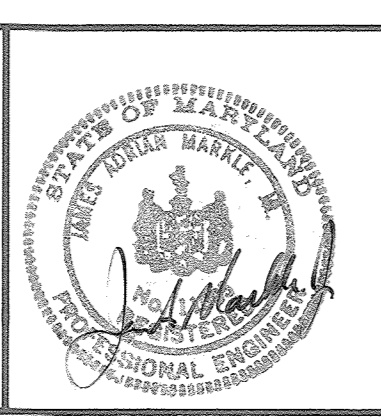
DESIGNED BY: P.R.C.
DRAWN BY: K.E.
CHECKED BY: P.R.C.
REVISIONS
10/29/98 - GWS ADDED STAIR DETAIL
7/15/99 - G.W.S. ADDED SCREEN WALL DETAIL.

SITE DETAILS					
COLUMBIA GATEWAY PARCEL 5-20					
COLUMBIA GATEWAY WOODLANDS II					
ELECTION DISTRICT: 6					
HOWARD CO., MARYLAND SHT. 2 OF 13					
SCALE: As Shown					
DATE: MAY 01, 1998					

APPROVED: HOWARD SOIL CONSERVATION DISTRICT					
PLAN NUMBER	DATE				
Reviewed for the Howard Conservation District and meets technical requirements.					
NATURAL RESOURCES CONSERVATION SERVICE	DATE				
APPROVED: Howard County Department of Planning and Zoning					
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE				
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE				
DIRECTOR	DATE				
ADDRESS CHART					
PARCEL NO. 5-20	STREET ADDRESS 6990 COLUMBIA GATEWAY DRIVE				
SUBDIVISION NAME COLUMBIA GATEWAY	SECTION NAME N/A	PARCEL # 5-20			
PLAT # 12802	BLOCK # 1	ZONE M-1	1/8" ZONE MAP 43	ELECT. DIST. 6	CENSUS TRACT 6067.03
WATER CODE E06		SEWER CODE 5333000			

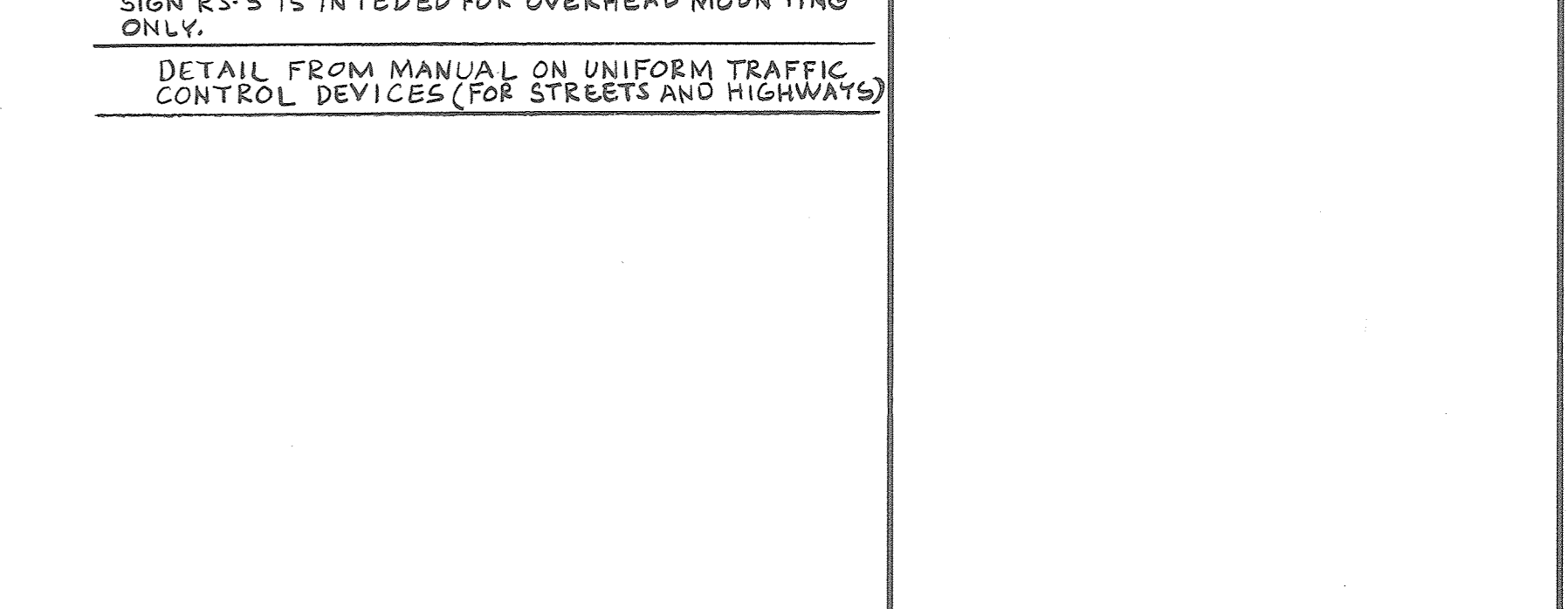
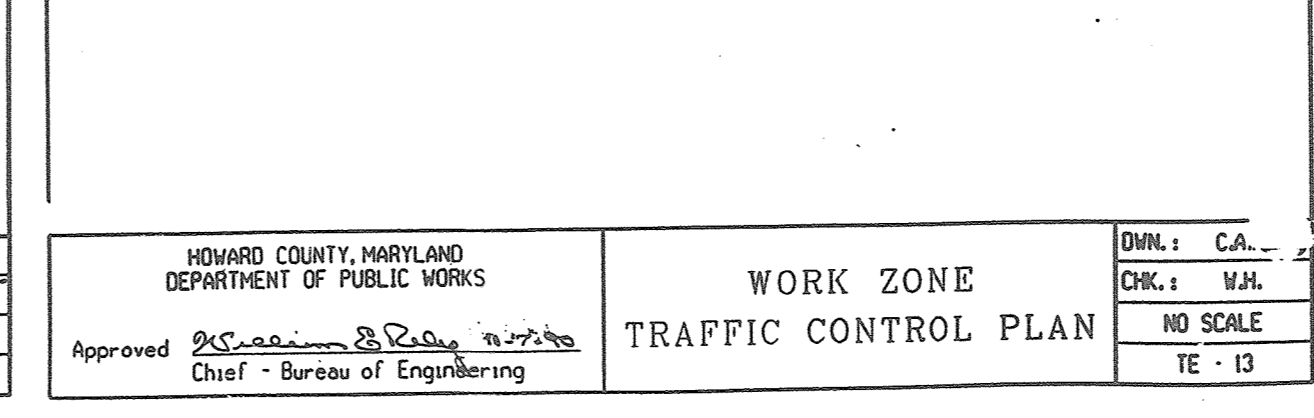
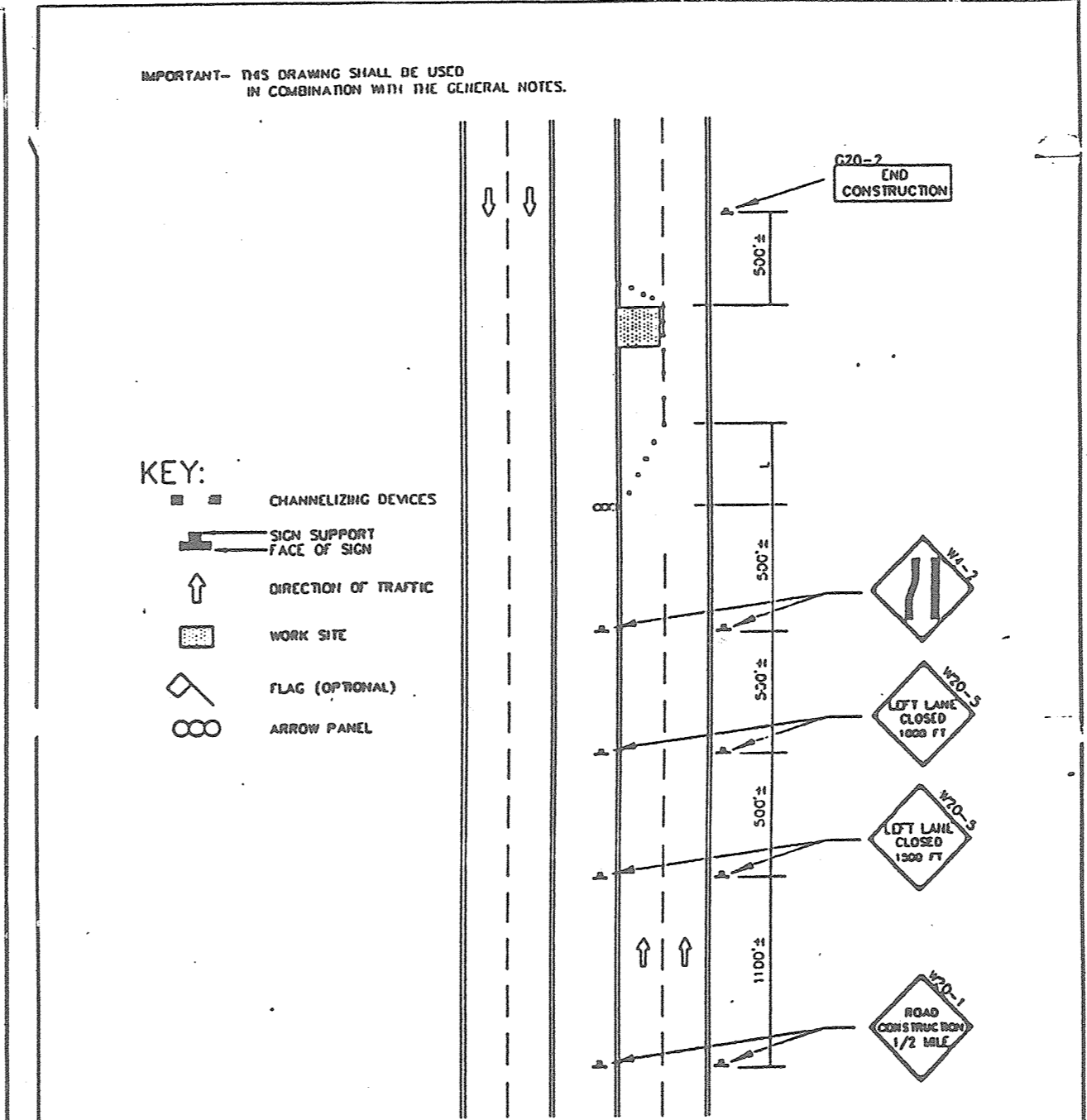


PREPARED BY:
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Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120



2B-17 Lane-Use Control Signs (R3-5 to 8)

Lane-Use Control signs shall be used where turning movements are required or where unconventional turning movements are permitted from specific lanes at an intersection. The standard size of these signs shall be 30 x 36 inches when mounted overhead, and 30 x 30 inches when post mounted. Signs for overhead mounting shall be mounted over the lanes to which they apply. The Mandatory Movement sign (R3-5) shall show a single arrow and the regulatory word message ONLY. The optional movement sign (R3-6) shall show a straight-through and a curved arrow with the lower ends of their shafts superimposed, to indicate that either of the movements symbolized is permissible. The letters "OK" may be added to the legend of the R3-6 sign. The optional movement sign (R3-6) shall not be used alone to effect a turn prohibition.



These plans for S.W.M. construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT
PLAN NUMBER: _____ DATE: _____

Reviewed for the Howard Conservation District and meets technical requirements.

NATURAL RESOURCES CONSERVATION SERVICE
DATE: _____

APPROVED: Howard County Department of Planning and Zoning
[Signature] 10/15/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE
[Signature] 10/15/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
[Signature] 10/15/98
DIRECTOR DATE

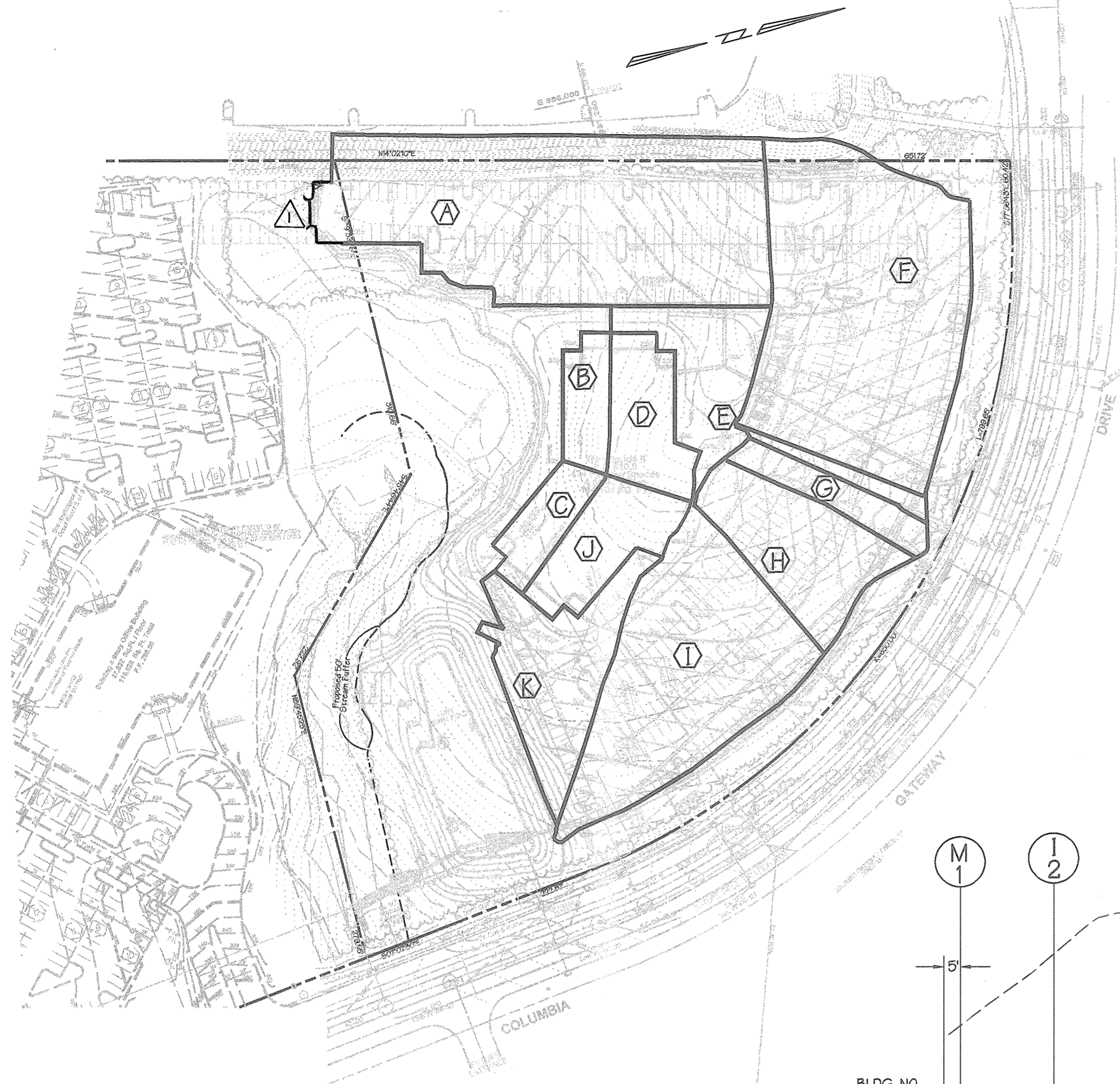
ADDRESS CHART
PARCEL NO. 5-20 STREET ADDRESS 6940 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME COLUMBIA GATEWAY SECTION NAME N/A PARCEL # 5-20
PLAT # 12882 BLOCK # 1 ZONE M-1 ZONE MAP 43 ELECT. DIST. 6 CENSUS TRACT 606703
WATER CODE -E06 SEWER CODE 53330000

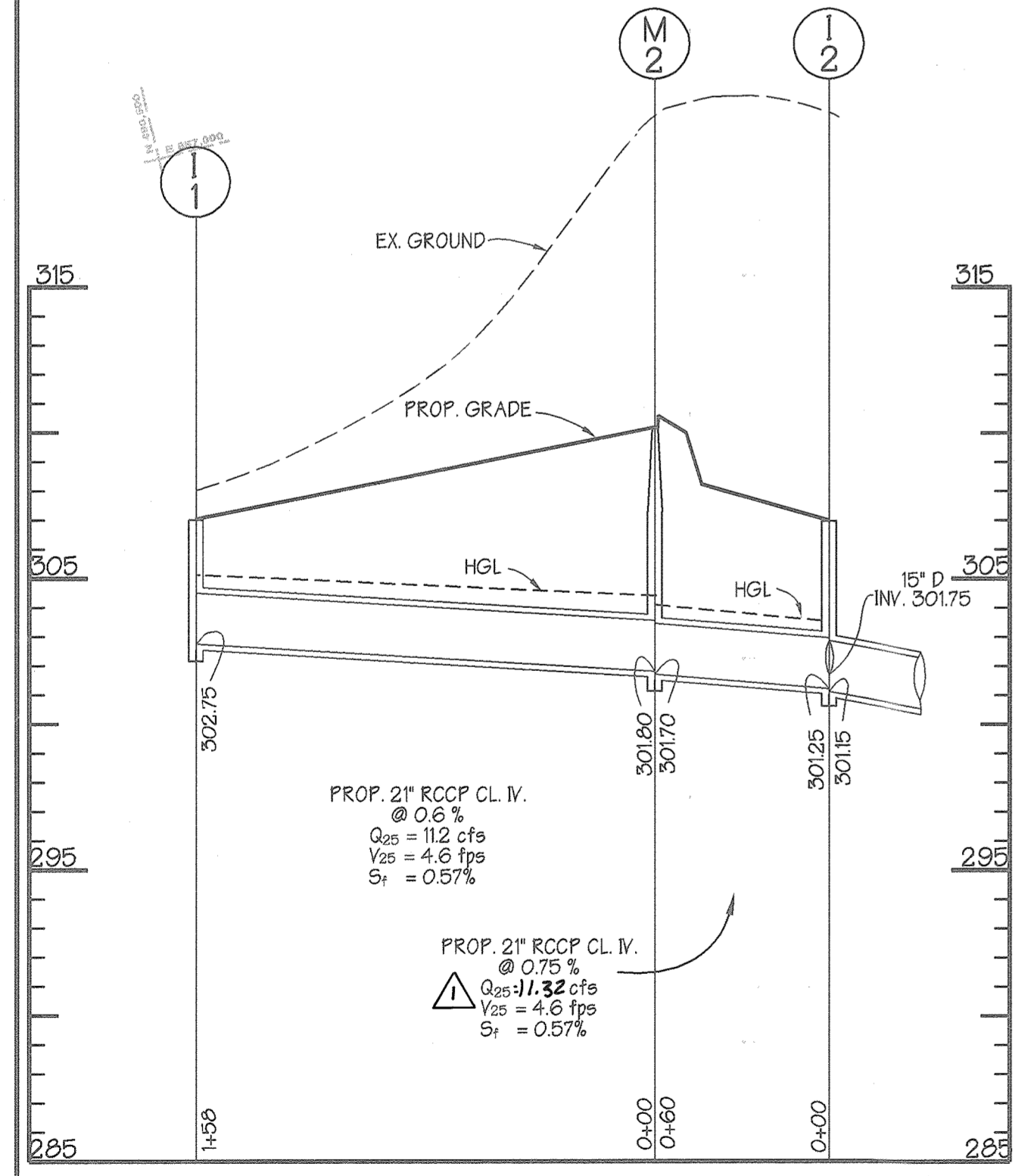
OWNER / DEVELOPER
CORPORATE GATESPRING II, LLC
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: M.M./K.E.
CHECKED BY: P.R.C.
REVISIONS
10/29/98 - A.M.S.
ADD STAIR DETAILS

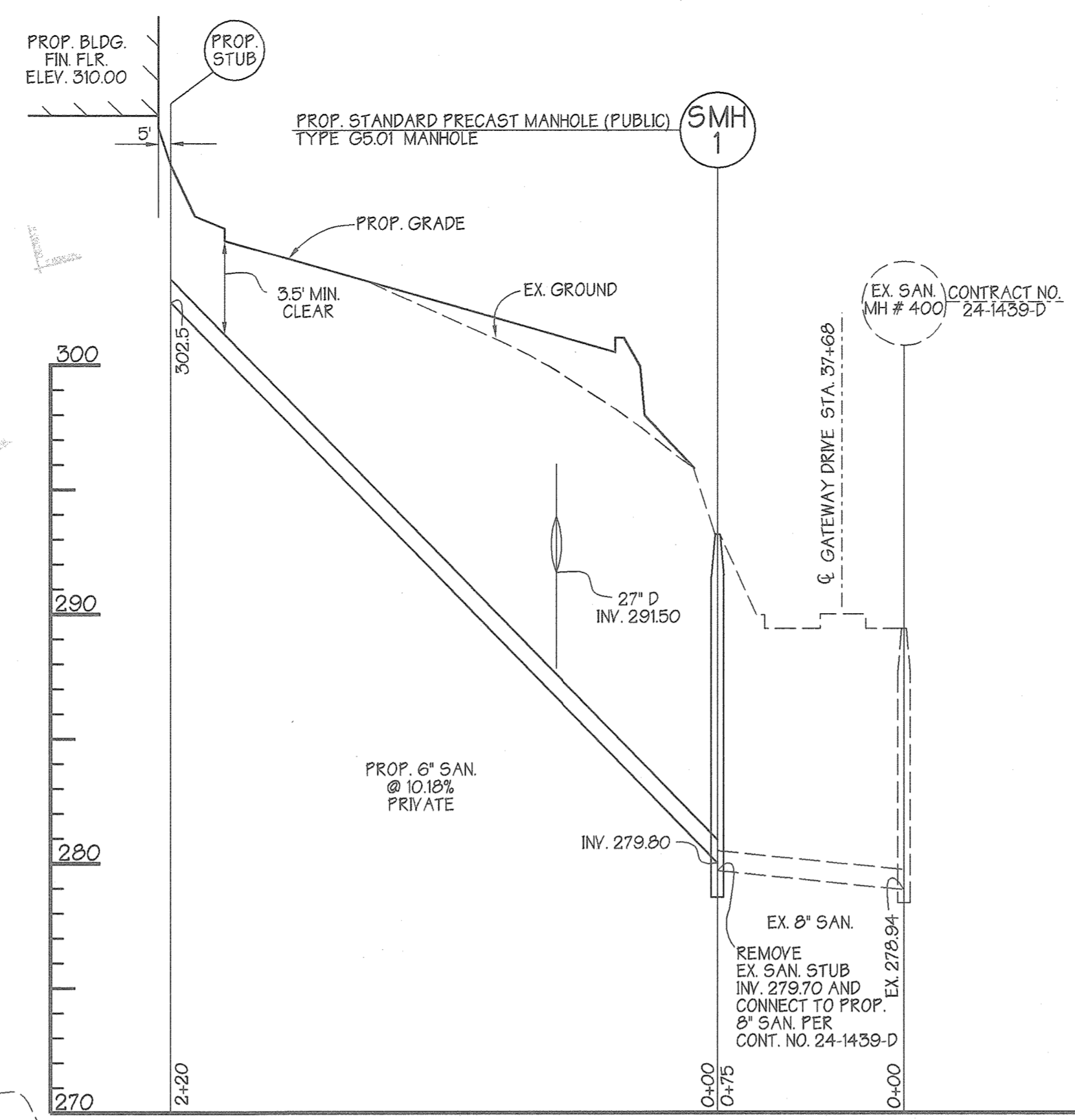
DETAILS AND PROFILES
COLUMBIA GATEWAY PARCEL 5-20
COLUMBIA GATEWAY WOODLANDS II
ELECTION DISTRICT: 6 SCALE: As Shown
HOWARD CO., MARYLAND SHT. 3 OF 13 DATE: MAY 01, 1998



DRAINAGE AREA MAP
SCALE: 1" = 100'

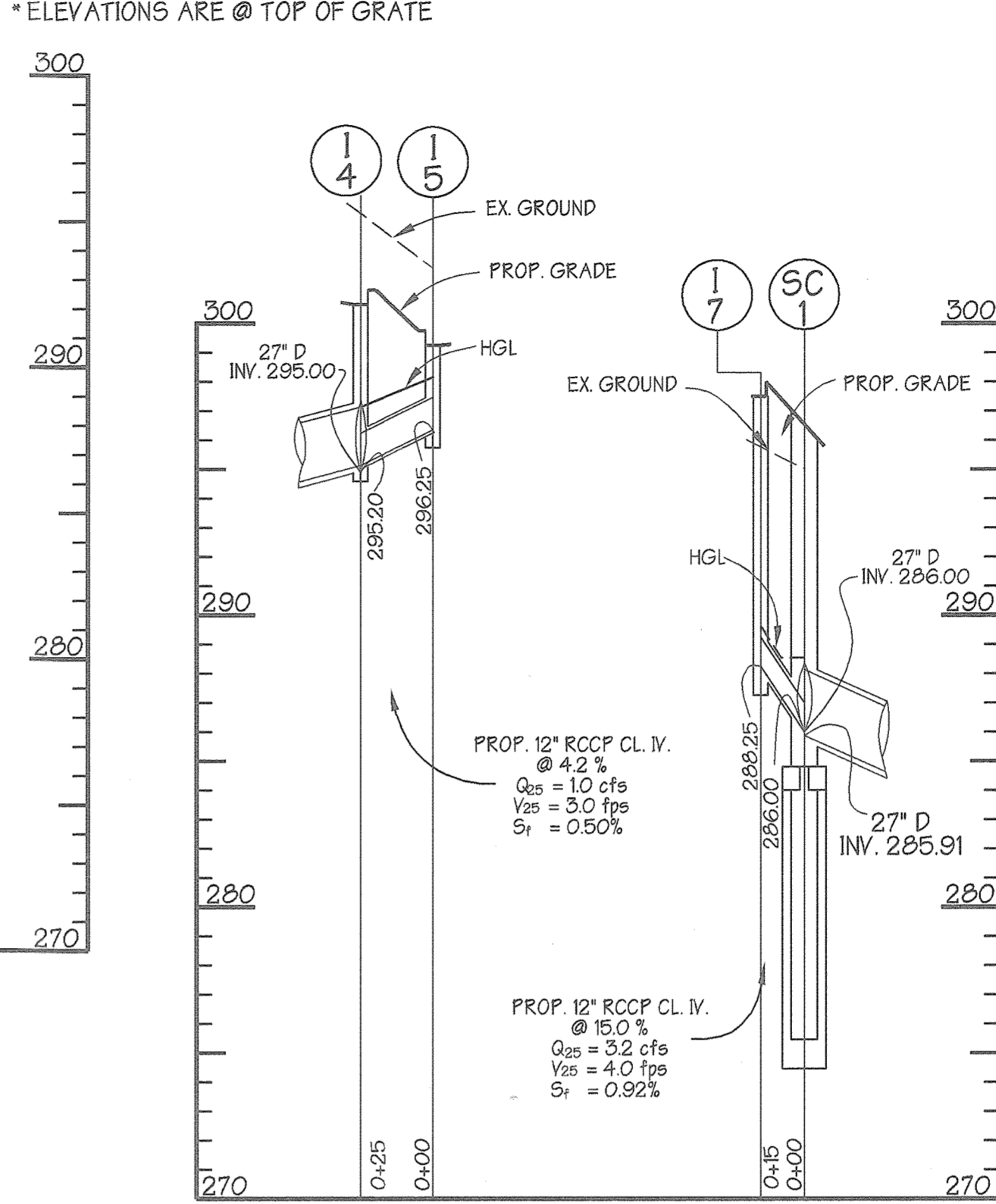


STORM DRAIN PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'

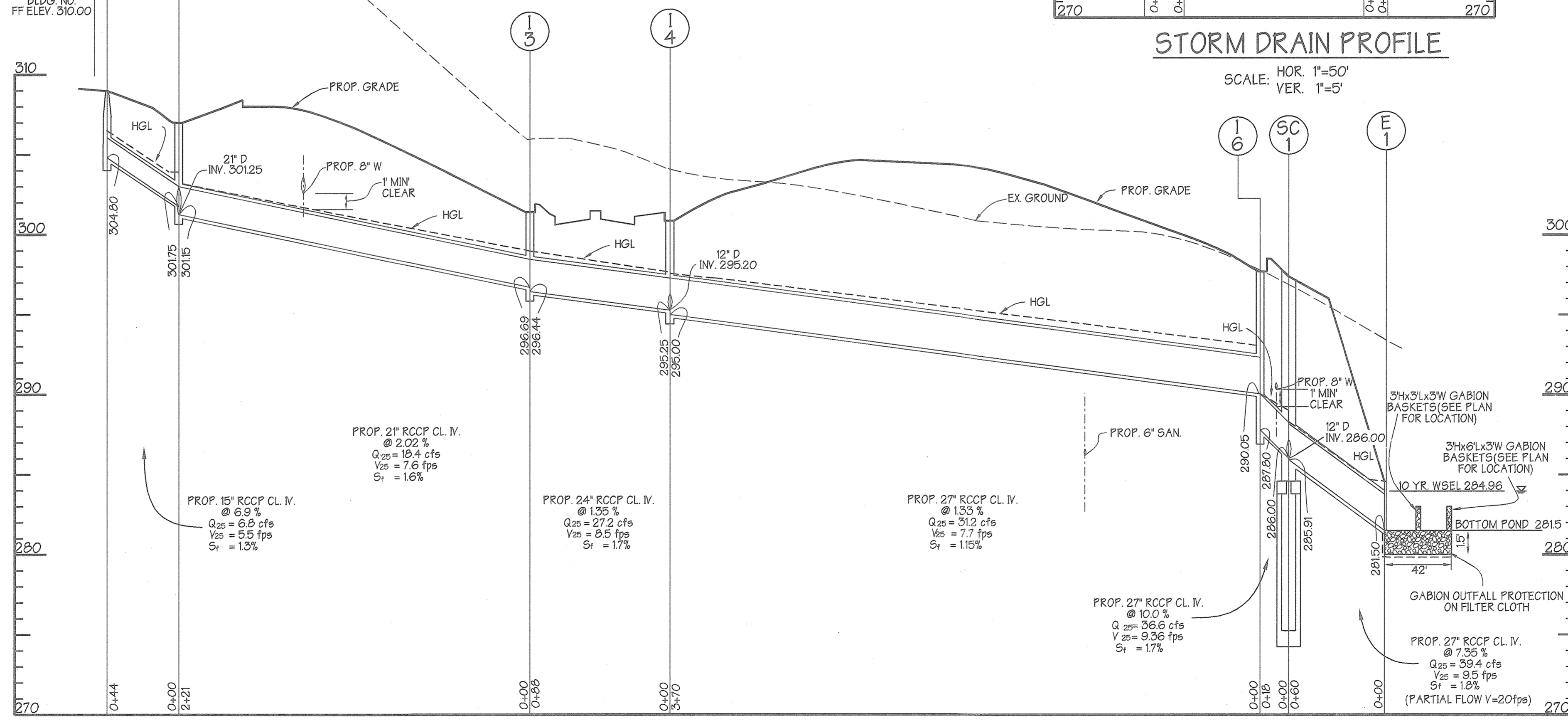


SANITARY SEWER PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'

INLET SCHEDULE					
NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	HO. CO. DTL.
1-1	DBL. 'S' COMB.	* 307.00	-	302.75	11.2 SD 4.34
1-2	YARD INLET	* 307.00	301.75	301.15	18.4 SD 4.14
1-3	DBL. 'S' COMB.	* 302.00	296.69	296.44	27.2 SD 4.34
1-4	DBL. 'S' COMB.	* 301.40	295.25	295.00	31.2 SD 4.34
1-5	DBL. 'S' COMB.	* 299.75	-	296.25	1.0 SD 4.34
1-6	DBL. 'S' COMB.	* 297.70	290.05	287.80	36.6 SD 4.34
1-7	DBL. 'S' COMB.	* 297.70	-	288.25	3.2 SD 4.34



STORM DRAIN PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



STORM DRAIN PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'

INLET SCHEDULE					
NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	HO. CO. DTL.
1-2A	A-5	295.50	291.00	292.57	SD 4.01
1-3A	A-5	302.00	297.50	297.70	SD 4.01
1-4A	A-5	307.55	301.39	301.61	SD 4.01

STRUCTURE SCHEDULE					
NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	HO. CO. DTL.
MH-1	STD.	309.00	305.00	304.80	G5.12
MH-2	STD.	310.20	301.80	301.70	G5.12
SC-1	STC 4800	297.20	286.00	285.91	-
E-1	A "27"	-	281.50	-	SD 5.11
BMH-1	STD PRECAST	293.10	302.50	280.00	G5.01

AREA	ACREAGE	'C'	% IMP.
A	1.49 AC±	0.78	71
B	0.15 AC±	0.95	100
C	0.15 AC±	0.95	100
D	0.22 AC±	0.95	100
E	0.34 AC±	0.24	0
F	1.17 AC±	0.86	84
G	0.10 AC±	0.96	100
H	0.39 AC±	0.91	94
I	0.88 AC±	0.86	88
J	0.22 AC±	0.95	100
K	0.44 AC±	0.74	71

These plans for **SMH** construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT
DATE: 10/12/98

Reviewed for the Howard Conservation District and meets technical requirements.
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 10/15/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
DATE: 10/15/98

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 10/15/98

DIRECTOR
DATE: 10/16/98

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
5-20	6940 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	5-20

PLAT #	BLOCK #	ZONE	/ZONE MAP	ELECT. DIST.	CENSUS TRACT
12882	1	M-1	43	6	6067.03

WATER CODE	SEWER CODE
E06	5333000

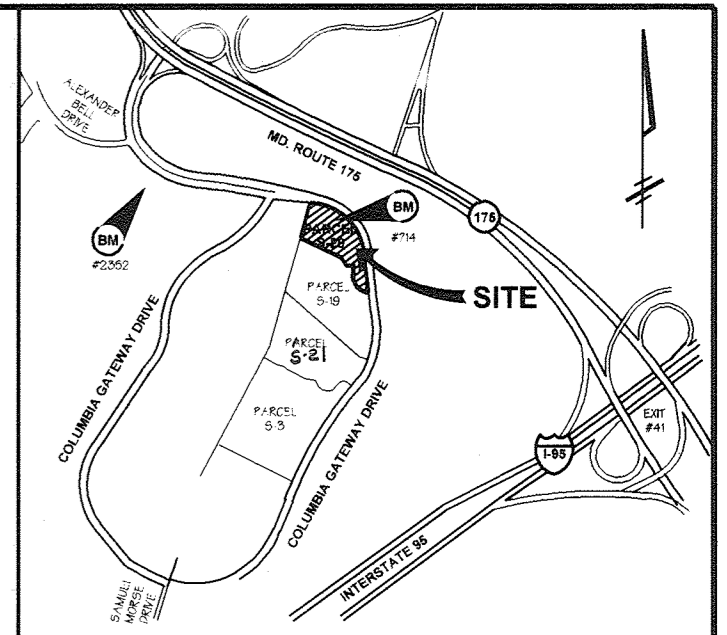
PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120



OWNER / DEVELOPER
CORPORATE GATESPRING II, LLC
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: K.E.
CHECKED BY: P.R.C.
REVISIONS
DATED 12/17/98 BY PWS: REVISED DRAINAGE AREA A AND RELATED STORM DRAIN COMPS TO ACCOMMODATE EXTENDED PARKING AT NORTHWEST CORNER

DRAINAGE AREA MAP AND PROFILES
COLUMBIA GATEWAY PARCEL 5-20
COLUMBIA GATEWAY WOODLANDS II
ELECTION DISTRICT: 6
HOWARD CO., MARYLAND SHT. 4 OF 13
SCALE: As Shown
DATE: JUNE 25, 1998



LOCATION MAP
SCALE: 1" = 2000'

BENCHMARKS:

WR & A BM #2352 ELEVATION: 336.29'
IRON PIPE 240 FEET RIGHT OF CENTERLINE
STA. 15+00, COLUMBIA GATEWAY DRIVE

WR & A BM #714 ELEVATION: 315.29'
230 FEET RIGHT OF CENTERLINE
STA. 34+30 COLUMBIA GATEWAY DRIVE

OPERATIONS AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE

- The stormceptor water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the stormceptor unit yearly at a minimum, utilizing the stormceptor inspection/monitoring form. Inspection shall be done by using a clear plexiglass tube ("sludge judge") to extract a water column sample. When the sediment depth exceeds the level specified in Table 6 of the Stormceptor Technical Manual, the unit must be cleaned.
- The Stormceptor water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
- The maintenance of the Stormceptor unit shall be done using a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in the unit. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
- The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the owner shall have them removed. Structural parts of the Stormceptor unit shall be repaired as needed.
- The owner shall retain and make the Stormceptor Inspection/Monitoring Forms available for the Howard County officials upon their request.

10 Installation Procedures

11 Concrete Stormceptor® Installation

The installation of the concrete Stormceptor® should conform in general to state highway or local specifications for the construction of manholes. Selected sections of a general specification that are applicable are summarized in the following sections:

Excavation

Excavation for the installation of the Stormceptor® should conform to state highway or local specifications. Topsoil that is removed during the excavation for the Stormceptor® should be stockpiled in designated areas and should not be mixed with subsoil or other materials. Topsoil stockpiles, and the general site preparation for the installation of the Stormceptor® should conform to state highway or local specifications.

The Stormceptor® should not be installed on frozen ground. Excavation should extend a minimum of 12 inches from the precast concrete surfaces plus an allowance for shoring and bracing where required. If the bottom of the excavation provides an unsuitable foundation additional excavation may be required.

In areas with a high water table, continuous dewatering should be provided to ensure that the excavation is stable and free of water.

Leveling

A 6 to 12 inch layer of granular material (conforming to local or state highway backfill specifications) should be installed, compacted, and leveled at the bottom of the excavation to the proper elevation for the installation of the interceptor base.

Backfilling

Backfill material should conform to state highway or local specifications. Generally, backfill material should be placed in uniform layers not exceeding 12 inches in depth. Each layer should be compacted to 95% of the maximum dry density. Backfill is not to contain topsoil.

Stormceptor® Construction Sequence

The concrete Stormceptor® is installed in sections in the following sequence:

- aggregate base
- base slab
- treatment chamber section(s)
- transition slab (if required)
- by pass section
- connect inlet and outlet pipes
- transition slab
- maintenance access way
- frames and access cover

The precast base should be placed level at the specified grade. The entire base should be in contact with the underlying compacted granular material. Subsequent sections, complete with joint seals, should be installed in accordance with the precast concrete manufacturer's recommendations.

Adjustment of the Stormceptor® can be performed by lifting the upper sections free of the excavated area, re-leveling the base, and re-installing the sections. Damaged sections and gaskets should be replaced. Once the Stormceptor® has been constructed, the lift holes should be plugged with mortar.

Down Pipe and Riser Pipe

Once the by pass section has been attached to the treatment chamber the down pipe and riser pipe can be attached. To install these pipes a worker enters the treatment chamber through the central access way in the by pass section.

STC 900, STC 1200, STC 1800

The inlet pipe (pipe with the tee at the end) is installed by coating the outside of the end of the pipe with quick dry PVC cement and pushing the pipe into the coupling provided on the underside of the by pass section. The tee must be oriented such that water which enters the treatment chamber is directed tangentially around the inside walls of the chamber.

The outlet riser pipe (straight pipe without the tee) is installed in a similar fashion using the quick dry PVC cement and coupling provided underneath the by pass section near the downstream pipe.

STC 2400, STC 3600, STC 4800, STC 6000, STC 7200

The inlet pipe (pipe with the tee at the end) is installed by coating the outside of the end of the pipe with lubricant and pushing the pipe into the pressure coupling provided on the underside of the by pass section. The tee must be oriented such that water which enters the treatment chamber is directed tangentially around the inside walls of the chamber.

The outlet riser pipe (straight pipe without the tee) is installed in a similar fashion using pipe lubricant and a pressure coupling provided underneath the by pass section near the downstream pipe.

Inlet and Outlet Pipes

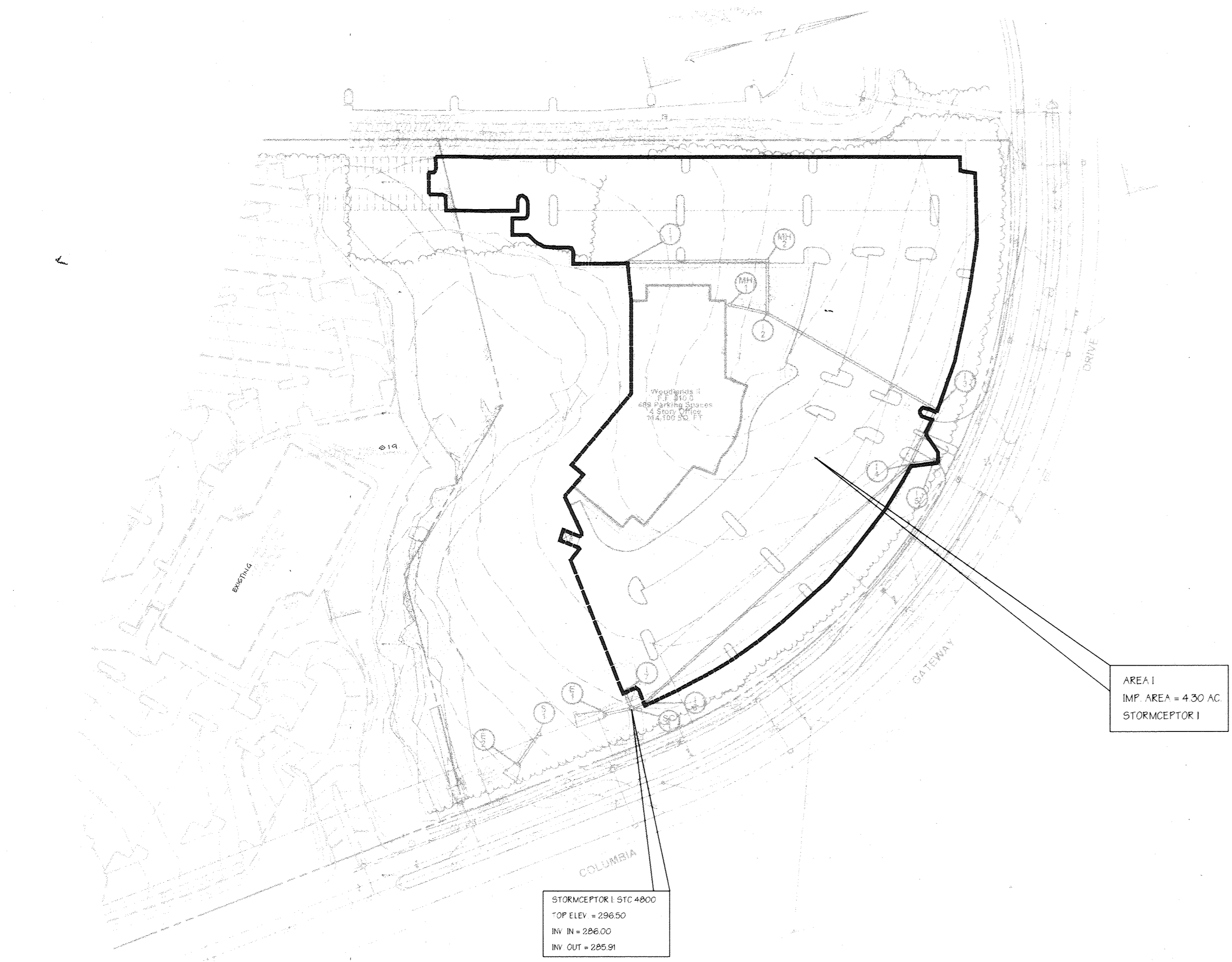
Inlet and outlet pipes should be securely set into the by pass chamber using grout or approved pipe seals so that the structure is watertight. Kor N Seal® boots are normally used and installed at the precast concrete plant prior to shipping. The Kor N Seal® boots are applicable for pipes with an outside diameter up to 46 inches. Stormceptor Corporation should be notified if the pipe is to be grouted in the field at the time of ordering (i.e. Kor N Seal® boots will not be used) since the boots are generally included in the price quotations.

Installation of the Kor N Seal® boots should follow the manufacturer's recommendations. As previously mentioned, the boots will already be attached to the Stormceptor® at the concrete plant. Accordingly, the following procedure should be followed to attach the inlet and outlet pipes to the Stormceptor® in the field.

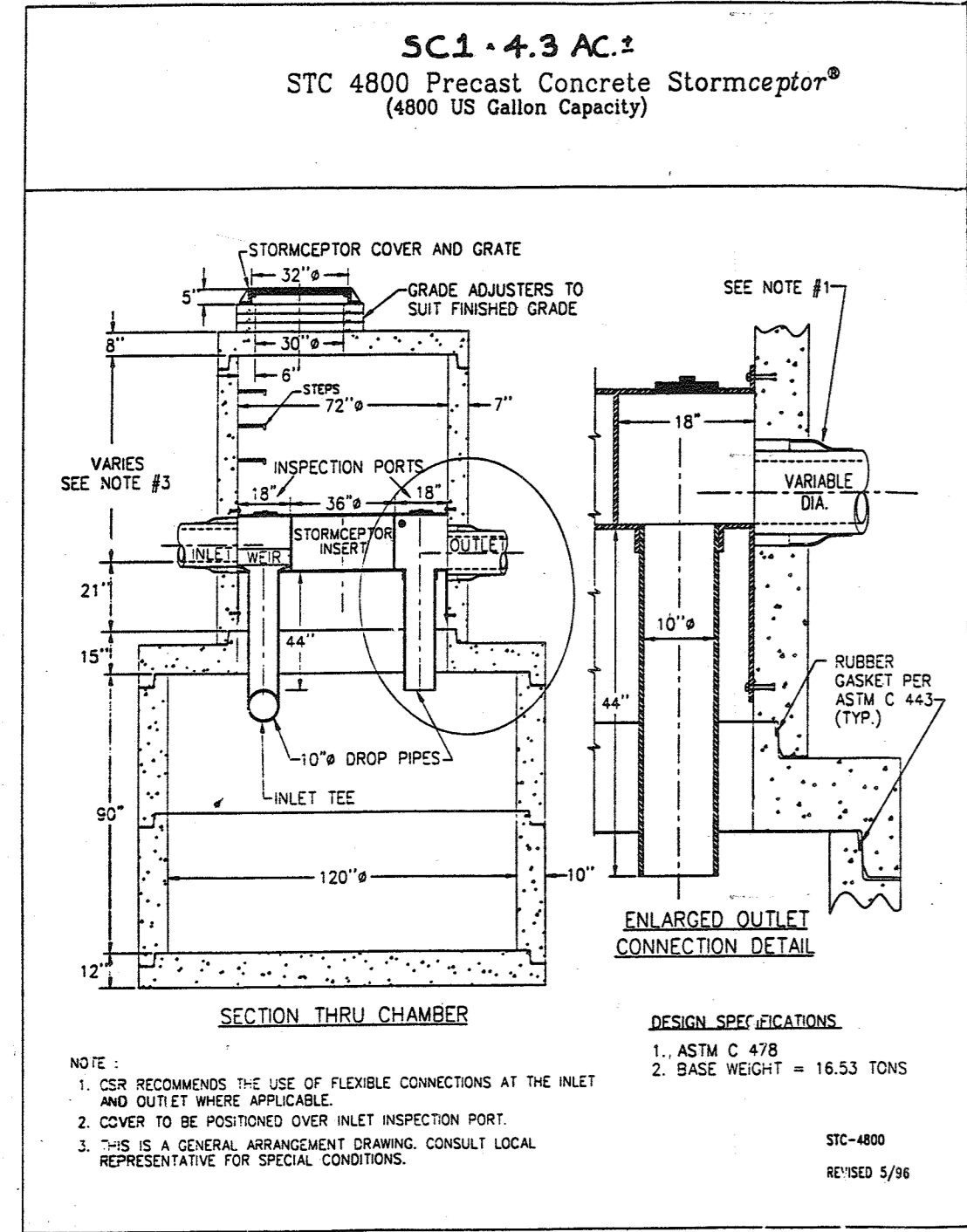
- Center the pipe in the boot opening.
- Lubricate the outside of the pipe and/or inside of the boot if the pipe outside diameter is the same as the inside diameter of the boot.
- Position the pipe clamp in the groove of the boot with the screw at the top.
- Tighten the pipe clamp screw to 60 inch pounds.
- On minimum outside diameter installations lift the boot such that it contacts the bottom of the pipe while tightening the pipe clamp to ensure even contraction of the rubber.
- Move the pipe horizontally and/or vertically to bring it to grade.

Frame and Cover Installation

Precast concrete adjustment units should be installed to set the frame and cover at the required elevation. The adjustment units should be laid in a full bed of mortar with successive units being joined using sealant recommended by the manufacturer. Frames for the cover should be set in a full bed of mortar at the elevation specified.



PLAN
SCALE: 1" = 100'



Concrete Stormceptor® Order Request Form

Contractor Information

Name _____
Address _____
City _____
State _____
Zip Code _____
Contact _____
Phone _____
Fax _____

Owner Information

Name: HOWARD RESEARCH DEV CORP
Phone: 410-992-6027
Fax: _____

Stormceptor® Model

900 3600
1200 4800
1800 6000
2400 7200

Insert Size

22"
32"
44"
Custom

Manhole Number

Top Elevation (ft) _____
Inlet Pipe Invert (ft) _____
Outlet Pipe Invert (ft) _____
Pipe Type: RCCP
Pipe Inside Diameter (in) (ID) _____
Pipe Outside Diameter (in) (OD) _____

Project Name: COLUMBIA GATEWAY PARCEL S-20
Approximate time frame until required delivery (weeks): _____
Delivery Address: Street _____ State _____ Zip Code _____
City: _____
Designer Company: GEORGE W. STEPHENS, JR. & ASSOC.
Designer Contact: PAT CARLO Phone 410-825-8120 Fax 410-592-0280

Please fax this order to Stormceptor at (301) 762-4190
For Technical Assistance Please Call Stormceptor Corporation at (301) 762-8361 or toll free at 1 (800) 762-4763

ALL LIFTING APPARATUS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR

DEVELOPER CERTIFICATION:

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 inspection by the Howard Soil Conservation District.

Developer Name: STANLEY A. LINK Date: 7-1-98

ENGINEER CERTIFICATION:

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.

Engineer: JAMES A. MARKLE JR. Date: 7/1/98
Name: JAMES A. MARKLE JR. PE # 11005

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120

OWNER / DEVELOPER

CORPORATE GATESPRING II, LLC
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: K.E.
CHECKED BY: P.R.C.
REVISIONS:

STORMCEPTOR PLAN
COLUMBIA GATEWAY PARCEL S-20
COLUMBIA GATEWAY WOODLANDS II

ELECTION DISTRICT: 6
HOWARD CO., MARYLAND SHT. 5 OF 13 DATE: MAY 01, 1998

SCALE: As Shown

SDP 99-001

These plans for S.W.M. construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT

PLAN NUMBER _____ DATE _____

Reviewed for the Howard Conservation District and meets technical requirements.

NATURAL RESOURCES CONSERVATION SERVICE DATE: 6/15/98

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MKW DATE: 10/15/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 10/15/98

DIRECTOR DATE: 10/15/98

ADDRESS CHART

PARCEL NO. S 20 STREET ADDRESS 6990 COLUMBIA GATEWAY DRIVE

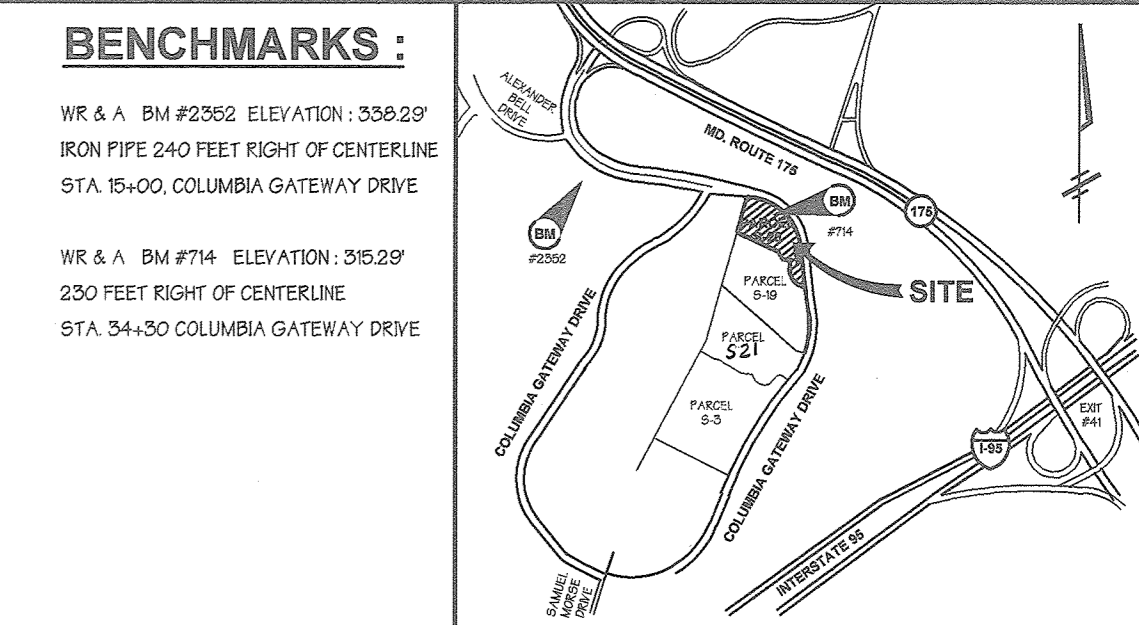
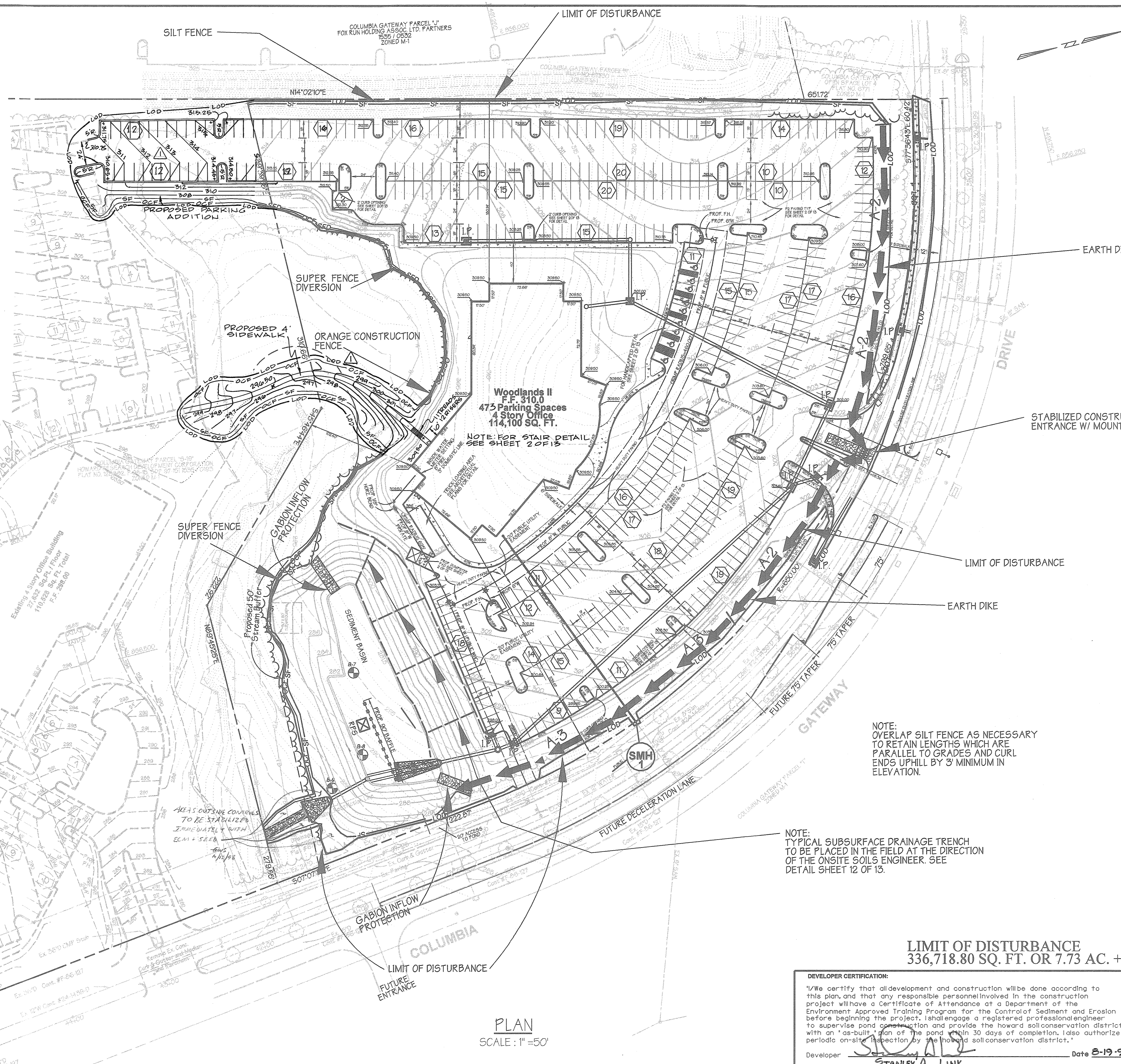
SUBDIVISION NAME COLUMBIA GATEWAY SECTION NAME N/A PARCEL # S-20

PLAT # 12882 BLOCK # 1 ZONE M' / ZONE MAP 43 ELECT. DIST. 6 CENSUS TRACT 606703

WATER CODE E06 SEWER CODE 5333000

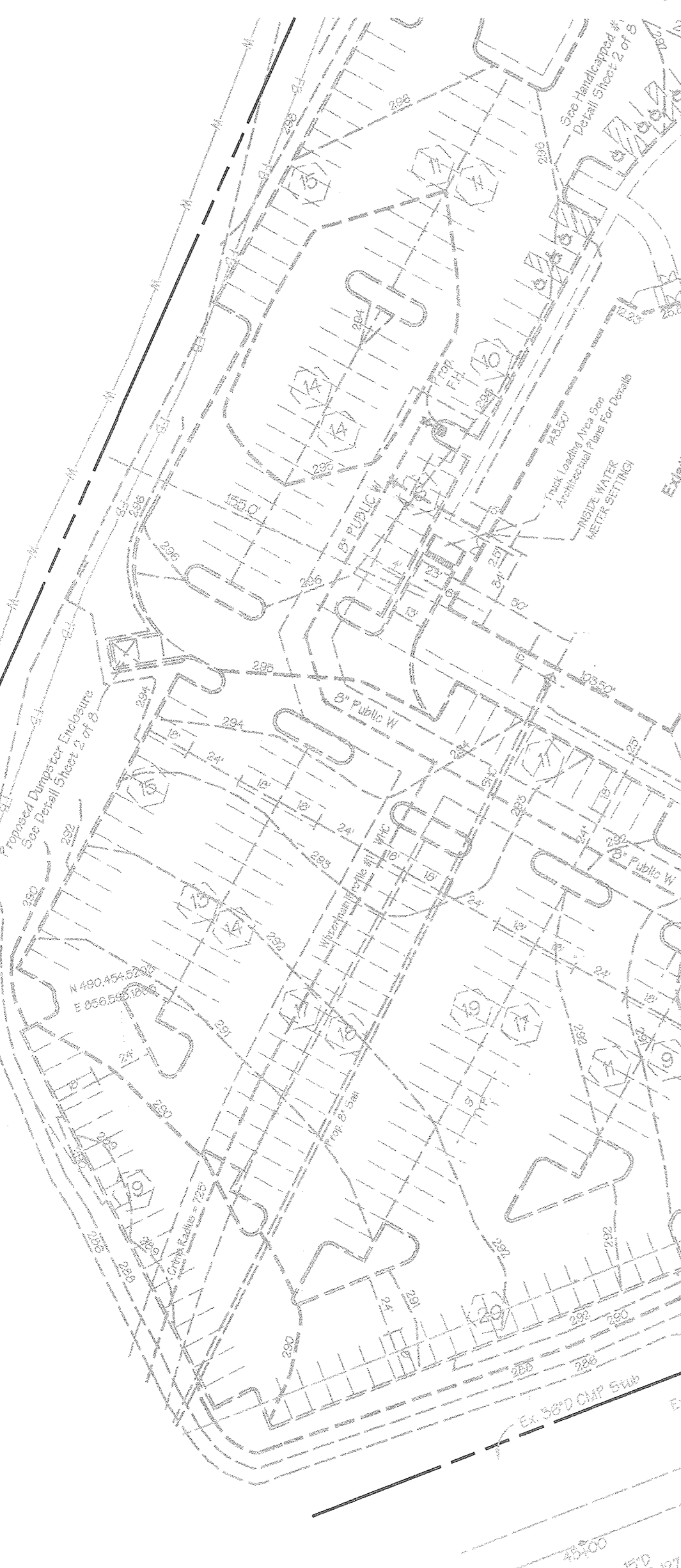
Sequence of Operation

- OBTAIN GRADING PERMIT.
- NOTIFY THE HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENSES 48 HOURS BEFORE BEGINNING WORK. (1 DAY)
- INSTALL STABILIZED CONSTRUCTION ENTRANCES (1 DAYS)
- INSTALL HIGH VISIBILITY FENCE AT THE LIMIT OF DISTURBANCE WHEN THE LIMIT OF DISTURBANCE IS WITHIN 50' OF WETLANDS BUFFER. CLEAR AND GRUB AND INSTALL SEDIMENT CONTROL MEASURES AND DEVICES FOR INSTALLATION OF SEDIMENT BASIN (5 DAYS)
- INSTALL SEDIMENT BASIN ACCORDING TO S.W.M. PLANS AND SPECIFICATIONS WITH MODIFICATIONS FOR SEDIMENT CONTROL. (7 DAYS)
- CLEAR AND GRUB FOR THE REMAINING SEDIMENT CONTROL MEASURES AND DEVICES. (3 DAYS)
- INSTALL REMAINING SEDIMENT CONTROL MEASURES AND DEVICES. (3 DAYS)
- WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR CLEAR AND GRUB REMAINING OF THE SITE AND BEGIN GRADING OPERATIONS. MAINTAIN POSITIVE DRAINAGE TO SEDIMENT BASIN. (10 DAYS)
- BEGIN BUILDING FOOTINGS AND BUILDING CONSTRUCTION. (5 DAYS)
- INSTALL UTILITIES. PROVIDE INLET PROTECTION AS SHOWN ON THE PLAN. (8 DAYS)
- CONTINUE GRADING. FINE GRADE AND INSTALL STONE SUBBASE AND CURB AND GUTTER. STABILIZE ANY REMAINING AREAS. (10 DAYS)
- WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR FLUSH THE STORM DRAIN SYSTEM. REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES. (5 DAYS)
- COMPLETION OF PAVING AND LANDSCAPING OPERATIONS. (5 DAYS)
- CONVERT EXISTING SEDIMENT BASIN TO THE S.W.M. POND AS PER APPROVED PLANS. (10 DAYS)



Legend

Ex. 2' Contours	---
Ex. 10' Contours	---
Prop. 2' Contours	---
Prop. 10' Contours	---
Ex. Curb & Gutter	---
Prop. Curb & Gutter	---
Bldg. Restriction Line	---
Ex. Sanitary	---
Ex. Storm Drain	---
Ex. Water	---
Prop. Sanitary	---
Prop. Storm Drain	---
Prop. Water	---
Heavy Duty Paving (P-3)	---
Limit of Disturbance	LOD
Silt Fence	SF
Inlet Protection	IP
Stabilized Construction Entrance	SCE
Super Fence Diversion	SFD
Orange Construction Fence	OCF



NOTE: OVERLAP SILT FENCE AS NECESSARY TO RETAIN LENGTHS WHICH ARE PARALLEL TO GRADES AND CURL ENDS UPHILL BY 3' MINIMUM IN ELEVATION.

NOTE: TYPICAL SUBSURFACE DRAINAGE TRENCH TO BE PLACED IN THE FIELD AT THE DIRECTION OF THE ONSITE SOILS ENGINEER. SEE DETAIL SHEET 12 OF 13.

LIMIT OF DISTURBANCE
336,718.80 SQ. FT. OR 7.73 AC. +/-

PLAN
SCALE: 1" = 50'

These plans for small pond construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT
DATE: 10/14/98

PLAN NUMBER: 5-20
DATE: 10/14/98

USDA-NATURAL RESOURCES CONSERVATION SERVICE
DATE: 10/14/98
APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
DATE: 10/15/98

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 10/15/98

DIRECTOR
DATE: 10/16/98

DEVELOPER CERTIFICATION:
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/We engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an 'as-built' plan of the pond within 30 days of completion. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

Developer: **STANLEY A. LINK** Date: **8-19-98**

ADDRESS CHART	
PARCEL NO. 5-20	STREET ADDRESS 6940 COLUMBIA GATEWAY DRIVE
SUBDIVISION NAME COLUMBIA GATEWAY	
SECTION NAME N/A	PARCEL # 5-20
PLAT # 12882	BLOCK # 1
ZONE M-1	ELECT. DIST. 6
WATER CODE E06	SEWER CODE 5333000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120

ENGINEER CERTIFICATION:
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an 'as-built' plan of the pond within 30 days of completion.

Engineer: **J. A. Markle Jr.** Date: **9/10/98**
Name: **JAMES A. MARKLE JR.** PE # **11005**

OWNER / DEVELOPER

CORPORATE GATESPRING II, LLC
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

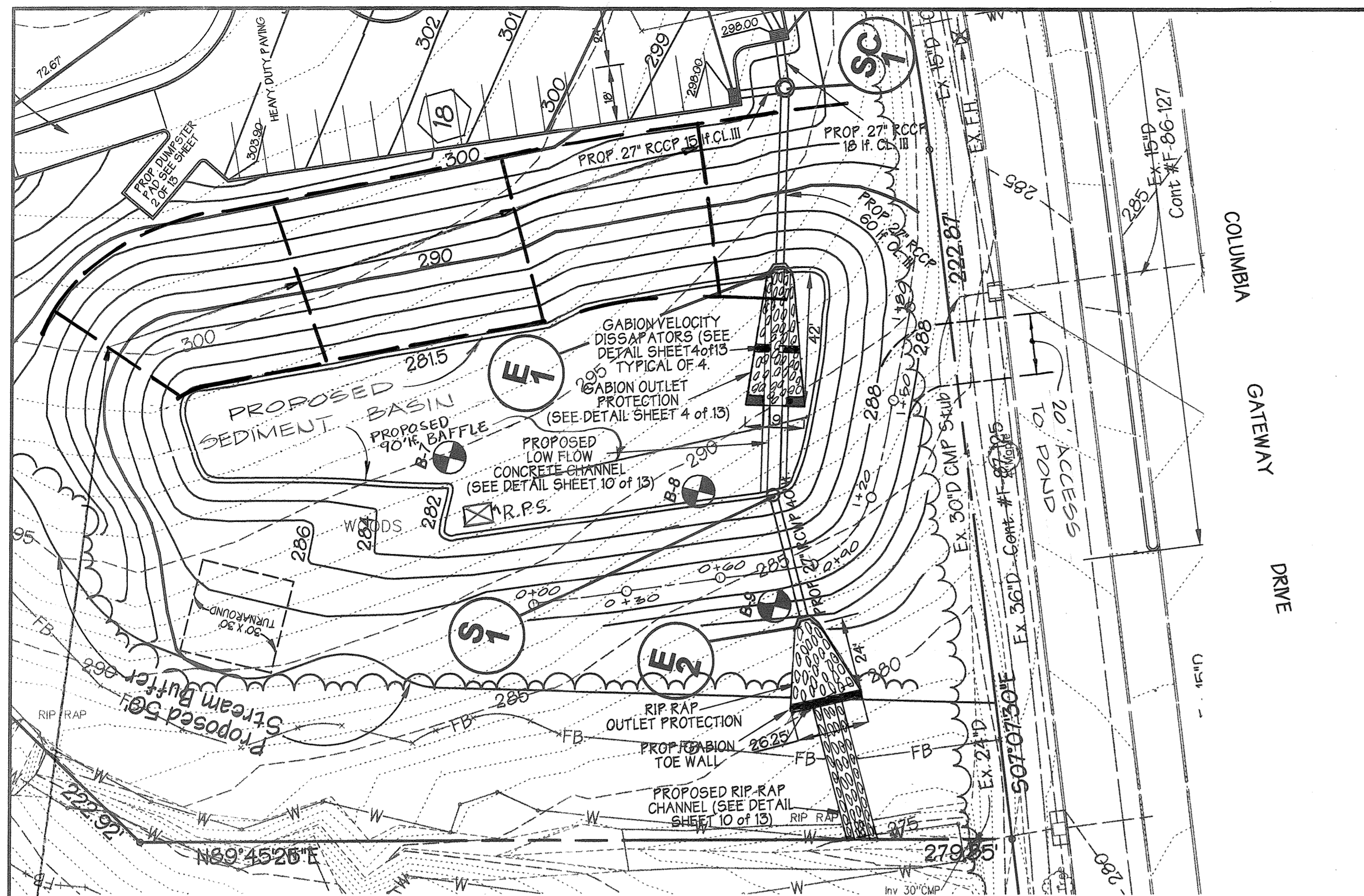
DESIGNED BY: P.R.C.
DRAWN BY: K.E.
CHECKED BY: P.R.C.

REVISIONS
ADDED PARKING LOT CONNECTION REAR OF SITE. ADDED WALKWAY BETWEEN 2 BUILDINGS BY GWS. DATED 11/2/99

EROSION AND SEDIMENT CONTROL PLAN
COLUMBIA GATEWAY PARCEL 5-20
COLUMBIA GATEWAY WOODLANDS II

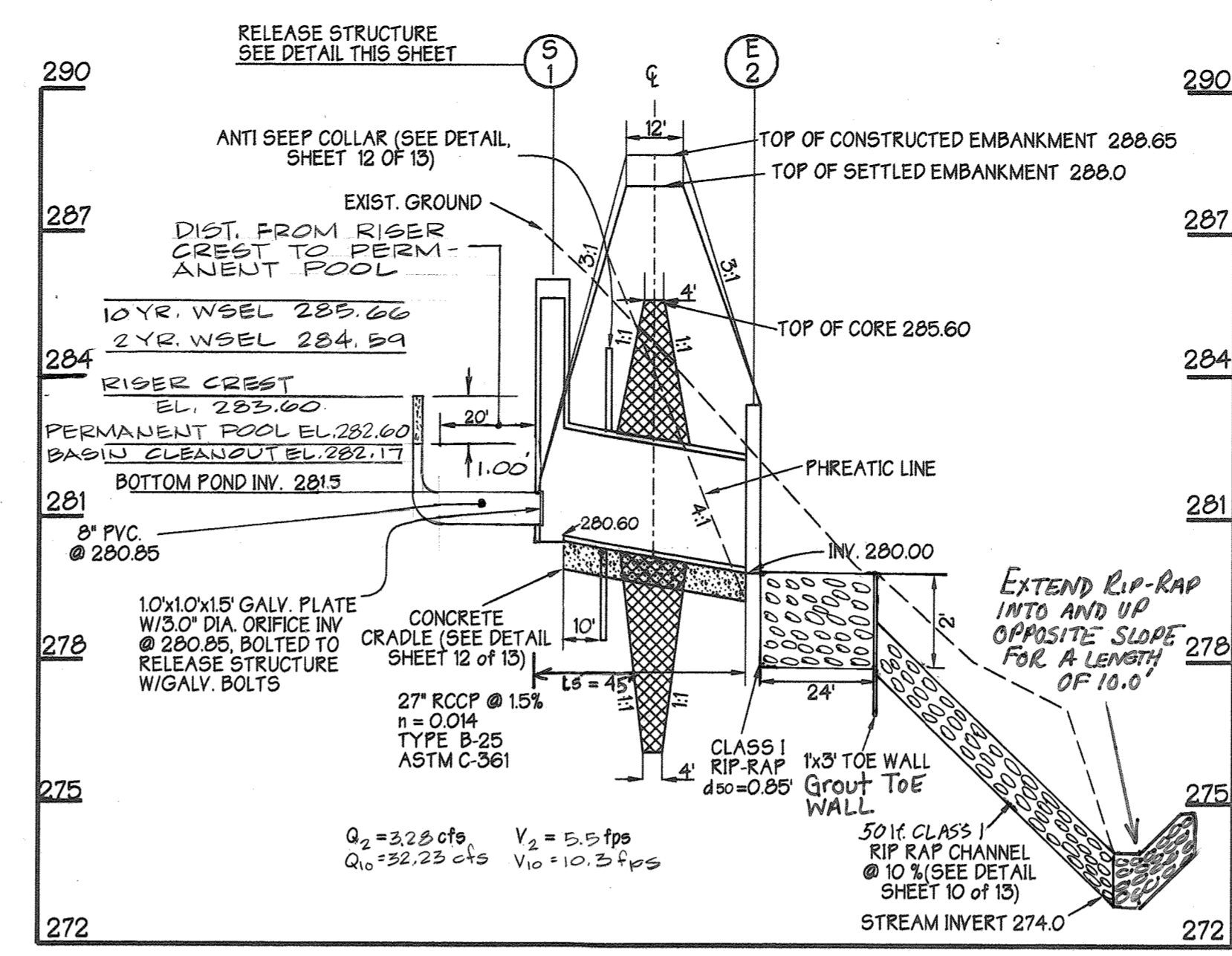
ELECTION DISTRICT: 6
HOWARD CO., MARYLAND SHT. 6 OF 13
SCALE: As Shown
DATE: MAY 01, 1998

SDP-99-01 P/N: 8656 6-05-98 NAME: 8656edcons0101

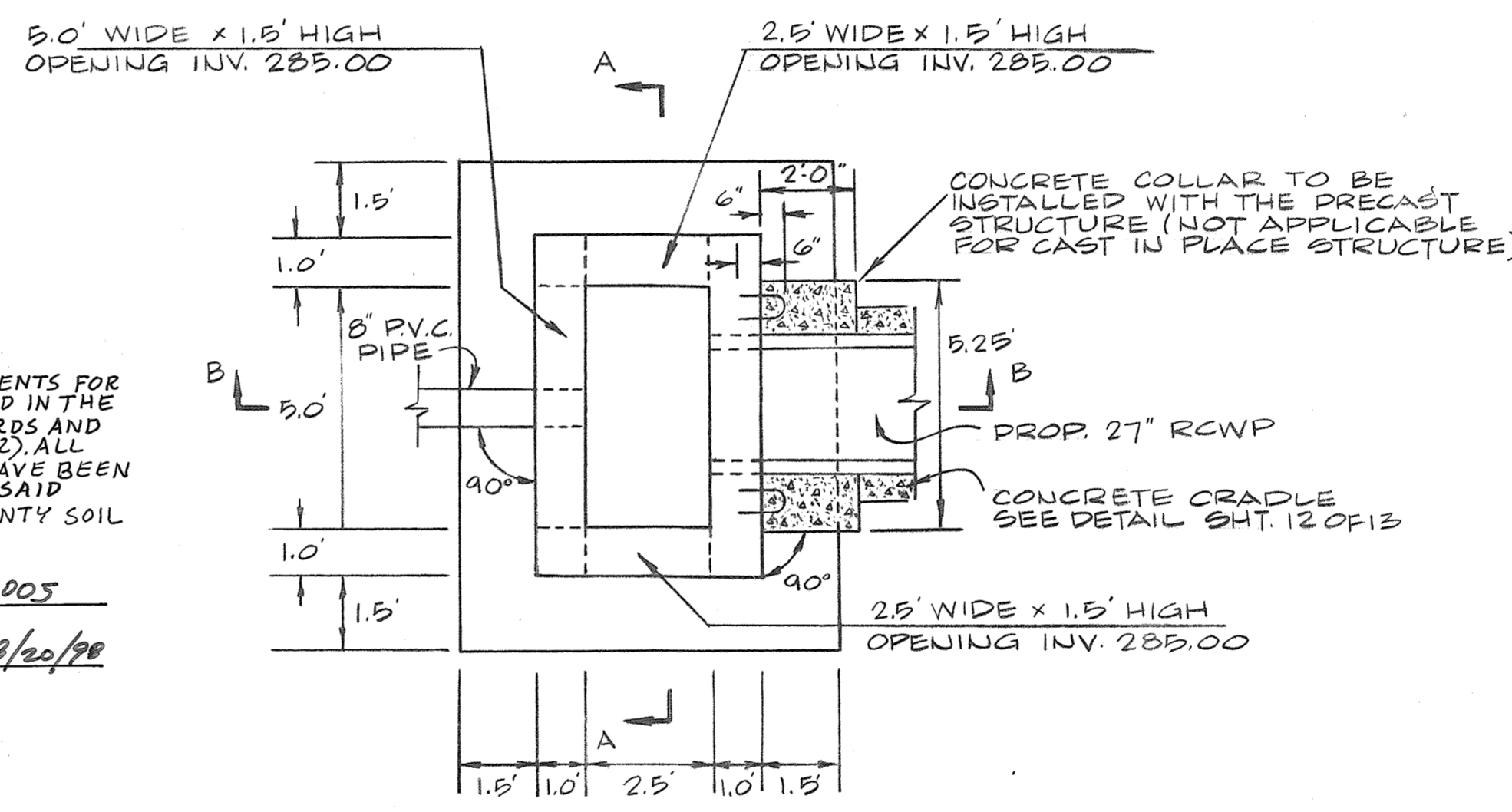


PLAN
SCALE: 1"=30'

NOTE:
TYPICAL SUBSURFACE DRAINAGE TRENCH TO BE PLACED IN THE FIELD AT THE DIRECTION OF THE ON-SITE SOILS ENGINEER. SEE DETAIL SHEET 12 OF 13.



PROFILE THROUGH PRINCIPAL SPILLWAY
SCALE: VER 1"=3'
HOR 1"=30'

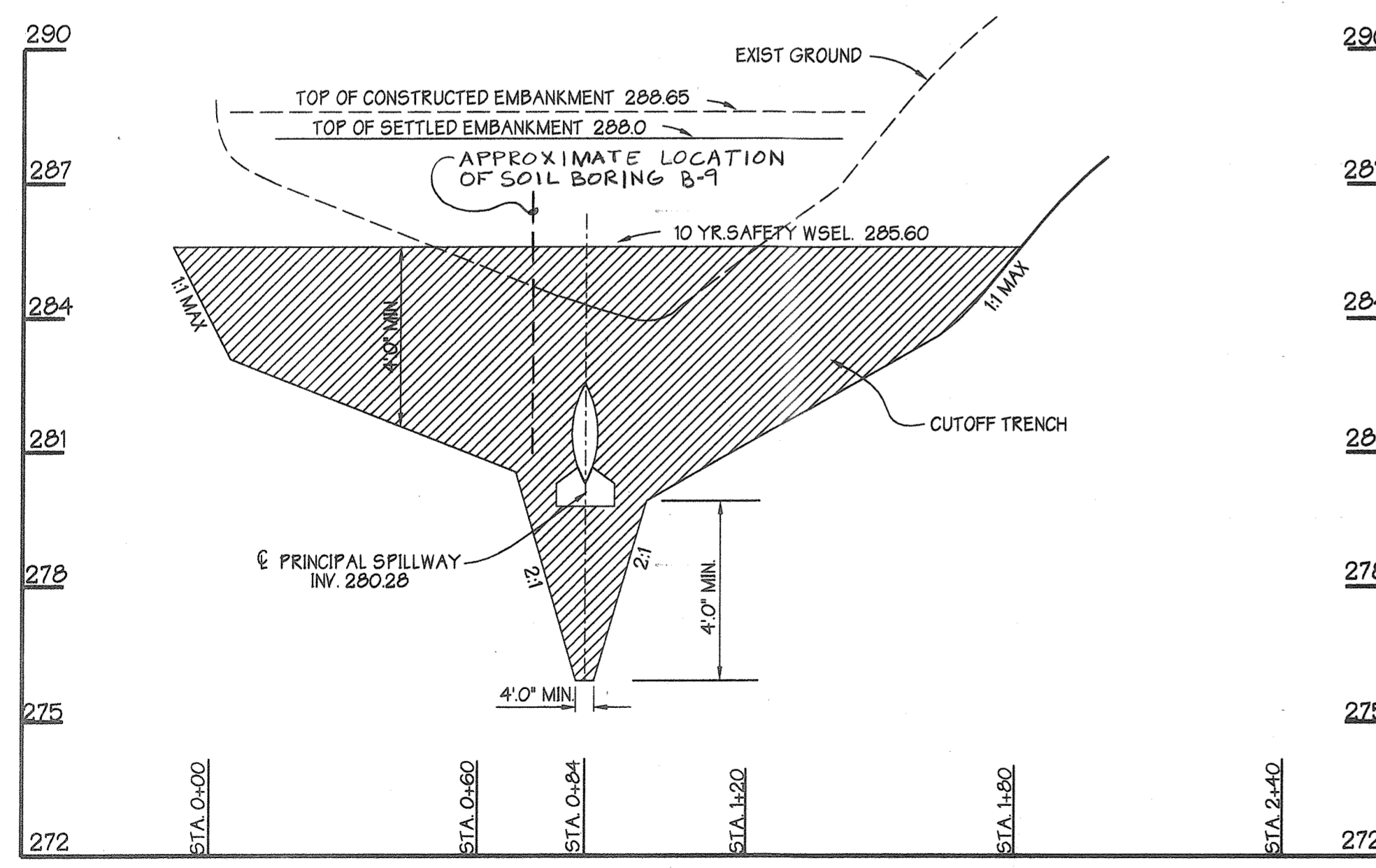


PLAN

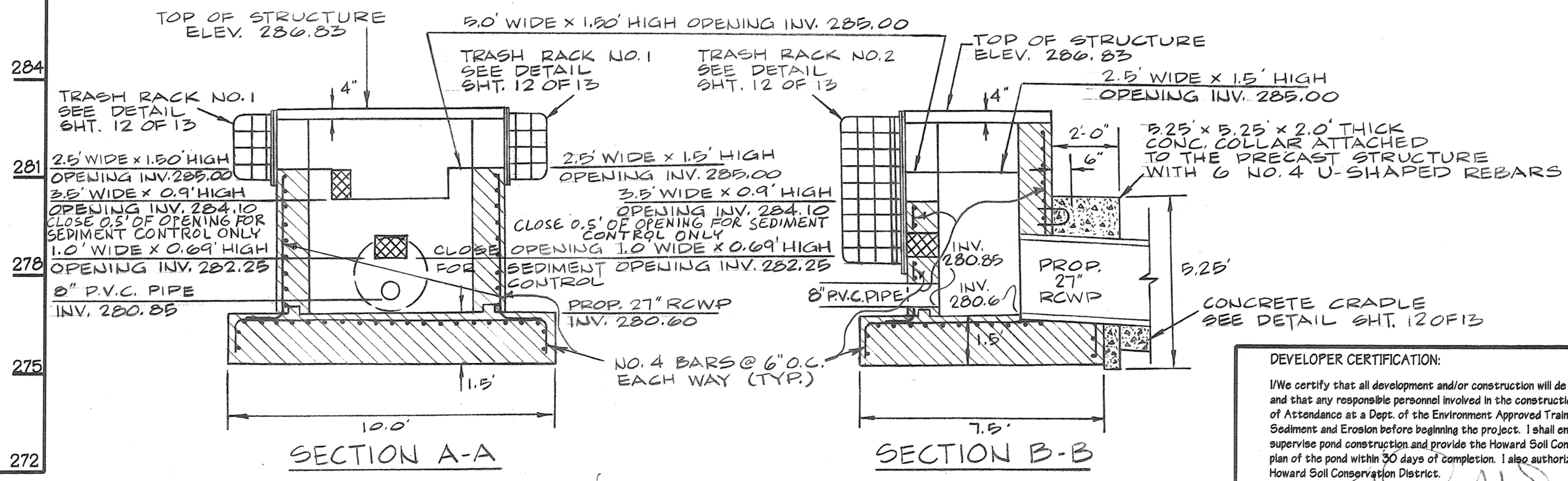
CONSULTANT'S HAZARD CLASS CERTIFICATION

I CERTIFY THAT THIS POND MEETS ALL REQUIREMENTS FOR HAZARD CLASS (A) B OR C. (REQUIREMENTS AS STATED IN THE SOIL CONSERVATION SERVICE-MARYLAND STANDARDS AND SPECIFICATIONS FOR POND, CODE 378, NOVEMBER 1992). ALL NECESSARY INVESTIGATIONS AND COMPUTATIONS HAVE BEEN PERFORMED TO VERIFY THIS FINDING. A COPY OF SAID INFORMATION HAS BEEN SUPPLIED TO HOWARD COUNTY SOIL CONSERVATION DISTRICT.

SIGNATURE: James A. Marple Jr. P.E.# 11005
NAME: JAMES A. MARPLE JR. DATE: 8/20/98



CROSS SECTION OF DAM ALONG CENTERLINE
SCALE: VER 1"=3'
HOR 1"=30'



RELEASE STRUCTURE DETAILS
SCALE: 1"=3'-0"

POND SPECIFICATIONS FOR STORMWATER MANAGEMENT	
DESCRIPTION	DATA
STRUCTURE CLASSIFICATION	A (PRIVATE)
STORAGE X HEIGHT PRODUCT	(2.5 AC. FT.) (7.0 FT.) = 17.5 AC. FT. ²
WATERSHED AREA TO THE POND	6.50 AC.
POND TYPE	DRY
FREEBOARD	2.0 / 2.0'
IMPERVIOUS AREA	4.30 AC.
TOP OF EMBANKMENT	288.0

POND SUMMARY						
DESIGN STORM	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	BYPASS DISCHARGE (CFS)	TOTAL DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT.)	STORAGE VOL WITH WATER QUALITY (AC. FT.)
2 YR	2176	4.57	2.92	6.58	284.08	0.80
10 YR	36.25	13.86	6.54	19.10	284.86	1.18
100 YR	52.06	41.47	10.81	50.76	285.85	1.50

NOTE: SEE TEMPORARY BASIN SCHEDULE SHEET 9 OF 13.

NOTE:
NO TREES, SHRUBS OR OTHER WOODY VEGETATION WILL BE ALLOWED WITHIN 50' OF THE INLET STRUCTURE IN THE POOL AREA AND NOT ALLOWED WITHIN 20' FROM THE TOE OF THE EMBANKMENT.

NOTE:
THE CONSTRUCTION WILL REQUIRE A PERMIT FROM THE ARMY CORPS OF ENGINEERS, THE WATER RESOURCES ADMINISTRATION AND/OR HOWARD COUNTY. IT IS THE RESPONSIBILITY OF THE LANDOWNER TO CONTACT THESE THREE AGENCIES TO DETERMINE IF THE PROJECT REQUIRES A PERMIT:
U.S. ARMY CORPS OF ENGINEERS - (410) 962-3620
WRA NON-TIDAL WETLANDS AND WATERWAYS DIVISION - (410) 974-3841
HOWARD COUNTY - (410) 887-3980

NOTE:
IF REQUIRED BY THE SEDIMENT CONTROL INSPECTOR FENCING SHALL BE INSTALLED TO PREVENT ACCESS TO THE BASIN BY CHILDREN.

NOTE:
THIS STORMWATER MANAGEMENT FACILITY IS DESIGNED TO MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND THE SOIL CONSERVATION DISTRICT. MAINTENANCE OF THIS FACILITY WILL BE THE RESPONSIBILITY OF THE OWNER.
(THE SWM FACILITY IS PRIVATE).

NOTE:
SOILS TO BE USED FOR CUT-OFF TRENCH AND IMPERVIOUS CORE SHALL CONFORM TO UNIFIED CLASSES CL, SC, CH OR GC.

NOTE:
IF UNSUITABLE (PERVIOUS) MATERIAL IS ENCOUNTERED AT TIME OF CUT-OFF TRENCH INSTALLATION DEEPER THAN 4', IT WILL BE NECESSARY TO EXTEND THE CUT-OFF TRENCH DOWN UNTIL SUITABLE MATERIAL IS ENCOUNTERED AS DETERMINED BY A GEOTECHNICAL ENGINEER. AT TIME OF CONSTRUCTION, EXISTING SOIL ADJACENT TO CUT-OFF TRENCH SHALL BE EVALUATED FOR SEEPAGE BY A GEOTECHNICAL ENGINEER, AND ADDRESS PER RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.

RELEASE STRUCTURE NOTES

- UNLESS OTHERWISE NOTED CAST-IN-PLACE STRUCTURE SHALL BE BUILT IN ACCORDANCE TO HOWARD CO. STD. DETAIL 4.02.
- STRUCTURE TO BE CAST-IN-PLACE REINFORCED CONCRETE WITH 5,500 P.S.I. MIN. COMPRESSIVE STRENGTH @ 28 DAYS. DESIGN OF PRECAST CONC. STRUCTURE SHALL BE PROVIDED BY MANUFACTURER.
- ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
- ALL REINFORCING TO HAVE 1" MIN. OVERLAPS.
- TWO (2) INCH COVER MINIMUM FOR ALL REBARS IN WALLS AND THREE (3) INCHES FOR THE BASE.
- PROVIDE ADDITIONAL #4 REBARS ALONG THE PERIMETER OF ALL OPENINGS WITH THE AREA OF STEEL EQUAL TO OR GREATER THAN THE AREA OF STEEL "REMOVED" DUE TO OPENING.
- SHOP DRAWINGS FOR PRECAST CONCRETE RISERS WITH SUPPORTING STRUCTURAL COMPUTATIONS (SIGNED AND SEALED BY A MD. REGISTERED ENGINEER) MEETING A.S.T.M. REQUIREMENTS FOR PRECAST STRUCTURES MUST BE SUBMITTED TO THE ENGINEER, AND THE APPROVING AGENCY FOR APPROVAL PRIOR TO FABRICATION. IF ANY STRUCTURE DIMENSIONS VARY FROM WHAT WAS ORIGINALLY REVIEWED/ APPROVED, THEN THE HYDRAULICS, FLOTATION AND STRUCTURAL INTEGRITY OF THE STRUCTURE WILL HAVE TO BE RE-ANALYZED.
- ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS.

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120

AS-BUILT CERTIFICATION:
I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meet the approved plans and specifications.

Signature: _____ P.E.# _____
Date: _____

Certify means to state or declare a professional opinion based upon on-site inspections and material tests which are conducted during construction. The on-site inspections and material tests are those inspections and tests deemed sufficient and appropriate by commonly accepted engineering standards. Certify does not mean or imply a guarantee by the engineer nor does an engineer's certification relieve any other party from meeting requirements imposed by contract, employment, or other means, including meeting commonly accepted industry practices.

ENGINEER CERTIFICATION:
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Engineer: James A. Marple Jr. P.E.# 11005
Name: JAMES A. MARPLE JR. Date: 8/20/98

OWNER/DEVELOPER
CORPORATE GATESPRING II, LLC
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: A.S.
CHECKED BY: P.R.C.
REVISIONS

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
9-20	6940 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME: COLUMBIA GATEWAY
SECTION NAME: N/A
PARCEL #: 9-20

PLAT #	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
12882	1	M-1	43	6	6067.03

WATER CODE: E06
SEWER CODE: 5535000

SEDIMENT AND EROSION CONTROL PLAN & PROFILE
COLUMBIA GATEWAY PARCEL 9-20
COLUMBIA GATEWAY WOODLANDS II

ELECTION DISTRICT: 6
HOWARD CO., MARYLAND
SCALE: As Shown
DATE: MAY 01, 1998

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard Practice MD-37B. 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, fence 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 left in 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, stones greater than 6" from or other objectionable materials. Fill material for the center of the embankment and cut-off trench shall conform to United Soil Classification GC, SC, CH or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

PLACEMENT - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in a maximum 8" thick (before compaction) layers which are to be compacted 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 no 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 the water can be squeezed out.

Minimum required density 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 this density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

Note: See additional compaction requirements per geotechnical engineer. (Sheet 10 of 13)

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.

PIPE CONDUITS All pipes shall be circular in cross section.

REINFORCED CONCRETE PIPE - All pipe to be circular in cross section.

All 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.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its 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.

4. Backfilling shall conform to "Structure Backfill".

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

PERFORATED PIPE

Bismuth coated corrugated metal pipe (BCCMP) shall conform to the requirements of AASHTO M36 (pipe should be specified to be fully bismuth coated in accordance with AASHTO M190). Perforated pipe is TYPE III. Pipe shall have CLASS 2 perforations 3/8" in diameter.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 918 (Portland Cement Concrete Mixture), Mix No. 3.

REINFORCING STEEL IN CONCRETE STRUCTURES

Reinforcing steel shall be ASTM A 615, Grade 60. Steel angles and anchor bars shall be ASTM 1-36.

ROCK RIP-RAP

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 905.

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 918.2.

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 dams, 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 pumps from which water shall be pumped.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planning (MS-342) or as shown on the accompanying drawings.

Stormwater management facility will be stabilized with permanent slope seeding as follows:

- 1. Seeding Preparation - loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.
2. Soil Amendments - apply 2 tons per acre Dolomite Limestone (92 lbs/1000q. ft.), 600 lbs per acre 10-10-10 fertilizer (4 lbs/1000q. ft.), and 400 lbs per acre of 30-0-0 Ureaform Fertilizer (92 lbs/1000q. ft.).
3. Seeding - for the period March 1 through April 30 seed with 40 lbs per acre Kentucky 31 Tall Fescue, and 15 lbs per acre inoculated Crown Vetch. For the period May 1 through July 31 seed with 60 lbs per acre Kentucky 31 Tall Fescue and 2 lbs per acre inoculated Weeping Lovegrass. For the period August 1 through October 15 seed with 40 lbs per acre Kentucky 31 Tall Fescue, and 20 lbs per acre inoculated Interstate Sericea Lepeodesia. For the period October 16 through February 28 protect the site by Option (1): 2 tons per acre of well anchored straw. For the period May 1 through February 28 inoculated Crown Vetch shall be applied during the subsequent period of March 1 through April 30 at the rate of 15 lbs. per acre.
4. Mulching - apply 15 to 2 tons per acre of non-rotted small grain straw immediately after seeding. Anchor mulch immediately after application using 200 gallons per acre of emulsified asphalt. On flat areas of slope 3 feet or higher, use 34B gallons per acre of anchoring.
5. Maintenance - inspect all seeded areas and make needed repairs, replacements and re-seeding.

EROSION AND SEDIMENT CONTROL

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

PERMANENT SLOPE SEEDING

After spreading 4" topsoil, seed with a mixture of 50% inoculated Crown Vetch and 70% Kentucky 31 Tall Fescue applied at a rate of 60 lbs/acre; 10-20-20 fertilizer shall be applied at a rate of 25 lbs/1000 sq. ft.; lime at a rate of 92 lbs/1000 sq. ft.; mulch area with ureaform small grain straw at a rate of 15 tons/acre; anchor with a rapid curing asphalt (RC-70, RC-250 or RC-800) at a rate of 0.1 gal/5 y.

FILTER CLOTH

Filter cloth shall meet or exceed the requirements in Section 2025-5 of the Baltimore County Standard Specifications and Details for Construction. Durable filter fabrics for drainage purposes are not limited to Miraf 1405, DuPont TYPAC No 3341 or 3401.

Filter cloth shall be protected from puncturing or tearing. Any damage other than an occasional small hole shall be repaired by patching another small piece of filter cloth over the damaged area or by replacing the cloth section. All overlaps shall be a minimum of one foot.

GABIONS

Gabions shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 312 and must be Class IV, PVC coated.

OUTFALL PROTECTION

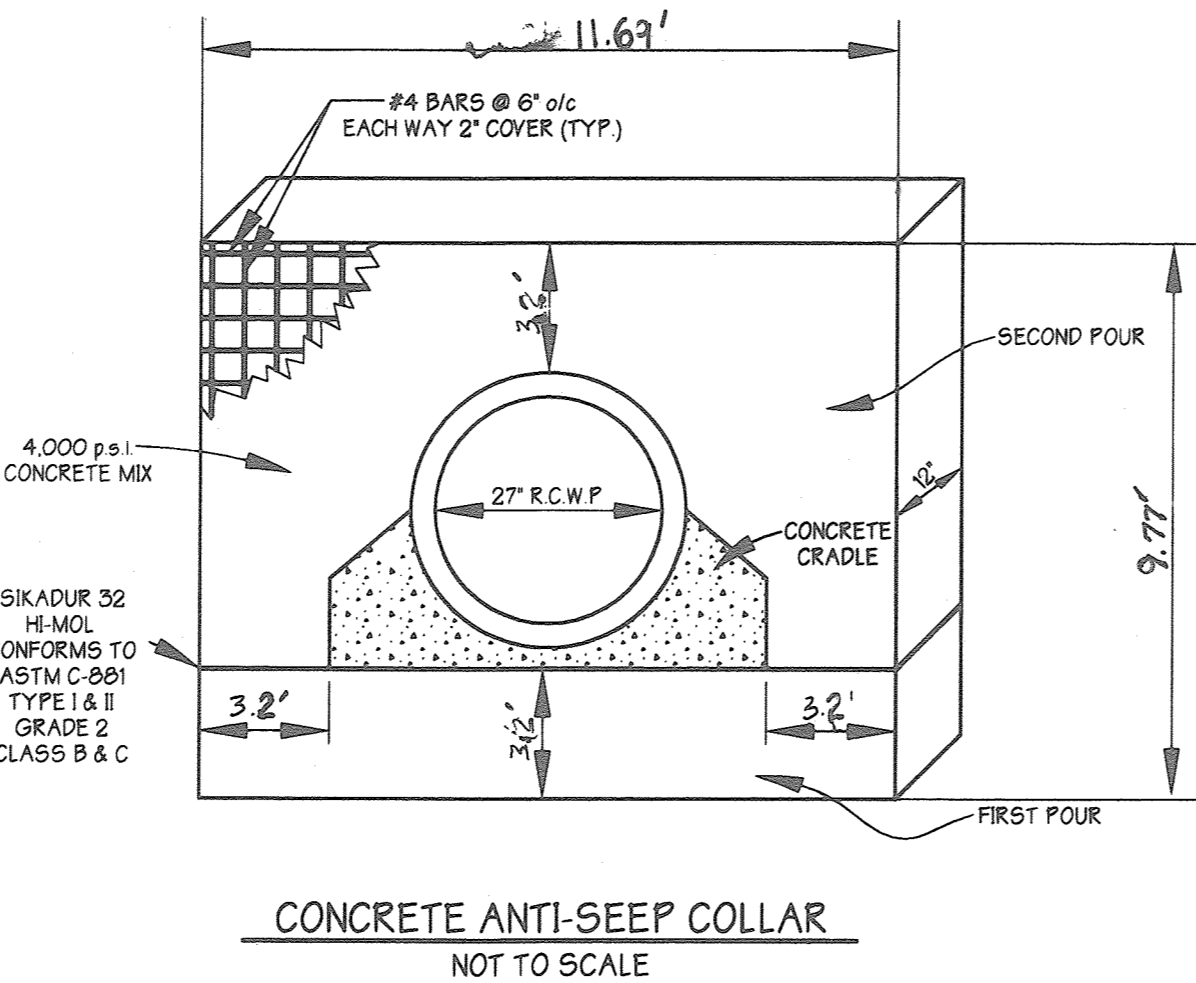
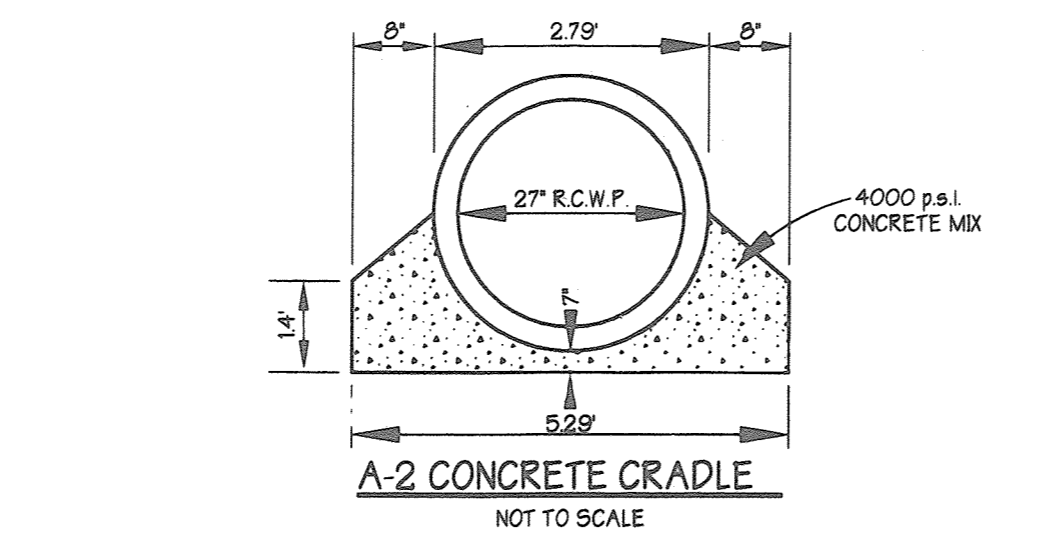
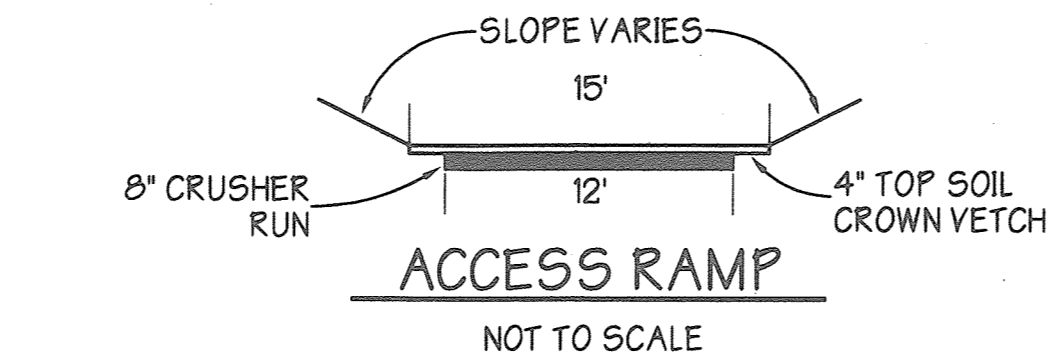
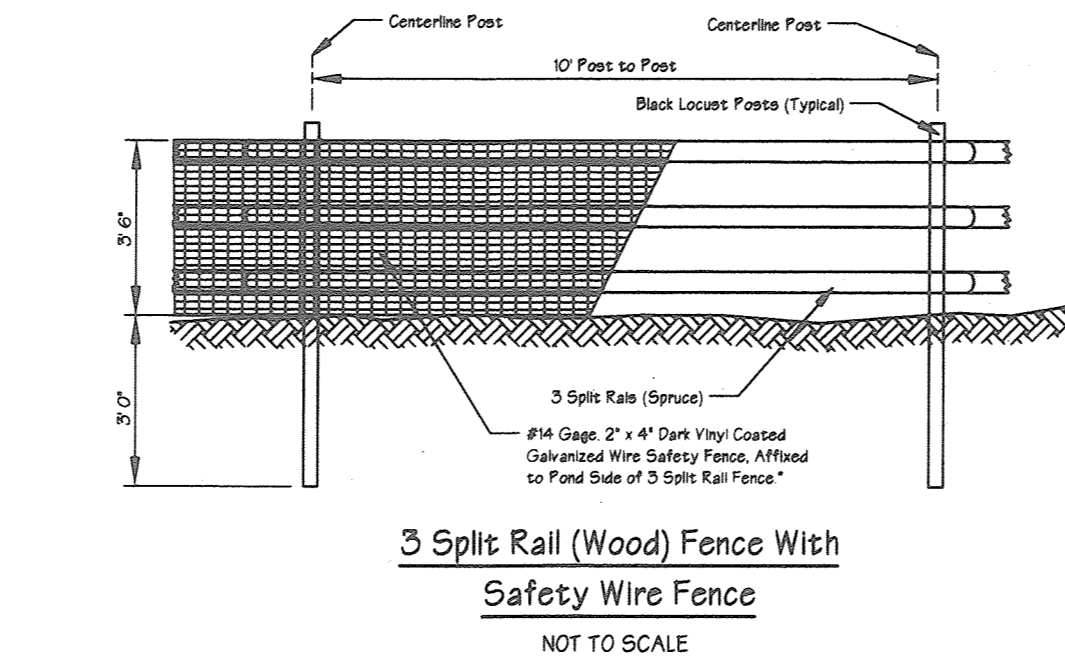
Subgrade for riprap or gabion outfalls shall be prepared to the required line and grade. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material. All rock or gravel shall conform to the specified grading limits when installed in the riprap or gabion. All stone shall be delivered and placed in a manner that will insure the stone 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. Stone for outfalls may be placed by equipment. Riprap or gabion outfalls shall be constructed to full course thickness in one operation and in such a manner as to avoid any displacement of underlying materials. The contractor shall avoid damage to the filter blanket or cloth during placement of riprap. Hand placement shall be required as needed to prevent damage to the permanent works. Filter cloth shall be placed under all riprap and gabions.

FENCE

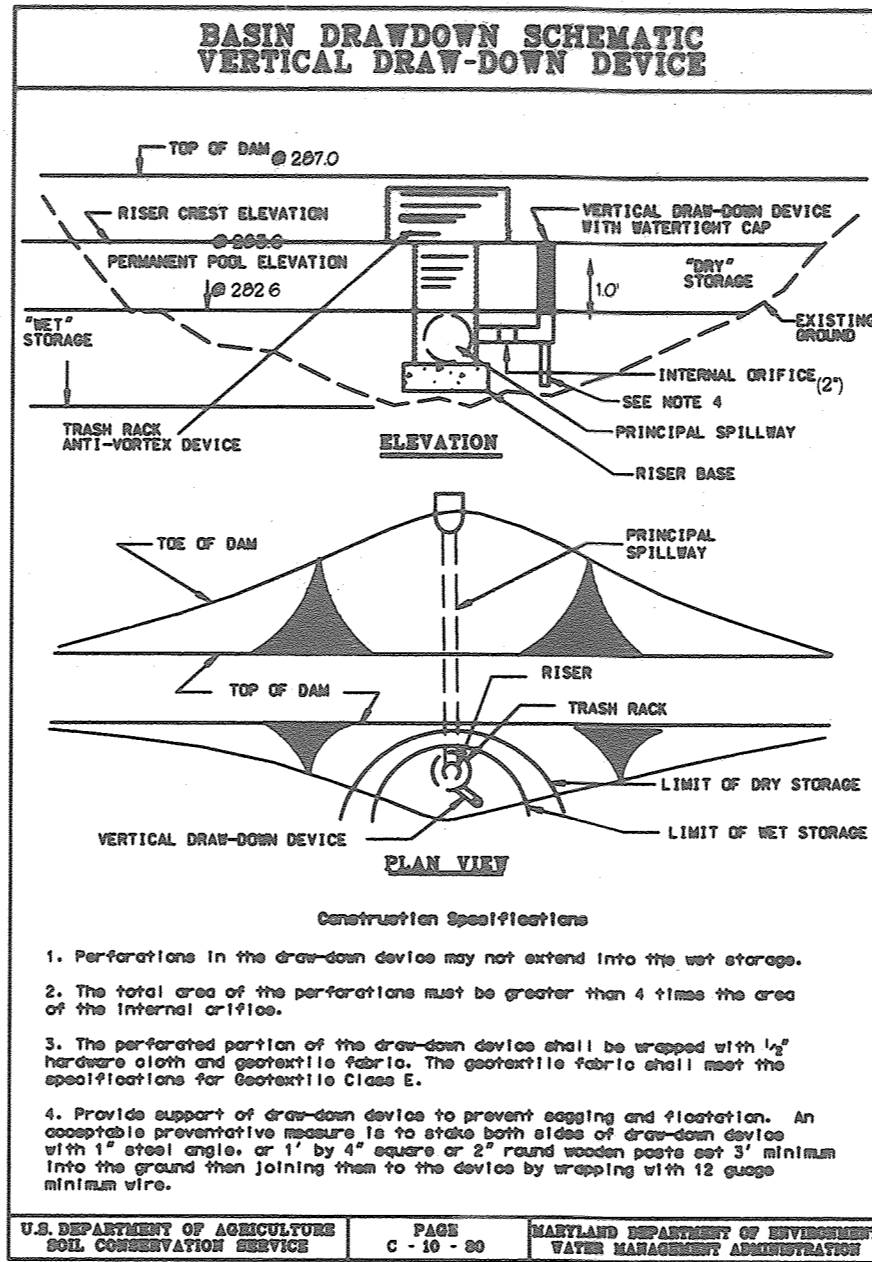
Construct fencing in accordance with the State Highway Administration standard details 690.01 and 690.02. Use specifications for a 6' fence, substituting 42" fabric and 6" Ø standard pipe posts. Construct the gate in accordance with the 5HA standard detail 690.01 with 42" fabric. The fabric used for the fence and gate must conform to AASHTO designation M181-74. Dark vinyl coating is required for the fence posts and wire fabric in accordance with the landscape manual adopted by resolution 96-90, October 1, 1990. *3 Split rail (wood) fence is optional.

CUT-OFF TRENCH - THE CUT-OFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION. WITH THE MINIMUM WIDTH BEING FOUR FEET THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1:1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

IMPERVIOUS CORE - THE CORE SHALL BE FILLED ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE FILL SHALL BE GOVERNED BY THE EQUIPMENT USED, WITH MINIMUM WIDTH BEING FOUR FEET. THE TOP WIDTH SHALL BE SHOWN ON THE PLAN. THE SIDE SLOPES OF THE FILL SHALL BE 1:1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS OR HAND TAMPERS TO ASSURE MAX PERMEABILITY.



NOTE: 1. LOCATE 2" MIN. FROM ALL PIPE JOINTS
2. ALL MATERIAL TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIALS SPECIFICATIONS
3. THE SEAL BETWEEN THE PIPE AND COLLAR SHALL BE WATER TIGHT
4. COLLAR SHALL PROJECT A MIN. OF 3.0" FROM THE EXTERIOR OF THE CONCRETE CRADLE AND THE PIPE ON ALL FOUR SIDES.

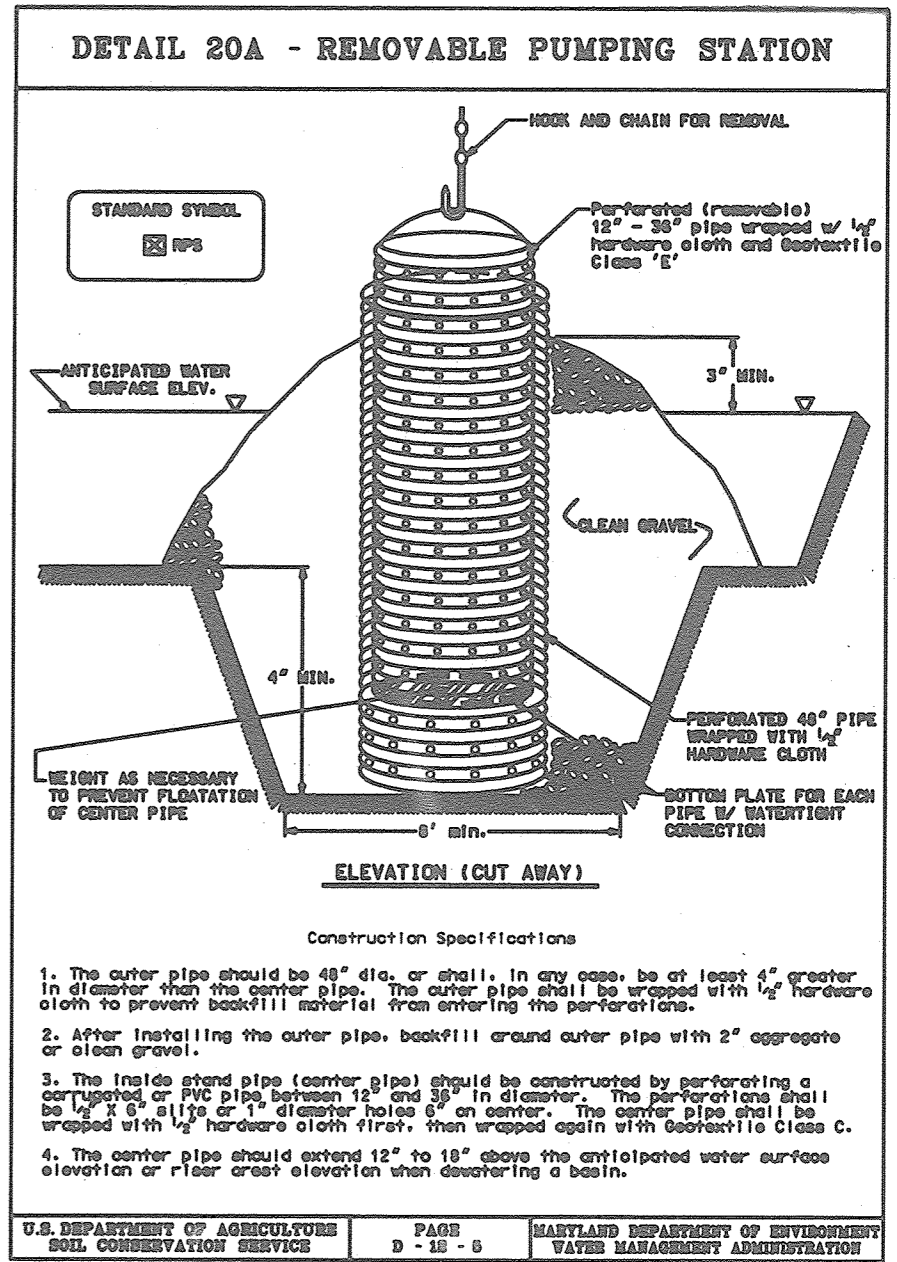
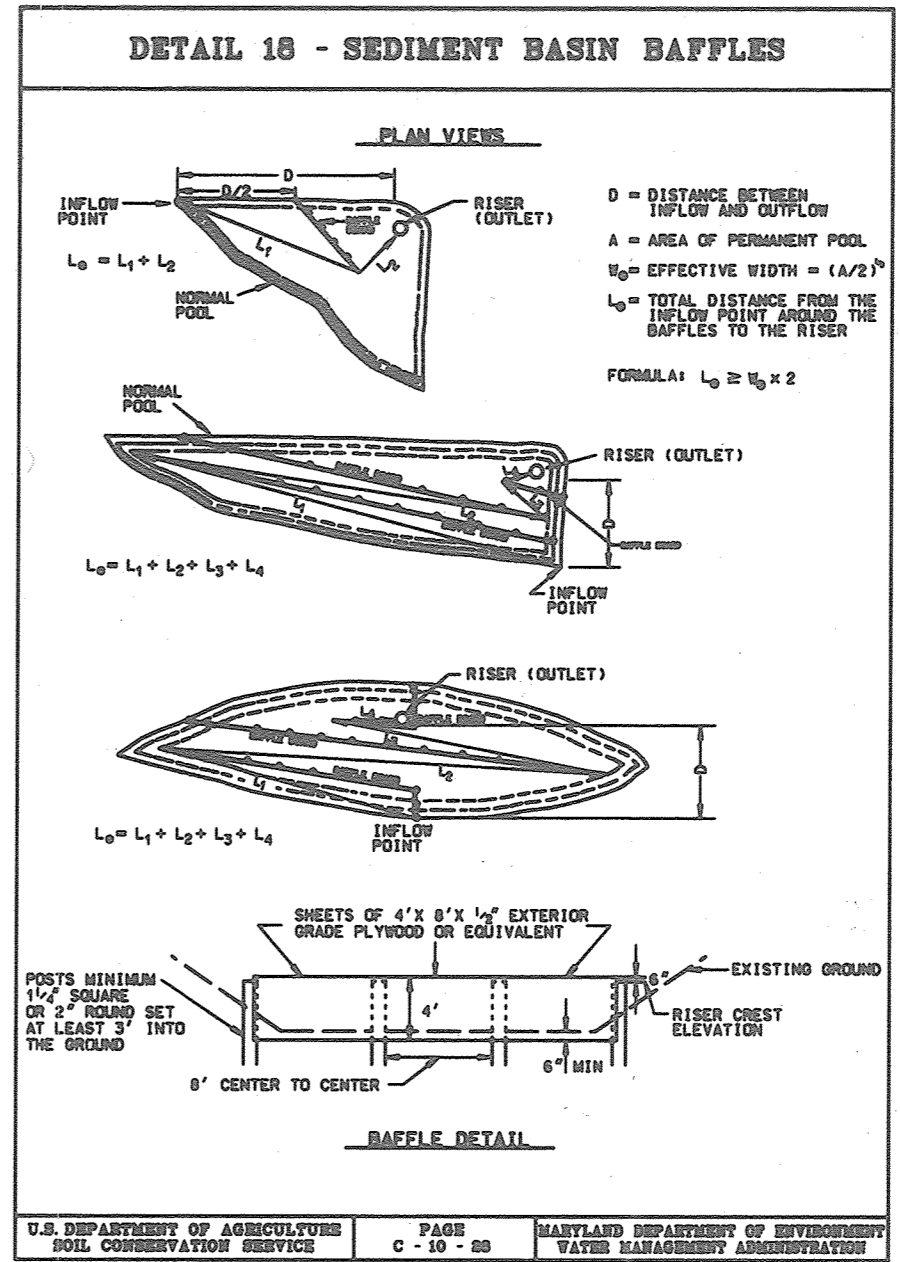


SEDIMENT BASIN

PERFORATED PIPE (AASHTO M-36) STANDARD PATTERN FOR PERFORATION HAS A MIN. OF THIRTY (30) 3/8" DIA. ROUND HOLES PER SQ. FT. OF PIPE SURFACE.

SIZE OF PERFORATIONS = 3/8" DIA
AREA OF PERFORATION = 0.00077 FT^2
LENGTH OF PERFORATED SECTION OF PIPE = 10 FT
MAX. ORIFICE AREA (Ao) = 0.087 FT^2
DRAW-DOWN ORIFICE DIA. = 1.0"
NUMBER OF PERFORATIONS PER LINEAR FOOT OF PIPE = 28 X 4 = 112
TOTAL AREA OF PERFORATIONS = 0.0872 FT^2

Table with columns for Basin Elevation, Surface Area Design, Draw-down Device, and Principal Spillway. Includes handwritten calculations for spillway capacity, area, and discharge rates.



PREPARED BY: GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC. Civil Engineers and Land Surveyors. 658 Kenilworth Drive, Suite 100, Towson, Maryland 21204. (410) 825-8120.

ENGINEER CERTIFICATION: I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. Engineer: James A. Markle Jr., P.E. # 11005, Date: 7/1/98.

DEVELOPER CERTIFICATION: I/we certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. Developer: Stanley A. Link, Date: 3-19-98.

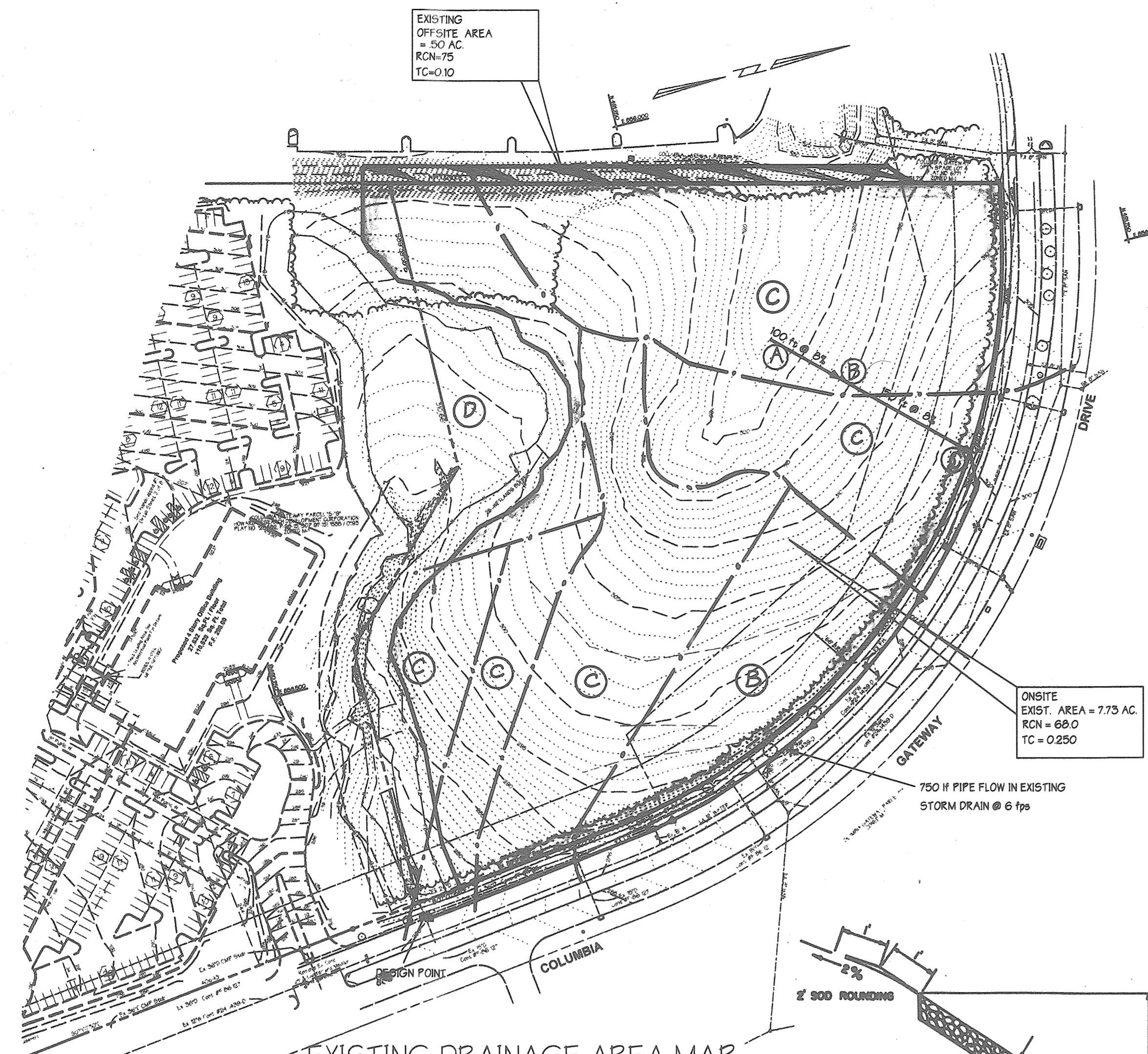
CONSULTANT'S HAZARD CLASSIFICATION: I certify that this pond meets all requirements for hazard class B or C. (Requirements as stated in the Soil Conservation Service Maryland Standards and Specifications for Pond Code 978, November 1995). All necessary investigations and computations have been performed to verify this finding. A copy of said information has been supplied to Howard County Soil Conservation District. Consultant: James A. Markle Jr., P.E. # 11005, Date: 7/1/98.

OWNER / DEVELOPER: CORPORATE GATESPRING II, LLC. 8615 CENTRE PARK DRIVE, SUITE 400, COLUMBIA, MARYLAND 21045. (410) 730-9092.

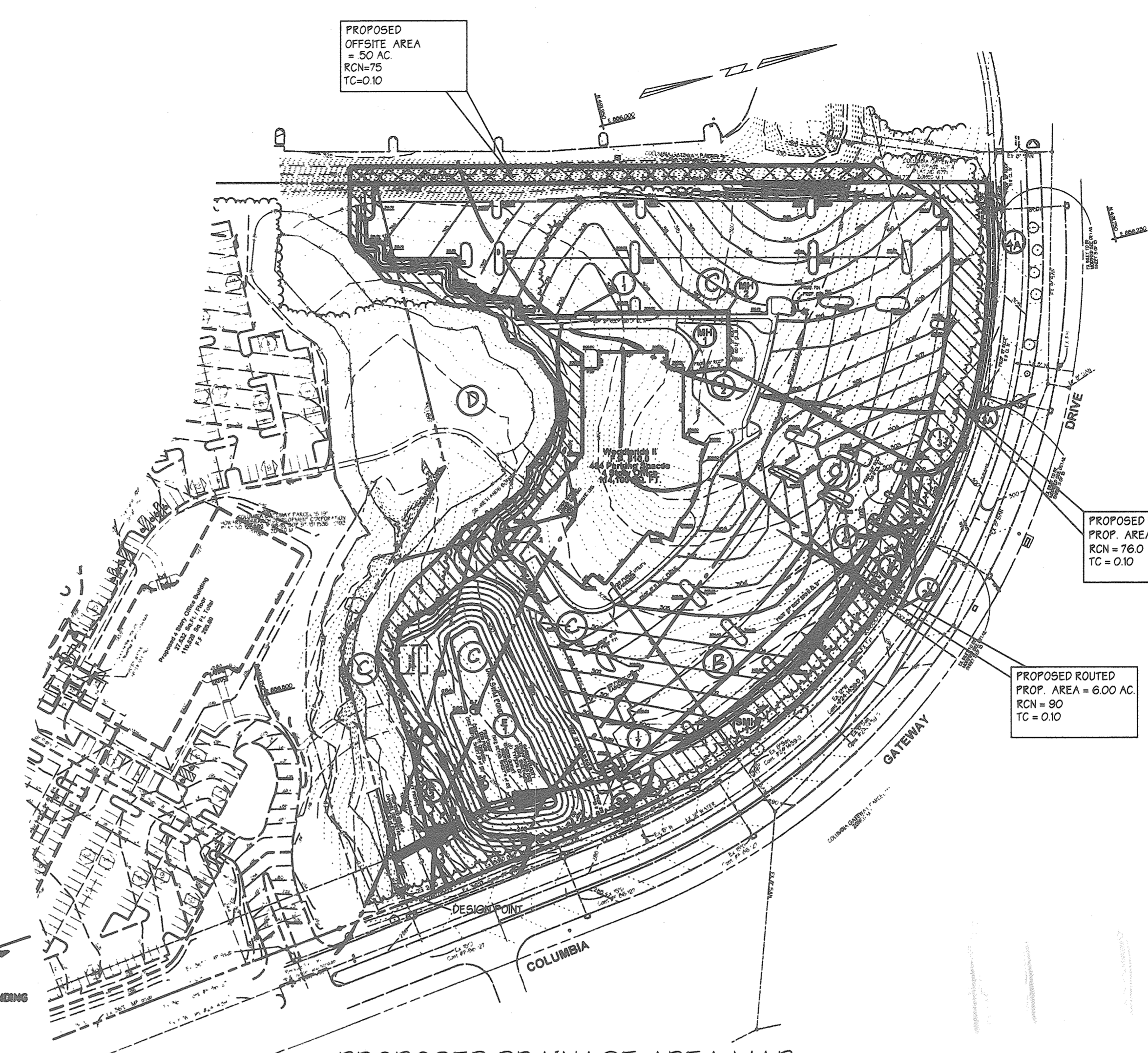
APPROVED HOWARD SOIL CONSERVATION DISTRICT. PLAN NUMBER: 10/15/98. DATE: 10/15/98. REVIEWED FOR THE HOWARD CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL. USDA-NATURAL RESOURCES CONSERVATION SERVICE. APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. CHIEF, DEVELOPMENT ENGINEERING DIVISION: 10/15/98. CHIEF, DIVISION OF LAND DEVELOPMENT: 10/15/98. DIRECTOR: 10/16/98.

Table with columns for Parcel No., Street Address, Subdivision Name, Section Name, Parcel Area, Plat, Block, Zone, Elect. Dist., Census Tract, Water Code, Sewer Code.

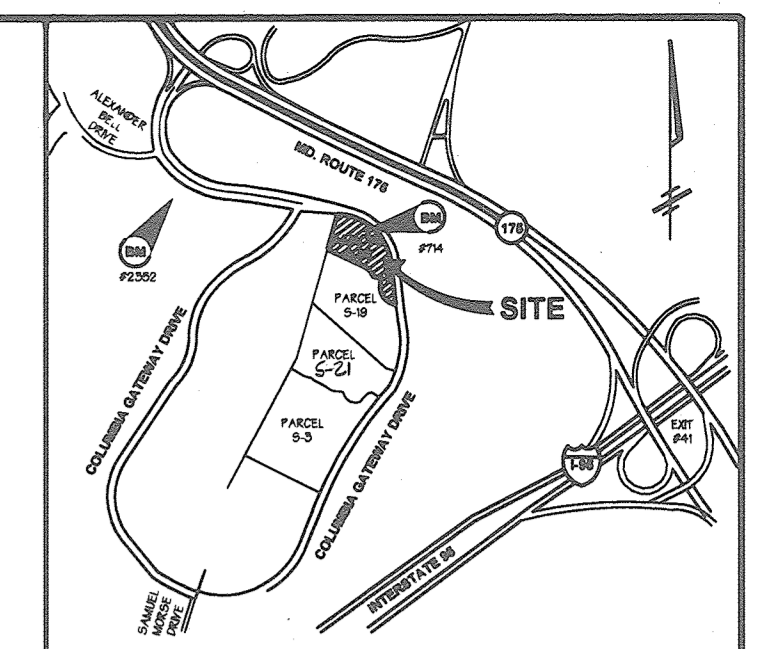
SEDIMENT BASIN NOTES AND DETAILS: COLUMBIA GATEWAY PARCEL 5-20. COLUMBIA GATEWAY WOODLANDS II. ELECTION DISTRICT: 6. HOWARD CO., MARYLAND SHT. 9 OF 13. SCALE: As Shown. DATE: MAY 01, 1998. SDP-99-01. P/N: 0656-6-29-98. NAME: 0656wmmtdst01



EXISTING DRAINAGE AREA MAP
APPENDIX 1A SCALE: 1"=100'
COMPACTED FILL



PROPOSED DRAINAGE AREA MAP
SCALE: 1"=100'



LOCATION MAP
SCALE: 1"=2000'

BENCHMARKS:
WR & A BM #2352 ELEVATION: 330.29
IRON PIPE 240 FEET RIGHT OF CENTERLINE
STA. 15+00, COLUMBIA GATEWAY DRIVE

WR & A BM #714 ELEVATION: 315.29
230 FEET RIGHT OF CENTERLINE
STA. 34+30 COLUMBIA GATEWAY DRIVE

LEGEND

SOILS

DRAINAGE AREA LINES

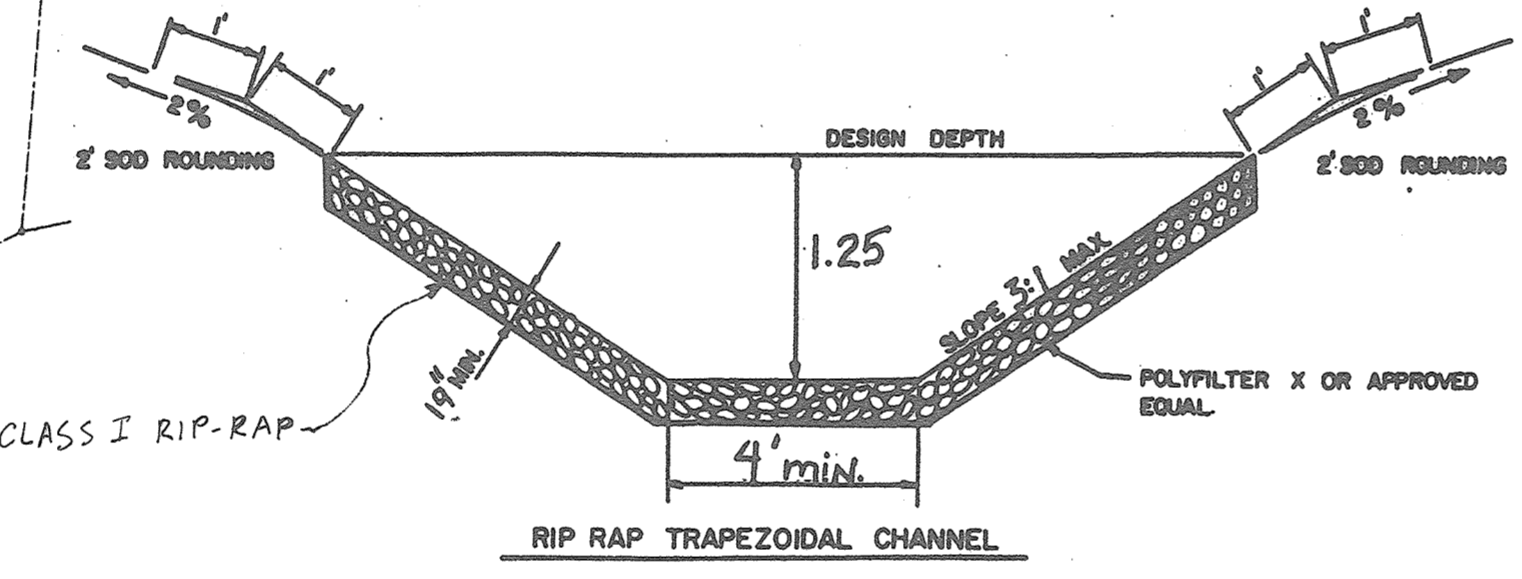
EX. OFFSITE AREA

EX. ONSITE AREA

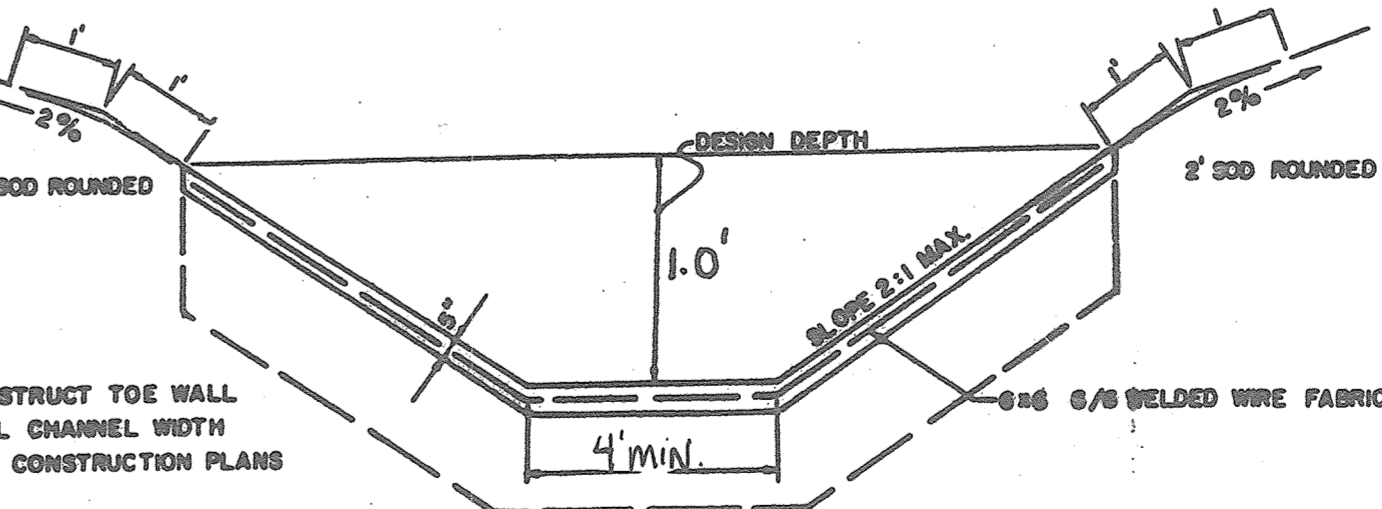
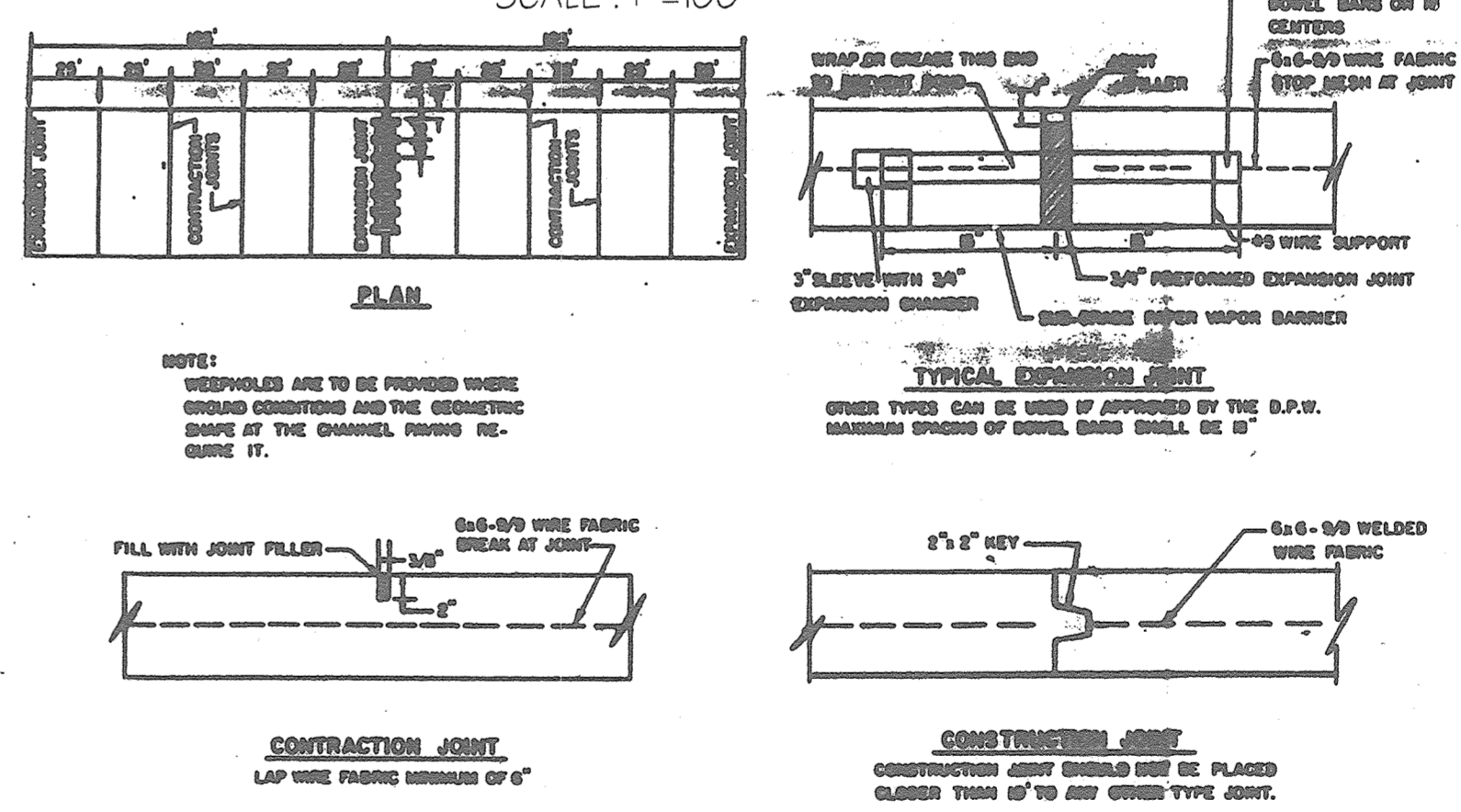
PROP. OFFSITE AREA

PROP. ROUTED AREA

PROP. NOT ROUTED AREA



TRAPEZOIDAL CHANNEL



CONCRETE TRAPEZOIDAL CHANNEL FOR LOW FLOW CONCRETE CHANNEL IN STORMWATER MANAGEMENT POND

- A. Embankment shall be constructed of approved granular material from the excavation or from other sources. The material shall be free from organic matter and other deleterious substances. The material shall have Unified Classification GW, GP, GH, GC, SU, SF, SM or SC and shall have an ASTM D 698 maximum dry density of at least 110 PCF.**
- B. Before depositing fills, the ground surface shall be cleared of all refuse, brush, grass, roots, ice and frozen material. All organic matter and otherwise unsuitable soils shall be removed from the surface to be filled. The exposed surface shall be plowed or scarified if required to a depth of six inches. Soils so scarified, or which have been disturbed by grubbing and stripping operations, shall be compacted to undisturbed soil below by discing, leveling, rolling and compacting at the moisture content and to the density specified below for compacted embankments.**
- C. Where fills are made on hillsides or slopes, the slope of the original ground upon which the fill is to be placed shall be plowed or scarified deeply, or where the slope ratio of the original ground is steeper than 5 horizontal to 1 vertical, the bank shall be stepped or benched, when considered necessary by the Engineer, to permit placement of the fill in horizontal layers.**
- D. Placing, Spreading and Compacting Fill Materials:**
- The fill material shall be placed in layers which, before compaction shall not exceed 8 inches. Each layer shall be spread uniformly and evenly and shall be thoroughly blade mixed during the spreading to insure uniformity of materials in each layer.
 - After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to not less than 95% of the maximum dry density as determined by ASTM D 698.
 - The moisture content of the fill shall be as required in order to attain the degree of compaction specified.
 - Compaction shall be by approved multiple-wheel pneumatic tired rollers, vibratory rollers or other types of acceptable rollers.
 - The filling operation shall be continued as specified above until the fill has been brought to subgrade shown on the plans.
 - The fill shall be constructed in such a manner that the surface will be sloped to drain at all times, and all fill shall be deposited to prevent excessive moisture accumulation from rainwater.
 - When the work is interrupted by rain, filling shall not be resumed until tests indicate that the moisture content and density of the top 6 inches of fill conform to the above specification requirements.

- STORMWATER MANAGEMENT SEQUENCE OF CONSTRUCTION**
- COMPLETE THE SEQUENCE OF OPERATIONS ON THE APPROVED SEDIMENT AND EROSION CONTROL PLANS
 - NOTIFY HOWARD COUNTY, THE GEOTECHNICAL ENGINEER (410-526-7200) AND THE ENGINEER IN CHARGE (825-8120) AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. ALSO NOTIFY ENGINEER IN CHARGE FOR AS-BUILT
 - AFTER ALL AREAS HAVE BEEN PERMANENTLY STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE WITH PERMANENT SEEDING. CONVERT SEDIMENT BASINS TO STORM WATER MANAGEMENT FACILITIES IN ACCORDANCE WITH THE APPROVED STORM WATER MANAGEMENT PLANS.

- CLEAN OUT BASINS
 - MAKE NECESSARY CHANGES TO RELEASE STRUCTURE
 - REPLACE SEDIMENT BASIN DEWATERING DEVICE WITH EXTENDED DETENTION DEWATERING DEVICE
 - COMPLETE AS-BUILT SURVEYS AND STUDIES AND SUBMIT TO APPROPRIATE AGENCIES WITHIN 30 DAYS OF COMPLETION OF INSTALLATION
 - UPON COMPLETION OF THE ABOVE INSTALLATIONS, NOTIFY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT, INSPECTION AND ENFORCEMENT DIVISION (887-3226)
- NOTE:**
(1) CONSTRUCT THE SEDIMENT BASINS PER THE SPECIFICATIONS AS SHOWN ON THE SEDIMENT CONTROL PLAN FOR INITIAL CONSTRUCTION. CONTACT THE ENGINEER IN CHARGE @ (825-8120) SO THEY CAN INSPECT THE INSTALLATION OF THE FOLLOWING:
- THE IMPERVIOUS CORE AND/OR CUT-OFF TRENCHES.
 - THE CONCRETE CRADLE.
 - THE OUTFALL PIPE.
 - THE DEWATERING DEVICE.
 - THE CONCRETE END SECTION AND OUTLET PROTECTION
 - THE EMBANKMENT CONSTRUCTION AND STABILIZATION IN ACCORDANCE WITH THE SPECIFICATIONS SHOWN ON THE SEDIMENT AND EROSION CONTROL PLANS
- OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY DETENTION POND**
- ROUTINE MAINTENANCE**
- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
 - TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOVED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOVED AS NEEDED.
 - DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
 - VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIP-RAP OUTLET SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- NON-ROUTINE MAINTENANCE**
- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE FESSER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
 - SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE. INTERFERE WITH THE FUNCTION OF THE POND, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

These plans for pond construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT
DATE: 10/17/98

Reviewed for the Howard Conservation District and meets technical requirements for SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
DATE: 10/14/98

APPROVED: Howard County Department of Planning and Zoning
DATE: 10/15/98

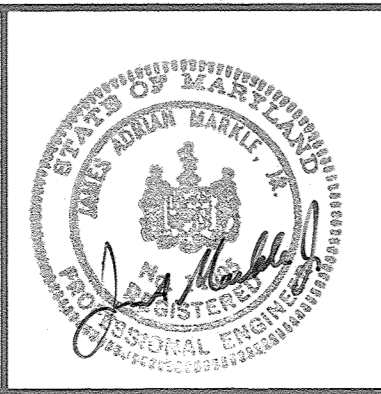
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
DATE: 10/15/98

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 10/15/98

DIRECTOR
DATE: 10/16/98

ADDRESS CHART					
PARCEL NO.	STREET ADDRESS				
5-20	6940 COLUMBIA GATEWAY DRIVE				
SUBDIVISION NAME	SECTION NAME	PARCEL #			
COLUMBIA GATEWAY	N/A	5-20			
PLAT #	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
12882	1	M-1	43	6	6067.03
WATER CODE	SEWER CODE	5333000			

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120

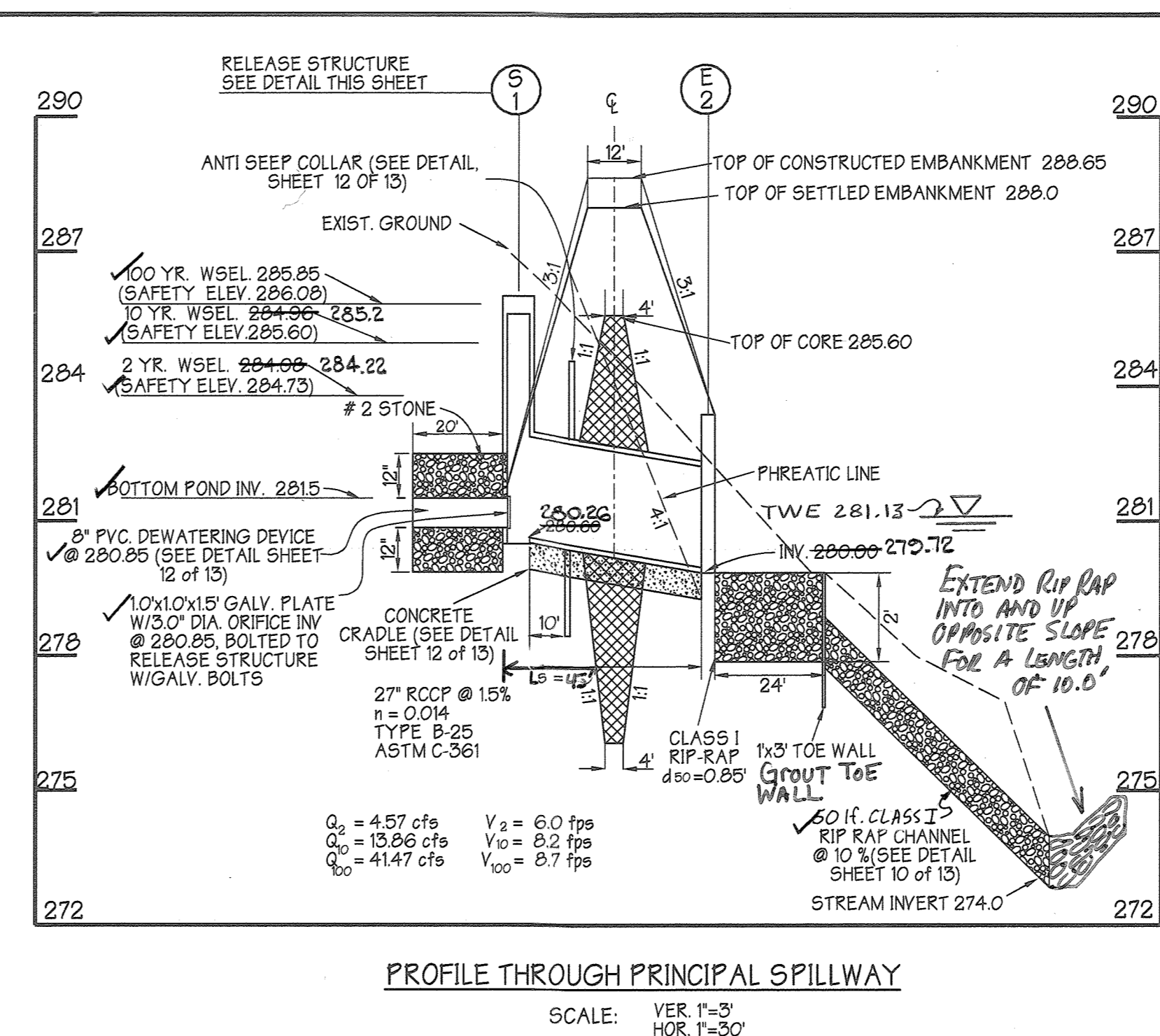
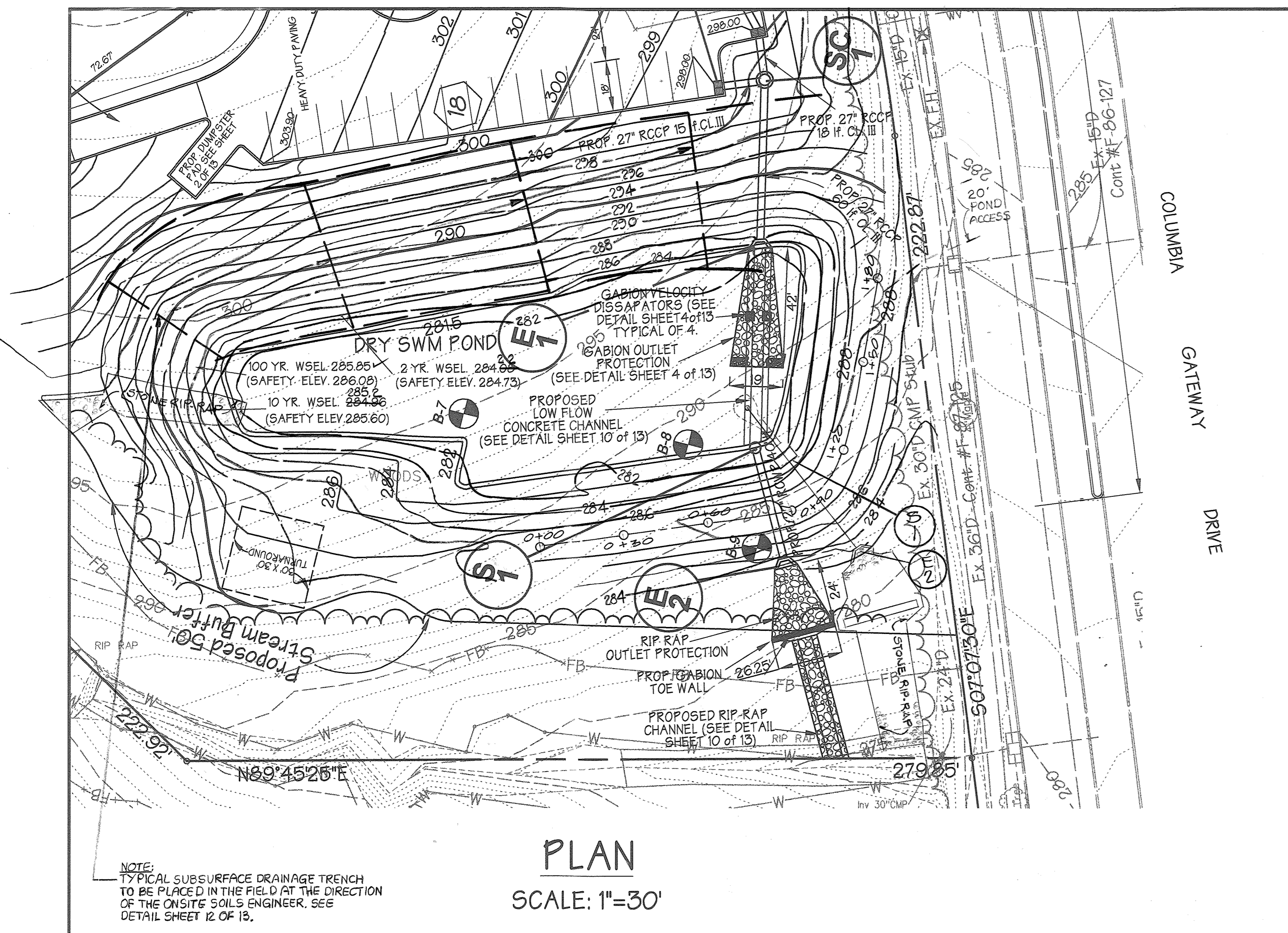


OWNER / DEVELOPER
CORPORATE GATESPRING II, LLC
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: K.E.
CHECKED BY: P.R.C.
REVISIONS

EXISTING & PROPOSED DRAINAGE AREA MAPS
COLUMBIA GATEWAY PARCEL 5-20
COLUMBIA GATEWAY WOODLANDS II

ELECTION DISTRICT: 6
HOWARD CO., MARYLAND
SHT. 10 OF 13
SCALE: As Shown
DATE: MAY 01, 1998



POND SPECIFICATIONS FOR STORMWATER MANAGEMENT	
DESCRIPTION	DATA
STRUCTURE CLASSIFICATION	A (PRIVATE)
STORAGE X HEIGHT PRODUCT	(2.5 AC. FT.) (7.0 FT.) = 17.5 AC. FT. ²
WATERSHED AREA TO THE POND	6.50 AC.
POND TYPE	DRY
FREEBORD	REQUIRED/ PROVIDED
IMPERVIOUS AREA	4.30 AC.
TOP OF EMBANKMENT	288.0

DESIGN STORM	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	BYPASS DISCHARGE (CFS)	POND SUMMARY		
				TOTAL DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT.)	STORAGE VOL. WITH WATER QUALITY (AC. FT.)
2 YR	✓ 2176	-157 5.1	✓ 2.92	656 7.1	284.00 24.22	0.80
10 YR	✓ 3625	-186 15.16	✓ 6.54	4848 12.07	284.00 28.22	1.18
100 YR	✓ 52.06	-1447 33.35	✓ 10.81	5676 15.53	285.50 28.50	1.30

NOTE:
NO TREES, SHRUBS OR OTHER WOODY VEGETATION WILL BE ALLOWED WITHIN 50' OF THE INLET STRUCTURE IN THE POND AREA AND NOT ALLOWED WITHIN 20' FROM THE TOE OF THE EMBANKMENT.

NOTE:
THE CONSTRUCTION MAY REQUIRE A PERMIT FROM THE ARMY CORPS OF ENGINEERS, THE WATER RESOURCES ADMINISTRATION AND/OR HOWARD COUNTY. IT IS THE RESPONSIBILITY OF THE LANDOWNER TO CONTACT THESE THREE AGENCIES TO DETERMINE IF THE PROJECT REQUIRES A PERMIT:
U.S. ARMY CORPS OF ENGINEERS - (410) 963-3620
WRA NON-TIDAL WETLANDS AND WATERWAYS DIVISION - (410) 974-3841
HOWARD COUNTY - (410) 887-3980

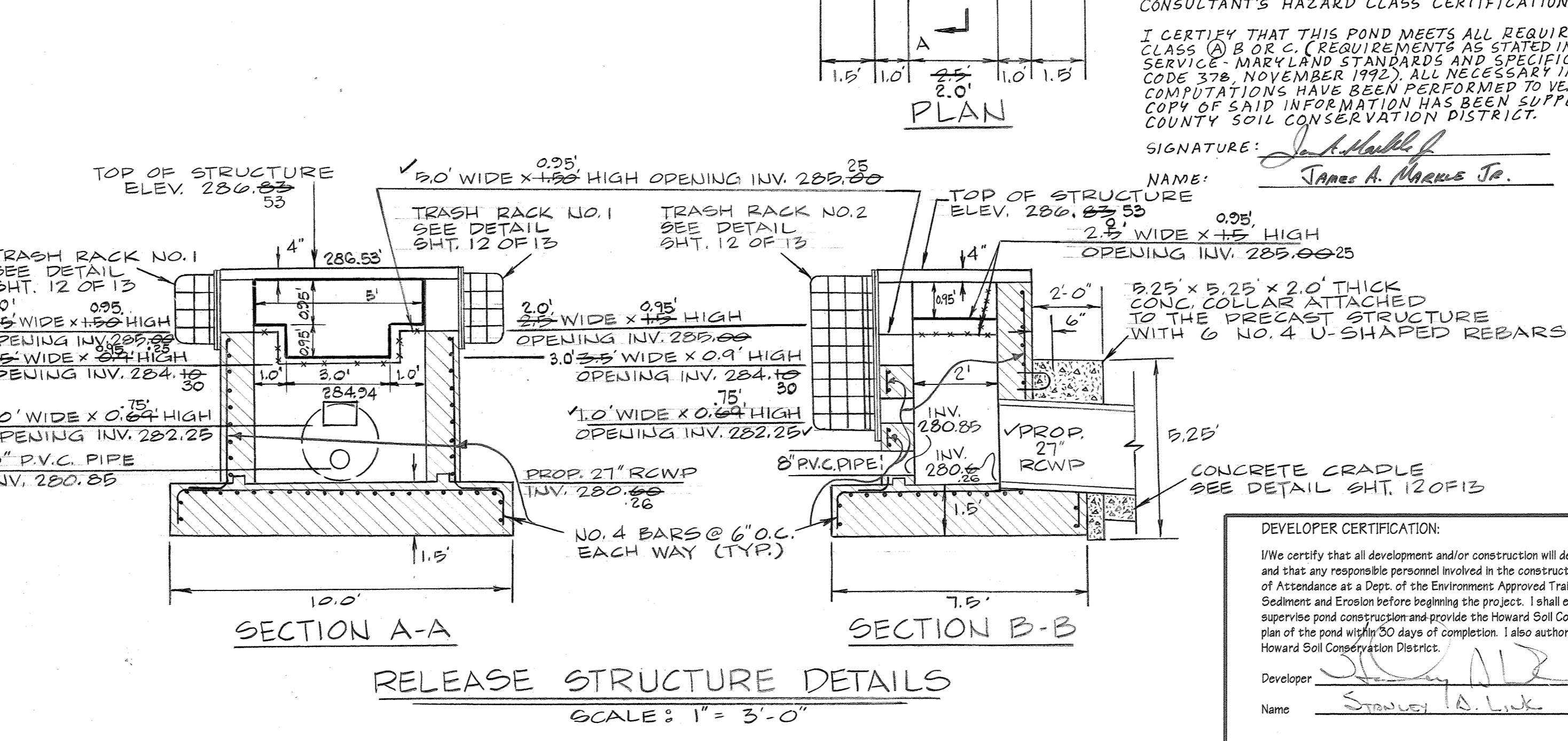
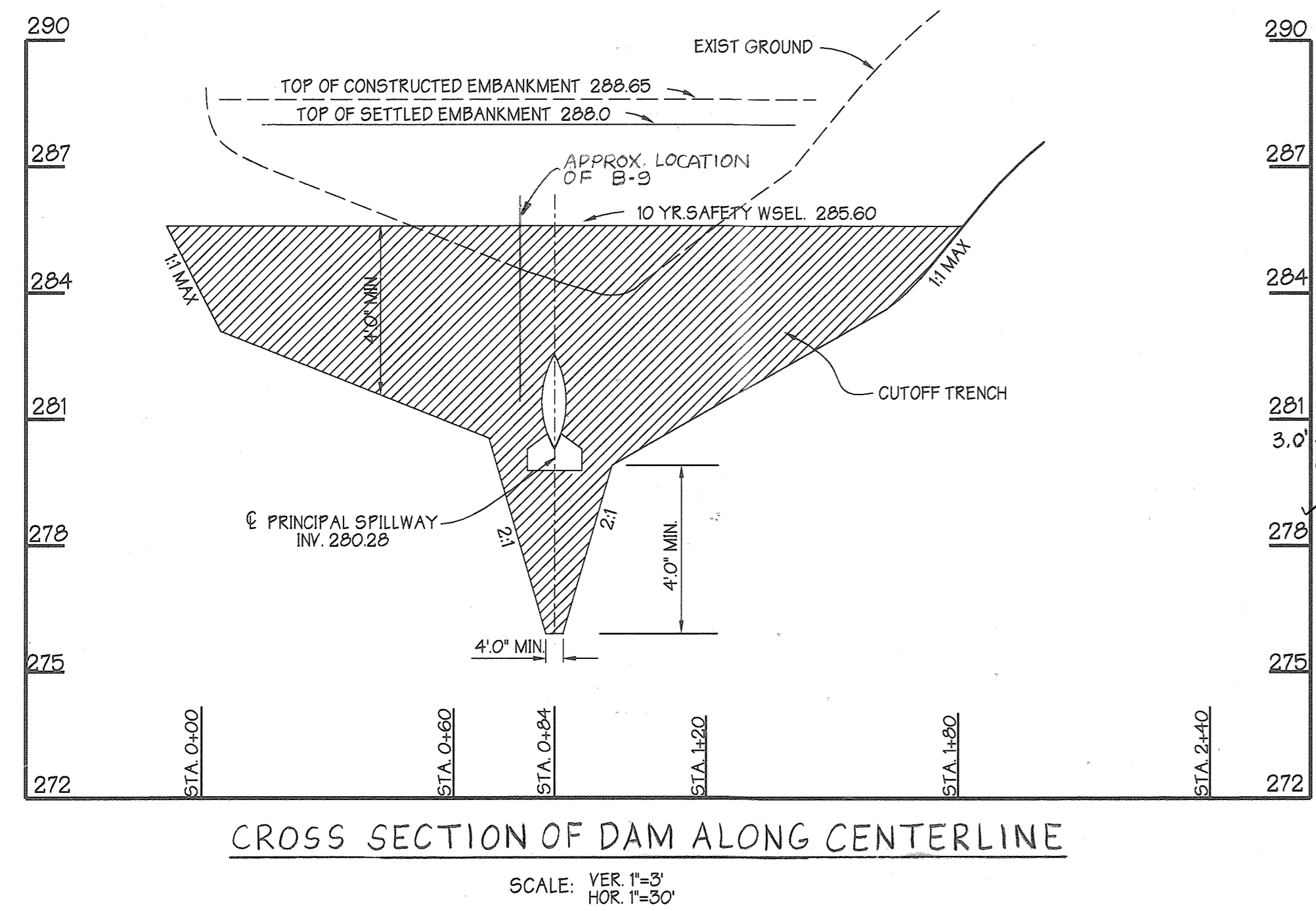
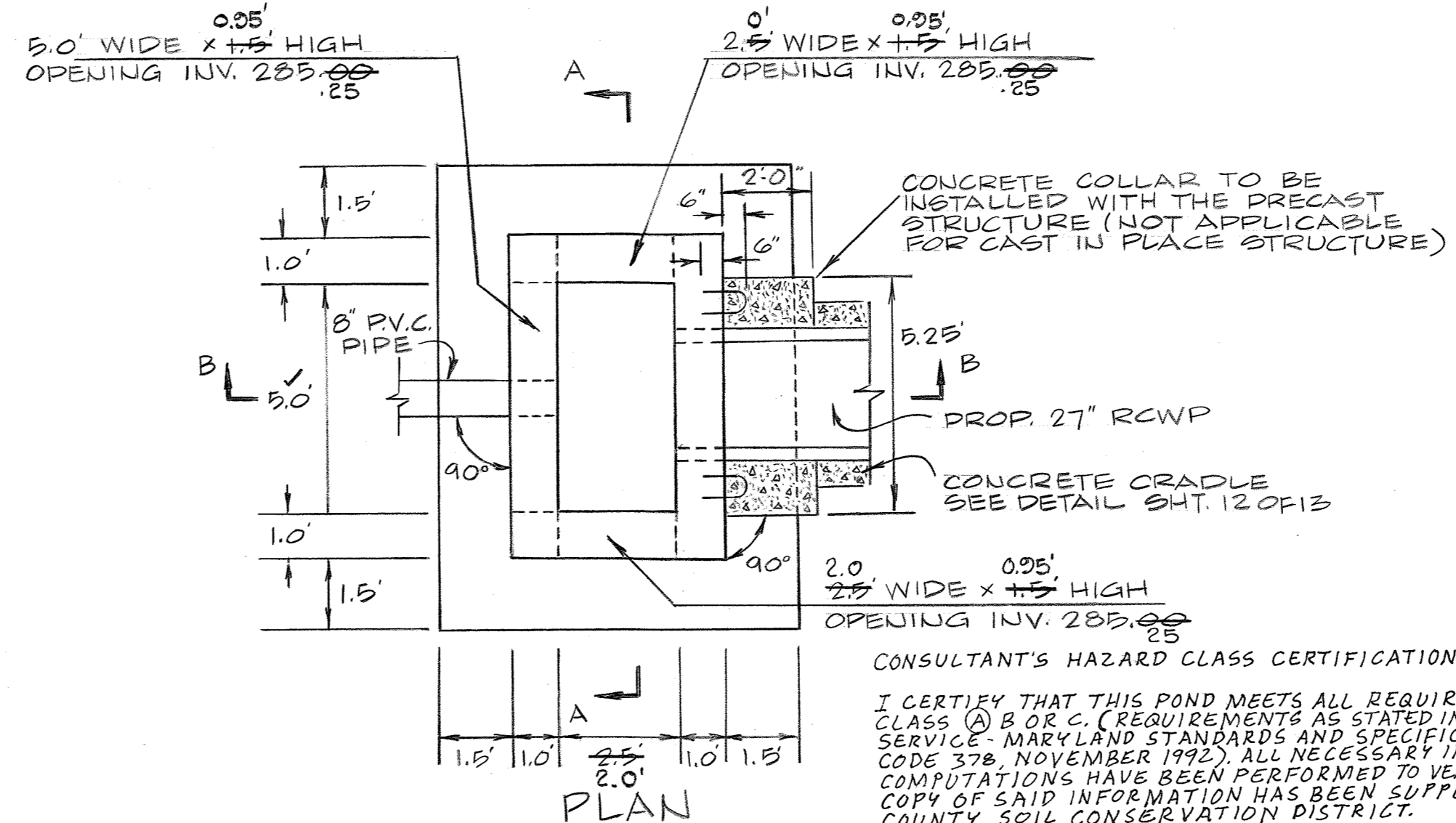
NOTE:
IF REQUIRED BY THE SEDIMENT CONTROL INSPECTOR FENCING SHALL BE INSTALLED TO PREVENT ACCESS TO THE BASIN BY CHILDREN.

NOTE:
THIS STORMWATER MANAGEMENT FACILITY IS DESIGNED TO MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND THE SOIL CONSERVATION DISTRICT. MAINTENANCE OF THIS FACILITY WILL BE THE RESPONSIBILITY OF THE OWNER. (THE SWM FACILITY IS PRIVATE).

RELEASE STRUCTURE NOTES
1. UNLESS OTHERWISE NOTED CAST-IN-PLACE STRUCTURE SHALL BE BUILT IN ACCORDANCE TO HOWARD CO. STD. DETAIL 4.02.
2. STRUCTURE TO BE CAST-IN PLACE REINFORCED CONCRETE WITH 3500 P.S.I. (MIN) COMPRESSIVE STRENGTH @ 28 DAYS. DESIGN OF PRECAST CONC. STRUCTURE SHALL BE PROVIDED BY MANUFACTURER.
3. ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
4. ALL REINFORCING TO HAVE 1" MIN OVERLAPS AND THREE (3) INCHES FOR THE BASE.
5. TWO (2) INCH COVER MINIMUM FOR ALL REBARS IN WALLS AND THREE (3) INCHES FOR THE BASE.
6. PROVIDE ADDITIONAL #4 REBARS ALONG THE PERIMETER OF ALL OPENINGS WITH THE AREA OF STEEL EQUAL TO OR GREATER THAN THE AREA OF STEEL "REMOVED" DUE TO OPENING.
7. SHOP DRAWINGS FOR PRECAST CONCRETE RISERS WITH SUPPORTING STRUCTURAL COMPUTATIONS (SIGNED AND SEALED BY A MD REGISTERED ENGINEER MEETING A.S.T.M. REQUIREMENTS FOR PRECAST STRUCTURES MUST BE SUBMITTED TO THE ENGINEER, AND THE APPROVING AGENCY FOR APPROVAL PRIOR TO FABRICATION. IF ANY STRUCTURE DIMENSIONS VARY FROM WHAT WAS ORIGINALLY REVIEWED/ APPROVED, THEN THE HYDRAULICS, FLOTATION AND STRUCTURAL INTEGRITY OF THE STRUCTURE WILL HAVE TO BE RE-ANALYZED.
8. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS.

NOTE:
SOILS TO BE USED FOR CUT-OFF TRENCH AND IMPERVIOUS CORE SHALL CONFORM TO UNIFIED CLASSES CL, SC, CH OR GC.

NOTE:
IF UNSUITABLE (PERVIOUS) MATERIAL IS ENCOUNTERED AT TIME OF CUT-OFF TRENCH INSTALLATION DEEPER THAN 4', IT WILL BE NECESSARY TO EXTEND THE CUT-OFF TRENCH DOWN UNTIL SUITABLE MATERIAL IS ENCOUNTERED AS DETERMINED BY A GEOTECHNICAL ENGINEER. AT TIME OF CONSTRUCTION EXISTING SOIL ADJACENT TO CUT-OFF TRENCH SHALL BE EVALUATED FOR SEEPAGE BY A GEOTECHNICAL ENGINEER, AND ADDRESSED PER RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.



DEVELOPER CERTIFICATION:
I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a Professional Engineer to supervise pond construction and 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: *Stanley A. Link* Date: 8-19-98

These plans for pond construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT
DATE: 10/10/98

PLAN NUMBER: _____ DATE: 10/10/98

Reviewed for the Howard Conservation District and meets technical requirements for small pond construction, soil erosion and sediment control.
Carol Scrimm 10/10/98
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE: _____

APPROVED: Howard County Department of Planning and Zoning
Mike 10/15/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE: _____

Wanda Hamilton 10/15/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: _____

James A. Marcus Jr. 10/16/98
DIRECTOR DATE: _____

ADDRESS CHART
PARCEL NO. 5-20 STREET ADDRESS 6940 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME COLUMBIA GATEWAY SECTION NAME N/A PARCEL # 5-20

PLAT # 12882 BLOCK # 1 ZONE M-1 / ZONE # 43 MAP ELECT. DIST. 6 CENSUS TRACT 6067.03

WATER CODE E06 SEWER CODE 5333000

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120

AS-BUILT CERTIFICATION:
I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meet the approved plans and specifications.
James A. Marcus Jr.
Signature
P.E.# 11005 Date: 1/23/01

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

ENGINEER CERTIFICATION:
I certify that this plan for pond construction, erosion and sediments control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.
Engineer: *James A. Marcus Jr.* P.E.# 11005
Name: *James A. Marcus Jr.* Date: 8/20/98

AS-BUILT 1/23/01

OWNER/DEVELOPER
CORPORATE GATESPRING II, LLC
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: A.S.
CHECKED BY: P.R.C.
REVISIONS

STORM WATER MANAGEMENT PROFILES
COLUMBIA GATEWAY PARCEL 5-20
COLUMBIA GATEWAY WOODLANDS II
"AS BUILT"

ELECTION DISTRICT: 6 HOWARD CO., MARYLAND SHT. 11 OF 13 SCALE: As Shown DATE: MAY 01, 1998

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard practice MD-378. 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, applied to the ground surface. For dry stormwater management ponds, a minimum of 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, stones greater than 6" from other objectionable materials. Fill material for the center of the embankment and cut off trench shall conform to United Soil Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

PLACEMENT - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in a maximum 6" thick (before compaction) layers which are to be continuous over the entire length of the pond. The most permeable 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 the water can be squeezed out.

Minimum required density 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 determined by AASHTO Method T-99. See also sheet No. 10 of IS.

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. As 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.

PIPE CONDUITS All pipes shall be circular in cross section.

REINFORCED CONCRETE PIPE - All pipe to be circular in cross section.

All 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.
2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high strength concrete placed under the pipe and up the sides of the pipe 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.
4. Backfilling shall conform to "Structure Backfill".
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

PERFORATED PIPE

Stainless coated corrugated metal pipe (SCCMP) shall conform to the requirements of AASHTO M36 (pipe should be specified to be fully bimetallic coated in accordance with AASHTO M150). Perforated pipe is TYPE III. Pipe shall have CLASS 2 perforations 5/8" in diameter.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919 (Portland Cement Concrete Mixture), Mix No. 3.

REINFORCING STEEL IN CONCRETE STRUCTURES

Reinforcing steel shall be ASTM A 615, Grade 60. Steel angles and anchor bars shall be ASTM 1-36.

ROCK RIP-RAP

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 905.

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.

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 pumps 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 breaked 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 pumps from which water shall be pumped.

STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and boms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planning (MD-342) or as shown on the accompanying drawings.

Stormwater management facility will be stabilized with permanent slope seeding as follows:

1. Seeding Preparation - loosen upper 3 inches of soil by raking, disking or other acceptable means before seeding.
2. Soil Ameliorants - apply 2 tons per acre Dolomitic Limestone (92 lbs./1000sq. ft.), 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq. ft.), and 400 lbs. per acre of 30-0-0 Ureaform Fertilizer (92 lbs./1000 sq. ft.). Harrow or disc line and fertilizer into upper 3 inches of soil. As time of seeding, apply 400 lbs. (92 lbs./1000 sq. ft.) of 30-0-0 Ureaform Fertilizer and 500 lbs. per acre (115 lbs./1000 sq. ft.) of 10-0-0 fertilizer.
3. Seeding - for the period March 1 through April 30 seed with 40 lbs. per acre Kentucky 31 Tall Fescue, and 15 lbs. per acre inoculated Crown Vetch. For the period May 1 through July 31 seed with 60 lbs. per acre Kentucky 31 Tall Fescue and 2 lbs. per acre inoculated Weeping Lovegrass. For the period August 1 through October 15 seed with 40 lbs. per acre Kentucky 31 Tall Fescue, and 20 lbs. per acre inoculated Interstate Sericea Lespedeza. For the period October 16 through February 20 protect the site by Option (1); 2 tons per acre of well anchored straw. For the period May 1 through February 28 inoculated Crown Vetch shall be applied during the subsequent period of March 1 through April 30 at the rate of 15 lbs. per acre.
4. Mulching - apply 15 to 2 tons per acre of un-rotted small grain straw immediately after seeding. Anchor mulch immediately after application using 210 gallons per acre of emulsified asphalt. On flat areas of slope 6 feet or higher, use 340 gallons per acre of anchoring.
5. Maintenance - inspect all seeded areas and make needed repairs, replacements and re-seeding.

EROSION AND SEDIMENT CONTROL

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

PERMANENT SLOPE SEEDING

After spreading 4" topsoil, seed with a mixture of 30% inoculated Crown Vetch and 70% Kentucky 31 Tall Fescue applied at a rate of 60 lbs/acre, 10-20-20 fertilizer shall be applied at a rate of 25 lbs/1000 sq. ft.; lime at a rate of 92 lb/1000 sq. ft.; mulch area with unweathered small grain straw at a rate of 15 tons/acre; anchor with a rapid curing asphalt (RC-70, R-250 or RC-800 at a rate of 0.1 gal./sq. ft.)

FILTER CLOTH

Filter cloth shall meet or exceed the requirements in Section 2025-5 of the Baltimore County Standard Specifications and Details for Construction. Durable filter fabrics for drainage purposes are not limited to Mirafi 1405, DuPont TYPAC No. 3541 or 3401.

Filter cloth shall be protected from punching or tearing. Any damage other than an occasional small hole shall be repaired by placing another small piece of filter cloth over the damaged area or by replacing the cloth section. All overlaps shall be a minimum of one foot.

GABIONS

Gabions shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 912 and must be CL IV, PVC coated.

OUTFALL PROTECTION

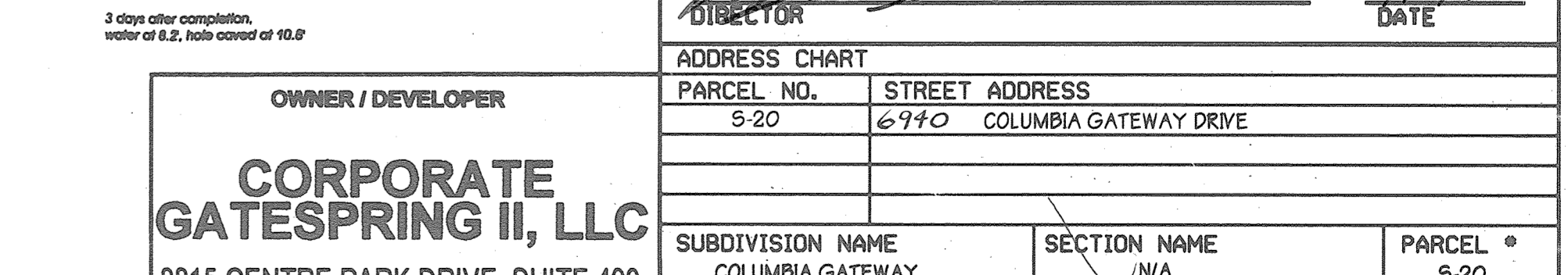
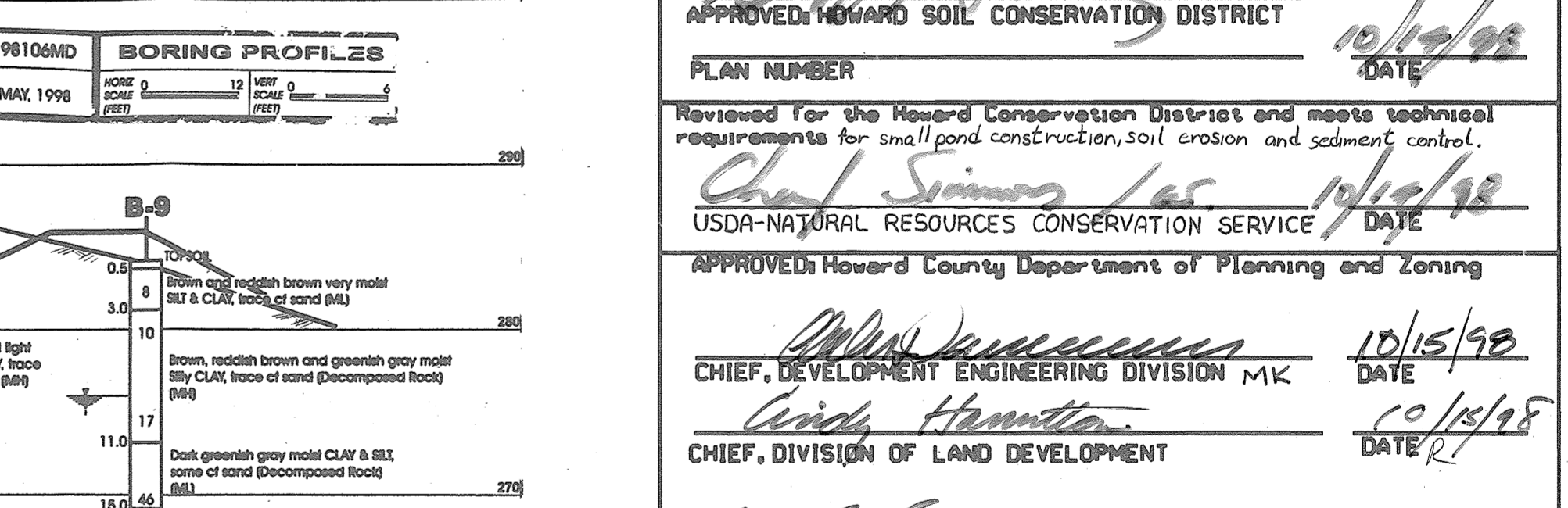
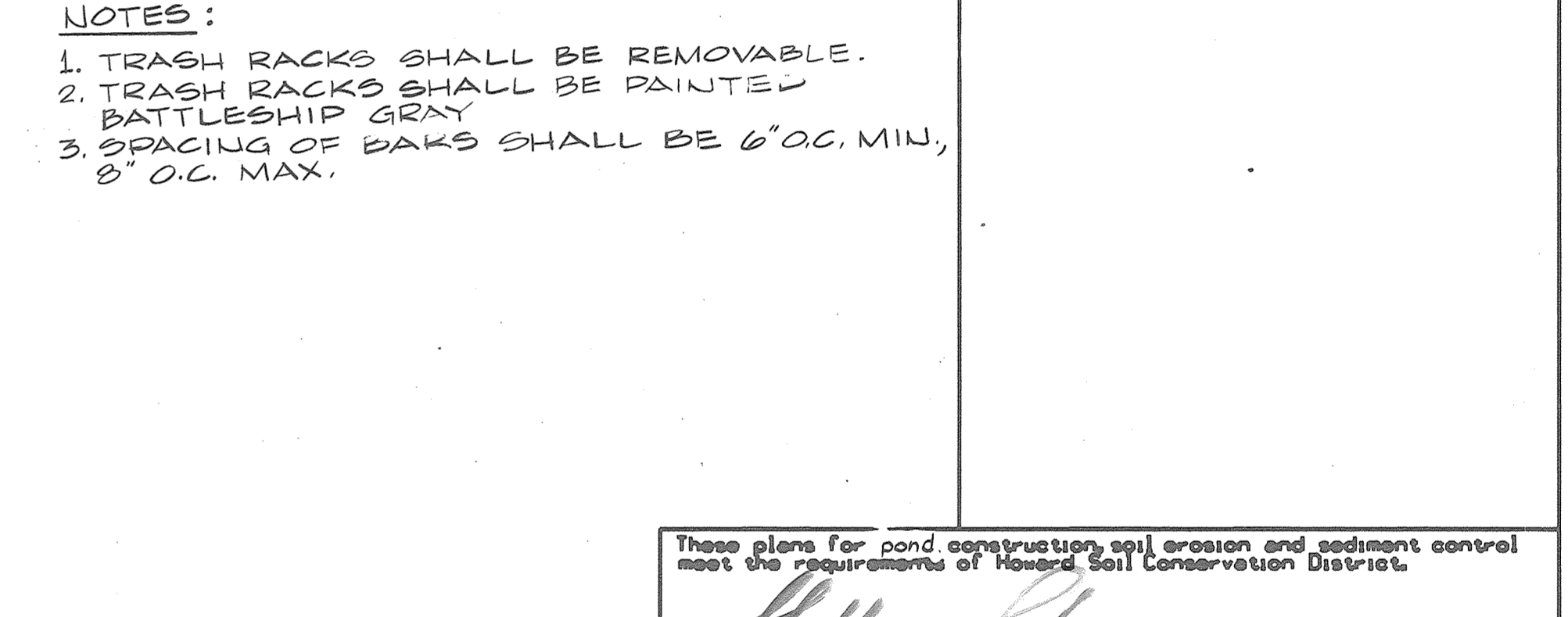
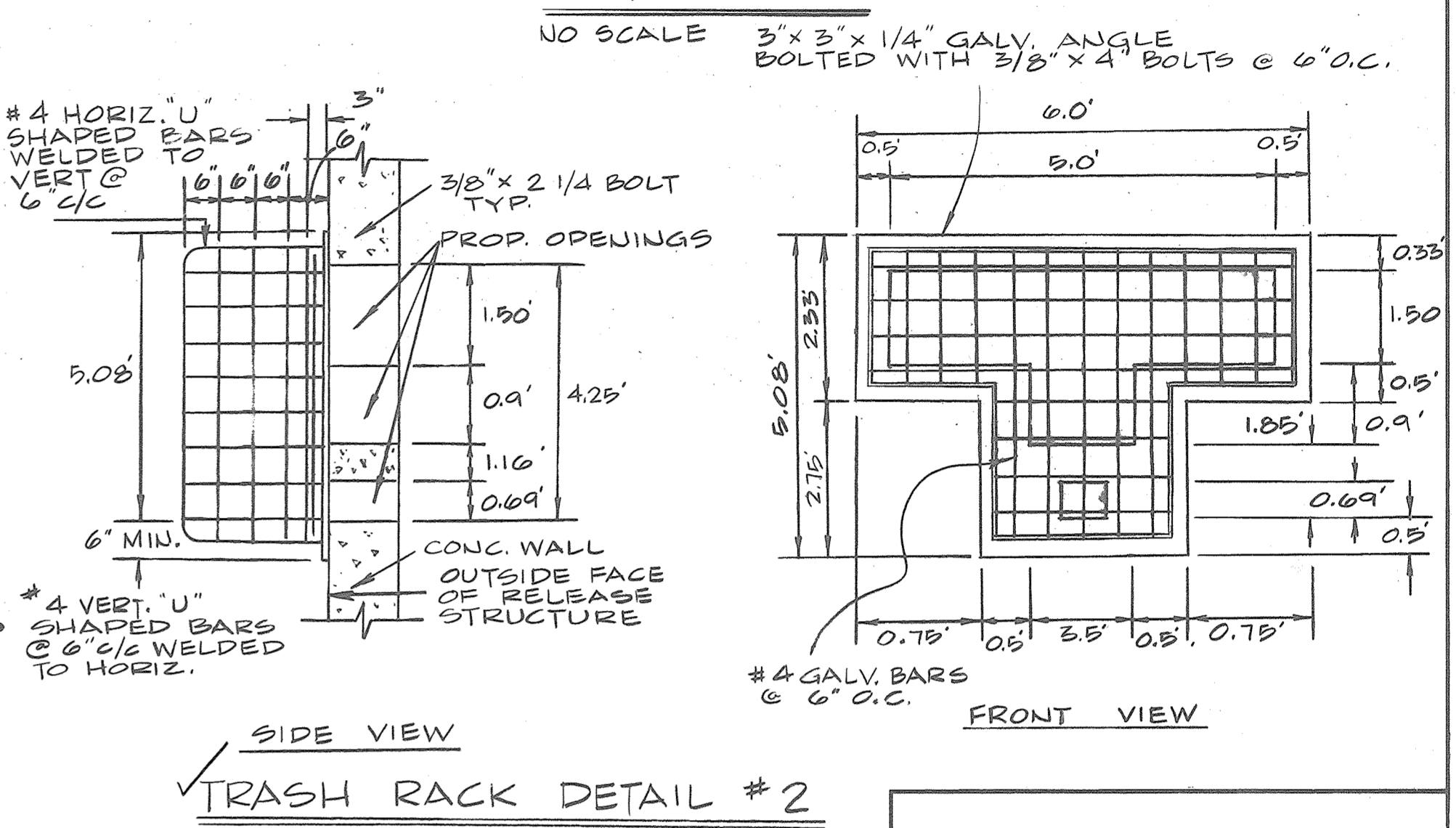
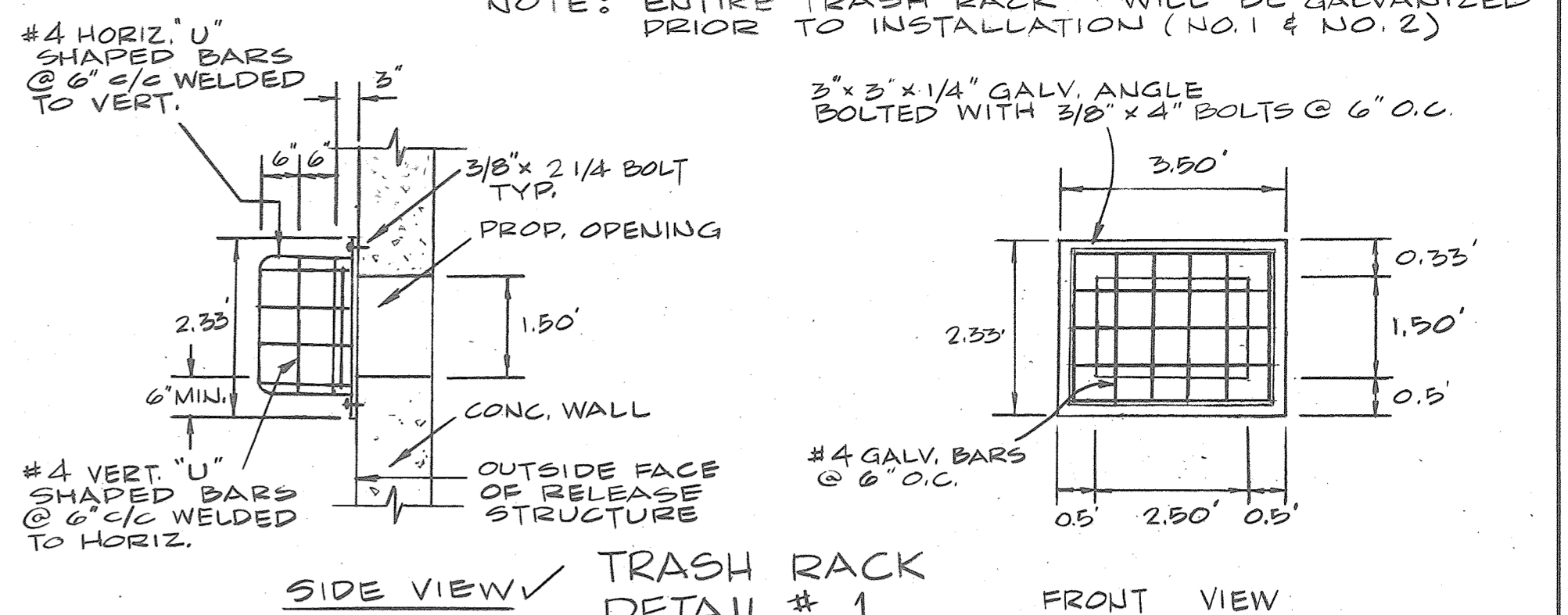
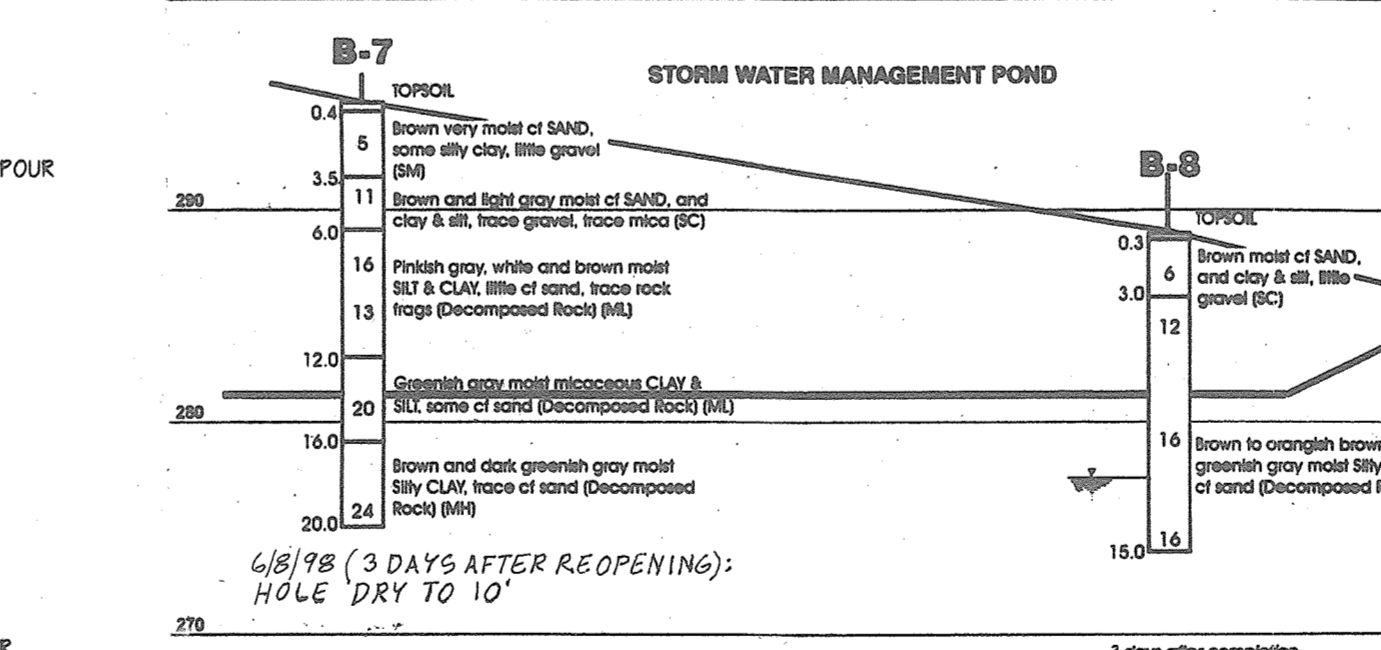
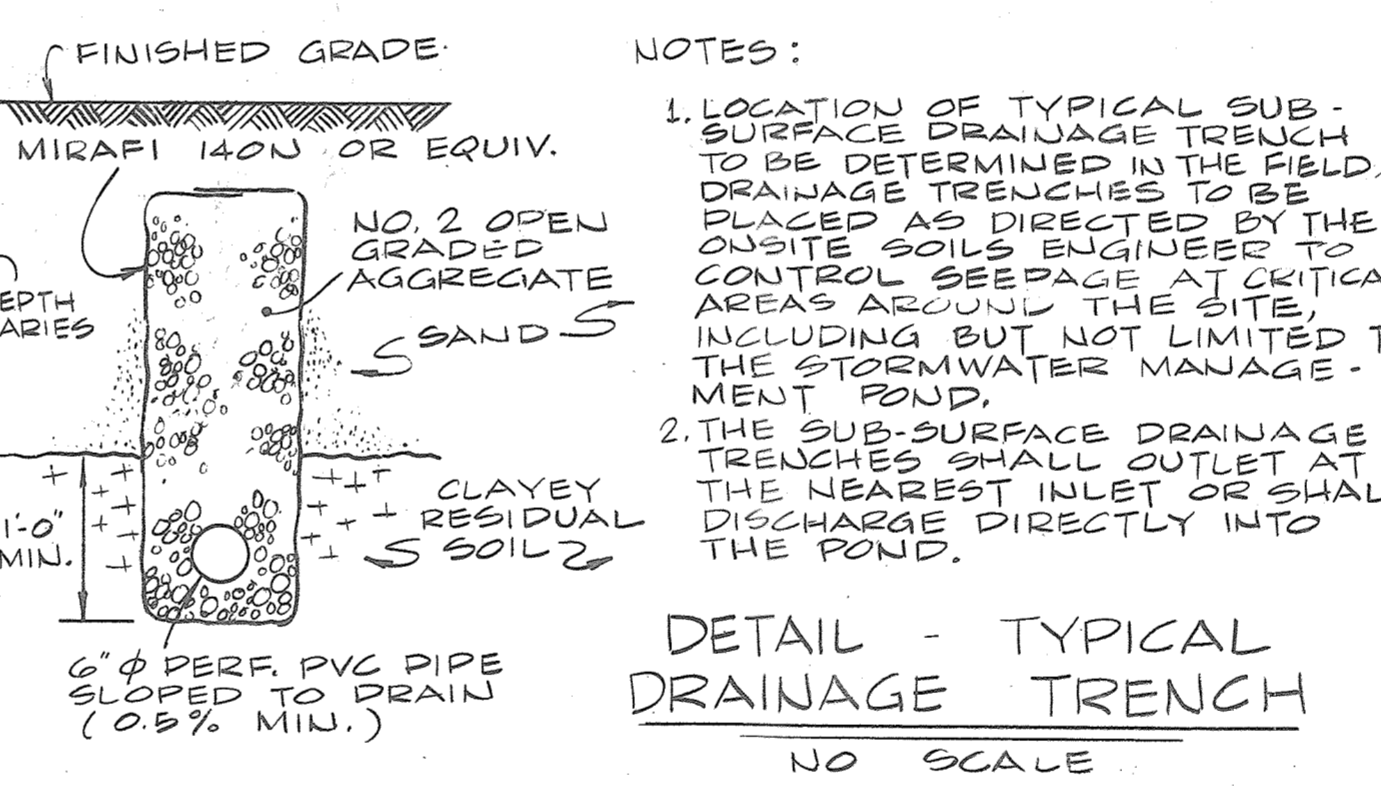
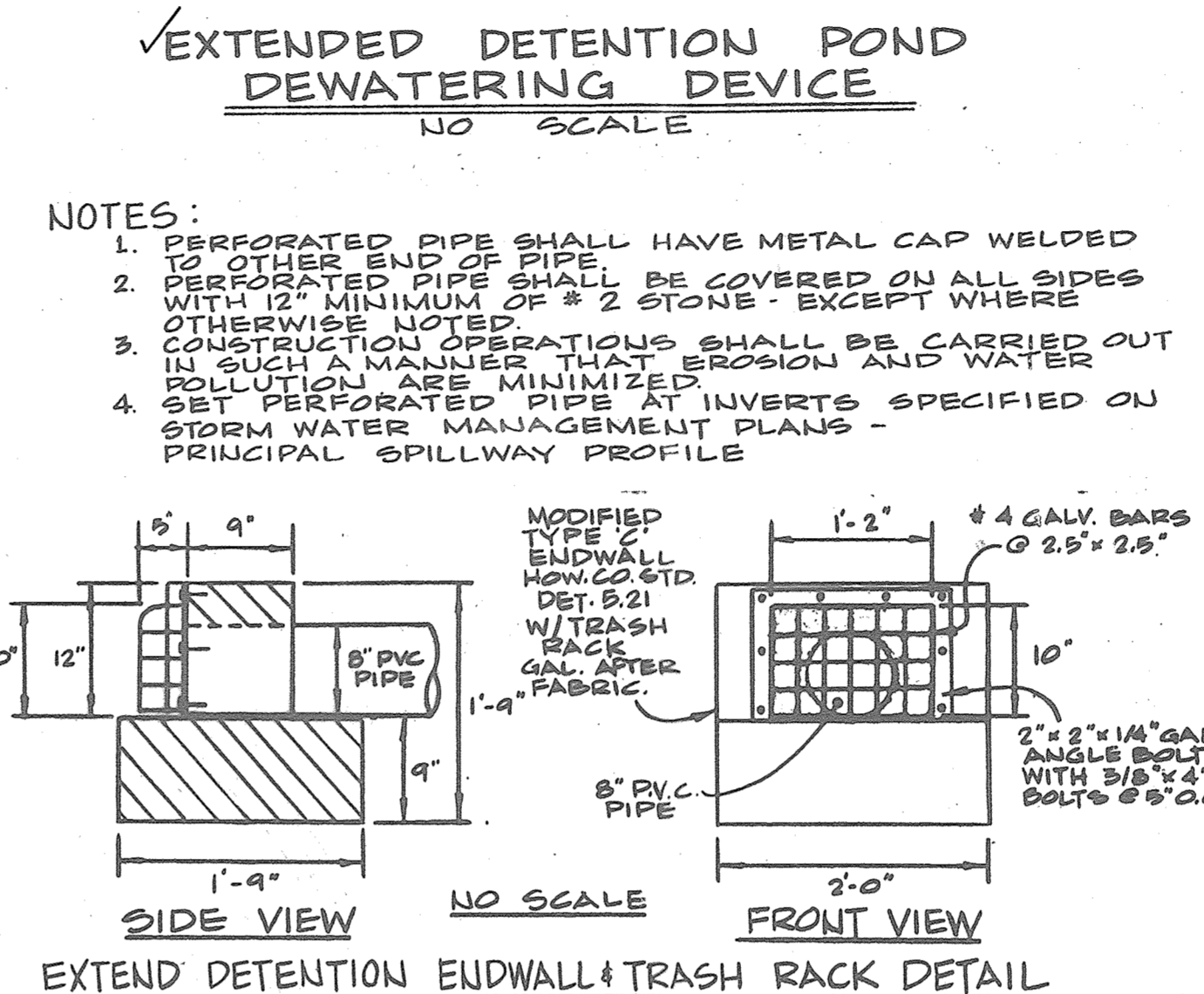
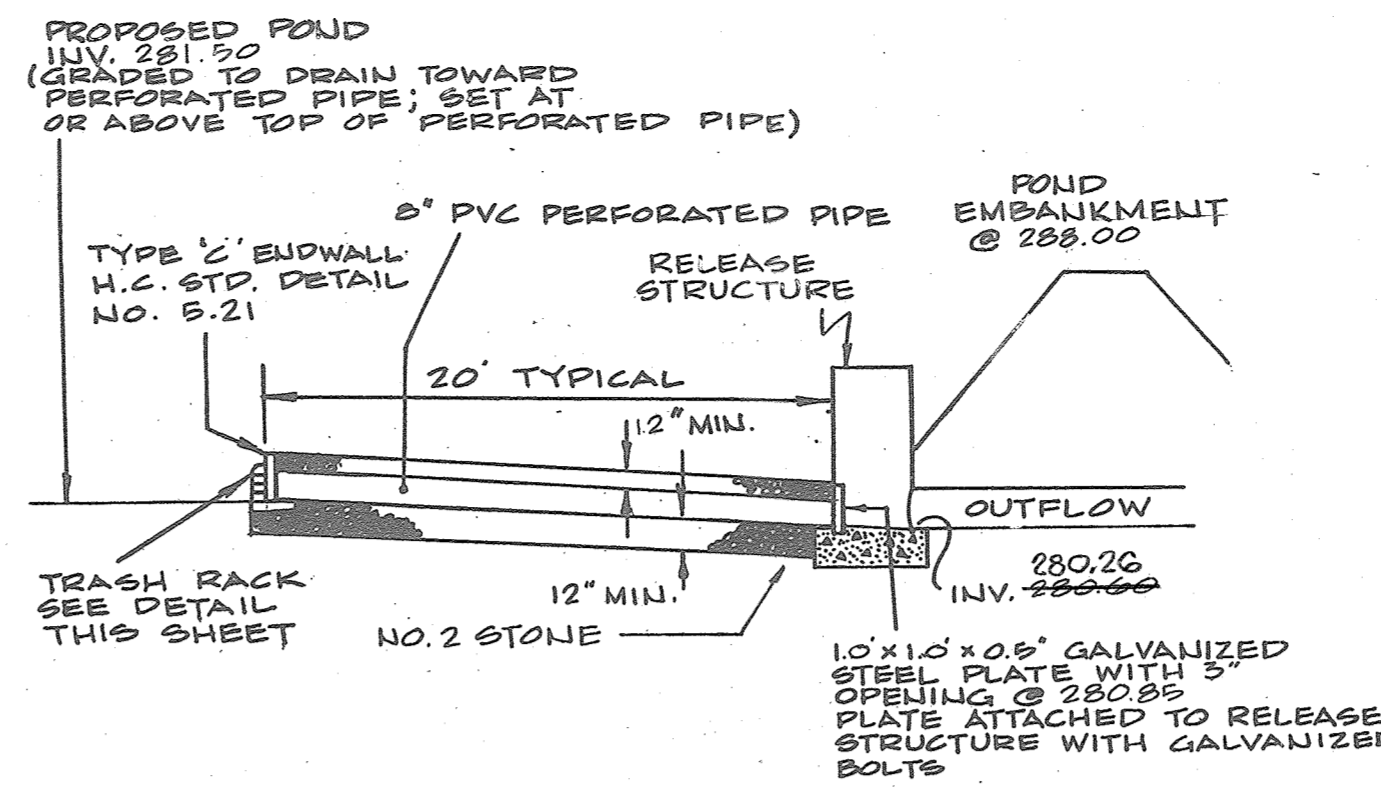
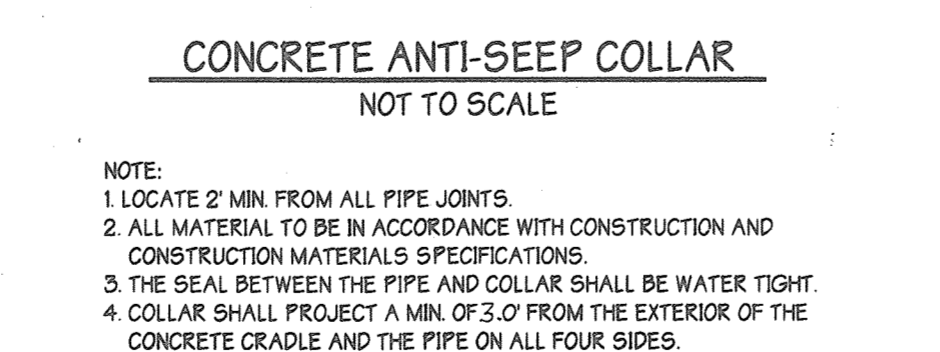
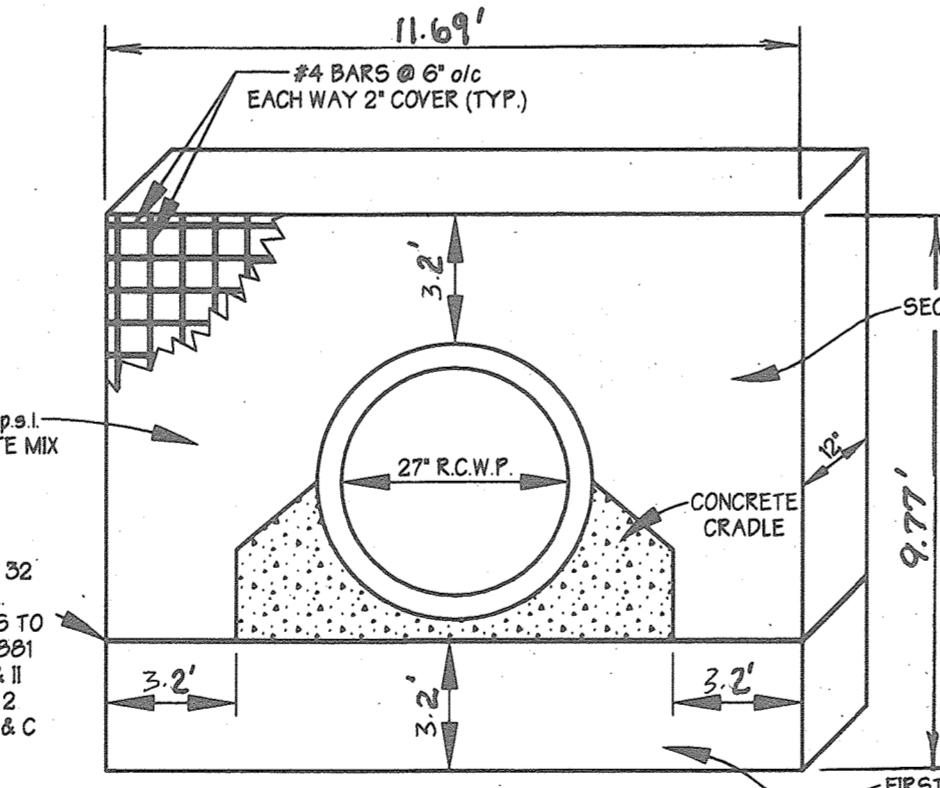
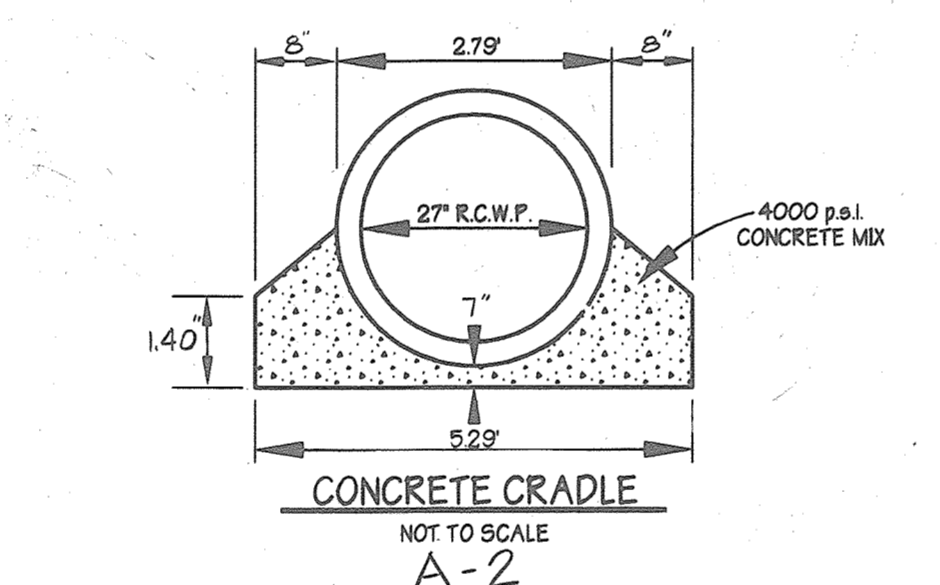
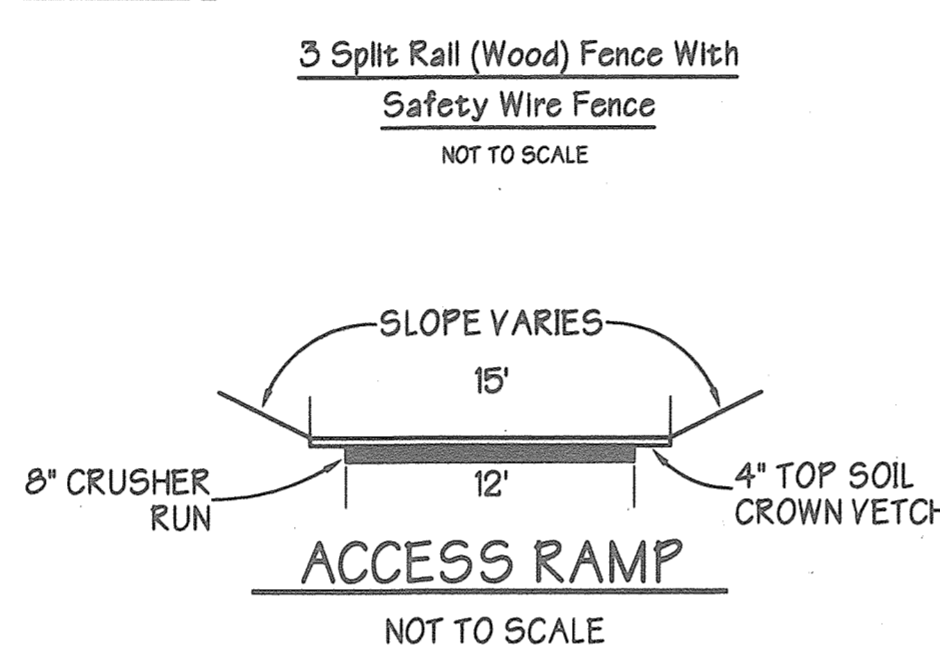
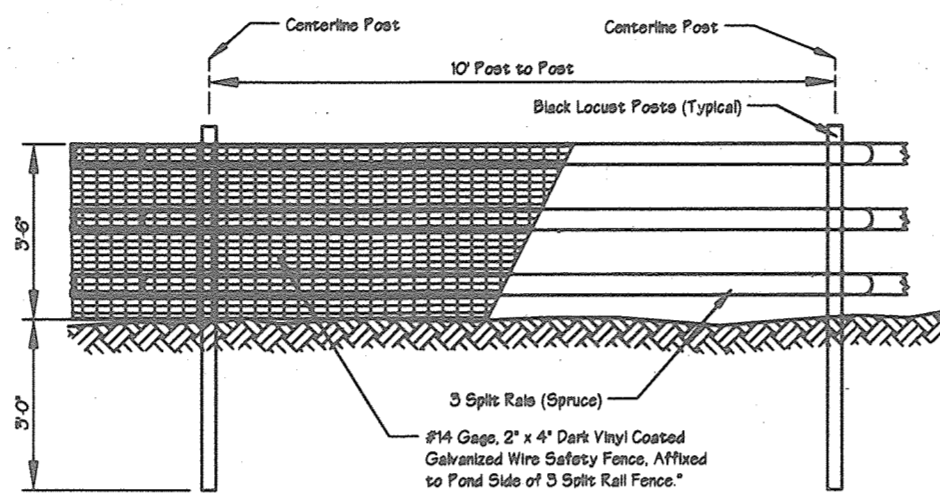
Subgrade for riprap or gabion outfalls shall be prepared to the required line and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material. All rock or gravel shall conform to the specified grading limits when installed in the riprap or gabion. All stone shall be delivered and placed in a manner that will insure the stone 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. Stone for outfalls may be placed by equipment. Riprap or gabion outfalls shall be constructed to full course thickness in one operation and in such a manner as to avoid any displacement of underlying materials. The contractor shall avoid damage to the filter blanket or cloth during placement of riprap. Hand placement shall be required as needed to prevent damage to the permanent works. Filter cloth shall be placed under all riprap and gabions.

FENCE

Construct fencing in accordance with the State Highway Administration standard details 690.01 and 690.02. Use specifications for a 6" fence substituting 42" fabric and 6" x 8" line posts. Construct the gate in accordance with the SHA standard detail 690.01 with 42" fabric. The fabric used for the fence and gate must conform to AASHTO designation M-101-74. Dark vinyl coating is required for the fence posts and wire fabric in accordance with the landscape manual adopted by resolution 66-90, October 1, 1990. *3 Split rail (wood) fence is optional.

CUT-OFF TRENCH - THE CUT-OFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION. WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1:1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

IMPERVIOUS CORE - THE CORE SHALL BE FILLED ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE FILL SHALL BE GOVERNED BY THE EQUIPMENT USED WITH MINIMUM WIDTH BEING FOUR FEET. THE TOP WIDTH SHALL BE SHOWN ON THE PLAN. THE SIDE SLOPES OF THE FILL SHALL BE 1:1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS OR HAND TAMPERS TO ASSURE MAX PERMEABILITY. THE CORE TRENCH SHALL BE KEPT DRY DURING INSTALLATION.



PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
 Civil Engineers and Land Surveyors
 658 Kenilworth Drive, Suite 100
 Towson, Maryland 21204
 (410) 825-8120

ENGINEER CERTIFICATION:
 I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered Professional Engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.
 Engineer: *James A. Markle Jr.* P.E. # 11005
 Name: **JAMES A. MARKLE JR.** Date: 7/1/98

AS-BUILT 1/24/01

DEVELOPER CERTIFICATION:
 I/we certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a Professional Engineer to supervise pond construction and 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: *Stanley A. Link* Date: 3-19-98
 Name: **STANLEY A. LINK**

CONSULTANT'S HAZARD CLASS CERTIFICATION:
 I certify that this pond meets all requirements for hazard class B or C. (Requirements as stated in the Soil Conservation Service - Maryland Standards and Specifications for Pond Code 370, November 1992). All necessary investigations and computations have been performed to verify this finding. A copy of said information has been supplied to Howard County Soil Conservation District.
 Signature: *Stanley A. Link* P.E. # 11005
 Name: **JAMES A. MARKLE JR.** Date: 7/1/98

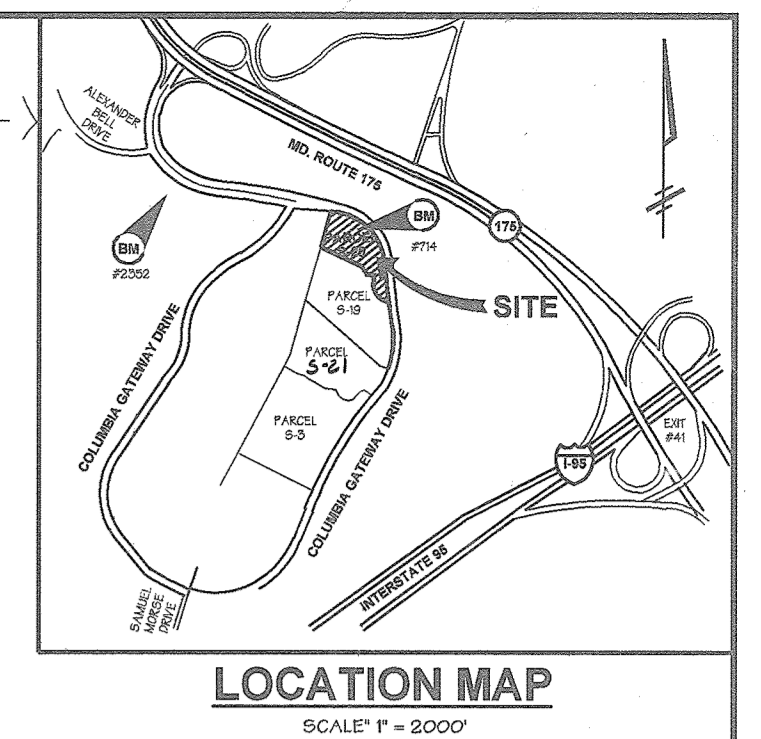
STORM WATER MANAGEMENT PROFILES
 COLUMBIA GATEWAY 5-20
COLUMBIA GATEWAY WOODLANDS II
 "AS BUILT"
 ELECTION DISTRICT : 6
 HOWARD CO., MARYLAND SHT. 12 OF 13 DATE : May 01, 1998
 SCALE : AS SHOWN



PLANT SCHEDULE

KEY	QUANT.	BOTANICAL NAME / COMMON NAME	SIZE / COND.	SPACING	REMARKS
TREES					
AP	28	Acer platanoides / Summershade/Summershade Maple	2 1/2'-3' cal. / B&B	25' o.c. or as shown	full crown
AR	19	Acer rubrum / Amersongreen/Amersongreen Red Maple	2 1/2'-3' cal. / B&B	25' o.c. or as shown	full crown
AS	10	Acer saccharum / Green Mountain/Sugar Maple	2 1/2'-3' cal. / B&B	25' o.c. or as shown	full crown
FP	5	Fraxinus pennsylvanica / Patmore/Patmore Green Ash	2 1/2'-3' cal. / B&B	25' o.c. or as shown	full crown
QC	17	Quercus coccoloba / Scarlet Oak	2 1/2'-3' cal. / B&B	25' o.c. or as shown	*full crown
SJ	13	Sophora japonica / Regent/Regent Scholartree	2 1/2'-3' cal. / B&B	25' o.c. or as shown	*full crown
PY	6	Prunus x yodanisii / Yoshino Cherry	2 1/2'-3' cal. / B&B	15' o.c. or as shown	matched
AL	10	Ameiadorchis x grandiflora / Lamarkii/Lamarkii Serviceberry	8-10' ht. / B&B	15' o.c. or as shown	multi-stem
BP	6	Betula platyphylla japonica / Whitespire/Whitespire Birch	8-10' ht. / B&B	15' o.c. or as shown	multi-stem
IX	6	Ilex x Nellie K. Strain/Nellie K. Strain Holly	6-8' ht. / B&B	10' o.c. or as shown	full to base
NS	29	Picea abies / Norway spruce	6-8' ht. / B&B	10' o.c. or as shown	full to base
WP	41	Pinus strobus / Eastern White Pine	6-8' ht. / B&B	10' o.c. or as shown	sheared
SHRUBS					
AK	28	Azalea pakuanensis / Korean Azalea	24-30" spr./Cont. Growth	4' o.c. or as shown	
TB	34	Taxus baccata / Repandens/Spreading English Yew	24-30" spr./B&B	4' o.c. or as shown	
JC	63	Juniperus chin. / Pfitzeriana/Compact/Compact Pfitzer Juniper	24-30" spr./Cont. Growth	4' o.c. or as shown	
AJ	21	Juniperus chinensis / Ramosa/Andorra Juniper	24-30" spr./Cont. Growth	4' o.c. or as shown	
MA	46	Mahonia aquifolium / Oregon Grapeholly	24-30" spr./Cont. Growth	4' o.c. or as shown	
RP	46	Rhododendron / P.J.M./P.J.M. Rhododendron	24-30" spr./Cont. Growth	4' o.c. or as shown	
TM	21	Taxus x media / Hicks/Hicks Upright Yew	24-30" ht. / B&B	4' o.c. or as shown	
VS	11	Viburnum plicatum tomentosum / Shasta/Shasta Doublefile Viburnum	24-30" ht. / B&B	4' o.c. or as shown	

* All trees located within the sight line easement shall be limbed up to a minimum height of 7 ft.



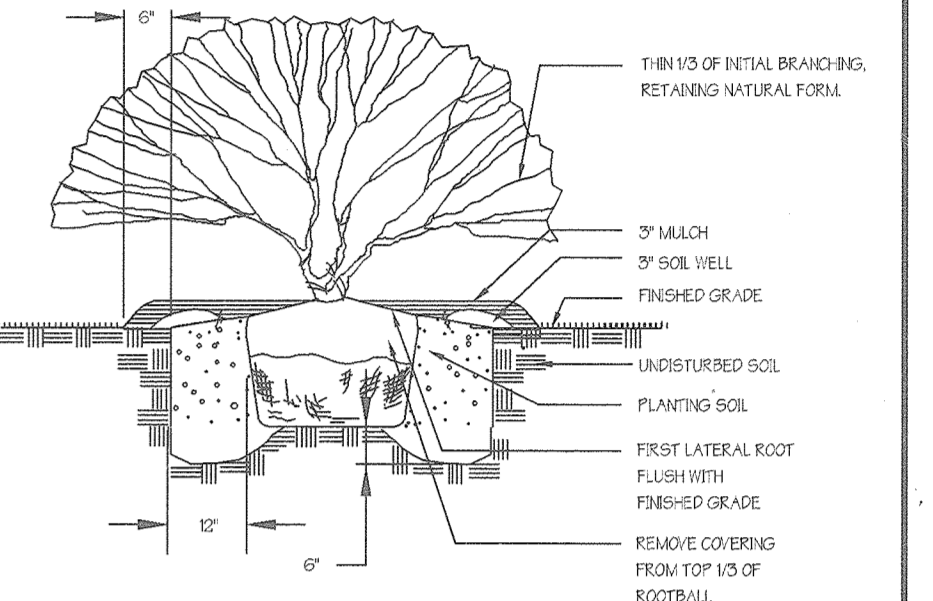
ALL TREES PLANTED WITHIN THE SIGHT LINE EASEMENT SHALL BE LIMBED UP TO A MINIMUM HEIGHT OF 7 FEET FROM GROUND LEVEL.

KEY

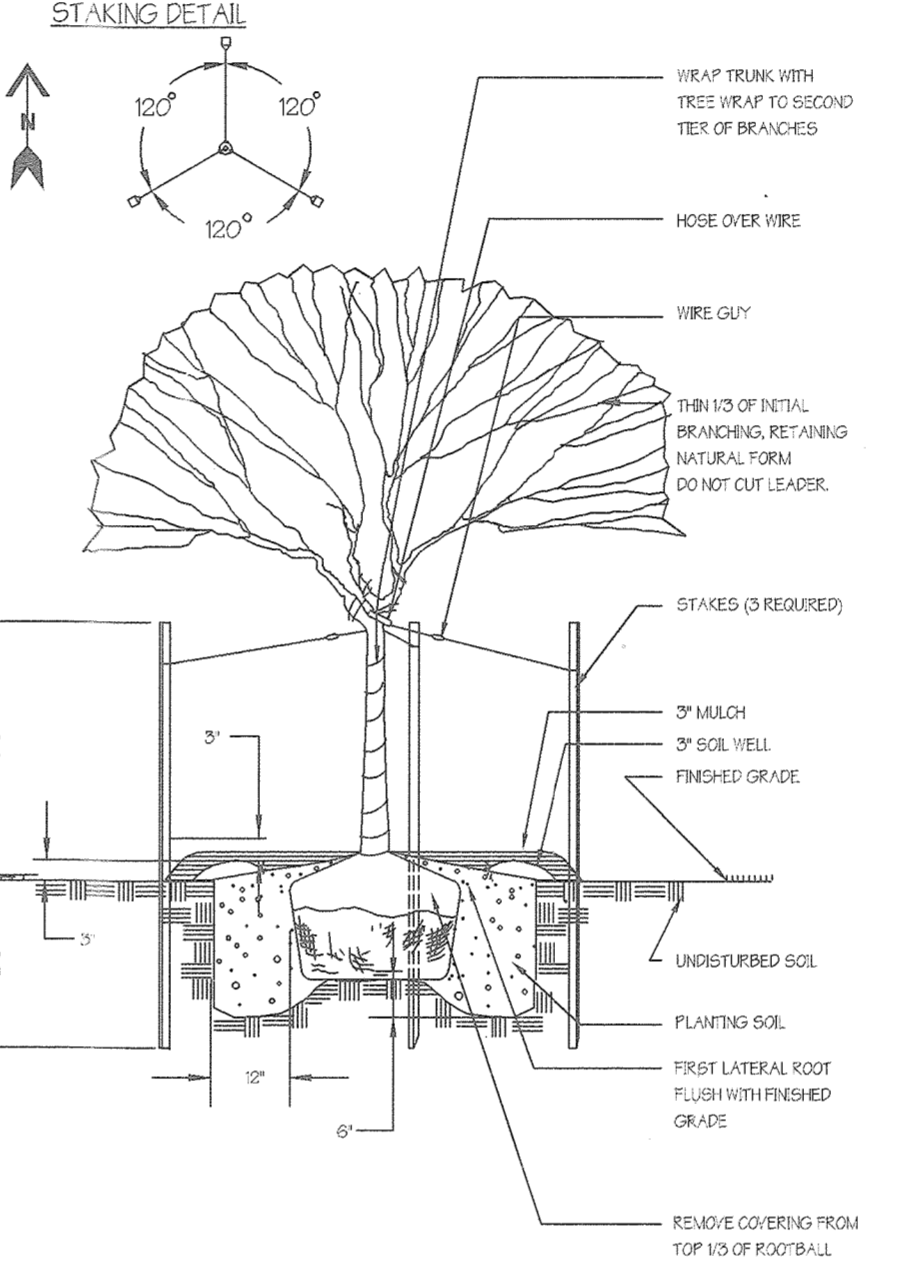
- PROPOSED SHADE TREE
- PROPOSED MINOR SHADE OR FLOWERING TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUBS

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

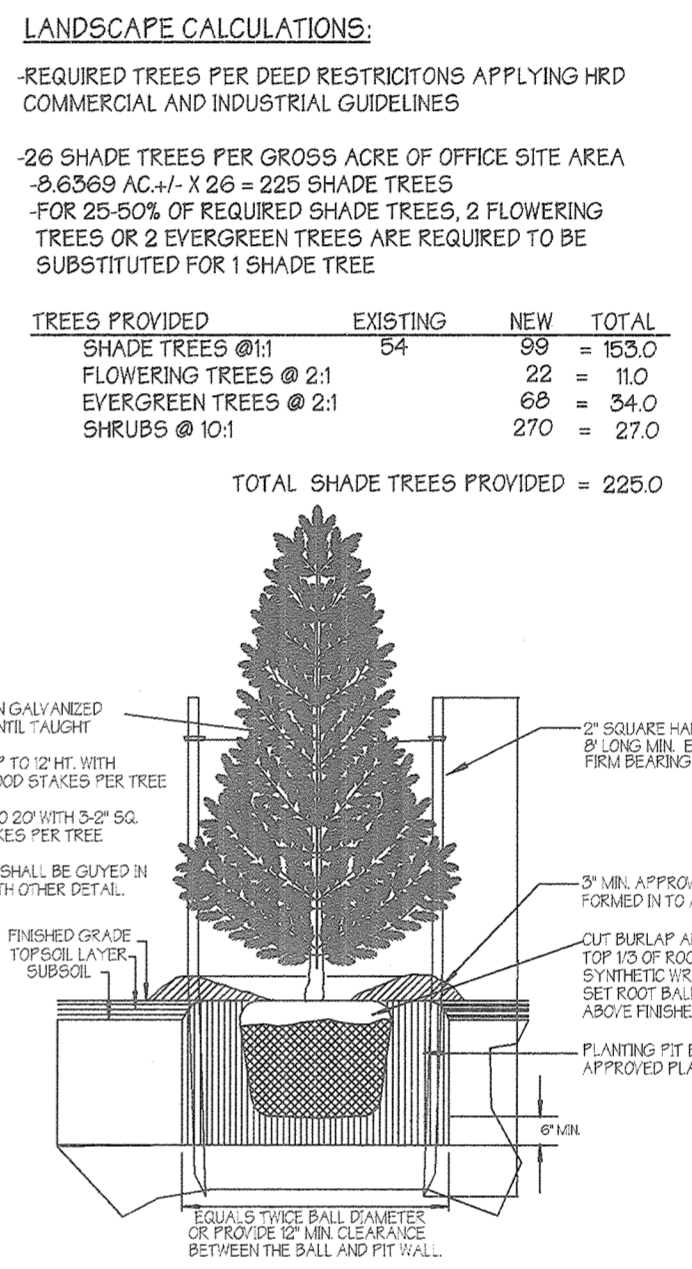
Linear Feet of Perimeter	870'
Number of Trees Required	19
Shade Trees	22
Evergreen Trees	22
Credits for Existing Vegetation (No. Yes and %)	YES: 325 L.F., 14.6 TREES, 37%
Credits for Other Landscaping (No. Yes and %)	NO
Number of Trees Provided	15
Shade Trees	18
Evergreen Trees	6
Other Trees (2:1 substitution)	6



Shrub Planting Detail NOT TO SCALE



Tree Planting Detail NOT TO SCALE



Evergreen Planting Detail NOT TO SCALE

LANDSCAPE CALCULATIONS:

REQUIRED TREES PER DEED RESTRICTIONS APPLYING HRD COMMERCIAL AND INDUSTRIAL GUIDELINES

26 SHADE TREES PER GROSS ACRE OF OFFICE SITE AREA
 0.6069 AC. x 26 = 225 SHADE TREES
 FOR 25-50% OF REQUIRED SHADE TREES, 2 FLOWERING TREES OR 2 EVERGREEN TREES ARE REQUIRED TO BE SUBSTITUTED FOR 1 SHADE TREE

TREES PROVIDED	EXISTING	NEW	TOTAL
SHADE TREES @ 11	54	99	153.0
FLOWERING TREES @ 2:1	22	22	44.0
EVERGREEN TREES @ 2:1	68	68	136.0
SHRUBS @ 10:1	270	270	270.0

TOTAL SHADE TREES PROVIDED = 225.0

SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	1/E	2/A 3/A
Linear Feet of Roadway Frontage/Perimeter	1083'	813' 652'
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	NO	YES, 683 L.F.
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	NO	NO
Number of Plants Required		
Shade Trees	27	2.2
Evergreen Trees	-	-
Shrubs	270	-
Number of Plants Provided		
Shade Trees	24	1
Evergreen Trees (2:1 substitution)	19	-
Other Trees (2:1 substitution)	6	3
Shrubs (10:1 substitution)	177	-

(Describe plant substitution credits below if needed)

Comments: Shrubs are substituted with evergreen trees to screen parking from the adjacent roadway.

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

Number of Parking Spaces	474
Number of Trees Required	24
Number of Plants Provided	41.5
Shade Trees	41
Other Trees (2:1 substitution)	1

DEVELOPER'S / BUILDER'S CERTIFICATION

I / WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I / WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME: STANLEY A. LINK DATE: 9-3-98

PLANTING NOTES

PLANT LOCATIONS SHALL BE FIELD ADJUSTED TO AVOID UTILITIES. CONTRACTOR IS RESPONSIBLE FOR LOCATING UTILITIES PRIOR TO START OF WORK. ALL TREES AND SHRUBS SHALL BE MULCHED TO A MINIMUM OF 18" BEYOND THE EDGE OF THE ROOT BALL. SHRUBS MASSSES SHALL BE PLANTED IN CONTINUOUS MULCH BEDS. ALL WIRE, PLASTIC AND TUBE TREES SHALL BE REMOVED FROM TOP OF THE ROOT BALL. ALL TREES PLANTED WITHIN THE SIGHT LINE EASEMENT SHALL BE LIMBED UP TO A MINIMUM HEIGHT OF 7 FEET FROM GROUND LEVEL.

PLANT STANDARDS

ALL NURSERY STOCK SHALL BE TOP QUALITY AND IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF NURSERYMEN, INC., "AMERICAN STANDARDS FOR NURSERY STOCK", LATEST EDITION. INFERIOR NURSERY STOCK WILL BE SUBJECT TO REJECTION BY THE LANDSCAPE ARCHITECT. BARE-ROOT SHALL NOT BE ALLOWED FOR ANY TREE DEFINED AS MAJOR DECIDUOUS, MAJOR DECIDUOUS OR EVERGREEN.

CHANGES MAY IMPACT REQUIRED CERTIFICATION

PLANT TYPES (DECIDUOUS TREES, EVERGREEN, ETC.), QUANTITIES, SPACING, LOCATION, AND SPECIES SHOWN ON THE APPROVED LANDSCAPE PLAN ARE BASED ON REQUIREMENTS STATED IN THE LATEST HOWARD COUNTY LANDSCAPE MANUAL. ANY CHANGE IN THESE ITEMS MAY AFFECT THE REQUIRED APPROVAL AND CERTIFICATION OF THE INSTALLED PLANTING. OWNER IS REQUIRED TO ARRANGE AND PAY FOR CERTIFICATION BY LANDSCAPE ARCHITECT.

LANDSCAPE SPECIFICATIONS

LANDSCAPE SPECIFICATION SHALL CONFORM TO LCA LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREA, INCLUDING PLANTING PROCEDURES AND SOIL PREPARATION FOR SHRUBS AND PERENNIAL BEDS. A ONE-YEAR WARRANTY PERIOD SHALL BE REQUIRED. MAINTENANCE REQUIRED TO HONOR THE ONE-YEAR WARRANTY SHALL BE PERFORMED AS PART OF THIS CONTRACT.

SPECIAL PROVISIONS TO LCA STANDARD SPECIFICATIONS

CONTRACTOR SHALL REVIEW AND TEST SUBSOIL OR RANGE CHARACTERISTICS 30 DAYS PRIOR TO PLANTING AND NOTIFY OWNER UNACCEPTABLE CONDITIONS.

NO EXCEPTIONS TO THE GUARANTEE PROVISIONS ARE ALLOWED UNLESS AGREED TO IN WRITING PRIOR TO PLANTING.

* THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. PART OF THE REQUIRED LANDSCAPE TREES, IN THE AMOUNT OF \$30,000.00, IS SUPPLY OF THE DEVELOPER'S AGREEMENT.

These plans for S.W.M. construction soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT

PLAN NUMBER: _____ DATE: _____

Reviewed for the Howard Conservation District and meets technical requirements.

NATURAL RESOURCES CONSERVATION SERVICE DATE: _____

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE: 10/15/98

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 10/15/98

DIRECTOR DATE: 10/16/98

ADDRESS CHART

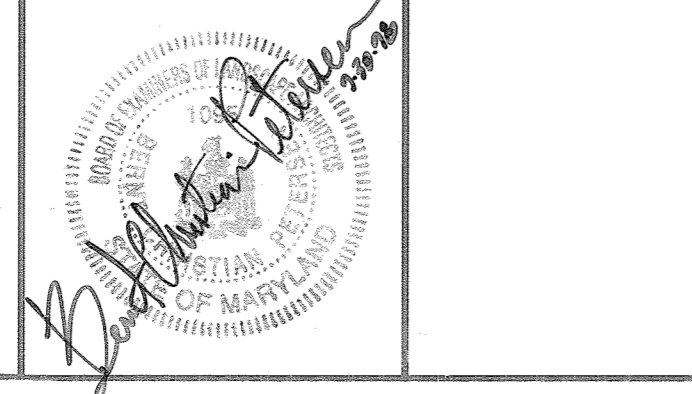
PARCEL NO.	STREET ADDRESS
5-20	6940 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME COLUMBIA GATEWAY **SECTION NAME** N/A **PARCEL #** 5-20

PLAT # 12822 **BLOCK #** 1 **ZONE** M-1 **ZONING MAP** 43 **ELECT. DIST.** 6 **CENSUS TRACT** 6067.03

WATER CODE E06 **SEWER CODE** 5333000

PREPARED BY: **GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.**
 Civil Engineers and Land Surveyors
 658 Kenilworth Drive, Suite 100
 Towson, Maryland 21204
 (410) 825-8120



OWNER / DEVELOPER: **CORPORATE GATESPRING II, LLC**
 8815 CENTRE PARK DRIVE, SUITE 400
 COLUMBIA, MARYLAND 21045
 (410) 730-9092

DESIGNED BY: S.T.U.
 DRAWN BY: S.T.U.
 CHECKED BY: B.C.P.

REVISIONS:
 8/18/98 PER HCD COMMENTS
 9/3/98 PER HOWARD CO. COMMENTS

LANDSCAPE PLAN AND DETAILS
 COLUMBIA GATEWAY PARCEL 5-20
COLUMBIA GATEWAY WOODLANDS II

ELECTION DISTRICT: 6
 HOWARD CO., MARYLAND SHT. 13 OF 13 DATE: MAY 01, 1998

SCALE: As Shown

SDP 99-001 P/N: 8656 9-3-98 NAME: 9656landscape.s01