Construction Notes

1. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST 24 HOURS PRIOR TO STARTING ANY OF THE WORK SHOWN HEREON.
2. ALL PLAN DIMENSIONS ARE GIVEN TO FACE OF CURB UNLESS OTHERWISE NOTED. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS.
3. THE CONTRACTOR SHALL NOTE THAT IN CASE OF DISCREPANCY BETWEEN ANY SCALED DIMENSIONS AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
4. CONTRACTOR SHALL MEET ALL EXISTING IMPROVEMENTS SMOOTHLY FOR LINE, GRADE AND FINISH.
5. ALL WORK SHOWN ON THESE PLANS SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND OF THE MARYLAND STATE HIGHWAY ADMINISTRATION AND THE HOWARD COUNTY PLUMBING CODE, UNLESS OTHERWISE NOTED.
6. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM SUCH WORK THE COST OF SUCH WORK SHALL BE INCLUDED IN THE BASE BID.
7. THE CONTRACTOR SHALL INSPECT THE SITE TO DETERMINE IF ANY TREES, PAVING, ETC. ARE TO BE REMOVED PRIOR TO PLACING A BID ON SUCH ITEMS.
8. THE LOCATIONS OF EXISTING UTILITIES SHOWN HEREON ARE APPROXIMATE ONLY AND ARE 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 ANY EXCAVATION OR PLACEMENT OF 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. RELOCATION OF ANY EXISTING UTILITIES, IF NECESSARY, SHALL BE AT THE EXPENSE OF THE OWNER. THE CONTRACTOR SHALL COORDINATE RELOCATION OF THESE FACILITIES, IF NECESSARY.
9. CONTRACTOR SHALL PROTECT ALL EXISTING TREES OUTSIDE THE LIMIT OF DISTURBANCE AT ALL TIMES DURING CONSTRUCTION.
10. CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS NOT SCHEDULED FOR REMOVAL OR DEMOLITION. COST OF REPAIR TO EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE BASE BID. ALL EXISTING SITE FEATURES NOT BEING RETAINED SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED LOCATION. ANY DAMAGE TO OFFSITE ROADS, RIGHTS OF WAY, OR ADJACENT PROPERTY SHALL BE REPAIRED IMMEDIATELY AT THE EXPENSE OF THE CONTRACTOR.
11. THE CONTRACTOR SHALL CLEAR THE PROJECT SITE OF ALL TREES, PAVING, STRUCTURES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS OTHERWISE NOTED ON THE PLAN.
12. ONLY SUITABLE MATERIAL SHALL BE USED AS FILL AND ALL FILL SHALL BE PLACED AND COMPACTED AS SPECIFIED IN THE SOILS REPORT PREPARED FOR THIS SITE OR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. ALL 2:1 SLOPES SHOWN HEREON, EXCEPTING THOSE ASSOCIATED WITH LANDSCAPE BERMING. ALL GRADING UNDER PROPOSED PAVING, AND ALL FILL AND COMPACTION SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.
13. CONTRACTOR SHALL PROVIDE MINIMUM 4 FOOT BENCH AT EDGE OF PAVING IN FILL AREAS. MAXIMUM SLOPE OF BENCH SHALL BE 2% (1/4 IN PER FOOT).
14. MAXIMUM SLOPE SHALL BE 2 HORIZONTALLY TO 1 VERTICALLY.
15. CONTRACTOR SHALL PLACE A WITNESS POST AT THE TERMINUS OF ALL UTILITY STUBS.
16 ALL UTILITIES INSTALLED SHALL RECEIVE FULL TRENCH COMPACTION.
17. CONTRACTOR SHALL PROVIDE A MINIMUM OF 1 FOOT OF PROTECTIVE FILL OVER STORM DRAIN PIPES DURING CONSTRUCTION.
18. CONTRACTOR SHALL PROVIDE ALL PAVEMENT MARKINGS AND SIGNAGE FOR HANDICAP PARKING SPACES INDICATED HEREON IN ACCORDANCE WITH ALL APPLICABLE CODES. ALL PAVEMENT MARKINGS TO BE TRAFFIC WHITE.
19. ALL HANDICAPPED FACILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH THE "DESIGN OF BARRIER FREE FACILITIES" AND THE MARYLAND BUILDING CODE FOR THE HANDICAPPED AND AGED, LATEST EDITION.
20. ALL TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES." ALL STREET AND REGULATORY SIGNS SHALL BE INSTALLED PRIOR TO INSTALLATION OF FINISHED PAVING.
21. THE CONTRACTOR SHALL REPLACE ANY EXISTING BITUMINOUS PAVING OR SUB-BASE WHICH IS DAMAGED OR REMOVED DURING CONSTRUCTION. ALL EXCAVATED AREAS SHALL BE BACKFILLED AND IN ACCORDANCE WITH THE SOILS REPORT AND/OR AS DIRECTED BY GEOTECHNICAL ENGINEER. ANY AREAS TO BE PAVED WHICH EXHIBIT UNSTABLE SUBGRADE CONDITIONS SHALL BE EXCAVATED TO BEARING SOIL, REFILLED AND COMPACTED.
22. ALL AREAS NOT BEING PAVED OR RECEIVING BUILDING COVERAGE SHALL BE STABILIZED IN ACCORDANCE WITH THE PLANS APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT.
23. PREFORMED ELASTOMERIC COMPRESSION JOINT MATERIAL SHALL BE INSTALLED AT ALL MEETINGS OF EXISTING AND PROPOSED CONCRETE PAVING AND SIDEWALKS.
24. ALL STORM DRAINS TO BE RCCP OR HDPE UNLESS OTHERWISE NOTED.
25. ALL EXTERIOR LIGHTING SHALL CONFORM TO ZONING REGULATIONS, SECTION 134.
26. THE PERMIT FOR GRADING IN ENVIRONMENTAL BUFFERS FOR SWM AND STORM DRAIN UTILITIES WP 99-66 WAS APPROVED FEBRUARY 26, 1999 SECTION 16.116 (a) (1) & (2). THE GRADING SHALL BE LIMITED TO THE EXTENT NECESSARY FOR THE CONSTRUCTION OF THE SWM POND AND OUTFALLS, AND STORM DRAIN ALONG OLD MONTGOMERY ROAD THE ENVIRONMENTAL IMPACTS AUTHORIZED BY THIS WAIVER APPLY ONLY TO THE AREAS OF DISTURBANCE AS INDICATED ON THE WAIVER EXHIBIT AND AS DETAILED IN THE ACCOMPANYING "JOINT PERMIT APPLICATION". THOSE DISTURBANCES ARE: +/- 7,500 SQ. FT. OF EXISTING FARM POND TO BE FILLED; +/- 6,000 SQ. FT. OF IMPACT TO THE WETLAND BUFFER FOR THE OUTFALL OF THE PROPOSED SWM POND; +/- 875 SQ. FT. OF WETLAND AND +/- 7,125 SQ. FT. OF WETLAND BUFFER LOCATED BELOW THE EXISTING FARM POND BOTH TO BE FILLED; +/- 650 SQ. FT. OF INTERMITTENT STREM ALONG NORTH SIDE OF OLD MONTGOMERY ROAD TO BE PIPED FOR ROAD WIDENING; AND +\- 500 SQ. FT. OF WETLAND BUFFER IMPACT ALONG THE NORTHERN EDGE OF THE SITE FOR THE PLACEMENT OF AN OUTFALL.
27. THE WET POND AND UNDERGROUND STORMWATER MANAGEMENT FACILITIES ARE DESIGNED AS DETENTION SWM FACILITIES. THE WET POND'S PERMANENT POOL IS ONLY AN AMENITY, AND SERVES NO STORMWATER MANAGEMENT PURPOSES.
28. THE PRIVATE STORMWATER MANAGEMENT WET POND FACILITY MEETS ALL REQUIREMENTS FOR HAZARD CLASS A, REQUIREMENTS STATED IN THE SOIL CONSERVATION SERVICE - MARYLAND STANDARDS AND SPECIFICATIONS FOR POND CODE 378, NOVEMBER 1992.
29. M.D.E. WETLAND TRACKING NUMBER:98-NT-0692/199960989.
30. TRAFFIC GROUP, INC. SHALL COORDINATE THE DESIGN AND INSTALLATION OF THE PROPOSED TRAFFIC SIGNAL LOCATED AT THE INTERSECTION OF UNIVERSITY BLVD. AND MD 108 WITH THE SHA. THE TRAFFIC SIGNAL SHALL BE INSTALLED ONCE 286,000 SQ. FT. OF OFFICE SPACE IS DEVELOPED WITHIN THE SITE.
31. " FOREST CONSERVATION ORDINANCE HAS BEEN COMPLIED WITH IN ACCORDANCE WITH SECTION 16.1202(b)(2)(i)." OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL WITH THE FILING OF A DECLARATION OF INTENT FOR A SINGLE LOT CLEARING LESS THAN 40,000 SQUARE FEET OF FOREST RESOURCES WAS FILED WITH SDP 99-65. THIS PLAN IS EXEMPT PER SECTION 16.1202 (b)(1)(i).
32. "NO CHANGE IN USE OR ADDITIONAL USE IN ANY OF THE FIVE BUILDINGS IS PERMITTED WITHOUT THE PRIOR APPROVAL OF THE DEPARTMENT OF PLANNING AND ZONING."
33. THE TOPOGRAPHIC SURVEY WAS DONE BY GEORGE W. STEPHENS JR. & ASSOCIATES, INC. DATED JULY OF 1998.
34. STATE HIGHWAY ADMINISTRATION PERMIT NUMBERS FOR ROAD IMPROVEMENTS: UTILITY SECTION PERMIT NO. 7-HO-5454 STATE HIGHWAY ADMINISTRATION PERMIT NO. B-HO-7452-00 (ISSUED JULY 10, 2000 AND EXPIRES JULY 10, 2001.)
35. A "BLANKET" SHARED ACCESS AND PARKING EASEMENT FOR ALL PARCELS SHOWN HERE ON HAS BEEN RECORDED IN LIBER 7557 FOLIO 268.
36. THE WATER METER FOR THE BANK IS LOCATED IN BUILDING No.2 AND THAT THE WATER USE FOR THE BANK SHALL BE BILLED TO BUILDING NO.2.

Site Data

TOTAL AREA OF SITE -	892,109 Sq. Ft. or 20.48 Ac.+/-
EXISTING ZONING -	POR
PROPERTY REFERENCE -	L.4950 F.616
EXISTING USE -	HORSE FARM
PROPOSED USE -	BANK/RESTAURANT/RETAIL/OFFICE / DAYCARE
BUILDING COVERAGE -	99,771 Sq.Ft.
% OF BUILDING COVERAGE -	11.18 %
FLOOR AREA -	327,971 Sq.Ft.
FLOOR AREA RATIO -	41%
AREA TO BE PAVED PLUS BUILDING AREA -	566,280 Sq. Ft. or 13.00 Ac.
TOTAL AREA OF PARKING LOT -	464,004 Sq. Ft. or 10.65 Ac.+/-
% OF PARKING LOT COVERAGE -	52%
AREA TO BE DISTURBED -	913,017.6 Sq. Ft. or 20.96 Ac.+/-
AREA TO BE VEGETATIVELY STABILIZED -	325,828.8 Sq. Ft. or 7.48 Ac.+/-

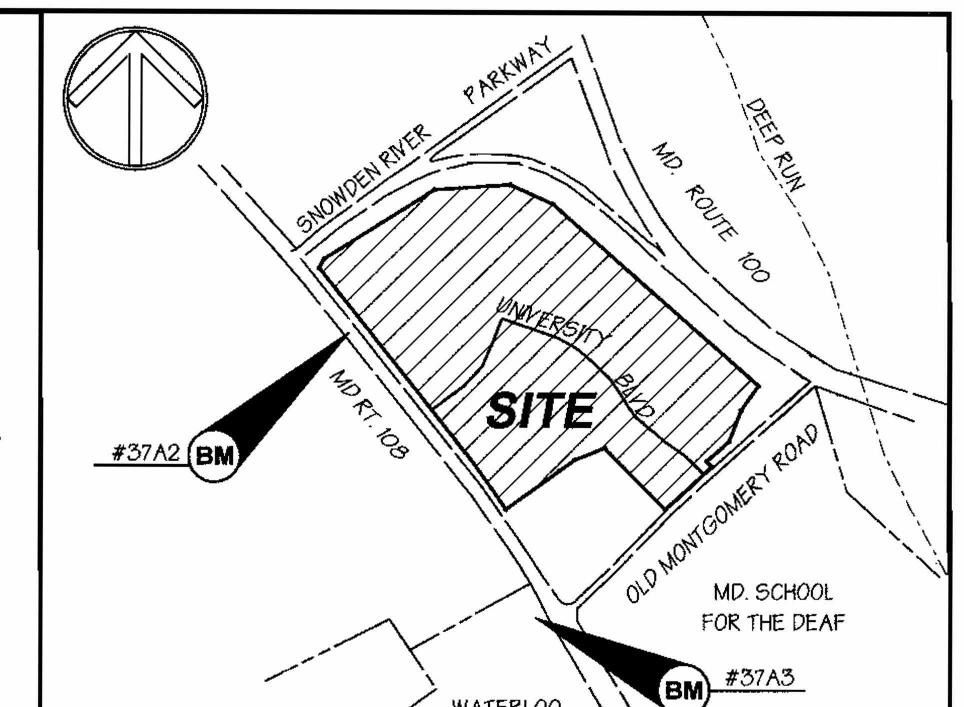
△1 △3 △2

PARCEL	ACRES
PARCEL 'A'	3.6356 Ac.
PARCEL 'B'	4.4040 Ac.
PARCEL 'C'	5.3158 Ac.
PARCEL 'D'	4.8237 Ac.
PARCEL 'E'	2.2355 Ac.
R/W WIDENING DED.	0.0746 Ac.
TOTAL =	20.4892 Ac.

Benchmarks

Pt. #37A2, Aka - 2643002 - Howard Co. Geodetic Control
Northing : 562120.856
Easting : 1369300.289
NAD27 datum N 501371.9, E 856882.1
Elevation : 403.675'

Pt. #37A3, Aka - 2643003 - Howard Co. Geodetic Control
Northing : 561130.803
Easting : 1369913.306
NAD27 datum N 500381.9, E 857495.1
Elevation : 385.627'



Location Map
SCALE 1" = 500'

Site Development Plans
for
△3 PARCELS 'A' THRU 'E'
Columbia Corporate Park 100
Howard County, Maryland
S.D.P. 01-068

DETAILED NOTE FOR WP 03-143
APPROVED AUGUST 06, 2003
APPROVED AN EXTENSION OF SITE DEVELOPMENT PLAN APPROVAL FOR BUILDING PERMITS. BUILDING NO. 4 AND BANK DRIVE THRU. SUBDIVISION AND LAND DEVELOPMENT SECTION 16.156(m)(1)(ii). BUILDING PERMIT EXTENSION DATE IS DECEMBER 31, 2004

DETAILED NOTE FOR ZB 985 M :
APPROVED SEPTEMBER 08, 1998
ON MAY 20, 1998 THE ZONING BOARD CONSIDERED THE PETITION FOR AN ZONING AMENDMENT WITH SITE PLAN PROPOSAL TO RECLASSIFY 20.48 ACRES FROM R-20-MXD-3 (RESIDENTIAL SINGLE MIXED USE DEVELOPMENT) TO POR (PLANNED OFFICE RESEARCH) PARCEL 552 ; EAST SIDE OF MD 108 ; NORTH SIDE OF OLD MONTGOMERY ROAD ; WEST SIDE OF MD 100 AND SOUTH SIDE OF SNOWDEN RIVER PARKWAY EXTENSION (UNIVERSITY OF MARYLAND HORSE FARM).

DETAILED NOTE FOR ZB 1010 M :
APPROVED MARCH 05,2001
ON JANUARY 17, 2001 THE ZONING BOARD CONSIDERED THE PETITION FOR AN AMENDMENT TO AN EXISTING DOCUMENTED SITE PLAN APPROVED IN ZB CASE NO. 985M .FOR A FIVE BUILDING DEVELOPMENT PLAN.

DETAILED NOTE FOR SDP 99-65 :
PREVIOUSLY APPROVED (12/29/99) SITE DEVELOPMENT PLAN (THE HORSE FARM) FOR EIGHT BUILDING DEVELOPMENT OF OFFICE, RETAIL, DAYCARE, RESTAURANT AND BANK WITH RELATED PARKING, STORM DRAINS, STORMWATERMANAGEMENT POND AND UNDERGROUND STORMWATER MANAGEMENT. BUILDINGS 1,2,3 AND 4 WITH UNDERGROUND PARKING.

PARKING CALCULATION CHART △1

PRINCIPAL USE	TOTAL PARKING REQ'D	WEEKDAY DAYTIME 6AM-6PM PERCENT REQ'D	WEEKDAY DAYTIME 6AM-6PM PARKING REQ'D	WEEKDAY EVENING 6PM-MID PERCENT REQ'D	WEEKDAY EVENING 6PM-MID PERCENT REQ'D	WEEKEND DAYTIME 6AM-6PM PERCENT REQ'D	WEEKEND DAYTIME 6AM-6PM PERCENT REQ'D	WEEKEND EVENING 6PM-MID PERCENT REQ'D	WEEKEND EVENING 6PM-MID PERCENT REQ'D	NIGHTTIME PERCENT REQ'D	NIGHTTIME PERCENT REQ'D
OFFICE 302,074 S.F. 3.3 SP./1000 SQ.FT.	997	100%	997	10%	100	10%	100	5%	50	5%	50
△3 RETAIL/BANK 6822 SQ.FT. 5.0 SP./1000 SQ.FT.	34	60%	20	90%	31	100%	34	70%	24	5%	2
△1 RESTAURANT 11,925 S.F. 14 SP./1000 SQ.FT.	167	50%	84	100%	167	100%	167	100%	167	10%	17
△2 DAY CARE 7,150 SQ.FT. 3.0 SP./1000 SQ.FT.	22	100%	22	5%	1	5%	1	5%	1	0%	0
TOTAL PARKING REQ'D	1220		*1123		299		302		242		69

* SHARED PARKING 1123 SPACES REQUIRED

Legend

- Ex. 2' Contours
- Ex. 10' Contours
- Prop. 2' Contours
- Prop. 10' Contours
- Ex. Curb & Gutter
- Prop. Curb & Gutter
- Bldg. Restriction Line
- Ex. Sanitary
- Ex. Storm Drain
- Ex. Water
- Prop. Sanitary
- Prop. Storm Drain
- Prop Water
- Light Duty Paving (P-2)
- Intermediate Duty Paving (P-3)
- Heavy Duty Paving (P-5)
- Handicapped Detail No. 3

FOR PAVING LOCATION SEE SHEET 7 OF 33

SITE USE AND PARKING SUMMARY

BUILDING	PRINCIPAL USE	HOURS OF OPERATION	BUILDING S.F.	PARKING REQUIRED	PARKING PROVIDED	HANDICAPPED PARKING PROVIDED
BUILDING #1	△1 3,975 SQ.FT. RETAIL 5 SP./1,000 SQ.FT.; 11,925 SQ.FT. RESTAURANT 14 SP./1,000 SQ.FT.	6:00 A.M. - 6:00 P.M.	15,900 S.F. △1	20 RETAIL 167 RESTAURANT 187	99*	4
BUILDING #2	△3 103,389 SQ.FT. GENERAL OFFICE 3.3 SP. / 1,000 SQ.FT.; 2847 SQ.FT. BANK 5.0 SP/1,000 SQ.FT.	6:00 A.M. - 6:00 P.M.	106,236 S.F. TOTAL	341 15	186 15 (153) DECK 354 TOTAL	13 (4) DECK
BUILDING #3	118,476 SQ.FT. GENERAL OFFICE 3.3 SP. / 1,000 SQ.FT.	6:00 A.M. - 6:00 P.M.	118,476 S.F.	391	391	12
BUILDING #4	△3 80,209 SQ.FT. GENERAL OFFICE 3.3 SP. / 1,000 SQ.FT	6:00 A.M. - 6:00 P.M.	80,209 S.F.	265	314	8
BUILDING #5	△2 7,150 SQ.FT. DAY CARE FACILITY 3.0 SP. / 1,000 SQ.FT.	6:00 A.M. - 6.00 P.M.	7,150 S.F.	22	22	1
TOTAL			327,971 S.F. △2 △3	△1 *1123 (1221 REQ'D SHARED)	△3 1027 =(153) DECK 1180 TOTAL	42

NOTE : SEE CONSTRUCTION NOTE 32 REGARDING ANY CHANGE IN USE IN ANY OF THE FIVE BUILDINGS.

△1 * SEE PARKING CALCULATION CHART THIS SHEET FOR SHARED PARKING

NOTE:
RETAIL AND SERVICES USE ON THIS POR ZONED SITE ARE LIMITED TO THE USES STATED IN ZONING SECTION 115 B.34

Index of Sheets

SHEET NO. 1	TITLE SHEET, GENERAL NOTES
SHEET NO. 2	EXISTING CONDITIONS PLAN
SHEET NO. 3	SITE PLAN
SHEET NO. 4	SITE PLAN
SHEET NO. 5	PARKING DECK PLANS
SHEET NO. 6	SITE PLAN DETAILS
SHEET NO. 7	SITE PLAN DETAILS
SHEET NO. 8	BUILDING SECTIONS
SHEET NO. 9	SANITARY PROFILES
SHEET NO. 10	PRIVATE WATER PROFILES
SHEET NO. 11	DRAINAGE AREA MAP & PROFILES
SHEET NO. 12	STORM DRAIN PROFILES
SHEET NO. 13	STORM DRAIN PROFILES
SHEET NO. 14	STORMCEPTOR PLAN & DETAILS
SHEET NO. 15	STORMCEPTOR DETAILS
SHEET NO. 16	EXISTING & PROPOSED DRAINAGE AREA MAPS
SHEET NO. 17 & 18	PHASE 1 SEDIMENT CONTROL
SHEET NO. 19 & 20	PHASE 2 SEDIMENT CONTROL
SHEET NO. 21	SEDIMENT CONTROL NOTES & DETAILS
SHEET NO. 22	SEDIMENT BASIN PLAN & PROFILES
SHEET NO. 23	SEDIMENT BASIN NOTES & DETAILS
SHEET NO. 24	PIPE OUTLET SEDIMENT TRAP NO. 1 PLAN & PROFILES
SHEET NO. 25	PIPE OUTLET SEDIMENT TRAP NO.1 NOTES & DETAILS
SHEET NO. 26	PIPE OUTLET SEDIMENT TRAP NO.2 PLAN, PROFILE, NOTES & DETAILS
SHEET NO. 27	STORMWATER MANAGEMENT PLAN & PROFILES
SHEET NO. 28	STORMWATER MANAGEMENT NOTES & DETAILS
SHEET NO. 29	UNDERGROUND STORMWATER MANAGEMENT PLAN & PROFILES
SHEET NO. 30	UNDERGROUND STORMATER MANAGEMENT NOTES & DETAILS
SHEET NO. 31	LANDSCAPE PLAN
SHEET NO. 32	LANDSCAPE NOTES & DETAILS
SHEET NO. 33	MD ROUTE 108 & OLD MONTGOMERY ROAD PAVEMENT MARKING PLAN

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

HOWARD SOIL CONSERVATION DISTRICT 6/5/01 DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE 6/5/01 DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION 6/11/01 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 6/13/01 DATE

DIRECTOR 6/15/01 DATE

△3 REVISED SITE USE AND PARKING SUMMARY BLDG. No.2 AND BLDG. No.4 REVISED TABULATION ACCORDINGLY. REVISED PARKING CALCULATION CHART ACCORDINGLY. REVISED ADDRESS CHART, PERMIT INFO. CHART AND TITLE BLOCK BY GWS DATED 05/04/04

BY GWS. DATED 5/20/02
△2 REVISED SITE USE & PARKING SUMMARY, REVISED BLDG. NO 5 SQUARE FOOTAGE. REVISED PARKING CALCULATION CHART FOR SHARED PARKING. REV. DAY CARE SQUARE FOOTAGE ONLY. NO CHANGE TO PARKING COUNT. REVISED SITE DATA.

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6031 University Boulevard
'A' Building No. 5	6000 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL *
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK *	ZONE	TAX /ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192 - 16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 SEWER CODE 2780000

PREPARED BY :

GWS
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER No. 11005

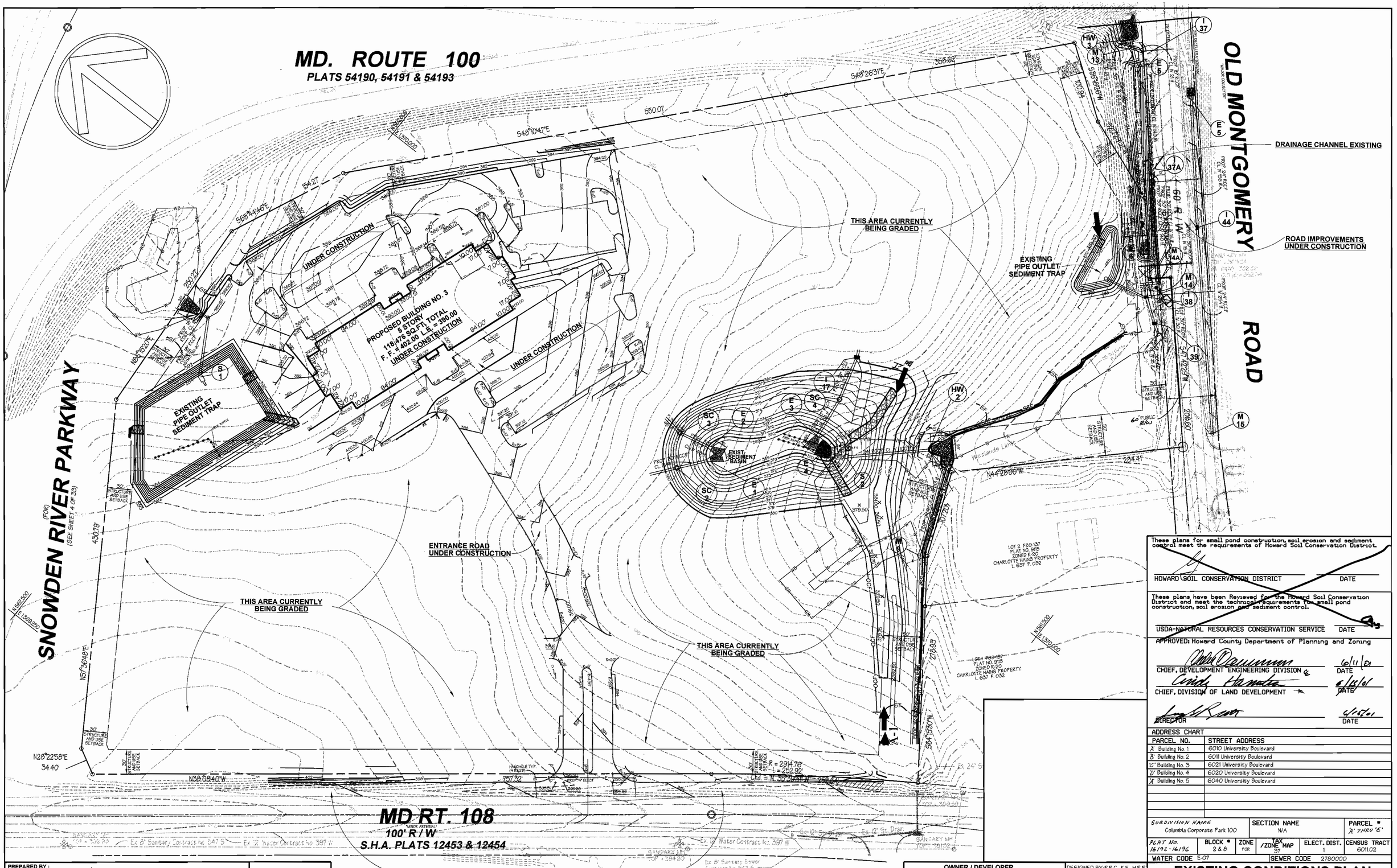
NOTE:
The owner shall provide a separate and independent sewer connection for each tenant or occupant of any building, shown on this site development plan who will discharge non-domestic waste to the public sewerage system if each separate and independent sewer connection shall include a standard manhole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

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
△1 REVISED SITE USE & PARKING SUMMARY, REV. BLDG. No.1, ADDED PARKING CALCULATION CHART FOR SHARED PARKING & REV. SITE DATA ACCORDINGLY, BY G.W.S. DATED 12/04/01

COVER SHEET
COLUMBIA CORPORATE PARK 100
PARCELS 'A' THRU 'E'

RELATED FILE No.'s : SDP-99-65 , WP99-66, ZB 985M, ZB 1010M F-03-160 AND WP-03-143 SDP 01-068
ELECTION DISTRICT : 1 SCALE : As Shown
HOWARD CO., MARYLAND SHT. 1 OF 33 DATE : OCT. 02, 2000



PLAN

SCALE : 1" = 50'

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

HOWARD SOIL CONSERVATION DISTRICT — DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/15/01

DIRECTOR — DATE 6/15/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL *
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK *	ZONE	TAX /ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	FOR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

OWNER / DEVELOPER

MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

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

REVISIONS
3 REVISED ADDRESS CHART, PERMIT INFO. CHART AND TITLE BLOCK BY GWS. DATED 05/04/04

EXISTING CONDITIONS PLAN
COLUMBIA CORPORATE PARK 100

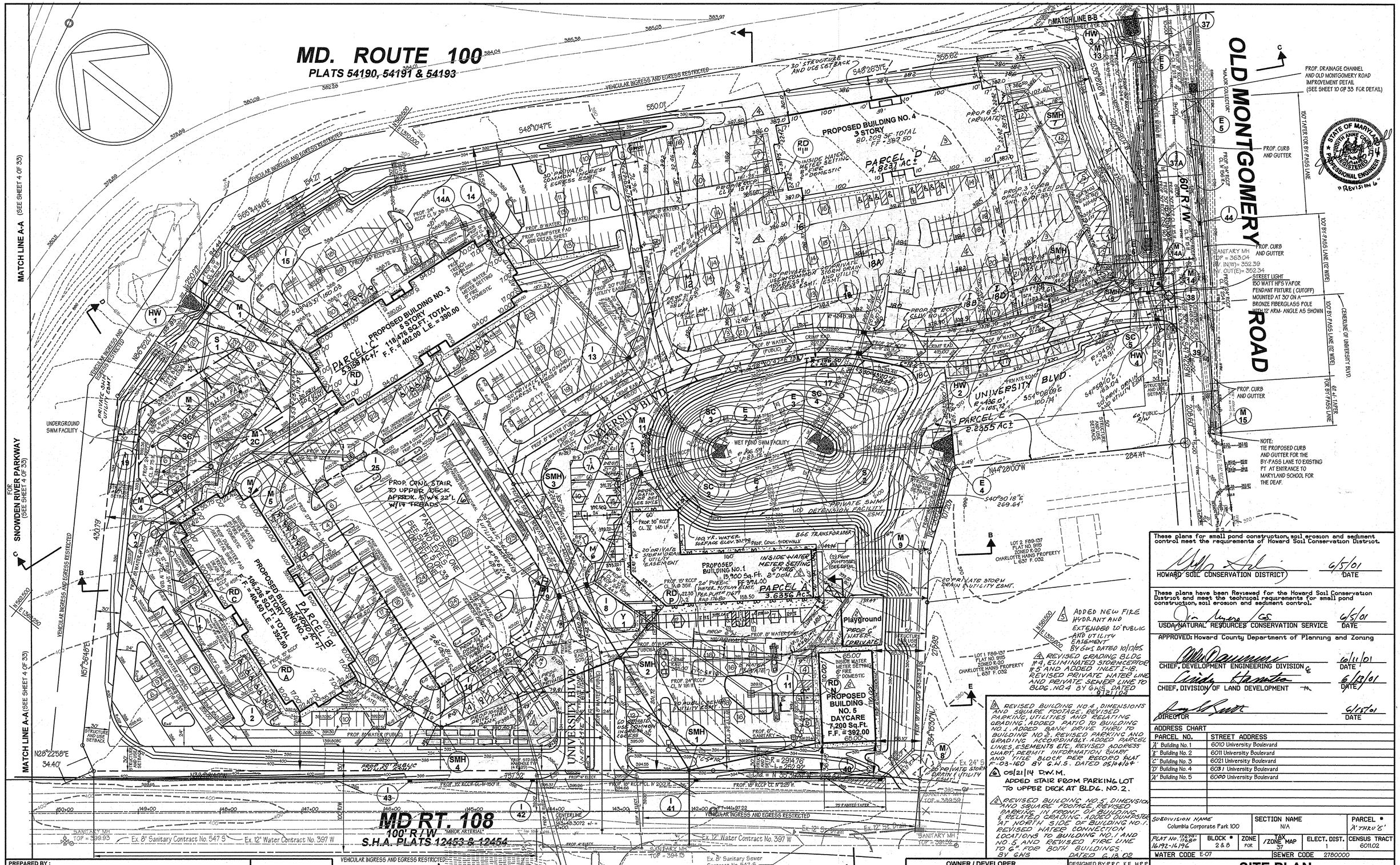
PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SHT. 2 OF 33

SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068 FILE NAME: 8594revexistingcondplans01 P/N : 8594



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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/12/01

DIRECTOR — DATE 6/15/01

ADDED NEW FIRE HYDRANT AND EXTENDED 20' PUBLIC AND UTILITY EASEMENT BY GWS DATED 10/17/05

REVISED GRADING BLDG #4, ELIMINATED STORMCEPTOR #5 AND ADDED INLET 2-18. REVISED PRIVATE WATER LINE AND PRIVATE SEWER LINE TO BLDG. NO.4 BY GWS DATED 9/21/04

REVISED BUILDING NO.4, DIMENSIONS AND SQUARE FOOTAGE, REVISED PARKING, UTILITIES AND RELATING GRADING, ADDED PATIO TO BUILDING NO.1, ADDED BANK DRIVE THRU TO BUILDING NO.2, REVISED PARKING AND GRADING ACCORDINGLY, ADDED PARCEL LINES, EASEMENTS ETC, REVISED ADDRESS CHART, PERMIT INFORMATION CHART AND TITLE BLOCK PER RECORDED PLAT F-03-160 BY G.W.S. DATED 05/10/04

05/21/14 D.W.M. ADDED STAIR FROM PARKING LOT TO UPPER DECK AT BLDG. NO. 2.

REVISED BUILDING NO.5, DIMENSION AND SQUARE FOOTAGE, REVISED PARKING IN FRONT OF BUILDING & RELATED GRADING, ADDED DUMPSTER AT NORTH SIDE OF BUILDING NO.1, REVISED WATER CONNECTION LOCATIONS TO BUILDING NO.1 AND NO.5, AND REVISED FIRE LINE TO 6" FOR BOTH BUILDINGS. BY GWS DATED 6.13.02

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6031 University Boulevard
'A' Building No. 5	6000 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
17579-17580 16,192-16,196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — MICHAEL DANIEL HOLLY — No. 11008 — REGISTERED PROFESSIONAL ENGINEER

VEHICULAR INGRESS AND EGRESS RESTRICTED

PLAN

SCALE : 1" = 50'

*NOTE: ALL CURB RADIUS ARE TO BE 6' UNLESS OTHERWISE SPECIFIED *

NOTE: FOR MD ROUTE 108 & OLD MONTGOMERY ROAD PAVEMENT MARKING PLAN SEE SHEET 33 OF 33.

OWNER / DEVELOPER

MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

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

REVISIONS
1 - REVISED BUILDING NO.1 RELOCATED DUMPSTER AND LOADING AREA AND REVISED RELATED GRADING - BY GWS 12/04/01

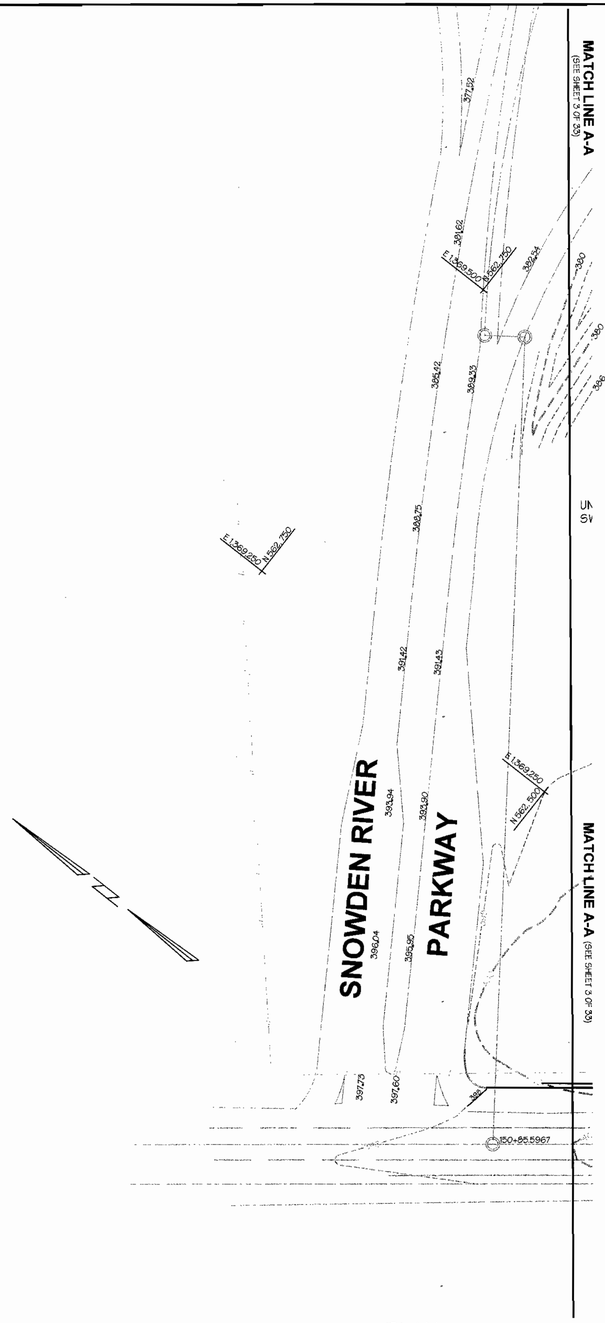
SITE PLAN
COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

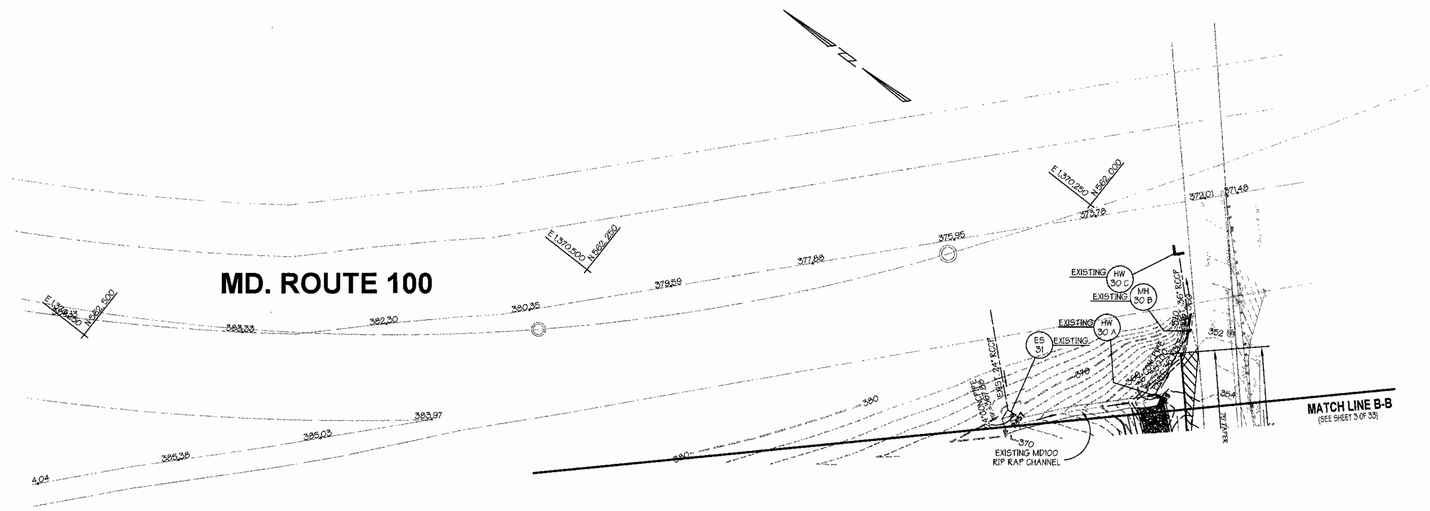
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND — SHT. 3 OF 33

SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068 — FILE NAME: 8594overallsiteplanrev3conc.s01 — P/N : 8594



PLAN
SCALE : 1" =50'



PLAN
SCALE : 1" =50'

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/15/01

ADDRESS CHART

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'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX /ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192 - 16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — No. 11695

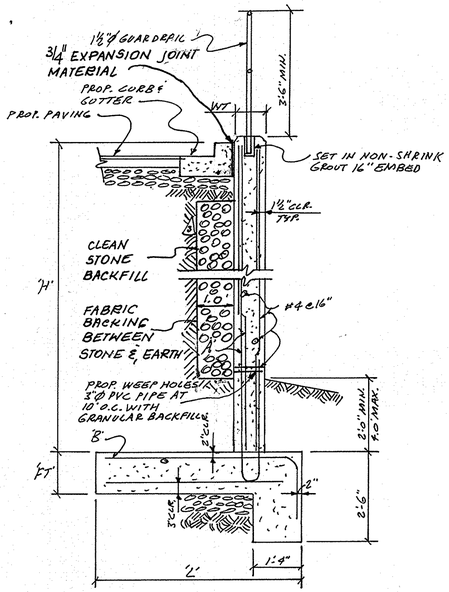
OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
3 REVISED ADDRESS CHART, PERMIT INFO. CHART AND TITLE BLOCK BY GWS DATED 05/04/04

SITE PLAN
COLUMBIA CORPORATE PARK 100
PARCELS 'A' THRU 'E'

SDP 01-068
ELECTION DISTRICT : 1 — SCALE : As Shown
HOWARD CO., MARYLAND — SHT. 4 OF 33 — DATE : OCT. 02, 2000

SDP 01-068 NAME : 8594sitepark1a.s01 P/N : 8594

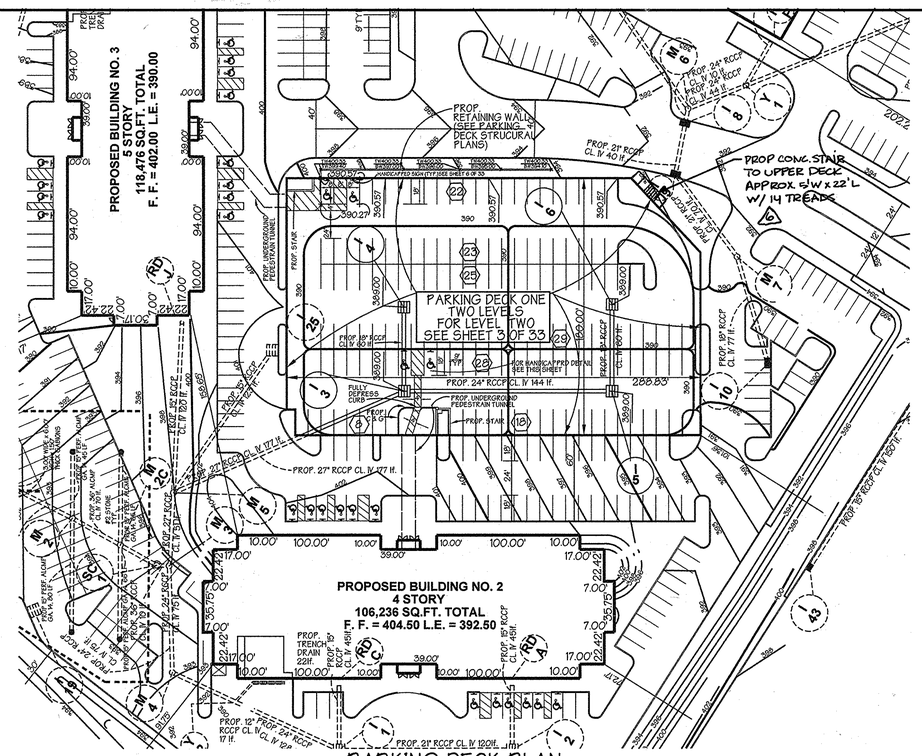


H	L	WT	FT	A	B
14'-0"	11'-3"	12"	2'-2"	#8@6"	#6@12"
12'-0"	9'-8"	12"	1'-6"	#8@12"	#6@12"
10'-0"	8'-2"	12"	1'-6"	#8@12"	#6@12"
8'-0"	6'-10"	12"	1'-6"	#6@12"	#5@16"
6'-0"	5'-8"	12"	1'-4"	#6@12"	#5@16"

4

TYPICAL CANTILEVERED RETAING WALL SECTION

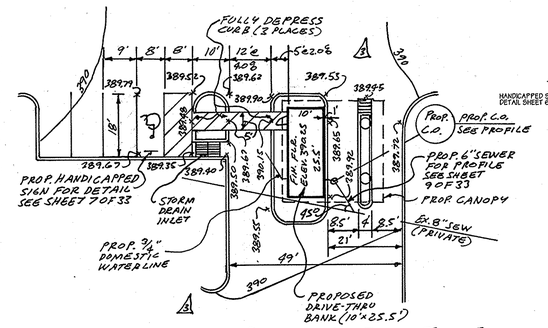
N.T.S.



PARKING DECK PLAN (153 PARKING SPACES)

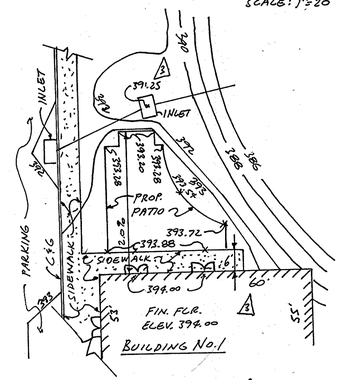
LEVEL ONE

SCALE : 1" =50'



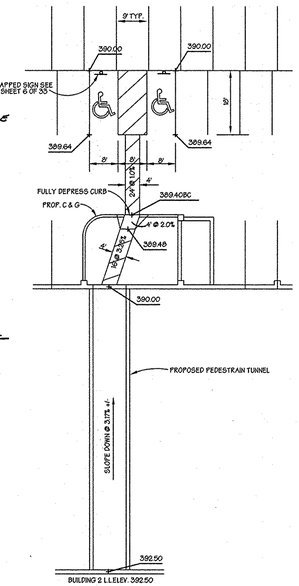
HANDICAPPED DETAIL FOR DRIVE THRU BANK

SCALE: 1"=20'



PROPOSED PATIO HANDICAPPED ACCESS TO BUILDING No.1

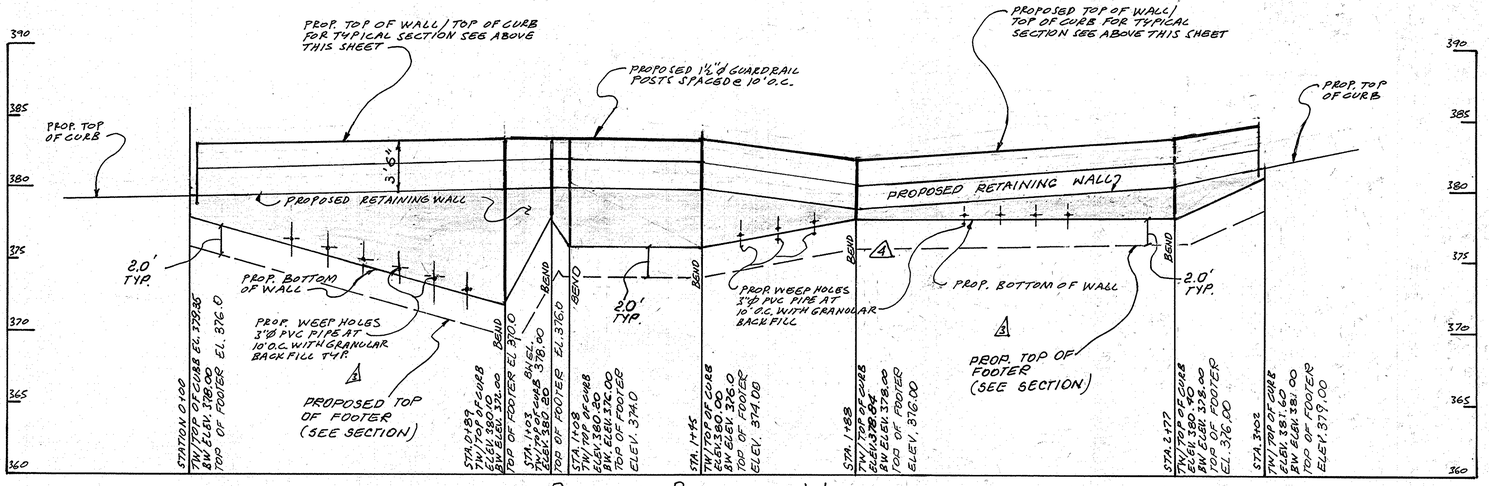
SCALE: 1"=20'



HANDICAPPED DETAIL

SCALE : 1" =20'

STATE OF MARYLAND
KEVIN E. KELLER
No. 19708
REGISTERED
PROFESSIONAL ENGINEER
6-15-01
"REVISION 6"



PROPOSED RETAINING WALL

SCALE: HORZ. 1"=20'
VERT. 1"=5'

NOTE: FOR PLAN STATIONING FOR WALL SEE SHEET 3 OF 33 (SITE PLAN)

NOTE: A QUALIFIED PROFESSIONAL SHALL OVERSEE THE RETAINING WALL CONSTRUCTION.

4 REVISED RETAINING WALL PROFILE BY GWS 09/21/04

6 05/21/14 DW.M. ADDED STAIR FROM PARKING LOT TO UPPER DECK AT BLDG. NO.2.

3 REMOVED PARKING DECK PLAN FOR BLDG. No. 4. ADDED RETAINING WALL PROFILE AND SECTION. ADDED HANDICAPPED DETAIL FOR PATIO AND PROP. DRIVE THRU BANK. REVISED ADDRESS CHART, PERMIT INFO. CHART AND TITLE BLOCK BY GWS DATED 05/04/04

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/18/01

DIRECTOR — DATE 6/25/01

ADDRESS CHART

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'D' Building No. 4	6020 University Boulevard
'E' Building No. 5	6040 University Boulevard

SUBDIVISION NAME:	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16193	2 & 8	FOR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND
GEORGE W. STEPHENS
No. 7168
REGISTERED
PROFESSIONAL ENGINEER

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

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

SITE PLAN DETAILS
COLUMBIA CORPORATE PARK 100
PARCELS 'A' THRU 'E'

SDP 01-068

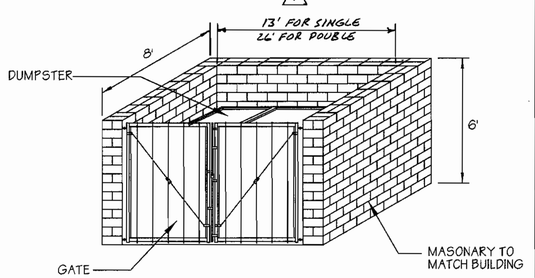
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SHT. 5 OF 33

SCALE : As Shown
DATE : OCT. 02, 2000

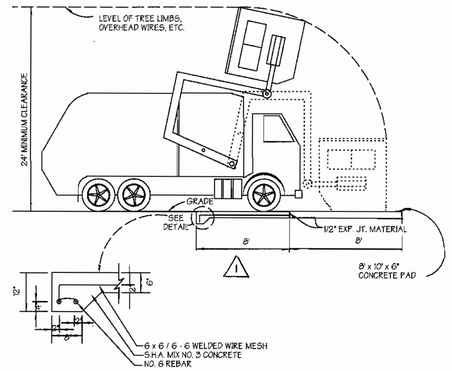
SDP 01-068

NAME : 8594sitedetails2.s01 P/N : 8594



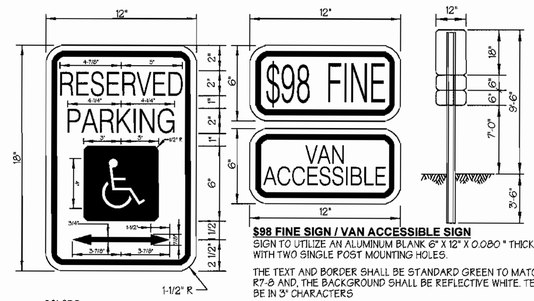
Dumpster Enclosure Detail

NOT TO SCALE



Solid Waste Service Pad

NOT TO SCALE



$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.

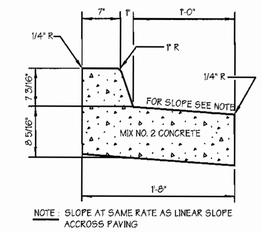
THE TEXT AND BORDER SHALL BE STANDARD GREEN TO MATCH THAT ON R7-8 AND, THE BACKGROUND SHALL BE REFLECTIVE WHITE. TEXT SHALL BE IN 3" CHARACTERS

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

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

HANDICAPPED SIGN DETAIL

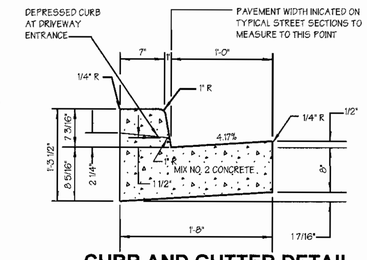
NOT TO SCALE



NOTE: SLOPE AT SAME RATE AS LINEAR SLOPE ACCROSS PAVING

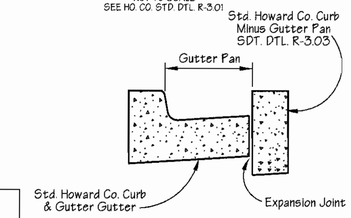
REVERSE SLOPE CURB AND GUTTER

NOT TO SCALE



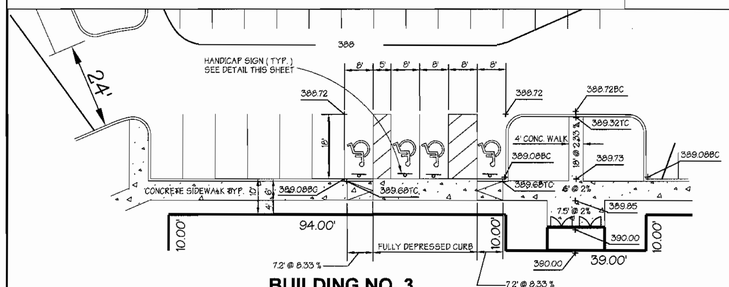
CURB AND GUTTER DETAIL

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



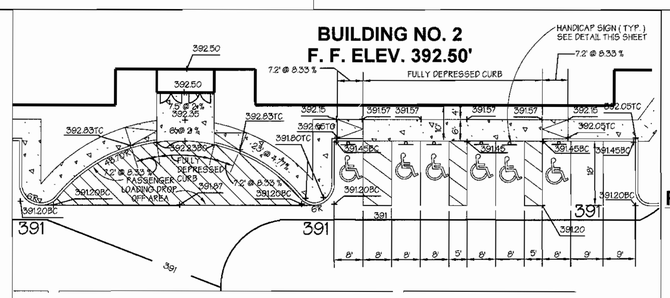
Curb Opening Detail

NOT TO SCALE



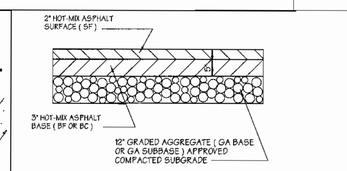
BUILDING NO. 3
F. F. ELEV. 390.00'
Handicapped Detail No. 5

SCALE : 1" = 20'



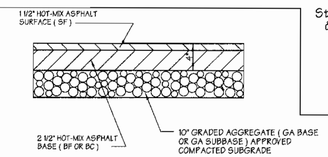
Handicapped Detail No. 3

SCALE : 1" = 20'



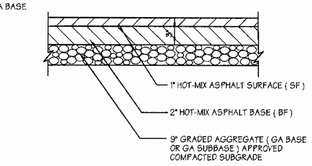
HEAVY DUTY PAVING
P-5 Pavement Section

NOT TO SCALE



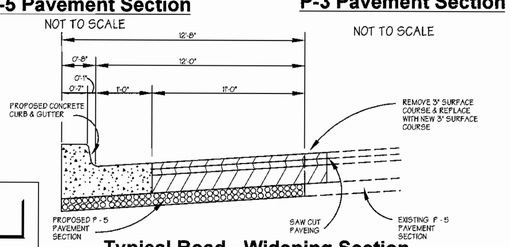
INTERMEDIATE DUTY PAVING
P-3 Pavement Section

NOT TO SCALE



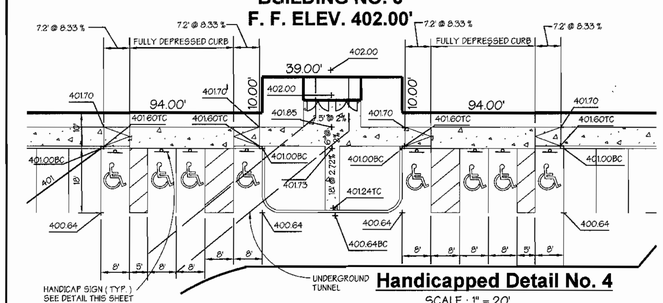
LIGHT DUTY PAVING
P-2 Pavement Section

NOT TO SCALE



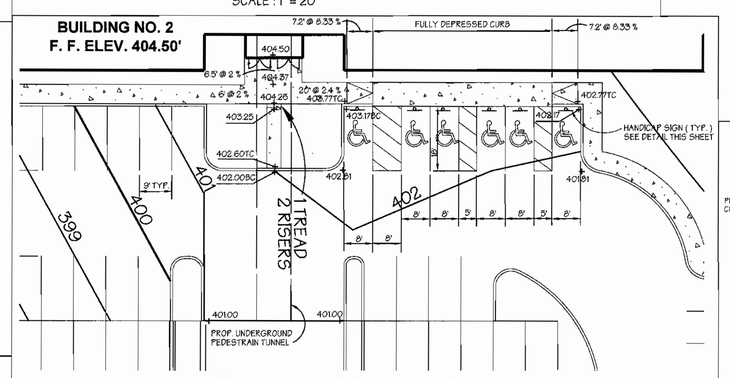
Typical Road - Widening Section

NOT TO SCALE
* ACELERATION AND DECELERATION LANES AT MD. ROUTE 108



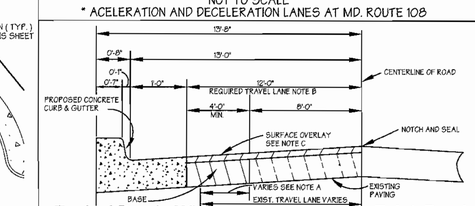
Handicapped Detail No. 4

SCALE : 1" = 20'



Handicapped Detail No. 2

SCALE : 1" = 20'



Typical Road - Widening Section Along Exist. Roads

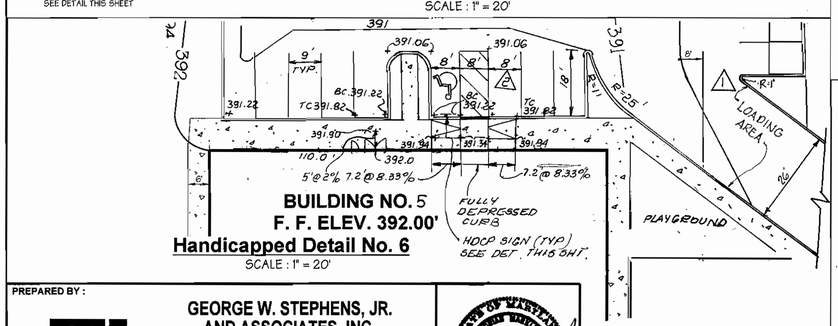
SEE HO. CO. STD. DETAIL R10.01
* BY-PASS LANE AT OLD MONTGOMERY ROAD
* DECELERATION LANE AT OLD MONTGOMERY ROAD

NOTE: A
WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE CONTRACTOR SHALL REMEVE ENOUGH OF THE EXISTING ROAD BED TO PROVIDE A MINIMUM BASE WIDENING OF 4'.

NOTE: B
THE SURFACE OVERLAY SHALL BE CARRIED TO THE CENTERLINE OF THE ROAD AND NOTCHED AND SEALED.

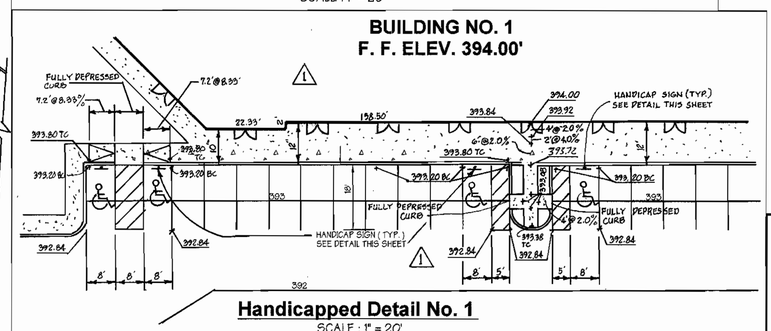
NOTE: C
SURFACE OVERLAY COURSE TO BE EQUAL TO SURFACE COURSE OF TYPICAL PAVING SECTION OF SUBDIVISION.

NOTE: D
CENTERLINE OF ROAD TO BE MILLED AT DEPTH OF 1 1/2" X 1" WIDE USING A MILL MACHINE.



Handicapped Detail No. 6

SCALE : 1" = 20'



Handicapped Detail No. 1

SCALE : 1" = 20'

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

HOWARD SOIL CONSERVATION DISTRICT — DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/12/01

DIRECTOR — DATE 6/15/01

ADDRESS CHART

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'A' Building No. 5	6000 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	FOR	57	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
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Towson, Maryland 21286
(410) 825-8120

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

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

REVISIONS
1 - REVISED HANDICAPPED DETAIL NOS. 1 & 6 BY G.W.S., DATED 12/04/01
2 REVISED HANDICAPPED DETAIL NO 6, BY GWS 6.13.02
3 REVISED ADDRESS CHART, PARKING INFO CHART, AND TITLE BLOCK BY GWS DATED 05/05/04

SITE PLAN DETAILS
COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

SDP 01-068

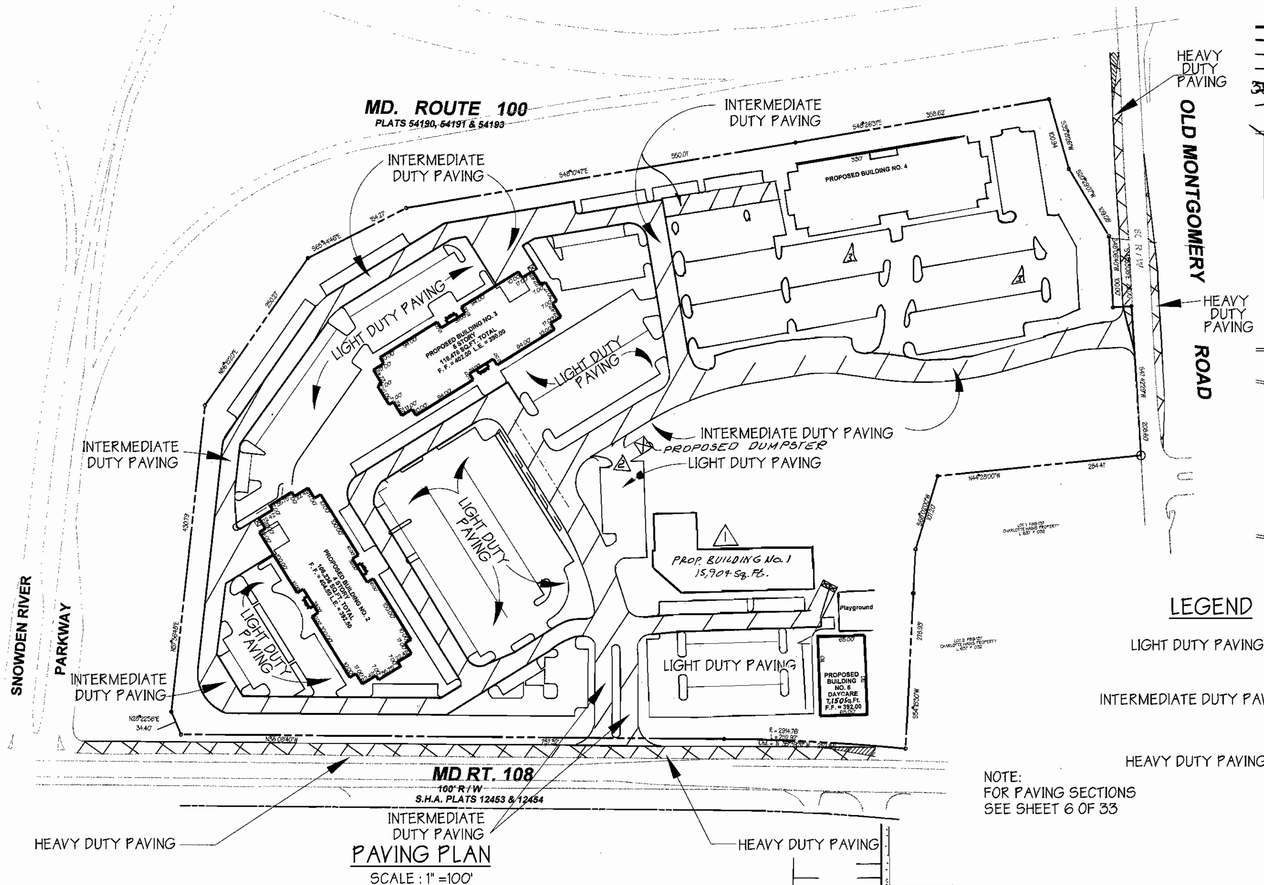
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SHT. 6 OF 33

SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068

NAME : 8594sitedetails.s01 F/N : 8594



PAVING PLAN

SCALE : 1" =100'

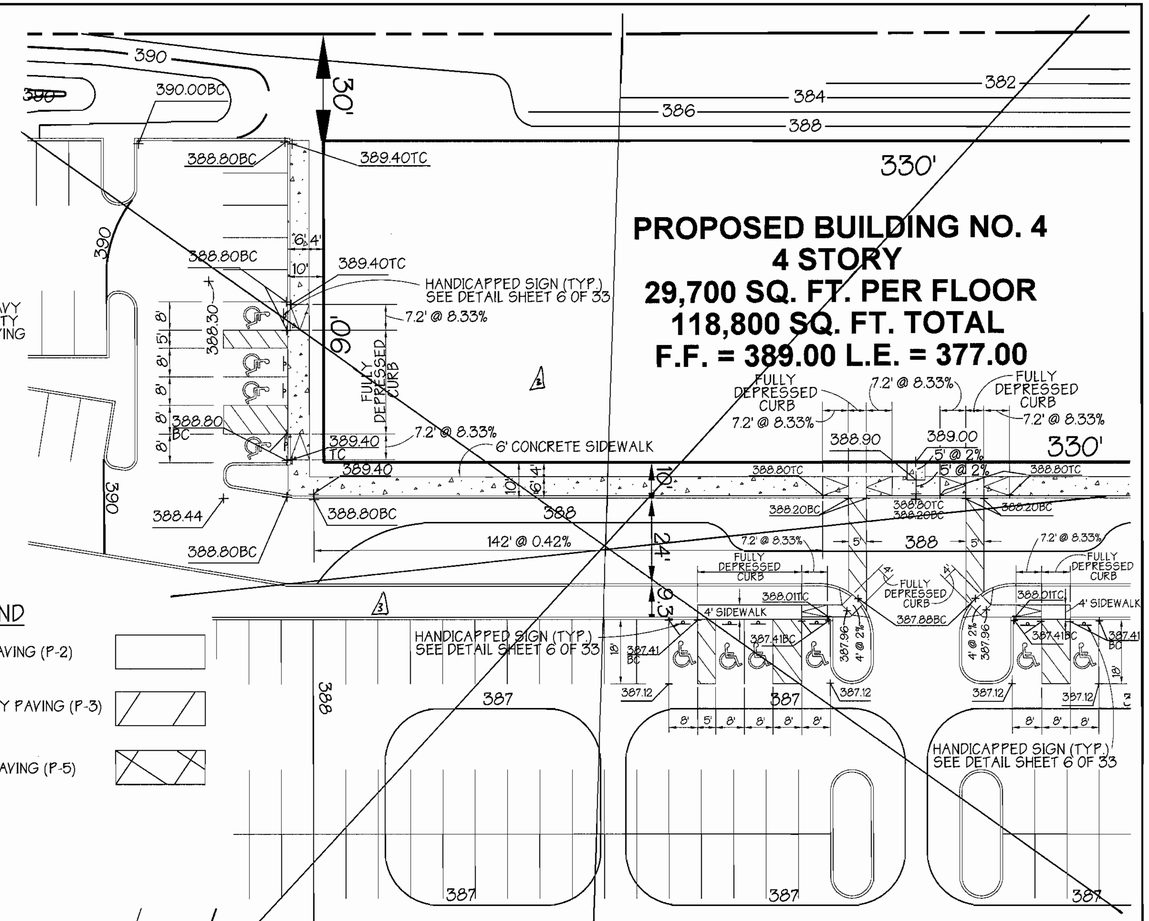
LEGEND

LIGHT DUTY PAVING (P-2)

INTERMEDIATE DUTY PAVING (P-3)

HEAVY DUTY PAVING (P-5)

NOTE:
FOR PAVING SECTIONS
SEE SHEET 6 OF 33



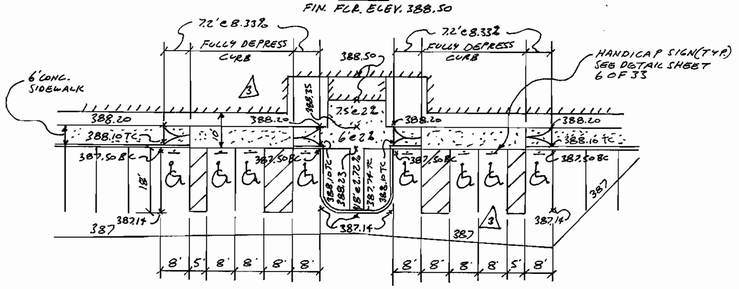
~~HANDICAPPED DETAIL NO 7~~

~~SCALE : 1" =20'~~

DETAIL TO BE DELETED
SEE REVISED THIS SHEET

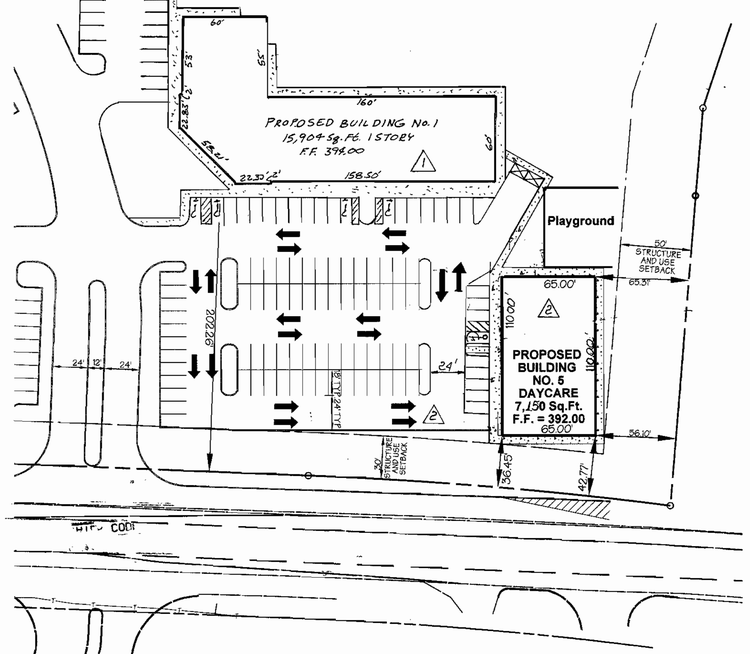
PROPOSED BUILDING
No. 4

FIN. FLR. ELEV. 388.50



HANDICAPPED DETAIL No.7

SCALE: 1"=20'



FLOW OF TRAFFIC DETAIL
FOR PASSENGER LOADING AND DROP OFF AREA FOR BUILDING NO. 5

SCALE : 1" =50'

3 REVISED HANDICAPPED DETAIL NO.7 (BLDG. No. 4 AND REVISED PAVING PLAN BY GWS DATED 05/04/02

2 REVISED BLDG NO.5, DIMENSION AND SQUARE FOOTAGE, PARKING LAYOUT IN FRONT OF BUILDING. FLOW OF TRAFFIC DETAIL AND PAVING PLAN. BY GWS DATED 6.13.02

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

~~HOWARD SOIL CONSERVATION DISTRICT~~ DATE

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

USDA NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/13/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6031 University Boulevard
'A' Building No. 5	6000 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — GEORGE W. STEPHENS, JR. — No. 7195 — REGISTERED PROFESSIONAL ENGINEER

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

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

REVISIONS
1 REVISED BLDG. NO. 1 LAYOUT IN FLOW OF TRAFFIC DETAIL AND PAVING PLAN BY G.W.S. DATED 12/04/01

SITE PLAN DETAILS
COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

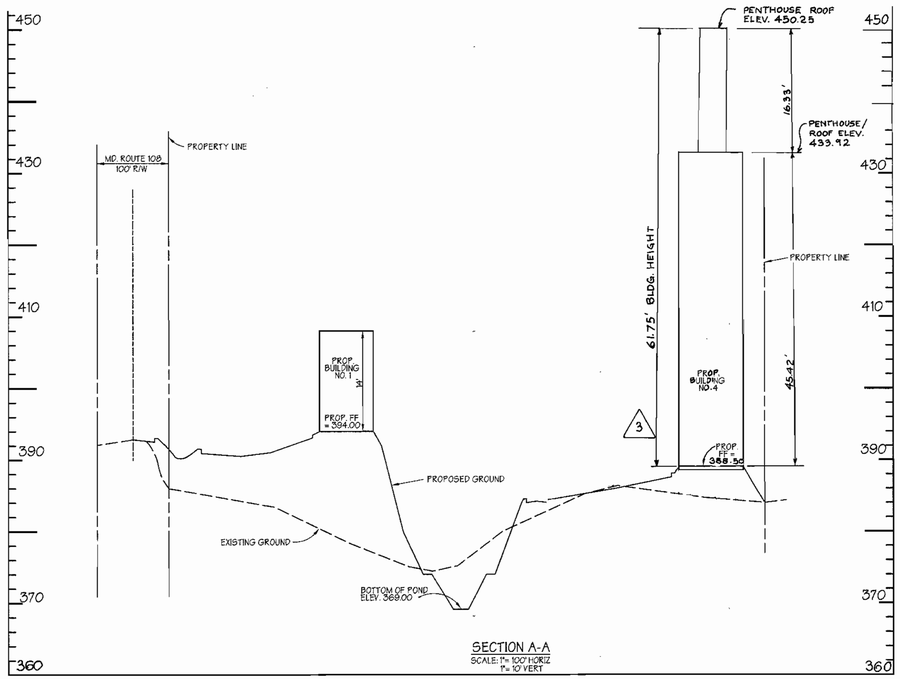
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SHT. 7 OF 33

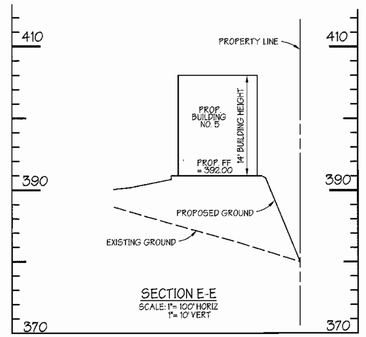
SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068

NAME : 8594sitedetails01 P/N : 8594



SECTION A-A
SCALE: 1"= 100' HORIZ
1"= 10' VERT



SECTION E-E
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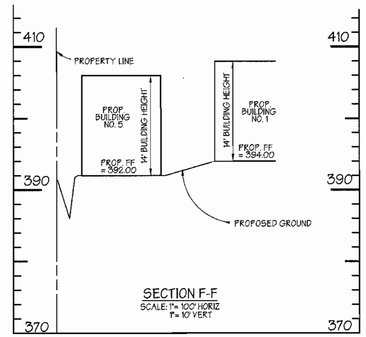
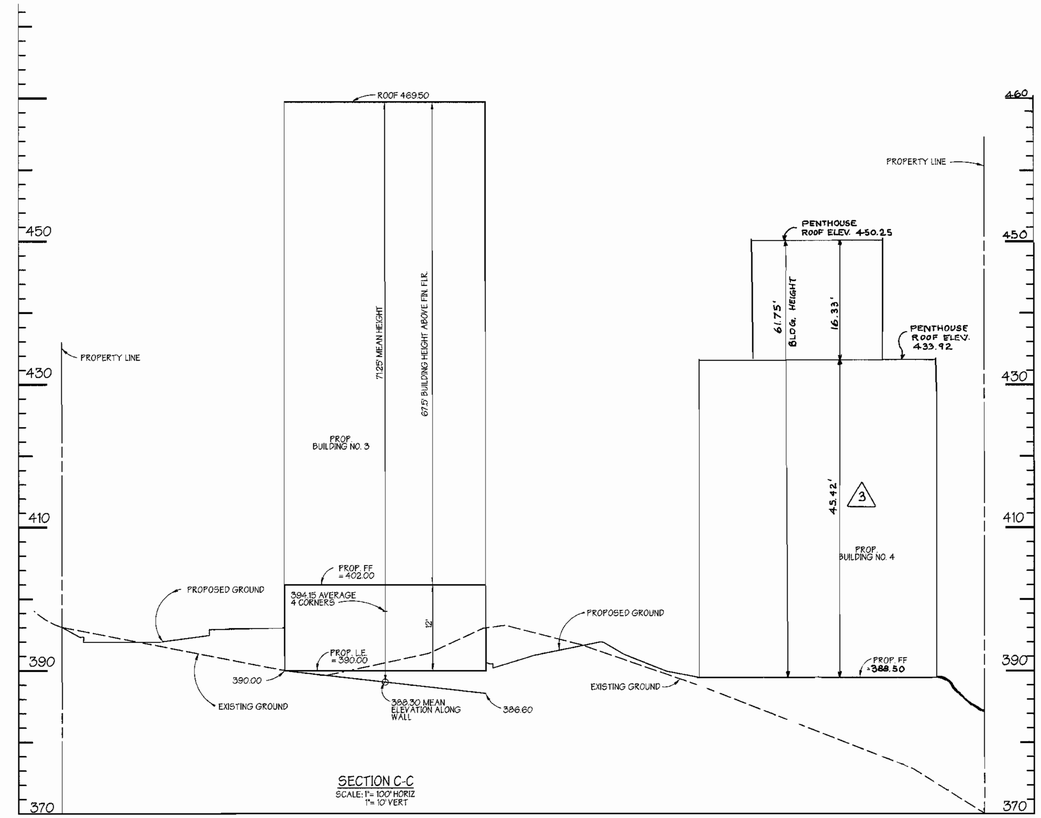
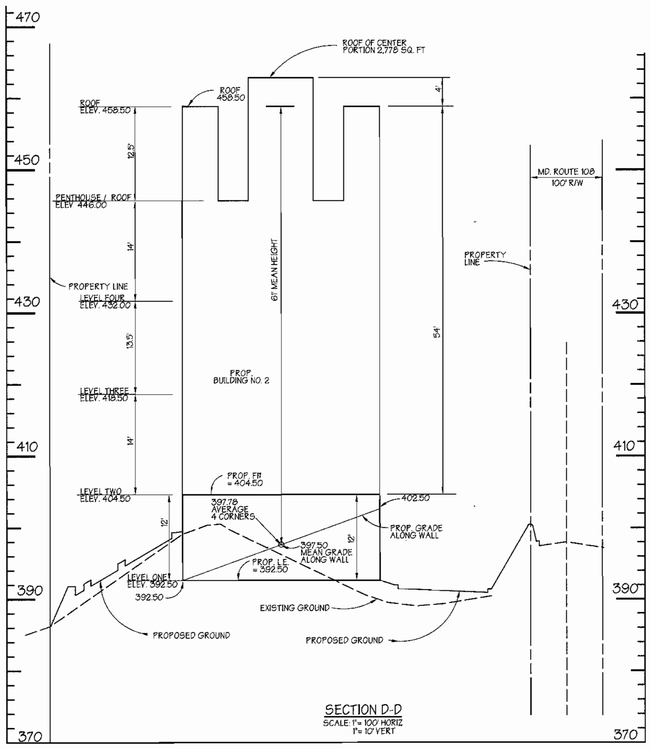


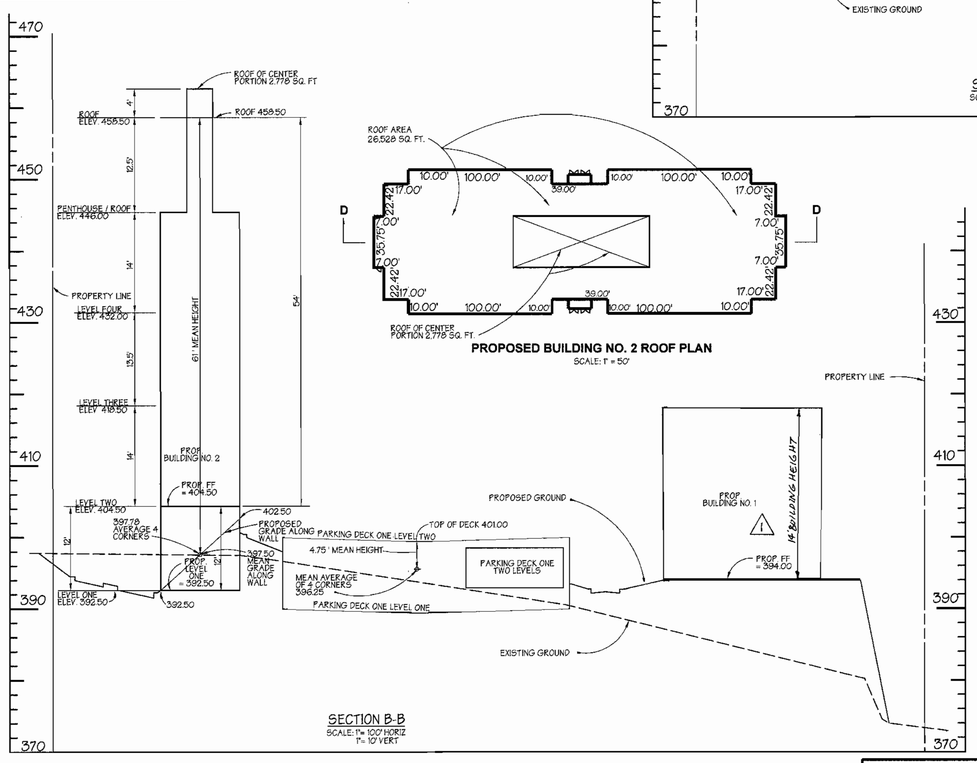
SECTION F-F
SCALE: 1"= 100' HORIZ
1"= 10' VERT



SECTION C-C
SCALE: 1"= 100' HORIZ
1"= 10' VERT



SECTION D-D
SCALE: 1"= 100' HORIZ
1"= 10' VERT



SECTION B-B
SCALE: 1"= 100' HORIZ
1"= 10' VERT

PROPOSED BUILDING NO. 2 ROOF PLAN
SCALE: 1" = 50'

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

HOWARD SOIL CONSERVATION DISTRICT — DATE

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

USDA NATURAL RESOURCES CONSERVATION SERVICE — DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/14/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/15/01

DIRECTOR — DATE 6/15/01

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6031 University Boulevard
'A' Building No. 5	6000 University Boulevard

SUBDIVISON NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX /ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	PCR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

⚠ REVISED BUILDING NO.4 SECTIONS A-A AND C-C BY G.W.S. DATED 05/04/04

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — GEORGE W. STEPHENS, JR. No. 11000 — REGISTERED PROFESSIONAL ENGINEER

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
1 REVISED BUILDG. SECTION B-B BLDG. No. 1 BY G.W.S. DATED 12/04/01

BUILDING SECTIONS COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

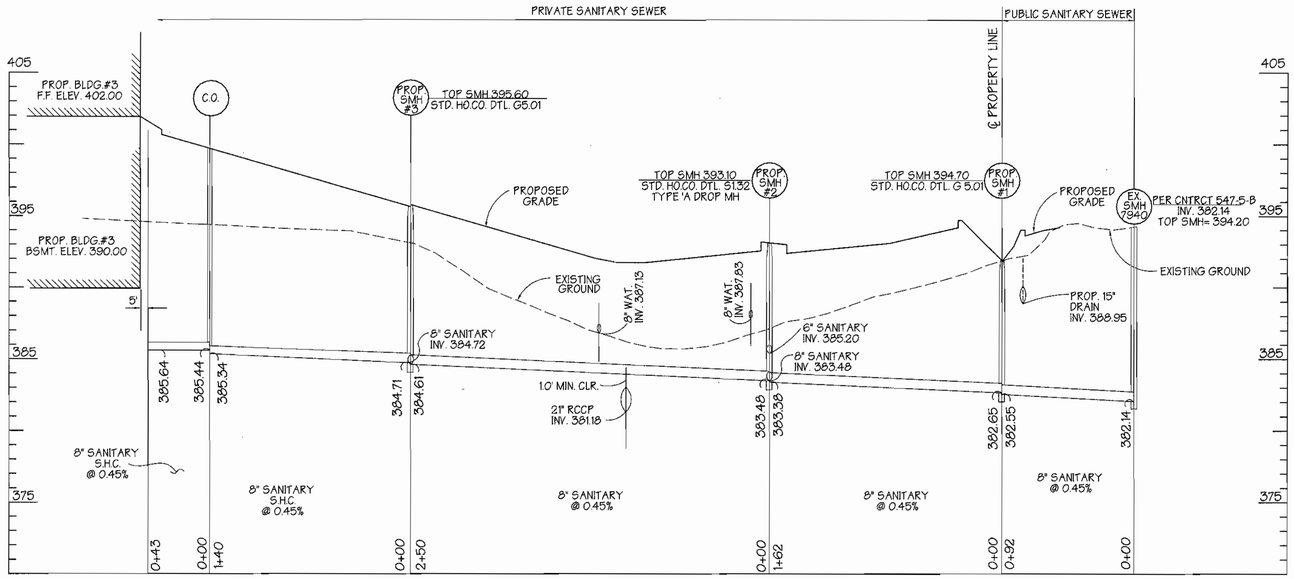
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SHT. 8 OF 33

SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

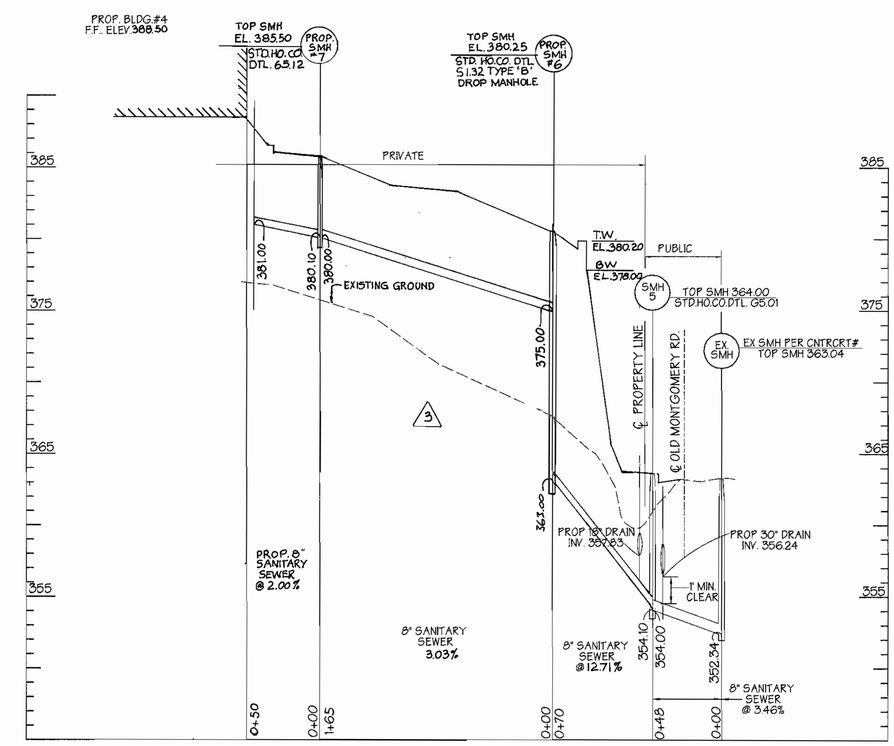
SDP 01-068

NAME : 8594buildingsections.s01 F/N : 8594



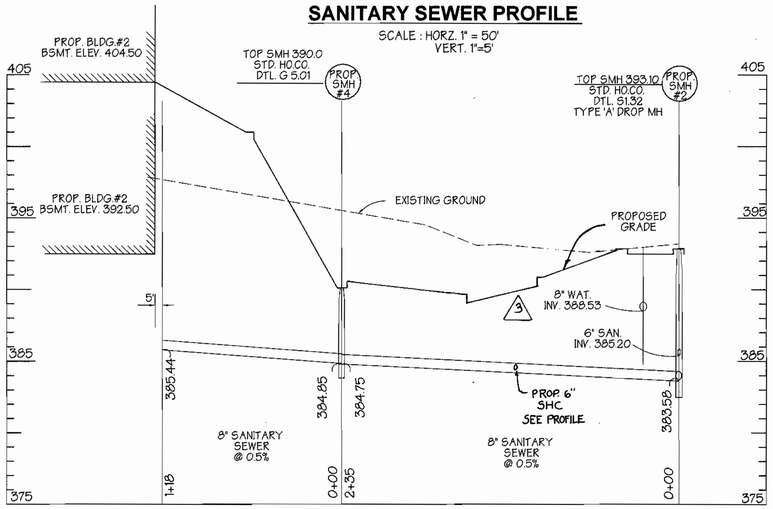
SANITARY SEWER PROFILE

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



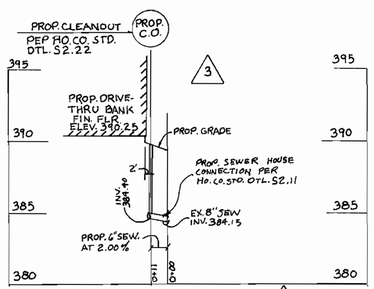
SANITARY SEWER PROFILE

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



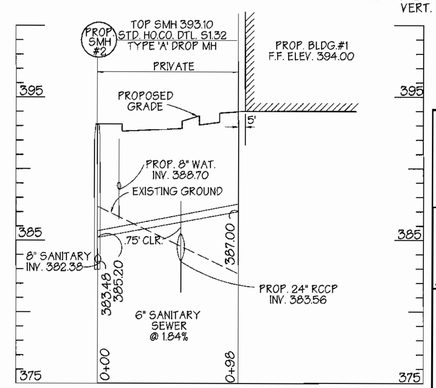
SANITARY SEWER PROFILE

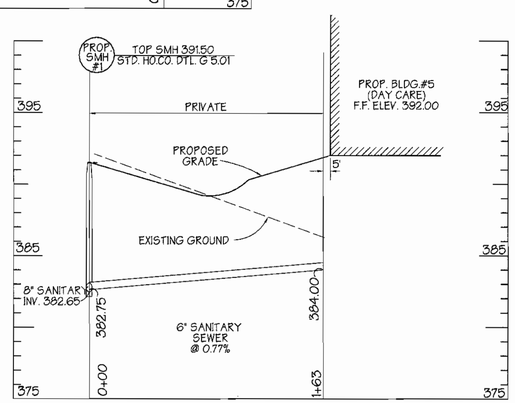
SCALE : HORZ. 1" = 50'
VERT. 1"=5'



PROPOSED SEWER HOUSE CONNECTION 3
TO PROPOSED BANK DRIVE THRU

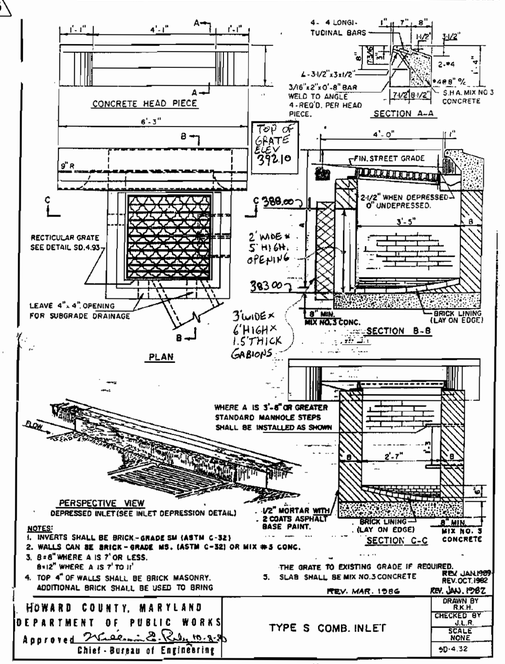
SCALE : HORZ. 1" = 50'
VERT. 1"=5'





SANITARY SEWER PROFILE

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



STORM DRAIN INET I-19 DETAIL

NOT TO SCALE

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

HOWARD SOIL CONSERVATION DISTRICT — DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/15/01

DIRECTOR — DATE 6/15/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	FOR	37 / ZONE MAP	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — GEORGE W. STEPHENS, JR. — No. 11655 — REGISTERED PROFESSIONAL ENGINEER

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2800

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

REVISIONS
3 REVISED SANITARY SEWER PROFILES AND ADDED S.H.C. PROFILE TO BANK DRIVE THRU BY G.W.S. DATED 05/09/04

SANITARY PROFILES
COLUMBIA CORPORATE PARK 100

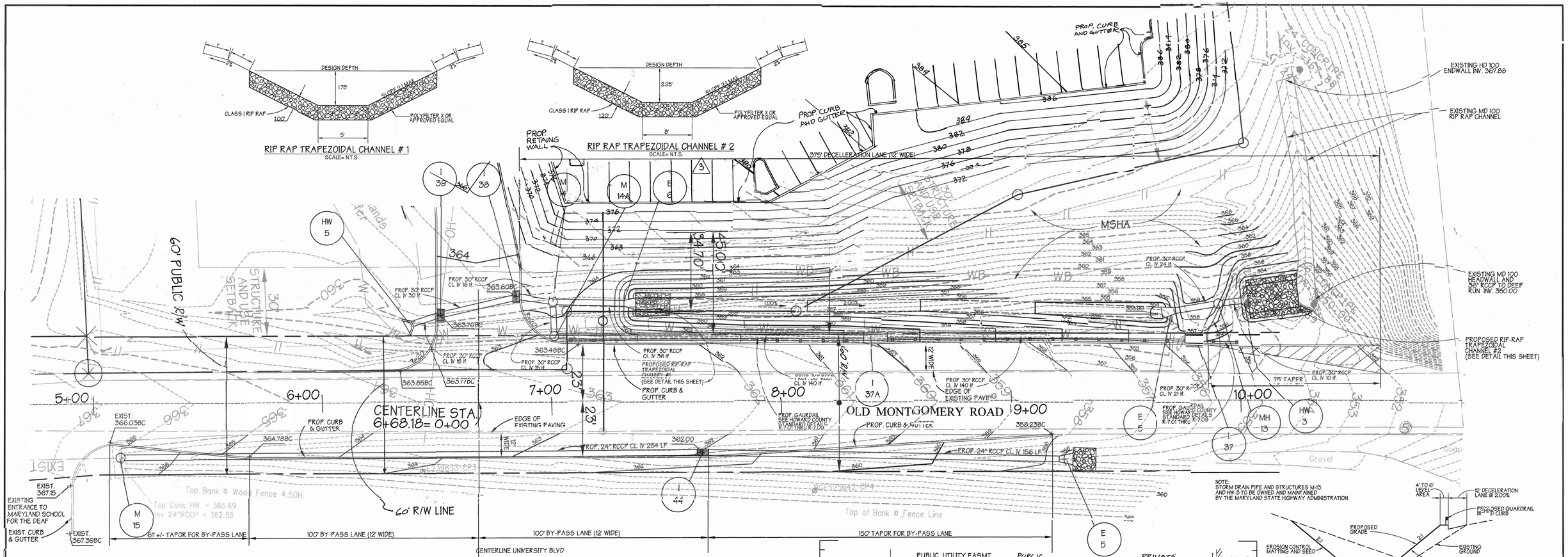
PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SDP 01-068
SCALE : As Shown
SHT. 9 OF 33
DATE : OCT. 02, 2000

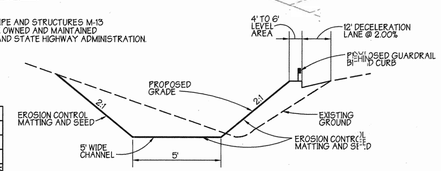
SDP 01-068

NAME : 8594utilities.s01 F/N : 8594

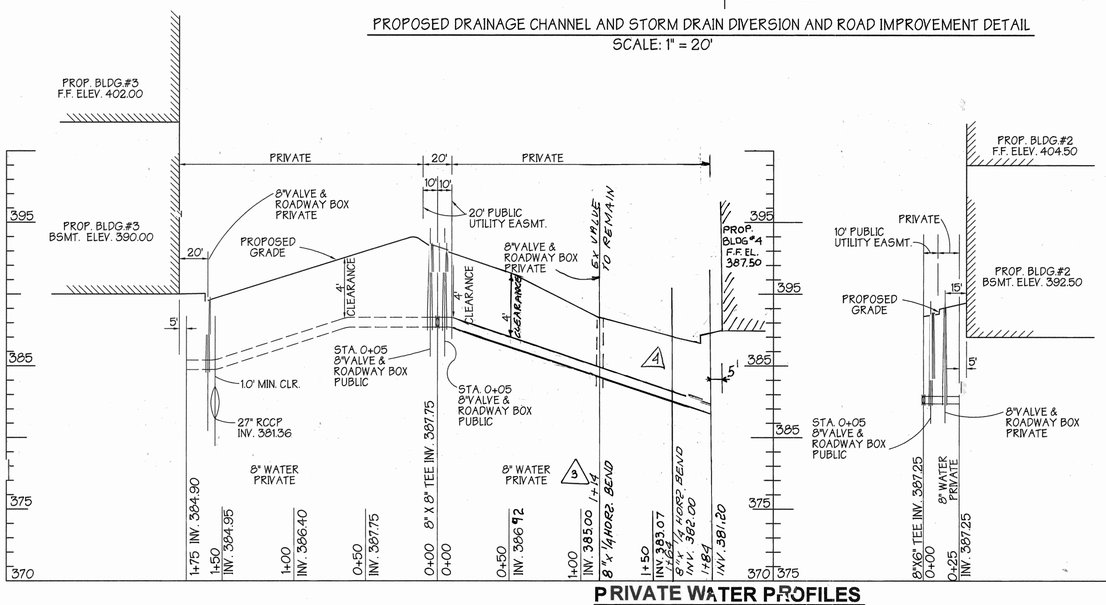


NOTE:
STORM DRAIN PIPE AND STRUCTURES M-13 AND HW-3 TO BE OWNED AND MAINTAINED BY THE MARYLAND STATE HIGHWAY ADMINISTRATION.

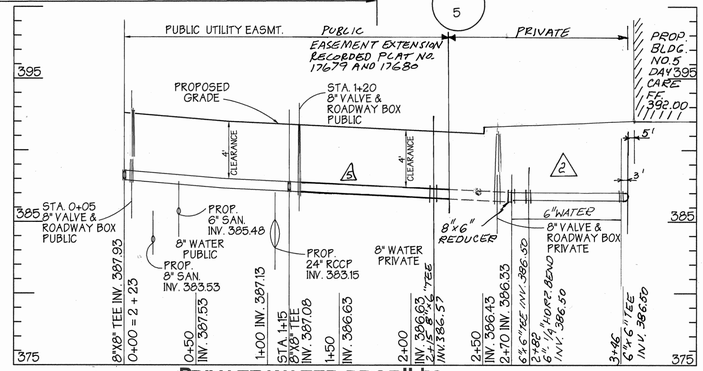
PROPOSED DRAINAGE CHANNEL AND STORM DRAIN DIVERSION AND ROAD IMPROVEMENT DETAIL
SCALE: 1" = 20'



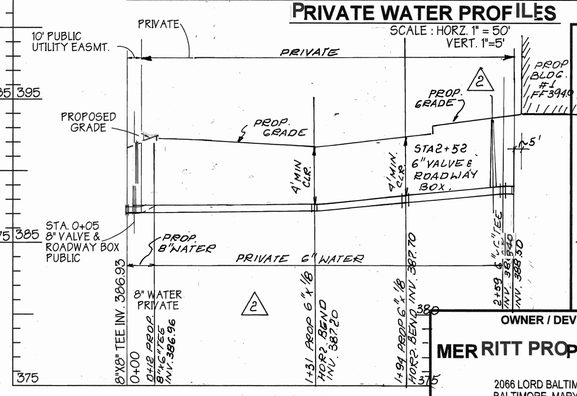
TYPICAL PROPOSED DRAINAGE CHANNEL CROSS SECTION
SCALE= N.T.S.



PRIVATE WATER PROFILES
SCALE : HORZ. 1" = 50'
VERT. 1"=5'



PRIVATE WATER PROFILES
SCALE : HORZ. 1" = 50'
VERT. 1"=5'



EXTENDED PUBLIC UTILITY EASEMENT FOR NEW FIRE HYDRANT ON PROFILE BY GWS DATED 10/17/05

REVISED WATER PROFILE TO BUILDING NO. 4 BY GWS DATED 09/21/04

REVISED PRIVATE WATER PROFILE AND 1"=20' DETAIL PER BLDG. #4. REVISION BY G.W.S. DATED 05/04/04

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/18/01

DIRECTOR — DATE 6/15/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
17679-17680 16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
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(410) 825-8120

STATE OF MARYLAND — GEORGE W. STEPHENS, JR. — No. 11991 — REGISTERED PROFESSIONAL ENGINEER

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
REVISED PRIVATE WATER PROFILE TO BUILDING NO 5 AND BUILDING NO 1 BY GWS DATED 6.13.02

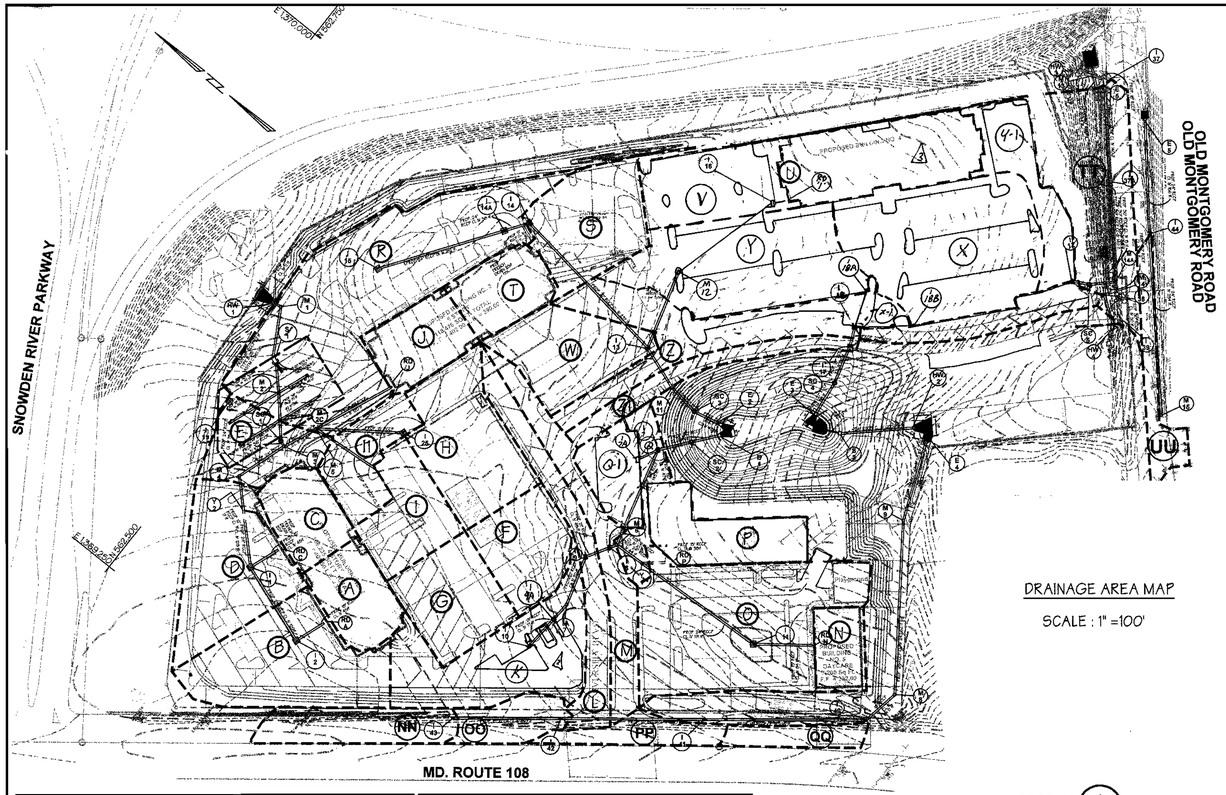
PRIVATE WATER PROFILES
COLUMBIA CORPORATE PARK 100
PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND
SHT. 10 OF 33

SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

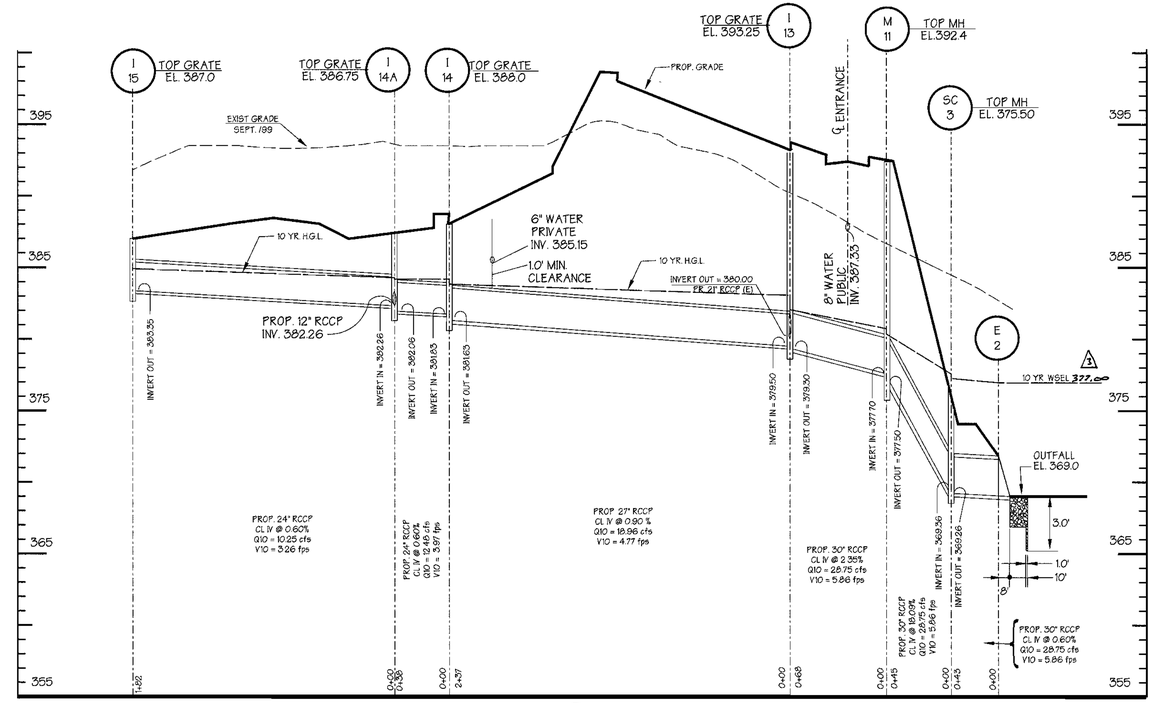
SDP 01-068

NAME : 8594waterprofiles.s01 P/N : 8594



DRAINAGE AREA MAP

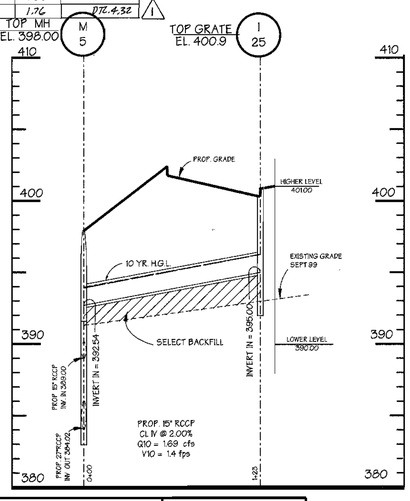
SCALE : 1" =100'

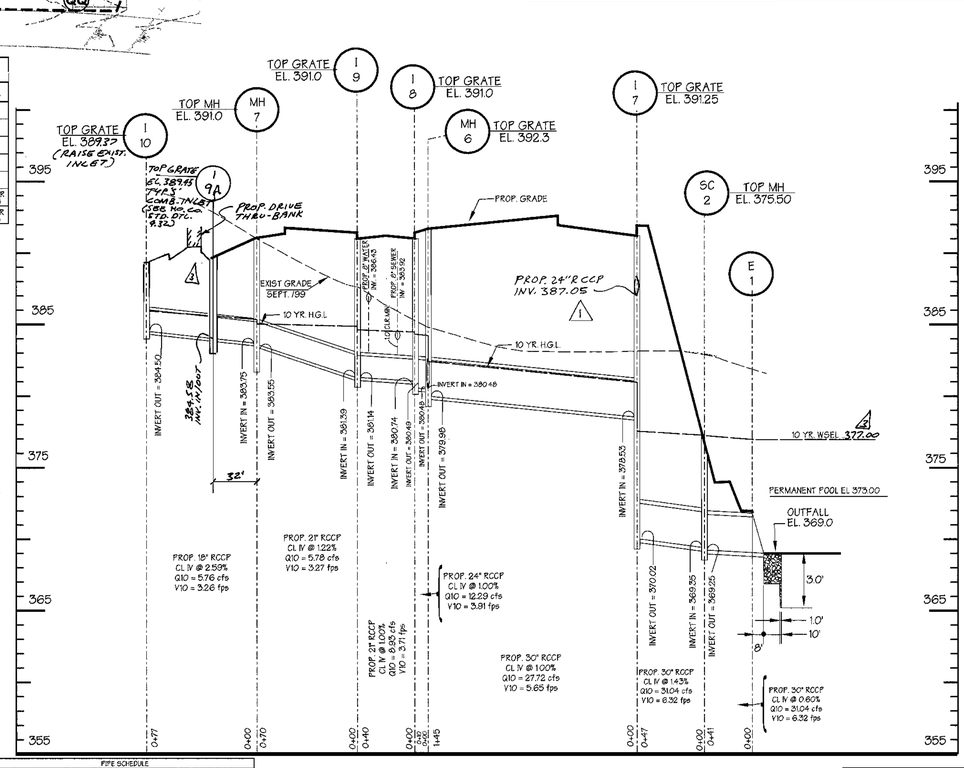


INLET SCHEDULE						
NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	Qc.f.s.	HO. CO. DTL.
I-7	DBL 'S' CMB	391.25	378.53	370.02	4.39	DTL. 4.34
I-8	DBL 'S'	391.00	380.74	380.49	3.61	DTL 4.23
I-9	DBL 'S'	391.00	381.39	381.14	3.32	DTL. 4.23
I-10	DBL 'S' CMB	389.37	-	384.50	5.76	DTL 4.34
I-13	DBL 'S' CMB	393.25	379.50	379.30	4.29	DTL. 4.34
I-14	DBL 'S'	388.00	381.83	381.63	4.49	DTL 4.23
I-15	DBL 'S'	387.00	-	383.35	10.25	DTL 4.23
I-14A	TYPE 'S'	386.75	382.26	382.06	2.93	DTL 4.22
I-19	TYPE 'S' COMB.	392.10	—	383.00		DTL 4.32
I-25	TYPE 'S' COMB.	400.90	—	395.00	1.69	DTL 4.32
I-7A	SINGLE 'S' COM.	391.75	388.25	387.02	1.76	DTL.4.32

STRUCTURE SCHEDULE					
NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	HO. CO. DTL.
MH-6	STD	392.30	380.48	379.98	G 5.13
MH-7	STD	391.00	383.75	383.55	G 5.12
MH-11	STD	392.40	377.70	377.50	G 5.13
E-1	CONC. END SECTION 30"	-	-	369.00	SD 5.51
E-2	CONC. END SECTION 30"	-	-	369.00	SD 5.51
SC-2	STC 4800	375.50	369.35	369.25	SEE STORMCEPTOR PLANS & DETAILS
SC-3	STC 4800	375.50	369.36	369.26	SEE STORMCEPTOR PLANS & DETAILS

AREA	ACREAGE	'C'	% IMP.
A	0.29	0.90	93
B	0.74	0.78	74
C	0.29	0.90	93
D	0.67	0.83	82
E	0.32	0.90	94
F	0.38	0.90	92
G	0.43	0.90	93
H	0.63	0.90	94
I	0.35	0.90	93
I1	0.25	0.83	82
J	0.30	0.90	93
K	0.75	0.90	93
L	0.41	0.90	93
M	0.41	0.90	93
N	0.19	0.90	95
O	1.14	0.90	93
P	0.37	0.90	94
Q	0.17	0.90	93
R	1.59	0.90	93
S	0.53	0.90	92
T	0.30	0.90	93
U	0.61	0.95	100
V	0.46	0.88	91
W	0.47	0.90	94
X	1.07	0.92	93
Z	0.64	0.70	67
Z1	0.25	0.90	92
Q-1	0.22	0.81	82
Y	0.83	0.91	94
Y-1	0.32	0.85	88

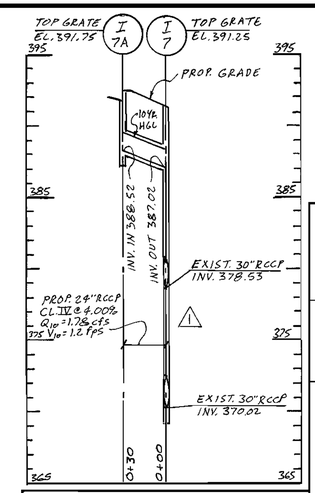




PIPE SCHEDULE				
NO.	TYPE	CLASS	TOTAL	LENGTH
12"	P.V.C.		25'	
12"	R.C.C.P.	CL - IV	38'	
15"	R.C.C.P.	CL - IV	808'	
15"	PERF. ALCMP	GA 14	256'	
18"	R.C.C.P.	CL - IV	1,074'	
18"	R.C.C.P.	TYPE II-25 ASTM C361-90	72'	
21"	R.C.C.P.	CL - IV	747'	
24"	R.C.C.P.	CL - IV	1,423'	
27"	R.C.C.P.	CL - IV	600'	
30"	R.C.C.P.	CL - IV	688'	
30"	ALCMP.	GA. 14	40'	
36"	ALCMP.	GA. 14	70'	

STORM DRAIN PROFILES

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



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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/13/01

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6031 University Boulevard
'E' Building No. 5	6000 University Boulevard

4 REVISED DRAINAGE AREA MAP, STORM DRAIN PROFILES AND SCHEDULES ACCORDINGLY BY GWS DATED 05/04/01

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	PORT	/ZONE 37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
1 ADDED INLET I-7A ADDED PROFILE AND REVISED INLET SCHEDULE ACCORDINGLY BY GWS DATED 12/6/01

DRAINAGE AREA MAP & PROFILES
COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

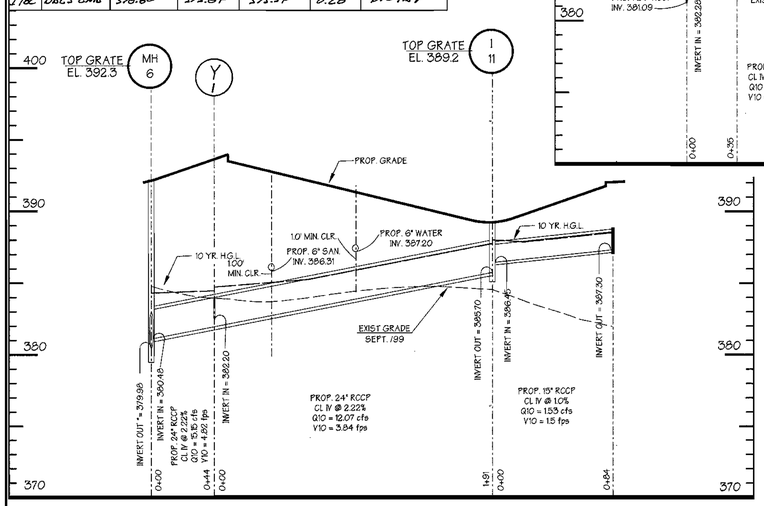
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND
SHT. 11 OF 33
SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

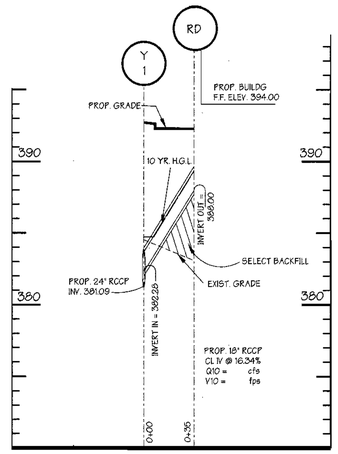
SDP 01-068

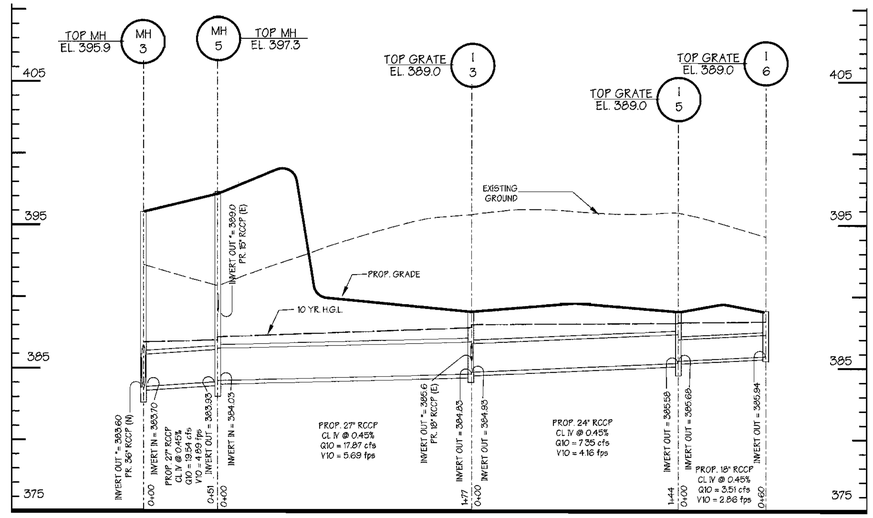
NAME : 8594stormdrainprofiles1s01 P/N : 8594

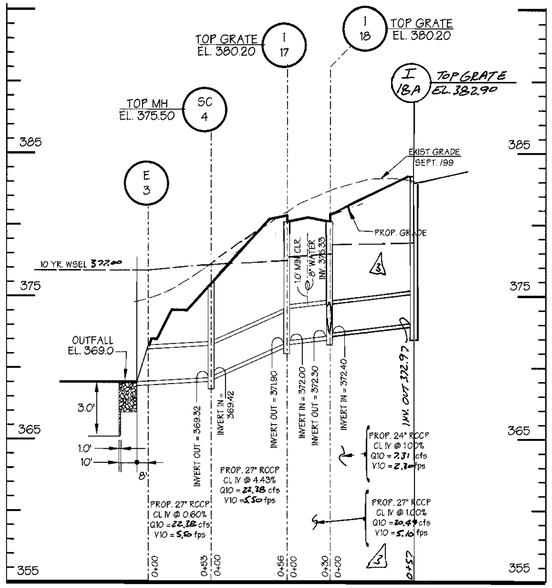
INLET SCHEDULE

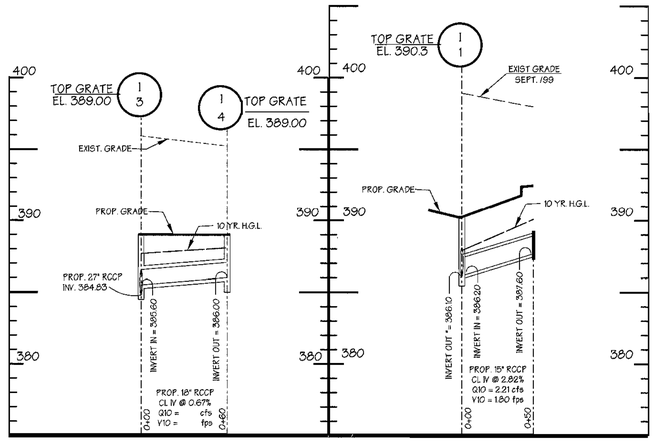
NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	Qc.f.s.	HO. CO. DTL.
I-1	DBL 'S' CMB	390.30	389.60	386.10	5.37	DTL. 4.34
I-2	DBL 'S' CMB	390.30	387.10	387.00	5.66	DTL. 4.34
I-3	DBL 'S'	389.00	384.93	384.83	5.56	DTL. 4.23
I-4	DBL 'S'	389.00	-	386.00	5.56	DTL. 4.23
I-5	DBL 'S'	389.00	385.68	385.58	4.00	DTL. 4.23
I-6	DBL 'S'	389.00	-	385.95	3.32	DTL. 4.23
I-11	DBL 'S'	389.20	386.45	385.70	10.54	DTL. 4.23
I-13	DBL 'S' CMB	393.25	380.00	379.30	4.29	DTL. 4.34
I-16	DBL 'S' CMB	386.50	383.25	383.00	4.10	DTL. 4.34
I-17	DBL 'S' CMB	380.20	372.00	371.90	1.96	DTL. 4.34
I-18	DBL 'S' CMB	380.20	372.40	372.30	2.13	DTL. 4.34
I18A	DBL'S'CMB	382.90	—	372.97	7.37	DTL 4.34
I18B	DBL'S'CMB	379.40	—	374.00	9.61	DTL 4.34
I18C	DBL'S'CMB	378.80	372.64	372.54	0.28	DTL 4.34

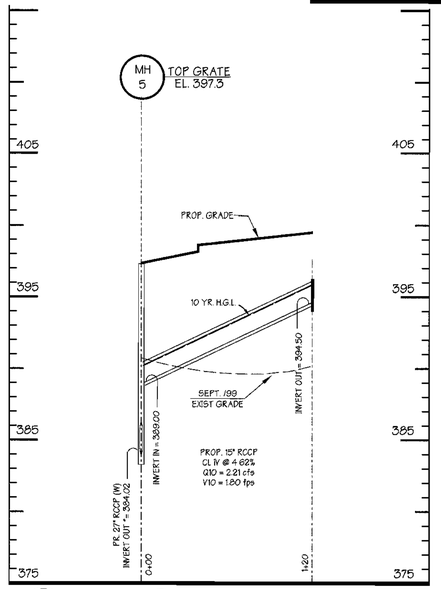






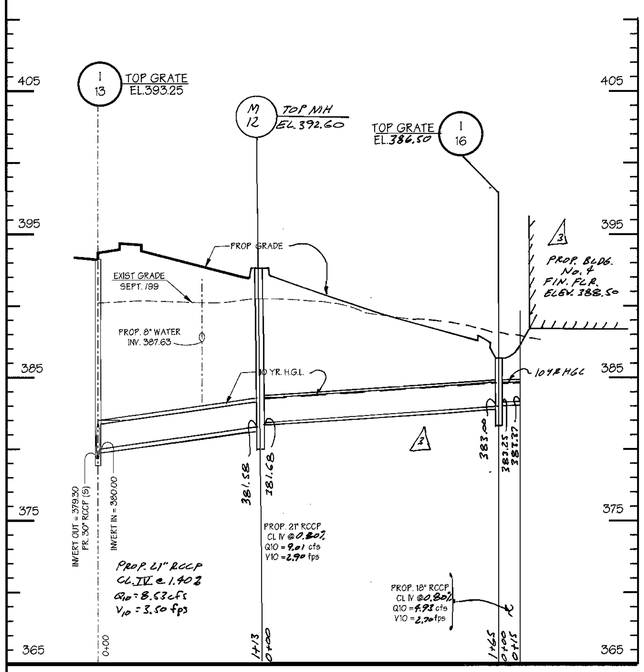






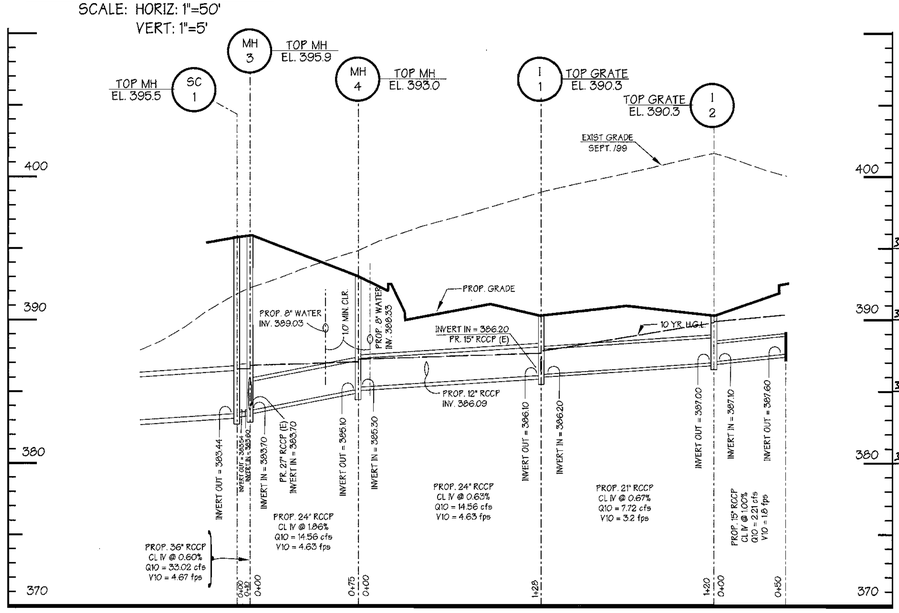
STRUCTURE SCHEDULE

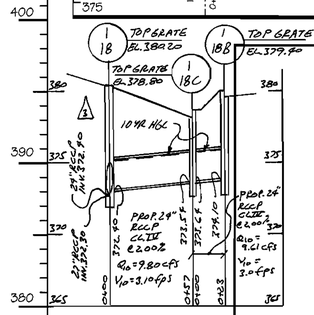
NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	HO. CO. DTL.
MH-3	STD	395.90	383.70	383.60	G 5.13
MH-4	STD	393.00	385.30	385.10	G 5.12
MH-5	STD	397.30	389.00	384.02	G 5.13
MH-6	STD	392.30	381.48	379.98	G 5.13
Y-1	SINGLE Y - BRANCH	-	382.20	-	SD 1.11
E-3	CONC. END SECTION 30"	-	-	369.00	SD 5.51
SC-1	STC. 6000	395.50	383.54	383.44	SEE STORMCEPTOR PLANS AND DETAILS
SC-4	STC. 3600	375.50	369.42	369.32	SEE STORMCEPTOR PLANS AND DETAILS
MH12	STD	392.60	381.68	381.58	G 5.13



STORM DRAIN PROFILES

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





PREPARED BY :

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Civil Engineers and Land Surveyors
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(410) 825-8120

OWNER / DEVELOPER
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2066 LORD BALTIMORE DRIVE
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DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
3 REVISED STORM DRAIN PROFILES AND SCHEDULES ACCORDING TO GWS DATED 05/04/01

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

HOWARD SOIL CONSERVATION DISTRICT — DATE

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

USDA NATURAL RESOURCES CONSERVATION SERVICE — DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/8/01

DIRECTOR — DATE 6/13/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

STORM DRAIN PROFILES
COLUMBIA CORPORATE PARK 100

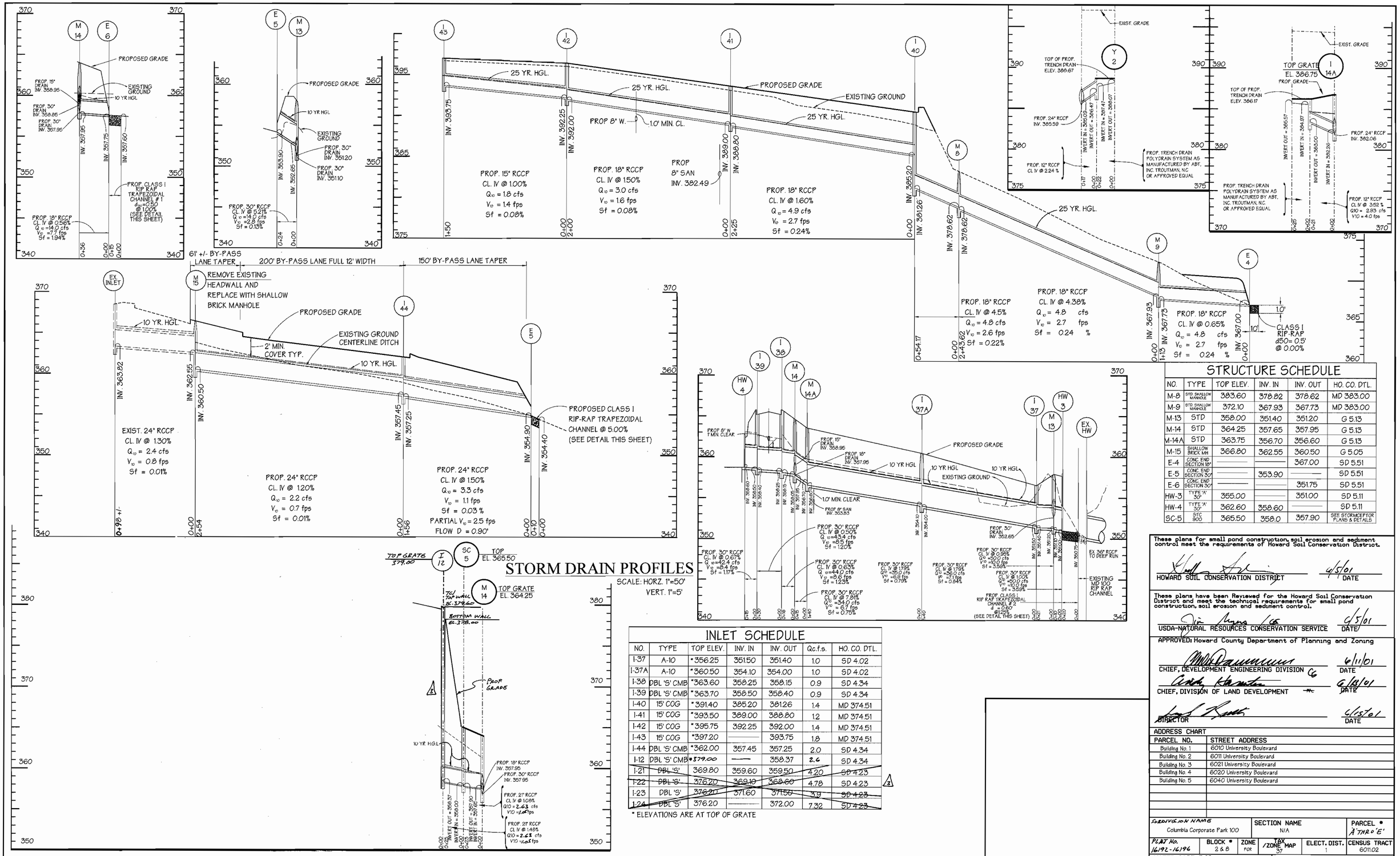
PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SDP 01-068
SCALE : As Shown
SHT. 12 OF 33 DATE : OCT. 02, 2000

SDP 01-068

NAME : 8594stmdrainprofiles2.s01 F/N : 8594



STORM DRAIN PROFILES

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

STRUCTURE SCHEDULE

NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	HO. CO. DTL.
M-8	STD. SHALLOW MANHOLE	383.60	378.82	378.62	MD 383.00
M-9	STD. SHALLOW MANHOLE	372.10	367.93	367.73	MD 383.00
M-13	STD	358.00	351.40	351.20	G 5.13
M-14	STD	364.25	357.65	357.95	G 5.13
M-14A	STD	363.75	356.70	356.60	G 5.13
M-15	SHALLOW BRICK MH	366.80	362.55	360.50	G 5.05
E-4	CONC. END SECTION 18"	—	—	367.00	SD 5.51
E-5	CONC. END SECTION 30"	—	353.90	—	SD 5.51
E-6	CONC. END SECTION 30"	—	—	351.75	SD 5.51
HW-3	TYPE 'A' 30"	355.00	—	351.00	SD 5.11
HW-4	TYPE 'A' 30"	362.60	358.60	—	SD 5.11
SC-5	STC 805	365.50	358.0	357.90	SEE STORMCEPTOR PLANS & DETAILS

INLET SCHEDULE

NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	Qc.f.s.	HO. CO. DTL.
I-37	A-10	*356.25	351.50	351.40	1.0	SD 4.02
I-37A	A-10	*360.50	354.10	354.00	1.0	SD 4.02
I-38	DBL 'S' CMB	*363.60	358.25	358.15	0.9	SD 4.34
I-39	DBL 'S' CMB	*363.70	358.50	358.40	0.9	SD 4.34
I-40	15' COG	*391.40	385.20	381.26	1.4	MD 374.51
I-41	15' COG	*393.50	389.00	388.80	1.2	MD 374.51
I-42	15' COG	*395.75	392.25	392.00	1.4	MD 374.51
I-43	15' COG	*397.20	—	393.75	1.8	MD 374.51
I-44	DBL 'S' CMB	*362.00	357.45	357.25	2.0	SD 4.34
I-12	DBL 'S' CMB	*379.00	—	358.37	2.6	SD 4.34
~~I-21~~	~~DBL 'S'~~	~~369.80~~	~~359.60~~	~~359.50~~	~~4.20~~	~~SD 4.23~~
~~I-22~~	~~DBL 'S'~~	~~376.20~~	~~369.10~~	~~368.00~~	~~4.78~~	~~SD 4.23~~
~~I-23~~	~~DBL 'S'~~	~~376.20~~	~~371.60~~	~~371.50~~	~~3.9~~	~~SD 4.23~~
~~I-24~~	~~DBL 'S'~~	~~376.20~~	—	~~372.00~~	~~7.32~~	~~SD 4.23~~

* ELEVATIONS ARE AT TOP OF GRATE

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/12/01

DIRECTOR — DATE 6/25/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
Building No. 1	6010 University Boulevard
Building No. 2	6011 University Boulevard
Building No. 3	6021 University Boulevard
Building No. 4	6020 University Boulevard
Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — GEORGE W. STEPHENS, JR. — No. 7104 — REGISTERED PROFESSIONAL ENGINEER

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

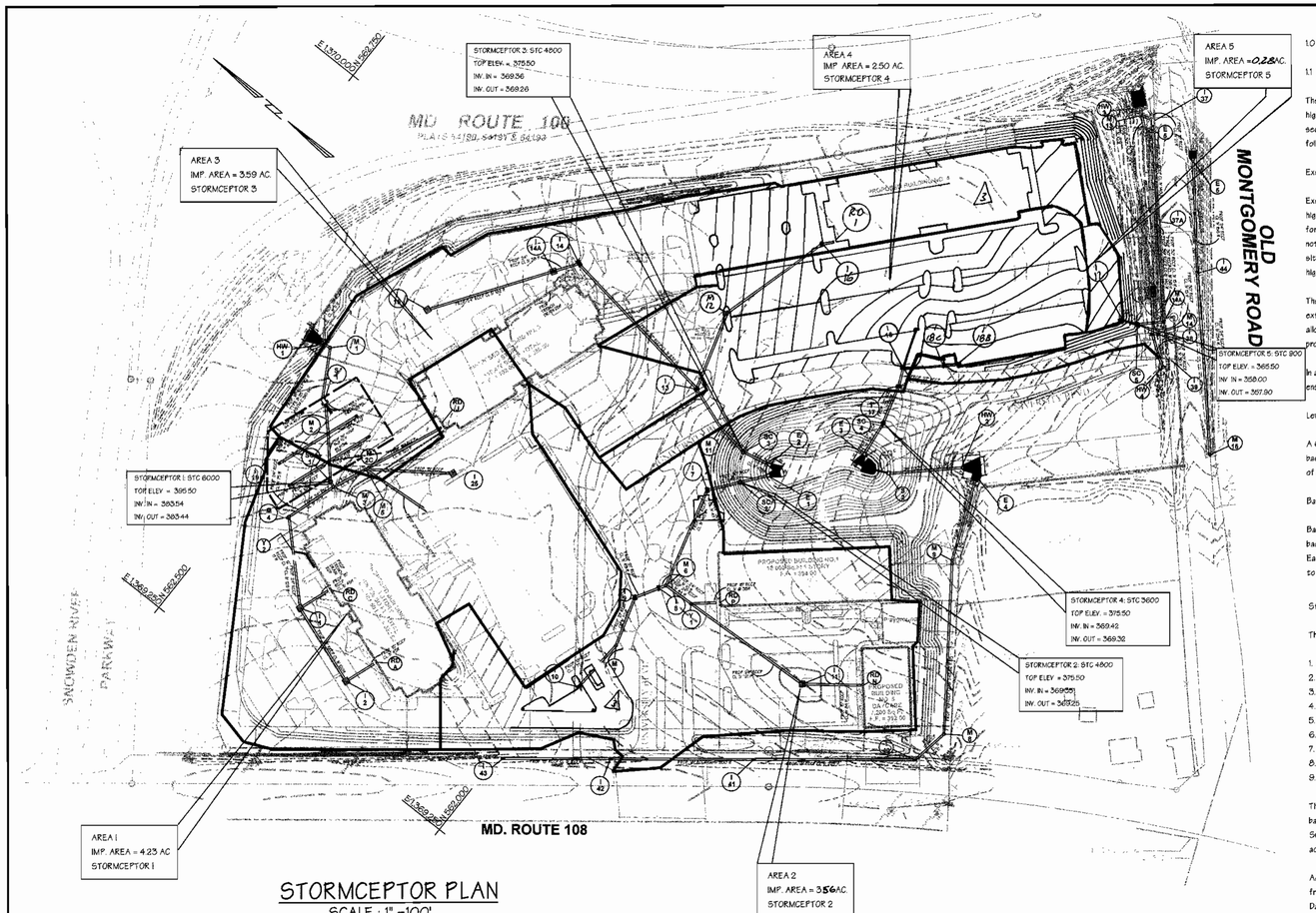
DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
1 REVISED STORM DRAIN PROFILE AND SCHEDULE ACCORDINGLY BY GWS DATED 05/09/01

STORMDRAIN PROFILES
COLUMBIA CORPORATE PARK 100
PARCELS 'A' THRU 'E'

SDP 01-068
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND
SHT. 13 OF 33
SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068

NAME : 8594drainmaps01 F/N : 8594



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 900, STC 1200, STC 1800

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

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

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

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

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

Inlet and Outlet Pipes

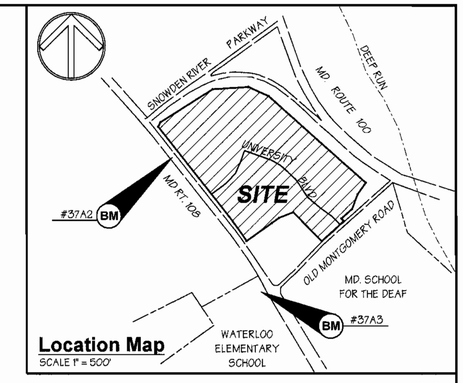
Inlet and outlet pipes should be securely set into the by-pass chamber using grout or approved pipe seals so that the structure is watertight. Kor-N-Seal® boots are normally used and installed at the precast concrete plant prior to shipping. The Kor-N-Seal® boots are applicable for pipes with an outside diameter up to 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.



Location Map
SCALE 1" = 500'

Benchmarks

Pt. #37A2, Aka - 2643002 - Howard Co. Geodetic Control
Northing : 562120.856
Easting : 1369300.289
NAD27 datum N 501371.9, E 856882.1
Elevation : 403.675'

Pt. #37A3, Aka - 2643003 - Howard Co. Geodetic Control
Northing : 561130.803
Easting : 1369913.306
NAD27 datum N 500381.9, E 857495.1
Elevation : 385.627'

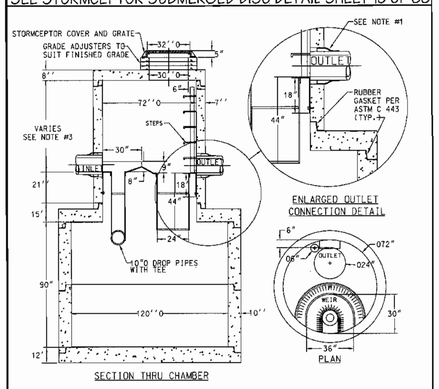
OPERATION AND MAINTENANCE SCHEDULE
FOR STORMCEPTOR WATER QUALITY DEVICE

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 petroleum 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.

SC-2 IMPERVIOUS AREA 3.56 AC. +/-

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

NOTE:
SEE STORMCEPTOR SUBMERGED DISC DETAIL SHEET 15 OF 33



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"Ø OR 12"Ø WITH A 10"Ø ORIFICE PLATE
5. ALL CONCRETE JOINTS HAVE RUBBER GASKETS THAT CONFORM TO ASTM C 443
6. U.S. PATENT NO. 4,985,148

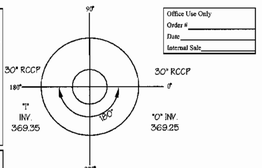
DESIGN SPECIFICATIONS
1. ASTM C 478
2. BASE WEIGHT = 16.53 TONS

STC-4800
60
REVISED 10/96

Concrete Stormceptor ® Order Request Form *

Contractor Information
Name CTG INC.
Address
City
State
Zip Code
Contract
Phone
Fax

Office Use Only
Order #
Date
Internal Sale



Owner Information
Name MERRITT
Phone 410-298-2600
Fax

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.

Stormceptor® Model: 900, 1200, 1800, 2400, 3600, 4800 [X], 6000, 7200

Insert Size: 22", 32", 44", Custom

Manhole Number	SC-2
Top Elevation (ft)	375.50
Inlet Pipe Invert (ft)	369.55
Outlet Pipe Invert (ft)	369.25
Pipe Type :	R.C.C.P.
Pipe Inside Diameter (in) [ID]	30"
Pipe Outside Diameter (in) [OD]	30"

Project Name COLUMBIA CORPORATE PARK 100
Approximate time frame until required delivery (weeks)
Delivery Address: Street
City State Zip Code
Designer Company GEORGE W. STEPHENS, JR. & ASSOCIATES
Designer Contact PAT CIARLO 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

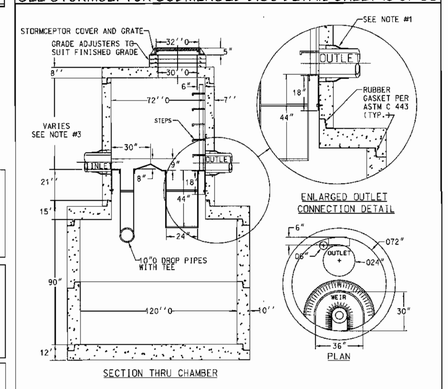
ALL LIFTING APPARATUS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR

* TO BE INCLUDED ON SWM PLAN BY DESIGNER

SC-3 IMPERVIOUS AREA 3.59 AC. +/-

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

NOTE:
SEE STORMCEPTOR SUBMERGED DISC DETAIL SHEET 15 OF 33



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"Ø OR 12"Ø WITH A 10"Ø ORIFICE PLATE
5. ALL CONCRETE JOINTS HAVE RUBBER GASKETS THAT CONFORM TO ASTM C 443
6. U.S. PATENT NO. 4,985,148

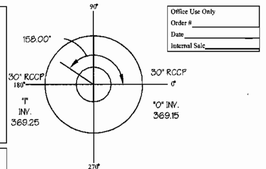
DESIGN SPECIFICATIONS
1. ASTM C 478
2. BASE WEIGHT = 16.53 TONS

STC-4800
60
REVISED 10/96

Concrete Stormceptor ® Order Request Form *

Contractor Information
Name CTG INC.
Address
City
State
Zip Code
Contract
Phone
Fax

Office Use Only
Order #
Date
Internal Sale



Owner Information
Name MERRITT
Phone 410-298-2600
Fax

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.

Stormceptor® Model: 900, 1200, 1800, 2400, 3600, 4800 [X], 6000, 7200

Insert Size: 22", 32", 44", Custom

Manhole Number	SC-3
Top Elevation (ft)	375.50
Inlet Pipe Invert (ft)	369.36
Outlet Pipe Invert (ft)	369.26
Pipe Type :	R.C.C.P.
Pipe Inside Diameter (in) [ID]	30"
Pipe Outside Diameter (in) [OD]	30"

Project Name COLUMBIA CORPORATE PARK 100
Approximate time frame until required delivery (weeks)
Delivery Address: Street
City State Zip Code
Designer Company GEORGE W. STEPHENS, JR. & ASSOCIATES
Designer Contact PAT CIARLO 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

3 REVISED STORMCEPTOR PLAN FOR BLDG. No. 3 REVISION AND REVISED IMPERVIOUS AREAS ACCORDINGLY REVISED ADDRESS CHART, PERMIT INFORMATION CHART, AND TITLE BLOCK PER RECORD PLAT BY GWS DATED 05/04/04

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

HOWARD SOIL CONSERVATION DISTRICT DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01
DIRECTOR — DATE 6/15/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	FOR	57 / ZONE	1	6011.02

WATER CODE E-07 SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

DEVELOPER CERTIFICATION:

I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

Developer Name ROBB MERRITT Date 11/20/00

ENGINEER CERTIFICATION:

I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Engineer Date 5/31/01
Name JAMES A. MARKLE JR. PE # 11005

OWNER / DEVELOPER

MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

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

STORMCEPTOR PLAN
COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND SHT. 14 OF 33

SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068

NAME : 8594revstormceptorplan1s01 F/N : 8594

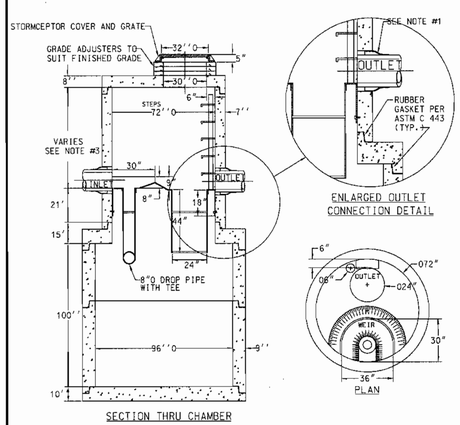
SC-4 IMPERVIOUS AREA 2.50 AC. +/-

STC 3600 Precast Concrete Stormceptor[y]

(3600 US Gallon Capacity)

(Disc Design)

NOTE:
SEE STORMCEPTOR SUBMERGED DISC DETAIL THIS SHEET



SECTION THRU CHAMBER

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 6"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 = 11.28 TONS

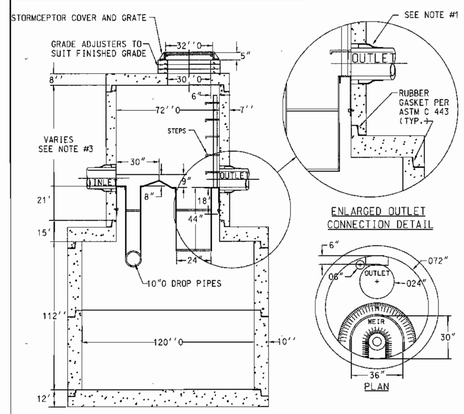
STC-3600
65
REVISED 10/96

SC-1 IMPERVIOUS AREA 4.23 AC. +/-

STC 6000 Precast Concrete Stormceptor[y]

(6000 US Gallon Capacity)

(Disc Design)



SECTION THRU CHAMBER

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 = 15.12 TONS

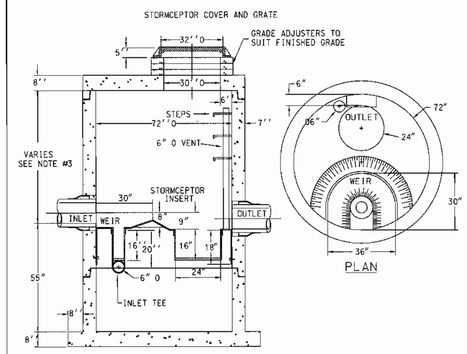
STC-6000
65
REVISED 10/96

SC-5 IMPERVIOUS AREA 0.28 AC. +/- 4

STC 900 Precast Concrete Stormceptor[y]

(900 US Gallon Capacity)

(Disc Design)

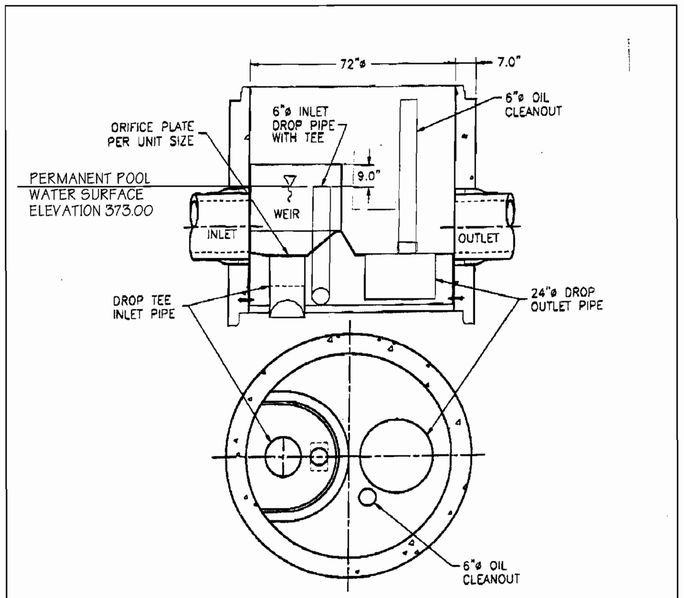


SECTION THRU CHAMBER

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 6"O OR 12"O WITH A 6"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 = 6.46 TONS

STC-900
65
REVISED 8/96



NOTE :
1. TOP OF THE 6.0"ø INLET DROP PIPE TO BE SET AT ELEVATION OF THE WATER LEVEL.
2. THE TOP OF THE WEIR TO BE LOCATED 8.0" ABOVE THE TOP OF 6.0" INLET DROP PIPE.
3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725760, #5753115, #5849181.

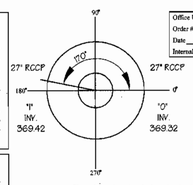
STORMCEPTOR SUBMERGED DISC DETAIL

NOTE:
FOR USE WITH STORMCEPTORS 2, 3 AND 4 ONLY.

Concrete Stormceptor ® Order Request Form *

Contractor Information
Name: CTG INC.
Address:
City:
State:
Zip Code:
Contract:
Phone:
Fax:

Office Use Only
Order #:
Date:
Internal Sale:



Owner Information
Name: MERRITT
Phone: 410-298-2600
Fax:

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.

Stormceptor® Model			
900		3600	X
1200		4800	
1800		6000	
2400		7200	

Insert Size	
22"	
32"	
44"	
Custom	

Manhole Number	SC-4
Top Elevation (ft)	375.50
Inlet Pipe Invert (ft)	369.42
Outlet Pipe Invert (ft)	369.32
Pipe Type :	R.C.C.P.
Pipe Inside Diameter (in) [ID]	27"
Pipe Outside Diameter (in) [OD]	27"

Project Name: COLUMBIA CORPORATE PARK 100
Approximate time frame until required delivery (weeks):
Delivery Address: Street:
City: State: Zip Code:
Designer Company: GEORGE W. STEPHENS, JR. & ASSOCIATES
Designer Contract: PAT CIARLO 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

Concrete Stormceptor ® Order Request Form *

Contractor Information
Name: CTG INC.
Address:
City:
State:
Zip Code:
Contract:
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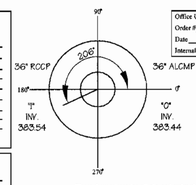
Office Use Only
Order #:
Date:
Internal Sale:



Owner Information
Name: MERRITT
Phone: 410-298-2600
Fax:

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.

Stormceptor® Model			
900		3600	
1200		4800	
1800		6000	X
2400		7200	

Insert Size	
22"	
32"	
44"	
Custom	

Manhole Number	SC-1
Top Elevation (ft)	395.50
Inlet Pipe Invert (ft)	383.54
Outlet Pipe Invert (ft)	383.44
Pipe Type :	R.C.C.P./A.L.C.M.P.
Pipe Inside Diameter (in) [ID]	36"
Pipe Outside Diameter (in) [OD]	36"

Project Name: COLUMBIA CORPORATE PARK 100
Approximate time frame until required delivery (weeks):
Delivery Address: Street:
City: State: Zip Code:
Designer Company: GEORGE W. STEPHENS, JR. & ASSOCIATES
Designer Contract: PAT CIARLO Phone: 410-825-8120 Fax: 410-583-0288

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Concrete Stormceptor ® Order Request Form *

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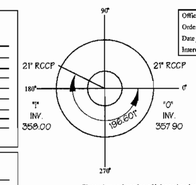
Name: CTG INC.
Address:
City:
State:
Zip Code:
Contract:
Phone:
Fax:

Office Use Only
Order #:
Date:
Internal Sale:



Owner Information
Name: MERRITT
Phone: 410-298-2600
Fax:

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.

Stormceptor® Model			
900	X	3600	
1200		4800	
1800		6000	
2400		7200	

Insert Size	
22"	
32"	
44"	
Custom	

Manhole Number	SC-5
Top Elevation (ft)	365.50
Inlet Pipe Invert (ft)	358.00
Outlet Pipe Invert (ft)	357.90
Pipe Type :	R.C.C.P.
Pipe Inside Diameter (in) [ID]	21"
Pipe Outside Diameter (in) [OD]	21"

Project Name: COLUMBIA CORPORATE PARK 100
Approximate time frame until required delivery (weeks):
Delivery Address: Street:
City: State: Zip Code:
Designer Company: GEORGE W. STEPHENS, JR. & ASSOCIATES
Designer Contract: PAT CIARLO Phone: 410-825-8120 Fax: 410-583-0288

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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

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

HOWARD SOIL CONSERVATION DISTRICT DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/12/01

DIRECTOR — DATE 6/15/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — JAMES A. MARKLE JR. — No. 11005 — REGISTERED PROFESSIONAL ENGINEER

DEVELOPER CERTIFICATION:
I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

Developer Name: ROBB MERRITT Date: 11/20/00

ENGINEER CERTIFICATION:
I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Engineer: James A. Markle Jr. Date: 5/31/01
Name: JAMES A. MARKLE JR. PE # 11005

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
3 REVISED IMPERVIOUS AREA TO SC-5 BY GWS DATED 05/04/04

STORMCEPTOR DETAILS
COLUMBIA CORPORATE PARK 100

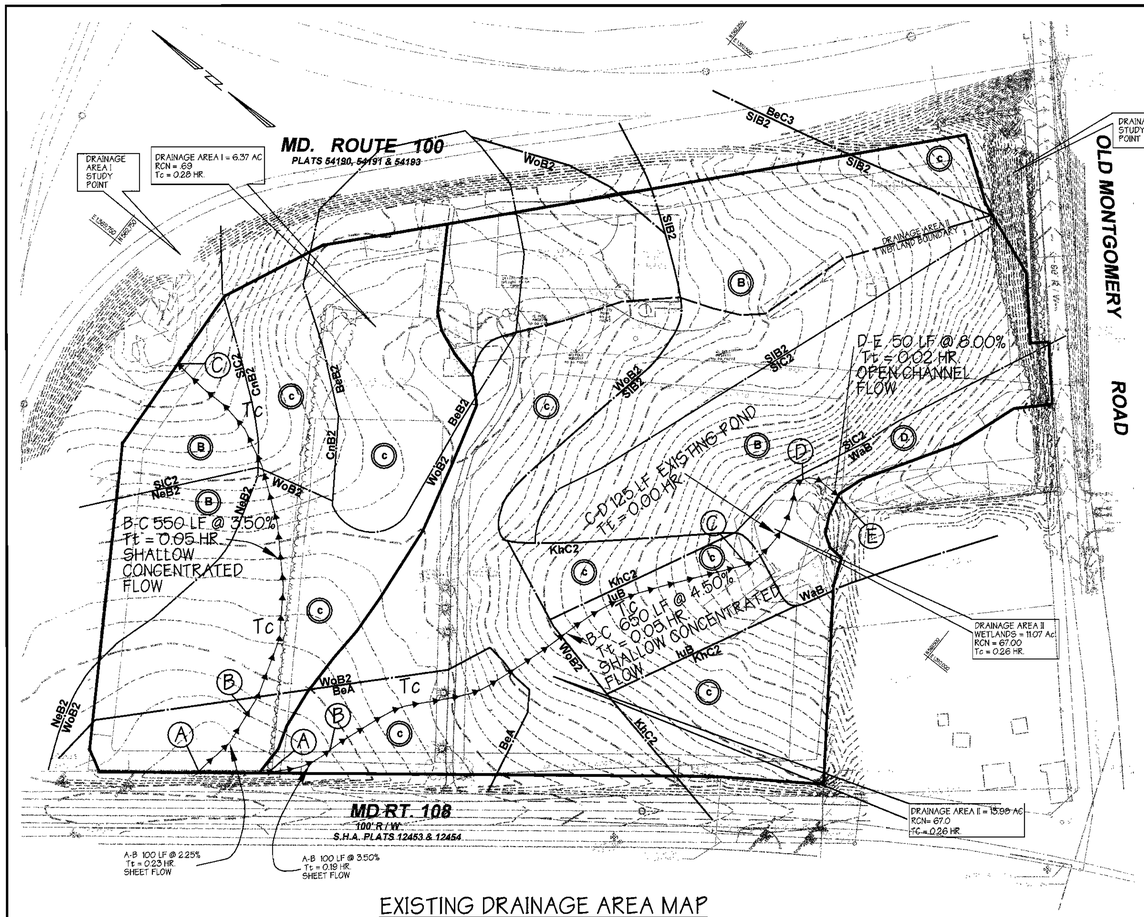
PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND SHT. 15 OF 33

SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

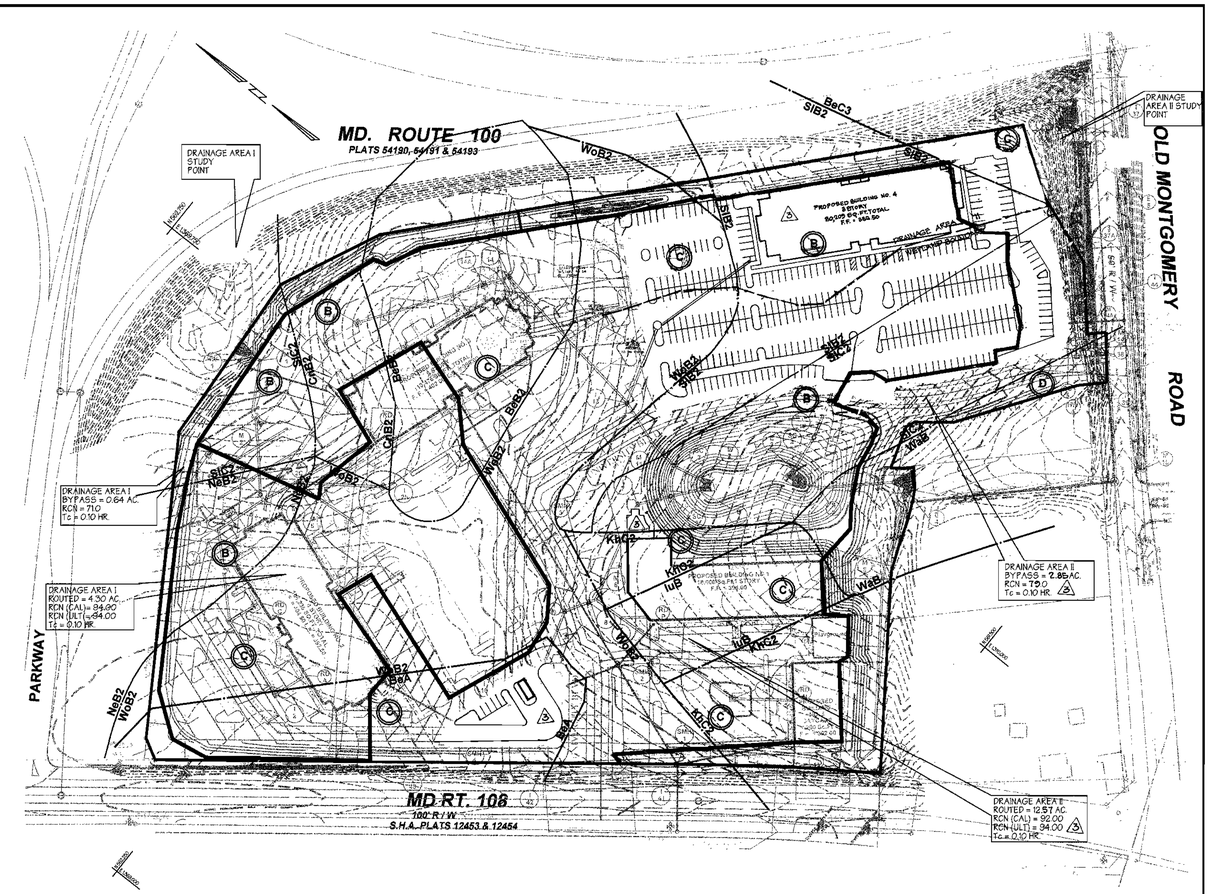
SDP 01-068

NAME : 8594rcvstormceptorplans01F/N : 8594



EXISTING DRAINAGE AREA MAP

SCALE : 1" =100'



PROPOSED DRAINAGE AREA MAP

SCALE : 1" =100'

SEQUENCE OF OPERATIONS

(UNDERGROUND STORMWATER MANAGEMENT FACILITY POND)

1) COMPLETE SEDIMENT AND EROSION CONTROL SEQUENCE OF OPERATIONS UNTIL STEP #5 PHASE 2.

2) WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR, CONVERT PIPE OUTLET SEDIMENT TRAP TO UNDERGROUND STORMWATER MANAGEMENT FACILITY.

a) CLEANOUT BASIN
b) MAKE NECESSARY CHANGES TO RELEASE STRUCTURE
c) REMOVE VERTICAL DRAW DOWN DEVICE

3) INSTALL REMAINING PIPES WITHIN THE UNDERGROUND STORMWATER MANAGEMENT FACILITY.

4) NOTIFY ENGINEER-IN-CHARGE (410) 825-8120, SO THAT HE OR SHE MAY COMPLETE THE AS-BUILT SURVEY AND STUDY AND SUBMIT TO THE APPROPRIATE AGENCIES WITHIN 30 DAYS.

5) COMPELTE THE REST OF THE SEDIMENT AND EROSION CONTROL SEQUENCE OF OPERATIONS.

SEQUENCE OF OPERATIONS

(WET POND STORMWATER MANAGEMENT FACILITY)

1) COMPLETE SEDIMENT AND EROSION CONTROL SEQUENCE OF OPERATIONS UNTIL STEP #5 PHASE 2.

2) WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR, CONVERT SEDIMENT BASIN TO WET POND STORMWATER MANAGEMENT FACILITY.

a) CLEANOUT BASIN
b) MAKE NECESSARY CHANGES TO RELEASE STRUCTURE
c) REMOVE VERTICAL DRAW DOWN DEVICE

3) NOTIFY ENGINEER-IN-CHARGE (410) 825-8120, SO THAT HE OR SHE MAY COMPLETE THE AS-BUILT SURVEY AND STUDY AND SUBMIT TO THE APPROPRIATE AGENCIES WITHIN 30 DAYS.

4) COMPELTE THE REST OF THE SEDIMENT AND EROSION CONTROL SEQUENCE OF OPERATIONS.

SOILS CHART

Soil Symbol	Soil Group	Soil Name	Soil Classification
BeA	C	Beltsville	Silt Loam
BeB2	C	Beltsville	Silt Loam
BeC3	C	Beltsville	Silt Loam
CnB2	C	Chrome	Chrome
luB	C	luka	Loam
KhC2	C	Keyport	Silt Loam
NeB2	B	Neshaminy	Silt Loam
SlB2	B	Sassafras	Loam
SlC2	B	Sassafras	Loam
WaB	D	Watchung	Silt Loam
WoB2	C	Woodstone	Sandy Loam

LEGEND

SOILS

DRAINAGE AREA LINES

Tc PATH

Tc POINT (C)

Soil Group (c)

Soil Symbol **NeB2**

REVISED PROPOSED DRAINAGE AREA MAP FOR BUILDING NO.4, ADDED PATIO TO BUILDING NO.1, AND ADDED BANK DRIVE THRU TO BUILDING NO.2. REVISED COMPUTATIONS ACCORDINGLY. REVISED ADDRESS CHART, AND TITLE BLOCK PER RECORDED PLAT BY GWS DATED 05/04/04 (3)

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/12/01

DIRECTOR — DATE 6/13/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
Parcel 'A' Building No. 1	6010 University Boulevard
Parcel 'B' Building No. 2	6011 University Boulevard
Parcel 'C' Building No. 3	6021 University Boulevard
Parcel 'D' Building No. 4	6020 University Boulevard
Parcel 'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	A THRU E

PLAT NO.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	PCR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — GEORGE W. STEPHENS, JR. — No. 11000 — REGISTERED PROFESSIONAL ENGINEER

OWNER / DEVELOPER

MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

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

EXISTING AND PROPOSED DRAINAGE AREA MAPS

COLUMBIA CORPORATE PARK 100

PARCELS A THRU E

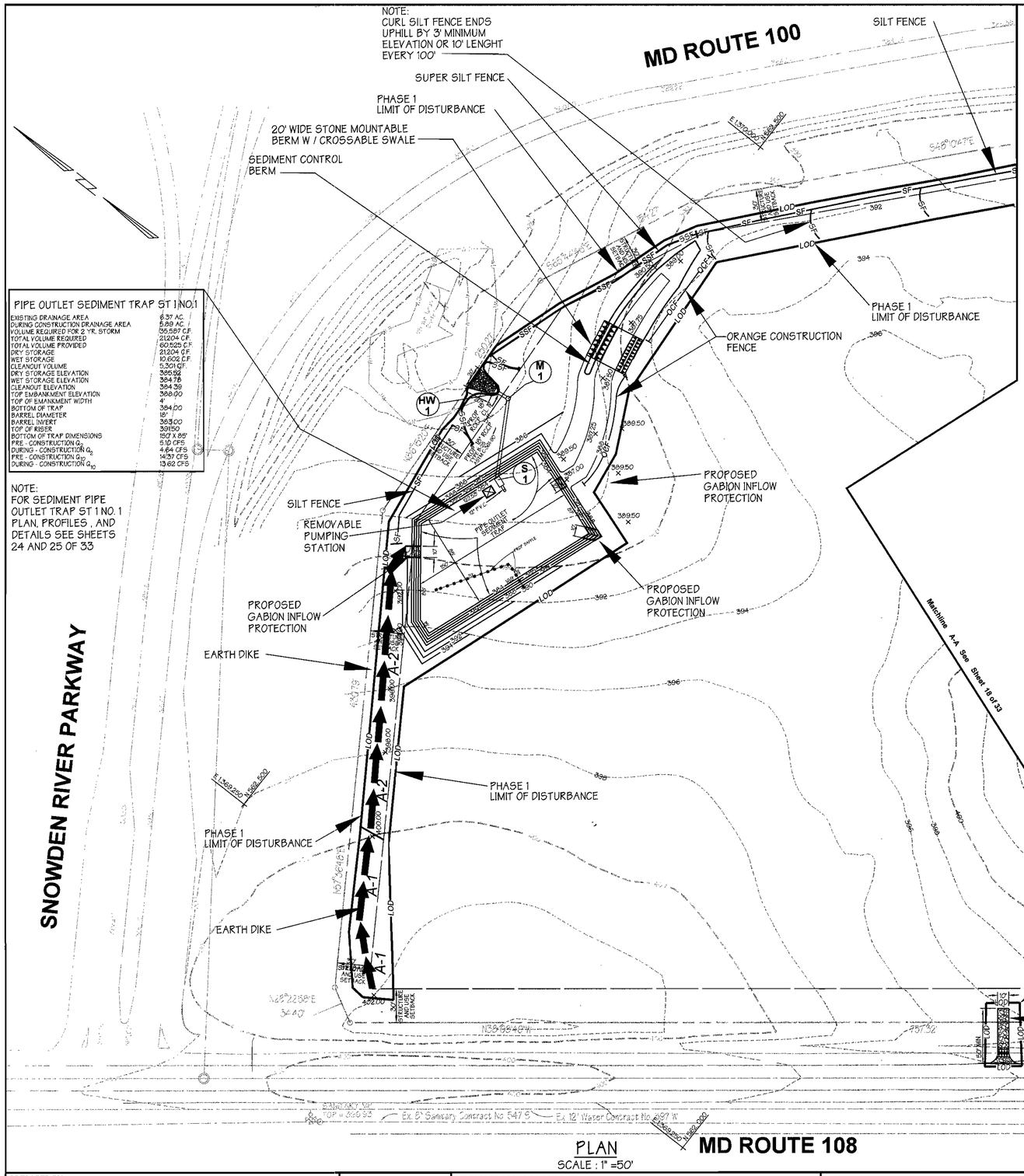
SDP 01-068

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND — SHT. 16 OF 33

SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068

NAME : 8594rcvexpropmap.s01 P/N : 8594



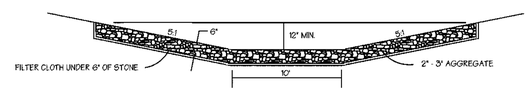
PIPE OUTLET SEDIMENT TRAP ST 1 NO.1	
EXISTING DRAINAGE AREA	6.37 AC.
DURING CONSTRUCTION DRAINAGE AREA	5.29 AC.
VOLUME REQUIRED FOR 2 YR. STORM	35,587 C.F.
TOTAL VOLUME REQUIRED	21,204 C.F.
TOTAL VOLUME PROVIDED	60,525 C.F.
DRY STORAGE	21,204 C.F.
WET STORAGE	10,602 C.F.
CLEANOUT VOLUME	5,301 C.F.
DRY STORAGE ELEVATION	386.92
WET STORAGE ELEVATION	384.78
CLEANOUT ELEVATION	384.39
TOP EMBANKMENT ELEVATION	388.00
TOP OF EMBANKMENT WIDTH	4'
BOTTOM OF TRAP	384.00
BARREL DIAMETER	18"
BARREL INVERT	383.00
TOP OF RISER	391.50
BOTTOM OF TRAP DIMENSIONS	150' X 85'
PRE - CONSTRUCTION Q_2	5.10 CFS
DURING - CONSTRUCTION Q_2	4.64 CFS
PRE - CONSTRUCTION Q_{10}	14.37 CFS
DURING - CONSTRUCTION Q_{10}	13.62 CFS

NOTE:
FOR SEDIMENT PIPE OUTLET TRAP ST 1 NO. 1 PLAN, PROFILES , AND DETAILS SEE SHEETS 24 AND 25 OF 33

PLAN
SCALE : 1" =50'

Phase 1
Sequence of Operation

1. OBTAIN GRADING PERMIT. (1 DAY)
2. NOTIFY THE HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENSES 48 HOURS BEFORE BEGINNING WORK. (1 DAY)
3. WITH PERMISSION FROM SEDIMENT CONTROL INSPECTOR INSTALL STABILIZED CONSTRUCTION ENTRANCE SCE#1 AT MD RT 108. (2 DAYS)
4. INSTALL HIGH VISIBILITY ORANGE CONSTRUCTION FENCE AT THE LIMIT OF DISTURBANCE WHEN THE LIMIT OF DISTURBANCE IS WITHIN 50' OF WETLANDS BUFFER. (3DAYS)
5. CLEAR AND GRUB FOR INSTALLATION OF SEDIMENT BASIN, PIPE OUTLET SEDIMENT TRAP ST-1 # 1, # 2 AND DRAINAGE CHANNEL DIVERSION STORM DRAIN SYSTEM FROM HW-3 TO HW-4. ALL BASIN AND TOP SOIL TO BE PLACED WITHIN DRAINAGE AREA OF BASIN AND TRAPS. (4 DAYS)
6. INSTALL SEDIMENT BASIN . INSTALL SEDIMENT BASIN ACCORDING TO SWM PLANS AND SPECIFICATIONS WITH MODIFICATIONS FOR SEDIMENT BASIN. (14 DAYS)
7. INSTALL PIPE OUTLET SEDIMENT TRAP ST1 #1, #2, AND DRAINAGE CHANNEL DIVERSION STORM DRAIN SYSTEM FROM HW-3 TO HW-4. BLOCK FUTURE STORM DRAIN OPENINGS WITH BRICK IN M-13 FROM E-5, AND IN M-14 FROM SC-5 AND TO E-6 FOR SEDIMENT CONTROL. BEGIN EACH DAY OF STORM SEWER CONSTRUCTION BY INSTALLING SAND BAGS IN THE EXISTING CHANNEL ALONG OLD MONTGOMERY ROAD UPSTREAM OF THE AREA TO BE CONSTRUCTED THAT DAY. PUMP THE FLOW COLLECTED FROM THE SAND BAGS IN THE EXISTING CHANNEL AROUND THE DISTURBED AREA TO THE EXISTING STORM SEWER FOR MD ROUTE 100. OPEN TRENCH THAT CAN ONLY BE BACKFILLED IN ONE WORKING DAY. DURING CONSTRUCTION PLACE 1 FOOT OF COVER OVER STORM DRAIN, LEAVING UPSTREAM OPEN TO THE EXISTING CHANNEL AT THE END OF WORKING DAY. INSTALL SILT FENCE / SUPER SILT FENCE PERPENDICULAR TO OLD MONTGOMERY ROAD, AND REMOVE PUMP AND SAND BAGS. WITH PERMISSION FROM SEDIMENT CONTROL INSPECTOR INSTALL STABILIZED CONSTRUCTION ENTRANCE SCE #2 AT OLD MONTGOMERY ROAD. (14 DAYS)
8. CLEAR AND GRUB FOR INSTALLATION OF SEDIMENT AND EROSION CONTROL MEASURES. INSTALL EARTH DIKES, SEDIMENT CONTROL BERMS, AND REMAINING SEDIMENT AND EROSION CONTROL MEASURES ONLY. NO MASS GRADING OR EARTH WORK IS TO OCCUR. INSTALL HIGH VISIBILITY ORANGE CONSTRUCTION FENCE ALONG EARTH DIKE Ⓐ TO Ⓑ, Ⓒ TO Ⓓ AND SEDIMENT CONTROL BERMS. (4 DAYS)
9. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR CONTINUE TO PHASE 2 SEQUENCE OF OPERATIONS.

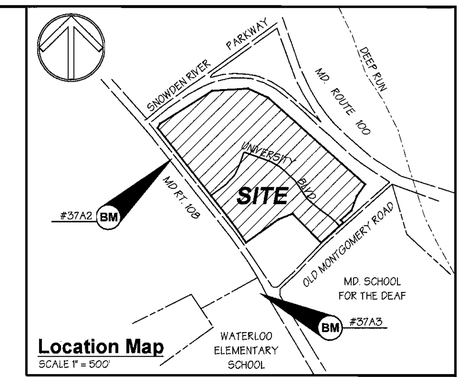


CROSSABLE SWALE
NOT TO SCALE

NOTE:
THIS PLAN IS TO BE USED FOR THE INSTALLATION AND MAINTENANCE OF THE SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES ONLY. SEE SITE PLAN FOR MORE SPECIFIC DETAILS.

NOTE:
EARTH QUANTITIES ARE PROVIDED FOR THE CONVIENANCE OF THE CONTRACTOR ONLY. CONTRACTOR IS ADVISED TO PERFORM HIS OWN ANALYSIS PRIOR TO PLACING A BID ON THIS ITEM.

LIMIT OF DISTURBANCE
913,017.6 SQ. FT. OR 20.96 AC. +/-



Location Map
SCALE 1" = 500'

Legend

- Ex. 2' Contours — 394
- Ex. 10' Contours — 395
- Prop. 2' Contours — 394
- Prop. 10' Contours — 395
- Ex. Curb & Gutter
- Prop. Curb & Gutter
- Bldg. Restriction Line
- Ex. Sanitary
- Ex. Storm Drain
- Ex. Water
- Prop. Sanitary
- Prop. Storm Drain
- Prop Water
- Light Duty Paving
- Intermediate Duty Paving
- Heavy Duty Paving
- Limit of Disturbance — LOD
- Super Silt Fence — SSF
- Silt Fence — SF
- Stabilized Construction Entrance — S.C.E.
- Orange Construction Fence — OCF
- Earth Dike — A-2
- Inlet Protection — IP
- Removable Pumping Station

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/15/01

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE	TAX /ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	PCR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

DEVELOPER CERTIFICATION:
'I certify that all development and/or construction will be done according to these plans, and that any responsible personal involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an 'as-built' plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard soil Conservation District.'

Signature of Developer — Date 11/20/00
Print Name ROBB MERRITT

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.'

Signature of Engineer — Date 5/31/01
Print Name JAMES A. MARKLE JR. — PE # 11005

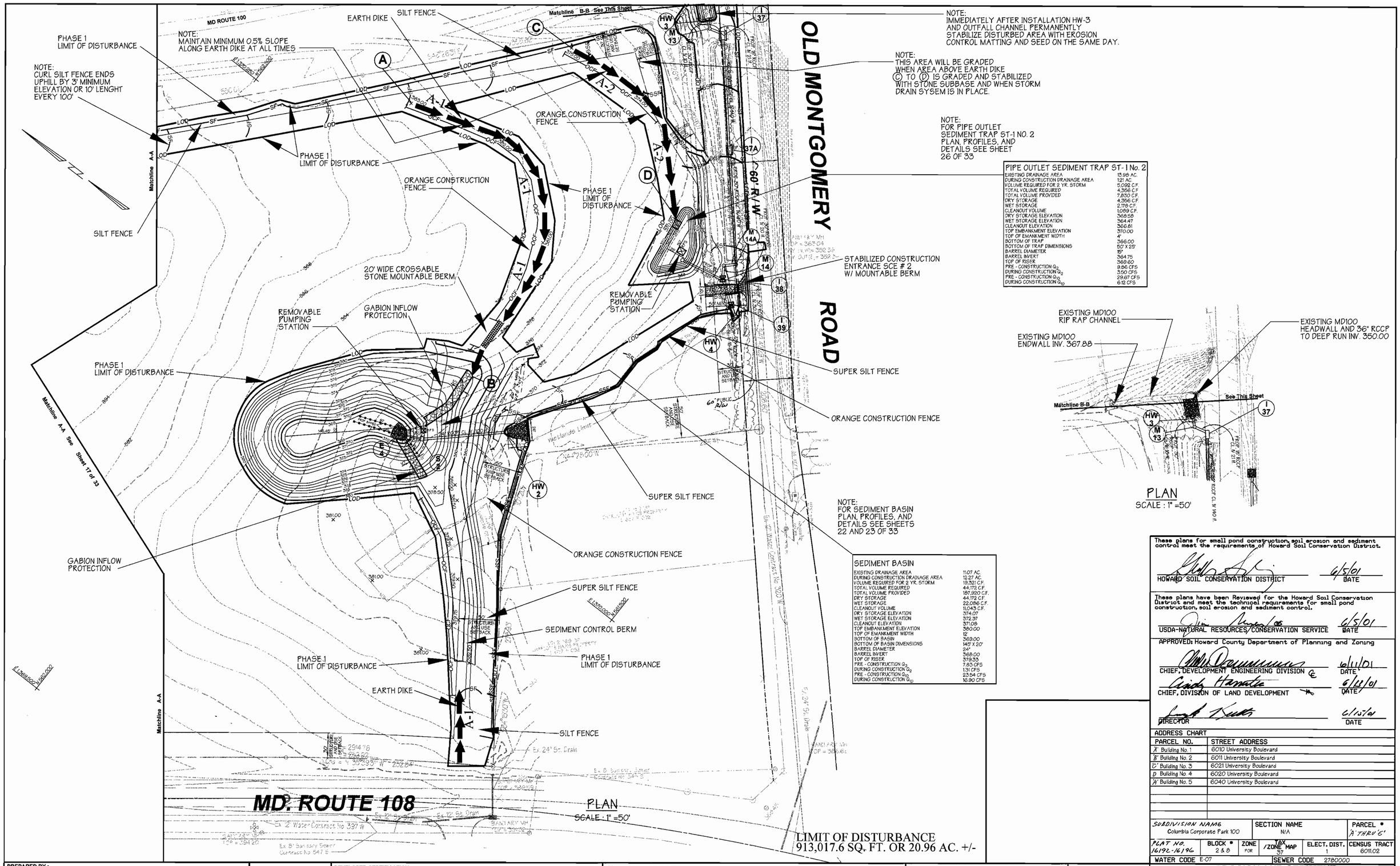
OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
2 REVISED ADDRESS CHART, PERMIT INFO. CHART, AND TITLE BLOCK BY GWS DATED 05/04/04

EROSION AND SEDIMENT CONTROL PHASE 1 PLAN
COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND
SHT. 17 OF 33
SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068
NAME : 8594revsedconexist1s01 P/N : 8594



PIPE OUTLET SEDIMENT TRAP ST-1 No. 2	
EXISTING DRAINAGE AREA	13.98 AC.
DURING CONSTRUCTION DRAINAGE AREA	1.21 AC.
VOLUME REQUIRED FOR 2 YR. STORM	5,092 C.F.
TOTAL VOLUME REQUIRED	4,356 C.F.
TOTAL VOLUME PROVIDED	7,850 C.F.
DRY STORAGE	4,356 C.F.
WET STORAGE	2,719 C.F.
CLEANOUT VOLUME	1,069 C.F.
DRY STORAGE ELEVATION	368.58
WET STORAGE ELEVATION	364.47
CLEANOUT ELEVATION	366.81
TOP EMBANKMENT ELEVATION	370.00
TOP OF EMANKMENT WIDTH	4'
BOTTOM OF TRAP	366.00
BOTTOM OF TRAP DIMENSIONS	50' X 25'
BARREL DIAMETER	15"
BARREL INVERT	364.75
TOP OF RISER	368.60
PRE - CONSTRUCTION Q_2	9.86 CFS
DURING CONSTRUCTION Q_2	3.50 CFS
PRE - CONSTRUCTION Q_{10}	29.67 CFS
DURING CONSTRUCTION Q_{10}	6.12 CFS

SEDIMENT BASIN	
EXISTING DRAINAGE AREA	11.07 AC.
DURING CONSTRUCTION DRAINAGE AREA	12.27 AC.
VOLUME REQUIRED FOR 2 YR. STORM	19,321 C.F.
TOTAL VOLUME REQUIRED	44,172 C.F.
TOTAL VOLUME PROVIDED	187,920 C.F.
DRY STORAGE	44,172 C.F.
WET STORAGE	22,086 C.F.
CLEANOUT VOLUME	11,043 C.F.
DRY STORAGE ELEVATION	374.07
WET STORAGE ELEVATION	372.37
CLEANOUT ELEVATION	371.08
TOP EMBANKMENT ELEVATION	380.00
TOP OF EMANKMENT WIDTH	12'
BOTTOM OF BASIN	369.00
BOTTOM OF BASIN DIMENSIONS	145' X 30'
BARREL DIAMETER	24"
BARREL INVERT	369.00
TOP OF RISER	379.33
PRE - CONSTRUCTION Q_2	7.83 CFS
DURING CONSTRUCTION Q_2	1.31 CFS
PRE - CONSTRUCTION Q_{10}	23.54 CFS
DURING CONSTRUCTION Q_{10}	16.90 CFS

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/12/01

DIRECTOR — DATE 6/15/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
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SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX /ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
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(410) 825-8120

DEVELOPER CERTIFICATION:
"I certify that all development and/or construction will be done according to these plans, and that any responsible personel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard soil Conservation District."

Signature of Developer — Date 11/20/00
Print Name ROBB MERRITT

ENGINEER CERTIFICATION:
"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personel 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."

Signature of Engineer — Date 5/31/01
Print Name JAMES A. MARKLE JR. — PE # 11005

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
3 REVISED ADDRESS CHART, PERMIT INFO. CHART, AND TITLE BLOCK BY GWS DATED 05/04/09

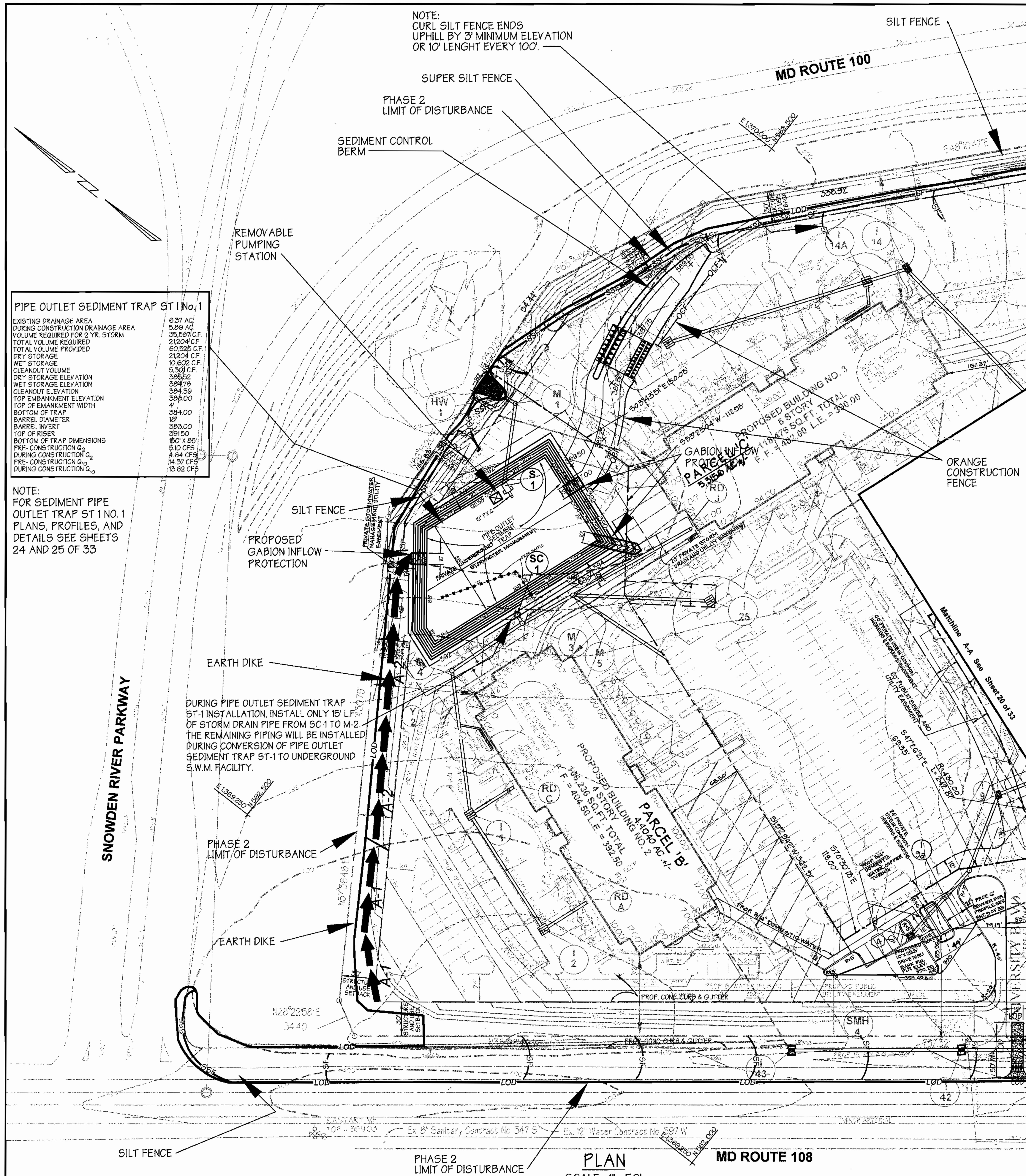
EROSION AND SEDIMENT CONTROL PHASE 1 PLAN
COLUMBIA CORPORATE PARK 100
PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND — SHT. 18 OF 33

SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068

NAME : 8594revsedconexis2.s01 P/N : 8594



PIPE OUTLET SEDIMENT TRAP ST I No. 1	
EXISTING DRAINAGE AREA	6.37 AC.
DURING CONSTRUCTION DRAINAGE AREA	5.89 AC.
VOLUME REQUIRED FOR 2 YR. STORM	35,587 C.F.
TOTAL VOLUME REQUIRED	21,204 C.F.
TOTAL VOLUME PROVIDED	60,525 C.F.
DRY STORAGE	21,204 C.F.
WET STORAGE	10,602 C.F.
CLEANOUT VOLUME	5,301 C.F.
DRY STORAGE ELEVATION	385.52
WET STORAGE ELEVATION	384.78
CLEANOUT ELEVATION	384.39
TOP EMBANKMENT ELEVATION	388.00
TOP OF EMANKMENT WIDTH	4'
BOTTOM OF TRAP	384.00
BARREL DIAMETER	18"
BARREL INVERT	383.00
TOP OF RISER	391.50
BOTTOM OF TRAP DIMENSIONS	150' X 85'
PRE- CONSTRUCTION Q_2	5.10 CFS
DURING CONSTRUCTION Q_2	4.64 CFS
PRE- CONSTRUCTION Q_{10}	14.37 CFS
DURING CONSTRUCTION Q_{10}	13.62 CFS

NOTE:
FOR SEDIMENT PIPE OUTLET TRAP ST 1 NO. 1 PLANS, PROFILES, AND DETAILS SEE SHEETS 24 AND 25 OF 33

Phase 2 Sequence of Operation

1. CLEAR AND GRUB REMAINDER OF THE SITE, AND BEGIN GRADING OPERATIONS. MAINTAIN A MINIMUM 0.5% SLOPE ALONG EARTH DIKES AND SEDIMENT CONTROL BERMS TO PROVIDE POSITIVE DRAINAGE TO SEDIMENT CONTROL MEASURES AND DEVICES. (18 DAYS)

2. CONTINUE GRADING. BEGIN BUILDING FOOTINGS AND BUILDING CONSTRUCTION EXCEPT FOR BUILDING NO. 4. (15 DAYS)

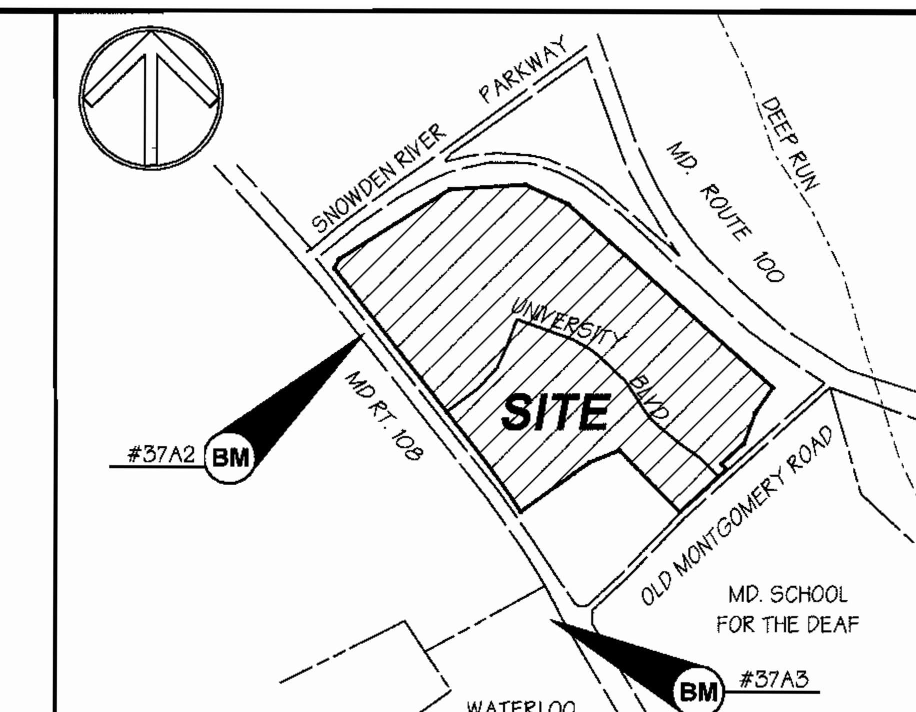
3. AS WORK PROGRESSES BEGIN INSTALLATION OF UTILITIES AND PROPOSED DRAINAGE CHANNEL EXCEPT FOR STORM DRAIN SYSTEM I-38 TO DRAINS ON PARKING DECK, M-14 TO E-6 AND SANITARY SEWER SYSTEM SMH-5 TO SMH-7. INSTALL TEMPORARY 15 LF. OF 36" BCCMP STORM DRAIN FROM SC-1 TO PIPE OUTLET SEDIMENT TRAP ST-I # 1. DO NOT INSTALL STORM DRAINS INSIDE UNDERGROUND STORMWATER MANAGEMENT FACILITY. INSTALL INLET PROTECTION FOR I-37, I-38, I-39, I-40, I-41, I-42, I-43, I-44. AT THE COMPLETION OF STORM DRAIN SYSTEMS E-1 TO I-6 AND E-4 TO I-34, AND WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR REMOVE EARTH DIKE (A) TO (B) AND SEDIMENT CONTROL BERMS. (25 DAYS)

4. CONTINUE GRADING AND BUILDING CONSTRUCTION. FINE GRADE AND INSTALL STONE SUBBASE AND CONCRETE CURB AND GUTTER EXCEPT WITHIN PIPE OUTLET SEDIMENT TRAP ST-I NO. 1 AND NO. 2 AREA. PROCEED WITH LANDSCAPING AND STABILIZATION OPERATION. (10 DAYS)

5. COMPLETE PERMANENT STABILIZATION WITHIN PIPE OUTLET SEDIMENT TRAP STI #1, #2 AND PROPOSED DRAINAGE CHANNEL. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, FLUSH THE STORM DRAIN SYSTEM GOING INTO PIPE OUTLET SEDIMENT TRAP ST-1 #1, CLEAN THE TRAP OUT, AND PROCEED WITH THE INSTALLATION OF THE UNDERGROUND SWM FACILITY AS PER APPROVED SWM PLANS. INSTALL REMAINING STONE SUBBASE AND CONCRETE CURB AND GUTTER. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, CLEAN OUT AND REMOVE REMOVE PIPE OUTLET SEDIMENT TRAP ST-I # 2., AND INSTALL STORM DRAIN SYSTEM I-38 TO I-35, M-14 TO E-6, AND SMH-5 TO SMH-7 . REMOVE EARTH DIKE (C) TO (D) AND PROCEED WITH CONSTRUCTION OF BUILDINGS NO. 4. INSTALL REMAINING UTILITIES, STONE SUBBASE, CONCRETE CURB AND GUTTER AND REMAINING LANDSCAPING OPERATIONS. REMOVE ALL REMAINING SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES. (20 DAYS)

6. COMPLETE PERMANENT STABILIZATION WITHIN SEDIMENT BASIN DRAINAGE AREA. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, FLUSH THE STORM DRAIN SYSTEM GOING INTO SEDIMENT BASIN, CLEAN THE BASIN OUT, AND CONVERT SEDIMENT BASIN INTO SWM POND AS PER APPROVED SWM PLANS. (12 DAYS)

7. PROCEED WITH PAVING OPERATIONS. (20 DAYS)



Location Map
SCALE 1" = 500'

Legend

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- Ex. 10' Contours — 395
- Prop. 2' Contours — 394
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- Orange Construction Fence — OCF
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- Inlet Protection — IP
- Removable Pumping Station

NOTE:
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NOTE:
THIS PLAN IS TO BE USED FOR THE INSTALLATION AND MAINTENANCE OF THE SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES ONLY. SEE SITE PLAN FOR MORE SPECIFIC DETAILS.

NOTE:
INSTALL MD ROUTE 108 STORM DRAIN SYSTEM AND INLET PROTECTION. BEGIN EXCAVATION FROM THE LOWER END. INSTALL SILT FENCE EVERY 100'. INSTALL STONE SUBBASE AND CONCRETE CURB AND GUTTER. STABILIZE ALL REMAINING AREAS. PROCEED WITH PAVING OPERATION.

LIMIT OF DISTURBANCE
913,017.6 SQ. FT. OR 20.96 AC. +/-

INLET PROTECTION

THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:

* 1. ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE.
2. INLETS ON PRIVATE OF PUBLIC PAVED ROADWAYS OPEN TO THE PUBLIC.

ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND CONTROL, PAGE E-16-1 (OR AS MAY BE AMENDED). THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.
* (STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE REMOVAL)

(3) ADDED PROPOSED BANK DRIVE THRU
ADDED PARCEL LINES, EASEMENTS, ETC.
REVISED ADDRESS CHART
PERMIT INFORMATION CHART,
AND TITLE BLOCK PER RECORT PLAT
NO CHANGES TO SEDIMENT CONTROL
F 03-160 BY GWS DATED 05/04/04

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/13/01

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME F03-160	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	A THRU E

DEED L/F	BLOCK #	ZONE	TAX /ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GWS
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
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Signature of Developer ________ Date 11/20/00
Print Name ROBB MERRITT

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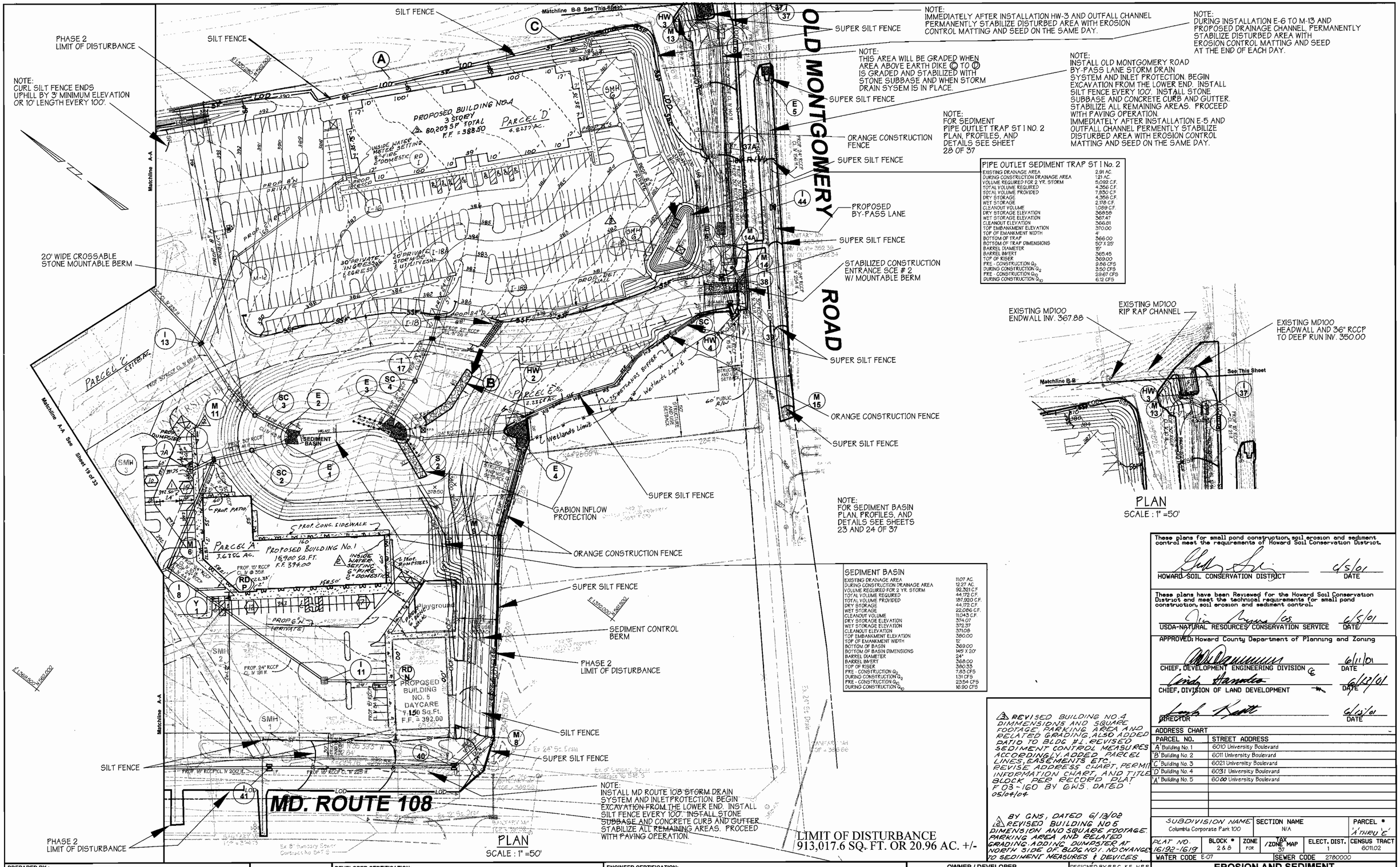
Signature of Engineer ________ Date 5/31/01
Print Name JAMES A. MARKLE JR. PE # 11005

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

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

EROSION AND SEDIMENT CONTROL PHASE 2 PLAN
COLUMBIA CORPORATE PARK 100
PARCELS A THRU E

SDP 01-068
ELECTION DISTRICT : 1 — SCALE : As Shown
HOWARD CO., MARYLAND — SHT. 19 OF 33 — DATE : OCT. 02, 2000



PIPE OUTLET SEDIMENT TRAP ST I No. 2	
EXISTING DRAINAGE AREA	2.91 AC.
DURING CONSTRUCTION DRAINAGE AREA	1.21 AC.
VOLUME REQUIRED FOR 2 YR. STORM	5,092 C.F.
TOTAL VOLUME REQUIRED	4,356 C.F.
TOTAL VOLUME PROVIDED	7,850 C.F.
DRY STORAGE	4,356 C.F.
WET STORAGE	2,178 C.F.
CLEANOUT VOLUME	1,089 C.F.
DRY STORAGE ELEVATION	368.58
WET STORAGE ELEVATION	367.47
CLEANOUT ELEVATION	366.81
TOP EMBANKMENT ELEVATION	370.00
TOP OF EMANKMENT WIDTH	4'
BOTTOM OF TRAP	366.00
BOTTOM OF TRAP DIMENSIONS	50' X 25'
BARREL DIAMETER	15"
BARREL INVERT	365.45
TOP OF RISER	369.00
PRE - CONSTRUCTION Q_{25}	9.86 CFS
DURING CONSTRUCTION Q_{25}	3.50 CFS
PRE - CONSTRUCTION Q_{10}	23.67 CFS
DURING CONSTRUCTION Q_{10}	6.12 CFS

SEDIMENT BASIN	
EXISTING DRAINAGE AREA	11.07 AC.
DURING CONSTRUCTION DRAINAGE AREA	12.27 AC.
VOLUME REQUIRED FOR 2 YR. STORM	92,301 C.F.
TOTAL VOLUME REQUIRED	44,172 C.F.
TOTAL VOLUME PROVIDED	187,920 C.F.
DRY STORAGE	44,172 C.F.
WET STORAGE	22,086 C.F.
CLEANOUT VOLUME	11,043 C.F.
DRY STORAGE ELEVATION	374.07
WET STORAGE ELEVATION	372.37
CLEANOUT ELEVATION	371.06
TOP EMBANKMENT ELEVATION	380.00
TOP OF EMANKMENT WIDTH	12'
BOTTOM OF BASIN	369.00
BOTTOM OF BASIN DIMENSIONS	145 X 20'
BARREL DIAMETER	24"
BARREL INVERT	368.00
TOP OF RISER	380.33
PRE - CONSTRUCTION Q_{25}	7.83 CFS
DURING CONSTRUCTION Q_{25}	1.31 CFS
PRE - CONSTRUCTION Q_{10}	23.54 CFS
DURING CONSTRUCTION Q_{10}	16.90 CFS

3 REVISED BUILDING NO.4 DIMMENSIONS AND SQUARE FOOTAGE, PARKING AREA AND RELATED GRADING. ALSO ADDED PATIO TO BLDG #1. REVISED SEDIMENT CONTROL MEASURES ACCORDINGLY. ADDED PARCEL LINES, EASEMENTS ETC. REVISE ADDRESS CHART, PERMIT INFORMATION CHART, AND TITLE BLOCK PER RECORD PLAT F 03-160 BY GWS. DATED 05/04/04

2 BY GWS, DATED 6/13/02 REVISED BUILDING NO 5 DIMENSION AND SQUARE FOOTAGE. PARKING AREA AND RELATED GRADING. ADDING DUMPSTER AT NORTH SIDE OF BLDG NO1. NO CHANGES TO SEDIMENT MEASURES & DEVICES.

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/21/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6031 University Boulevard
'A' Building No. 5	6000 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-1619	2 & 8	FOR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

DEVELOPER CERTIFICATION:
"I certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard soil Conservation District."

Signature of Developer — Date 11/20/00
Print Name ROBB MERRITT

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."

Signature of Engineer — Date 5/31/01
Print Name JAMES A. MARKLE JR. — PE # 11005

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
1 REVISED BLDG. NO. 1 PARKING LOT & RELATED GRADING, NO CHANGES TO SEDIMENT CONTROL MEASURES AND DEVICES BY G.W.S. DATED 12/04/01

EROSION AND SEDIMENT CONTROL PHASE 2 PLAN
COLUMBIA CORPORATE PARK 100

PARCELS A THRU E

SDP 01-068

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND — SHT. 20 OF 33

SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068

NAME : rev8594sedcor2.s01 — P/N : 8594

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 amendments 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 warranties of the producer

iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contain at least 50% total 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. / 1,000 s f) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. / 1,000 s.f.) Before seeding, harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 10-10-10 uniform fertilizer (9 lbs / 1,000 s.f.).

ii. Acceptable - Apply 2 tons per acre dolomitic limestone (92lbs. / 1,000 s.f.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. / 1,000 s.f.) before seeding, harrow or disc upper three inches of soil.

C. Seedbed Preparation

i. Temporary Seeding

a. Seedbed preparation shall consists 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. Slopes areas (greater than 3:1) should not be compacted 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 plan.

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 sericcia lespedeza is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
4. Soil shall contain 1.5% minimum organic matter by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If stone conditions cannot be meeting with soil less than 1,000 pound is required in accordance with Section 21 Standard and Specification for Topsoil.

a. 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 permits bonding of the topsoil to the surface area and to create horizontal grooves across the slope to prevent topsoil from sliding down a slope

c. Apply soil amendments as per soil tests 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. Inoculants - The inoculants 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 on 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 cutspucker 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 burnt 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 Cutspucker 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. Seeded 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 consists 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 7" and 5". Mulch 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 knolls. The remainder of area should appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Aegro-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 5000 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 site 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 maintenance areas, see Sections IV Sod and V Turfgrass.

ii. For sites having disturbed areas over 5 acres, the rates shown this table shall be doubled and the rates recommended by the seeding 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 so the above soil amendments 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 maintenance areas, see Sections IV Sod and V Turfgrass.

ii. For sites having disturbed areas over 5 acres, the rates shownon this table shall be doubled and the rates recommended by the seeding 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 amendments 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 steeper).

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 tests. Under unusual circumstances where there is insufficient time for a complete soil tests, fertilizer and lime may be applied in amounts shown under vib, below.

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

b. Where soil is acid or composed of heavy clays, ground limestone will be spread at the rate of 2 tons per acre(100 lbs. / 1,000 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 two inches of soil with the required time.

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

24.0 MATERIALS SPECIFICATIONS
Table 27 Geotextile Fabrics

CLASS	APPARENT OPENING SIZE MIN MAX	GRAB TENSILE STRENGTH LB. MIN	BURST STRENGTH PSI MIN
A	0.30 **	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.80*	90	190

* US Std. Sieve CW-02215 ** 0.50 MM MAX. FOR SUPER SILT FENCE

The properties shall be determined in accordance with the following procedures:

- Apparent opening size ASTM D 4751
- Grab tensile strength ASTM D 4632, 4 x 8" specimen, 1x2" clamps, 12" /min, strain rate in both principal directions of geotextile fabric.
- Burst strength ASTM D 3786

The fabric shall be inert to commonly encountered chemicals and hydrocarbons, and will be rot and mildew resistant. It shall be manufactured from fibers consisting of long chain synthetic polymers, and composed of a minimum of 85% by weight of polyolefins, polyesters, or polyamides. The geotextile fabric shall resist deterioration from ultraviolet exposure.

In addition, Classes A through E shall have a 0.01 cm/sec minimum permeability when tested in accordance with MSMT 507, and an apparent minimum elongation of 20 percent (20%) when tested in accordance with the grab tensile strength requirements listed above.

Silt Fence

Class F geotextile fabrics for silt fence have a 50 lb/in minimum tensile strength and a 20 lb/in minimum tensile modulus when tested in accordance with MSMT 509. The material shall also have a 0.3 gal/ft.²/min. flow rate and seventy-five percent (75%) minimum filtering efficiency when tested in accordance with MSMT 322

Geotextile fabrics used in the construction of silt fence shall resist deterioration from ultraviolet exposure The fabric shall contain sufficient amounts of ultraviolet ray inhibitors and stabilizers to provide a minimum of 12 months of expected usable construction life at a temperature range of 0 to 120 degrees F.

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.

Table 25 - Permanent Seeding for Low Maintenance Areas

MIX #	SEED MIX (USDC CERTIFIED MATERIAL)	PLANTING RATES LBS/AC	LBS/1000 SQ. FT.	SITE CONDITIONS	USDA HARDINESS ZONES	HARDINESS ZONE 5a/5b	6a/6b	7a/7b	RECOMMENDED PLANTING DATES 8a/8b	9a/9b	10a/10b	SOIL TYPE
1	TALL FESCUE (75%) CHEWINGS FESCUE (0%) KENTUCKY BLUEGRASS (0%) REDTOP (5%)	150	3.4	MOIST TO DRY	5a	2/15 - 3/15	2/1 - 3/15		2/1 - 3/15			A
					5b							
					6a	X			X			
					6b	X			X			
					7a	X			X	X	X	
					7b	X			X	X	X	
2	TALL FESCUE (80%) CREEPING RED FESCUE OR CHEWINGS FESCUE (10%) REDTOP (10%)	150	3.4	MOIST TO MODERATELY DRY	5a	X			X			B
					5b	X			X			
					6a	X			X	X		
					6b	X			X	X		
					7a	X			X	X		
					7b	X			X	X		
3	TALL FESCUE (85%) PERENNIAL RYEGRASS (10%) KENTUCKY BLUEGRASS (5%)	120	2.8	MOIST TO DRY	5a	X	X		X			C
		10	.24		5b	X	X		X			
		5	.12		6a	X	X		X	X		
					6b	X	X		X	X		
					7a	X	X		X	X	X	
					7b	X	X		X	X	X	
4	RED FESCUE OR CHEWINGS FESCUE (90%) PERENNIAL RYEGRASS (10%)	60	1.4	MOIST TO DRY	5a	X	X		X			D
		10	.24		5b	X	X		X			
		15	.34		6a	X	X		X	X		
					6b	X	X		X	X		
					7a	X	X		X	X	X	
					7b	X	X		X	X	X	
5	TALL FESCUE (85%) PERENNIAL RYEGRASS (10%) PLUS CHEWINGS OR FLATTEA	120	2.8	MOIST TO DRY	5a	X	X		X			E
		10	.24		5b	X	X		X			
		20	.46		6a	X	X		X	X		
					6b	X	X		X	X		
					7a	X	X		X	X	X	
					7b	X	X		X	X	X	
6	WEEPING LOVEGRASS (75%) SERICEA LESPEDEZA (25%)	4	.09	DRY TO VERY DRY	6a	X	X					F
		20	.46		6b	X	X					
					7a	X	X					
					7b	X	X					
7	TALL FESCUE (85%) WEEPING LOVEGRASS (5%) PLUS SERICEA LESPEDEZA (10%)	10	.23	DRY TO VERY DRY	5a	X	X		X	X		G
		3	.07		5b	X	X		X	X		
		20	.46		6a	X	X		X	X	X	
					6b	X	X		X	X	X	
					7a	X	X		X	X	X	
					7b	X	X		X	X	X	
8	RED CHEWINGS FESCUE (75%) REDTOP (15%) PLUS ORCHARDGRASS (10%)	40	.92	NOT TO MODERATELY DRY	5a	X	X		X			H
		3	.07		5b	X	X		X			
		10	.23		6a	X	X		X	X		
					6b	X	X		X	X		
					7a	X	X		X	X	X	
					7b	X	X		X	X	X	
9	TALL FESCUE (85%) PLUS FESCUE (7%) ORCHARDGRASS (7%)	120	2.8	NOT TO MODERATELY DRY	5a	X	X		X			I
		10	.23		5b	X	X		X			
		10	.23		6a	X	X		X	X		
					6b	X	X		X	X		
10	TALL FESCUE (80%) HARD FESCUE (20%)	150	3.4	MET TO DRY	5a	X	X		X			J
		50	1.09		5b	X	X		X			
					6a	X	X		X	X		
					6b	X	X		X	X		
					7a	X	X		X	X	X	
					7b	X	X		X	X	X	
11	HARD FESCUE (100%)	75	17	MOIST TO DRY	5a	X	X		X			K
					5b	X	X		X			
					6a	X	X		X	X		
					6b	X	X		X	X		
					7a	X	X		X	X	X	
					7b	X	X		X	X	X	

NOTES:
A. USED BY SHA ON SLOPED AREAS. ADD A LEGUME FOR SLOPES > THAN 3:1
B. USED IN WETTER AREAS BY SHA, SHADE TOLERANT
C. POPULAR MIX - PROVIDES PERMANENT GROUNDCOVER QUICKLY. BLUEGRASS THICKENS STAND
D. REDS USE ON SHADY SLOPES NOT ON POORLY DRAINED SOILS
E. USE ON LOW MAINTENANCE, STEEP SLOPES. USE TALL FESCUE IN DRAUGHTY CONDITIONS. CROWN VETCH BEST FOR 5b, 6a, 6b
F. SUITABLE FOR SEDIMENT WETLANDS
G. USE ON DRY, INFERTILE SITES. COMBINES WITH FALL FESCUE IN MID-SUMMER. SERICEA LESPEDEZA IS BEST SUITED FOR ZONES 7a AND 7b
H. USE ON POORLY DRAINED SOILS - STICKS OF WATERWAYS. ORCHARD FESCUE IS BEST FOR ZONES 5a, 6a, ABOVE 3,000 TEST
I. USE IN AREAS OF MOIST SHADE. FOR FESCUE SHRIVES IN WET SHADY AREAS
J. FALL FESCUE MAY BE SEEDED ALONE. THE HARD FESCUE PROVIDES BETTER SHADE TOLERANCE AND PRODUCES A BETTER STAND.
K. LOW FERTILITY GRASS. REQUIRED INFREQUENT MOWING. GOOD COMPANION FOR WILDFLOWERS.

PERMANENT SEEDING RATES

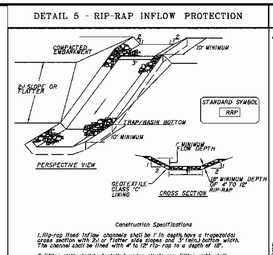
FERTILIZER RATE		LIME RATE
10-20-20 OR EQUIVALENT (20 LB/ACRE N)	P205 170 LB/AC (4.0 LB/1000 S.F.)	120 LB/AC (4.0 LB/1000 S.F.)	2 TONS/AC (100 LB/1000 S.F.)

NOTE:
FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES THE RATES SHOWN ABOVE FOR PERMANENT SEEDING SHALL BE DOUBLED AND THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY SHALL BE USED. SOIL TESTING SHALL BE PERFORMED AT THE TIME OF FINE GRADING AND THE RESULTS SHALL BE FURNISHED TO THE SEDIMENT CONTROL INSPECTOR

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 IN 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. 1, 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 28.48 ACRES
   AREA DISTURBED 28.96 ACRES
   AREA TO BE ROOFED OR PAVED 10.88 ACRES
   AREA TO BE VEGETATIVELY STABILIZED 7.48 ACRES
   TOTAL CUT 84,800 C.Y.
   TOTAL FILL 77,670 C.Y. (INCLUDES 15% COMPACTION)
   OFFSITE WASTE/BORROW AREA LOCATION : EXCESS CUT SHALL BE TAKEN TO A SITE WITH AN OPEN GRADING PERMIT.
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE CONSTRUCTED IF DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. MUDC NETLAND TRACKING NUMBER: 98-NT-0692/199998983.

DETAIL 5 - RIP-RAP INFLOW PROTECTION



Construction Specifications

1. Rip-rap lined inflow structure shall be 1.5 depth, have a trapezoidal cross section with 3:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 6" to 12" rip-rap to a depth of 18".

2. The rip-rap shall be installed under dry rip-rap. Filter cloth shall be Geotextile Class C.

3. Entrance and exit sections shall be installed as shown on the detail section.

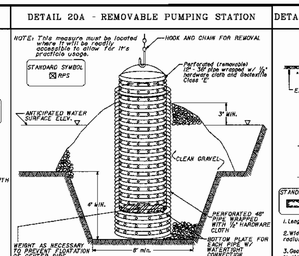
4. Rip-rap used for the lining may be required for permanent outlet protection if the basin is to be dedicated to a stormwater management facility.

5. Geotech inflow Protection may be used in lieu of Rip-rap inflow Protection.

6. Rip-rap should blend into existing ground.

7. Rip-rap inflow protection should be used where the slope is between 4:1 and 10:1 or slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

DETAIL 20A - REMOVABLE PUMPING STATION



Construction Specifications

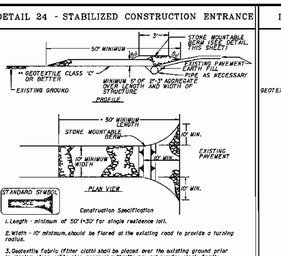
1. The outlet pipe should be of 48" diameter shell in one piece to a level 6" greater than the water level "A" or higher. The outlet pipe should be supported with 1/2" hardware cloth to prevent floating debris from entering the pipe.

2. After installing the outlet pipe, backfill around outlet pipe with 2" aggregate to within 6" of the top.

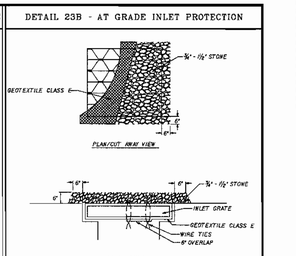
3. The inlet pipe (gas tanker pipe) should be constructed by perforating the 48" pipe with 1/2" holes. The holes should be spaced 6" apart. The pipe should be covered with 1/2" hardware cloth that then wrapped again with Geotextile Class C.

4. The pump intake should extend approximately water surface elevation or floor drain elevation when dewatering is needed.

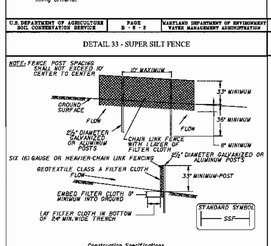
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE


50' MINIMUM
3"
STONE MOUNTABLE BERM SEE DETAIL 24
EXISTING PAVEMENT
GEOTEXTILE CLASS 'C' OR BETTER
MINIMUM 10' OF AGGREGATE OVER LENGTH AND WIDTH OF STRUCTURE
AS NECESSARY
PROFILE
50' MINIMUM
STONE MOUNTABLE
10' MINIMUM WIDTH
10' MIN.
EXISTING PAVEMENT
PLAN VIEW
STANDARD SYMBOL SCE
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. **The 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" compacted 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 drainage will not cross the SCE, pipe is not required but should be placed 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.

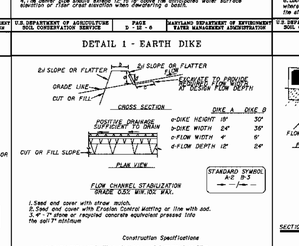
DETAIL 23B - AT GRADE INLET PROTECTION



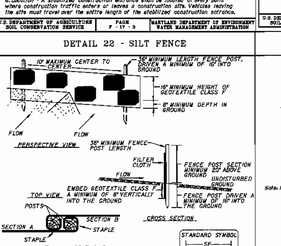
DETAIL 33 - SUPER SILT FENCE

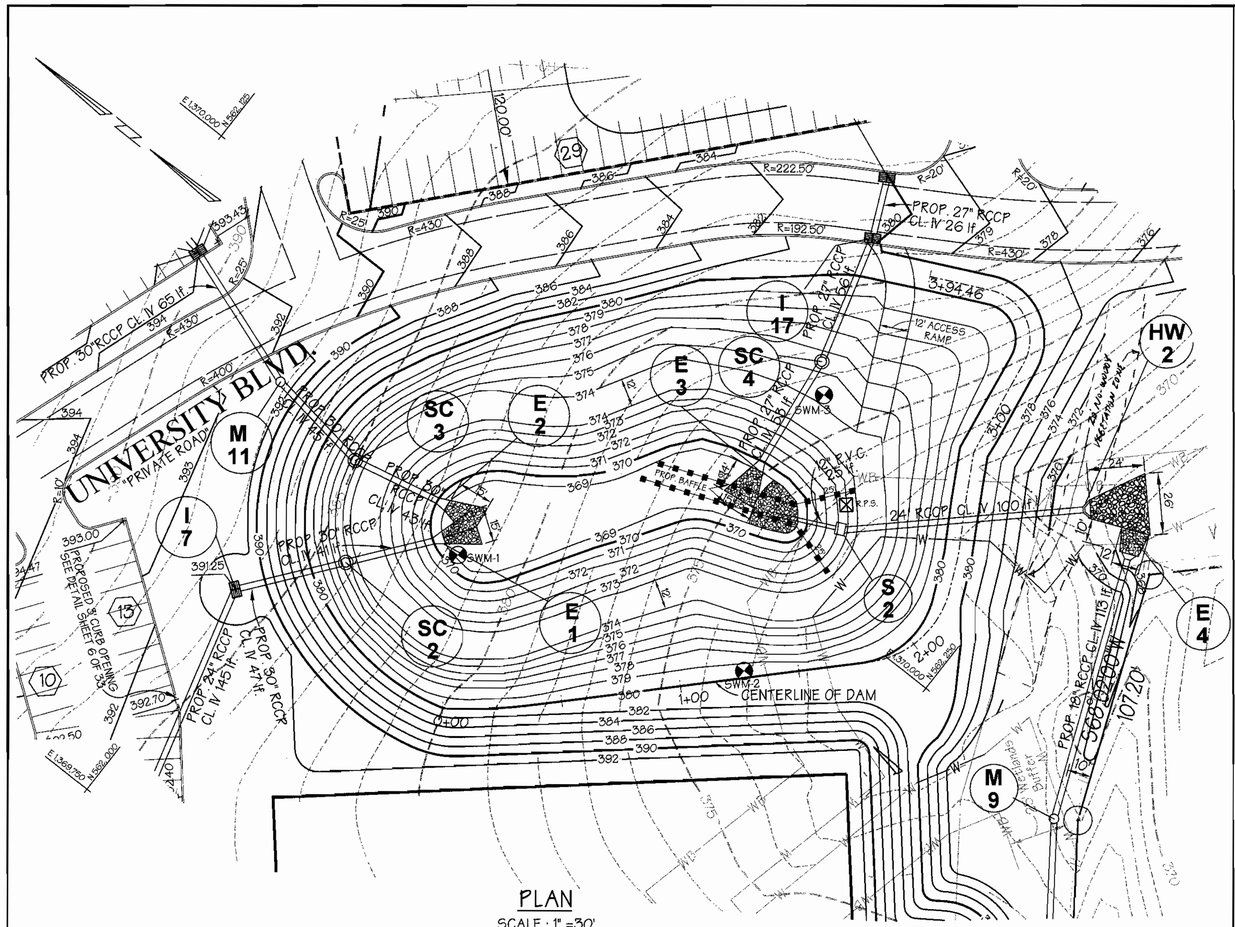


DETAIL 1 - EARTH DIKE


3:1 SLOPE OR FLATTER
3:1 SLOPE OR FLATTER
GRADE LINE
CUT OR FILL
EXCAVATE TO PROVIDE STABLE FOUNDATION AT DESIGN FROM DEPTH
CROSS SECTION
DIKE A DIKE B
D-DIKE HEIGHT 30" 30"
D-DIKE WIDTH 24" 36"
D-FLOW WIDTH 4' 4'
D-FLOW DEPTH 12" 24"
CUT OR FILL SLOPE
PLAN VIEW
STANDARD SYMBOL A/E B-3
FLOW CHANNEL STABILIZATION "DRAIN DISS" MIN.DIS MAX.
1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum
Construction Specifications
1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary to achieve less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a nonerosive velocity.
4. All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

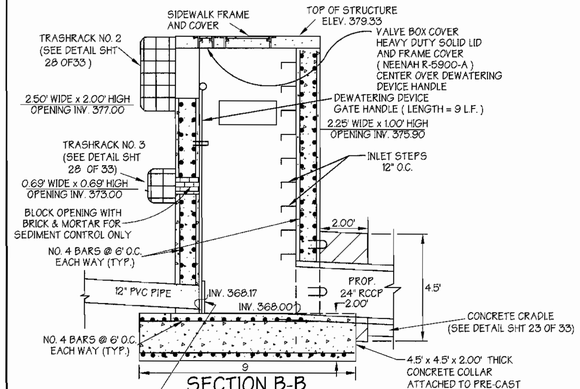
DETAIL 22 - SILT FENCE


10' MAXIMUM CENTER TO CENTER
50' MINIMUM STAKE SPACING
10' MINIMUM HEIGHT OF GEOTEXTILE CLASS 'F'
10' MINIMUM DEPTH IN GROUND
FLOW
FLOW
PERSPECTIVE VIEW
50' MINIMUM FENCE POST LENGTH
FILTER CLOTH
FENCE POST SEC

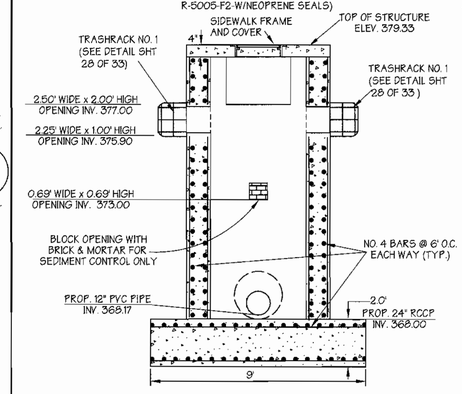


PLAN

SCALE : 1" =30'

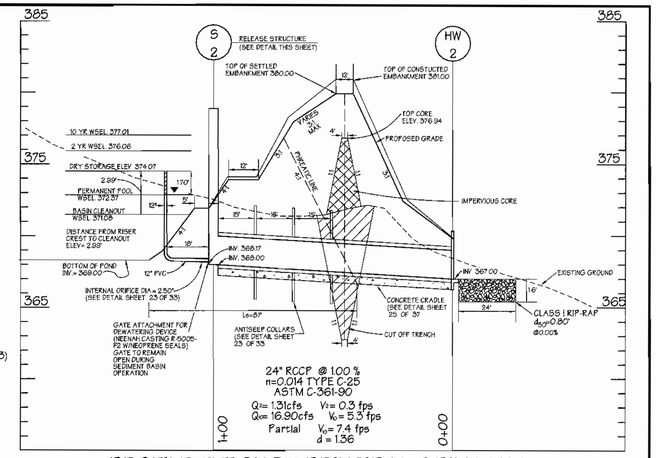


SECTION B-B



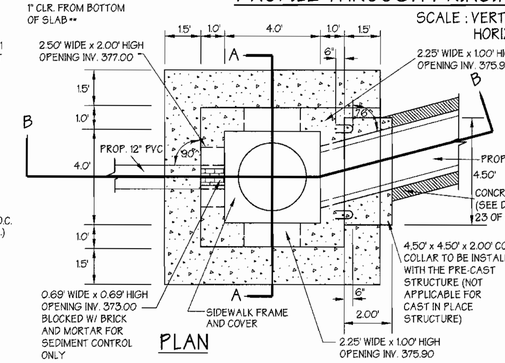
SECTION A-A

** REFORCING TO BE #4 @ 6" E.W. 1" CLR. FROM BOTTOM OF SLAB **



PROFILE THROUGH PRINCIPAL SPILLWAY

SCALE : VERT. 1" =5'
HORIZ.1"=30'



PLAN

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) 887-3860

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:
THE STORMWATER MANAGEMENT FACILITY MEETS ALL REQUIREMENTS FOR HAZARD CLASS A REQUIREMENTS STATED IN THE SOIL CONSERVATION SERVICE - MARYLAND STANDARDS AND SPECIFICATIONS FOR PONDS, CODE 378, NOVEMBER, 1992.

RELEASE STRUCTURE S-2 DETAILS

SCALE: 1" = 3'

RELEASE STRUCTURE NOTES

1. 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.
2. ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
3. ALL REINFORCING TO HAVE 1.6" MIN. OVERLAPS.
4. TWO (2) INCH COVER MINIMUM FOR ALL REBARS IN WALLS AND THREE (3) INCHES FOR THE BASE.
5. 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.
6. 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.
7. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS.

SEDIMENT BASIN SUMMARY

DESIGN STORM	PRE-CONSTRUCTION DISCHARGE (CFS)	DURING CONSTRUCTION FACILITY INFLOW (CFS)	DURING CONSTRUCTION FACILITY DISCHARGE (CFS)	ALLOWABLE FACILITY DISCHARGE (CFS)	WATER SURFACE ELEVALTION (FT.)	STORAGE VOLUME PROVIDED
2 YR	9.86	37.97	1.31	7.83	376.06	1.683
10 YR	29.67	65.77	16.90	23.54	377.01	2.326

POND SPECIFICATIONS FOR STORMWATER MANAGEMENT

DESCRIPTION		DATA
STRUCTURE CLASSIFICATION		A (PRIVATE)
STORAGE X HEIGHT PRODUCT		(2.70 AC. FT.) (5.0 FT.) = 13.5 AC. FT.^{2}
WATERSHED AREA TO THE POND		12.27 AC.
POND TYPE		DETENTION
FREEBOARD	REQUIRED/ PROVIDED	2.0' / 2.10'
IMPERVIOUS AREA		8.64 AC.
TOP OF EMBANKMENT		380.0

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 4/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

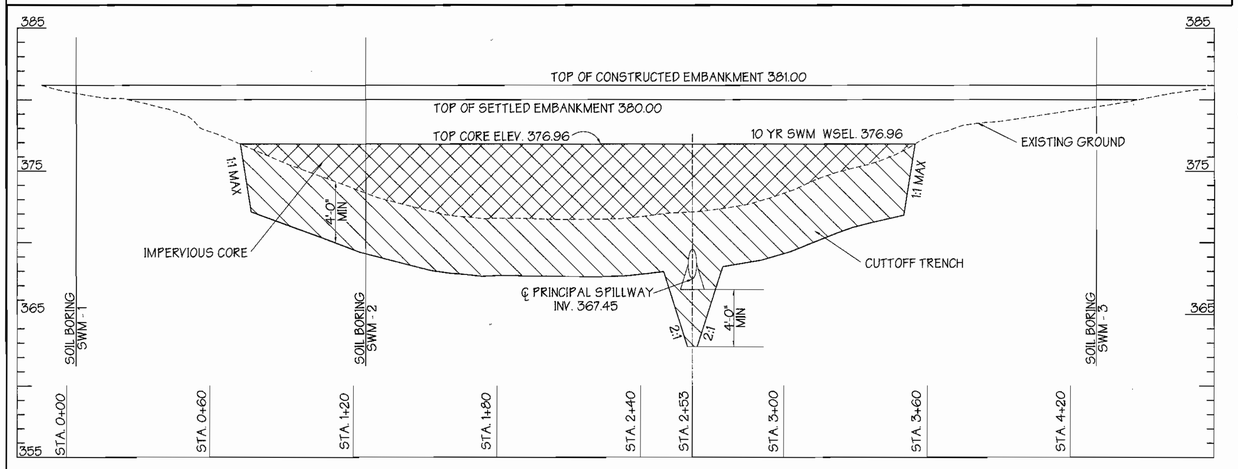
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/13/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard



CROSS SECTION OF DAM ALONG CENTERLINE

SCALE : VERT. 1" =5'
HORIZ.1"=30'

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.

Engineer — Date: 5/31/01
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.

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A THRU E'

PLAT NO.	BLOCK #	ZONE	TAX MAP / ZONE	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

DEVELOPER CERTIFICATION:

I certify that all development and/or construction will be done according to these plans, and that any responsible personel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard soil Conservation District.

Signature of Developer — Date 11/20/00
Print Name ROBB MERRITT

ENGINEER CERTIFICATION:

I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personel 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.

Signature of Engineer — Date 5/31/01
Print Name JAMES A. MARKLE JR. — PE # 11005

OWNER / DEVELOPER

MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
3 REVISE ADDRESS CHART, PERMIT INFO CHART AND TITLE BLOCK BY GWS DATED 05/04/04

SEDIMENT BASIN PLAN AND PROFILE

COLUMBIA CORPORATE PARK 100

PARCELS A THRU E — SDP 01-068

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SCALE : As Shown
SHT. 22 OF 33 DATE : OCT. 02, 2000

SDP 01-068

NAME : 8594revsedbasinplaprof.s01 P/N : 8594

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed, and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences rubbish, and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut 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.

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 919 (Portland Cement Concrete Mixture), Mix No. 3

REINFORCING STEEL IN CONCRETE STRUCTURES

Reinforcing steel shall be ASTM A 615, Grade 60. Steel angles and anchor bars shall be ASTM I-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 so 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 un-rotted 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 as 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 as 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 1405, 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 Cl. IV, PVC coated.

OUTFALL PROTECTION

Subgrade for riprap or gabion outfalls shall be prepared to the required line and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material. All rock or gravel shall conform to the specified grading limits when installed in the riprap or gabion. All stone shall be delivered and placed in a manner that will insure the stone in place shall be reasonably homgeneous 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 underying 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' 8" 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.

Appendix 1

Compacted Fill
SWM POND
A. Embankments shall be constructed of approved materials from the excavation or from other sources. The material shall be free from organic materials, trash, muck, roots, frost and other deleterious substances.

B. Before depositing fills, the ground surface shall be cleared of all refuse, brush, grass, roots, ice and frozen material. All organic matter and otherwise unsuitable soils shall be removed from the surface to be filled. The exposed surface shall be plowed or scarified if required to a depth of six inches. Soils so scarified, or which have been disturbed by grubbing and stripping operations, shall be compacted to undisturbed soil below by discing, leveling, rolling, and compacting at the moisture content and to the density specified below for compacted embankments.

C. Where fills are made on hillsides or slopes, the slope of the original ground upon which the fill is to be placed shall be plowed or scarified deeply, or where the slope ratio of the original ground is steeper than 5 horizontal to 1 vertical, the bank shall be stepped or benched, when considered necessary by the Engineer, to permit placement of the fill in horizontal layers.

D. Placing, Spreading and Compacting Fill Materials:

1. The fill materials shall be placed in layers which, before compaction shall not exceed 8 inches. Each layer shall be spread uniformly and evenly and shall be thoroughly blade mixed during the spreading to insure uniformity of materials in each layer.

2. After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to not less than 95% of the maximum dry density as determined by ASTM D 698.
3. The moisture content of the fill shall be as required in order to attain the degree of compaction specified.

4. Compaction shall be by approved multiple-wheel pneumatic tired rollers, vibratory rollers or other types of acceptable rollers.

5. The filling operation shall be continued as specified above until the fill has been brought to the subgrade shown on the plans.

6. The fill shall be constructed in such a manner that the surface will be sloped to drain at all times, and all fill shall be deposited to prevent excessive moisture accumulation from rainwater.
7. When the work is interrupted by rain, filling shall not be resumed until tests indicate that the moisture content and density of the top 6 inches of fill conform to the above specification requirements. July 15, 1998

VIII. STORM WATER MANAGEMENT

Referring to PLATE 4, BORING PROFILES, an examination of the logs shows that as SWM-1 through SWM-3, the upper native subsoils predominately consist of materials conforming to USDA classification Sandy Clay Loam, Clay Loam and Clay layers with the lower subsoils below depths of 9 feet as SWM-2, 12 feet as SWM-3 and 19 feet as SWM-1 consisting of Loam or Sandy Loam layers. The Maryland Department of Natural Resources (MDNR) recommends that infiltration facilities be placed only in native subsoils which have minimum infiltration rates of 0.52 inches per hour or greater. Also, the MDNR recommends that infiltration structures be placed only in areas where the bottoms of the structures are 2 to 4 feet above the seasonally high ground water table and/or bedrock (i.e., impervious material).

Given the boring data, it is noticed that the native subsoils which are situated at least 2 feet above the ground water level consist of Clay Loam or Sandy Clay Loam which have MDNR minimum classification criteria. Thus, storm water disposal by infiltration practice is not considered feasible within the SWM area.

Based upon the boring and test information, we consider that the subsoil conditions are basically acceptable to support typical SWM pond construction. Given the indicated water levels, dewatering should be anticipated in any excavations extended below the recorded levels. The following general earthwork preparation is recommended for the pond area:

a. Within the plan fill embankment area, strip the topsoil and any soft or otherwise unsuitable materials to expose stable, undisturbed native subsoils.
b. Proof roll the exposed surface to a uniform condition further cutting out any soft or otherwise unsuitable spots.

IX. EARTHWORK CONSTRUCTION
All fill placed for the building pads, pavement areas, SWM pond and any other locations requiring stable, structural support shall be constructed as controlled embankment. The fill construction for the building and pavement areas shall be in accordance with APPENDIX III, COMPACTED FILL. For the SWM pond area, the fill construction shall be in accordance with APPENDIX I, COMPACTED FILL.
Concerning the suitability of on site soils for use in controlled fill construction, it is recommended that general building fill materials conform to Unified G or S series classification and have a maximum dry density of at least 110 PCF. For walls retaining appreciable unbalanced earth, the wall backfill shall conform to Unified GM, GP, GW, SW, SP or SM classification and shall have a maximum dry density of at least 110 PCF. For SWM pond construction, normal embankment fill shall consist of materials conforming to Unified classification GC, GM, SM, SC, CL, or ML and shall have a maximum dry density of at least 110 PCF. Designated impervious zones of SWM pond construction shall conform to Unified CL, SC, GC, or CH and shall have a maximum dry density of at least 95 PCF.

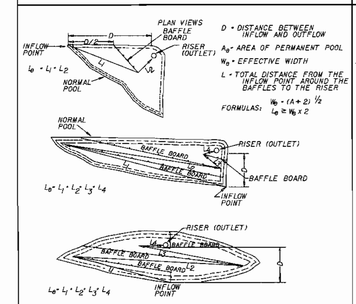
OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT POND:

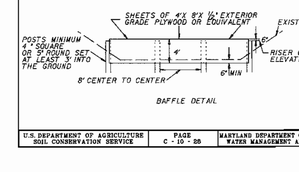
1. REMOVAL OF ACCUMULATED PAPER, TRASH, AND DEBRIS AS NESESSARY.

2. VEGETATION GROWING ON THE EMBANKMENT TOP OR FACES IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANY TIME.

3. ANNUAL INSPECTION AND REPAIR OF THE STRUCTURE

DETAIL 18 - SEDIMENT BASIN BAFFLES

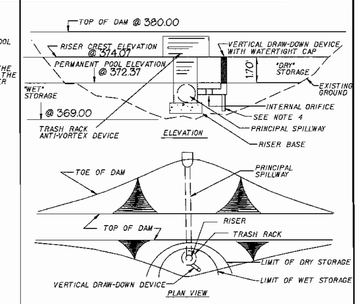




BAFFLE DETAIL

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.

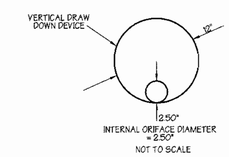
3. The perforated portion of the draw-down device shall be wrapped with ½" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.

4. Provide support of draw-down device to prevent sagging and floatation. An acceptable preventative measure is to state both sides of draw-down device with 1" steel angle, or 6" by 6" square or 6" round wooden posts set 3' minimum into the ground then fishing them to the device by wrapping with 12 gauge minimum wire.

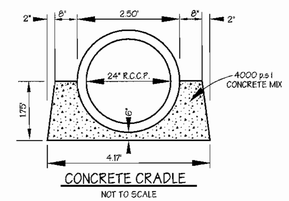
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 30	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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

SIZE OF PERFORATIONS = 3/8" DIA
AREA OF PERFORATION = 0.00077 FT2
LENGTH OF PERFORATED SECTION OF PIPE= 1.70 FT.
MAX. ORIFICE AREA (A)= 0.15 FT2
DRAW-DOWN ORIFICE DIA.= 2.50"
NUMBER OF PERFORATIONS PER LINEAR FOOT OF PIPE= 112 (TWO DOUBLE ROWS OF PERFORATIONS)
TOTAL AREA OF PERFORATIONS= 0.15FT2



NOT TO SCALE



CONCRETE CRADLE

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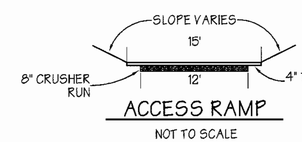
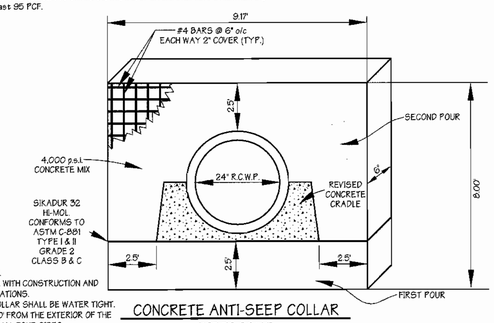


ACCESS RAMP

NOT TO SCALE



NOTE:
1. LOCATE 2' MIN. FROM ALL PIPE JOINTS.
2. ALL MATERIAL TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIALS SPECIFICATIONS.
3. THE SEAL BETWEEN THE PIPE AND COLLAR SHALL BE WATER TIGHT.
4. COLLAR SHALL PROJECT A MIN. OF 2.0' FROM THE EXTERIOR OF THE CONCRETE CRADLE AND THE PIPE ON ALL FOUR SIDES.

CONCRETE ANTI-SEEP COLLAR

NOT TO SCALE

CONSULTANT'S HAZARD CLASS CERTIFICATION:

I certify that this pond meets all requirements for hazard class (A) B or C. (requirements as stated in the soil conservation service - maryland standards and specifications for pond, code 378, november 1992.). All necessary investigations and computations have been performed to verify this finding. A copy of said information has been supplied to howard county soil conservation district.

Engineer [signature] Date: 5/31/01
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-builts" plans and meet the approved plans and specifications.

_____ P.E. #_____
Signature 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.

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

HOWARD SOIL CONSERVATION DISTRICT) — 6/5/01 DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — 6/5/01 DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 6/11/01 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT — 6/13/01 DATE
DIRECTOR — 6/15/01 DATE

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	FOR	/ZONE 37	1	6011.02

WATER CODE E-07 SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

DEVELOPER CERTIFICATION:
"I certify that all development and/or construction will be done according to these plans, and that any responsible personel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard soil Conservation District."

Signature of Developer [signature] Date 11/20/00
Print Name ROBB MERRITT

ENGINEER CERTIFICATION:
"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personel 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."

Signature of Engineer [signature] Date 5/31/01
Print Name JAMES A. MARKLE JR. PE # 11005

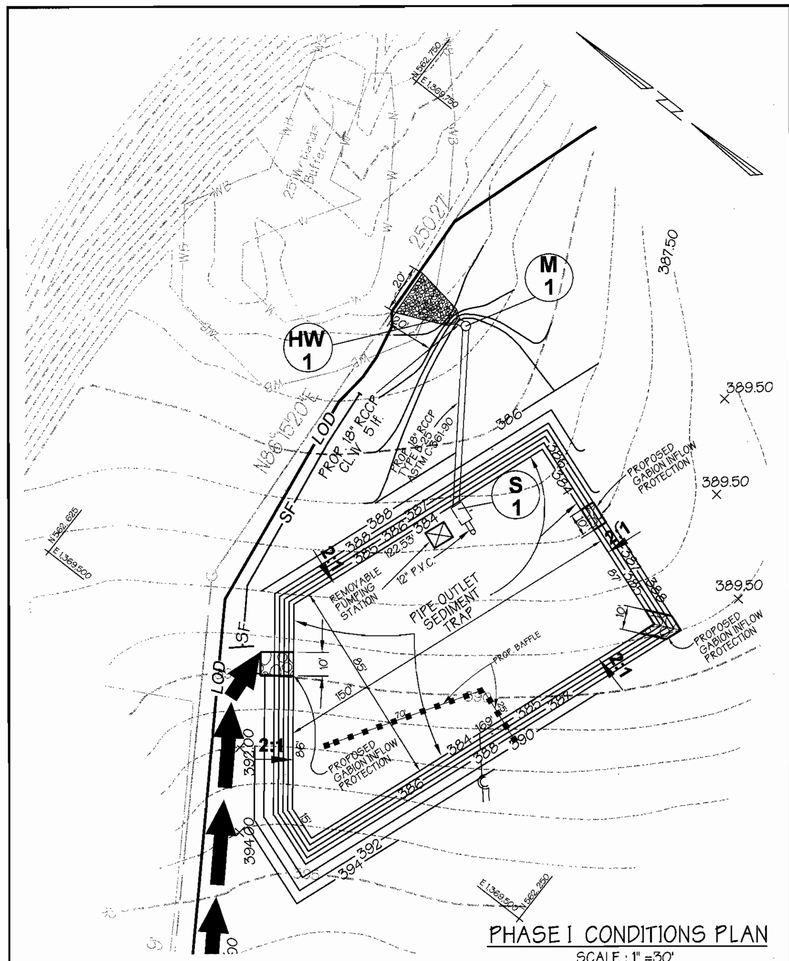
OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
4 REVISED ADDRESS CHART, PERMIT INFO CHART AND TITLE BLOCK BY GWS. DATED 05/04/04

SEDIMENT BASIN, EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
COLUMBIA CORPORATE PARK 100
PARCELS 'A' THRU 'E'

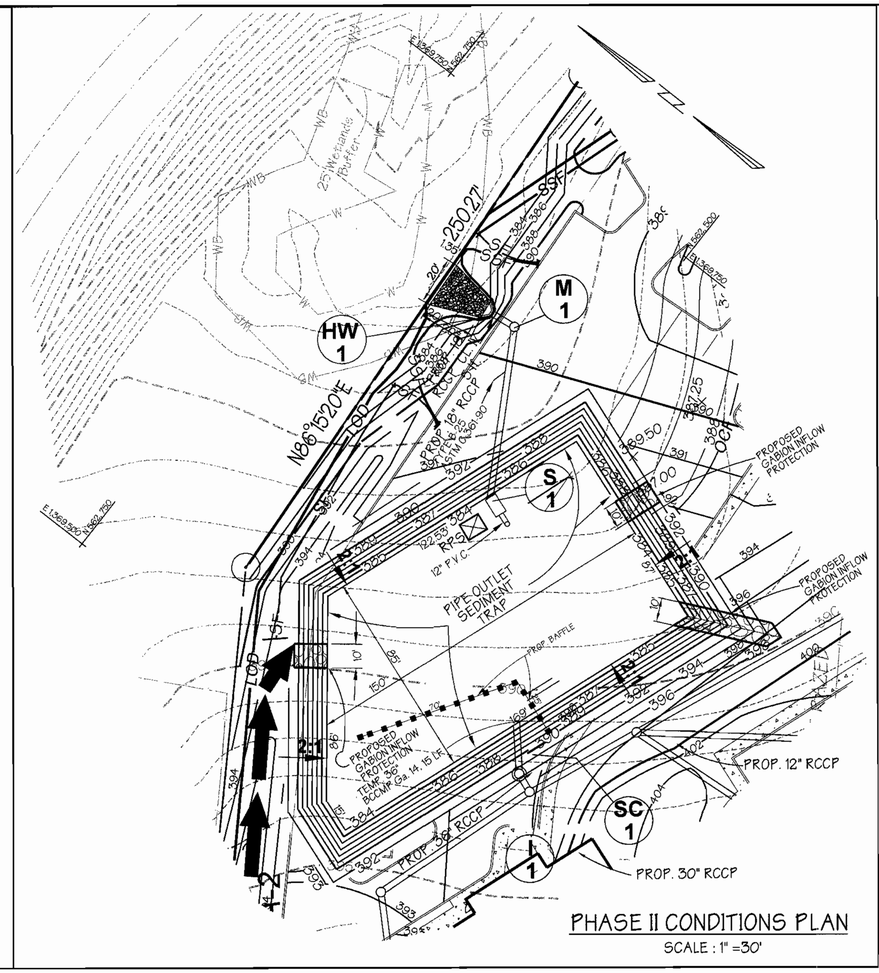
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND
SDP 01-068
SCALE : As Shown
SHT. 23 OF 33 DATE : OCT. 02, 2000

SDP 01-068 NAME : 8594revsedbasinrotdtls01 P/N : 8594



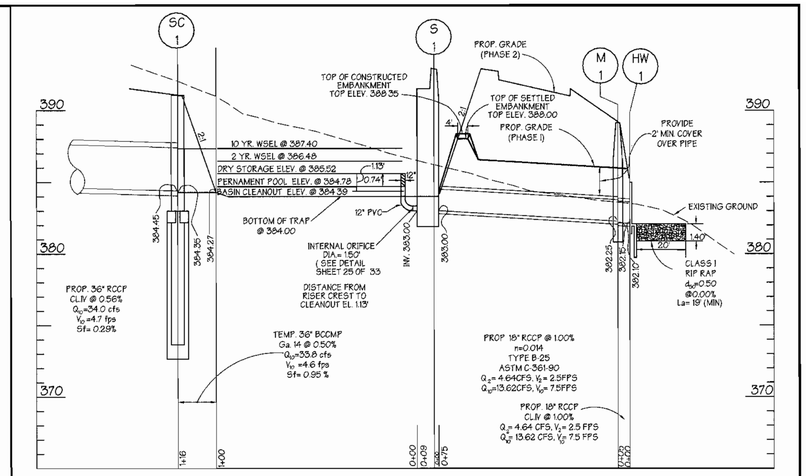
PHASE I CONDITIONS PLAN

SCALE : 1" =30'



PHASE II CONDITIONS PLAN

SCALE : 1" =30'



PROFILE THROUGH PIPE OUTLET SEDIMENT TRAP ST-I NO.1 AND PRINCIPAL SPILLWAY

SCALE : VERT. 1" = 5'
HORZ. 1" =30'

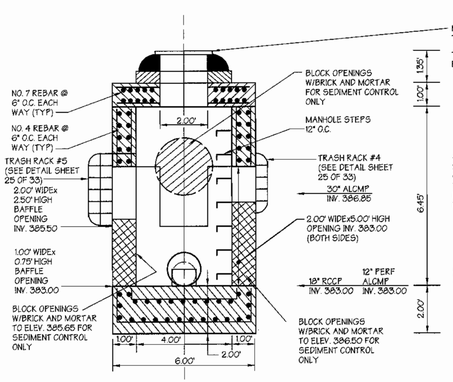
NOTE:
THE CONSTRUCTION MAY REQUIRE A PERMIT FROM THE ARMY CORPS OF ENGINEERS, THE WATER RESOURCES ADMINISTRATION AND/OR HOWARD COUNTY. IT IS THE RESPONSIBILITY OF THE LANDOWNER TO CONTACT THESE THREE AGENCIES TO DETERMINE IF THE PROJECT REQUIRES A PERMIT:
U.S. ARMY CORPS OF ENGINEERS - (410) 962-3620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

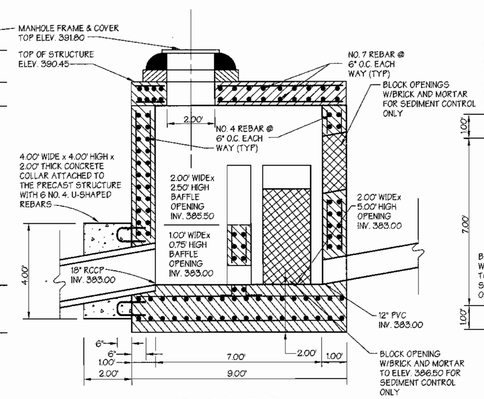
NOTE:
THIS STORMWATER MANAGEMENT FACILITY IS DESIGNED TO MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND THE SOIL CONSERVATION DISTRICT. MAINTENANCE OF THIS FACILITY WILL BE THE RESPONSIBILITY OF THE OWNER.
(THE SWM FACILITY IS PRIVATE).

RELEASE STRUCTURE NOTES

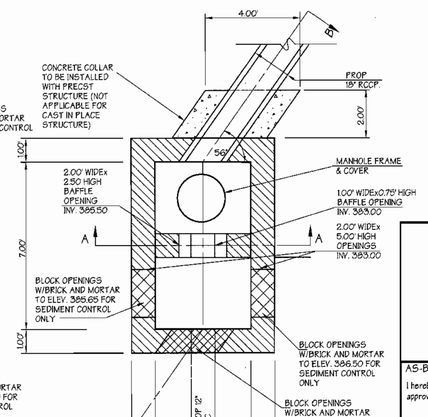
1. STRUCTURE TO BE CAST-IN-PLACE REINFORCED CONCRETE WITH 3,500 P.S.I.(MIN.) COMPRESSIVE STRENGHT @ 28 DAYS. DESIGN OF PRECAST CONC. STRUCTURE SHALL BE PROVIDED BY MANUFACTURER.
2. ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
3. ALL REINFORCING TO HAVE 1'-6" MIN. OVERLAPS.
4. TWO (2) INCH COVER MINIMUM FOR ALL REBARS IN WALLS AND THREE (3) INCHES FOR THE BASE.
5. 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.
6. 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.
7. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS.



SECTION A-A



SECTION B-B



PLAN

RELEASE STRUCTURE S-1 DETAILS

SCALE : 1" =3'

POND SPECIFICATIONS FOR STORMWATER MANAGEMENT		
DESCRIPTION		DATA
STRUCTURE CLASSIFICATION		A (PRIVATE)
STORAGE X HEIGHT PRODUCT		(0.800 AC. FT.) (5.0 FT.) = 4.00 AC. FT.^{2}
WATERSHED AREA TO THE POND		5.89 AC.
POND TYPE		UNDERGROUND STONE STORAGE
FREEBOARD	REQUIRED/ PROVIDED	N / A
IMPERVIOUS AREA		3.93 AC.
TOP OF STONE		388.00

PIPE OUTLET SEDIMENT TRAP NO. 1 POND SUMMARY							
DESIGN STORM	PRE CONSTRUCTION DISCHARGE (CFS)	DURING CONSTRUCTION FACILITY INFLOW (CFS)	DURING CONSTRUCTION FACILITY DISCHARGE (CFS)	ALLOWABLE FACILITY DISCHARGE (CFS)	WATER SURFACE ELEVALTION (FT.)	STORAGE VOLUME PROVIDED (AC. FT)	
2 YR	5.10	18.20	4.64	5.10	386.48	0.566	
10 YR	14.37	31.52	13.62	14.37	387.40	0.906	

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.

Engineer _____ Date: 5/31/01
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.

_____ P.E. # _____
Signature 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.

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01
DIRECTOR — DATE 6/15/01

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192 - 16196	2 & 8	FOR	37 / ZONE 1	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

DEVELOPER CERTIFICATION:
"I certify that all development and/or construction will be done according to these plans, and that any responsible personel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard soil Conservation District."

Signature of Developer _____ Date 11/20/00
Print Name ROBB MERRITT

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Signature of Engineer _____ Date 5/31/01
Print Name JAMES A. MARKLE JR. PE # 11005

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
3 REVISED ADDRESS CHART, PERMIT INFO. CHART AND TITLE BLOCK BY GWS DATED 05/04/01

PIPE OUTLET SEDIMENT TRAP NO.1, EROSION AND SEDIMENT CONTROL PLAN & PROFILES
COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SDP 01-068
SCALE : As Shown
SHT. 24 OF 33 DATE : OCT. 02, 2000

SDP 01-068 NAME : 8594undergroundplanprof.s01 F/N : 8594

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed, and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

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

All cleared and grubbed material shall be disposed of outside and 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 Unitesd Soil Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

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

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 I-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 homogenous 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. As 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 un-rotted small grain straw immediately after seeding. Anchor mulch immediately after application using 218 gallons per acre of emulsified ashphalt. 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 pollusion 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 as 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 H05, 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 Cl. IV, PVC coated.

OUTFALL PROTECTION

Subgrade for riprap or gabion outfalls shall be prepared to the required line and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material. All rock or gravel shall conform to the specified grading limits when installed in the riprap or gabion. All stone shall be delivered and placed in a manner that will insure the stone in place shall be reasonably homgenous 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 so avoid any displacement of underying materials. The contractor shall avoid damage to the filter blanket or cloth during placement of riprap. Hand placement shall be required as needed to prevent damage to the permanent works. Filter cloth shall be placed under all riprap and gabions.

FENCE

Construct fencing in accordance with the State Highway Administration standard details 690.01 and 690.02. Use specifications for a 6' fence, substituting 42" fabric and 6' 8" line posts. Construct the gate in accordance with the SHA standard detail 690.01 with 42" fabric. The fabric used for the fence and gate must conform to AASHTO designation M-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.

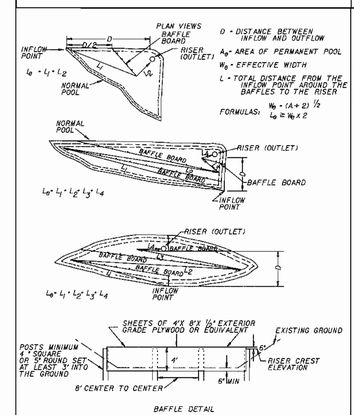
IMPERVIOUS CORE - THE CORE SHALL BE FILLED ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE FILL SHALL BE GOVERNED BY THE EQUIPMENT USED. WITH MINIMUM WIDTH BEING FOUR FEET. THE TOP WIDTH SHALL BE SHOWN ON THE PLAN. THE SIDE SLOPES OF THE FILL SHALL BE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

OPERATION AND MAINTENANCE SCHEDULE
FOR STORMWATER MANAGEMENT
UNDERGROUND FACILITY.

1. REMOVAL OF ACCUMULATED PAPER, TRASH, AND DEBRIS AS NESESSARY.

2. ANNUAL INSPECTION AND REPAIR OF THE STRUCTURE.

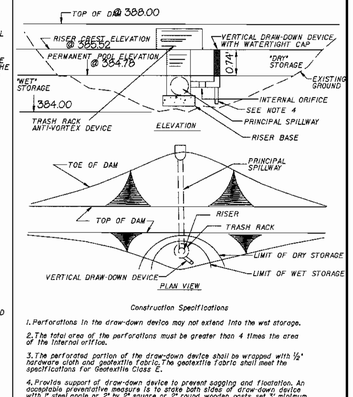
DETAIL 18 - SEDIMENT BASIN BAFFLES



BAFFLE DETAIL

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

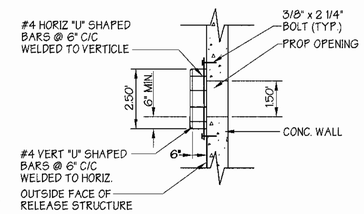
1. Perforations in the draw-down device may not extend into the wet storage.

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

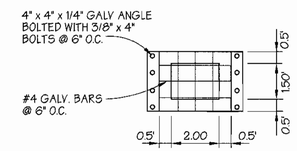
3. The perforated portion of the draw-down device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class C.

4. Provides support of draw-down device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of draw-down device with 7' steel angle, or 2" by 8" 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



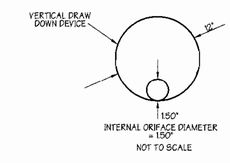
NOTE: TRASH RACK SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION REMOVABLE AND PAINTED W/ 2 COATS OF BATTLESHIP GRAY PAINT

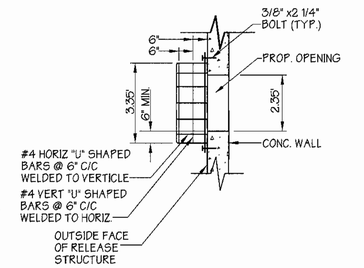


TRASH RACK DETAIL #4
TYPICAL TRASH RACK DETAIL
N.T.S.

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

SIZE OF PERFORATIONS = 3/8" DIA
AREA OF PERFORATION = 0.00077 FT2
LENGTH OF PERFORATED SECTION OF PIPE= 0.74 FT
MAX. ORIFICE AREA (A)= 0.06 FT2
DRAW-DOWN ORIFICE DIA.= 1.75'
NUMBER OF PERFORATIONS PER LINEAR FOOT OF PIPE= 112 (TWO DOUBLE ROWS OF PERFORATIONS)
TOTAL AREA OF PERFORATIONS= 0.06FT2





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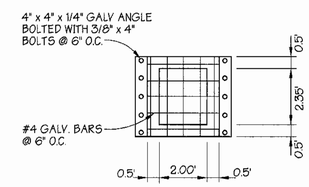

TRASH RACK DETAIL #5
TYPICAL TRASH RACK DETAIL
N.T.S.

CONSULTANTS HAZARD CLASS CERTIFICATION:

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Engineer _____ Date: 5/31/01
Name JAMES A. MARKLE JR.

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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.

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01
DIRECTOR — DATE 6/20/01

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SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192 - 16196	2 & 8	POR	/ZONE 37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
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Signature of Developer _____ Date 11/20/00
Print Name ROBB MERRITT

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Signature of Engineer _____ Date 5/31/01
Print Name JAMES A. MARKLE JR. — PE # 11005

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

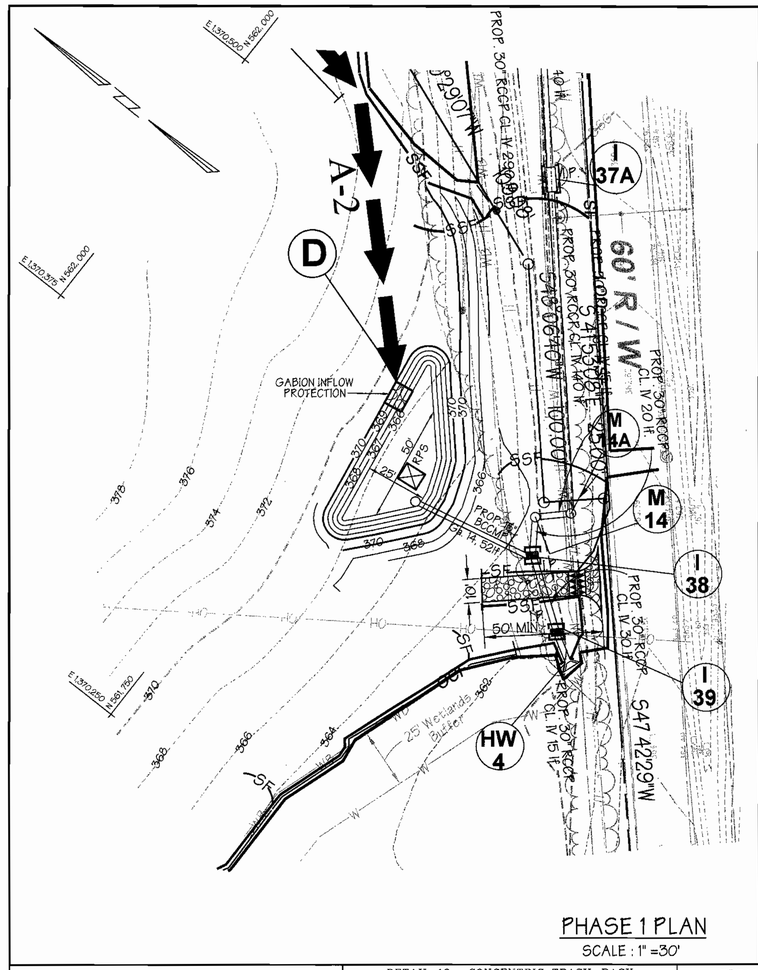
DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
2 REVISED ADDRESS CHART, PERMIT INFO, CHART AND TITLE BLOCK BY GWS DATED 05/04/04

PIPE OUTLET SEDIMENT TRAP NO. 1, EROSION AND SEDIMENT CONTROL NOTES & DETAILS
COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E' — SDP 01-068

ELECTION DISTRICT : 1 — SCALE : As Shown
HOWARD CO., MARYLAND — SHT. 25 OF 33 — DATE : OCT. 02, 2000

SDP 01-068 — NAME : 8594undergroundsednotdtls01 — F/N : 8594

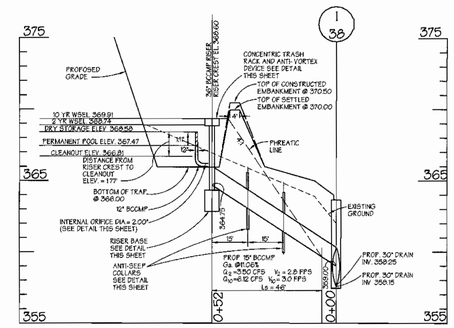


PHASE 1 PLAN

SCALE : 1" =30'

PHASE 2 PLAN

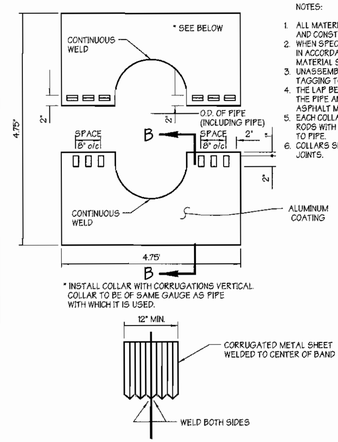
SCALE : 1" =30'



PROFILE THROUGH PIPE OUTLET SEDIMENT TRAP ST-1, NO.2 AND PRINCIPLE SPILLWAY

SCALE : VERT. 1" = 5'

HORZ. 1" =30'



SECTION B-B

ANTI - SEEP COLLAR DETAIL

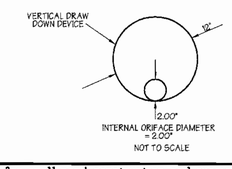
NOT TO SCALE

NOTES:

1. ALL MATERIALS TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIAL SPECIFICATIONS.
2. WHEN SPECIFIED ON PLANS, COATING OF COLLARS SHALL BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIAL SPECIFICATIONS.
3. UNASSEMBLED COLLARS SHALL BE MARKED BY PAINTING OR TAGGING TO IDENTIFY MATCHING PAIRS.
4. THE LAP BETWEEN THE TWO HALF SECTIONS AND BETWEEN THE PIPE AND CONNECTING BAND SHALL BE CAULKED WITH ASPHALT MASTIC AT TIME OF INSTALLATION.
5. EACH COLLAR SHALL BE TERMINATED WITH 2 (TWO) 1/2" DIA. RODS WITH STANDARD TANK LUGS FOR CONNECTING COLLARS TO PIPE.
6. COLLARS SHALL BE LOCATED 2' MINIMUM FROM ALL PIPE JOINTS.

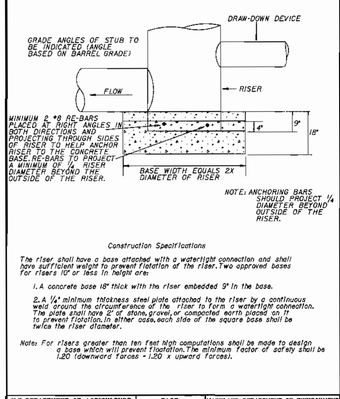
(*) PERFORATED PIPE (AASHTO M-36)
STANDARD PATTERN FOR PERFORATION HAS A MIN. OF THIRTY (30) 3/8" DIA. ROUND HOLES PER SQ. FT. OF PIPE SURFACE

SIZE OF PERFORATIONS = 3/8" DIA.
AREA OF PERFORATION = 0.00077 FT2
LENGTH OF PERFORATED SECTION OF PIPE= 1.11 FT.
MAX. ORIFICE AREA (A)= 0.10 FT2
DRAW DOWN ORIFICE DIA.= 2.00"
NUMBER OF PERFORATIONS PER LINEAR FOOT OF PIPE= 112 (TWO DOUBLE ROWS OF PERFORATIONS)
TOTAL AREA OF PERFORATIONS= 0.10FT2



NOT TO SCALE

DETAIL 15 - RISER BASE DETAIL



Construction Specifications

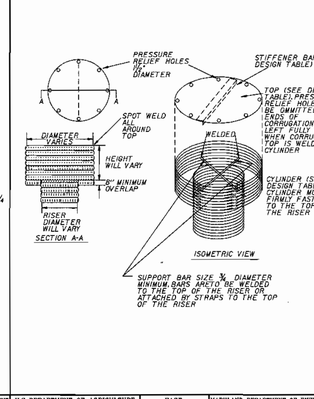
The riser shall have a base attached with a watertight connection and shall have sufficient weight to prevent flotation of the riser. Two approved bases for risers 10' or less in height are:

1. A concrete base 18" thick with the riser embedded 9" in the base.

2. A ¼" minimum thickness steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2' of stone, gravel, or compacted earth placed on it to prevent flotation. In either case, each side of the square base shall be twice the riser diameter.

Note: For risers greater than ten feet high computations shall be made to design a base which will prevent flotation. The minimum factor of safety shall be 1.20 (downward forces ÷ 1.20 = upward forces).

DETAIL 16 - CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

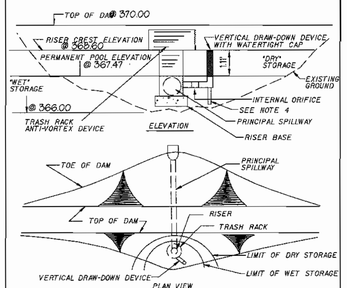


DETAIL 16 - CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE (continued)

Riser Diam. In.	Trash Rack Cylinder Diam.	Trash Rack Cylinder Thick. In. gauge	Trash Rack Cylinder H. In.	Minimum Size Support Bar	Minimum Top Thickness	Stiffener
12	18	16	6	*6 Rebar	16 ga.	--
15	21	16	7	"	"	--
18	27	16	8	"	"	--
21	30	16	11	"	"	--
24	36	16	13	"	14 ga.	--
27	42	16	15	"	14 ga.	--
36	54	14	17	*8 Rebar	12 ga.	--
42	60	14	19	"	"	--
36	54	14	17	*8 Rebar	12 ga.	--
48	72	12	21	1½" pipe or 1½" x 1½" x¼ angle	10 ga.	--
54	78	12	25	"	"	--
60	90	12	29	1½" pipe or 1½" x 1½" x¼ angle	8 ga.	--
66	96	10	33	2" pipe or 2x2x3/16 angle	8 ga., w/stiffener angle	2x2x¼ angle
72	102	10	36	"	"	2-1/2x2-1/2x1/4 angle
78	114	10	39	2½" pipe or 2x2x¼ angle	"	"
84	120	10	42	2½" pipe or 2-1/2x2-1/2x1/4 angle	"	2½ x2-1/2x ¼ angle

Note: The above trash rack and anti-vortex device information is only for corrugated metal pipe. Concrete risers must meet the requirements of MD 378.

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 fastening them to the device by wrapping with 12 guage minimum wire.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 85	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 86	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 86A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 10 - 90	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

PIPE OUTLET SEDIMENT TRAP NO. 2 SUMMARY								
DESIGN STORM	PRE CONSTRUCTION DISCHARGE (CFS)	DURING CONSTRUCTION PIPE OUTLET SEDIMENT TRAP INFLOW (CFS)	DURING CONSTRUCTION PIPE OUTLET SEDIMENT TRAP DISCHARGE (CFS)	DURING CONSTRUCTION SEDIMENT BASIN DISCHARGE	COMBINED DURING CONSTRUCTION SEDIMENT TRAP BASIN DISCHARGE	COMBINED ALLOWABLE DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT.)	STORAGE VOLUME PROVIDED (AC. FT)
2 YR	9.86	3.76	3.50	1.31	3.50	9.86	368.74	0.108
10 YR	29.67	6.51	6.12	16.90	20.88	29.67	368.91	0.117

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/18/01

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 THREE AGENCIES TO DETERMINE IF THE PROJECT REQUIRES A PERMIT:

U.S. ARMY CORPS OF ENGINEERING - 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.

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX /ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192 - 16196	2 & 8	TOR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — ROBB MERRITT — No. 11005 — REGISTERED PROFESSIONAL ENGINEER

DEVELOPER CERTIFICATION:
"I certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard soil Conservation District."

Signature of Developer — Date 11/20/00
Print Name ROBB MERRITT

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."

Signature of Engineer — Date 5/31/01
Print Name JAMES A. MERKLE JR. — PE # 11005

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
3 REVISED ADDRESS CHART, PERMIT INFO. CHART AND TITLE BLOCK BY GWS DATED 05/04/01

PIPE OUTLET SEDIMENT TRAP NO. 2, EROSION AND SEDIMENT CONTROL PLAN, PROFILES, NOTES & DETAILS

COLUMBIA CORPORATE PARK 100

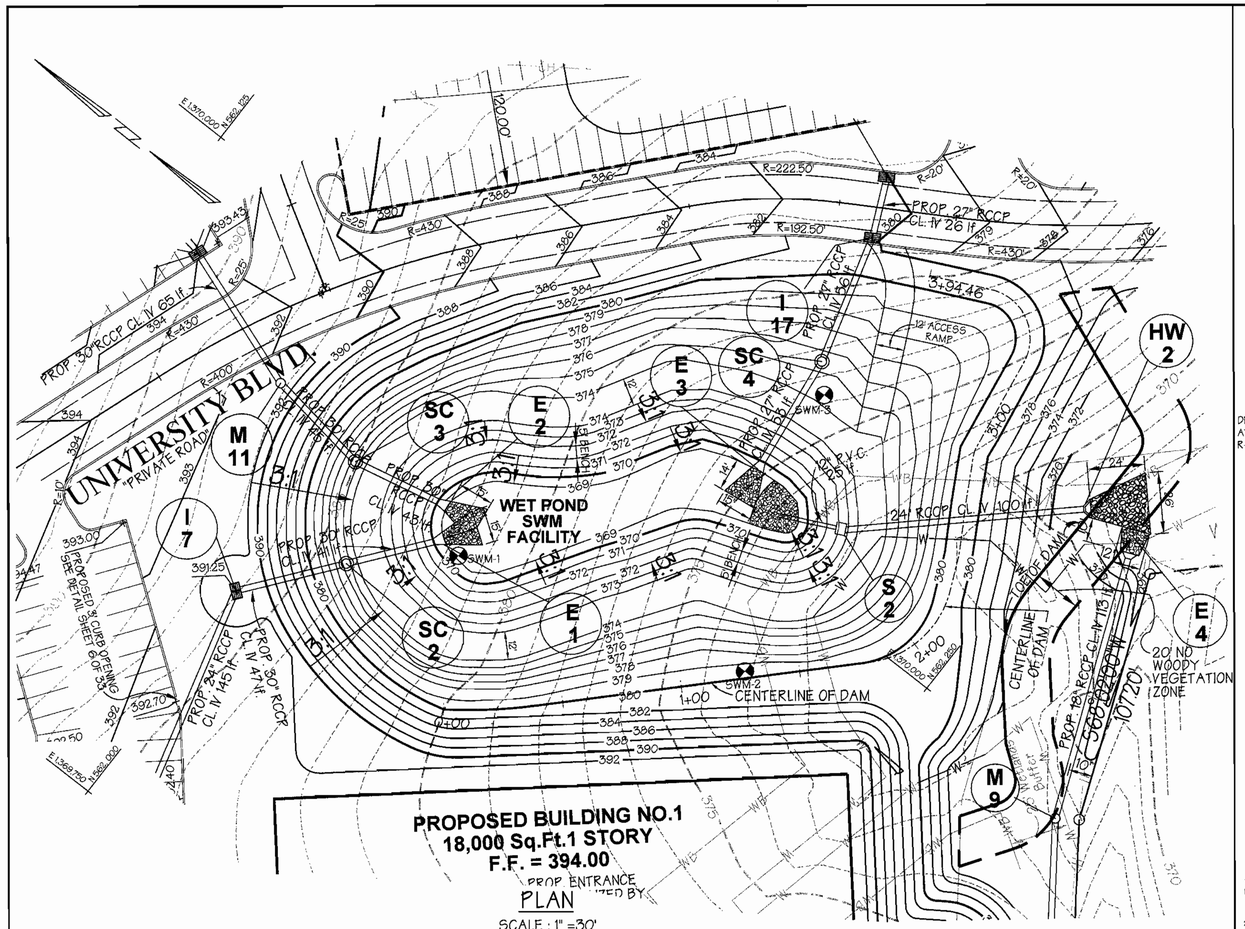
PARCELS 'A' THRU 'E'

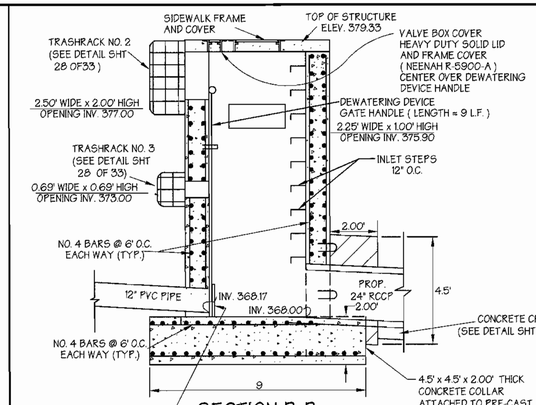
SDP 01-068

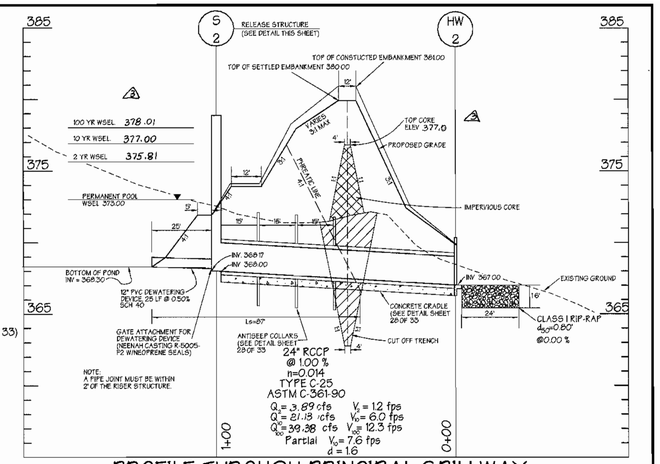
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

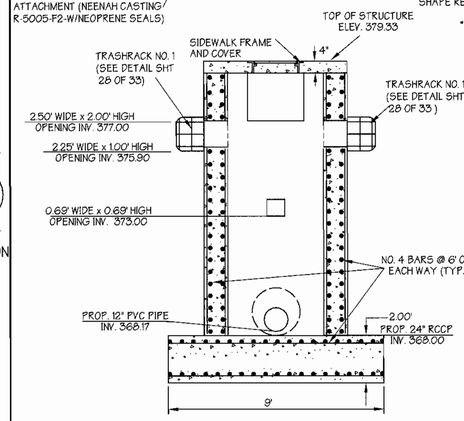
SCALE : As Shown
SHT. 26 OF 33
DATE : OCT. 02, 2000

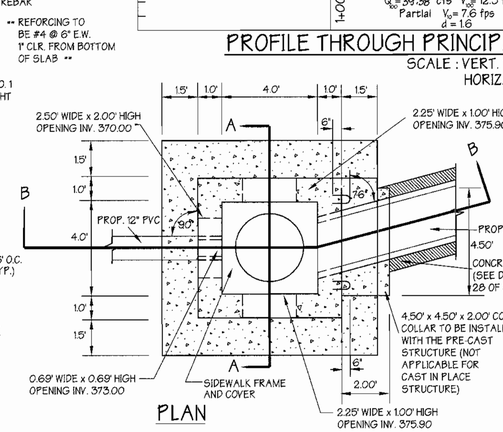
SDP 01-068 — NAME : 8594plpeous.a01 — P/N : 8594











RELEASE STRUCTURE S-2 DETAILS

SCALE: 1" = 3'

RELEASE STRUCTURE NOTES

1. 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.
2. ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
3. ALL REINFORCING TO HAVE 1.5" MIN. OVERLAPS.
4. TWO (2) INCH COVER MINIMUM FOR ALL REBARS IN WALLS AND THREE (3) INCHES FOR THE BASE.
5. 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.
6. 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.
7. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" BEVELED CHAMFER STRIPS.

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.

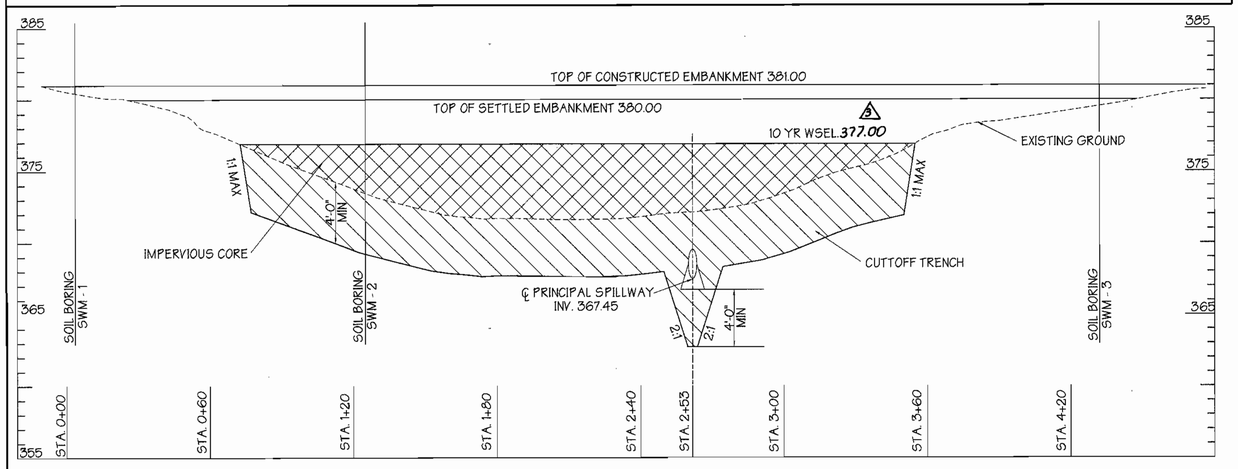
U.S. ARMY CORPS OF ENGINEERS - (410) 962-3620
WRA NON-TIDAL WETLANDS AND WATERWAYS DIVISION - (410) 974-3641
HOWARD COUNTY - (410) 887-3980

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 GL, 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 OF DAM ALONG CENTERLINE

SCALE : VERT. 1" =5'
HORIZ.1"=30'

POND SUMMARY

DESIGN STORM	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	ALLOWABLE FACILITY DISCHARGE (CFS)	BYPASS DISCHARGE (CFS)	TOTAL DISCHARGE (CFS)	TOTAL ALLOWABLE DISCHARGE (CFS)	WATER SURFACE ELEVALTION (FT.)	STORAGE VOLUME PROVIDE (AC. FT)
2 YR	42.06	3.89	7.83	5.69	8.90	9.86	375.89	1.308
10 YR	70.07	21.13	23.54	11.99	27.40	29.67	377.00	2.029
100 YR	100.64	39.38	44.21	19.26	52.96	55.71	378.01	2.770

POND SPECIFICATIONS FOR STORMWATER MANAGEMENT

DESCRIPTION		DATA
STRUCTURE CLASSIFICATION		A (PRIVATE)
STORAGE X HEIGHT PRODUCT		(2.82 AC. FT.) (5.0 FT.) = 14.1AC. FT. ^{2}
WATERSHED AREA TO THE POND		12.57 AC.
POND TYPE		DETENTION
FREEBOARD	REQUIRED/ PROVIDED	2.0 / 2.0T
IMPERVIOUS AREA		9.40 AC.
TOP OF EMBANKMENT		380.0

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.

Engineer _____ Date: 5/21/01
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.

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/15/01
DIRECTOR — DATE 6/18/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX MAP / ZONE	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	FOR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

DEVELOPER CERTIFICATION:
"I certify that all development and/or construction will be done according to these plans, and that any responsible personel involved in the construction project will have a certificate of attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard soil Conservation District."

Signature of Developer _____ Date 11/20/00
Print Name ROBB MERRITT

ENGINEER CERTIFICATION:
"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personel 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."

Signature of Engineer _____ Date 5/21/01
Print Name JAMES A. MARKLE JR. — PE # 11005

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
(5) REVISED POND SUMMARY TABLE, AREA TO POND ELEVATIONS & E.S. ON PROFILE THROUGH PRINCIPLE SPILLWAY PER REVISED SWM REPORT BY GWS. DATED 05/04/01

STORM WATER MANAGEMENT PLAN AND PROFILES
COLUMBIA CORPORATE PARK 100
PARCELS A THRU E

SDP 01-068
ELECTION DISTRICT : 1 — SCALE : As Shown
HOWARD CO., MARYLAND — SHT. 27 OF 33 — DATE : OCT. 02, 2000

SDP 01-068 — NAME : 8594revswmplanprof s01 — P/N : 8594

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed, and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences rubbish, and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut 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 embankments 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.

STRUCTURE BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. As no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure.

PIPE CONDUITS All pipes shall be circular in cross section.

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

All the following criteria shall apply for reinforced concrete pipe :

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high 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 I-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 embankments, 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 un-rotted 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 as 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 as 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 GI. 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 homogenous 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' 8" line posts. Construct the gate in accordance with the SHA. standard detail 690.01 with 42" fabric. The fabric used for the fence and gate must conform to AASHTO designation M-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 Rails rail (wood) fence is optional.

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

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

Appendix I

Compacted Fill
SWM POND
A. Embankment shall be constructed of approved materials from the excavation or from other sources. The material shall be free from organic materials, trash, muck, roots, frost and other deleterious substances.

B. Before depositing fills, the ground surface shall be cleared of all refuse, brush, grass, roots, ice and frozen material. All organic matter and otherwise unsuitable soils shall be removed from the surface to be filled. The exposed surface shall be plowed or scarified if required to a depth of six inches. Soils so scarified, or which have been disturbed by grubbing and stripping operations, shall be compacted to undisturbed soil below by discing, leveling, rolling, and compacting at the moisture content and to the density specified below for compacted embankments.

C. Where fills are made on hillsides or slopes, the slope of the original ground upon which the fill is to be placed shall be plowed or scarified deeply, or where the slope ratio of the original ground is steeper than 5 horizontal to 1 vertical, the bank shall be stepped or benched, when considered necessary by the Engineer, to permit placement of the fill in horizontal layers.

D. Placing, Spreading and Compacting Fill Materials:

1. The fill materials shall be placed in layers which, before compaction shall not exceed 8 inches. Each layer shall be spread uniformly and evenly and shall be thoroughly blade mixed during the spreading to insure uniformity of materials in each layer.

2. After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to not less than 95% of the maximum dry density as determined by ASTM D 698.
3. The moisture content of the fill shall be as required in order to attain the degree of compaction specified.

4. Compaction shall be by approved multiple-wheel pneumatic tired rollers, vibratory rollers or other types of acceptable rollers.

5. The filling operation shall be continued as specified above until the fill has been brought to the subgrade shown on the plans.

6. The fill shall be constructed in such a manner that the surface will be sloped to drain at all times, and all fill shall be deposited to prevent excessive moisture accumulation from rainwater.
7. When the work is interrupted by rain, filling shall not be resumed until tests indicate that the moisture content and density of the top 6 inches of fill conform to the above specification requirements. July 15, 1988

VIII. STORM WATER MANAGEMENT

Referring to PLATE 4, BORING PROFILES, an examination of the logs shows that as SWM-1 through SWM-3, the upper native subsoils predominately consist of materials conforming to USDA classification Sandy Clay Loam, Clay Loam and Clay layers with the lower subsoils below depths of 8 feet at SWM-2, 12 feet at SWM-3 and 18 feet at SwM-1 consisting of Loam or Sandy Loam layers. The Maryland Department of Natural Resources (MDNR) recommends that infiltration facilities be placed only in native subsoils which have minimum infiltration rates of 0.52 inches per hour or greater. Also, the MDNR recommends that infiltration structures be placed only in areas where the bottoms of the structures are 2 to 4 feet above the seasonally high ground water table and/or bedrock (i.e., impervious material).

Given the boring data, it is noticed that the native subsoils which are situated at least 2 feet above the ground water level consist of Clay Loam or Sandy Clay Loam which have MDNR minimum classification criteria. Thus, storm water disposal by infiltration practice is not considered feasible within the SWM area.

Based upon the boring and test information, we consider that the subsoil conditions are basically acceptable to support typical SWM pond construction. Given the indicated water levels, dewatering should be anticipated in any excavations extended below the recorded levels. The following general earthwork preparation is recommended for the pond area:

a. Within the plan fill embankment area, strip the topsoil and any soft or otherwise unsuitable materials to expose stable, undisturbed native subsoils.
b. Proof roll the exposed surface to a uniform condition further cutting out any soft or otherwise unsuitable spots.

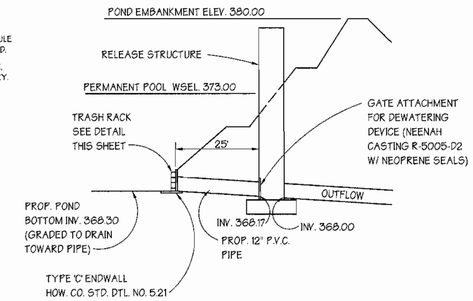
IX. EARTHWORK CONSTRUCTION
All fill placed for the building pads, pavement areas, SWM pond and any other locations requiring stable, structural support shall be constructed as controlled embankment. The fill construction for the building and pavement areas shall be in accordance with APPENDIX III, COMPACTED FILL. For the SWM pond area, the fill construction shall be in accordance with APPENDIX I, COMPACTED FILL.
Concerning the suitability of on site soils for use in controlled fill construction, it is recommended that general building fill materials conform to Unified G or S series classification and have a maximum dry density of at least 110 PCF. For walls retaining appreciable unbalanced earth, the wall backfill shall conform to Unified GM, GP, GW, SW, SP or SM classification and shall have a maximum dry density of at least 110 PCF. For SWM pond construction, normal embankment fill shall consist of materials conforming to Unified classification GC, GM, SM, SC, CL, or ML and shall have a maximum dry density of at least 110 PCF. Designated impervious zones of SWM pond construction shall conform to Unified CL, SC, GC, or CH and shall have a maximum dry density of at least 95 PCF.

OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT POND:

1. REMOVAL OF ACCUMULATED PAPER, TRASH, AND DEBRIS AS NESESSARY.

2. VEGETATION GROWING ON THE EMBANKMENT TOP OR FACES IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANY TIME.

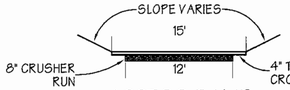
3. ANNUAL INSPECTION AND REPAIR OF THE STRUCTURE.



WET POND DEWATERING DEVICE

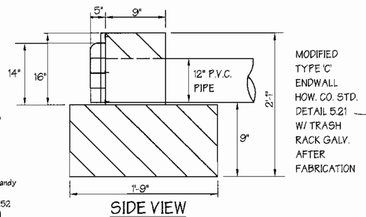
NOT TO SCALE

1. SET PIPE AT INVERTS SPECIFIED ON STORMWATER MANAGEMENT PLANS, PRINCIPAL SPILLWAY PROFILE.



ACCESS RAMP

NOT TO SCALE

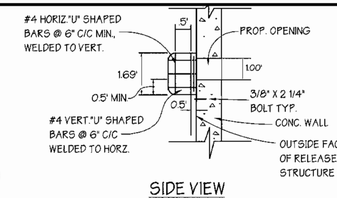


SIDE VIEW

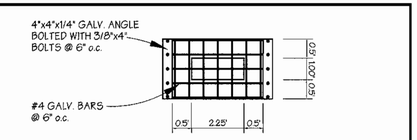
FRONT VIEW

WET POND DEWATERING DEVICE
ENDWALL & TRASH RACK DETAIL

NOT TO SCALE



SIDE VIEW



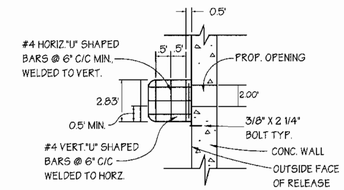
FRONT VIEW

TRASH RACK DETAIL #1

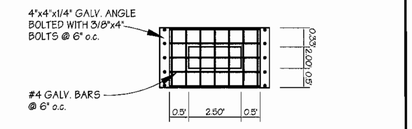
TYPICAL TRASH RACK DETAIL

NOT TO SCALE

NOTE: TRASH RACK SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION REMOVABLE AND PAINTED W / 2 COATS OF BATTLESHIP GRAY PAINT



SIDE VIEW



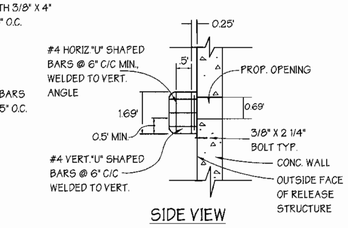
FRONT VIEW

TRASH RACK DETAIL #2

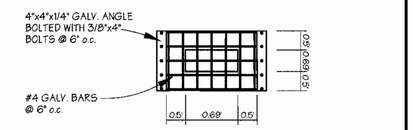
TYPICAL TRASH RACK DETAIL

NOT TO SCALE

NOTE: TRASH RACK SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION REMOVABLE AND PAINTED W / 2 COATS OF BATTLESHIP GRAY PAINT



SIDE VIEW



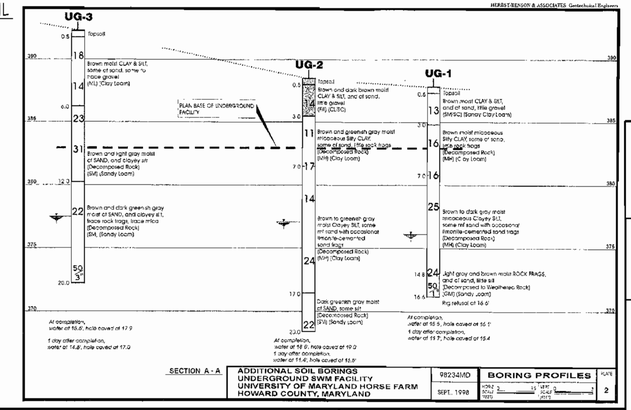
FRONT VIEW

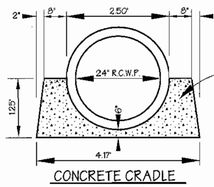
TRASH RACK DETAIL #3

TYPICAL TRASH RACK DETAIL

NOT TO SCALE

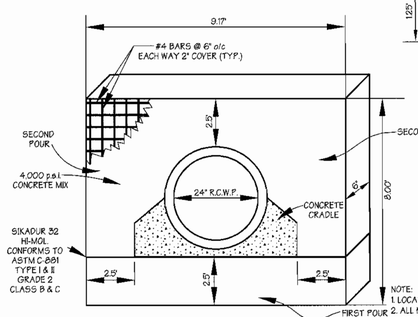
NOTE: TRASH RACK SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION REMOVABLE AND PAINTED W / 2 COATS OF BATTLESHIP GRAY PAINT





CONCRETE CRADLE

NOT TO SCALE



CONCRETE ANTI-SEEP COLLAR

NOT TO SCALE

NOTE:
1. LOCATE 2' MIN. FROM ALL PIPE JOINTS.
2. ALL MATERIAL TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIALS SPECIFICATIONS.
3. THE SEAL BETWEEN THE PIPE AND COLLAR SHALL BE WATER TIGHT
4. COLLAR SHALL PROJECT A MIN. OF 2.0' FROM THE EXTERIOR OF THE CONCRETE CRADLE AND THE PIPE ON ALL FOUR SIDES.

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/15/01

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.

Engineer — Date: 5/31/01
Name: JAMES A. MARKLE JR.

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: 11/20/00
Name: ROBB MERRITT

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192 - 16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

AS-BUILT CERTIFICATION:

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

Signature — P.E. # — Date:

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

ENGINEER CERTIFICATION:

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

Engineer — P.E. # 11005 — Date: 5/31/01
Name: JAMES A. MARKLE JR.

OWNER / DEVELOPER

MERRITT PROPERTIES L.L.C.

2966 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

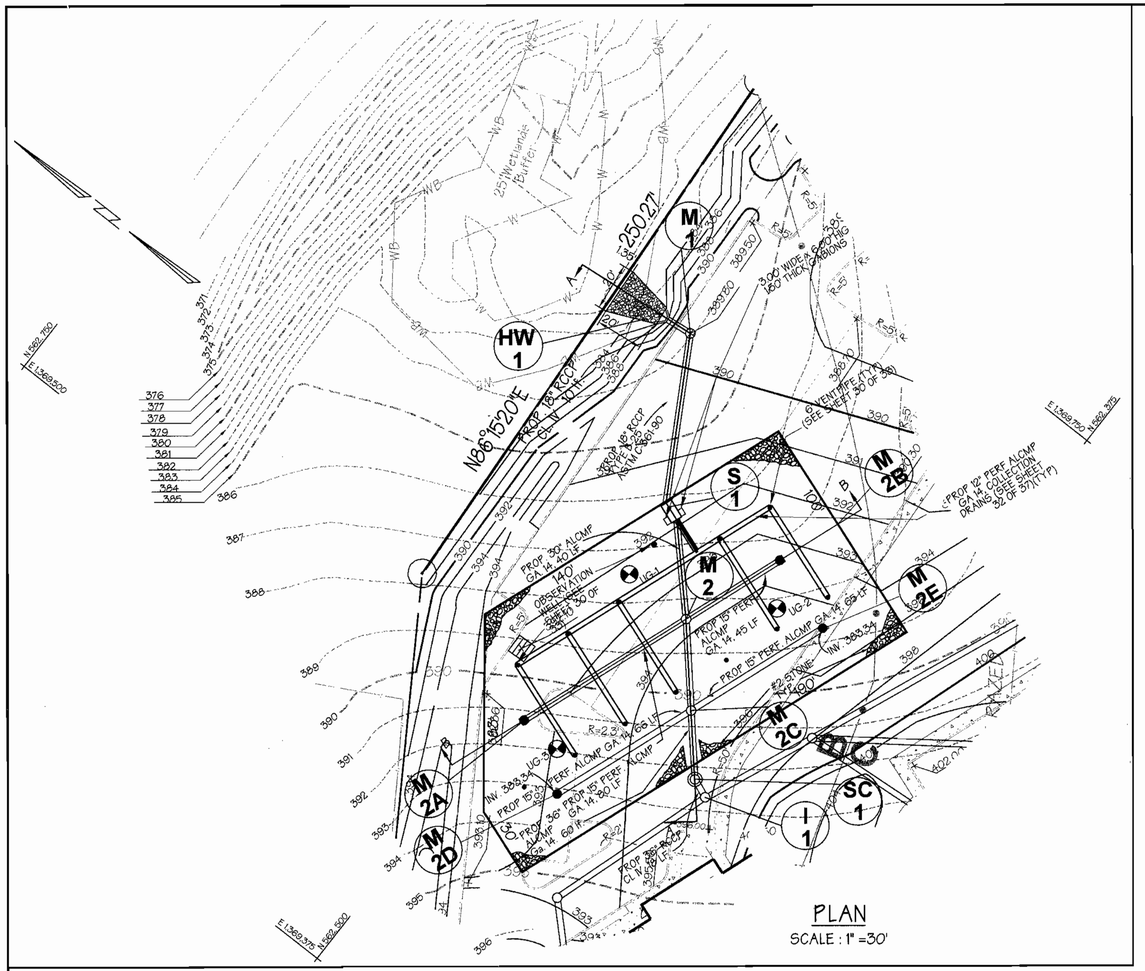
DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
1 REVISED ADDRESS CHART, PERMIT INFO. CHART AND TITLE BLOCK BY GWS DATED 05/04/04

STORM WATER MANAGEMENT
NOTES AND DETAILS
COLUMBIA CORPORATE PARK 100
PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SDP 01-068
SCALE : As Shown
SHT. 28 OF 33 — DATE : OCT. 02, 2000

SDP 01-068 — NAME : 8594swmnotsdts01 — P/N : 8594

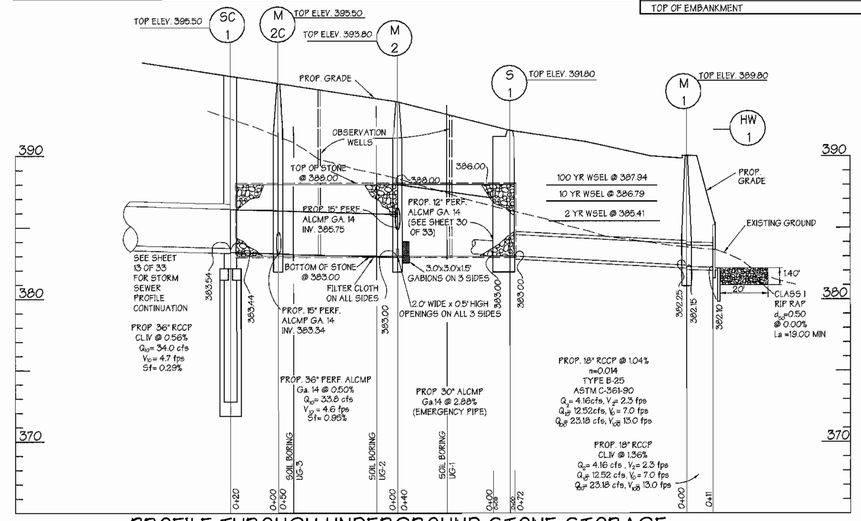


PLAN

SCALE : 1" =30'

POND SUMMARY							
DESIGN STORM	FACILITY INFLOW (CFS)	FACILITY DISCHARGE (CFS)	BYPASS DISCHARGE (CFS)	TOTAL DISCHARGE (CFS)	TOTAL ALLOWABLE DISCHARGE (CFS)	WATER SURFACE ELEVALTION (FT.)	STORAGE VOLUME PROVIDE (AC. FT)
2 YR	15.21	4.16	0.73	4.61	5.10	385.41	0.386
10 YR	25.33	12.52	1.85	13.67	14.37	386.79	0.606
100YR	36.38	23.18	3.22	25.50	26.26	387.94	0.790

POND SPECIFICATIONS FOR STORMWATER MANAGEMENT	
DESCRIPTION	DATA
STRUCTURE CLASSIFICATION	A (PRIVATE)
STORAGE X HEIGHT PRODUCT	(0.800AC. FT.) (5.0 FT.) = 4.00AC. FT. ^{2}
WATERSHED AREA TO THE POND	4.73 AC.
POND TYPE	UNDERGROUND STONE STORAGE
FREEBOARD REQUIRED/ PROVIDED	N/A
IMPERVIOUS AREA	3.93 AC.
TOP OF EMBANKMENT	388.00



PROFILE THROUGH UNDERGROUND STONE STORAGE FACILITY AND PRINCIPAL SPILLWAY : SECTION A-A

SCALE: VERT. 1" = 5'
HORZ. 1" = 30'

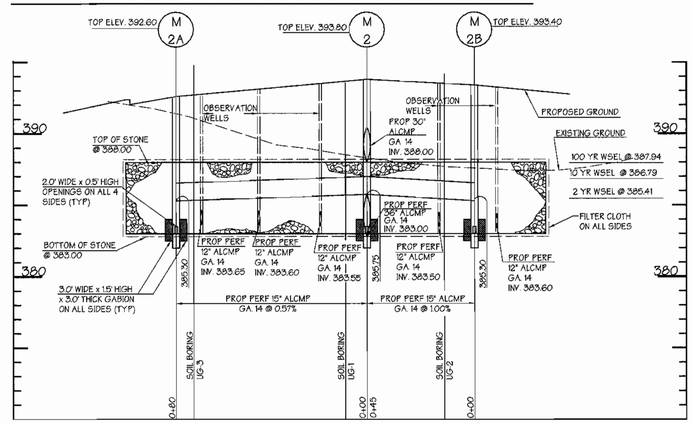
RELEASE STRUCTURE NOTES

1. 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.
2. ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
3. ALL REINFORCING TO HAVE 1' 6" MIN. OVERLAPS.
4. TWO (2) INCH COVER MINIMUM FOR ALL REBARS IN WALLS AND THREE (3) INCHES FOR THE BASE.
5. 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
6. 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.
7. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS.

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).



PROFILE THROUGH UNDERGROUND STONE STORAGE FACILITY : SECTION B-B

SCALE: VERT. 1" = 5'
HORZ. 1" = 30'

STRUCTURE SCHEDULE

NO.	TYPE	TOP ELEV.	INV. IN	INV. OUT	HO. CO. DTL.
M-1	STD	389.80	382.25	385.15	G 5.12
M-2	***	393.80	383.00	—	***
M-2A	***	392.60	385.30	—	***
M-2B	***	393.50	385.30	—	***
SC-1	STC 6000	395.50	383.54	383.44	SEE STORMCEPTOR PLANS & DETAILS
HW-1	TYPE 'A' 18"	385.00	—	382.00	SD 5.11
M-2C	***	395.00	383.00	—	***
M-2D	***	393.30	383.34	—	***
M-2E	***	395.20	383.34	—	***

*** SEE UNDERGROUND STORMWATER MANAGEMENT NOTES AND DETAILS SHEET

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/15/01

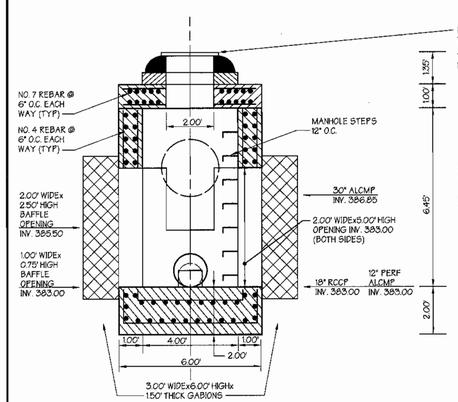
DIRECTOR — DATE 6/27/01

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

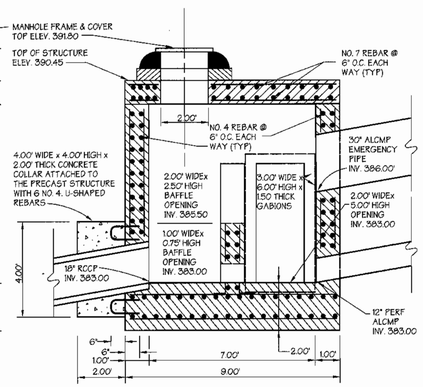
SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000



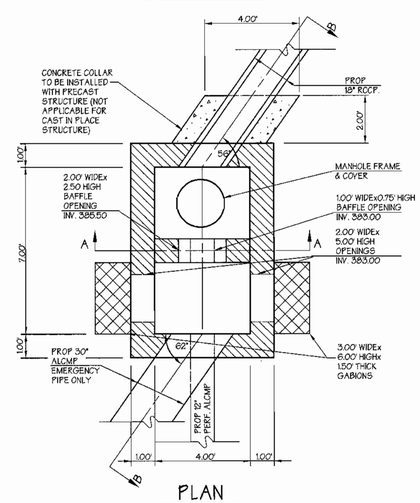
SECTION A-A



SECTION B-B

RELEASE STRUCTURE S-1 DETAIL

SCALE: 1"=3'



PLAN

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 1982). 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.

Engineer — Date: 5/21/01
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 contracts, employment, or other means, including meeting commonly accepted industry practices.

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

DEVELOPER CERTIFICATION:
"I certify that all development and/or construction will be done according to these plans, and that any responsible personel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard soil Conservation District."

Signature of Developer — Date 11/20/00
Print Name ROBB MERRITT

ENGINEER CERTIFICATION:
"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personel 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."

Signature of Engineer — Date 5/21/01
Print Name JAMES A. MARKLE JR. — PE # 11005

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2086 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
1 REVISE ADDRESS CHART, PERMIT INFO. CHART AND TITLE BLOCK BY GWS DATED 05/04/04

UNDERGROUND STORM WATER MANAGEMEMT PLAN & PROFILES
COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

SDP 01-068
ELECTION DISTRICT : 1
HOWARD CO., MARYLAND
SHT. 29 OF 33
SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068 — NAME : 8594revundergrswmplanprofs01s01 — P/N : 8594

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed, and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences rubbish, and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut 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 to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

STRUCTURE BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. As no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure

PIPE CONDUITS All pipes shall be circular in cross section.

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

All the following criteria shall apply for reinforced concrete pipe :

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high 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 916 (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 so 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 facilities 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 un-rotted small grain straw immediately after seeding. Anchor mulch immediately after application using 218 gallons per acre of emulsified asbphalt. 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. 3541 or 3401.
Filter cloth shall be protected from punching or tearing. Any damage other than an occasional small hole shall be repaired by placing another small piece of filter cloth over the damaged area or by replacing the cloth section. All overlaps shall be a minimum of one foot

GABIONS

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

OUTFALL PROTECTION

Subgrade for riprap or gabion outfalls shall be prepared to the required line and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material. All rock or gravel shall conform to the specified grading limits when installed in the riprap or gabion. All stone shall be delivered and placed in a manner that will insure the stone in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another, with the smaller rocks filling the voids between the larger rocks. Stone for outfalls may be placed by equipment. Riprap or gabion 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 SHA 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 ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

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

OPERATION AND MAINENCE SCHEDULE FOR
STORMWATER MANAGEMENT UNDERGROUND FACILITY.
1. REMOVAL OF ACCUMULATED PAPER, TRASH AND DEBRIS AS NECESSARY.
2. ANNUAL INSPECTIONS AND REPAIR OF THE STRUCTURE

Appendix I

Compacted Fill
SWM POND

A. Embankmens shall be constructed of approved materials from the excavation or from other sources. The material shall be free from organic materials, trash, muck, roots, frozen and other deleterious substances.

B. Before depositing fills, the ground surface shall be cleared of all refuse, brush, grass, roots, ice and frozen material. All organic matter and otherwise unsuitable soils shall be removed from the surface to be filled. The exposed surface shall be plowed or scarified if required to a depth of six inches. Soils so scarified, or which have been disturbed by grubbing and stripping operations, shall be compacted to undisturbed soil level by disking, leveling, rolling, and compacting at the moisture contents and to the density specified below for compacted embankmento

C. Where fills are made on hillsides or slopes, the slope of the original ground upon which the fill is to be placed shall be plowed or scarified deeply, or where the slope ratio of the original ground is steeper than 5 horizontal to 1 vertical, the bank shall be stepped or benched, when considered necessary by the Engineer, to permit placement of the fill in horizontal layers.

D. Placing, Spreading and Compacting Fill Materials:

1. The fill materials shall be placed in layers which, before compaction shall not exceed 8 inches. Each layer shall be spread uniformly and evenly and shall be thoroughly blade mixed during the spreading to insure uniformity of materials in each layer

2. After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to not less than 95% of the maximum dry density as determined by ASTM D 698.

3. The moisture contents of the fill shall be as required in order to attain the degree of compaction specified.

4. Compaction shall be by approved multiple-wheel pneumatic tired rollers, vibratory rollers or other types of acceptable rollers.

5. The filling operation shall be continued as specified above until the fill has been brought to the subgrade shown on the plans.

6. The fill shall be constructed in such a manner that the surface will be sloped to drain at all times, and all fill shall be deposited so prevent excessive moisture accumulation from rainwater.

7. When the work is interrupted by rain, filling shall not be resumed until tests indicate that the moisture contents and density of the top 6 inches of fill conform to the above specification requirements.

July 15, 1998

VII. STORM WATER MANAGEMENT

Referring to PLATE 4, BORING PROFILES, an examination of the logs shows that as SWM-1 through SWM-3, the upper native subsoils predominately consist of materials conforming to USDA classification Sandy Clay Loam, Clay Loam and Clay layers with the lower subsoils below depths of 9 feet as SWM-2, 12 feet as SWM-3 and 19 feet as SwM-1 consisting of Loam or Sandy Loam layers. The Maryland Department of Natural Resources (MDNR) recommends that infiltration facilities be placed only in native subsoils which have minimum infiltration rates of 0.52 inches per hour or greater. Also, the MDNR recommends that infiltration structures be placed only in areas where the bottoms of the structures are 2 to 4 feet above the seasonally high ground water table and/or bedrock (i.e., impervious material).

Given the boring data, it is noticed that the native subsoils which are situated at least 2 feet above the ground water level consist of Clay Loam or Sandy Clay Loam which have MDNR minimum classification criteria. Thus, storm water disposal by infiltration practice is not considered feasible within the SWM area.

Based upon the boring and test information, we consider that the subsoil conditions are basically acceptable to support typical SWM pond construction. Given the indicated water levels, dewatering should be anticipated in any excavations extended below the recorded levels. The following general earthwork preparation is recommended for the pond area:

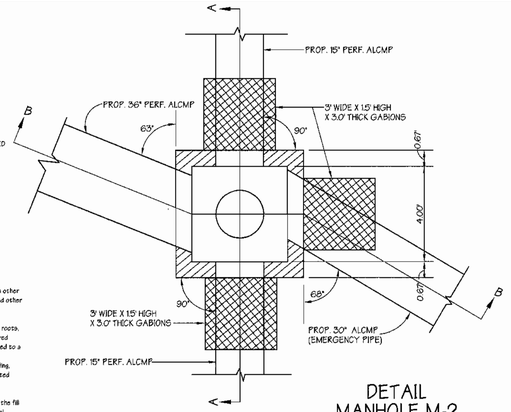
a. Within the plan fill embankments area, strip the topsoil and any soft or otherwise unsuitable materials to expose stable, undisturbed native subsoils.

b. Proof roll the exposed surface to a uniform condition further cutting out any soft or otherwise unsuitable spots

IX. EARTHWORK CONSTRUCTION

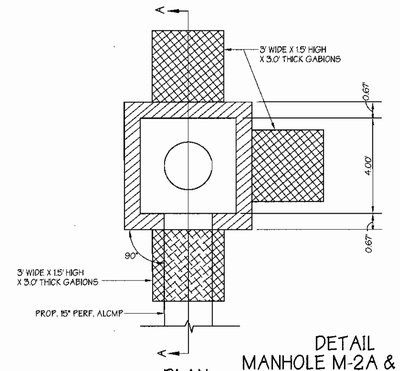
All fill placed for the building pads, pavement areas, SWM pond and any other locations requiring stable, structural support shall be constructed as controlled embankments. The fill construction for the building and pavement areas shall be in accordance with APPENDIX II, COMPACTED FILL. For the SWM pond area, the fill construction shall be in accordance with APPENDIX I, COMPACTED FILL.

Concerning the suitability of on site soils for use in controlled fill construction, it is recommended that general building fill materials conform to Unified G or D series classification and have a maximum dry density of at least 110 PCF. For walls retaining appreciable unbalanced earth, the wall backfill shall conform to Unified GM, GP, GW, SW, SP or SM classification and shall have a maximum dry density of at least 110 PCF. For SWM pond construction, normal embankment fill shall consist of materials conforming to Unified classification GC, GM, SM, SC, CL, or ML and shall have a maximum dry density of at least 110 PCF. Designated impervious zones of SWM pond construction shall conform to Unified CL, SC, GC, or CH and shall have a maximum dry density of at least 95 PCF.



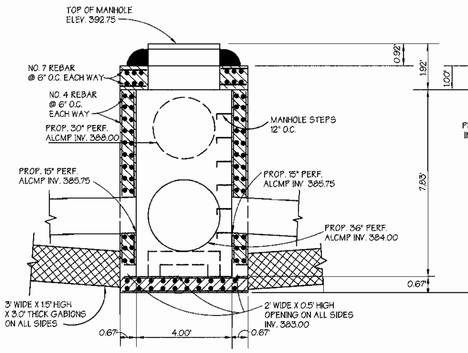
PLAN

DETAIL MANHOLE M-2
NOT TO SCALE

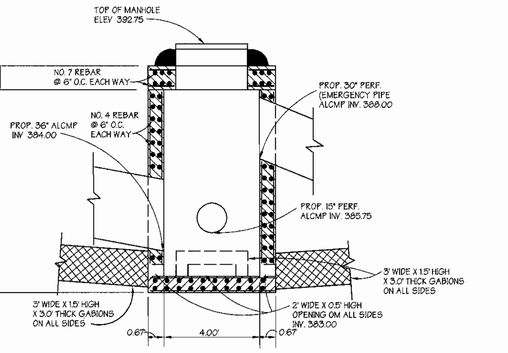


PLAN

DETAIL MANHOLE M-2A & M-2B
NOT TO SCALE



SECTION A-A



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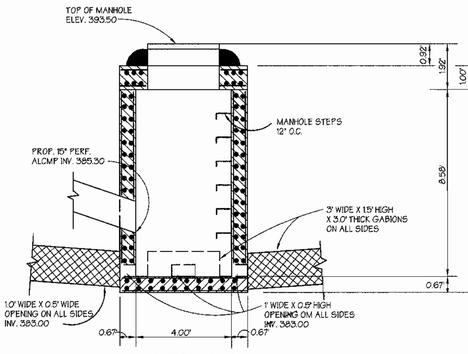
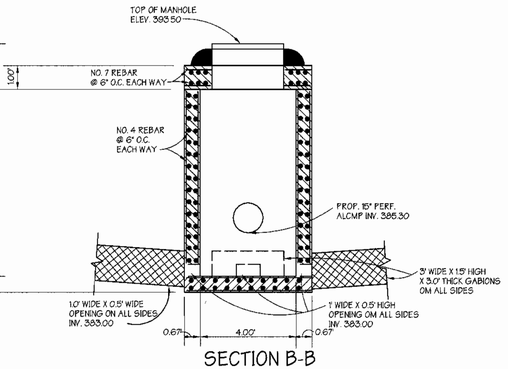


SECTION A-A



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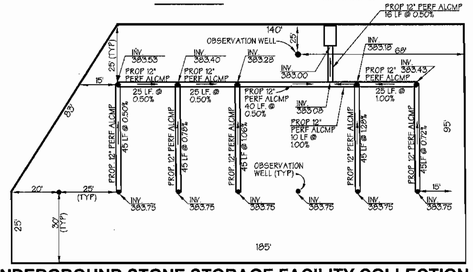
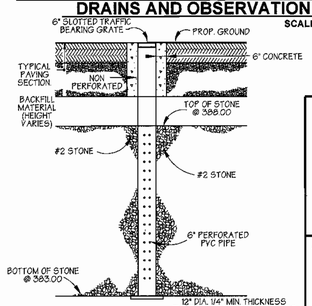


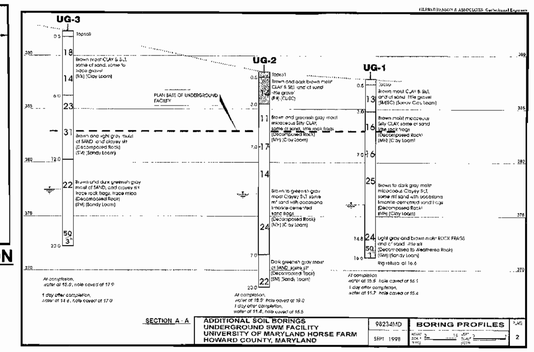
UNDERGROUND STONE STORAGE FACILITY COLLECTION DRAINS AND OBSERVATION WELL LAYOUT

SCALE: 1" = 30'



OBSERVATION WELL

N.T.S.



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

Engineer _____ Date: 5/31/01

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

_____ P.E. # _____

Signature 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 contracts, 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.

HOWARD SOIL CONSERVATION DISTRICT — DATE 6/5/01

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/5/01

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/12/01

DIRECTOR — DATE 6/18/01

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	/ZONE 37	1	6011.02

WATER CODE E-07 SEWER CODE 2780000

PREPARED BY :

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

DEVELOPER CERTIFICATION:
"I certify that all development and/or construction will be done according to these plans, and that any responsible personal involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard soil Conservation District."

Signature of Developer _____ Date 11/20/00

Print Name BOBB MERRITT

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."

Signature of Engineer _____ Date 5/31/01

Print Name JAMES A. MARKLE JR. PE # 11005

OWNER / DEVELOPER

MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
3 REVISED ADDRESS CHART, PERMIT INFO. CHART AND TITLE BLOCK BY GWS. DATED 05/04/04

UNDERGROUND STORM WATER MANAGEMENT NOTES AND DETAILS
COLUMBIA CORPORATE PARK 100

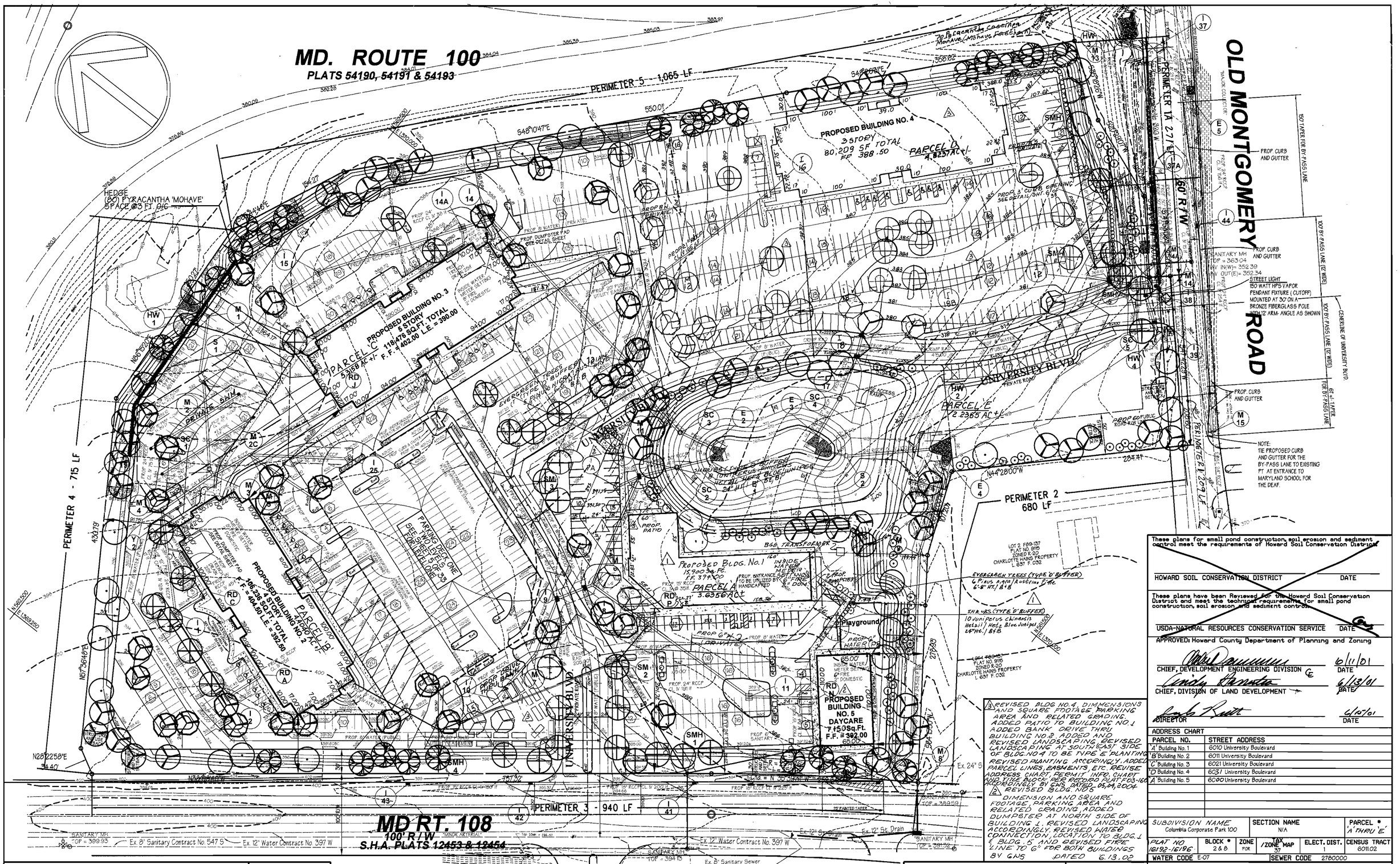
PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SDP 01-068
SCALE : As Shown
SHT. 30 OF 33 DATE : OCT. 02, 2000

SDP 01-068

NAME : 8594revundergroundswmnotdtls01 P/N : 8594



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

HOWARD SOIL CONSERVATION DISTRICT DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/20/01

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6031 University Boulevard
'A' Building No. 5	6000 University Boulevard

3 REVISED BLDG NO.4, DIMENSIONS AND SQUARE FOOTAGE PARKING AREA AND RELATED GRADING. ADDED PATIO TO BUILDING NO.1 ADDED BANK DRIVE THRU BUILDING NO.2 ADDED AND REVISED LANDSCAPING, REVISED LANDSCAPING AT SOUTHEAST SIDE OF BLDG.NO.4 TO BE TYPE 'E' PLANTING REVISED PLANTING ACCORDINGLY. ADDED PARCEL LINES, EASEMENTS, ETC. REVISE ADDRESS CHART. REMVT INFO. CHART AND TYPE BLOCK PER RECORD PLAT F.09-160 ACCORDINGLY BY GWS DATED 05.04.2004

2 REVISED BLDG. NO.5 DIMENSION AND SQUARE FOOTAGE, PARKING AREA AND RELATED GRADING, ADDED DUMPSTER AT NORTH SIDE OF BUILDING 1, REVISED LANDSCAPING ACCORDINGLY, REVISED WATER CONNECTION, LOCATION TO BLDG.1 & BLDG.5 AND REVISED FIRE LINE TO 6" FOR BOTH BUILDINGS BY GWS DATED 6.13.02

SUBDIVISION NAME	SECTION NAME	PARCEL *
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT NO	BLOCK *	ZONE	TAX / ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

PLAN

SCALE : 1" = 50'

NOTE:
FOR TREE LEGEND, TREE TYPE AND DEVELOPERS / BUILDERS CERTIFICATION SEE SHEET 32 OF 33.

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
1 REVISED BLDG. NO.1 LAYOUT, REVISED LANDSCAPE ACCORDINGLY BY G.W.S. DATED 12/07/01

LANDSCAPE PLAN
COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SHT. 31 OF 33

SDP 01-068
SCALE : As Shown
DATE : OCT. 02, 2000

SDP 01-068 FILE NAME: 8594revlandscapeplan.s01 P/N : 8594

PLANTING NOTES

PLANT LOCATIONS SHALL BE FIELD ADJUSTED TO AVOID UTILITIES. CONTRACTOR IS RESPONSIBLE FOR LOCATING UTILITIES PRIOR TO START OF WORK. ALL TREES AND SHRUBS SHALL BE MULCHED TO A MINIMUM OF 15" BEYOND THE EDGE OF THE ROOT BALL. SHRUBS MASSES SHALL BE PLANTED IN CONTINUOUS MULCH BEDS. ALL WIRE, PLASTIC AND TWINE TIES SHALL BE REMOVED FROM TOP OF THE ROOT BALL.

PLANT STANDARDS

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

CHANGES MAY IMPACT REQUIRED CERTIFICATION

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

LANDSCAPE SPECIFICATIONS

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

SPECIAL PROVISIONS TO LCA STANDARD SPECIFICATIONS

CONTRACTOR IS ENCOURAGED TO PERFORM SOIL TESTING. TEST RESULTS SHALL BE SUBMITTED 30 DAYS BEFORE PLANTING. FAILURE TO PERFORM TESTING WILL NOT VOID GUARANTEE PROVISIONS.

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

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

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPE TREES, IN THE AMOUNT OF "$61,650.00", IS PART OF THE DEVELOPER'S AGREEMENT.

*PLANTS PROVIDED CALCULATION

SHADE TREES	162 @ 300.00	=	48,600
EVERGREEN TREES	71 @ 150.00	=	10,650
SHRUBS	80 @ 30.00	=	2,400
	TOTAL		$61,650.00

△3

SCHEDULE - PERIMETER LANDSCAPE EDGE	
CATEGORY	PERIMETER 1A
LANDSCAPE TYPE	E
LINEAR FEET OF ROADWAY FRONTAGE	271
CREDIT OF EXISTING VEGETATION	NO
CREDIT FOR WALL FENCE, OR BERM	NO
NUMBER OF PLANTS REQUIRED: SHADE TREES / EVERGREEN TREES / SHRUBS	7 / 0 / 68
NUMBER OF PLANTS PROVIDED: SHADE TREES / EVERGREEN TREES / SHRUBS	7 / 7 / 70
SUBSTITUTION CREDITS	0

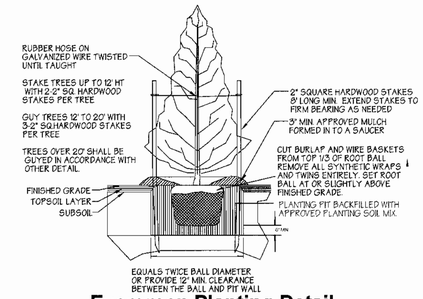
Schedule A - Perimeter Landsape Edge

Category	Perimeter 1	Perimeter 2	Perimeter 3	Perimeter 4	Perimeter 5
Landscape Type	B	C	E	E	E
Linear Feet of Roadway Frontage	209 △2	680	940	715	1,065
Credit for Existing Vegetation	no	no	no	no	no
Credit for Wall, Fence, or Berm	no	no	* yes	* yes	* yes
Number of Plants Required: Shade Trees / Evergreen Trees / Shrubs	4 / 5 / 0 △2	17 / 34 / 0	24 / 0 / * 235	18 / 0 / * 178	27 / 0 / * 266
Number of Plants Provided: Shade Trees / Evergreen Trees / Shrubs	4 / 5 / 0 △2	17 / 34 / 0	24 / 0 / 0	18 / 0 / 80	27 / 0 / 0
Substitution Credits	0	0	*235 shrubs	*98 shrubs	*266 shrubs

* Berm or Elevation change - Parking lot is a minimum of 3' below road or 3' bermed area between parking lot & road

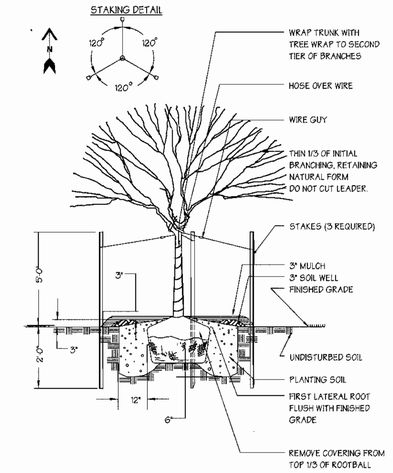
Plant Legend

Symbol	Qty.	Plant Name	Size
	32	Acer saccharum -Sugar Maple	2-1/2-3" cal.
	37	Tilia cordata 'Greenspire' - Greenspire Linden	2-1/2-3" cal.
	45	Cladrastis lutea - American Yellowood	2-1/2-3" cal.
	24	Quercus rubra - Red Oak	2-1/2-3" cal.
	47	Liquidambar styraciflua - Sweetgum	2-1/2-3" cal.
	71	Pinus strobus - White Pine	6-8'ht.
	150 △2	Pyracantha coccinea 'Mohave' - 'Mohave' Firethorn	6-8'ht.



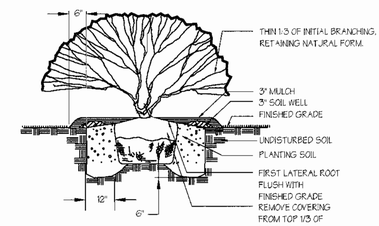
Evergreen Planting Detail

NOT TO SCALE



Tree Planting Detail

NOT TO SCALE



Shrub Planting Detail

NOT TO SCALE

Schedule D - Stormwater Management Area Landscaping

Linear Feet of Perimeter	1,010
Number of Trees Required: Shade Trees / Evergreen Trees	20 / 25
Credit for Existing Vegetation	no
Credit for Other Landscaping	no
Number of Trees Provided: Shade Trees / Evergreen Trees	20 / 25

Schedule B - Parking Lot Internal Landscaping

Number of Parking Spaces	919
Number of parking lot islands Required:	46
Number of parking lot islands Provided:	46+
Number of Trees Required	46
Number of Trees Provided: Shade Trees	46

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 INSATALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTEDTO THE DEPARTMENT OF PLANNING AND ZONING.

NAME — DATE 11/20/00

ROBB MERRITT
PRINT NAME

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

HOWARD SOIL CONSERVATION DISTRICT — DATE

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

USDA NATURAL RESOURCES CONSERVATION SERVICE — DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION & — DATE 6/1/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/13/01

DIRECTOR — DATE 6/15/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2 -	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE	TAX MAP	ELECT. DIST.	CENSUS TRACT
16192-16196	2 & 8	POR	37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

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.

PREPARED BY :

GWS

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — GEORGE W. STEPHENS, JR. — No. 11908 — REGISTERED PROFESSIONAL ENGINEER

NOTES:

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

FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF $ 61,650.00.

OWNER / DEVELOPER

MERRITT PROPERTIES L.L.C.

2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

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

REVISIONS
△1 REVISED ADDRESS CHART, PERMIT INFO. CHART AND TITLE BLOCK. REVISED SCHEDULE 'A' PERIMETER LANDSCAPE EDGE CHART BY GWS DATED 05/09/01

LANDSCAPE NOTES & DETAILS COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

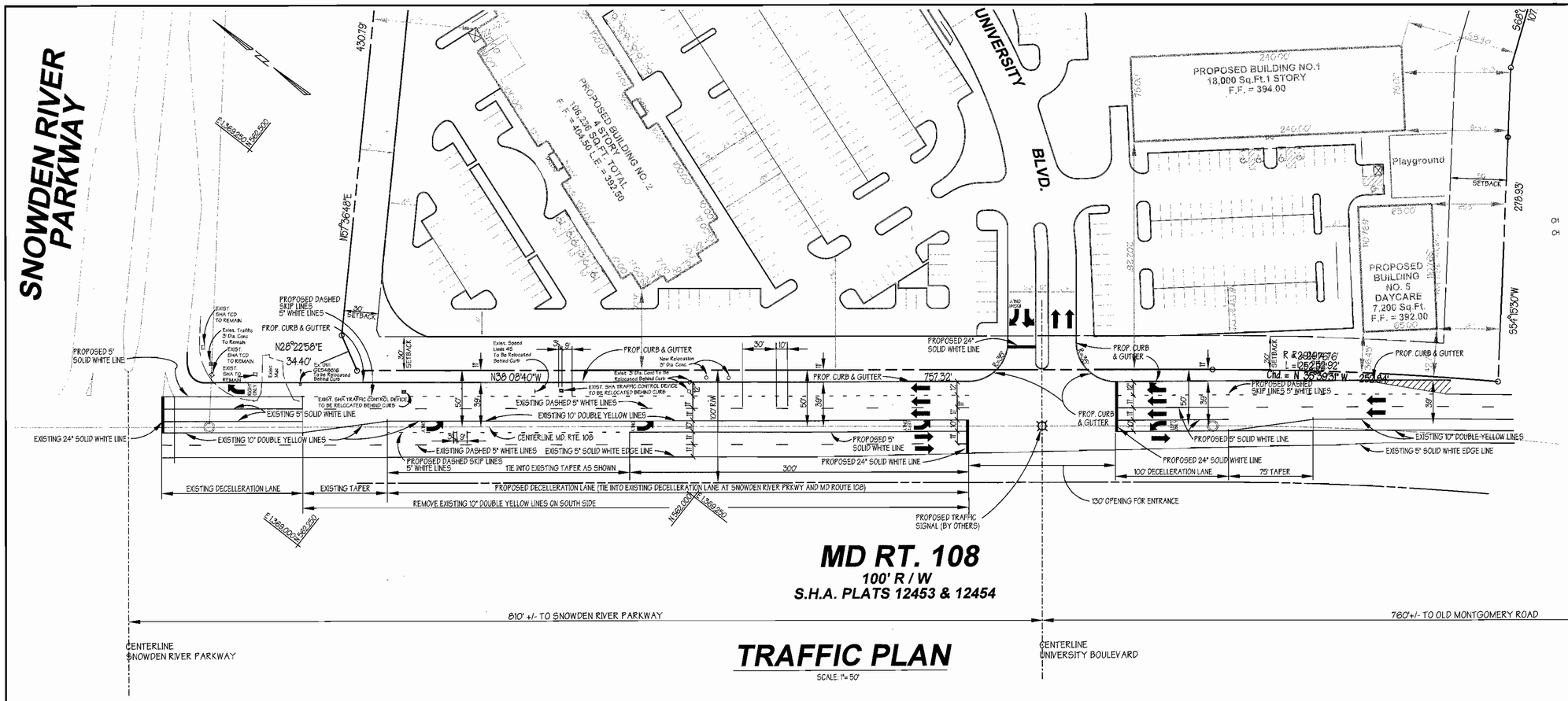
SDP 01-068

ELECTION DISTRICT : 1
HOWARD CO., MARYLAND

SCALE : As Shown
SHT. 32 OF 33 DATE : OCT. 02, 2000

SDP 01-068

NAME : 8594landscapedetails.s01 F/N : 8594



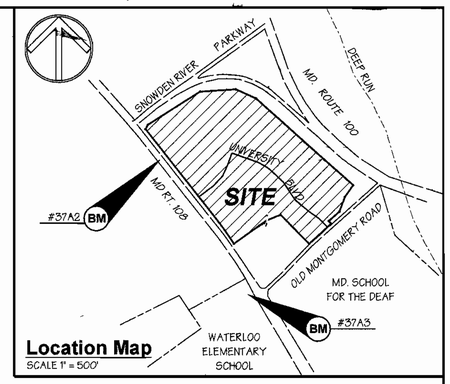
MD RT. 108

100' R / W

S.H.A. PLATS 12453 & 12454

TRAFFIC PLAN

SCALE: 1"= 50'



Location Map

SCALE 1" = 500'

Benchmarks

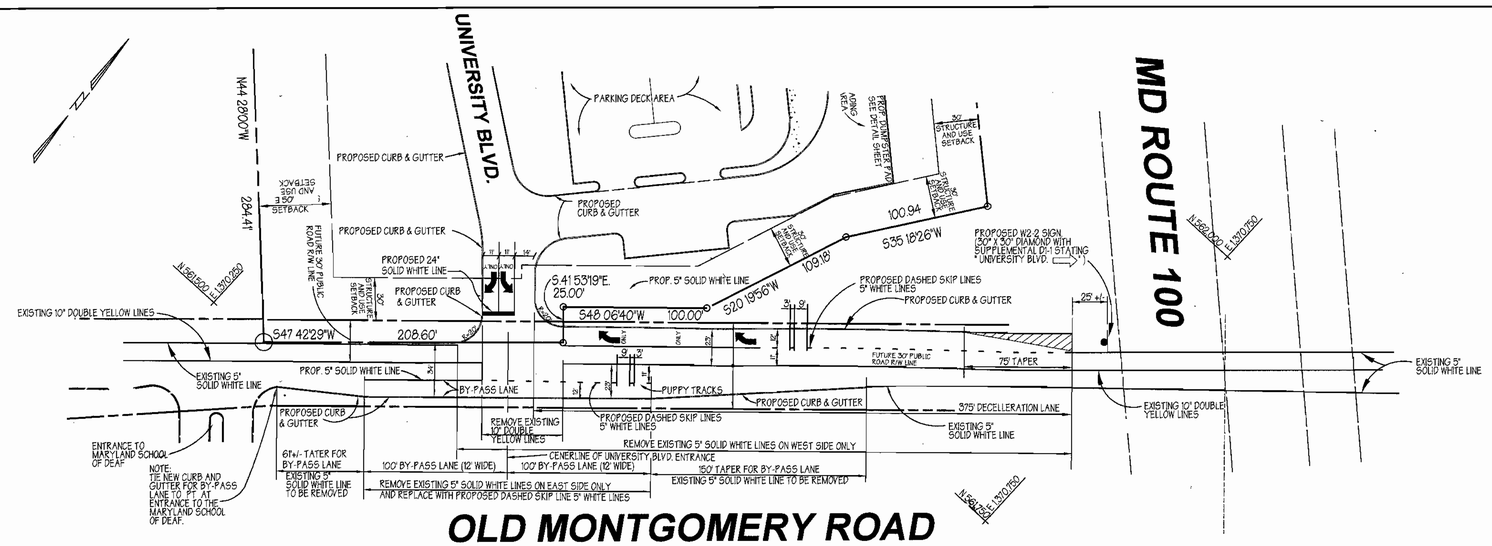
Pt. #37A2, Aka - 2643002 - Howard Co. Geodetic Control
Northing : 562120.856
Easting : 1369300.289
NAD27 datum N 501371.9, E 856882.1
Elevation : 403.675'

Pt. #37A3, Aka - 2643003 - Howard Co. Geodetic Control
Northing : 561130.803
Easting : 1369913.306
NAD27 datum N 500381.9, E 857495.1
Elevation : 385.627'

Legend

DIRECTION OF TRAFFIC ARROWS (FAINTED WHITE)

DIRECTION OF TRAFFIC ARROWS (FAINTED WHITE)



OLD MONTGOMERY ROAD

TRAFFIC PLAN

SCALE: 1"= 50'

NOTE: EXISTING PAINTED PAVEMENT MARKINGS TO BE REMOVED BY GRINDING.

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

HOWARD SOIL CONSERVATION DISTRICT — DATE

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

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/11/01

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/12/01

DIRECTOR — DATE 6/13/01

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
'A' Building No. 1	6010 University Boulevard
'B' Building No. 2	6011 University Boulevard
'C' Building No. 3	6021 University Boulevard
'D' Building No. 4	6020 University Boulevard
'A' Building No. 5	6040 University Boulevard

SUBDIVISION NAME	SECTION NAME	PARCEL #
Columbia Corporate Park 100	N/A	'A' THRU 'E'

PLAT No.	BLOCK #	ZONE FOR	TAX MAP / ZONE MAP	ELECT. DIST.	CENSUS TRACT
16192 - 16196	2 & 8		37	1	6011.02

WATER CODE E-07 — SEWER CODE 2780000

PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

STATE OF MARYLAND — GARY ALLAN MARKS — No. 11908 — REGISTERED PROFESSIONAL ENGINEER

OWNER / DEVELOPER
MERRITT PROPERTIES L.L.C.
2066 LORD BALTIMORE DRIVE
BALTIMORE, MARYLAND 21244
410-298-2600

DESIGNED BY: P.R.C., K.E., H.P.P.
DRAWN BY: K.E., H.P.P.
CHECKED BY: P.R.C.
REVISIONS
3 REVISED ADDRESS CHART, PERMIT INFO CHART AND TITLE BLOCK BY GWS DATED 05/04/04

MD ROUTE 108 & OLD MONTGOMERY ROAD PAVEMENT MARKING PLAN

COLUMBIA CORPORATE PARK 100

PARCELS 'A' THRU 'E'

SDP 01-068

ELECTION DISTRICT : 1 — SCALE : As Shown
HOWARD CO., MARYLAND — SHT. 33 OF 33 — DATE : OCT. 02, 2000

SDP 01-068

FILE NAME : 8594 reventranceplan2sha.s01 P/N : 8594