Site Development Plans

for

The Renaissance at Columbia Gateway

Howard County, Maryland

S.D.P. 99 - 59

Developer

Preferred Real Estate Investments, Inc.

555 North Lane, Suite 6101

Conshohocken, PA 19428

610 834-1969

Owner

COLGATEDRIVE ASSOCIATES

~~Columbia/95 Group~~ L.P.

6711 ~~7125~~ **Columbia Gateway Drive**

Columbia, Maryland 21046

Site Data

TOTAL AREA OF SITE :	37.0812 Ac.+/-
EXISTING ZONING :	M-1
PROPERTY REFERENCE :	Parcel L, Plat # 6812 & 6813, F-86-182 △5 SDP-99-059 △
EXISTING USE :	WAREHOUSE / OFFICE / RECREATION
PROPOSED USE :	WAREHOUSE / OFFICE / RECREATION /ATHLETIC CENTER △9
BUILDING COVERAGE :	367,938 Sq. Ft. or 8.45 Ac.+/-
% BUILDING COVERAGE :	22.80 %
AREA TO BE PAVED	920,619 Sq.Ft. or 21.13 Ac.+/-
% PARKING LOT COVERAGE	57%
OPEN SPACE :	20.2%
OPEN SPACE COVERAGE:	326,700 Sq. Ft. or 7.5 Ac.+/-
TOTAL AREA OF PARKING LOT :	920,619 Sq. Ft .or 21.13 Ac.+/-
AREA TO BE DISTURBED :	871,200 Sq. Ft. or 20.0 Ac.+/-
AREA TO BE VEGETATIVELY STABILIZED :	204732 Sq. Ft. or 4.7 Ac.+/-
PREVIOUS SDP NO. :	86-258
FINAL PLAT NO. :	F 97-108

BUILDING AREA:

Office

Subtotal - Office	317,395 Sq. Ft. △4
RECREATIONAL - ATHLETIC CENTER	42,332 SQ FT △9
Warehouse	253,668 ~~296,000~~ Sq. Ft. △4 △9

PARKING:

RECREATIONAL - ATHLETIC CENTER	42,332 @ 10 SP/1000 SF = 424 SPACES △9
Office	317,395 @ 3.3 SP/1000 SF = 1,047 Spaces △4
Warehouse	253,668 @ 0.75 SP/1000 SF = 190 SPACES ~~296,000 @ 0.5 SP/1000 SF = 148 Spaces~~ △4 △9
PARKING REQUIRED	1,661 ~~1,195~~ Spaces △4 △9
PARKING PROVIDED	1,905 ~~1970~~ 1,975 ~~1,977~~ Spaces △5 △8 △9
HANDICAPPED SPACES REQUIRED	39 ~~30~~ Spaces △3 △9
HANDICAPPED PARKING PROVIDED	46 ~~36~~ Spaces △4 △9

Note

BUILDING WILL HAVE AUTOMATIC FIRE SPRINKLER SYSTEM.

Legend

EX. 2' CONTOURS
EX 5' CONTOURS
PROP. 2' CONTOURS
PROP. 5' CONTOURS
EX. CURB & GUTTER
PROP. CURB & GUTTER
BLDG. RESTRICTION LINE
EX. SANITARY
EX STORM DRAIN
EX. WATER
EX. UG ELECTRIC
EX. UG TELEPHONE
EX. UG GAS
EX. STREET LIGHT
PROP. STORM DRAIN
PROP. WATER
SOILS LINE
SPOT ELEVATION
FLOW ARROW
EX. RAILROAD TRACKS
PROPOSED RESURFACING
PROPOSED NEW PAVING

NOTE: THE LOD IS 2060 SFT AND IS EXEMPT FROM STORMWATER MANAGEMENT. IF ANY FUTURE REVISIONS WHERE THE CUMULATIVE LOD EXCEEDS 5,000 SFT, STORMWATER MANAGEMENT SHALL BE PROVIDED.

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.

LANDSCAPE ARCHITECT #3189 ADAM J. MORMAN STATE OF MARYLAND 3/7/13 △5

STATE OF MARYLAND JAMES ADRIAN MARKLE, JR. No. 11005 REGISTERED PROFESSIONAL ENGINEER

PREPARED BY :

GWS

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.

Civil Engineers and Land Surveyors

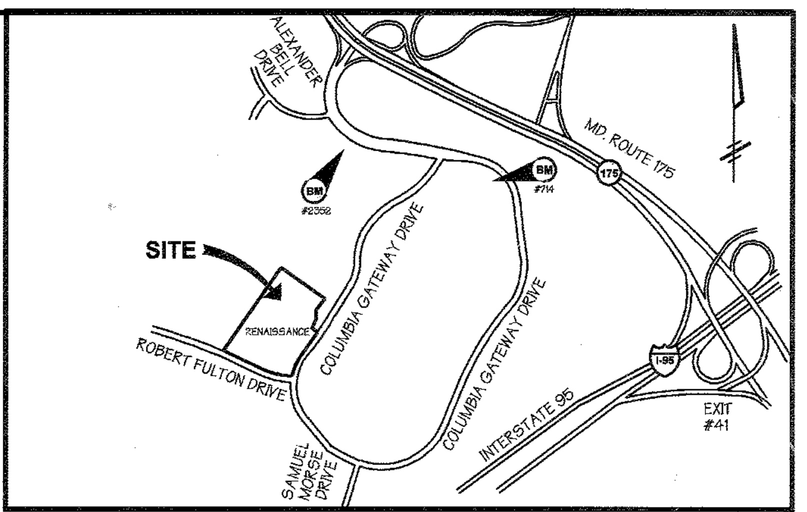
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120

Construction Notes

GENERAL NOTES

* FOR ADDITIONAL CONSTRUCTION NOTES, SEE SHEET 31.

G1. THE CONTRACTOR SHALL MEET ALL EXISTING IMPROVEMENTS SMOOTHLY FOR LINE, GRADE, & FINISH.
G2. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPT. OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880, AT LEAST 24 HOURS PRIOR TO STARTING ANY WORK HEREON. 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.
G3. 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.
G4. 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.
G5. 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.
G6. THE LOCATION OF EXISTING UTILITIES SHOWN HEREON IS APPROXIMATE ONLY AND IS PROVIDED FOR THE CONVENIENCE 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 CONFIRM TO HIS/HER OWN SATISFACTION THE LOCATION OF ALL UTILITIES PRIOR TO PLACEMENT OF ANY MATERIALS. IF ANY CONFLICT IS FOUND BETWEEN ANY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE OWNER / DEVELOPER, THE OWNER OF THE UTILITY AND G.W. STEPHENS AND ASSOC.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.
G7. CONTRACTOR SHALL PROTECT ALL EXISTING TREES OUTSIDE THE LIMIT OF DISTURBANCE AT ALL TIMES DURING CONSTRUCTION. PRIOR TO BEGINNING ANY CONSTRUCTION, 3' HIGH ORANGE PLASTIC SAFETY NETTING OR WOODEN SNOW FENCE SHALL BE ERECTED AS SHOWN AROUND EACH TREE DESIGNATED FOR PROTECTION.
G8. 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.
G9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNER AND G. W. STEPHENS AND ASSOC. OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
G10. 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, MUST BE OBSERVED BY A GEOTECHNICAL ENGINEER DURING EARTH PLACEMENT
G11. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND SITE PLAN & DETAILS PLANS FOR PAVING DIMENSIONS.
G12. CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES DURING CONSTRUCTION.
G13. TOPOGRAPHY SHOWN WITHIN WORK AREA HEREON IS BASED ON AERIAL TOPOGRAPHY BY 3DI GEOGRAPHIC TECHNOLOGIES OF EASTON MARYLAND SUPLIMENTED BY FIELD RUN TOPOGRAPHY. ALL PROPERTY BOUNDARY INFORMATION IS TAKEN FROM RECORDED PLATS AND DOES NOT REPRESENT A FIELD SURVEYED BOUNDARY.
G14. THE CONTRACTOR SHALL PLACE A MINIMUM OF 4" TOPSOIL IN LANDSCAPE AREAS. TOPSOIL SHALL BE APPROVED BY LANDSCAPE ARCHITECT.
G15. THE CONTRACTOR SHALL RESTORE ENTIRE WORK AREA TO ORIGINAL CONDITIONS, UNLESS OTHERWISE NOTED.
G16. UNLESS OTHERWISE NOTED. THE BID LINE FOR EXCAVATION WILL BE SUBGRADE UNDER PRIOR PROPOSED ROADS. ESTABLISHED GRADE UNDER TURF AREAS, AND EXISTING GRADE ALONG EXISTING PAVEMENT.
G17. MODIFICATIONS TO EXISTING WATER LINES TO BE PERFORMED UNDER CONTRACT NO. 44-1539-D AND 24 - 1440 - D.
G18. MODIFICATIONS TO COLUMBIA GATEWAY AND ROBERT FULTON DRIVE AS WELL AS AFFECTED STORM DRAINS TO BE PERFORMED UNDER F 86 - 182 AND F 92 - 15.
G19. SEE SHEET 32 OF 32 FOR ADDITIONAL CONSTRUCTION NOTES.
G20. EXISTING CHAINLINK FENCE AND GATE FABRIC TO BE REPLACED WITH NEW FABRIC. EXISTING POSTS, GATES AND OTHER FITTINGS SHALL BE BE PAINTED W/SILVER GALVANIZING PAINT AS MANUFACTURED BY RUSTOLEUM CO. OR APPROVED EQUAL. FENCE, GATE AND POLES SHALL BE CLEANED OF ALL LOOSE RUST AND SCALE AND PRIMED W/ZINC BASED PRIMER PRIOR TO FINAL PAINTING. NEW FENCE POSTS, GATES, AND FABRIC SHALL MATCH EXISTING HEIGHT AND SHALL BE GALVANIZED. CONTRACTOR SHALL PROVIDE SEPARATE BID PRICE TO REPAIR AND REPAINT ALL FENCE FABRIC AROUND BASKETBALL COURT IN LIEU OF REPLACING EXISTING CHAIN LINK FENCE FABRIC. CONTRACTOR SHALL PROVIDE SEPARATE CREDIT FOR REPLACEMENT OF EXISTING FENCE FABRIC. REPAIR OF EXISTING POLES AND GATE SHALL BE AS NOTED ABOVE. LOCKS SHALL BE PROVIDED BY OWNER. CHAIN LINK FENCE SHALL MEET ALL SHA STANDARDS.



Vicinity Map

SCALE : 1" = 500'

Benchmark

WR&A BM #2352 ELEVATION : 338.29' IRON PIPE 240 FEET RIGHT OF CENTERLINE STATION 15+00, COLUMBIA GATEWAY DRIVE
WR&A BM #714 ELEVATION : 315.29' - 230 FEET RIGHT OF CENTERLINE STATION 34+30 COLUMBIA GATEWAY DRIVE

Index of Sheets

COVER SHEET	1
EXISTING CONDITIONS & DEMOLITION PLAN	2
EXISTING CONDITIONS & DEMOLITION PLAN	3
SITE PLAN	4
SITE PLAN	5
GRADING PLAN	6
GRADING PLAN	7
SEDIMENT CONTROL PLAN	8
SEDIMENT CONTROL PLAN	9
SEDIMENT CONTROL DETAILS	10
SEDIMENT BASIN NO.1	11
SEDIMENT BASIN NO.2	12
SEDIMENT BASIN DETAILS	13
S.W.M. FACILITY- POND NO.1	14
S.W.M. FACILITY- POND NO.2	15
S.W.M. FACILITY- POND NO.3	16
S.W.M. DETAILS & NOTES	17
S.W.M. DETAILS / BORINGS	18
DRAINAGE AREA MAP - POND NO.1	19
DRAINAGE AREA MAP - POND NO.2	20
DRAINAGE AREA MAP - POND NO. 3	21
STORM DRAINAGE AREA MAP	22
STORM DRAIN PROFILES	23
STORM DRAIN PROFILES	24
STORM DRAIN PROFILES	25
HANDICAPPED DETAILS	26
FINAL LANDSCAPE PLAN	27
FINAL LANDSCAPE PLAN	28
LANDSCAPE DETAILS & SPECIFICATIONS	29
STORMCEPTOR PLAN	30
STORMCEPTOR DETAILS	31
SITE DETAILS / CONSTRUCTION NOTES/BUILDING SECTIONS	32

REVISION
△9 NEW RAMP & HC PARKING, REVISED PARKING COUNT TO INCLUDE RECREATIONAL USE.

THIS SEAL IS FOR △9 REVISIONS MADE BY SITE RESOURCES, INC.

PROFESSIONAL ENGINEER JENNIFER HARRINGTON No. 23165 STATE OF MARYLAND 8.29.16

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23165, EXPIRATION DATE: 07/18/17.

STATE OF MARYLAND JUDITH ANNE ... PROFESSIONAL ENGINEER
REVISION 8

REVISION
△8 5/21/14 D.W.M.
ADDED GENERATOR, ENCLOSURE, BOLLARDS, AND CONDUIT. REVISED PARKING COUNT.

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	6/11/99 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	6/11/99 DATE
DIRECTOR	6/14/99 DATE

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	L, 671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
6812 - 13	1	M-1	43	6	6067.03
WATER CODE	-E06		SEWER CODE	5333000	

REVISIONS
△5 09/07/2011
BY: AXIOM ENGINEERING DESIGN
ADD GENERATOR, GENERATOR PAD, GENERATOR SCREENING, BOLLARDS CONNECT ELECTRIC WITH CONDUIT TO BUILDING, REVISE PARKING COUNT

REVISIONS
△6 01/21/13 D.W.M.
REVISED CURB & GUTTER AND INLETS. ADDED STAIR TOWER.

△4 12/6/05 - REVISED PARKING TABULATION

COLGATE DRIVE ASSOC. OWNER
~~COLUMBIA/95 GROUP~~ L.P.
6711 ~~7125~~ COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

REVISIONS
△1 8-30-99 G.W.S. REVISED PARKING TABULATION
△ 1/29/99 G.W.S REVISED H.C. PARKING

△3 REVISED SITE DATA 8/20/04

Cover Sheet
The Renaissance at Columbia Gateway

P.N 10550-1

ELECTION DISTRICT : 6 SCALE : As Shown
HOWARD CO., MARYLAND SHT. 1 OF 32 DATE : DECEMBER 4, 1998

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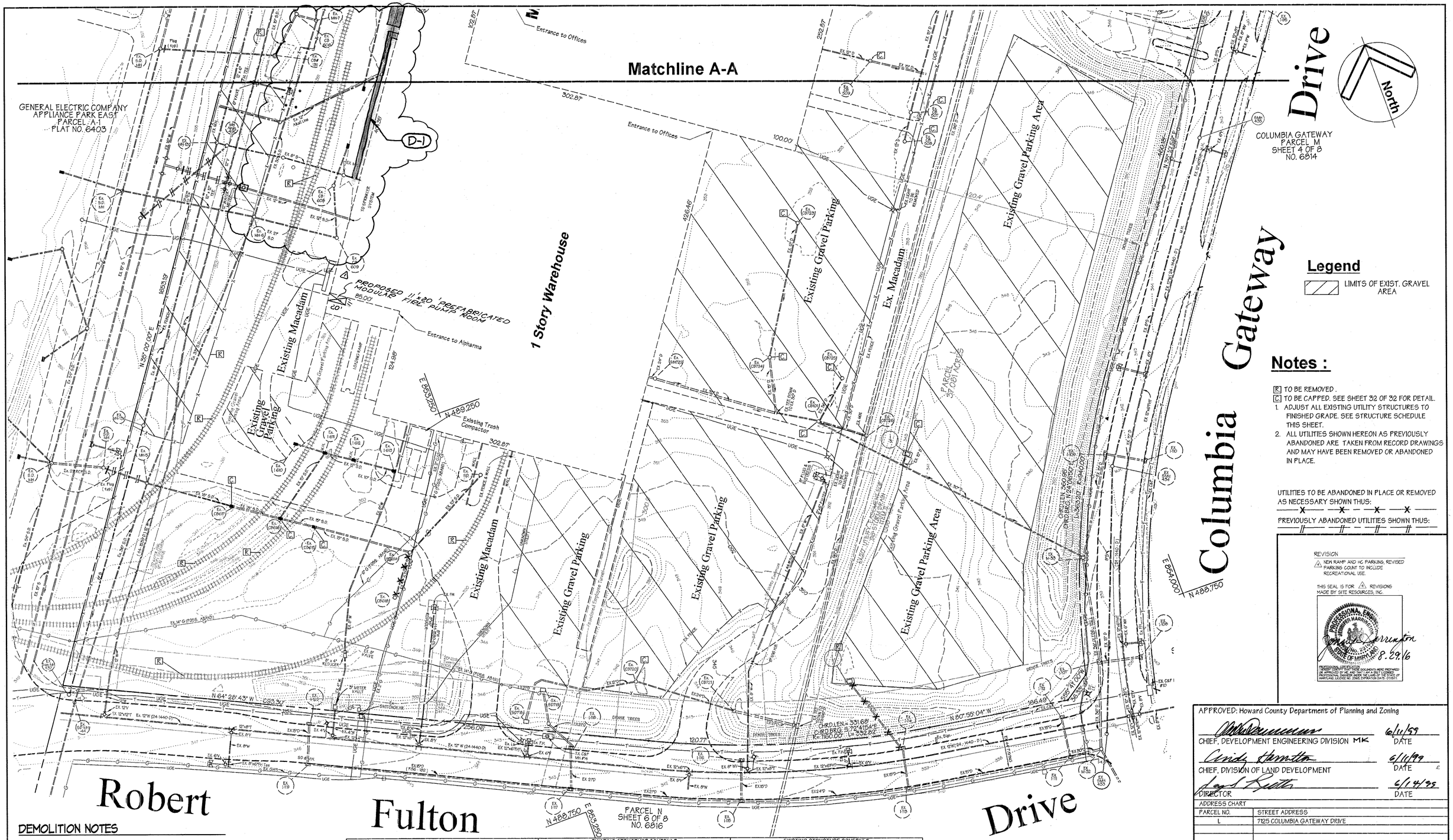
SDP 99-59

EAS 04-08-99



Legend

LIMITS OF EXIST. GRAVEL AREA

Notes :

[R] TO BE REMOVED.
[C] TO BE CAPPED. SEE SHEET 32 OF 32 FOR DETAIL.

1. ADJUST ALL EXISTING UTILITY STRUCTURES TO FINISHED GRADE. SEE STRUCTURE SCHEDULE THIS SHEET.
2. ALL UTILITIES SHOWN HEREON AS PREVIOUSLY ABANDONED ARE TAKEN FROM RECORD DRAWINGS AND MAY HAVE BEEN REMOVED OR ABANDONED IN PLACE.

UTILITIES TO BE ABANDONED IN PLACE OR REMOVED AS NECESSARY SHOWN THUS: —X—X—X—X—

PREVIOUSLY ABANDONED UTILITIES SHOWN THUS: —//—//—//—//—

REVISION
△1 NEW RAMP AND HC PARKING, REVISED PARKING COUNT TO INCLUDE RECREATIONAL USE.

THIS SEAL IS FOR △1 REVISIONS MADE BY SITE RESOURCES, INC.

PROFESSIONAL ENGINEER — JAMES HARRINGTON — No. 23788 — STATE OF MARYLAND
8-29-16
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23788, EXPIRATION DATE: 01/06/17

DEMOLITION NOTES

(D-1) SAWCUT & REMOVE BITUMINOUS/CONCRETE PAVING AND BASE MATERIAL

NOTE :
Abandoned Utilities drawn heron are taken from record drawings and may have been Removed or Abandoned in place.

EXISTING STRUCTURE SCHEDULE			
Structure ID	Ex. Top. Elevation (ft)	Prop. Top Elevation (ft)	NOTES
MH 6	351.52	352.1	VERIFY LOCATION/FIX CURB
MH 5	350.07	351.6	Raise Manhole, Reuse Frame and Cover
MH 44	348.28	N/A	New MH 9. See Sheet 23 of 32
MH 137	353.08	351.8	Lower Manhole, Reuse Frame and Cover
MH 138		352.2	Reuse Frame and Cover
Aband MH 49c		351.8	Reuse Frame and Cover
CB 608		NA	No Change
CB 609	348.79	NA	No Change
I 610	350.08	NA	No Change

EXISTING STRUCTURE SCHEDULE			
Structure ID	Ex. Top. Elevation (ft)	Prop. Top. Elevation (ft)	NOTES
I 611	349.87	NA	No Change
I 612	349.66	NA	No Change
I 613	348.14	NA	No Change
SD 614	349.67	350	Ex. 24-inch grated cover, cap with concrete slab and pave over. Couldn't Locate in Field, Contractor to Locate and Verify Cover Requirements.
CB 615		349.9	Couldn't Locate in Field, Contractor to Raise CB and Locate and Verify Cover Requirements
CB 616	347.32	349.7	Raise and Replace ex. 22-inch dome grate with manhole cover
CB 617	346.99	350.18	Raise and Replace ex. 22-inch dome grate with manhole cover
I 718			No Change
I 719			No Change
CB 720	344.46	347.1	Not Located in Field, Contractor to Raise CB and Locate and Verify Cover Requirements

EXISTING STRUCTURE SCHEDULE			
Structure ID	Ex. Top. Elevation (ft)	Prop. Top. Elevation (ft)	NOTES
CB 721			No Change
MH 722	353.45	353.3	Lower Manhole, Reuse Frame and Cover
CB 723	351.2	NA	Ex. 24-inch grated cover, cap with concrete slab and pave over
CB 724	351.14	NA	Ex. 24-inch grated cover, cap with concrete slab and pave over
CB 101	351.8	351.8	Reuse Ex. 24-inch frame, provide new cover. Ex. Cover missing
CB 725	351.16	NA	Ex. 22-inch dome grate, cap with concrete slab and pave over
MH 726	350.71	351.8	Adjust for sidewalk, reuse frame and cover
I 1	338.24	NA	To Be Removed
I 3	339.29	NA	Ex. K Inlet with Concrete Slab, Frame, and Cover. Cap inlet using existing slab and pave over

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE 6/11/99
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6/11/99
DIRECTOR	DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

STATE OF MARYLAND — JAMES HARRINGTON — No. 23788 — REGISTERED PROFESSIONAL ENGINEER

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS
△1 ADDED PREF. PUMP ROOM

EXISTING CONDITIONS & DEMOLITION PLAN

The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 2 OF 32

SCALE : As Shown
DATE : DECEMBER 4, 1998

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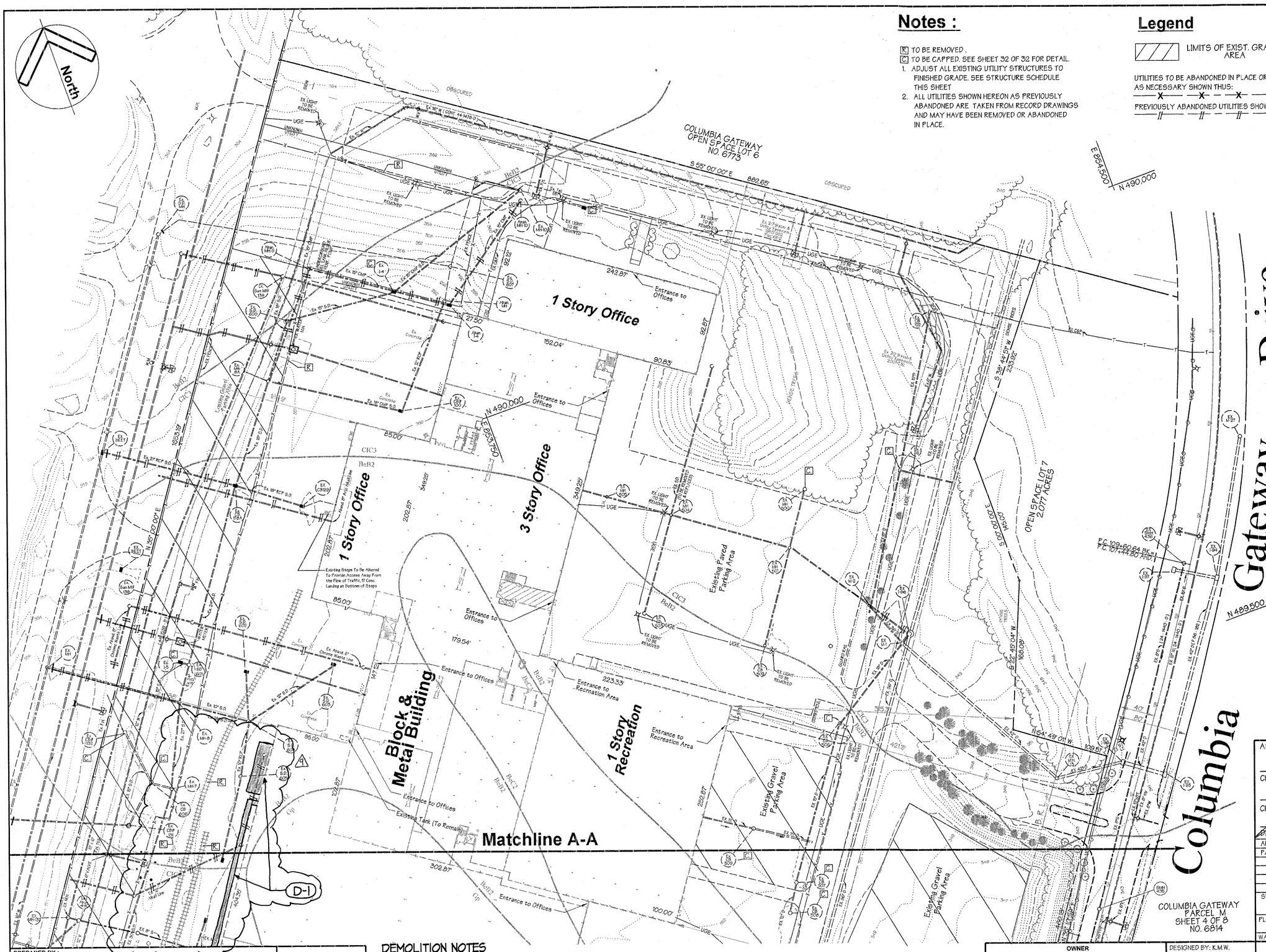
SDP 99-59



Notes :

[R] TO BE REMOVED.
[C] TO BE CAPPED. SEE SHEET 32 OF 32 FOR DETAIL.

1. ADJUST ALL EXISTING UTILITY STRUCTURES TO FINISHED GRADE. SEE STRUCTURE SCHEDULE THIS SHEET
2. ALL UTILITIES SHOWN HEREON AS PREVIOUSLY ABANDONED ARE TAKEN FROM RECORD DRAWINGS AND MAY HAVE BEEN REMOVED OR ABANDONED IN PLACE.

Legend

LIMITS OF EXIST. GRAVEL AREA

UTILITIES TO BE ABANDONED IN PLACE OR REMOVED AS NECESSARY SHOWN THUS:

PREVIOUSLY ABANDONED UTILITIES SHOWN THUS:

EXISTING STRUCTURE SCHEDULE

Structure ID	Ex. Top. Elevation (ft)	Prop. Top. Elevation (ft)	NOTES
MH 10	360.1	360.2	Raise manhole, reuse frame and cover
I-4	349.67	352	Couldn't Locate in Field, Contractor to Locate and Raise Inlet and determine size of concrete slab w/frame and cover to use for capping. Do not pave over ex. Inlet
SD 600	352.24	353	Raise manhole, reuse frame and cover
SDMH 8A	350.6	352.2	Raise manhole, reuse frame and cover
CB 178A	349.88	350.7	Raise and Replace ex. 22-inch dome grate with manhole cover
I5	348.21	350.8	Cap ex. 36-inch square inlet using concrete slab and pave over
SD 601	348.21	350.7	Raise manhole, reuse frame and cover
MH 8	350.01	351.4	Raise manhole, reuse frame and cover
MH 7		NA	No Change
CB 100	349.45	349.6	Not located in Field, Contractor to Locate and Raise CB and reuse existing catch basin frame and cover
CB 129	349.64	349.9	Raise catch basin, reuse frame and grate
SD 602	349.39	349.7	Raise inlet, reuse frame and grate
SD 603	349.15	349.3	Raise inlet, reuse frame and grate
SD 604	349.95	NA	No Change
SD 605	349.3	NA	No Change
CB 131	349.87	NA	To be removed to facilitate placement of new storm drain
CB 132	349.13	351.6	Not located in Field, Contractor to Locate and Raise CB and replace existing catch basin grate with frame and cover
MH606	350.47	352.1	Raise manhole, reuse frame and cover
SAN MH 139	352.21	354.2	Raise manhole, reuse frame and cover
SAN MH 138	351.8	352.2	Raise manhole, reuse frame and cover
SD 607	Not available	353	Not located in field, Contractor to locate and Raise
EX. CB 102	344.78	346.5	Raise catch basin and replace 22--inch dome grate with manhole cover
EX I-6	346.91	349.75	Raise ex. 36" square inlet. Cap with concrete slab with frame and cover
EX M-2	350.32	350.7	Raise manhole. Replace ex. 24" manhole cover with Neenah Grate
EX M-1	351.14	NA	No Change
EX I-96	349.5	NA	No Change
MH 500	350.99	351.6	Ex. 24-inch dome grate, cap with concrete slab and pave over
MH 501	350.89	351	Raise manhole, replace 24" manhole cover with Neenah Grate
CB 502	351.06	351.2	Raise catch basin, reuse frame and grate
CB 503	352.45	352.65	Raise catch basin, reuse frame and grate
MH 504	352.48	352.7	Raise manhole, replace 24" manhole cover with Neenah Grate
MH 505	353.26	353.7	Raise manhole, reuse frame and cover
CB 506	350.81		Raise and Replace ex. 24" circle grate with manhole cover
CB 507	351.02	352.25	Raise and Replace ex. 24" circle grate with manhole cover
CB 508	351.06	352.3	Replace ex. 24" circle grate with manhole cover
CB 509	352.90	352.2	Replace ex. 24" circle grate with manhole cover

REVISION
1 NEW RAMP AND HC PARKING, REVISED PARKING COUNT TO INCLUDE RECREATIONAL USE.

THIS SEAL IS FOR 1 REVISIONS MADE BY SITE RESOURCES, INC.

PROFESSIONAL ENGINEER — ENGINEER HARRINGTON — No. 22157 — STATE OF MARYLAND — 8.29.16

THE ENGINEER CERTIFYING THE DOCUMENTS HERE PREPARED OR APPROVED BY HIS AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 22157 EXPIRATION DATE 2/1/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE 6/11/99
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6/11/99
DIRECTOR	DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

DEMOLITION NOTES

(D-1) SAWCUT & REMOVE BITUMINOUS/CONCRETE PAVING AND BASE MATERIAL

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1989

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

EXISTING CONDITIONS & DEMOLITION PLAN

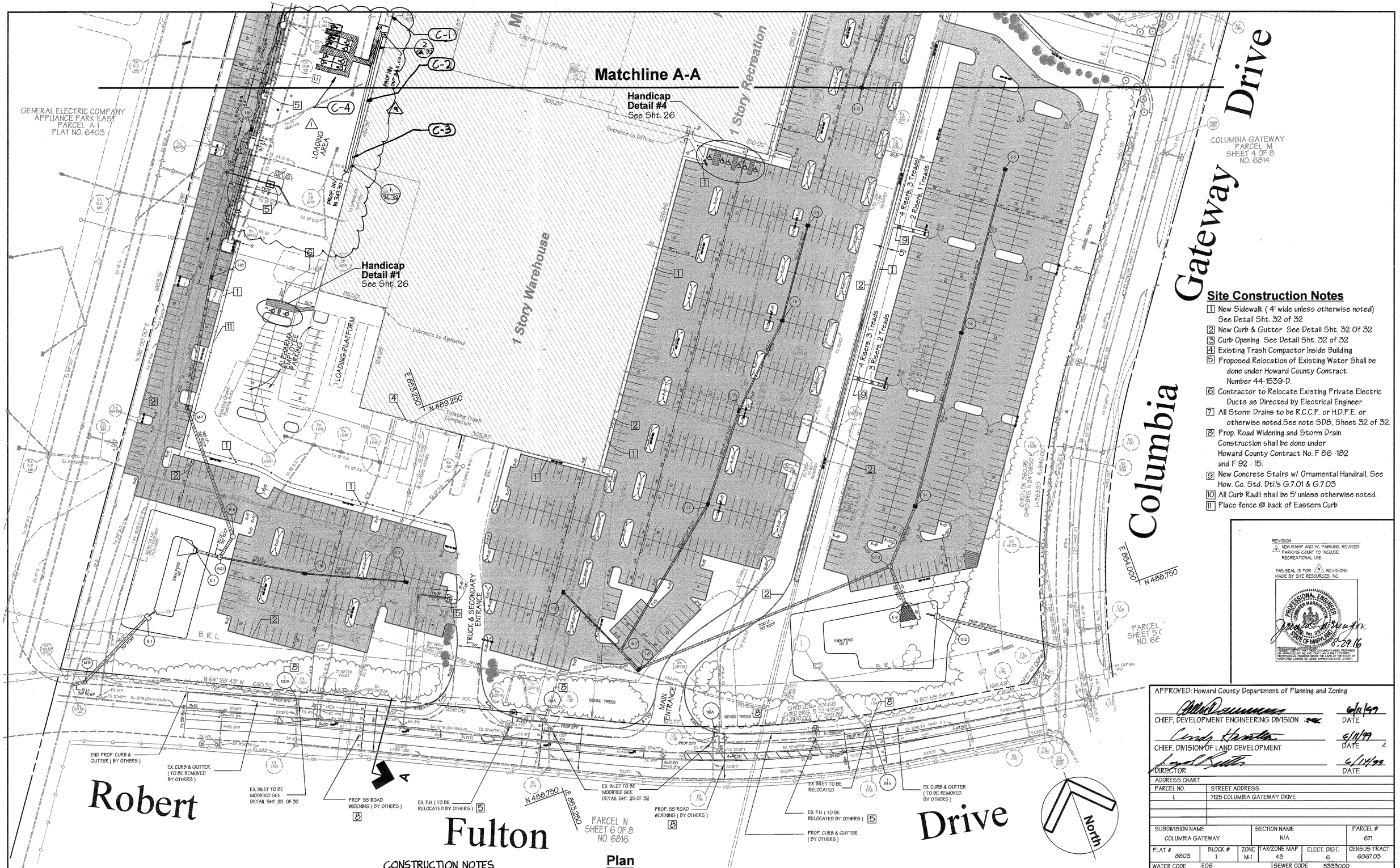
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 3 OF 32 DATE : DECEMBER 4, 1998
SCALE : As Shown

9053c_3existing.s01

SDP 99-59

EMT 02/12/99



Site Construction Notes

1. New Sidewalk (4' wide unless otherwise noted) See Detail Sht. 32 of 32
2. New Curb & Gutter See Detail Sht. 32 Of 32
3. Curb Opening See Detail Sht. 32 of 32
4. Existing Trash Compactor Inside Building
5. Proposed Relocation of Existing Water Shall be done under Howard County Contract Number 44-1539-D.
6. Contractor to Relocate Existing Private Electric Ducts as Directed by Electrical Engineer
7. All Storm Drains to be R.C.C.P. or H.D.P.E. or otherwise noted.See note SD8, Sheet 32 of 32.
8. Prop. Road Widening and Storm Drain Construction shall be done under Howard County Contract No. F 86 -182 and F 92 - 15.
9. New Concrete Stairs w/ Ornamental Handrail, See How. Co. Std. Dtl.'s G.7.01 & G.7.03
10. All Curb Radii shall be 5' unless otherwise noted.
11. Place fence @ back of Eastern Curb

REVISION
1 NEW RAMP AND HC PARKING, REVISED PARKING COUNT TO INCLUDE RECREATIONAL USE.

THIS SEAL IS FOR 1 REVISIONS MADE BY SITE RESOURCES, INC.

PROFESSIONAL ENGINEER LEWIS A. MARRINSON No. 23137 STATE OF MARYLAND
6-29-16
PROFESSIONAL ENGINEER'S CERTIFICATE
"I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 23137, EXPIRATION DATE: 2/28/17"

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 6/8/99
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6/14/99
DIRECTOR	DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	6067.03

WATER CODE E06 SEWER CODE 5333000

CONSTRUCTION NOTES

- C-1 PROPOSED RAMP AND STAIRS BY ARCHITECT.
- C-2 PROPOSED @ SANITARY w SPECS AND WATERLINES PER HOWARD COUNTY DPW DESIGN MANUAL.
- C-3 REPLACE BITUMINOUS / CONCRETE PAVING IN KIND. MEET EXISTING PAVEMENT IN LINE AND GRADE.
- C-4 PROVIDE PAVEMENT STRIPING. SEE DETAIL ON SHEET 5.

Plan

Scale 1" = 50'

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
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

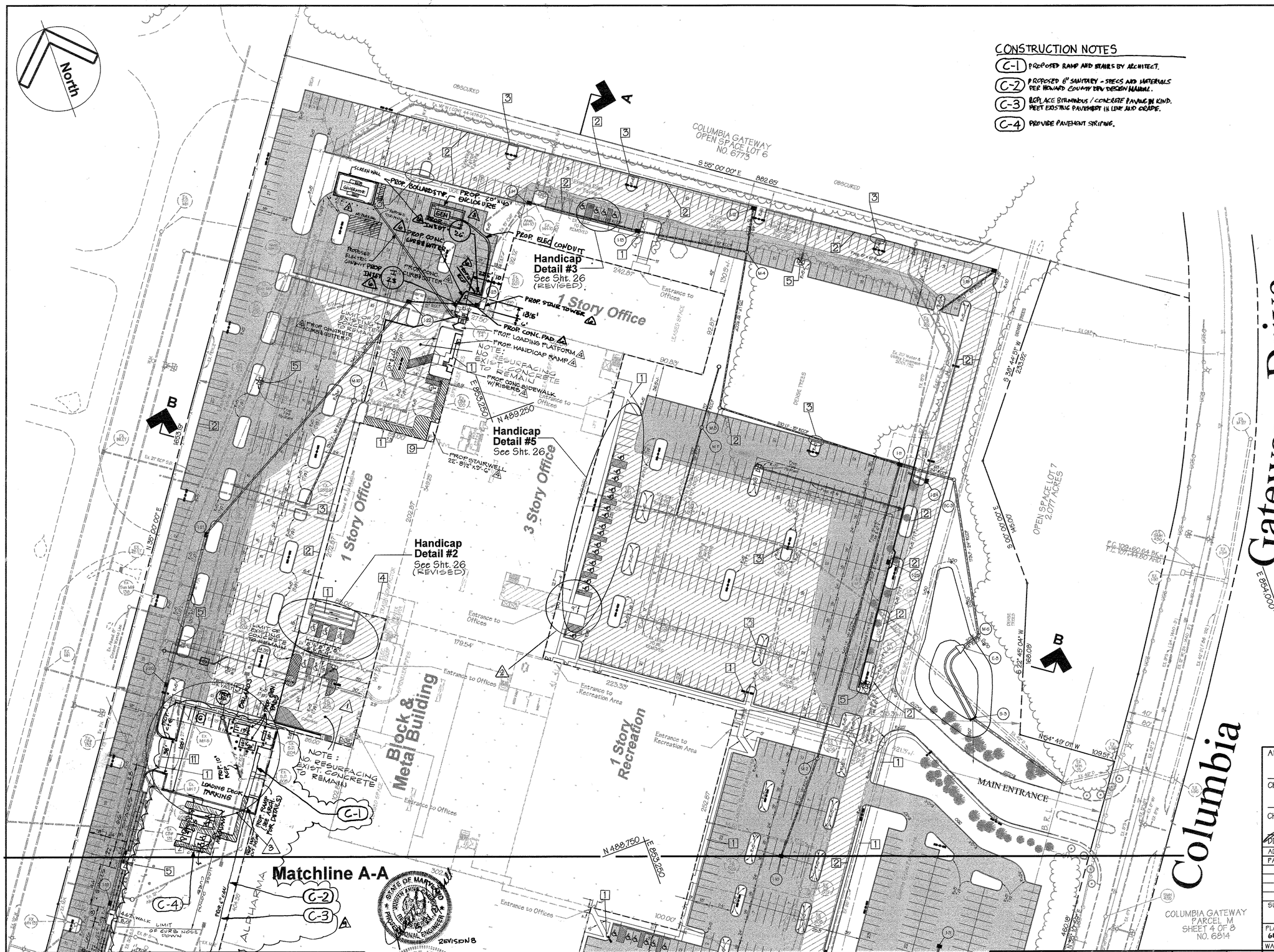
REVISIONS
1 8/27/99 G.W.S. REMOVE PARKING & CURB AT REAR OF ALPHARMA 1-STORY WAREHOUSE, REVISE MEDIANS & PARKING

Site Plan
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 4 OF 32

SCALE : As Shown
DATE : DECEMBER 4, 1998

9053c_4site.s01 **SDP 99-59** EAS 04/06/99

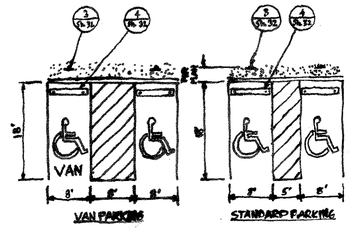


CONSTRUCTION NOTES

- C-1 PROPOSED RAMP AND STAIRS BY ARCHITECT.
- C-2 PROPOSED 8" SANITARY - SPECS AND MATERIALS PER HOWARD COUNTY DEV. DESIGN MANUAL.
- C-3 REPLACE BITUMINOUS / CONCRETE PAVING IN KIND. MEET EXISTING PAVEMENT IN LINE AND GRADE.
- C-4 PROVIDE PAVEMENT STRIPING.

Site Construction Notes

1. New Sidewalk (4' wide unless otherwise noted) See Detail Sht. 32 of 32
2. New Curb & Gutter See Detail Sht. 32 Of 32
3. Curb Opening See Detail Sht. 32 of 32
4. Existing Trash Compactor Inside Building
5. Proposed Relocation of Existing Water Shall be done under Howard County Contract Number 44-1539-D.
6. Contractor to Relocate Existing Private Electric Ducts as Directed by Electrical Engineer
7. All Storm Drains to be R.C.C.P. or H.D.P.E. or otherwise noted. See note SD8, Sheet 32 of 32.
8. Prop. Road Widening and Storm Drain Construction shall be done under Howard County Contract No. F 86 -182 and F 92 - 15.
9. New Concrete Stairs w/ Ornamental Handrail, See How. Co. Std. Dtl's G.7.01 & G.7.03
10. All Curb Radii shall be 5' unless otherwise noted.
11. Place fence @ back of Eastern Curb



NOTES.
1. HANDICAP PARKING AND ACCESS MUST COMPLY WITH THE CURRENT ADA REQUIREMENTS AT TIME OF CONSTRUCTION.
2. PARKING METER AND ACCESS AISLE MARKINGS ARE SHOWN AS REQUIRED.

(6) HANDICAP PARKING NOT TO SCALE

REVISION
(4) NEW RAMP AND HC PARKING, REVISED PARKING COUNT TO INCLUDE RECREATIONAL USE

THIS SEAL IS FOR (4) REVISIONS MADE BY SITE RESOURCES, INC.

PROFESSIONAL ENGINEER JENNIFER HARRINGTON No. 31181 STATE OF MARYLAND
8.29.16

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31181, EXPIRATION DATE: 01/06/17.

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 2/11/99
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6/9/99
DIRECTOR	DATE 6/18/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	L, 671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
6812-13	1	M-1	43	6	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

STATE OF MARYLAND JAMES ADAM MARTIN No. 11035 REGISTERED PROFESSIONAL ENGINEER

STATE OF MARYLAND ADAM J. MORMAN #3138 LANDSCAPE ARCHITECT 3/7/13

REVISION 8
(8) 5/21/14 D.W.M. ADDED GENERATOR ENCLOSURE, BOLLARDS AND CONDUIT. REVISED PARKING COUNT.

REVISIONS
(5) 01/21/13 D.W.M. REVISED CURB & GUTTER AND INLETS. ADDED STAIR TOWER.

REVISIONS
(3) 09/07/2011 BY: ARCH & ENGINEERING DESIGN ADD GENERATOR, GENERATOR PAD GENERATOR SCREENING, BOLLARDS CONNECT ELECTRIC WITH CONDUIT TO BUILDING. REVISE PARKING COUNT

REVISIONS
(2) 10/21/05 GWS REVISED PARKING, ADDED HANDICAP RAMP STAIRWELL, SIDEWALK W/RISERS AND LOADING PLATFORM

REVISIONS
(1) 11/29/99 G.W.S. ADD'L LANDSCAPING & ENTRANCE PARKING REVISION (HANDICAPPED/-2)
(3) REVISED PARKING AREA AND ADDED ENTR. 8/20/04

OWNER
COLGATEDRIVE ASSOC. ~~COLUMBIA/95 GROUP~~ L.P.
(4) 6711 ~~7125~~ COLUMBIA GATEWAY DRIVE, SUITE 300
COLUMBIA, MARYLAND 21046
(443) 285-5400

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

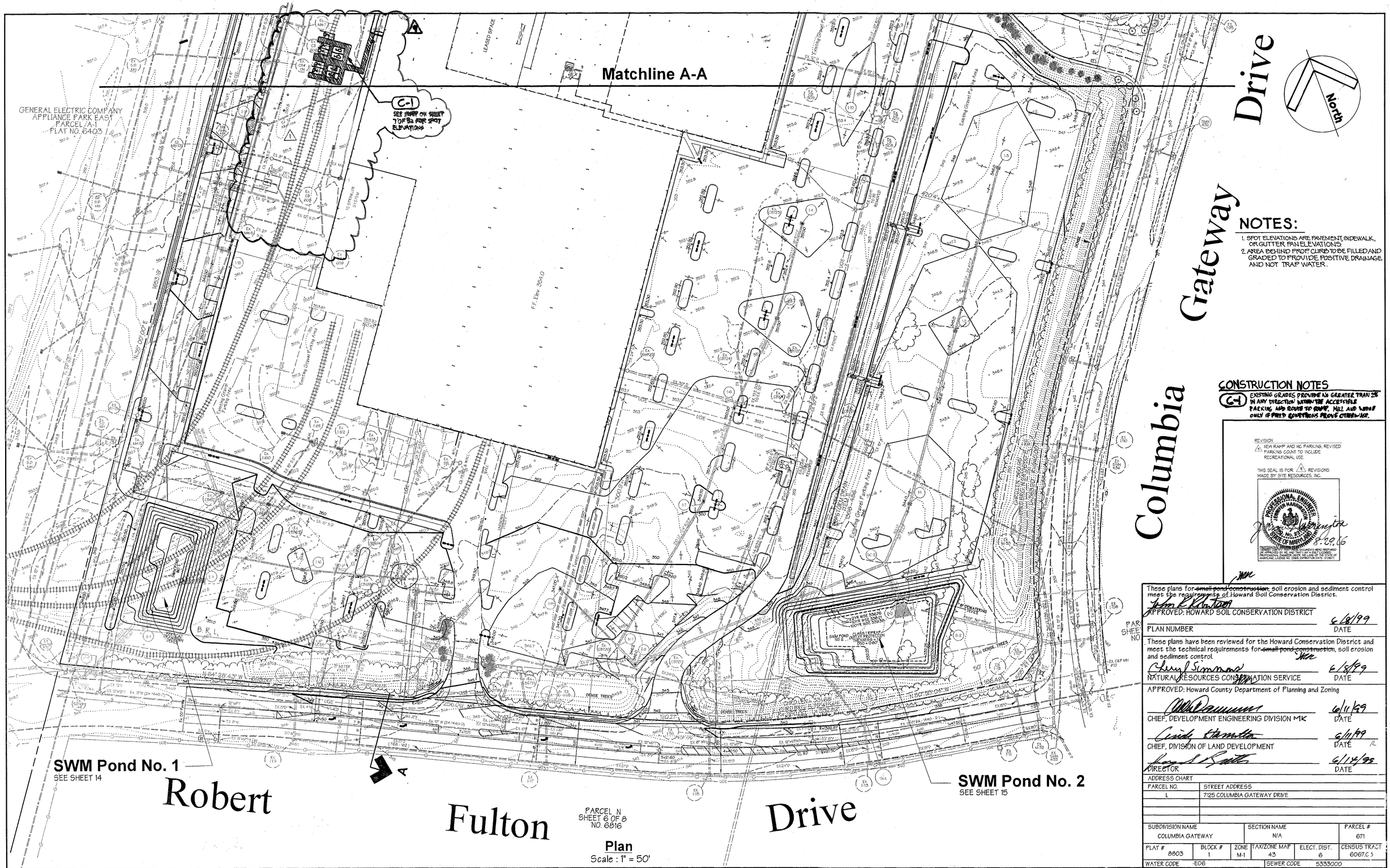
DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

REVISIONS
(1) 8/27/99 G.W.S. REMOVE PARKING & CURB AT REAR OF ALPHARMA - 1 STY. WAREHOUSE, ADD. WHEELCHAIR PARKING S.W. OF 1 STY. OFFICE STRIPE PAVING & INSTALL WHEEL STOPS NE. OF ONE STORY OFFICE SDP-1.

Site Plan
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 5 OF 32
SCALE : As Shown
DATE : DECEMBER 4, 1998

9053c_5site.s01 **SDP 99-59** EMT 4/1/99



NOTES:

1. SPOT ELEVATIONS ARE PAVEMENT, SIDEWALK, OR GUTTER PAN ELEVATIONS.
2. AREA BEHIND PROP. CURB TO BE FILLED AND GRADED TO PROVIDE POSITIVE DRAINAGE AND NOT TRAP WATER.

CONSTRUCTION NOTES

C-1 EXISTING GRADES PROVIDE AN GREATER THAN 2% IN ANY DIRECTION WITHIN THE ACCESSIBLE PARKING AND ROUTE TO RAMP. MILL AND MORE ONLY IF FIELD CONDITIONS PROVE OTHERWISE.

REVISION
4 NEW RAMP AND HC PARKING, REVISED PARKING COUNT TO INCLUDE RECREATIONAL USE.

THIS SEAL IS FOR 4 REVISIONS MADE BY SITE RESOURCES, INC.

PROFESSIONAL ENGINEER — JENNIFER HARRINGTON — NO. 15788 — STATE OF MARYLAND
8-29-06

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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	6067.C5

WATER CODE -E06 SEWER CODE 5333000

Grading Plan
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND

SCALE : As Shown
SHT. 6 OF 32 DATE : DECEMBER 4, 1998

Plan
Scale : 1" = 50'

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

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 _____ Date: 4/19/99
Name Michael G. Conch

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 _____ P.E. # 11005
Name JAMES A. MARKWITH Date: 4/12/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

REVISIONS
1 8/27/99 G.W.S. REMOVE PARKING & CURB AT REAR OF ALPHARMA 1-STORY WAREHOUSE

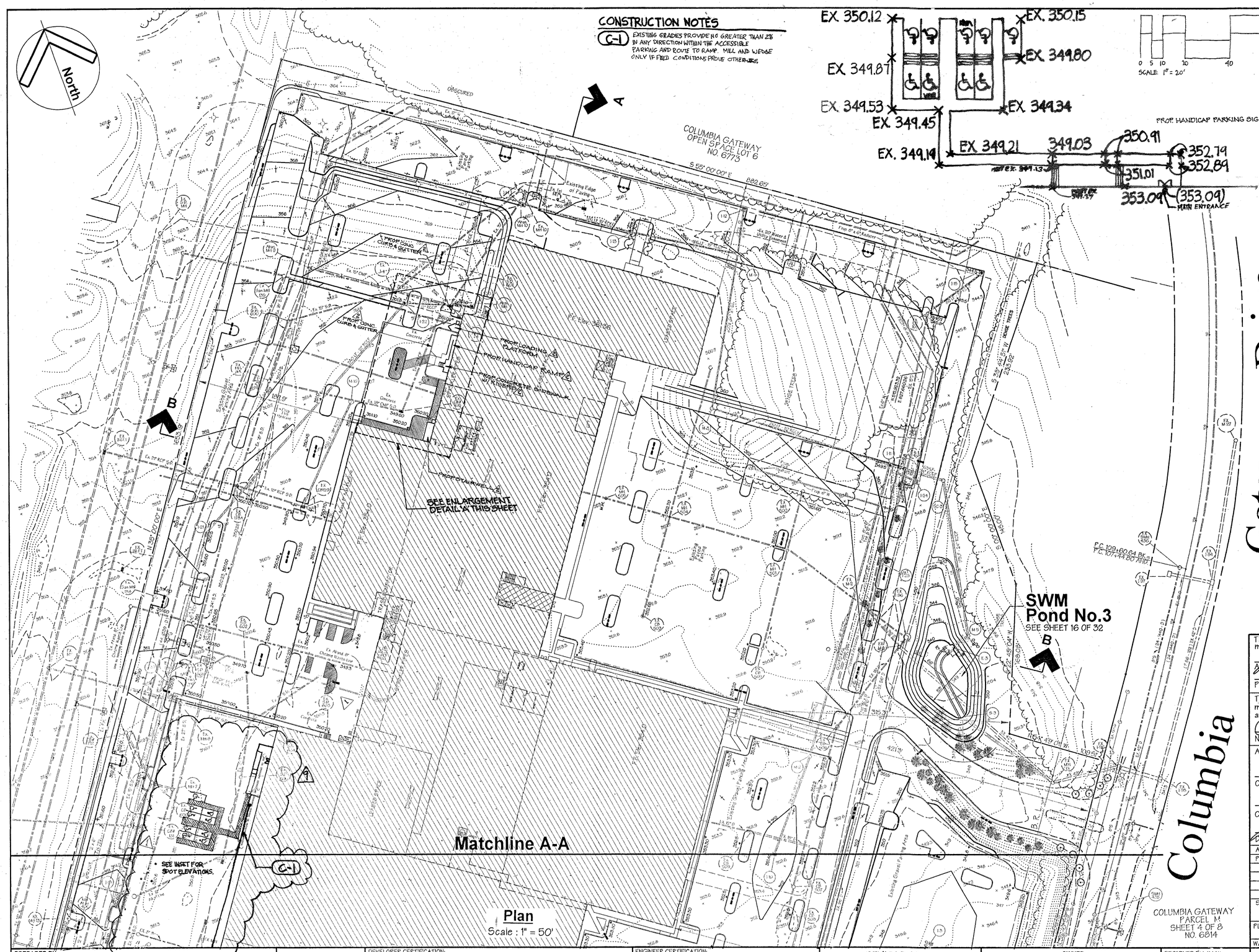
9053c_6gradingsd1

SDP 99-59

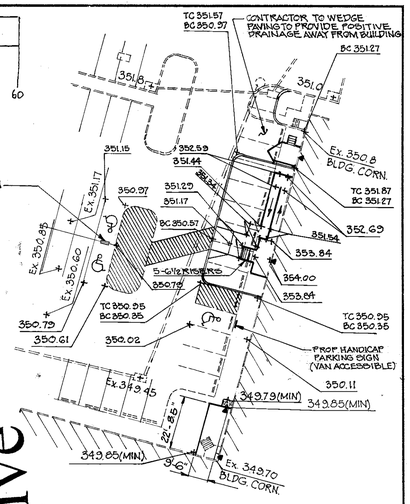
EMT 04/01/99

CONSTRUCTION NOTES

G-1 EXISTING GRADES PROVIDE NO GREATER THAN 2% IN ANY DIRECTION WITHIN THE ACCESSIBLE PARKING AND ROUTE TO RAMP. MILL AND WEDGE ONLY IF FIELD CONDITIONS PROVE OTHERWISE.



Plan
Scale : 1" = 50'



ENLARGEMENT DETAIL 'A'
SCALE: 1"=30'

NOTE:
1. CROSS SLOPES IN ALL ACCESSIBLE PARKING SPACES IN EVERY DIRECTION SHALL BE MAX. 2%.
2. THE MAX. CROSS SLOPE AT THE UPPER LEVEL RAMP LANDING, THE TURNING LANDING, AND THE LOWER LEVEL RAMP RAMP LANDING IS 2%.

REVISION
1 NEW RAMP AND HC PARKING, REVISED PARKING COUNT TO INCLUDE RECREATIONAL USE.

THIS SEAL IS FOR 1 REVISIONS MADE BY SITE RESOURCES, INC.

PROFESSIONAL ENGINEER — STEPHEN HARRINGTON — No. 21305 — STATE OF MARYLAND
9.29.16
PROJECT DESIGN CONSULTANT: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21305, EXPIRATION DATE: 2/10/17.

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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~ soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M1	43	6	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

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 Erik Kolar Date: 2.16.99
Name ERIK KOLAR.

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 P.E. # 11005
Name James A. Mackie Jr. Date: 2/16/99

REVISIONS
2 10/21/05 GWS REVISED PARKING, ADDED HANDICAP RAMP, STAIRWELL, SIDEWALK W/RIBBED, LOADING PLATFORM AND PROPOSED GRADES.

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6141
CONSHOHOCKEN, PA 19428
(610) 934-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS
1 8/27/99 G.W.S. REMOVE PARKING & CURBS AT REAR OF ALPHARMA 1-STY WAREHOUSE

Grading Plan
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 7 OF 32
SCALE : As Shown
DATE : DECEMBER 4, 1998

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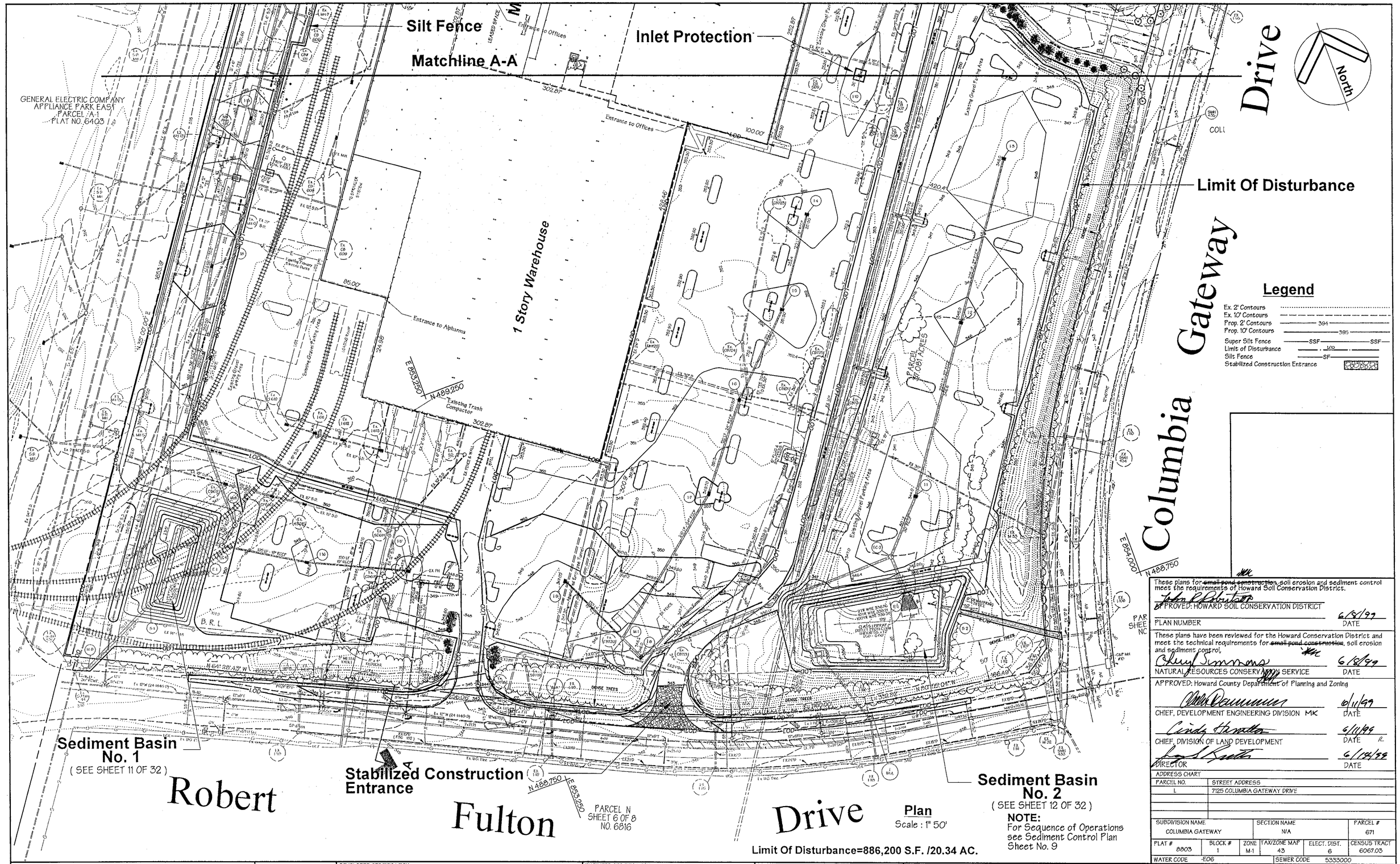
SDP 99-59

EMT 02/12/99



Plan
Scale : 1" 50'

NOTE:
For Sequence of Operations see Sediment Control Plan Sheet No. 9

Limit Of Disturbance=886,200 S.F. /20.34 AC.

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

APPROVED: HOWARD SOIL CONSERVATION DISTRICT — 6/8/99
PLAN NUMBER — DATE

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — 6/8/99 DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — 6/11/99 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 6/11/99 DATE

DIRECTOR — 6/14/99 DATE

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

DEVELOPER CERTIFICATION:

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Developer Erik Kolar Date: 2.16.99
Name ERIK KOLAR.

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 J.A. Marble Jr. P.E. # 11005
Name JAMES A. MARBLE JR. Date: 2/16/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

Sediment Control Plan
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6 SCALE : As Shown
HOWARD CO., MARYLAND SHT. 8 OF 32 DATE : DECEMBER 4, 1998

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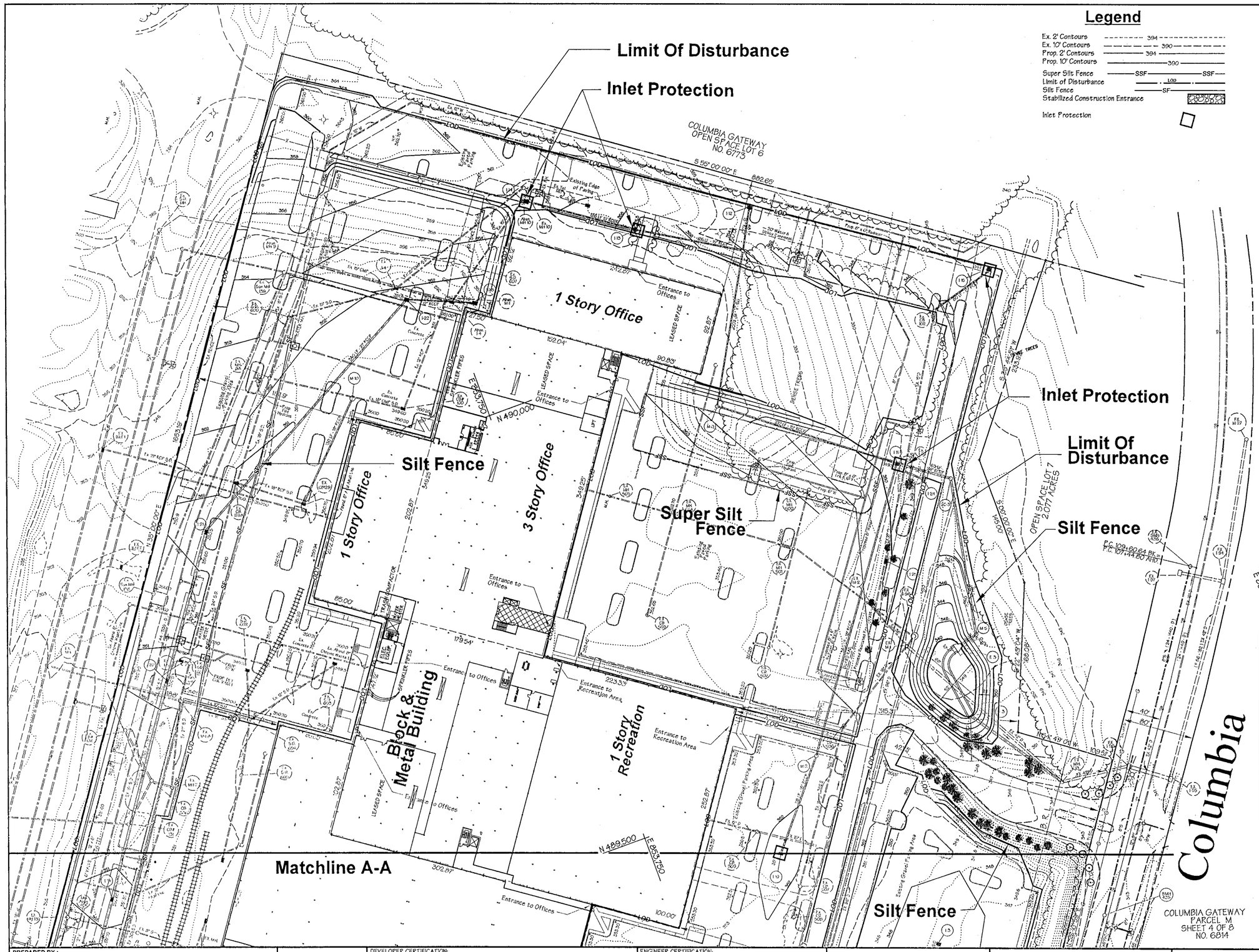
SDP 99-59

EMT 1/26/99



Legend

Ex. 2' Contours	394
Ex. 10' Contours	390
Prop. 2' Contours	394
Prop. 10' Contours	390
Super Silt Fence	SSF — SSF
Limit of Disturbance	LOD
Silt Fence	SF
Stabilized Construction Entrance	
Inlet Protection	

Sequence Of Operations

1. OBTAIN GRADING PERMIT (1 DAY).

2. NOTIFY THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, & PERMITS, SEDIMENT CONTROL DIVISION @ 410-313-1855, 48 HOURS BEFORE BEGINNING WORK. (1 DAY)

3. STAKE LIMIT OF DISTURBANCE (5 DAYS).

4. BEGIN INITIAL CLEARING, GRUBBING FOR SEDIMENT CONTROL DEVICES.
   A. INSTALL SCE AT MAIN ENTRANCE ON ROBERT FULTON DRIVE & SILT FENCE WHERE SHOWN ON PLAN. (1 DAY)
   B. CONSTRUCT SEDIMENT BASIN #1, BASIN #2, AND POND #3 (CONSTRUCT PER SPECIFICATIONS AS SHOWN ON THE SEDIMENT BASIN PLAN AND SWM PLAN FOR INITIAL CONSTRUCTION.) (45 DAYS)
   CONTACT THE ENGINEER IN CHARGE @ 410-825-8120 AND THE GEOTECHNICAL ENGINEER SO THEY CAN INSPECT THE FOLLOWING:
   1. INSTALL CUTOFF TRENCH.
   2. INSTALL OUTFALL PIPE, CONCRETE CRADLE, DEWATERING DEVICE, CONCRETE END SECTION, AND OUTLET PROTECTION.
   3. CONSTRUCT EMBANKMENT, STABILIZE ACCORDING TO SPECIFICATIONS SHOWN ON THESE PLANS.

5. UPON COMPLETION THE ABOVE INSTALLATIONS NOTIFY AND OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTION TO BEGIN WORK ON SITE.

SEQUENCE FOR AREA DRAINING TO POND NO. 3

6. A. INSTALL SUPER SILT FENCE AT EXISTING EDGE OF PAVING AS SHOWN ON PLAN. CAP EXISTING INLETS, AS NOTED ON SHEETS 2 AND 3 OF 32. ALSO SEE SCHEDULE SHEET 6 AND 7 OF 32. BEGIN GRADING OPERATIONS, INSTALL STORM DRAINS AND RELOCATE FIRE HYDRANT IN THIS AREA. (15 DAYS)
   B. PROVIDE INLET PROTECTION FOR INLETS I-10, I1, I3 AND I4. (I-12 NOT NEEDED) (1 DAY)
   C. INSTALL BASE COURSE AND CURB AND GUTTER.(5 DAYS)
   D. INSTALL INLET I-15 TO EXISTING CATCH BASIN 102. PROVIDE INLET PROTECTION(3 DAYS)
   E. FINE GRADE AND STABILIZE ALL DISTURBED AREAS.(3 DAYS)

SEQUENCE FOR AREAS DRAINING TO SEDIMENT BASINS NO. 1 & NO. 2

7. A. CAP EXISTING INLETS AS NOTED ON SHEETS 2 AND 3 OF 32. ALSO SEE STRUCTURE SCHEDULE SHEET 6 AND 7 OF 32 FOR AREAS DRAINING TO S.B. NO.2 CONSTRUCT I-8 TO SC2 AND OUTFALL INTO BASIN. BEGIN GRADING OPERATIONS. INSTALL REMAINING STORM DRAINS AND RELOCATE FIRE HYDRANTS WHERE REQUIRED. (15 DAYS)
   B. PROVIDE STORM DRAIN PIPE FROM SC2 (INV. 334.49) TO BOTTOM OF BASIN NO.2 (INV. 334.25) (2 DAYS)
   C. INSTALL BASE COURSE AND CURB AND GUTTER.(5 DAYS)
   D. FINE GRADE AND STABILIZE ALL DISTURBED AREAS.(3 DAYS)

8. COMPLETE FINAL PAVING, FLUSH STORM DRAIN SYSTEM.(15 DAYS)

9. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR CONVERT SEDIMENT BASIN INTO THE PERMANENT STORMWATER MANAGEMENT (S.W.M.) FACILITY PER THE APPROVED STORMWATER MANAGEMENT PLANS.* FOR CONVERSION OF BASIN NO. 2 TO SWM POND NO.2, CLEAN OUT BASIN TO SWM GRADES AND ADJUST THE MANNER OF PERMANENT STORM DRAIN SYSTEM FROM SC2 TO E-2. PUMP OUT STORMCEPTOR AS NECESSARY.

10. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND STABILIZE WITH PERMANENT SEEDING.

11. COMPLETE AS-BUILT SURVEY AND STUDY OF THE S.W.M. FACILITY AND SUBMIT TO THE APPROPRIATE AGENCY WITHIN 30 DAYS OF COMPLETION OF CONVERSION.

SEQUENCE FOR ROAD WIDENING

1. CONTRACTOR SHALL ONLY DISTURB AN AREA WHICH CAN BE STABILIZED THE SAME WORKING DAY.

2. PROVIDE INLET PROTECTION AS DIRECTED BY INSPECTOR IN THE FIELD.

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

APPROVED: HOWARD SOIL CONSERVATION DISTRICT — 6/8/99 DATE

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — 6/8/99 DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — 6/4/99 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 6/11/99 DATE

DIRECTOR — 6/14/99 DATE

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

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 this 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 Erik Kolar Date: 2-16-99

Name ERIK KOLAR

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 — P.E. # 11005

Name James A. Markle Jr. Date: 2/16/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

Sediment Control Plan
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 9 OF 32 DATE : DECEMBER 4, 1998
SCALE : As Shown

SDP 99-59

EMT 1/26/99

Stabilization Specifications

Section I - Vegetative Stabilization Methods and Materials

A. Site Preparation

I. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.

II. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.

III. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

I. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples may be taken for engineering purposes may also be used for chemical analysis.

II. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.

III. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98 - 100% will pass through a #20 mesh sieve.

iv. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

v. Soil Amendments : Use only one of the following schedules

I. Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. / 100 s.f.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. / 100 s.f.). Before seeding, harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30 0 0 uanform fertilizer (9.1 lbs / 100 s.f.).

II. Acceptable - Apply 2 tons per acre dolomitic limestone (92lbs. / 100 0 s.f.) and 1000 lbs. per acre 10 10 10 fertilizer (23 lbs. / 1000 s.f.) before seeding, harrow or disc upper three inches of soil.

C. Seedbed Preparation

i. Temporary Seeding

a. Seedbed preparation shall consist of loosening soil to a depth of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should not be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

II. Permanent Seeding

a. Minimum soil conditions required for permanent vegetative establishment:
1. Soil pH shall be between 6.0 and 7.0
2. Soluble salts shall be less than 500 parts per million (ppm).
3. The soil shall contain less than 40% clay but enough fine grained material (> 30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedeza is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
4. Soil shall contain 15% minimum organic matter by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3 - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.

c. Apply soil amendments as per soil test or as included on the plans.

d. Mix soil amendments into the top 3 - 5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 - 3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

I. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material in this job.

II. Inoculant - The inoculant for treating legume seed in the seed mixture shall be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. NOTE: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 - 80 degrees F. can weaken bacteria and make inoculant less effective.

NOTE: SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED.

E. Methods of Seeding

I. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.

a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen: maximum of 100 lbs. per acre total soluble nitrogen; P205 (phosphorus): 200 lbs./ac.; K20 (potassium): 200 lbs./ac.
b. Lime - use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burns or hydrated lime when hydroseeding.
c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

II. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

III. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (In order of preference)

I. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

II. Wood Cellulose Fiber Mulch (WCFM)

a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
c. WCFM including dye, shall contain no germination or growth inhibiting factors.
d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
e. WCFM material shall contain no elements or compounds at concentration levels that will be phyto-toxic.
f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm, diameter approximately 1 mm, pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

NOTE: ONLY STERILE STRAW MULCH SHOULD BE USED IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

I. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.

II. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.

III. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch. Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods(listed by preference), depending upon size of area and erosion hazard:

I. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.

II. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

III. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and on the crests of banks. The remainder of area should appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Aegis-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR, or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.

Iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3000 feet long.

Section II - Temporary Seeding

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed Mixtures - Permanent Seeding

I. select one or more off the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from figure 5) and enter them in Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintainance areas, see Sections IV Sod and V Turfgrass.

II. For sites having disturbed areas over 5 acres, the rates shownon this table shall be deleted and the rates recommended by the testing agency shall be written in.

III. For areas recieving low maintenance, apply ureaform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil ammendments shown in the table below, to be performed at the time of seeding

Section III - Permanent Seeding

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

A. Seed Mixtures - Permanent Seeding

I. select one or more off the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from figure 5) and enter them in Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintainance areas, see Sections IV Sod and V Turfgrass.

II. For sites having disturbed areas over 5 acres, the rates shownon this table shall be deleted and the rates recommended by the testing agency shall be written in.

III. For areas recieving low maintenance, apply ureaform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil ammendments shown in the table below, to be performed at the time of seeding

Section IV - Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

A. General specifications

I. Class of turfgrass sod shall be Maryland or Virginia State Certified or Approval. Sod labels shall be made available to the job foreman and inspector.

II. Sod shall be machine cut at a uniform soil thickness of 3/4", plus or minus 1/4", at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.

III. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.

Iv. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

v. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be approved by an agronomist or soil scientist prior to its installation.

vi. Site Preparation : Fertilizer and Lime application rates will be determined by soil test. Under unusual circumstances where there is insufficient time for a complete soil test, fertilizer and lime may be applied in amounts shown under vi.b. below.

a. Prior to sodding, the surface will be cleared of all trash, debris, and of all roots,brush, wire, grade stakes and other objects that would interfere with planting, fertilizing, or maintenance operations.

b. Where soil is acid or composted of heavy clays, ground limestone will be spread at the rate of 2 tons per acre(100 lbs. / 1000 s.f.). In all soils 1000 lbs. per acre (25 lbs. / 1000 s.f.) of 10 10 10 fertilizer or equivalent will be uniformly applied and mixed into the top three inches of soil with the required time.

c. All areas recieving sod will be uniformly fine graded. Hard packed earth will be scarified prior to placement of sod.

B. Sod Installation

I. During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.

II. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevents voids which would cause drying of the roots.

III. Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.

Iv. Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.

C. Sod Maintenance

I. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting.

II. After the first week, sod watering is required as necessary to maintain adequate moisture content.

III. The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified.

Section IV - Turfgrass Establishment

Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. Areas to receive seed shall be tilled by disking or other approved methods to a depth of 2 to 4 inches, leveled and raked to prepare a proper seedbed. Stones and debris over 1 1/2 inches in diameter shall be removed. The resulting seedbed shall be in such condition that future mowing of grasses will pose no difficulty.

NOTE: Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

A. Turfgrass Mixtures

I. Kentucky Bluegrass - Full sun mixture - For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and eastern shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds/1000 square feet. A minimum of three bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.

II. Kentucky Bluegrass/Perennial Rye - Full sun mixture - For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/ Certified Kentucky Bluegrass Seeding rate: 2 pounds mixture/1000 square feet. A minimum of 3 Kentucky Bluegrass Cultivars must be chosen, with each cultivar ranging from 10% to 35% of the mixture by weight.

III. Tall Fescue/Kentucky Bluegrass - Full sun mixture - For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; certified Tall Fescue Cultivars 95 - 100%, certified Kentucky Bluegrass Cultivars 0 - 5%. Seeding rate 5 to 8 lb/1000 square feet. One or more cultivars may be blended.

Iv. Kentucky Bluegrass/Fine Fescue - Shade Mixture - For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; certified Kentucky Bluegrass Cultivars 30 - 40% and certified Fine Fescue and 60 - 70%. Seeding rate: 1 1/2 - 3 lbs./1000 square feet. A minimum of 3 Kentucky bluegrass cultivars must be chosen, with each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.

NOTE: Turfgrass varieties should be selected from those listed in the most current University of Maryland Publication, Agronomy Mimeo #77, "Turfgrass Cultivar Recommendations for Maryland".

B. Ideal times of seeding

Western MD: March 15-June 1, August 1-October 1 (Hardiness Zones - 5b, 6a)

Central MD: March 1-May 15, August 15-October 15 (Hardiness Zones - 6b)

Southern MD, Eastern Shore: March 1-May 15, August 15-October 15 (Hardiness Zones - 7a, 7b)

C. Irrigation

If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2" - 1" every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

D. Repairs and Maintenance

Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season.

I. Once the vegetation is established, the site shall have 95% groundcover to be considered adequately stabilized.
II. If the stand provides less than 40% ground coverage, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.

III. If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing using half of the rates originally applied may be necessary.

Iv. Maintenance fertilizer rates for permanent seedings are shown in Table 24. For lawns and other medium to high maintenance turfgrass areas, refer to the University of Maryland publication "Lawn Care in Maryland" Bulletin No. 171.

Fertilizer Rates

Temporary Seeding

Fertilizer Rate (10-10-10)	Lime Rate
600 lb/ac (13.8lb/1000 s.f.)	2 Tons/ac (100lb/1000 s.f.)

Permanent Seeding

Fertilizer Rate (10-20-20)			Lime Rate
N	P205	K20	
90 lb/ac (2.0lb/ 1000 s.f.)	175 lb/ac (4.0lb/ 1000 s.f.)	175 lb/ac (4.0lb/ 1000 s.f.)	2 tons/ac (100 lb/ 1000 s.f.)

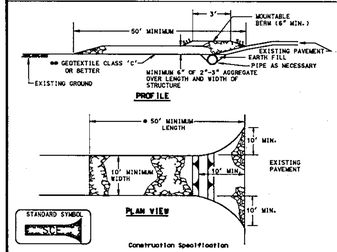
Table 25 - Permanent Seeding for Low Maintenance Areas

MIX	SEED MIX (USE CERTIFIED MATERIAL IF AVAILABLE)	PLANTING RATE LBS/ACRE	PLANTING RATE LBS/1000 SQ.FT.	SITE CONDITIONS	USDA HARDINESS ZONES	RECOMMENDED PLANTING DATES 3/1 - 5/15	3/15 - 6/1	5/16 - 8/14	6/2 - 7/31	8/1 - 10/1	8/15 - 10/15	8/16 - 11/15	NOTES
1	TALL FESCUE (75%) CANADA BLUEGRASS (10%) KENTUCKY BLUEGRASS (10%) REDTOP (5%)	150	3.4	MOIST TO DRY	5b		X			X			A
					6a		X			X			
					6b	X					X		
					7a	X						X	
					7b	X						X	
2	KENTUCKY BLUEGRASS (50%) CREEPING RED FESCUE OR A HARD FESCUE (40%) REDTOP (10%)	150	3.4	MOIST TO MODERATELY DRY TO DRY	5b		X			X			B
					6a		X			X			
					6b	X			X				
3	TALL FESCUE (80%) PERENNIAL RYEGRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	2.9 .34 .23	MOIST TO DRY	5b		X			X			C
					6a		X			X			
					6b	X					X		
					7a	X						X	
					7b	X						X	
4	RED FESCUE OR CHEWINGS FESCUE (80%) PERENNIAL RYEGRASS (20%)	60 20	.92 .34	MOIST TO DRY	5b		X			X			D
					6a		X			X			
					6b	X					X		
5	TALL FESCUE (88%) OR PERENNIAL RYEGRASS (50%) PLUS CROWN VETCH OR FLAT PEA	110 20 20 20	2.5 .46 .46 .46	MOIST TO DRY	5b		X			X			E
					6a		X			X			
					6b	X					X		
					7a	X						X	
					7b	X						X	
6	WEEPING LOVEGRASS (17%) SERICIA LESPEDEZA (83%)	4 20	.09 .46	DRY TO VERY DRY	6a	X		X					F
					7a	X		X					
					7b	X		X					
7	TALL FESCUE (83%) WEEPING LOVEGRASS (2%) PLUS SERICIA LESPEDEZA (15%)	110 3 20	2.5 .07 .46	DRY TO VERY DRY	5b		X		X	X			G
					6a		X		X	X			
					6b	X		X					
					7a	X		X				X	
					7b	X		X				X	
8	KEED CANARYGRASS (75%) REDTOP (6%) PLUS BIRDSFOOT TREFOIL (19%)	40 3 10	.92 .07 .23	WET TO MODERATELY DRY	5b		X			X			H
					6a		X			X			
					6b	X			X				
					7a	X						X	
					7b	X						X	
9	TALL FESCUE (84%) POA TRIVIALIS (7%) BIRDSFOOT TREFOIL (7%)	125 10 10	2.9 .23 .23	WET TO MODERATELY DRY	5b		X			X			I
					6a		X			X			
					6b	X					X		
10	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3.4 .69	WET TO DRY	5b		X			X			J
					6a		X			X			
					6b	X					X		
					7a	X						X	
					7b	X						X	
11	HARD FESCUE (100%)	75	1.7	MOIST TO DRY	5b		X			X			K
					6a		X			X			
					6b	X					X		
					7a	X						X	

Table 26 - Temporary Seeding Rates, Depths, and Dates

SPECIES	MINIMUM SEEDING RATES PER ACRE	MINIMUM SEEDING RATES LBS/1000 SQ.FT.	PLANTING DEPTH INCHES	HARDINESS ZONES AND SEEDING DATES 7a and 7b 2/1 - 4/30	7a and 7b 5/1 - 8/14	7a and 7b 8/15 - 11/30	6b 3/1 - 4/30	6b 5/1 - 8/14	6b 8/15 - 11/15	6a and 5b 3/15 - 5/31	6a and 5b 6/1 - 7/31	6a and 5b 8/1 - 10/31
CHOOSE ONE: BARLEY OATS RYE	2.5 B.U. (122 lbs.) 3 B.U. (96 lbs.) 2.5 B.U. (140 lbs.)	2.80 2.21 3.22	1 - 2 1 - 2 1 - 2	X X X	- - -	BY 10/15 - X	X X X	- - -	BY 10/15 X X	X X X	- - -	BY 10/1 - X
BARLEY OR RYE PLUS FOXTAIL MILLET	150 lbs.	3.45	1	X X	X X	10/15 X	X X	X X	10/15 X	X X	X X	10/1 X
WEEPING LOVEGRASS	.09	.09	1/4 - 1/2	-	-	-	X	-	-	-	X	-
ANNUAL RYEGRASS	50 lbs.	1.15	1/4 - 1/2	X	-	11/1	X	-	11/1	X	-	8/15
MILLET	50 lbs.	1.15	1/2	-	X	-	-	X	-	-	X	-

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

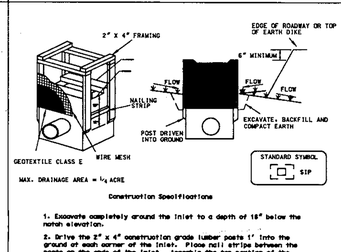


Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. Water plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23A - STANDARD INLET PROTECTION

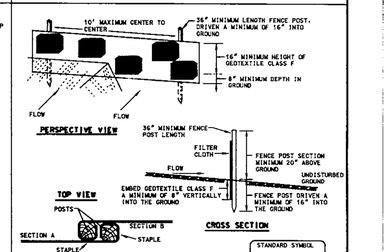


Construction Specifications

1. Excavate completely around the inlet to a depth of 18" below the notch elevation.
2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
4. Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



Construction Specifications

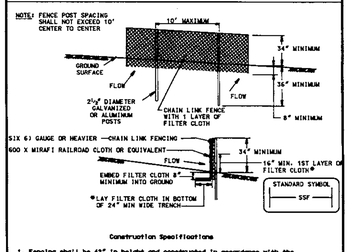
1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1½" x 1½" square (minimum cut, or 1¾" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Tests MSMT 509
Tensile Modulus	20 lbs/in (min.)	Tests MSMT 509
Flow Rate	0.3 gal ft²/ minute (max.)	Tests MSMT 322
Filtering Efficiency	75% (min.)	Tests MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 - SUPER SILT FENCE



Construction Specifications

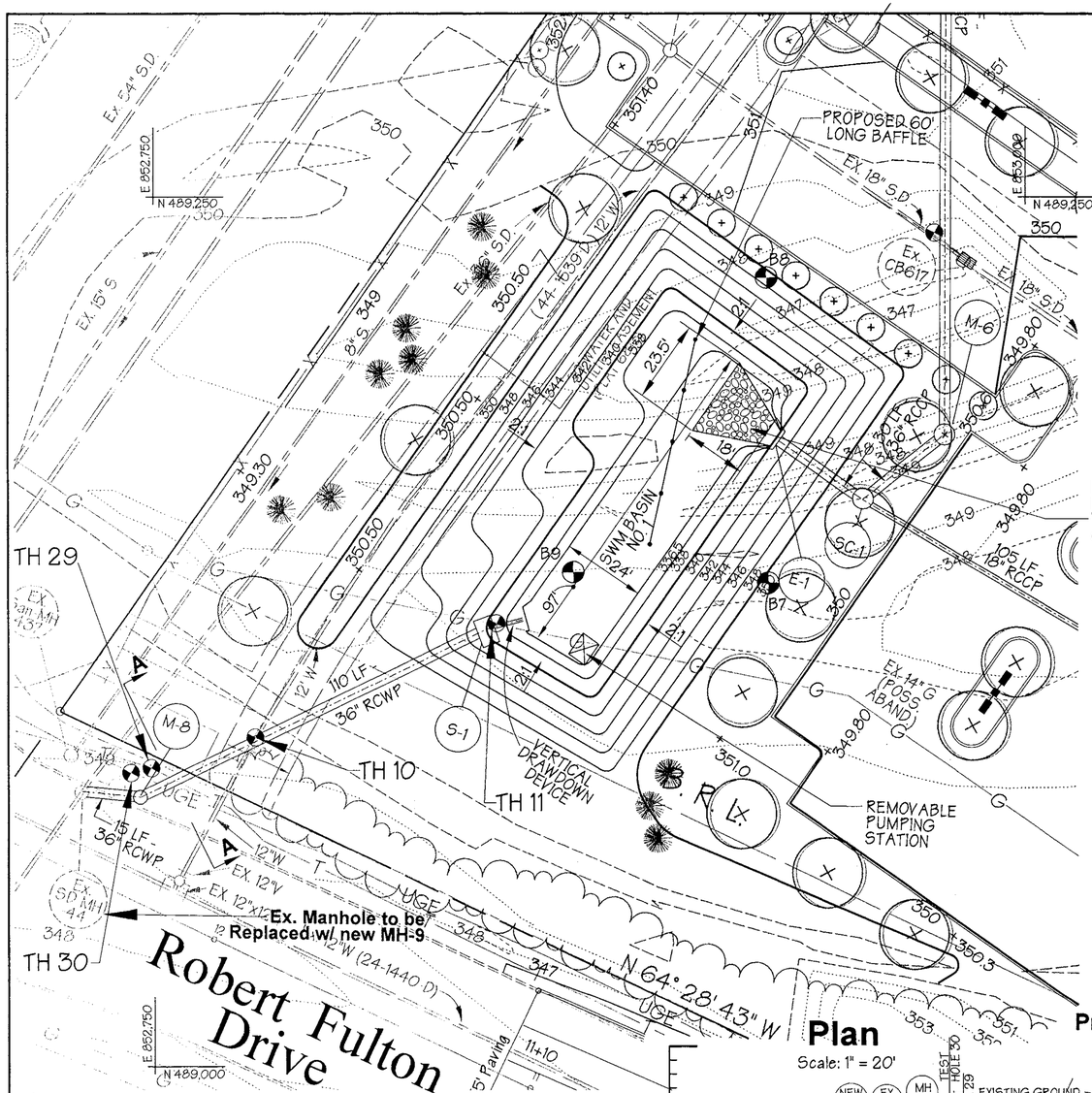
1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The SHA specification for a 6' fence shall be used substituting 42" fabric and 8' length posts.
2. The posts do not need to be set in concrete.
3. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fencing shall be six gauge (6) or heavier
4. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
5. Filter cloth shall be embedded a minimum of 8" into the ground.
6. When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.
7. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

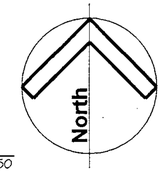
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NOTE : PROJECT IS IN USDA HARDINESS ZONE 6b

Sediment Control Notes

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE CONFORMANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND REVISIONS THERETO
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
   A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1,
   B) 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. IF REQUIRED BY SEDIMENT CONTROL INSPECTOR SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. I CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING AND MULCHING (SEE G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:
   TOTAL AREA OF SITE 37.08 ACRES
   AREA DISTURBED 20.00 ACRES
   AREA TO BE ROOFED OR PAVED 16.3 ACRES
   AREA TO BE VEGETATIVELY STABILIZED 4.7 ACRES
   TOTAL CUT 30,935 C.Y.
   T





RipRap Outlet Protection - Thickness = 1.5' d= 0.70"

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 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) 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.

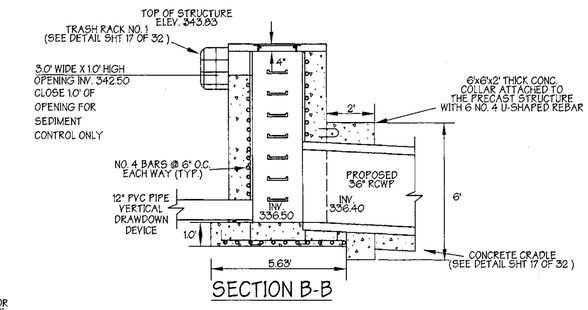
NOTE:
IF UNSUITABLE (PERVIOUS) MATERIAL IS ENCOUNTERED AT TIME OF CUT-OFF TRENCH INSTALLATION DEEPER THAN 4', IT WILL BE NECESSARY TO EXTEND THE CUT-OFF TRENCH DOWN UNTIL SUITABLE MATERIAL IS ENCOUNTERED AS DETERMINED BY A GEOTECHNICAL ENGINEER. AT TIME OF CONSTRUCTION, EXISTING SOIL ADJACENT TO CUT-OFF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

NOTE:
REFER TO SHEET OF FOR POND SPECIFICATIONS AND RELATED DETAILS.

NOTE:
CONTRACTOR TO PROVIDE POSITIVE DRAINAGE INTO BASIN DURING GRADING OPERATIONS.

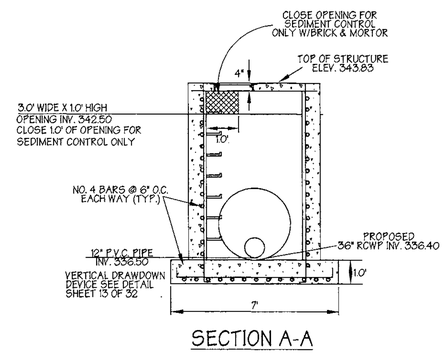
BASIN SPECIFICATIONS FOR STORMWATER MANAGEMENT		
DESCRIPTION		DATA
STRUCTURE CLASSIFICATION		A (PRIVATE)
STORAGE X HEIGHT PRODUCT		
WATERSHED AREA TO THE POND		7.6 AC.
POND TYPE		DRY
FREEBOARD	REQUIRED/ PROVIDED	2.0 / 3.78
IMPERVIOUS AREA		4.30 AC.
TOP OF EMBANKMENT		N/A

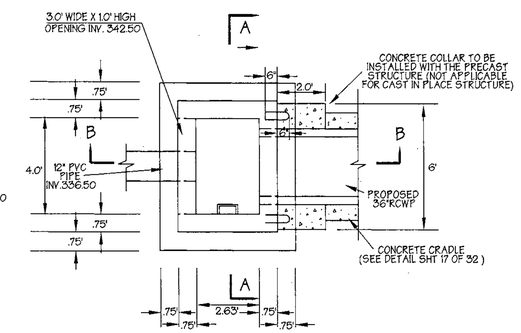
BASIN NO. 1 SUMMARY						
DESIGN STORM	ALLOWABLE RELEASE (CFS)	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	BYPASS DISCHARGE (CFS)	TOTAL DISCHARGE (CFS)	WATER SURFACE ELEVALTION (FT.)
2 YR	38.07	17.47	9.56	25.17	34.38	343.99
10 YR	N/A	34.19	17.21	40.41	56.92	346.08



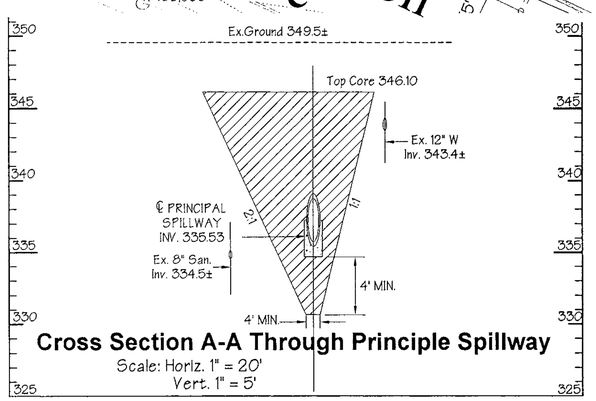
RELEASE STRUCTURE NOTES

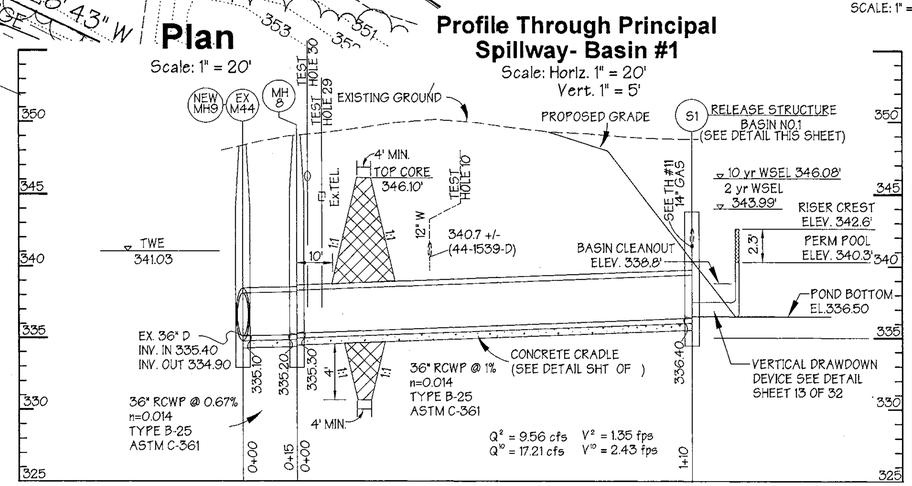
1. UNLESS OTHERWISE NOTED TOP SLAB STRUCTURE SHALL BE BUILT IN ACCORDANCE TO HOWARD. CO. STD. DETAIL 4.02.
2. STRUCTURE TO BE CAST-IN-PLACE REINFORCED CONCRETE WITH 3,500 P.S.I.(MIN.) COMPRESSIVE STRENGHT @ 28 DAYS. DESIGN OF PRECAST CONC. STRUCTURE SHALL BE PROVIDED BY MANUFACTURER.
3. ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
4. ALL REINFORCING TO HAVE 1' 6" MIN. OVERLAPS.
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 OPENNINGS 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.





RELEASE STRUCTURE DETAILS
SCALE: 1" = 3'





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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

CONSULTANTS 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 Soil Conservation District.
Engineer — Date: 4/9/99
Name: JAMES A. MARKLE JR.

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.

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME			SECTION NAME		PARCEL #
COLUMBIA GATEWAY			N/A		671
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

DEVELOPER CERTIFICATION:
I/We certify that all developments 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 — Date: 4/19/99
Name: Michael G. O'Neill

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 — P.E. # 11005
Name: JAMES A. MARKLE JR. — Date: 4/9/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1869

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

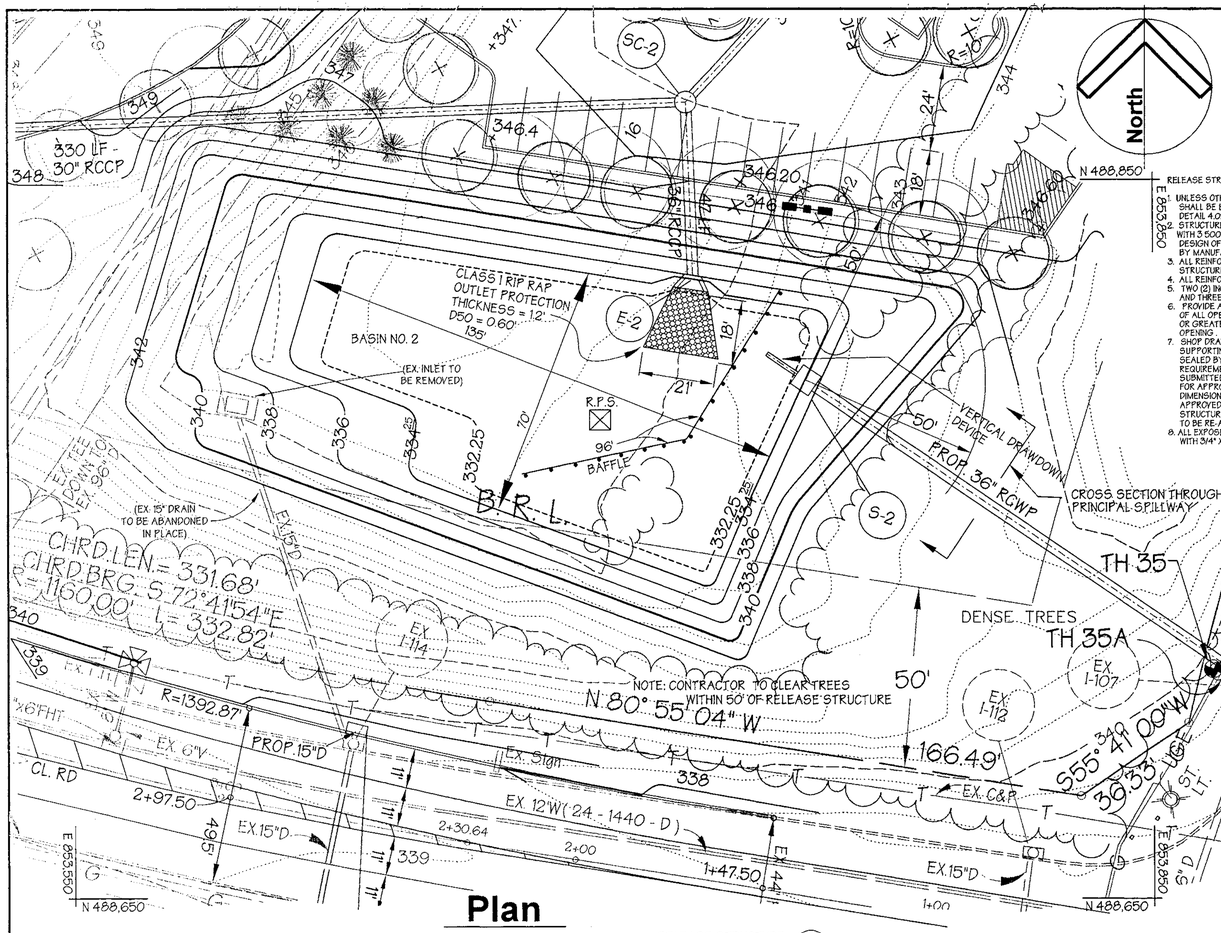
Sediment Basin No. 1
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 11 OF 32
SCALE : As Shown
DATE : DECEMBER 4, 1998

9053c_11swmbasinplan.s01

SDP 99-59

EMT 4/1/99



Plan

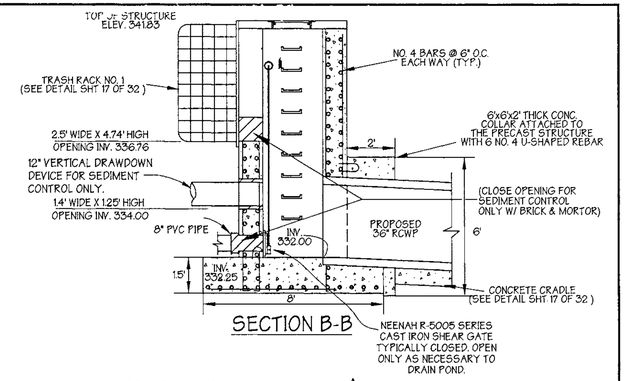
Scale: 1" = 20'

NOTE: CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE INTO BASIN DURING GRADING OPERATIONS.

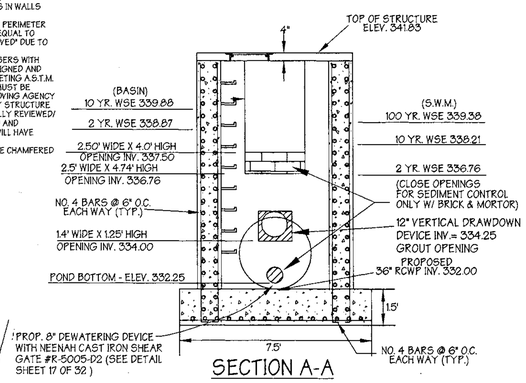
BASIN SUMMARY						
DESIGN STORM	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	BYPASS DISCHARGE (CFS)	TOTAL DISCHARGE (CFS)	WATER SURFACE ELEVALTION (FT.)	STORAGE VOLUME (AC. FT.)
2 YR.	26.17	12.55	9.01	20.14	338.87	1.33
10 YR.	48.85	28.50	14.47	41.07	339.88	1.69

RELEASE STRUCTURE NOTES

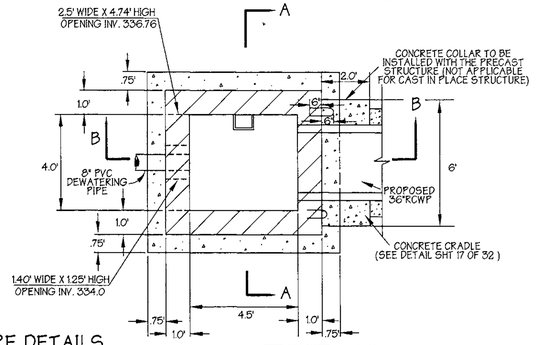
1. UNLESS OTHERWISE NOTED TOP SLAB STRUCTURE SHALL BE BUILT IN ACCORDANCE TO HOWARD. CO. STD. DETAIL 4.02.
2. STRUCTURE TO BE CAST-IN-PLACE REINFORCED CONCRETE WITH 3,500 P.S.I.(MIN.) COMPRESSIVE STRENGHT @ 28 DAYS. DESIGN OF PRECAST CONC. STRUCTURE SHALL BE PROVIDED BY MANUFACTURER.
3. ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
4. ALL REINFORCING TO HAVE 1'-6" MIN. OVERLAPS.
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 OPENNINGS 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.



SECTION B-B



SECTION A-A



PLAN

RELEASE STRUCTURE DETAILS

SCALE: 1" = 3'

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 MAY REQUIRE A PERMIT FROM THE ARMY CORP'S 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 CORP'S OF ENGINEERS - (410) 962-3620
WRA NON-TIDAL WETLANDS AND WATERWAYS DIVISION - (410) 974-3941
HOWARD COUNTY - (410) 887-3980

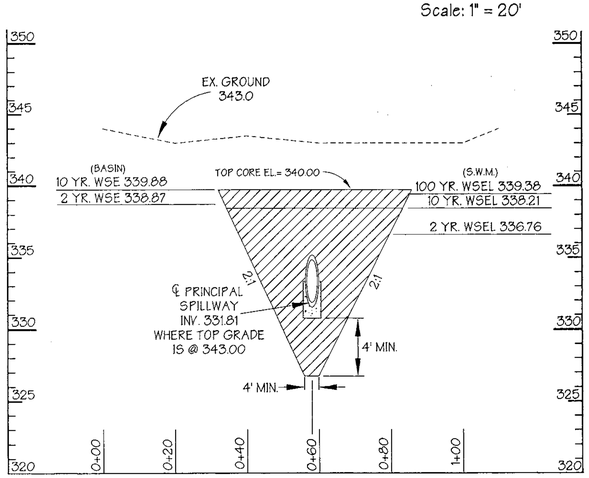
NOTE:
IF REQUIRED BY THE SEDIMENT CONTROL INSPECTOR FENCING SHALL BE INSTALLED TO PREVENT ACCESS TO THE BASIN BY CHILDREN.

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:
CONTRACTOR TO REFER TO SHEET OF FOR POND SPECIFICATIONS AND RELATED DETAILS.

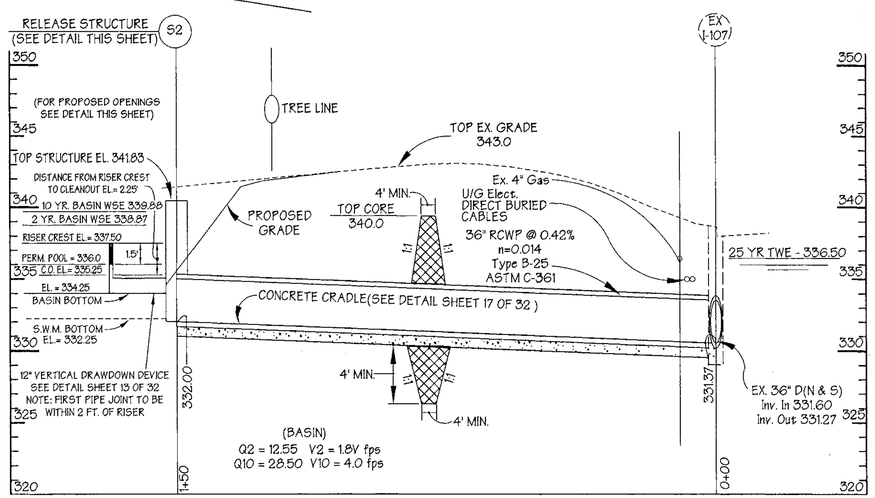
NOTE:
SOILS TO BE USED FOR CUT-OFF TRENCH AND IMPERVIOUS CORE SHALL CONFORM TO UNIFIED CLASSES CL, SC, CH OR GC.

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.



Cross Section Through Principal Spillway

Scale: Horiz. 1" = 20'
Vert. 1" = 5'



Profile Through Principal Spillway

Scale: Horiz. 1" = 20'
Vert. 1" = 5'

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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction,~~ soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/14/99

DIRECTOR — DATE 6/18/99

CONSULTANTS 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 Soil Conservation District.

Engineer — Date: 4/9/99
Name: JAMES A. MARKLE JR.

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.

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

DEVELOPER CERTIFICATION:

I/We certify that all development and/or construction will de 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 — Date: 4/19/99
Name: Michael E. O'Neill

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 — P.E. # 11005
Name: JAMES A. MARKLE JR. — Date: 4/9/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1989

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

SEDIMENT BASIN No. 2
The Renaissance at Columbia Gateway

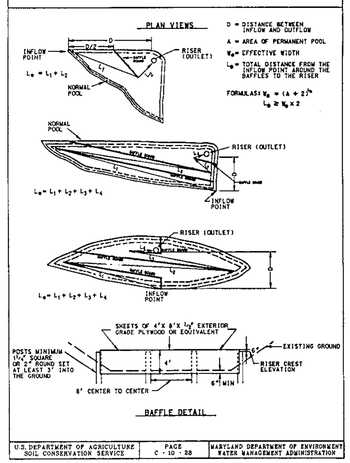
ELECTION DISTRICT : 6
HOWARD CO., MARYLAND
SHT. 12 OF 32
SCALE : As Shown
DATE : DECEMBER 4, 1998

9053c_12basinplan.s01

SDP 99-59

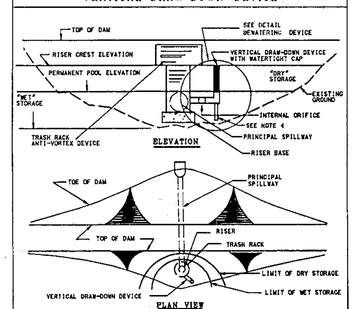
EMT 4/1/98

DETAIL 18 - SEDIMENT BASIN BAFFLES



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 28	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BASIN DRAWDOWN SCHEMATIC VERTICAL DRAW-DOWN DEVICE



Construction Specifications

1. Perforations in the draw-down device may not extend into the wet storage.

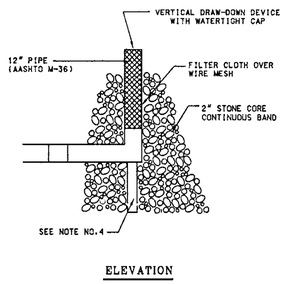
2. The total area of the perforations must be greater than 4 times the area of the internal orifice.

3. The perforated portion of the draw-down device shall be wrapped with ½" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.

4. Provide support of draw-down device to prevent sagging and flotation. An acceptable preventative measure is to stake both sides of draw-down device with 1" steel angle, or 2" by 2" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 guage minimum wire.

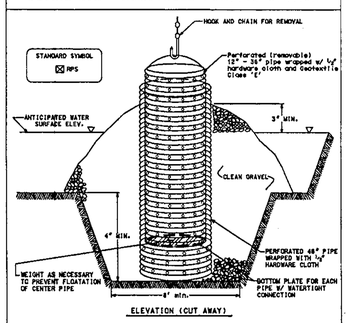
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 30	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEDIMENT BASIN DEWATERING DEVICE WITH 12" PERFORATED RISER



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	DEWATERING DEVICE	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 20A - REMOVABLE PUMPING STATION



Construction Specifications

1. The outer pipe should be 48" dia. or small, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with ½" hardware cloth to prevent backfill material from entering the perforations.

2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.

3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be ½" x 4" slits or ½" diameter holes 4" on center. The center pipe shall be wrapped with ½" hardware cloth first, then wrapped again with Geotextile Class E.

4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D - 12 - 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEDIMENT BASIN	NO. 1	NO. 2
12" 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.	3/8" DIA.
AREA OF PERFORATION	0.00077 FT^2	0.00077 FT^2
LENGTH OF PERFORATED SECTION OF PIPE	2.3 FT.	1.5 FT.
MAX. ORIFICE AREA (Ao)	0.087 FT^2	0.087 FT^2
DRAW-DOWN ORIFICE DIA.	3"	2.5"
NUMBER OF PERFORATIONS PER LINEAR FT. OF PIPE	28x4=112	28x4=112
(Two double rows of perforations)		
TOTAL AREA OF PERFORATIONS	0.198	0.129

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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction,~~ soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	6067.03

WATER CODE -E06 SEWER CODE 5333000

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.

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

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 Erik Kolar — Date: 2-16-99
Name ERIK KOLAR

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 — P.E. # 11005
Name James A. Wagenle Jr. — Date: 2/16/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

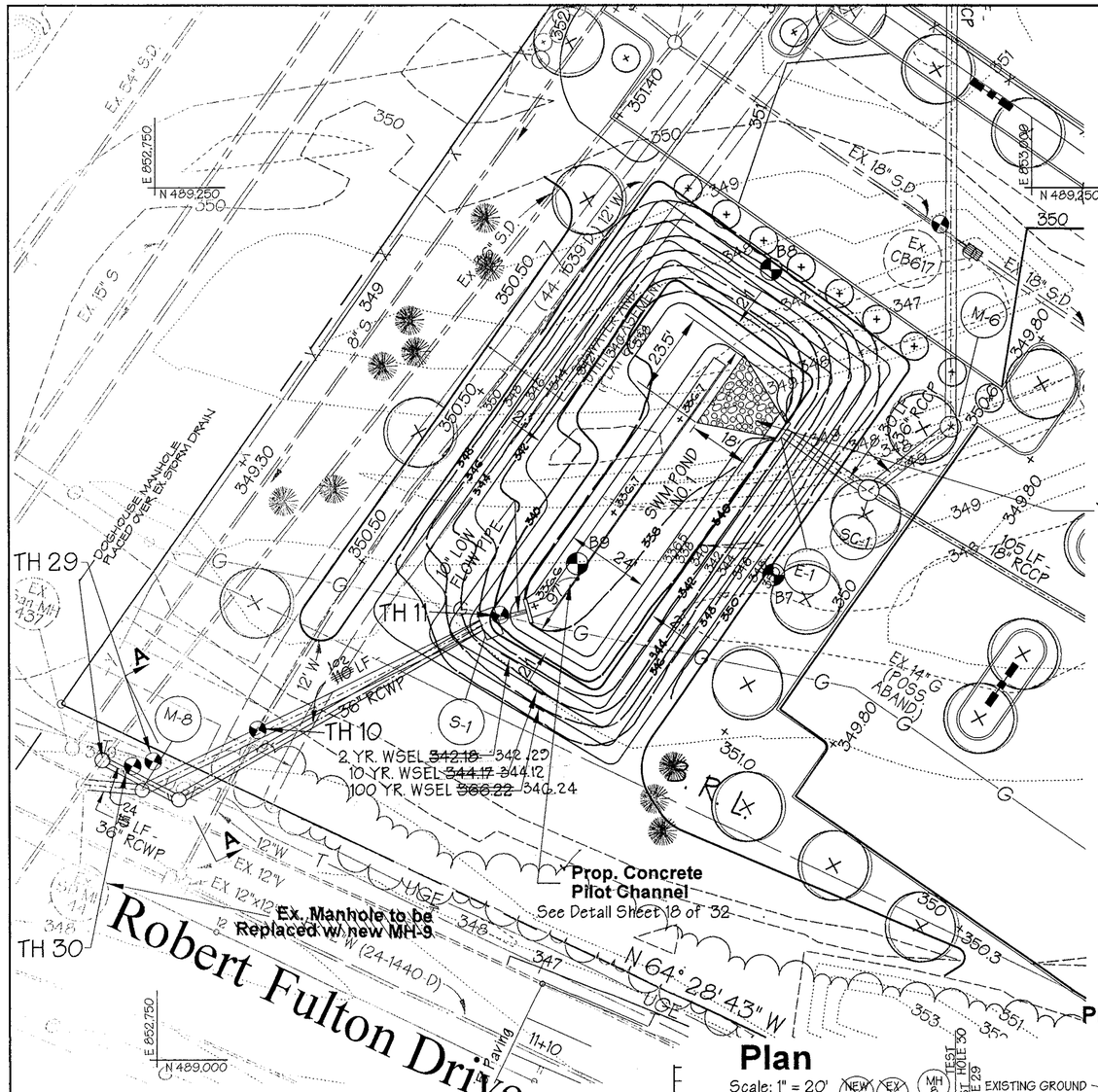
DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

SEDIMENT BASIN DETAILS & NOTES
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 13 OF 32
SCALE : As Shown
DATE : DECEMBER 4, 1998

9053c_122details01 **SDP 99-59** EAS 1-07-99



Plan

Scale: 1" = 20'

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 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) 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.

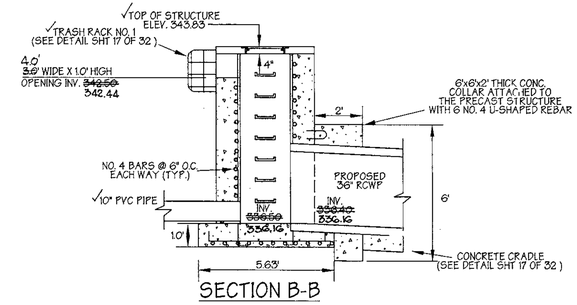
NOTE:
THIS STORMWATER MANAGEMENT FACILITY IS DESIGNED TO MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND THE SOIL CONSERVATION DISTRICT. MAINTENANCE OF THIS FACILITY WILL BE THE RESPONSIBILITY OF THE OWNER.
(THE SWM FACILITY IS PRIVATE).

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 ADDRESSED PER RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.

POND SPECIFICATIONS FOR STORMWATER MANAGEMENT		
DESCRIPTION		DATA
STRUCTURE CLASSIFICATION		A (PRIVATE)
STORAGE X HEIGHT PRODUCT		
WATERSHED AREA TO THE POND		7.6 AC.
POND TYPE		DRY
FREEBOARD	REQUIRED/ PROVIDED	2.0' / 3.78
IMPERVIOUS AREA		4.30 AC.
TOP OF EMBANKMENT		N/A

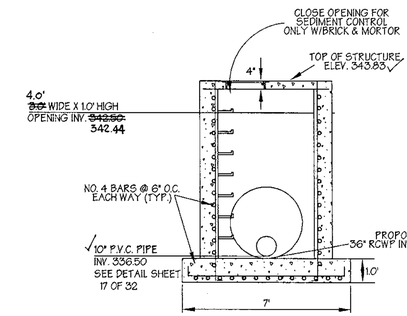
POND NO.1 SUMMARY							
DESIGN STORM	ALLOWABLE RELEASE (CFS)	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	BYPASS DISCHARGE (CFS)	TOTAL DISCHARGE (CFS)	WATER SURFACE ELEVALTION (FT.)	STORAGE VOL. WITH WATER QUALITY (AC. FT.)
2 YR	38.07	25.43	~~4.23~~ 5.02	25.17	30.02 ~~29.80~~	342~~18~~.20	0.56
10 YR	69.62	42.37	~~17.8~~ 17.54	40.41	57.95 ~~59.86~~	344~~17~~.12	.901
100 YR	N/A	60.86	~~19.62~~ 19.64	57.20	76.73 ~~78.75~~	346~~22~~.24	1.41



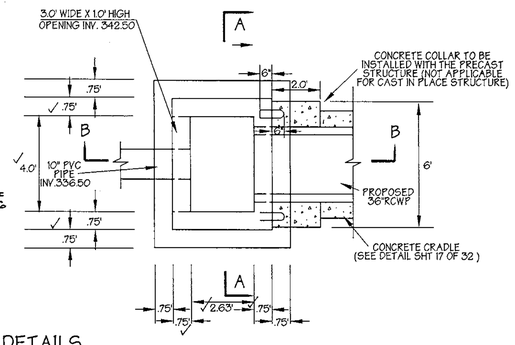
SECTION B-B

RELEASE STRUCTURE NOTES

1. UNLESS OTHERWISE NOTED TOP SLAB STRUCTURE SHALL BE BUILT IN ACCORDANCE TO HOWARD. CO. STD. DETAIL 4.02.
2. STRUCTURE TO BE CAST-IN-PLACE REINFORCED CONCRETE WITH 3,500 P.S.I.(MIN.) COMPRESSIVE STRENGHT @ 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' 6" MIN. OVERLAPS.
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 OPENNINGS 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.



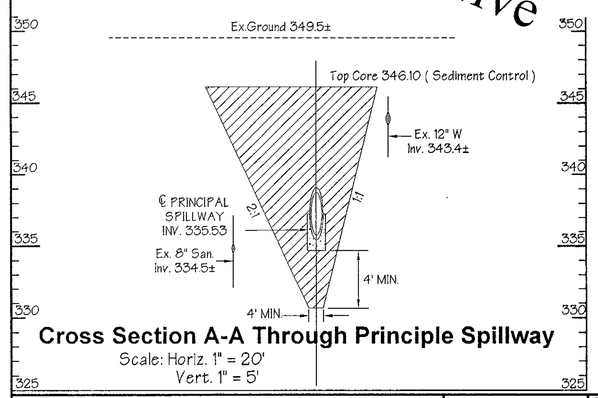
SECTION A-A



PLAN

RELEASE STRUCTURE DETAILS

SCALE: 1" = 3'

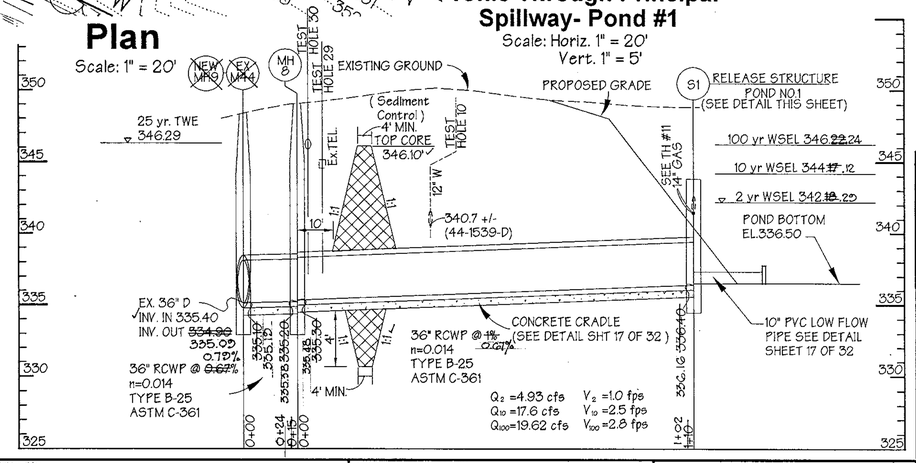


Cross Section A-A Through Principle Spillway

Scale: Horiz. 1" = 20'
Vert. 1" = 5'

Profile Through Principal Spillway- Pond #1

Scale: Horiz. 1" = 20'
Vert. 1" = 5'



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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

CONSULTANTS 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 Soil Conservation District.

Engineer — Date: 4/9/99
Name: JAMES A. MARKLE JR.

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. # 11005 — Date: 6/13/00

Certify means to state or declare a professionaal 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.

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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
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Developer — Date: 4/19/99
Name: Michael G. O'Neill

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 — P.E. # 11005
Name: JAMES A. MARKLE JR. — Date: 4/9/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

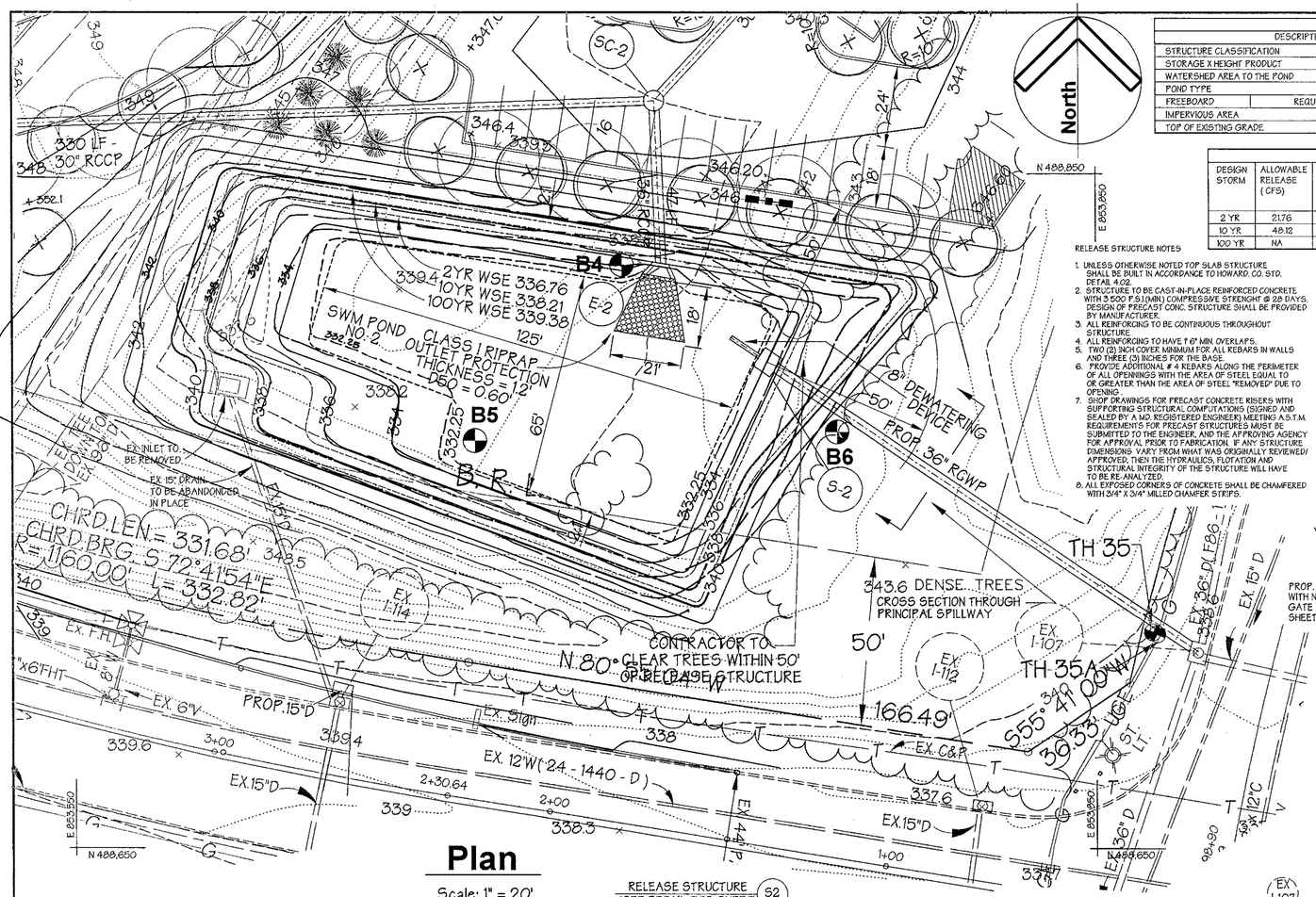
Stormwater Management Pond No. 1
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND — SHT. 14 OF 32 — SCALE.: As Shown — DATE : DECEMBER 4, 1998

9053c_14swmplan.s01

SDP 99-59

EMT 01/26/99



Plan

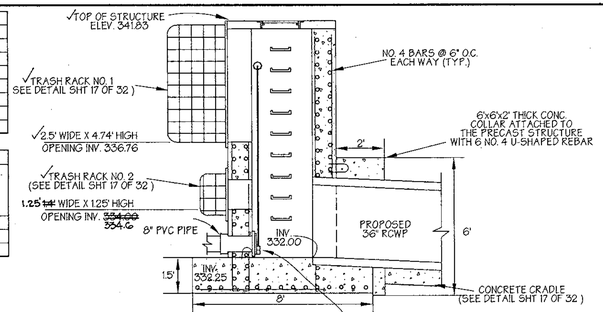
Scale: 1" = 20'

POND SPECIFICATIONS FOR STORMWATER MANAGEMENT		
DESCRIPTION		DATA
STRUCTURE CLASSIFICATION		A (PRIVATE)
STORAGE X HEIGHT PRODUCT		
WATERSHED AREA TO THE POND		10.0 AC.
POND TYPE		INFILTRATION
FREEBOARD	REQUIRED/ PROVIDED	2.0'/3.62'
IMPERVIOUS AREA		7.70 AC.
TOP OF EXISTING GRADE		343.00

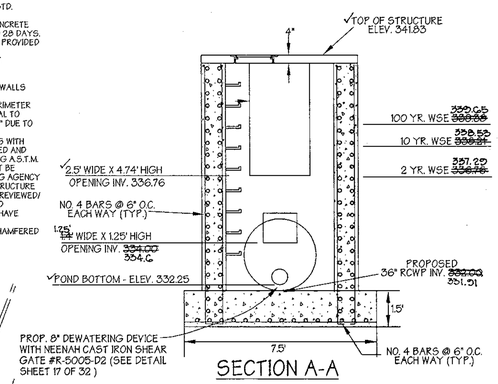
POND SUMMARY								
DESIGN STORM	ALLOWABLE RELEASE (CFS)	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	BYPASS DISCHARGE (CFS)	TOTAL DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT.)	STORAGE VOL. WITH WATER QUALITY (AC. FT.)
2 YR	21.76	33.45	~~12.74~~ 14.05	9.01	~~20.54~~ 21.2	~~336.76~~ 337.25	1.03
10 YR	48.12	55.73	~~25.87~~ 26.78	14.47	~~37.97~~ 40.25	~~338.21~~ 338.53	1.46
100 YR	NA	80.04	~~40.35~~ 42.51	20.47	~~60.37~~ 60.80	~~339.38~~ 339.65	1.88

RELEASE STRUCTURE NOTES

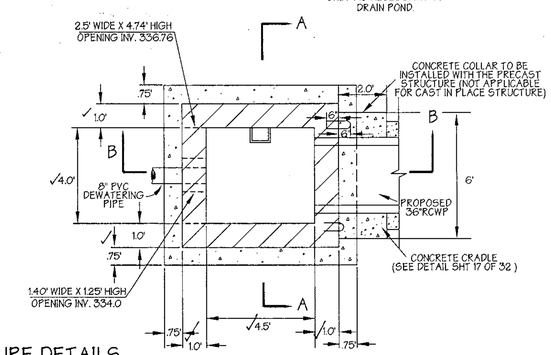
1. UNLESS OTHERWISE NOTED TOP SLAB STRUCTURE SHALL BE BUILT IN ACCORDANCE TO HOWARD. CO. STD. DETAIL 4.02.
2. STRUCTURE TO BE CAST-IN-PLACE REINFORCED CONCRETE WITH 3,500 P.S.I.(MIN.) COMPRESSIVE STRENGHT @ 28 DAYS. DESIGN OF PRECAST CONC. STRUCTURE SHALL BE PROVIDED BY MANUFACTURER.
3. ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
4. ALL REINFORCING TO HAVE 1'-6" MIN. OVERLAPS.
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.



SECTION B-B



SECTION A-A



PLAN

RELEASE STRUCTURE DETAILS

SCALE: 1" = 3'

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.

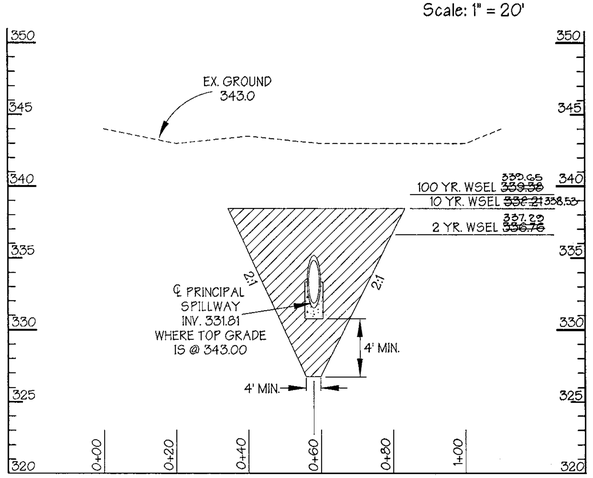
NOTE:
THE CONSTRUCTION MAY REQUIRE A PERMIT FROM THE ARMY CORPS OF ENGINEERS, THE WATER RESOURCES ADMINISTRATION AND/OR HOWARD COUNTY. IT IS THE RESPONSIBILITY OF THE LANDOWNER TO CONTACT THESE THREE AGENCIES TO DETERMINE IF THE PROJECT REQUIRES A PERMIT:
U.S. ARMY CORPS OF ENGINEERS - (410) 962-3620
WRA NON-TIDAL WETLANDS AND WATERWAYS DIVISION - (410) 974-3941
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).

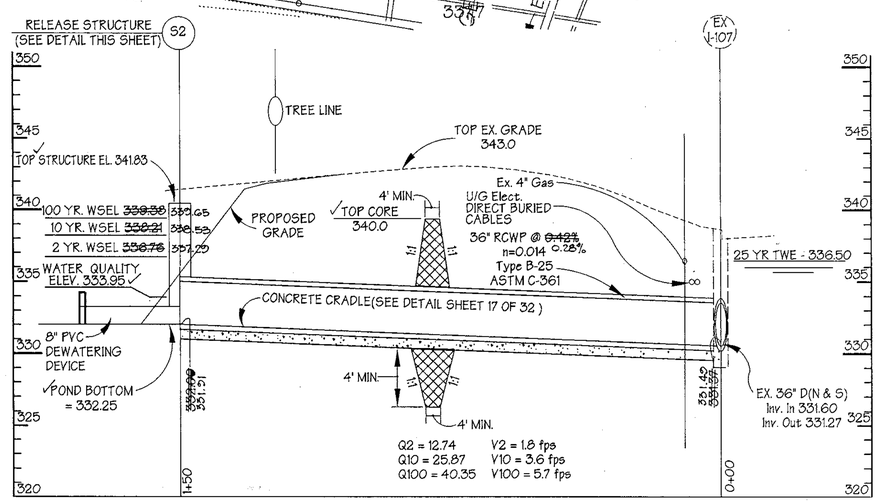
NOTE:
SOILS TO BE USED FOR CUT-OFF TRENCH AND IMPERVIOUS CORE SHALL CONFORM TO UNIFIED CLASSES CL, SC, CH OR GC.

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 ADDRESSED PER RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.



Cross Section Through Principal Spillway

Scale: Horiz. 1" = 20'
Vert. 1" = 5'



Profile Through Principal Spillway S.W.M. Pond #2

Scale: Horiz. 1" = 20'
Vert. 1" = 5'

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 6/8/99
PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99
DIRECTOR — DATE 6/18/99

CONSULTANTS 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 Soil Conservation District.

Engineer — Date: 4/9/99
Name: JAMES A. MARKLE JR.

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. # 11005 — Date: 6/12/00

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.

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

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 site 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 — Date: 4/19/99
Name: Michael G. O'Neill

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 — P.E. # 11005
Name: JAMES A. MARKLE JR. — Date: 4/9/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

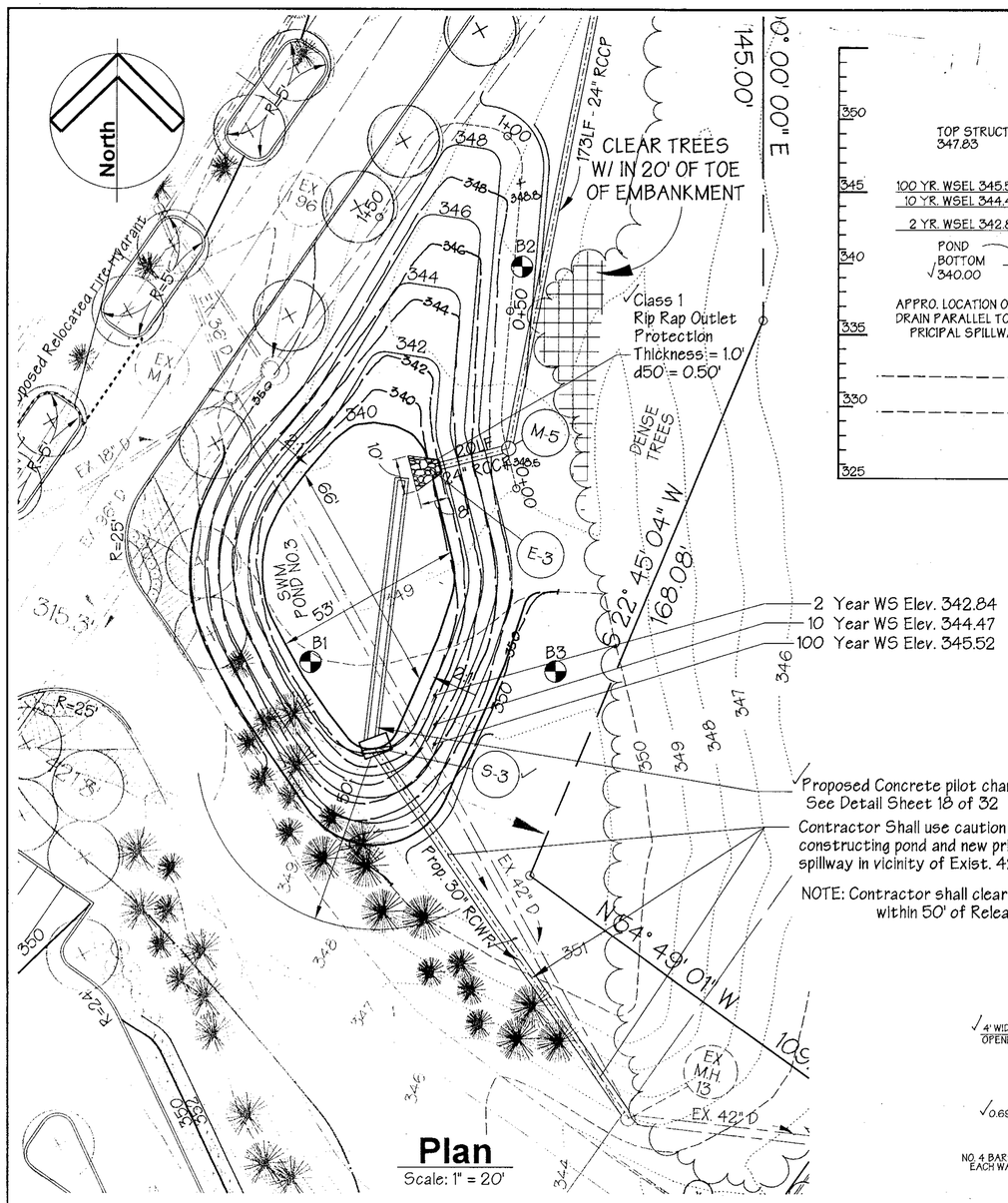
DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA. 19428
(610) 834-1969

Stormwater Management Pond No. 2
The Renaissance at Columbia Gateway

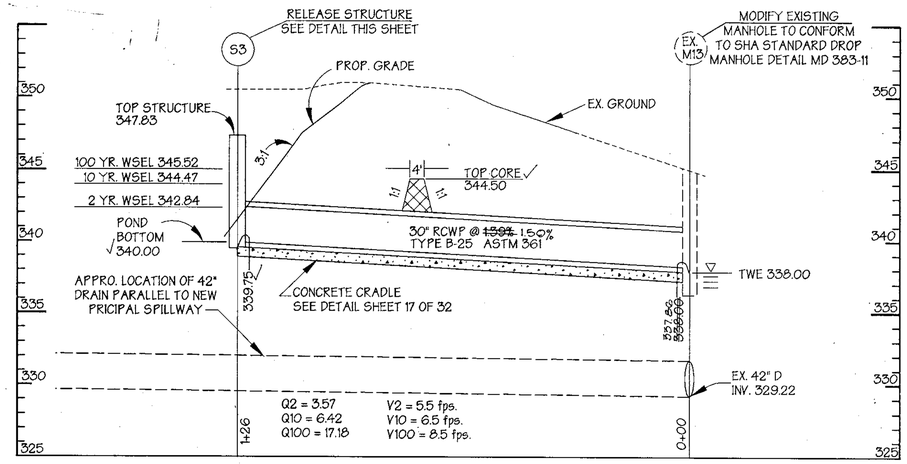
ELECTION DISTRICT : 6
HOWARD CO., MARYLAND
SCALE : As Shown
SHT. 15 OF 32 DATE : DECEMBER 4, 1998

9053c_12swmplan.901 **SDP 99-59** EMT 4/1/99



Plan

Scale: 1" = 20'



Profile Through Principal Spillway- Pond #3

Scale: Horiz. 1" = 20'
Vert. 1" = 5'

POND SPECIFICATIONS FOR STORMWATER MANAGEMENT		
DESCRIPTION		DATA
STRUCTURE CLASSIFICATION		A (PRIVATE)
STORAGE X HEIGHT PRODUCT		
WATERSHED AREA TO THE POND		4.0 AC.
POND TYPE		DRY
FREEBOARD	REQUIRED/ PROVIDED	2.0' / 2.48'
IMPERVIOUS AREA		2.4 AC.
TOP OF EMBANKMENT		348.0

POND NO. 3 SUMMARY							
DESIGN STORM	ALLOWABLE RELEASE RATE	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	BYPASS DISCHARGE (CFS)	TOTAL DISCHARGE (CFS)	WATER SURFACE ELEVALTION (FT.)	STORAGE VOL (AC. FT.)
2 YR	26.26	13.39	3.57	22.60	25.86	342.84	0.30
10 YR	49.42	22.30	6.42	37.33	41.56	344.47	0.537
100 YR	NA	32.03	17.18	53.42	67.13	345.52	0.71

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:
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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:
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(THE SWM FACILITY IS PRIVATE).

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

RELEASE STRUCTURE NOTES

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4. ALL REINFORCING TO HAVE 1'-6" MIN. OVERLAPS.
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 OPENNINGS WITH THE AREA OF STEEL EQUAL TO OR GREATER THAN THE AREA OF STEEL "REMOVED" DUE TO OPENING.
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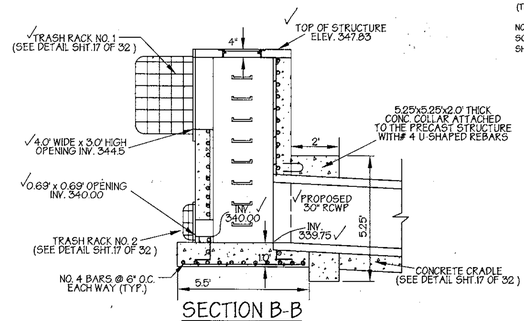
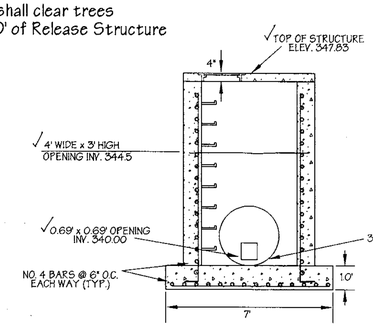
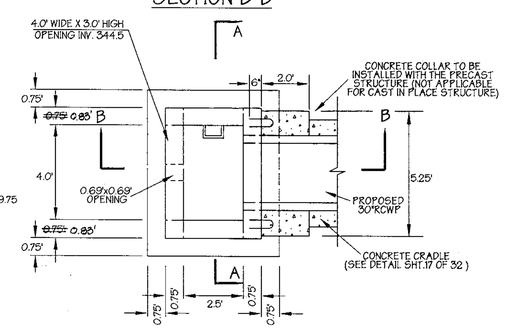


SECTION B-B



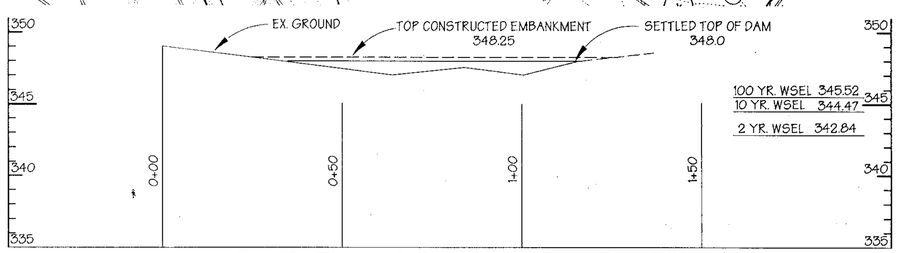
SECTION A-A



PLAN

RELEASE STRUCTURE DETAILS

SCALE: 1" = 3'



Profile Through Centerline Dam-Pond #3

Scale: Horiz. 1" = 20'
Vert. 1" = 5'

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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	6067.03

WATER CODE -E06 SEWER CODE 5333000

CONSULTANTS 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 Soil Conservation District.

Engineer — Date: 2/16/99

Name: JAMES A. MARKLE JR.

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. # 11005 — Date: 6/13/00

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.

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

DEVELOPER CERTIFICATION:

I/We certify that all development and/or construction will de 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 Environments 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 — Date: 2/16/99

Name: ERIK KOLAR

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 — P.E. # 11005 — Date: 2/16/99

Name: JAMES A. MARKLE JR.

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

Stormwater Management Pond No. 3

The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT.16 OF 32 DATE : DECEMBER 4, 1998
SCALE : As Shown

9053c_11swmplan.01 EMT 01/21/99

SDP 99-59

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate so 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 rabbish, and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.

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

EARTH FILL

MATERIAL - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen 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 continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

COMPACTION - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that 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.

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

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

Bituminous coated corrugated metal pipe (BCCMP) shall conform to the requirements of AASHTO M36 (pipe should be specified to be fully bituminous 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 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 pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which 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 Planting (MD-342) or as shown on the accompanying drawings.

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

1. Seedbed Preparation - loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.
2. Soil Amendments - 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 (9.2 lbs./1000 sq. ft.). Harrow or disc lime and fertilizer into upper 3 inches of soil. At time of seeding, apply 400 lbs. (9.2 lbs./1000 sq. ft.) of 30-0-0 Ureaform Fertilizer and 500 lbs. per acre (11.5 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 Fesue, and 20 lbs. per acre inoculated Interstate Serica Lespedeza. 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 1.5 to 2 tons per acre of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using 218 gallons per acre of emulsified asphalt. On flat areas of slope 8 feet or higher, use 348 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 lbs / 1000 s.f.; mulch area with unweathered small grain straw at a rate of 1.5 Tons/acre; anchor with a rapid curing asphalt (RC-70, R-250 or RC-800 at a rate of 0.1 gal/S.Y.

FILTER CLOTH

Filter cloth shall meet or exceed the requirements in Section 20.25-5 of the Baltimore County Standard Specifications and Details for Construction. Durable filter fabrics for drainage purposes are not limited to Mirafi 140S, DuPont TYPAC No. 3341 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 312 and must be CI. IV, PVC coated.

OUTFALL PROTECTION

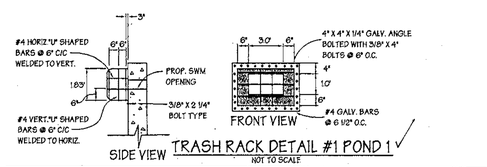
Subgrade for riprap or gabion outfalls shall be prepared to the required line and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material. All rock or gravel shall conform to the specified grading limits when installed in 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 outlets 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 blankets 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

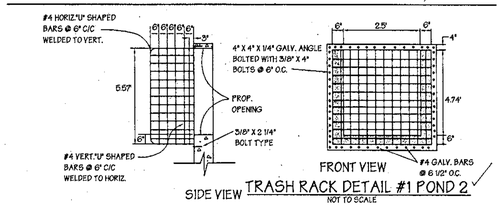
Construct fencing in accordance with the State Highway Administration standard details 690.01 and 690.02. Use specifications for a 6' fence, substituting 42" fabric and 6' 6" line posts. Construct the gate in accordance with the S.H.A. standard detail 690.01 with 42" fabric. The fabric used for the fence and gate must conform to AASHTO designation M 181-74. Dark vinyl coating is required for the fence posts and wire fabric in accordance with the landscape manual adopted by resolution 56-90, 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 ASSUER MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

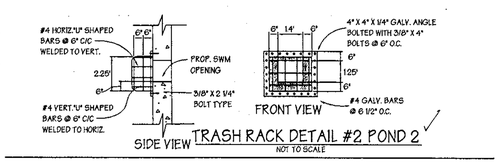
IMPERVIOUS CORE - THE CORE SHALL BE FILLED ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE FILL SHALL BE GOVERNED BY THE EQUIPMENT USED, WITH MINIMUM WIDTH BEING FOUR FEET. THE TOP WIDTH SHALL BE SHOWN ON THE PLAN. THE SIDE SLOPES OF THE FILL SHALL BE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



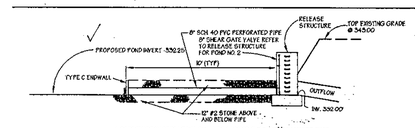
TRASH RACK DETAIL #1 POND 1
NOT TO SCALE



TRASH RACK DETAIL #1 POND 2
NOT TO SCALE



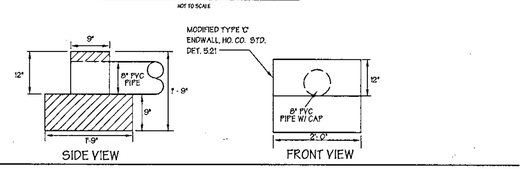
TRASH RACK DETAIL #2 POND 2
NOT TO SCALE

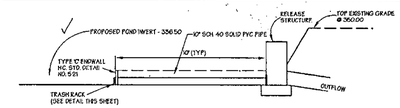


1. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.
2. SET PERFORATED PIPE AT INVERTS SPECIFIED ON STORM WATER MANAGEMENT PLANS - PRINCIPAL SPILLWAY PROFILE.
3. PERFORATED PIPE SHALL HAVE METAL CAP WELDED TO OTHER END OF PIPE.

DEWATERING DEVICE POND #2
NOT TO SCALE

DEWATERING DEVICE POND #2 ENDWALL
NOT TO SCALE

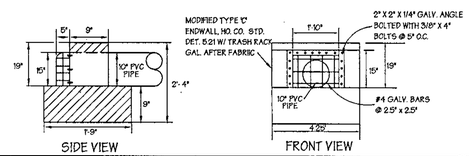


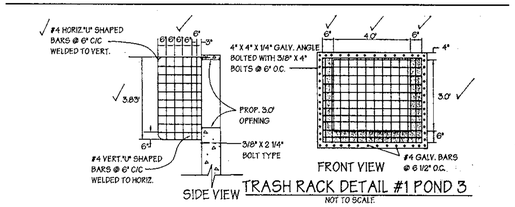


1. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.
2. SET SOLID PIPE AT INVERTS SPECIFIED ON STORM WATER MANAGEMENT PLANS - PRINCIPAL SPILLWAY PROFILE.

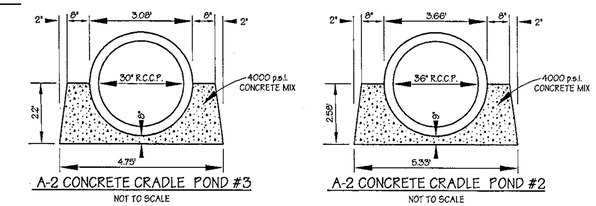
LOW FLOW PIPE DETAIL POND #1
NOT TO SCALE

LOW FLOW ENDWALL & TRASH RACK DETAIL POND #1
NOT TO SCALE



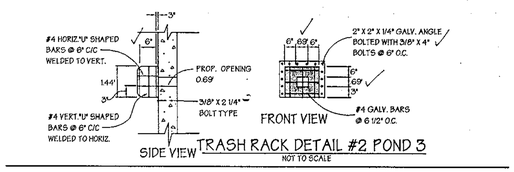


TRASH RACK DETAIL #1 POND 3
NOT TO SCALE

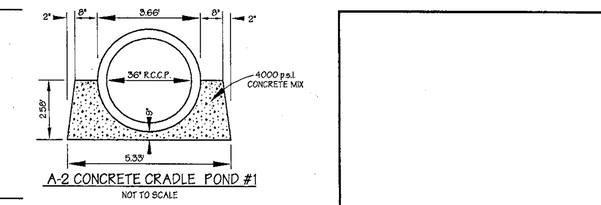


A-2 CONCRETE CRADLE POND #3
NOT TO SCALE

A-2 CONCRETE CRADLE POND #2
NOT TO SCALE



TRASH RACK DETAIL #2 POND 3
NOT TO SCALE



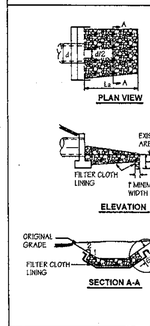
A-2 CONCRETE CRADLE POND #1
NOT TO SCALE

NOTE:
1. TRASH RACKS SHALL BE REMOVABLE.
2. TRASH RACKS SHALL BE BATTLE SHIP GRAY.
3. TRASH RACK SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
4. SPACING OF BARS SHALL BE 6" MIN. O/C, 8" O/C MAX.

STORMWATER MANAGEMENT SEQUENCE OF CONSTRUCTION

1. COMPLETE THE SEQUENCE OF OPERATIONS ON THE APPROVED SEDIMENT AND EROSION CONTROL PLANS.
2. NOTIFY HOWARD COUNTY, THE GEOTECHNICAL ENGINEER (410) 526-0700) AND THE ENGINEER IN CHARGE (410 825-6120) AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. ALSO NOTIFY ENGINEER IN CHARGE FOR AS-BUILT
3. 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 STORMWATER MANAGEMENT FACILITIES IN ACCORDANCE WITH THE APPROVED STORM WATER MANAGEMENT PLANS.
   A. CLEAN OUT BASINS
   B. MAKE NECESSARY CHANGES TO RELEASE STRUCTURE
   C. REPLACE SEDIMENT BASIN DEWATERING DEVICE WITH EXTENDED DETENTION DEWATERING DEVICE / AND/OR LOW FLOW PIPE.
4. COMPLETE AS-BUILT SURVEYS AND STUDIES AND SUBMIT TO APPROPRIATE AGENCIES WITHIN 30 DAYS OF COMPLETION OF INSTALLATION
5. UPON COMPLETION OF THE ABOVE INSTALLATIONS, NOTIFY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT, INSPECTION AND ENFORCEMENT DIVISION (410 887-3926)
(*) CONSTRUCT THE SEDIMENT BASINS PER THE SPECIFICATIONS SHOWN ON THE SEDIMENT CONTROL PLAN FOR INITIAL CONSTRUCTION. CONTACT THE ENGINEER IN CHARGE @ (410) 825-6120 SO THEY CAN INSPECT THE INSTALLATION OF THE FOLLOWING:
NOTE :
   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.

DETAIL 27 - ROCK OUTLET PROTECTION III



NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PACE P - 10 - 10 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION | U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PACE P - 10 - 10A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

ROCK OUTLET PROTECTION III

Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip rap or filter.

3. Geotextile Class C shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.

4. Stone for the rip rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

5. The stones shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY DETENTION POND ROUTINE MAINTENANCE

1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. 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
5. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
6. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERE WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CONSULTANTS 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 Specification 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 Soil Conservation District.

Engineer _____ Date: 2/16/99
Name JAMES A. MARKLE JR.

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. # 11005 Date: 6/13/00

Certify means to state or declare a professional opinion based upon on-site inspections and material tests which are conducted during construction. On 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.

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

APPROVED: HOWARD SOIL CONSERVATION DISTRICT
PLAN NUMBER — DATE 6/8/99

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99
DIRECTOR — DATE 6/17/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME			SECTION NAME		PARCEL #
COLUMBIA GATEWAY			N/A		671
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

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 _____ Date: 2.16.99
Name ERIK KOLAR

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 _____ P.E. # 11005
Name JAMES A. MARKLE JR. Date: 2/16/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

SWM Pond Details & Notes

The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 17 OF 32 DATE : DECEMBER 4, 1998
SCALE : As Shown

9053c_122swmdet.s01

SDP 99-59

EAS 1-15-99

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 1 — Boring # B-1
Location Howard County, Maryland — Job # 98482A

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. 540.00 — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-17-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-17-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, dry, dense, fine silty sand with some gravel and trace clay (SM) USDA–Loamy Sand	2.5		D	8-14-20	1	13"	2.5' Topsoil
	Brown, moist, medium dense, fine sand with some clay (SM–SC) USDA–Loam	5.0		D	8-9-11	2	15"	No groundwater encountered while drilling
	Tan, moist, medium dense, fine sand with trace to some silt (SM–SP) USDA–Loamy/Loamy Sand	10		D	5-8-10-12	3	19"	* Caved in at 15.5' at Completion
	Tan, moist, medium dense, fine clayey sand (SC) USDA–Loam	15.5		D	3-5-6-7	4	19"	Caved in at 13.0' after 24 hours
		20						

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr Dry FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 1 — Boring # B-2
Location Howard County, Maryland — Job # 98482A

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. 541.00 — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-17-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-17-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Tan to brown, dry to moist, medium dense to dense, fine clayey sand with some gravel (SC) USDA–Sandy Clay Loam	7.5		D	4-9-13-14	1	10"	4" Topsoil
	Tan, moist, medium dense, fine silty sand (SM) USDA–Loamy Sand	10		D	6-16-17-18	2	20"	* Caved in at 16.0' at Completion
	Tan, moist, medium dense, fine to medium sand with trace silt (SP) USDA–Loamy Sand	15.5		D	5-7-11-12	3	18"	** Caved in at 13.5' after 24 hours
	Bottom of Hole at 17.0'	17.0		D	3-8-10-14	4	14"	
		20						

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr Dry** FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 1 — Boring # B-3
Location Howard County, Maryland — Job # 98482A

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. 541.00 — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-17-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-17-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Light brown, dry, medium dense, fine silty sand with some fine to coarse gravel (SM–SP) USDA–Loamy Sand	2.5		D	3-7-10-27	1		3" Topsoil
	Orange brown to brown, moist, dense to medium dense, fine silty sand with trace clay (SM) USDA–Loamy Sand/Loam	5		D	16-17-18-19	2		No groundwater encountered while drilling
	Tan, moist, medium dense, fine silty sand (SM) USDA–Loamy Sand	10		D	8-9-10-10	3		* Caved in at 13.0' at Completion
	Tan, moist, stiff, silty clay with trace fine sand (CL) USDA–Silty Clay	15.5		D	5-7-6-7	4		** Caved in at 13.0' 24 hours
	Tan, moist, medium dense, fine silty sand (SM)	17.0						
	Bottom of Hole at 17.0'	20						

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr Dry FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 2 — Boring # B-4
Location Howard County, Maryland — Job # 98482A

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. 540.00 — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-17-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-17-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, red brown, dry medium dense silty sand with gravel (SM) USDA–Loamy Sand	4.5		D	6-7-8-9	1	12"	4" Gravel
	Tan, brown, white moist medium dense to dense fine to medium sand (SP) USDA–Sand	9.5		D	8-10-13-11	2	14"	No groundwater encountered while drilling
	Reddish brown, moist to very moist, medium dense to dense, fine to medium sand with trace to some silt (SM–SP) USDA–Loamy Sand	15.0		W/D	10-13-20-24	4	16"	Caved in 12.0' at Completion
		20						Caved in 12.0' after 24 hours

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr Dry* FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 2 — Boring # B-5
Location Howard County, Maryland — Job # 98482A

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. 542.00 — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-18-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-18-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Tan, red brown, dry to moist medium dense to very dense, fine sand with trace to some silt (SM–SP) USDA–Sand/Loamy Sand	2.5		D	7-10-11-13	1	12"	2.5" Gravel
		5		D	15-21-35-37	2	24"	No groundwater encountered while drilling
		10		D	15-25-36-34	3	24"	Caved in at 15.0' at Completion
		15		D	16-20-26-31	4	20"	Caved to 16.0' after 24 hours
		20						

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr Dry FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 2 — Boring # B-6
Location Howard County, Maryland — Job # 98482A

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-18-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-18-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	Brown/gray, dry, medium dense, fine silty sand with some gravel (SM) USDA–Loamy Sand	2.5		D	9-10-16-18	1	18"	9" Gravel
	Tan, dry, very stiff, silt with trace to some fine sand (ML) USDA–Silt Loam	5		D	13-12-16-19	2	12"	No groundwater encountered while drilling
	Tan to reddish brown, moist, medium dense, fine sand with trace to some silt (SM–SP) USDA–Sand/Loamy Sand	7.0		D	3-7-9-13	3	14"	* Caved in at 16.0' at Completion
		10		D	5-8-10-12	4	20"	** Caved in at 16.0' after 24 hours
		15						
		20						

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr Dry* FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 3 — Boring # B-1
Location Howard County, Maryland — Job # 98482A

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-18-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-18-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	Tan, moist, medium dense, fine clayey sand (SC) USDA–Loam	20.0		2-4-9-12				
	Bottom of Hole at 22.0'	22.0						
		25.0						

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 3 — Boring # B-7
Location Howard County, Maryland — Job # 98482A

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. 549.00 — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-18-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-18-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, dry, medium dense fine silty sand with trace clay, gravel, rootmatter (Possible Fill)	3.0		D	6-11-13-18	1	12"	3" Topsoil
	Light brown, moist, medium dense, fine to medium sand trace silt (SP) USDA–Sand/Loamy Sand	5.5		D	7-6-7-8	2	18"	Groundwater encountered at 6.5' while drilling
	Gray/brown/red, very moist to wet, medium stiff to very stiff, silty clay (CL) USDA–Silty Clay	10		D/I	1-2-4-4	3	18"	* Caved in at 8.0' at Completion
		15		I	5-10-13-17	4	24"	** Caved in at 8.0' after 24 hours
		20						

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr 7-11* FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 3 — Boring # B-8
Location Howard County, Maryland — Job # 98482A

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-18-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-18-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown to tan, moist, medium dense, fine sand with trace to some silt (SM–SP) USDA–Loamy Sand			D	5-9-9-10	1	13"	3" Topsoil
		5		D	4-9-9-9	2	18"	No groundwater encountered while drilling
	Tan to mulicolored, moist, medium stiff silty clay with trace fine to medium sand (CL) USDA–Clay	10		I	3-6-6-7	3	24"	* Caved in at 19.0' at Completion
		15		I	3-4-6-8	4	14"	** Caved in at 18.5' after 24 hours
		20						

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr Dry* FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUN / MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 3 — Boring # B-9
Location Howard County, Maryland — Job # 98482A

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-17-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-17-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	SURFACE		0.0					
	Brown, moist, dense, fine silty sand with some gravel and trace clay (Fill)			D	6-16-18-30	1	14"	2" Topsoil
	Brown/gray, moist to very moist, medium stiff sandy clay/clayey sand with some gravel and organics (Fill)	4.0		I	3-4-6-4	2	14"	* Caved in at 16.0' at Completion
	Brown, moist, medium dense, silty sand with trace gravel (SM) (Possible Fill)	8.0		D	4-6-9-13	3	20"	** Caved in at 10.5' after 24 hours
	Red, moist, silty clay with trace fine sand (CL) USDA–Clay	11.5						
	Tan to gray, moist, medium stiff to stiff, silt with some fine sand and trace clay (ML) USDA–Silt Loam	16.0		I	3-4-6-7	4	24"	
		20						

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr Dry* FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUN / MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name — Boring # B-10
Location Howard County, Maryland — Job #

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-17-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-17-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	Tan to gray, moist, medium stiff to stiff, silt with some fine sand and trace clay (ML) USDA–Silt Loam	20.0		I	4-7-10-12	5	24"	
	Bottom of Hole at 22.0'	22.0						
		25.0						

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr Dry FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name — Boring # B-11
Location Howard County, Maryland — Job #

SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-17-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-17-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	Tan to reddish brown, moist, medium dense, fine sand with trace to some silt (SM–SP) USDA–Sand/Loamy Sand	20.0		D	9-9-11-14	5	20"	
	Bottom of Hole at 22.0'	22.0						
		25.0						

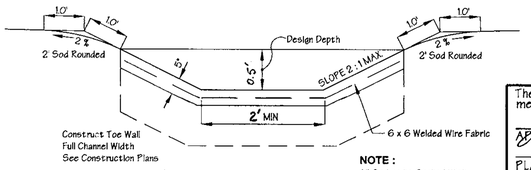
SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED; PT–PRESSED SHELBY TUBE; GA–CONTINUOUS FLIGHT AUGER; RC–ROCK CORE
SAMPLE CONDITIONS: D–DISINTEGRATED; I–INTACT; U–UNDISTURBED; L–LOST
GROUND WATER DEPTH: AT COMPLETION Dry FT.; AFTER 24 hr Dry* FT.; AFTER FT.
BORING METHOD: HSA–HOLLOW STEM AUGERS; CFA–CONT. FLIGHT AUGERS; DC–DRIVING CASING; MD–MUD DRILLING
STANDARD PENETRATION TEST–DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name The Renaissance SWM Pond 3 — Boring # B-7
Location Howard County, Maryland — Job # 98482A

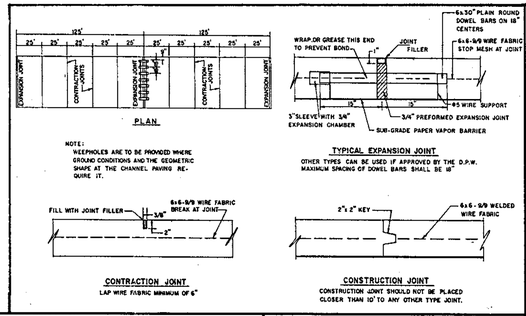
SAMPLER: Datum — Hammer Wt. 140 Lbs. — Hole Diameter 6" — Foreman — Lamont Smith
Surf. Elev. — Hammer Drop 30 Inches — Rock Core Dia. — Inspector
Date Started 11-18-98 — Pipe Size 2.0 Inches OD — Boring Method HSA — Date Completed 11-18-98

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Size, Proportion)	STRA. DEPTH	DEPTH SCALE	CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
	Gray/brown/red, very moist to wet, medium stiff to very stiff, silty clay (CL) USDA–Silty Clay	20.0		I	7-10-15-22	5	12"	
	Bottom of Hole at 22.0'	22.0						
		25.0						



NOTE:
All Sod to be Staked With 1/2" x 1' x 12" Wood Stakes on 24" Centers Both Ways.

Concrete Trapezoidal Channel for Low Flow Concrete Channel in Storwater Management Pond
Not to Scale



NOTE:
WEEPHOLES ARE TO BE PROVIDED WHERE GROUND CONDITIONS AND THE GEOMETRIC SHAPE AT THE CHANNEL PAVING REQUIRE IT.

TYPICAL EXPANSION JOINT
OTHER TYPES CAN BE USED IF APPROVED BY THE D.P.W.
MAXIMUM SPACING OF DOWEL BARS SHALL BE 18"

CONTRACTION JOINT
LAP WIRE FABRIC MINIMUM OF 6"

CONSTRUCTION JOINT
CONSTRUCTION JOINT SHOULD NOT BE PLACED CLOSER THAN 10' TO ANY OTHER TYPE JOINT.

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 6/8/99
PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements of for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99
DIRECTOR — DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	6067.03

WATER CODE E06 — SEWER CODE 5333000

CONSULTANTS 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.
~~Developer~~ Engineer Karen Watsic — Date: 12.4.98
Name KAREN WATSIC

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.

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

STATE OF MARYLAND — Karen Watsic

DEVELOPER CERTIFICATION:
I/We certify that all development and/or construction will de 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 Erik Kolar — Date: 12.04.98
Name ERIK KOLAR

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 Karen Watsic — P.E. # 23096
Name KAREN WATSIC — Date: 12.4.98

OWNER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

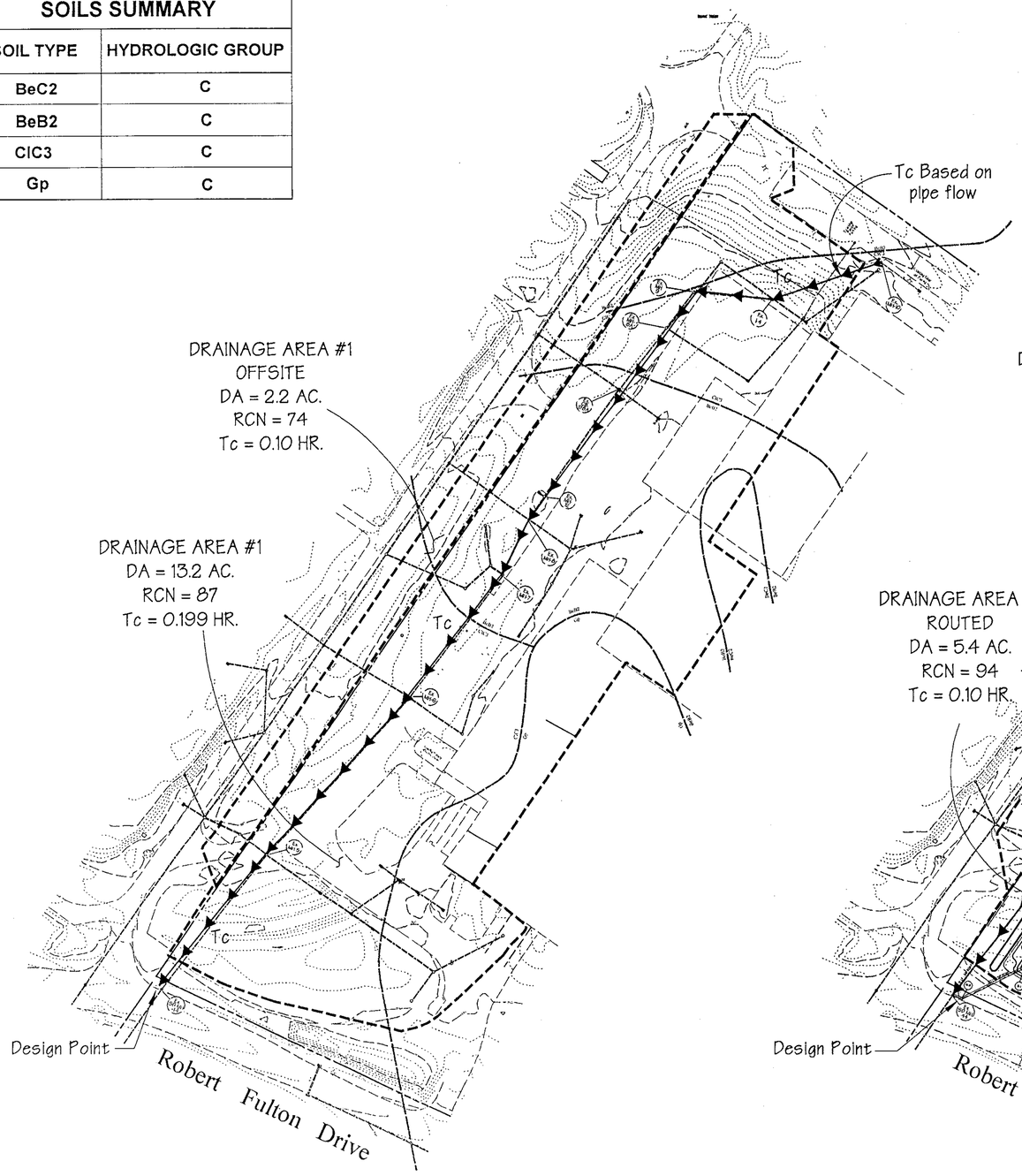
DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

BORING LOGS & DETAILS
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND — SHT. 18 OF 32 — SCALE : As Shown — DATE : DEC. 4, 1998

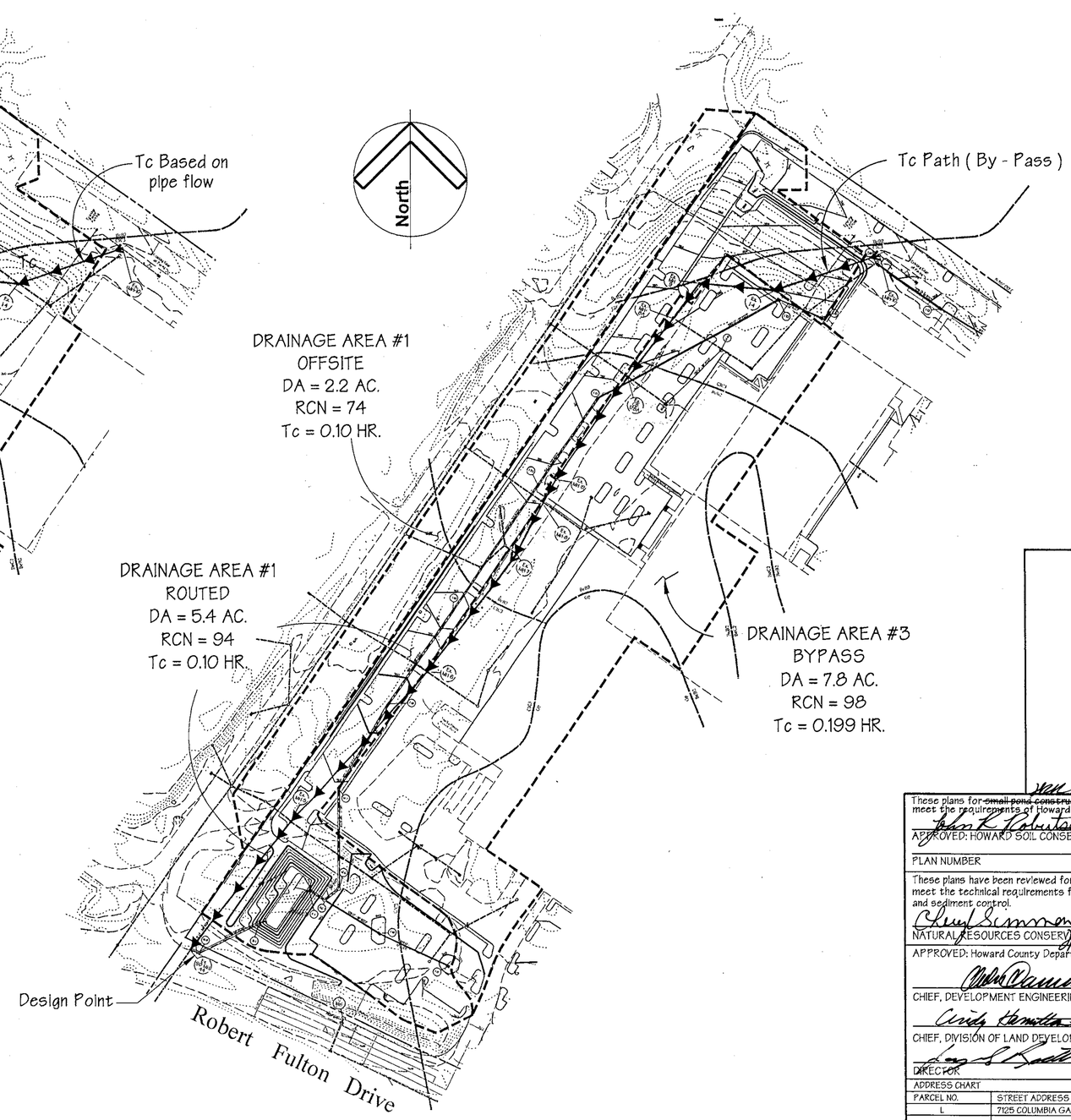
9053c_122boringlogs.s01 — SDP 99-59 — EMT 11-25-98

SOILS SUMMARY	
SOIL TYPE	HYDROLOGIC GROUP
BeC2	C
BeB2	C
CIC3	C
Gp	C



Existing Drainage Area Map

Scale: 1" = 100'



Proposed Drainage Area Map

Scale: 1" = 100'

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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

DEVELOPER CERTIFICATION:

I/We certify that all development and/or construction will do 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 Erik Kolar Date: 2/16/99

Name ERIK KOLAR

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 P.E. # 11005

Name JAMES A. MARKLE JR. Date: 2/16/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

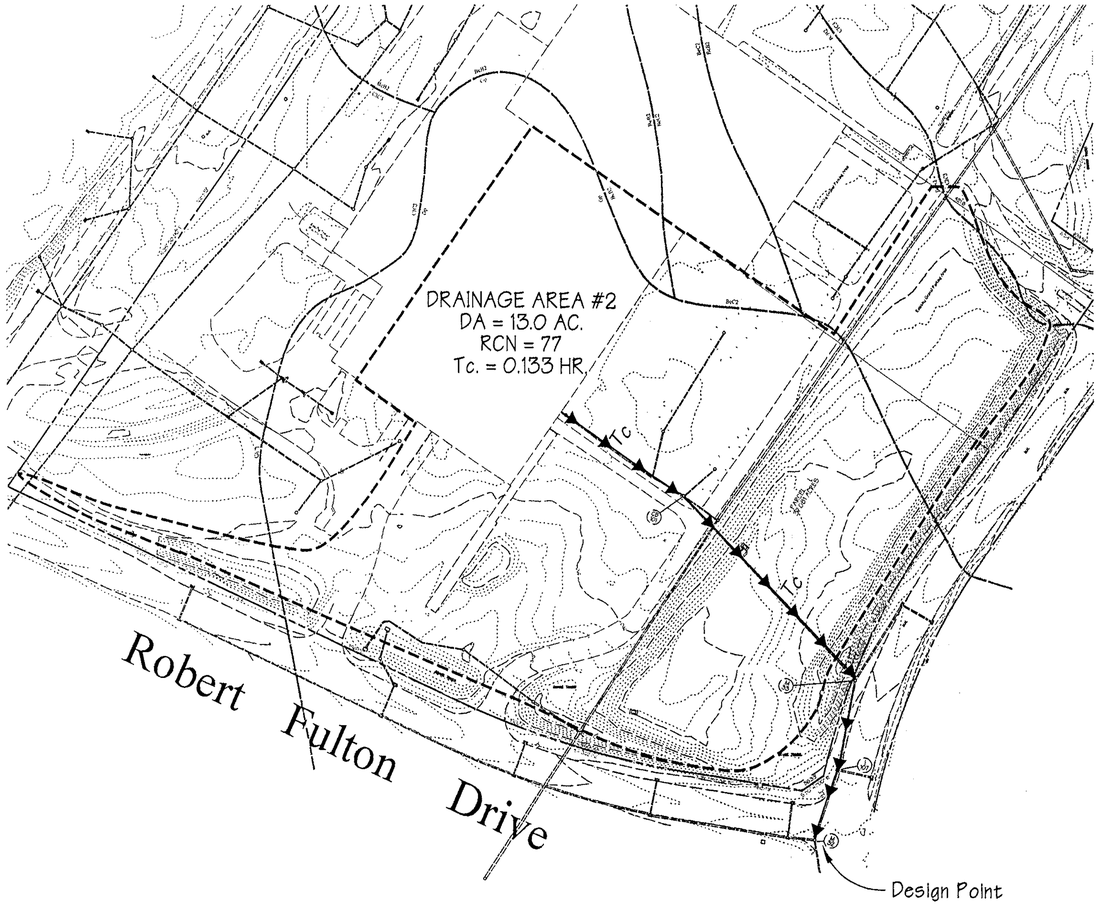
DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

Drainage Area Map - Pond No. 1
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 19 OF 32 DATE : DECEMBER 4, 1998
SCALE : As Shown

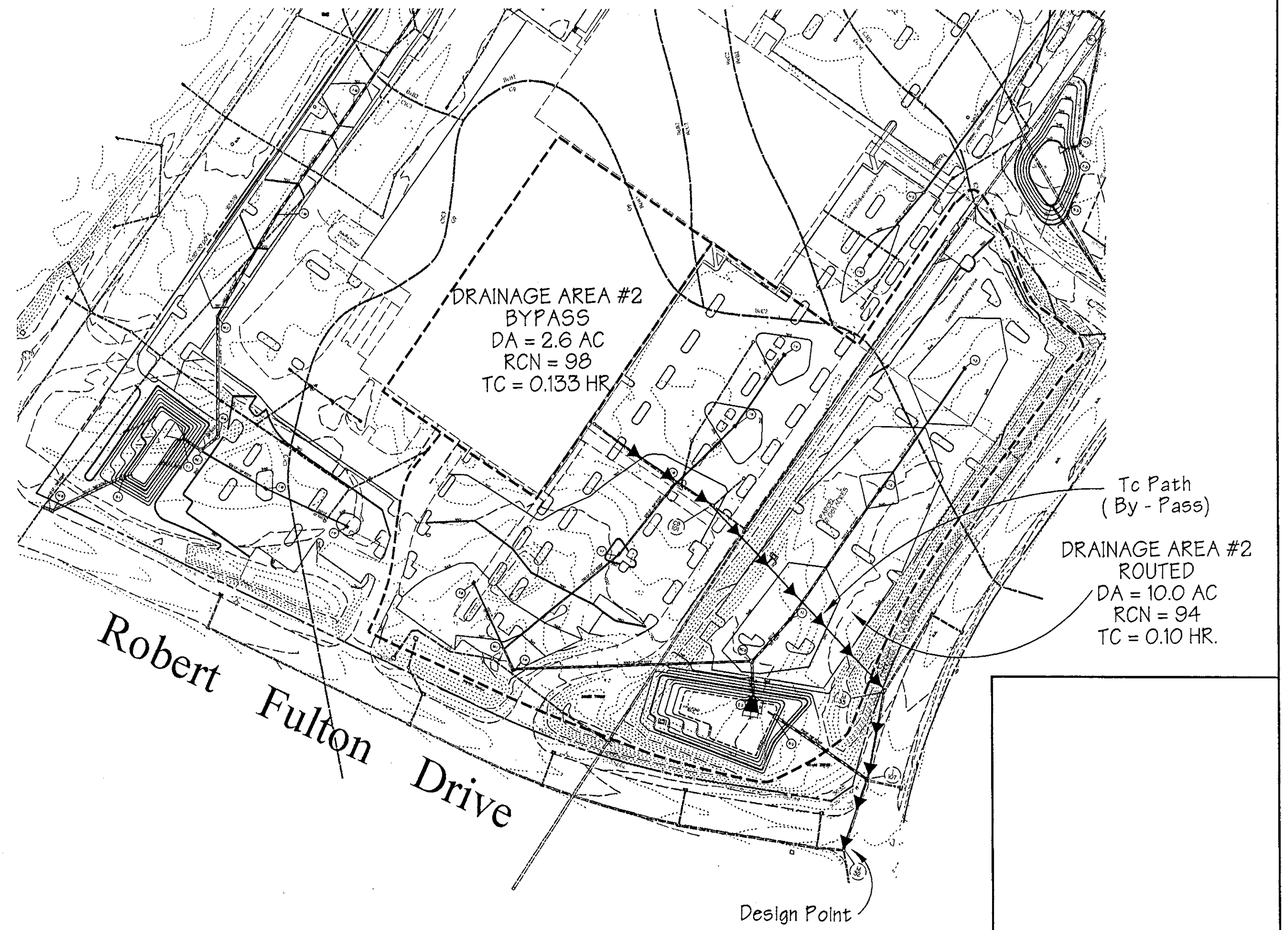
9053c_19damappond3.s01 EAS 01/14/99

SDP 99-59



Existing Drainage Area Map

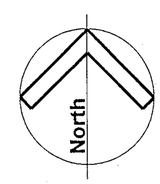
Scale: 1" = 100'



Proposed Drainage Area Map

Scale: 1" = 100'

SOILS SUMMARY	
SOIL TYPE	HYDROLOGIC GROUP
BeC2	C
BeB2	C
CIC3	C
Gp	C



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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

DEVELOPER CERTIFICATION:

I/We certify that all development and/or construction will de 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 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 Erik Kolar Date: 2/16/99

Name ERIK KOLAR

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 as-built plan~~ of the pond within 30 days of completion.

Engineer J. A. Mackie Jr. P.E.# 11005

Name JAMES A. MACKIE JR. Date: 2/16/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

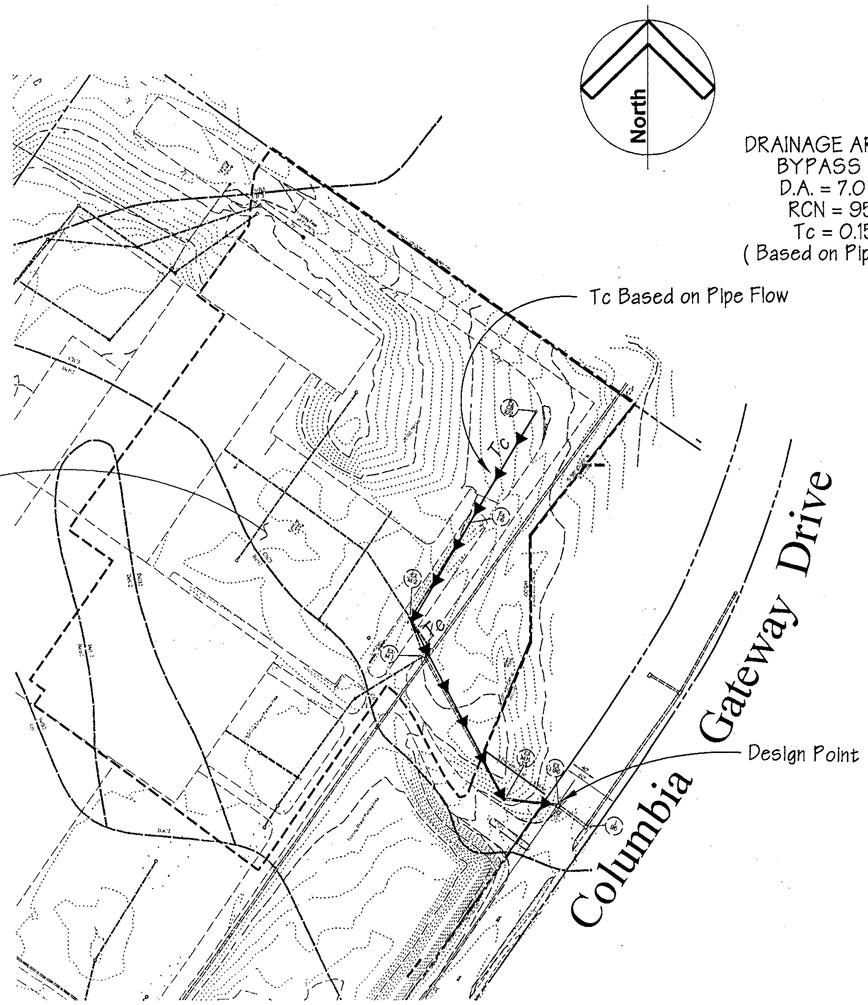
Drainage Area Map - Pond No. 2
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 20 OF 32 DATE : DECEMBER 4, 1998
SCALE : As Shown

9053c_17damappond2.e01

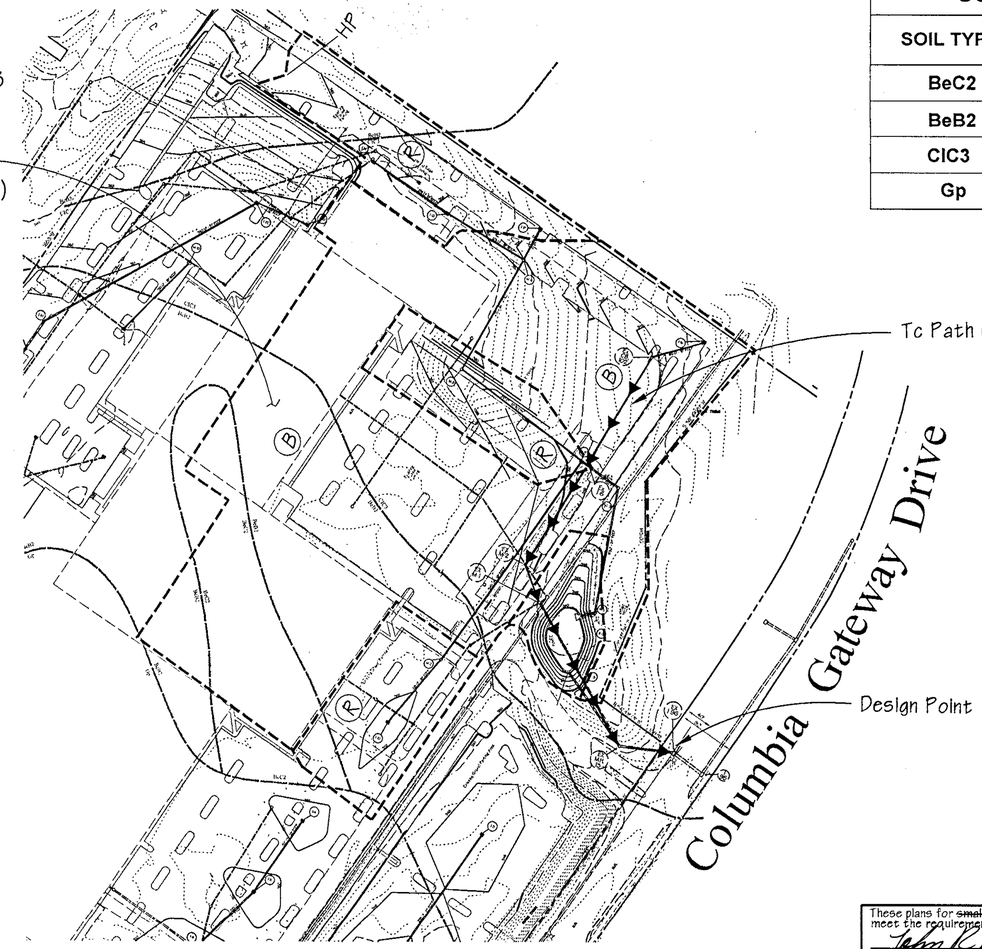
SDP 99-59

EAS 01/04/99



Existing Drainage Area Map

Scale: 1" = 100'



Proposed Drainage Area Map

Scale: 1" = 100'

SOILS SUMMARY	
SOIL TYPE	HYDROLOGIC GROUP
BeC2	C
BeB2	C
CIC3	C
Gp	C

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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~ soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

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Developer Erik Kolar Date: 2-16-99

Name ERIK KOLAR

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 P.E. # 11005

Name JAMES A. MARKLEY JR. Date: 2/16/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

Drainage Area Map - Pond No. 3
The Renaissance at Columbia Gateway

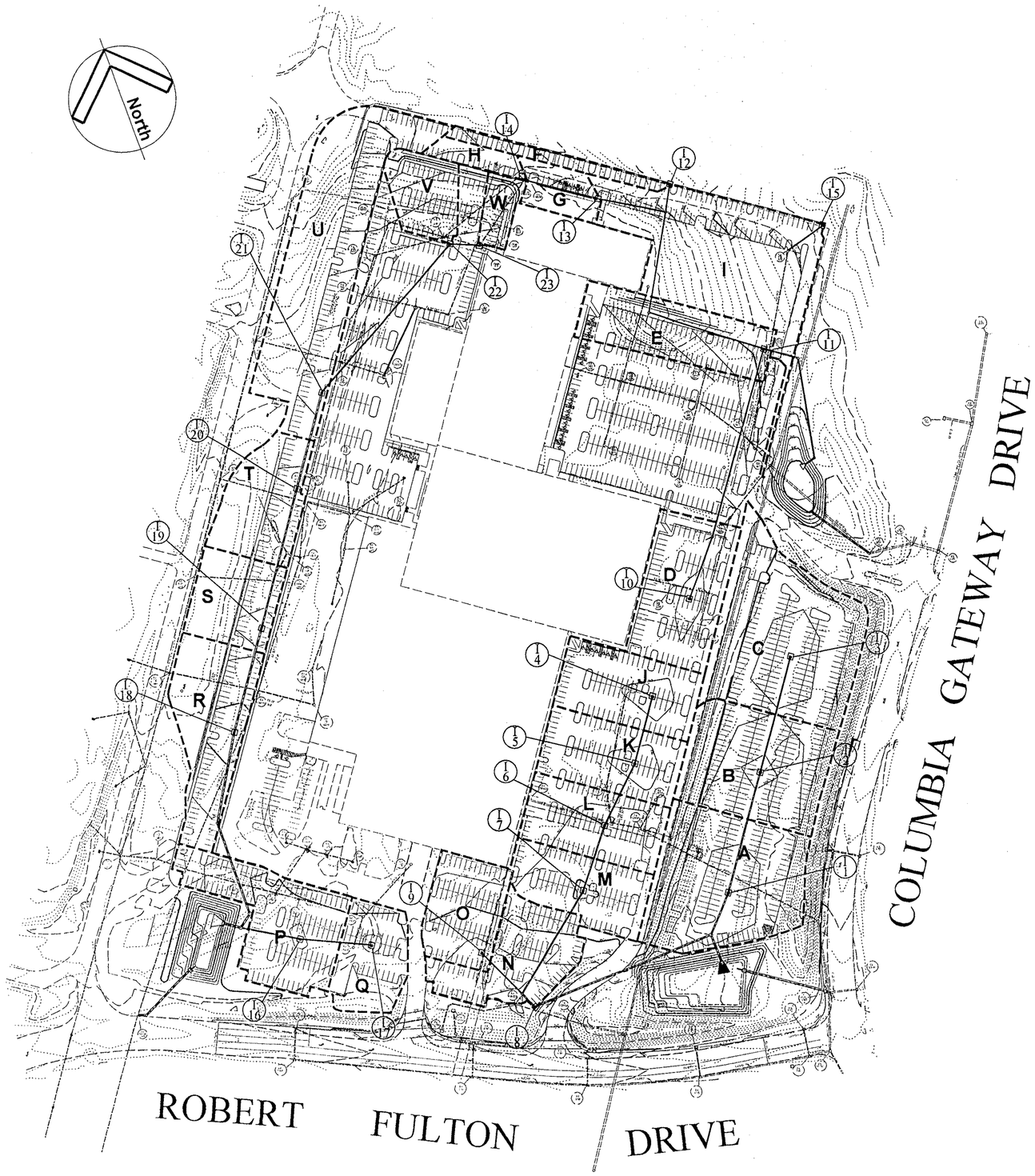
ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 21 OF 32

SCALE : As Shown
DATE : DECEMBER 4, 1998

9053c_16damappond1e01

SDP 99-59

EMT 01/21/99



Plan

SCALE: 1" = 100'

AREA	ACREAGE	'C'	% IMP.
A	1.46 AC.±	0.73	64
B	1.10 AC.±	0.77	69
C	1.5 AC.±	0.72	62
D	0.90 AC.±	0.96	100
E	0.80 AC.±	0.72	63
F	0.22 AC.±	0.96	100
G	0.25 AC.±	0.64	50
H	0.15AC.±	0.96	100
I	1.62 AC.±	0.61	44
J	0.67 AC.±	0.91	93
K	0.70 AC.±	0.91	93
L	0.68AC.±	0.91	93
M	0.60 AC.±	0.90	92
N	0.72 AC.±	0.91	93
O	0.53 AC.±	0.91	93
P	0.89 AC.±	0.91	93
Q	0.50 AC.±	0.77	73
R	0.99 AC.±	0.70	58
S	0.69 AC.±	0.59	42
T	0.44 AC.±	0.65	52
U	1.65 AC.±	0.60	43
V	0.75 AC.±	0.91	92
W	0.16 AC.±	0.64	50

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

STATE OF MARYLAND — JAMES AUBUN MARAUL, JR. — REGISTERED PROFESSIONAL ENGINEER

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

Storm Drainage Area Map

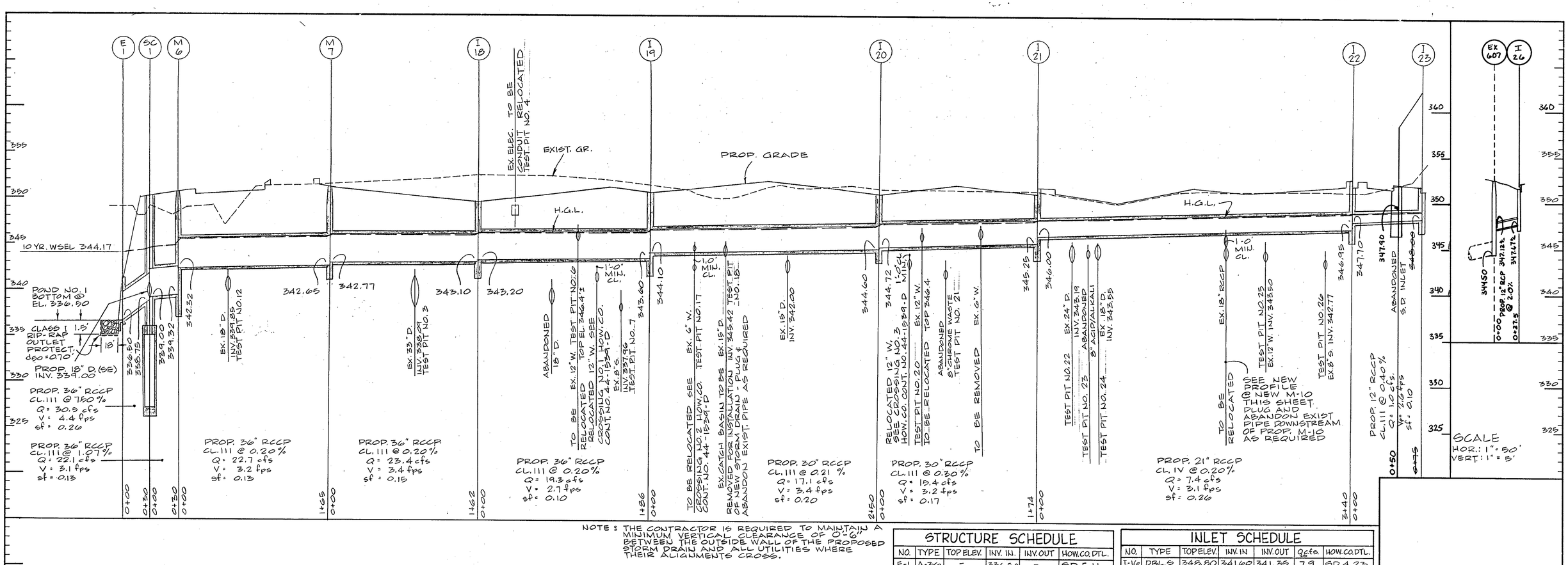
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6 — SCALE : As Shown
HOWARD CO., MARYLAND — SHT.22 OF 32 — DATE : DECEMBER 4, 1998

9053c_22drainareamaps01

SDP 99-59

EAS 12/03/98



NOTE: THE CONTRACTOR IS REQUIRED TO MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 0'-6" BETWEEN THE OUTSIDE WALL OF THE PROPOSED STORM DRAIN AND ALL UTILITIES WHERE THEIR ALIGNMENTS CROSS.

STRUCTURE SCHEDULE

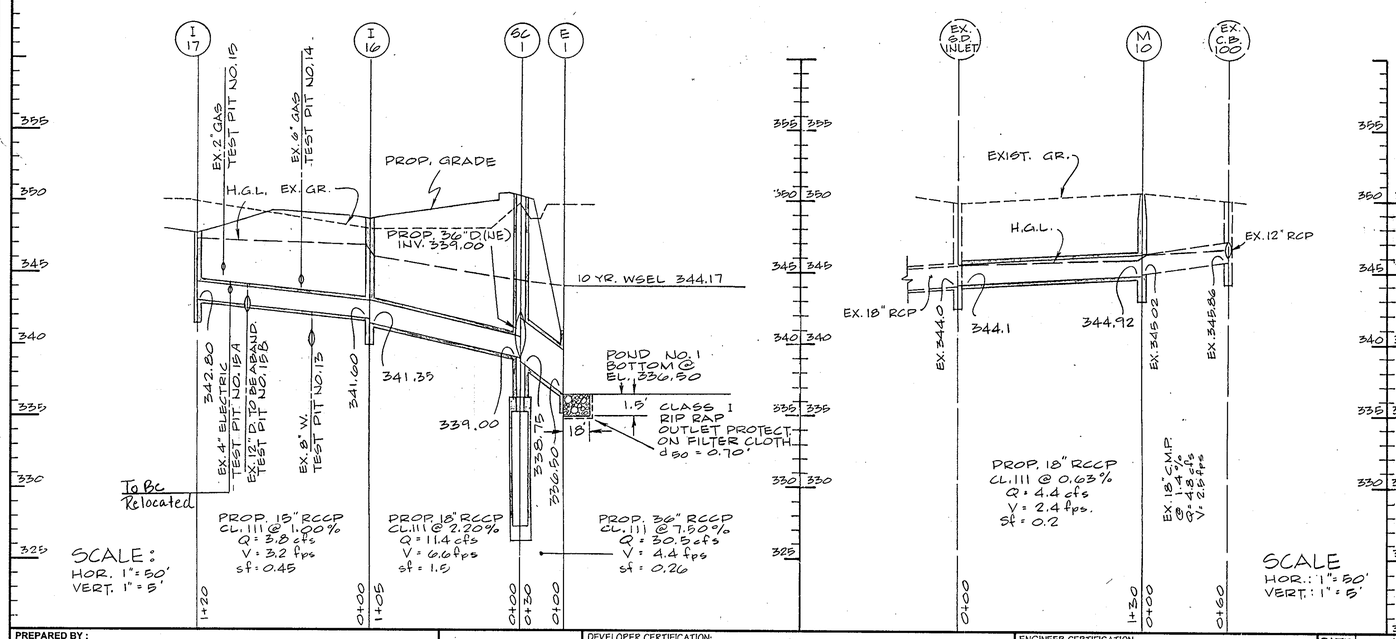
NO.	TYPE	TOP ELEV.	INV. IN.	INV. OUT	HOW. CO. DTL.
E-1	A-360	-	336.50	-	SD 5.11
SC-1	STD 4800	350.30	339.00	338.75	-
M-6	STD.	350.60	342.32	339.32	G 5.13
M-7	STD.	351.10	342.77	342.65	G 5.13
M-10	STD.	351.10	345.02	344.92	G.5.12
M-11	STD	352.50	346.50	346.40	G 5.12
M-8	STD.	348.50	335.30	335.20	G.5.13
M-9	-	348.99	335.10	334.90	MD.384.05

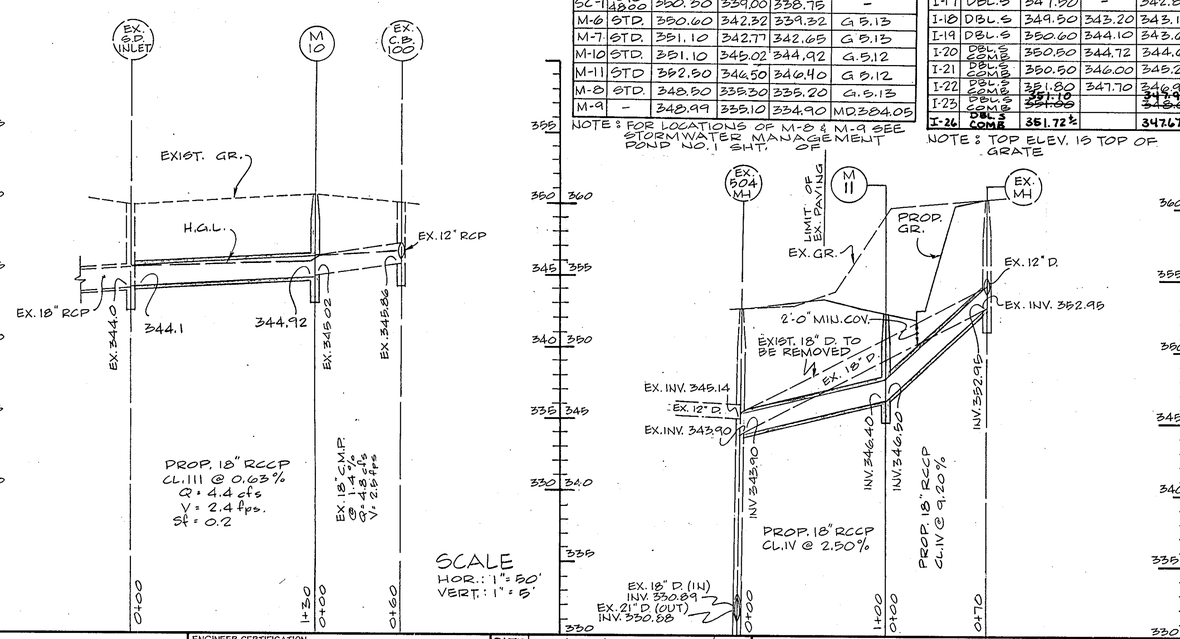
NOTE: FOR LOCATIONS OF M-8 & M-9 SEE STORMWATER MANAGEMENT POND NO. 1 SHT. OF

INLET SCHEDULE

NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	Q cfs.	HOW. CO. DTL.
I-16	DBL. S	348.80	341.60	341.35	7.9	SD 4.23
I-17	DBL. S	347.50	-	342.80	3.8	SD 4.23
I-18	DBL. S	349.50	343.20	343.10	6.8	SD 4.23
I-19	DBL. S	350.60	344.10	343.60	4.0	SD 4.23
I-20	DBL. S COMB.	350.50	344.72	344.60	2.83	SD 4.34
I-21	DBL. S COMB.	350.50	346.00	345.25	9.66	SD 4.34
I-22	DBL. S COMB.	351.80	347.70	346.95	1.00	SD 4.34
I-23	DBL. S COMB.	~~351.10~~		~~347.90~~		SD 4.34
I-26	DBL. S COMB.	351.72 ±		347.67 ±		SD 4.34

NOTE: TOP ELEV. IS TOP OF GRATE





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 — DATE 6/8/99

PLAN NUMBER

Reviewed for the Howard Conservation District and meets technical requirements.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	/ZONE 43	6	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

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Developer Erik Kolar Date: 12.04.98
Name ERIK KOLAR

ENGINEER CERTIFICATION:

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Engineer Karen Watsic P.E. # 23096
Name KAREN WATSIC Date: 12.4.98

DATE	REVISIONS	BY
1/13/99	ADD PUBLIC STORM DRAINS	G.J.D.
1/21/13	REVISED CURB & GUTTER AND INLETS. ADDED STAIR TOWER	D.W.M.

OWNER
COLGATEDRIVE ASSOC. L.P.
~~PREFERRED REAL ESTATE INVESTMENTS, INC.~~
~~655 NORTH LANE, SUITE 6101~~
~~CONSHOHOCKEN, PA 19428~~
~~(610) 834-1969~~
6711 COLUMBIA GATEWAY DRIVE, SUITE 300
COLUMBIA, MD 21046-2104
(443) 285-5400

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

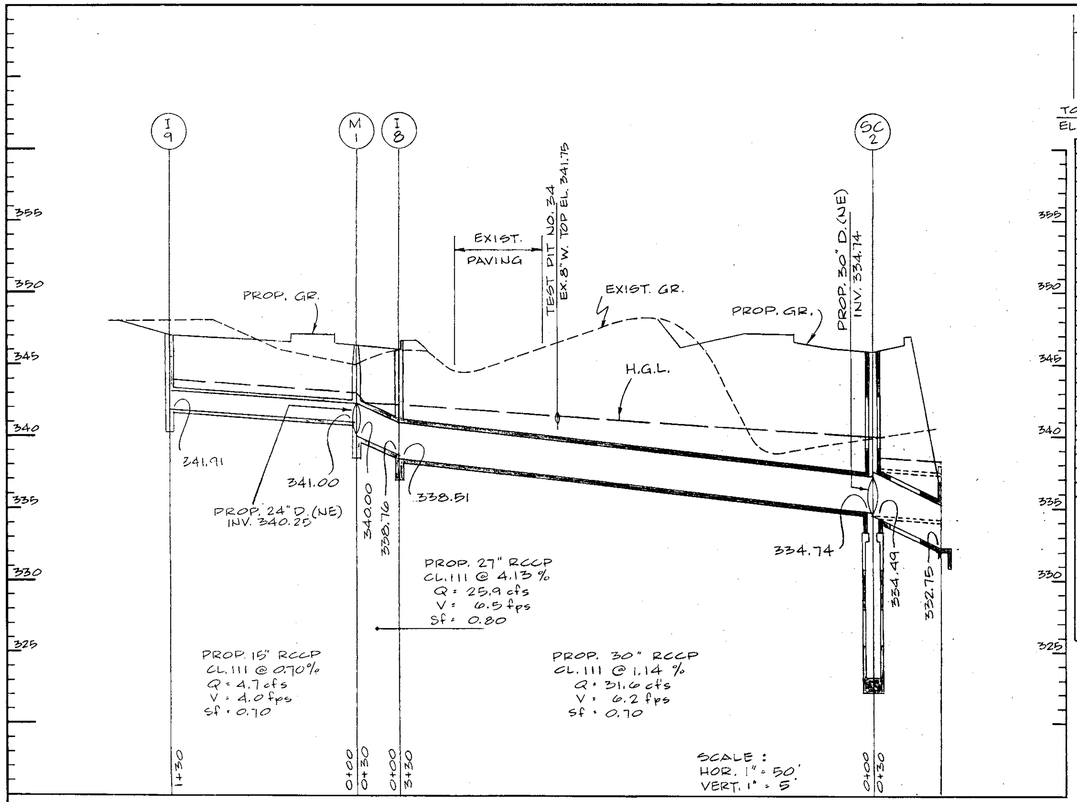
Storm Drain Profiles
The Renaissance at Columbia Gateway

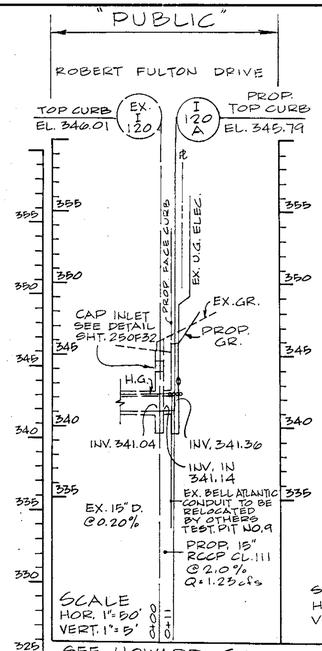
ELECTION DISTRICT: 6
HOWARD CO., MARYLAND

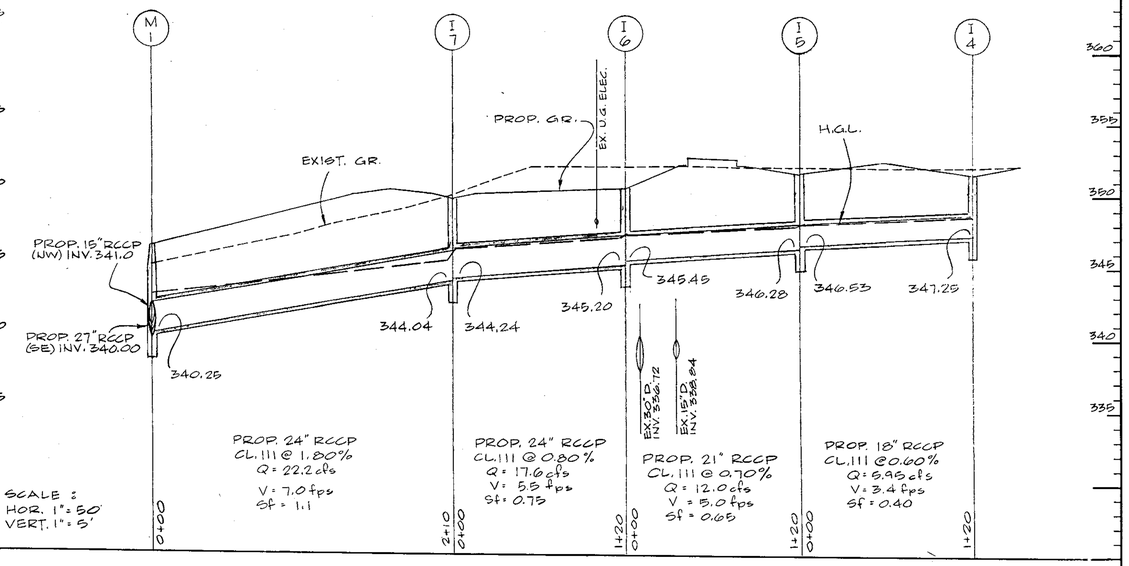
SCALE: As Shown
SHT. 23 OF 33
DATE: OCTOBER 21, 1998

SDP 99-59

9053profiles4hand.s01 EMT 11-16-98







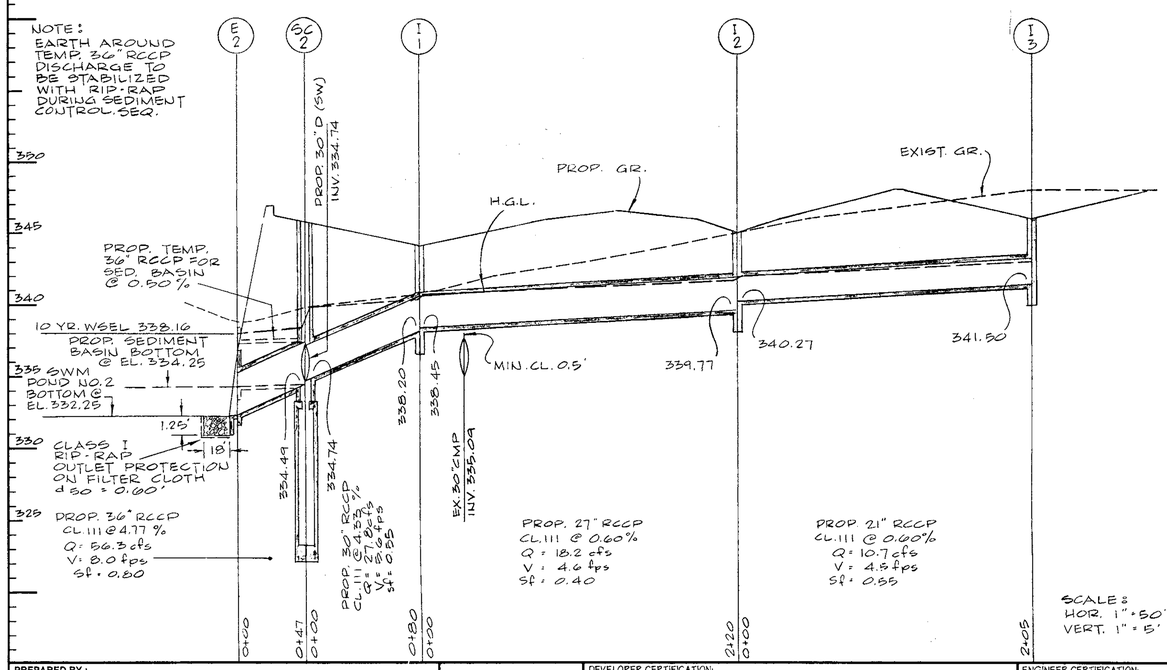
STRUCTURE SCHEDULE					
NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	HOW.CO.DTL.
M-1	SHLW.	346.70	340.25	340.00	G 5.13
E-2	A-36	-	333.25	-	SD 5.11
SC-2	STG 60/50	345.60	334.74	334.49	-

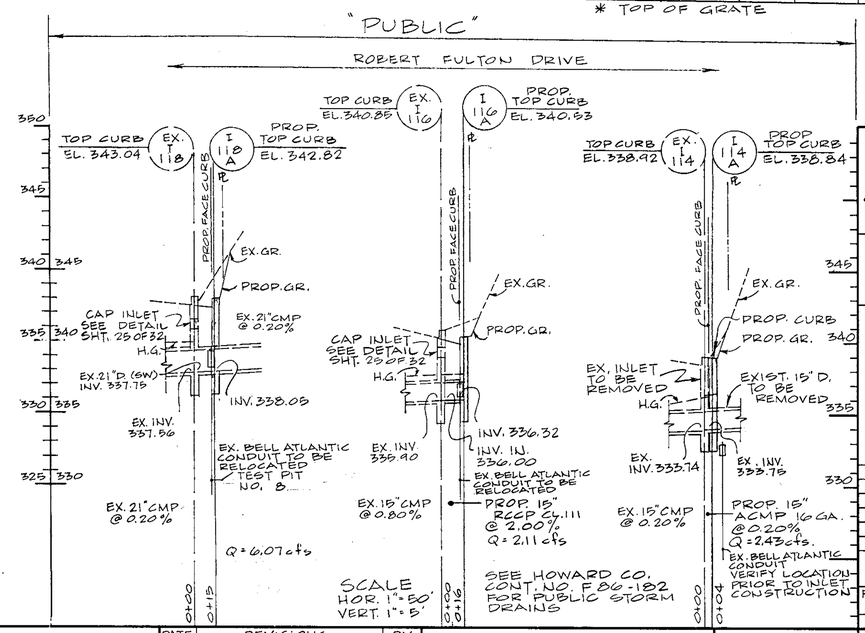
INLET SCHEDULE						
NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	Q cfs	HOW.CO.DTL.
I-1	DBL-S	344.00	338.45	338.20	10.5	SD. 4.23
I-2	DBL-S	345.00	340.27	339.77	8.3	SD. 4.23
I-3	DBL-S	346.00	-	341.50	10.7	SD. 4.23
I-4	DBL-S	351.50	-	347.25	5.95	SD. 4.23
I-5	DBL-S	351.50	346.53	346.28	6.24	SD. 4.23
I-6	DBL-S	350.50	345.45	345.20	6.05	SD. 4.23
I-7	DBL-S	349.70	344.24	344.04	5.40	SD. 4.23
* I-8	DBL-S COMB.	346.00	338.76	338.51	6.40	SD. 4.34
I-9	DBL-S	347.00	-	341.91	4.70	SD. 4.23

* TOP OF GRATE

NOTE : THE CONTRACTOR IS REQUIRED TO MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 0'-6" BETWEEN THE OUTSIDE WALL OF THE PROPOSED STORM DRAIN AND ALL UTILITIES WHERE THEIR ALIGNMENTS CROSS.

NOTE : EARTH AROUND TEMP. 36" RCCP DISCHARGE TO BE STABILIZED WITH RIP-RAP DURING SEDIMENT CONTROL SEQ.





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 — DATE 6/8/99

PLAN NUMBER

Reviewed for the Howard Conservation District and meets technical requirements.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

DEVELOPER CERTIFICATION:

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Developer — Date: 12.04.98
Name ERIK KOLAR

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 — P.E. # 23096
Name KAREN WATSIC — Date: 12.4.98

DATE	REVISIONS	BY
1/15/99	ADD PUBLIC STORM DRAINS	G.J.D.

OWNER

PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

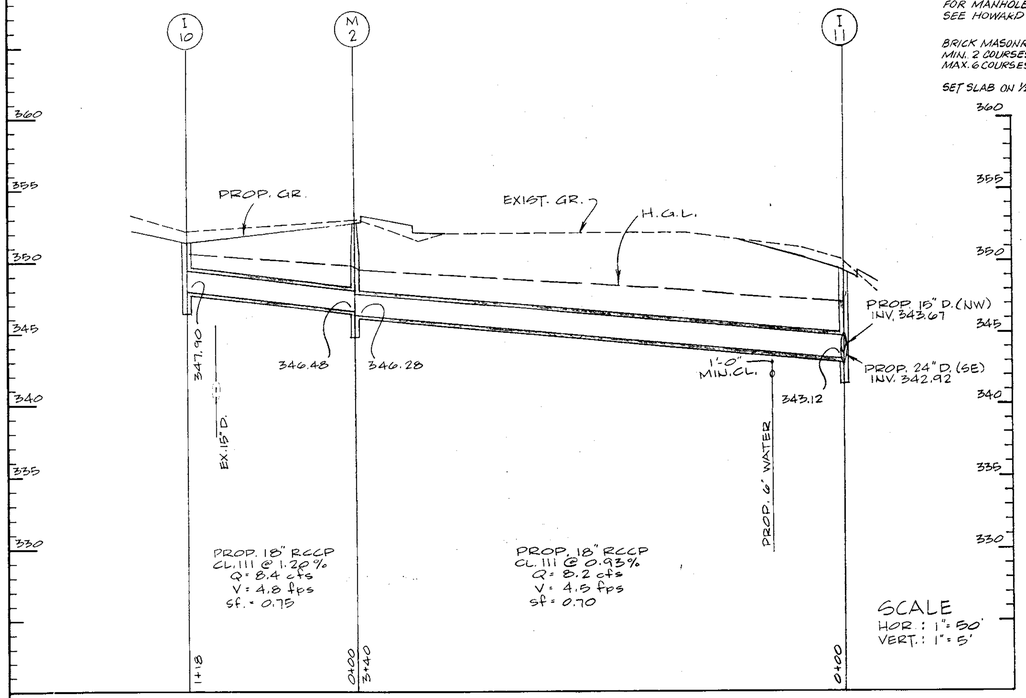
Storm Drain Profiles
The Renaissance at Columbia Gateway

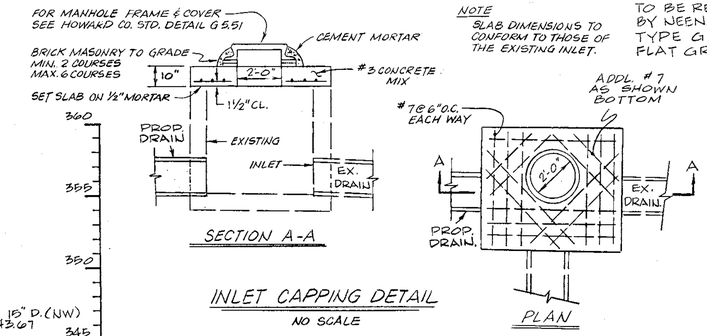
ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 8 OF 38

SCALE : As Shown
DATE : OCTOBER 21, 1998

SDP 99-59

9053profiles4hand.s01 EMT 11-16-98





INLET CAPPING DETAIL

NO SCALE

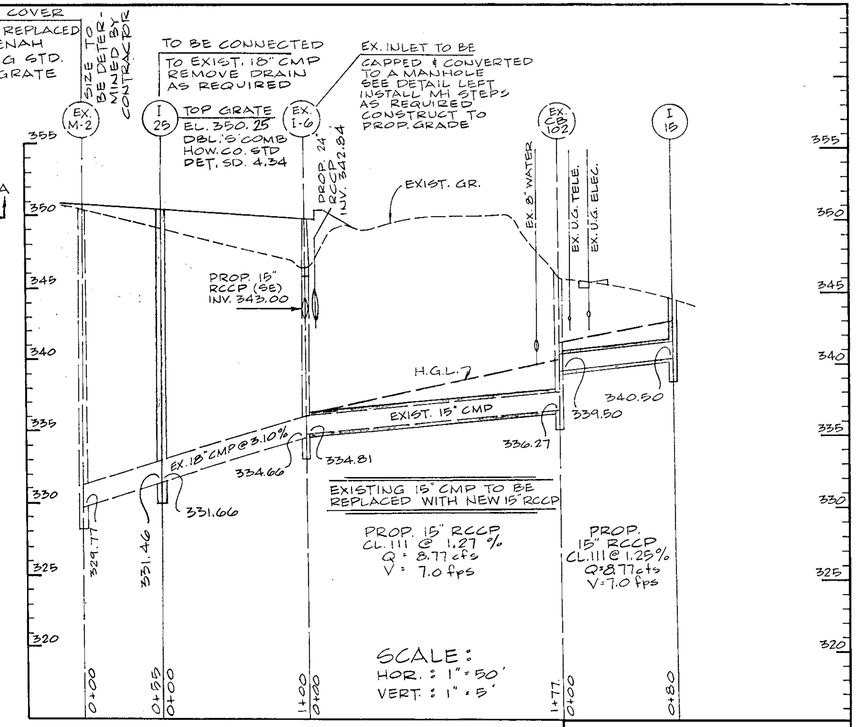
NOTE: TOP ELEV. IS TOP OF GRATE

INLET SCHEDULE

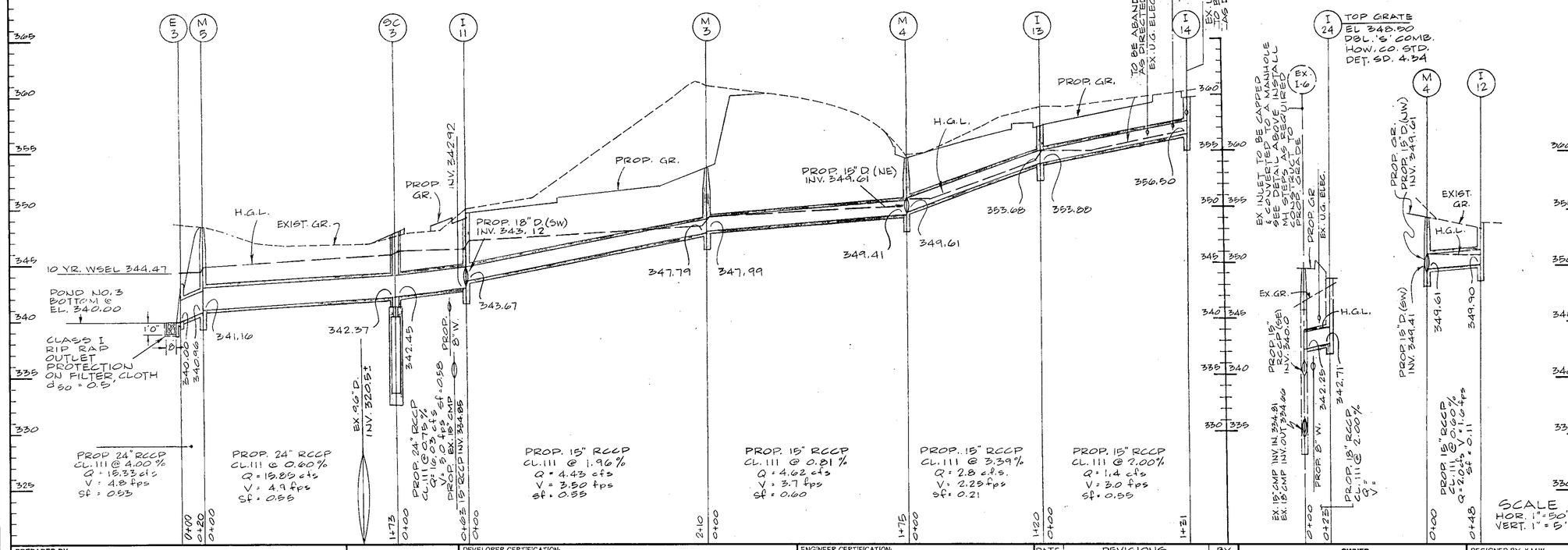
NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	Q cfs	HOW. CO. DTL.
I-10	DBL-S	351.40	–	347.90	8.4	SD. 4.23
I-11	DBL-S COMB.	349.50	343.12	342.92	5.7	SD. 4.34
I-12	DBL-S COMB.	353.20	–	349.90	2.0	SD. 4.34
I-13	DBL-S COMB.	357.30	353.88	353.68	1.6	SD 4.34
I-14	DBL-S COMB.	359.70	–	356.50	1.4	SD. 4.34
I-18	DBL-S COMB.	344.50	–	340.50	8.77	SD 4.34
I-24	DBL-S COMB.	348.50	–	342.71		SD. 4.34
I-25	DBL-S COMB.	350.25	331.66	331.46		SD 4.34

STRUCTURE SCHEDULE

NO.	TYPE	TOP ELEV.	INV. IN.	INV. OUT	HOW. CO. DTL.
M-2	STD.	352.70	346.48	346.28	G. 5.12
M-3	SH LW.	353.50	347.99	347.79	G 5.12
M-4	SH LW.	354.20	349.61	349.41	G 5.12
E-3	A-24	–	340.00	–	SD. 5.11
SC-3	STC 24.00	348.00	342.45	342.37	–



NOTE: THE CONTRACTOR IS REQUIRED TO MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 0'6" BETWEEN THE OUTSIDE WALL OF THE PROPOSED STORM DRAIN AND ALL UTILITIES WHERE THEIR ALIGNMENTS CROSS.



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 — DATE 6/8/99

PLAN NUMBER

Reviewed for the Howard Conservation District and meets technical requirements.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX /ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

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 Erik Kolar Date: 12-04-98
Name ERIK KOLAR.

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 Karen Watsic P.E. # 23096
Name KAREN WATSIC Date: 12-4-98

DATE	REVISIONS	BY
1/15/99	ADD INLET CAPPING DETAIL	GJD

OWNER

PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

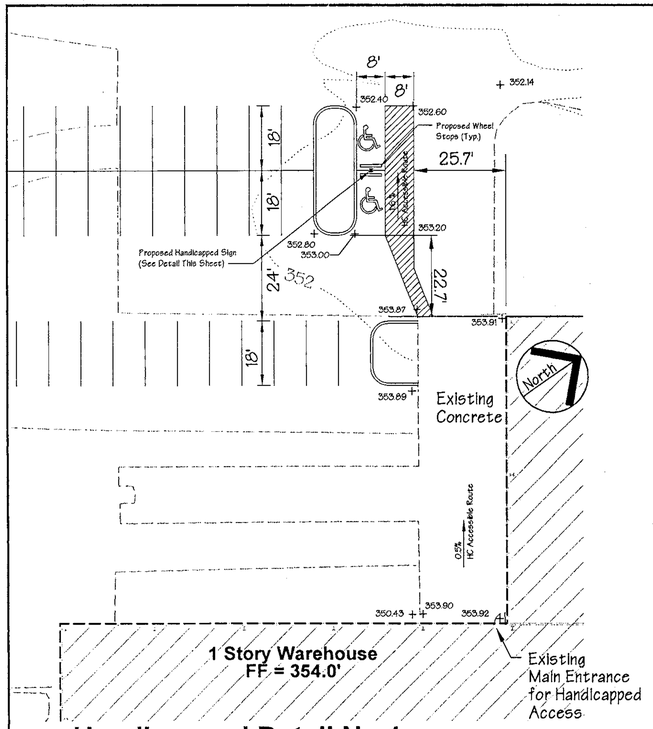
Storm Drain Profiles
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 25 OF 32

SCALE : As Shown
DATE : OCTOBER 21, 1998

SDP 99-59

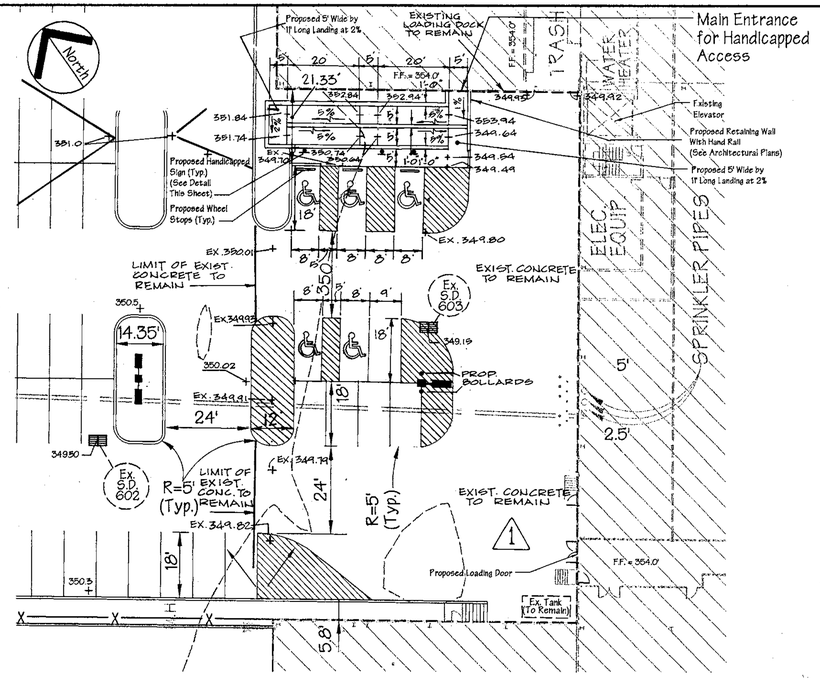
9053profiles4hand.s01 EMT 11-16-98



Handicapped Detail No 1

Warehouse Area - South End

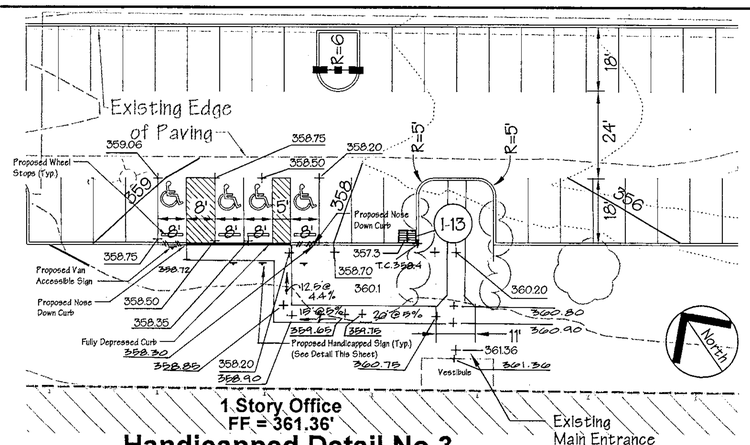
Scale : 1" = 20'



Handicapped Detail No 2

Warehouse Area - Middle, West Side

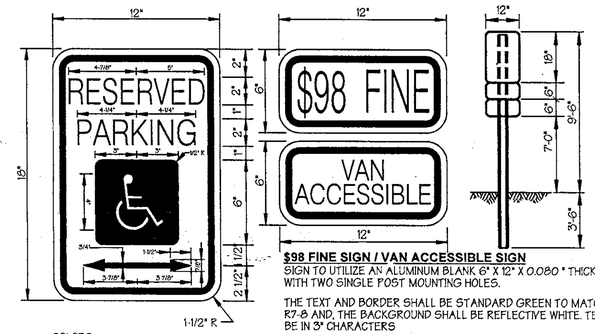
Scale : 1" = 20'



Handicapped Detail No 3

1 Story Office Area - North End

Scale : 1" = 20'



COLORS
GREEN - LEGEND AND BORDER
WHITE - SYMBOL ON BLUE BACKGROUND
WHITE - BACKGROUND

$98 FINE SIGN / VAN ACCESSIBLE SIGN

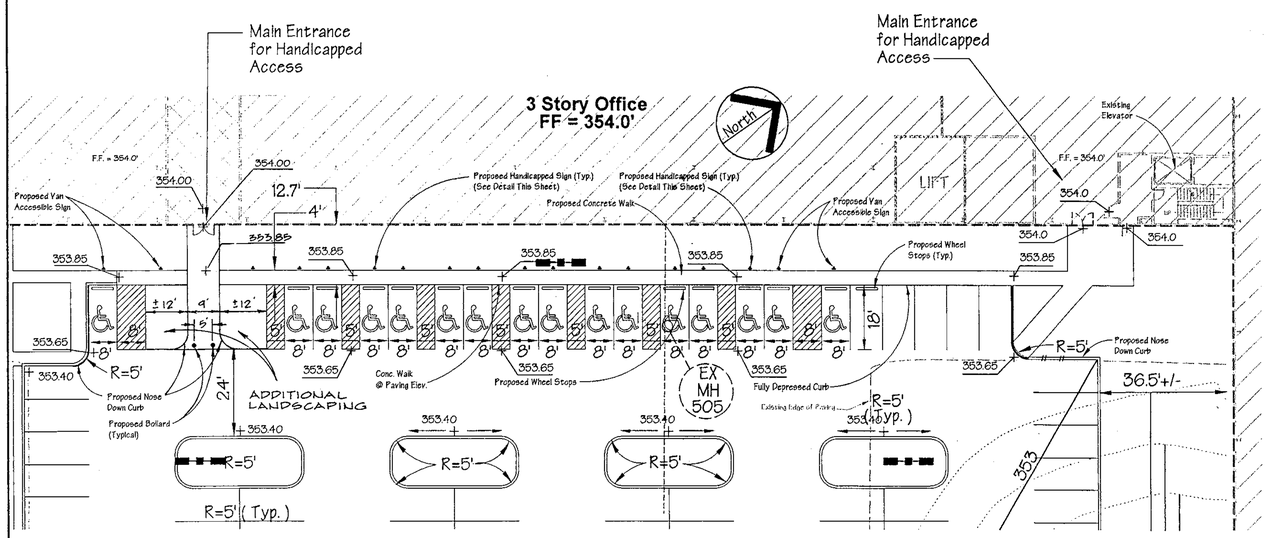
SIGN TO UTILIZE AN ALUMINUM BLANK 6" X 12" X 0.080" THICK WITH TWO SINGLE POST MOUNTING HOLES.

THE TEXT AND BORDER SHALL BE STANDARD GREEN TO MATCH THAT ON R7-8 AND, THE BACKGROUND SHALL BE REFLECTIVE WHITE. TEXT SHALL BE IN 3" CHARACTERS

SIGN SHALL BE MOUNTED DIRECTLY BELOW THE STANDARD R7-8 RESERVED PARKING FOR HANDICAPPED SIGN. ITS BOTTOM EDGE SHALL BE NO LESS THAN 7 FEET ABOVE GROUND. IF THE SIGN IS PLACED AGAINST A BUILDING, STRUCTURE, OR OTHER LOCATION WHERE VEHICLE OF PEDESTRIAN TRAFFIC IS NOT OBSTRUCTED THE BOTOM EDGE OF THE SIGN SHALL BE AT LEAST 6 FEET BUT NOT MORE THAN 10 FEET ABOVE GROUND

HANDICAPPED SIGN DETAIL

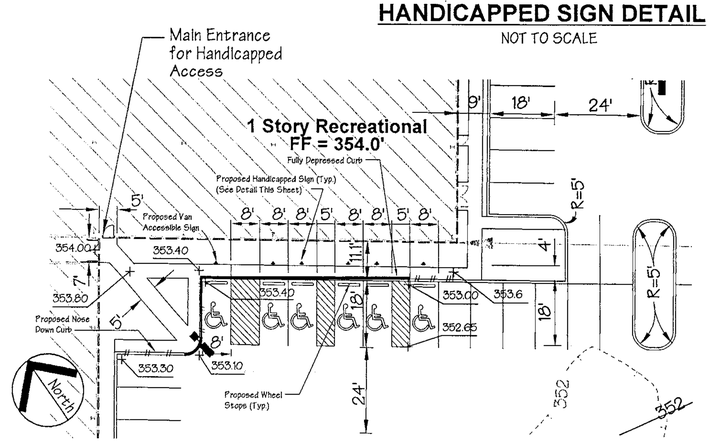
NOT TO SCALE



Handicapped Detail No 5

3 Story Office Middle

Scale : 1" = 20'



Handicapped Detail No 4

Recreation Area Middle - East Side

Scale : 1" = 20'

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE 6/11/99
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6/11/99
DIRECTOR	DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

STATE OF MARYLAND — GALE ALLEN MANN — No. 11008 — REGISTERED PROFESSIONAL ENGINEER

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

REVISIONS
1 8/19/99 G.W.S. REVISE HANDICAP DETAILS NO. 2 & 3
2 1/29/99 G.W.S. REVISE H.C. DETAIL NO. 5

Handicapped Details
The Renaissance at Columbia Gateway

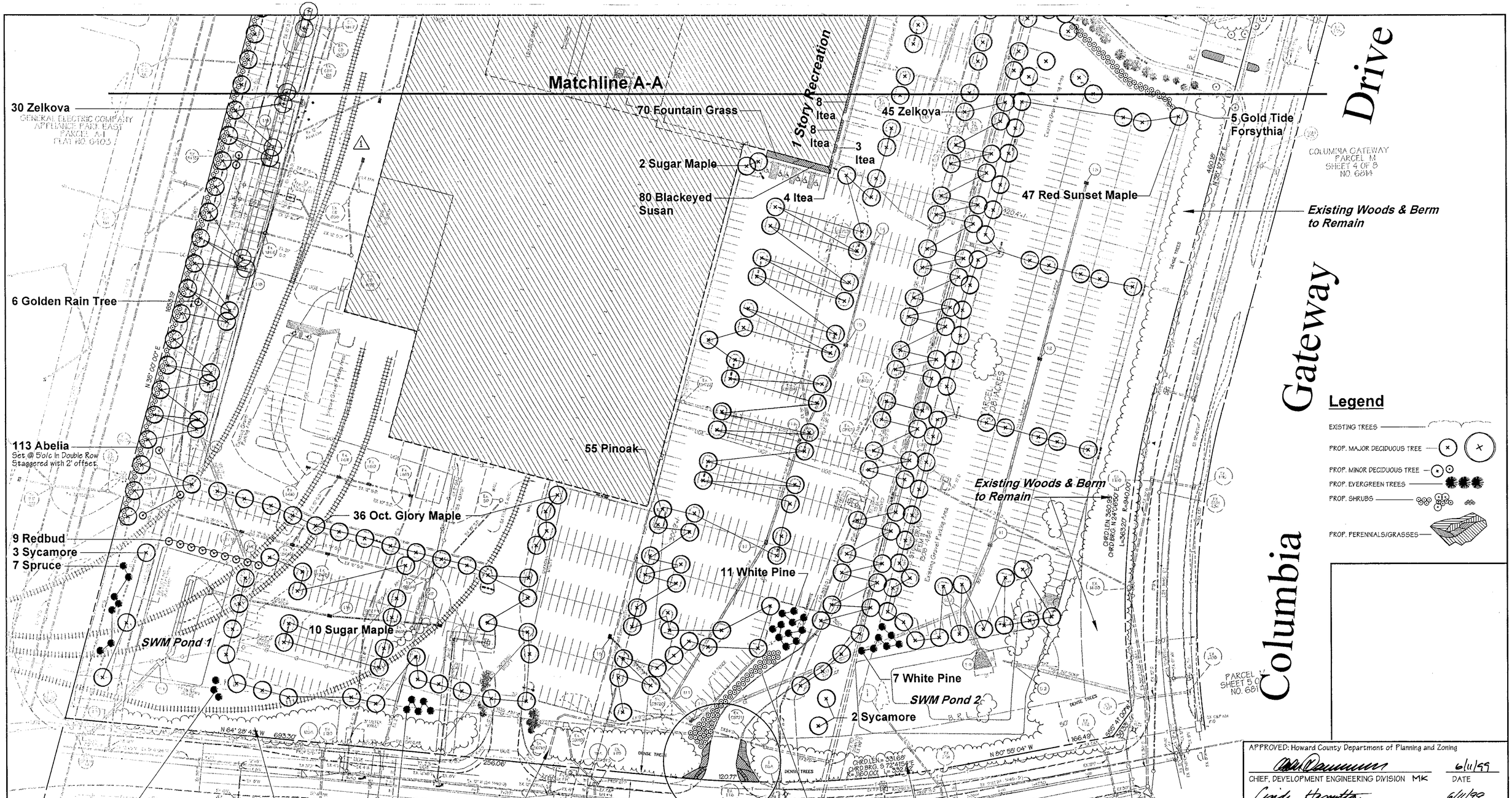
ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT 26 OF 32

SCALE : As Shown
DATE : DECEMBER 4, 1998

9053c_26handicapdet.s01

SDP 99-59

EMT 02-12-99



Note:

THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

Plan

Scale 1" = 50'

Note

FOR PLANT LIST, SEE SHEET 29

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE 6/11/99
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6/11/99
DIRECTOR	DATE 6/14/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

STATE OF MARYLAND — THOMAS N. WOLLON — NO. 668 — REGISTERED LANDSCAPE ARCHITECT

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 Michael G. O'Neill — DATE 4/19/99
PRINT NAME

Notes:

A. "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL."

B. "FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF $48,000.00 FOR 150 SHADE TREES AND 20 EVERGREEN TREES PER COUNTY REQUIREMENTS."

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1963

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

REVISIONS
1 8/27/99 G.W.S. RELOCATE 6 ZELKOVAS FOR ISLAND ADJUSTMENTS

LANDSCAPE PLAN

The Renaissance at Columbia Gateway

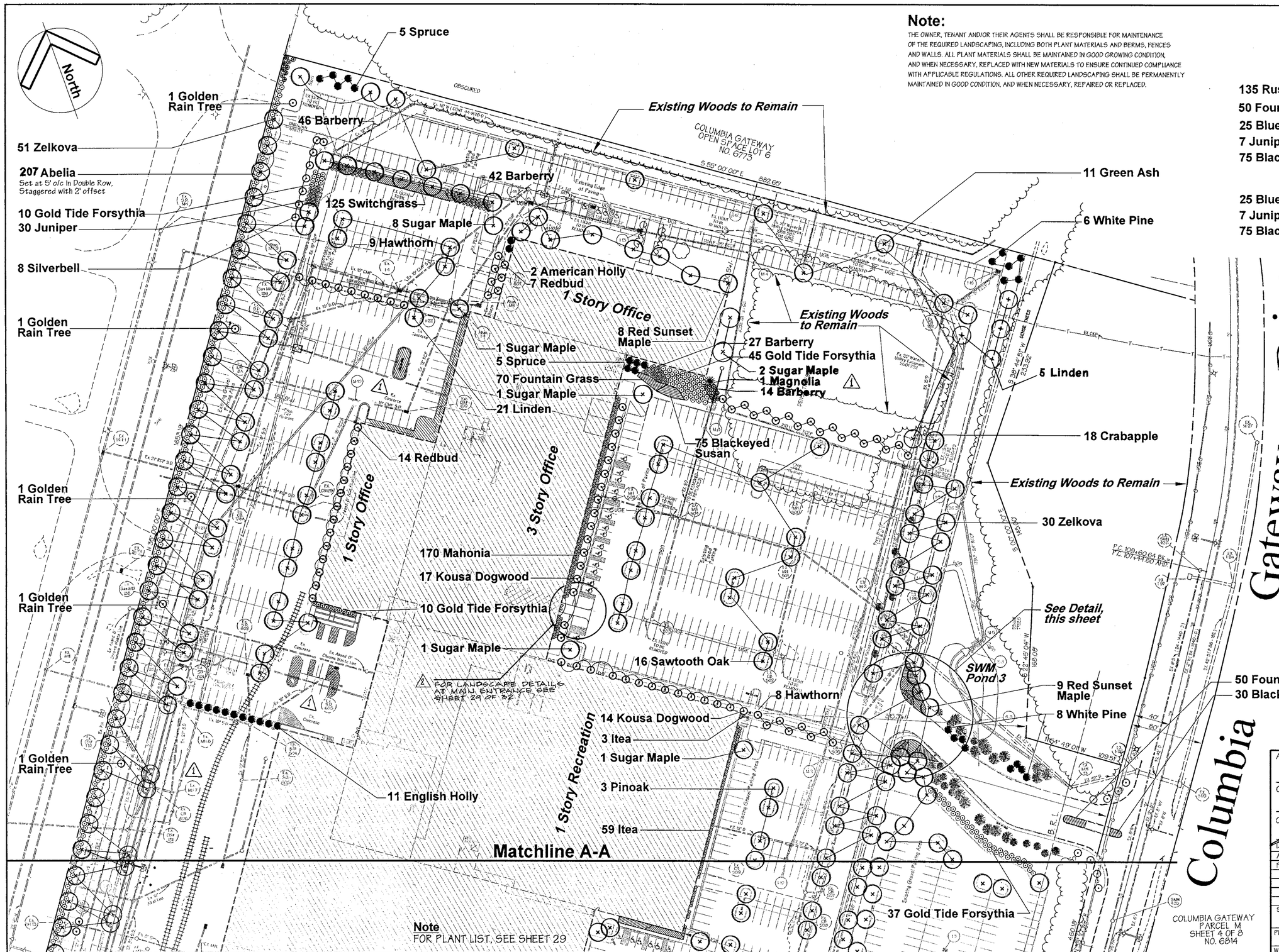
ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT. 27 OF 32

SCALE : As Shown
DATE : DECEMBER 4, 1998

9053c_27landscape.s01 **SDP 99-59** EAS 4/06/99

Note:

THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.



Note

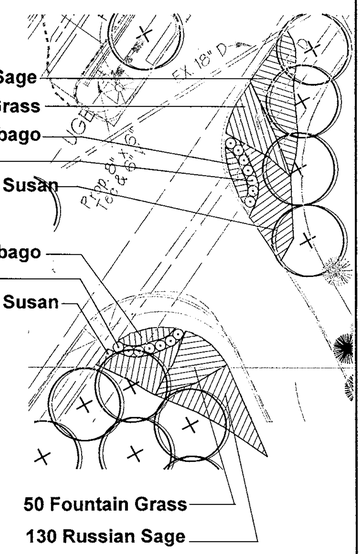
FOR PLANT LIST, SEE SHEET 29

Plan

Scale : 1" = 50'

Detail

SCALE: 1" = 20'



Legend

EXISTING TREES
PROP. MAJOR DECIDUOUS TREE
PROP. MINOR DECIDUOUS TREE
PROP. EVERGREEN TREES
PROP. SHRUBS
PROP. PERENNIALS/GRASSES

Notes:

A. "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL."

B. "FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF $48,000.00 FOR 150 SHADE TREES AND 20 EVERGREEN TREES PER COUNTY REQUIREMENTS."

DEVELOPERS / 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: Michael G. O'Neill — DATE: 4/19/99
PRINT NAME

STATE OF MARYLAND — THOMAS N. WOLGAST — NO. 866 — REGISTERED LANDSCAPE ARCHITECT

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
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1369

REVISIONS		
1	8/27/99	G.W.S. RELOCATE VARIOUS SHRUBS & TREES AFFECTED BY SITE ADJUSTMENTS
2	11/29/99	G.W.S. LANDSCAPE REV. @ MAIN ENTRANCE

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE 6/11/99
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6/11/99
DIRECTOR	DATE 6/18/99

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
B-19	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	6067.03

WATER CODE -E06 — SEWER CODE 5333000

LANDSCAPE PLAN

The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT.28 OF 32

SCALE : As Shown
DATE : DECEMBER 4, 1998

9053c_28landscape.s01 **SDP 99-59** KMW 4/1/99

Landscape Notes

I. GENERAL

1. THESE PLANS SHALL BE USED FOR PLANTING INSTALLATION ONLY.
2. 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.
3. THE CONTRACTOR SHALL NOTE THAT IN THE CASE OF ANY DISCREPANCY BETWEEN ANY SCALED DIMENSIONS AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
4. THE 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.

II. UTILITIES

1. THE LOCATION OF EXISTING UTILITIES SHOWN HEREON IS APPROXIMATE ONLY AND IS PROVIDED FOR THE CONVENIENCE 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 CONFIRM TO HIS OWN SATISFACTION THE LOCATION OF ALL UTILITIES PRIOR TO PLACEMENT OF ANY MATERIALS. IF ANY CONFLICT IS FOUND BETWEEN UNDERGROUND UTILITIES AND THE PROPOSED LOCATION OF ANY CONSTRUCTION, 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.

III. LANDSCAPING

A. STANDARDS:

1. ALL PLANT MATERIAL, CONSTRUCTION METHODS AND MATERIAL PLACEMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF "AMERICAN STANDARD FOR NURSERY STOCK," AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC., THE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS," AS PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION, THE "HOWARD COUNTY LANDSCAPE MANUAL," AND THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS" OF THE MARYLAND STATE DEPARTMENT OF TRANSPORTATION.
2. ALL TREES SHALL BE DELIVERED TO THE SITE BALLED AND BURLAPPED. ALL SHRUBS SHALL BE BALLED AND BURLAPPED OR IN CONTAINERS. ALL GRASSES & PERENNIALS

B. MAINTENANCE:

1. AFTER THE PLANTING HAS BEEN APPROVED BY THE LANDSCAPE ARCHITECT AND THE OWNER, THE MAINTENANCE OF WATERING AND WEEDING OF SUCH PLANTS AND PLANTED AREAS SHALL BE PROVIDED BY THE OWNER. SINCE THE PLANTS ARE TO BE GUARANTEED BY THE CONTRACTOR, THE CONTRACTOR SHALL PERIODICALLY CHECK THE MAINTENANCE CONDUCTED BY THE OWNER. IF THE CONTRACTOR IS NOT SATISFIED WITH THE MAINTENANCE OF THE PLANTS, A WRITTEN REPORT, IN TRIPLICATE, STATING APPROPRIATE CHANGES SHALL BE GIVEN IMMEDIATELY TO THE LANDSCAPE ARCHITECT; TWO COPIES WILL BE FORWARDED TO THE OWNER. BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING.

2. MAINTAIN TREES UNTIL FINAL ACCEPTANCE, BUT IN NO CASE, LESS THAN 60 DAYS AFTER FINAL ACCEPTANCE OF PLANTING. MAINTAIN ALL PLANTS BY PRUNING, CULTIVATING AND WEEDING AS REQUIRED FOR HEALTHY GROWTH. RESTORE PLANTING SAUCERS. TIGHTEN AND REPAIR STAKE AND GUY SUPPORTS AND RESET TREES TO PROPER GRADES OR VERTICAL POSITION AS REQUIRED. RESTORE OR REPLACE DAMAGED WRAPPINGS. SPRAY AS REQUIRED TO KEEP ALL PLANTS FREE OF INSECTS AND DISEASE.

C. WATERING

1. IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK AND IN SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATERING SHALL NOT BE DONE DURING THE HEAT OF THE DAY. CONTRACTOR SHALL PROVIDE A SEPARATE LUMP SUM PRICE IN THE OVERALL LANDSCAPE BID FOR WATERING TO ALL NEW PLANTINGS DURING ONE GROWING SEASON.

D. EXCAVATION:

1. DEPTH AND WIDTH OF EXCAVATION FOR PLANTING OF ALL PLANTS SHALL BE TO TWICE THE DEPTH AND WIDTH OF ROOT BALL OR CONTAINER OF PLANT TO BE INSTALLED, EXCEPT AS NOTED ON DETAILS.

E. TOPSOIL, PLANTING MIX, FERTILIZER, MULCH AND SOIL AMENDMENTS:

1. ALL TOPSOIL SHALL BE WELL GRADED LOAM OF GOOD UNIFORM QUALITY AND SHALL BE A NATURAL FRIABLE SOIL FREE OF OBJECTS LARGER THAN ONE INCH IN ANY DIMENSION, AND FREE OF TOXIC SUBSTANCES, WEEDS AND ANY MATERIAL OF SUBSTANCES THAT MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL CONTAIN AT LEAST ORGANIC MATTER. IF SUFFICIENT TOPSOIL IS NOT AVAILABLE ON THE SITE TO MEET THE DEPTH AS SPECIFIED HEREIN, THE CONTRACTOR SHALL FURNISH ADDITIONAL TOPSOIL. PRIOR TO TOPSOIL DELIVERY, THE CONTRACTOR SHALL OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL OF THE SOURCE FROM WHICH TOPSOIL IS TO BE
2. FOR PLANTING MIX, MIX THOROUGHLY 2/3 APPROVED TOPSOIL (SEE "TOPSOIL") AND 1/3 APPROVED ORGANIC MATTER.
3. FERTILIZER TABLETS OR SPIKES TO BE PLACED AT EACH TREE AND SHRUB AT A RATE OF 1 PER 2" OF TRUNK CALIPER OR GALLON OF ROOTBALL. TABLETS OR SPIKES SHALL NOT BE IN CONTACT WITH THE ROOTBALL.
4. MULCH MATERIAL SHALL BE OF UNIFORM SIZE, FINE SHREDDED TANBARK HARDWOOD MULCH OR APPROVED EQUAL. MULCH SHALL BE A REDDISH DARK BROWN COLOR AND SHALL BE LAID TO A UNIFORM MINIMUM DEPTH OF 2 INCHES. MULCH AREAS AROUND TREES AT THE RATE OF 1' OF DIAMETER PER OF TRUNK CALIPER.
5. HYDROGEL ABSORBENT MATERIAL SHALL BE ADDED TO THE PLANTING HOLE FOR EACH TREE AND SHRUB AT THE RATE OF 4 OUNCES PER 2-1/2" CALIPER OR GALLON OF ROOTBALL. HYDROGEL MATERIAL SHALL BE VITERRA "GELSCAPE," "TERRASORB," OR APPROVED EQUAL.

F. SUBSTITUTIONS:

1. IF A PLANT IS FOUND NOT TO BE SUITABLE OR AVAILABLE, THE LANDSCAPE CONTRACTOR IS TO NOTIFY THE LANDSCAPE ARCHITECT BEFORE BIDDING. THE OWNER OR LANDSCAPE ARCHITECT WILL THEN SELECT A REASONABLE ALTERNATE OR INFORM ALL LANDSCAPE CONTRACTORS OF THE AVAILABILITY OF THE ORIGINAL PLANT.

G. PRUNING, CLEANUP, PROTECTION OF EXISTING MATERIALS AND RESTORATION

1. THE CONTRACTOR SHALL PRUNE PLANT MATERIAL WITHIN TWO (2) DAYS OF INSTALLATION IN ACCORDANCE WITH THE DETAILS AND AS DIRECTED BY THE OWNER'S REPRESENTATIVE.

2. DURING COURSE OF PLANTING, EXCESS AND WASTE MATERIALS SHALL BE CONTINUOUSLY AND PROMPTLY REMOVED, LAWN AREAS KEPT CLEAR, AND ALL REASONABLE PRECAUTIONS TAKEN TO AVOID DAMAGE TO ANY EXISTING LAWNS, PAVING, ETC. NOT SCHEDULED FOR REMOVAL. WHEN PLANTING IN AN AREA HAS BEEN COMPLETED, THE AREA SHALL BE CLEANED UP THOROUGHLY. DEBRIS, RUBBISH, SUBSOIL AND WASTE MATERIALS SHALL BE CLEANED UP AND REMOVED FROM THE PROPERTY. EXISTING GRASS AREAS WHICH HAVE BEEN INJURED BY THE WORK SHALL BE REGRADED AND SODDED TO MATCH THE EXISTING LAWN; THE ENTIRE AREA SHALL BE NEAT AND CLEAN TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT.

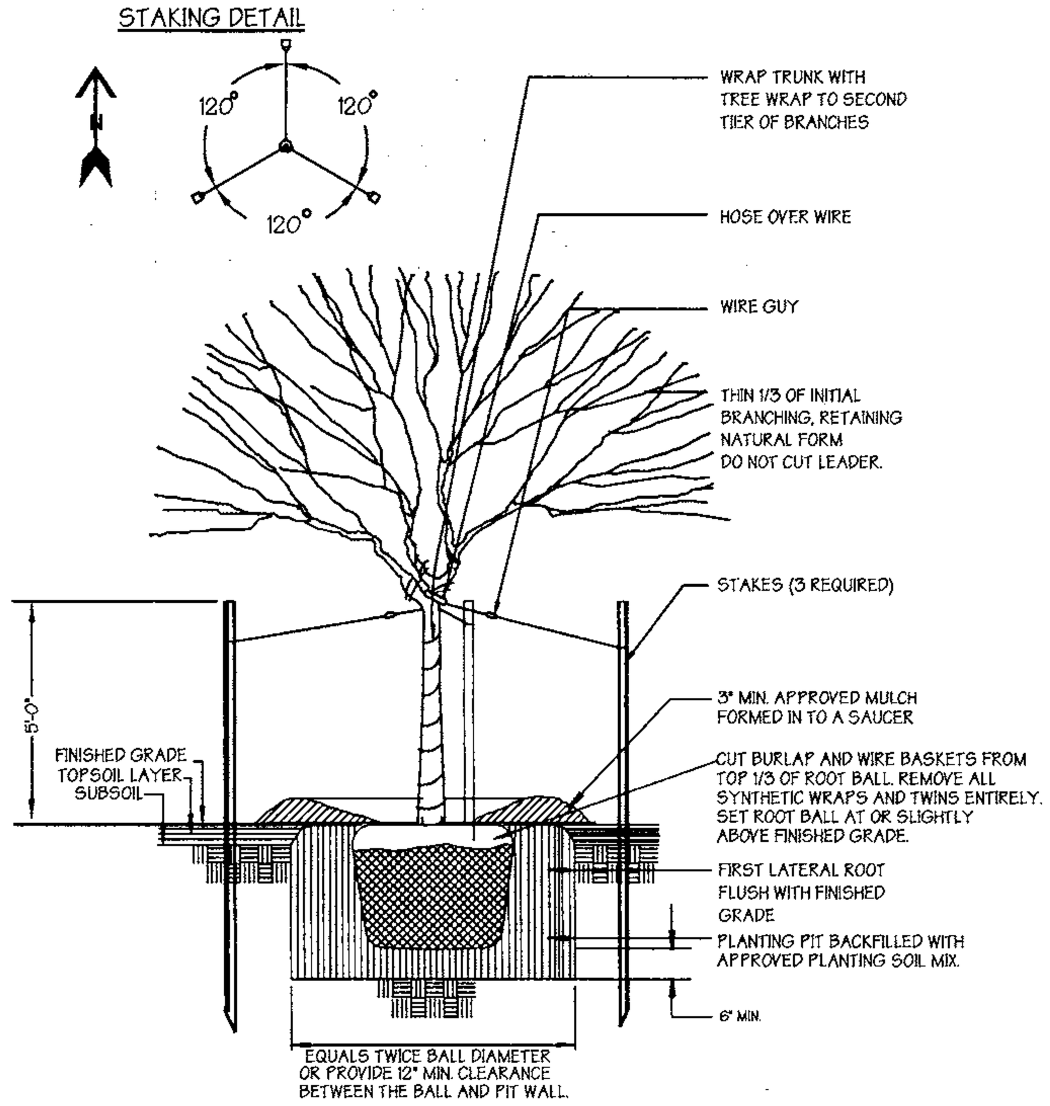
3. CONTRACTOR SHALL, AT ALL TIMES, PROTECT ALL PLANTS AND LAWNS FROM DAMAGE. THE MOVING OF HEAVY EQUIPMENT OR MATERIAL OVER THE LAWN AREAS SHALL BE DONE ON PLANKS OR PONTOONS.

4. THE CONTRACTOR SHALL RESTORE TO THEIR ORIGINAL CONDITION ALL PAVEMENTS, SODDED OR PLANTED AREAS, STRUCTURES OR SUBSTRUCTURES, NOT SCHEDULED FOR REMOVAL, WHICH ARE DISTURBED BY THE CONTRACTOR DURING PLANTING OPERATIONS. SUCH RESTORATION SHALL BE IN A MANNER SATISFACTORY TO THE LANDSCAPE ARCHITECT AND AT NO ADDITIONAL COST TO THE OWNER.

H. FINAL INSPECTION AND GUARANTEE:

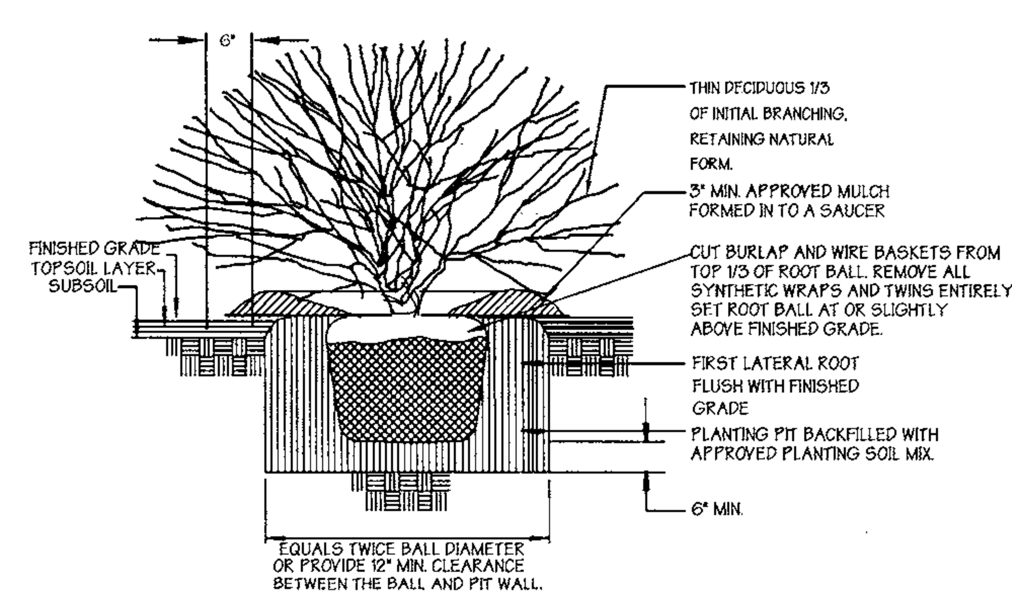
1. AFTER PLANTING IS COMPLETED (INCLUDING MULCHING AND CLEAN-UP) THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING TO REQUEST FINAL INSPECTION OF THE TOTAL PLANTING. THE LANDSCAPE ARCHITECT SHALL MAKE A FINAL INSPECTION VISIT AS SOON AS POSSIBLE. LANDSCAPE ARCHITECT SHALL NOTIFY THE LANDSCAPE CONTRACTOR, IN WRITING, WHEN ALL WORK IS SATISFACTORILY COMPLETE. IF WORK IS NOT SATISFACTORILY COMPLETE, THE LANDSCAPE ARCHITECT WILL NOTIFY THE LANDSCAPE CONTRACTOR, IN WRITING, AS TO THE DEFICIENCIES IN THE WORK AND THE NECESSARY CORRECTIVE MEASURES. THE LANDSCAPE CONTRACTOR WILL BE GIVEN A REASONABLE AMOUNT OF TIME TO CORRECT THE DEFICIENCIES, AND ANOTHER FINAL INSPECTION WILL BE SCHEDULED BY THE LANDSCAPE ARCHITECT.

2. ALL PLANT MATERIAL AND LAWN AREAS SHALL BE GUARANTEED TO BE IN A VIGOROUS GROWING CONDITION ONE YEAR FROM THE DATE OF FINAL INSPECTION AND ACCEPTANCE. AT THE TERMINATION OF THIS PERIOD, THE CONTRACTOR SHALL HAVE COMPLETED THE PRECEDING MAINTENANCE SCHEDULE. ANY PLANTS INFECTED WITH DISEASE OR INSECTS WILL BE REMOVED OR TREATED. ALL DEAD OR UNACCEPTABLE PLANTS WILL BE REPLACED BY THE SAME PLANTS AND SIZES DESIGNATED ON THE PLANT LIST. THESE PLANTS SHALL BE PLANTED, MULCHED AND GUY AS SPECIFIED HEREIN AND WITHOUT EXTRA COMPENSATION TO THE CONTRACTOR. AT THE COMPLETION OF ALL SUCH WORK AND WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT, THE CONTRACT WILL BE CONSIDERED COMPLETE.



Deciduous Tree Planting Detail

NOT TO SCALE



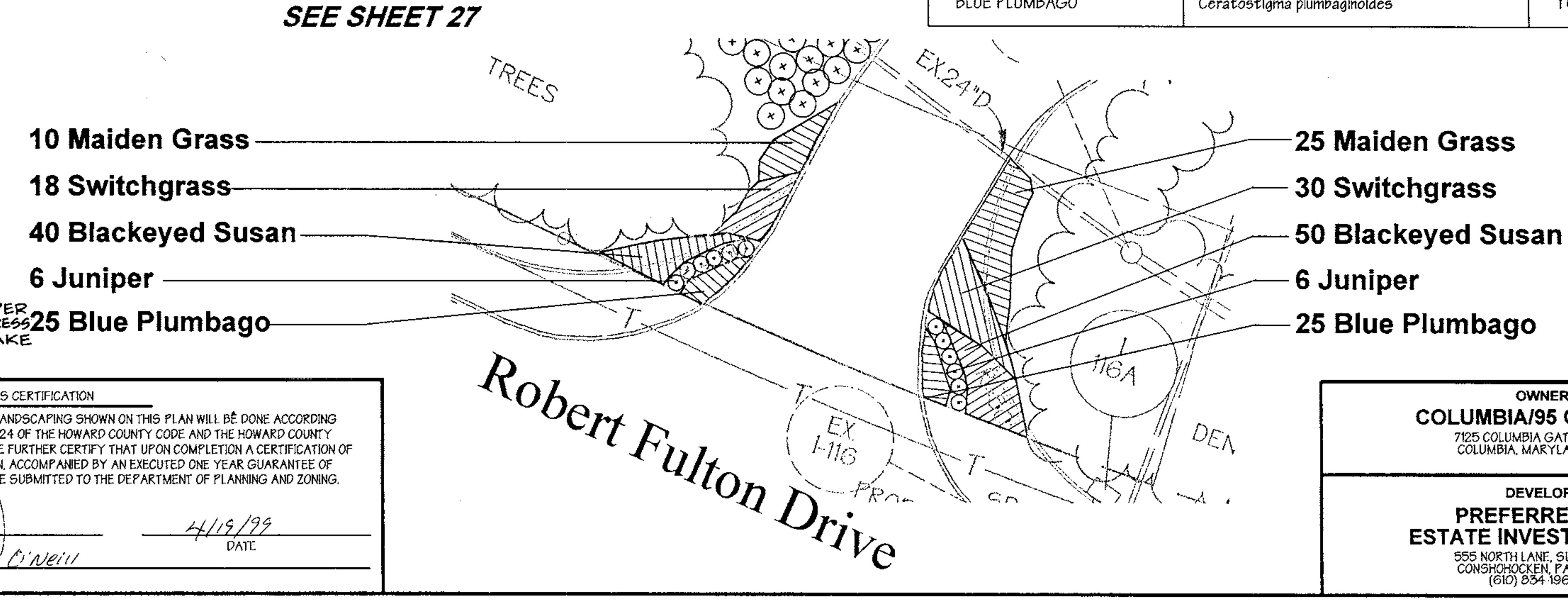
Shrub Planting Detail

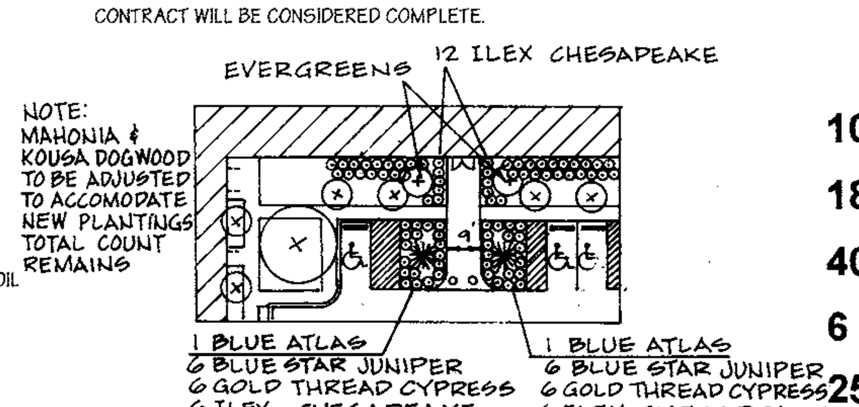
NOT TO SCALE

Entrance Planting Detail

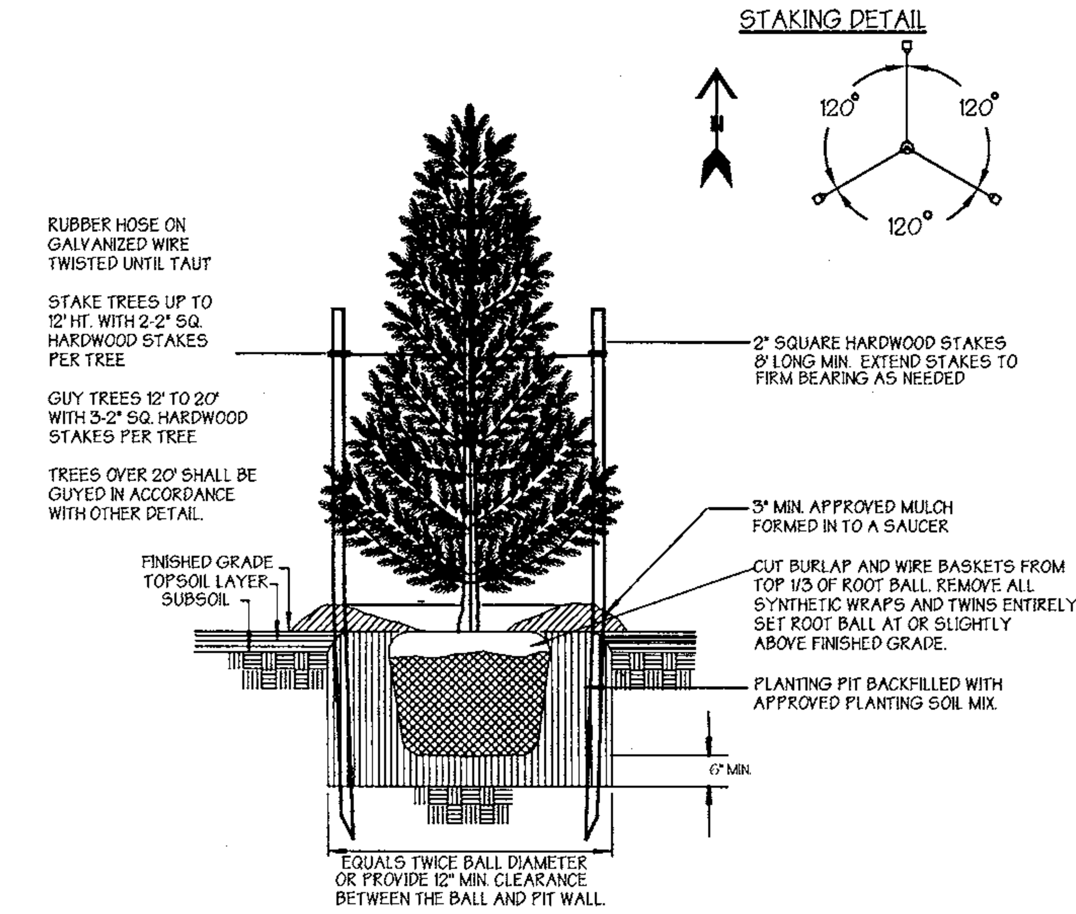
SCALE: " = 20'

SEE SHEET 27





2 LANDSCAPE MODIFICATIONS AT ENTRANCE



Evergreen Tree Planting Detail

NOT TO SCALE

Plant List

COMMON NAME	BOTANICAL NAME	SIZE	NOTES	QTY
PINOAK	Quercus palustris	2-1/2" - 3" CAL		58
SUGAR MAPLE	Acer Saccharum 'GREEN MOUNTAIN'	2-1/2" - 3" CAL		26
LITTLELEAF LINDEN	Tilia cordata 'GREENSPIRE'	2-1/2" - 3" CAL		26
OCT. GLORY MAPLE	Acer rubrum 'OCTOBER GLORY'	2-1/2" - 3" CAL		36
RED SUNSET MAPLE	Acer rubrum 'RED SUNSET'	2-1/2" - 3" CAL		64
SYCAMORE BLOODGOOD	Platanus occidentalis 'BLOODGOOD'	2-1/2" - 3" CAL		5
GREEN ASH	Fraxinus pennsylvanica 'PATMORE'	2-1/2" - 3" CAL		11
ZELKOVA	Zelkova serrata 'VILLAGE GREEN'	2-1/2" - 3" CAL		156
SAWTOOTH OAK	Quercus accutissima	2-1/2" - 3" CAL		16
WINTER KING HAWTHORN	Craetaegus viridis 'WINTER KING'	2" - 2-1/2" CAL.	15' O/C	17
GOLDEN RAIN TREE	Koelreuteria paniculata	2" - 2-1/2" CAL.		11
REDBUD	Cercis canadensis 'FOREST PANSY'	2" - 2-1/2" CAL.	15' O/C	30
KOUSA DOGWOOD	Cornus kousa 'MILKY WAY'	2" - 2-1/2" CAL.	15' O/C	32
TWO-WINGED SILVERBELL	Halesia diptera 'MAGNIFLORA'	2" - 2-1/2" CAL.	15' O/C	8
CRABAPPLE	Malus hupehensis 'INDIAN MAGIC'	2" - 2-1/2" CAL.	15' O/C	18
ITEA	Itea japonica 'LITTLE HENRY'	18" - 24" HGT.	3' O/C	85
SAN JOSE JUNIPER	Juniperus chinensis 'SAN JOSE'	18" - 24" HGT.	3' O/C	56
GLOSSY ABELIA	Abelia grandiflora	24" - 30" HGT.	5' O/C	384
FORSYTHIA	Forsythia 'GOLD TIDE'	24" - 30" HGT.	5' O/C	107
CRIMSON PYGMY BARBERRY	Berberis thunbergi 'CRIMSON PYGMY'	18" - 24" HGT.	3' O/C	129
MAHONIA (Oregon Grape Holly)	Mahonia aquifolium	18" - 24" HGT.	3' O/C	170
WHITE PINE	Pinus strobus	6'-8' HGT		32
SERBIAN SPRUCE	Picea omorika	6'-8' HGT		25
ENGLISH HOLLY	Ilex x 'NELLIE STEVENS'	6'-8' HGT		11
AMERICAN HOLLY	Ilex opaca	6'-8' HGT		5
MAGNOLIA	Magnolia virginiana	6'-8' HGT		1
FOUNTAIN GRASS	Pennisetum alopecuroides	1 Gallon	24" O/C	290
SWITCHGRASS	Panicum virgatum 'HAENSE HERMS'	1 Gallon	30" O/C	173
MAIDEN GRASS	Miscanthus gracillimus	1 Gallon	36" O/C	35
BLACKEYED SUSAN	Rudbeckia fulgida 'GOLDSTURM'	1 Gallon	24" O/C	425
RUSSIAN SAGE "BLUE SPIRE"	Perovskia atriplicifolia 'BLUE SPIRE'	1 Gallon	18" O/C	265
BLUE PLUMBAGO	Ceratostigma plumbaginoides	1 Gallon	18" O/C	100

SCHEDULE A
PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties	
Landscape Type	1/E	2/A	
Linear Feet of Roadway Frontage/Perimeter	2050 LF	3180 LF	
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	YES 2050 LF	YES, 1530 L.F.	
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	YES 2050 LF	NO	
Number of Plants Required			
Shade Trees	0	28	
Evergreen Trees	0	-	
Shrubs	0	-	
Number of Plants Provided			
Shade Trees	0	52	
Evergreen Trees (2:1substitution)	0	18 = 9	
Other Trees (2:1 substitution)	0	10 = 5	
Shrubs (10:1 substitution)	0	311 = 31	
(Describe plant substitution credits below if needed)		-	

Comments: Existing Trees and Berm to remain as shown on Plan.

SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING

Number of Parking Spaces	2009
Number of Trees Required	101
Number of Trees Provided	447
Shade Trees	367
Other Trees (2:1 substitution)	158 = 79

SCHEDULE D
STORMWATER MANAGEMENT AREA LANDSCAPING

Linear Feet of Perimeter	1710 LF
Credit for Existing Vegetation (No, Yes and %)	YES, 665 L.F., 39%
Credit for Other Landscaping (No, Yes and %)	YES, 8 EXIST PINES TO REMAIN AT POND 3.
Number of Trees Required Shade Trees @ 1 per 50 LF Evergreen Trees @ 1 per 40 LF	 21 20
Number of Trees Provided Shade Trees Evergreen Trees Other Trees (2:1 substitution)	 22 25 9

LANDSCAPE CALCULATIONS:

REQUIRED TREES PER DEED RESTRICTIONS APPLYING HRD COMMERCIAL AND INDUSTRIAL GUIDELINES

26 SHADE TREES PER GROSS ACRE OF OFFICE SITE AREA
37.081 AC.+/- X 12 = 445 SHADE TREES

TREES PROVIDED	EXISTING	NEW	TOTAL
SHADE TREES @1:1	0	435	435
FLOWERING TREES @ 2:1		121	60.5
EVERGREEN TREES @ 2:1		74	37
SHRUBS @ 10:1		937	93.7

TOTAL SHADE TREES PROVIDED 626

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 5/14/99

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

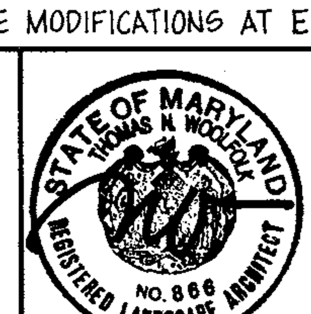
SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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



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 Michael G. O'Neill — DATE 4/19/99
PRINT NAME

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

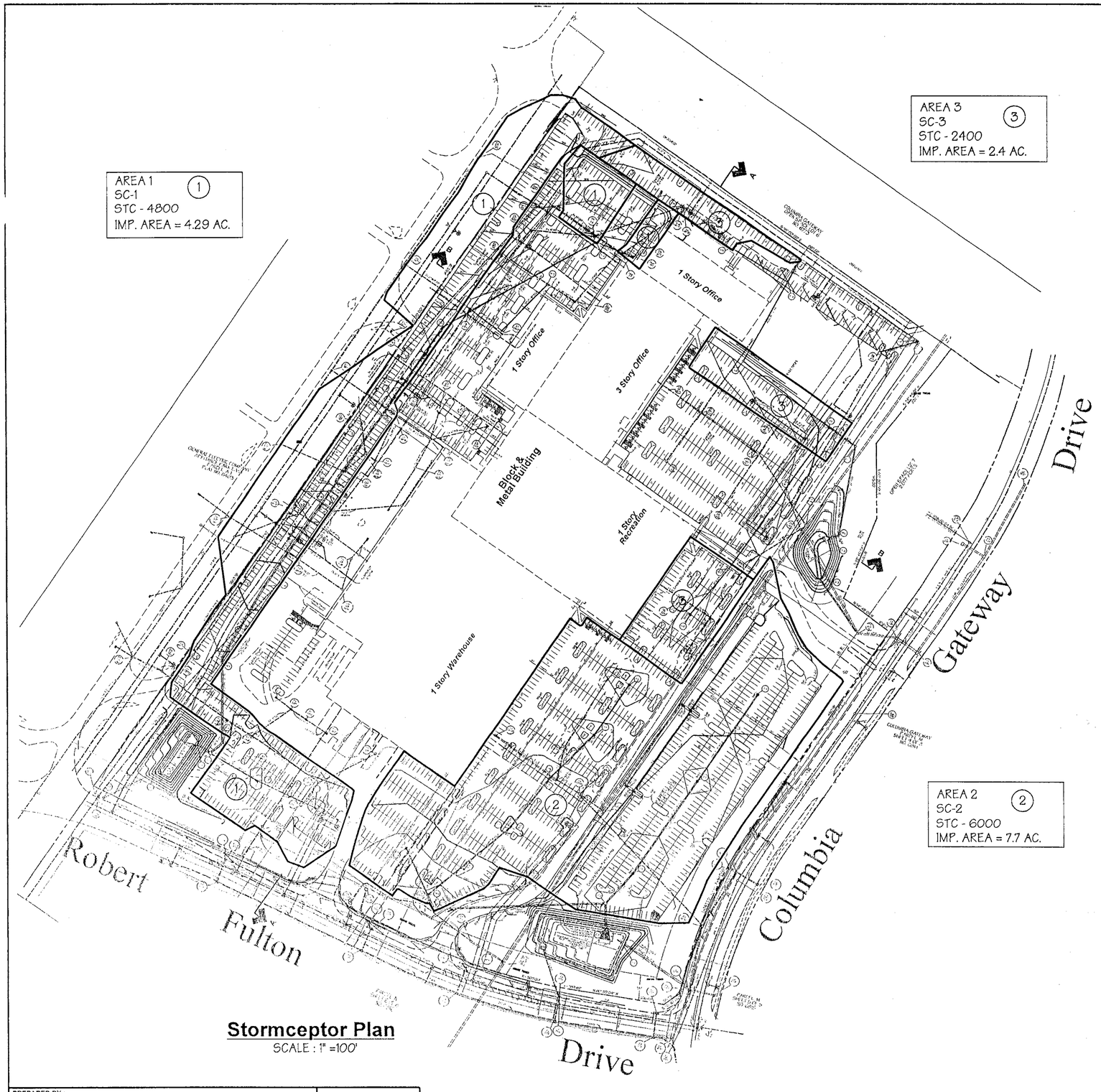
DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS
2 11/29/99 G.W.S. ADDITIONAL LANDSCAPING @ MAIN ENTRANCE

LANDSCAPE DETAILS & SPECIFICATIONS

The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6 — SCALE : As Shown
HOWARD CO., MARYLAND SHT.29 OF 32 DATE : DECEMBER 4, 1998

9053c_29landscapedetails.s01 — **SDP 99-59** — EMT 03/31/99



Stormceptor Plan

SCALE : 1" =100'

1.0 Installation Procedures

1.1 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 :

1. aggregate base
2. base slab
3. treatment chamber section(s)
4. transition slab (if required)
5. by-pass section
6. connect inlet and outlet pipes
7. transition slab
8. maintenance access way
9. frame 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 2400, STC 4800, STC 6000

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 48 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 :

1. Center the pipe in the boot opening
2. 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
3. Position the pipe clamp in the groove of the boot with the screw at the top
4. Tighten the pipe clamp screw to 60 inch pounds
5. 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.
6. 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.

OPERATION AND MAINTENANCE SCHEDULE
FOR STORMCEPTOR WATER QUALITY DEVICE

1. 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. Inspections shall be done by using a clear Plexiglass tube ("sludge judge") to extract a water column sample. When the sediment depths exceed the level specified in Table 6 of the Stormceptor Technical Muaual, the unit must be cleaned.
2. The Stormceptor water quality structure shall be checked and cleaned immediately after petrolum spills. The owner shall contract the appropriate regulatory agencies.
3. 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.
4. 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.
5. The owner shall retain and make the Stormceptor Inspection/ Monitoring Forms available to the Howard County Officials upon their request.

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

APPROVED: HOWARD SOIL CONSERVATION DISTRICT — 6/8/99 DATE

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — 6/8/99 DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — 6/11/99 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 6/11/99 DATE

DIRECTOR — 6/14/99 DATE

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	6067.03

WATER CODE -E06 SEWER CODE 5333000

Stormceptor Drainage Area Map

The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND SHT.3OF 32 DATE : DECEMBER 4, 1998
SCALE : As Shown

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

STATE OF MARYLAND — JOHN ARTHUR MARSH — No. 11098 — REGISTERED PROFESSIONAL ENGINEER

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

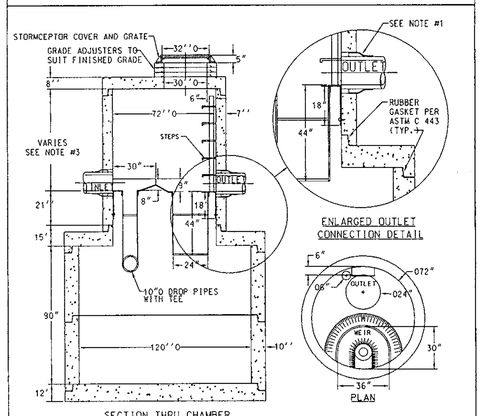
9053c_30stormceptorplans01

SDP 99-59

EAS 1/20/99

SC-1

STC 4800 Precast Concrete Stormceptor*
(4800 US Gallon Capacity)
(Disc Design)



NOTE :
1. FLEXIBLE CONNECTIONS ARE RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. COVER TO BE POSITIONED OVER OUTLET AND VENT PIPE
3. THIS IS A GENERAL ARRANGEMENT DRAWING. CONSULT LOCAL REPRESENTATIVE FOR SPECIAL CONDITIONS.
4. INLET DROP PIPE WILL BE EITHER 10"O OR 12"O WITH A 10"O ORIFICE PLATE
5. ALL CONCRETE JOINTS HAVE RUBBER GASKETS THAT CONFORM TO ASTM C 443
6. U.S. PATENT NO. 4,985,148

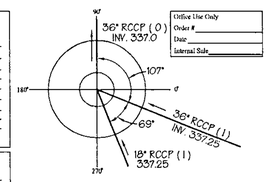
DESIGN SPECIFICATIONS
1. ASTM C 478
2. BASE WEIGHT = 16.53 TONS

STC-4800
SS
REVISED 10/96

Concrete Stormceptor ® Order Request Form * SC-1

Contractor Information
Name
Address
City
State
Zip Code
Contract
Phone
Fax

Office Use Only
Order #
Date
Internal Sale



Please draw orientation of inlet and outlet pipes on diagram along with pipe diameter (in.) and invert elevation (ft.). Clearly mark inlet pipes with an I and outlet pipes with an O and provide the inlet/outlet pipe angle in degrees.

Owner Information
Name
Phone
Fax

Stormceptor® Model	Insert Size	Manhole Number	SC-1
900 ☐ 3600 ☐	22" ☐	Top Elevation (ft)	350.3
1200 ☐ 4800 ☒	32" ☐	Inlet Pipe Invert (ft)	337.25
1800 ☐ 6000 ☒	44" ☒	Outlet Pipe Invert (ft)	337.0
2400 ☐ 7200 ☐	Custom ____	Pipe Type : RCCP	
		Pipe Inside Diameter (in) [ID]	
		Pipe Outside Diameter (in) [OD]	

Project Name Renaissance @ Columbia Gateway
Approximate time frame until required delivery (weeks)
Delivery Address: Street
City State Zip Code
Designer Company George W. Stephens Jr. and Associates, Inc.
Designer Contact Karen Watsic Phone (410) 825-8120 Fax (410) 583-0288

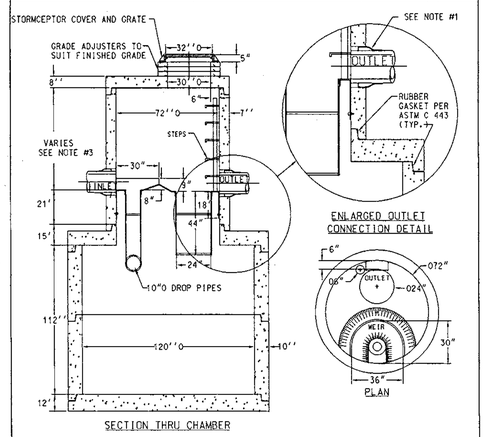
Please fax this order to stormceptor at (301) 762-4190
For Technical Assistance Please Call Stormceptor Corporation at
(301) 762 - 8361 or toll free at 1 (800) 762 - 4703

ALL LIFTING APPARATUS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR

* TO BE INCLUDED ON SWM PLAN BY DESIGNER

SC-2

STC 6000 Precast Concrete Stormceptor*
(6000 US Gallon Capacity)
(Disc Design)



NOTE :
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2. COVER TO BE POSITIONED OVER OUTLET AND VENT PIPE
3. THIS IS A GENERAL ARRANGEMENT DRAWING. CONSULT LOCAL REPRESENTATIVE FOR SPECIAL CONDITIONS.
4. INLET DROP PIPE WILL BE EITHER 10"O OR 12"O WITH A 10"O ORIFICE PLATE
5. ALL CONCRETE JOINTS HAVE RUBBER GASKETS THAT CONFORM TO ASTM C 443
6. U.S. PATENT NO. 4,985,148

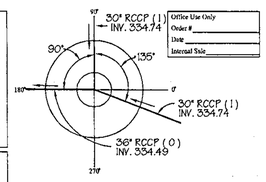
DESIGN SPECIFICATIONS
1. ASTM C 478
2. BASE WEIGHT = 19.72 TONS

STC-6000
SS
REVISED 10/96

Concrete Stormceptor ® Order Request Form * SC-2

Contractor Information
Name
Address
City
State
Zip Code
Contract
Phone
Fax

Office Use Only
Order #
Date
Internal Sale



Please draw orientation of inlet and outlet pipes on diagram along with pipe diameter (in.) and invert elevation (ft.). Clearly mark inlet pipes with an I and outlet pipes with an O and provide the inlet/outlet pipe angle in degrees.

Owner Information
Name
Phone
Fax

Stormceptor® Model	Insert Size	Manhole Number	SC-2
900 ☐ 3600 ☐	22" ☐	Top Elevation (ft)	345.6
1200 ☐ 4800 ☐	32" ☐	Inlet Pipe Invert (ft)	334.74
1800 ☐ 6000 ☒	44" ☒	Outlet Pipe Invert (ft)	334.49
2400 ☐ 7200 ☐	Custom ____	Pipe Type : RCCP	
		Pipe Inside Diameter (in) [ID]	
		Pipe Outside Diameter (in) [OD]	

Project Name Renaissance @ Columbia Gateway
Approximate time frame until required delivery (weeks)
Delivery Address: Street
City State Zip Code
Designer Company George W. Stephens Jr. and Associates, Inc.
Designer Contact Karen Watsic Phone (410) 825-8120 Fax (410) 583-0288

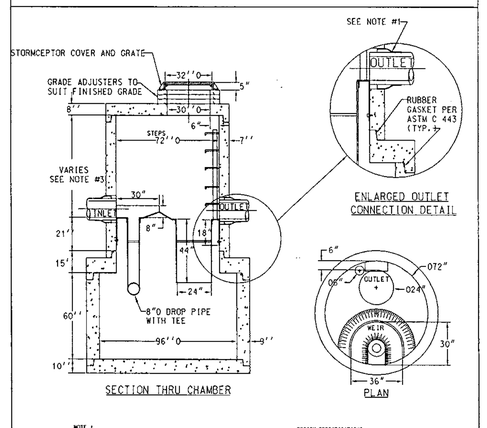
Please fax this order to stormceptor at (301) 762-4190
For Technical Assistance Please Call Stormceptor Corporation at
(301) 762 - 8361 or toll free at 1 (800) 762 - 4703

ALL LIFTING APPARATUS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR

* TO BE INCLUDED ON SWM PLAN BY DESIGNER

SC-3

STC 2400 Precast Concrete Stormceptor*
(2400 US Gallon Capacity)
(Disc Design)



NOTE :
1. FLEXIBLE CONNECTIONS ARE RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. COVER TO BE POSITIONED OVER OUTLET AND VENT PIPE
3. THIS IS A GENERAL ARRANGEMENT DRAWING. CONSULT LOCAL REPRESENTATIVE FOR SPECIAL CONDITIONS.
4. INLET DROP PIPE WILL BE EITHER 8"O OR 12"O WITH A 8"O ORIFICE PLATE
5. ALL CONCRETE JOINTS HAVE RUBBER GASKETS THAT CONFORM TO ASTM C 443
6. U.S. PATENT NO. 4,985,148

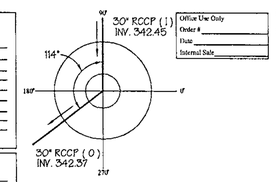
DESIGN SPECIFICATIONS
1. ASTM C 478
2. BASE WEIGHT = 12.82TONS

STC-2400
SS
REVISED 10/96

Concrete Stormceptor ® Order Request Form *SC-3

Contractor Information
Name
Address
City
State
Zip Code
Contract
Phone
Fax

Office Use Only
Order #
Date
Internal Sale



Please draw orientation of inlet and outlet pipes on diagram along with pipe diameter (in.) and invert elevation (ft.). Clearly mark inlet pipes with an I and outlet pipes with an O and provide the inlet/outlet pipe angle in degrees.

Owner Information
Name
Phone
Fax

Stormceptor® Model	Insert Size	Manhole Number	SC-3
900 ☐ 3600 ☐	22" ☐	Top Elevation (ft)	348.0
1200 ☐ 4800 ☐	32" ☐	Inlet Pipe Invert (ft)	342.45
1800 ☐ 6000 ☐	44" ☒	Outlet Pipe Invert (ft)	342.37
2400 ☒ 7200 ☐	Custom ____	Pipe Type : RCCP	
		Pipe Inside Diameter (in) [ID]	
		Pipe Outside Diameter (in) [OD]	

Project Name Renaissance @ Columbia Gateway
Approximate time frame until required delivery (weeks)
Delivery Address: Street
City State Zip Code
Designer Company George W. Stephens Jr. and Associates, Inc.
Designer Contact Karen Watsic Phone (410) 825-8120 Fax (410) 583-0288

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* TO BE INCLUDED ON SWM PLAN BY DESIGNER

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 6/8/99

PLAN NUMBER

These plans have been reviewed for the Howard Conservation District and meet the technical requirements for ~~small pond construction~~, soil erosion and sediment control.

NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/8/99

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK — DATE 6/11/99

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/11/99

DIRECTOR — DATE 6/14/99

CONSULTANTS 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 Soil Conservation District.

Engineer — Date: 2/16/99
Name JAMES A. MARKLE JR.

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
8803	1	M-1	43	6	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

DEVELOPER CERTIFICATION:

I/We certify that all development and/or construction will de 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 — Date: 2-16-99
Name ERIK KOLAR

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 — P.E. # 11005
Name JAMES A. MARKLE JR. — Date: 2/16/99

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1869

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.
REVISIONS

Stormceptor Details
The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6
HOWARD CO., MARYLAND
SHT. 31 OF 32
SCALE : As Shown
DATE : DECEMBER 4, 1998

9053sc_31stormceptorplans02

SDP 99-59

EMT 02/16/99

Construction Notes

UTILITY NOTES

UT1. CONTRACTOR TO VERIFY SIZE, LOCATION, AND ELEVATION OF ALL WATER, SEWER, GAS STORMDRAIN, LIGHTING AND ELECTRICAL @ THE BUILDING WITH THE MECHANICAL CONTRACTOR BEFORE BEGINNING CONSTRUCTION OF SERVICE CONNECTIONS TO SERVE THE BUILDING
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UT7. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 12" VERTICAL MINIMUM CLEARANCE BETWEEN ALL SEWER AND WATER SERVICES AND STORM DRAINS WHERE MINIMUM CLEARANCE REQUIREMENTS FOR SEWER AND WATER MAINS AND SERVICES CANNOT BE MET, 6" CONCRETE ENCASEMENT SHALL BE PROVIDED FOR A LENGTH OF 10' EACH SIDE OF WATER MAIN.
UT8. TRENCH REPAIR AS PER HOWARD COUNTY STD. DETAIL G4.01

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GR5. MAXIMUM SLOPE SHALL BE 2 HORIZONTALLY TO 1 VERTICAL
GR6. ALL AREAS NOT BEING PAVED OR RECIEVED BUILDING COVERAGE SHALL BE STABILIZED IN ACCORDANCE WITH THE PLANS APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT.

PAVING NOTES

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P2. THE CONTRACTOR SHALL REPLACE ANY EXISTING BITUMINOUS PAVING OR SUB-BASE WHICH IS DAMAGED OR REMOVED DURING CONSTRUCTION TO MATCH ORIGINAL CONDITIONS. ALL EXCAVATED AREAS SHALL BE BACKFILLED AND COMPACTED AS DIRECTED BY GEOTECHNICAL ENGINEER/OUTLINED IN GEOTECHNICAL REPORT. ANY AREAS TO BE PAVED WHICH EXHIBIT UNSTABLE SUBGRADE CONDITIONS SHALL BE EXCAVATED TO BEARING SOIL, REFILLED AND COMPACTED.
P3. CONTRACTOR SHALL PLACE PROPOSED SURFACE COURSE OVERLAY 5' BEYOND LIMITS OF REPLACEMENT PAVING, UNLESS DIRECTED OTHERWISE BY THE ENGINEER IN THE FIELD ALL OVERLAYS SHALL HAVE SMOOTH, STRAIGHT EDGES. STRIP AND RESURFACE EXISTING PAVING AS NEEDED TO PROVIDE SMOOTH TRANSITION.
P4. SIDEWALK TO CONFORM TO DETAIL SHOWN HEREON. SLOPE, WIDTH, AND LOCATION AS SHOWN HEREON.
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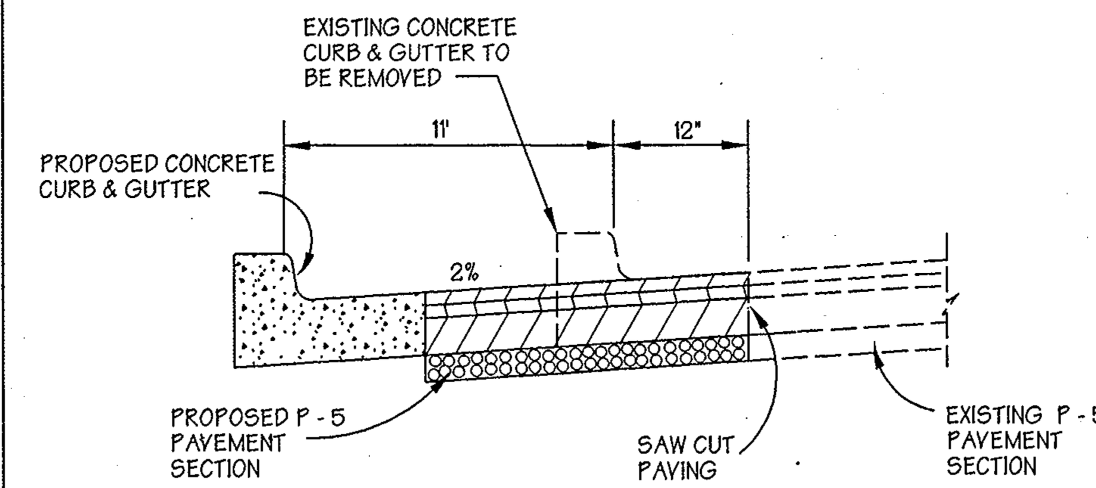
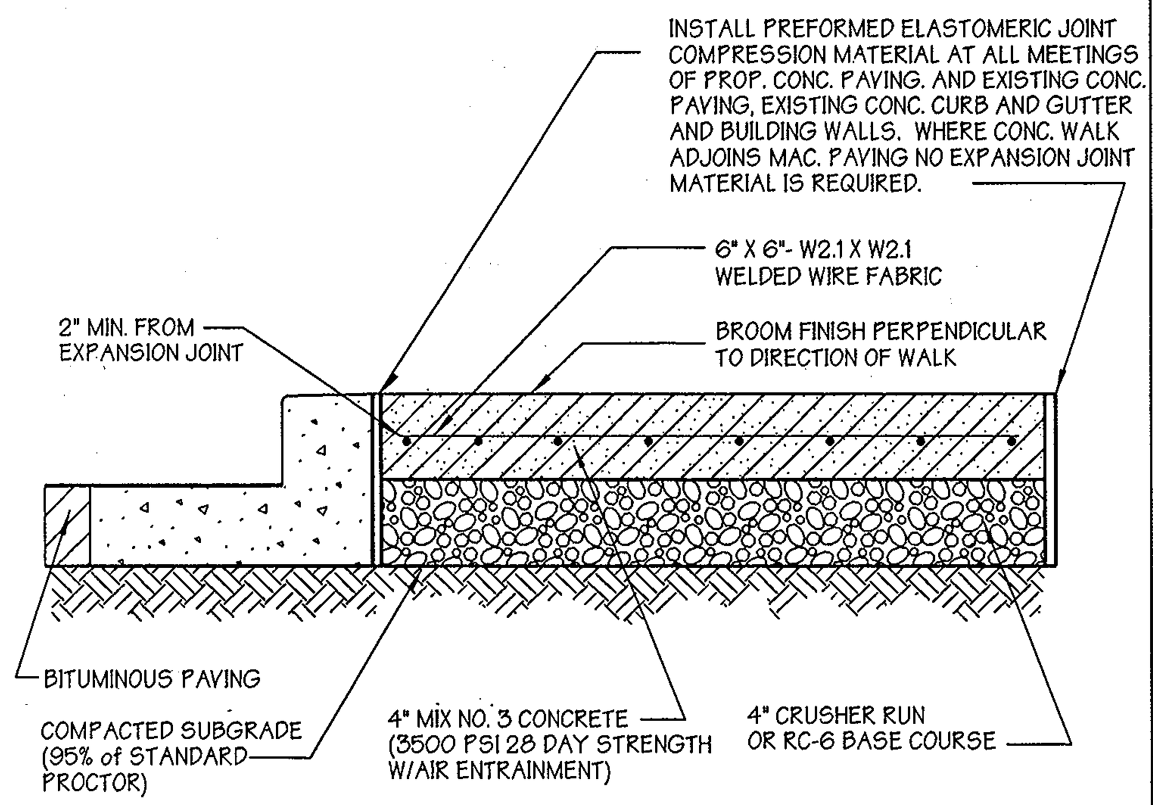
P7. ALL TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE " MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES " ALL STREET AND REGULATORY SIGNS SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF THE FINISHED PAVING.



Typical Road - Widening Section for Robert Fulton Drive

NOT TO SCALE

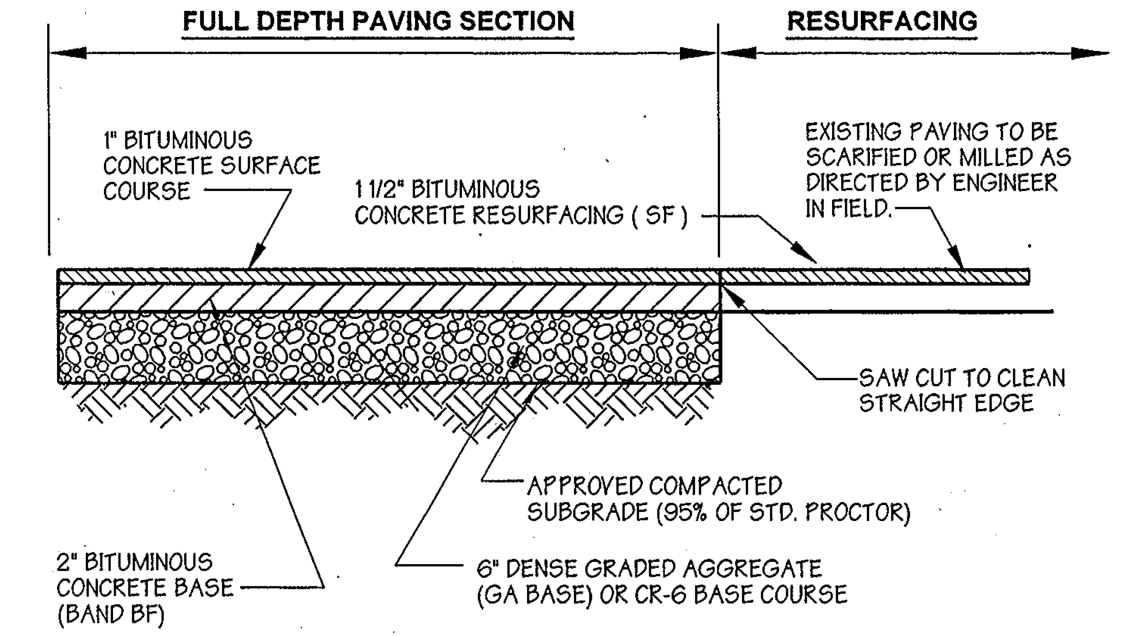
Standard Howard County Design Manual IV Detail R - 10.01



NOTE :
SIDEWALK SHALL HAVE CONTROL JOINTS @ 4' INTERVALS AND 1/2" PREFORMED BITUMINIOUS EXPANSION JOINTS @ 16' INTERVALS.

Sidewalk Paving Section

NOT TO SCALE



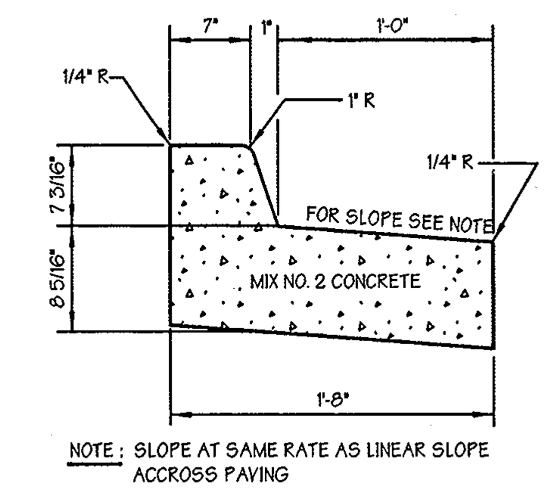
Light Duty Paving Section and Resurfacing

Not to Scale

NOTES :

1. PAVING SECTION DESIGN BY HILLIS,CARNES ENGINEERING ASSOC.

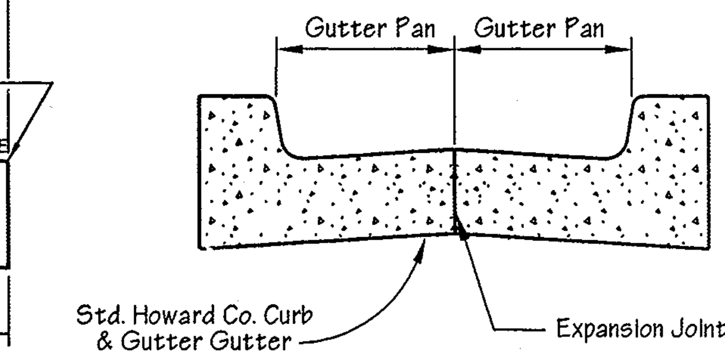
2. PAVEMENT SECTIONS ARE BASED ON ONSITE SANDY SOILS BEING UTILIZED FOR SUBGRADE MATERIAL IN FILL AREAS. IF CLAY IS EXPOSED DURING SUBGRADE CUTS, THE SUBGRADE SHALL BE UNDERCUT IN ACCCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS. OFFSITE BORROW FOR SUBGRADE MATERIAL SHALL BE APPROVED BT GEOTECHNICAL ENGINEER.



NOTE : SLOPE AT SAME RATE AS LINEAR SLOPE ACCROSS PAVING

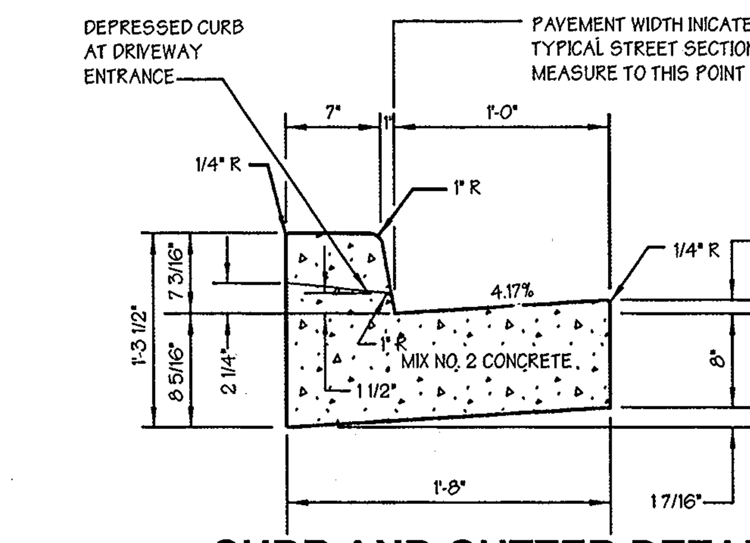
REVERSE SLOPE CURB AND GUTTER

NOT TO SCALE



Curb Opening Detail

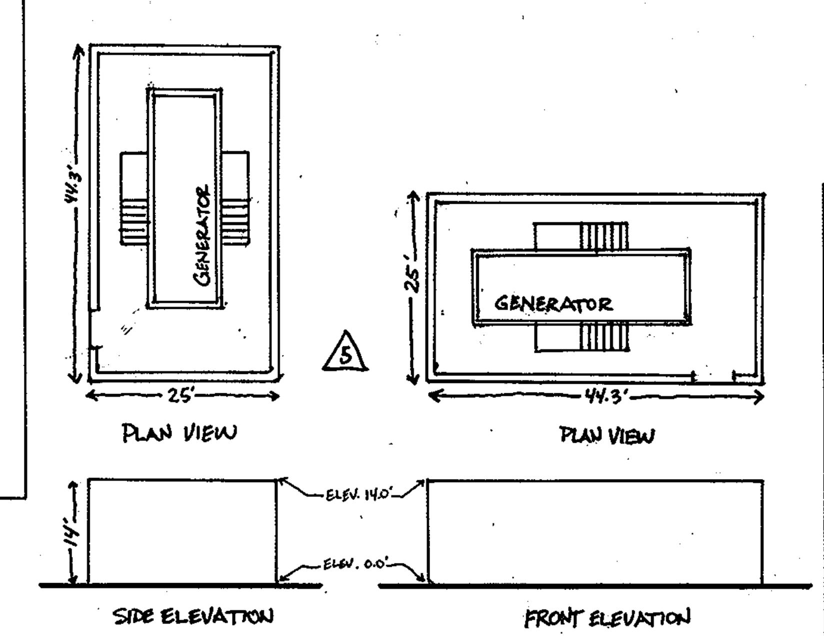
NOT TO SCALE



CURB AND GUTTER DETAIL

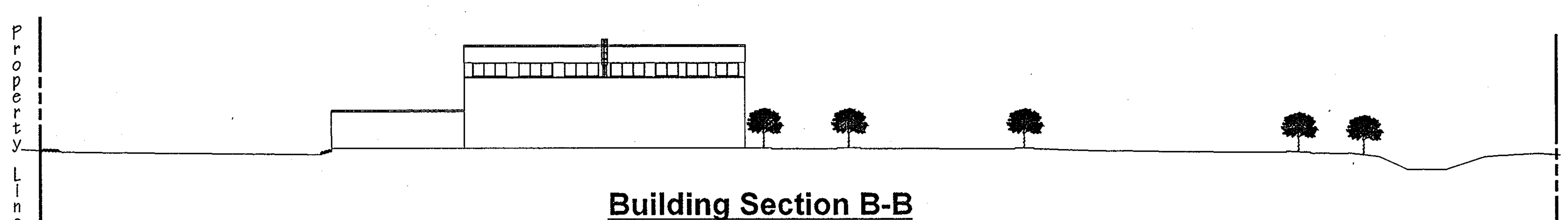
NOT TO SCALE
SEE HO. CO. STD. DTL. R-3.01

NOTE :
1. CONTRACTOR SHALL PROVIDE APPROPRIATE CURB AND GUTTER CONFIGURATION TO PROVIDE POSITIVE DRAINAGE TO INLETS.



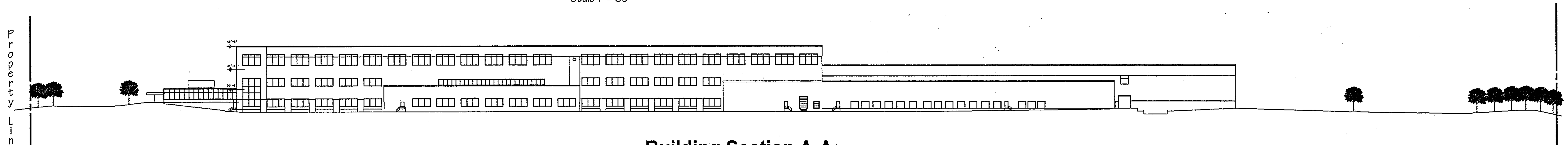
Generator Screen Wall - Sections

Scale: 1" = 10'



Building Section B-B

Scale 1" = 60'



Building Section A-A

Scale 1" = 60'

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	6/11/99 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	6/11/99 DATE
DIRECTOR	6/14/99 DATE

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME			SECTION NAME		PARCEL #
COLUMBIA GATEWAY			N/A		671
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
	1	M-1	43	6	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

STATE OF MARYLAND · JAMES ADAM MARKLE, JR. · No. 11005 · REGISTERED PROFESSIONAL ENGINEER

LANDSCAPE ARCHITECT #3189 · ADAM J. MORMAN · STATE OF MARYLAND · 3/7/13

5

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

REVISIONS
5 09/07/2011
BY: AXIOM ENGINEERING DESIGN
ADD GENERATOR, GENERATOR PAD GENERATOR SCREENING, BOLLARDS, CONNECT ELECTRIC WITH CONDUIT TO BUILDING. REVISE PARKING COUNT

Site Details/Constr Notes/Sections

The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6 SCALE : As Shown
HOWARD CO., MARYLAND SHT. 32 OF 32 DATE : DECEMBER 4, 1998

9053c_32sitedetails.s01

SDP 99-59

EMT 1-26-99

Construction Notes

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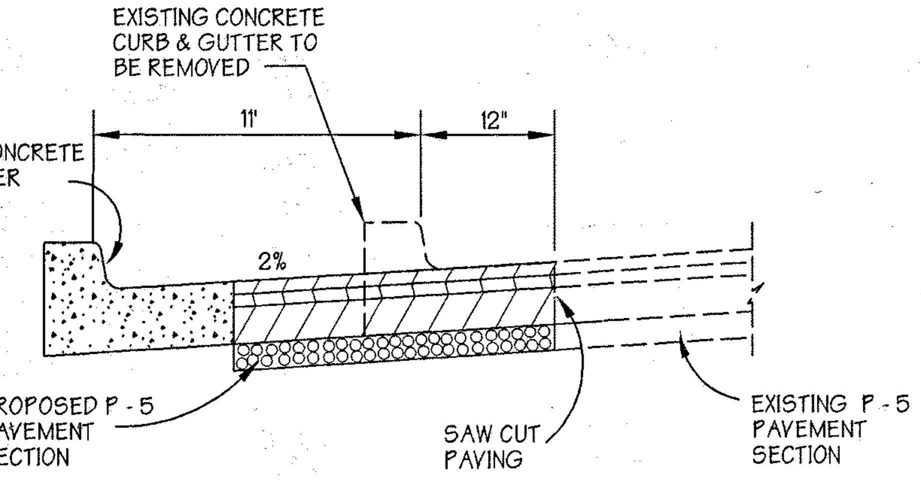
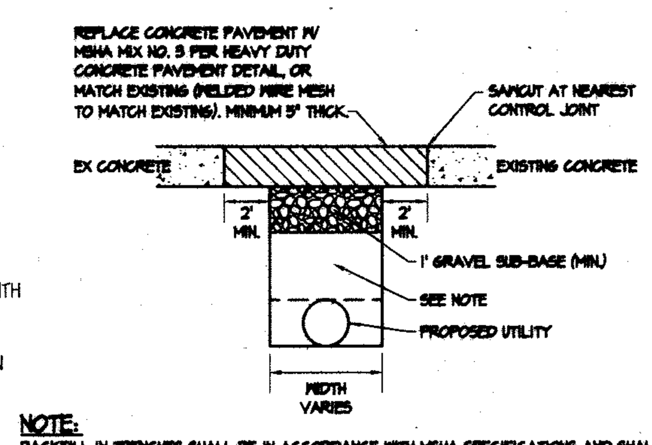


Typical Road - Widening Section for Robert Fulton Drive

NOT TO SCALE

Standard Howard County Design Manual IV Detail R - 10.01

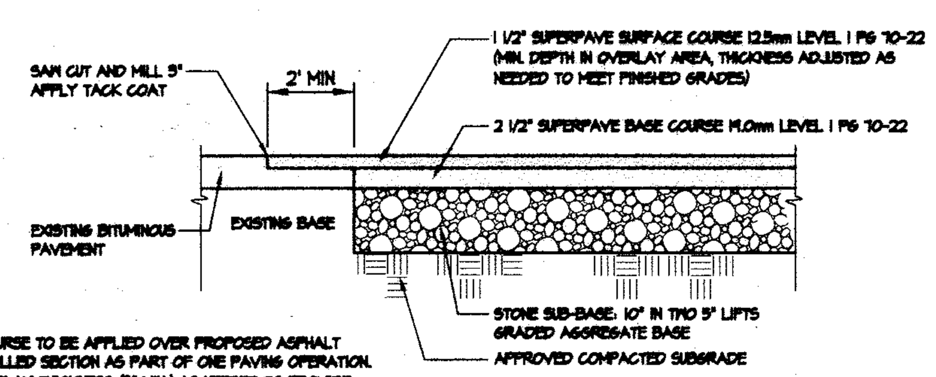


NOTE:
BACKFILL IN TRENCHES SHALL BE IN ACCORDANCE WITH MSHA SPECIFICATIONS AND SHALL BE THOROUGHLY COMPACTED IN 6" LAYERS FOR THE FULL DEPTH OF THE TRENCHES BY TAMPING OR BY SOME OTHER APPROVED METHOD TO WITHIN 1' OF THE TOP OF SUBGRADE. THE REMAINING DEPTH OF THE TRENCH SHALL BE FILLED WITH THOROUGHLY COMPACTED CRUSHED STONE, SLAG OR GRAVEL. WHENEVER SHEETING OR SHORING IS REQUIRED TO PREVENT CAVE-INS OR BELLYING DUE TO THE DEPTH OF THE TRENCH OR TYPE OF MATERIAL ENCOUNTERED, THE SHEETING, WHEREVER FOUND NECESSARY, SHALL REMAIN IN PLACE BUT CUT OFF 1' BELOW THE BOTTOM OF THE REPLACED SURFACING. ALL BACKFILL REPLACED SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH MSHA SPECIFICATIONS AND CERTIFIED BY AN APPROVED GEOTECHNICAL TESTING CONTRACTOR. IN LIEU OF CONTROLLED FILL, FLOWABLE FILL IN ACCORDANCE WITH MSHA SPECIFICATIONS MAY BE UTILIZED.

9

1 CONCRETE PAVING RESTORATION DETAIL

NOT TO SCALE

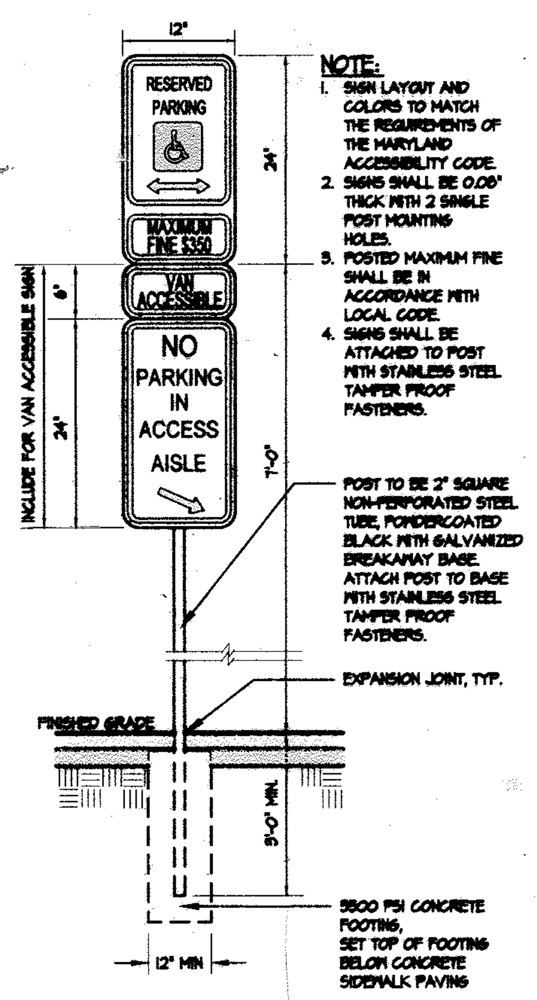


NOTES:
1. SURFACE COURSE TO BE APPLIED OVER PROPOSED ASPHALT BASE AND MILLED SECTION AS PART OF ONE PAVING OPERATION.
2. ADJUST OVERLAY THICKNESS (3" MIN.) AS NEEDED TO PROVIDE INDICATED GRADES.
3. IF EXISTING PAVEMENT SECTION IN MILLED AREAS IS LESS THAN THE ROAD STANDARD, ENTIRE SECTION IS TO BE REMOVED AND REPLACED WITH THE SPECIFIED PAVING SECTION.

2 ASPHALT PAVEMENT & REPAIR DETAIL

NOT TO SCALE

9



NOTE:
1. SIGN LAYOUT AND COLORS TO MATCH THE REQUIREMENTS OF THE MARYLAND ACCESSIBILITY CODE.
2. SIGNS SHALL BE 0.08" THICK WITH 2 SINGLE POST MOUNTING HOLES.
3. POSTED MAXIMUM FINE SHALL BE IN ACCORDANCE WITH LOCAL CODE.
4. SIGNS SHALL BE ATTACHED TO POST WITH STAINLESS STEEL TAMPER PROOF FASTENERS.

POST TO BE 2" SQUARE NON-PERFORATED STEEL TUBE, POWDERCOATED BLACK WITH GALVANIZED BREAKAWAY BASE. ATTACH POST TO BASE WITH STAINLESS STEEL TAMPER PROOF FASTENERS.

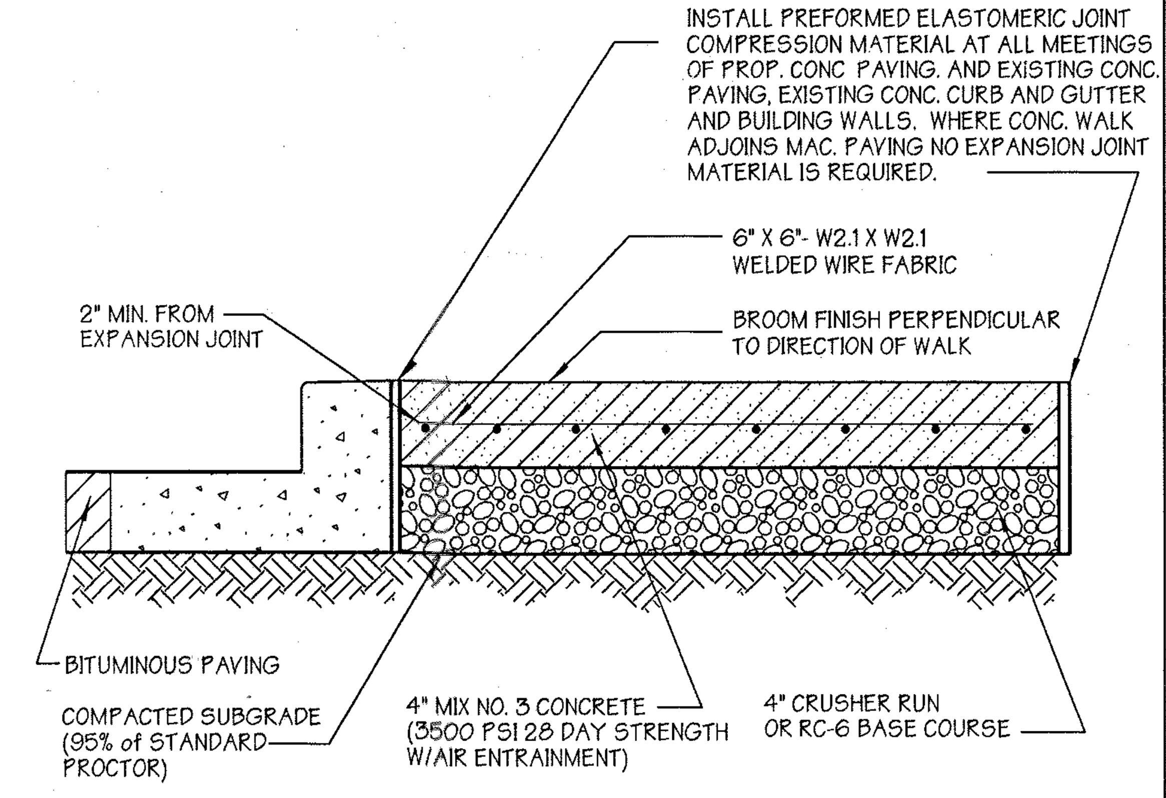
EXPANSION JOINT, TYP.

3500 PSI CONCRETE FOOTING, SET TOP OF FOOTING BELOW CONCRETE SIDEWALK PAVING

3 HANDICAP PARKING SIGN

NOT TO SCALE

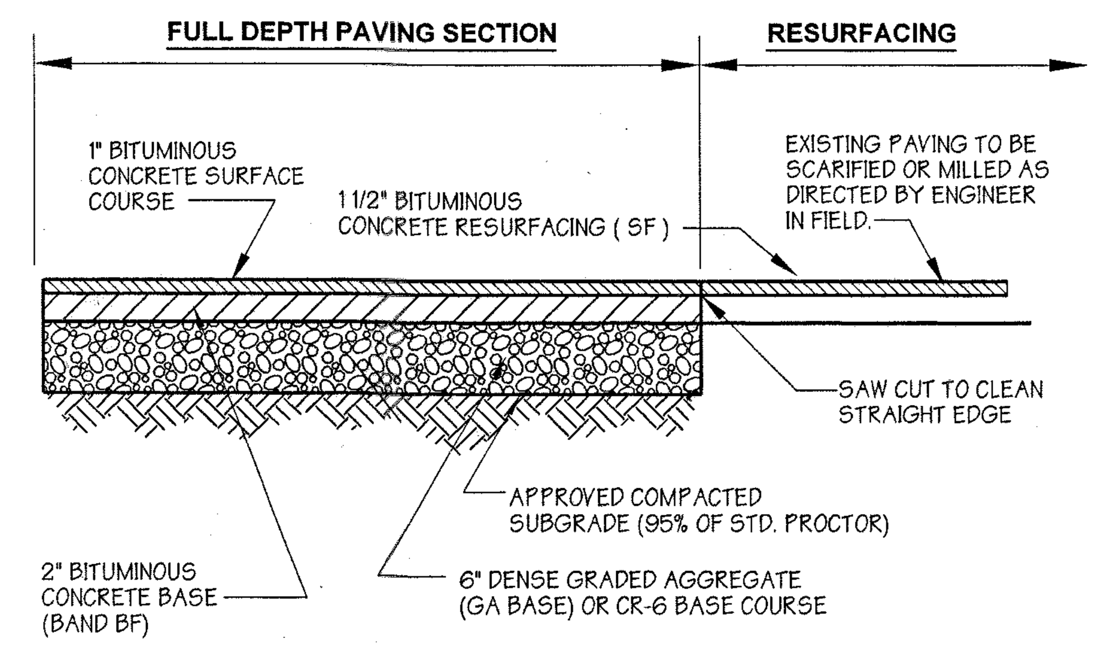
9



NOTE :
SIDEWALK SHALL HAVE CONTROL JOINTS @ 4' INTERVALS AND 1/2" PREFORMED BITUMINIOUS EXPANSION JOINTS @ 16' INTERVALS.

Sidewalk Paving Section

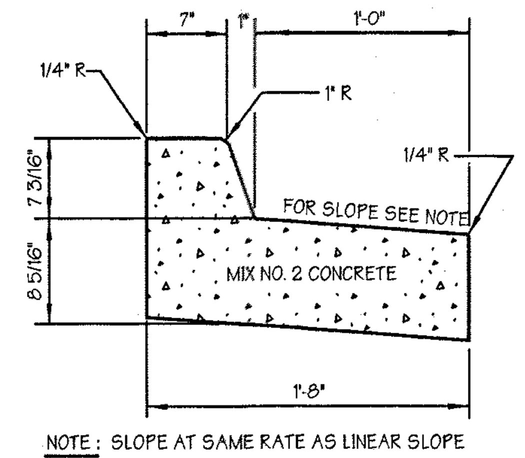
NOT TO SCALE



Light Duty Paving Section and Resurfacing

Not to Scale

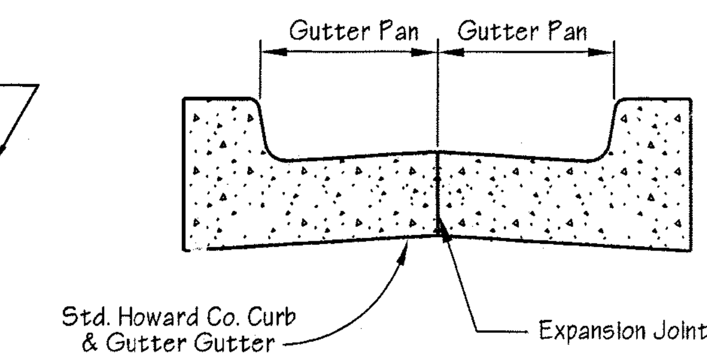
NOTES :
1. PAVING SECTION DESIGN BY HILLIS,CARNES ENGINEERING ASSOC.
2. PAVEMENT SECTIONS ARE BASED ON ONSITE SANDY SOILS BEING UTILIZED FOR SUBGRADE MATERIAL IN FILL AREAS. IF CLAY IS EXPOSED DURING SUBGRADE CUTS, THE SUBGRADE SHALL BE UNDERCUT IN ACCCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS. OFFSITE BORROW FOR SUBGRADE MATERIAL SHALL BE APPROVED BT GEOTECHNICAL ENGINEER.



NOTE : SLOPE AT SAME RATE AS LINEAR SLOPE ACCROSS PAVING

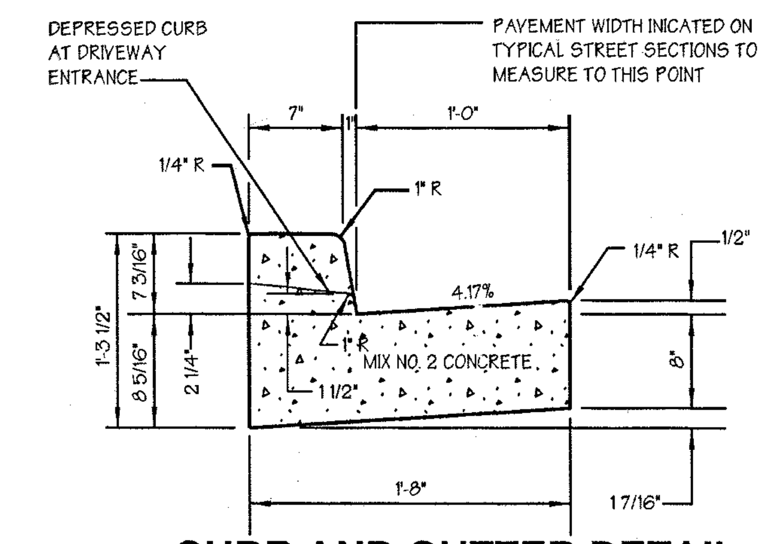
REVERSE SLOPE CURB AND GUTTER

NOT TO SCALE



Curb Opening Detail

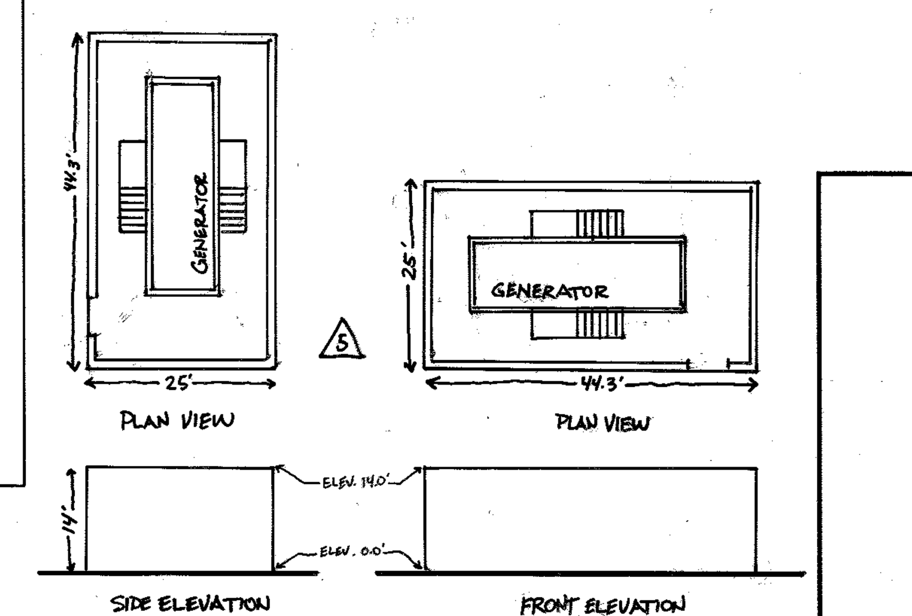
NOT TO SCALE



CURB AND GUTTER DETAIL

NOT TO SCALE
SEE HO. CO. STD. DTL. R-3.01

NOTE :
1. CONTRACTOR SHALL PROVIDE APPROPRIATE CURB AND GUTTER CONFIGURATION TO PROVIDE POSITIVE DRAINAGE TO INLETS.

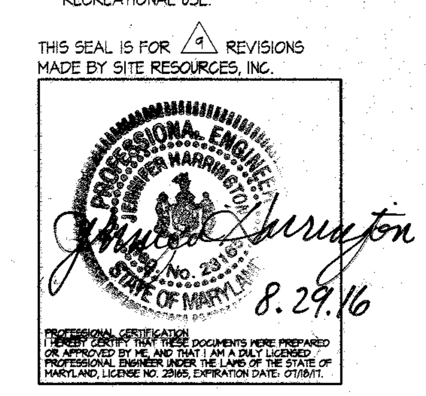


Generator Screen Wall - Sections

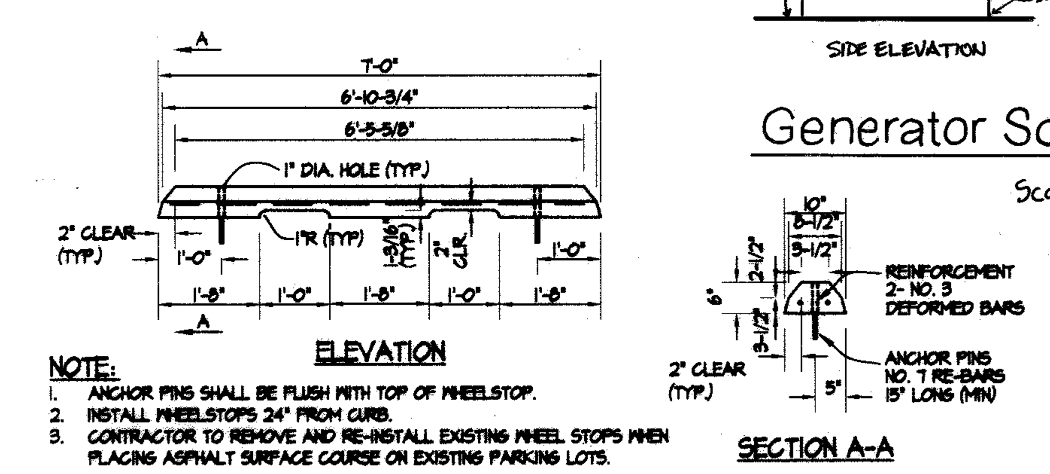
Scale: 1" = 10'

REVISION
9 NEW RAMP AND HC PARKING, REVISED PARKING COUNT TO INCLUDE RECREATIONAL USE.

THIS SEAL IS FOR 9 REVISIONS MADE BY SITE RESOURCES, INC.



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23165, EXPIRATION DATE: 07/18/17.

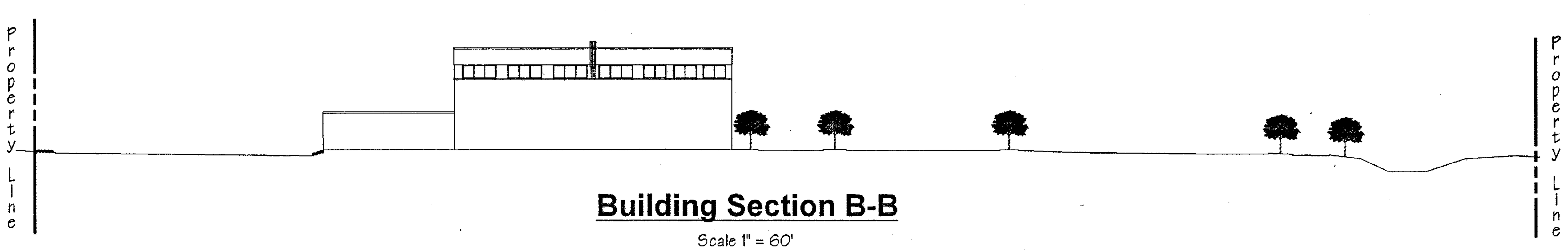


NOTE:
1. ANCHOR PINS SHALL BE FLUSH WITH TOP OF WHEELSTOP.
2. INSTALL WHEELSTOPS 24" FROM CURB.
3. CONTRACTOR TO REMOVE AND RE-INSTALL EXISTING WHEEL STOPS WHEN PLACING ASPHALT SURFACE COURSE ON EXISTING PARKING LOTS.

4 CONCRETE WHEELSTOP

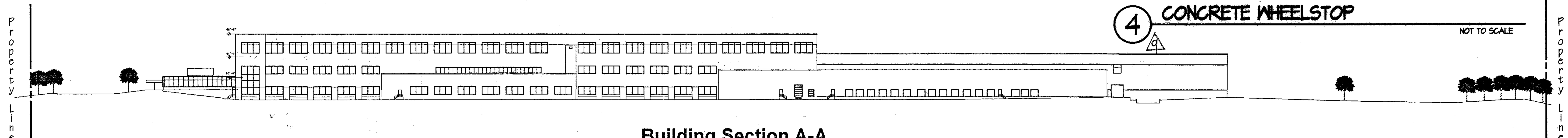
9

NOT TO SCALE



Building Section B-B

Scale 1" = 60'



Building Section A-A

Scale 1" = 60'

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE 6/11/99
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6/11/99
DIRECTOR	DATE 6/14/99

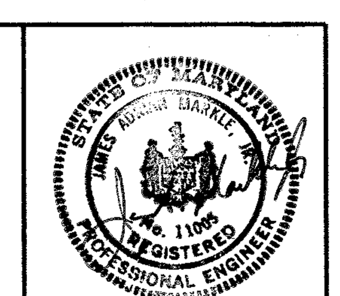
ADDRESS CHART

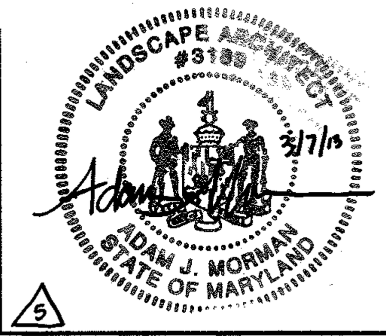
PARCEL NO.	STREET ADDRESS
L	7125 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME			SECTION NAME		PARCEL #
COLUMBIA GATEWAY			N/A		671
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
	1	M-1	43	6	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





5

OWNER
COLUMBIA/95 GROUP L.P.
7125 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

DEVELOPER
PREFERRED REAL ESTATE INVESTMENTS, INC.
555 NORTH LANE, SUITE 6101
CONSHOHOCKEN, PA 19428
(610) 834-1969

DESIGNED BY: K.M.W.
DRAWN BY: E.M.T. / E.A.S.
CHECKED BY: K.M.W.

REVISIONS
5 09/07/2011
BY: AXIOM ENGINEERING DESIGN
ADD GENERATOR, GENERATOR PAD GENERATOR SCREENING, BOLLARDS, CONNECT ELECTRIC WITH CONDUIT TO BUILDING. REVISE PARKING COUNT

Site Details/Constr Notes/Sections

The Renaissance at Columbia Gateway

ELECTION DISTRICT : 6 — SCALE : As Shown
HOWARD CO., MARYLAND SHT. 32 OF 32 DATE : DECEMBER 4, 1998

9053c_32sitedetails.s01

SDP 99-59

EMT 1-26-99