FINAL PLAN

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 & Open Space Lots 221 thru 257

AND FOREST CONSERVATION BANK

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/ BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. TRAFFIC CONTROL DEVICES:
A) THE R1-1 (STOP) SIGNS AND THE STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
B) THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
C) ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MDMUTCD).
D) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED (QUICK PUNCH), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO QUICK PUNCH HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
5. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE FOR LOCATIONS ALONG HENRY HEARN WAY, CYPRESS WAY, AND FENNEL WAY. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.
6. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III, SECTION 5.5.A. A MINIMUM OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
7. PROPERTY IS ZONED R-ED PER THE 2-2-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING AMENDMENTS EFFECTIVE 7-28-06.
8. PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: SP-10-005, PB390, WP-11-076
9. SITE ANALYSIS:
TOTAL AREA OF SITE: .... 127.60 ACRES±
AREA OF 100 YR. FLOODPLAIN: .... 6.11 ACRES±
AREA OF STEEP SLOPES (OUTSIDE OF FLOODPLAIN): .... 11.40 ACRES±
AREA OF PROPOSED ROADWAY (PUBLIC): .... 14.38 ACRES±
NO. OF SINGLE FAMILY DETACHED LOTS: 171
AREA OF SINGLE FAMILY DETACHED LOTS: .... 41.11 ACRES±
NO. OF SINGLE FAMILY ATTACHED LOTS: 49
AREA OF SINGLE FAMILY ATTACHED LOTS: .... 2.36 ACRES±
TOTAL NUMBER OF LOTS: 220
NO. OF OPEN SPACE LOTS 37
AREA OF OPEN SPACE: .... 69.74 ACRES±
AREA OF NON-CREDITED OPEN SPACE .... 2.18 ACRES±
10. TOTAL APPROXIMATE LIMIT OF PROP. SITE DISTURBANCE: .... 83.2 ACRES
11. OPEN SPACE REQUIREMENTS:
(MINIMUM OPEN SPACE REQUIREMENT FOR PROJECT IN R-ED ZONING IS 50%)
TOTAL OPEN SPACE REQUIRED: .... 63.80 ACRES±
TOTAL OPEN SPACE PROVIDED: .... 69.74 ACRES± (54.7% OF GROSS)
RECREATIONAL OPEN SPACE REQUIRED: .... 1.63 ACRES±
RECREATIONAL OPEN SPACE PROVIDED: .... 6.75 ACRES±
12. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN PROCESSED.
13. THE SCENIC ROADS MAP INDICATES THAT GORMAN ROAD IS A SCENIC ROAD.
14. THE HISTORIC SITE HO-237 (THE STANSFIELD HOUSE), EXISTED ON THIS SITE IN THE VICINITY OF LOT 117. A DEMOLITION PERMIT FOR THIS HOUSE WAS ISSUED BY HOWARD COUNTY.
15. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY BENCHMARKS 47DC AND 47EB WERE USED FOR THIS PROJECT.
16. BOUNDARY INFORMATION IS FROM BOUNDARY SURVEYS BY GUTSCHICK, LITTLE, AND WEBER, P.A., DATED MARCH 2009.
17. SOILS DATA WAS TAKEN FROM THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND ISSUED MARCH, 2008.
18. CONTOURS SHOWN WERE TAKEN FROM AERIAL TOPOGRAPHY PREPARED BY MCKENZIE-SNYDER DURING DECEMBER, 2008.
19. WETLAND DELINEATION BY EXPLORATION RESEARCH, INC. IN A REPORT DATED APRIL, 2009. THE WETLAND AND STREAM DELINEATION WAS APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING ON JUNE 23, 2010.
20. THE 100-YEAR FLOODPLAIN LIMITS FOR THE STREAM ALONG THE NORTHERN BOUNDARY OF THE SITE WERE DETERMINED IN A FLOODPLAIN STUDY PREPARED BY GUTSCHICK, LITTLE AND WEBER, P.A. AS PART OF THIS SUBMISSION. THE FLOODPLAIN LIMITS FOR THE STREAM ALONG THE SOUTHERN PROPERTY BOUNDARY WERE TAKEN FROM F 01-140 (EMERSON - SECTION ONE) AND SDP 06-039 (WESTOVER GLEN). THE FLOODPLAIN LIMITS FOR THE MIDDLE PATUXENT RIVER WERE TAKEN FROM HOWARD COUNTY RECORDS.
21. A NOISE STUDY WAS PREPARED BY WILSON BALLARD DATED SEPTEMBER, 2009 AND WAS APPROVED BY DEVELOPMENT ENGINEERING DIVISION ON DECEMBER 7, 2010.
22. A TRAFFIC STUDY WAS PREPARED BY STREET TRAFFIC STUDIES IN A REPORT DATED APRIL, 2009 AND WAS APPROVED BY DEVELOPMENT ENGINEERING DIVISION IN JUNE, 2010.
23. THE GEO-TECHNICAL REPORT WAS PREPARED BY GEO-TECHNOLOGY ASSOCIATES, INC DATED APRIL 19, 2013.
24. EXISTING UTILITIES WERE TAKEN FROM AVAILABLE HOWARD COUNTY RECORDS.
25. THE PROJECT IS WITHIN THE METROPOLITAN DISTRICT.
26. WATER AND SEWER ARE PUBLIC PER CONTRACT NOS. 24-4691-D, 24-4811-D, 24-4812-D, 24-4813-D, 24-4814, & 24-4815-D
EXISTING CONTRACT NUMBERS: WATER: 44-1315-D
SEWER: 721-S AND 34-3832-D
27. THE FOLLOWING STREAM BUFFERS HAVE BEEN PROVIDED:
PERENNIAL STREAM= 75' BUFFER
INTERMITTENT STREAM = 50' BUFFER
THE STREAM BUFFERS ARE MEASURED FROM THE STREAM BANKS AND NOT THE CENTERLINE.
28. STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MDE STORMWATER DESIGN MANUAL. BASED ON TABLE 5.3, THIS SITE HAS A TARGET PE OF 1.8". IN ORDER TO FULFILL THE STORMWATER MANAGEMENT REQUIREMENTS A COMBINATION OF ROOFTOP DISCONNECT (N-1), SHEET FLOW TO BUFFER (N-3), DRY WELLS (M-5), RAIN BARRELS (M-1), POROUS PAVEMENT (A-2), GRASS SWALES (M-8), MICRO-BIORETENTION (M-6), AND A SAND FILTER (F-1) WILL BE USED. ALL OF THE ESD STORMWATER DEVICES ON BUILDABLE LOTS WILL BE PRIVATELY OWNED AND MAINTAINED. ALL MICRO-BIORETENTION FACILITIES IN A PUBLIC EASEMENT AND THE SAND FILTER WILL BE JOINTLY MAINTAINED BY HOWARD COUNTY AND THE HOA. THE HOA WILL BE RESPONSIBLE FOR THE ROUTINE MAINTENANCE FOR THE POROUS SIDEWALKS. ALL "ON-LOT" STORMWATER MANAGEMENT DEVICES SHALL BE SUBJECT TO THE RECORDATION OF A DOC.
29. ALL OF THE HOUSES, DRIVEWAYS, AND STORMWATER DEVICES SHOW ON BUILDABLE LOTS ON THIS PLAN ARE CONCEPTUAL. THIS PLAN WILL SET THE STORMWATER REQUIREMENTS FOR EACH LOT HOWEVER THE LOCATION OF THE DEVICES ON THE LOT WILL BE DETERMINED AT THE SITE PLAN STAGE.
30. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ALLOWED.
REMOVAL OF VEGETATIVE COVER OR TREES, OR PLACEMENT OF NEW STRUCTURES IS NOT PERMITTED WITHIN LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, AND 100 YEAR FLOODPLAIN AREAS, UNLESS PERMITTED UNDER AN APPROVED WAIVER PETITION OR DETERMINED TO BE ESSENTIAL OR NECESSARY BY DPZ. THE DPZ DETERMINED THAT IMPACTS TO ENVIRONMENTAL RESOURCES ARE NECESSARY IN ACCORDANCE WITH SUBSECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
31. OPEN SPACE LOTS 250 AND 227 WILL CONTAIN ACTIVE RECREATIONAL AREAS IN ACCORDANCE WITH SECTION 16.121(A)(4) OF THE SUBDIVISION REGULATIONS (5TH EDITION). THE RECREATIONAL SPACE REQUIREMENTS WILL BE MET BY PROVIDING MORE THAN THE REQUIRED AMOUNT OF OPEN SPACE LAND. NO FACILITIES ARE BEING PROPOSED AT THIS TIME.
32. THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION (WINCOPIA FARMS) ARE MET BY THE CREATION OF ELEVEN (11) FOREST CONSERVATION EASEMENTS THAT CONTAIN MORE THAN THE BREAK-EVEN POINT MINIMUM ACREAGE FOR CREDITED FOREST RETENTION.

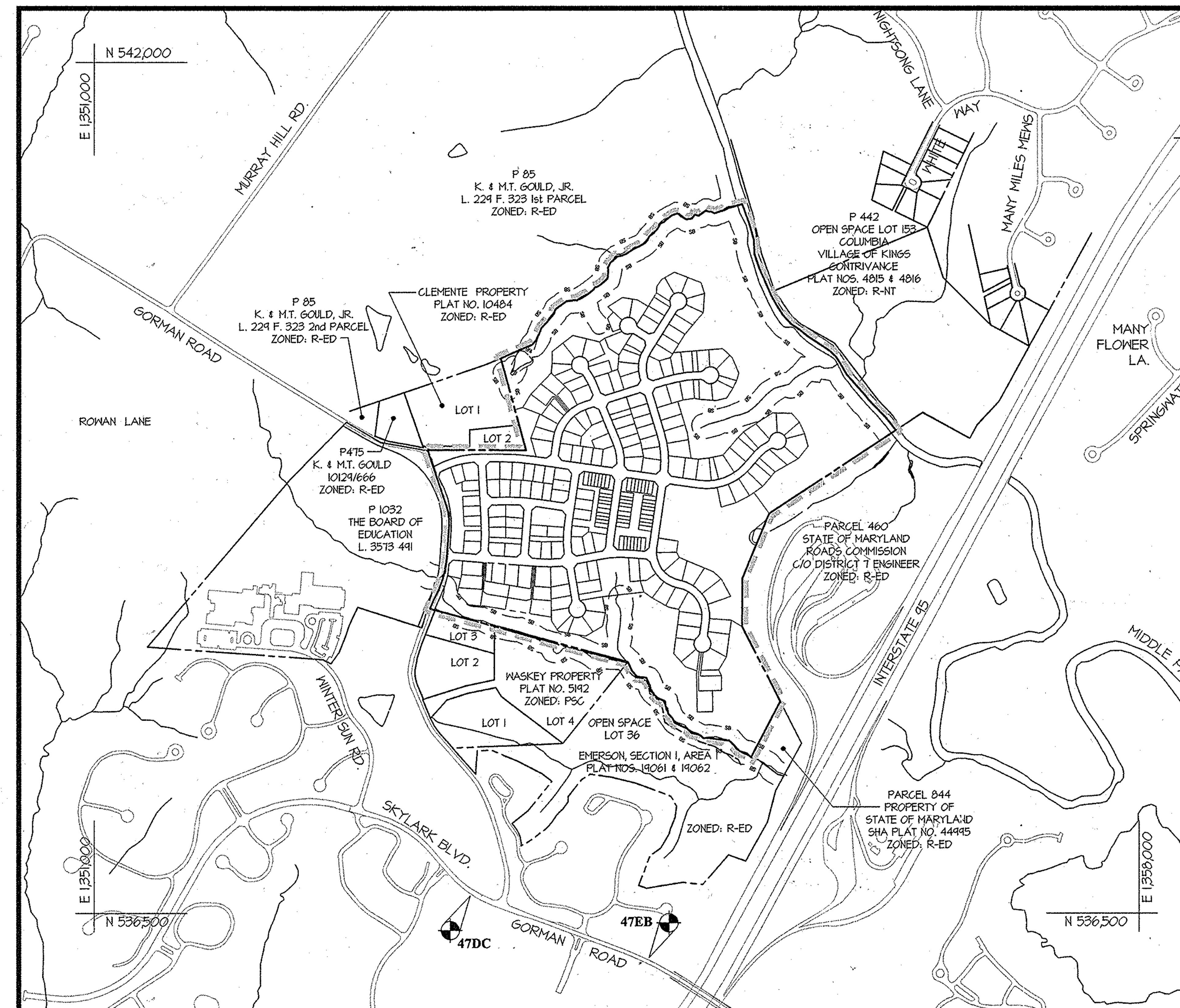
THE MAXIMUM CLEARING AREA AT THE BREAK-EVEN POINT IS 32.2± ACRES AND THE PROPOSED CLEARING AREA FOR THIS SUBDIVISION IS LESS THAN THAT AMOUNT. THE MINIMUM CREDITED FOREST RETENTION AREA AT THE BREAK-EVEN POINT IS 32.3± ACRES AND THE PROPOSED CREDITED FOREST RETENTION AREA WITHIN THE ELEVEN FCES IS 37± ACRES; THEREFORE, AN EXCESS OF CREDITED FOREST RETENTION AREA IS AVAILABLE THAT COULD BE APPLIED TO FOREST CONSERVATION OBLIGATIONS FROM OFF-SITE DEVELOPMENTS OR POSSIBLE ADDITIONAL CLEARING ON-SITE.

AS INDICATED IN THE FOREST CONSERVATION WORKSHEET SHOWN ON SHEET-68 OF THE F-13-103 DEVELOPMENT PLAN SET, THE AVAILABLE RETENTION CREDIT FOR THIS SUBDIVISION IS DEBITED BY 0.38 OF AN ACRE TO SATISFY THE FOREST CONSERVATION OBLIGATION FOR THE EXTENSION OF A PUBLIC WATER/SEWER MAIN AND APPURTENANCES INTO THE ADJACENT EMERSON PROPERTY.

THE ENTIRE FOREST CONSERVATION REQUIREMENT IS BEING MET BY RETENTION, NO FOREST CONSERVATION SURETY IS REQUIRED.
33. MINIMUM BUILDING SETBACK RESTRICTIONS FROM PUBLIC ROADS AND PROPERTY LINES WILL BE PROVIDED IN ACCORDANCE WITH THE ZONING REGULATIONS ADOPTED JULY, 2006.
34. REQUIRED PLANTING IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL FOR ALL CORNER LOTS AND SFA LOTS SHALL BE PROVIDED AT THE SITE DEVELOPMENT PLAN (SDP) STAGE. REQUIRED BUFFERING AND OTHER LANDSCAPING REQUIREMENTS/FEATURES IN THE OPEN SPACE LOTS HAVE BEEN PROVIDED IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS (AMENDED 5TH EDITION) AND THE HOWARD COUNTY LANDSCAPE MANUAL. A LANDSCAPE SURETY IN THE AMOUNT OF $21,600.00 FOR THE BUFFER PLANTING ON THE OPEN SPACE LOTS IS POSTED WITH THE F-13-103 DEVELOPER AGREEMENT (SEE SHEETS 63-65).
35. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON 04/05/2010 IN COMPLIANCE WITH SECTION 16.128 OF THE REGULATIONS.
36. THE PLANNING BOARD APPROVED SP-10-005 ON JUNE 27, 2012 (PB 390)
37. SIGNATURE APPROVAL OF THE FINAL SUBDIVISION PLAT IS SUBJECT TO THE SUBMISSION OF DOCUMENTATION TO DPZ PRIOR TO OR CONCURRENT WITH THE SUBMISSION OF THE FINAL PLAT ORIGINALS CONCERNING THE REMOVAL OF THE EXISTING DWELLING AND ALL OTHER ACCESSORY STRUCTURES LOCATED WITHIN THE PROPOSED SUBDIVISION LOTS AND ROAD RIGHT-OF-WAYS. THE DEVELOPER SHALL SUBMIT A COPY OF APPROVED DEMOLITION PERMITS, BEFORE AND AFTER PHOTOGRAPHS, OR A CERTIFIED SURVEY LOCATION PLAN ILLUSTRATING THAT ALL EXISTING STRUCTURES HAVE BEEN REMOVED FROM THE SITE PRIOR TO THE SIGNATURE APPROVAL OF THE FINAL PLAT ORIGINALS.

LOTS 44 THRU 50 ARE NON-BUILDABLE UNTIL EXISTING CELL PHONE TOWERS AND ASSOCIATED APPURTENANCES HAVE BEEN PROPERLY REMOVED. DOCUMENTATION MUST BE PROVIDED IN A REASONABLE TIME PERIOD DEMONSTRATING REMOVAL OF THE EXISTING TOWERS AND APPURTENANCES FROM THE SITE BEFORE THE LOTS ARE CONSIDERED BUILDABLE AND DPZ WILL APPROVE A SITE DEVELOPMENT PLAN FOR THE AFFECTED LOTS.

38. AT THE PLANNING BOARD HEARING FOR THE PRELIMINARY EQUIVALENT SKETCH PLAN, A CITIZEN BROUGHT UP THE TOPIC OF A POSSIBLE GRAVE SITE ON THE WINCOPIA FARM PROPERTY. THE PETITIONER TESTIFIED THAT DESPITE THE INDICATION OF A GRAVE ON THE COUNTY INVENTORY, EXTENSIVE FIELD RECONNAISSANCE DID NOT REVEAL ANYTHING. IN KEEPING WITH DPZ'S REQUIREMENT TO INVESTIGATE FURTHER PRIOR TO SUBMISSION OF THE FINALS, A GRAVESITE REPORT HAS BEEN SUBMITTED TO DPZ.
39. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
A) WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE)
B) SURFACE - 6" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1 1/2" MIN)
C) GEOMETRY - MAX. 15% GRADE, MAX 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS
D) STRUCTURE (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
E) DRAINAGE ELEMENTS - SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
F) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE
40. FLAG AND PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.



BENCHMARKS			
47DC	ELEV. 343.18	N = 536,615.00	E = 1,353,679.08
47EB	ELEV. = 354.23	N = 536,212.71	E = 1,354,833.57

LOCATION PLAN

SCALE: 1"=600'

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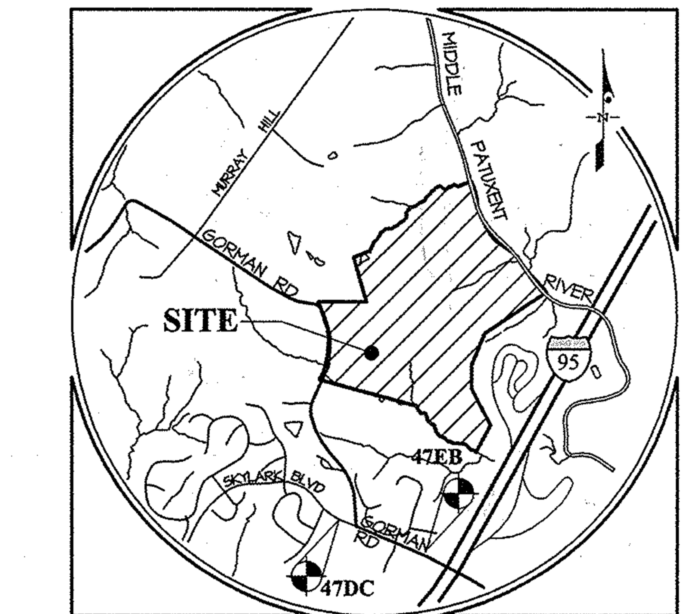

VICINITY MAP

SCALE: 1" = 2,000'

BENCHMARKS			
47DC	ELEV. 343.18	N = 536,615.00	E = 1,353,679.08
47EB	ELEV. = 354.23	N = 536,212.71	E = 1,354,833.57

ADC MAP: 40 GRID: B-3

LEGEND

- EXISTING CONTOUR (400)
- PROPOSED CONTOUR (400)
- EXISTING TREELINE
- EXISTING SANITARY SEWER (EX. 8"S.)
- PROPOSED SANITARY SEWER (8"S.)
- EXISTING WATERLINE (EX. 8"W.)
- PROPOSED WATERLINE (8"W.)
- PROPOSED FIRE HYDRANT
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- STRUCTURE NUMBER (M 202)
- LIMIT OF SITE
- CONCRETE SIDEWALK
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVEMENT
- PROPOSED CURB AND GUTTER
- 100 YEAR FLOODPLAIN (FP)
- LIMIT OF WETLAND
- WETLAND AREA
- STREAM / BANK BUFFER (SB)
- WETLAND BUFFER (WB)
- FOREST CONSERVATION EASEMENT (FCE)
- STREAM BANK
- CENTERLINE OF STREAM
- STEEP SLOPES - 25% AND GREATER
- PROPOSED STREET LIGHT
- EXISTING EASEMENTS
- PROPOSED EASEMENTS
- PROPOSED BUILDING RESTRICTION LINE (25' BRL)

SINGLE FAMILY ATTACHED PARKING ANALYSIS

NUMBER OF SINGLE-FAMILY ATTACHED LOTS = 49

REQUIRED PARKING (@ 2 SPACES PER UNIT) = 98 SPACES
REQUIRED OVERFLOW PARKING (@ 0.3 SPACES PER UNIT) = 15 SPACES

TOTAL REQUIRED SPACES = 113 SPACES

PARKING PROVIDED:

2 SPACES/UNIT (GARAGE & DRIVEWAY) = 98 SPACES
OVERFLOW PARKING (ON STREET) = 28 SPACES

TOTAL PROVIDED: = 126 SPACES

*SEE SINGLE FAMILY ATTACHED OVERFLOW PARKING EXHIBIT ON FILE WITH SP-10-005

SITE ANALYSIS CHART

HO. CO. FILE NO.	GROSS ACREAGE	100 YR FLOODPLAIN	STEEP SLOPE AREAS	NET ACREAGE	SFD ACREAGE (% OF GROSS AC.)	SFA ACREAGE (% OF GROSS AC.)	OPEN SPACE REQUIRED (50% OF GROSS AC.)	OPEN SPACE PROVIDED (% OF GROSS AC.)	PUBLIC R/W (% OF GROSS AC.)	NON-CREDITED OPEN SPACE AREAS (% OF GROSS AC.)	LIMIT OF DISTURBANCE AREAS (% OF GROSS AC.)
SP-10-005/ F-13-103	127.60	6.11	11.40	110.09	41.11 (32.2%)	2.36 (1.8%)	63.80	69.74 (54.7%)	14.38 (11.3%)	2.18 (1.7%)	83.2 (65.2%)

UNIT DENSITY TABULATION

HO. CO. FILE NO.	ZONING	SITE ACREAGE: GROSS	100 YR FP	STEEP SLOPES	NET	REQUIRED /MAXIMUM No. OF UNITS: MAX. UNIT DENSITY ALLOWED	MAX. UNITS ALLOWED	PROVIDED No. OF UNITS: SFD PROVIDED	SFA PROVIDED	TOTAL
SP-10-005/ F-13-103	RE-D	127.60	6.11	11.40	110.09	2.0 UNITS / NET ACRE	220	171	49	220

LOT INFORMATION

Lot Type	Lots	Minimum Lot Size	Min. Lot Width at Front BRL
Single Family Detached	1-130 and 180-220	6,000 Square Feet	50'
Single Family Attached	131-179	———	———

RECREATIONAL OPEN SPACE CHART

Type	CRITERIA	REQUIRED	PROVIDED	WHERE PROVIDED
RECREATIONAL OPEN SPACE	400 SF PER SFA LOT X 49 LOTS	19,600 SF (0.45 Ac.)	---	---
" "	300 SF PER SFD LOT X 171 LOTS	51,300 SF (1.18 Ac.)	---	---
TOTAL	---	70,900 SF (1.63 Ac.)	6.75 Ac.	OS LOTS 227 AND 250

MINIMUM LOT SIZE CHART

LOT NUMBER	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
2	12,695 s.f.	540 s.f.	12,155 s.f.
3	14,913 s.f.	1,050 s.f.	13,863 s.f.
4	14,552 s.f.	1,124 s.f.	13,428 s.f.
5	13,604 s.f.	722 s.f.	12,882 s.f.
9	12,404 s.f.	885 s.f.	11,519 s.f.
10	14,099 s.f.	1,290 s.f.	12,809 s.f.
11	14,847 s.f.	1,290 s.f.	13,557 s.f.
12	10,841 s.f.	777 s.f.	10,064 s.f.
32	16,536 s.f.	3,036 s.f.	13,500 s.f.
33	15,839 s.f.	1,874 s.f.	13,965 s.f.
102	12,484 s.f.	1,005 s.f.	11,479 s.f.
103	11,788 s.f.	1,245 s.f.	10,543 s.f.
104	12,692 s.f.	1,940 s.f.	10,752 s.f.

SETBACK REQUIREMENTS

SETBACK TYPE	SETBACK: SINGLE FAMILY DETACHED	SINGLE FAMILY ATTACHED
PROJECT BOUNDARY	30'	50'
EXTERNAL PUBLIC R/W	75'	75'
FRONT/SIDE ON INTERNAL PUBLIC R/W	20'	20'
FRONT (PRINCIPAL STRUCTURE)	20'	N/A
SIDE (PRINCIPAL STRUCTURE)	7.5'	N/A
REAR (PRINCIPAL STRUCTURE)	25'	N/A
FACE TO FACE	N/A	30'
FACE TO SIDE / REAR TO SIDE	N/A	30'
SIDE TO SIDE	N/A	15'
REAR TO REAR	N/A	60'
REAR TO FACE	N/A	100'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] 12-9-13
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[signature] 12-20-13
Chief, Division of Land Development — Date

[signature] 12·17·13
Chief, Development Engineering Division — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-CS.dwg	DES. dds	DRN. dds	CHK.

DATE	REVISION	BY	APP'R.
1/9/2015	Lots 202-207 Revised ⚠1	gt.	

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: May 26, 2014

11-18-13 [signature]

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

ELECTION DISTRICT No. 6

COVER SHEET

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263, &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	1 OF 71

F-13-103

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CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD	STATION	OFFSET	ELEV.
(43)	GORMAN ROAD	111+13.95	21.50'R	378.28
(44)	WINCOPIA FARMS WAY	0+32.13	18.38' L	376.84
(45)	WINCOPIA FARMS WAY	0+48.19	14' L	377.01
(46)	WINCOPIA FARMS WAY	1+79.90	14' L	366.30
(47)	WINCOPIA FARMS WAY	7+97.58	21.32' L	366.65
(48)	FENNEL WAY	0+39.00	13' L	366.01
(49)	FENNEL WAY	0+39.00	13' R	366.01
(50)	WINCOPIA FARMS WAY	8+38.22	21.32' L	366.88
(51)	WINCOPIA FARMS WAY	8+55.40	14' L	367.74
(52)	WINCOPIA FARMS WAY	12+11.30	14' L	364.27
(53)	WINCOPIA FARMS WAY	12+30.19	22.48' L	362.85
(54)	BLUEBELL WAY	0+41.87	13' L	361.42
(55)	BLUEBELL WAY	0+36.72	13' R	361.51
(56)	WINCOPIA FARMS WAY	12+66.86	25.04' L	361.43
(57)	WINCOPIA FARMS WAY	12+87.60	14' L	360.43
(76)	WINCOPIA FARMS WAY	12+84.30	14' R	360.34
(77)	WINCOPIA FARMS WAY	12+73.30	19.79' R	361.58
(78)	CYPRESS WAY	4+41.98	14' R	361.38

CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD	STATION	OFFSET	ELEV.
(79)	CYPRESS WAY	4+41.98	14' L	361.38
(80)	WINCOPIA FARMS WAY	12+28.98	21.30' R	362.83
(81)	WINCOPIA FARMS WAY	12+11.30	14' R	364.27
(82)	WINCOPIA FARMS WAY	10+06.30	14' R	370.33
(83)	WINCOPIA FARMS WAY	9+88.62	21.32' R	369.58
(84)	PEONY LANE	0+39.00	13' L	368.83
(85)	PEONY LANE	0+39.00	13' R	368.83
(86)	WINCOPIA FARMS WAY	9+47.98	21.32' R	369.43
(87)	WINCOPIA FARMS WAY	9+30.30	14' R	369.23
(88)	WINCOPIA FARMS WAY	3+90.71	14' R	373.45
(89)	WINCOPIA FARMS WAY	3+73.56	21.81' R	374.35
(10)	BALSAM WAY	6+10.95	12' R	373.99
(11)	BALSAM WAY	6+13.93	12' L	374.05
(12)	WINCOPIA FARMS WAY	3+32.11	21.71' R	375.16
(13)	WINCOPIA FARMS WAY	3+13.09	14' R	376.27
(14)	WINCOPIA FARMS WAY	0+62.22	14' R	377.43
(15)	WINCOPIA FARMS WAY	0+35.51	24.52' R	375.72
(16)	GORMAN	110+24.72	21.50' R	374.00

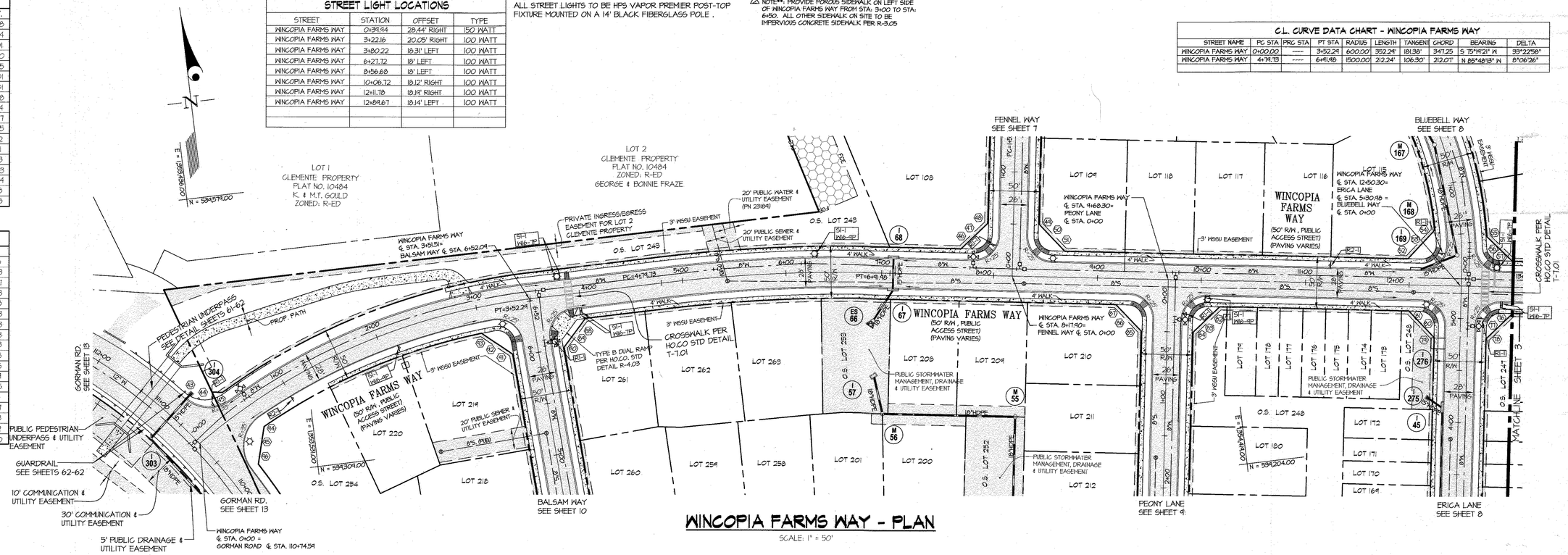
STREET LIGHT LOCATIONS

STREET	STATION	OFFSET	TYPE
WINCOPIA FARMS WAY	0+39.94	28.44' RIGHT	150 WATT
WINCOPIA FARMS WAY	3+22.16	20.05' RIGHT	100 WATT
WINCOPIA FARMS WAY	3+80.22	18.31' LEFT	100 WATT
WINCOPIA FARMS WAY	6+21.72	18' LEFT	100 WATT
WINCOPIA FARMS WAY	8+56.68	18' LEFT	100 WATT
WINCOPIA FARMS WAY	10+06.72	18.12' RIGHT	100 WATT
WINCOPIA FARMS WAY	12+11.78	18.14' RIGHT	100 WATT
WINCOPIA FARMS WAY	12+89.67	18.14' LEFT	100 WATT

NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE .

⚠ NOTE**: PROVIDE POROUS SIDEWALK ON LEFT SIDE OF WINCOPIA FARMS WAY FROM STA: 3+00 TO STA: 6+50. ALL OTHER SIDEWALK ON SITE TO BE IMPERVIOUS CONCRETE SIDEWALK PER R-3.05

C.L. CURVE DATA CHART - WINCOPIA FARMS WAY									
STREET NAME	PC STA	PRC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
WINCOPIA FARMS WAY	0+00.00	-----	3+52.24	600.00'	352.24'	181.38'	347.25'	S 75°49'21" W	33°37'58"
WINCOPIA FARMS WAY	4+79.73	-----	6+41.98	1500.00'	212.24'	106.30'	212.01'	N 85°48'13" W	8°06'26"



WINCOPIA FARMS WAY - PLAN

SCALE: 1" = 50'

NOTES:
1. ALL PROPOSED PAVEMENT IS TO BE HOWARD COUNTY P-3 PAVEMENT. SEE SHEET 17 FOR PAVEMENT SECTION DETAIL.
2. SEE SHEET 63-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO 7" CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06 OR CURB TRANSITION AT DRIVEWAY APRON DETAIL ON SHEET 19 ⚠
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

LEGEND:

TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01

TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02

DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03

STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.

GROUND MOUNTED SIGN

R1-1 30 X 30 — STOP

R2-1 24 X 30 — SPEED LIMIT 25

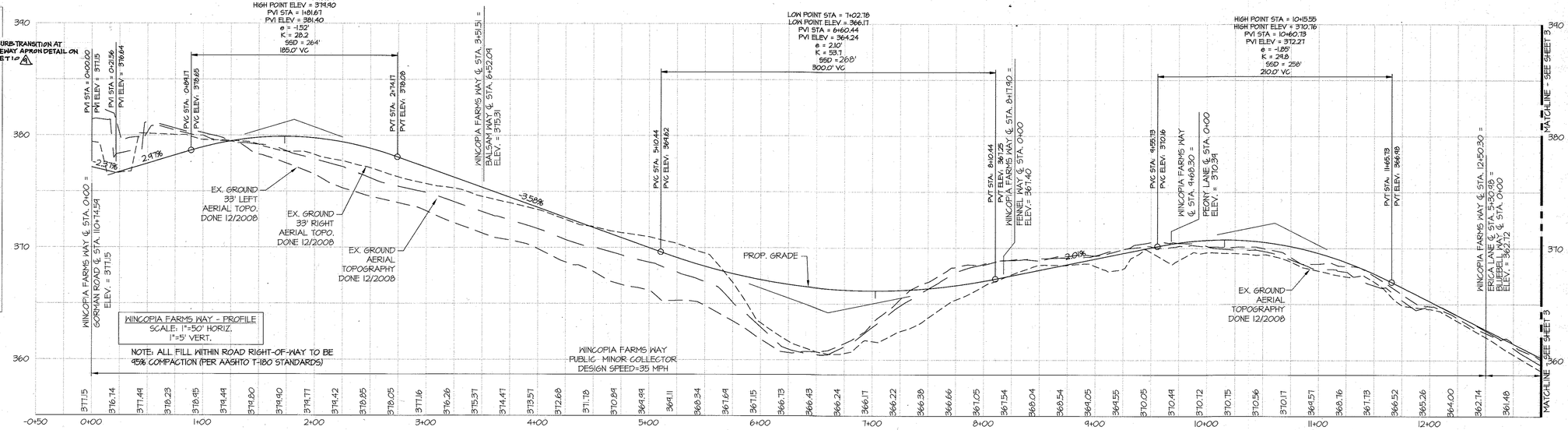
STREET LIGHT POLE MOUNTED SIGN

S1-1 30 X 30 (FYG)

W16-9P 24X12" (FYG) — AHEAD

W16-7 24X12 (FYG)

0 10 25 50 100
1 inch = 50 ft.



WINCOPIA FARMS WAY - PROFILE

SCALE: (H) 1" = 50'
(V) 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 3-16-2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 4-23-15
Chief, Development Engineering Division — Date 4.22.15

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-RoodA.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.
10-21-2016	⚠ Note revised	JT	DDS
02/2015	SIDEWALK REVISED ⚠		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2016
2/25/15

REVISED WINCOPIA FARMS WAY - PLAN AND PLOT

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
FEB., 2015	47-3	2 OF 71

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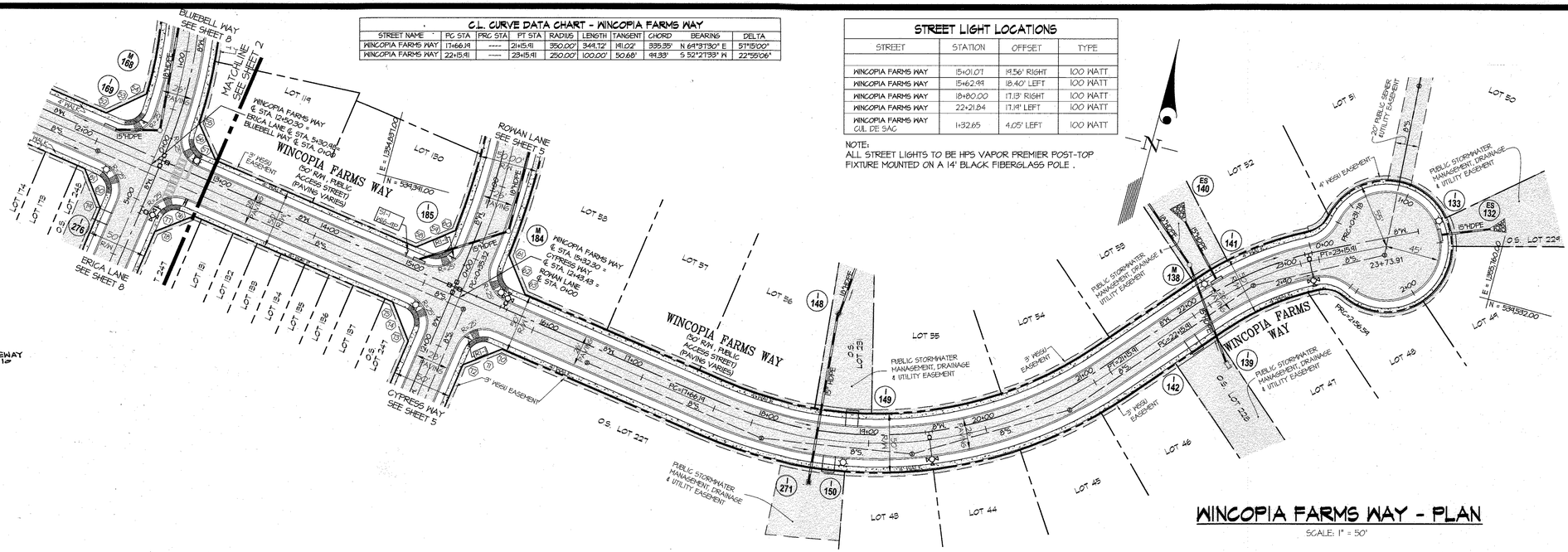
F-13-103

CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(58)	WINCOPIA FARMS WAY	14+44.29	14' L	350.02
(59)	WINCOPIA FARMS WAY	15+12.03	21.38' L	348.34
(60)	ROWAN LANE	0+34.25	13' L	346.75
(61)	ROWAN LANE	0+37.84	13' R	346.81
(62)	WINCOPIA FARMS WAY	15+53.12	19.83' L	347.32
(63)	WINCOPIA FARMS WAY	15+70.30	13' L	346.45
(70)	WINCOPIA FARMS WAY	15+71.30	13' R	346.40
(71)	WINCOPIA FARMS WAY	15+53.62	19.85' R	347.50
(72)	CYPRESS WAY	12+04.43	14' R	347.29
(73)	CYPRESS WAY	12+04.43	14' L	347.29
(74)	WINCOPIA FARMS WAY	15+10.98	21.32' R	348.65
(75)	WINCOPIA FARMS WAY	14+93.30	14' R	350.07



C.L. CURVE DATA CHART - WINCOPIA FARMS WAY									
STREET NAME	PC STA	PRC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
WINCOPIA FARMS WAY	17+66.19	----	21+15.91	350.00'	344.72'	191.09'	335.35'	N 64°31'30" E	51°15'00"
WINCOPIA FARMS WAY	22+15.91	----	23+15.91	250.00'	100.00'	50.68'	99.33'	S 52°21'30" W	22°55'06"

STREET LIGHT LOCATIONS			
STREET	STATION	OFFSET	TYPE
WINCOPIA FARMS WAY	15+01.07	19.56' RIGHT	100 WATT
WINCOPIA FARMS WAY	15+62.99	18.40' LEFT	100 WATT
WINCOPIA FARMS WAY	18+80.00	17.13' RIGHT	100 WATT
WINCOPIA FARMS WAY	22+21.84	17.19' LEFT	100 WATT
WINCOPIA FARMS WAY CUL DE SAC	1+32.65	4.05' LEFT	100 WATT

NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE .

NOTES:
1. ALL PROPOSED PAVEMENT IS TO BE HOWARD COUNTY P-3 PAVEMENT. SEE SHEET 17 FOR PAVEMENT SECTION DETAIL.
2. SEE SHEET 65-68 FOR STREET TREE LOCATIONS.
3. TRANSITION TO 7" CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06 OR CURB TRANSITION AT DRIVEWAY APRON DETAIL ON SHEET 12
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

LEGEND:

TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01

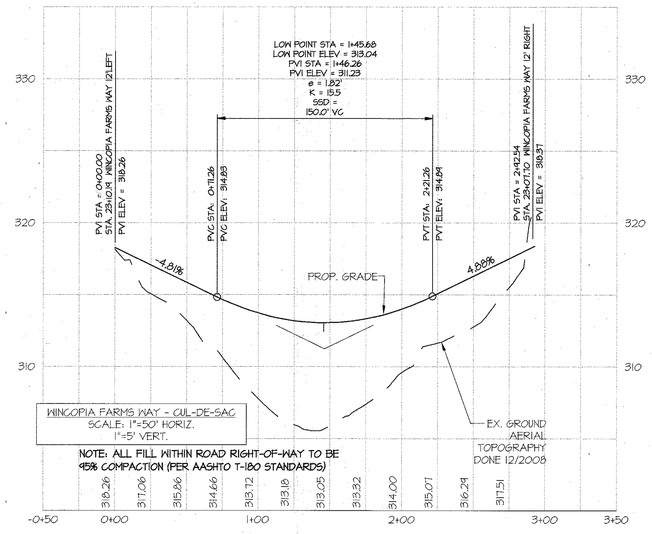
TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02

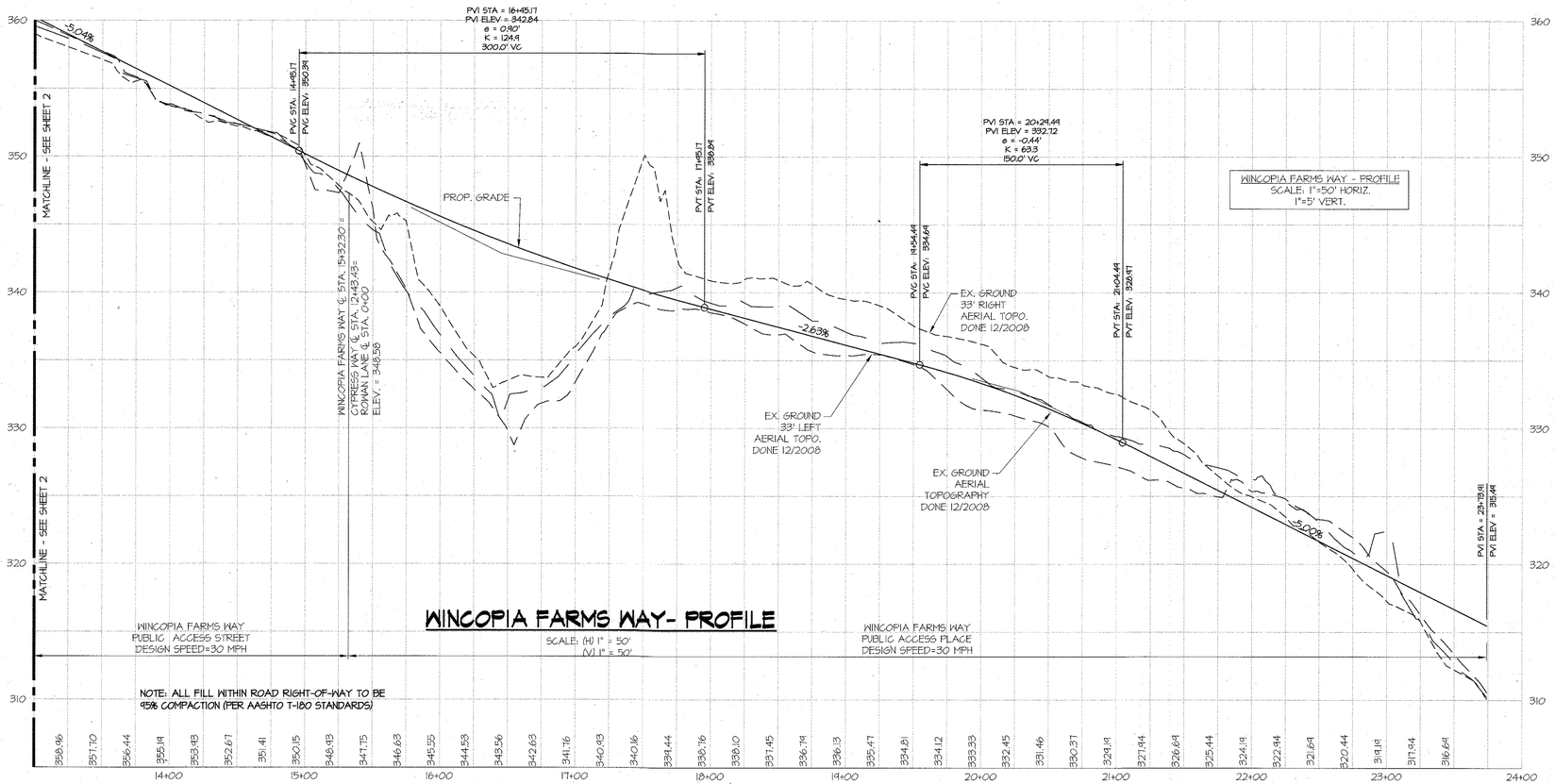
DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03

STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.

GROUND MOUNTED SIGN — R1-1 STOP 30 X 30; R2-1 SPEED LIMIT 25 24 X 30

STREET LIGHT POLE MOUNTED SIGN — R1-1 30 X 30 (FYG); W16-9p AHEAD 24X12 (FYG); W16-7 24X12 (FYG)





WINCOPIA FARMS WAY - PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.

WINCOPIA FARMS WAY - PLAN
SCALE: 1" = 50'

WINCOPIA FARMS WAY- PROFILE
SCALE: (H) 1" = 50'
(V) 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12.17.13

0 10 25 50 100
1 inch = 50 ft.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

I:\CADD\DRAWINGS\08052\FINALS\08052-RoadA.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APPR.
10.21.2016	4 Note 7 revised	gt	DDG

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2014
11-18-13

WINCOPIA FARMS WAY - PLAN & PROFILE

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	3 OF 71

F-13-103

© GLW 2013

PRIVATE STREET LIGHT LOCATIONS			
STREET	STATION	OFFSET	TYPE
HENRY HEARN WAY	0+67.00	210' RIGHT	100 WATT

NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE .

PUBLIC STREET LIGHT LOCATIONS			
STREET	STATION	OFFSET	TYPE
HENRY HEARN WAY	0+35.69	25.84' RIGHT	150 WATT
HENRY HEARN WAY	2+74.87	17.08' RIGHT	100 WATT
HENRY HEARN WAY	5+40.48	19.44' LEFT	100 WATT
HENRY HEARN WAY	7+72.58	17.30' RIGHT	100 WATT
HENRY HEARN WAY	11+04.14	19.58' RIGHT	100 WATT
CYPRESS WAY	1+35.74	17.39' RIGHT	100 WATT

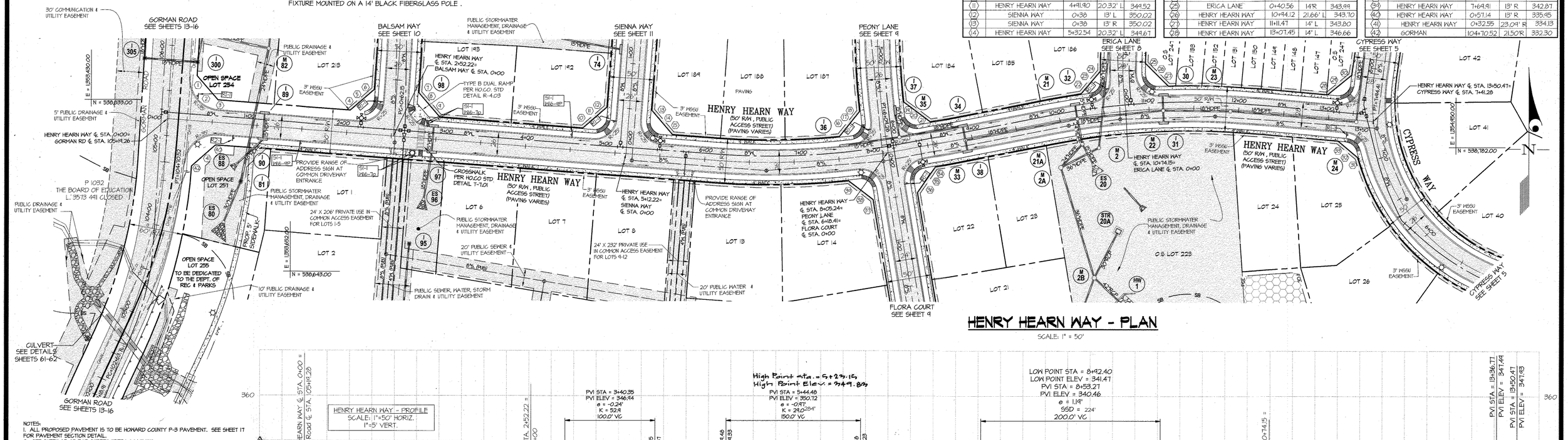
NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE .

CENTERLINE CURVE DATA - HENRY HEARN WAY								
STREET NAME	PC STA	PRC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
HENRY HEARN WAY	8+12.84	-----	8+25.66	800.00'	212.76'	107.01'	212.14'	N 86°37'04" E	15°14'17"
HENRY HEARN WAY	9+41.44	-----	12+15.34	800.00'	223.40'	112.43'	222.68'	S 81°00'00" W	16°00'00"

CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
1	GORMAN	105+65.92	21.5' R.	331.86
2	HENRY HEARN WAY	0+35.44	19.54' L	335.68
3	HENRY HEARN WAY	0+55.87	13' L.	335.91
4	HENRY HEARN WAY	2+14.22	13' L.	341.83
5	HENRY HEARN WAY	2+31.90	20.32' L	342.84
6	BALSAM WAY	0+38	13' L	343.84
7	BALSAM WAY	0+38	13' R	343.84
8	HENRY HEARN WAY	2+12.54	20.32' L	343.76
9	HENRY HEARN WAY	2+90.22	13' L.	344.67
10	HENRY HEARN WAY	4+14.22	13' L.	349.02
11	HENRY HEARN WAY	4+91.90	20.32' L	349.52
12	SIENNA WAY	0+38	13' L	350.02
13	SIENNA WAY	0+38	13' R	350.02
14	HENRY HEARN WAY	5+32.54	20.32' L	349.61

CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
15	HENRY HEARN WAY	5+50.22	13' L	349.31
16	HENRY HEARN WAY	7+65.88	13' L	342.99
17	HENRY HEARN WAY	7+84.15	20.24' L	342.42
18	PEONY LANE	5+80.83	13' R.	342.52
19	PEONY LANE	5+78.18	13' L.	342.62
20	HENRY HEARN WAY	8+26.56	20.90' L	341.99
21	HENRY HEARN WAY	8+44.74	13' L	341.35
22	HENRY HEARN WAY	10+36.86	13' L.	342.15
23	HENRY HEARN WAY	10+53.28	19.68' L	343.28
24	ERICA LANE	0+35.25	14' L	343.78
25	ERICA LANE	0+40.56	14'R	343.89
26	HENRY HEARN WAY	10+94.12	21.66' L	343.70
27	HENRY HEARN WAY	11+11.47	14' L	343.80
28	HENRY HEARN WAY	13+07.45	14' L	346.66

CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
29	HENRY HEARN WAY	13+25.14	21.39' L	347.23
30	CYPRESS COURT	1+80.85	14' L.	346.92
31	CYPRESS COURT	1+13.51	13' L	347.97
32	HENRY HEARN WAY	13+36.23	18.67' R	347.42
33	HENRY HEARN WAY	13+21.66	14' R	346.86
34	HENRY HEARN WAY	8+41.28	13' R	341.39
35	HENRY HEARN WAY	8+23.87	20.10' R	341.69
36	FLORA COURT	0+37.33	12' L	341.26
37	FLORA COURT	0+37.18	12' R	341.26
38	HENRY HEARN WAY	7+86.77	20.12' R	342.07
39	HENRY HEARN WAY	7+69.91	13' R	342.87
40	HENRY HEARN WAY	0+57.14	13' R	335.45
41	HENRY HEARN WAY	0+32.55	23.09' R	334.13
42	GORMAN	104+70.52	21.50'R	332.30



HENRY HEARN WAY - PLAN

SCALE: 1" = 50'

NOTES:
1. ALL PROPOSED PAVEMENT IS TO BE HOWARD COUNTY P-3 PAVEMENT. SEE SHEET 17 FOR PAVEMENT SECTION DETAIL.
2. SEE SHEET 63-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO 7" CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06 OR CURB TRANSITION AT DRIVEWAY APRON DETAIL ON SHEET 18
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

LEGEND:

TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01

TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02

DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03

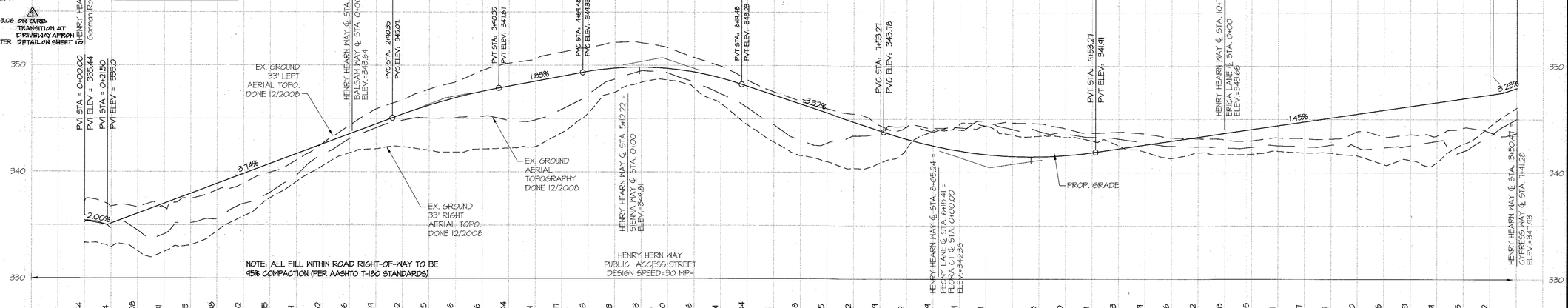
STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.

GROUND MOUNTED SIGN — R1-1 30 X 30 (STOP); R2-1 24 X 30 (SPEED LIMIT 25)

STREET LIGHT POLE MOUNTED SIGN — S1-1 30 X 30 (FYG); W16-7P 24X12 (FYG) (AHEAD); W16-7 24X12 (FYG)

0 10 25 50 100
1 inch = 50 ft.

HENRY HEARN WAY - PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.



HENRY HEARN WAY - PROFILE

SCALE: (H) 1" = 50'
(V) 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
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DATE	REVISION	BY	APP'R.
10.21.2016	4 Note 3 revised	gt	DDS

PREPARED FOR:
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8965 GUILFORD ROAD
SUITE 290
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BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 28, 2014

11-18-13

STATE OF MARYLAND — CHRISTOPHER GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

HENRY HEARN WAY - PLAN & PROFILE

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	4 OF 71

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F-13-103

STREET LIGHT LOCATIONS

STREET	STATION	OFFSET	TYPE
CYPRESS WAY CUL-DE-SAC (S)	1+29.09	4.34' LEFT	100 WATT
CYPRESS WAY	3+20.38	17.23' RIGHT	100 WATT
CYPRESS WAY	5+65.24	16.90' LEFT	100 WATT
CYPRESS WAY	7+35.74	17.39' RIGHT	100 WATT
CYPRESS WAY	9+86.09	18.09' RIGHT	100 WATT

NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE .

C.L. CURVE DATA CHART - CYPRESS WAY & ROWAN LANE

STREET NAME	PC STA	PRC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
CYPRESS WAY	1+54.20	4+72.62	------	210.00'	318.43'	198.86'	288.74'	N 36°06'22" W	86°52'45"
CYPRESS WAY	-----	4+72.62	7+44.41	210.00'	321.74'	202.07'	291.22'	S 35°58'52" E	87°47'45"
ROWAN LANE	0+55.52	-----	2+99.74	600.00'	264.42'	134.84'	262.28'	N 04°22'50" W	25°15'00"
ROWAN LANE	6+73.26	-----	8+52.85	210.00'	178.84'	95.10'	174.11'	S 07°30'00" W	49°00'00"

NOTES:
1. ALL PROPOSED PAVEMENT IS TO BE HOWARD COUNTY P-3 PAVEMENT. SEE SHEET 17 FOR PAVEMENT SECTION DETAIL.
2. SEE SHEET 63-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO "I" CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

LEGEND:

TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01

TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02

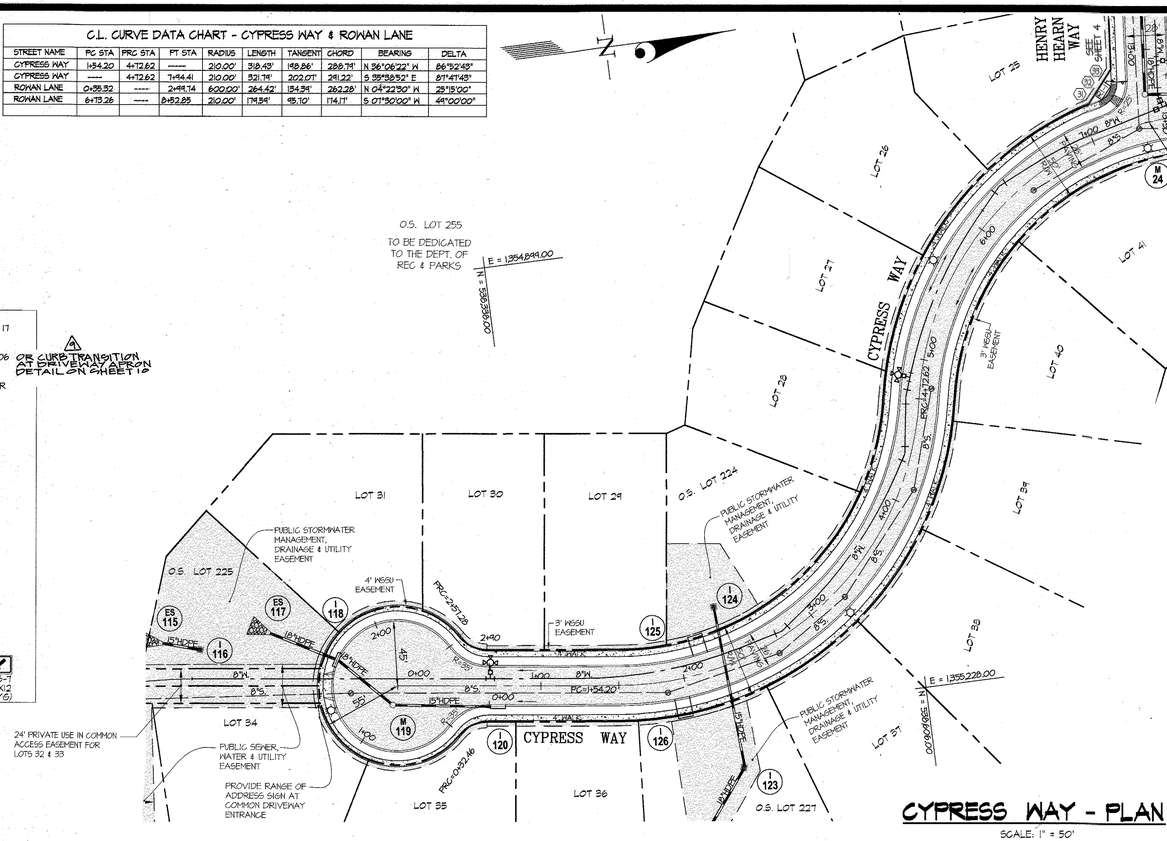
DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03

STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.

GROUND MOUNTED SIGN — R1-1 30 X 30 (STOP); R2-1 24 X 30 (SPEED LIMIT 25)

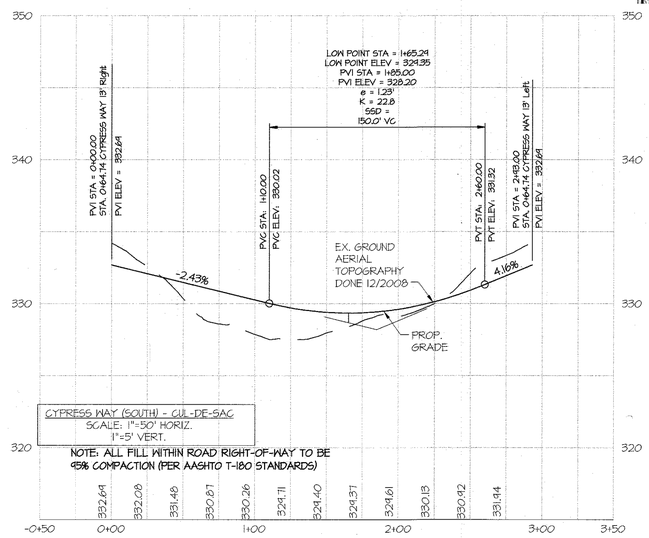
STREET LIGHT POLE MOUNTED SIGN — S1-1 30 X 30 (FY'G); W16-9P 24X12 (FY'G); W16-7 24X12 (FY'G)

(A) OR CURB TRANSITION AT DRIVEWAY AS PER DETAIL ON SHEET 18



CYPRESS WAY - PLAN

SCALE: 1" = 50'

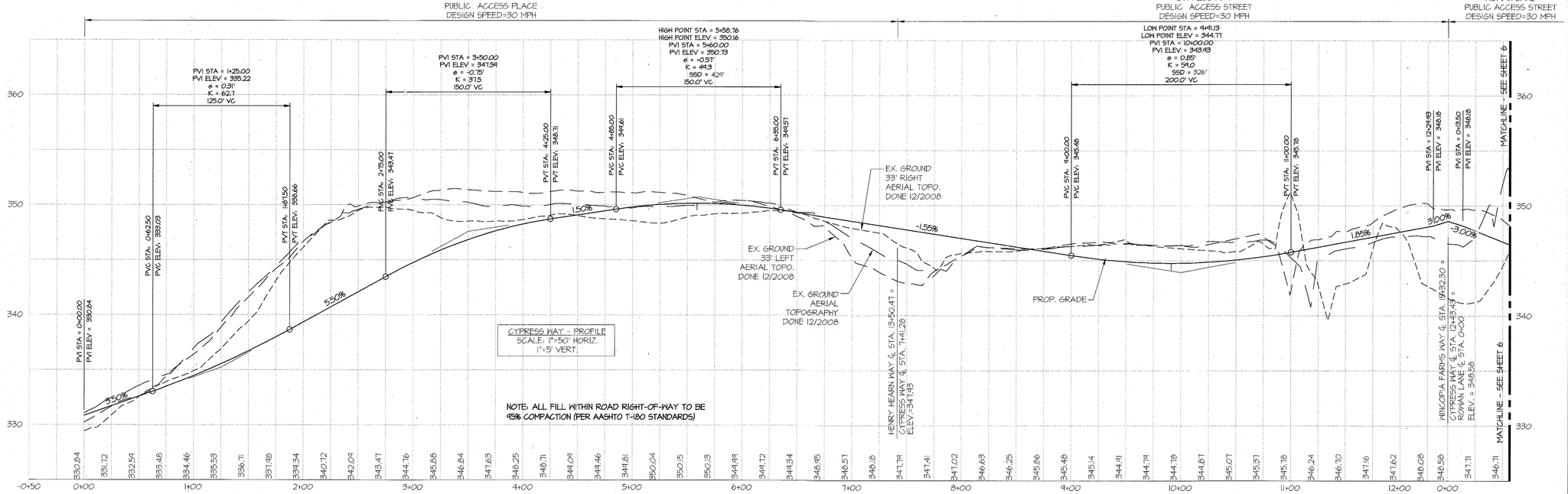


CYPRESS WAY (SOUTH) - CUL-DE-SAC
SCALE: 1"=50' HORIZ.
1"=5' VERT.

NOTE: ALL FILL WITHIN ROAD RIGHT-OF-WAY TO BE 95% COMPACTION (PER AASHTO T-180 STANDARDS)

CURB FLOW LINE ELEVATION TABLE

PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(28)	HENRY HEARN WAY	13+07.45	14' L	346.66
(29)	HENRY HEARN WAY	13+25.19	21.34' L	347.25
(30)	CYPRESS COURT	7+80.85	14' L	346.92
(31)	CYPRESS COURT	7+13.57	13' L	347.97
(32)	HENRY HEARN WAY	13+36.23	18.67' R	347.42
(33)	HENRY HEARN WAY	13+21.68	14' R	346.86
(13)	CYPRESS WAY	12+04.43	14' L	347.29
(58)	WINCOPIA FARMS WAY	14+44.29	14' L	350.02
(59)	WINCOPIA FARMS WAY	15+12.03	21.38' L	348.34
(60)	ROWAN LANE	0+39.25	13' L	346.75
(61)	ROWAN LANE	0+37.84	13' R	346.81
(62)	WINCOPIA FARMS WAY	15+53.12	19.83' L	347.32
(63)	WINCOPIA FARMS WAY	15+10.30	13' L	346.45
(10)	WINCOPIA FARMS WAY	15+11.30	13' R	346.40
(11)	WINCOPIA FARMS WAY	15+53.62	19.85' R	347.50
(12)	CYPRESS WAY	12+04.43	14' R	347.29
(13)	CYPRESS WAY	12+04.43	14' L	347.29
(14)	WINCOPIA FARMS WAY	15+10.98	21.32' R	348.65
(15)	WINCOPIA FARMS WAY	14+93.30	14' R	350.07



CYPRESS WAY - PROFILE

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

NOTE: ALL FILL WITHIN ROAD RIGHT-OF-WAY TO BE 95% COMPACTION (PER AASHTO T-180 STANDARDS)

0 10 25 50 100
1 inch = 50 ft.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-5-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12.17.13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-RoadC.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.
10-21-2016	4 Note is revised	gt	DDes

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2014.
11-18-13

CYPRESS WAY AND ROWAN LANE PLAN AND PROFILE

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	5 OF 71

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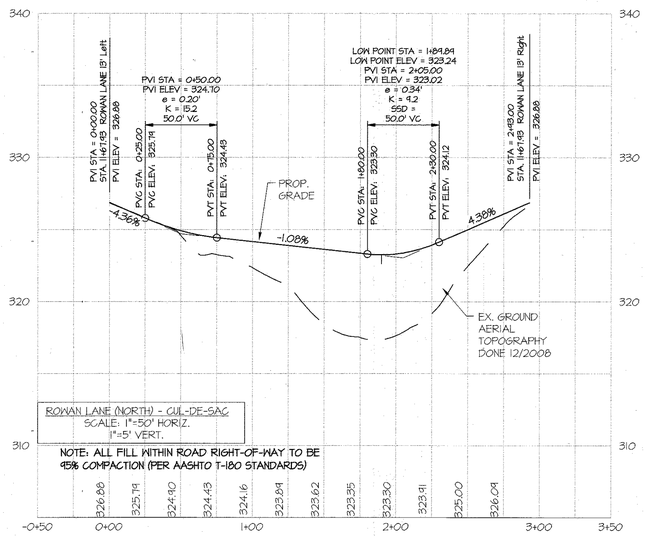
F-13-103

C.L. CURVE DATA CHART ROAD CYPRESS WAY & ROWAN LANE

STREET NAME	PC STA	PRC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
CYPRESS WAY	1+54.20	4+72.62	-----	210.00'	318.43'	198.86'	288.74'	N 36°06'22" W	86°52'43"
CYPRESS WAY	----	4+72.62	7+44.41	210.00'	321.79'	202.07'	291.22'	S 55°58'52" E	87°47'43"
ROWAN LANE	0+55.32	----	2+98.74	600.00'	264.42'	134.94'	262.28'	N 04°22'30" W	25°15'00"
ROWAN LANE	6+73.26	----	8+52.85	210.00'	178.54'	95.10'	174.17'	S 07°30'00" W	48°42'00"



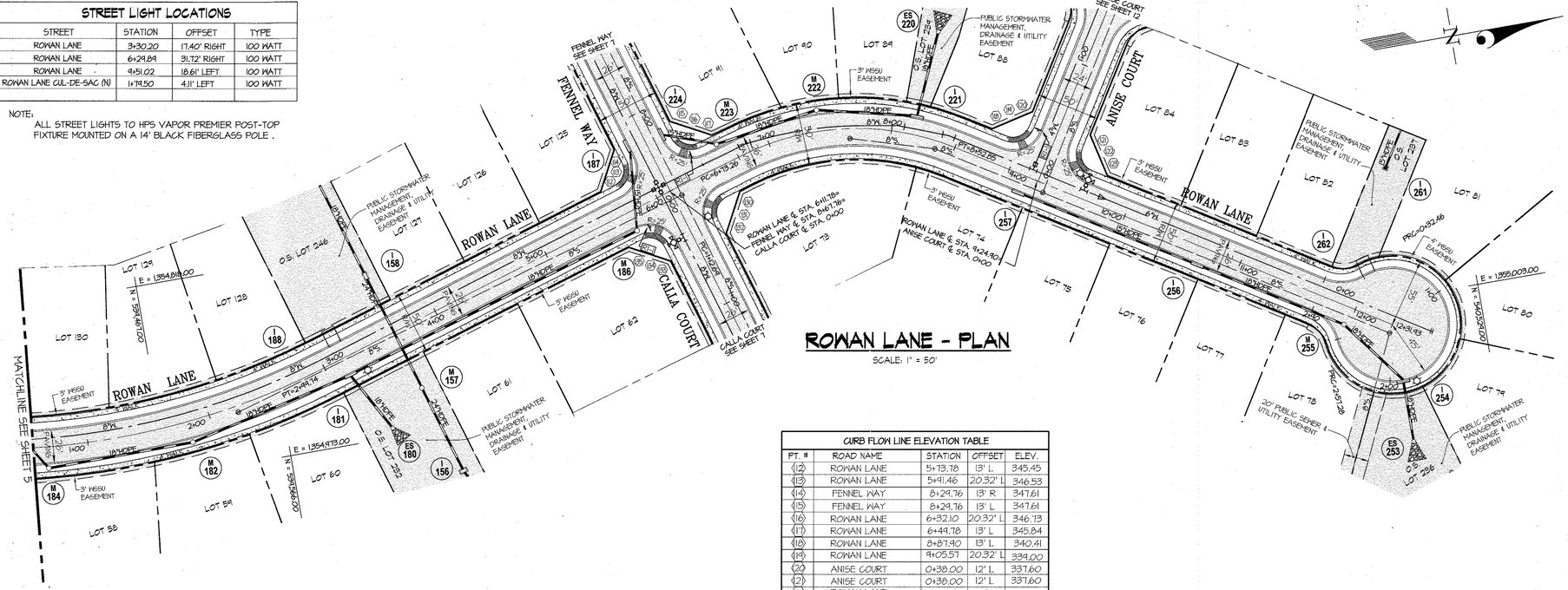
ROWAN LANE (NORTH) - CUL-DE-SAC
SCALE: 1"=50' HORIZ.
1"=5' VERT.

NOTE: ALL FILL WITHIN ROAD RIGHT-OF-WAY TO BE 95% COMPACTION (PER AASHTO T-180 STANDARDS)

STREET LIGHT LOCATIONS

STREET	STATION	OFFSET	TYPE
ROWAN LANE	3+30.20	17.40' RIGHT	100 WATT
ROWAN LANE	6+29.89	31.72' RIGHT	100 WATT
ROWAN LANE	9+51.02	18.61' LEFT	100 WATT
ROWAN LANE CUL-DE-SAC (N)	1+79.50	4.11' LEFT	100 WATT

NOTE:
ALL STREET LIGHTS TO HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE.



ROWAN LANE - PLAN

SCALE: 1" = 50'

CURB FLOW LINE ELEVATION TABLE

PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(12)	ROWAN LANE	5+73.78	13' L	345.45
(13)	ROWAN LANE	5+91.46	20.32' L	346.53
(14)	FENNEL WAY	8+29.76	13' R	347.61
(15)	FENNEL WAY	8+29.76	13' L	347.61
(16)	ROWAN LANE	6+32.10	20.32' L	346.73
(17)	ROWAN LANE	6+44.78	13' L	345.84
(18)	ROWAN LANE	8+87.90	13' L	340.41
(19)	ROWAN LANE	9+05.57	20.32' L	338.00
(20)	ANISE COURT	0+38.00	12' L	337.60
(21)	ANISE COURT	0+38.00	12' L	337.60
(22)	ROWAN LANE	9+44.22	20.32' L	338.11
(23)	ROWAN LANE	9+61.90	13' L	337.18
(30)	ROWAN LANE	6+44.78	13' R	345.84
(31)	ROWAN LANE	6+32.10	20.32' R	346.20
(32)	CALLA COURT	0+38.00	13' L	345.84
(33)	CALLA COURT	0+38.00	13' R	345.84
(34)	ROWAN LANE	5+91.46	20.32' R	346.20
(35)	ROWAN LANE	5+73.78	13' R	345.45

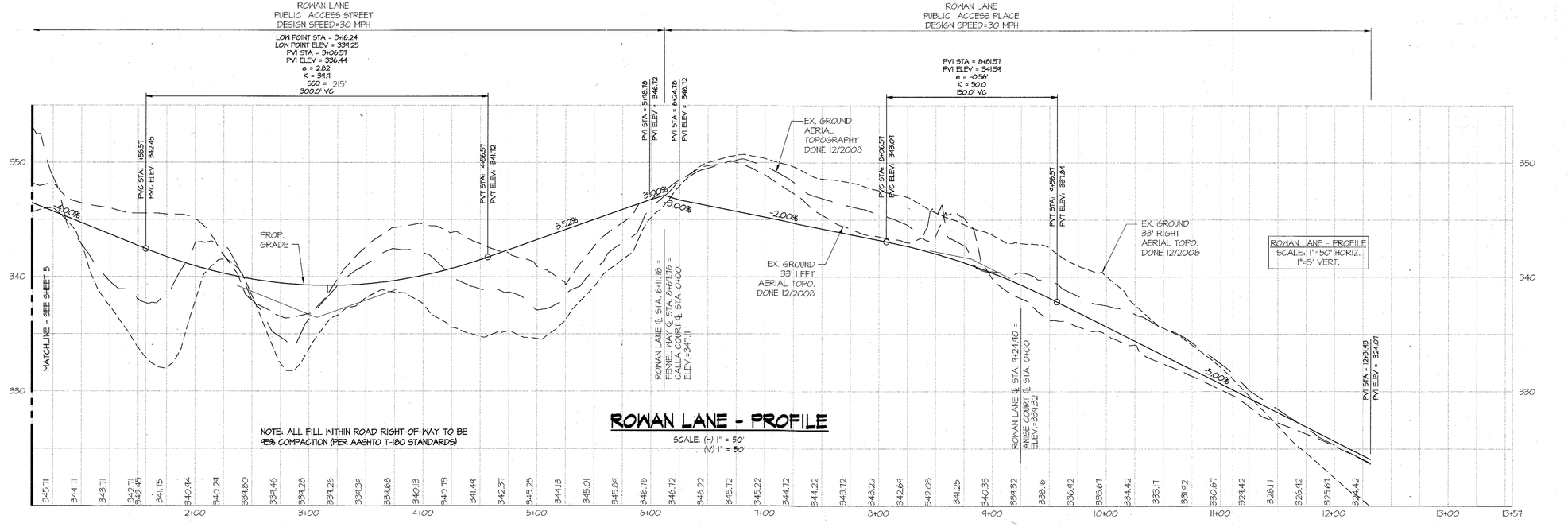
NOTES:
1. ALL PROPOSED PAVEMENT IS TO BE HOWARD COUNTY P-3 PAVEMENT. SEE SHEET 17 FOR PAVEMENT SECTION DETAIL.
2. SEE SHEET 63-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO 1' CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06.
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

LEGEND:

- TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01
- TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02
- DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03
- STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.
- GROUND MOUNTED SIGN
- STREET LIGHT POLE MOUNTED SIGN

STOP R1-1 30 X 30	SPEED LIMIT 25 R2-1 24 X 30		
SH 30 X 30 (FYG)	AHEAD W16-9P 24X12 (FYG)	W16-7 24X12 (FYG)	

4 OR CURB TRANSITION AT DRIVEWAY APRON DETAIL ON SHEET 10



NOTE: ALL FILL WITHIN ROAD RIGHT-OF-WAY TO BE 95% COMPACTION (PER AASHTO T-180 STANDARDS)

ROWAN LANE - PROFILE

SCALE: (H) 1" = 50'
(V) 1" = 50'

0 10 25 50 100
1 Inch = 50 ft.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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DATE	REVISION	BY	APP'R.
10.21.2013	4 Note 3 revised	gt	DDS

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2014
11-18-13

ROWAN LANE PLAN AND PROFILE

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	6 OF 71

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F-13-103

C.L. CURVE DATA CHART : CALLA COURT & FENNEL WAY								
STREET NAME	PC STA	PRC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
FENNEL WAY	1+52.02	----	4+62.74	275.00'	310.78'	174.55'	294.50'	S 40°37'30" W	64°45'00"
CALLA COURT	1+12.84	----	3+71.88	900.00'	254.18'	130.48'	258.24'	S 81°15'00" W	16°30'00"

STREET LIGHT LOCATIONS

STREET	STATION	OFFSET	TYPE
FENNEL WAY	3+27.22	17.13' LEFT	100 WATT
FENNEL WAY	5+81.36	17.33' LEFT	100 WATT
ROWAN LANE	6+29.84	31.12' RIGHT	100 WATT
CALLA COURT CUL-DE-SAC	1+68.54	3.45' LEFT	100 WATT
WINCOPIA FARMS WAY	8+56.68	18' LEFT	100 WATT

NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE .

CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(46)	WINCOPIA FARMS WAY	7+79.40	14' L	366.30
(47)	WINCOPIA FARMS WAY	7+97.58	21.32' L	366.65
(48)	FENNEL WAY	0+39.00	13' L	366.01
(49)	FENNEL WAY	0+39.00	13' R	366.01
(50)	WINCOPIA FARMS WAY	8+38.22	21.32' L	366.88
(51)	WINCOPIA FARMS WAY	8+55.90	14' L	367.14
(12)	ROWAN LANE	5+73.78	13' L	345.45
(13)	ROWAN LANE	5+91.46	20.32' L	346.53
(14)	FENNEL WAY	8+29.76	13' R	347.61
(15)	FENNEL WAY	8+29.76	13' L	347.61
(16)	ROWAN LANE	6+32.10	20.32' L	346.73
(17)	ROWAN LANE	6+49.78	13' L	345.84
(30)	ROWAN LANE	6+49.78	13' R	345.84
(31)	ROWAN LANE	6+32.10	20.32' R	346.20
(32)	CALLA COURT	0+38.00	13' L	345.84
(33)	CALLA COURT	0+38.00	13' R	345.84

CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(34)	ROWAN LANE	5+91.46	20.32' R	346.20
(35)	ROWAN LANE	5+73.78	13' R	345.45
(48)	FENNEL WAY	5+09.81	13' L.	355.05
(44)	FENNEL WAY	5+28.34	21.22' L.	353.98
(50)	BLUEBELL WAY	5+29.37	12' L.	352.90
(15)	BLUEBELL WAY	5+22.03	12' R.	353.11
(52)	FENNEL WAY	5+67.39	19.47' L.	353.74
(53)	FENNEL WAY	5+84.17	13' L.	353.32
(17)	FENNEL WAY	5+92.72	13' R.	353.12
(18)	FENNEL WAY	5+74.20	21.17' R.	353.61
(14)	BLUEBELL WAY	4+45.65	13' R.	354.22
(15)	BLUEBELL WAY	4+53.00	13' L.	354.09
(16)	FENNEL WAY	5+38.45	26.25' R.	354.30
(17)	FENNEL WAY	5+16.35	13' R.	354.89

NOTES:
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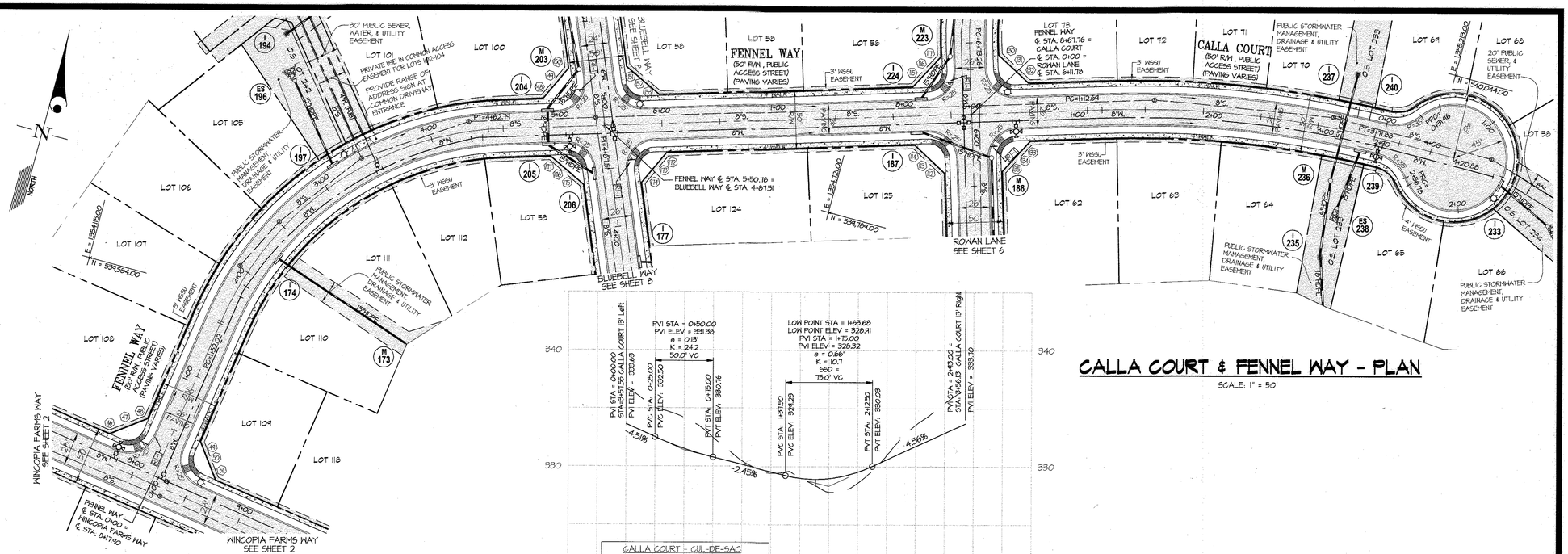
2. SEE SHEET 63-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO "I" CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06 OR CURB TRANSITION AT DRIVEWAY APRON DETAIL ON SHEET 10
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. HSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

LEGEND:

- TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01
- TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02
- DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03
- STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.
- GROUND MOUNTED SIGN
- STREET LIGHT POLE MOUNTED SIGN

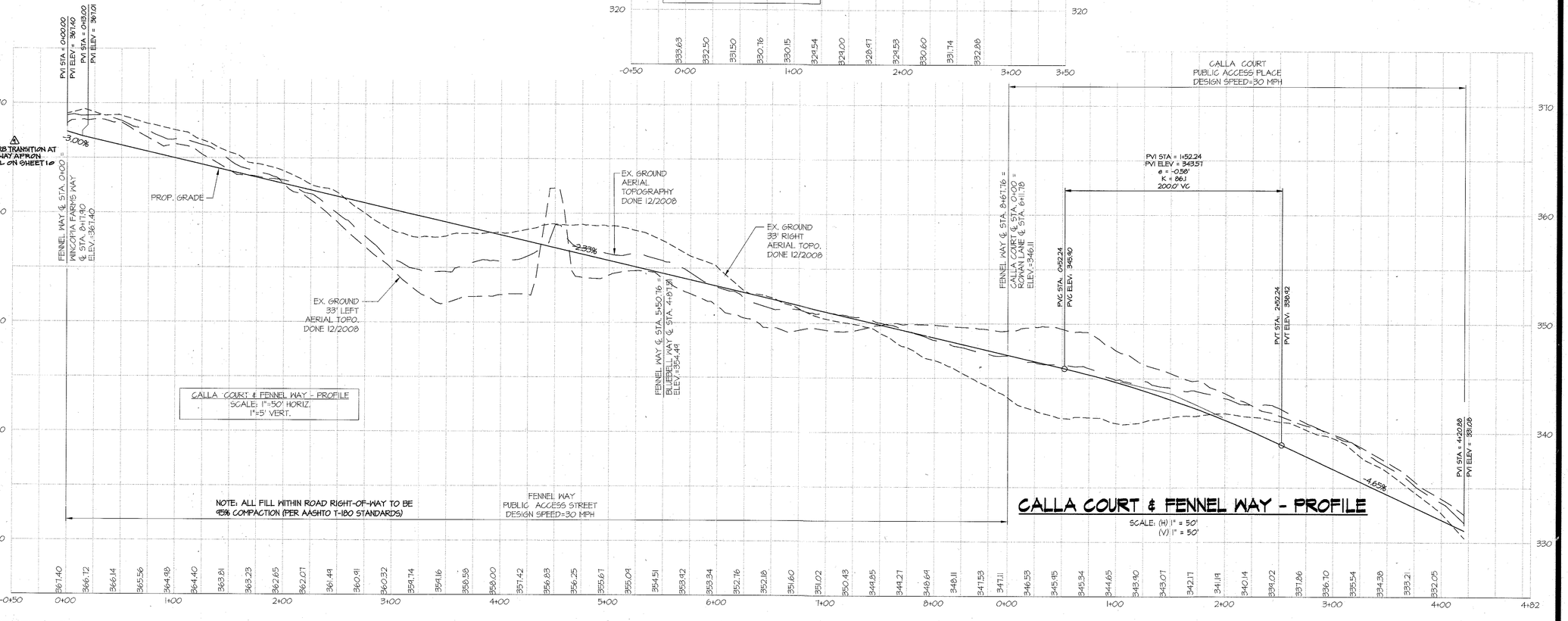
R1-1 STOP 30 X 30
R2-1 SPEED LIMIT 25 24 X 30
R3-1 30 X 30 (FYG)
W16-9p AHEAD 24X12 (FYG)
W16-7 24X12 (FYG)

0 10 25 50 100
1 inch = 50 ft.



CALLA COURT & FENNEL WAY - PLAN

SCALE: 1" = 50'



CALLA COURT & FENNEL WAY - PROFILE

SCALE: (H) 1" = 50'
(V) 1" = 50'

CALLA COURT & FENNEL WAY - PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12.17.13

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L:\CADD\DRAWINGS\08052\FINALS\08052-Road1.dwg | DES. XXX | DRN. XXX | CHK. XXX

DATE	REVISION	BY	APP'R.
10.21.2016	4 Note 7 revised	gt	DDG

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

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EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CHARLES D. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

CALLA COURT & FENNEL WAY PLAN AND PROFILE

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	7 OF 71

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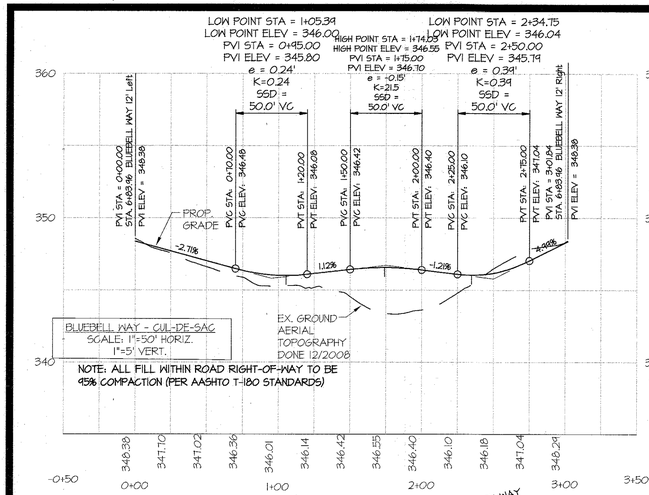
F-13-103



CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(22)	HENRY HEARN WAY	10+36.86	13' L	342.75
(23)	HENRY HEARN WAY	10+53.28	19.68' L	343.28
(24)	ERICA LANE	0+35.25	14' L	343.18
(25)	ERICA LANE	0+40.56	14'R	343.89
(26)	HENRY HEARN WAY	10+44.12	21.66' L	343.70
(27)	HENRY HEARN WAY	11+11.47	14' L	343.80
(52)	WINCOPIA FARMS WAY	12+11.30	14' L	364.27
(53)	WINCOPIA FARMS WAY	12+30.19	22.48' L	362.85
(54)	BLUEBELL WAY	0+41.87	13' L	361.42
(55)	BLUEBELL WAY	0+36.72	13' R	361.51
(56)	WINCOPIA FARMS WAY	12+66.86	25.04' L	361.43
(57)	WINCOPIA FARMS WAY	12+87.60	14' L	360.43
(16)	WINCOPIA FARMS WAY	12+89.30	14' R	360.54
(17)	WINCOPIA FARMS WAY	12+73.30	19.74' R	361.58
(78)	CYPRESS WAY	4+91.98	14' R	361.38

CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(79)	CYPRESS WAY	4+91.98	14' L	361.38
(80)	WINCOPIA FARMS WAY	12+28.98	21.30' R	362.83
(81)	WINCOPIA FARMS WAY	12+11.30	14' R	364.27
(48)	FENNEL WAY	5+09.81	13' L	355.05
(49)	FENNEL WAY	5+28.34	21.22' L	353.98
(50)	BLUEBELL WAY	5+29.31	12' L	352.90
(51)	BLUEBELL WAY	5+22.03	12' R	353.11
(52)	FENNEL WAY	5+67.34	19.47' L	353.14
(53)	FENNEL WAY	5+84.17	13' L	353.32
(12)	FENNEL WAY	5+42.72	13' R	353.12
(13)	FENNEL WAY	5+74.20	21.17' R	353.61
(14)	BLUEBELL WAY	4+45.65	13' R	354.22
(15)	BLUEBELL WAY	4+53.00	13' L	354.09
(16)	FENNEL WAY	5+38.45	26.25' R	354.30
(17)	FENNEL WAY	5+16.35	13' R	354.84

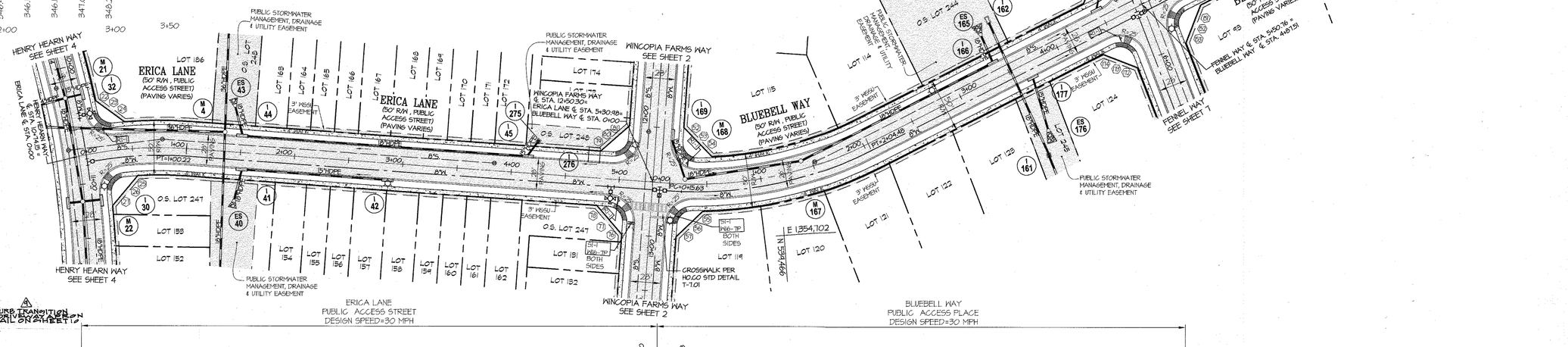
C.L. CURVE DATA CHART - ERICA LANE & BLUEBELL WAY								
STREET NAME	PC STA	PRC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
ERICA LANE	0+00.00	----	1+00.22	350.00'	100.22'	50.45'	99.87'	S 00°02'50" W	16°24'20"
BLUEBELL WAY	0+15.63	----	2+04.48	350.00'	188.86'	96.79'	186.58'	N 07°12'30" W	30°55'00"
BLUEBELL WAY	6+13.57	----	7+53.66	350.00'	140.09'	70.99'	139.16'	N 34°07'54" W	22°55'58"

STREET LIGHT LOCATIONS			
STREET	STATION	OFFSET	TYPE
ERICA LANE	2+87.43	18.27' RIGHT	100 WATT
BLUEBELL WAY	2+79.01	17.21' LEFT	100 WATT
BLUEBELL WAY CUL-DE-SAC	1+45.36	4.25' LEFT	100 WATT
WINCOPIA FARMS WAY	12+11.78	18.14' RIGHT	100 WATT
WINCOPIA FARMS WAY	12+84.67	18.14' LEFT	100 WATT
HENRY HEARN WAY	11+04.14	14.6' LEFT	100 WATT
FENNEL WAY	5+81.38	17.33' LEFT	100 WATT

NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLCAK FIBERGLASS POLE .

ERICA LANE & BLUEBELL WAY - PLAN

SCALE: 1" = 50'



NOTES:
1. ALL PROPOSED PAVEMENT IS TO BE HOWARD COUNTY P-3 PAVEMENT. SEE SHEET 17 FOR PAVEMENT SECTION DETAIL.
2. SEE SHEET 69-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO 1' CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

(4) 9" CURB TRANSITION AT DRIVEWAY ENTRANCE DETAIL ON SHEET 17

LEGEND:

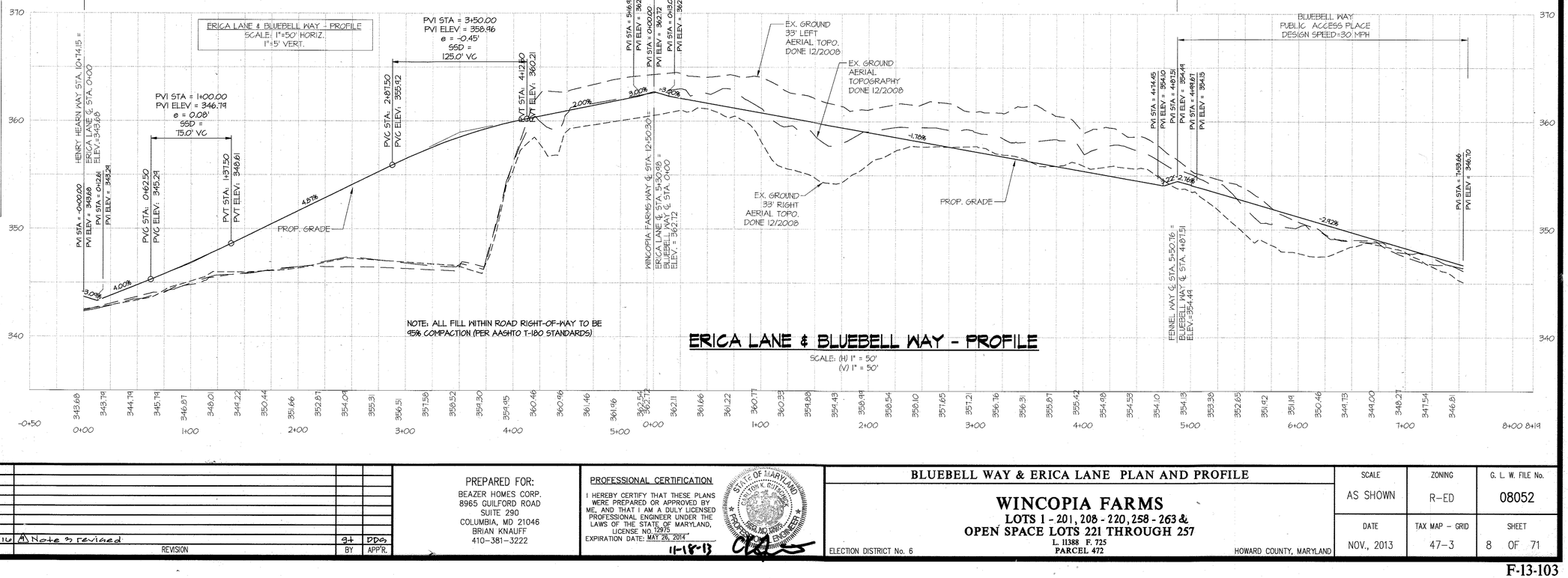
- TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01
- TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02
- DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03
- STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.
- GROUND MOUNTED SIGN
- STREET LIGHT POLE MOUNTED SIGN

R1-1 STOP 30 X 30
R2-1 SPEED LIMIT 25 24 X 30
S1-1 30 X 30 (FYG)
W16-9p AHEAD 24X12 (FYG)
W16-7 24X12 (FYG)

0 10 25 50 100
1 Inch = 50 ft.

ERICA LANE
PUBLIC ACCESS STREET
DESIGN SPEED=30 MPH

BLUEBELL WAY
PUBLIC ACCESS PLACE
DESIGN SPEED=30 MPH



ERICA LANE & BLUEBELL WAY - PROFILE

SCALE: (H) 1" = 50'
(V) 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-RoadE.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.
10-24-13	(4) Note revised	gt	DDS

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CHRISTOPHER R. PITROFF — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

BLUEBELL WAY & ERICA LANE PLAN AND PROFILE

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	8 OF 71

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F-13-103

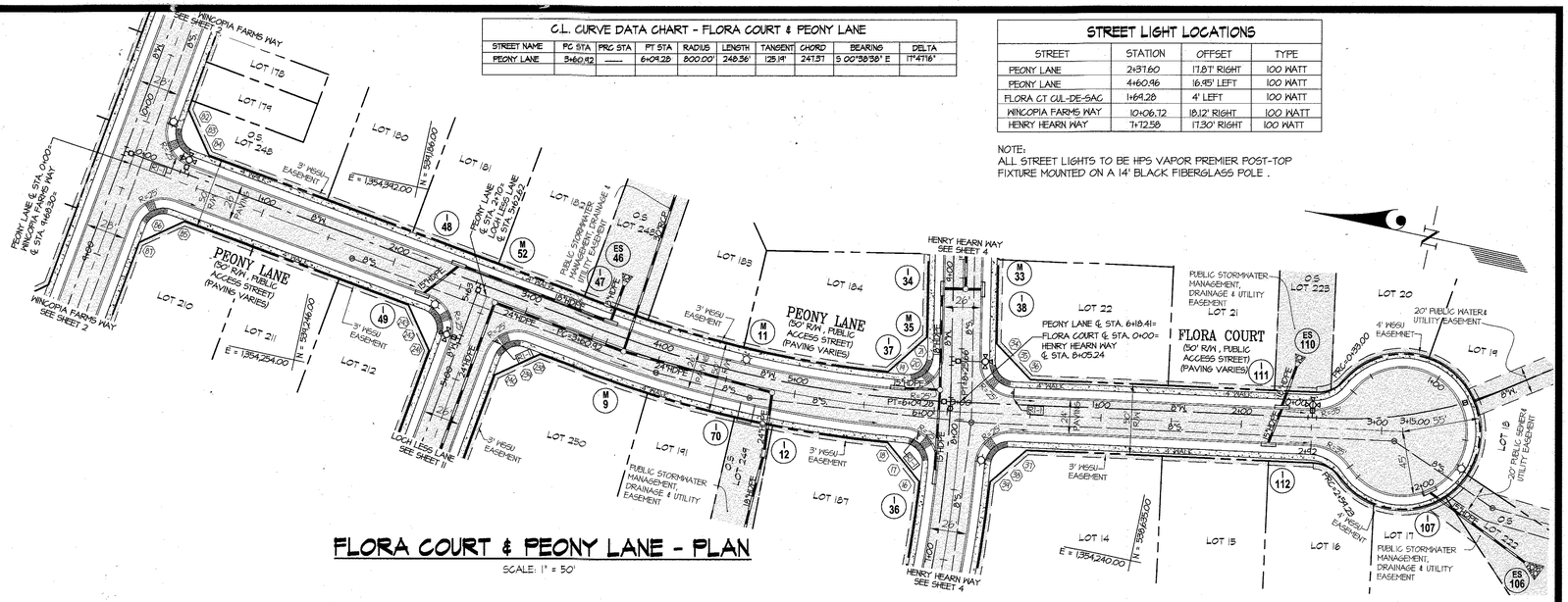
CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(62)	WINCOPIA FARMS WAY	10+06.30	14' R	370.33
(63)	WINCOPIA FARMS WAY	9+88.62	21.32' R	369.58
(64)	PEONY LANE	0+39.00	13' L	368.83
(65)	PEONY LANE	0+39.00	13' R	368.83
(66)	WINCOPIA FARMS WAY	9+47.98	21.32' R	369.43
(67)	WINCOPIA FARMS WAY	9+30.30	14' R	369.23
(16)	HENRY HEARN WAY	7+65.88	13' L	342.99
(17)	HENRY HEARN WAY	7+84.15	20.24' L	342.42
(18)	PEONY LANE	5+80.83	13' R.	342.52
(19)	PEONY LANE	5+78.18	13' L.	342.62
(20)	HENRY HEARN WAY	8+26.56	20.90' L	341.99
(21)	HENRY HEARN WAY	8+44.74	13' L	341.35

CURB FLOW LINE ELEVATION TABLE				
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(34)	HENRY HEARN WAY ,	8+41.28	13' R	341.34
(35)	HENRY HEARN WAY	8+23.81	20.10' R	341.69
(36)	FLORA COURT	0+31.33	12' L	341.26
(37)	FLORA COURT	0+31.18	12' R	341.26
(38)	HENRY HEARN WAY	7+86.77	20.12' R	342.07
(39)	HENRY HEARN WAY	7+69.41	13' R	342.87
(238)	PEONY LANE	3+08.00	13' R.	354.56
(239)	PEONY LANE	2+90.32	20.32' R	355.46
(240)	LOCH LESS LANE	5+24.62	13' R.	357.35
(241)	LOCH LESS LANE	5+24.62	13' L.	357.35
(242)	PEONY LANE	2+53.84	25.15' R.	357.15
(243)	PEONY LANE	2+32.00	13' R.	354.09

G.L. CURVE DATA CHART - FLORA COURT & PEONY LANE								
STREET NAME	PC STA	PRC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
PEONY LANE	3+60.92	____	6+09.28	800.00'	248.36'	125.19'	247.37'	S 00°39'38" E	17°47'16"

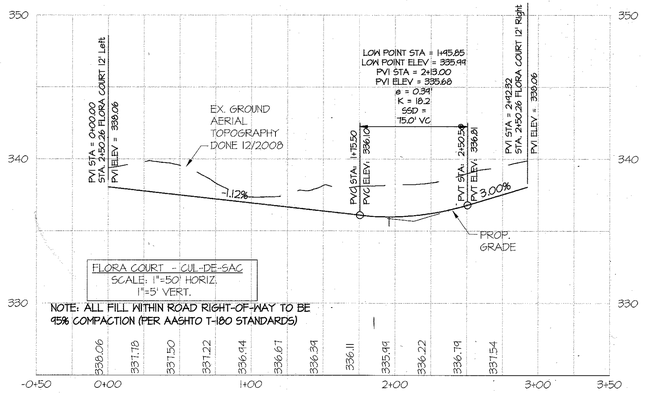
STREET LIGHT LOCATIONS			
STREET	STATION	OFFSET	TYPE
PEONY LANE	2+37.60	17.87' RIGHT	100 WATT
PEONY LANE	4+60.96	16.45' LEFT	100 WATT
FLORA CT CUL-DE-SAC	1+69.28	4' LEFT	100 WATT
WINCOPIA FARMS WAY	10+06.72	18.12' RIGHT	100 WATT
HENRY HEARN WAY	7+72.58	17.30' RIGHT	100 WATT

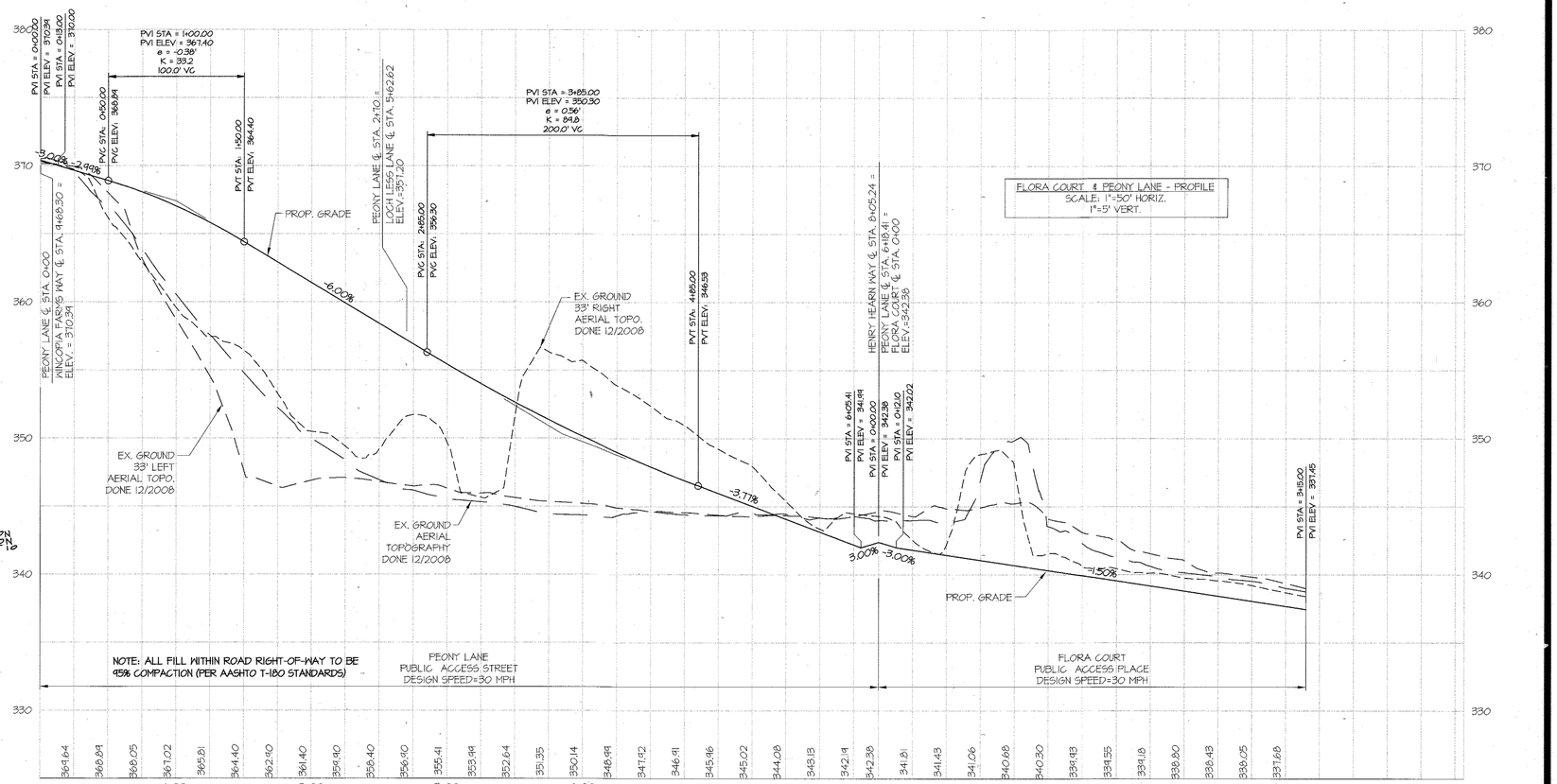
NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE .



FLORA COURT & PEONY LANE - PLAN

SCALE: 1" = 50'





FLORA COURT & PEONY LANE - PROFILE

SCALE: (H) 1" = 50'
(V) 1" = 50'

FLORA COURT & PEONY LANE - PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.

NOTES:
1. ALL PROPOSED PAVEMENT IS TO BE HOWARD COUNTY P-3 PAVEMENT. SEE SHEET 17 FOR PAVEMENT SECTION DETAIL.
2. SEE SHEET 63-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO 7" CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

(4) 2K CURB TRANSITION AT DRIVEWAY APRON DETAIL ON SHEET 10

LEGEND:

TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01

TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02

DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03

STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.

GROUND MOUNTED SIGN — R1-1 30 X 30 (STOP); R2-1 24 X 30 (SPEED LIMIT 25)

STREET LIGHT POLE MOUNTED SIGN — S1-1 30 X 30 (FYG); W16-9P 24X12 (AHEAD); W16-7 24X12 (FYG)

0 10 25 50 100
1 inch = 50 ft.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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L:\CADD\DRAWINGS\08052\FINALS\08052-Roadf.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.
12-24-14	④ Note revised	gk	DDS

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2014

11-18-13

STATE OF MARYLAND — CLINTON K. CUTCHIN — REG. NO. 12975 — PROFESSIONAL ENGINEER

FLORA COURT & PEONY LANE PLAN AND PROFILE

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	9 OF 71

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F-13-103

C.L. CURVE DATA CHART - BALSAM WAY

STREET NAME	PC STA	PRC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
BALSAM WAY	0+62.15	----	2+51.64	1500.00'	189.49'	94.87'	189.37'	N 00°37'08" E	7°14'11"

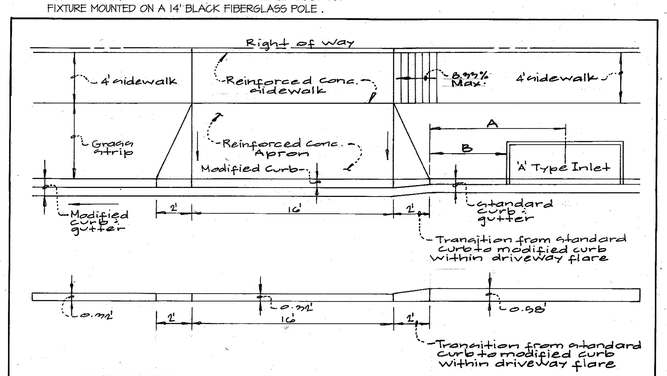
CURB FLOW LINE ELEVATION TABLE

PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(4)	HENRY HEARN WAY	2+14.22	13' L.	341.83
(5)	HENRY HEARN WAY	2+31.90	20.32' L	342.84
(6)	BALSAM WAY	0+38	13' L	343.84
(7)	BALSAM WAY	0+38	13' R.	343.84
(8)	HENRY HEARN WAY	2+72.54	20.32' L	343.76
(9)	HENRY HEARN WAY	2+90.22	13' L.	344.67
(60)	WINCOPIA FARMS WAY	3+90.71	14' R	373.45
(61)	WINCOPIA FARMS WAY	3+73.56	21.81' R	374.35
(62)	BALSAM WAY	6+10.45	12' R	373.99
(63)	BALSAM WAY	6+13.93	12' L	374.05
(64)	WINCOPIA FARMS WAY	3+32.11	21.71' R	375.16
(65)	WINCOPIA FARMS WAY	3+13.09	14' R	376.27
(256)	BALSAM WAY	4+06.84	13' R.	368.22
(257)	BALSAM WAY	3+84.81	26.18' R.	366.65
(258)	LOCH LESS LANE	0+38.00	13' L.	366.87
(259)	LOCH LESS LANE	0+38.00	13' R.	366.87
(260)	BALSAM WAY	3+48.51	20.32' R.	365.28
(261)	BALSAM WAY	3+30.84	13' R.	363.68

STREET LIGHT LOCATIONS

STREET	STATION	OFFSET	TYPE
BALSAM WAY	3+34.49	17.45' RIGHT	100 WATT
WINCOPIA FARMS WAY	3+22.16	20.05' RIGHT	100 WATT
HENRY HEARN WAY	2+74.87	17.08' RIGHT	100 WATT

NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE .



Inlet Type	Driveway to Inlet Relation	A	B
A-10	Driveway Uphill	8'-2" min./20'-4" max.	1'-10" min./15'-0" max
	Driveway Downhill	7'-1" min./20'-4" max.	1'-10" min./15'-0" max.

⚠ Curb Transition at Driveway Apron
(No scale)

NOTES:
1. ALL PROPOSED PAVEMENT IS TO BE HOWARD COUNTY P-3 PAVEMENT. SEE SHEET 17 FOR PAVEMENT SECTION DETAIL.
2. SEE SHEET 63-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO 1' CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06 OR CURB TRANSITION AT DRIVEWAY APRON DETAIL this sheet
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. W&SU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

LEGEND:

TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01

TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02

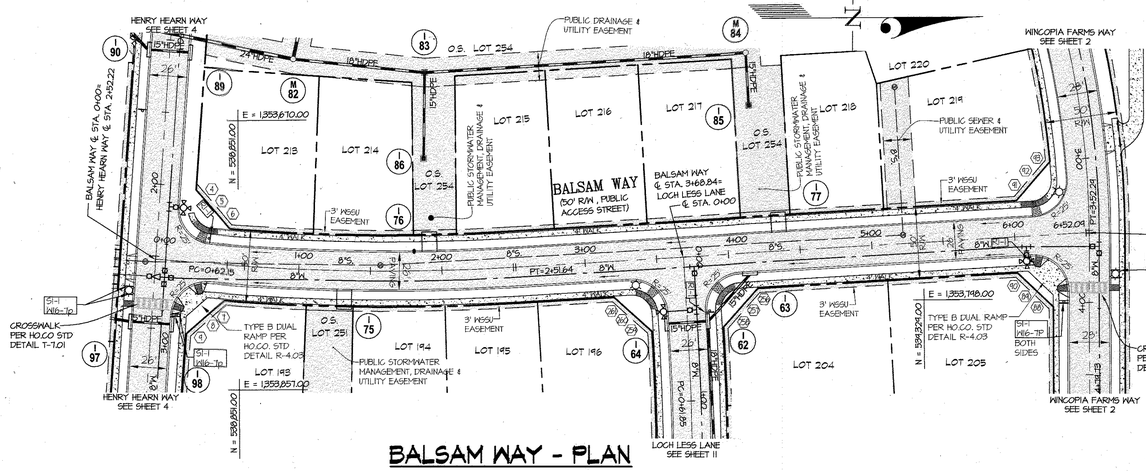
DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03

STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.

GROUND MOUNTED SIGN — R1-1 STOP 30 X 30; R2-1 SPEED LIMIT 25, 24 X 30

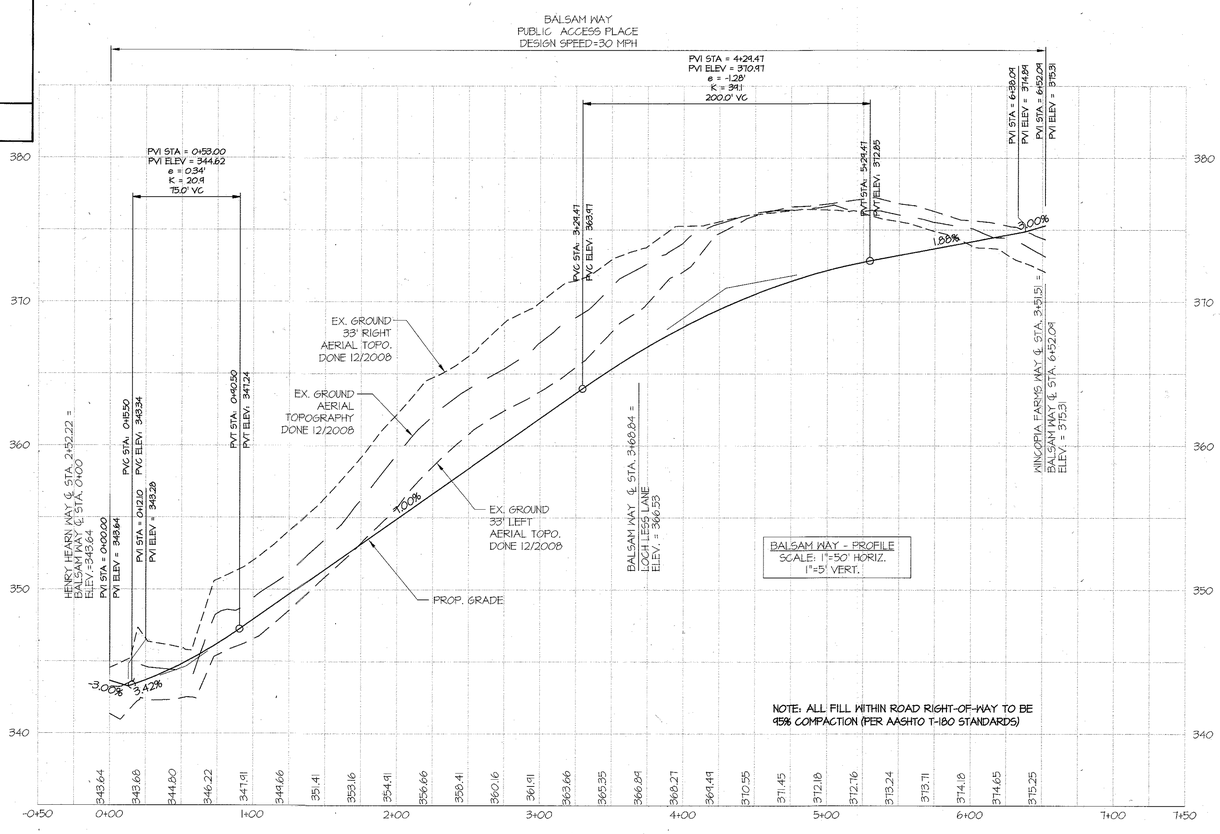
STREET LIGHT POLE MOUNTED SIGN — S1-1 30 X 30 (FYG); W16-9P AHEAD 24X12 (FYG); W16-7 24X12 (FYG)

0 10 25 50 100
1 inch = 50 ft.



BALSAM WAY - PLAN

SCALE: 1" = 50'



BALSAM WAY- PROFILE

SCALE: (H) 1" = 50'
(V) 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12-17-13

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L:\CADD\DRAWINGS\08052\TINALS\08052-RoadG.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.
10.22.160	⚠ Note 11 revised. Curb transition at driveway apron added.	gt	DDG

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2014
STATE OF MARYLAND — CLIFTON T. BUTCHKO — REG. NO. 12975 — PROFESSIONAL ENGINEER
11-18-13

BALSAM WAY PLAN AND PROFILE

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	10 OF 71

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F-13-103

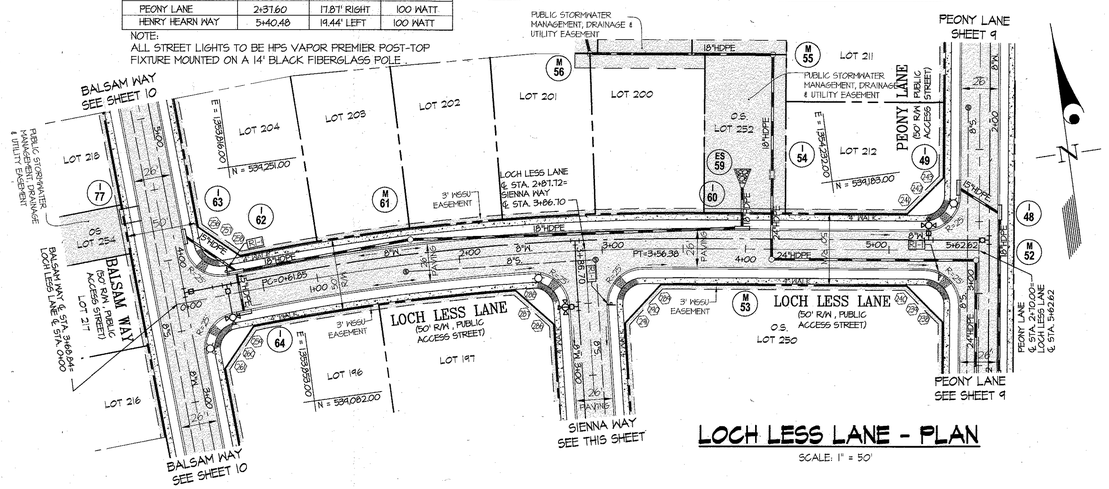
STREET LIGHT LOCATIONS

STREET	STATION	OFFSET	TYPE
LOCH LESS LANE	2+54.07	17.55' RIGHT	100 WATT
BALSAM WAY	3+34.49	17.45' RIGHT	100 WATT
PEONY LANE	2+37.60	17.87' RIGHT	100 WATT
HENRY HEARN WAY	5+40.48	19.44' LEFT	100 WATT

NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE

C.L. CURVE DATA CHART - LOCH LESS LANE

STREET NAME	PC STA	PRC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
LOCH LESS LANE	0+61.85	-----	3+56.38	1500.00'	294.52'	147.74'	294.05'	N 81°22'30" W	11°15'00"



LOCH LESS LANE - PLAN

SCALE: 1" = 50'

0 10 25 50 100
1 inch = 50 ft.

CURB FLOW LINE ELEVATION TABLE

PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(38)	PEONY LANE	3+08.00	13' R.	354.56
(39)	PEONY LANE	2+90.32	20.32' R	355.96
(44)	LOCH LESS LANE	5+24.62	13' R.	351.35
(24)	LOCH LESS LANE	5+24.62	13' L.	351.35
(42)	PEONY LANE	2+53.84	25.15' R.	357.15
(43)	PEONY LANE	2+32.00	13' R.	354.04
(29)	BALSAM WAY	4+06.84	13' R.	368.22
(25)	BALSAM WAY	3+84.81	26.18' R	366.65
(28)	LOCH LESS LANE	0+38.00	13' L.	366.81
(26)	LOCH LESS LANE	0+38.00	13' R.	366.81
(30)	BALSAM WAY	3+48.51	20.32' R	365.26
(26)	BALSAM WAY	3+30.84	13' R.	363.66
(36)	SIENNA WAY	3+49.14	13' L.	364.79
(27)	LOCH LESS LANE	2+67.60	20.23' R	366.19
(22)	LOCH LESS LANE	2+49.67	13' R.	367.59
(23)	LOCH LESS LANE	3+27.68	13' R.	364.68
(32)	LOCH LESS LANE	3+09.31	20.67' R	365.37
(21)	SIENNA WAY	3+47.25	13' R.	364.71

NOTES:
1. ALL PROPOSED PAVEMENT IS TO BE HOWARD COUNTY P-3 PAVEMENT. SEE SHEET 17 FOR PAVEMENT SECTION DETAIL.
2. SEE SHEET 63-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO 7" CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

⚠ OR CURB TRANSITION AT DRIVEWAY APRON DETAIL ON SHEET 15

LEGEND:

TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01

TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02

DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03

STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.

GROUND MOUNTED SIGN

STREET LIGHT POLE MOUNTED SIGN

R1-1 STOP 30 X 30

R2-1 SPEED LIMIT 25 24 X 30

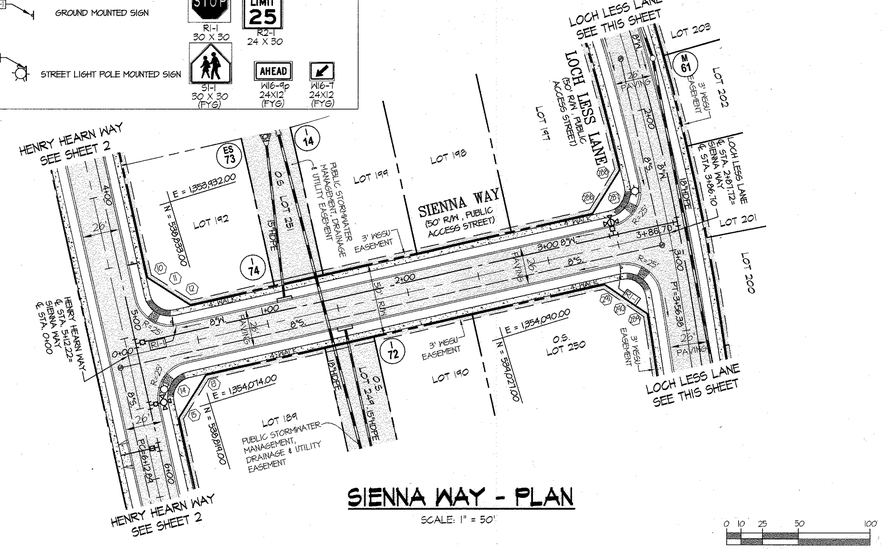
R1-6 STOP AHEAD 30 X 30 (FYG)

W16-9P AHEAD 24X12 (FYG)

W16-7 24X12 (FYG)

CURB FLOW LINE ELEVATION TABLE

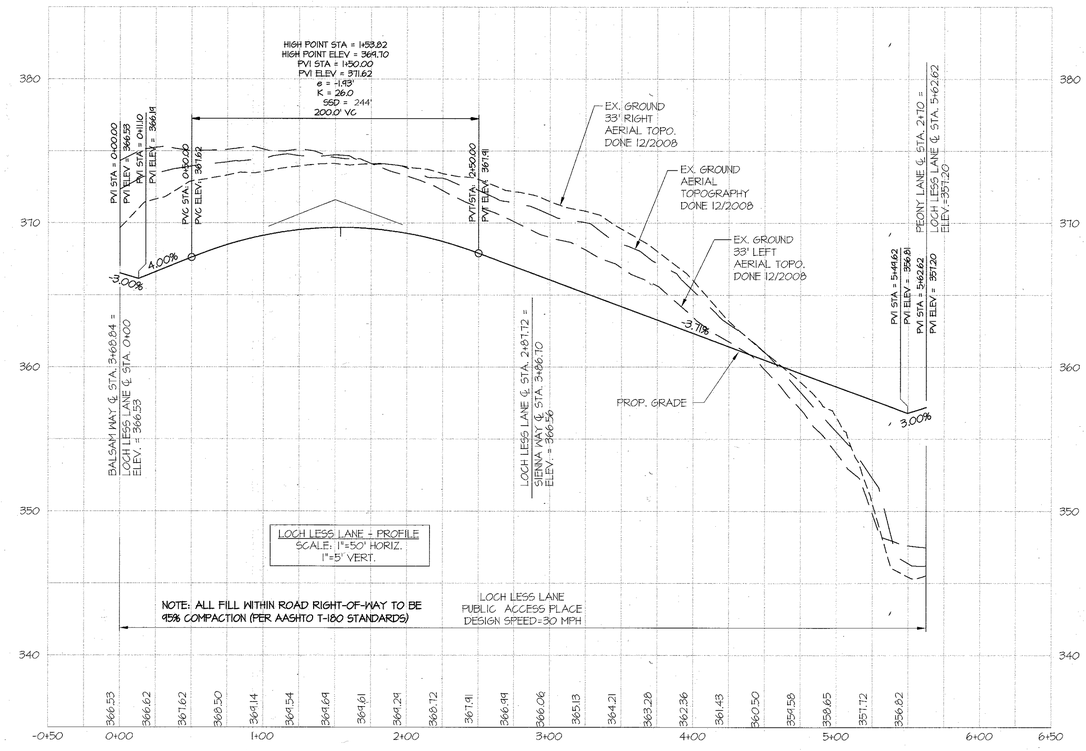
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(10)	HENRY HEARN WAY	4+74.22	13' L.	349.02
(11)	HENRY HEARN WAY	4+91.90	20.32' L	349.52
(12)	SIENNA WAY	0+38	13' L	350.02
(13)	SIENNA WAY	0+38	13' R	350.02
(14)	HENRY HEARN WAY	5+32.54	20.32' L	349.67
(15)	HENRY HEARN WAY	5+50.22	13' L	349.31
(34)	SIENNA WAY	3+49.14	13' L.	364.79
(37)	LOCH LESS LANE	2+67.60	20.23' R	366.19
(33)	LOCH LESS LANE	2+49.67	13' R.	367.59
(35)	LOCH LESS LANE	3+27.68	13' R.	364.68
(40)	LOCH LESS LANE	3+09.31	20.67' R	365.37
(41)	SIENNA WAY	3+47.25	13' R.	364.71



SIENNA WAY - PLAN

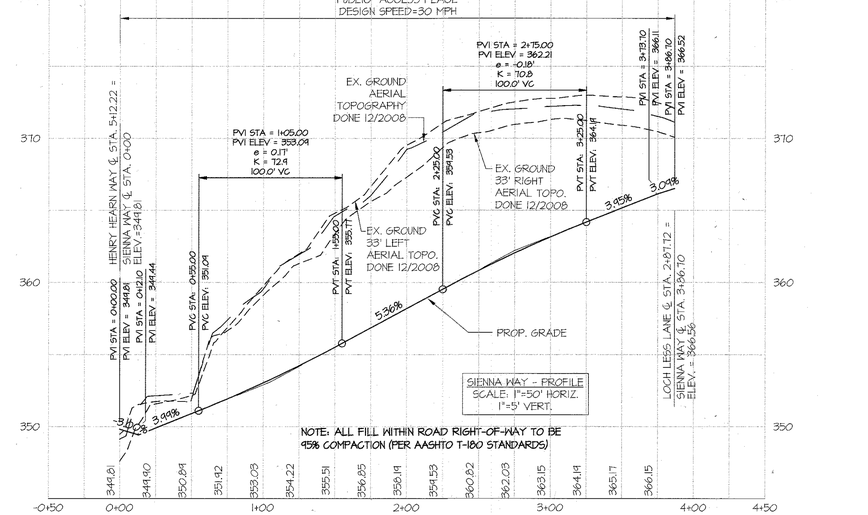
SCALE: 1" = 50'

0 10 25 50 100
1 inch = 50 ft.



LOCH LESS LANE - PROFILE

SCALE: (H) 1" = 50'
(V) 1" = 50'



SIENNA WAY - PROFILE

SCALE: (H) 1" = 50'
(V) 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

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DATE	REVISION	BY	APP'R.
10.24.16	⚠ Note 7 revised	gt	DDS

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2014

11-18-13

STATE OF MARYLAND — CHRISTINA K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

LOCH LESS LANE AND SIENNA WAY PLAN AND PROFILE

WINCOPIA FARMS
LOTS 1-201, 208-220, 258-263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	11 OF 71

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F-13-103

NOTES:
1. ALL PROPOSED PAVEMENT IS TO BE HOWARD COUNTY P-3 PAVEMENT. SEE SHEET 17 FOR PAVEMENT SECTION DETAIL.
2. SEE SHEET 63-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO 1' CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06 OR CURB TRANSITION AT DRIVEWAY APRON DETAIL SHEET 18
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.

LEGEND:

TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01

TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02

DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03

STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.

GROUND MOUNTED SIGN — R1-1 30 X 30 (STOP); R2-1 24 X 30 (SPEED LIMIT 25)

STREET LIGHT POLE MOUNTED SIGN — S1-1 30 X 30 (FYG); W16-9P 24X12 (FYG); W16-7 24X12 (FYG)

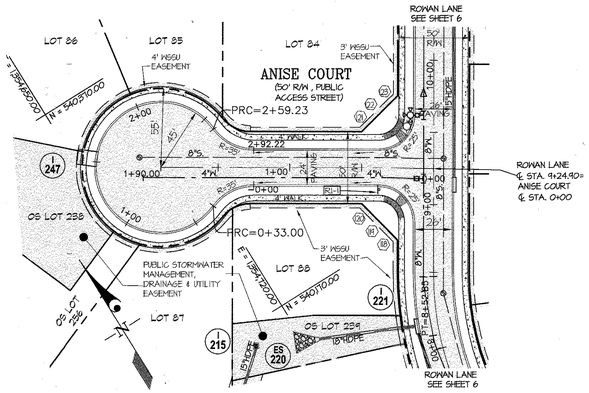
STREET LIGHT LOCATIONS

STREET	STATION	OFFSET	TYPE
ROWAN LANE	9+54.02	18.61' LEFT	100 WATT

NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE .

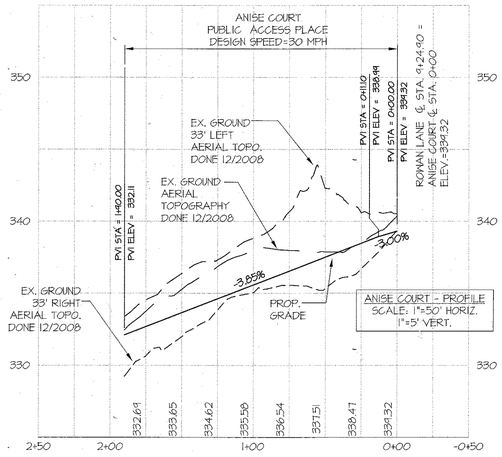
CURB FLOW LINE ELEVATION TABLE

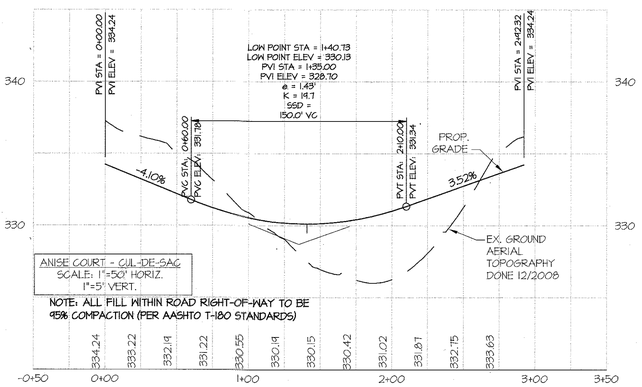
PT. #	ROAD NAME	STATION	OFFSET	ELEV.
(18)	ROWAN LANE	8+87.90	13' L	340.41
(19)	ROWAN LANE	9+05.51	20.32' L	339.00
(20)	ANISE COURT	0+38.00	12' L	337.60
(21)	ANISE COURT	0+38.00	12' L	337.60
(22)	ROWAN LANE	9+44.22	20.32' L	338.11
(23)	ROWAN LANE	9+61.90	13' L	337.18



ANISE COURT - PLAN

SCALE: 1" = 50'





ANISE COURT - PROFILE

SCALE: (H) 1" = 50'
(V) 1" = 50'

0 10 25 50 100
1 inch = 50 ft.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-5-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-16-13
Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
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DATE	REVISION	BY	APP'R.
10.24.16	⚠1 Note revised	gk	DDO

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 25, 2014

11-18-13

STATE OF MARYLAND — CLINTON K. CUTCHIN — REG. NO. 12975 — PROFESSIONAL ENGINEER

ANISE COURT PLAN AND PROFILE

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	12 OF 71

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F-13-103

NOTES:
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2. SEE SHEET 63-65 FOR STREET TREE LOCATIONS
3. TRANSITION TO 7" CURB AND GUTTER AT ALL INLETS PER HO.CO STD DETAIL R-3.06
4. SEE TYPICAL SECTIONS, SHEET 17, FOR ALL CURB TYPES.
5. ALL DRIVEWAY ENTRANCES ARE PER HO.CO. STD DETAILS R-6.01 & R-6.03
6. MSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION & UTILITY EASEMENT.
7. SEE SHEET 18 FOR GORMAN ROAD SIGNING AND STRIPING

LEGEND:

TYPE A SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.01

TYPE B SIDEWALK RAMP PER HO.CO. STD DETAIL R-4.02

DRIVEWAY ENTRANCE PER HO.CO. STD DETAILS R-6.01 & R-6.03

STREET LIGHT. SEE TABLE THIS SHEET FOR LOCATIONS AND TYPES.

CURB FLOW LINE ELEVATION TABLE

PT. #	ROAD	STATION	OFFSET	ELEV.
(1)	GORMAN	105+65.42	21.5' R.	337.86
(2)	HENRY HEARN WAY	0+35.49	19.54' L	335.68
(3)	HENRY HEARN WAY	0+55.87	13' L.	335.91
(40)	HENRY HEARN WAY	0+57.14	13' R	335.95
(41)	HENRY HEARN WAY	0+32.55	23.09' R	334.13
(42)	GORMAN	104+70.52	21.50'R	332.30
(43)	GORMAN ROAD	111+13.45	21.50'R	378.28
(44)	WINCOPIA FARMS WAY	0+32.13	18.38' L	376.84
(45)	WINCOPIA FARMS WAY	0+48.19	14' L.	377.01
(46)	WINCOPIA FARMS WAY	0+62.22	14' R	377.43
(47)	WINCOPIA FARMS WAY	0+35.57	24.52' R	375.72
(48)	GORMAN	110+24.72	21.50' R	374.00

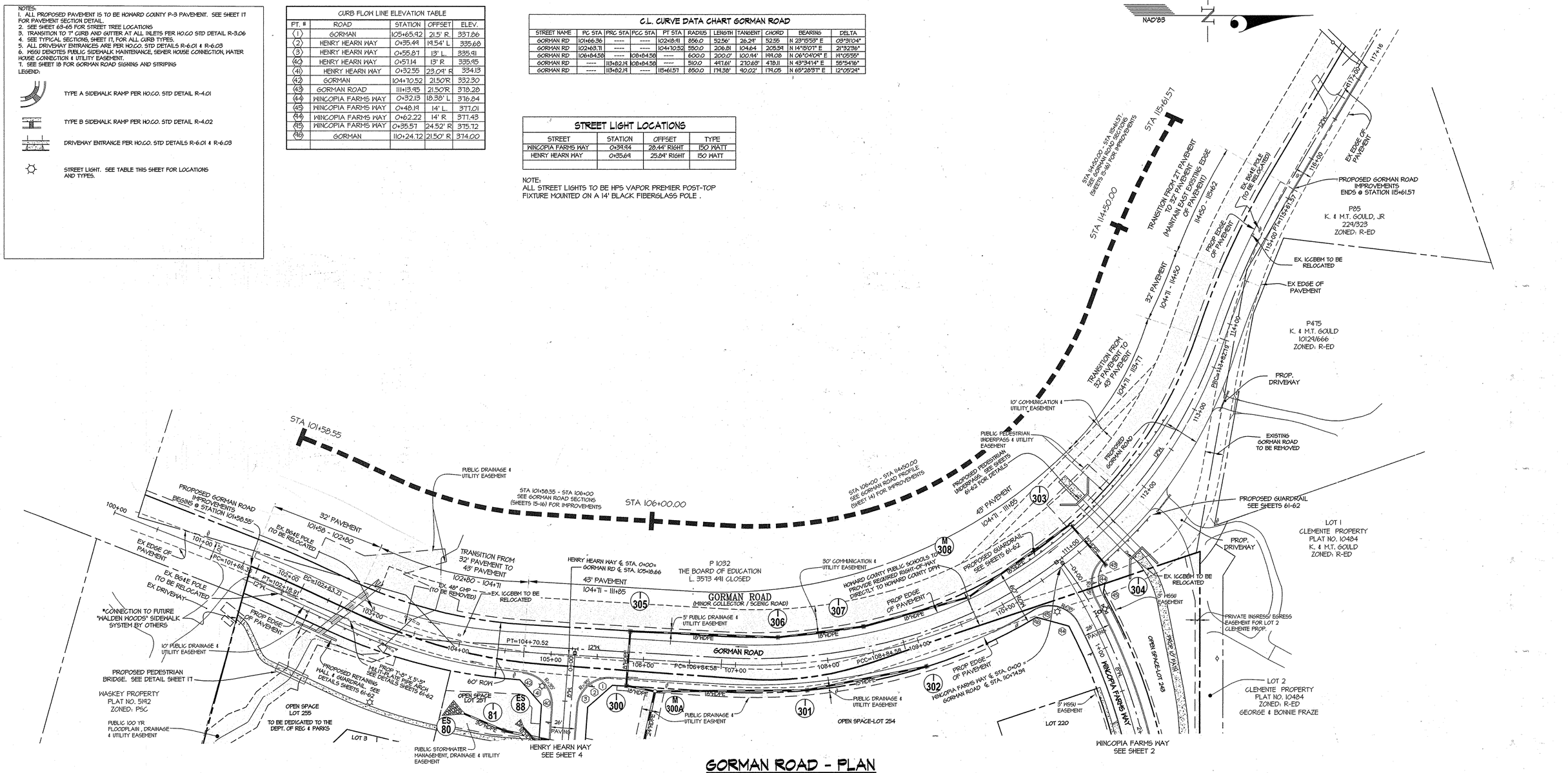
C.L. CURVE DATA CHART GORMAN ROAD

STREET NAME	PC STA	PRC STA	PCC STA	PT STA	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
GORMAN RD	101+66.36	----	----	102+18.91	856.0	52.56'	26.24'	52.55	N 23°15'53" E	03°31'04"
GORMAN RD	102+63.71	----	----	104+70.52	550.0	206.81	104.64	205.54	N 14°15'01" E	21°32'36"
GORMAN RD	106+84.58	----	108+84.58	----	600.0	200.01'	100.94'	199.08	N 06°04'09" E	19°05'55"
GORMAN RD	----	113+82.14	108+84.58	----	510.0	447.61'	240.63'	433.11	N 43°34'14" E	55°54'16"
GORMAN RD	----	113+82.19	----	115+61.57	850.0	178.38'	90.02'	178.05	N 65°28'31" E	12°05'24"

STREET LIGHT LOCATIONS

STREET	STATION	OFFSET	TYPE
WINCOPIA FARMS WAY	0+39.94	28.44' RIGHT	150 WATT
HENRY HEARN WAY	0+35.64	25.84' RIGHT	150 WATT

NOTE:
ALL STREET LIGHTS TO BE HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE .



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-5-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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BURTONSVILLE, MARYLAND 20866
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L:\CADD\DRAWINGS\08052\FINALS\08052-GORMAN ROAD.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2014

11-18-13

STATE OF MARYLAND — CHRISTOPHER K. ROSE — REG. NO. 12975 — PROFESSIONAL ENGINEER

GORMAN ROAD PLAN

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	13 OF 71

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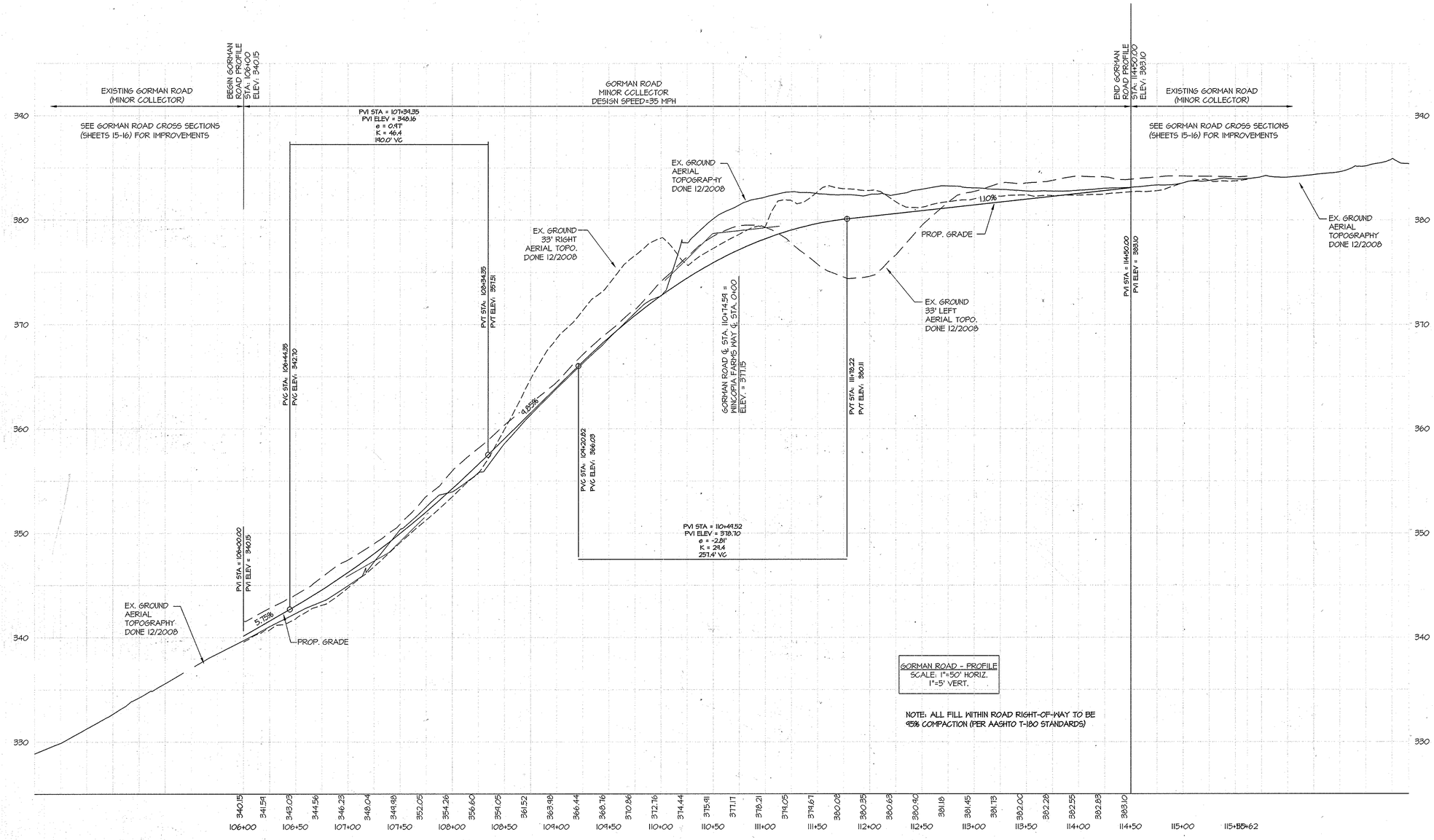

0 10 25 50 100

1 inch = 50 ft.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-5-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

GORMAN ROAD - PROFILE

SCALE: 1" = 50' (H)
1" = 5' (V)

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

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EXPIRATION DATE: MAY 26, 2014

11-18-13

STATE OF MARYLAND — CLINTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

GORMAN ROAD PROFILE

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	14 OF 71

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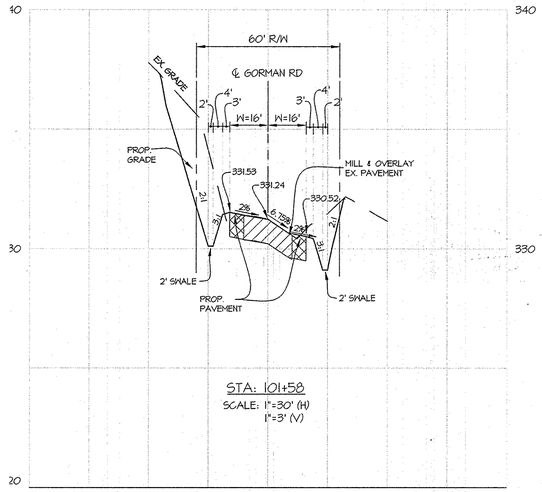
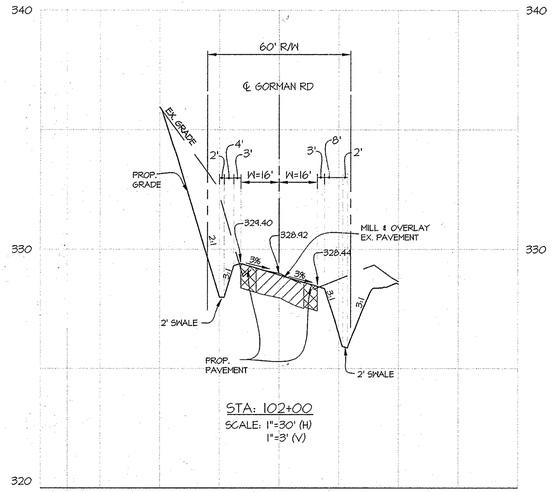


STA: 101+58
SCALE: 1"=30' (H)
1"=3' (V)



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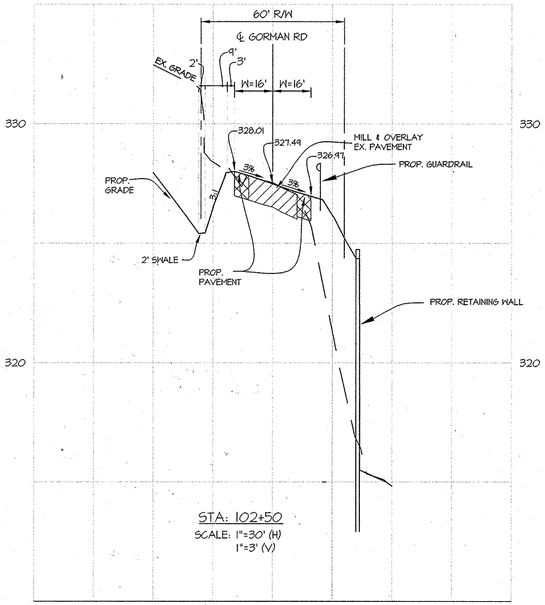
1"=3' (V)



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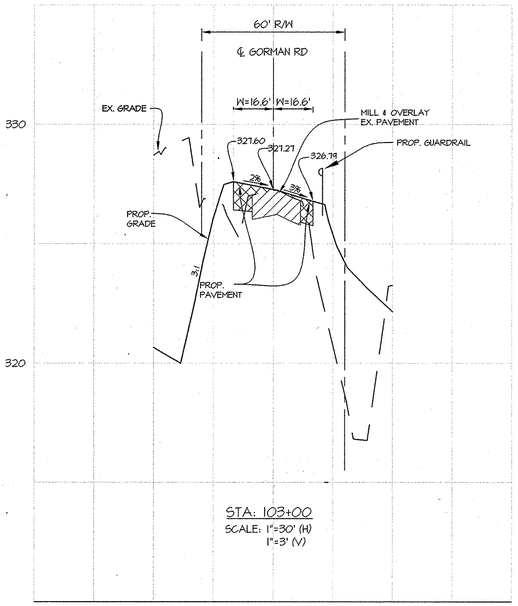

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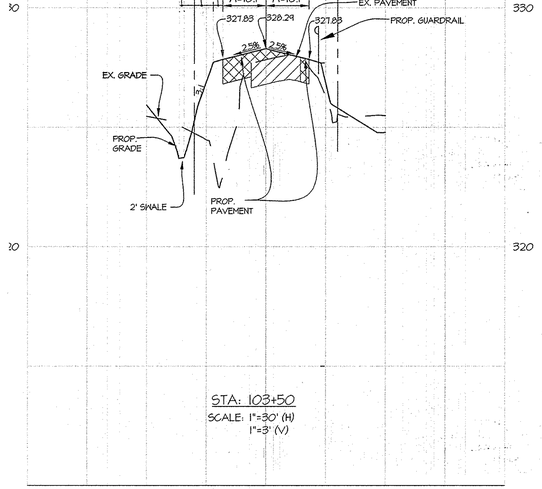

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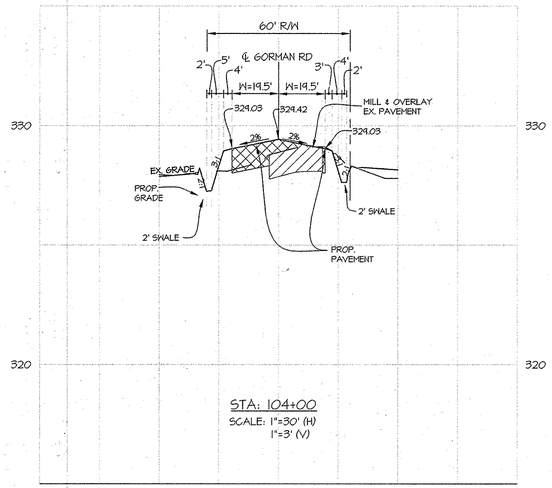

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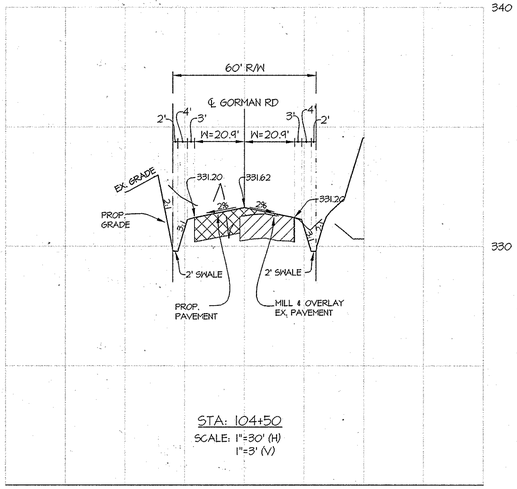

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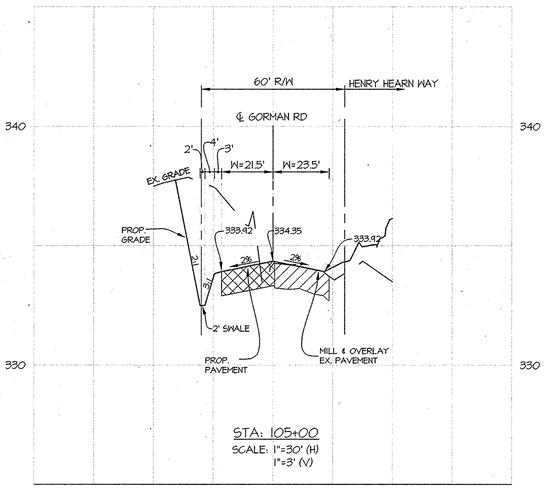

STA: 105+00
SCALE: 1"=30' (H)
1"=3' (V)

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

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STATE OF MARYLAND — CLIFTON K. BURCHAM — 12975 — REGISTERED PROFESSIONAL ENGINEER

11-18-13

GORMAN ROAD CROSS SECTIONS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
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DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	15 OF 71

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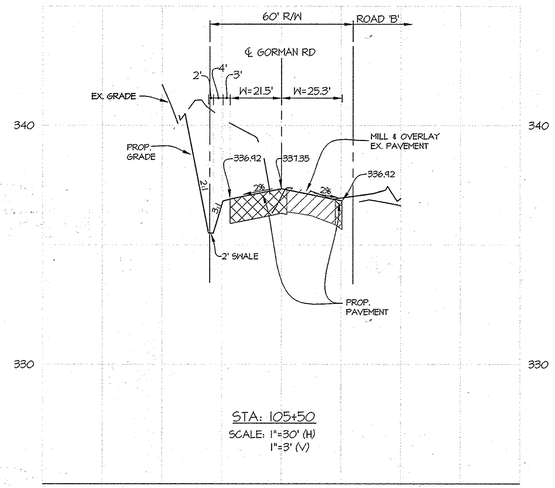
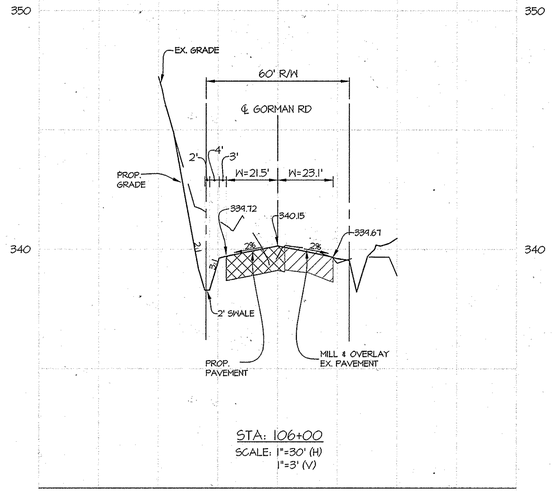
F-13-103



STA: 105+50
SCALE: 1"=30' (H)
1"=3' (V)



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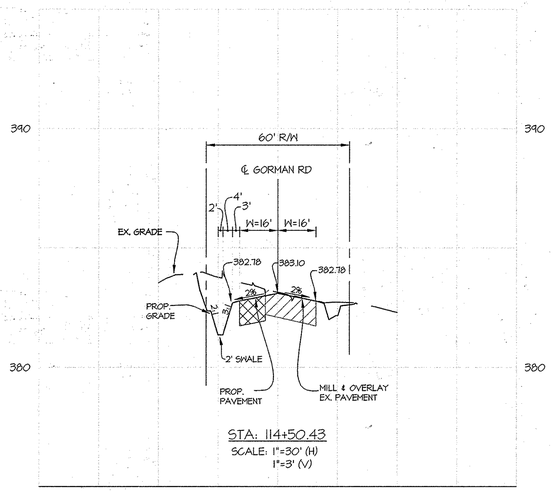

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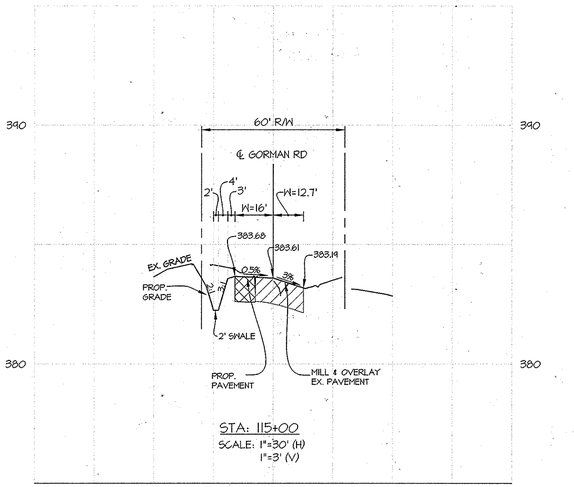
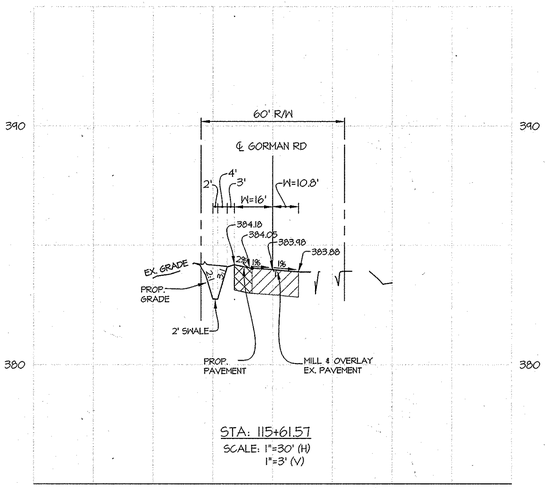


STA: 115+00
SCALE: 1"=30' (H)
1"=3' (V)



STA: 115+61.57
SCALE: 1"=30' (H)
1"=3' (V)

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-5-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052- Gorman X-Sect's.dwg | DES. dds | DRN. ps | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CLINTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

GORMAN ROAD CROSS SECTIONS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	16 OF 71

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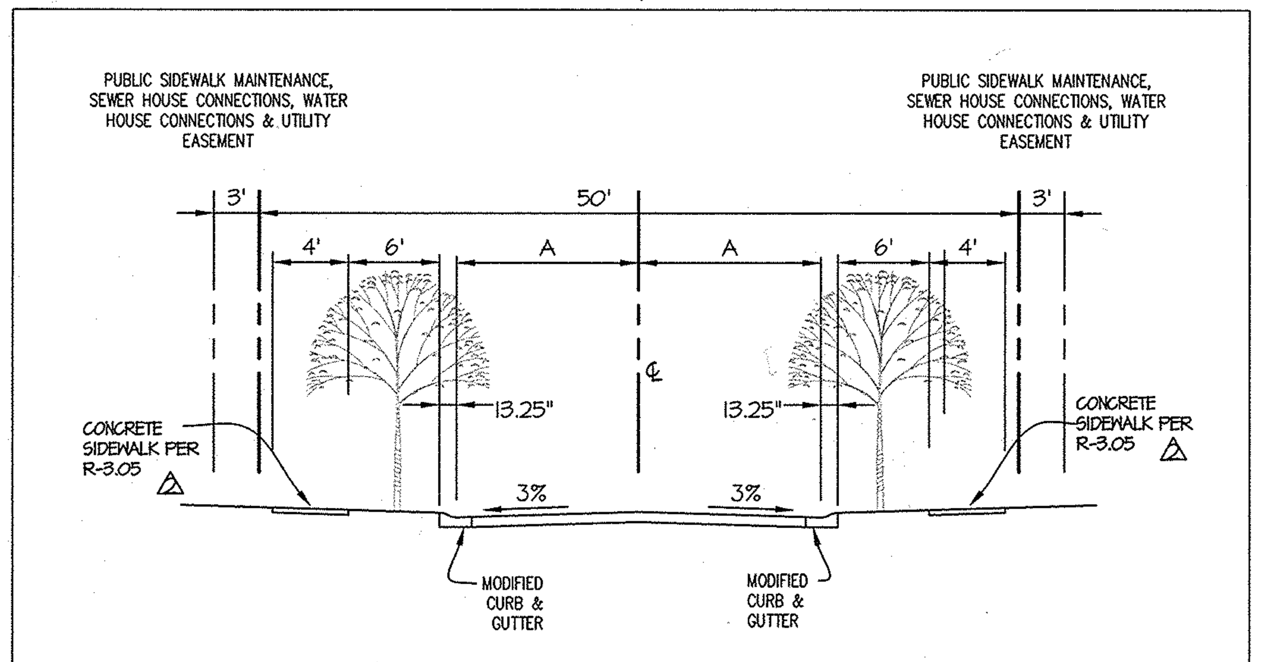
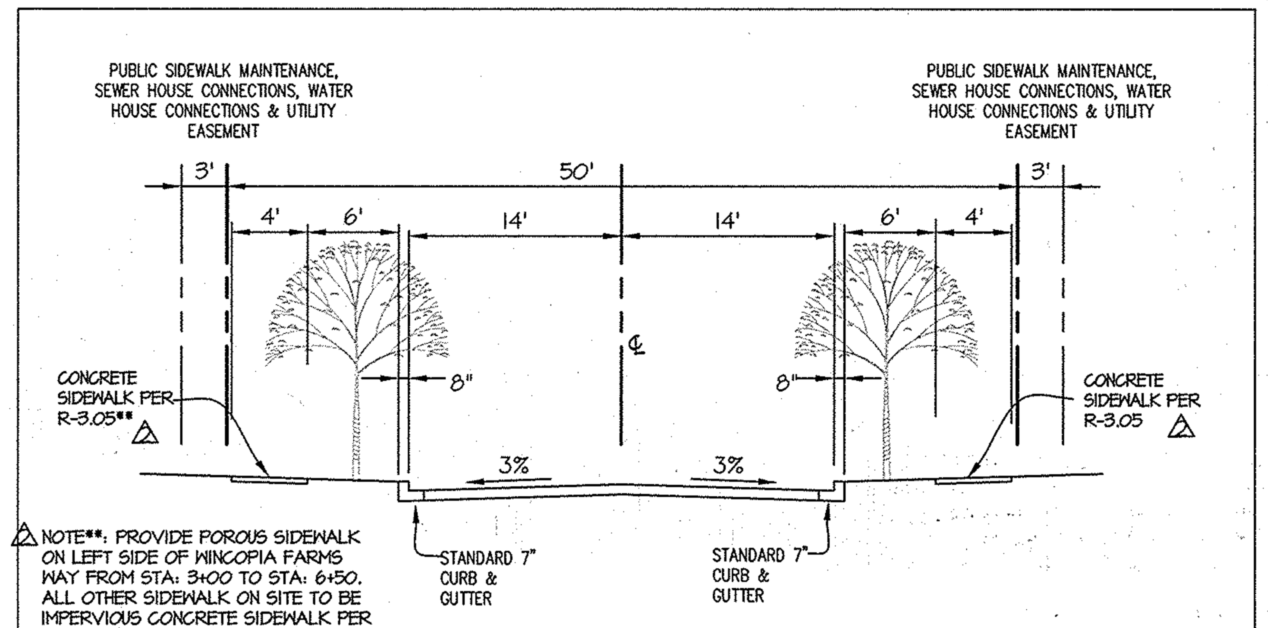
F-13-103

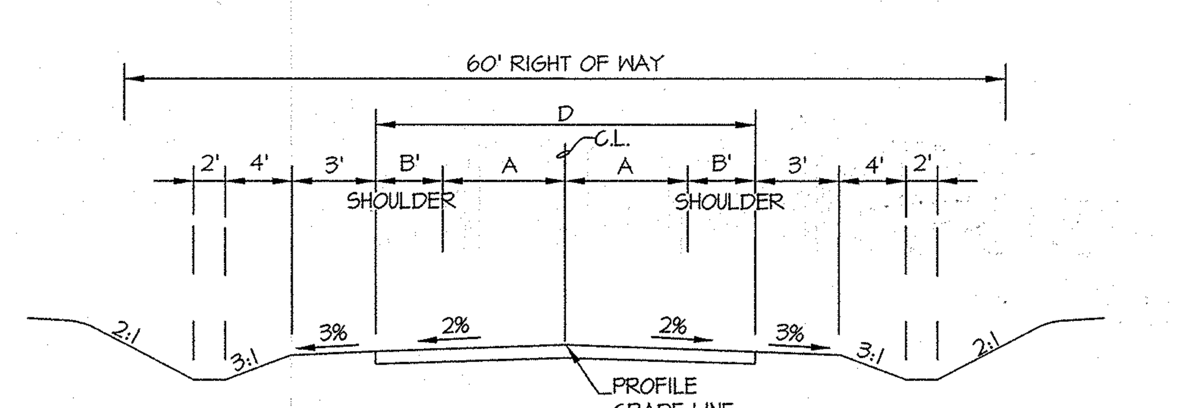


TYPICAL SECTION



NOTE**: PROVIDE POROUS SIDEWALK ON LEFT SIDE OF WINCOPIA FARMS WAY FROM STA: 3+00 TO STA: 6+50. ALL OTHER SIDEWALK ON SITE TO BE IMPERVIOUS CONCRETE SIDEWALK PER R-3.05

TYPICAL 28' PAVING SECTION W/ STANDARD CURB



TYPICAL OPEN SECTION - GORMAN ROAD

WINCOPIA FARMS WAY - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 12+50	TYP. 28' W/ STANDARD CURB	MINOR COLLECTOR	35 MPH	-	P-5
12+50 TO 15+32	TYPICAL	ACCESS STREET	30 MPH	14'	P-3
15+32 TO 23+74	TYPICAL	ACCESS PLACE	30 MPH	13'	P-3

HENRY HEARN WAY - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 10+74	TYPICAL	ACCESS STREET	30 MPH	13'	P-3
10+74 TO 13+50	TYPICAL	ACCESS STREET	30 MPH	14'	P-3

CYPRESS WAY - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 7+41	TYPICAL	ACCESS PLACE	30 MPH	13'	P-3
7+41 TO 12+43.43	TYPICAL	ACCESS STREET	30 MPH	14'	P-3

ROWAN LANE - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 12+31.93	TYPICAL	ACCESS STREET	30 MPH	13'	P-3

FENNEL WAY - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 8+67.76	TYPICAL	ACCESS STREET	30 MPH	13'	P-3

CALLA CT. - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 4+20.88	TYPICAL	ACCESS STREET	30 MPH	13'	P-3

ERICA LANE - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 5+30.98	TYPICAL	ACCESS STREET	30 MPH	14'	P-3

BLUEBELL WAY - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 4+87.51	TYPICAL	ACCESS PLACE	30 MPH	13'	P-3
4+87.51 TO 7+53.66	TYPICAL	ACCESS PLACE	30 MPH	12'	P-3

PEONY LANE - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 6+18.41	TYPICAL	ACCESS STREET	30 MPH	13'	P-3

FLORA COURT - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 3+15	TYPICAL	ACCESS PLACE	30 MPH	12'	P-3

BALSAM WAY - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 6+52	TYPICAL	ACCESS PLACE	30 MPH	13'	P-3

LOCH LESS LANE - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 5+63	TYPICAL	ACCESS PLACE	30 MPH	13'	P-3

SIENNA WAY - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 3+87	TYPICAL	ACCESS PLACE	30 MPH	13'	P-3

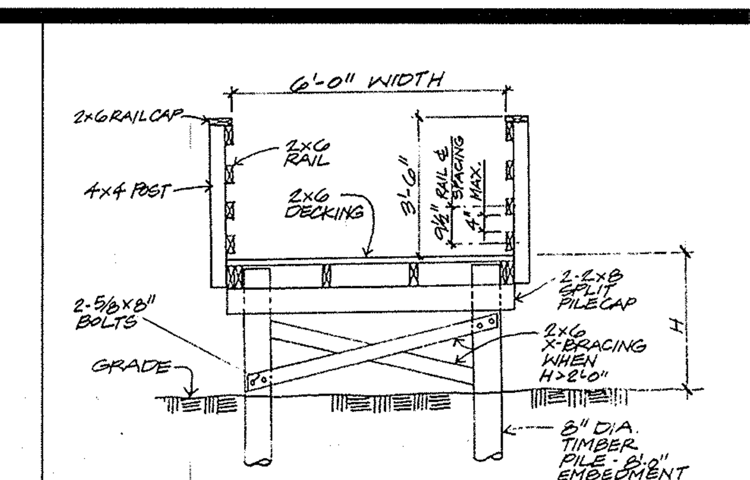
ANISE COURT - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
0+00 TO 1+90	TYPICAL	ACCESS PLACE	30 MPH	12'	P-3

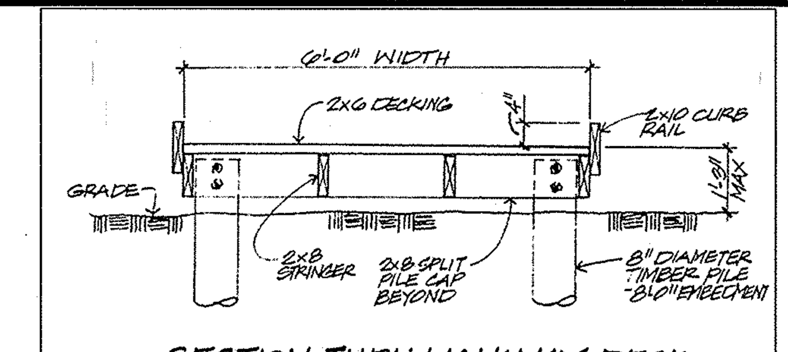
GORMAN ROAD - INFORMATION

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	B		D	PAVING SEC.
106+00 TO 111+84.59	TYPICAL OPEN SECTION	MINOR COLLECTOR	35 MPH	16.5'	5'		43'	P-5
111+84.59 TO 113+77.09	TYPICAL OPEN SECTION	MINOR COLLECTOR	35 MPH	Varies	5'		Varies	P-5
113+77.09 TO 114+50.00	TYPICAL OPEN SECTION	MINOR COLLECTOR	35 MPH	11'	5'		32'	P-5

1 ROAD TYPICAL SECTIONS NO SCALE

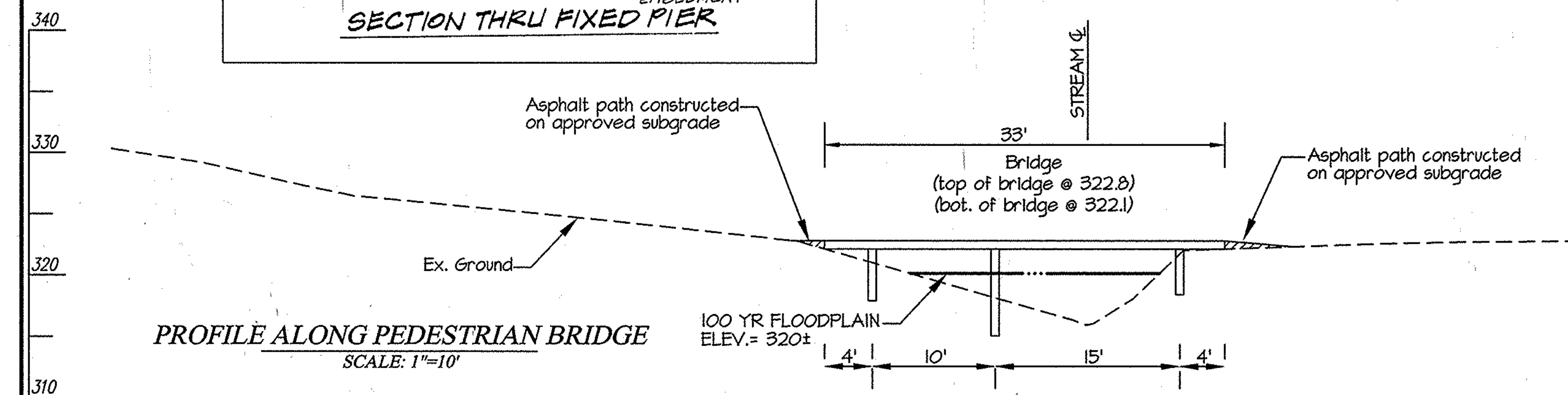


SECTION THRU FIXED PIER



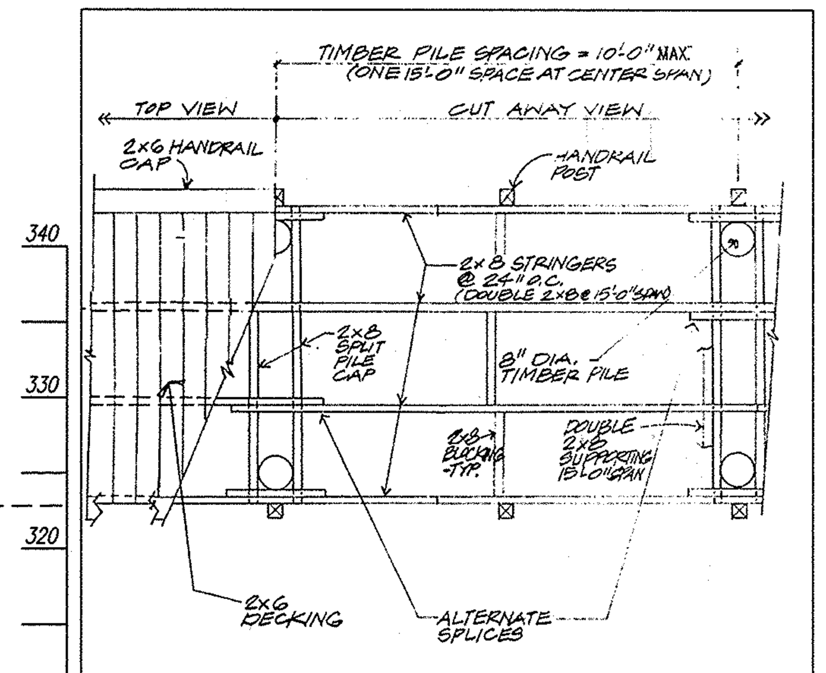
SECTION THRU WALKWAY DECK

3/4"=1'-0"



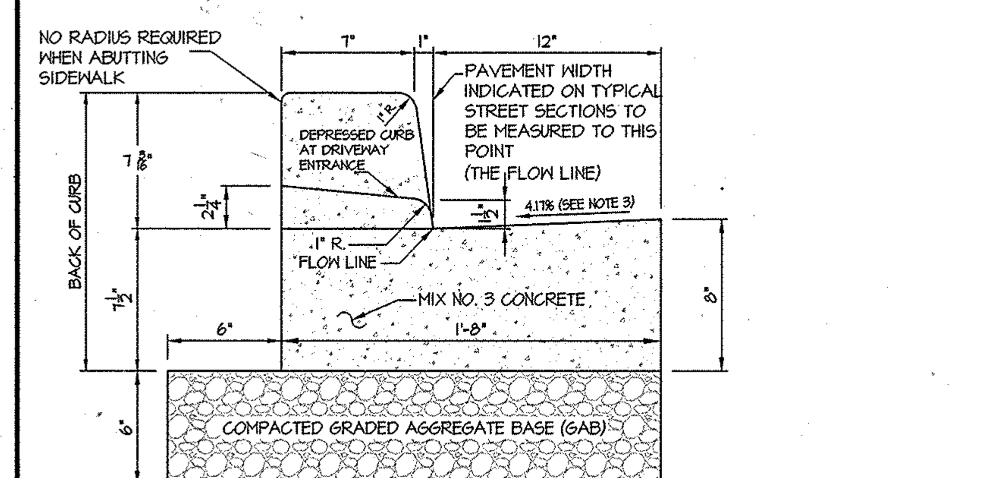
PROFILE ALONG PEDESTRIAN BRIDGE

SCALE: 1"=10'



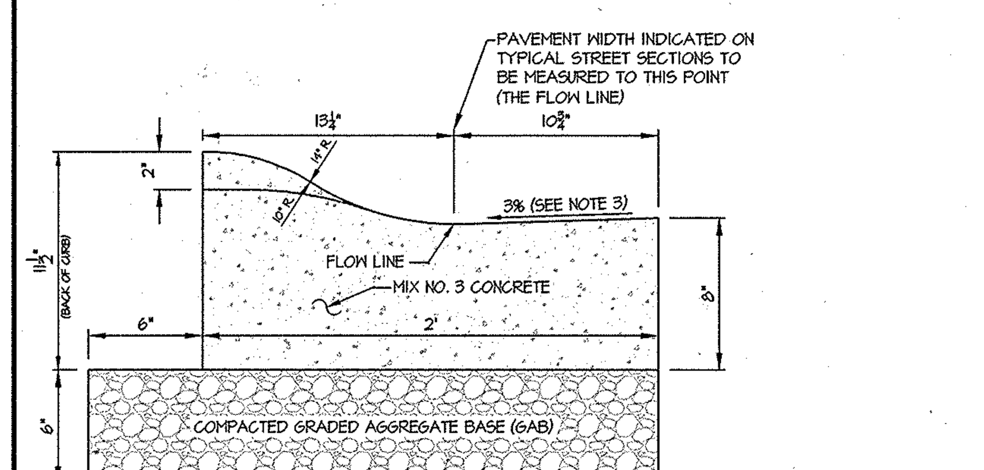
FIXED PIER FRAMING PLAN

4 PEDESTRIAN BRIDGE DETAILS NO SCALE



7" COMBINATION CURB AND GUTTER

N.T.S.



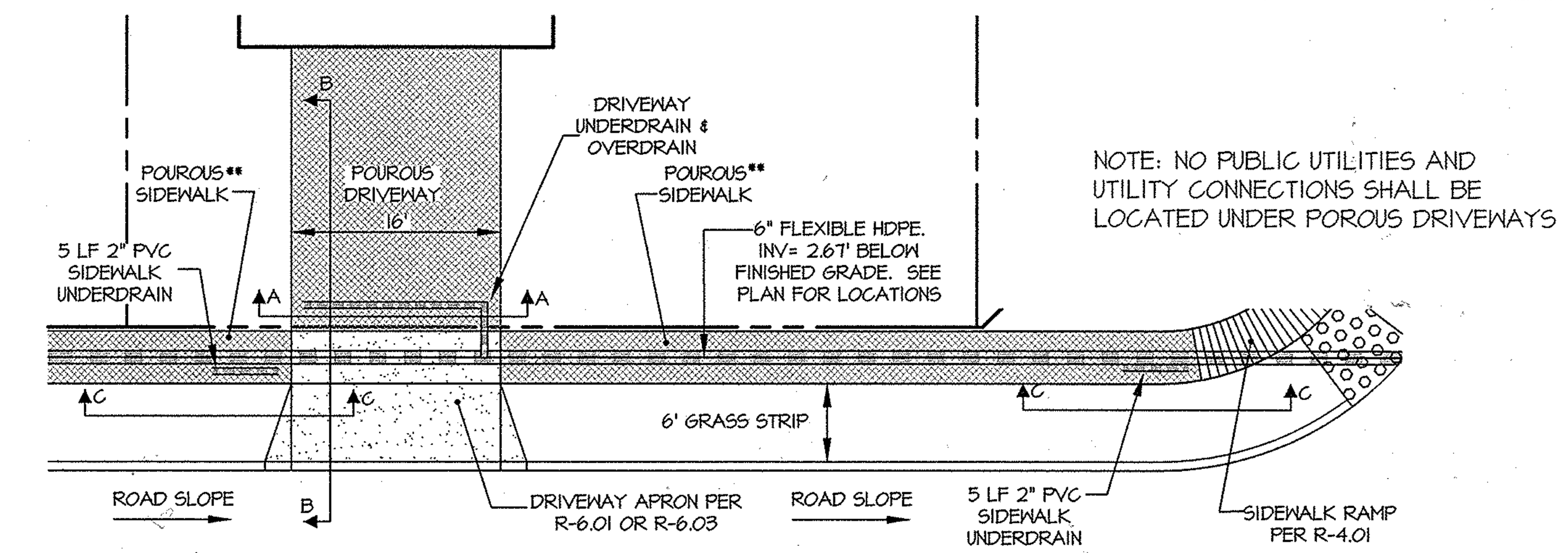
MODIFIED COMBINATION CURB AND GUTTER

N.T.S.

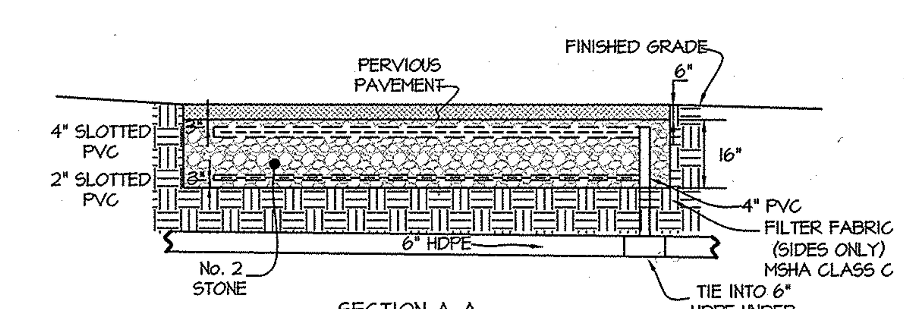
NOTES:

1. STANDARD 7" COMBINATION CURB AND GUTTER TO BE USED IN ALL PUBLIC RIGHTS OF WAY.
2. A REVERSE GUTTER PAN SHALL HAVE A GUTTER SLOPE OF 4.17% AWAY FROM THE FLOW LINE, AND SHALL NOT BE USED WHERE THIS DRAINAGE CREATS A HAZARDOUS CONDITION.
3. GUTTER PAN AT MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.
4. A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.
5. POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.

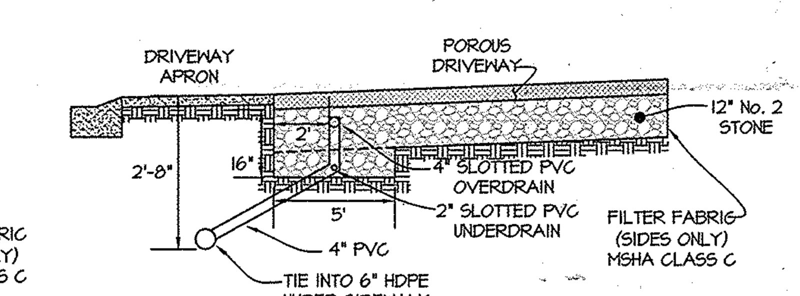
5 CURB DETAILS NO SCALE



NOTE: NO PUBLIC UTILITIES AND UTILITY CONNECTIONS SHALL BE LOCATED UNDER POROUS DRIVEWAYS



SECTION A-A
(NO SCALE)



SECTION B-B
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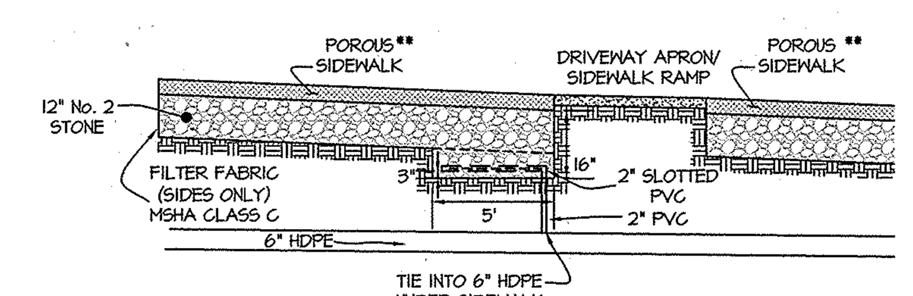
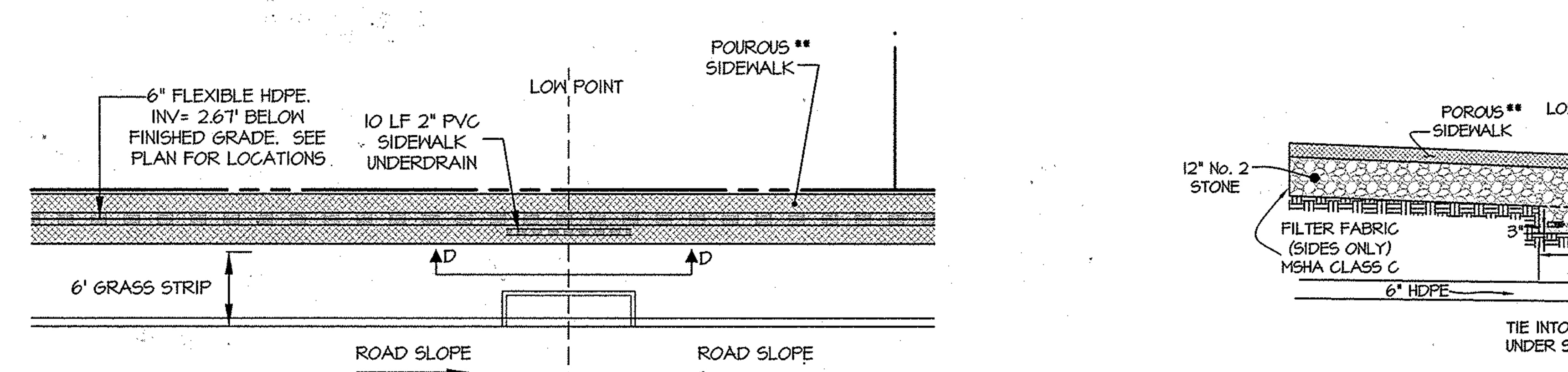
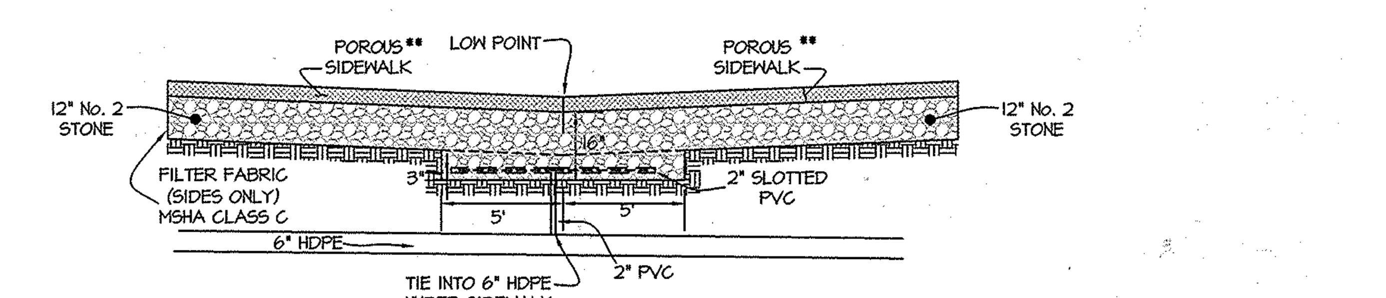


SECTION C-C
(NO SCALE)





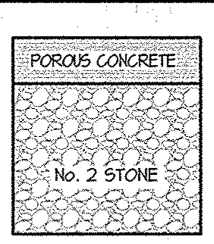
SECTION D-D
(NO SCALE)

NOTE: THE HOA SHALL BE RESPONSIBLE FOR THE ROUTINE MAINTENANCE FOR POROUS SIDEWALKS. SEE OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT, SHEET 59.

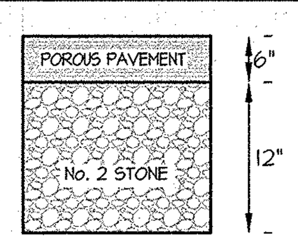
NOTE**: PROVIDE POROUS SIDEWALK ON LEFT SIDE OF WINCOPIA FARMS WAY FROM STA: 3+00 TO STA: 6+50. ALL OTHER SIDEWALK ON SITE TO BE IMPERVIOUS CONCRETE SIDEWALK PER R-3.05

3 POROUS SIDEWALK AND DRIVEWAY DETAILS NO SCALE

NOTE:
DEPENDING ON THE CBR VALUES OBTAINED IN THE FIELD, THE PAVING SECTIONS MAY BE REVISED, IF APPROVED BY A PROFESSIONAL SOILS ENGINEER. THESE SUBSTITUTIONS MUST ALSO BE APPROVED BY THE HOWARD COUNTY DEPT. OF PUBLIC WORKS.

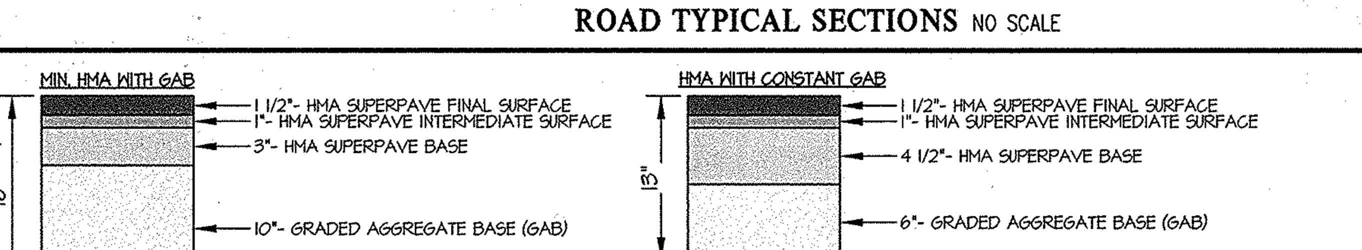


POROUS SIDEWALK SECTION**

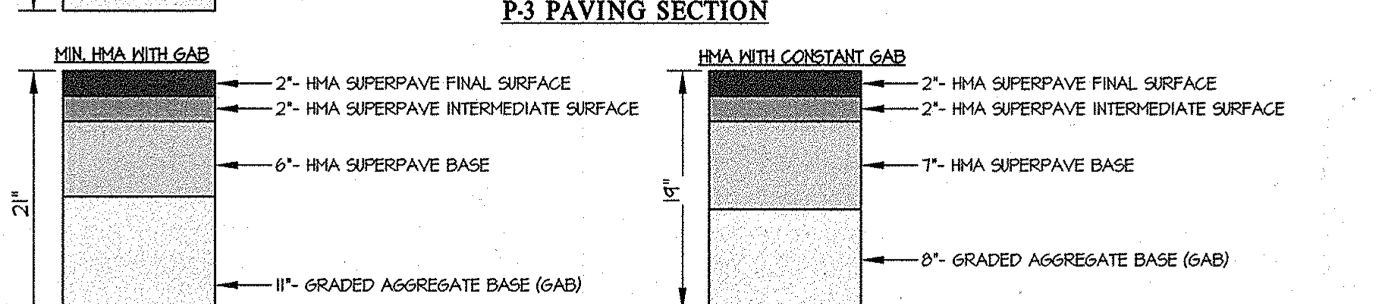


POROUS DRIVEWAY SECTION

NOTE:
POROUS MATERIAL FOR DRIVEWAYS ON PRIVATE LOTS TO BE DETERMINED AT SITE PLAN STAGE



P-3 PAVING SECTION



P-5 PAVING SECTION

2 PAVING SECTIONS NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 3-16-2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 4-23-15
Chief, Development Engineering Division — Date 4.22.15

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-Road Dets.dwg	DES. dds	DRN. dds	CHK.

DATE	REVISION	BY	APP'R.
02/2015	SIDEWALK REVISED △2		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2016
2/25/15

STATE OF MARYLAND — CARLTON KENNETH GUTSCHICK — No. 12975 — PROFESSIONAL ENGINEER

REVISED ROAD DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
FEB., 2015	47-3	17 OF 71

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F-13-103

CONSTRUCTION DETAILS

A. INSTALL 5" WIDE SOLID DOUBLE YELLOW PAVEMENT MARKING FOR CENTERLINE

B. INSTALL 5" WIDE SOLID WHITE PAVEMENT MARKING FOR LANE LINE

C. INSTALL PAVEMENT MARKING SYMBOL AS SHOWN

D. INSTALL GROUND MOUNTED SIGN

E. INSTALL LIGHT POLE MOUNTED SIGN

F. INSTALL 12" WIDE YELLOW PAVEMENT MARKING FOR MEDIAN

G. INSTALL 5" WIDE SOLID/BROKEN (2' SEGMENT - 6' GAP) WHITE PAVEMENT MARKING FOR LEFT TURN LANE

H. INSTALL 24" WIDE SOLID WHITE PAVEMENT MARKING FOR STOP BAR

PAVEMENT MARKING NOTES

1. ALL LONG LINE MARKINGS TO BE APPLIED USING "SETFAST PREMIUM ALKYD TRAFFIC PAINT" BY SHERWIN WILLIAMS OR APPROVED EQUAL.

2. THE CROSSWALK AND ARROWS TO BE INSTALLED USING PREFORMED HEAT APPLIED TAPE OR THERMOPLASTIC.

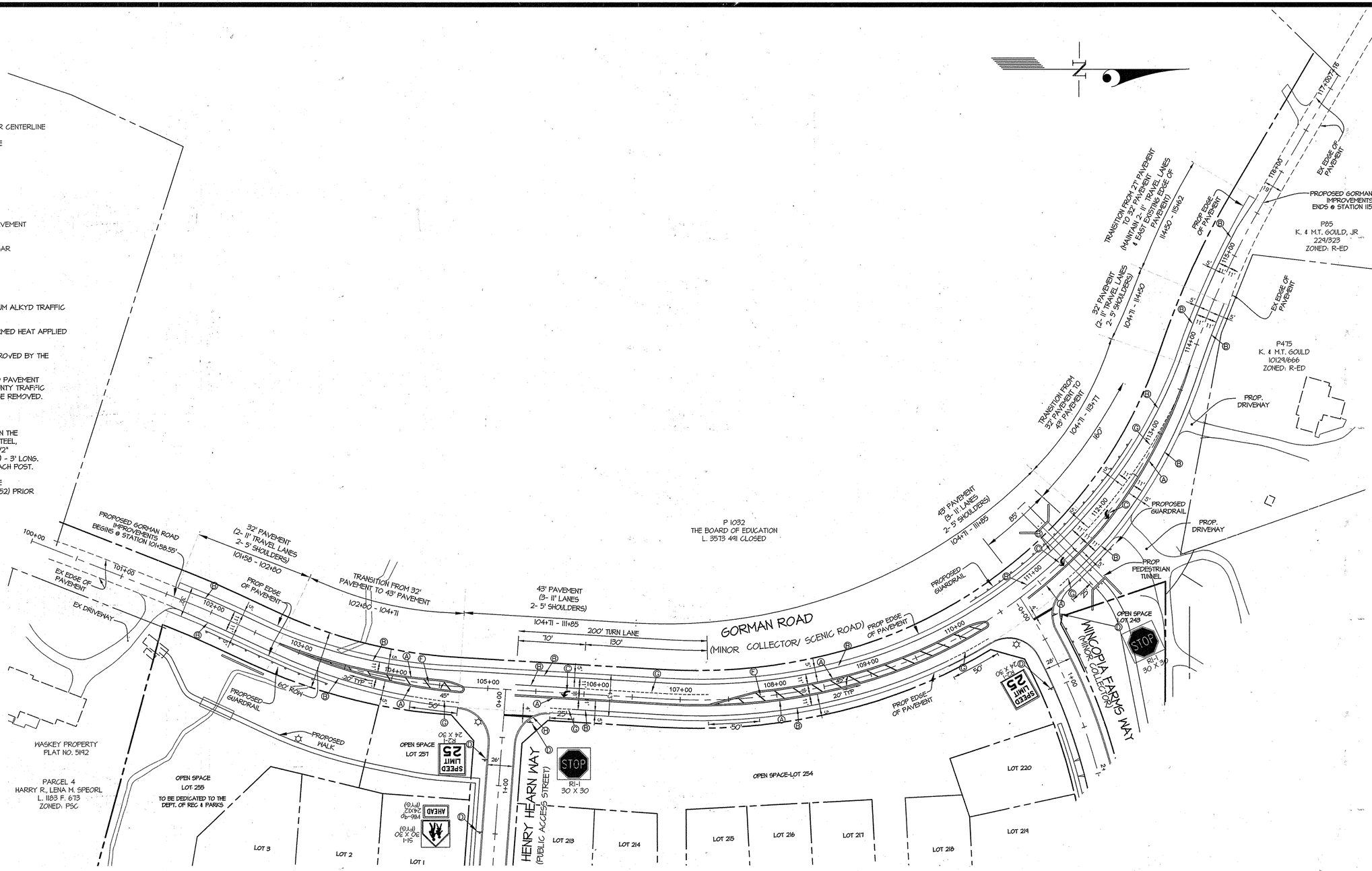
3. ALL PAVEMENT MARKINGS ARE TO BE EITHER LOCATED OR APPROVED BY THE TRAFFIC DIVISION PRIOR TO THE PLACEMENT OF ANY MARKINGS

4. ALL EXISTING PAVEMENT MARKING IN CONFLICT WITH PROPOSED PAVEMENT MARKINGS ARE TO BE REMOVED BY GRINDING ONLY. HOWARD COUNTY TRAFFIC (410-313-5752) WILL DETERMINE WHICH EXISTING MARKINGS SHALL BE REMOVED.

SIGNING NOTES:

1. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2' GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

2. ALL SIGN LOCATIONS WITHIN THE PUBLIC RIGHT OF WAY SHALL BE APPROVED BY THE HOWARD COUNTY TRAFFIC DIVISION (410-313-5752) PRIOR TO ANY INSTALLATIONS.



0 10 25 50 100
1 inch = 50 ft.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-30-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
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L:\CADD\DRAWINGS\08052\FINALS\08052-Gorman Stripe.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CHRISTOPHER L. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

GORMAN ROAD SIGNING AND STRIPING PLAN

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	18 OF 71

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F-13-103

SEDIMENT CONTROL LEGEND

- EXISTING CONTOUR (400)
- PROPOSED CONTOUR
- EXISTING TREELINE
- STREAM BUFFER (SB)
- PHASE LIMIT OF DISTURBANCE (LOD)
- OVERALL LIMIT OF DISTURBANCE
- EARTH DIKE
- TEMPORARY SWALE
- PROPOSED SILT FENCE (SF)
- PROPOSED SUPERSILT FENCE (SSF)
- STABILIZED CONSTRUCTION ENTRANCE (SCE)
- TIE IN CONTOUR (SHOWS HOW PROPOSED CONTOURS TIE INTO EXISTING GRADE AT PHASE LIMITS)

SEQUENCE OF CONSTRUCTION:

1. OBTAIN A GRADING PERMIT AND ARRANGE A PRE-CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR (SCI) (1 DAY)
2. INSTALL ALL STABILIZED CONSTRUCTION ENTRANCES (SCE), SILT FENCE (SF), AND SUPER SILT FENCE (SSF) IN PHASE 1. (3 DAYS)

NOTE: WATER AND SEWER OUTFALLS MAY BE CONSTRUCTED AT ANY TIME PROVIDED THAT ALL DISTURBANCE IS STABILIZED AT THE END OF EACH DAY AND ALL SEDIMENT CONTROLS IN THE VICINITY OF THE DISTURBANCE ARE INSTALLED.
NOTE: DELAY CONSTRUCTION OF ANY ESD STORMWATER DEVICE (MICRO-BIORETENTION, SAND FILTER, POROUS PAVEMENT, DRY WELLS) UNTIL ALL CONSTRUCTION, INCLUDING HOUSE CONSTRUCTION, WITHIN THE DRAINAGE AREA OF THAT DEVICE IS COMPLETE.
NOTE: CONTRACTOR TO HAVE PHASING LOD STAKED PRIOR TO BEGINNING CONSTRUCTION ON THAT PHASE.
NOTE: SEE SHEET 20 FOR SEQUENCE OF CONSTRUCTION FOR CULVERT INSTALLATION

3. INSTALL TRAPS 1, 2, & 3. AND EARTH DIKES A, B, C & D (15 DAYS)
4. WITH THE PERMISSION OF THE SCI, MASS GRADE PHASE 1 AND INSTALL ALL UTILITIES SHOWN WITHIN PHASE 1 ON THE SEDIMENT CONTROL PLAN. COORDINATE ALL GORMAN ROAD CONSTRUCTION WITH THE GORMAN ROAD MAINTENANCE OF TRAFFIC PLAN. INSTALL PUMP AROUND AND SSF IN THE VICINITY OF THE NORTHERN MOST EXISTING POND AND WITH THE PERMISSION OF THE SCI, REMOVE EXISTING EMBANKMENT PER THE GRADING SHOWN. ONCE GORMAN ROAD CONSTRUCTION IS COMPLETE AND ALL THE AREA DRAINING TO THE WESTERN SWALE ALONG GORMAN ROAD HAS BEEN STABILIZED, INSTALL SOD FOR SWALE. (60 DAYS)
5. STABILIZE ALL LOT AREA AND BEGIN CONSTRUCTION OF CURB & GUTTER AND PAVEMENT WITHIN PHASE 1. (60 DAYS)
6. ONCE AT LEAST 50% OF PHASE 1 HAS BEEN STABILIZED AND WITH THE PERMISSION OF THE SCI, MOVE ON TO PHASE 2. ONCE ALL AREAS DRAINING TO TRAP 1 HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, TRAP 1 MAY BE REMOVED. ONCE TRAP 1 HAS BEEN REMOVED, INSTALL ALL REMAINING UTILITIES IN THE VICINITY OF TRAP 1.
7. INSTALL ALL SILT FENCE (SF), AND SUPER SILT FENCE (SSF) IN PHASE 2 AND MOVE STABILIZED CONSTRUCTION ENTRANCES AS NECESSARY. (3 DAYS)
8. INSTALL TRAPS 6, BASIN II, AND EARTH DIKES J, K. (30 DAYS)
9. WITH THE PERMISSION OF THE SCI, MASS GRADE PHASE 2 AND INSTALL ALL UTILITIES SHOWN WITHIN PHASE 2 ON THE SEDIMENT CONTROL PLAN. (60 DAYS)
10. STABILIZE ALL LOT AREA AND BEGIN CONSTRUCTION OF CURB & GUTTER AND PAVEMENT WITHIN PHASE 2. (60 DAYS)
11. ONCE AT LEAST 50% OF PHASE 2 HAS BEEN STABILIZED AND WITH THE PERMISSION OF THE SCI, MOVE ON TO PHASE 3. NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT ANY GIVEN TIME. ONCE ALL AREAS DRAINING TO TRAP 2 HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, TRAP 2 MAY BE REMOVED. ONCE TRAP 2 HAS BEEN REMOVED, INSTALL ALL REMAINING UTILITIES IN THE VICINITY OF TRAP 2.
12. INSTALL ALL SILT FENCE (SF), AND SUPER SILT FENCE (SSF) IN PHASE 3 AND MOVE STABILIZED CONSTRUCTION ENTRANCES AS NECESSARY. (3 DAYS)
13. INSTALL TRAPS 8, 9, 10, 12 AND EARTH DIKES G, H, I, L, M, N & O. (30 DAYS)
14. WITH THE PERMISSION OF THE SCI, MASS GRADE PHASE 3 AND INSTALL ALL UTILITIES SHOWN WITHIN PHASE 3 ON THE SEDIMENT CONTROL PLAN. (60 DAYS)
15. STABILIZE ALL LOT AREA AND BEGIN CONSTRUCTION OF CURB & GUTTER AND PAVEMENT WITHIN PHASE 3. (60 DAYS)
16. ONCE AT LEAST 50% OF PHASE 3 HAS BEEN STABILIZED AND WITH THE PERMISSION OF THE SCI, MOVE ON TO PHASE 4. NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT ANY GIVEN TIME. ONCE ALL AREAS DRAINING TO EITHER TRAPS 8, 9, 10 OR 12 HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THAT TRAP MAY BE REMOVED. ONCE A TRAP HAS BEEN REMOVED, INSTALL ALL REMAINING UTILITIES IN THE VICINITY OF THAT TRAP. ONCE ALL AREA DRAINING TO BASIN II HAS BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BASIN II MAY BE CONVERTED TO SAND FILTER #3. INSTALL ANY REMAINING UTILITIES IN THE VICINITY OF SAND FILTER #3.
17. INSTALL ALL SILT FENCE (SF), AND SUPER SILT FENCE (SSF) IN PHASE 4 & 5 AND MOVE STABILIZED CONSTRUCTION ENTRANCES AS NECESSARY. (3 DAYS)
18. INSTALL TRAPS 4 & 5 AND EARTH DIKES E, F, P & Q. (30 DAYS)
19. WITH THE PERMISSION OF THE SCI, MASS GRADE PHASE 4 AND INSTALL ALL UTILITIES SHOWN WITHIN PHASE 4 ON THE SEDIMENT CONTROL PLAN. (60 DAYS)
20. STABILIZE ALL LOT AREA AND BEGIN CONSTRUCTION OF CURB & GUTTER AND PAVEMENT WITHIN PHASE 4. (60 DAYS)
21. ONCE AT LEAST 50% OF PHASE 4 HAS BEEN STABILIZED AND WITH THE PERMISSION OF THE SCI, MOVE ON TO PHASE 5. NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT ANY GIVEN TIME. ONCE ALL AREAS DRAINING TO EITHER TRAPS 3, 4 OR 5 HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THAT TRAP MAY BE REMOVED. ONCE A TRAP HAS BEEN REMOVED, INSTALL ALL REMAINING UTILITIES IN THE VICINITY OF THAT TRAP.
22. INSTALL ANY REMAINING SILT FENCE (SF), AND SUPER SILT FENCE (SSF) IN PHASE 5 AND MOVE STABILIZED CONSTRUCTION ENTRANCES AS NECESSARY. (3 DAYS)
23. WITH THE PERMISSION OF THE SCI, MASS GRADE PHASE 5 AND INSTALL ALL UTILITIES SHOWN WITHIN PHASE 5 ON THE SEDIMENT CONTROL PLAN. (30 DAYS)
24. STABILIZE ALL LOT AREA AND BEGIN CONSTRUCTION OF CURB & GUTTER AND PAVEMENT WITHIN PHASE 5. (30 DAYS)
25. ONCE ALL AREAS HAVE BEEN STABILIZED, REMOVE ANY REMAINING SEDIMENT CONTROL DEVICES.

NOTES:

1. STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE OVER 50', GURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.
3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.
4. IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
5. IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CAN NOT BE INSTALLED UNTIL THE LATER PHASE.
6. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.

STANDARD STABILIZATION NOTE:

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

0 30 75 150 150
1 inch = 150 ft.

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 11/20/13

ENGINEER'S CERTIFICATE

"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'S SIGNATURE — DATE 11-18-13

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND 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 HSCD."

SIGNATURE OF DEVELOPER/BUILDER — DATE 11/18/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
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DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

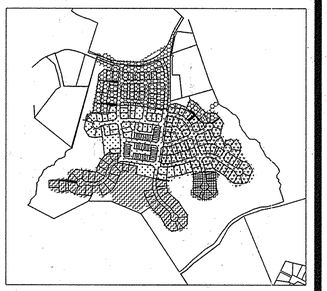
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CHARLTON R. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

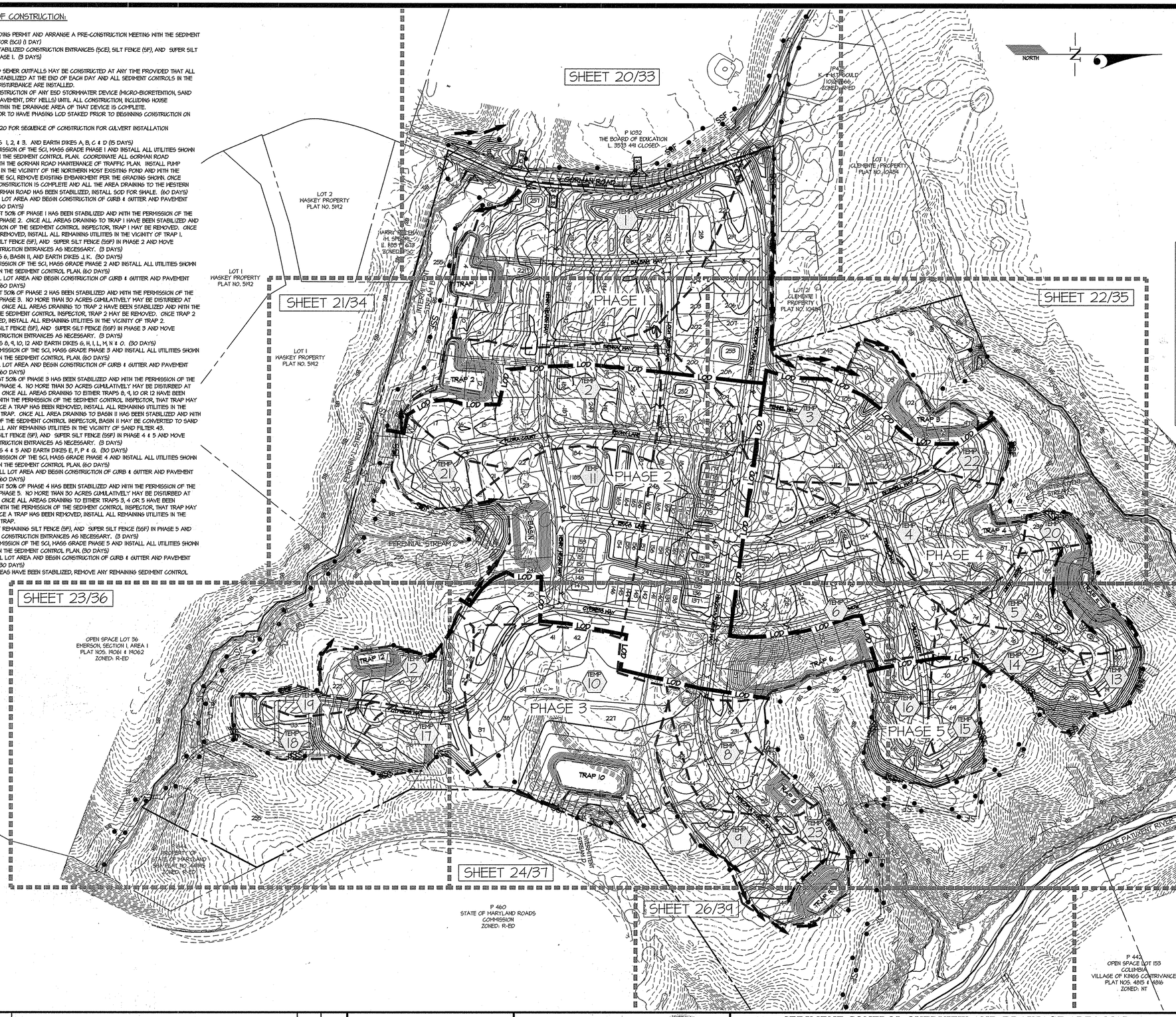
11-18-13

PROPOSED DRAINAGE AREA INFORMATION

AREA NO.	AREA (AC.)	CN	TC (HOURS)
1	8.6	91	0.1
2	5.9	91	0.1
3	9.2	91	0.1
4	3.7	91	0.1
5	2.6	91	0.1
6	6.3	91	0.1
7	8.0	91	0.1
8	2.3	91	0.1
9	3.1	91	0.1
10	6.9	92	0.1
11	16.6	91	0.1
12	2.6	91	0.1
13	0.6	91	0.1
14	1.8	91	0.1
15	1.6	91	0.1
16	1.8	91	0.1
17	1.4	91	0.1
18	1.4	91	0.1
19	0.5	91	0.1
20	0.5	91	0.1
21	1.3	91	0.1
22	0.7	91	0.1
23	0.4	91	0.1



PHASE 1 - LOD = 20.6 AC
PHASE 2 - LOD = 20.0 AC
PHASE 3 - LOD = 20.0 AC
PHASE 4 - LOD = 19.9 AC
PHASE 5 - LOD = 31 AC



SEDIMENT CONTROL OVERVIEW AND DRAINAGE AREA MAP

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=150'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	19 OF 71

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F-13-103

SEDIMENT CONTROL LEGEND

- 400 — EXISTING CONTOUR
- PROPOSED CONTOUR
- TIE IN CONTOUR (SHOWS HOW PROPOSED CONTOURS TIE INTO EXISTING GRADE AT PHASE LIMITS)
- EXISTING TREELINE
- SB — STREAM BUFFER
- LOD — PHASE LIMIT OF DISTURBANCE
- OVERALL LIMIT OF DISTURBANCE
- EARTH DIKE
- TEMPORARY SWALE
- SF — PROPOSED SILT FENCE
- SSF — PROPOSED SUPERSILT FENCE
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- GM — GABION MATTRESS
- CIP/SIP — CURB INLET PROTECTION/STANDARD INLET PROTECTION
- TEMPORARY STOCKPILE AREA — PROPOSED TEMPORARY STOCKPILE AREA
- SEDIMENT BASIN BAFFLES
- MGWC 12 — PUMP AROUND PRACTICE PER MARYLAND'S GUIDELINES TO WATERWAY CONSTRICTION DETAIL 12 SEE DETAIL SHEET 32
- EROSION CONTROL MATTING PER DETAIL B-4-6-G (SHEAR STRESS ≤ 1.5 LB/SF)
- SOD. SEE PERMANENT SEEDING NOTES SHEET 31
- LIMIT OF WETLAND
- WETLAND AREA
- SB — SB — STREAM / BANK BUFFER
- WB — WB — WETLAND BUFFER
- FOREST CONSERVATION EASEMENT
- STREAM BANK
- CENTERLINE OF STREAM
- STEEP SLOPES - 25% AND GREATER

0 10 25 50 100

1 inch = 50 ft.

NOTES:

1. STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE OVER 50', CURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.

3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.

4. IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.

5. IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CAN NOT BE INSTALLED UNTIL THE LATER PHASE.

6. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.

STANDARD STABILIZATION NOTE:

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A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

SEQUENCE OF CONSTRUCTION FOR CULVERT INSTALLATION:

NOTE: NO CONSTRUCTION IS ALLOWED IN THE STREAM BETWEEN MARCH 1 AND MAY 31.
NOTE: SEE MAINTENANCE OF TRAFFIC PLAN FOR DATES THAT GORMAN ROAD IS ALLOWED TO BE CLOSED.

1. INSTALL SSF, SCE, AND CLEAN WATER DIVERSION AS SHOWN IN THE VICINITY OF THE CULVERT. (5 DAYS)
2. INSTALL NEW CULVERT AND DO ALL GRADING POSSIBLE WITHOUT EFFECTING THE EXISTING STREAM ALIGNMENT (21 DAYS).
3. STABILIZE ALL DISTURBED AREA ON THE UPSTREAM END OF THE CULVERT AND INSTALL RIP RAP. (5 DAYS)
4. INSTALL PUMP AROUND PRACTICE PER MARYLAND'S GUIDELINES TO WATERWAY CONSTRICTION DETAIL 12, DO ANY REMAINING GRADING AT THE CULVERT OUTFALL, STABILIZE, AND INSTALL RIP RAP. (10 DAYS)
5. ONCE ALL DISTURBED AREA IS STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, PERMANENTLY REALIGN THE STREAM TO THE NEW CULVERT. (5 DAYS)
6. REMOVE SSF FOLLOWING THE OLD STREAM ALIGNMENT AND INSTALL SSF ON THE NORTH SIDE OF THE NEW STREAM BANKS. (2 DAYS)
7. REMOVE EXISTING CULVERT AND DO ANY REMAINING GRADING. (10 DAYS)
8. INSTALL ANY REMAINING RIP RAP AND STABILIZE ENTIRE LOD IN THE VICINITY OF THE CULVERT. (5 DAYS).
9. REMOVE ANY REMAINING SSF AND CLEAN WATER DIVERSION. (5 DAYS)

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

1) NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

2) PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

3) DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.

4) PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

5) REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.

6) RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.

7) ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (AVENA SP.) AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.

8) AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.

9) TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:
USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.

10) STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.

11) CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 11/20/13

ENGINEER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND 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 HSCD."

ENGINEER'S SIGNATURE — DATE 11-18-13

DEVELOPER'S/BUILDER'S CERTIFICATE

"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."

SIGNATURE OF DEVELOPER/BUILDER — DATE 11/18/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

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DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

SEDIMENT CONTROL PLAN

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	20 OF 71

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F-13-103

NOTES:

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2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE OVER 50', GIRL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.

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STANDARD STABILIZATION NOTE:

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A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

0 10 25 50 100

1 inch = 50 ft.

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 11/20/13

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SIGNATURE OF DEVELOPER/BUILDER — DATE 11/18/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

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L:\CADD\DRAWINGS\08052\FINALS\08052-SNE.dwg | DES. dds | DRN. dds | CHK.

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EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

SEDIMENT CONTROL PLAN

WINCOPIA FARMS

LOTS 1-201, 208-220, 258-263 & OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	21 OF 71

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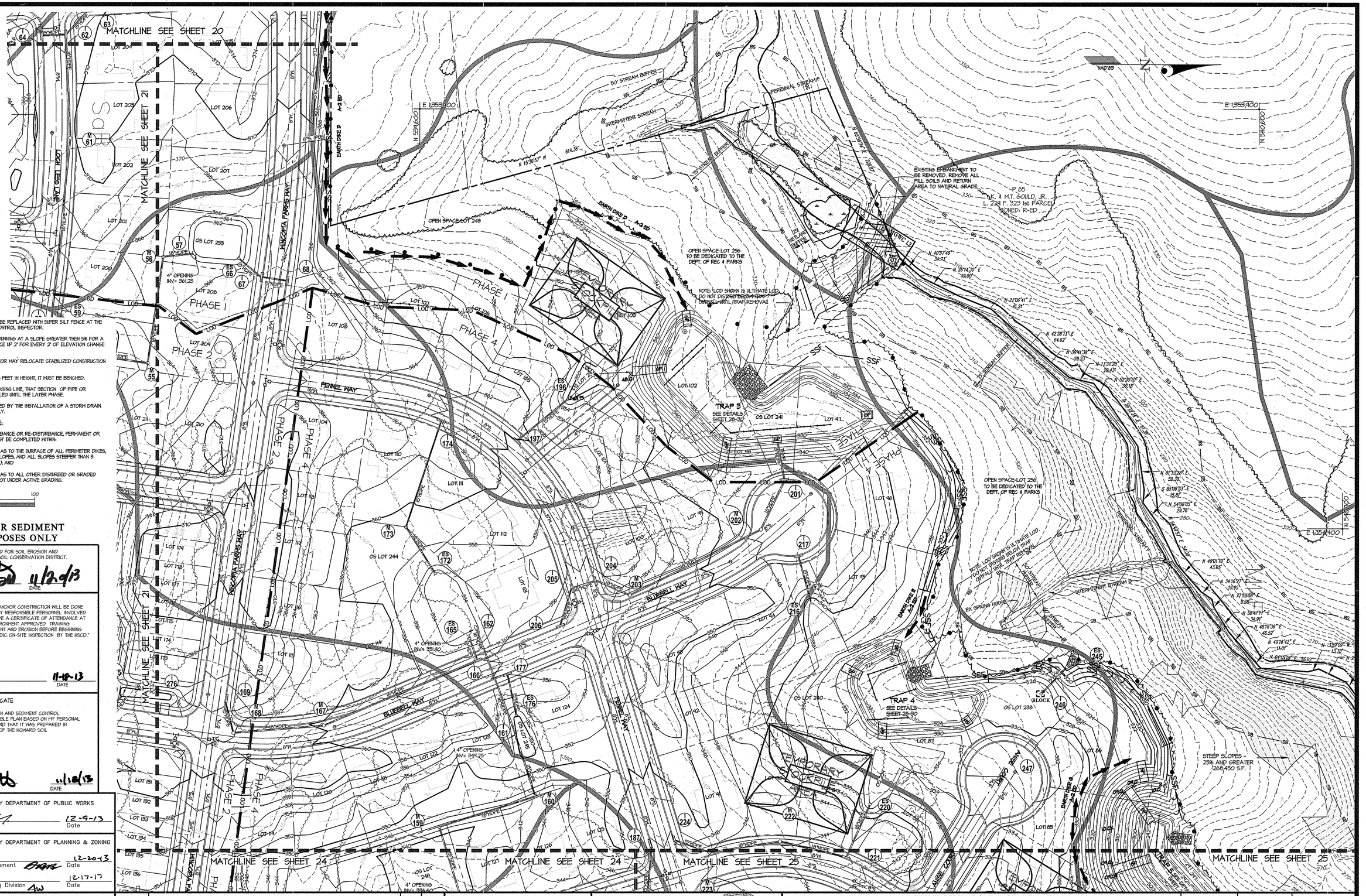
F-13-103



NOTES:

1. STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE OVER 50', CURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.
3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.
4. IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
5. IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CAN NOT BE INSTALLED UNTIL THE LATER PHASE.
6. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.

STANDARD STABILIZATION NOTE:

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B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

0 10 25 50 100

1 inch = 50 ft.

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 11/20/13

ENGINEER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND 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 HSCD."

ENGINEER'S SIGNATURE — DATE 11-18-13

DEVELOPER'S/BUILDER'S CERTIFICATE

"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."

SIGNATURE OF DEVELOPER/BUILDER — DATE 11/18/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

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DATE	REVISION	BY	APP'R.

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PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CLINTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

SEDIMENT CONTROL PLAN

WINCOPIA FARMS

LOTS 1 - 201, 208 - 210, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725 PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	22 OF 71

F-13-103

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HOWARD SOIL CONSERVATION DISTRICT — DATE 11/20/13

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Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

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DATE	REVISION	BY	APP'R.

PREPARED FOR:
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8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

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STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

SEDIMENT CONTROL PLAN

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LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

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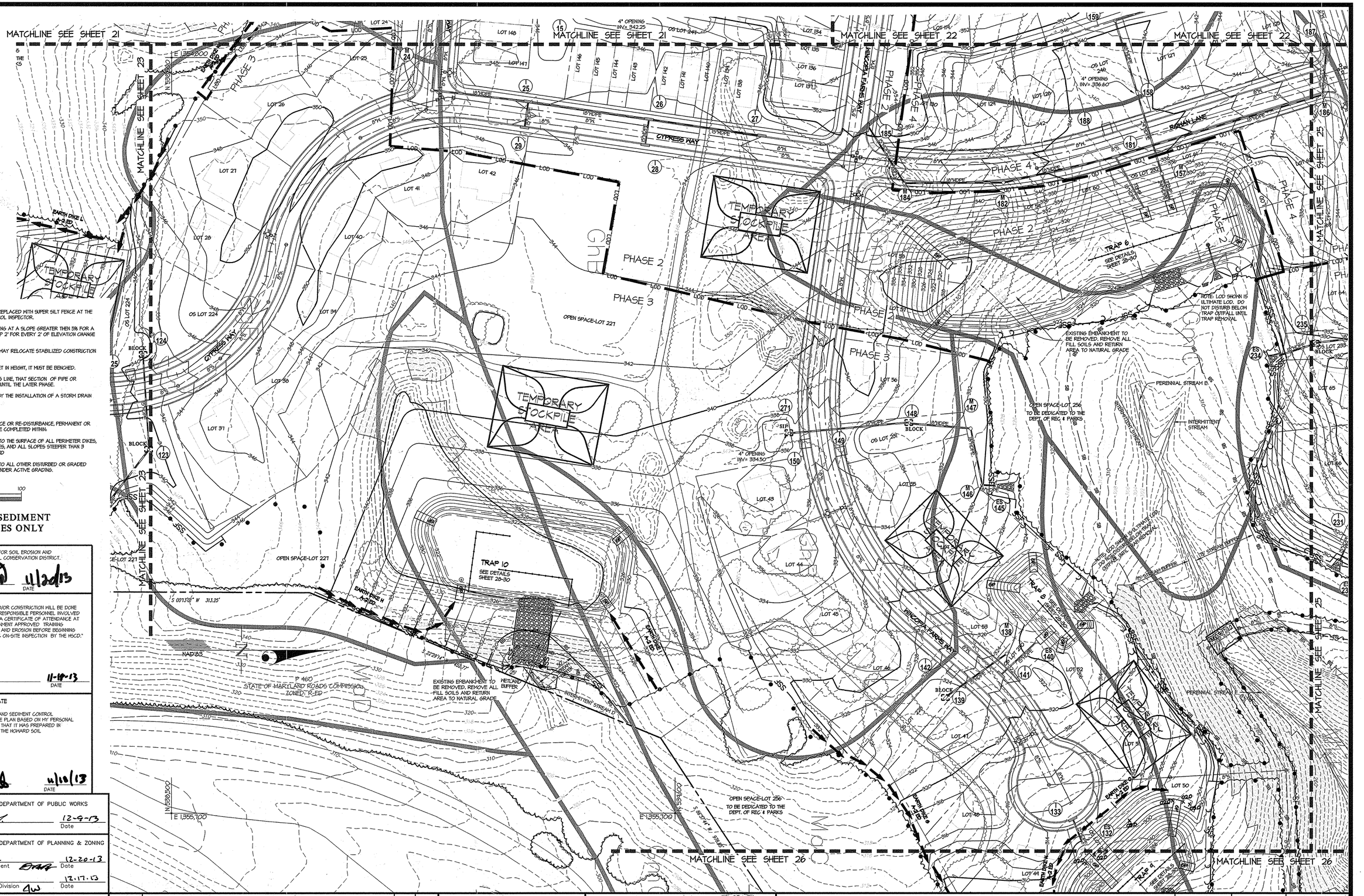

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HOWARD SOIL CONSERVATION DISTRICT — DATE 11/20/13

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SIGNATURE OF DEVELOPER/BUILDER — DATE 11/10/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

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DATE	REVISION	BY	APP'R.

PREPARED FOR:

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SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

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EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CLIFTON A. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

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L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

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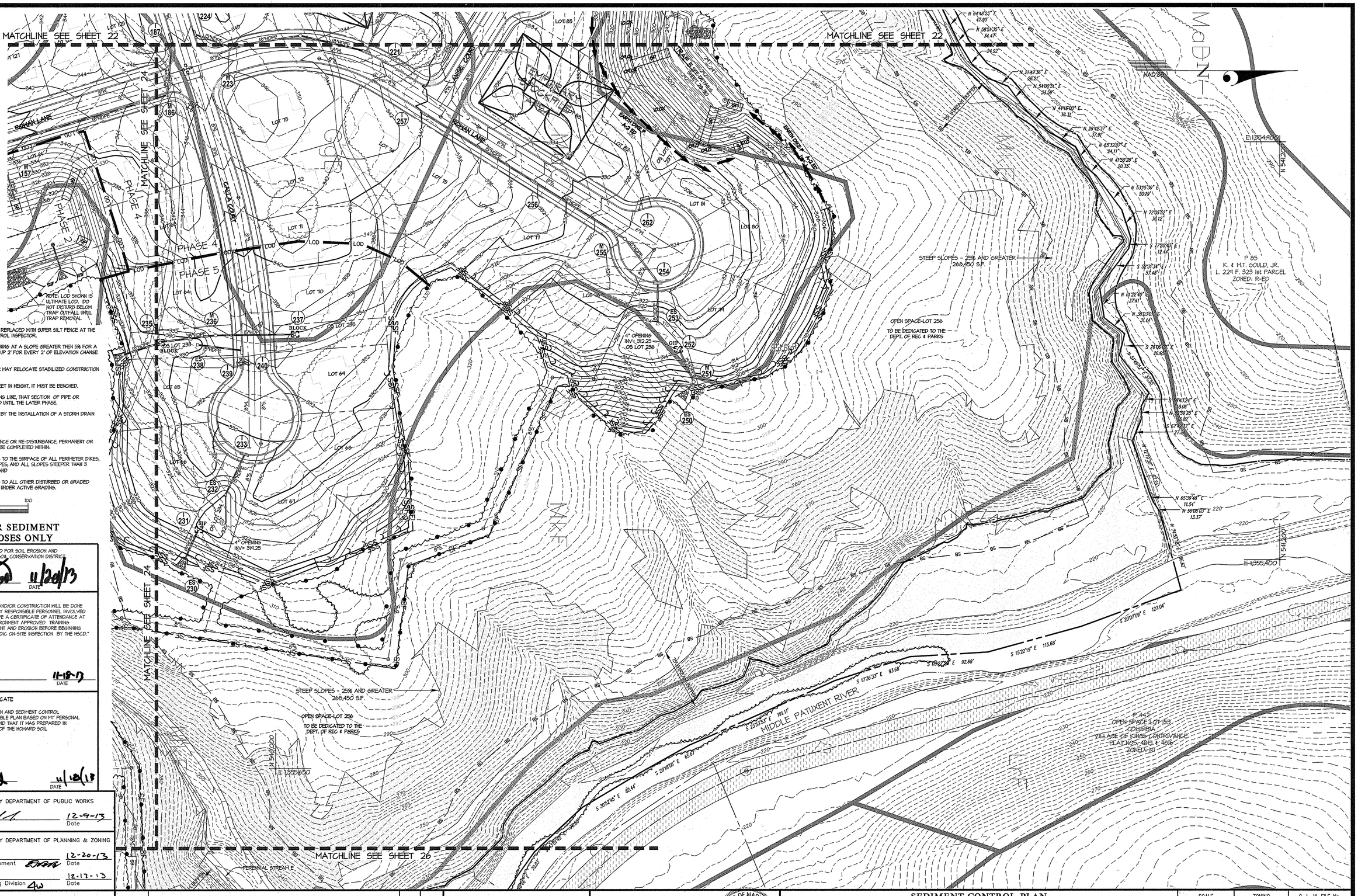

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DATE	REVISION	BY	APP'R.

PREPARED FOR:
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COLUMBIA, MD 21046
BRIAN KNAUFF
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STATE OF MARYLAND — CLINTON K. BUTTERFIELD — PROFESSIONAL ENGINEER — NO. 12975

11-18-13

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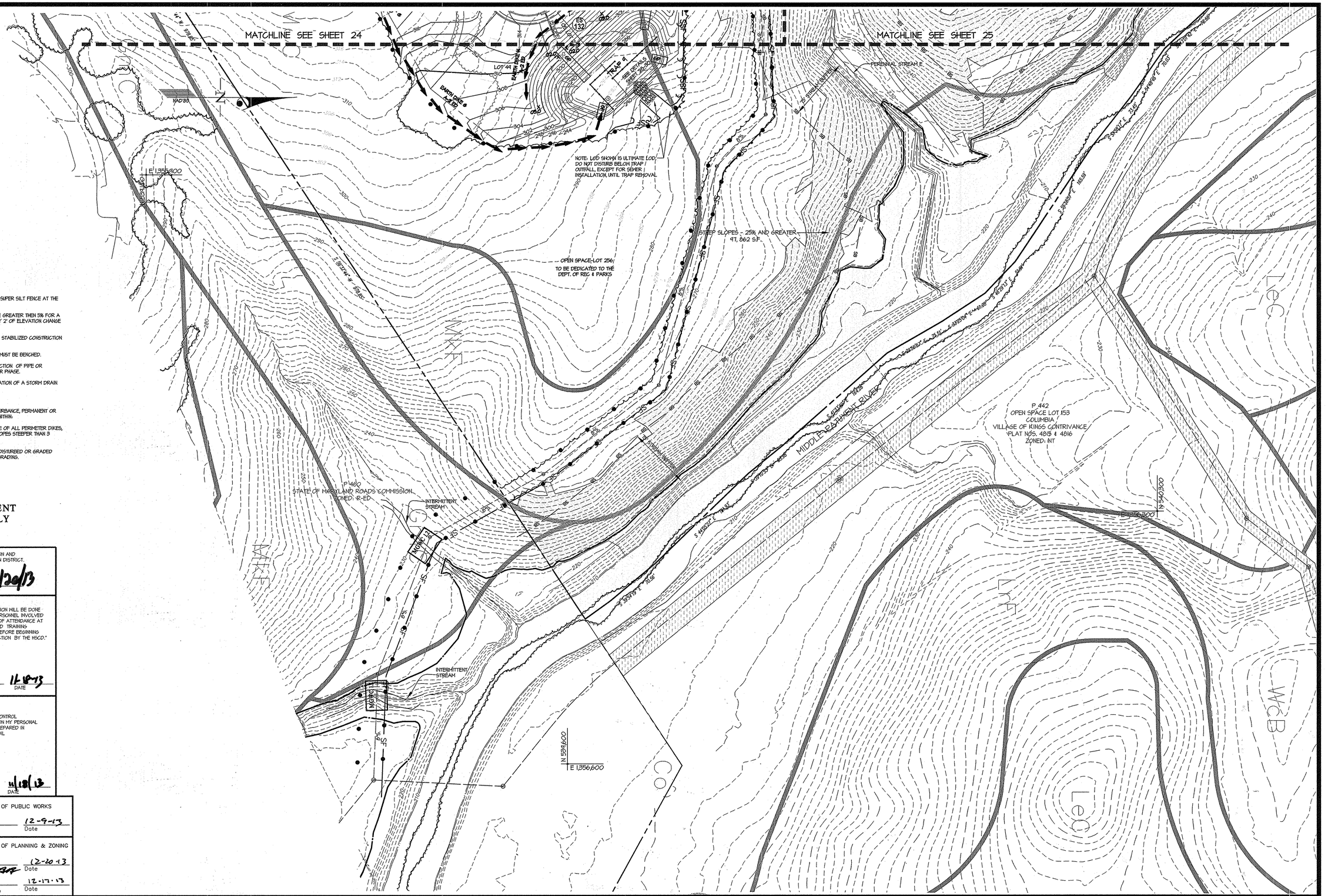

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ENGINEER'S SIGNATURE — DATE 11-19-13

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APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

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STATE OF MARYLAND — CHRISTOPHER K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

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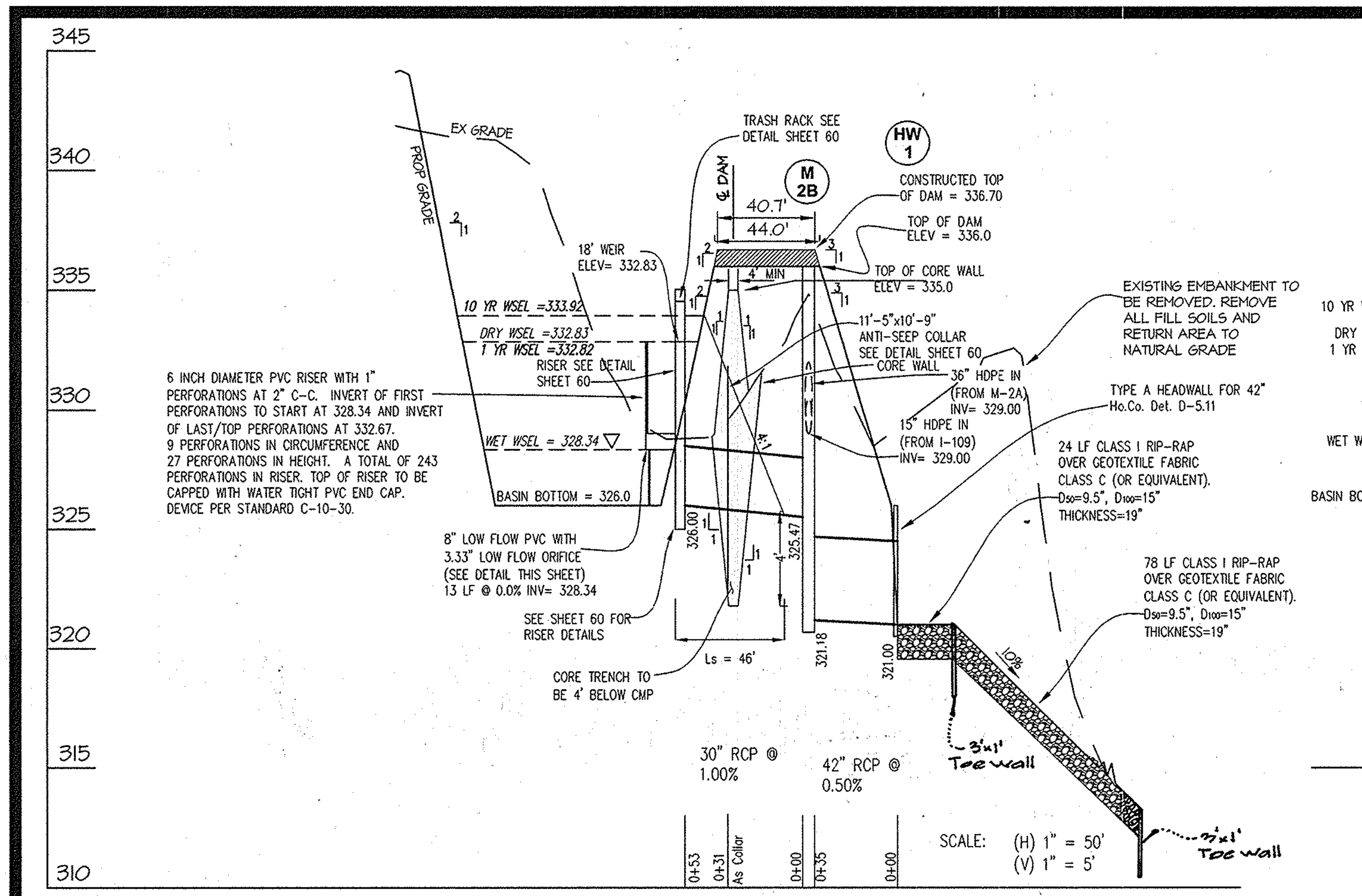
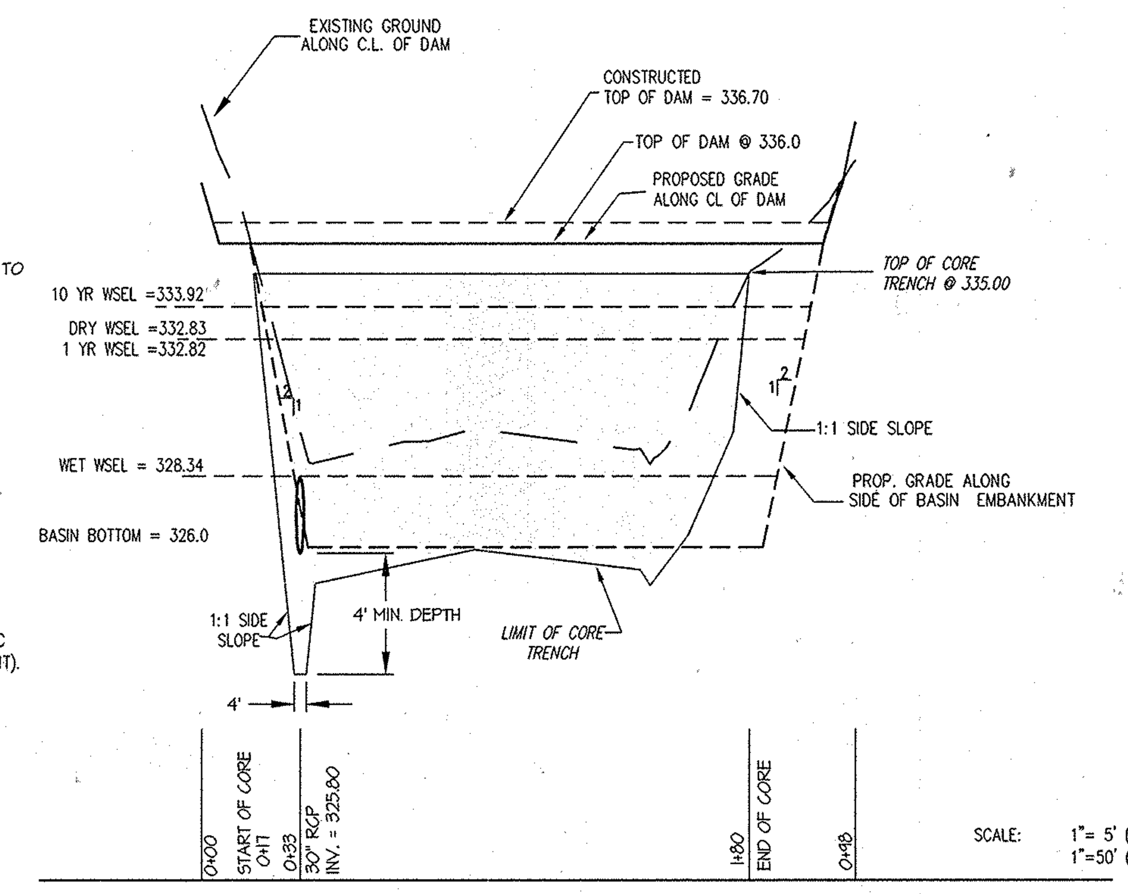


SEDIMENT BASIN 11 - PROFILE THROUGH PRINCIPLE SPILLWAY



CROSS SECTION OF DAM ALONG CENTERLINE BASIN 11

NOTES:

1. CORE TRENCH SHOWN IS THE MINIMUM REQUIRED. DEPENDING ON THE FIELD CONDITIONS, ADDITIONAL DEPTHS AND/OR LIMITS WILL BE REQUIRED. THE GEOTECHNICAL ENGINEER ON SITE MUST BE CONSULTED TO INVESTIGATE THE FIELD CONDITIONS AND DETERMINE THE CORE TRENCH LIMITS.
2. THE CORE TRENCH MUST EXTEND TO AN IMPERVIOUS STRATUS.
3. IF STONE IS ENCOUNTERED, THE CONTRACTOR MUST UNDERCUT 4' (MINIMUM) AND REPLACE WITH SUITABLE MATERIAL TO THE ELEVATION SHOWN ON THESE PLANS.
4. CORE TRENCH AND WALL TO BE GC, CH CL, OR SC MATERIAL ONLY PROVIDE 95% COMPACTION.

NOTES:

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3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.
4. IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
5. IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CAN NOT BE INSTALLED UNTIL THE LATER PHASE.
6. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.

STANDARD STABILIZATION NOTE:

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

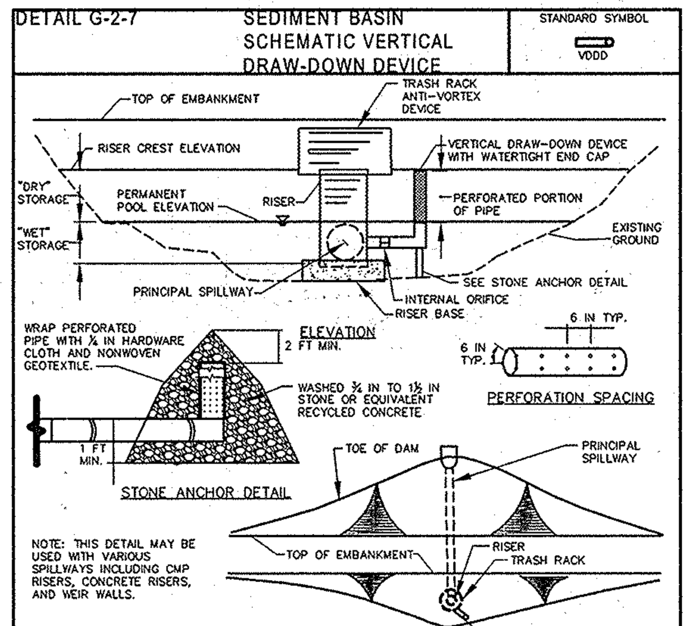
A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

0 10 20 40
1 inch = 20 ft.

DETAIL G-2-7 SEDIMENT BASIN SCHEMATIC VERTICAL DRAW-DOWN DEVICE

STANDARD SYMBOL: VDDD



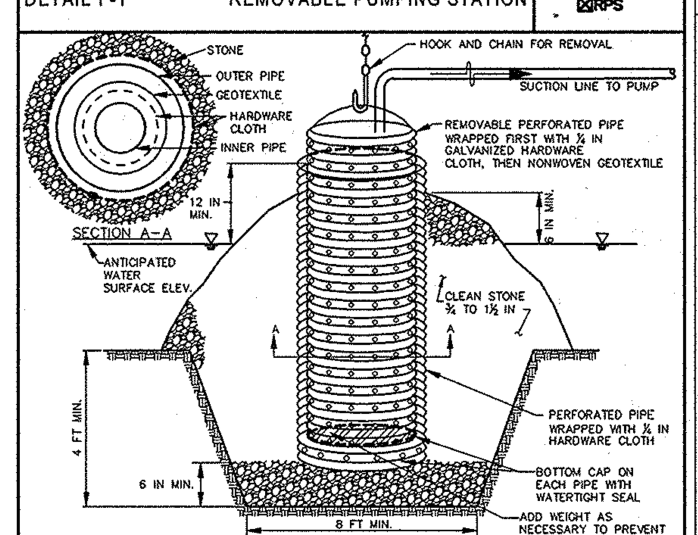
CONSTRUCTION SPECIFICATIONS

1. PERFORATE PIPE WITH 1 INCH DIAMETER PERFORATIONS SPACED 6 INCHES APART LONGITUDINALLY AND RADIALLY OR IN ACCORDANCE WITH APPROVED PLAN.
2. DO NOT EXTEND PERFORATIONS IN THE DRAW-DOWN DEVICE INTO WET STORAGE.
3. WRAP THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE FIRST WITH ¼ INCH GALVANIZED HARDWARE CLOTH, THEN WITH NONWOVEN GEOTEXTILE. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE.
4. AS AN ALTERNATE TO STONE ANCHORING, SECURE DRAW-DOWN DEVICE WITH TWO 1 INCH STEEL ANGLES SET 3 FEET MINIMUM INTO THE GROUND ATTACHED TO DRAW-DOWN DEVICE BY A 1 INCH WIDE GALVANIZED STEEL STRAP OR 12 GAUGE OR HEAVIER WIRE.
5. REMOVE SEDIMENT WHEN IT ACCUMULATES TO CLEANOUT ELEVATION (50% OF THE WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA IN A SUCH A MANNER THAT IT WILL NOT ERODE. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-1 REMOVABLE PUMPING STATION

STANDARD SYMBOL: RPS



CONSTRUCTION SPECIFICATIONS

1. USE CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS 6 INCHES ON CENTER.
2. USE A MINIMUM 12 INCH DIAMETER INNER PIPE WITH AN OUTER PIPE A MINIMUM 6 INCHES LARGER IN DIAMETER. BOTTOM OF EACH PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
3. WRAP EACH PIPE WITH ¼ INCH GALVANIZED HARDWARE CLOTH. ON INNER PIPE WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE HARDWARE CLOTH.
4. EXCAVATE 8 FEET X 8 FEET X 4 FEET DEEP PIT FOR PIPE PLACEMENT. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
5. SET TOP OF INNER AND OUTER PIPES MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION (OR RISER CREST ELEVATION WHEN DEWATERING A BASIN).
6. BACKFILL PIT AROUND THE OUTER PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
7. DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
8. A REMOVABLE PUMPING STATION REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, PULL OUT INNER PIPE AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

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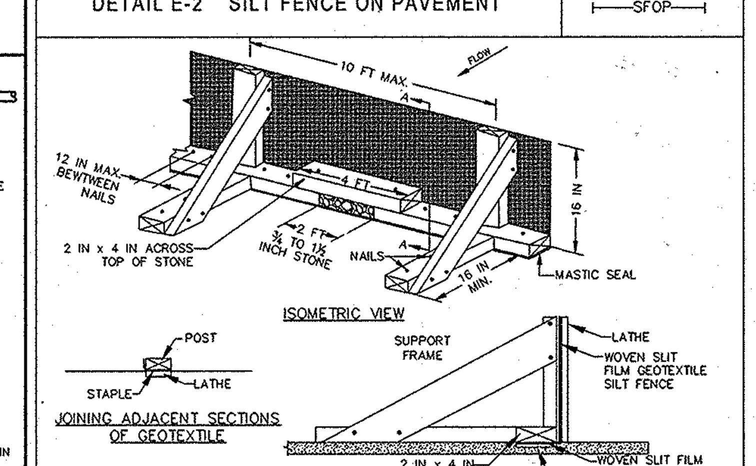
DETAIL E-2 SILT FENCE ON PAVEMENT

STANDARD SYMBOL: SFOP



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH X 4 INCH LUMBER.
2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
3. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
4. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
5. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
6. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
7. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
8. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
9. SECURE BOARDS TO PAVEMENT WITH 40D 5 INCH MINIMUM LENGTH NAILS.
10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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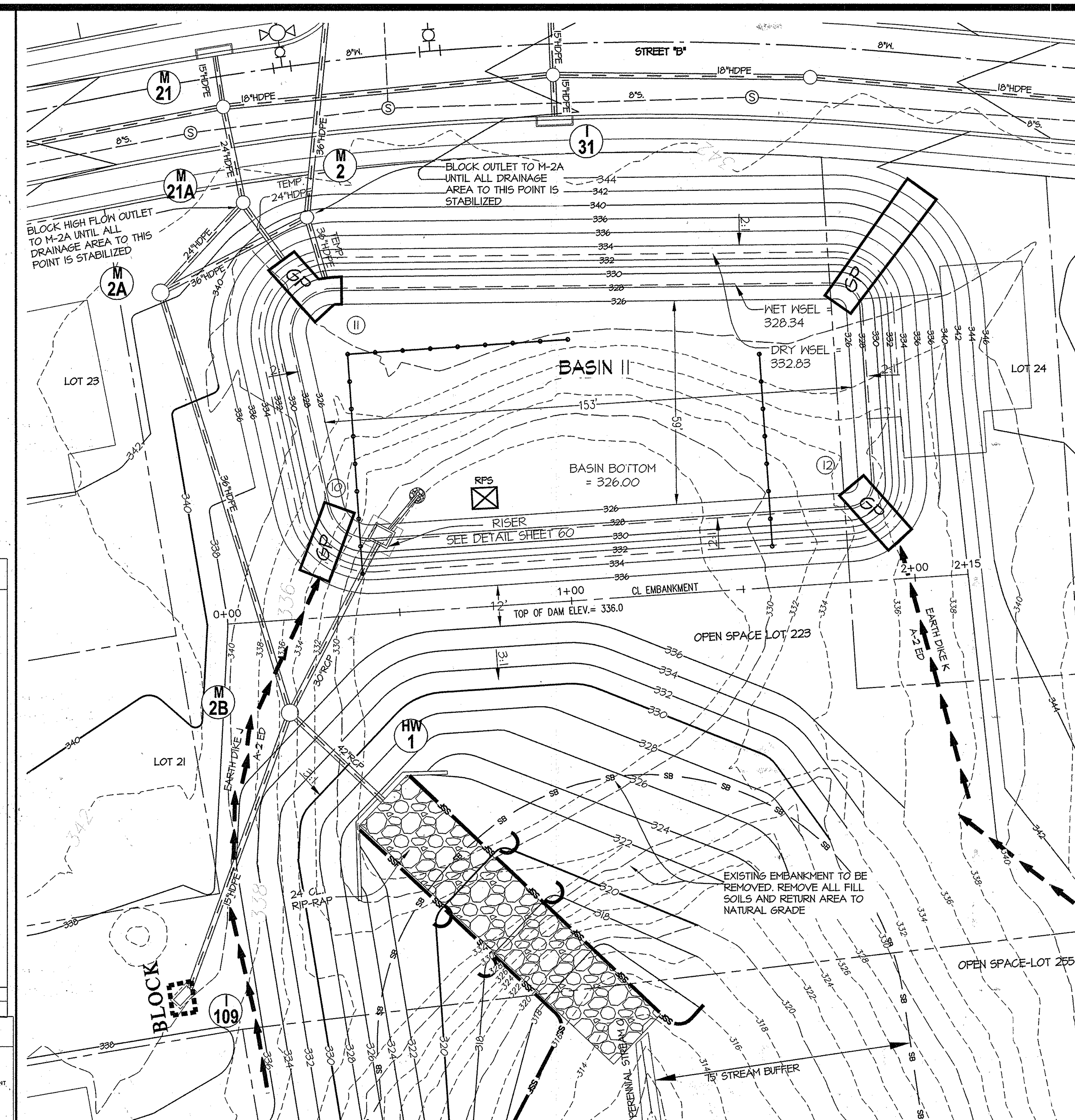


BASIN 11 DETAILS SCALE: 1" = 20'

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 11/20/13

ENGINEER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND 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 HSCD."

ENGINEER'S SIGNATURE — DATE 11-18-13

DEVELOPER'S/BUILDER'S CERTIFICATE

"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."

SIGNATURE OF DEVELOPER/BUILDER — DATE 11/18/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

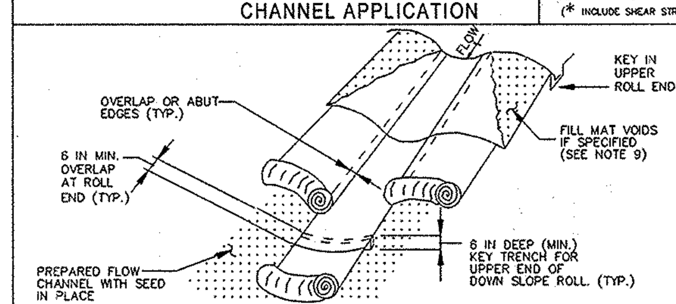
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: PSSMC - * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

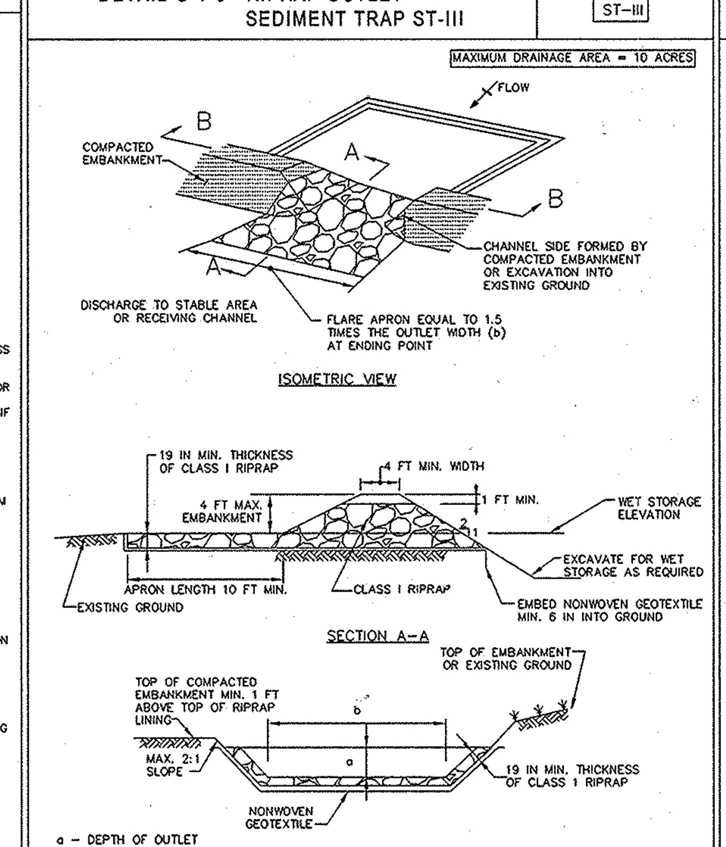
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-1-3 RIPRAP OUTLET SEDIMENT TRAP ST-III

STANDARD SYMBOL: ST-III

MAXIMUM DRAINAGE AREA = 10 ACRES



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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-1-3 RIPRAP OUTLET SEDIMENT TRAP ST-III

STANDARD SYMBOL: ST-III

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
3. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
4. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE TOP OF RIPRAP OUTLET. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
5. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
6. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE BOTTOM AND SIDES OF OUTLET AND APRON PRIOR TO PLACEMENT OF RIPRAP. OVERLAP SECTIONS OF GEOTEXTILE AT LEAST 1 FOOT WITH THE SECTION NEARER TO THE TRAP PLACED ON TOP. EMBED GEOTEXTILE AT LEAST 6 INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
7. USE CLEAN CLASS 1 RIPRAP PLACED 19 INCHES IN DEPTH FOR THE OUTLET AND APRON. USE OF RECYCLED CONCRETE EQUIVALENT IS ACCEPTABLE.
8. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
9. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
10. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (25% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION.
11. WHEN DEWATERING TRAP, PASS THE REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
12. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEDIMENT BASIN 11 DATA TABLE

MAXIMUM INTERIM DRAINAGE AREA : 13.5 AC

WET STORAGE VOL. REQUIRED : 0.56 AC-FT
WET STORAGE VOL. PROVIDED : 0.56 AC-FT
WET STORAGE ELEV : 328.34
DRY STORAGE REQUIRED: 0.56 AC-FT
DRY STORAGE PROVIDED = 1.40 AC-FT
DRY STORAGE WSEL = 332.83
BASIN CLEANOUT ELEVATION = 327.17
EXISTING Q-1YR = 0.62 cfs
INTERIM Q-1YR = 0.61 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q10 = 45.54 cfs
10-YR WSEL = 333.85 ft.
BOTTOM ELEVATION : 326.00
TOP OF EMBANKMENT : 336.00
OUTFALL: PRECAST RISER
RISER WEIR CREST ELEVATION : 332.83
RISER WEIR LENGTH : 18'

DEWATERING DEVICE = 6" PERFORATED PVC -WITH 8" PVC BARREL AT 0.0%
DEWATERING INVERT AT RISER = 328.34
INVERT FIRST PERFORATION = 328.34
DEWATERING PERFORATION CONFIGURATION:
WITH 1" HOLES @ 2" C-O-C.
9 HOLES PER CIRCUMFERENTIAL ROW.
27 HOLES RUNNING VERTICALLY.
243 HOLES TOTAL.

EMERGENCY SPILLWAY ELEV : NA
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR

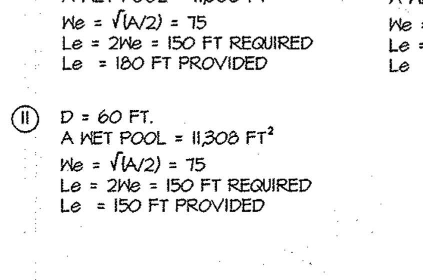
BAFFLE COMPUTATION

(10) D = 13 FT.
A WET POOL = 11,308 FT²
We = √(A/2) = 75
Le = 2We = 150 FT REQUIRED
Le = 180 FT PROVIDED

(11) D = 60 FT.
A WET POOL = 11,308 FT²
We = √(A/2) = 75
Le = 2We = 150 FT REQUIRED
Le = 150 FT PROVIDED

(12) D = 135 FT.
A WET POOL = 11,308 FT²
We = √(A/2) = 75
Le = 2We = 150 FT REQUIRED
Le = 160 FT PROVIDED

TEMPORARY STORMWATER MANAGEMENT LOW FLOW ORIFICE



THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

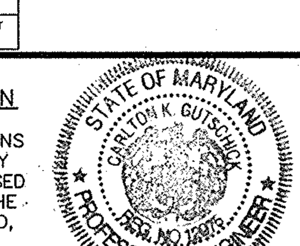
L:\CADD\DRAWINGS\08052\FINALS\08052-SNE-TRAPS.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2014



11-18-13

ELECTION DISTRICT No. 6

SEDIMENT CONTROL DETAILS

WINCOPIA FARMS

LOTS 1-201, 208-220, 258-263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	27 OF 71

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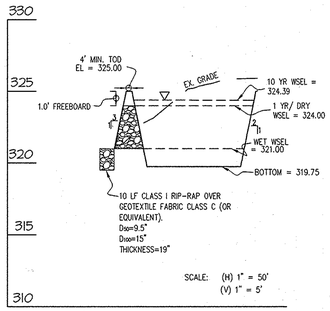
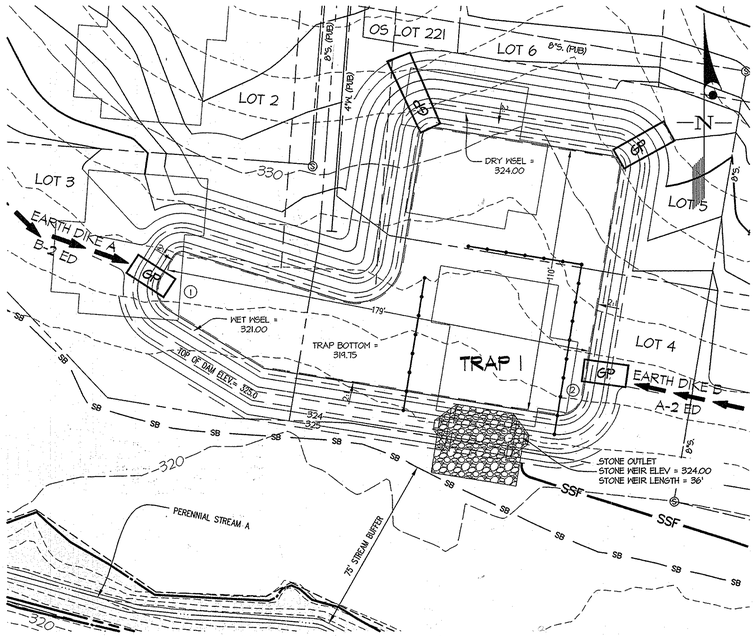
F-13-103



SEDIMENT TRAP 1
PROFILE THROUGH PRINCIPAL SPILLWAY



TRAP 1 DETAILS SCALE: 1" = 30'

SEDIMENT TRAP 1 DATA TABLE

STONE/RIP RAP OUTLET SEDIMENT TRAP (ST-11)

EXISTING DRAINAGE AREA : 8.6 AC
WORST CASE INTERIM DRAINAGE AREA : 8.6 AC

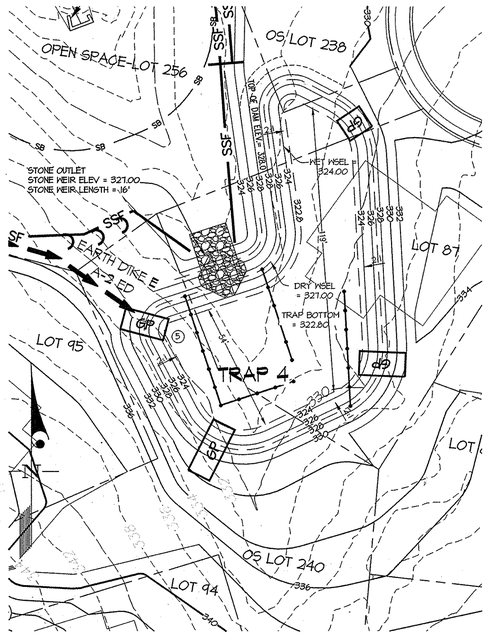
WET STORAGE VOL. REQUIRED : 0.36 AC-FT
WET STORAGE VOL. PROVIDED : 0.37 AC-FT
WET STORAGE ELEV : 321.00
DRY STORAGE REQUIRED: 0.36 AC-FT
DRY STORAGE PROVIDED = 1.04 AC-FT
DRY STORAGE WSEL = 324.00
EXISTING Q-1YR = 0.9 cfs
INTERIM Q-1YR = 0.41 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q_{10} = 36.14 cfs
10-YR WSEL = 324.39 ft.
BOTTOM ELEVATION : 319.75
TOP OF EMBANKMENT : 325.00
WEIR CREST ELEVATION : 324.00
WEIR LENGTH : 36'

EMERGENCY SPILLWAY ELEV : NONE
CLEANOUT ELEVATION : 320.38
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR

BAFFLE COMPUTATION

① D = 135 FT.
A WET POOL = 13,673 FT²
We = √(A/2) = 83
Le = 2We = 166 FT REQUIRED
Le = 168 FT PROVIDED

② D = 50 FT.
A WET POOL = 13,673 FT²
We = √(A/2) = 83
Le = 2We = 166 FT REQUIRED
Le = 170 FT PROVIDED



TRAP 4 DETAILS SCALE: 1" = 30'

SEDIMENT TRAP 4 DATA TABLE

STONE/RIP RAP OUTLET SEDIMENT TRAP (ST-11)

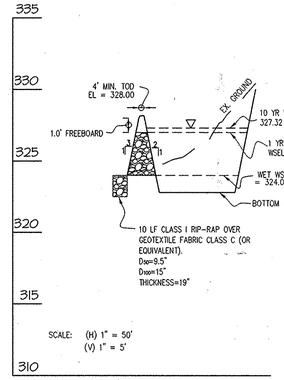
EXISTING DRAINAGE AREA : 3.7 AC
WORST CASE INTERIM DRAINAGE AREA : 3.7 AC

WET STORAGE VOL. REQUIRED : 0.15 AC-FT
WET STORAGE VOL. PROVIDED : 0.16 AC-FT
WET STORAGE ELEV : 324.00
DRY STORAGE REQUIRED: 0.15 AC-FT
DRY STORAGE PROVIDED = 0.52 AC-FT
DRY STORAGE WSEL = 321.00
EXISTING Q-1YR = 0.23 cfs
INTERIM Q-1YR = 0.08 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q_{10} = 13.26 cfs
10-YR WSEL = 321.32 ft.
BOTTOM ELEVATION : 322.80
TOP OF EMBANKMENT : 328.00
WEIR CREST ELEVATION : 321.00
WEIR LENGTH : 16'

EMERGENCY SPILLWAY ELEV : NONE
CLEANOUT ELEVATION : 323.40
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR

BAFFLE COMPUTATION

⑤ D = 40 FT.
A WET POOL = 6,345 FT²
We = √(A/2) = 57
Le = 2We = 114 FT REQUIRED
Le = 120 FT PROVIDED



SEDIMENT TRAP 4
PROFILE THROUGH PRINCIPAL SPILLWAY

TRAP 2 DETAILS SCALE: 1" = 30'

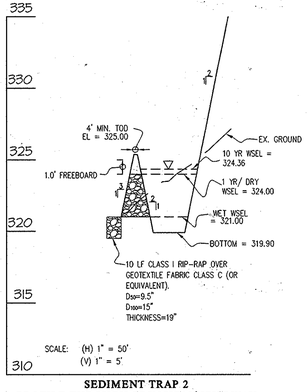
SEDIMENT TRAP 2 DATA TABLE

STONE/RIP RAP OUTLET SEDIMENT TRAP (ST-11)

EXISTING DRAINAGE AREA : 5.9 AC
WORST CASE INTERIM DRAINAGE AREA : 5.9 AC

WET STORAGE VOL. REQUIRED : 0.24 AC-FT
WET STORAGE VOL. PROVIDED : 0.24 AC-FT
WET STORAGE ELEV : 321.00
DRY STORAGE REQUIRED: 0.24 AC-FT
DRY STORAGE PROVIDED = 0.80 AC-FT
DRY STORAGE WSEL = 324.00
EXISTING Q-1YR = 0.56 cfs
INTERIM Q-1YR = 0.17 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q_{10} = 22.47 cfs
10-YR WSEL = 324.36 ft.
BOTTOM ELEVATION : 319.90
TOP OF EMBANKMENT : 325.00
WEIR CREST ELEVATION : 324.00
WEIR LENGTH : 24'

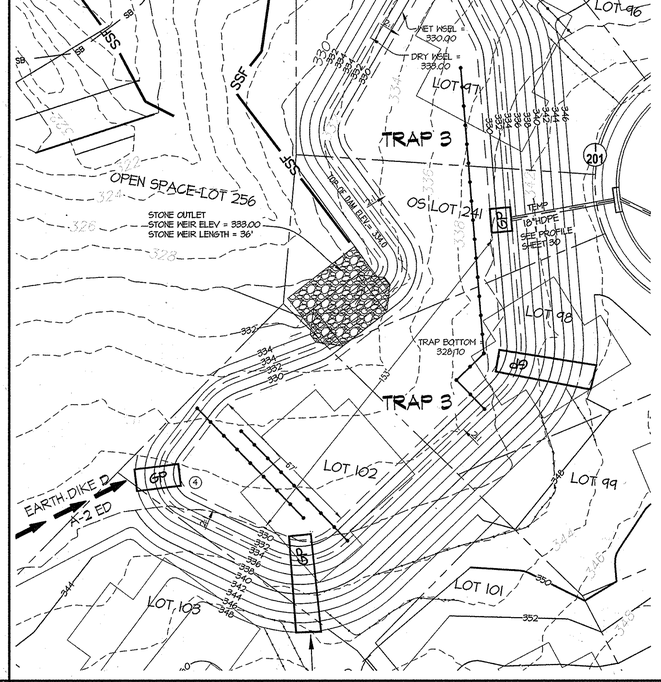
EMERGENCY SPILLWAY ELEV : NONE
CLEANOUT ELEVATION : 320.45
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR



SEDIMENT TRAP 2
PROFILE THROUGH PRINCIPAL SPILLWAY

BAFFLE COMPUTATION

③ D = 88 FT.
A WET POOL = 9,975 FT²
We = √(A/2) = 71
Le = 2We = 142 FT REQUIRED
Le = 150 FT PROVIDED



TRAP 3 DETAILS SCALE: 1" = 30'

SEDIMENT TRAP 3 DATA TABLE

STONE/RIP RAP OUTLET SEDIMENT TRAP (ST-11)

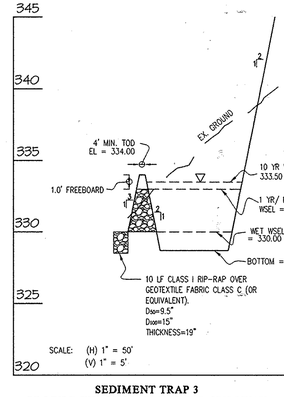
EXISTING DRAINAGE AREA : 9.2 AC
WORST CASE INTERIM DRAINAGE AREA : 9.2 AC

WET STORAGE VOL. REQUIRED : 0.38 AC-FT
WET STORAGE VOL. PROVIDED : 0.39 AC-FT
WET STORAGE ELEV : 330.00
DRY STORAGE REQUIRED: 0.38 AC-FT
DRY STORAGE PROVIDED = 1.10 AC-FT
DRY STORAGE WSEL = 333.00
EXISTING Q-1YR = 0.46 cfs
INTERIM Q-1YR = 0.48 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q_{10} = 46.86 cfs
10-YR WSEL = 333.50 ft.
BOTTOM ELEVATION : 328.70
TOP OF EMBANKMENT : 334.00
WEIR CREST ELEVATION : 333.00
WEIR LENGTH : 36'

EMERGENCY SPILLWAY ELEV : NONE
CLEANOUT ELEVATION : 334.95
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR

BAFFLE COMPUTATION

④ D = 100 FT.
A WET POOL = 13,915 FT²
We = √(A/2) = 83
Le = 2We = 166 FT REQUIRED
Le = 170 FT PROVIDED



SEDIMENT TRAP 3
PROFILE THROUGH PRINCIPAL SPILLWAY

NOTES:

1. STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE OVER 50', CURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.

3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.

4. IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.

5. IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CAN NOT BE INSTALLED UNTIL THE LATER PHASE.

6. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.

STANDARD STABILIZATION NOTE:

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

0 6 15 30 60
1 inch = 30 ft.

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 11/20/13

ENGINEER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND 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 HSCD."

ENGINEER'S SIGNATURE — DATE 11-18-13

DEVELOPER'S/BUILDER'S CERTIFICATE

"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."

SIGNATURE OF DEVELOPER/BUILDER — DATE 11/18/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-SNE-TRAPS.dwg | DES. dds | DRN. lwm | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CLINTON V. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

SEDIMENT CONTROL DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	28 OF 71

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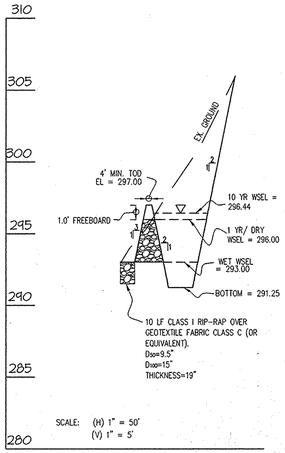
F-13-103



SEDIMENT TRAP 5
PROFILE THROUGH PRINCIPAL SPILLWAY

NOTES:

1. STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE OVER 50', GURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.

3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.

4. IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.

5. IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CAN NOT BE INSTALLED UNTIL THE LATER PHASE.

6. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.

STANDARD STABILIZATION NOTE:

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

0 6 15 30 60

1 inch = 30 ft.

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 11/20/13

ENGINEER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND 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 HSCD."

ENGINEER'S SIGNATURE — DATE 11-8-13

DEVELOPER'S/BUILDER'S CERTIFICATE

"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."

SIGNATURE OF DEVELOPER/BUILDER — DATE 11/19/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

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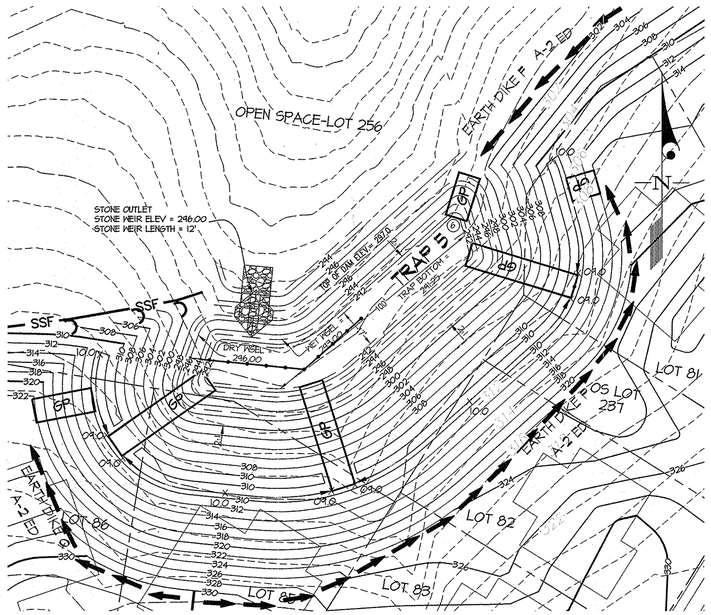
DATE	REVISION	BY	APP'R.



TRAP 5 DETAILS SCALE: 1" = 30'

SEDIMENT TRAP 5 DATA TABLE

STONE/RIP RAP OUTLET SEDIMENT TRAP (ST-II)

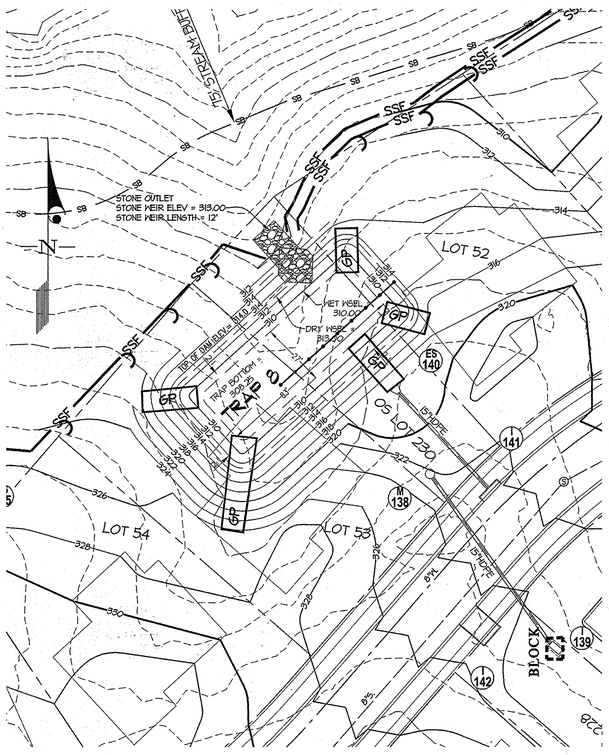
EXISTING DRAINAGE AREA : 2.6 AC
WORST CASE INTERIM DRAINAGE AREA : 2.6 AC

WET STORAGE VOL. REQUIRED : 0.11 AC-FT
WET STORAGE VOL. PROVIDED : 0.11 AC-FT
WET STORAGE ELEV : 243.00
DRY STORAGE REQUIRED: 0.11 AC-FT
DRY STORAGE PROVIDED = 0.21 AC-FT
DRY STORAGE WSEL = 246.00
EXISTING Q-1YR = 0.17 cfs
INTERIM Q-1YR = 0.17 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q_{10} = 13.69 cfs
10-YR WSEL = 246.44 ft.
BOTTOM ELEVATION : 241.25
TOP OF EMBANKMENT : 247.00
WEIR CREST ELEVATION : 246.00
WEIR LENGTH : 12'

EMERGENCY SPILLWAY ELEV : NONE
CLEANOUT ELEVATION : 242.13
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR

BAFFLE COMPUTATION

(6) A WET POOL = 3,175FT²
We = √(A/2) = 40
Le = 2We = 80 FT REQUIRED
Le = 85 FT PROVIDED



TRAP 8 DETAILS SCALE: 1" = 30'

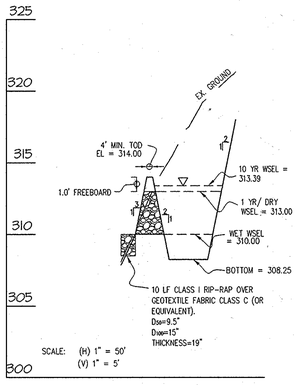
SEDIMENT TRAP 8 DATA TABLE

STONE/RIP RAP OUTLET SEDIMENT TRAP (ST-II)

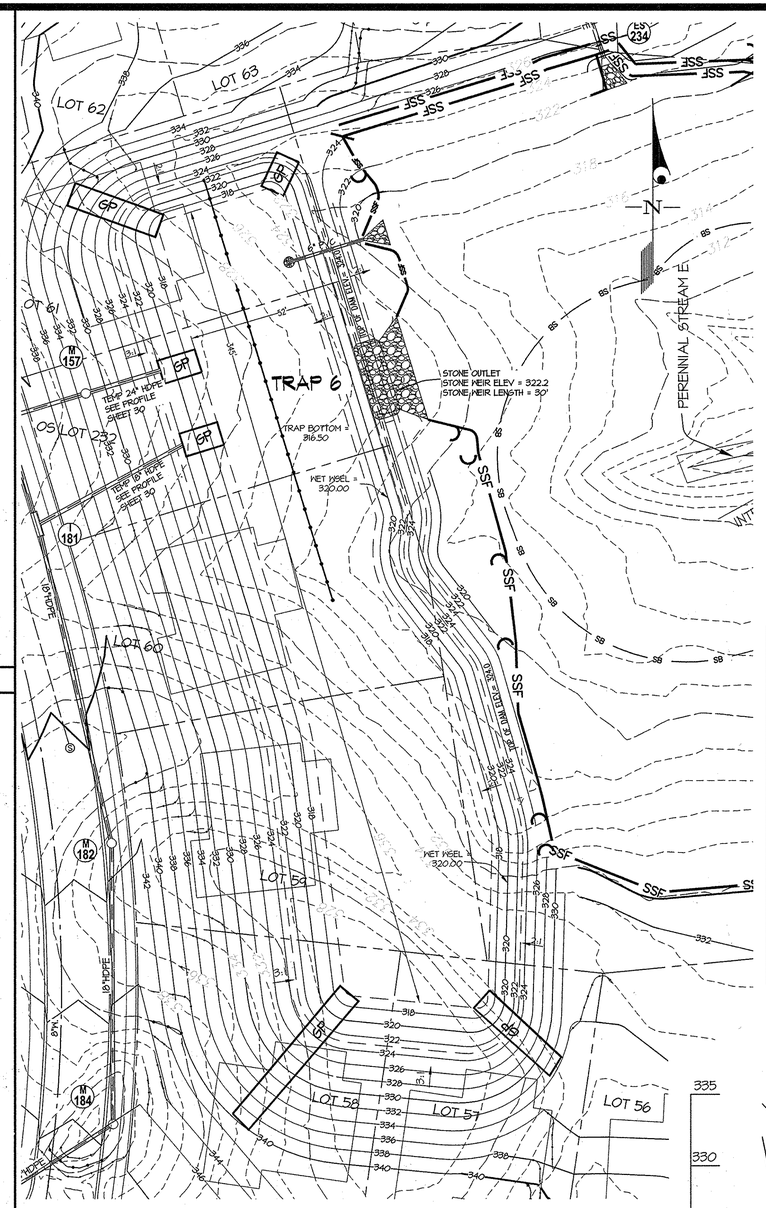
EXISTING DRAINAGE AREA : 2.3 AC
WORST CASE INTERIM DRAINAGE AREA : 2.3 AC

WET STORAGE VOL. REQUIRED : 0.10 AC-FT
WET STORAGE VOL. PROVIDED : 0.11 AC-FT
WET STORAGE ELEV : 310.00
DRY STORAGE REQUIRED: 0.10 AC-FT
DRY STORAGE PROVIDED = 0.26 AC-FT
DRY STORAGE WSEL = 313.00
EXISTING Q-1YR = 0.16 cfs
INTERIM Q-1YR = 0.15 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q_{10} = 12.16 cfs
10-YR WSEL = 313.34 ft.
BOTTOM ELEVATION : 308.25
TOP OF EMBANKMENT : 314.00
WEIR CREST ELEVATION : 313.00
WEIR LENGTH : 12'

EMERGENCY SPILLWAY ELEV : NONE
CLEANOUT ELEVATION : 309.13
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR



SEDIMENT TRAP 8 -
PROFILE THROUGH PRINCIPAL SPILLWAY



TRAP 6 DETAILS SCALE: 1" = 30'

SEDIMENT TRAP 6 DATA TABLE

RIP RAP OUTLET SEDIMENT TRAP (ST-III)

EXISTING DRAINAGE AREA : 14.3 AC
WORST CASE INTERIM DRAINAGE AREA : 14.3 AC

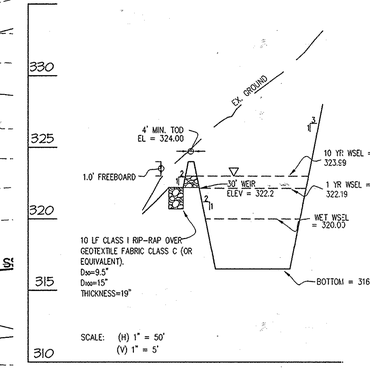
WET STORAGE VOL. REQUIRED : 1.77 AC-FT
WET STORAGE VOL. PROVIDED : 1.80 AC-FT
WET STORAGE ELEV : 320.00

EXISTING Q-1YR = 0.97 cfs
INTERIM Q-1YR = 0.88 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q_{10} = 56.4 cfs
10-YR WSEL = 322.98 ft.
BOTTOM ELEVATION : 316.50
TOP OF EMBANKMENT : 324.00
WEIR CREST ELEVATION : 322.20
WEIR LENGTH : 30'

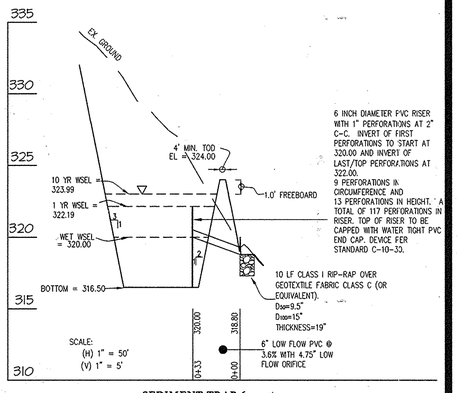
EMERGENCY SPILLWAY ELEV : NONE
CLEANOUT ELEVATION : 318.25
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 2:1 EXTERIOR

BAFFLE COMPUTATION

A WET POOL = 25,300FT²
We = √(A/2) = 112
Le = 2We = 224 FT REQUIRED
Le = 230 FT PROVIDED



SEDIMENT TRAP 6
PROFILE THROUGH PRINCIPAL SPILLWAY



SEDIMENT TRAP 6
PROFILE THROUGH LOW FLOW OUTLET

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CLINTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

SEDIMENT CONTROL DETAILS

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	29 OF 71

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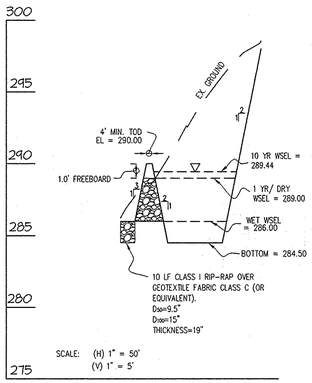
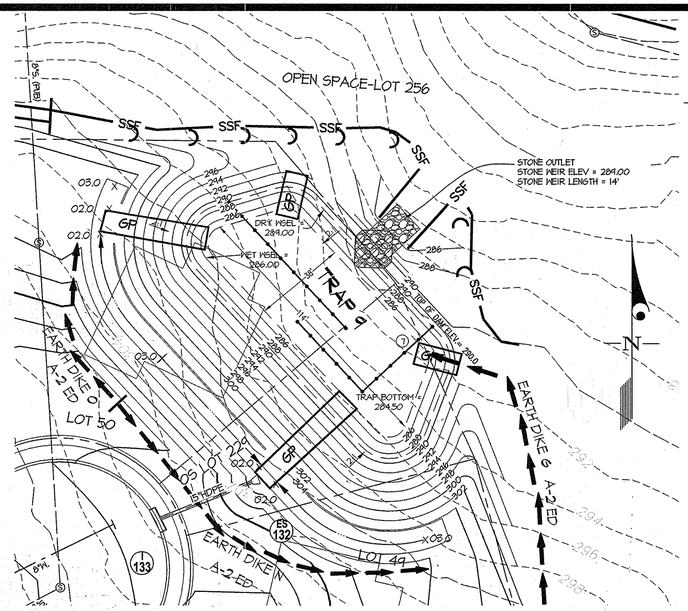
F-13-103



SEDIMENT TRAP 9
PROFILE THROUGH PRINCIPAL SPILLWAY



SEDIMENT TRAP 9 DATA TABLE

STONE/RIP RAP OUTLET SEDIMENT TRAP (ST-II)

EXISTING DRAINAGE AREA : 3.1 AC.
WORST CASE INTERIM DRAINAGE AREA : 3.1 AC

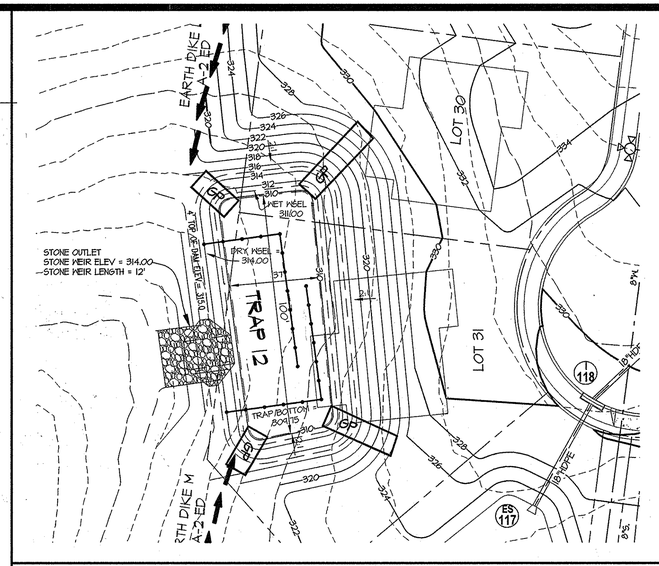
WET STORAGE VOL. REQUIRED : 0.13 AC-FT
WET STORAGE VOL. PROVIDED : 0.15 AC-FT
WET STORAGE ELEV : 286.00
DRY STORAGE REQUIRED: 0.13 AC-FT
DRY STORAGE PROVIDED = 0.39 AC-FT
DRY STORAGE WSEL = 289.00
EXISTING Q-1YR = 0.22 cfs
INTERIM Q-1YR = 0.12 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q_{10} = 15.90 cfs
10-YR WSEL = 289.44 ft.
BOTTOM ELEVATION : 284.50
TOP OF EMBANKMENT : 290.00
WEIR CREST ELEVATION : 289.00
WEIR LENGTH : 14'

EMERGENCY SPILLWAY ELEV : NONE
CLEANOUT ELEVATION : 285.25
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR

BAFFLE COMPUTATION

① D= 50 FT
A WET POOL = 4,785 FT²
We = √(A/2) = 49
Le = 2We = 98 FT REQUIRED
Le = 115 FT PROVIDED

TRAP 9 DETAILS SCALE: 1" = 30'



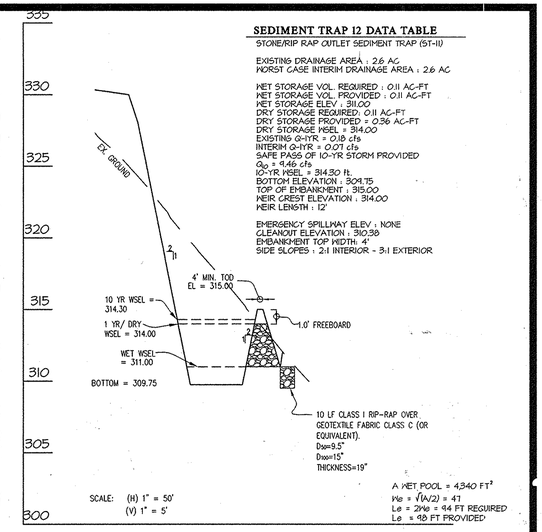
SEDIMENT TRAP 12 DATA TABLE

STONE/RIP RAP OUTLET SEDIMENT TRAP (ST-II)

EXISTING DRAINAGE AREA : 2.6 AC.
WORST CASE INTERIM DRAINAGE AREA : 2.6 AC

WET STORAGE VOL. REQUIRED : 0.11 AC-FT
WET STORAGE VOL. PROVIDED : 0.11 AC-FT
WET STORAGE ELEV : 311.00
DRY STORAGE REQUIRED: 0.11 AC-FT
DRY STORAGE PROVIDED = 0.36 AC-FT
DRY STORAGE WSEL = 314.00
EXISTING Q-1YR = 0.18 cfs
INTERIM Q-1YR = 0.07 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q_{10} = 9.46 cfs
10-YR WSEL = 314.30 ft.
BOTTOM ELEVATION : 309.75
TOP OF EMBANKMENT : 315.00
WEIR CREST ELEVATION : 314.00
WEIR LENGTH : 12'

EMERGENCY SPILLWAY ELEV : NONE
CLEANOUT ELEVATION : 310.38
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR



A WET POOL = 4,340 FT²
We = √(A/2) = 47
Le = 2We = 94 FT REQUIRED
Le = 98 FT PROVIDED

SEDIMENT TRAP 12
PROFILE THROUGH PRINCIPAL SPILLWAY

TRAP 12 DETAILS SCALE: 1" = 30'

SEDIMENT TRAP 10 DATA TABLE

STONE/RIP RAP OUTLET SEDIMENT TRAP (ST-II)

EXISTING DRAINAGE AREA : 6.9 AC
WORST CASE INTERIM DRAINAGE AREA : 6.9 AC

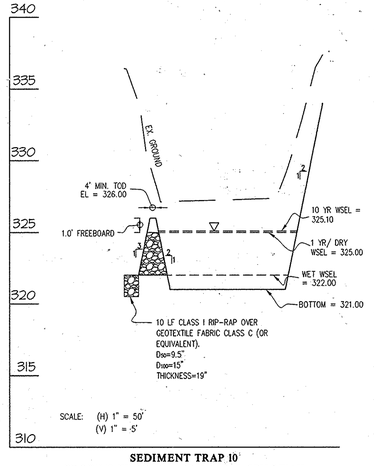
WET STORAGE VOL. REQUIRED : 0.29 AC-FT
WET STORAGE VOL. PROVIDED : 0.40 AC-FT
WET STORAGE ELEV : 322.00
DRY STORAGE REQUIRED: 0.29 AC-FT
DRY STORAGE PROVIDED = 1.35 AC-FT
DRY STORAGE WSEL = 325.00
EXISTING Q-1YR = 0.63 cfs
INTERIM Q-1YR = 0 cfs
SAFE PASS OF 10-YR STORM PROVIDED
Q_{10} = 10 cfs
10-YR WSEL = 325.10 ft.
BOTTOM ELEVATION : 321.00
TOP OF EMBANKMENT : 326.00
WEIR CREST ELEVATION : 325.00
WEIR LENGTH : 40'

EMERGENCY SPILLWAY ELEV : NONE
CLEANOUT ELEVATION : 321.50
EMBANKMENT TOP WIDTH: 4'
SIDE SLOPES : 2:1 INTERIOR - 3:1 EXTERIOR

BAFFLE COMPUTATION

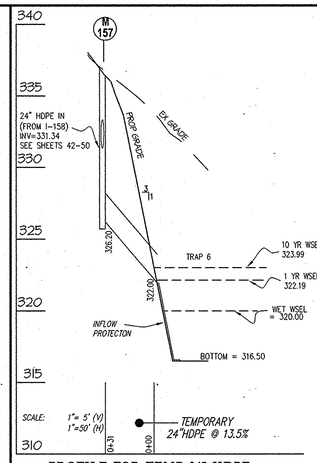
⑤ D= 100 FT
A WET POOL = 17,815 FT²
We = √(A/2) = 94
Le = 2We = 188 FT REQUIRED
Le = 215 FT PROVIDED

④ D= 45 FT
A WET POOL = 17,815 FT²
We = √(A/2) = 94
Le = 2We = 188 FT REQUIRED
Le = 190 FT PROVIDED

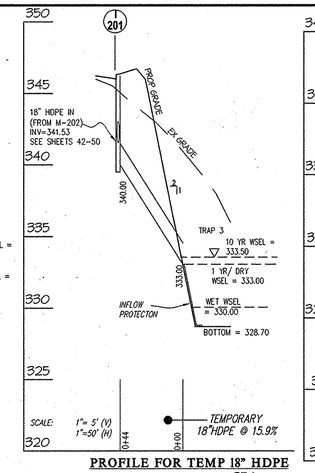


SEDIMENT TRAP 10
PROFILE THROUGH PRINCIPAL SPILLWAY

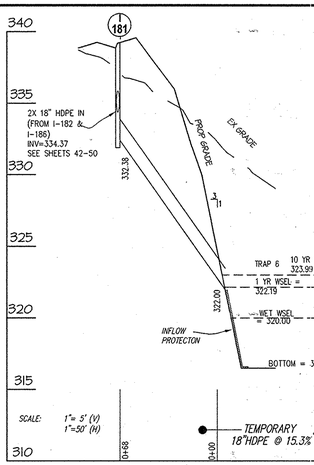
TRAP 10 DETAILS SCALE: 1" = 30'



PROFILE FOR TEMP 24" HDPE



PROFILE FOR TEMP 18" HDPE



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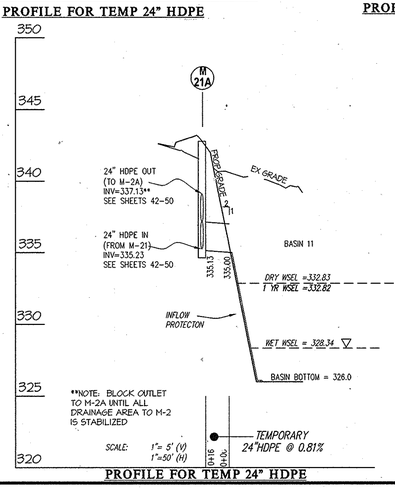
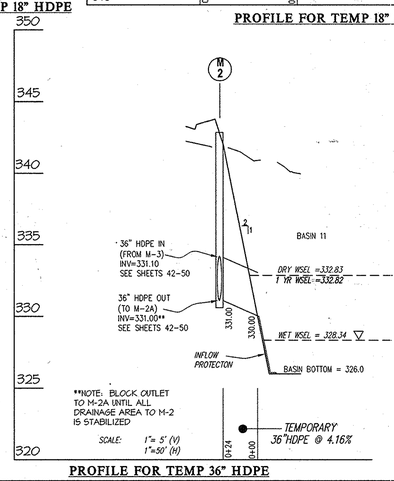


PROFILE FOR TEMP 24" HDPE



PROFILE FOR TEMP 36" HDPE

NOTES:

1. STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE OVER 50', CURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.

3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.

4. IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.

5. IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CAN NOT BE INSTALLED UNTIL THE LATER PHASE.

6. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.

STANDARD STABILIZATION NOTE:

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

0 6 15 30 60
1 inch = 30 ft.

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 4/20/13

ENGINEER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND 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 HSCD."

ENGINEER'S SIGNATURE — DATE 11-8-13

DEVELOPER'S/BUILDER'S CERTIFICATE

"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."

SIGNATURE OF DEVELOPER/BUILDER — DATE 11/8/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-SNE-TRAPS.dwg | DES. dds | DRN. lmw | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 230
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. lmw
EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CARLTON E. GUTSCHICK — REG. NO. 12868 — PROFESSIONAL ENGINEER

11-18-13

SEDIMENT CONTROL DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	30 OF 71

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F-13-103

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

DEFINITION

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS 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 MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION

a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

I. SOIL PH BETWEEN 6.0 AND 7.0.

II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:

a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5 INCHES IN DIAMETER.

b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

6. TOPSOIL APPLICATION

a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

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

DEFINITION

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

A. SEEDING

1. SPECIFICATIONS

a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. APPLICATION

a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
   i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
   ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
   i. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
   ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
   i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE.
   ii. 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.
   iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
   iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
   i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
   ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
   iii. WCFM MATERIALS ARE TO 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 MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
   iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
   v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

2. APPLICATION

a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. ANCHORING

a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
   i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
   ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
   iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
   iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

ENGINEER'S CERTIFICATE

"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."

[signature] 11-18-13
SIGNATURE OF ENGINEER — DATE

BUILDER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND 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 HSCD."

[signature] 11/18/13
SIGNATURE OF DEVELOPER/BUILDER — DATE

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

HARDINESS ZONE: 6b
SEED MIXTURE:

No.	SPECIES	APPLICATION RATE (lb/ac.)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-10-10)	LIME RATE
1	ANNUAL RYEGRASS	40 lb/ac	Mar. 1 to May 15, Aug. 1 to Oct. 15	0.5 INCHES	436 lb./ac. (10 lb./ 1,000 sf)	2 tons/ac. (90 lb./ 1,000 sf)
2	PEARL MILLET	20 lb/ac	May 16 to July 31	0.5 INCHES		

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (410) 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 "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
   A. 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
   B. 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
4. ALL 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 "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDINGS, SOD, TEMPORARY SEEDINGS AND MULCHING (SEC. B). TEMPORARY STABILIZATION, WITH MULCH ALONE, CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

TOTAL AREA OF SITE	:	127.59± AC.
AREA DISTURBED	:	83.2± AC.
AREA TO BE ROOFED OR PAVED	:	26.3± AC.
AREA TO BE VEGETATIVELY STABILIZED	:	56.9± AC.
TOTAL CUT	:	275,000± CY
TOTAL FILL	:	275,000± CY
OFF-SITE WASTE/BORROW AREA LOCATION	:	NA

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE
8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.
9. 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.
10. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 3 PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN 1 WORKING DAY, WHICHEVER IS SHORTER.
11. ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
12. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BE STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

DEFINITION

CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.

PURPOSE

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON AND OFF-SITE DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS.

CONDITIONS WHERE PRACTICE APPLIES

AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SPECIFICATIONS

1. MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3 SEEDING AND MULCHING, AND SECTION B-4-4 TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING.
2. VEGETATIVE COVER: SEE SECTION B-4-4 TEMPORARY STABILIZATION.
3. TILLAGE: TILL TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION: SPRINKLE SITE WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. THE SITE MUST NOT BE IRRIGATED TO THE POINT THAT RUNOFF OCCURS.
5. BARRIERS: SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.
6. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

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

[signature] 11/20/13
HOWARD S.C.D. — DATE

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES

1. GENERAL USE
   a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
   b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
   c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
   d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES
   a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
   b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
      i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
      ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
      iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
      iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

      NOTES:

      SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"

      CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE

   i. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
      WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
      CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
      SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
   j. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
   k. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

HARDINESS ZONE: 6b
SEED MIXTURE: #9 (Tall Fescue/ Kentucky Bluegrass)

No.	SPECIES	APPLICATION RATE	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)	LIME RATE
9	*Certified Tall Fescue blend (95% by weight): *Falcon IV, Penn 1901 & Rebel Exedo* and Certified Kentucky Bluegrass blend (5% by weight): *Courtyard, Raven & Yankee*	6-8 lb/ 1000 s.f.	Mar. 1 to May 15, Aug. 15 to Oct. 15	1/4 - 1/2 IN.	1.0 lb/ 1000 s.f. (45 lb/acre)	90 lb/ 1000 s.f.

* Other cultivars listed as "proven" in the most current UMD TT-77 may also be used

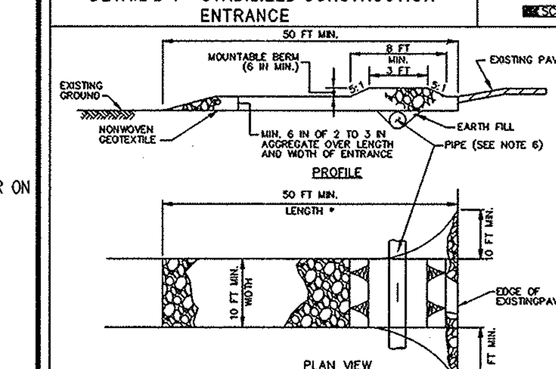
B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS
   a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
   b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
   c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
   d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
   e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION
   a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
   b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
   c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
   d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

3. SOD MAINTENANCE
   a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
   b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
   c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE (STANDARD SYMBOL: SCE)



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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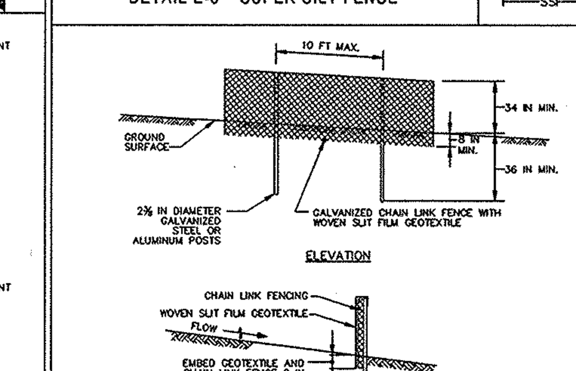
DETAIL E-3 SUPER SILT FENCE (STANDARD SYMBOL: SSF)



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

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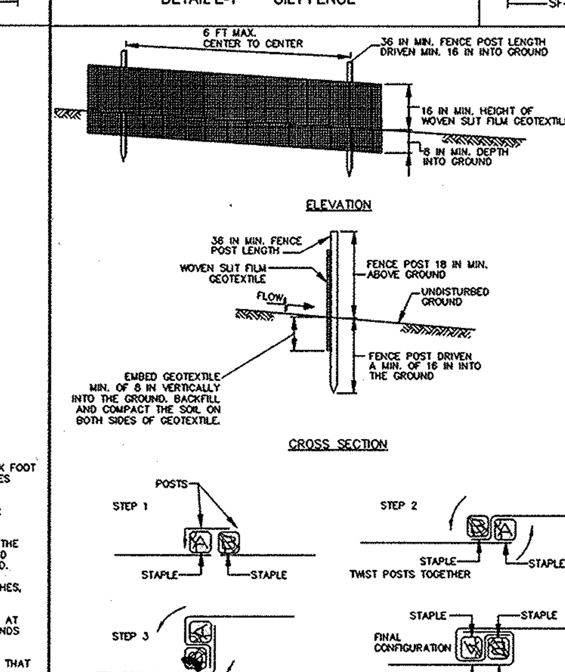
DETAIL E-1 SILT FENCE (STANDARD SYMBOL: SF)



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DETAIL E-1 SILT FENCE (STANDARD SYMBOL: SF)

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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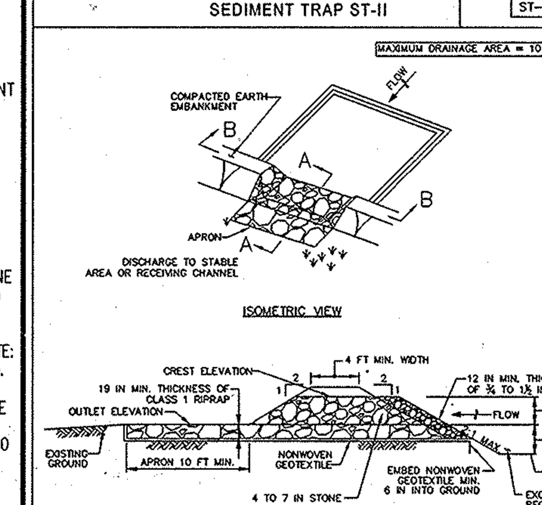
DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II (STANDARD SYMBOL: ST-II)

MAXIMUM DRAINAGE AREA = 10 ACRES



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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II (STANDARD SYMBOL: ST-II)

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
3. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
4. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE WEIR CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
5. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
6. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE BOTTOM AND SIDES OF OUTLET AND APRON PRIOR TO PLACEMENT OF RIPRAP. OVERLAP SECTIONS OF GEOTEXTILE AT LEAST 1 FOOT WITH THE SECTION NEARER TO THE TRAP PLACED ON TOP. EMBED GEOTEXTILE AT LEAST 6 INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
7. USE CLEAN 4 TO 7 INCH RIPRAP TO CONSTRUCT THE WEIR. USE CLASS I RIPRAP FOR THE APRON. USE OF RECYCLED CONCRETE EQUIVALENT IS ACCEPTABLE.
8. PLACE 1 FOOT OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE ON THE UPSTREAM FACE OF THE WEIR.
9. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
10. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
11. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION, AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION.
12. WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
13. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

2 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II (STANDARD SYMBOL: ST-II)

STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II, TRAP NO. ____		
DRAINAGE AREA - INITIAL		ACRES
DRAINAGE AREA - INTERIM		ACRES
DRAINAGE AREA - FINAL		ACRES
TOTAL STORAGE REQUIRED		CF
TOTAL STORAGE PROVIDED		CF
WET STORAGE REQUIRED		CF
WET STORAGE PROVIDED		CF
DRY STORAGE REQUIRED		CF
DRY STORAGE PROVIDED		CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)		FT
TRAP BOTTOM ELEVATION		FT
TRAP BOTTOM DIMENSIONS		FT x FT
WEIR LENGTH		FT
WEIR CREST (DRY STORAGE) ELEVATION		FT
CLEANOUT ELEVATION		FT
TOP OF EMBANKMENT ELEVATION		FT
SIDE SLOPE		H:V RATIO
EMBANKMENT TOP WIDTH		FT
OUTLET PROTECTION - LENGTH		FT
OUTLET PROTECTION - DEPTH		IN

3 OF 3

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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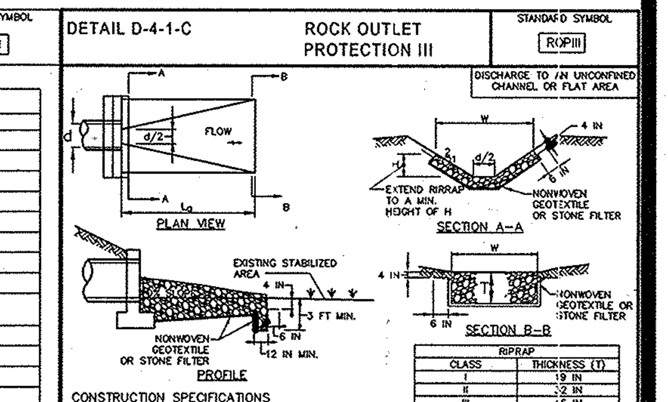
DETAIL D-4-1-C ROCK OUTLET PROTECTION III (STANDARD SYMBOL: ROPIII)

DISCHARGE TO AN UNCONFINED CHANNEL OR FLAT AREA



RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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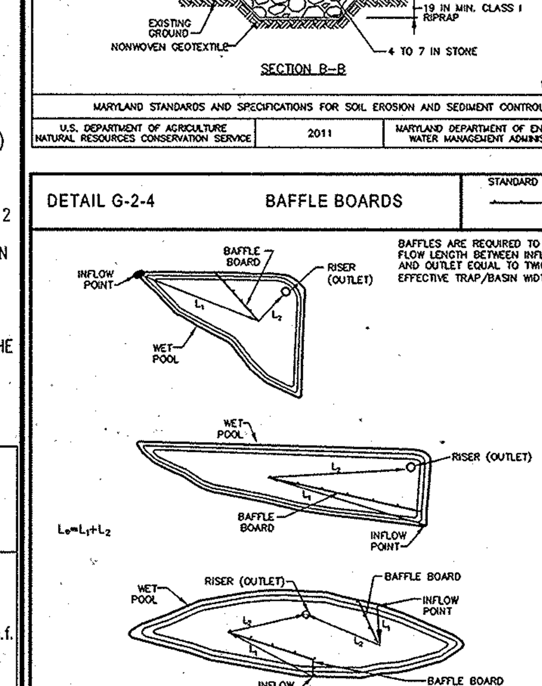
DETAIL G-2-4 BAFFLE BOARDS (STANDARD SYMBOL: BB)

BAFFLES ARE REQUIRED TO PROVIDE A FLOW LENGTH BETWEEN INFLOW POINT AND OUTLET EQUAL TO TWICE THE EFFECTIVE TRAP/BASIN WIDTH.



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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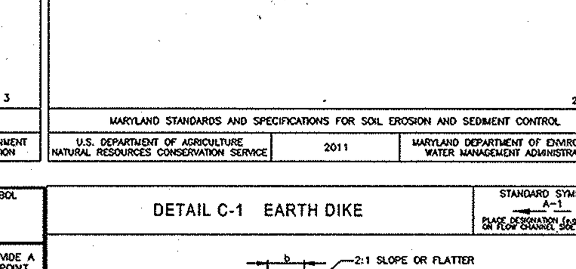
DETAIL C-1 EARTH DIKE (STANDARD SYMBOL: A-1; PLACE DESIGNATION (e.g. A-1) ON FLOW CHANNEL SIDE OF DIKE.)



DIKE TYPE	A	B
a - DIKE HEIGHT	18 IN MIN.	30 IN MIN.
b - DIKE WIDTH	24 IN MIN.	36 IN MIN.
c - FLOW WIDTH	4 FT MIN.	6 FT MIN.
d - FLOW DEPTH	12 IN MIN.	24 IN MIN.

FLOW CHANNEL STABILIZATION

- A-1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
- A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
- A-3/B-3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTH DIKE.
2. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

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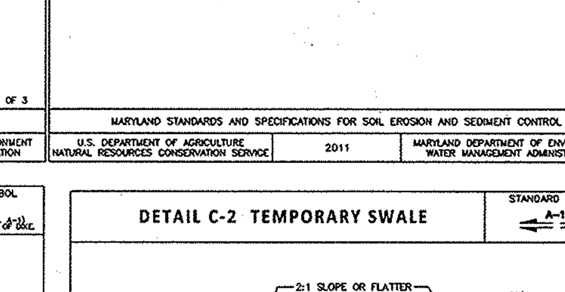
DETAIL C-2 TEMPORARY SWALE (STANDARD SYMBOL: A-1)



SWALE TYPE	A	B
MIN. DEPTH	1 FT MIN.	1 FT MIN.
BOTTOM WIDTH	4 FT MIN.	6 FT MIN.

FLOW CHANNEL STABILIZATION

- A-1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
- A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
- A-3/B-3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF TEMPORARY SWALE.
2. EXCAVATE OR SHAPE TEMPORARY SWALE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. STABILIZE TEMPORARY SWALE WITHIN THREE DAYS OF INSTALLATION. STABILIZE SWALES USED FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP TEMPORARY SWALE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
7. UPON REMOVAL OF TEMPORARY SWALE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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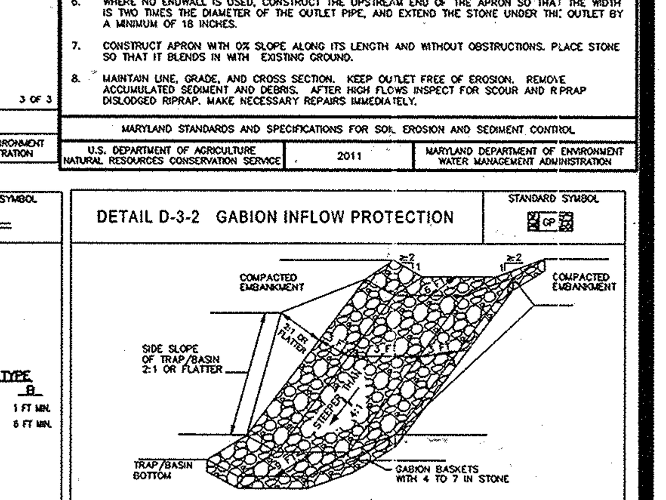
DETAIL D-3-2 GABION INFLOW PROTECTION (STANDARD SYMBOL: GP)



CONSTRUCTION SPECIFICATIONS

1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL GABION BASKETS.
2. USE BASKETS MADE OF MINIMUM 11 GAUGE WIRE.
3. CONSTRUCT GABION INFLOW PROTECTION BY ARRANGING 9 X 3 X 1 FOOT GABION BASKETS TO FORM A TRAPEZOIDAL SECTION WITH A 3 FOOT BOTTOM WIDTH, 1 FOOT MINIMUM DEPTH, 3 FOOT SIDE WALLS, AND 2:1 OR FLATTER SIDE SLOPES. FILL GABION BASKETS WITH 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR WIRE MESH.
4. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
5. INSTALL GABIONS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
6. BLEND GABIONS INTO EXISTING GROUND.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

DEFINITION

CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.

PURPOSE

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON AND OFF-SITE DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS.

CONDITIONS WHERE PRACTICE APPLIES

AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SPECIFICATIONS

1. MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3 SEEDING AND MULCHING, AND SECTION B-4-4 TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING.
2. VEGETATIVE COVER: SEE SECTION B-4-4 TEMPORARY STABILIZATION.
3. TILLAGE: TILL TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION: SPRINKLE SITE WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. THE SITE MUST NOT BE IRRIGATED TO THE POINT THAT RUNOFF OCCURS.
5. BARRIERS: SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.
6. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

SEEDING NOTE: SOILS ON SITE ARE HIGHLY ERODIBLE. TEMPORARY OR PERMANENT SEEDING IS TO BE PROVIDED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE INTERVALS REQUIRED BY THE 2011 STANDARDS & SPECIFICATIONS WHICHEVER IS MORE RESTRICTIVE.

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] 12-9-13
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[signature] 12-20-13
Chief, Division of Land Development — Date

[signature] 12-17-13
Chief, Development Engineering Division — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-SNE-STD DET.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2014

[seal: STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER] [signature] 11-18-13

ELECTION DISTRICT No. 6

SEDIMENT CONTROL NOTES and DETAILS

WINCOPIA FARMS
LOTS 1-201, 208-220, 258-263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
NO SCALE	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	31 OF 71

F-13-103

MGWC 1.2: PUMP-AROUND PRACTICE

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing a temporary pump around and supporting measures to divert flow around instream construction sites.

IMPLEMENTATION SEQUENCE

Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):

1. Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.
2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.
4. Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.

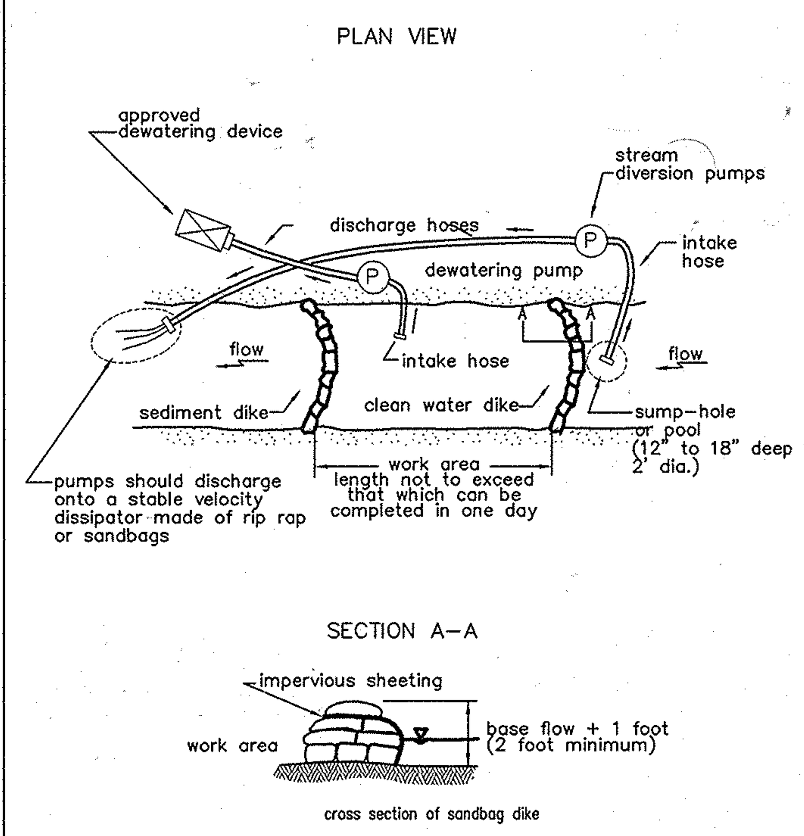
TEMPORARY INSTREAM CONSTRUCTION MEASURES — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION REVISED NOVEMBER 2000 — PAGE 1.2 – 1

MGWC 1.2: PUMP-AROUND PRACTICE

7. Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction).
9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross- sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.
11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplised by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

TEMPORARY INSTREAM CONSTRUCTION MEASURES — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION REVISED NOVEMBER 2000 — PAGE 1.2 – 1

MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 1.2: PUMP-AROUND PRACTICE



TEMPORARY INSTREAM CONSTRUCTION MEASURES — REVISED NOVEMBER 2000 PAGE 1.2 – 3 — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MGWC 2.1: RIPRAP

Rigid engineering technique for bank stabilization

DESCRIPTION

Riprap is used to protect and stabilize embankment soils from the erosive forces of flowing water and piping forces resulting from groundwater seepage. A well-engineered riprap system should consist of the following:

- a filter layer of gravel or cloth designed to prevent soil movement into or through the riprap layer while allowing water to drain from the embankment, and
- a stone layer of appropriate gradation and thickness to resist the shearing forces of channelized water.

EFFECTIVE USES & LIMITATIONS

When properly designed and installed, riprap is an effective method where soil conditions, water turbulence and velocity, expected vegetative cover, and groundwater conditions are such that the soil may erode under the design flow conditions. Some common areas of riprap applicability are:

- diversion channel banks and/or bottoms,
- roadside ditches,
- drop structure outlets, and
- laterally expanding banks threatening infrastructure or personal property.

Additionally, properly graded riprap forms a flexible, self-healing cover which can be easily repaired in localized areas by the timely replacement of stone. Uniform-grade riprap can also be used with a geotextile filter cloth.

Filter cloth should only be utilized when the bank material is noncohesive such as sand or gravel.

MATERIAL SPECIFICATIONS

- *Filters:* Material and design specifications for granular filters are found in Table 3.1a.

Table 3.1a: Granular Filter Material Grading Specifications

% less than	U.S. Standard sieve size
100	2 ½ in (64 mm)
85-100	1 in (25 mm)
60-100	½ in (13 mm)
35-70	No. 10
20-50	No. 40
3-20	No. 200

The thickness of the filter should not be less than 6 inches (15 cm). Generally, filters that are one-half the thickness of the riprap layer are satisfactory.

Synthetic filter cloth may be used cautiously based on the *1994 MD Standards and Specifications for Soil Erosion and Sediment Control*.

- *Riprap:* The maximum diameter or weight of stone for riprap should be based upon the design flow velocity using Figure 3.1. This chart is based on a maximum slope of 2H:1V. The stone gradations for Classes I - III are found in Table 3.1b.

SLOPE PROTECTION AND STABILIZATION TECHNIQUES — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000 — PAGE 2.1 -1

MGWC 2.1: RIPRAP

Table 3.1b: Stone Gradations for Riprap Stone Classes

Class	Size	% Total Weight < Given Size
I	150 lb (70 kg)	100
	2 lb (1 kg)	10 max
II	700 lb (320 kg)	100
	20 lb (10 kg)	10 max
III	2000 lb (910 kg)	100
	40 lb (20 kg)	10 max

Uniform-grade riprap should incorporate angular rock to promote interlocking.

Approximate Cost ($1999):
$78 per linear ft

INSTALLATION GUIDELINES

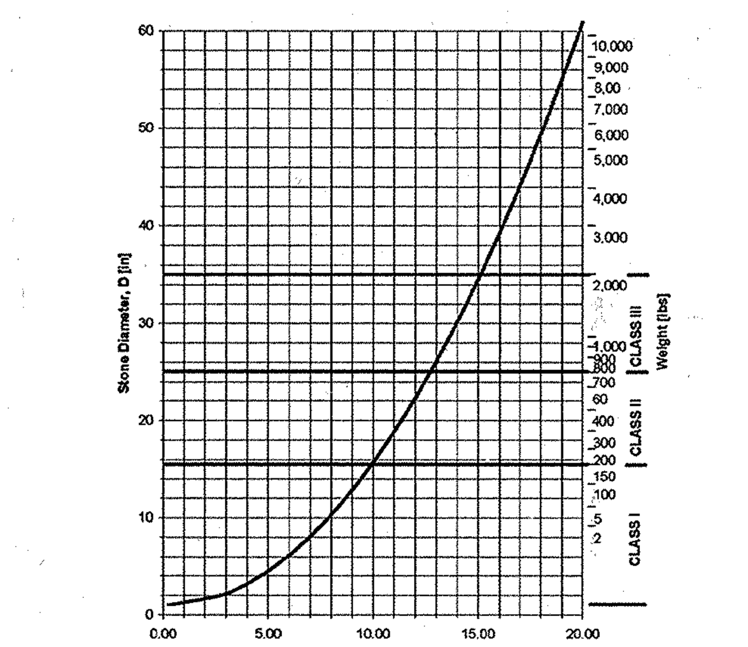
All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. Once a slope stabilization project is initiated, preparation and placement of the riprap should immediately follow the initial disturbance to minimize the chances for further slope degradation. The recommended construction procedure for riprap is as follows beginning with initial slope preparations (refer to Detail 2.1):

1. The contractor should install all sediment and erosion control devices as the first order of business.
2. Excavation should be made in reasonably close conformity with the existing stream slope and bed.
3. All fill in the subgrade should be compacted to a density approximating that of the surrounding undisturbed material.
4. Provisions must be made to anchor the riprap at the stream bed so as to provide protection against undermining. If this cannot be accomplished by creating a toe trench, an alternative method of protection must receive prior written approval from the WMA or local authority.
5. The filter layer or blanket should be placed immediately after slope preparation.
   - The stone for granular filters should be spread in a uniform layer to the specified depth. Where more than one layer is employed, they should be spread such that there is minimal mixing.
   - When cloth filters are used, special care should be taken not to damage the fabric during riprap placement.
6. Riprap placement should begin with the toe. The larger stones, as specified by the design gradation, should be placed in the toe and along the perimeter of the slope and channel protection. The riprap should be placed with suitable equipment in such a manner as to produce a reasonably graded mass of stones with zero drop height. The placing of stones that cause extensive segregation is not allowed. Where appropriate, a low flow channel shall be constructed through the riprap.
7. Any excavation voids existing along the edges of the completed slope and channel protection should be backfilled and compacted.
8. All disturbed areas should be permanently stabilized in accordance with an approved sediment and erosion control plan.

Note: The use of rock vanes (MGWC 3.3: Rock Vanes) should be considered to redirect high-velocity flows at the toe.

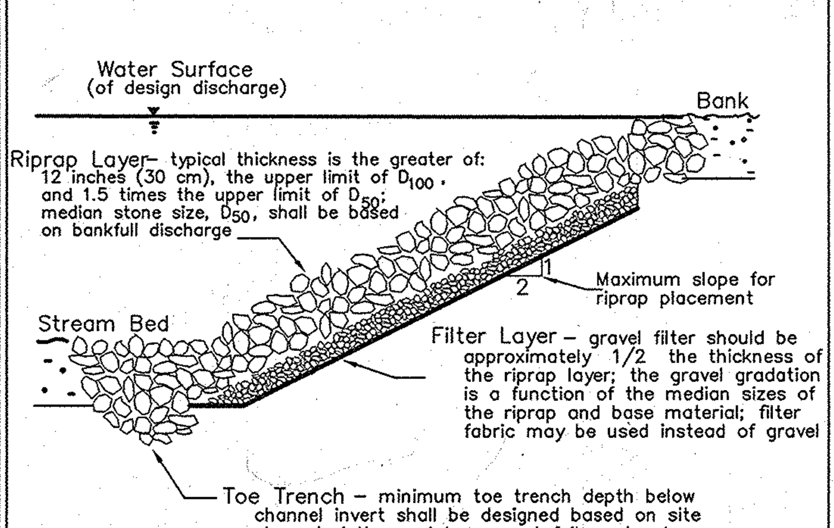
SLOPE PROTECTION AND STABILIZATION TECHNIQUES — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000 — PAGE 2.1 -2

FIGURE 2.1: RIPRAP DIAMETER AS A FUNCTION OF STREAM VELOCITY (BASED ON ISHBASH EQUATION)



SLOPE PROTECTION STABILIZATION TECHNIQUES — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000 — PAGE 2.1-3

MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 2.1: RIPRAP



SLOPE PROTECTION AND STABILIZATION TECHNIQUES — *REVISED NOVEMBER 2000 PAGE 2.1 – 4* — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MGWC 4.2: UTILITY CROSSING

Temporary in-stream construction

DESCRIPTION

The work should consist of installing erosion control devices in and adjacent to the construction of utility crossings.

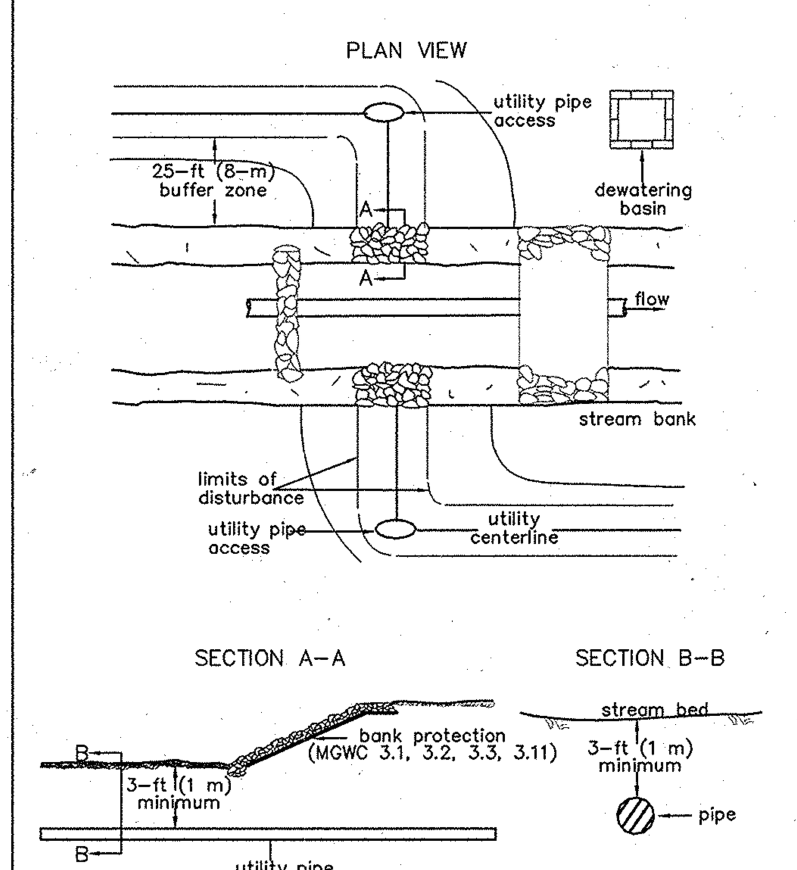
IMPLEMENTATION SEQUENCE

All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. (See *the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control*.) The proposed construction sequence is as follows (refer to Detail 4.2):

1. The contractor should insure that a continuous perimeter control barrier is in place to minimize the amount of pollutants entering the flow. A diversion pipe as shown in MGWC 1.4: Diversion Pipe or other measure should be installed and sandbag or stone barriers as shown in MGWC 1.5: Sandbag/Stone Diversion should be constructed according to specifications to divert the streamflow.
2. Excavated topsoil and subsoil should be kept separate, placed on the upland side of the excavation, and replaced in their natural order.
3. All construction should take place during stream low flows. The length of construction time should be limited to a maximum of 5 consecutive days for each crossing.
4. All utility crossings should be placed a minimum of 3 feet (1 meter) beneath the stream bed unless an alternative section is specifically approved by the WMA. For instances where a 3-foot cover is not viable, two alternate stabilization options are given in the Detail 4.2. A low flow channel shall be constructed through all riprap placements across the stream bed.
5. The stream should be diverted by an approved temporary stream diversion, the construction area should be dewatered, and any disturbed banks should be stabilized. The contractor may elect to construct the utility crossing in two stages. In this case, a WMA approved flow barrier may be constructed to keep the construction area dry.
6. Once the crossing is completed, the diversion should be removed from upstream to downstream. Sediment control devices, including perimeter erosion controls, are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspection authority approves their removal.

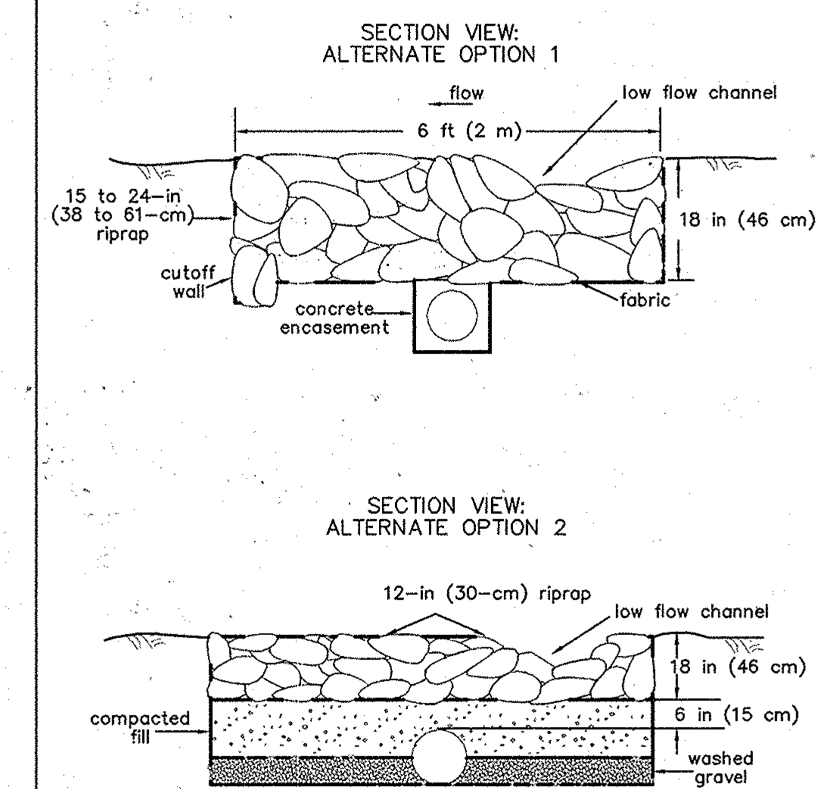
STREAM CROSSINGS — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION REVISED NOVEMBER 2000 — PAGE 4.2 – 1

MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 4.2(a): UTILITY CROSSING



STREAM CROSSINGS — *PAGE 4.2 – 2* — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION DETAIL 4.2(b): UTILITY CROSSING

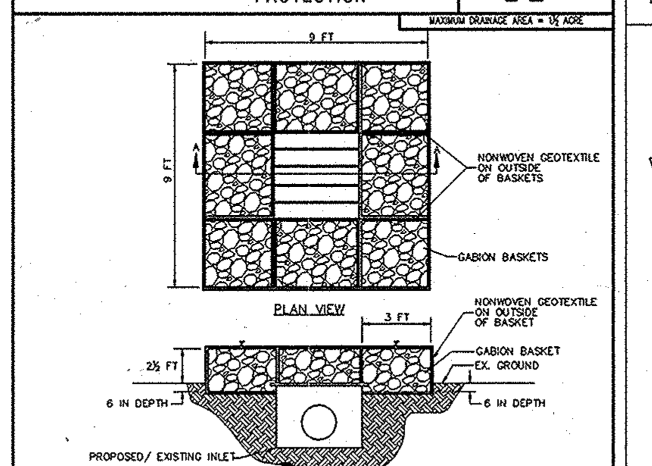


STREAM CROSSINGS — *REVISED NOVEMBER 2000 PAGE 4.2 – 3* — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-7 GABION INLET PROTECTION

STANDARD SYMBOL GIP

MAXIMUM DRAINAGE AREA = 1½ ACRE



CONSTRUCTION SPECIFICATIONS

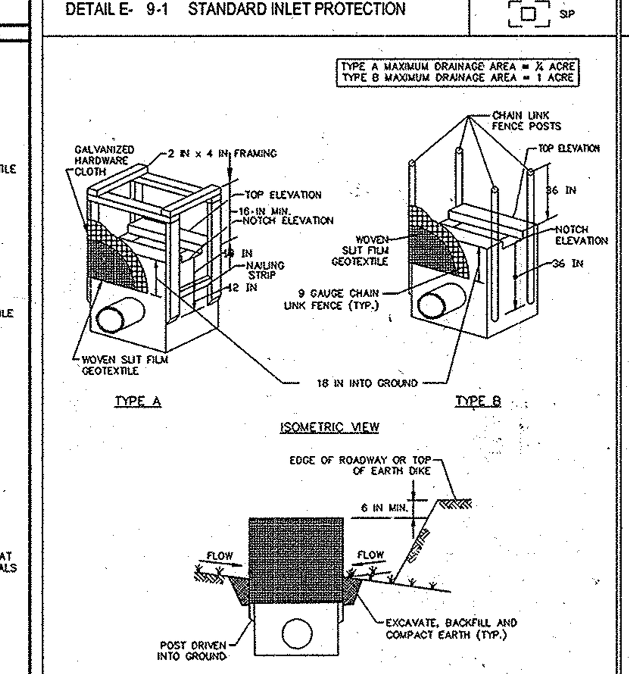
1. USE BASKETS MADE OF 11 GAUGE WIRE OR HEAVIER.
2. WRAP 3 FEET x 3 FEET GABION BASKETS (LENGTH VARIABLE) WITH NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVERLAPPING AT THE TOP AND FASTEN THE GEOTEXTILE AT THE TOP OF THE BASKET WITH WIRE FASTENERS (HOG RINGS) AT A MAXIMUM OF 1 FOOT INTERVALS ALONG THE SEAM.
3. AVOID TEARING OR DAMAGING GEOTEXTILE.
4. ENTRENCH GABION BASKETS TO A DEPTH OF 6 INCHES.
5. PLACE AND INTERLOCK GABION BASKETS WITH NO GAPS.
6. FILL GABION BASKETS WITH CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR MESH.
7. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL — U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE — 2011 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E- 9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL SIP

TYPE A MAXIMUM DRAINAGE AREA = ½ ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL — U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE — 2011 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E- 9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL SIP

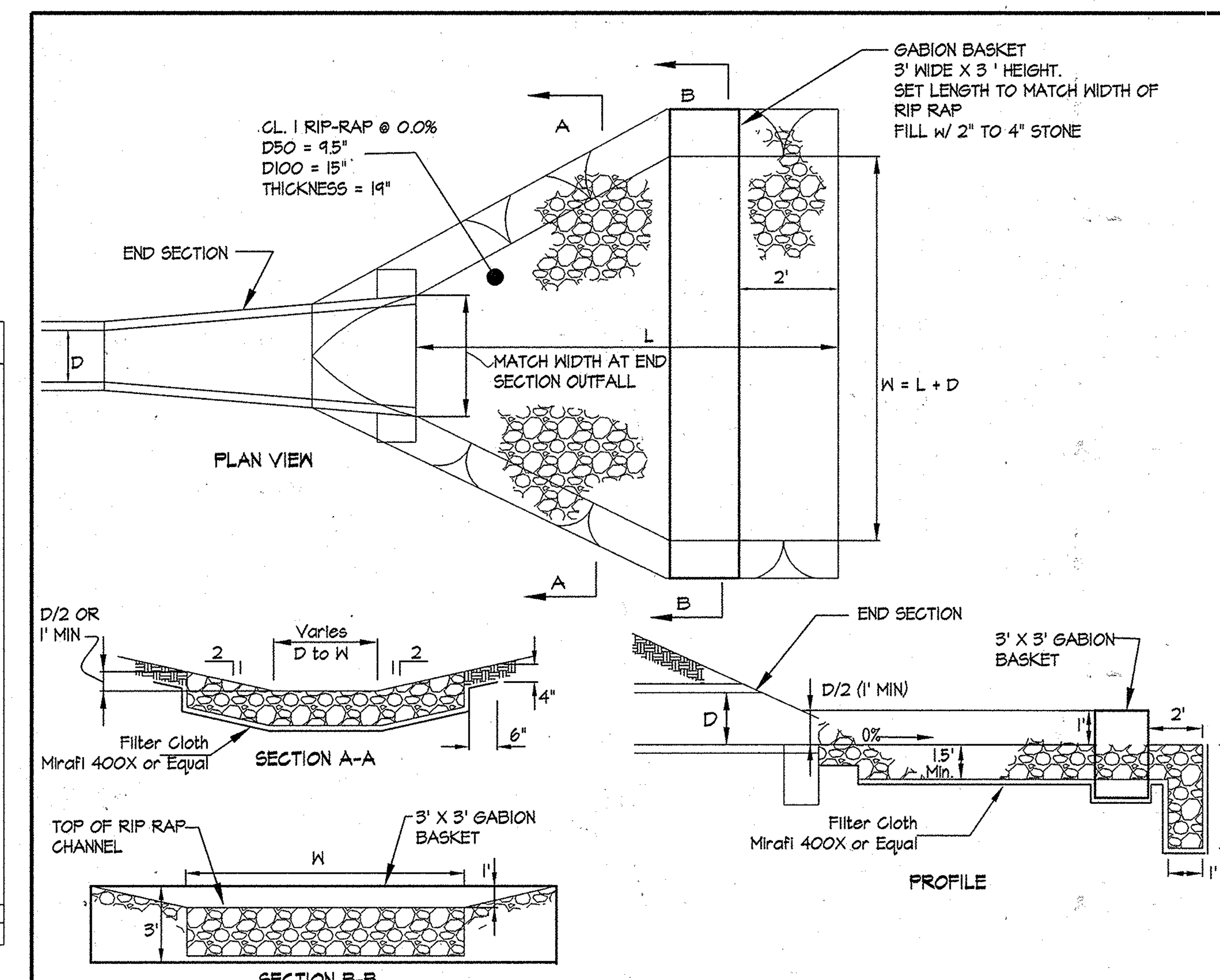
CONSTRUCTION SPECIFICATIONS

1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.

   FOR TYPE B, USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL — U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE — 2011 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



OUTLET DETAIL SCALE: NTS

ENGINEER'S CERTIFICATE

"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."

[signature] 11-18-13
SIGNATURE OF ENGINEER — DATE

BUILDER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR 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 MARYLAND 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 HSCD."

[signature] 11/18/13
SIGNATURE OF DEVELOPER/BUILDER — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[signature] 12-9-13
Chief, Bureau of Highways — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[signature] 12-20-13
Chief, Division of Land Development — Date

[signature] 12.17.13
Chief, Development Engineering Division — Date

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

[signature] 11/20/13
HOWARD S.C.D. — DATE

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-SNE-STD DET.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2014

11-18-13 [signature]

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

SEDIMENT CONTROL NOTES and DETAILS

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

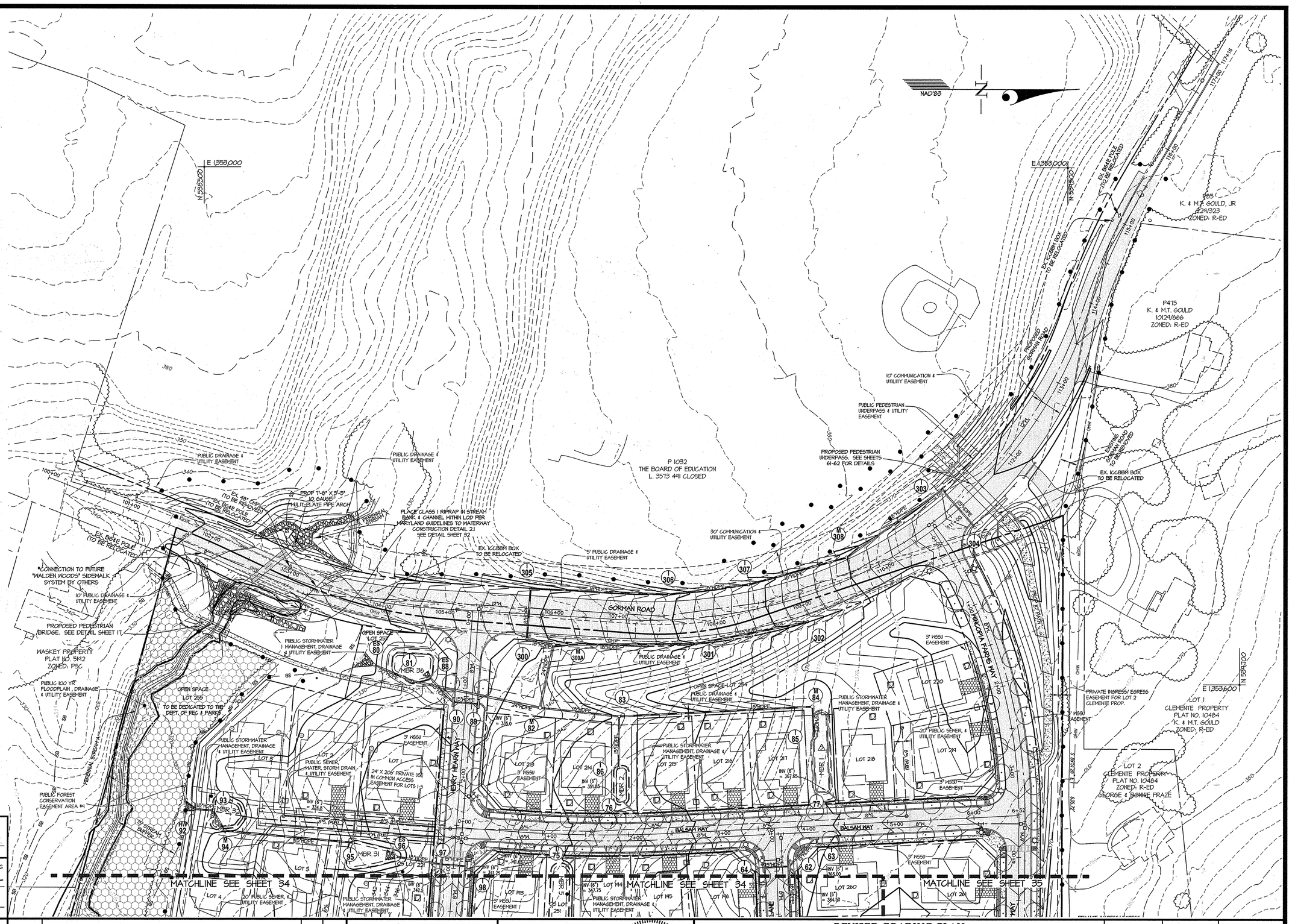
SCALE	ZONING	G. L. W. FILE No.
NO SCALE	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	32 OF 71

F-13-102

LEGEND

- 7'X7'X5' DRY WELL
- 200 GAL RAIN BARREL
- POROUS DRIVEWAY W/ 12" STONE SEE DETAILS SHEET 17
- IMPERVIOUS DRIVEWAY
- 6" FLEXIBLE HDPE. INVERT IS 2.67' BELOW GRADE UNLESS OTHERWISE NOTED. PROVIDE 6" END CAP AT UPPER END OF PIPE RUN.

NOTES:
1. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION, & UTILITY EASEMENT.
2. ALL OF THE HOUSES, DRIVEWAYS, AND STORMWATER MANAGEMENT DEVICES SHOWN ON BUILDABLE LOTS ARE CONCEPTUAL. THE TOTAL VOLUME SHOWN ON A BUILDABLE LOT MUST BE PROVIDED WITH THE SITE PLAN HOWEVER THE ESD DEVICES MAY BE ADJUSTED. SEE STORMWATER MANAGEMENT DRAINAGE AREA MAP (SHEETS 51-52) FOR ALL ON LOT ESD STORMWATER DEVICES.



GRAPHIC SCALE
1 inch = 50 ft.
0 25 50 100 200

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 3-16-2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 4-23-15
Chief, Development Engineering Division — Date 4-22-15

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.
02/2015	POROUS SIDEWALK REMOVED. SEVERAL MICRO-BIOS ENLARGED		

L:\CADD\DRAWINGS\08052\FINALS\08052-GRADING.dwg | DES. dds | DRN. dds | CHK.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2016
2/25/15

STATE OF MARYLAND — CARLTON KENNETH GUTSCHICK — NO. 12975 — PROFESSIONAL ENGINEER

REVISED GRADING PLAN

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP – GRID	SHEET
FEB., 2015	47-3	33 OF 71

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F-13-103

LEGEND

- T'XT'XS' DRY WELL
- 200 GAL RAIN BARREL
- POROUS DRIVEWAY W/ 12" STONE SEE DETAILS SHEET 17
- IMPERVIOUS DRIVEWAY
- 6" FLEXIBLE HDPE. INVERT IS 2.67' BELOW GRADE UNLESS OTHERWISE NOTED. PROVIDE 6" END CAP AT UPPER END OF PIPE RUN.

NOTES:
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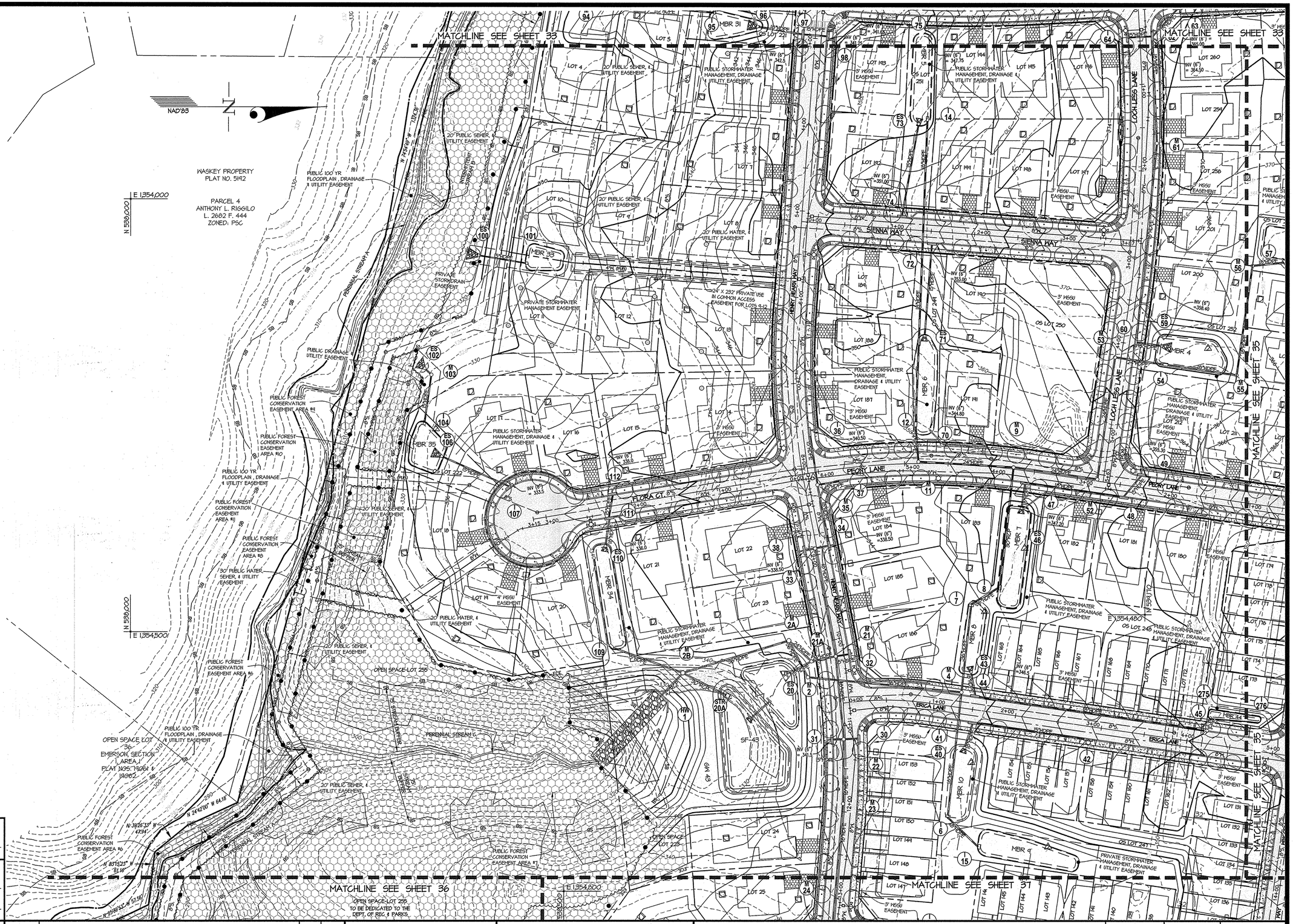

GRAPHIC SCALE
1 inch = 50 ft.
0 25 50 100 200

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 3-16-2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 4-13-15
Chief, Development Engineering Division — Date 4-22-15

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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L:\CADD\DRAWINGS\08052\FINALS\08052-GRADING.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.
02/2015	POROUS SIDEWALK REMOVED. SEVERAL MICRO-BIOS ENLARGED		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2016
STATE OF MARYLAND — CARLTON WESLEY BOSTON — REG. NO. 12975 — PROFESSIONAL ENGINEER
2/25/15

REVISED GRADING PLAN

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
FEB., 2015	47-3	34 OF 71

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F-13-103

LEGEND

- 7'X7'X5' DRY WELL
- 200 GAL RAIN BARREL
- POROUS DRIVEWAY W/ 12" STONE SEE DETAILS SHEET 117
- IMPERVIOUS DRIVEWAY
- 6" FLEXIBLE HDPE. INVERT IS 2.67' BELOW GRADE UNLESS OTHERWISE NOTED. PROVIDE 6" END CAP AT UPPER END OF PIPE RUN.

NOTES:
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GRAPHIC SCALE
1 inch = 50 ft.
0 25 50 100 200

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
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DATE	REVISION	BY	APP'R.
02/2015	POROUS SIDEWALK REMOVED. SEVERAL MICRO-BIOS ENLARGED △		

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BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
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EXPIRATION DATE: MAY 26, 2016
2/25/15

STATE OF MARYLAND — CHRISTOPHER RICHARD DUDDERAR — REG. NO. 21586 — PROFESSIONAL ENGINEER

REVISED GRADING PLAN

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP – GRID	SHEET
FEB., 2015	47-3	35 OF 71

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F-13-103

LEGEND

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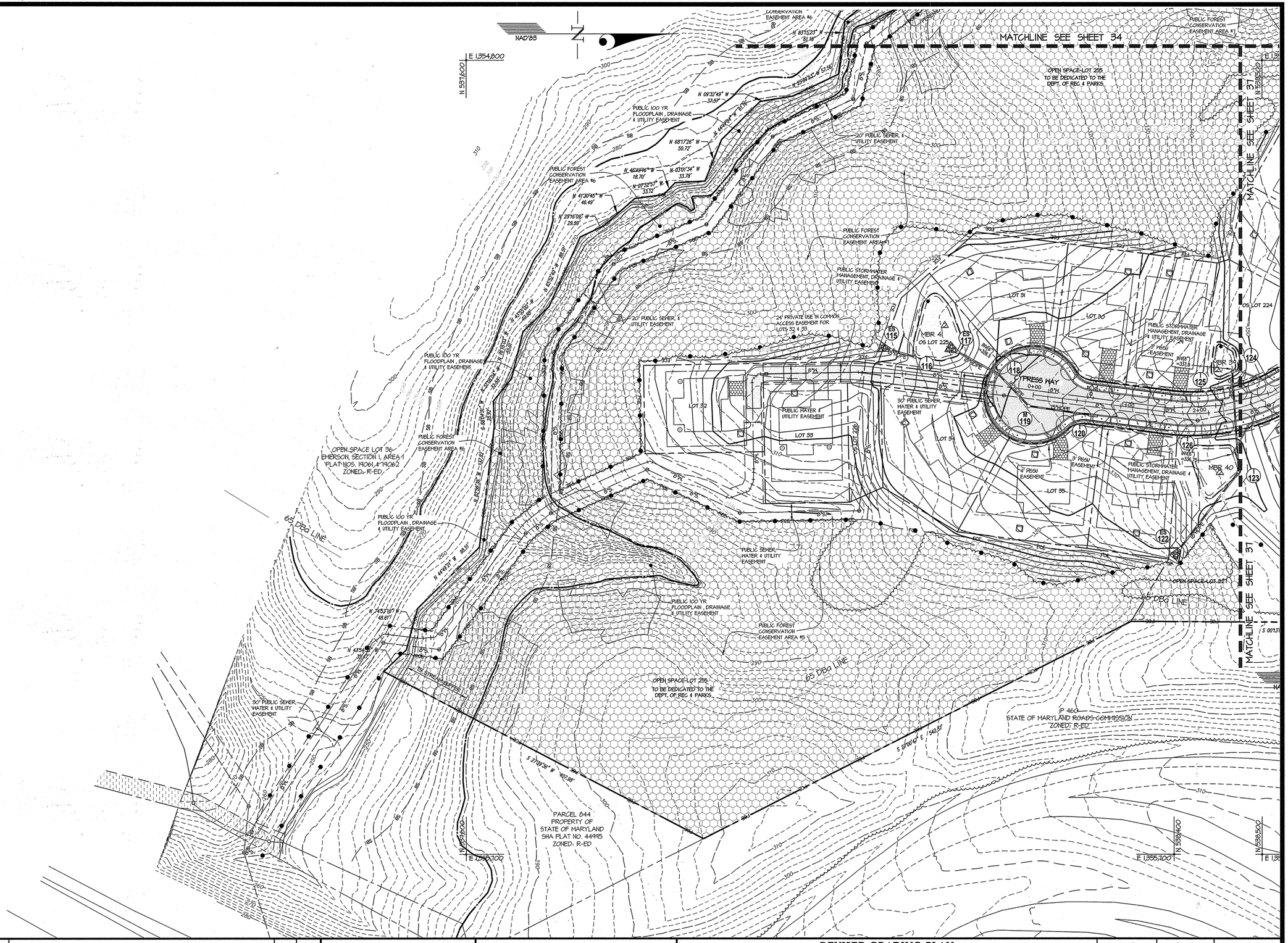

GRAPHIC SCALE
1 inch = 50 ft.
0 25 50 100 200

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 3.16.2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 4-23-15
Chief, Development Engineering Division — Date 4.22.15

GLW GUTSCHICK LITTLE & WEBER, P.A.
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DATE	REVISION	BY	APP'R.
02/2015	POROUS SIDEWALK REMOVED. SEVERAL MICRO-BIOS ENLARGED △		

PREPARED FOR:
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SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2016

2/25/15

STATE OF MARYLAND — CHRISTOPHER NEIL KNOPPEK — No. 12975 — PROFESSIONAL ENGINEER

REVISED GRADING PLAN

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
FEB., 2015	47-3	36 OF 71

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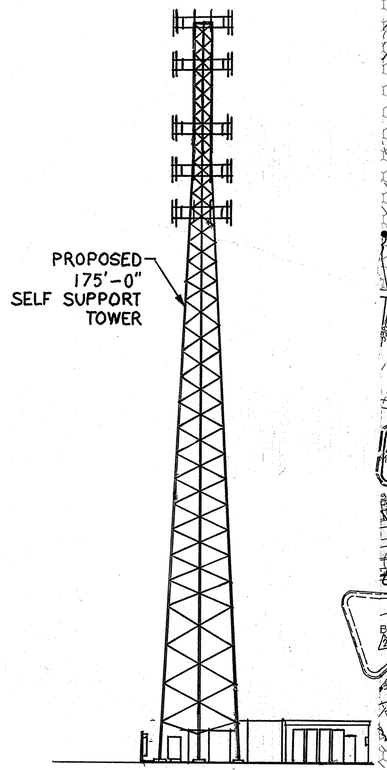
F-13-103



MATCHLINE SEE SHEET 34

MATCHLINE SEE SHEET 35

MATCHLINE SEE SHEET 36

MATCHLINE SEE SHEET 39

PUBLIC FOREST CONSERVATION EASEMENT AREA #1

PUBLIC FOREST CONSERVATION EASEMENT AREA #3

PUBLIC FOREST CONSERVATION EASEMENT AREA #4

PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT

PUBLIC DRAINAGE & UTILITY EASEMENT

PUBLIC DRAINAGE EASEMENT

PERENNIAL STREAM E

INTERMITTENT STREAM D

100' STREAM BUFFER

WETLANDS

WB

CYPRESS WAY

BROOKLYN PARK WAY

RONAN LANE

OPEN SPACE-LOT 227

OPEN SPACE-LOT 256
TO BE DEDICATED TO THE DEPT. OF REC. & PARKS

PROP. 175' TOWER

PROP. 125' GUYED LESS COMA TOWER

PROP. 100'x100' FENCED LEASE AREA PAVED WITH MIN. 4" CLEAN #57 STONE, ENCLOSED WITH 8' HIGH CHAINLINK FENCE WITH 3 STRANDS OF BARBED WIRE

PROP. 6'-8" PINUS STROBUS (WHITE PINE)

PROP. 16'-12" ACER RUBRUM (RED MAPLE)

PROP. 12' WIDE ASPHALT ACCESS ROAD

PROP. 90'x30' PARKING AREA

PROP. EMERG. GENERATOR

Public Stormwater Management Drainage & Utility Easement

(5) 12'x20' CONCRETE SLABS FOR WIRELESS CARRIER EQUIPMENT

MIN. 12'-0" LONG NON-ROOFING DISCONNECT @ ≤ 5% GRADE

MIN. 10'-0" LONG NON-ROOFING DISCONNECT @ ≤ 5% GRADE

2' WIDE GRAVEL TRANSITION STRIP ALONG DOWN GRADIENT SIDE OF COMPOUND (SEE DETAIL BELOW)

EX. CELL TOWER TO BE REMOVED

65 DBa LINE

NAD'83

N 539,500

E 1355,700

S 00°13'01" W 313.25'

S 27°28'14" W 87.85'

P 460
STATE OF MARYLAND ROADS COMMISSION
ZONED: R-ED

SURFACE GRADIENT

SIDES OF TRENCH TO BE LINED WITH FILTER FABRIC

NO. 67 STONE

2'-0"

2'-0"

TRANSITION S TRIP DETAIL
N.T.S.

"I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer/landscape architect/land surveyor under the laws of the state of Maryland.

License No: 21461, Expiration Date: 01/01/2015

06/12/2015

LEGEND

- TXTX5' DRY WELL
- 200 GAL RAIN BARREL
- POROUS DRIVEWAY W/ 12" STONE SEE DETAILS SHEET 17
- IMPERVIOUS DRIVEWAY
- 6" FLEXIBLE HDPE. INVERT IS 2.67' BELOW GRADE UNLESS OTHERWISE NOTED. PROVIDE 6" END CAP AT UPPER END OF PIPE RUN.

NOTES:
1. WSSU DENOTES PUBLIC SIDEWALK MAINTENANCE, SEWER HOUSE CONNECTION, WATER HOUSE CONNECTION, & UTILITY EASEMENT.
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GRAPHIC SCALE
1 inch = 50 ft.
0 25 50 100 200

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-GRADING.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.
6-11-2015	Parcous, sidewalk removed. Several Micro-Bios enlarged.	GT	DDS
01/12/2015	REV. TO ADD PROP. CELL TOWER IMPROVS WITH STORMWATER	MCMT.	WSN

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2014

11-18-13

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

GRADING PLAN

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV. 2013	47-3	37 OF 71

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F-13-103

MATCHLINE SEE SHEET 35

MATCHLINE SEE SHEET 37

MATCHLINE SEE SHEET 34

ROWAN LANE

ALLEY 'C'

CULVERT CIRCLE

PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT

PUBLIC DRAINAGE & UTILITY EASEMENT

PUBLIC FOREST CONSERVATION EASEMENT AREA #1

PUBLIC FOREST CONSERVATION EASEMENT AREA #2

PUBLIC FOREST CONSERVATION EASEMENT AREA #3

PUBLIC FOREST CONSERVATION EASEMENT AREA #4

PUBLIC 100 YR FLOODPLAIN, DRAINAGE & UTILITY EASEMENT

PUBLIC SEWER & UTILITY EASEMENT

3' WSSU EASEMENT

8' WSSU EASEMENT

4' WSSU EASEMENT

LIC STORMWATER EASEMENT, DRAINAGE & UTILITY EASEMENT

OPEN SPACE LOT 256
TO BE DEDICATED TO THE DEPT. OF REC & PARKS
STEEP SLOPES - 25% AND GREATER
268,450 S.F.

OPEN SPACE LOT 256
TO BE DEDICATED TO THE DEPT. OF REC & PARKS

PERENNIAL STREAM B

INTERMITTENT STREAM

MBR 14 OS LOT 246

MBR 15 OS LOT 232

MBR 16 OS LOT 235

MBR 17 OS LOT 235

MBR 18 OS LOT 230

MBR 19 OS LOT 226

MBR 20

MBR 21

LOT 60 LOT 61 LOT 62 LOT 63 LOT 64 LOT 65 LOT 66 LOT 67 LOT 68 LOT 69 LOT 70 LOT 71 LOT 72 LOT 73 LOT 74 LOT 75 LOT 76 LOT 77 LOT 78 LOT 79 LOT 80 LOT 81 LOT 82 LOT 83 LOT 84 LOT 85 LOT 86 LOT 87 LOT 88 LOT 89 LOT 90 LOT 91 LOT 92 LOT 93 LOT 94 LOT 95 LOT 96 LOT 97 LOT 98 LOT 99 LOT 100 LOT 101 LOT 102 LOT 103 LOT 104 LOT 105 LOT 106 LOT 107 LOT 108 LOT 109 LOT 110 LOT 111 LOT 112 LOT 113 LOT 114 LOT 115 LOT 116 LOT 117 LOT 118 LOT 119 LOT 120 LOT 121 LOT 122 LOT 123 LOT 124 LOT 125 LOT 126 LOT 127

P 85
K. & M.T. GOULD, JR. --
L. 224 F. 323 (a) PARCEL
ZONED: R-ED

P 442
OPEN SPACE LOT 153
COLUMBIA
VILLAGE OF KINGS CONTRIVANCE
PLAT NOS. 4615 & 4616
ZONED: NT

MIDDLE PATUXENT RIVER

N 541,300

E 1,354,900

E 1,355,650

N 540,000

E 1,355,400

N 541,200

NAD'83

LEGEND

- TXTXS' DRY WELL
- 200 GAL RAIN BARREL
- POROUS DRIVEWAY W/ 12" STONE SEE DETAILS SHEET 17
- IMPERVIOUS DRIVEWAY
- 6" FLEXIBLE HDPE. INVERT IS 2.67' BELOW GRADE UNLESS OTHERWISE NOTED. PROVIDE 6" END CAP AT UPPER END OF PIPE RUN.

NOTES:
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GRAPHIC SCALE
1 inch = 50 ft.
0 25 50 100 200

FLOODPLAIN CROSS SECTION CHART

STATION	EX. Q100	PROP. Q100	EX. WSEL	PROP. WSEL	EX. CRIT.	PROP. CRIT	EX. EG	PROP. EG
30	252.3	557.1	226.10	226.10	215.62	217.84	226.10	226.10
120	252.3	557.1	226.10	226.08	---	---	226.10	226.12
176	252.3	557.1	226.04	226.05	---	---	226.11	226.15
271	252.3	557.1	226.41	226.51	226.41	226.51	227.41	230.02
312	252.3	557.1	229.01	231.04	229.01	231.04	230.64	232.83
360	252.3	557.1	231.55	233.16	231.55	233.16	232.85	235.38
408	252.3	557.1	234.02	235.35	234.02	235.35	234.94	236.76
450	252.3	557.1	236.11	237.00	236.11	237.00	236.94	238.12
533	252.3	557.1	240.24	241.71	240.24	241.71	241.26	243.16
638	252.3	557.1	244.41	245.61	244.41	245.61	245.30	246.88
765	252.3	557.1	250.45	251.82	250.45	251.82	251.36	253.05
874	252.3	557.1	256.44	256.38	256.44	256.38	256.13	257.36
975	182.8	384.4	259.44	260.24	259.44	260.24	260.08	261.41
1052	182.8	384.4	261.83	263.19	261.83	263.19	262.83	264.65
1147	182.8	384.4	267.64	268.90	267.64	268.90	268.55	270.19
1181	182.8	384.4	270.24	271.57	270.24	271.57	271.15	272.73
1337	182.8	384.4	282.18	283.19	282.18	283.19	282.91	284.20
1445	182.8	384.4	291.22	292.17	291.22	292.17	291.93	293.15
1522	182.8	384.4	295.50	296.55	295.50	296.55	296.30	297.72
1616	182.8	384.4	298.54	300.60	298.54	300.60	300.31	301.64
1687	154.9	322.3	303.23	304.21	303.23	304.21	304.01	305.36
1821	154.9	322.3	310.18	310.91	310.03	310.85	310.66	311.66
1952	154.9	322.3	313.81	314.64	313.35	314.24	314.13	320.04
2026	154.9	322.3	324.42	325.00	324.42	325.00	324.87	325.65
2155	101.1	147.3	330.63	331.46	329.63	330.20	330.72	331.54
2280	101.1	147.3	333.63	334.32	333.14	333.71	333.52	334.56

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 3-16-2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 4-23-15

Chief, Development Engineering Division — Date 4.22.15

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-GRADING.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.
02/2015	POROUS SIDEWALK REMOVED. SEVERAL MICRO-BIOS ENLARGED ⚠		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 28, 2016

STATE OF MARYLAND — CHRISTOPHER CHARLES CRUM — No. 12975 — PROFESSIONAL ENGINEER

2/25/15

REVISED GRADING PLAN

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
DATE	TAX MAP – GRID	SHEET
FEB., 2015	47-3	38 OF 71

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F-13-103

MATCHLINE SEE SHEET 37

MATCHLINE SEE SHEET 38

EASEMENT AREA #4

LOT 44

LOT 45

PUBLIC FOREST CONSERVATION EASEMENT AREA #4

PERENNIAL STREAM E

PUBLIC FOREST CONSERVATION EASEMENT AREA #1

MER. 24 OS LOT 221

PUBLIC STORMWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT

INV(6") =310.5

ES 132

131

130

NAD'83

E 1355900

N 534000

EX. CELL TOWER TO BE REMOVED

65 DBA LINE

PUBLIC DRAINAGE & UTILITY EASEMENT

20' PUBLIC SEWER & UTILITY EASEMENT

PUBLIC 100 YR FLOODPLAIN, DRAINAGE & UTILITY EASEMENT

STEEP SLOPES - 25% AND GREATER 47,862 S.F.

OPEN SPACE-LOT 256 TO BE DEDICATED TO THE DEPT. OF REC & PARKS

S 59°52'44" W 979.85'

S 51°48'46" E 70.03'

S 51°48'46" E 73.45'

S 51°48'46" E 165.58'

S 37°27'04" E 81.86'

S 46°20'41" E 21.91'

S 29°58'57" E 75.91'

S 41°23'49" E 784.68'

S 39°10'53" E 83.98'

S 41°55'27" E 151.95'

S 35°54'19" E 70.36'

PUBLIC FOREST CONSERVATION EASEMENT AREA #4

PUBLIC FOREST CONSERVATION EASEMENT AREA #1

20' PUBLIC SEWER & UTILITY EASEMENT

15" RCP STORM DRAIN

MIDDLE PATUXENT RIVER

P/O 480
STATE OF MARYLAND ROADS COMMISSION
ZONED: R-ED

P. 442
OPEN SPACE LOT 153
COLUMBIA /
VILLAGE OF KINGS CONTRIVANCE
PLAT NOS. 4813 & 4816
ZONED: NT

E 1356300

N 540300

N 539600

E 1356600

LEGEND

- 1'X1'X5' DRY WELL
- 200 GAL RAIN BARREL
- POROUS DRIVEWAY W/ 12" STONE SEE DETAILS SHEET 17
- IMPERVIOUS DRIVEWAY
- 6" FLEXIBLE HDPE. INVERT IS 2.67' BELOW GRADE UNLESS OTHERWISE NOTED. PROVIDE 6" END CAP AT UPPER END OF PIPE RUN.

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GRAPHIC SCALE
1 inch = 50 ft.
0 25 50 100 200

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

L:\CADD\DRAWINGS\08052\FINALS\08052-GRADING.dwg | DES. dds | DRN. dds | CHK.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
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11-18-13

STATE OF MARYLAND — CHRISTOPHER T. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

GRADING PLAN

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED	08052
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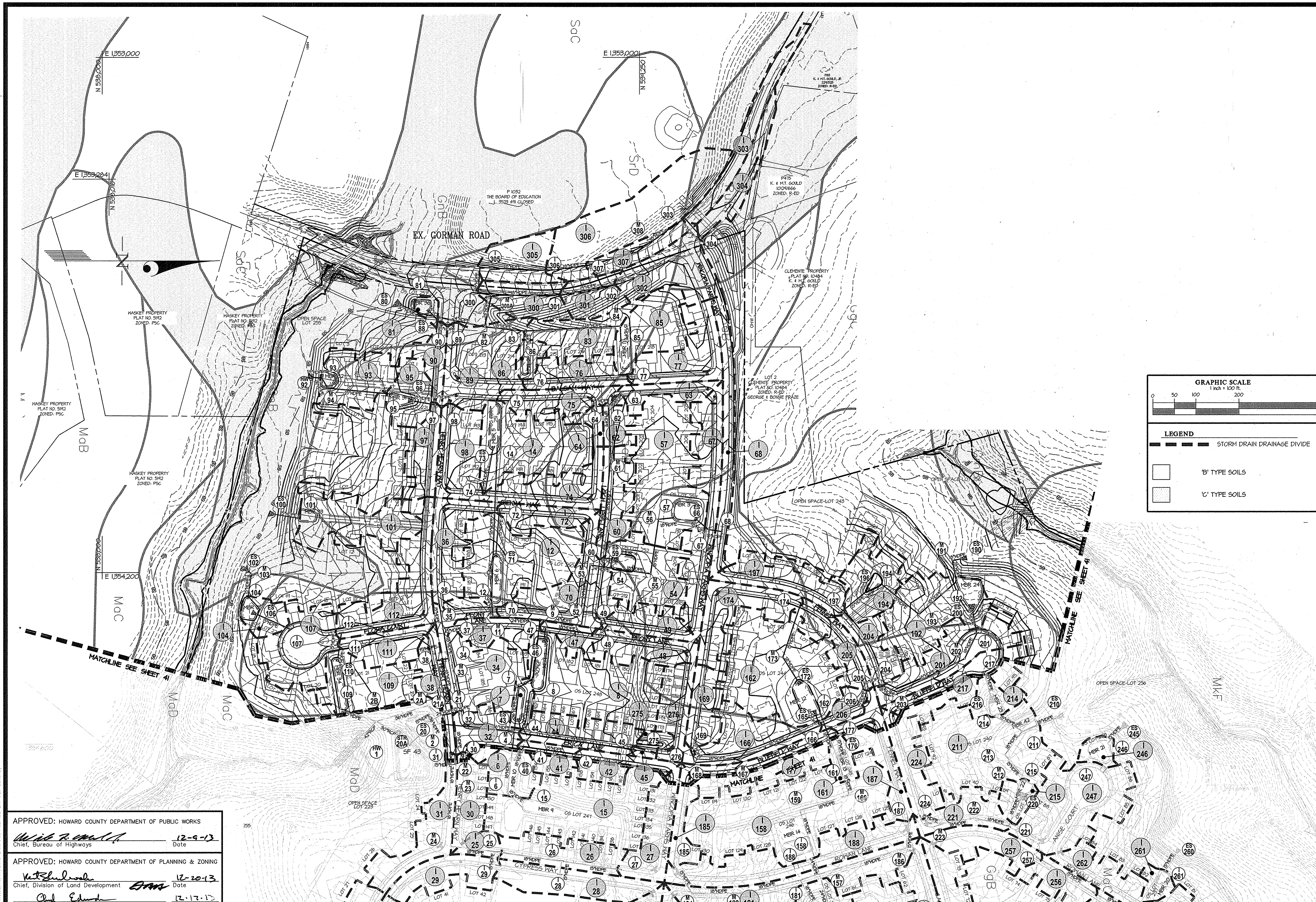
F-13-103



GRAPHIC SCALE
1 inch = 100 ft.
0 50 100 200 400

LEGEND

STORM DRAIN DRAINAGE DIVIDE

'B' TYPE SOILS

'C' TYPE SOILS

'C' FACTOR COMPUTATIONS			
STRUCTURE	AREA (AC.)	'C'	IMPERVIOUS
I-6	0.27 Ac.	0.52	50%
I-7	0.11 Ac.	0.52	50%
I-8	1.09 Ac.	0.52	50%
I-12	0.97 Ac.	0.52	50%
I-14	0.87 Ac.	0.52	50%
I-15	1.18 Ac.	0.52	50%
I-25	0.11 Ac.	0.52	50%
I-26	0.43 Ac.	0.52	50%
I-27	0.43 Ac.	0.52	50%
I-28	0.50 Ac.	0.52	50%
I-29	0.37 Ac.	0.52	50%
I-30	0.32 Ac.	0.52	50%
I-31	0.49 Ac.	0.52	50%
I-32	0.34 Ac.	0.52	50%
I-34	0.81 Ac.	0.52	50%
I-36	0.48 Ac.	0.52	50%
I-37	0.26 Ac.	0.52	50%
I-38	0.30 Ac.	0.52	50%
I-41	0.18 Ac.	0.52	50%
I-42	0.26 Ac.	0.52	50%
I-44	0.42 Ac.	0.52	50%
I-45	0.02 Ac.	0.52	50%
I-47	0.15 Ac.	0.52	50%
I-48	0.35 Ac.	0.52	50%
I-49	0.28 Ac.	0.52	50%
I-54	0.60 Ac.	0.52	50%
I-57	1.14 Ac.	0.52	50%
I-60	0.37 Ac.	0.52	50%
I-62	0.14 Ac.	0.52	50%
I-63	0.21 Ac.	0.52	50%
I-64	0.09 Ac.	0.52	50%
I-67	0.73 Ac.	0.52	50%
I-68	0.43 Ac.	0.52	50%
I-70	0.67 Ac.	0.52	50%
I-72	0.25 Ac.	0.52	50%
I-74	0.47 Ac.	0.52	50%
I-75	0.36 Ac.	0.52	50%
I-76	0.33 Ac.	0.52	50%
I-77	0.53 Ac.	0.52	50%
I-81	0.07 Ac.	0.52	50%
I-83	0.43 Ac.	0.52	50%
I-85	0.52 Ac.	0.52	50%
I-86	0.11 Ac.	0.52	50%
I-89	0.74 Ac.	0.52	50%
I-90	0.18 Ac.	0.52	50%
I-93	0.48 Ac.	0.52	50%
I-95	0.30 Ac.	0.52	50%
I-97	0.30 Ac.	0.52	50%
I-98	0.49 Ac.	0.52	50%
I-101	0.64 Ac.	0.52	50%
I-104	0.19 Ac.	0.52	50%
I-107	0.62 Ac.	0.52	50%
I-109	0.56 Ac.	0.52	50%
I-111	0.31 Ac.	0.52	50%
I-112	0.70 Ac.	0.52	50%
I-116	0.24 Ac.	0.52	50%
I-118	0.75 Ac.	0.52	50%
I-120	0.18 Ac.	0.52	50%
I-123	0.48 Ac.	0.52	50%
I-124	0.12 Ac.	0.52	50%
I-125	0.41 Ac.	0.52	50%
I-126	0.58 Ac.	0.52	50%
I-131	0.28 Ac.	0.52	50%
I-133	0.82 Ac.	0.52	50%
I-136	0.18 Ac.	0.52	50%
I-139	0.92 Ac.	0.52	50%
I-141	0.48 Ac.	0.52	50%
I-142	0.57 Ac.	0.52	50%
I-148	0.19 Ac.	0.52	50%
I-149	0.47 Ac.	0.52	50%
I-150	0.55 Ac.	0.52	50%
I-156	0.26 Ac.	0.52	50%
I-158	1.66 Ac.	0.52	50%
I-161	0.12 Ac.	0.52	50%
I-162	1.32 Ac.	0.52	50%
I-166	0.53 Ac.	0.52	50%
I-169	0.29 Ac.	0.52	50%
I-174	0.51 Ac.	0.52	50%
I-177	0.55 Ac.	0.52	50%
I-181	0.82 Ac.	0.52	50%
I-185	0.22 Ac.	0.52	50%
I-187	0.43 Ac.	0.52	50%
I-188	0.79 Ac.	0.52	50%
I-192	0.77 Ac.	0.52	50%
I-194	0.45 Ac.	0.52	50%
I-197	0.47 Ac.	0.52	50%
I-201	0.61 Ac.	0.52	50%
I-204	0.27 Ac.	0.52	50%
I-205	0.35 Ac.	0.52	50%
I-206	0.11 Ac.	0.52	50%
I-211	1.17 Ac.	0.52	50%
I-214	0.17 Ac.	0.52	50%
I-215	0.15 Ac.	0.52	50%
I-217	0.50 Ac.	0.52	50%
I-221	0.32 Ac.	0.52	50%
I-224	0.39 Ac.	0.52	50%
I-231	0.26 Ac.	0.52	50%
I-233	0.59 Ac.	0.52	50%
I-235	0.14 Ac.	0.52	50%
I-237	0.18 Ac.	0.52	50%
I-239	0.45 Ac.	0.52	50%
I-240	0.46 Ac.	0.52	50%
I-246	0.11 Ac.	0.52	50%
I-247	0.93 Ac.	0.52	50%
I-252	0.28 Ac.	0.52	50%
I-254	0.64 Ac.	0.52	50%
I-256	0.26 Ac.	0.52	50%
I-257	0.35 Ac.	0.52	50%
I-261	0.11 Ac.	0.52	50%
I-262	0.36 Ac.	0.52	50%
I-271	0.26 Ac.	0.52	50%
I-275	0.08 Ac.	0.52	50%
I-276	0.33 Ac.	0.52	50%
I-300	0.35 Ac.	0.52	50%
I-301	0.28 Ac.	0.52	50%
I-302	0.54 Ac.	0.52	50%
I-303	0.38 Ac.	0.52	50%
I-304	0.30 Ac.	0.52	50%
I-305	0.38 Ac.	0.52	50%
I-306	1.12 Ac.	0.52	50%
I-307	0.24 Ac.	0.52	50%

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-SD DAM.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2014

11-18-13

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

ELECTION DISTRICT No. 6

STORMDRAIN DRAINAGE AREA MAP

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	40 OF 71

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F-13-103

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

LEGEND

STORM DRAIN DRAINAGE DIVIDE

'B' TYPE SOILS

'C' TYPE SOILS

GLW GUTSCHICK LITTLE & WEBER, P.A.

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EXPIRATION DATE: MAY 26, 2014

11-15-13

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

STORMDRAIN DRAINAGE AREA MAP

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257

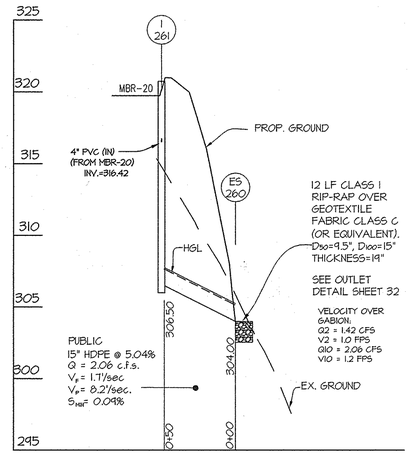
L. 11388 F. 725
PARCEL 472

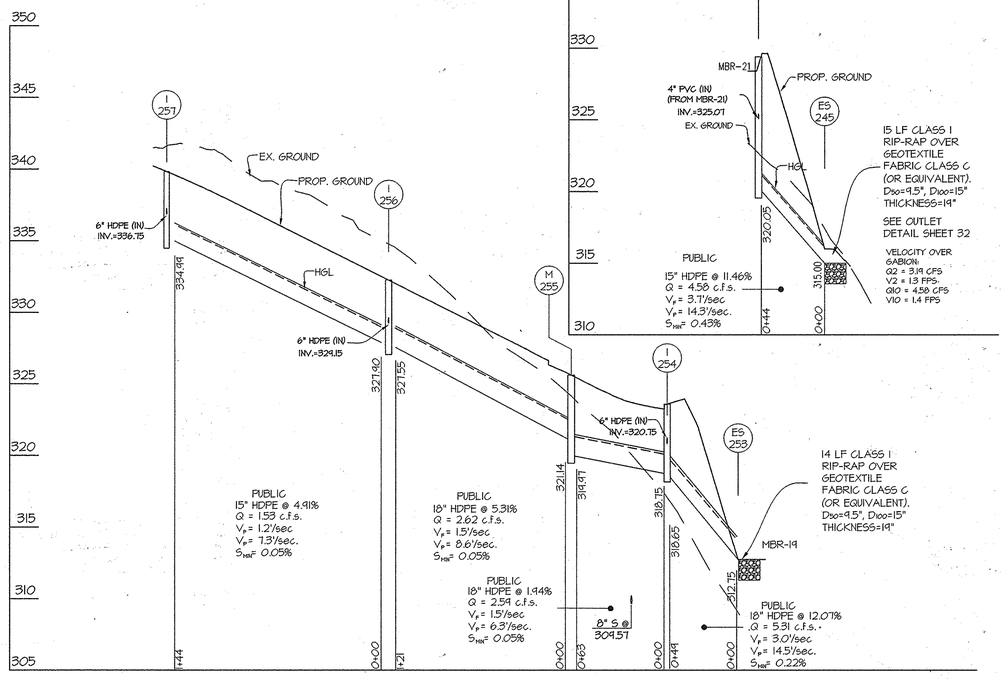
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

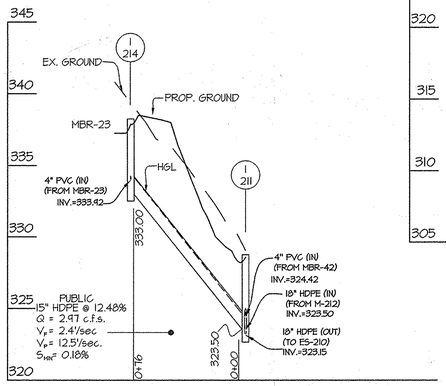
SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	41 OF 71

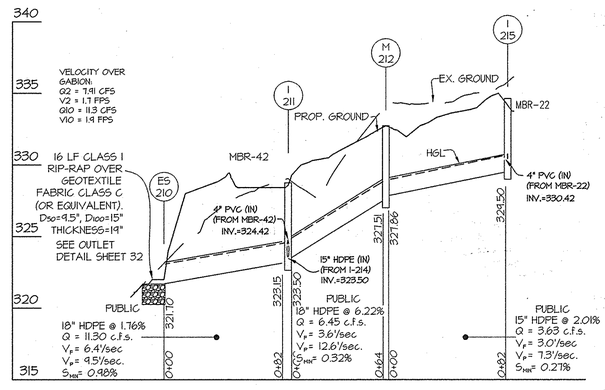
© GLW 2013

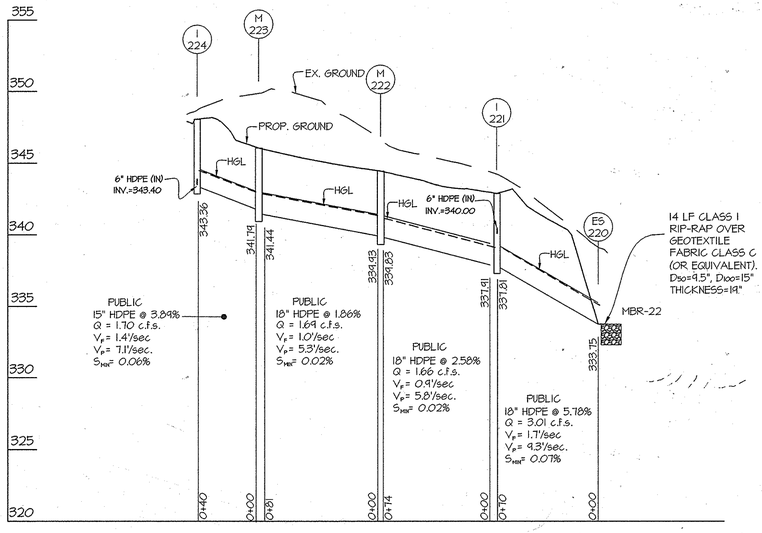
F-13-103

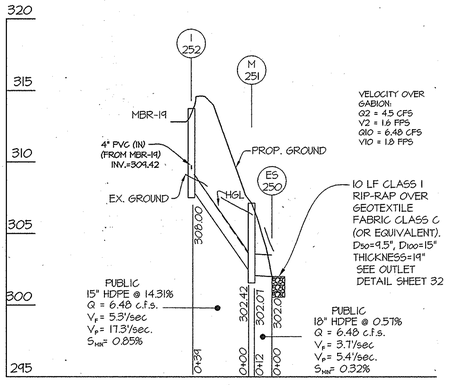


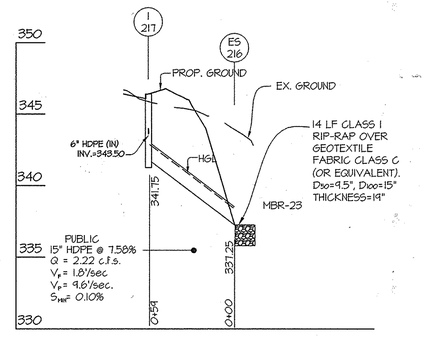












STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	REMARKS	LOCATIONS
I-211	DOUBLE 'S' INLET	2'-7.5"	328.75	-----			324.42	323.15			HO. CO. SD 4.23		
I-214	'S' INLET	2'-7.5"	338.25	-----			333.42	333.00			HO. CO. SD 4.22		
I-215	'S' INLET	2'-7.5"	334.75	-----			330.42	329.50			HO. CO. SD 4.22		
I-217	A-10 INLET	2'-6"	346.73	346.64			343.50	341.75			HO. CO. SD 4.03		
I-221	A-10 INLET	2'-6"	343.17	342.93			340.00	337.81			HO. CO. SD 4.03		
I-224	A-10 INLET	2'-6"	348.42	348.16			343.40	343.36			HO. CO. SD 4.03		
I-246	'S' INLET	2'-7.5"	329.40	-----			325.07	320.05			HO. CO. SD 4.22		
I-252	DOUBLE 'S' INLET	2'-7.5"	313.75	-----			304.42	308.00			HO. CO. SD 4.23	4" KNOCKOUT. INV.=312.25 ** SEE SHEETS 20-26	
I-254	A-10 INLET	2'-6"	323.85	323.85			320.75	318.65			HO. CO. SD 4.03		
I-256	A-10 INLET	2'-6"	332.70	332.16			324.15	327.55			HO. CO. SD 4.03		
I-257	A-10 INLET	2'-6"	340.21	339.80			336.75	334.99			HO. CO. SD 4.03		
I-261	'S' INLET	2'-7.5"	320.75	-----			316.42	306.50			HO. CO. SD 4.22		
M-212	STANDARD MANHOLE	4'-0"	332.73	-----			327.86	327.51			HO. CO. 6-5.12		
M-222	STANDARD MANHOLE	4'-0"	344.43	-----			339.93	339.83			HO. CO. 6-5.12		
M-223	STANDARD MANHOLE	4'-0"	346.03	-----			341.74	341.44			HO. CO. 6-5.12		
M-251	STANDARD MANHOLE	4'-0"	307.11	-----			302.42	302.07			HO. CO. 6-5.12		
M-255	STANDARD MANHOLE	4'-0"	325.62	-----			321.14	319.97			HO. CO. 6-5.12		
ES-210	END SECTION	18"	323.20	-----			321.70	-----			HO. CO. D-5.52		
ES-216	END SECTION	15"	338.50	-----			337.25	-----			HO. CO. D-5.52		
ES-220	END SECTION	18"	335.25	-----			333.75	-----			HO. CO. D-5.52		
ES-245	END SECTION	15"	316.25	-----			315.00	-----			HO. CO. D-5.52		
ES-250	END SECTION	18"	303.50	-----			302.00	-----			HO. CO. D-5.52		
ES-253	END SECTION	18"	314.25	-----			312.75	-----			HO. CO. D-5.52		
ES-260	END SECTION	15"	305.25	-----			304.00	-----			HO. CO. D-5.52		

NOTE: ** KNOCKOUT TO BE CLOSED WITH CONSTRUCTION OF MICRO-BIORETENTION FACILITY

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (L.F.)	REMARKS
15"	HDPE	534	
18"	HDPE	616	

HDPE indicates High Density Polyethylene pipe, such as N-12 by ADS, or HI-Q by Hancor or an approved equal.
Trench bedding to be provided per Howard County Detail G 2.01, "Trench for P.V.C. pipe and H.D.P.E."

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

0 10 25 50 100
1 Inch = 50 ft.

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L:\CADD\DRAWINGS\08052\FINALS\08052-SD PROF.dwg | DES. dds | DRN. GT | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
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BRIAN KNAUFF
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PROFESSIONAL CERTIFICATION

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EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CHRISTOPHER T. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

STORM DRAIN PROFILES

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50' (H) 1" = 5' (V)	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	42 OF 71

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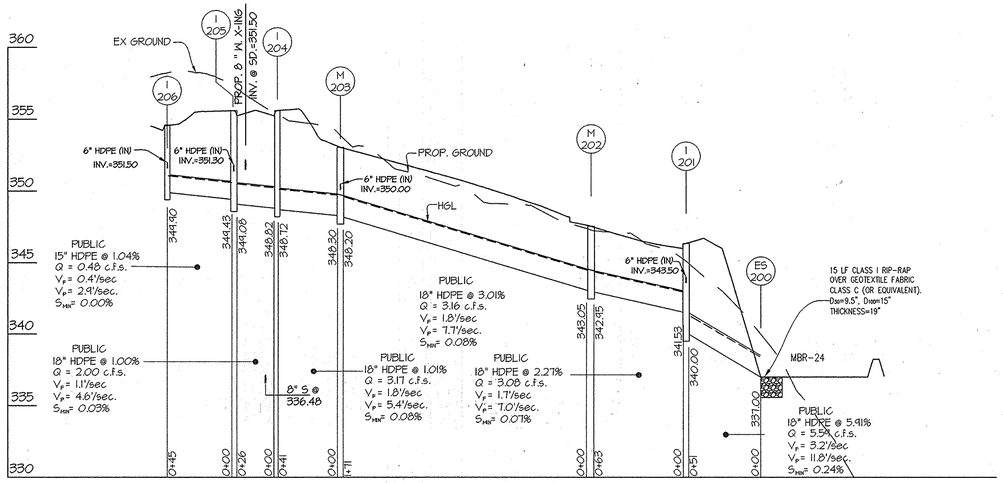
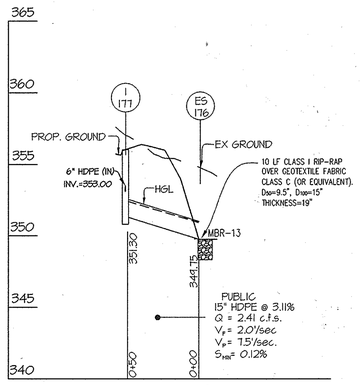
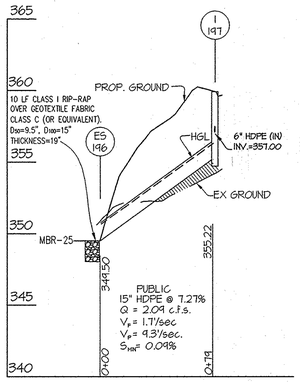
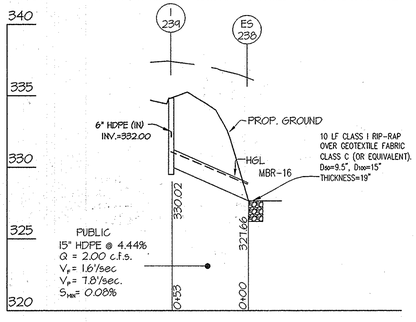
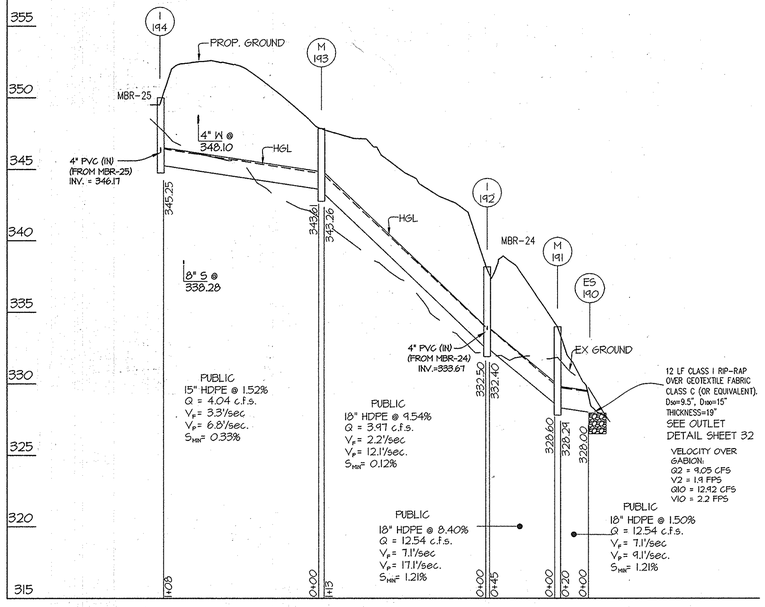
F-13-103

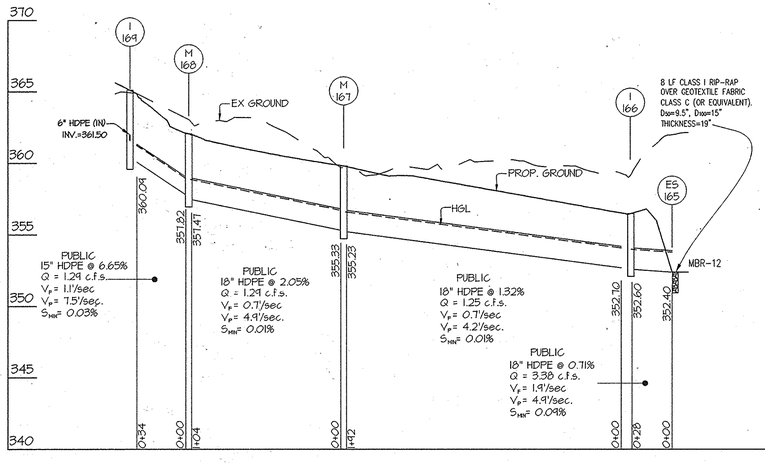


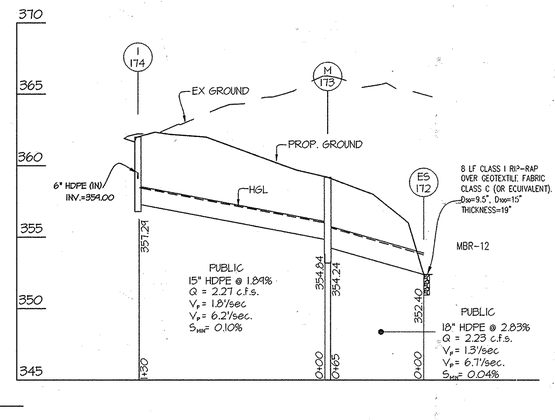












0 10 25 50 100
1 inch = 50 ft.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12-17-13

STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	LOCATIONS	REMARKS
I-166	A-10 INLET	2'-6"	356.77	356.60			352.70	352.60			HO. CO. SD 4.03		
I-169	A-10 INLET	2'-6"	365.32	364.79			361.50	360.09			HO. CO. SD 4.03		
I-174	A-10 INLET	2'-6"	362.37	362.12			354.00	357.29			HO. CO. SD 4.03		
I-177	A-10 INLET	2'-6"	356.29	356.11			353.00	351.30			HO. CO. SD 4.03		
I-192	DOUBLE 'S' INLET	2'-7.5"	338.00	-----			333.67	332.40			HO. CO. SD 4.23		
I-194	'S' INLET	2'-7.5"	350.50	-----			346.17	345.25			HO. CO. SD 4.22		
I-197	A-10 INLET	2'-6"	360.28	360.05			357.00	355.22			HO. CO. SD 4.03		
I-201	A-10 INLET	2'-6"	346.61	346.61			343.50	340.00			HO. CO. SD 4.03		
I-204	A-10 INLET	2'-6"	355.45	355.71			348.82	348.72			HO. CO. SD 4.03		
I-205	A-10 INLET	2'-6"	355.45	355.71			351.30	349.08			HO. CO. SD 4.03		
I-206	A-10 INLET	2'-6"	354.87	354.68			351.50	349.90			HO. CO. SD 4.03		
I-239	A-10 INLET	2'-6"	335.26	334.77			332.00	330.02			HO. CO. SD 4.03		
M-193	STANDARD MANHOLE	4'-0"	341.85	-----			343.61	343.26			HO. CO. G-5.12		
M-167	STANDARD MANHOLE	4'-0"	359.83	-----			355.33	355.23			HO. CO. G-5.12		
M-168	STANDARD MANHOLE	4'-0"	362.07	-----			357.82	357.41			HO. CO. G-5.12		
M-173	STANDARD MANHOLE	4'-0"	359.19	-----			354.84	354.24			HO. CO. G-5.12		
M-191	STANDARD MANHOLE	4'-0"	334.00	-----			328.60	328.24			HO. CO. G-5.12		
M-202	STANDARD MANHOLE	4'-0"	347.55	-----			343.05	342.95			HO. CO. G-5.12		
M-203	STANDARD MANHOLE	4'-0"	353.05	-----			350.00	348.20			HO. CO. G-5.12		
ES-165	END SECTION	18"	353.90	-----			352.40	-----			HO. CO. D-5.52		
ES-172	END SECTION	18"	358.90	-----			352.40	-----			HO. CO. D-5.52		
ES-176	END SECTION	15"	351.00	-----			349.75	-----			HO. CO. D-5.52		
ES-190	END SECTION	18"	329.50	-----			328.00	-----			HO. CO. D-5.52		
ES-196	END SECTION	15"	350.75	-----			349.50	-----			HO. CO. D-5.52		
ES-200	END SECTION	18"	338.50	-----			337.00	-----			HO. CO. D-5.52		
ES-238	END SECTION	15"	328.91	-----			327.66	-----			HO. CO. D-5.52		

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (L.F.)	REMARKS
15"	HDPE	499	
18"	HDPE	919	

HDPE Indicates High Density Polyethylene pipe, such as N-12 by ADS, or HI-Q by Hancor or an approved equal.

Trench bedding to be provided per Howard County Detail G 2.01, "Trench for P.V.C. pipe and H.D.P.E."

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EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CHRISTOPHER K. GUTSCHICK — REG. NO. 12075 — PROFESSIONAL ENGINEER
11-8-13

STORM DRAIN PROFILES

WINCOPIA FARMS
LOTS 1-201, 208-220, 258-263 & OPEN SPACE LOTS 221 THROUGH 257
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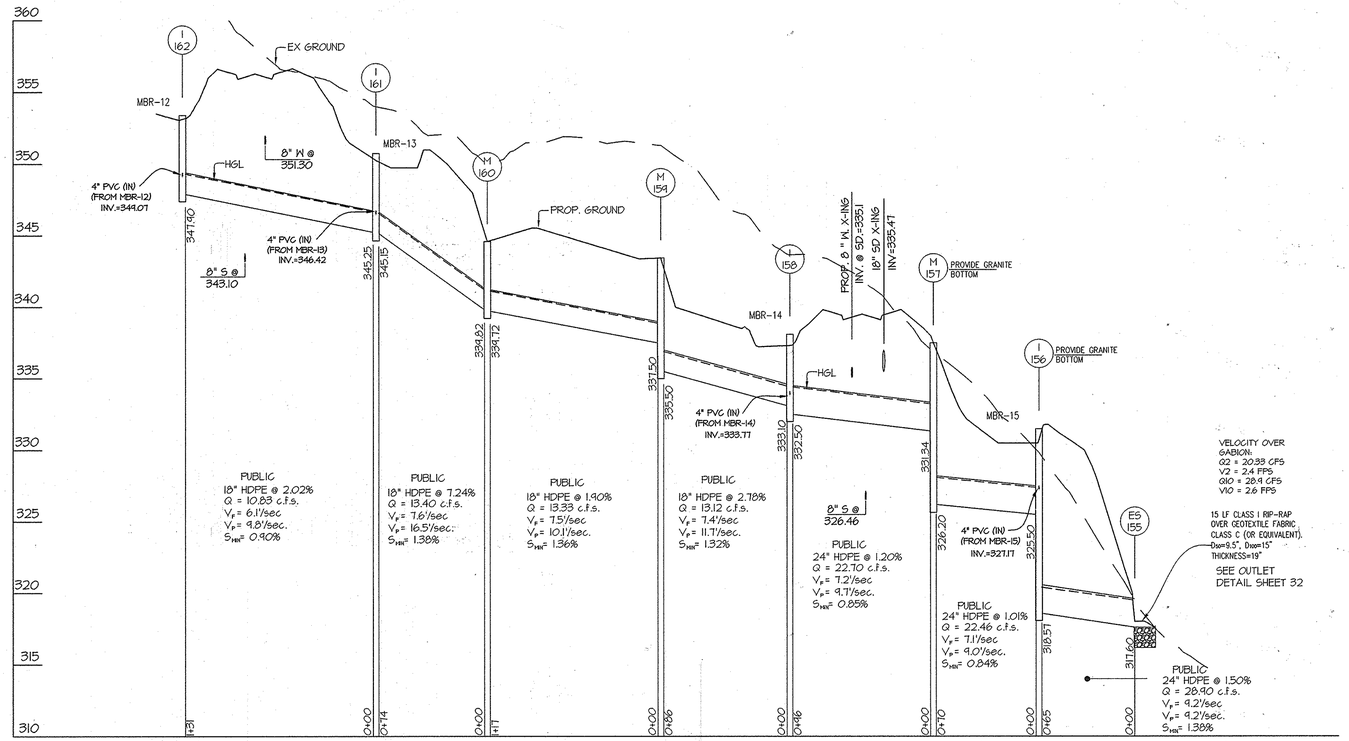

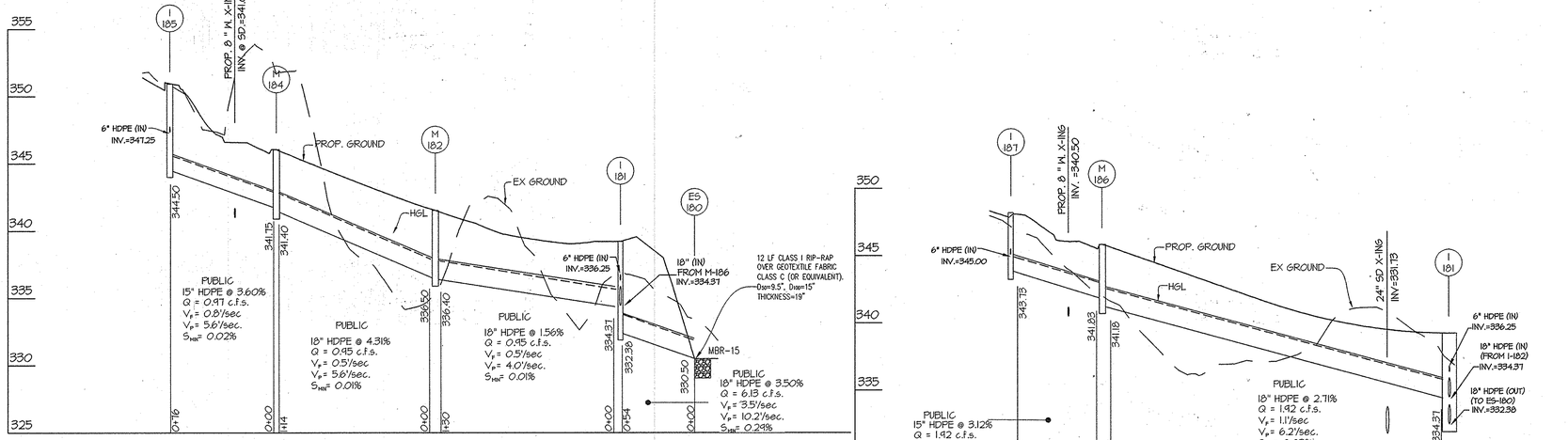

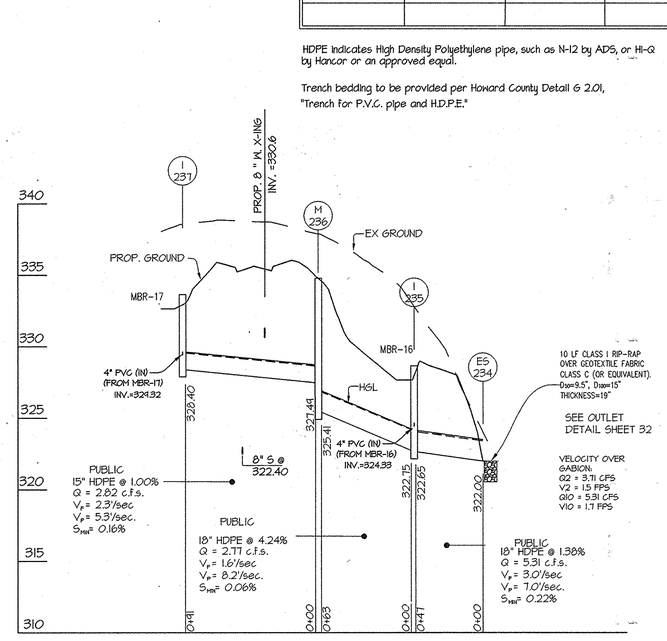

STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	REMARKS	LOCATIONS
I-156	DOUBLE 'S' INLET	2'-7.5"	331.50	-----			327.17	318.51			HO. CO. SD 4.23		
I-158	DOUBLE 'S' INLET	2'-7.5"	338.10	-----			333.77	332.50			HO. CO. SD 4.23	4" KNOCKOUT. INV=336.60 ** SEE SHEETS 20-26	
I-161	'S' INLET	2'-7.5"	350.75	-----			346.42	345.15			HO. CO. SD 4.22	4" KNOCKOUT. INV=344.25 ** SEE SHEETS 20-26	
I-162	DOUBLE 'S' INLET	2'-7.5"	353.40	-----			349.07	347.90			HO. CO. SD 4.23	4" KNOCKOUT. INV=351.90 ** SEE SHEETS 20-26	
I-181	A-10 INLET	2'-6"	339.45	339.45			336.25	332.38			HO. CO. SD 4.03		
I-185	A-10 INLET	2'-6"	351.14	350.60			347.25	344.50			HO. CO. SD 4.03		
I-187	A-10 INLET	2'-6"	348.54	348.31			324.33	343.73			HO. CO. SD 4.03		
I-235	'S' INLET	2'-7.5"	328.66	----			323.00	322.65			HO. CO. SD 4.22		
I-237	'S' INLET	2'-7.5"	333.65	-----			329.32	328.40			HO. CO. SD 4.22		
M-157	STANDARD MANHOLE	4'-0"	337.51	-----			331.34	326.60			HO. CO. 6-5.12		
M-159	STANDARD MANHOLE	4'-0"	343.44	-----			337.50	333.50			HO. CO. 6-5.12		
M-160	STANDARD MANHOLE	4'-0"	344.50	-----			338.82	334.72			HO. CO. 6-5.12		
M-182	STANDARD MANHOLE	4'-0"	341.53	-----			336.50	336.40			HO. CO. 6-5.12		
M-184	STANDARD MANHOLE	4'-0"	346.04	-----			341.75	341.40			HO. CO. 6-5.12		
M-186	STANDARD MANHOLE	4'-0"	345.83	-----			341.83	341.18			HO. CO. 6-5.12		
M-236	STANDARD MANHOLE	4'-0"	334.82	-----			327.49	325.41			HO. CO. 6-5.12		
ES-155	END SECTION	24"	319.60	-----			317.60	-----			HO. CO. D-5.52		
ES-180	END SECTION	18"	332.00	-----			330.50	-----			HO. CO. D-5.52		
ES-234	END SECTION	18"	323.50	-----			322.00	-----			HO. CO. D-5.52		

NOTE: ** KNOCKOUT TO BE CLOSED WITH CONSTRUCTION OF MICRO-BIORETENTION FACILITY

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (L.F.)	REMARKS
15"	HDPE	228	
18"	HDPE	1067	
24"	HDPE	231	

HDPE indicates High Density Polyethylene pipe, such as N-12 by ADS, or HI-Q by Hancor or an approved equal.

Trench bedding to be provided per Howard County Detail G 2.01, "Trench for P.V.C. pipe and H.D.P.E."

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-6-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

0 10 25 50 100

1 Inch = 50 ft.

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-SD PROF.dwg | DES. XXX | DRN. XXX | CHK. XXX

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CHRISTOPHER R. ROLLINS — No. 12975 — PROFESSIONAL ENGINEER

11-18-13

STORM DRAIN PROFILES

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50' (H) 1" = 5' (V)	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	44 OF 71

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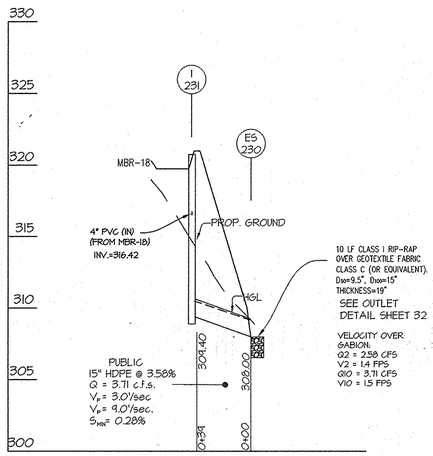
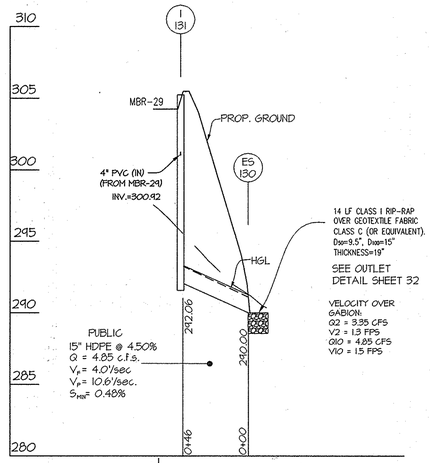
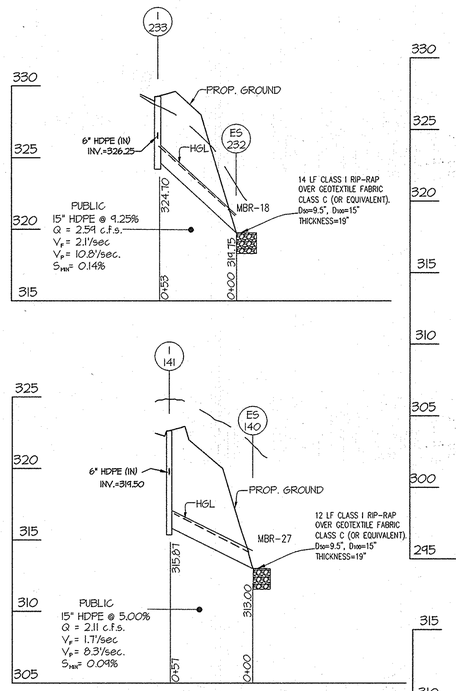
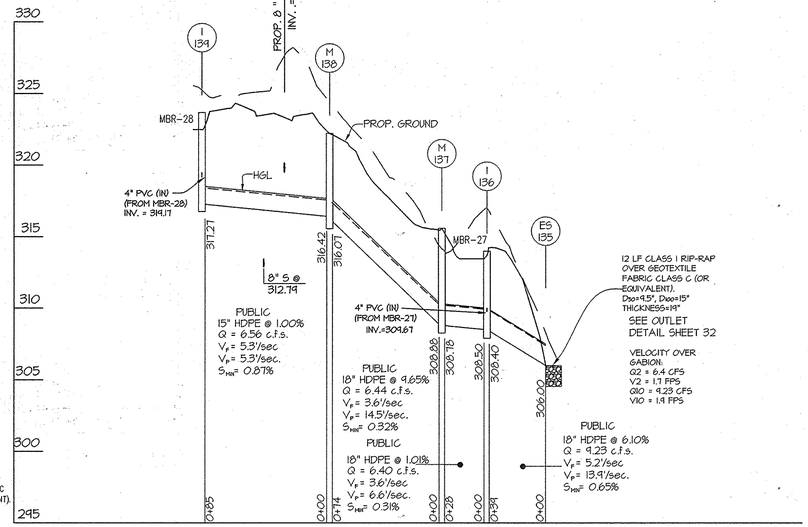
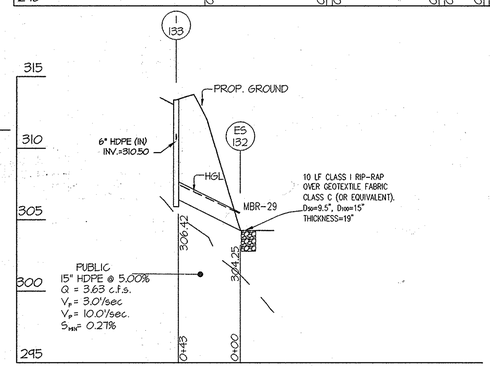
F-13-103

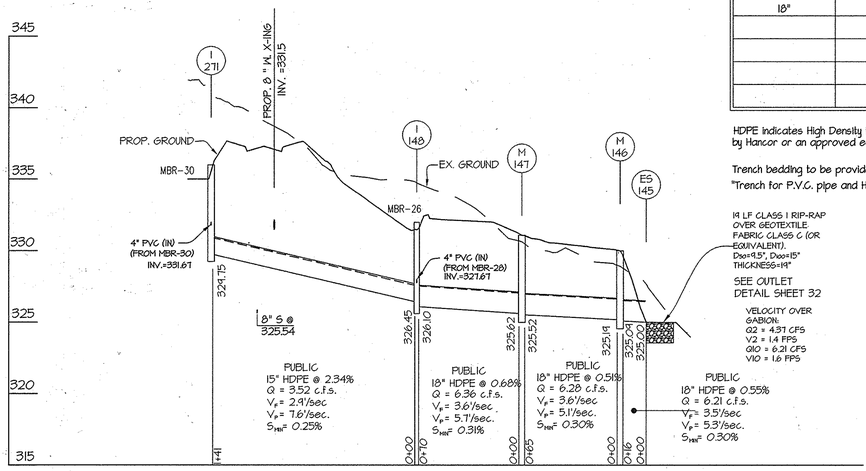












0 10 25 50 100
1 inch = 50 ft.

STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	REMARKS	LOCATIONS
I-131	'S' INLET	2'-7.5"	305.25	-----			330.42	292.06			HO. CO. SD 4.22		
I-133	A-10 INLET	2'-6"	313.67	313.64			310.50	306.42			HO. CO. SD 4.03		
I-136	'S' INLET	2'-7.5"	314.00	-----			309.67	308.40			HO. CO. SD 4.22		
I-139	DOUBLE 'S' INLET	2'-7.5"	323.50	-----			319.17	317.25			HO. CO. D 4.23		
I-141	A-10 INLET	2'-6"	323.06	322.57			314.50	315.87			HO. CO. SD 4.03		
I-148	'S' INLET	2'-7.5"	332.00	-----			327.67	326.10			HO. CO. SD 4.22		
I-231	'S' INLET	2'-7.5"	320.75	-----			316.42	309.40			HO. CO. SD 4.22	4" KNOCKOUT. INV=319.25 ** SEE SHEETS 20-26	
I-233	A-10 INLET	2'-6"	329.56	329.50			326.25	324.70			HO. CO. SD 4.03		
I-76	10' COG	14'-00"	354.90	354.15			-----	-----			MD-374.68		
I-77	10' COG	14'-00"	370.39	369.95			-----	-----			MD-374.68		
I-142	10' COG	14'-00"	325.30	324.80			-----	-----			MD-374.68		
I-149	10' COG	14'-00"	336.87	336.60			-----	-----			MD-374.68		
I-150	10' COG	14'-00"	337.29	337.02			-----	-----			MD-374.68		
I-188	10' COS	14'-00"	339.46	339.46			-----	-----			MD-374.68		
I-240	10' COS	14'-00"	335.40	334.94			-----	-----			MD-374.68		
I-247	10' COS	14'-00"	330.78	330.73			-----	-----			MD-374.68		
I-262	10' COG	14'-00"	326.04	325.66			-----	-----			MD-374.68		
I-271	'S' INLET	2'-7.5"	336.00	-----			331.67	324.75			HO. CO. SD 4.22	4" KNOCKOUT. INV=334.50 ** SEE SHEETS 20-26	
M-137	STANDARD MANHOLE	4'-0"	315.60	-----			308.88	308.78			HO. CO. G-5.12		
M-138	STANDARD MANHOLE	4'-0"	322.24	-----			316.42	316.07			HO. CO. G-5.12		
M-146	STANDARD MANHOLE	4'-0"	330.01	-----			325.19	325.09			HO. CO. G-5.12		
M-147	STANDARD MANHOLE	4'-0"	331.10	-----			325.62	325.52			HO. CO. G-5.12		
ES-130	END SECTION	15"	291.25	-----			290.00	-----			HO. CO. D-5.52		
ES-132	END SECTION	15"	305.50	-----			304.25	-----			HO. CO. D-5.52		
ES-135	END SECTION	15"	307.25	-----			306.00	-----			HO. CO. D-5.52		
ES-140	END SECTION	15"	314.25	-----			313.00	-----			HO. CO. D-5.52		
ES-145	END SECTION	18"	326.50	-----			325.00	-----			HO. CO. D-5.52		
ES-230	END SECTION	15'	309.25	-----			308.00	-----			HO. CO. D-5.52		
ES-232	END SECTION	15"	321.00	-----			319.75	-----			HO. CO. D-5.52		

NOTE: ** KNOCKOUT TO BE CLOSED WITH CONSTRUCTION OF MICRO-BIORETENTION FACILITY

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (L.F.)	REMARKS
15"	HDPE	464	
18"	HDPE	292	

HDPE indicates High Density Polyethylene pipe, such as N-12 by ADS, or Hi-Q by Hancor or an approved equal.

Trench bedding to be provided per Howard County Detail 6 2.01, "Trench for P.V.C. pipe and H.D.P.E."

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

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L:\CADD\DRAWINGS\08052\FINALS\08052-SD PROF.dwg | DES. dds | DRN. GT | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
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PROFESSIONAL CERTIFICATION

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EXPIRATION DATE: MAY 26, 2014

11-18-13

STATE OF MARYLAND — CHRISTOPHER T. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

STORM DRAIN PROFILES

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L.-W. FILE No.
1" = 50' (H) 1" = 5' (V)	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	45 OF 71

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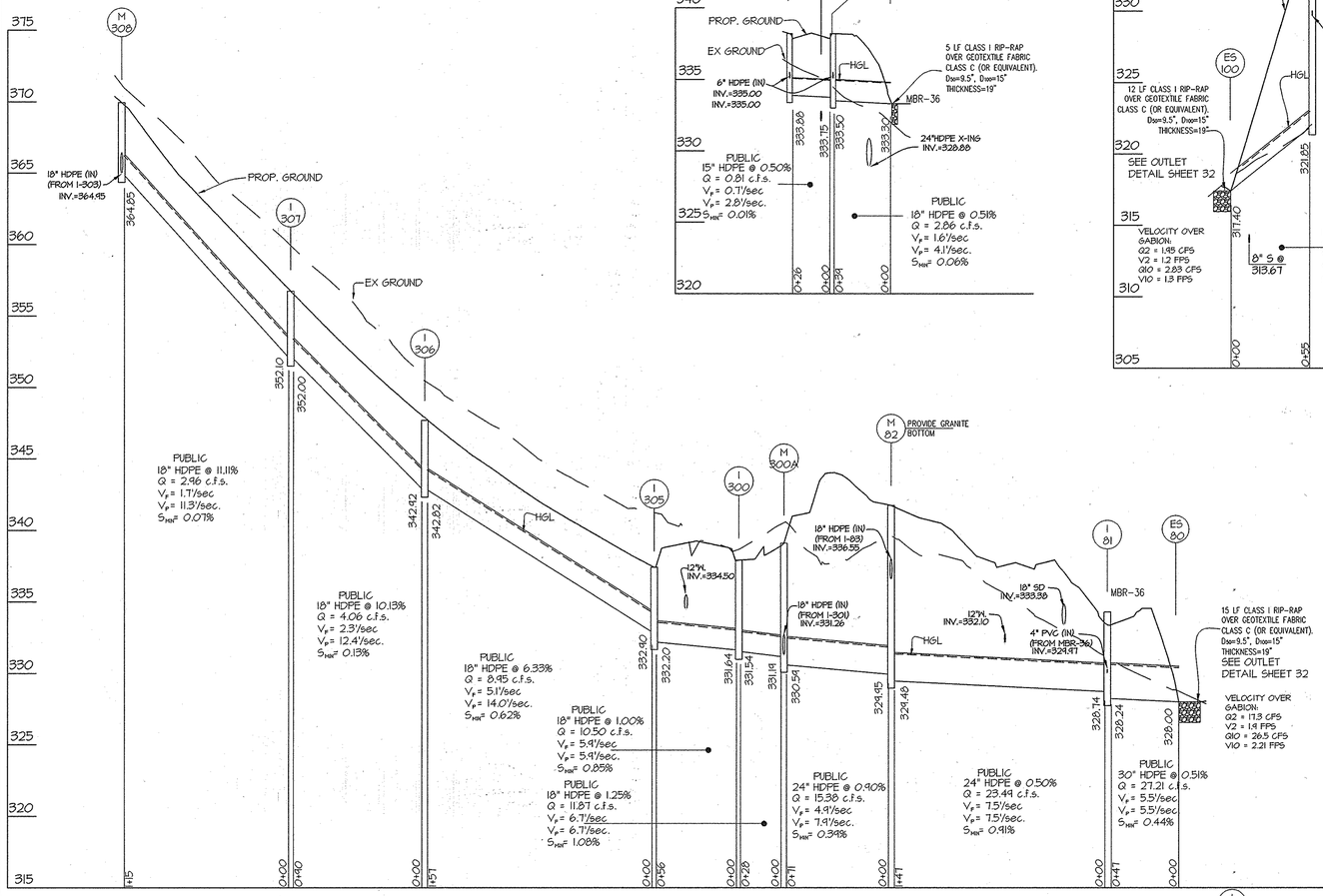

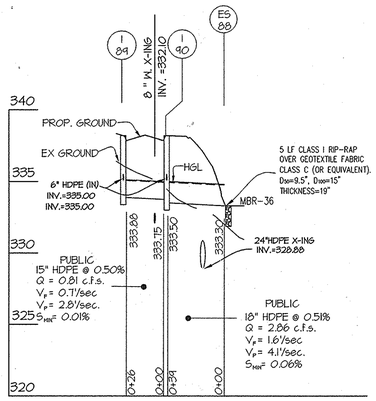

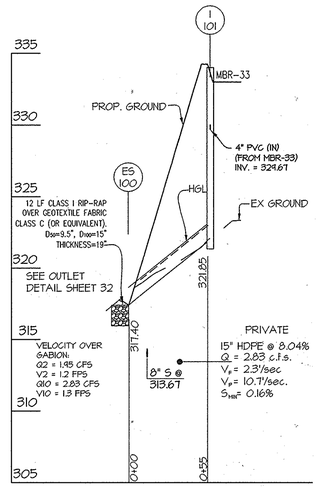

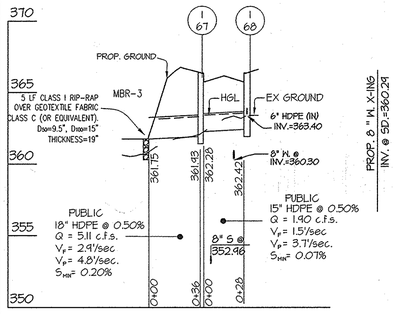

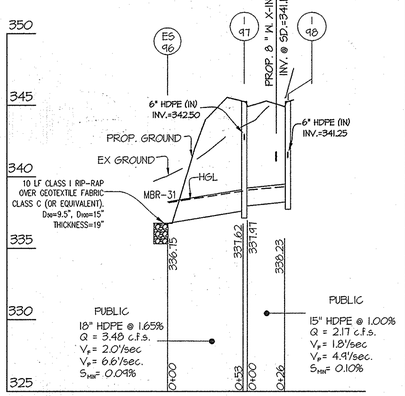

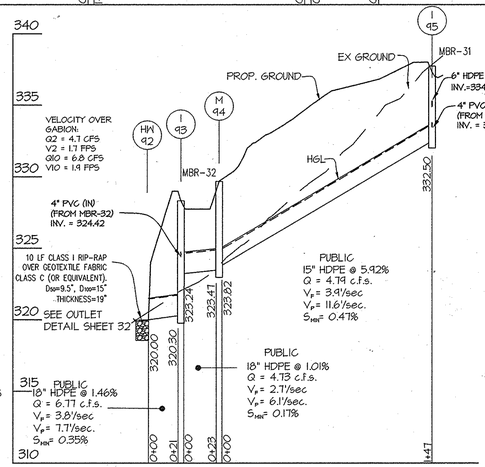

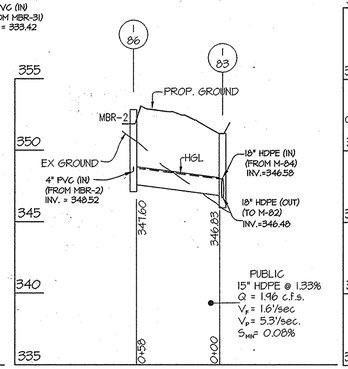

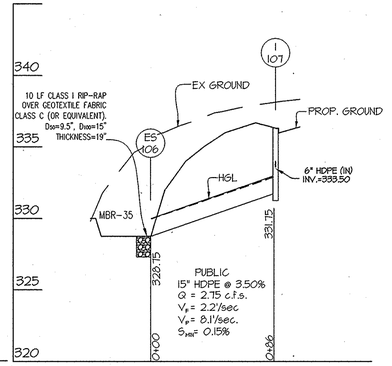

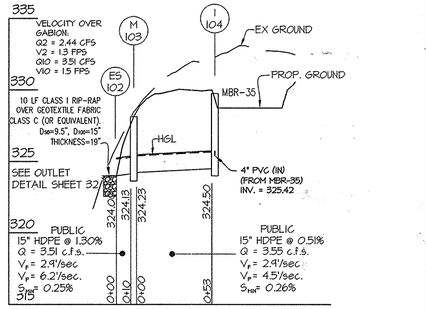

STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	REMARKS	LOCATIONS
I-67	A-10 INLET	2'-6"	366.33	366.33			362.28	361.93			HO. CO. SD 4.03		
I-68	A-10 INLET	2'-6"	366.33	366.33			363.40	362.42			HO. CO. SD 4.03		
I-81	'S' INLET	2'-7.5"	334.30	-----			329.97	328.24			HO. CO. SD 4.22	4" KNOCKOUT. INV=332.80 ** SEE SHEETS 20-26	
I-83	'S' INLET	2'-7.5"	351.18	-----			346.83	346.48			HO. CO. SD 4.22		
I-86	'S' INLET	2'-7.5"	352.85	-----			348.52	347.60			HO. CO. SD 4.22	4" KNOCKOUT. INV=351.35 ** SEE SHEETS 20-26	
I-89	A-10 INLET	2'-6"	338.64	338.24			335.00	333.88			HO. CO. SD 4.03		
I-90	A-10 INLET	2'-6"	338.64	338.64			335.00	333.50			HO. CO. SD 4.03		
I-93	'S' INLET	2'-7.5"	328.15	-----			324.42	320.30			HO. CO. SD 4.22		
I-95	'S' INLET	2'-7.5"	337.75	----			334.80	332.50			HO. CO. SD 4.22		
I-97	A-10 INLET	2'-6"	345.69	345.31			342.50	337.62			HO. CO. SD 4.03		
I-98	A-10 INLET	2'-6"	345.69	345.31			341.25	338.23			HO. CO. SD 4.03		
I-101	'S' INLET	2'-7.5"	334.00	-----			329.67	321.85			HO. CO. SD 4.22		
I-104	'S' INLET	2'-7.5"	329.75	-----			325.42	324.50			HO. CO. SD 4.22		
I-107	A-10 INLET	2'-6"	336.58	336.58			333.50	331.75			HO. CO. SD 4.03		
I-300	'S' INLET	2'-7.5"	337.93	-----			331.64	331.54			HO. CO. SD 4.22		
I-305	'S' INLET	2'-7.5"	337.43	-----			332.90	332.20			HO. CO. SD 4.22		
I-306	'S' INLET	2'-7.5"	347.85	-----			342.92	342.82			HO. CO. SD 4.22		
I-307	'S' INLET	2'-7.5"	356.75	-----			352.10	352.00			HO. CO. SD 4.22		
M-82	STANDARD MANHOLE	4'-0"	341.75	-----			336.55	329.48			HO. CO. 6-5.12		
M-94	STANDARD MANHOLE	4'-0"	329.70	-----			323.82	323.72			HO. CO. 6-5.12		
M-103	STANDARD MANHOLE	4'-0"	328.40	-----			324.23	324.13			HO. CO. 6-5.12		
M-300A	STANDARD MANHOLE	4'-0"	334.04	-----			331.26	330.54			HO. CO. 6-5.12		
M-308	STANDARD MANHOLE	4'-0"	369.95	-----			364.95	364.85			HO. CO. 6-5.12		
ES-66	END SECTION	15"	363.25	-----			361.75	-----			HO. CO. D-5.52		
ES-80	END SECTION	30"	330.50	-----			328.00	-----			HO. CO. D-5.52		
ES-88	END SECTION	15"	334.55	-----			333.30	-----			HO. CO. D-5.52		
ES-96	END SECTION	18"	338.25	-----			336.75	-----			HO. CO. D-5.52		
ES-100	END SECTION	15"	318.65	-----			317.40	-----			HO. CO. D-5.52		
ES-102	END SECTION	15"	325.25	-----			324.00	-----			HO. CO. D-5.52		
ES-106	END SECTION	15"	330.00	-----			328.75	-----			HO. CO. D-5.52		
HW-92	TYPE 'C' ENDWALL	---	324.00	-----			320.00	-----			HO. CO. D-5.21		

NOTE: ** KNOCKOUT TO BE CLOSED WITH CONSTRUCTION OF MICRO-BIORETENTION FACILITY

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (L.F.)	REMARKS
15"	HDPE	489	
18"	HDPE	618	
24"	HDPE	218	
30"	HDPE	47	

HDPE indicates High Density Polyethylene pipe, such as N-12 by ADS, or HI-Q by Hancor or an approved equal.

Trench bedding to be provided per Howard County Detail G 2.01, "Trench for P.V.C. pipe and H.D.P.E."

0 10 25 50 100
1 Inch = 50 ft.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

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L:\CADD\DRAWINGS\08052\FINALS\08052-SD PROF.dwg | DES. dds | DRN. GT | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
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STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-18-13

STORM DRAIN PROFILES

WINCOPIA FARMS
LOTS 1 - 201, 208 - 270, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50' (H) 1" = 5' (V)	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	46 OF 71

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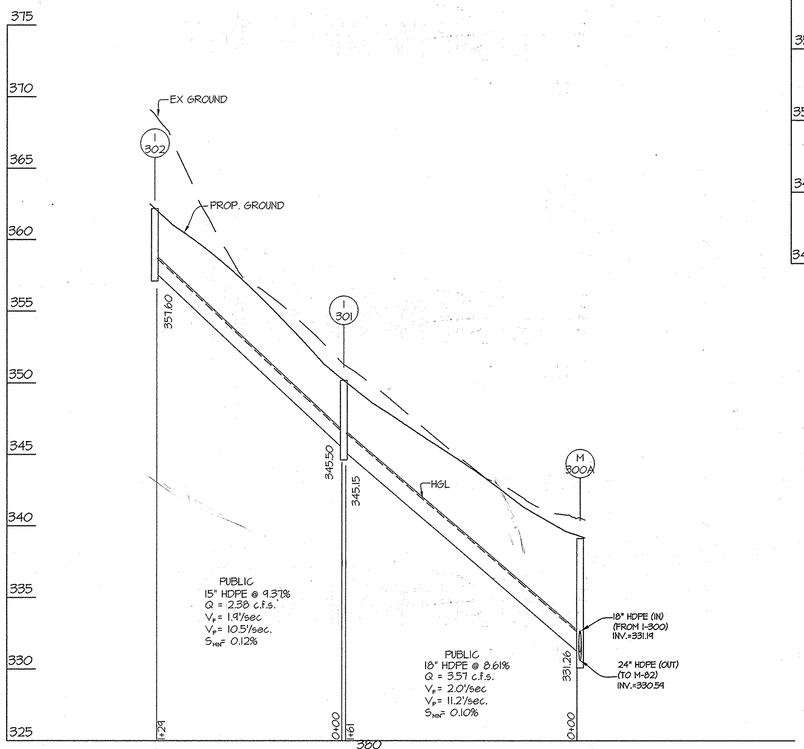

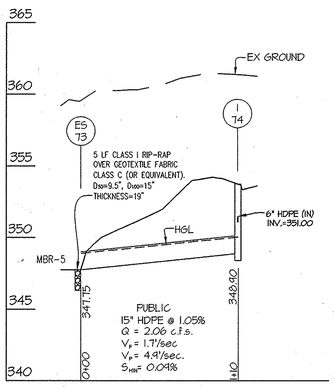

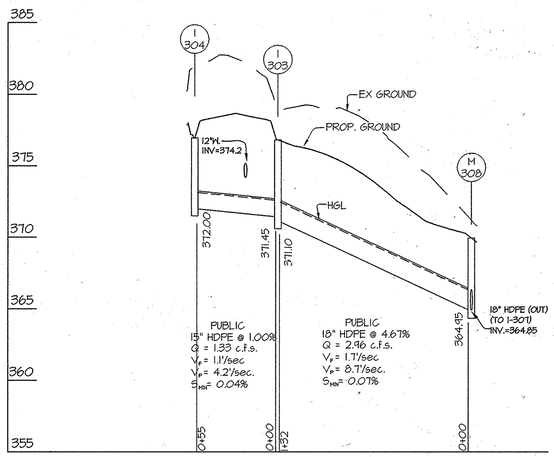

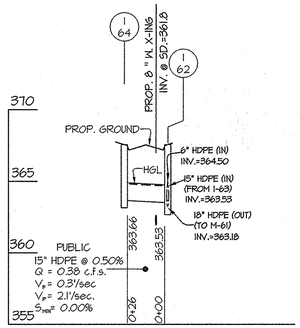

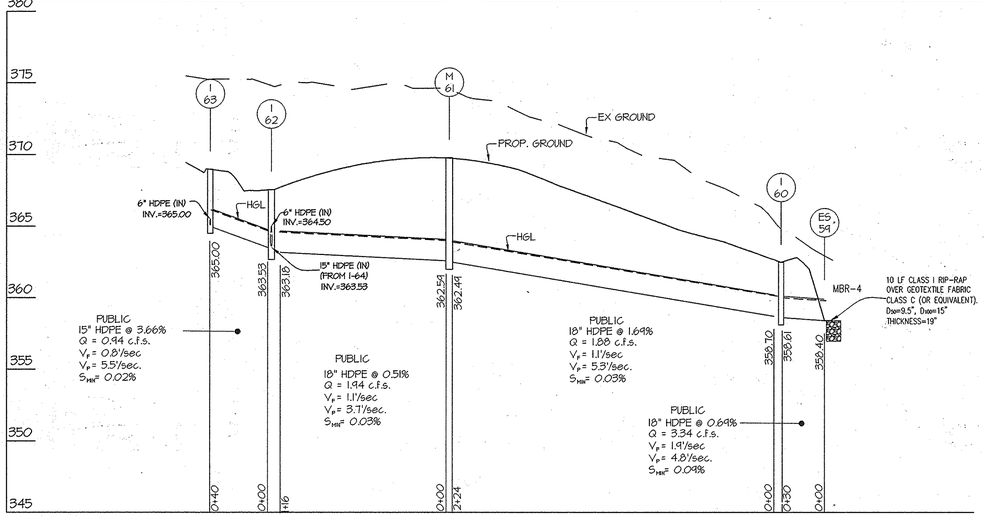

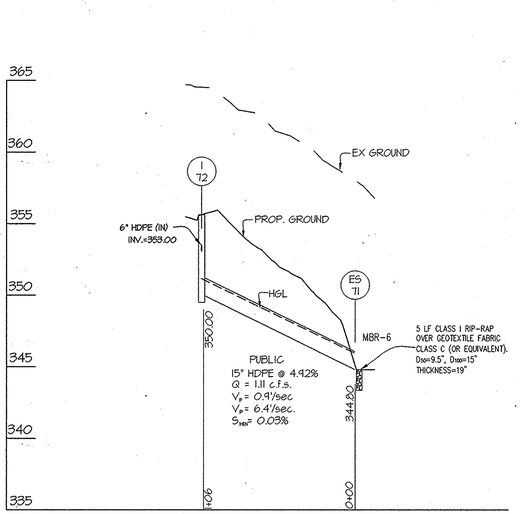

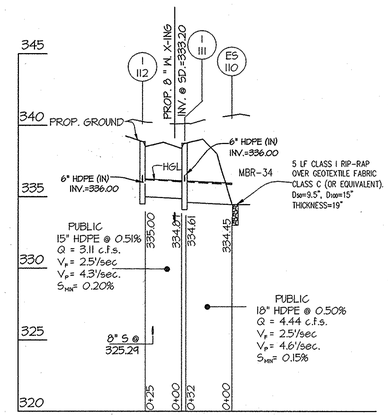

0 10 25 50 100
1 inch = 50 ft.

STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	LOCATIONS ◊	REMARKS
I-60	A-10 INLET	2'-6"	362.85	362.47			358.70	358.60			HO. CO. SD 4.03		
I-62	A-10 INLET	2'-6"	367.45	367.55			364.50	363.18			HO. CO. SD 4.03		
I-63	A-10 INLET	2'-6"	369.44	368.45			365.00	365.00			HO. CO. SD 4.03		
I-64	A-10 INLET	2'-6"	367.45	367.55			-----	363.66			HO. CO. SD 4.03		
I-72	A-10 INLET	2'-6"	365.06	355.52			353.00	350.00			HO. CO. SD 4.03		
I-74	A-10 INLET	2'-6"	354.19	353.68			351.00	348.90			HO. CO. SD 4.03		
I-111	A-10 INLET	2'-6"	339.07	338.91			336.00	334.61			HO. CO. SD 4.03		
I-112	A-10 INLET	2'-6"	339.18	339.03			336.00	335.00			HO. CO. SD 4.03		
I-301	'S' INLET	2'-7.5"	350.20	-----			345.50	345.15			HO. CO. SD 4.22		
I-302	'S' INLET	2'-7.5"	362.18	-----			-----	356.60			HO. CO. SD 4.22		
I-303	'S' INLET	2'-7.5"	376.80	-----			371.45	371.10			HO. CO. SD 4.22		
I-304	'S' INLET	2'-7.5"	376.80	-----			-----	372.00			HO. CO. SD 4.22		
M-61	STANDARD MANHOLE	4'-0"	369.81	-----			362.54	362.44			HO. CO. G-5.12		
ES-59	END SECTION	18"	359.90	-----			358.40	-----			HO. CO. D-5.52		
ES-71	END SECTION	15"	346.05	-----			344.80	-----			HO. CO. D-5.52		
ES-73	END SECTION	15"	349.00	-----			347.75	-----			HO. CO. D-5.52		
ES-110	END SECTION	18"	335.95	-----			334.45	-----			HO. CO. D-5.52		
I-70	10' C06	14'-00"	346.54	346.14			-----	-----			MD-374.68		
I-75	10' C06	14'-00"	350.10	350.00			-----	-----			MD-374.68		

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (l.f.)	REMARKS
15"	HDPE	491	
18"	HDPE	645	

HDPE indicates High Density Polyethylene pipe, such as N-12 by ADS, or HI-Q by Hancor or an approved equal.

Trench bedding to be provided per Howard County Detail G 2.01, "Trench for P.V.C. pipe and H.D.P.E."

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-5-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-SD PROF.dwg	DES. dds	DRN. GT	CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

11-19-13

STORM DRAIN PROFILES

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50' (H) 1" = 5' (V)	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	47 OF 71

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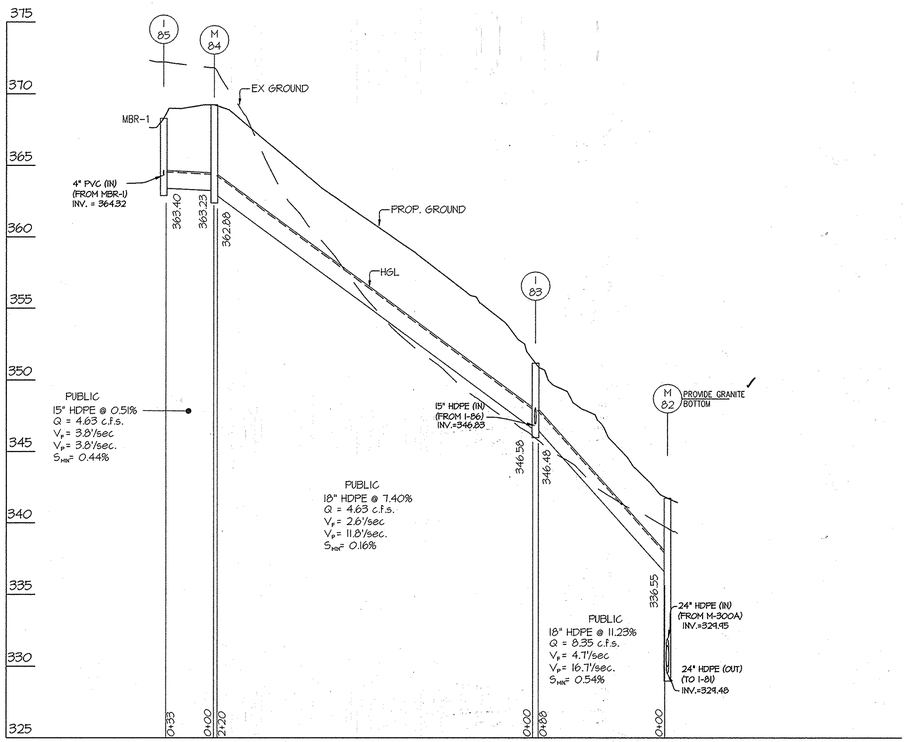
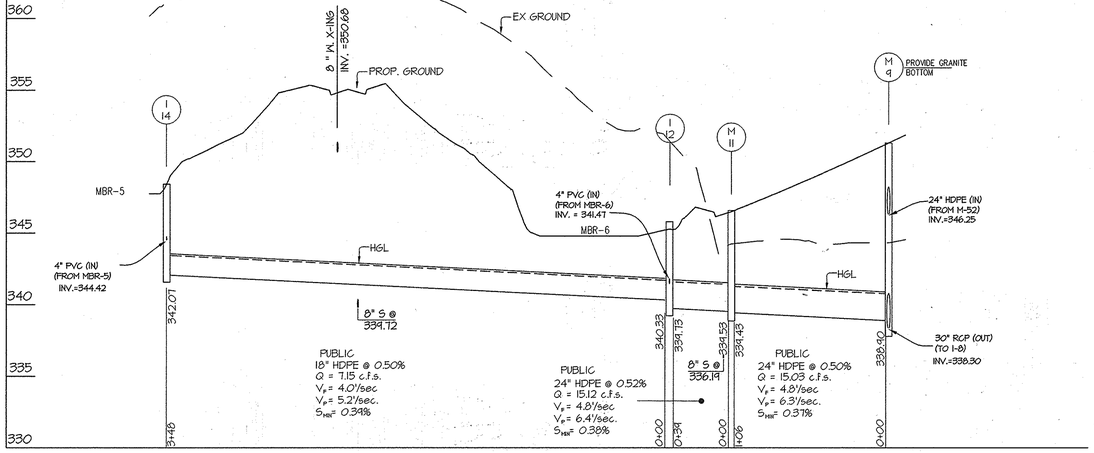
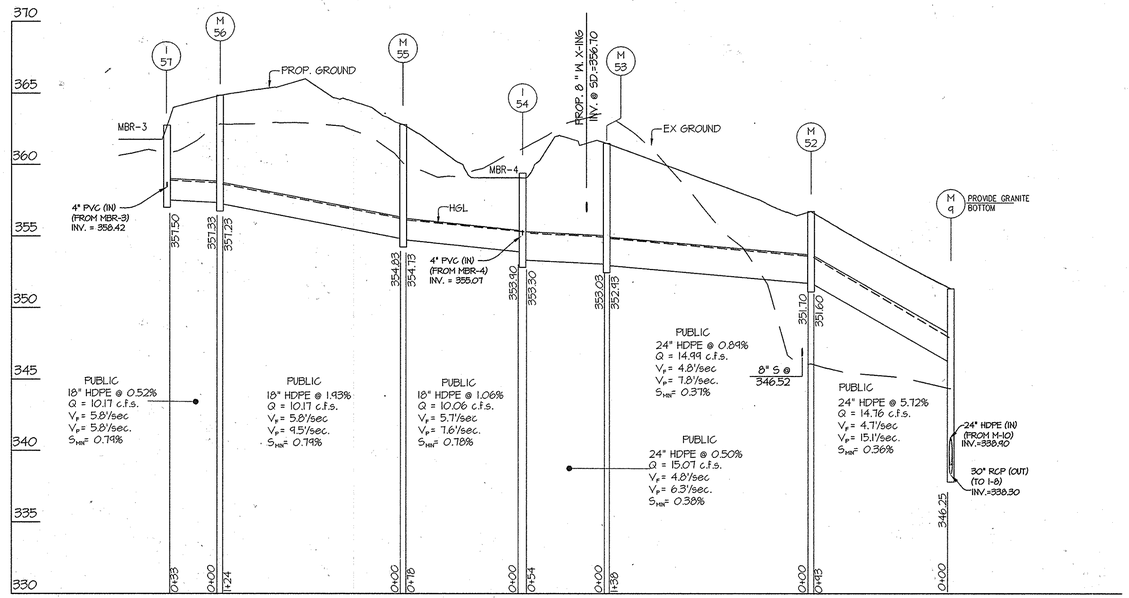
F-13-103







STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	REMARKS	LOCATIONS
I-12	DOUBLE 'S' INLET	2'-7.5"	345.80	-----			341.47	339.03			HO. CO. SD 4.23	4" KNOCKOUT. INV=341.25 ** SEE SHEET 5 20-26	
I-14	DOUBLE 'S' INLET	2'-7.5"	348.75	-----			344.42	342.07			HO. CO. SD 4.23	4" KNOCKOUT. INV=344.30 ** SEE SHEET 5 20-26	
I-54	DOUBLE 'S' INLET	2'-7.5"	359.40	-----			355.07	353.30			HO. CO. D 4.23	4" KNOCKOUT. INV=357.40 ** SEE SHEETS 20-26	
I-57	DOUBLE 'S' INLET	2'-7.5"	362.75	-----			358.42	357.50			HO. CO. SD 4.23	4" KNOCKOUT. INV=361.25 ** SEE SHEETS 20-26	
I-83	'S' INLET	2'-7.5"	351.18	-----			346.83	346.48			HO. CO. D 4.22		
I-85	'S' INLET	2'-7.5"	368.65	-----			364.32	363.40			HO. CO. SD 4.22	4" KNOCKOUT. INV=367.15 ** SEE SHEETS 20-26	
M-9	STANDARD MANHOLE	5'-0"	351.32	-----			346.25	338.30			HO. CO. G-5.13		
M-11	STANDARD MANHOLE	4'-0"	346.50	-----			339.53	339.43			HO. CO. G-5.12		
M-52	STANDARD MANHOLE	4'-0"	356.72	-----			351.70	351.60			HO. CO. G-5.12		
M-53	STANDARD MANHOLE	4'-0"	361.49	-----			353.03	352.93			HO. CO. G-5.12		
M-55	STANDARD MANHOLE	4'-0"	362.80	-----			354.83	354.73			HO. CO. G-5.12		
M-56	STANDARD MANHOLE	4'-0"	364.85	-----			357.33	357.33			HO. CO. G-5.12		
M-84	STANDARD MANHOLE	4'-0"	369.25	-----			363.23	362.88			HO. CO. G-5.12		

NOTE: ** KNOCKOUT TO BE CLOSED WITH CONSTRUCTION OF MICRO-BIORETENTION FACILITY

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (L.F.)	REMARKS
15"	HDPE	33	
18"	HDPE	891	
24"	HDPE	430	

HDPE indicates High Density Polyethylene pipe, such as N-12 by ADS, or HI-Q by Hancor or an approved equal.

Trench bedding to be provided per Howard County Detail G 2.01, "Trench for P.V.C. pipe and H.D.P.E."

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-19-13

0 10 25 50 100

1 Inch = 50 ft.

GLW GUTSCHICK LITTLE & WEBER, P.A.

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L:\CADD\DRAWINGS\08052\FINALS\08052-SD PROF.dwg | DES. dds | DRN. GT | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2014

STATE OF MARYLAND — TIMOTHY R. GUTSCHICK — No. 12975 — REGISTERED PROFESSIONAL ENGINEER

11-19-13

STORM DRAIN PROFILES

WINCOPIA FARMS
LOTS 1-201, 208-220, 258-263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50' (H) 1" = 5' (V)	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	48 OF 71

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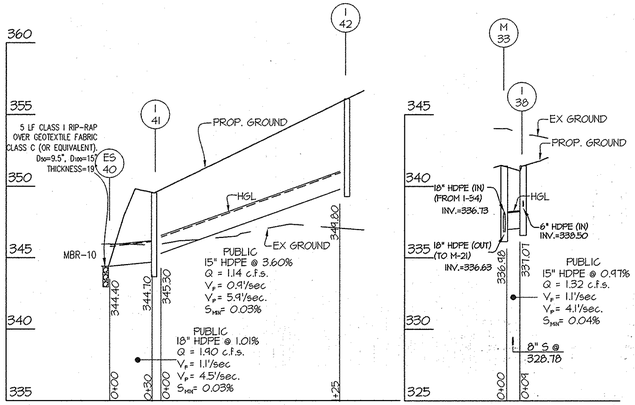
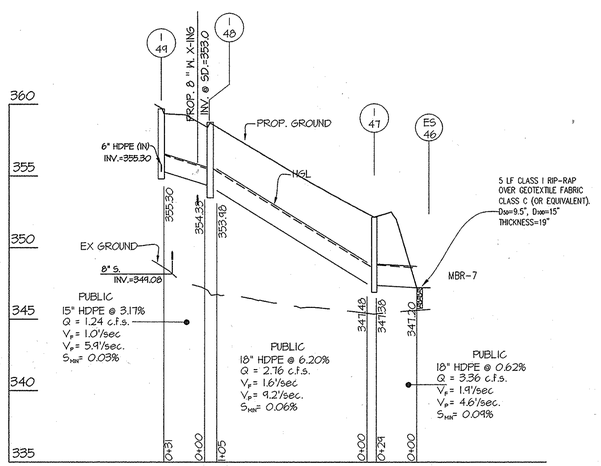
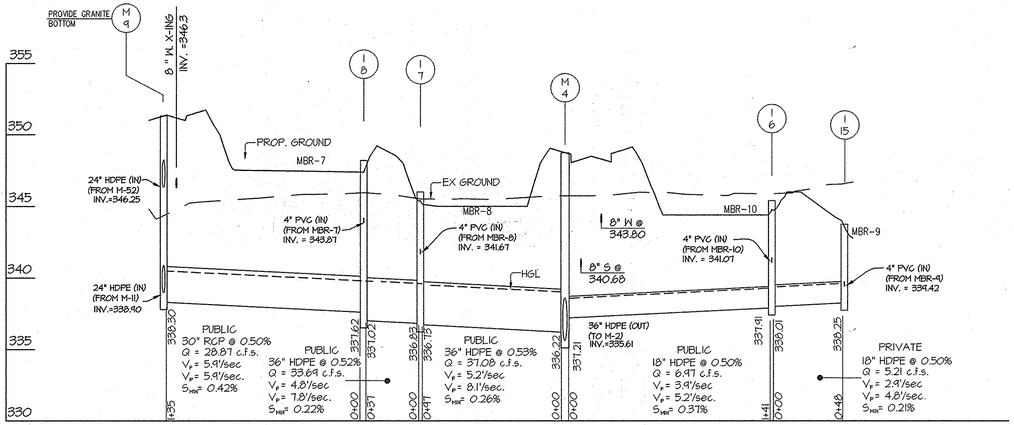
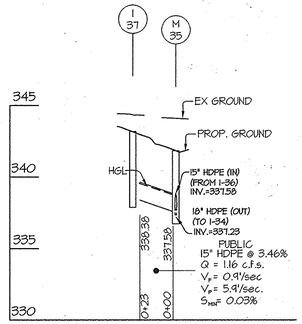
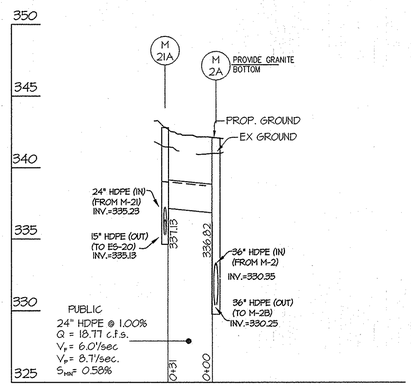
F-13-103

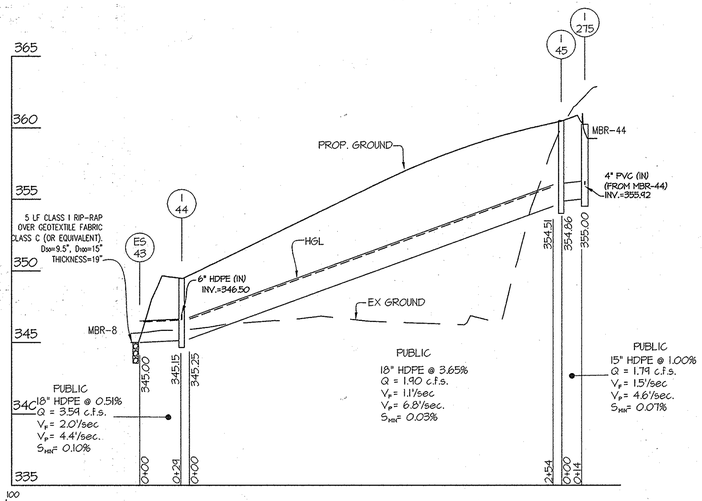


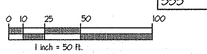


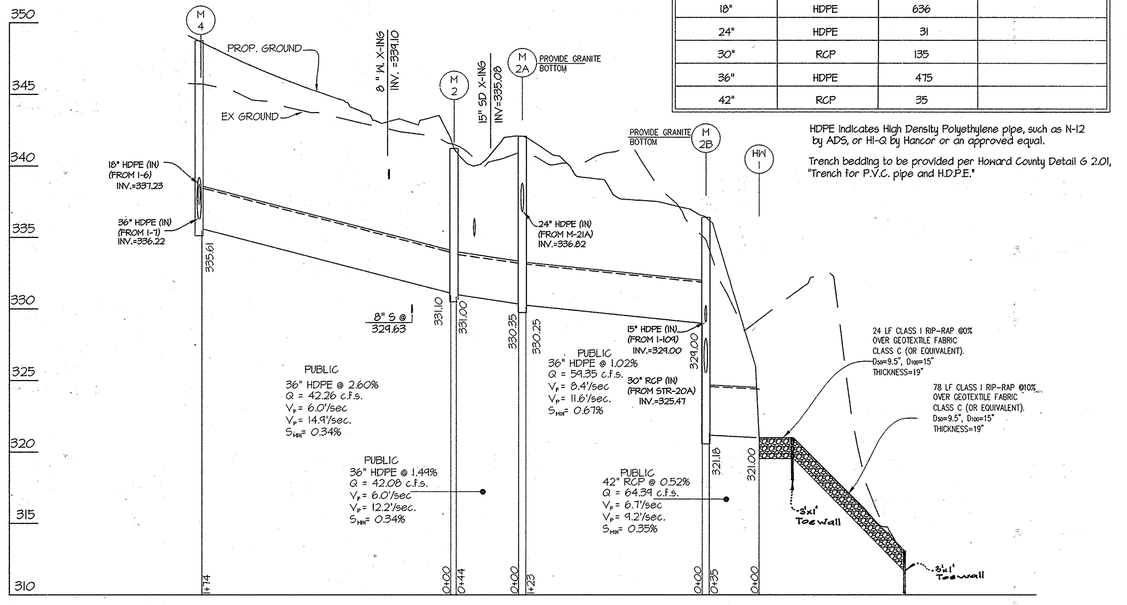












STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	REMARKS	LOCATIONS
I-6	DOUBLE 'S' INLET	2'-7.5"	345.40	-----			341.07	337.91			HO. CO. SD 4.23	4" KNOCKOUT. INV=343.90 ** SEE SHEETS 20-26	
I-7	DOUBLE 'S' INLET	2'-7.5"	346.00	-----			341.67	336.73			HO. CO. SD 4.23	4" KNOCKOUT. INV=344.50 ** SEE SHEETS 20-26	
I-8	DOUBLE 'S' INLET	2'-7.5"	348.20	-----			343.87	337.02			HO. CO. D 4.23	4" KNOCKOUT. INV=346.70 ** SEE SHEETS 20-26	
I-15	DOUBLE 'S' INLET	2'-7.5"	343.75	-----			339.42	338.25			HO. CO. SD 4.23	4" KNOCKOUT. INV=342.25 ** SEE SHEETS 20-26	
I-275	'S' INLET	2'-7.5"	360.25	-----			355.92	355.00			HO. CO. SD 4.22	4" KNOCKOUT. INV=358.75 ** SEE SHEETS 20-26	
I-37	A-10 INLET	2'-6"	343.61	343.22			-----	338.38			HO. CO. SD 4.03		
I-38	A-10 INLET	2'-6"	341.69	341.69			338.50	337.01			HO. CO. SD 4.03		
I-41	A-10 INLET	2'-6"	349.75	349.23			345.30	344.70			HO. CO. SD 4.03		
I-42	A-10 INLET	2'-6"	356.30	355.82			-----	349.80			HO. CO. SD 4.03		
I-44	A-10 INLET	2'-6"	349.65	349.43			346.50	345.15			HO. CO. SD 4.03		
I-45	A-10 INLET	2'-6"	360.51	360.32			354.86	354.51			HO. CO. SD 4.03		
I-47	A-10 INLET	2'-6"	352.64	352.10			347.48	347.38			HO. CO. SD 4.03		
I-48	A-10 INLET	2'-6"	354.27	353.66			354.33	353.98			HO. CO. SD 4.03		
I-49	A-10 INLET	2'-6"	360.23	354.63			-----	355.30			HO. CO. SD 4.03		
I-276	C06-10	14'-0"	361.76	361.55			-----	-----			MD-374.68		
M-2	STANDARD MANHOLE	5'-0"	341.20	-----			331.10	331.00			HO. CO. 6-5.13		
M-2A	STANDARD MANHOLE	6'-0"	342.08	-----			336.82	330.25			HO. CO. 6-5.13		
M-2B	STANDARD MANHOLE	6'-0"	336.00	-----			324.00	321.18			HO. CO. 6-5.13		
M-4	STANDARD MANHOLE	5'-0"	348.74	-----			337.21	335.61			HO. CO. 6-5.13		
M-21A	STANDARD MANHOLE	4'-0"	342.80	-----			337.13	335.13			HO. CO. 6-5.12		
ES-40	END SECTION	18"	345.40	-----			344.40	------			HO. CO. D-5.52		
ES-43	END SECTION	18"	346.50	-----			345.00	------			HO. CO. D-5.52		
ES-46	END SECTION	18"	348.70	-----			347.20	------			HO. CO. D-5.52		
HW-1	TYPE 'C' ENDWALL	-----	326.00	-----			321.00	------			HO. CO. D-5.11		

NOTE: ** KNOCKOUT TO BE CLOSED WITH CONSTRUCTION OF MICRO-BIORETENTION FACILITY

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (l.f.)	REMARKS
15"	HDPE	202	
18"	HDPE	636	
24"	HDPE	31	
30"	RCP	135	
36"	HDPE	475	
42"	RCP	35	

HDPE Indicates High Density Polyethylene pipe, such as N-12 by ADS, or HI-Q by Hancor or an approved equal.

Trench bedding to be provided per Howard County Detail G 2.01, "Trench for P.V.C. pipe and H.D.P.E."

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-5-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

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1" = 50' (H) 1" = 5' (V)	R-ED	08052
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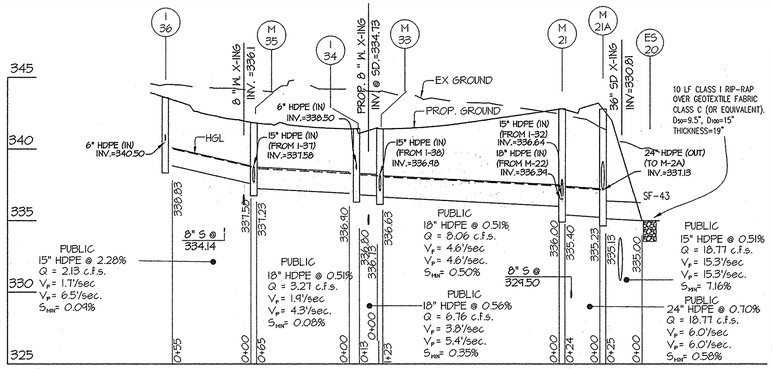

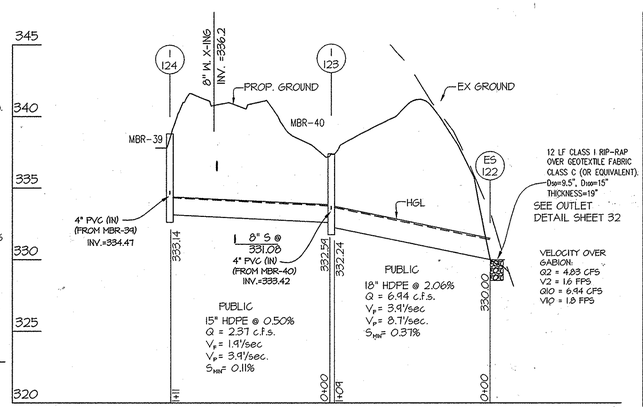

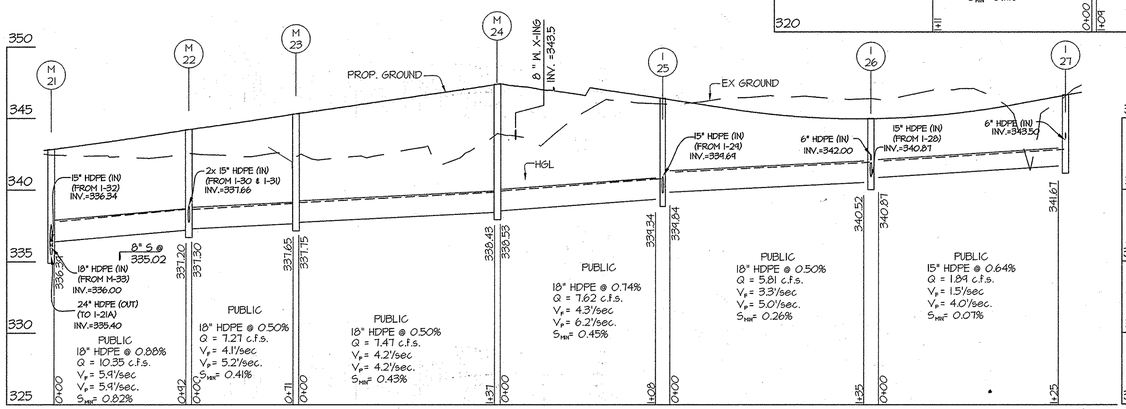

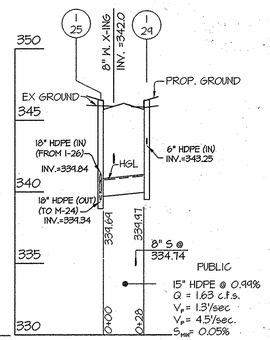

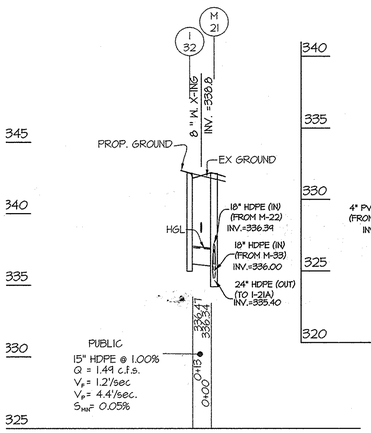

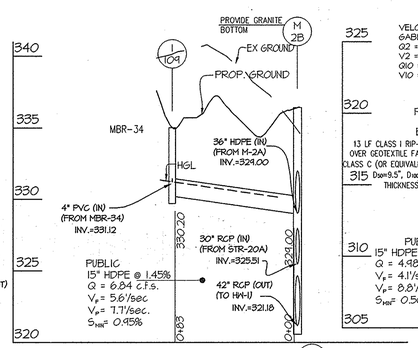

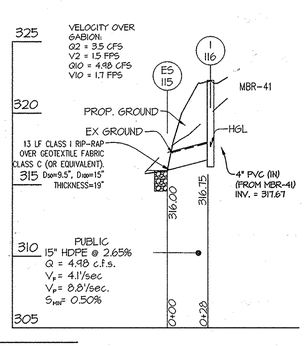

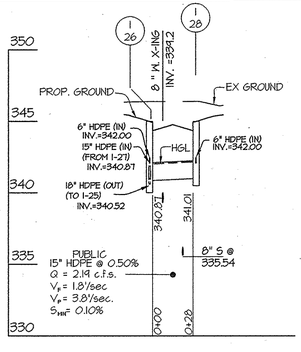

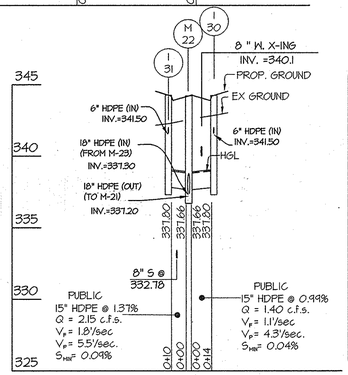

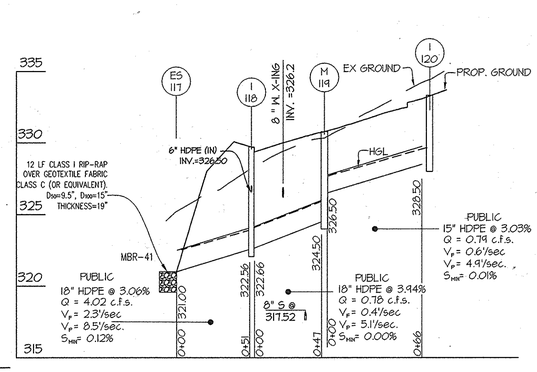

0 10 25 50 100
1 Inch = 50 ft.

STRUCTURE SCHEDULE

NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION PROPOSED UPPER	TOP ELEVATION PROPOSED LOWER	TOP ELEVATION AS-BUILT UPPER	TOP ELEVATION AS-BUILT LOWER	INVERT PROPOSED UPPER	INVERT PROPOSED LOWER	INVERT AS-BUILT UPPER	INVERT AS-BUILT LOWER	STD. DETAIL	LOCATIONS ⟨1⟩	REMARKS
I-25	A-10 INLET	2'-6"	346.43	346.27			339.84	339.34			HO. CO. SD 4.03		
I-26	A-10 INLET	2'-6"	344.94	344.94			342.00	340.52			HO. CO. SD 4.03		
I-27	A-10 INLET	2'-6"	346.71	346.51			343.50	341.67			HO. CO. SD 4.03		
I-28	A-10 INLET	2'-6"	344.94	344.94			342.00	341.01			HO. CO. SD 4.03		
I-29	A-10 INLET	2'-6"	346.43	346.27			343.25	339.97			HO. CO. SD 4.03		
I-30	A-10 INLET	2'-6"	344.54	344.37			341.50	337.80			HO. CO. SD 4.03		
I-31	A-10 INLET	2'-6"	344.54	344.37			341.50	337.80			HO. CO. SD 4.03		
I-32	A-10 INLET	2'-6"	343.17	343.01			-----	336.47			HO. CO. SD 4.03		
I-34	A-10 INLET	2'-6"	341.64	341.64			338.50	336.80			HO. CO. SD 4.03		
I-36	A-10 INLET	2'-6"	344.00	343.66			340.50	338.83			HO. CO. SD 4.03		
I-109	DOUBLE 'S' INLET	2'-7.5"	335.45	-----			331.12	330.20			HO. CO. SD 4.23		
I-116	'S' INLET	2'-7.5"	322.00	-----			317.67	316.75			HO. CO. SD 4.22		
I-118	A-10 INLET	2'-6"	329.96	329.96			322.66	322.56			HO. CO. SD 4.03		
I-120	A-10 INLET	2'-6"	333.68	333.31			-----	328.50			HO. CO. SD 4.03		
I-123	'S' INLET	2'-7.5"	337.75	-----			333.42	332.24			HO. CO. SD 4.22		
I-124	'S' INLET	2'-7.5"	338.48	-----			334.47	333.14			HO. CO. SD 4.22		
I-125	10' COG	14'-00"	340.71	340.10			-----	-----			MD-374.68		
I-126	10' COG	14'-00"	339.58	339.05			-----	-----			MD-374.68		
M-21	STANDARD MANHOLE	4'-0"	342.82	-----			336.34	335.40			HO. CO. 6-5.12		
M-22	STANDARD MANHOLE	4'-0"	344.23	-----			337.66	337.20			HO. CO. 6-5.12		
M-23	STANDARD MANHOLE	4'-0"	345.32	-----			338.75	337.65			HO. CO. 6-5.12		
M-24	STANDARD MANHOLE	4'-0"	347.40	-----			338.53	338.43			HO. CO. 6-5.12		
M-33	STANDARD MANHOLE	4'-0"	341.41	-----			336.98	336.63			HO. CO. 6-5.12		
M-35	STANDARD MANHOLE	4'-0"	341.84	-----			337.58	337.23			HO. CO. 6-5.12		
M-119	STANDARD MANHOLE	4'-0"	330.71	-----			326.50	324.50			HO. CO. 6-5.12		
ES-20	END SECTION	15"	336.25	-----			335.00	-----			HO. CO. D-5.21		
ES-115	END SECTION	15"	317.25	-----			316.00	-----			HO. CO. D-5.52		
ES-117	END SECTION	18"	322.50	-----			321.00	-----			HO. CO. D-5.52		
ES-122	END SECTION	18"	331.50	-----			330.00	-----			HO. CO. D-5.52		

PIPE SCHEDULE

SIZE	TYPE	QUANTITY (l.f.)	REMARKS
15"	HDPE	586	
18"	HDPE	951	
24"	HDPE	24	

HDPE Indicates High Density Polyethylene pipe, such as N-12 by ADS, or Hi-Q by Hancor or an approved equal.

Trench bedding to be provided per Howard County Detail G 2.01, "Trench for P.V.C. pipe and H.D.P.E."

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-5-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12.17.13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-SD PROF.dwg | DES. dds | DRN. GT | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 25, 2014

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. NO. 12975 — PROFESSIONAL ENGINEER

12-18-13

STORM DRAIN PROFILES

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 50' (H) 1" = 5' (V)	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	50 OF 71

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F-13-103

LEGEND

- T'XT'X5' DRY WELL
- 200 GAL RAIN BARREL
- POROUS DRIVEWAY W/ 12" STONE SEE DETAILS SHEET 17
- IMPERVIOUS DRIVEWAY
- GRASS SWALE
- 30' DISCONNECT LENGTH — ROOFTOP DISCONNECT
- SFB 100' BUFFER WIDTH — SHEET FLOW TO BUFFER
- STORMWATER DRAINAGE DIVIDE
- 'B' TYPE SOILS
- 'C' TYPE SOILS

ESD SUMMARAY TABLE △

AREA NO.	AREA (SF.)	IMPERVIOUS	ESDv (CF)
MBR 1	45,677	38%	3,017
MBR 2	19,002	52%	1,317
GS 2A	19,064	17%	405
MBR 3	100,195	41%	6,798
MBR 4	61,651	43%	4,557
MBR 5	73,924	40%	4,123
MBR 6	82,735	34%	4,103
MBR 7	81,224	43%	4,508
MBR 8	42,111	67%	2,476
MBR 9	51,137	36%	3,393
MBR 10	31,262	58%	2,633
MBR 12	115,762	39%	7,954
MBR 13	29,656	51%	2,032
MBR 14	106,837	33%	7,262
MBR 15	72,395	51%	5,690
MBR 16	25,617	51%	1,324
MBR 17	27,315	53%	2,439
MBR 18	35,600	58%	2,530
MBR 19	64,279	49%	4,265
MBR 20	20,421	50%	1,265
MBR 21	45,124	55%	4,224
MBR 22	38,235	52%	2,248
MBR 23	29,069	48%	2,240
MBR 24	93,102	49%	5,870
MBR 25	40,066	55%	2,251
MBR 26	28,877	51%	2,791
MBR 27	28,429	52%	1,821
MBR 28	65,208	36%	3,505
MBR 29	49,847	54%	3,266
GS 29A	23,278	16%	469
MBR 30	35,295	26%	1,650
MBR 31	48,798	52%	2,744
MBR 32	20,972	55%	1,603
MBR 33	27,916	57%	1,603
MBR 34	68,249	43%	3,858
MBR 35	35,220	55%	3,034
MBR 36	46,778	45%	2,398
MBR 39	20,547	37%	1,424
MBR 40	45,487	39%	3,706
MBR 41	50,919	55%	4,798
MBR 42	47,406	15%	1,816
GW 43	247,350	49%	23,251
DA 50	4,754	100%	450
DA 51	10,634	100%	1,501
DA 52	10,287	100%	1,115
DA 53	4,773	100%	659
DA 54	5,900	100%	1,071
DA 55	5,589	100%	744
DA 57	5,589	100%	865
DA 58	9,315	100%	976
DA 59	3,726	100%	561
DA 60	3,680	100%	646
DA 61	6,423	100%	819
DA 62	4,647	100%	640
DA 63	2,159	100%	297
DA 64	4,401	100%	584
DA 65	10,804	100%	1,542
DA 66	3,996	100%	571
DA 67	6,323	100%	901
DA 68	4,561	100%	588
DA 69	5,290	100%	832
DA 70	4,796	100%	687
Gorman Road	25,214	100%	3,642
TOTAL	2,385,896	48%	172,360

GRAPHIC SCALE
1 inch = 100 ft.
0 50 100 200 400

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 3-16-2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 4-23-15
Chief, Development Engineering Division — Date 4-22-15

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-SWM DAM.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.
02/2015	POROUS SIDEWALK REMOVED. SEVERAL MICRO-BIOS ENLARGED △		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2016

2/25/15

STATE OF MARYLAND — CARLTON KENNETH GUTSCHICK — NO. 12975 — PROFESSIONAL ENGINEER

REVISED STORMWATER MANAGEMENT DRAINAGE AREA MAP

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	08052
DATE	TAX MAP – GRID	SHEET
FEB., 2015	47-3	51 OF 71

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F-13-103

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 3.16.2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 4-23-15

Chief, Development Engineering Division — Date 4.22.15

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L:\CADD\DRAWINGS\08052\FINALS\08052-SWM DAM.dwg | DES. dds | DRN. dds | CHK.

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2/25/15

STATE OF MARYLAND — CARLTON KENNETH GUTSCHICK — NO. 22975 — REGISTERED PROFESSIONAL ENGINEER

REVISED STORMWATER MANAGEMENT DRAINAGE AREA MAP

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 - 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
FEB., 2015	47-3	52 OF 71

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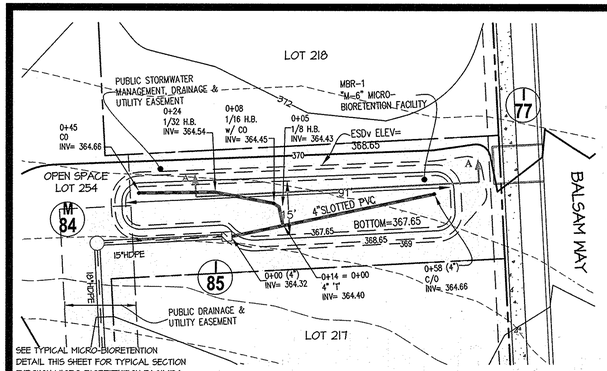
F-13-103

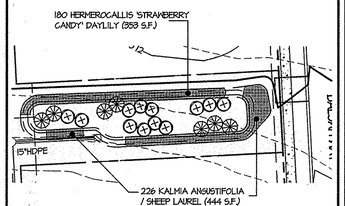


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

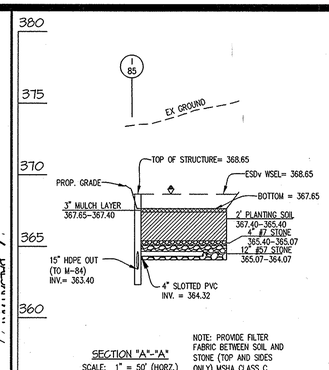
MICRO-BIORETENTION 1 SCALE: 1" = 20'

MBR-1
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 45,671 SF
STORAGE PROVIDED = 1,525 CU-FT (@368.65)
ESDv PROVIDED = 2,033 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 367.65
HIGH-FLOW OUTFALL: I-85 ('S' INLET, TOP = 368.65)



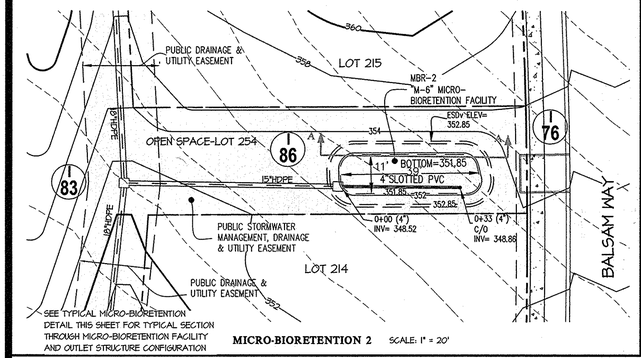
MICRO-BIORETENTION 1 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A" SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 1 DETAILS ⚠

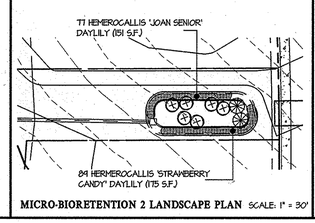


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

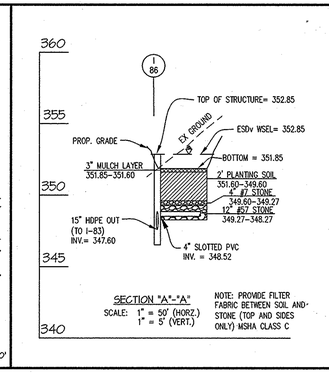
MICRO-BIORETENTION 2 SCALE: 1" = 20'

MBR-2
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 19,002 SF
STORAGE PROVIDED = 545 CU-FT (@352.85)
ESDv PROVIDED = 727 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 351.85
HIGH-FLOW OUTFALL: I-86 ('S' INLET, TOP = 352.85)



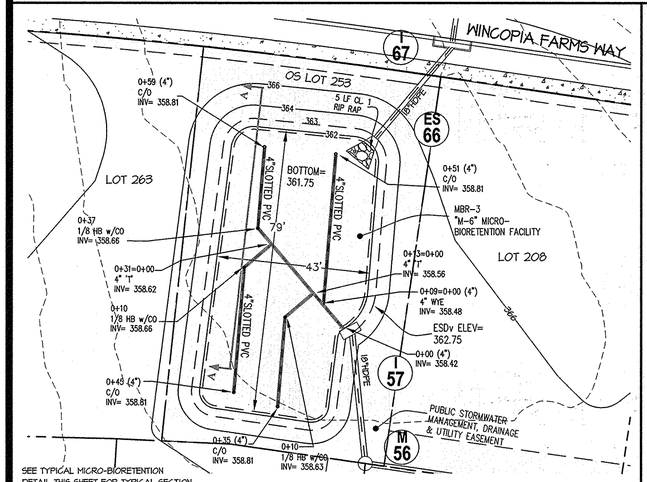
MICRO-BIORETENTION 2 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A" SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 2 DETAILS

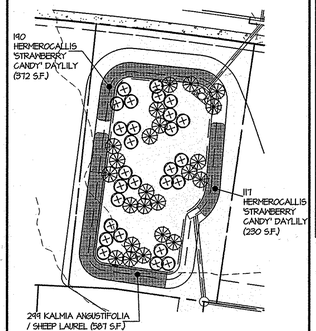


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

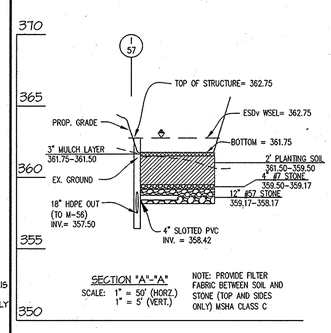
MICRO-BIORETENTION 3 SCALE: 1" = 20'

MBR-3
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 100,145 SF
STORAGE PROVIDED = 3,367 CU-FT (@362.75)
ESDv PROVIDED = 4,484 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 361.75
HIGH-FLOW OUTFALL: I-57 (DOUBLE 'S' INLET, TOP = 362.75)



MICRO-BIORETENTION 3 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A" SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 3 DETAILS ⚠

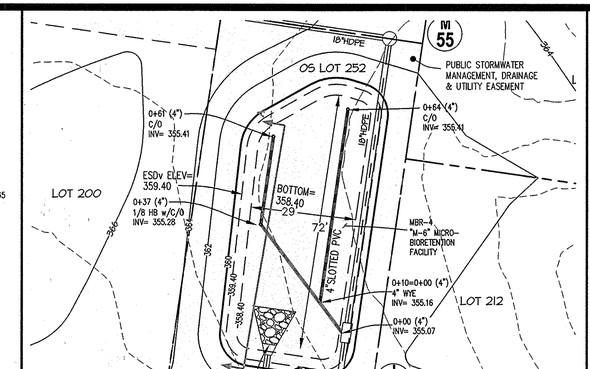
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
Chief, Bureau of Highways	Date 3-16-2015
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING	
Chief, Division of Land Development	Date 4-23-15
Chief, Development Engineering Division	Date 4-22-15

S.D. PIPE SUMMARY TABLE
PRIVATELY OWNED AND MAINTAINED

SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	613	SCHEDULE 40

0 4 10 20 40
1 inch = 20 ft.

0 6 15 30 60
1 inch = 30 ft.

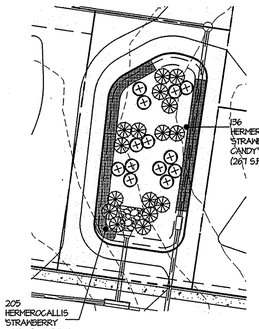


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

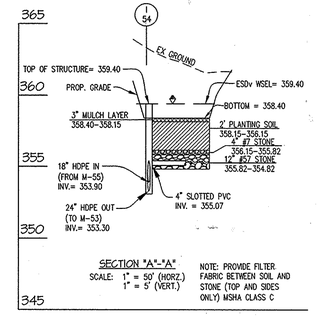
MICRO-BIORETENTION 4 SCALE: 1" = 20'

MBR-4
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 61,651 SF
STORAGE PROVIDED = 2,320 CU-FT (@359.40)
ESDv PROVIDED = 3,093 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 358.40
HIGH-FLOW OUTFALL: I-54 (DOUBLE 'S' INLET, TOP = 359.40)



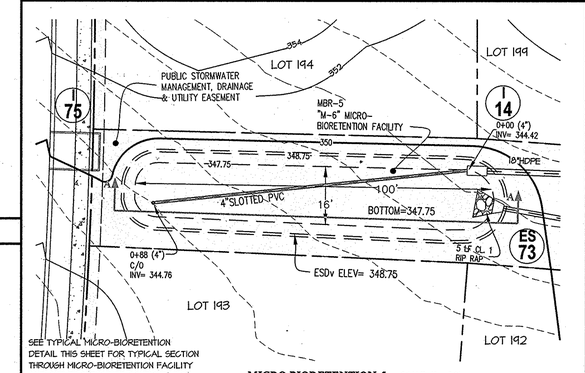
MICRO-BIORETENTION 4 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A" SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 4 DETAILS ⚠

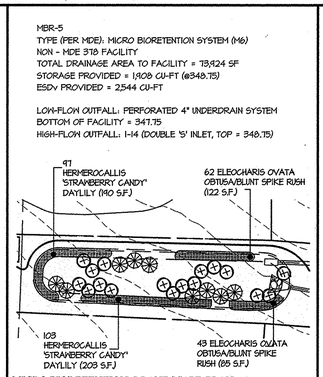


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

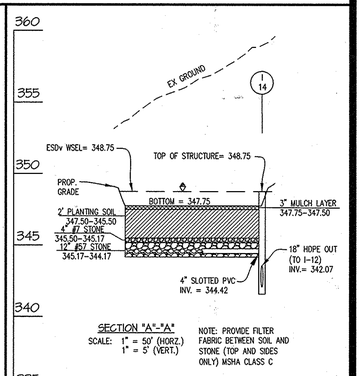
MICRO-BIORETENTION 5 SCALE: 1" = 20'

MBR-5
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 13,924 SF
STORAGE PROVIDED = 1,908 CU-FT (@348.75)
ESDv PROVIDED = 2,544 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 347.75
HIGH-FLOW OUTFALL: I-14 (DOUBLE 'S' INLET, TOP = 348.75)



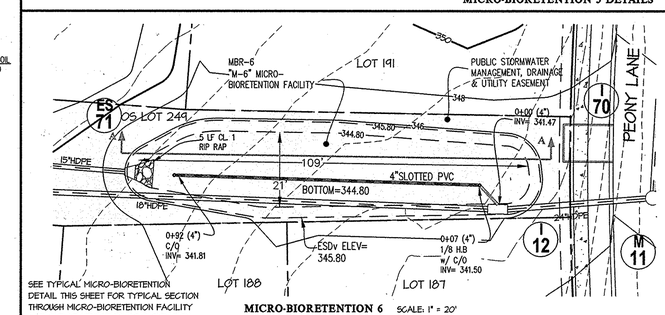
MICRO-BIORETENTION 5 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A" SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

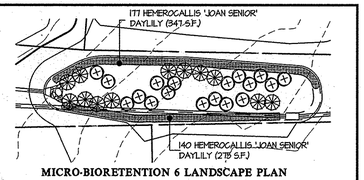
NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 5 DETAILS



SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

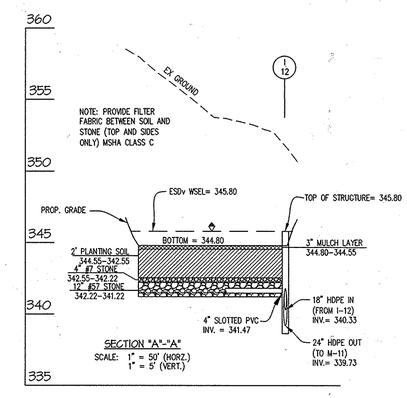
MICRO-BIORETENTION 6 SCALE: 1" = 20'



MICRO-BIORETENTION 6 LANDSCAPE PLAN SCALE: 1" = 30'

MBR-6
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 82,735 SF
STORAGE PROVIDED = 2,301 CU-FT (@345.80)
ESDv PROVIDED = 3,076 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 344.80
HIGH-FLOW OUTFALL: I-12 (DOUBLE 'S' INLET, TOP = 345.80)



SECTION "A"-"A" SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

MICRO-BIORETENTION 6 DETAILS

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-ESD DETAILS 1.dwg | DES. dds | DRN. LMW | CHK.

DATE	REVISION	BY	APP'R.
02/2015	MICRO-BIOS 1, 3, & 4 REVISED ⚠		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2016

2/25/15

STATE OF MARYLAND — CHRISTOPHER MICHAEL GLOCKNER — 12975 — REGISTERED PROFESSIONAL ENGINEER

REVISED STORMWATER MANAGEMENT DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
FEB., 2015	47-3	53 OF 71

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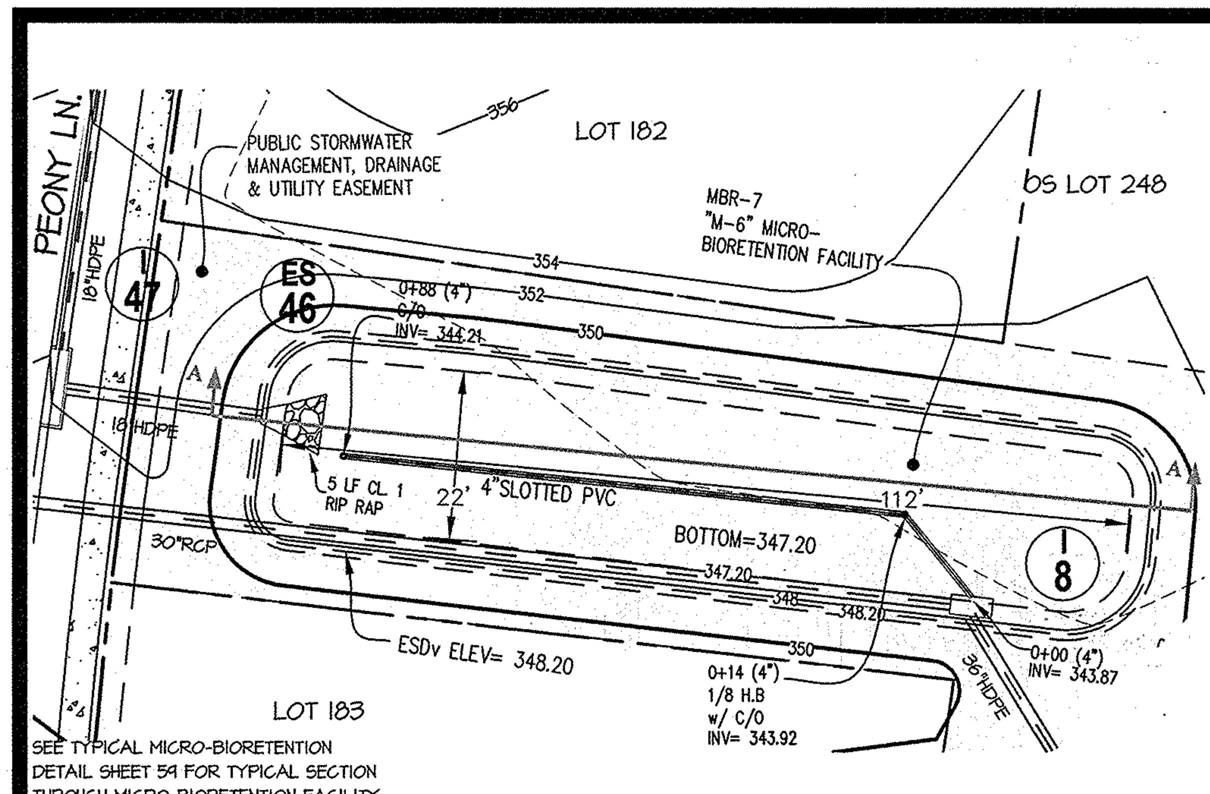
F-13-103

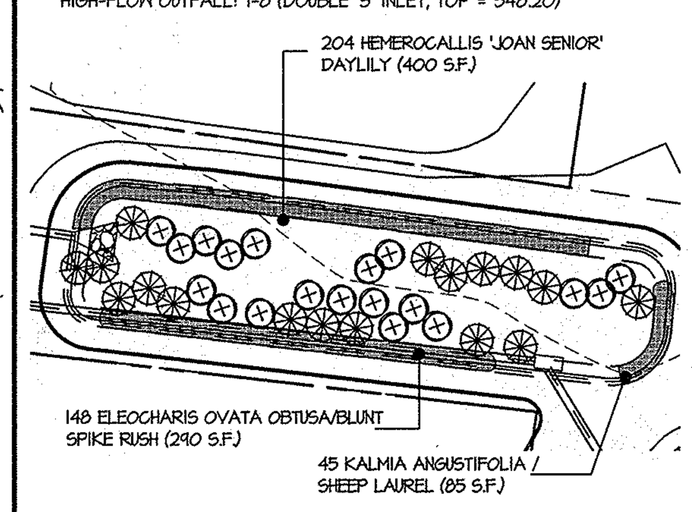


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

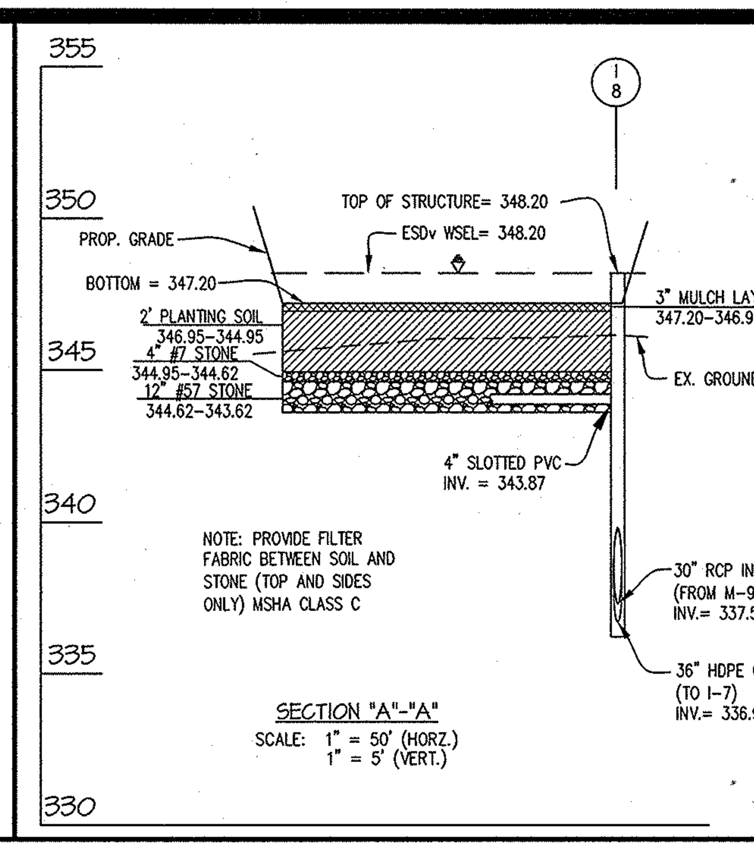
MICRO-BIORETENTION 7 SCALE: 1" = 20'

MBR-7
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 81,224 SF
STORAGE PROVIDED = 2,810 CU-FT (@348.20)
ESDv PROVIDED = 3,747 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 347.20
HIGH-FLOW OUTFALL: I-8 (DOUBLE 'S' INLET, TOP = 348.20)

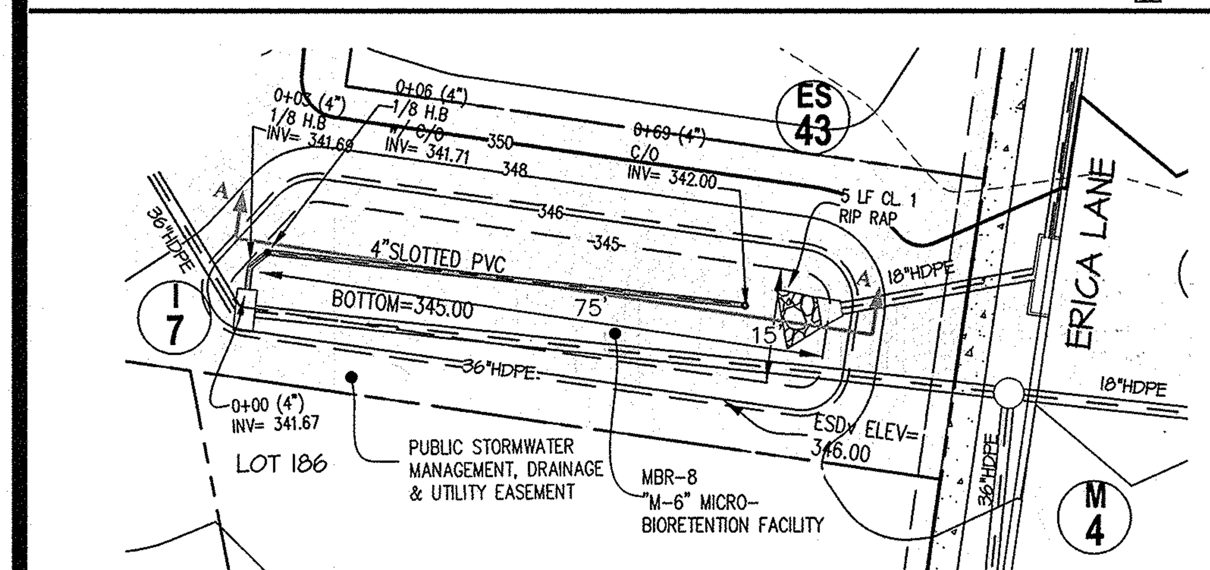


MICRO-BIORETENTION 7 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

MICRO-BIORETENTION 7 DETAILS △

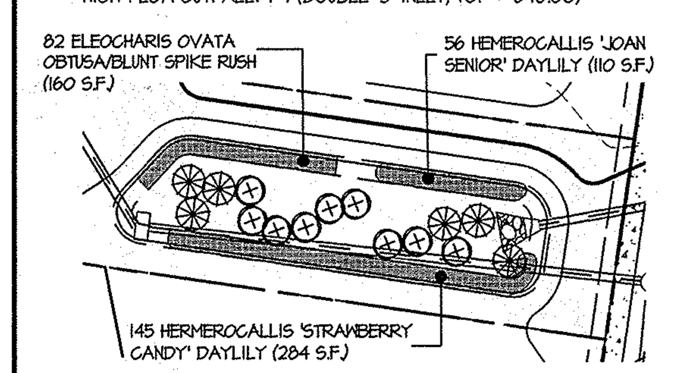


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

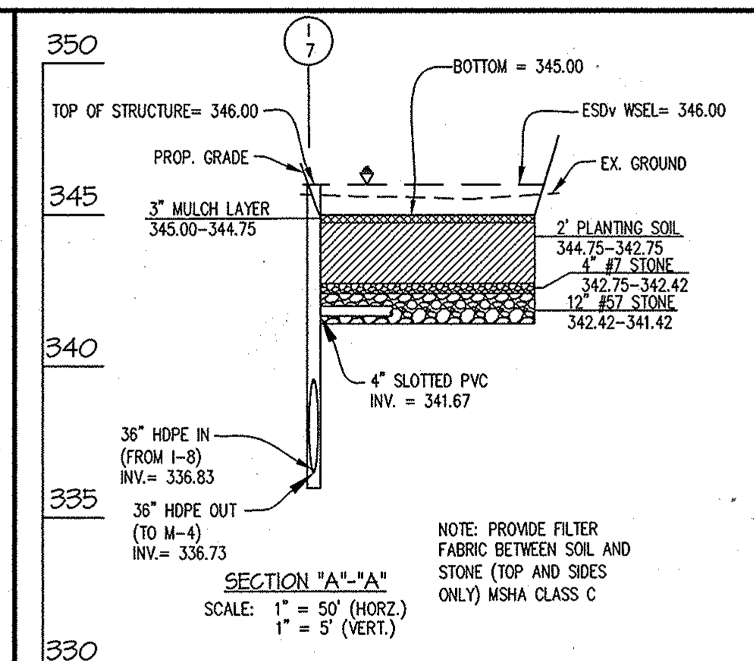
MICRO-BIORETENTION 8 SCALE: 1" = 20'

MBR-8
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 42,111 SF
STORAGE PROVIDED = 1,415 CU-FT (@346.00)
ESDv PROVIDED = 1,887 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 345.00
HIGH-FLOW OUTFALL: I-7 (DOUBLE 'S' INLET, TOP = 346.00)

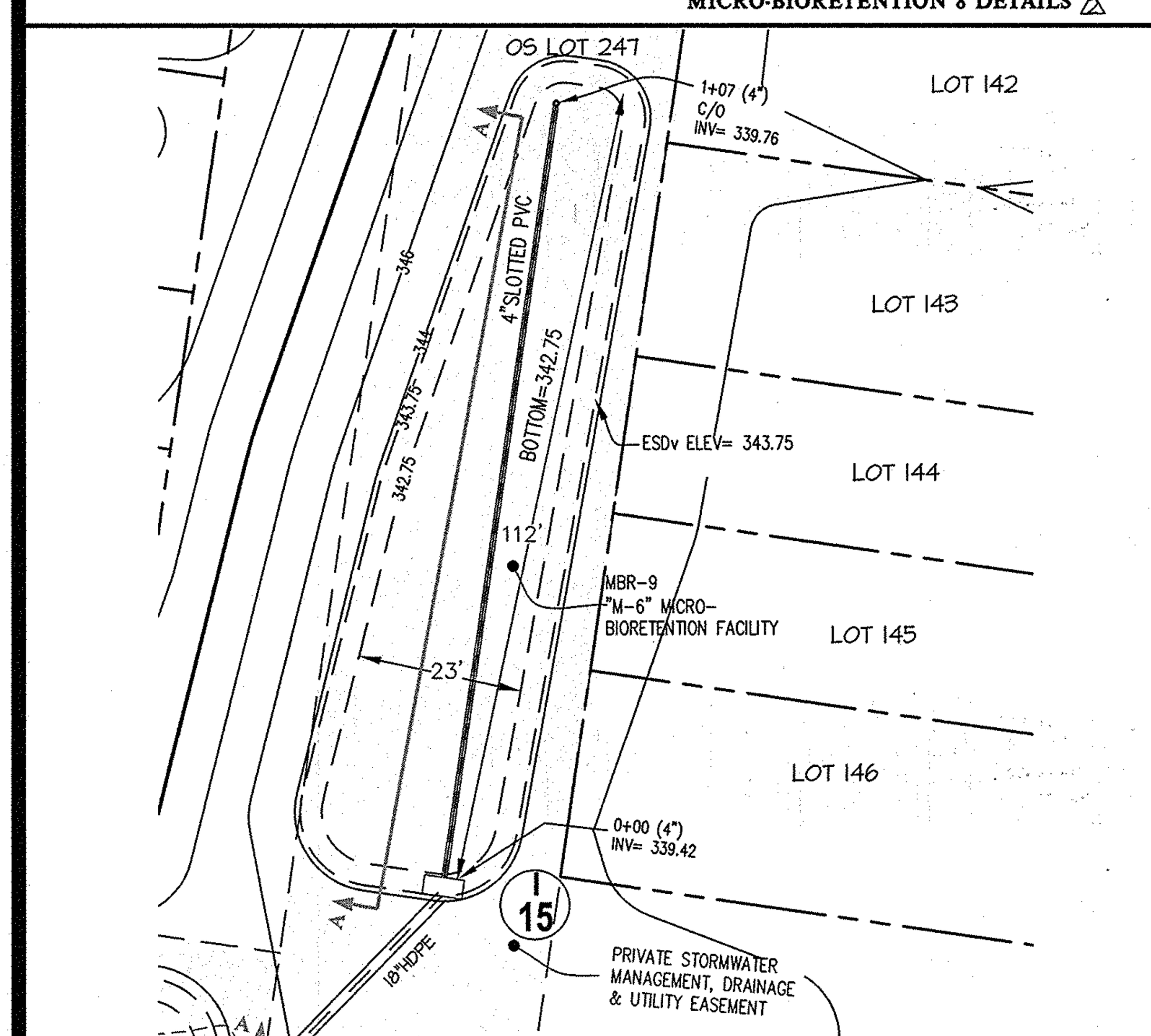


MICRO-BIORETENTION 8 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

MICRO-BIORETENTION 8 DETAILS △

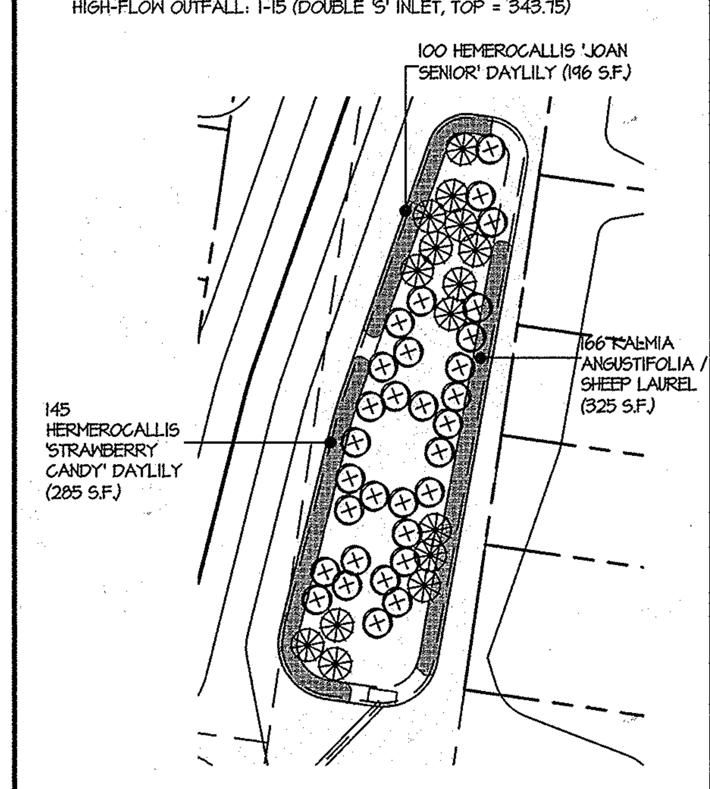


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

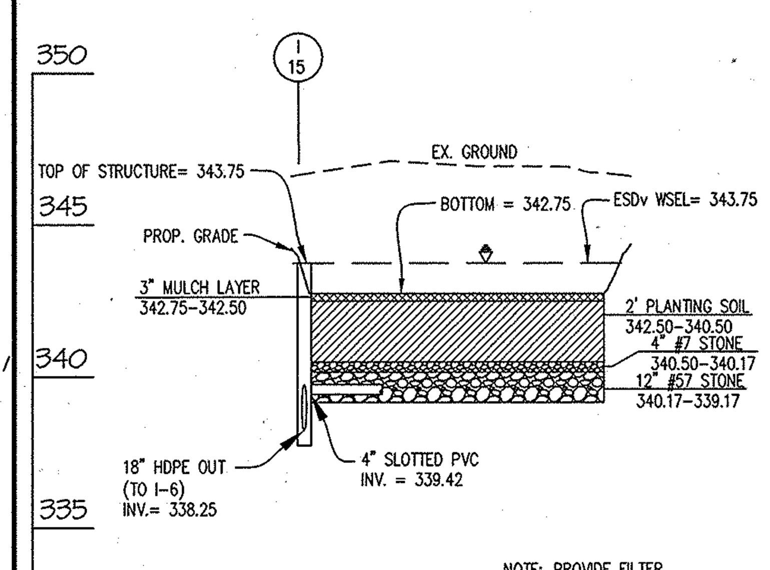
MICRO-BIORETENTION 9 SCALE: 1" = 20'

MBR-9
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 51,137 SF
STORAGE PROVIDED = 2,545 CU-FT (@343.75)
ESDv PROVIDED = 3,393 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 342.75
HIGH-FLOW OUTFALL: I-15 (DOUBLE 'S' INLET, TOP = 343.75)



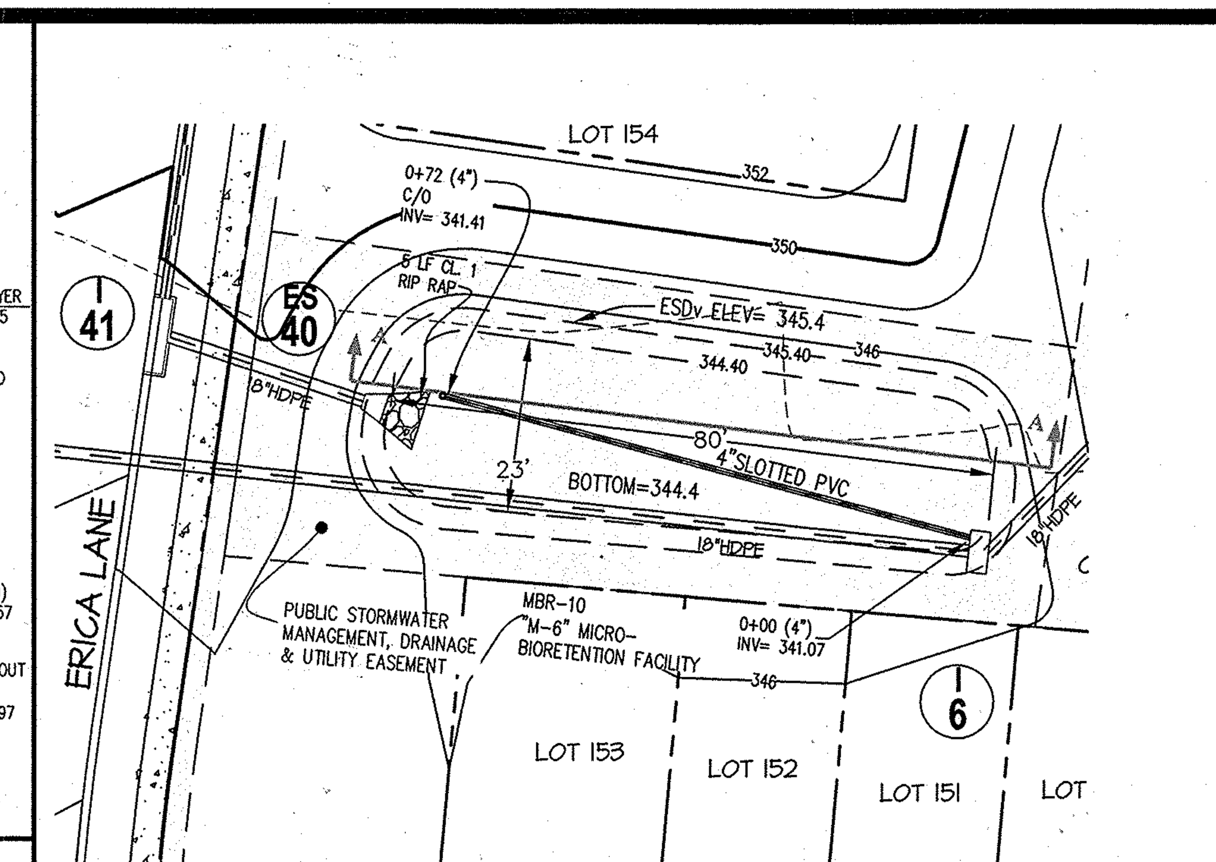
MICRO-BIORETENTION 9 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 9 DETAILS △

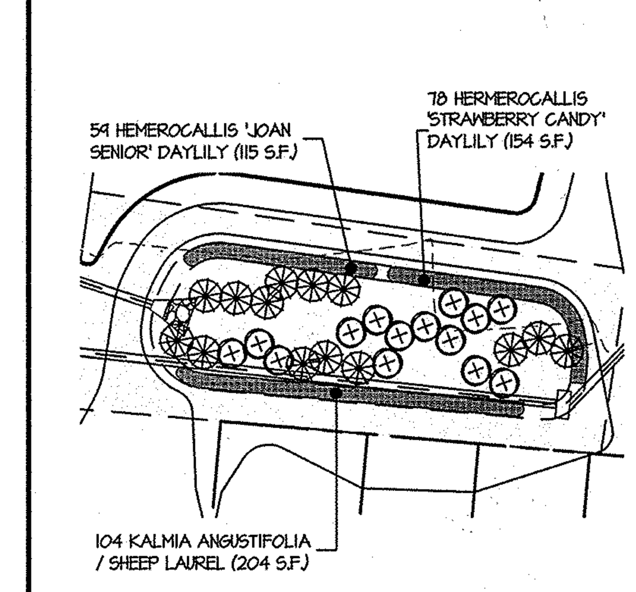


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

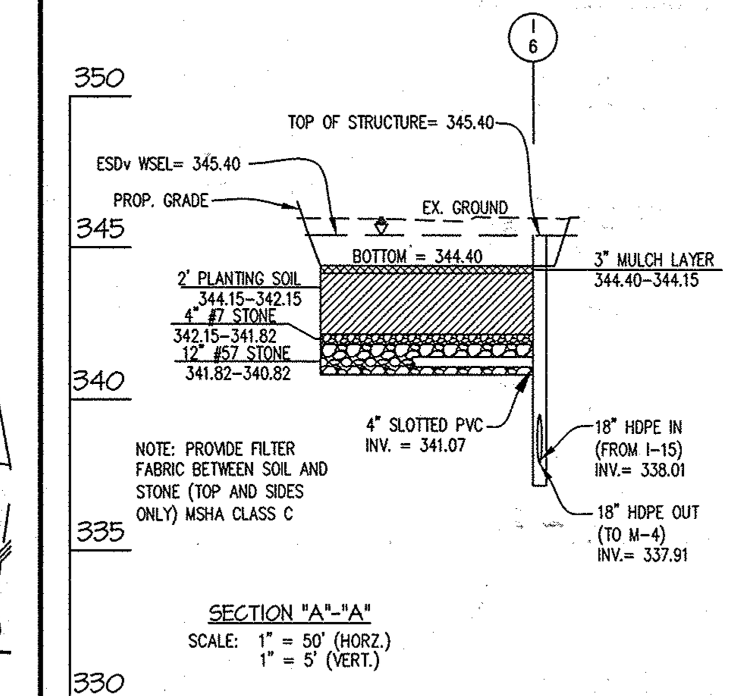
MICRO-BIORETENTION 10 SCALE: 1" = 20'

MBR-10
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 31,262 SF
STORAGE PROVIDED = 1,975 CU-FT (@345.40)
ESDv PROVIDED = 2,633 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 344.40
HIGH-FLOW OUTFALL: I-6 (DOUBLE 'S' INLET, TOP = 345.40)

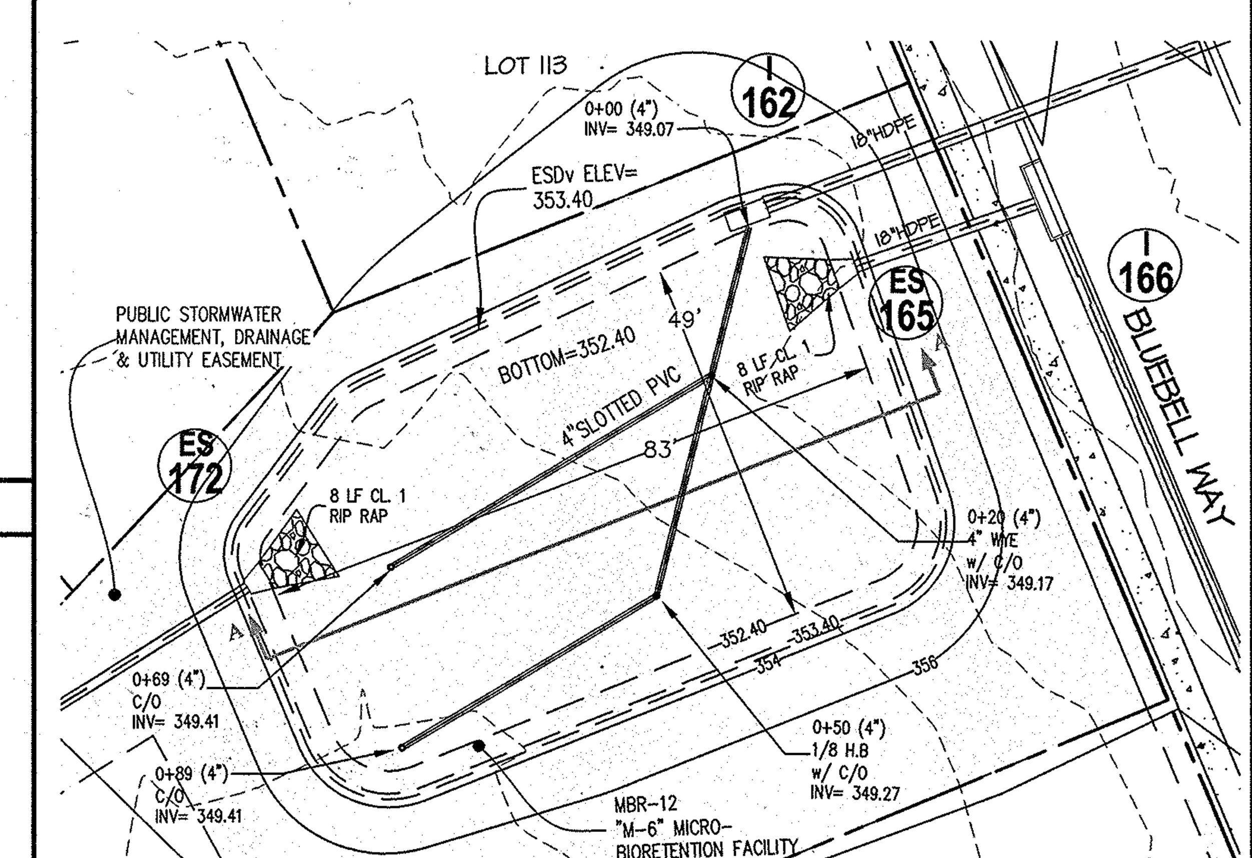


MICRO-BIORETENTION 10 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

MICRO-BIORETENTION 10 DETAILS △

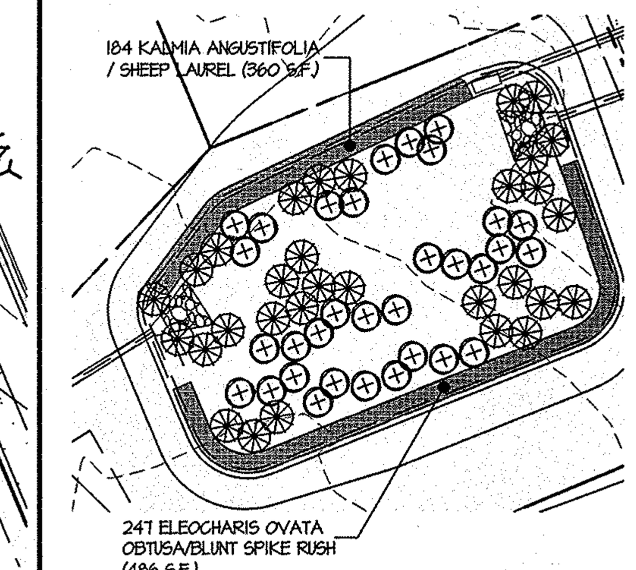


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

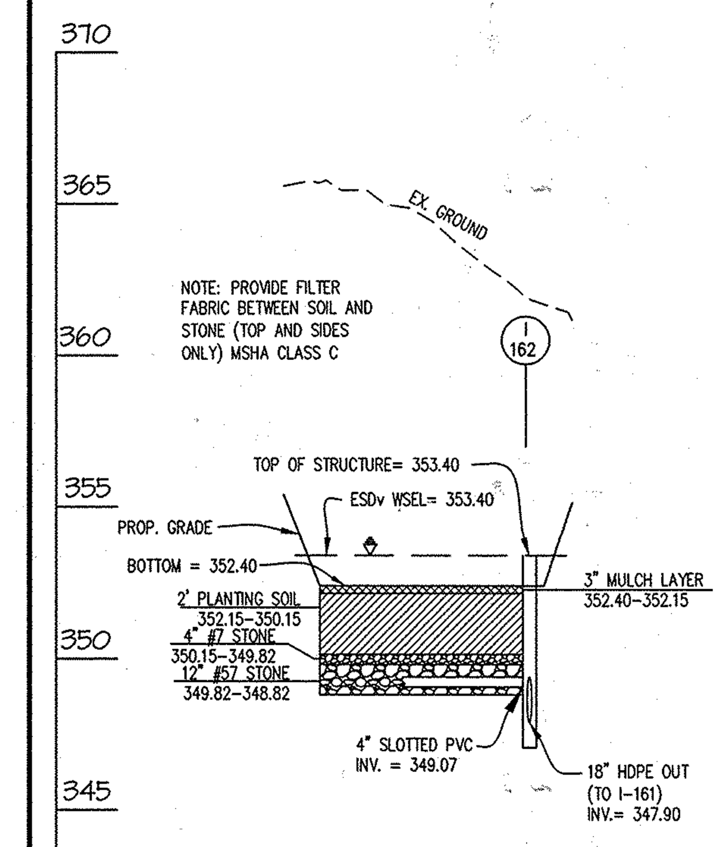
MICRO-BIORETENTION 12 SCALE: 1" = 20'

MBR-12
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 115,762 SF
STORAGE PROVIDED = 4,187 CU-FT (@353.40)
ESDv PROVIDED = 5,569 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 352.40
HIGH-FLOW OUTFALL: I-162 ('S' INLET, TOP = 353.40)

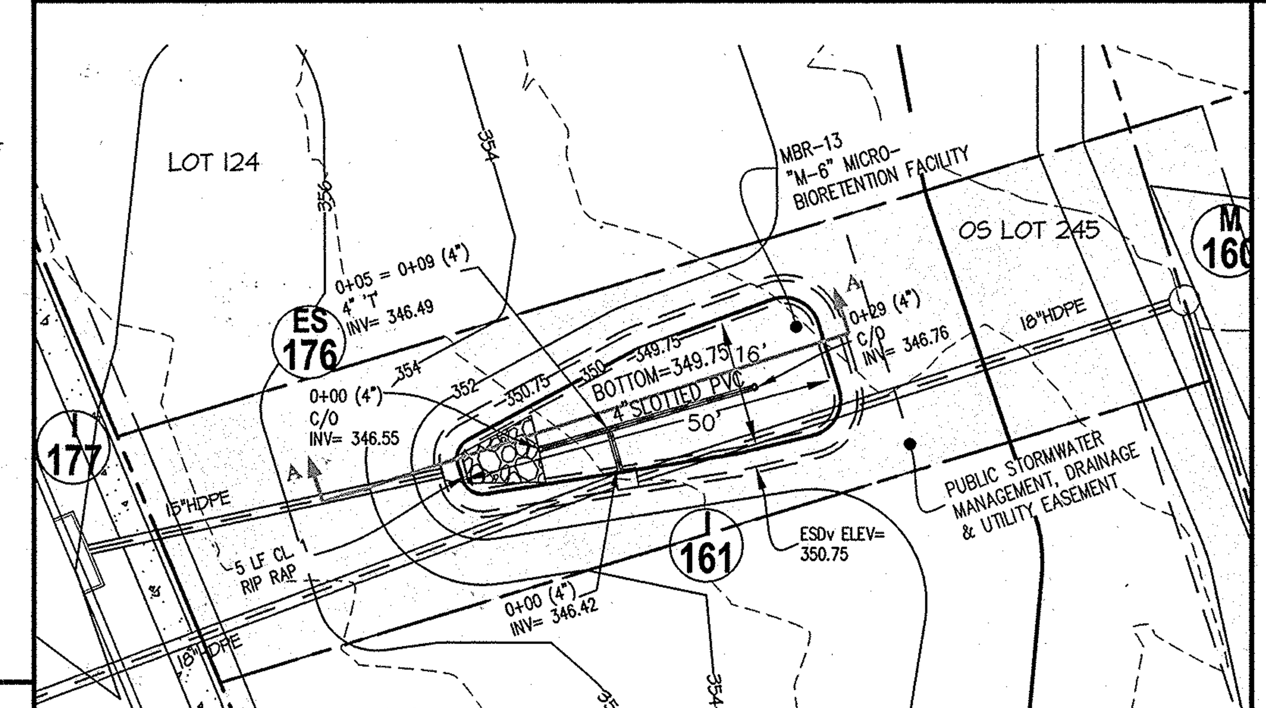


MICRO-BIORETENTION 12 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

MICRO-BIORETENTION 12 DETAILS △

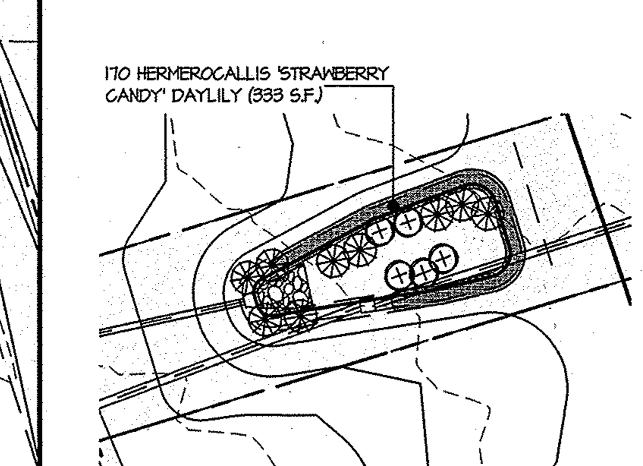


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

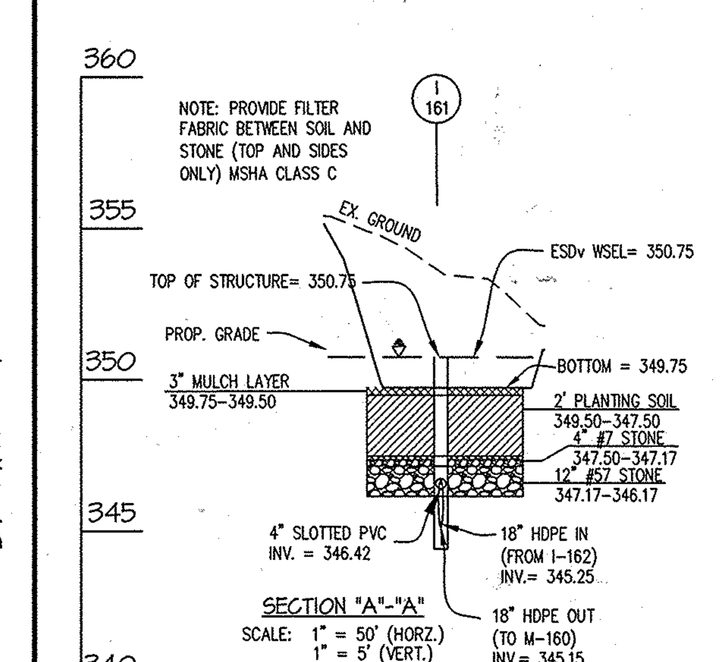
MICRO-BIORETENTION 13 SCALE: 1" = 20'

MBR-13
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 21,656 SF
STORAGE PROVIDED = 818 CU-FT (@350.75)
ESDv PROVIDED = 1,088 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 349.75
HIGH-FLOW OUTFALL: I-161 ('S' INLET, TOP = 350.75)



MICRO-BIORETENTION 13 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

MICRO-BIORETENTION 13 DETAILS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 3-16-2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 4-23-15
Chief, Development Engineering Division — Date 4-22-15

S.D. PIPE SUMMARY TABLE
PRIVATELY OWNED AND MAINTAINED

SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	515	SCHEDULE 40

0 4 10 20 40
1 Inch = 20 ft.

0 6 15 30 60
1 inch = 30 ft.

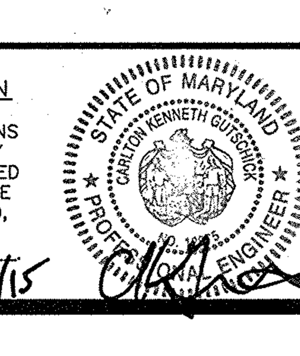
GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-ESD DETAILS 2.dwg | DES. dds | DRN. LMW | CHK.

DATE	REVISION	BY	APP'R.
02/2015	MICRO-BIOS 7, 8, 9, 10 & 12 REVISED △		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2016
2/25/15



REVISED STORMWATER MANAGEMENT DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
FEB., 2015	47-3	54 OF 71

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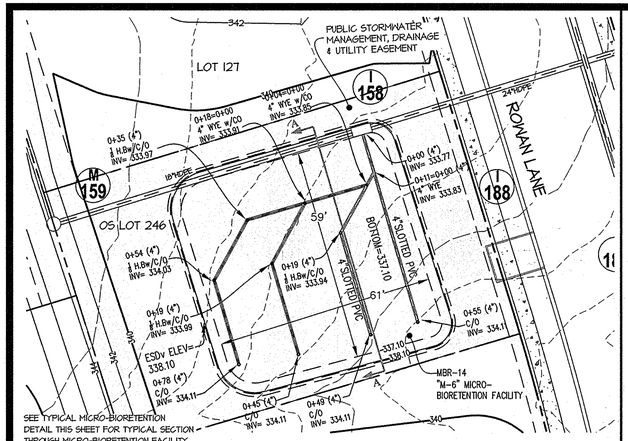
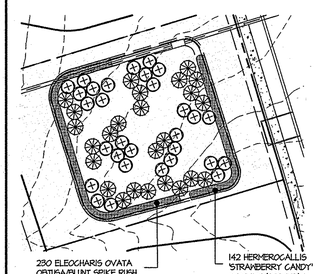
F-13-103



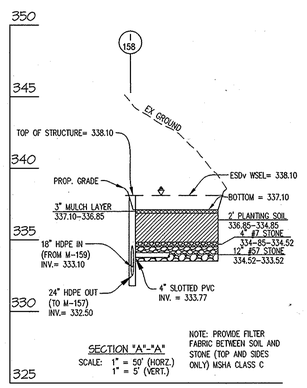
MICRO-BIORETENTION 14 SCALE: 1" = 20'

MBR-14
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 106,837 SF
STORAGE PROVIDED = 3,842 CU-FT (@338.10)
ESDv PROVIDED = 5,176 CU-FT

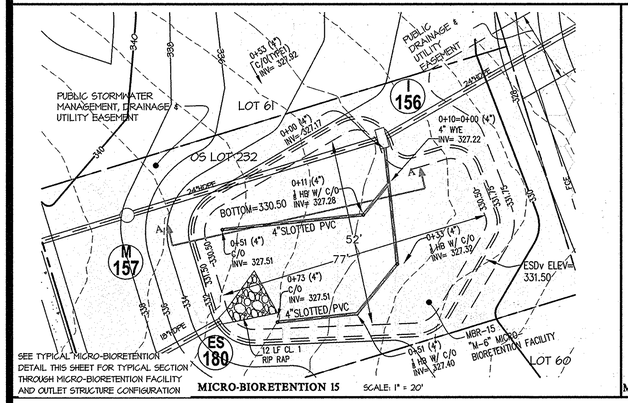
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 337.10
HIGH-FLOW OUTFALL: I-158 (DOUBLE 'S' INLET, TOP = 338.10)



MICRO-BIORETENTION 14 LANDSCAPE PLAN SCALE: 1" = 30'



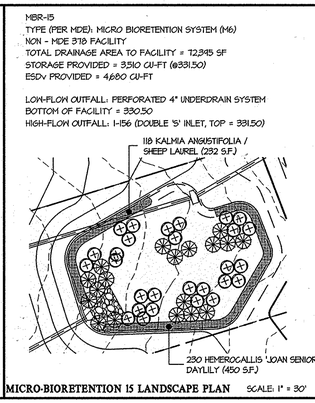
MICRO-BIORETENTION 14 DETAILS ⚠



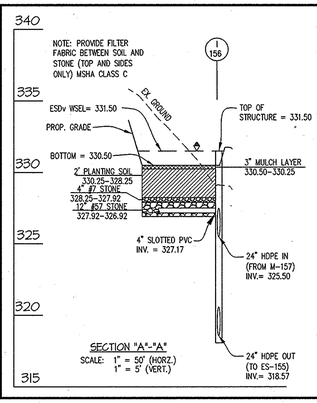
MICRO-BIORETENTION 15 SCALE: 1" = 20'

MBR-15
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 12,345 SF
STORAGE PROVIDED = 3,510 CU-FT (@331.50)
ESDv PROVIDED = 4,680 CU-FT

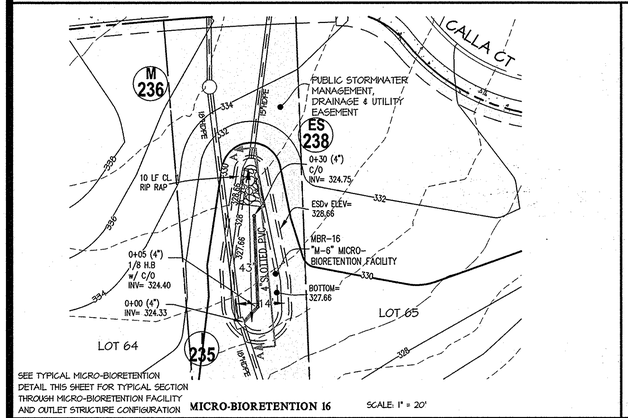
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 330.50
HIGH-FLOW OUTFALL: I-156 (DOUBLE 'S' INLET, TOP = 331.50)



MICRO-BIORETENTION 15 LANDSCAPE PLAN SCALE: 1" = 30'



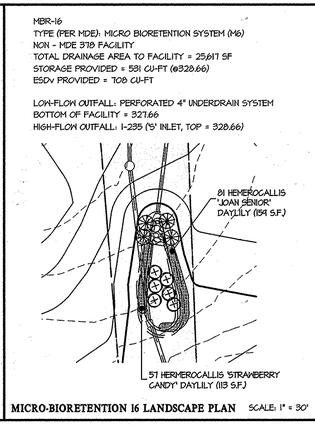
MICRO-BIORETENTION 15 DETAILS ⚠



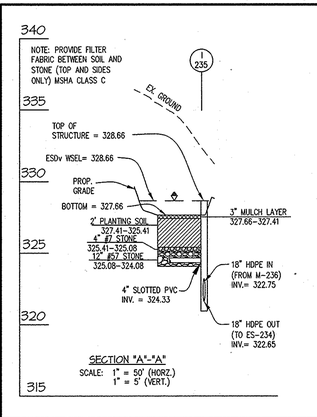
MICRO-BIORETENTION 16 SCALE: 1" = 20'

MBR-16
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 25,617 SF
STORAGE PROVIDED = 581 CU-FT (@328.66)
ESDv PROVIDED = 708 CU-FT

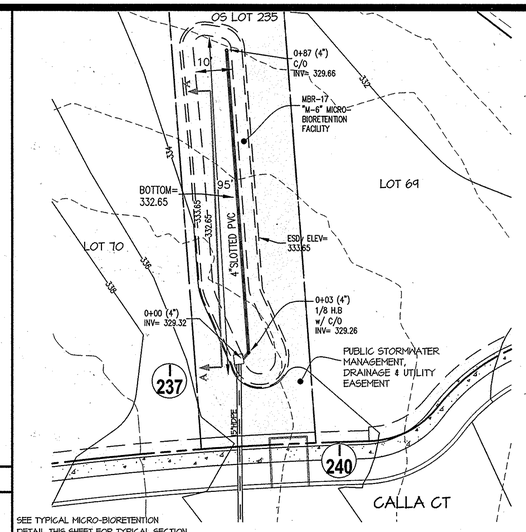
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 327.66
HIGH-FLOW OUTFALL: I-235 (S' INLET, TOP = 328.66)



MICRO-BIORETENTION 16 LANDSCAPE PLAN SCALE: 1" = 30'



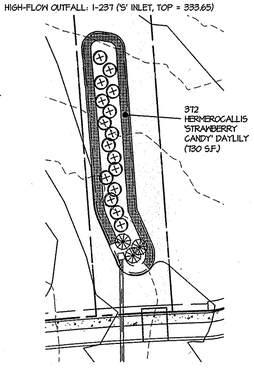
MICRO-BIORETENTION 16 DETAILS



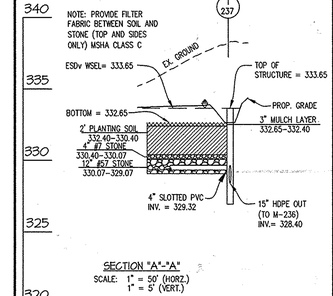
MICRO-BIORETENTION 17 SCALE: 1" = 20'

MBR-17
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 27,315 SF
STORAGE PROVIDED = 1,260 CU-FT (@333.65)
ESDv PROVIDED = 1,680 CU-FT

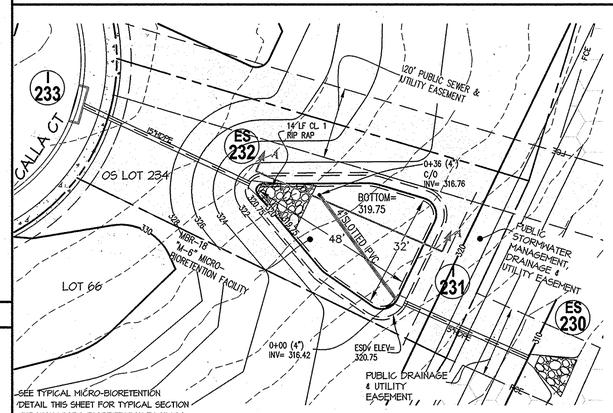
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 332.65
HIGH-FLOW OUTFALL: I-237 (S' INLET, TOP = 333.65)



MICRO-BIORETENTION 17 LANDSCAPE PLAN SCALE: 1" = 30'



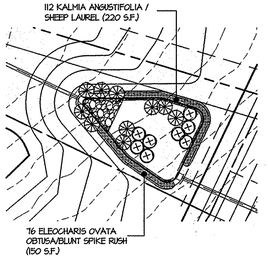
MICRO-BIORETENTION 17 DETAILS ⚠



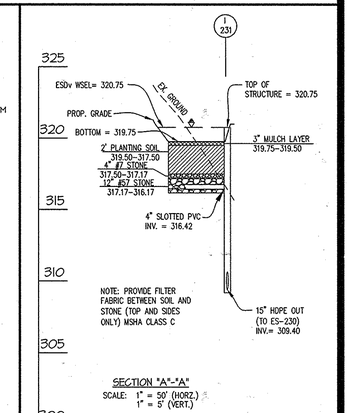
MICRO-BIORETENTION 18 SCALE: 1" = 20'

MBR-18
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 35,600 SF
STORAGE PROVIDED = 1,940 CU-FT (@320.75)
ESDv PROVIDED = 1,581 CU-FT

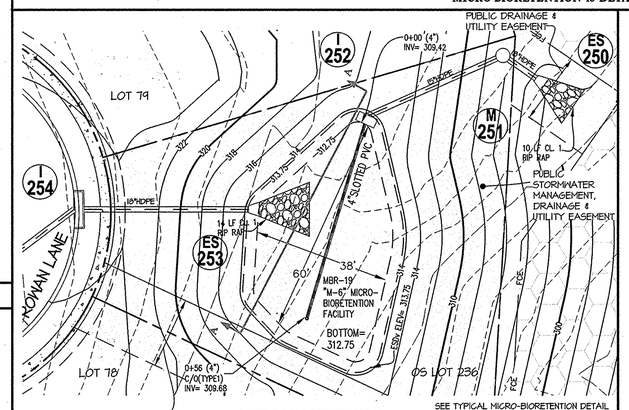
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 319.75
HIGH-FLOW OUTFALL: I-231 (S' INLET, TOP = 320.75)



MICRO-BIORETENTION 18 LANDSCAPE PLAN SCALE: 1" = 30'

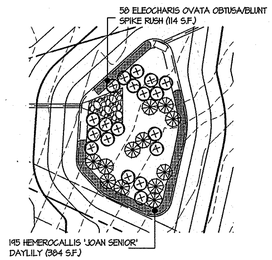


MICRO-BIORETENTION 18 DETAILS

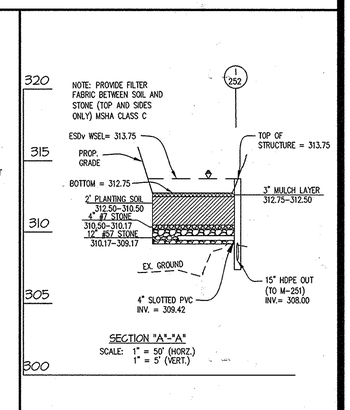


MBR-19
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 64,379 SF
STORAGE PROVIDED = 2,102 CU-FT (@313.75)
ESDv PROVIDED = 2,802 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 312.75
HIGH-FLOW OUTFALL: I-252 (DOUBLE 'S' INLET, TOP = 313.75)



MICRO-BIORETENTION 19 LANDSCAPE PLAN SCALE: 1" = 30'



MICRO-BIORETENTION 19 DETAILS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 3/16/2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 4-23-15

Chief, Development Engineering Division — Date 4.22.15

S.D. PIPE SUMMARY TABLE
PRIVATELY OWNED AND MAINTAINED

SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	560	SCHEDULE 40

0 4 10 20 40
1 Inch = 20 ft.

0 6 15 30 60
1 Inch = 30 ft.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-ESD DETAILS 3.dwg | DES. dds | DRN. LMW | CHK.

DATE	REVISION	BY	APP'R.
02/2015	MICRO-BIOS 14, 15, & 17 REVISED ⚠		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.12975, EXPIRATION DATE: MAY 26, 2016.

2/05/15

REVISED STORMWATER MANAGEMENT DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
FEB., 2015	47-3	55 OF 71

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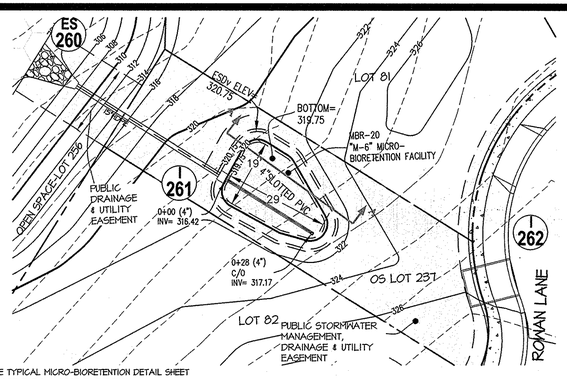
F-13-103

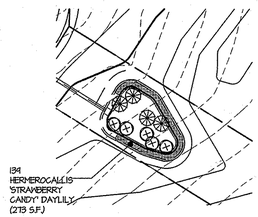


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 54 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

MICRO-BIORETENTION 20 SCALE: 1" = 20'

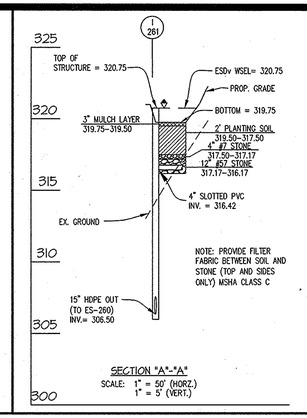
MBR-20
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 20,421 SF
STORAGE PROVIDED = 578 CU-FT (@320.75)
ESDv PROVIDED = 710 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 314.75
HIGH-FLOW OUTFALL: I-261 (5' INLET, TOP = 320.75)



194 HEMEROCALLIS 'STRAWBERRY CANDY' DAYLILY (213 S.F.)

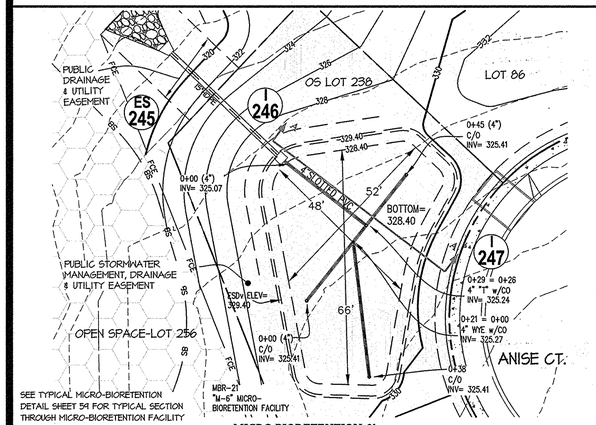
MICRO-BIORETENTION 20 LANDSCAPE PLAN SCALE: 1" = 30'



NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

MICRO-BIORETENTION 20 DETAILS

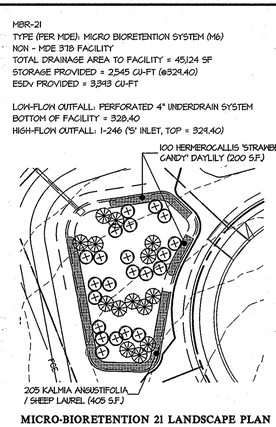


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 54 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

MICRO-BIORETENTION 21 SCALE: 1" = 20'

MBR-21
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 45,124 SF
STORAGE PROVIDED = 2,545 CU-FT (@329.40)
ESDv PROVIDED = 3,343 CU-FT

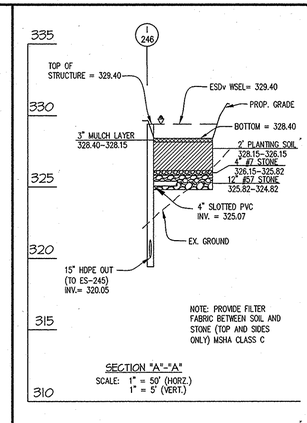
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 328.40
HIGH-FLOW OUTFALL: I-246 (5' INLET, TOP = 329.40)



100 HEMEROCALLIS 'STRAWBERRY CANDY' DAYLILY (200 S.F.)

205 KALMIA ANGUSTIFOLIA / SHEEP LAUREL (405 S.F.)

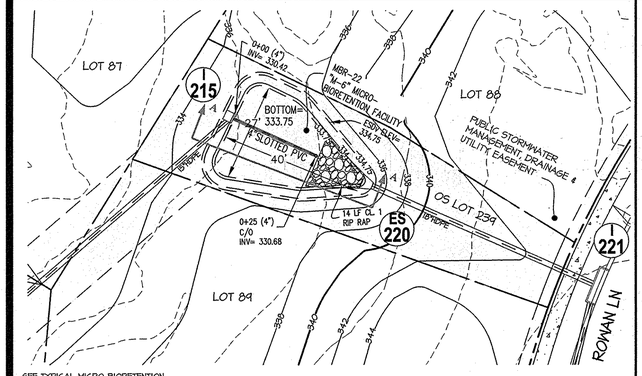
MICRO-BIORETENTION 21 LANDSCAPE PLAN SCALE: 1" = 30'



NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

MICRO-BIORETENTION 21 DETAILS ⚠

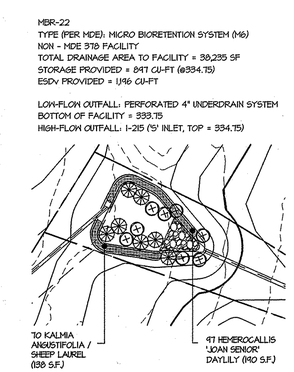


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 54 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

MICRO-BIORETENTION 22 SCALE: 1" = 20'

MBR-22
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 38,235 SF
STORAGE PROVIDED = 847 CU-FT (@334.75)
ESDv PROVIDED = 1,146 CU-FT

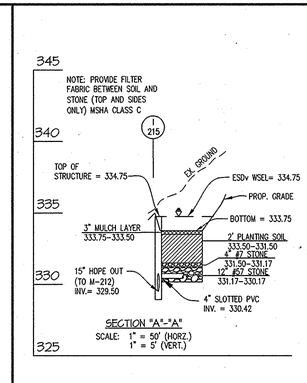
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 333.75
HIGH-FLOW OUTFALL: I-215 (5' INLET, TOP = 334.75)



70 KALMIA ANGUSTIFOLIA / SHEEP LAUREL (138 S.F.)

47 HEMEROCALLIS 'JOAN SENIOR' DAYLILY (190 S.F.)

MICRO-BIORETENTION 22 LANDSCAPE PLAN SCALE: 1" = 30'



NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

MICRO-BIORETENTION 22 DETAILS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 3-16-2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 4-23-15

Chief, Development Engineering Division — Date 4-22-15

S.D. PIPE SUMMARY TABLE
PRIVATELY OWNED AND MAINTAINED

SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	476	SCHEDULE 40

0 4 10 20 40
1 inch = 20 ft.

0 6 15 30 60
1 inch = 50 ft.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-ESD DETAILS 4.dwg	DES. dds	DRN. LWM	CHK.

DATE	REVISION	BY	APP'R.
02/2015	MICRO-BIOS 21, & 23 REVISED ⚠		

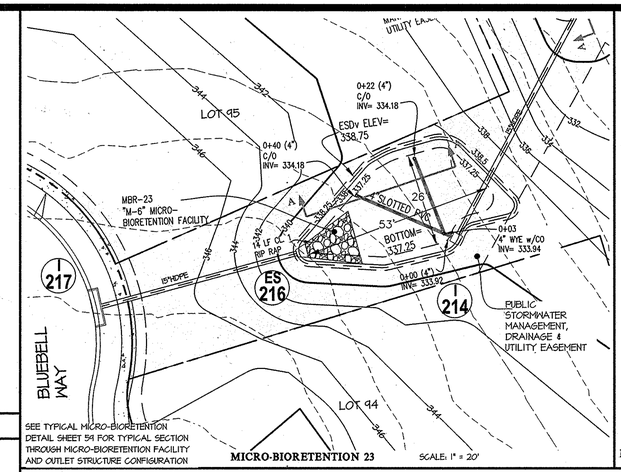
PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2016

2/25/15

STATE OF MARYLAND — CARLTON KENNETH GUTSCHICK — No. 12975 — PROFESSIONAL ENGINEER

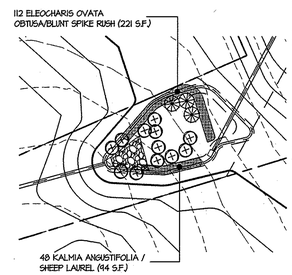


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 54 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

MICRO-BIORETENTION 23 SCALE: 1" = 20'

MBR-23
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 29,069 SF
STORAGE PROVIDED = 926 CU-FT (@338.25)
ESDv PROVIDED = 1,284 CU-FT

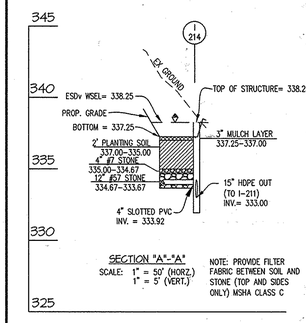
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 337.25
HIGH-FLOW OUTFALL: I-214 (5' INLET, TOP = 338.25)



112 ELEOCHARIS OVATA OBTUSA/BLUNT SPIKE RUSH (221 S.F.)

48 KALMIA ANGUSTIFOLIA / SHEEP LAUREL (94 S.F.)

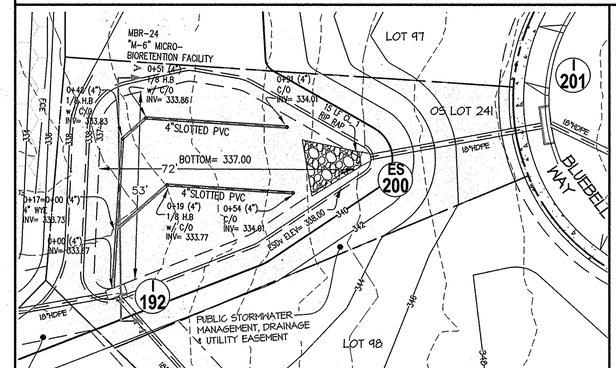
MICRO-BIORETENTION 23 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 23 DETAILS ⚠

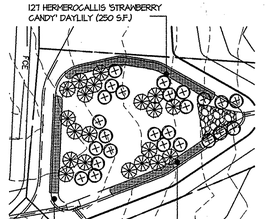


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 54 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

MICRO-BIORETENTION 24 SCALE: 1" = 20'

MBR-24
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 83,102 SF
STORAGE PROVIDED = 3,020 CU-FT (@338.00)
ESDv PROVIDED = 4,026 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 337.00
HIGH-FLOW OUTFALL: I-192 (DOUBLE 5' INLET, TOP = 338.00)

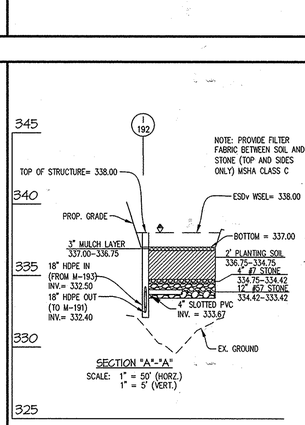


127 HEMEROCALLIS 'STRAWBERRY CANDY' DAYLILY (250 S.F.)

76 ELEOCHARIS OVATA OBTUSA/BLUNT SPIKE RUSH (150 S.F.)

81 'JOAN SENIOR' DAYLILY (160 S.F.)

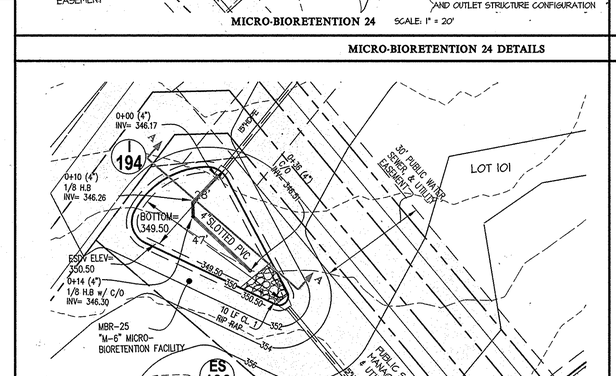
MICRO-BIORETENTION 24 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 24 DETAILS

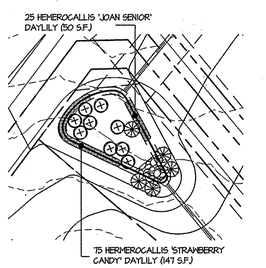


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 54 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

MICRO-BIORETENTION 25 SCALE: 1" = 20'

MBR-25
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 40,066 SF
STORAGE PROVIDED = 932 CU-FT (@350.50)
ESDv PROVIDED = 1,242 CU-FT

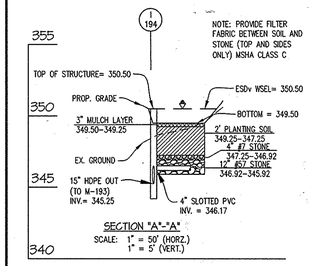
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 344.50
HIGH-FLOW OUTFALL: I-194 (5' INLET, TOP = 350.50)



25 HEMEROCALLIS 'JOAN SENIOR' DAYLILY (50 S.F.)

75 HEMEROCALLIS 'STRAWBERRY CANDY' DAYLILY (147 S.F.)

MICRO-BIORETENTION 25 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 25 DETAILS

REVISED STORMWATER MANAGEMENT DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
FEB., 2015	47-3	56 OF 71

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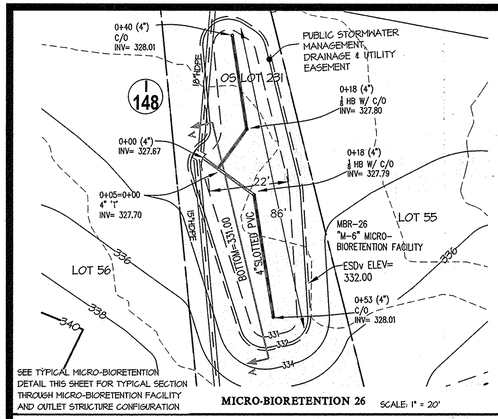
F-13-103

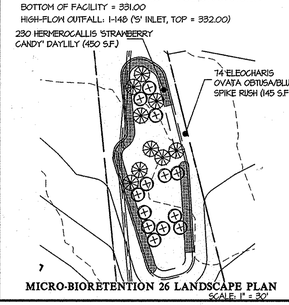


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

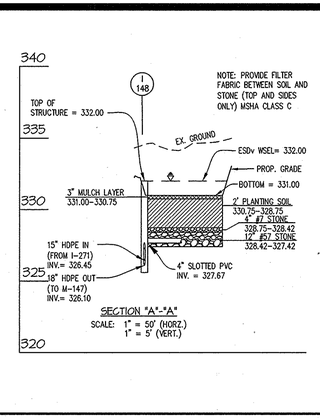
MICRO-BIORETENTION 26 SCALE: 1" = 20'

MBR-26
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 28,871 SF
STORAGE PROVIDED = 1,110 CU-FT (@332.00)
ESDv PROVIDED = 2,280 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 331.00
HIGH-FLOW OUTFALL: I-148 ('S' INLET, TOP = 332.00)



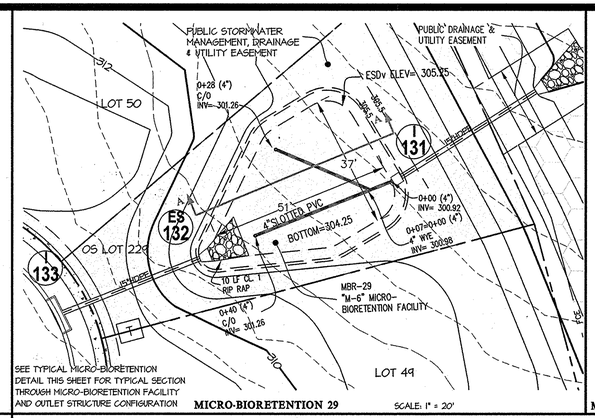
MICRO-BIORETENTION 26 LANDSCAPE PLAN SCALE: 1" = 30'



NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

MICRO-BIORETENTION 26 DETAILS ⚠

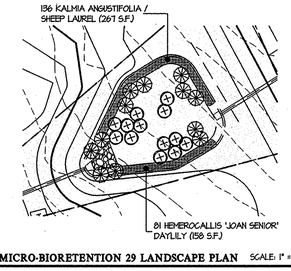


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

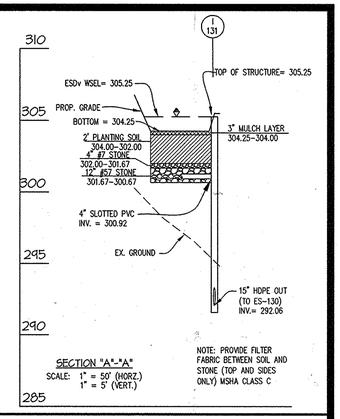
MICRO-BIORETENTION 29 SCALE: 1" = 20'

MBR-29
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 44,841 SF
STORAGE PROVIDED = 1,681 CU-FT (@305.25)
ESDv PROVIDED = 2,241 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 304.25
HIGH-FLOW OUTFALL: I-131 ('S' INLET, TOP = 305.25)



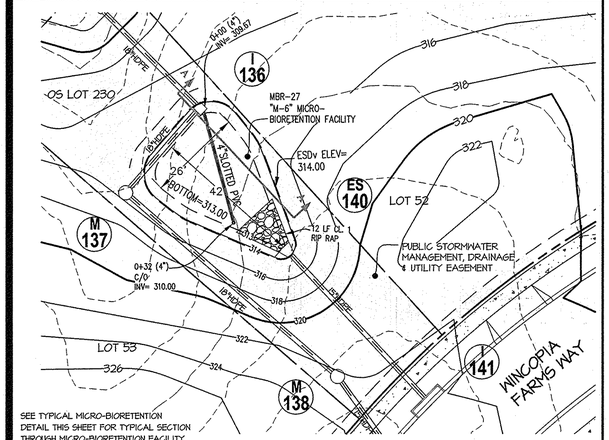
MICRO-BIORETENTION 29 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 29 DETAILS

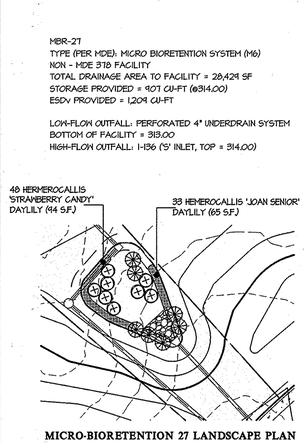


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

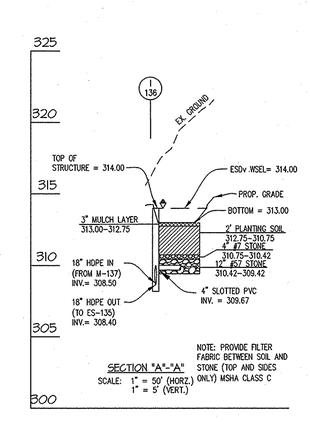
MICRO-BIORETENTION 27 SCALE: 1" = 20'

MBR-27
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 28,424 SF
STORAGE PROVIDED = 907 CU-FT (@314.00)
ESDv PROVIDED = 1,204 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 313.00
HIGH-FLOW OUTFALL: I-136 ('S' INLET, TOP = 314.00)



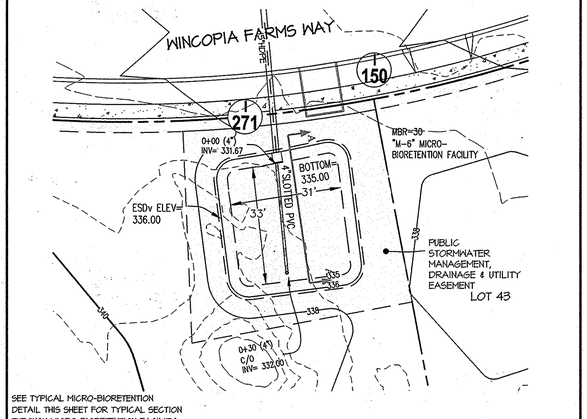
MICRO-BIORETENTION 27 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 27 DETAILS

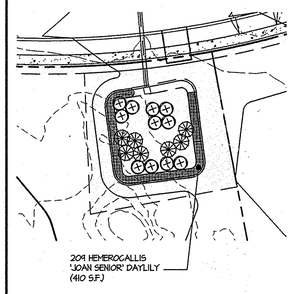


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

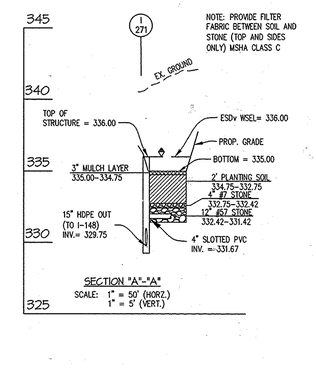
MICRO-BIORETENTION 30 SCALE: 1" = 20'

MBR-30
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 35,245 SF
STORAGE PROVIDED = 1,245 CU-FT (@336.00)
ESDv PROVIDED = 1,660 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 335.00
HIGH-FLOW OUTFALL: I- ('S' INLET, TOP = 336.00)



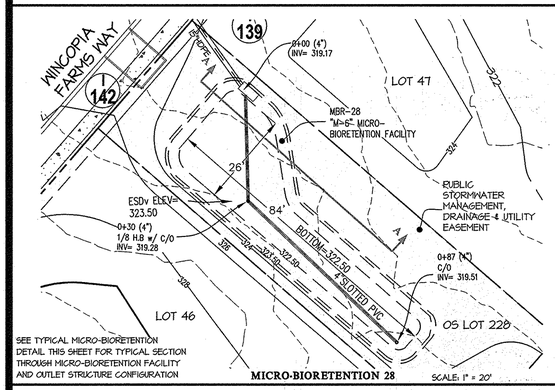
MICRO-BIORETENTION 30 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 30 DETAILS ⚠

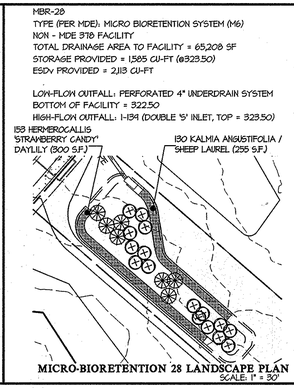


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

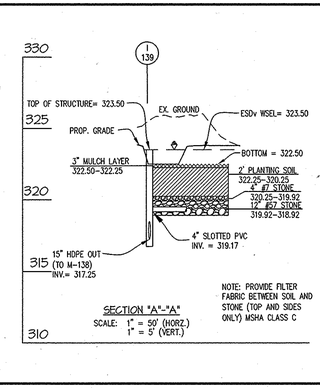
MICRO-BIORETENTION 28 SCALE: 1" = 20'

MBR-28
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 65,208 SF
STORAGE PROVIDED = 1,585 CU-FT (@323.50)
ESDv PROVIDED = 2,113 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 322.50
HIGH-FLOW OUTFALL: I-139 (DOUBLE 'S' INLET, TOP = 323.50)



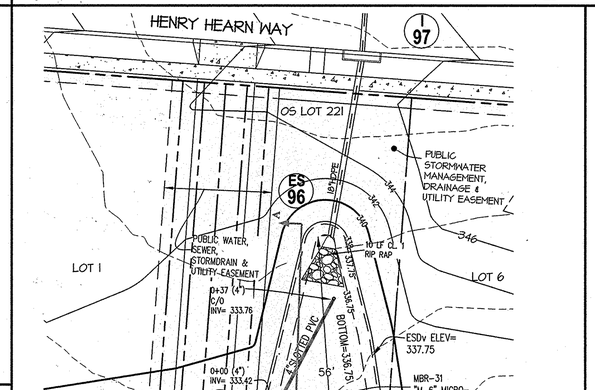
MICRO-BIORETENTION 28 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 28 DETAILS ⚠

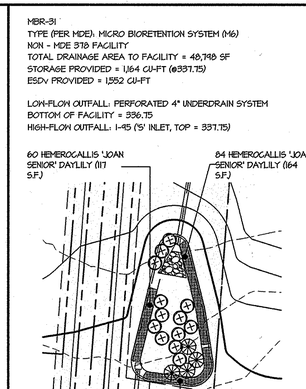


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

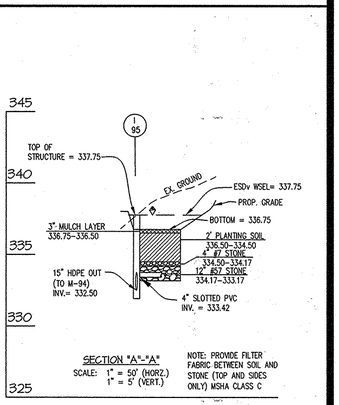
MICRO-BIORETENTION 31 SCALE: 1" = 20'

MBR-31
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 48,378 SF
STORAGE PROVIDED = 1,164 CU-FT (@337.75)
ESDv PROVIDED = 1,552 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 336.75
HIGH-FLOW OUTFALL: I-45 ('S' INLET, TOP = 337.75)



MICRO-BIORETENTION 31 LANDSCAPE PLAN SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 31 DETAILS

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 3-16-2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 4-23-15

Chief, Development Engineering Division — Date 4-22-15

S.D. PIPE SUMMARY TABLE
PRIVATELY OWNED AND MAINTAINED

SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	357	SCHEDULE 40

0 4 10 20 40
1 inch = 20 ft.

0 6 15 30 60
1 inch = 30 ft.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-ESD DETAILS 5.dwg | DES. dds | DRN. LMW | CHK.

DATE	REVISION	BY	APP'R.
02/2015	MICRO-BIOS 26, 28, & 30 REVISED ⚠		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975 EXPIRATION DATE: MAY 26, 2016

2/25/15

STATE OF MARYLAND — CARLTON KENNETH GUTSCHICK — 12975 — REGISTERED PROFESSIONAL ENGINEER

REVISED STORMWATER MANAGEMENT DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
FEB., 2015	47-3	57 OF 71

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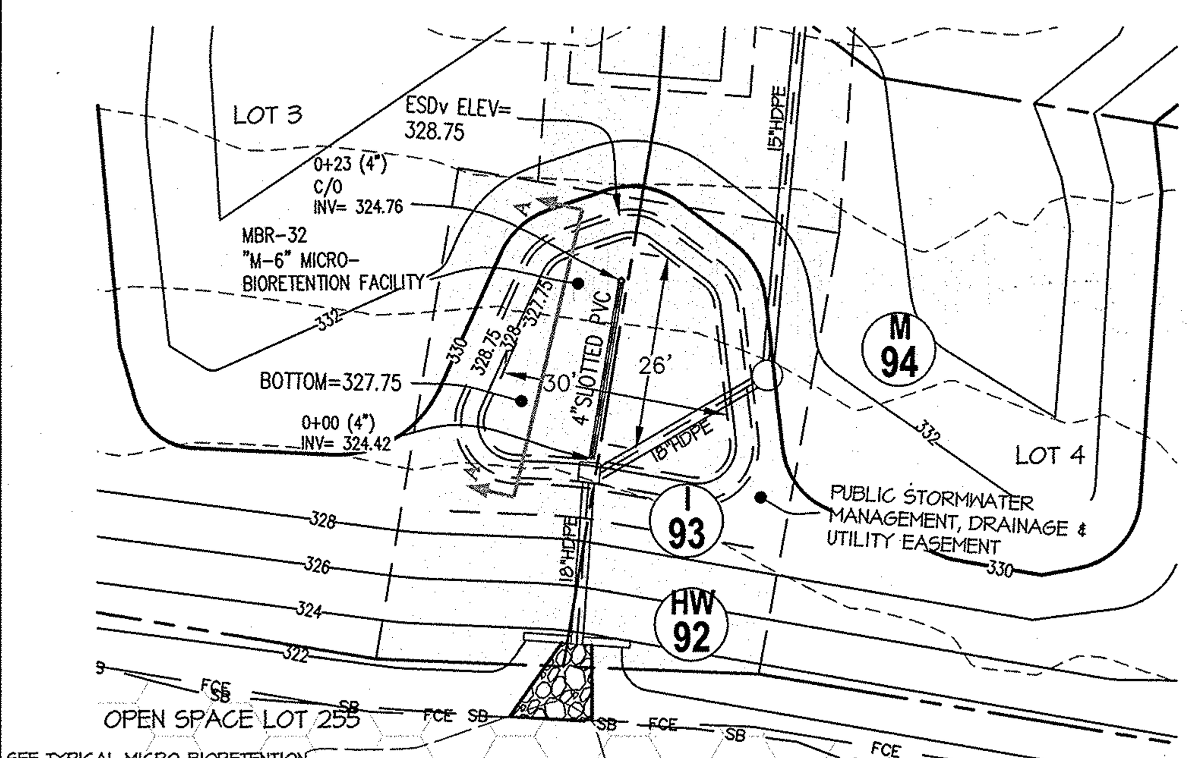
F-13-103

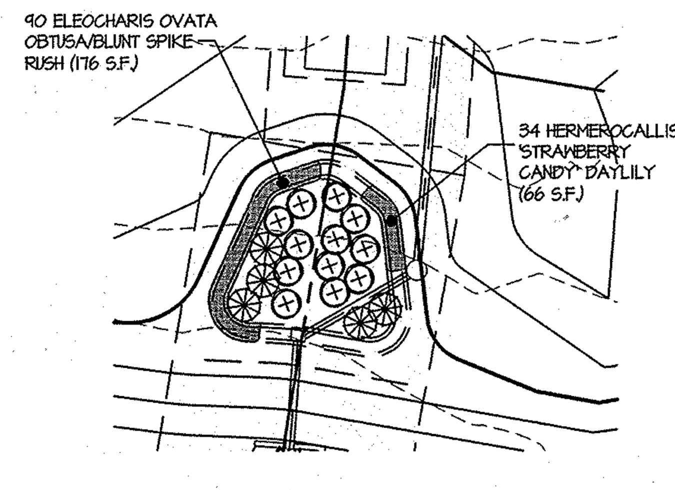


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

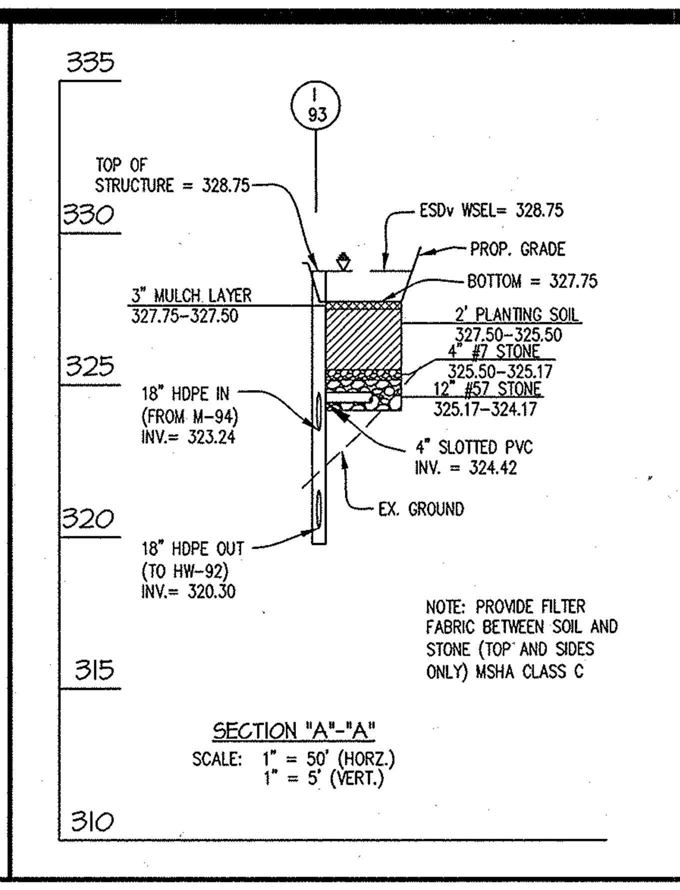
MICRO-BIORETENTION 32 SCALE: 1" = 20'

MBR-32
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 20,972 SF
STORAGE PROVIDED = 920 CU-FT (@328.75)
ESDv PROVIDED = 1,226 CU-FT

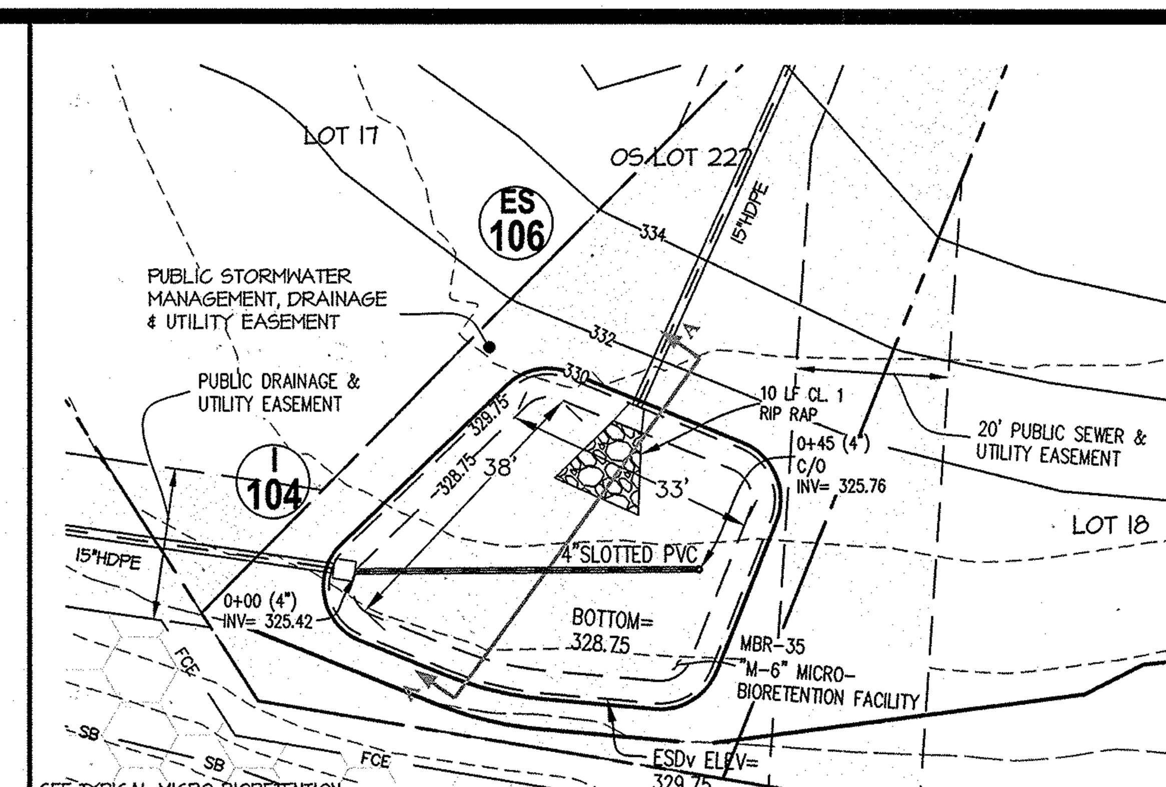
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 327.75
HIGH-FLOW OUTFALL: I-93 ('S' INLET, TOP = 328.75)



MICRO-BIORETENTION 32 LANDSCAPE PLAN SCALE: 1" = 30'



MICRO-BIORETENTION 32 DETAILS

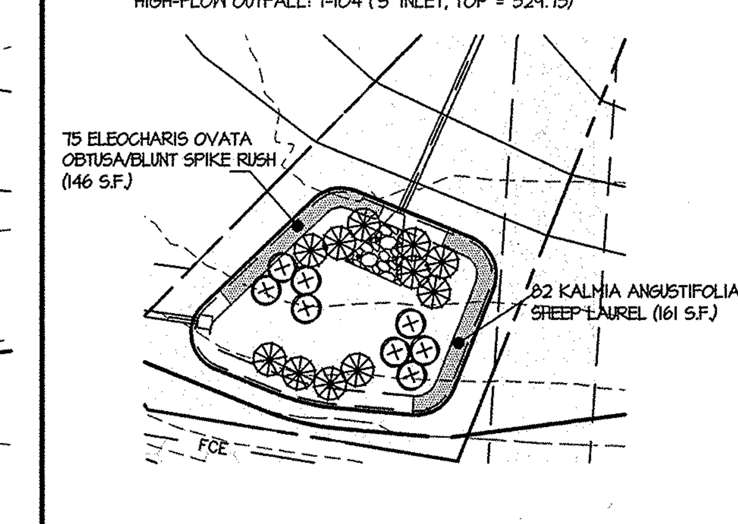


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

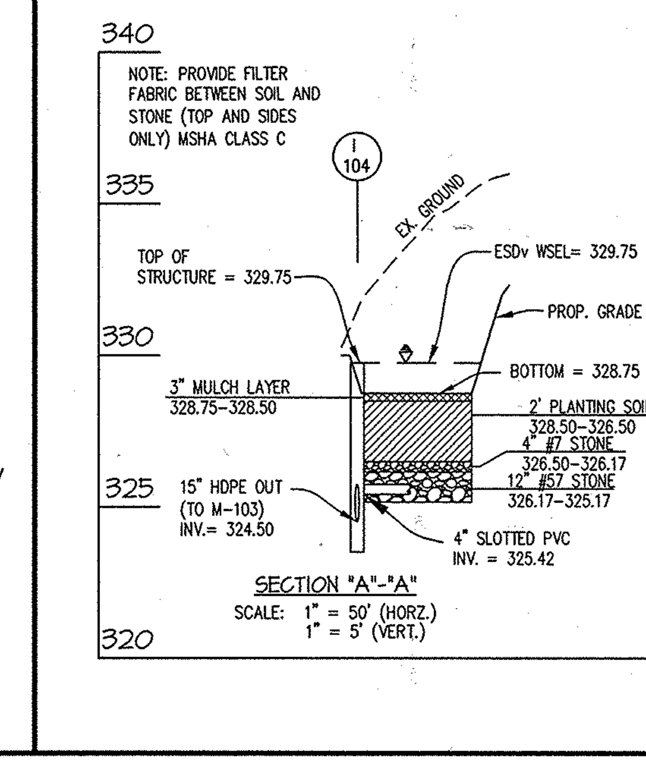
MICRO-BIORETENTION 35 SCALE: 1" = 20'

MBR-35
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 35,220 SF
STORAGE PROVIDED = 1,530 CU-FT (@329.75)
ESDv PROVIDED = 2,040 CU-FT

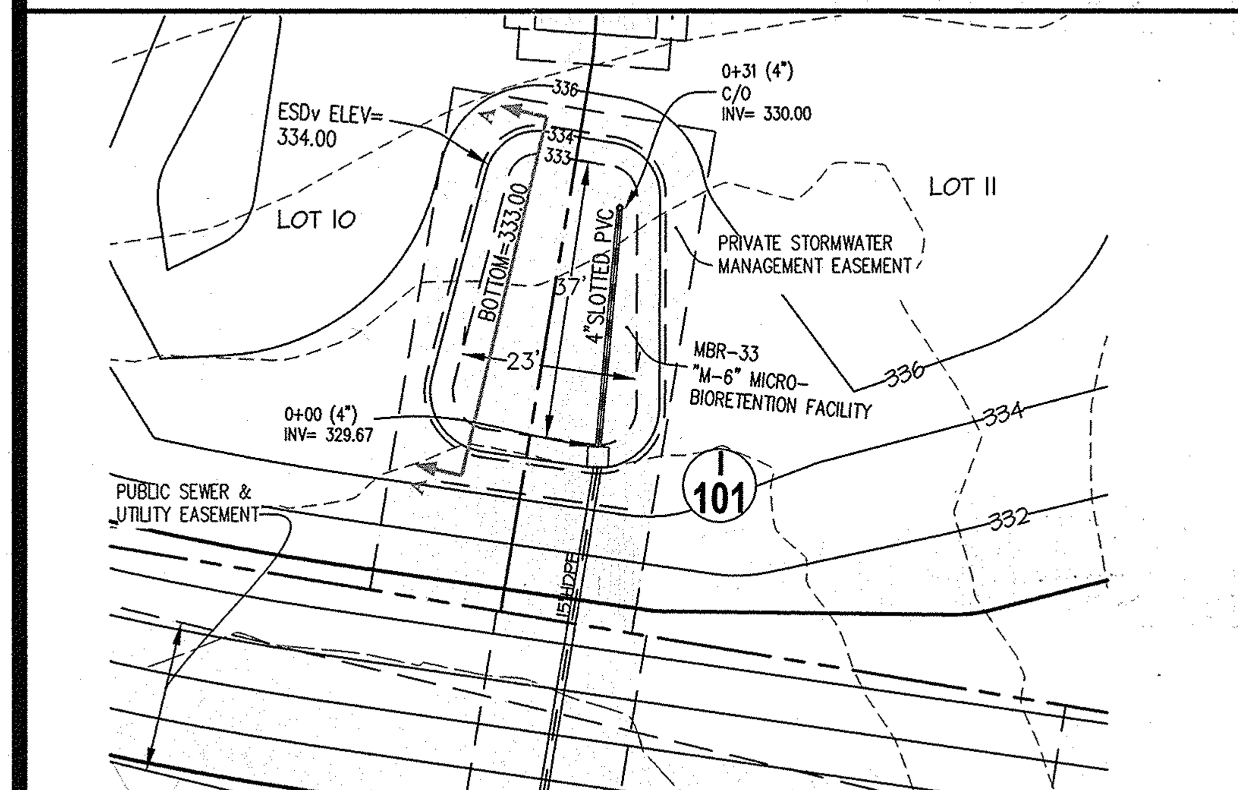
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 328.75
HIGH-FLOW OUTFALL: I-104 ('S' INLET, TOP = 329.75)



MICRO-BIORETENTION 35 LANDSCAPE PLAN SCALE: 1" = 30'



MICRO-BIORETENTION 35 DETAILS △2

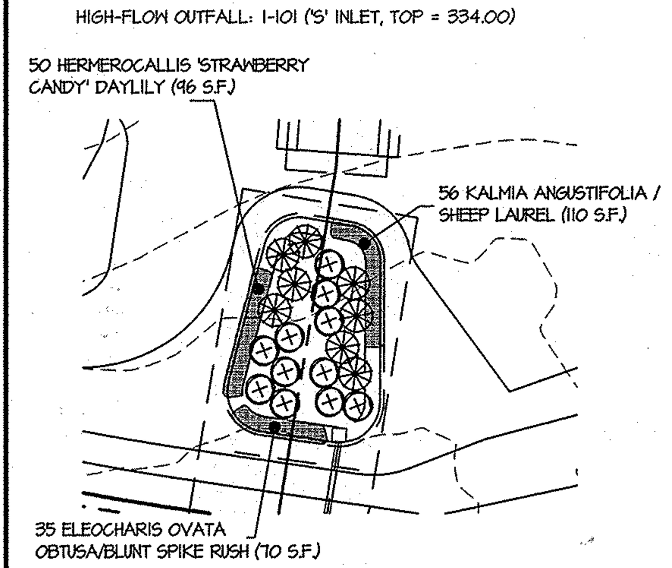


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

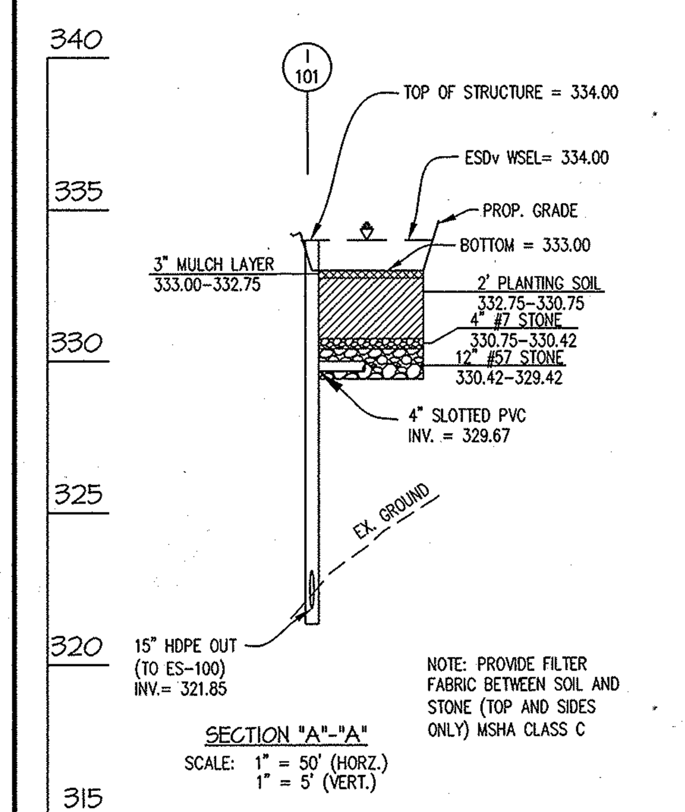
MICRO-BIORETENTION 33 SCALE: 1" = 20'

MBR-33
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 27,916 SF
STORAGE PROVIDED = 930 CU-FT (@334.00)
ESDv PROVIDED = 1240 CU-FT

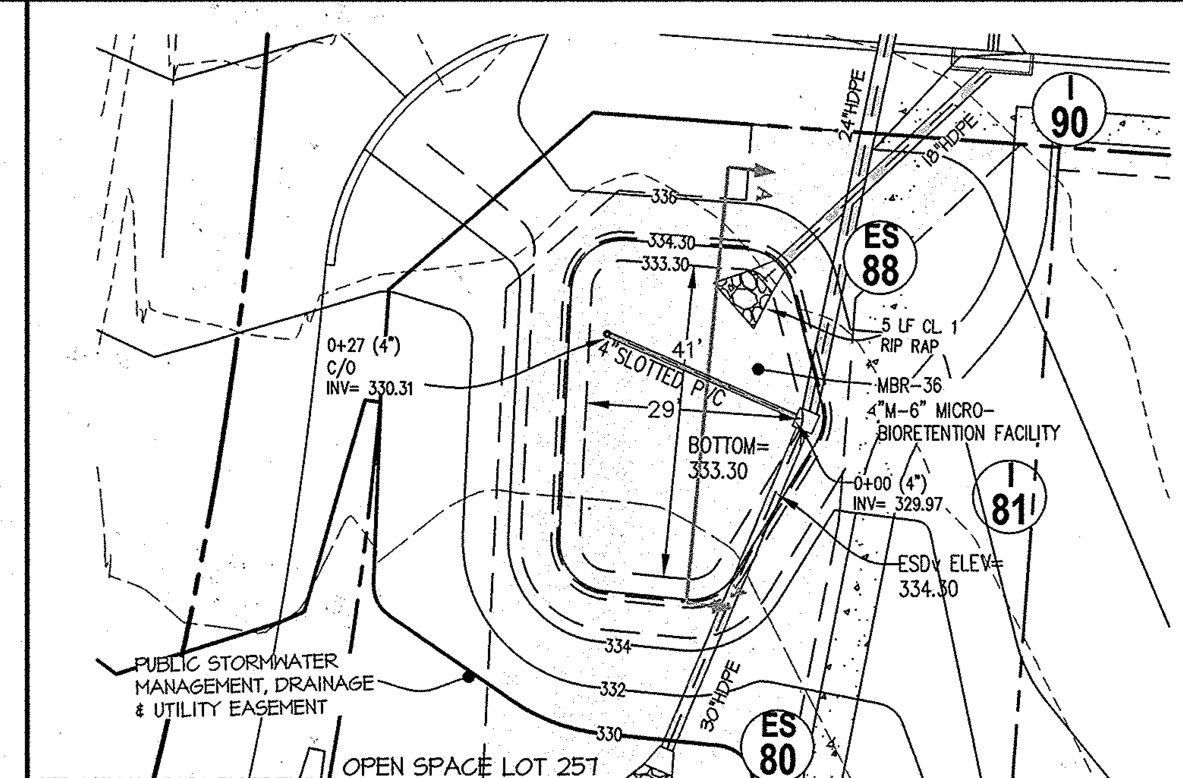
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 333.00
HIGH-FLOW OUTFALL: I-101 ('S' INLET, TOP = 334.00)



MICRO-BIORETENTION 33 LANDSCAPE PLAN SCALE: 1" = 30'



MICRO-BIORETENTION 33 DETAILS

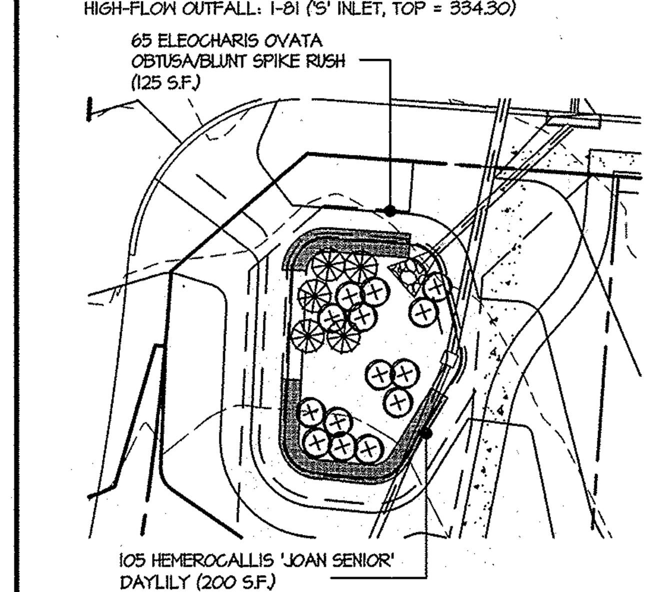


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

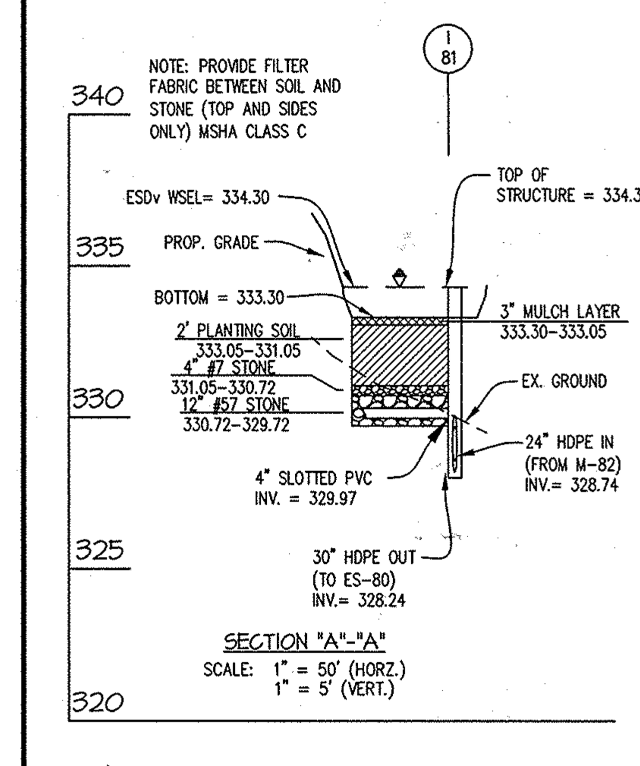
MICRO-BIORETENTION 36 SCALE: 1" = 20'

MBR-36
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 43,233 SF
STORAGE PROVIDED = 1,194 CU-FT (@334.30)
ESDv PROVIDED = 1,588 CU-FT

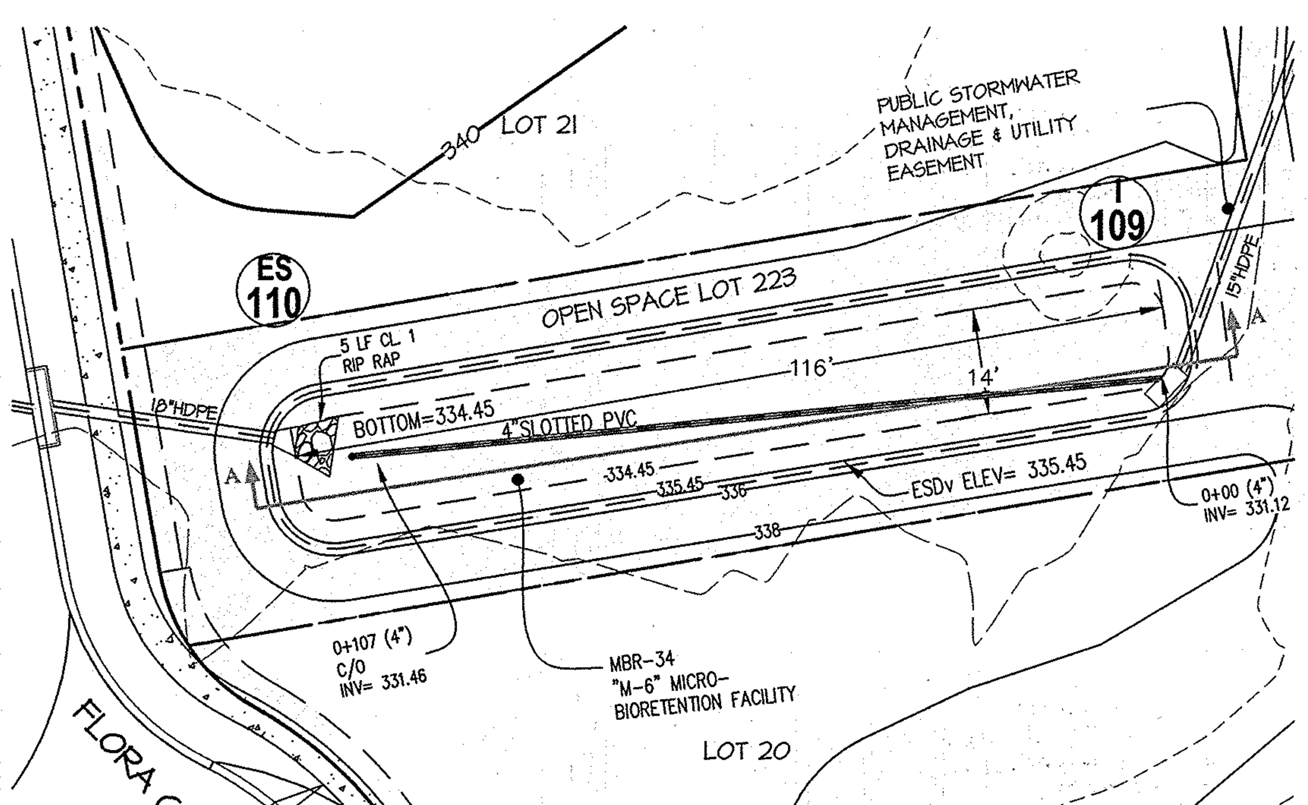
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 333.30
HIGH-FLOW OUTFALL: I-81 ('S' INLET, TOP = 334.30)



MICRO-BIORETENTION 36 LANDSCAPE PLAN SCALE: 1" = 30'



MICRO-BIORETENTION 36 DETAILS

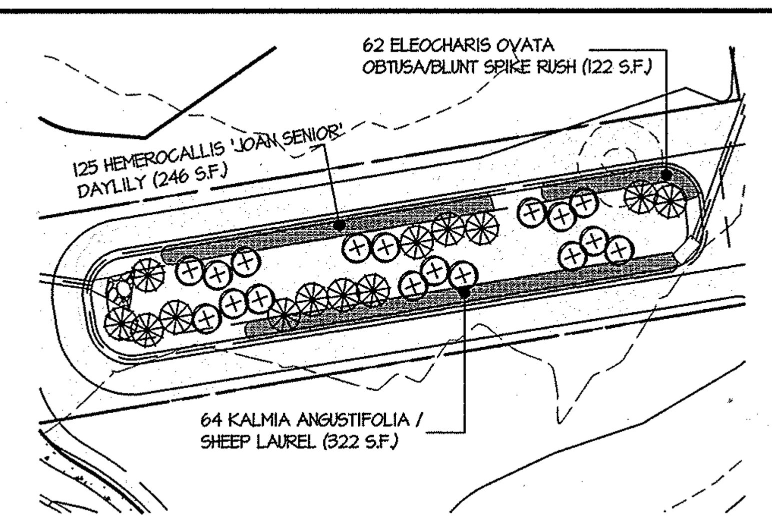


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

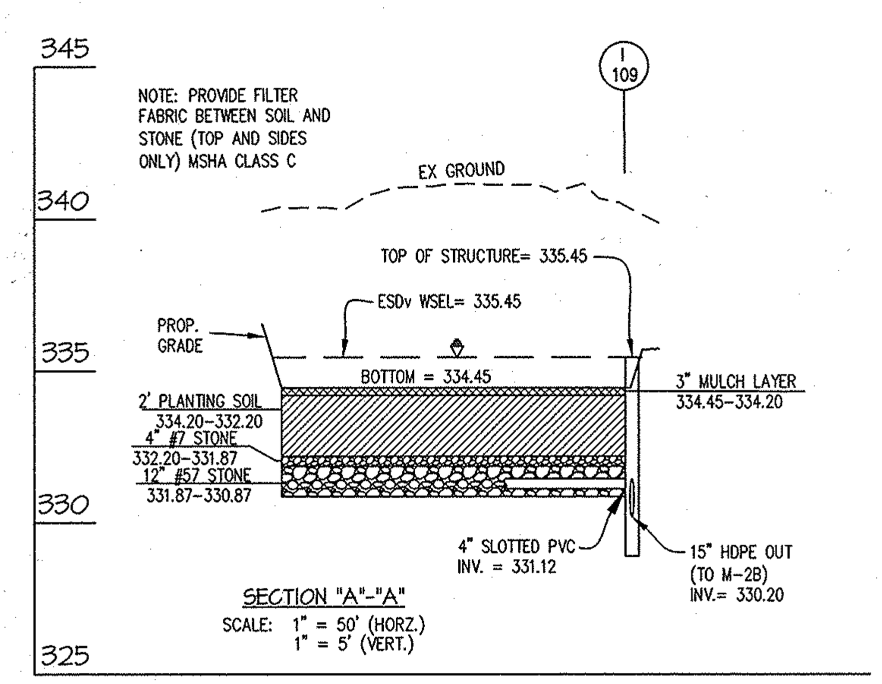
MICRO-BIORETENTION 34 SCALE: 1" = 20'

MBR-34
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 68,249 SF
STORAGE PROVIDED = 1,976 CU-FT (@335.45)
ESDv PROVIDED = 2,634 CU-FT

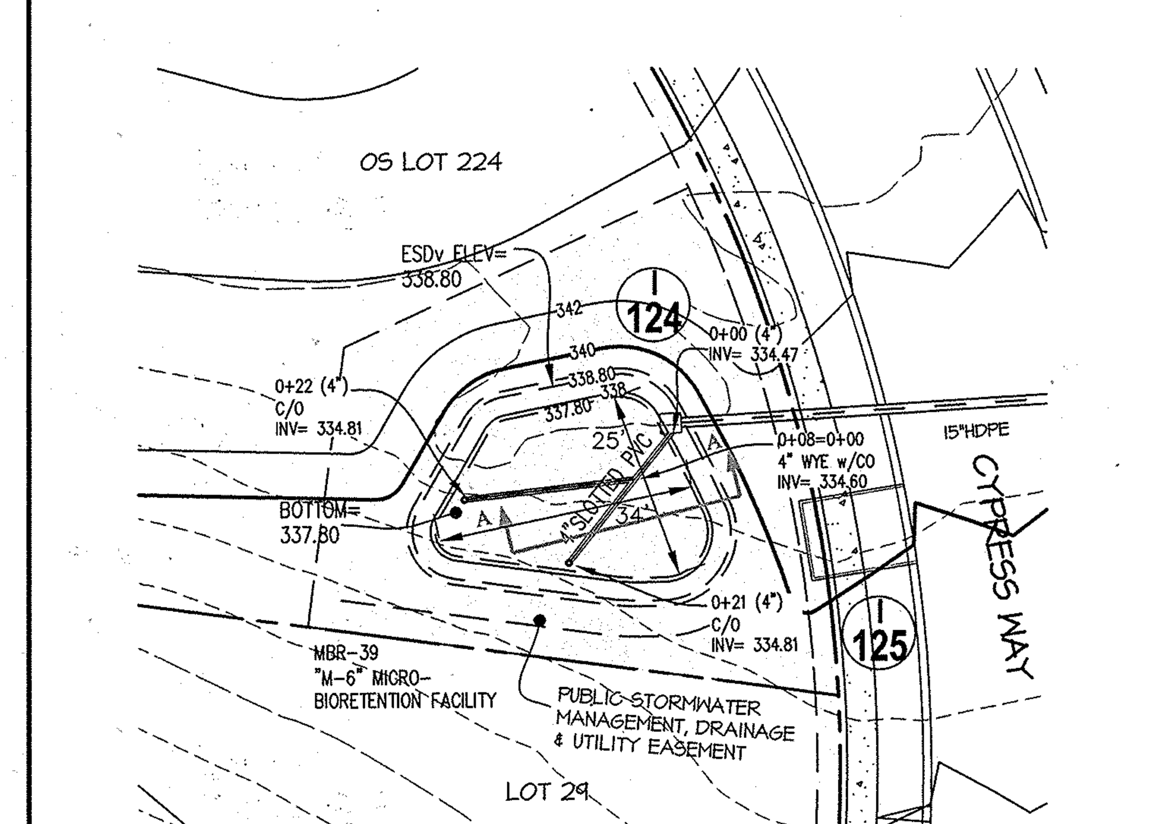
LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 334.45
HIGH-FLOW OUTFALL: I-109 (DOUBLE 'S' INLET, TOP = 335.45)



MICRO-BIORETENTION 34 LANDSCAPE PLAN SCALE: 1" = 30'



MICRO-BIORETENTION 34 DETAILS

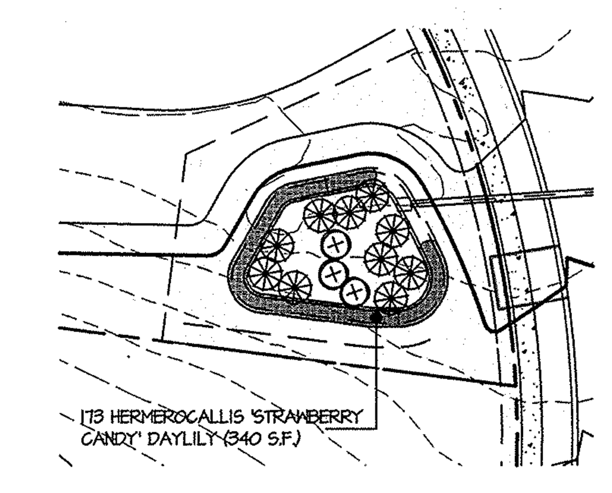


SEE TYPICAL MICRO-BIORETENTION DETAIL SHEET 59 FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

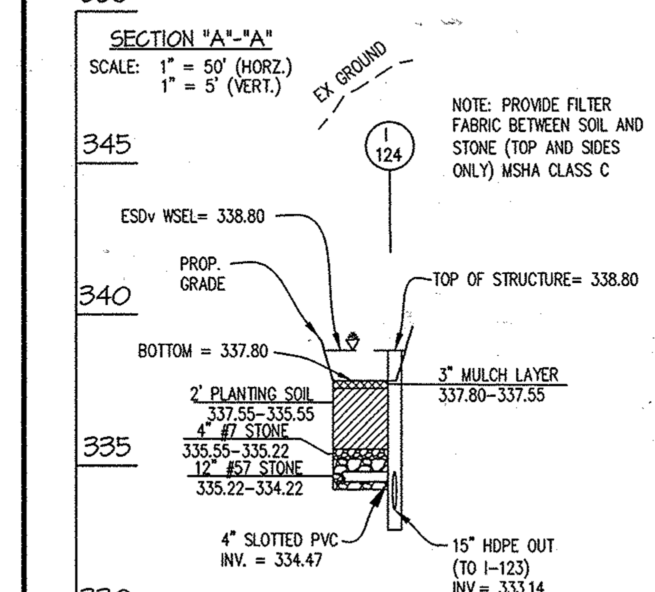
MICRO-BIORETENTION 39 SCALE: 1" = 20'

MBR-39
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 20,547 SF
STORAGE PROVIDED = 795 CU-FT (@338.80)
ESDv PROVIDED = 1,060 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 337.80
HIGH-FLOW OUTFALL: I-124 ('S' INLET, TOP = 338.80)



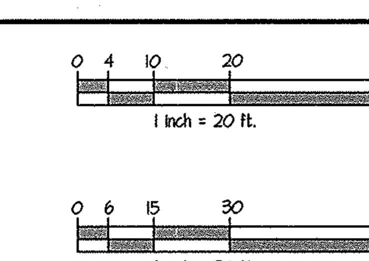
MICRO-BIORETENTION 39 LANDSCAPE PLAN SCALE: 1" = 30'



MICRO-BIORETENTION 39 DETAILS △2

S.D. PIPE SUMMARY TABLE
PRIVATELY OWNED AND MAINTAINED

SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	277	SCHEDULE 40



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[signature] 3-16-2015
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[signature] 4-23-15
Chief, Division of Land Development Date
[signature] 4-22-15
Chief, Development Engineering Division Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-ESD DETAILS 6.dwg | DES. dds | DRN. LMW | CHK.

DATE	REVISION	BY	APP'R.
02/2015	MICRO-BIOS 35, & 39 REVISED △2		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2016
2/25/15 [signature]
(Seal: STATE OF MARYLAND – CARLTON KENNETH GUTSCHICK – NO. 12975 – PROFESSIONAL ENGINEER)

REVISED STORMWATER MANAGEMENT DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
FEB., 2015	47-3	58 OF 71

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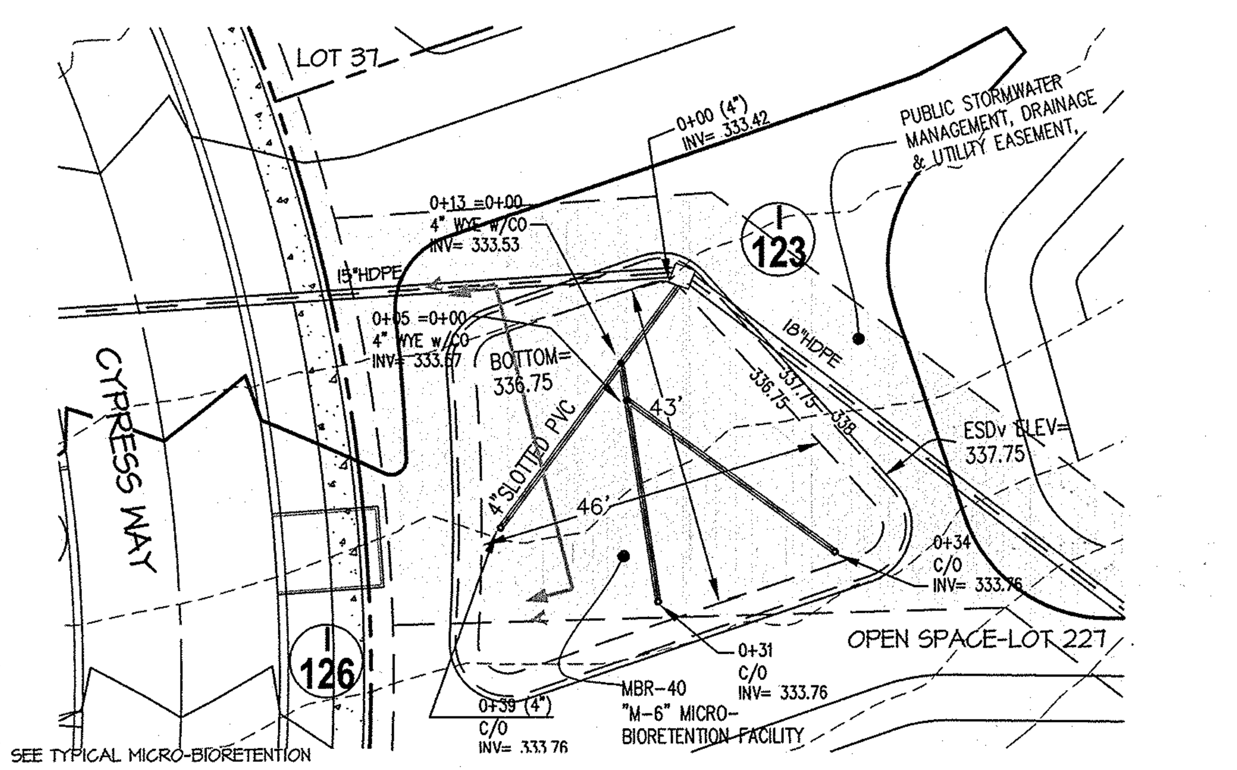
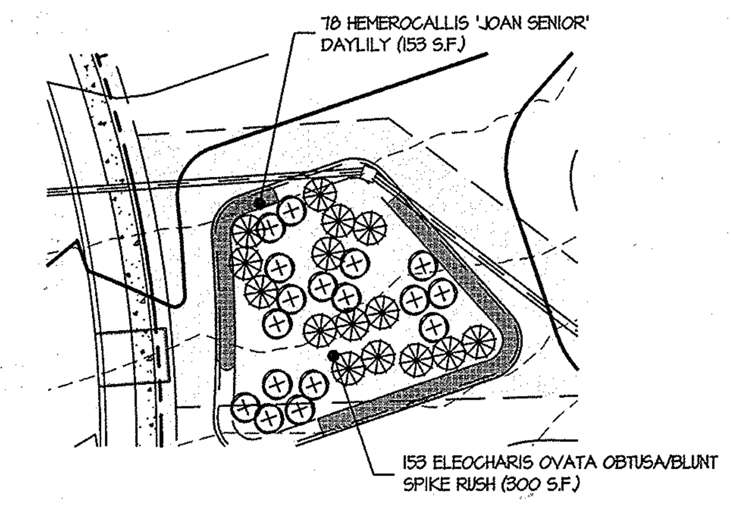


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

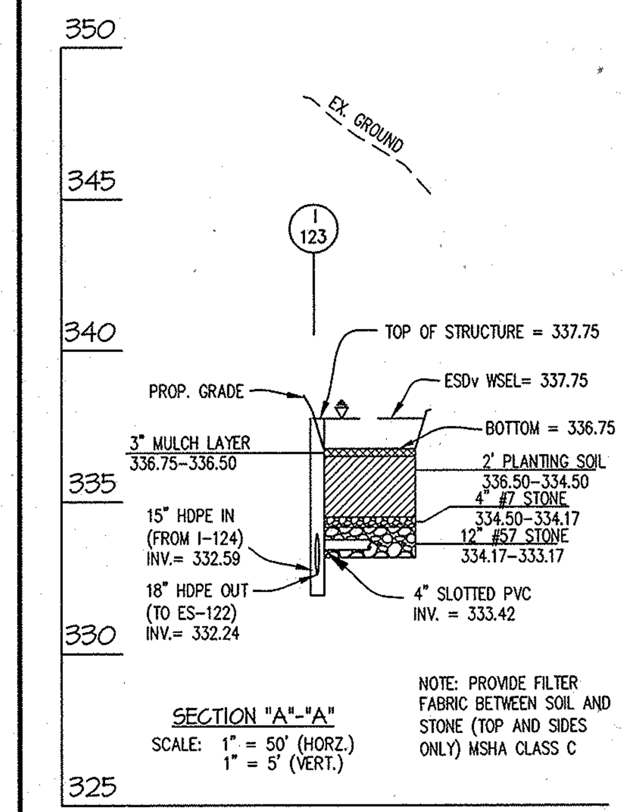
MICRO-BIORETENTION 40 SCALE: 1" = 20'

MBR-40
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 45,487 SF
STORAGE PROVIDED = 2,100 CU-FT (@337.75)
ESDv PROVIDED = 2,800 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 336.75
HIGH-FLOW OUTFALL: I-123 ('S' INLET, TOP = 337.75)



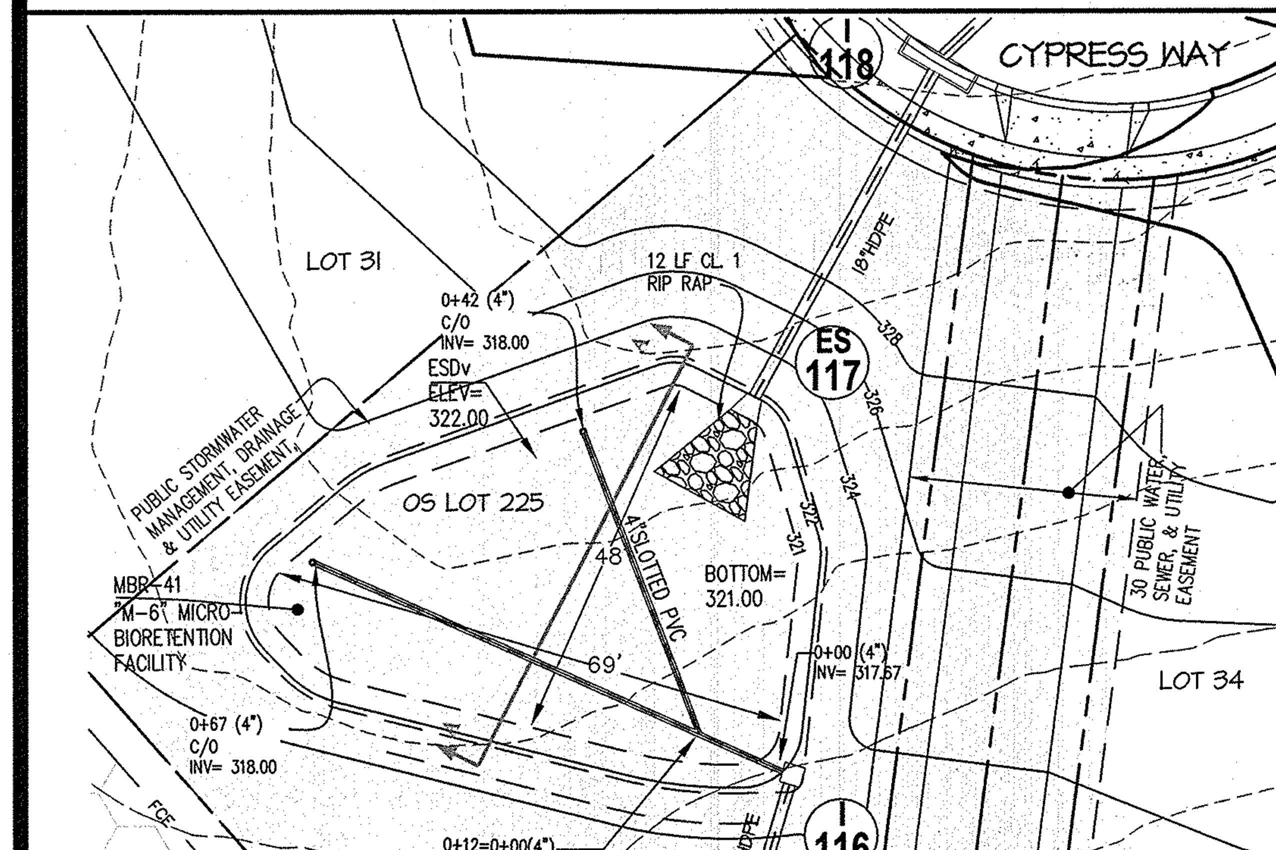
MICRO-BIORETENTION 40 LANDSCAPE PLAN
SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

MICRO-BIORETENTION 40 DETAILS △

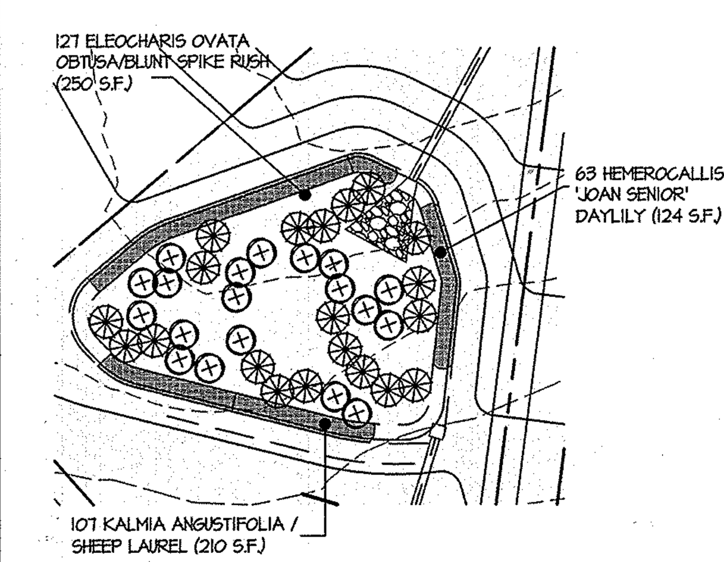


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

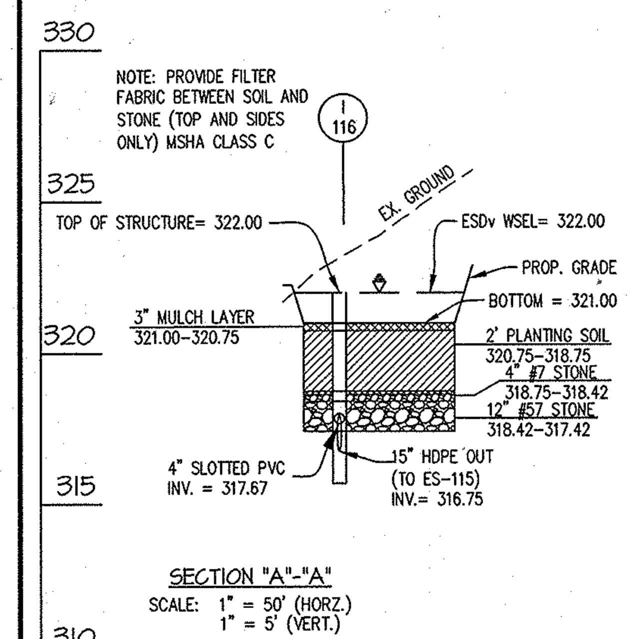
MICRO-BIORETENTION 41 SCALE: 1" = 20'

MBR-41
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 50,919 SF
STORAGE PROVIDED = 2,745 CU-FT (@322.00)
ESDv PROVIDED = 3,660 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 321.00
HIGH-FLOW OUTFALL: I-116 ('S' INLET, TOP = 322.00)

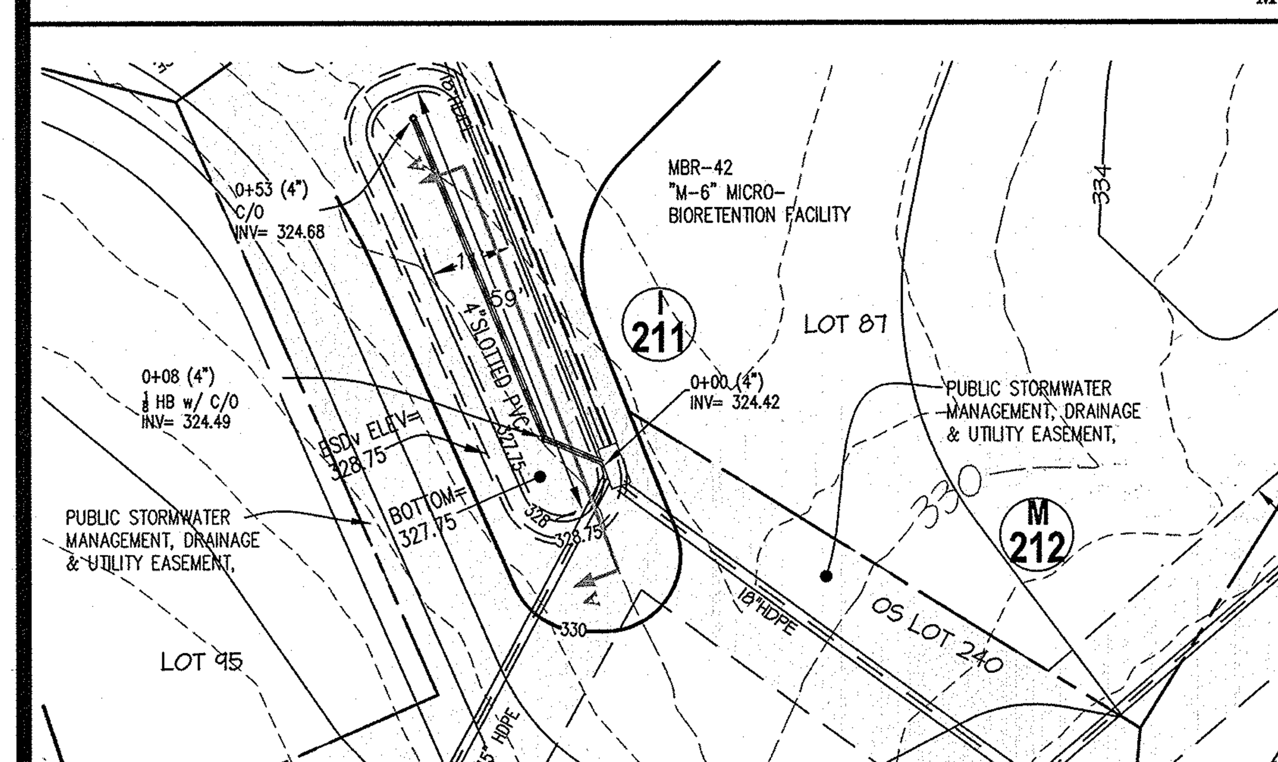


MICRO-BIORETENTION 41 LANDSCAPE PLAN
SCALE: 1" = 30'



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

MICRO-BIORETENTION 41 DETAILS △

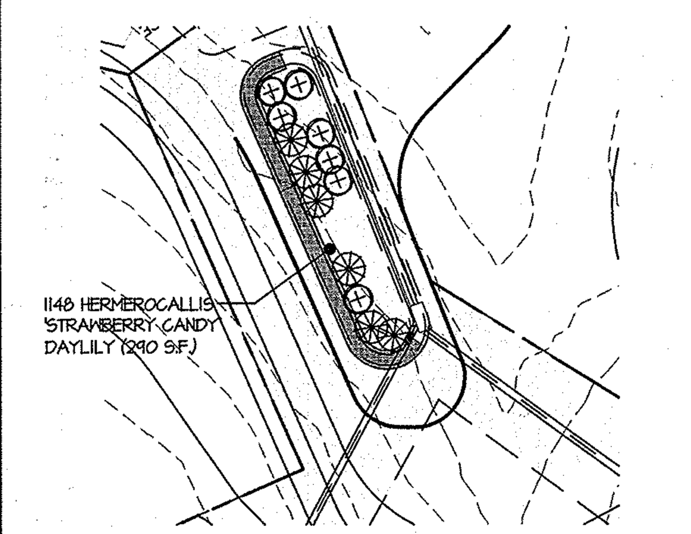


SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

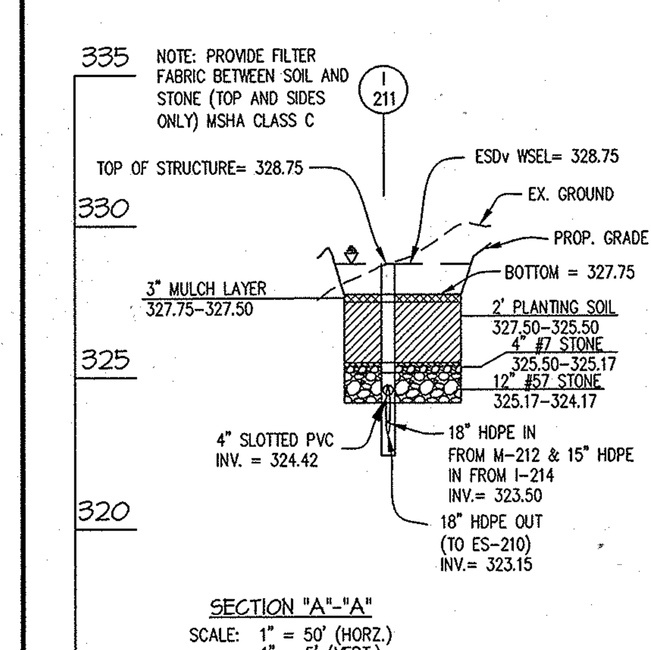
MICRO-BIORETENTION 42 SCALE: 1" = 20'

MBR-42
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 47,406 SF
STORAGE PROVIDED = 815 CU-FT (@328.75)
ESDv PROVIDED = 1,087 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 327.75
HIGH-FLOW OUTFALL: I-211 (DOUBLE 'S' INLET, TOP = 328.75)

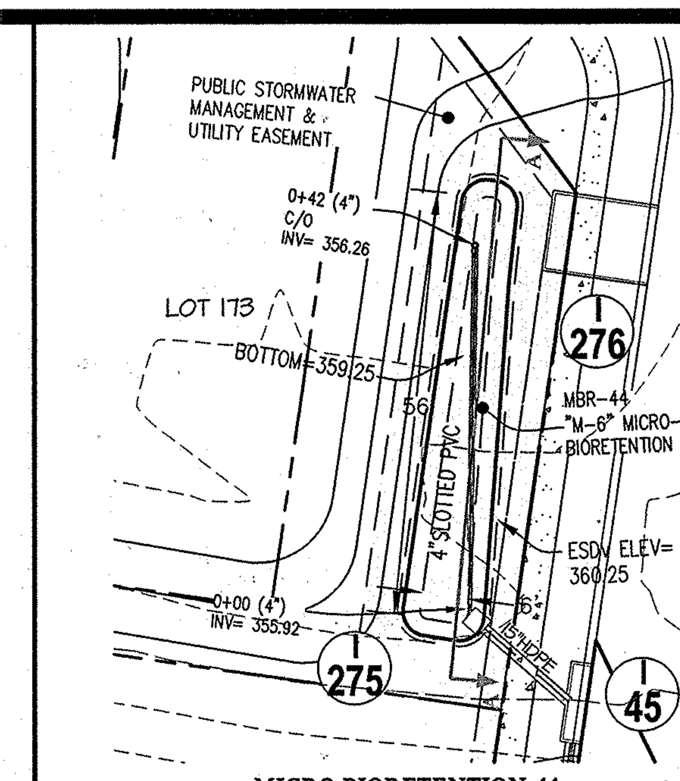


MICRO-BIORETENTION 42 LANDSCAPE PLAN
SCALE: 1" = 30'



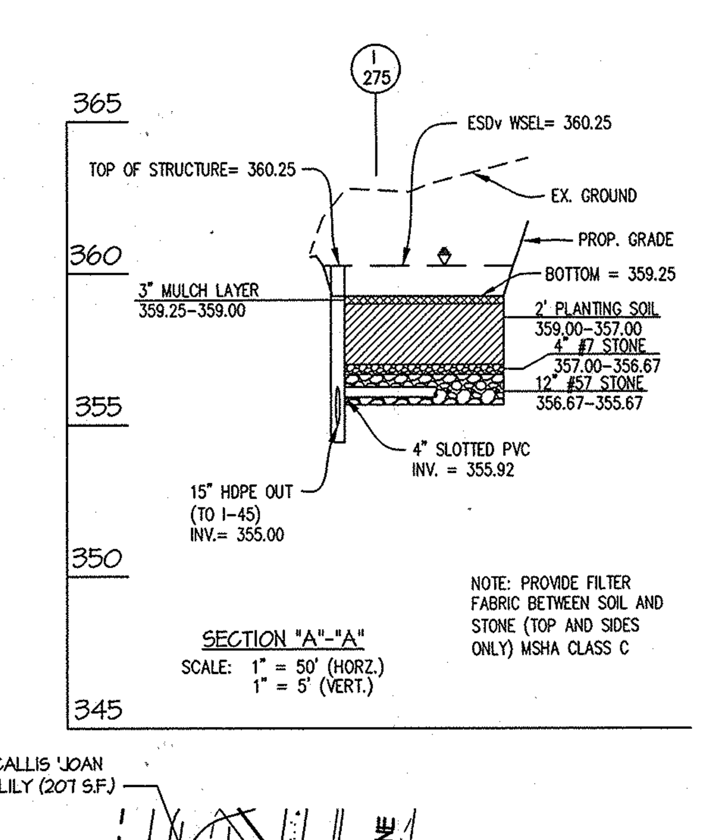
SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

MICRO-BIORETENTION 42 DETAILS △



MICRO-BIORETENTION 44 SCALE: 1" = 20'

SEE TYPICAL MICRO-BIORETENTION DETAIL THIS SHEET FOR TYPICAL SECTION THROUGH MICRO-BIORETENTION FACILITY AND OUTLET STRUCTURE CONFIGURATION

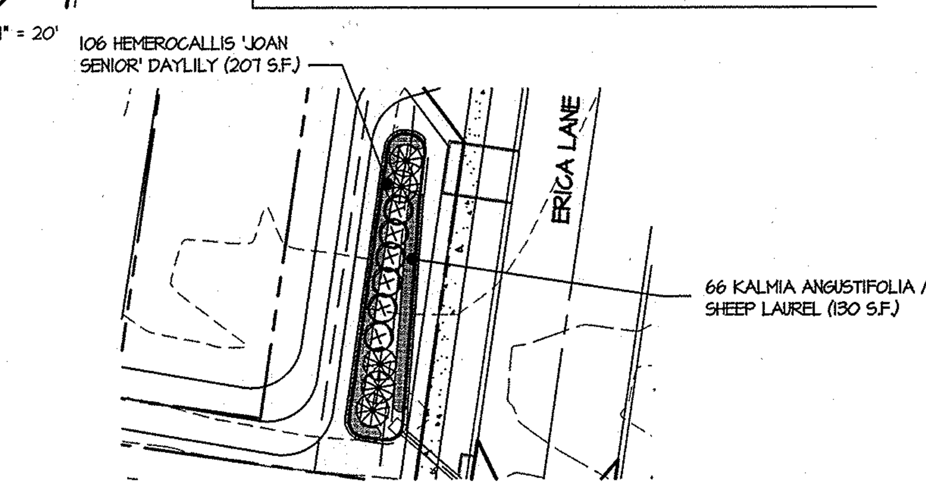


NOTE: PROVIDE FILTER FABRIC BETWEEN SOIL AND STONE (TOP AND SIDES ONLY) MSHA CLASS C

SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.) 1" = 5' (VERT.)

MBR-44
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M6)
NON - MDE 378 FACILITY
TOTAL DRAINAGE AREA TO FACILITY = 18,355 SF
STORAGE PROVIDED = 442 CU-FT (@360.25)
ESDv PROVIDED = 587 CU-FT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM
BOTTOM OF FACILITY = 359.25
HIGH-FLOW OUTFALL: I-275 ('S' INLET, TOP = 360.25)



MICRO-BIORETENTION 44 LANDSCAPE PLAN
SCALE: 1" = 30'

MICRO-BIORETENTION 44 DETAILS

APPENDIX B.1.1. - SUPPLEMENTAL POND SPECIFICATIONS (NON-378)

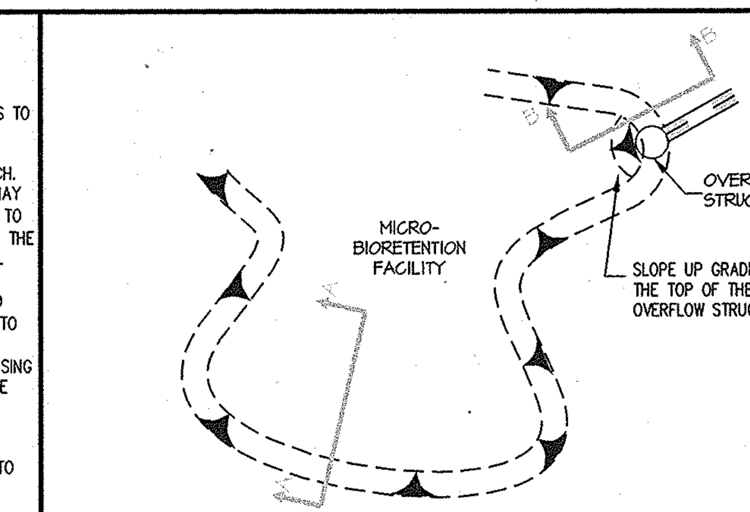
SUPPLEMENTAL STORMWATER PONDS AND WETLAND SPECIFICATIONS (NON-378)

THESE NOTES AND SPECIFICATIONS ARE IN ADDITION TO THE MD-378 SPECIFICATIONS. IF THERE IS ANY QUESTIONS AS TO THE APPLICABILITY, THE MD-378 SPECIFICATIONS SUPERCEDE.

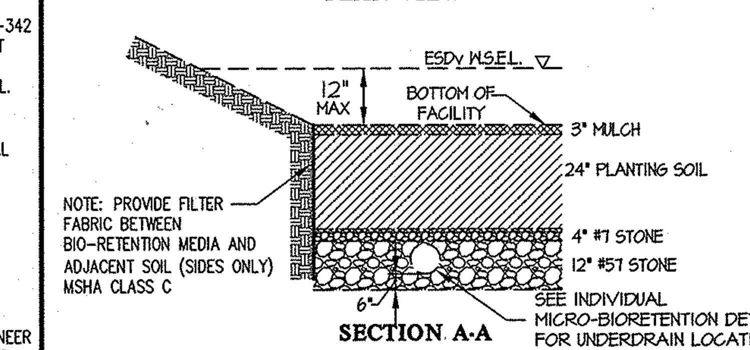
1. IT IS PREFERRED TO USE THE SAME MATERIAL IN THE EMBANKMENT AS IS BEING INSTALLED FOR THE CORE TRENCH. IF THIS IS NOT POSSIBLE BECAUSE THE APPROPRIATE MATERIAL IS NOT AVAILABLE, A DAM CORE WITH A SHALL MAY BE USED. THE CROSS-SECTION OF THE STORMWATER FACILITY SHOULD SHOW THE LIMITS OF THE DAM CORE (UP TO 10-YEAR WATER SURFACE ELEVATION) AS WELL AS THE ACCEPTABLE MATERIALS FOR THE SHELL. THE SHAPE OF THE DAM CORE AND THE MATERIAL TO BE USED IN THE SHELL SHOULD BE PROVIDED BY THE GEOTECHNICAL ENGINEER.
2. IF THE COMPACTION TESTS FOR THE SITE IMPROVEMENTS IS USING MODIFIED PROCTOR (AASHTO T-180), THEN TO MAINTAIN ON-SITE CONSISTENCY, THE MODIFIED PROCTOR MAY BE USED IN LIEU OF A STANDARD PROCTOR (AASHTO T-99). THE MINIMUM DENSITY USING THE MODIFIED PROCTOR TEST METHOD SHALL BE AT LEAST 92% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT OF ±2% OF THE OPTIMUM. THE MINIMUM REQUIRED DENSITY USING THE STANDARD PROCTOR TEST METHOD SHALL BE AT LEAST 95% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT OF ±2% OF THE OPTIMUM.
3. FOR ALL STORMWATER MANAGEMENT FACILITIES, A GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE MUST BE PRESENT TO VERIFY COMPACTION IN ACCORDANCE WITH THE SELECTED TEST METHOD. THIS INFORMATION NEEDS TO BE PROVIDED IN A REPORT TO THE DESIGN ENGINEER, SO THAT CERTIFICATION OF THE CONSTRUCTION OF THE FACILITY, IN ACCORDANCE WITH MD-378 SPECIFICATIONS, CAN BE MADE.
4. A 4-INCH LAYER OF TOPSOIL SHALL BE PLACED ON ALL DISTURBED AREAS OF THE DAM EMBANKMENT. SEEDING, LIMING, FERTILIZING, MULCHING, ETC. SHALL BE IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SERVICE MD-342 OR THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL PERMANENT SEEDING, SECTION IN CHAPTER 20. THE PURPOSE OF THE TOPSOIL IS TO ESTABLISH A GOOD GROWTH OF GRASS, WHICH IS NOT ALWAYS POSSIBLE WITH SOME OF THE MATERIALS THAT MAY BE PLACED FOR THE EMBANKMENT FILL.
5. GEOTEXTILE PLACED BENEATH RIP-RAP SHALL BE CLASS "C" GEOTEXTILE OR BETTER (SEE SECTION 24.0, MATERIAL SPECIFICATIONS, 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (MDE, 1994). SOME ACCEPTABLE GEOTEXTILES THAT MEET THE CLASS "C" CRITERIA INCLUDE.

   AMOCO 4552 CARTHAGE FX-70S
   GEOLON N70 MIRAFI 180-N
   WEBTEC N07

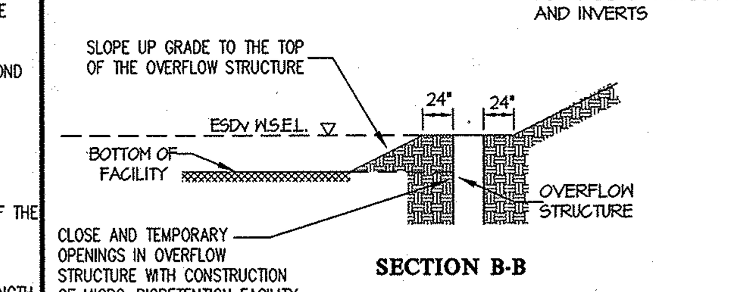
   THIS IS ONLY A PARTIAL LISTING OF AVAILABLE GEOTEXTILES BASED ON INFORMATION PROVIDED BY THE MANUFACTURES OF THE 1997 SPECIFIER'S GUIDE DATED DECEMBER 1996. IT IS THE RESPONSIBILITY OF THE ENGINEER TO VERIFY THE ADEQUACY OF THE MATERIAL, AS THERE ARE CHANGES IN THE MANUFACTURING PROCESS AND THE TYPE OF FABRIC USED, WHICH MAY AFFECT THE CONTINUED ACCEPTANCE.
6. A RULE OF THUMB TO DETERMINE WHEN AN EXCAVATED POND MAY NEED TO BE CONSIDERED AN EMBANKMENT POND IS AS FOLLOWS:
   PROVIDE CALCULATION OF 10H + 20 FEET = L, WHERE H HEIGHT FROM POND BOTTOM TO TOP OF DAM. IF THE PROJECTION OF L, DOWNSTREAM IS A HORIZONTAL LINE FROM THE UPSTREAM TOE OF SLOPE IS BELOW EXISTING GROUND, THE POND CAN BE CONSIDERED AN EXCAVATED POND. IN ADDITION, THE EXISTING GROUND SLOPE, DOWNSTREAM OF THE TOE, MUST BE LESS THAN 10%.
7. THE DESIGN ENGINEER AND GEOTECHICAL ENGINEER SHOULD MAKE THE DETERMINATION THAT THE SETTLEMENT OF THE POND WILL NOT CAUSE EXCESSIVE JOINT EXTENSION. FOR FURTHER INFORMATION ON JOINT ANALYSIS, SEE NRCE PUBLICATION TR-18.
8. FILL PLACEMENT SHALL NOT EXCEED A MAXIMUM 8-INCH. EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF THE EMBANKMENT.
9. THE EMBANKMENT FILL SHALL NOT BE PLACED HIGHER THAN THE CENTERLINE OF THE PRINCIPAL SPILLWAY UNTIL AFTER THE PRINCIPAL SPILLWAY HAS BEEN INSTALLED. IF THE EMBANKMENT NEEDS TO BE EXCAVATED TO INSTALL THE PRINCIPAL SPILLWAY, THE SIDE SLOPE SHALL BE NO LESS THAN 2:1
10. THE SIDE SLOPES OF A CUT TO REPAIR A DAM, INSTALL A PRINCIPAL SPILLWAY FOR AN EXCAVATED POND, OR OTHER REPAIR WORK, SHALL BE NO LESS THAN 2:1.



PLAN VIEW



SECTION A-A



SECTION B-B

TYPICAL MICRO-BIORETENTION SECTION SCALE: N.T.S.

GENERAL NOTES

1. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREA ARE DETAILED IN TABLE B.3.2.

2. PLANTING SOIL

THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

PH RANGE 5.2 - 7.0
ORGANIC MATTER 1.5 - 4% (BY WEIGHT)
MAGNESIUM 35 LB./AC
PHOSPHORUS (PHOSPHATE - P205) 75 LB./AC
POTASSIUM (POTASH - K20) 85 LB./AC
SOLUBLE SALTS NOT TO EXCEED 500 PPM

ALL BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL WAS EXCAVATED.

SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY. SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.

3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION APPENDIX B.3. CONSTRUCTION SPECIFICATIONS FOR SAND FILTERS, BIORETENTION AND OPEN CHANNELS B.3.5 AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL

SEE LANDSCAPE PLAN, THIS SDP SET.

5. PLANT INSTALLATION

MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS

UNDERDRAINS ARE TO BE PLACED ON A 3'-0" WIDE SECTION OF FILTER CLOTH. PIPE IS PLACED NEXT, FOLLOWED BY THE GRAVEL BEDDING. THE ENDS OF UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL SHALL BE CAPPED.

THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS

THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

OPERATION AND MAINTENANCE SCHEDULE FOR
MICRO-BIORETENTION (M-6)

A. THE HOA SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.

B. THE HOA SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.

C. THE HOA SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.

D. THE HOA SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

E. THE HOA SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE UNDERDRAINS WITHIN THE BIO-RETENTION LAYERS.

F. HOWARD COUNTY SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORM DRAIN PIPES AND STRUCTURES WITHIN PUBLIC EASEMENTS. THE HOA SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORM DRAIN PIPES AND STRUCTURES WITHIN PRIVATE EASEMENTS.

OPERATION AND MAINTENANCE SCHEDULE FOR
SURFACE STORMWATER FILTRATION SYSTEMS (F-1)

A. THE HOA SHALL INSPECT THE STORMWATER FACILITY ANNUALLY AND AFTER EVERY HEAVY STORM. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.

B. THE HOA SHALL MOW THE TOP AND SIDE SLOPES OF THE EMBANKMENT A MINIMUM OF ONCE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.

C. THE HOA SHALL MOW FILTERS THAT HAVE A GRASS COVER A MINIMUM OF THREE (3) TIMES PER GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 12 INCHES.

D. THE HOA SHALL REMOVE ANY DEBRIS AND LITTER FROM THE FACILITY.

E. THE HOA SHALL REPAIR ANY EROSION IN THE FACILITY AS SOON AS IT IS NOTICED.

F. HOWARD COUNTY SHALL REMOVE SILT WHEN IT EXCEEDS FOUR (4) INCHES DEEP IN THE FOREBAY & BE RESPONSIBLE FOR THE MAINTENANCE OF THE RISER, OUTFALL PIPES, AND EMBANKMENT.

G. WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN SEVENTY-TWO (72) HOURS, THE HOA SHALL REPLACE THE TOP FEW INCHES OF DISCOLORED MATERIAL WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE HOA.

H. THE HOA SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.

I. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.

J. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

OPERATION AND MAINTENANCE SCHEDULE FOR
FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT AND PUBLIC PERMEABLE SIDEWALK (A-2)

A. THE HOA SHALL PERIODICALLY VACUUM THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.

B. THE HOA SHALL PERIODICALLY CLEAN DRAINAGE PIPES, INLETS, STONE EDGE DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE.

C. THE HOA SHALL USE DEICERS IN MODERATION. DEICERS SHOULD BE NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT.
D. THE OWNER SHALL ENSURE SNOW PLOWING IS PERFORMED CAREFULLY WITH BLADES SET ONE INCH ABOVE THE SURFACE. PLOWED SNOW PILES AND SNOW MELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — 3-16-2015 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — 4-23-15 Date
Chief, Development Engineering Division — 4-22-15 Date

MICRO-BIORETENTION PLANT LIST (SHEETS 53-59)

SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT/COMMENTS
SHRUBS *				
⊗	580	CORNUS SERICEA 'RUBY'/ RUBY RED OSIER DOGWOOD	18"-24" SPR.	CONTAINER
⊛	430	ITEA VIRGINICA 'HENRY'S GARNET/ VIRGINIA SWEETSPIRE	18"-24" SPR.	CONTAINER
HERBACEOUS *				
▒		FOR QUANTIES AND NAMES SEE THE MICRO-BIORETENTION LANDSCAPE PLANS (SHEETS 53-54)	18" O.C.	CONTAINER

S.D. PIPE SUMMARY TABLE (SHEET 59)
PRIVATELY OWNED AND MAINTAINED

SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	384	SCHEDULE 40

* SEE SHEET 64 FOR SHRUB AND HERBACEOUS PLANTING DETAILS

0 4 10 20 40
1 inch = 20 ft.

0 6 15 30 60
1 inch = 30 ft.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-ESD DETAILS 7.dwg | DES. dds | DRN. LMW | CHK.

DATE	REVISION	BY	APP'R.
02/2015	MICRO-BIOS 40, 41, & 42 REVISED △		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2016
2/25/15

STATE OF MARYLAND — CARLTON KENNETH GUTSCHICK — NO. 12975 — PROFESSIONAL ENGINEER

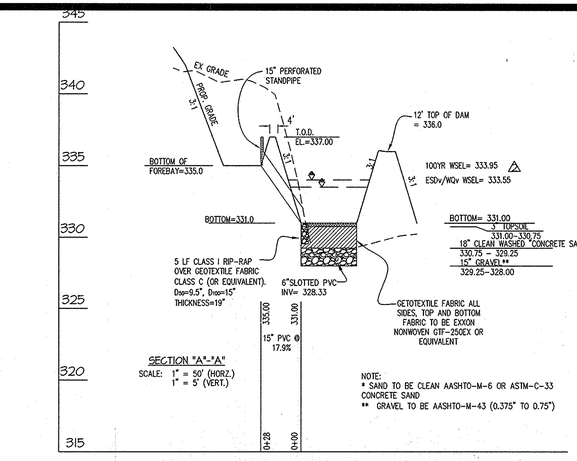
REVISED STORMWATER MANAGEMENT DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 - 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

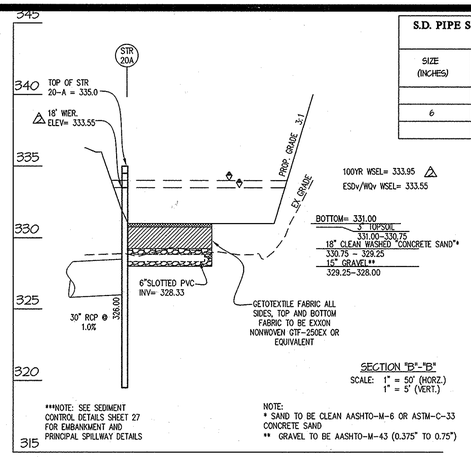
SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
FEB., 2015	47-3	59 OF 71

© GLW 2013



SECTION "A"-"A"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

NOTE:
* SAND TO BE CLEAN AASHTO-M-6 OR ASTM-C-33 CONCRETE SAND
** GRAVEL TO BE AASHTO-M-43 (0.375" TO 0.75")



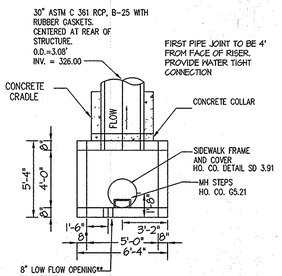
***NOTE: SEE SEDIMENT CONTROL DETAILS SHEET 27 FOR EMBANKMENT AND PRINCIPAL SPILLWAY DETAILS

SECTION "B"-"B"
SCALE: 1" = 50' (HORZ.)
1" = 5' (VERT.)

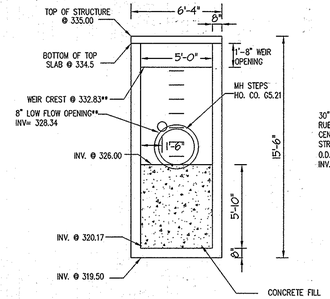
NOTE:
* SAND TO BE CLEAN AASHTO-M-6 OR ASTM-C-33 CONCRETE SAND
** GRAVEL TO BE AASHTO-M-43 (0.375" TO 0.75")

S.D. PIPE SUMMARY TABLE

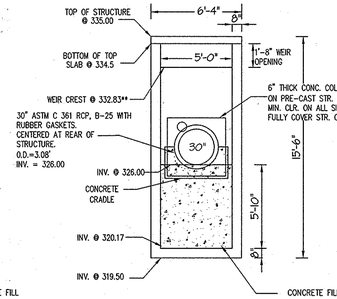
SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
6	SLOTTED PVC	124	SCHEDULE 40



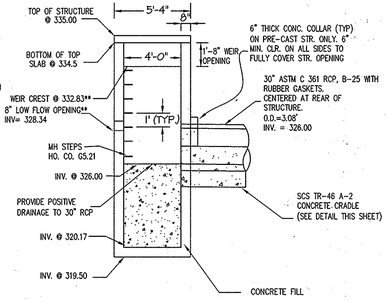
STR 20A PLAN VIEWS
(FRONT OF STRUCTURE)
SCALE: 1"=5'



STR 20A FRONT VIEW
SCALE: 1"=5'



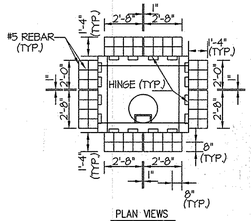
STR 20A REAR VIEW
SCALE: 1"=5'



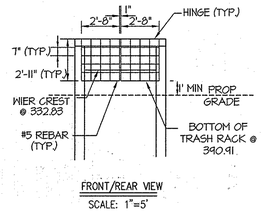
STR 20A SIDE VIEW
SCALE: 1"=5'

NOTE **, AFTER CONVERSION FROM BASIN TO SAND FILTER, RAISE WEIR ELEVATION TO 333.55 AND FILL IN 8" OPENING. MAKE ALL MODIFICATIONS TO STRUCTURE WATERTIGHT.

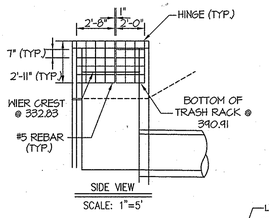
NOTES:
1. RISER STRUCTURE IS TO BE A PRECAST RISER. SHOP DRAWINGS MUST BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION OF RISER. CONTRACTOR MAY CAST IN PLACE, PROVIDED THE APPROPRIATE DRAWINGS ARE SUBMITTED TO ENGINEER FOR APPROVAL AND THIS PLAN IS REDLINED TO SHOW REBAR REINFORCEMENT.
2. PROVIDE WATERTIGHT CONNECTIONS AT ALL ORIFICE OPENINGS, USE NON-SHRINKING GROUT WHERE NECESSARY.



PLAN VIEWS
(FRONT OF STRUCTURE)
SCALE: 1"=5'



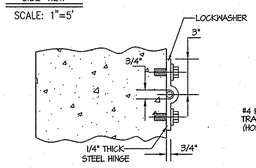
FRONT/REAR VIEW
SCALE: 1"=5'



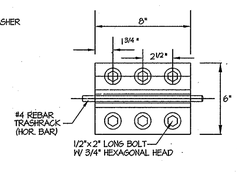
SIDE VIEW
SCALE: 1"=5'

TRASH RACK DETAILS

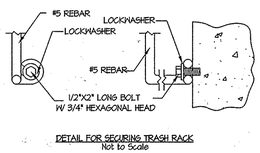
NOTES:
1. TRASH RACK MOUNTINGS TO BE GALVANIZED AFTER FABRICATION
2. REBAR MUST BE GALVANIZED AND PAINTED BATTLESHIP GRAY.



NOTE: TRASH RACK MOUNTINGS TO BE GALVANIZED AFTER FABRICATION.

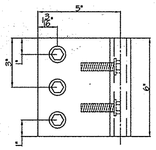


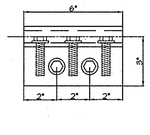
HINGE DETAIL
NOT TO SCALE

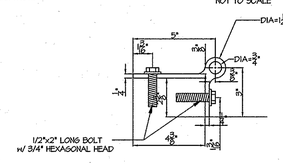


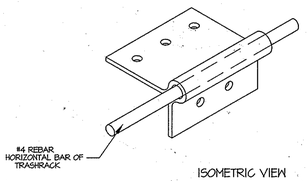
DETAIL FOR SECURING TRASH RACK
Not to Scale

NOTE: TRASH RACK MOUNTINGS TO BE GALVANIZED AFTER FABRICATION.



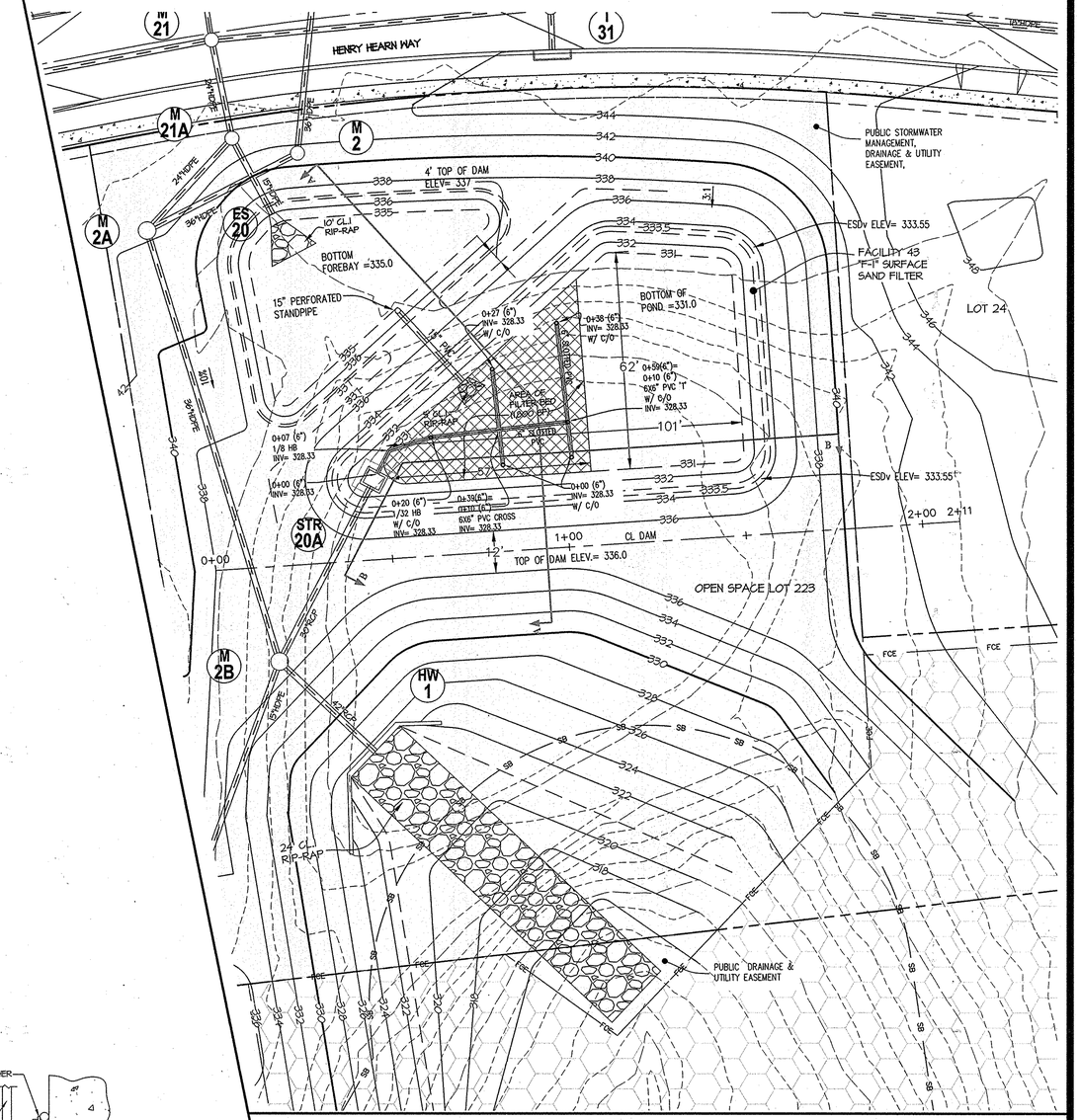




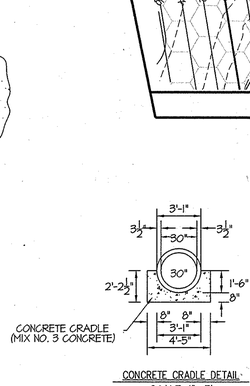


NOTE: TRASH RACK MOUNTINGS TO BE GALVANIZED AFTER FABRICATION.

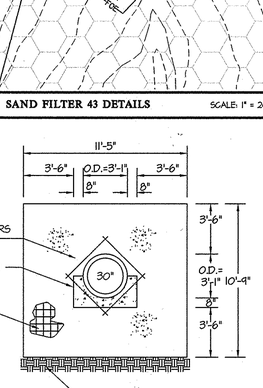
HINGE DETAIL
NOT TO SCALE

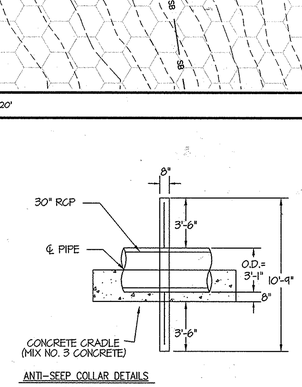


SAND FILTER 43 DETAILS SCALE: 1" = 20'



CONCRETE CRADLE DETAIL
SCALE: 1"= 5'





ANTI-SEEP COLLAR DETAILS
SCALE: 1"= 5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 3-16-2015

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 4-23-15
Chief, Development Engineering Division — Date 4-22-15

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-ESD DETAILS 7.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.
02/2015	WEIR ELEVATION REVISED ⚠		

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 28, 2016**

2/25/15

STATE OF MARYLAND — CHRISTOPHER KENNETH GUTSCHICK — No. 12975 — REGISTERED PROFESSIONAL ENGINEER

ELECTION DISTRICT No. 6

REVISED STORMWATER MANAGEMENT DETAILS

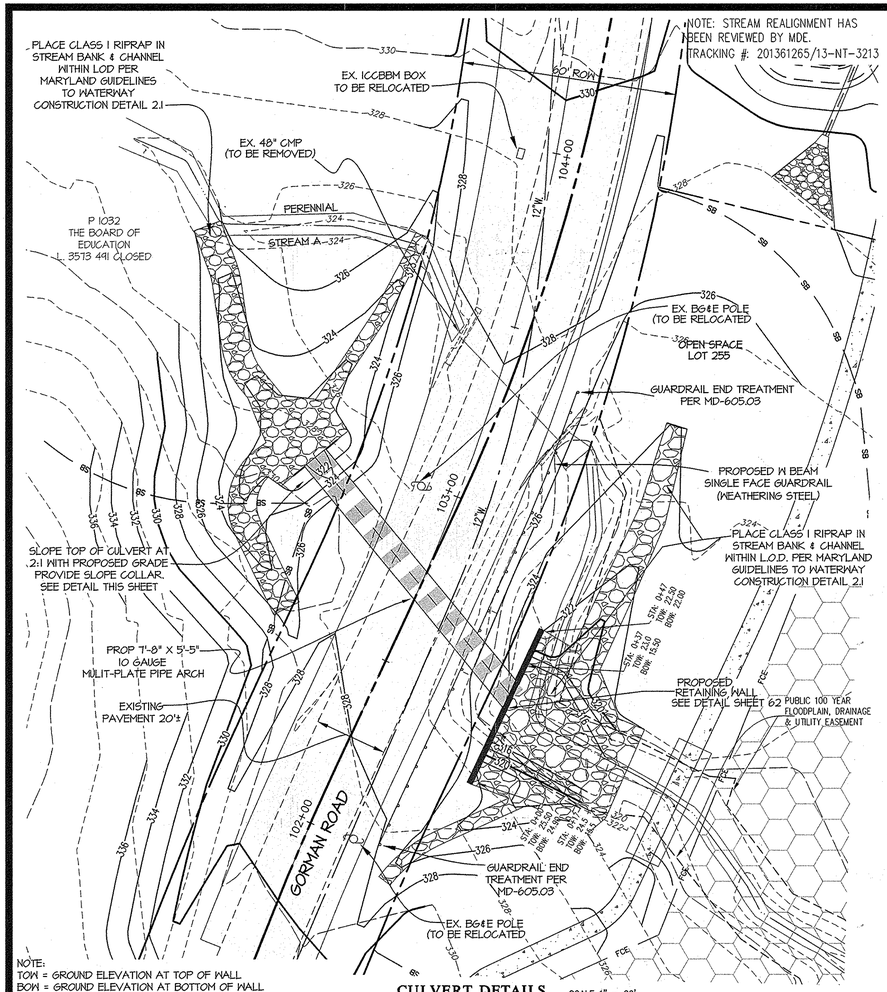
WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 - 257

L. 11388 F. 725
PARCEL 472

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No:
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
FEB., 2015	47-3	60 OF 71

F-13-103

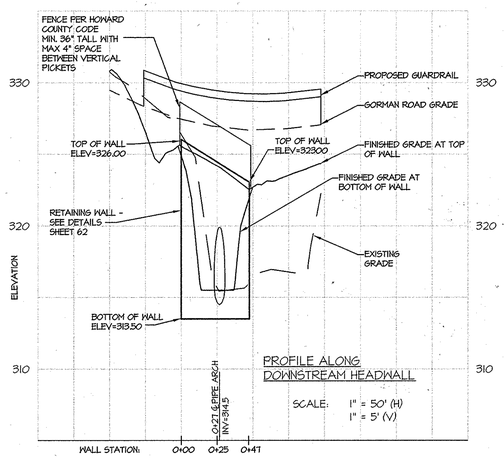


NOTE: STREAM REALIGNMENT HAS BEEN REVIEWED BY MDE. TRACKING #: 201361265/13-NT-3213

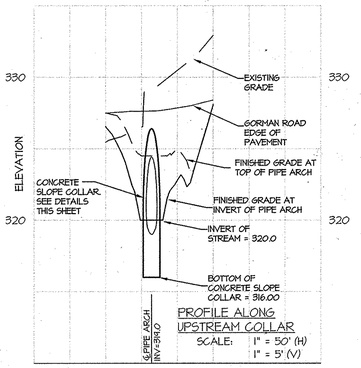
NOTE:
TOW = GROUND ELEVATION AT TOP OF WALL
BOW = GROUND ELEVATION AT BOTTOM OF WALL
SEE WALL DETAILS SHEET 62 FOR TOP AND BOTTOM OF WALL

CULVERT DETAILS SCALE 1" = 20'

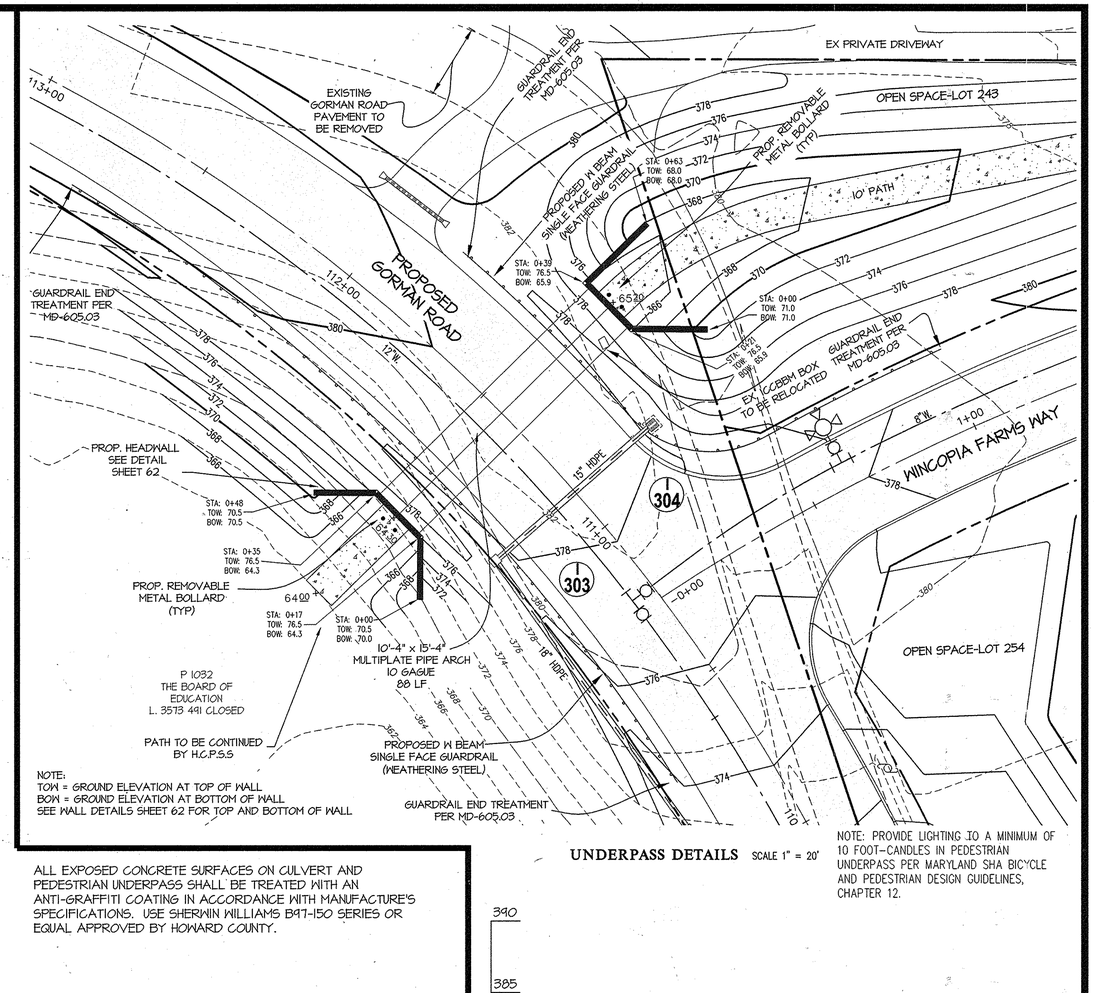
SEE SHEET 20 FOR CULVERT SEQUENCE OF CONSTRUCTION



PROFILE ALONG DOWNSTREAM HEADWALL
SCALE: 1" = 50' (H)
1" = 5' (V)



PROFILE ALONG UPSTREAM COLLAR
SCALE: 1" = 50' (H)
1" = 5' (V)

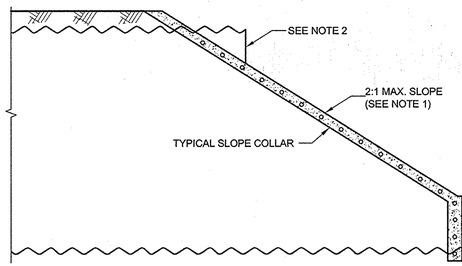


NOTE:
TOW = GROUND ELEVATION AT TOP OF WALL
BOW = GROUND ELEVATION AT BOTTOM OF WALL
SEE WALL DETAILS SHEET 62 FOR TOP AND BOTTOM OF WALL

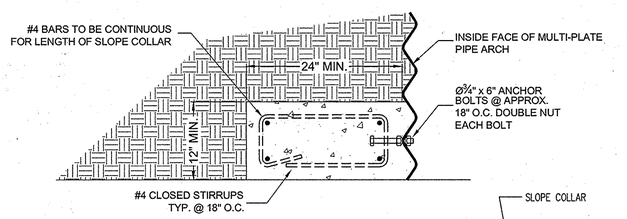
UNDERPASS DETAILS SCALE 1" = 20'

NOTE: PROVIDE LIGHTING TO A MINIMUM OF 10 FOOT-CANDLES IN PEDESTRIAN UNDERPASS PER MARYLAND SHA BICYCLE AND PEDESTRIAN DESIGN GUIDELINES, CHAPTER 12.

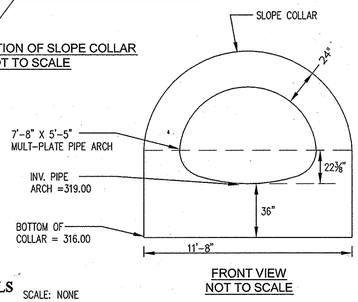
ALL EXPOSED CONCRETE SURFACES ON CULVERT AND PEDESTRIAN UNDERPASS SHALL BE TREATED WITH AN ANTI-GRAFFITI COATING IN ACCORDANCE WITH MANUFACTURE'S SPECIFICATIONS. USE SHERWIN WILLIAMS B97-150 SERIES OR EQUAL APPROVED BY HOWARD COUNTY.



ELEVATION
NOT TO SCALE



TYPICAL SECTION OF SLOPE COLLAR
NOT TO SCALE

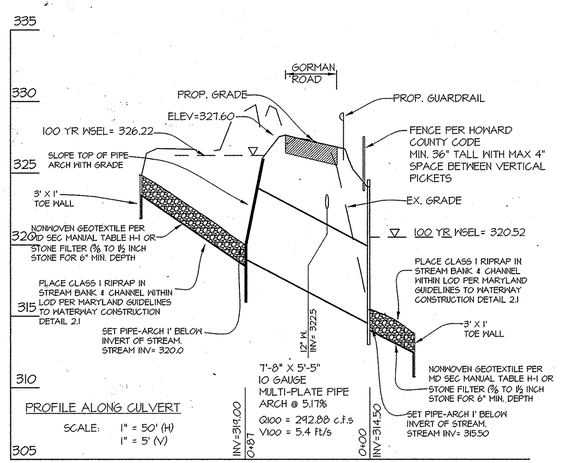


FRONT VIEW
NOT TO SCALE

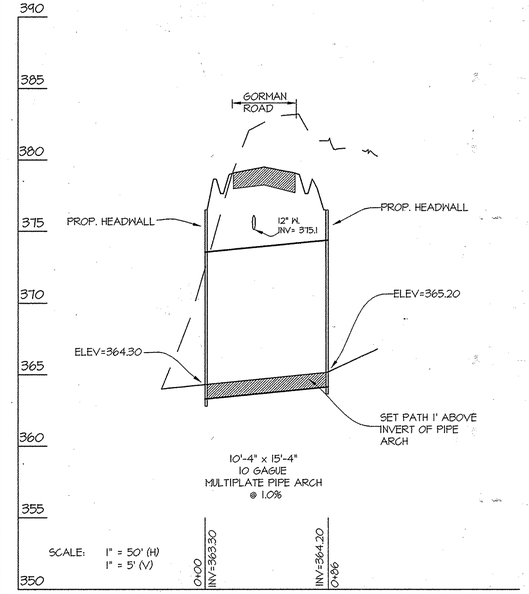
NOTES:

1. IF FLATTER BEVELS ARE USED THE CONTRACTOR MAY NEED TO BRACE OR OTHERWISE SUPPORT THE CUT END DURING BACKFILL OPERATIONS. SEE SPECIFIC STATE DOT STANDARDS.
2. COORDINATE TOP STEP DIMENSION WITH PLATE LAYOUT AND EMBANKMENT CONTOURS.
3. COORDINATE BOTTOM STEP DIMENSION WITH PLATE LAYOUT AND HYDRAULIC FORCES AND APPLICABLE SCOUR ANALYSIS

CONTECH SLOPE COLLAR DETAILS SCALE: NONE



PROFILE ALONG CULVERT
SCALE: 1" = 50' (H)
1" = 5' (V)



SCALE: 1" = 50' (H)
1" = 5' (V)

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-5-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-Culvert.dwg | DES. dds | DRN. dds | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
EXPIRATION DATE: MAY 26, 2014
11-18-13

STATE OF MARYLAND — CHRISTOPHER T. CARLSON — 12975 — REGISTERED PROFESSIONAL ENGINEER

CULVERT AND UNDERPASS DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	61 OF 71

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F-13-103

SPECIFICATIONS
FOR MANUFACTURE AND INSTALLATION OF CONTECH® MULTI-PLATE PIPE ARCH

I - GENERAL

1.0 STANDARDS AND DEFINITIONS

1.1 STANDARDS - All standards refer to latest edition unless otherwise noted.

1.1.1 ASTM A-761 "Corrugated Steel Structural Plate, Zinc Coated for Field-Bolted Pipe, Pipe-Arches and Arches" (AASHTO Designation M-167).

1.1.2 AASHTO Standard Specification for Highway Bridges - Section 12.

1.1.3 AASHTO Standard Specification for Highway Bridges - Section 26.

1.2 DEFINITIONS

1.2.1 Owner - In these specifications the word "Owner" shall mean BEAZER HOMES CORP.

1.2.2 Engineer - In these specifications the word "Engineer" shall mean the Engineer of Record or Owner's designated engineering representative.

1.2.3 Manufacturer - In these specifications the word "Manufacturer" shall mean CONTECH Construction Products Inc. 800-338-1122 Daniel Baer

1.2.4 Contractor - In these specifications the word "Contractor" shall mean the firm or corporation undertaking the execution of any installation work under the terms of these specifications.

1.2.5 Approved - In these specifications the word "approved" shall refer to the approval of the Engineer or his designated representative.

1.2.6 As Directed - In these specifications the words "as directed" shall refer to the directions to the Contractor from the Owner or his designated representative.

2.0 GENERAL CONDITIONS

2.1 The Contractor shall furnish all labor, material and equipment and perform all work and services except those set out and furnished by the Owner, necessary to complete in a satisfactory manner the site preparation, excavation, filling, compaction, grading as shown on the plans and as described therein. This work shall consist of all mobilization clearing and grading, grubbing, stripping, removal of existing material unless otherwise stated, preparation of the land to be filled, filling of the land, spreading and compaction of the fill, and all subsidiary work necessary to complete the grading of the cut and fill areas to conform with the lines, grades, slopes, and specifications. This work is to be accomplished under the observation of the Owner or his designated representative.

2.2 Prior to bidding the work, the Contractor shall examine, investigate and inspect the construction site as to the nature and location of the work, and the general and local conditions at the construction site, including without limitation, the character of surface or subsurface conditions and obstacles to be encountered on and around the construction site and shall make such additional investigation as he may deem necessary for the planning and proper execution of the work.

If conditions other than those indicated are discovered by the Contractor, the Owner shall be notified immediately. The material which the Contractor believes to be a changed condition shall not be disturbed so that the owner can investigate the condition.

2.3 The construction shall be performed under the direction of the Engineer.

2.4 All aspects of the structure design and site layout including foundations, backfill, end treatments and necessary scour consideration shall be performed by the Engineer.

Any installation guidance provided herein shall be endorsed by the Engineer or superceded by the Engineer's plans and specifications.

II - MULTI-PLATE PIPE ARCH.

1.0 GENERAL

1.1 Manufacturer shall fabricate the Multi-Plate Pipe Arch (81 PI & 156 PI) CULVERT as shown on the plans. Fabrication shall conform to the requirements of ASTM A-761 and shall consist of plates, fasteners, and appurtenant items.

Plate thickness, end treatment and type of invert and foundation shall be as indicated on the plans. All manufacturing processes including corrugating, punching, curving and required galvanizing shall be performed within the United States of America.

1.2 The contractor shall verify all field dimensions and conditions prior to ordering materials.

2.0 DIMENSIONS

2.1 The proposed structure shall be a pipe arch CULVERT with the following dimensions:

Span: 7'-8" / 10'-4" Rise: 5'-5" / 15'-4"
Gage: 10

2.2 All plan dimensions on the contract drawings are measured in a true horizontal plan unless otherwise noted.

3.0 ASSEMBLY AND INSTALLATION

3.1 Bolts and nuts shall conform to the requirements of ASTM A-449. The structure shall be assembled in accordance with the plate layout drawings provided by the manufacturer and per the manufacturer's recommendations.

Bolts shall be tightened using an applied torque of between 100 and 300 ft.-lbs.

3.2 The structure shall be installed in accordance with the plans and specifications, the manufacturer's recommendations, and AASHTO Standard Specification for Highway Bridges - Section 26.

3.3 Trench excavation shall be made in embankment material that is structurally adequate. The trench width shall be shown on the plans. Poor quality in situ embankment material must be removed and replaced with suitable backfill as directed by the Engineer.

3.4 Bedding preparation is critical to both structure performance and service life. The bed should be constructed to uniform line and grade to avoid distortions that may create undesirable stresses in the structure and/or rapid deterioration of the roadway. The bed should be free of rock formations, protruding stones, frozen lumps, roots, and other foreign matter that may cause unequal settlement.

3.5 Bedding shall provide a minimum of 4,000 psf bearing capacity. Foundation details for bearing capacity less than 4,000 psf shall be approved by the Engineer.

3.6 The structure shall be assembled in accordance with the Manufacturer's instructions. All plates shall be unloading and handled with reasonable care. Plates shall not be rolled or dragged over gravel rock and shall be prevented from striking rock or other hard objects during placement in trench or on bedding.

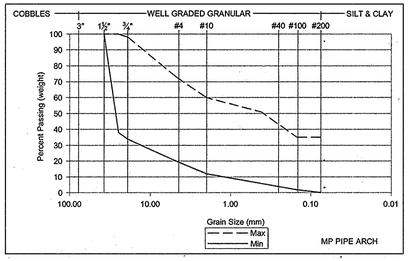
When assembled on a cast in place spread footing, the structure shall be assembled in the footing starting at the upstream end. When assembled on a full invert or on flexible footing pads, the invert or footing pad shall be placed starting at the downstream end. The structure shell shall be assembled on the invert or footing pad starting at the inlet end. Circumferential seams shall be installed with the plate laps shingled downstream as viewed from the inside of the structure.

The structure shall be backfilled using clean well graded granular material that meets the requirements of AASHTO M-145 for soil classifications A-1, A-2 or A-3.

Backfill must be placed symmetrically on each side of the structure in 6 to 8 inch loose lifts. Each lift shall be compacted to a minimum of 90 percent density per AASHTO T-180

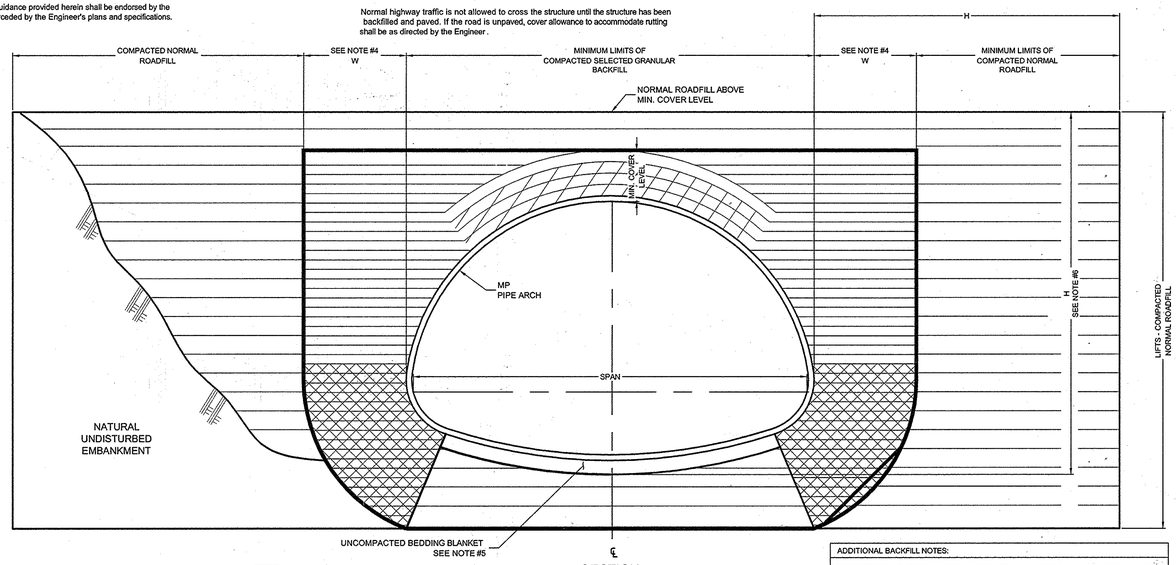
3.7 Construction loads that exceed highway load limits are not allowed to cross the structure without approval from the Engineer.

Normal highway traffic is not allowed to cross the structure until the structure has been backfilled and paved. If the road is unpaved, cover allowance to accommodate rutting shall be as directed by the Engineer.



GROUP CLASSIFICATION	A-1	A-2	A-3*
Sieve Analysis Percent Passing			
No. 10 (2.000 mm)	----	----	----
No. 40 (0.425 mm)	50 max.	----	51 max.
No. 200 (0.075 mm)	25 max.	35 max.	10 max.
Characteristics of Fraction			
Passing No. 40 (0.425 mm)			
Liquid Limits	----	40 max.	----
Plasticity Index	6 max.	10 max.	Non Plastic
Usual Materials	Stone Fragment, Gravel and Sand	Gravel or Sand With Silt or clay	Sand

Adapted from AASHTO M-145
* Fine beach sands, windblown sands, stream deposited sands, etc., exhibiting fine, rounded particles and typically classified by AASHTO M-145 as A-3 material should be avoided.



SECTION

CRITICAL BACKFILL ZONE, PRESSURE ON SOIL GREATEST HERE.

INITIAL LIFTS OVER CROWN OF STRUCTURE AS INDICATED BY SHADED AREA TO BE COMPACTED TO REQUIRED DENSITY WITH HAND OPERATED EQUIPMENT OR WITH SMALL TRACTOR (D-4 OR SMALLER) DRAWN EQUIPMENT.

SELECT GRANULAR STRUCTURAL BACKFILL LIMITS.

NOTES:

1. ALL SELECT GRANULAR BACKFILL TO BE PLACED IN A BALANCED FASHION IN THIN LIFTS (6"-8" LOOSE TYPICALLY) AND COMPACTED TO 90 PERCENT DENSITY PER AASHTO T-99.
2. COMPLETE AND REGULAR MONITORING OF THE PIPE ARCH IS NECESSARY DURING ALL BACKFILLING STEPS.
3. PREVENT EXCESSIVE DISTORTION OF SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT.
4. TRENCH WIDTH AND / OR SELECT FILL ENVELOPE WIDTH SHALL BE BY DIRECTION OF THE ENGINEER OF RECORD. A TYPICAL WIDTH OF FEET IS DEPICTED, BUT GREATER OR LESSER DISTANCE MAY BE REQUIRED DEPENDING UPON SITE-SPECIFIC CONDITIONS. THIS WIDTH DEPENDS ON FACTORS SUCH AS THE LATERAL PRESSURES EXERTED BY THE STRUCTURE ONTO THE ADJACENT SOIL FOR THE GIVEN LOADING CONDITIONS, THE STRUCTURE SHAPE, THE QUALITY OF THE SELECT FILL MATERIAL AND THE STRENGTH OF THE IN SITU EMBANKMENT / TRENCH MATERIAL. THESE FACTORS MUST BE EVALUATED BY THE PROJECT ENGINEER FOR EACH SPECIFIC SITUATION.
5. SHAPED BED FOR A MINIMUM WIDTH OF SPAN/2. MINIMUM BEDDING THICKNESS IS 6 INCHES.

ADDITIONAL BACKFILL NOTES:

SATISFACTORY BACKFILL MATERIAL, PROPER PLACEMENT, AND COMPACTION ARE KEY FACTORS IN OBTAINING MAXIMUM STRENGTH AND STABILITY.

THE BACKFILL MATERIAL SHOULD BE FREE OF ROCKS, FROZEN LUMPS, AND FOREIGN MATERIAL THAT COULD CAUSE HARD SPOTS OR DECOMPOSE TO CREATE VOIDS. BACKFILL MATERIAL SHOULD BE WELL GRADED GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS OF AASHTO M-145 FOR SOIL CLASSIFICATIONS A-1, A-2, A-3. BACKFILL MUST BE REPLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN 6" LOOSE LIFTS. EACH LIFT IS TO BE COMPACTED TO A MINIMUM OF 90% DENSITY PER AASHTO T-99.

A HIGH PERCENTAGE OF SILT OR FINE SAND IN THE NATIVE SOILS SUGGESTS THE NEED FOR A WELL GRADED GRANULAR BACKFILL MATERIAL TO PREVENT SOIL MIGRATION.

DURING BACKFILL, ONLY SMALL TRACKED VEHICLES (D-4 OR SMALLER) SHOULD BE NEAR THE STRUCTURE AS FILL PROGRESSES ABOVE THE CROWN AND TO THE FINISHED GRADE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-Culvert.dwg | DES. | DRN. | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975, EXPIRATION DATE: MAY 26, 2014.

STATE OF MARYLAND — CHRISTINE L. GUTSCHICK — No. 12975 — REGISTERED PROFESSIONAL ENGINEER

11-15-13

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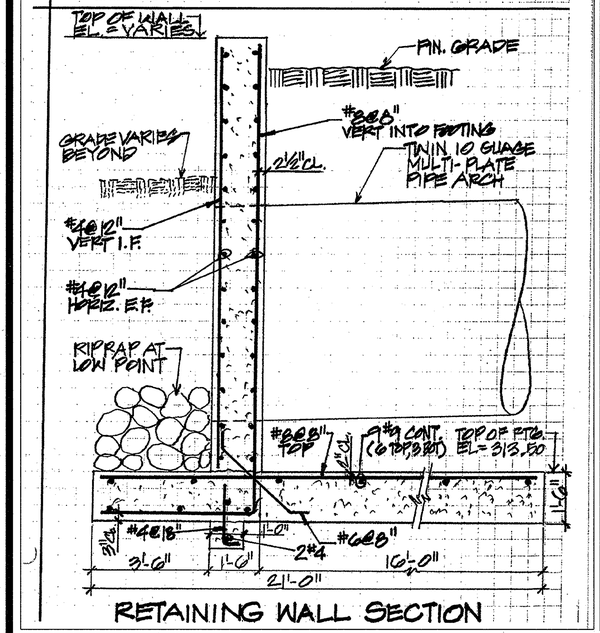
RATHGEBER/GOSS ASSOCIATES
Consulting Structural Engineers
15871 Crabbs Branch Way, Rockville, Maryland 20855
301/590-0071 Fax. 301/590-0073

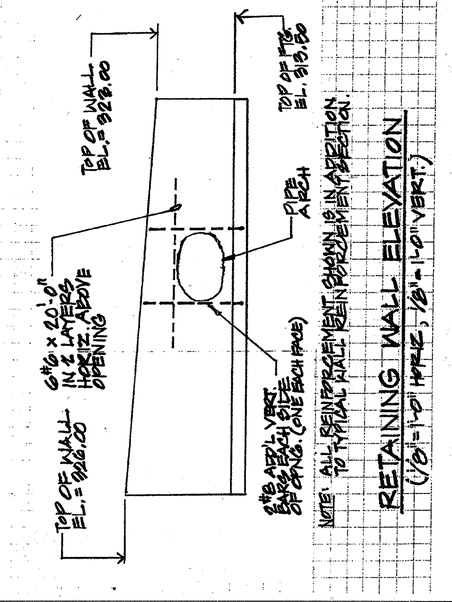
PROJECT WINCOPIA FARMS
CLIENT GUTSCHICK LITTLE & WEBER
JOB NO. 13014.04 DATE 10-22-13
ENGINEER MJG PAGE W1 OF 5



RETAINING WALL SECTION

RATHGEBER/GOSS ASSOCIATES
Consulting Structural Engineers
15871 Crabbs Branch Way, Rockville, Maryland 20855
301/590-0071 Fax. 301/590-0073

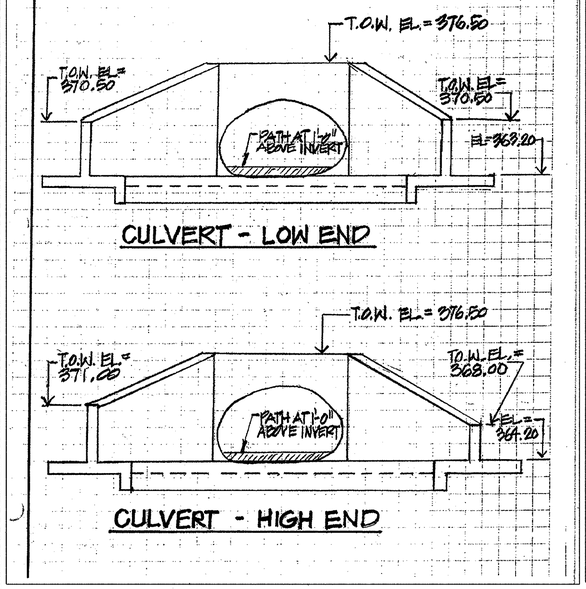
PROJECT WINCOPIA FARMS
CLIENT GUTSCHICK LITTLE & WEBER
JOB NO. 13014.04 DATE 10-22-13
ENGINEER MJG PAGE W2 OF 5



RETAINING WALL ELEVATION
(1/8" = 1'-0" HORIZ., 1/8" = 1'-0" VERT.)

RATHGEBER/GOSS ASSOCIATES
Consulting Structural Engineers
15871 Crabbs Branch Way, Rockville, Maryland 20855
301/590-0071 Fax. 301/590-0073

PROJECT WINCOPIA FARMS
CLIENT GUTSCHICK LITTLE & WEBER
JOB NO. 13014.04 DATE 10-22-13
ENGINEER MJG PAGE C1 OF 5

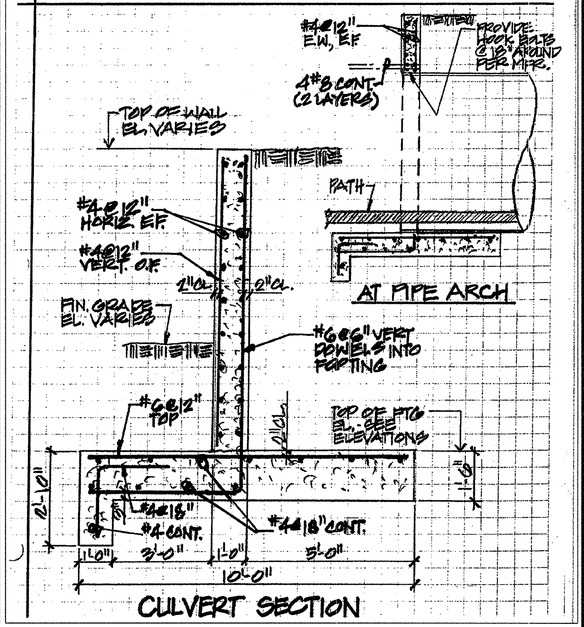


CULVERT - LOW END

CULVERT - HIGH END

RATHGEBER/GOSS ASSOCIATES
Consulting Structural Engineers
15871 Crabbs Branch Way, Rockville, Maryland 20855
301/590-0071 Fax. 301/590-0073

PROJECT WINCOPIA FARMS
CLIENT GUTSCHICK LITTLE & WEBER
JOB NO. 13014.04 DATE 5-8-13
ENGINEER MJG PAGE C2 OF 5



CULVERT SECTION

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12928, EXPIRATION DATE: 4-15-2014.

STATE OF MARYLAND — MICHAEL J. GOSS — No. 12928 — PROFESSIONAL ENGINEER

11-15-13

CULVERT AND UNDERPASS DETAILS

WINCOPIA FARMS
LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED	08052
DATE	TAX MAP – GRID	SHEET
NOV., 2013	47-3	62 OF 71

F-13-103

LANDSCAPE LEGEND

- 400 — EXISTING CONTOUR
- EXISTING TREELINE
- BOTTOM OF STREAM
- CENTERLINE OF STREAM
- SB — STREAM BUFFER
- LIMIT OF WETLAND
- WETLAND AREA
- WB — WETLAND BUFFER
- FCE — FCE — EXISTING FOREST CONSERVATION EASEMENT
- EASEMENT
- 20' BGE GREEN PLANTING ZONE
- 25' BGE YELLOW PLANTING ZONE
- AC — SHADE TREE
- EVERGREEN TREES
- ORNAMENTAL TREE
- STREET TREE

LANDSCAPE NOTES

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE & CHAPTER VI OF THE HOWARD COUNTY LANDSCAPE MANUAL AND SP-10-005.
2. CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST (5) FIVE DAYS BEFORE STARTING WORK. ALL GENERAL NOTES, ESPECIALLY THOSE REGARDING UTILITIES, ON SHEET No.1 SHALL APPLY.
3. FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND EXISTING CONDITIONS BEFORE STARTING PLANTING WORK. CONTACT CONSTRUCTION MANAGER OR OWNER IF ANY RELOCATIONS ARE REQUIRED.
4. PLANT QUANTITIES SHOWN ON THE PLANT LIST ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.
5. ALL PLANT MATERIAL SHALL BE FULL, HEAVY, WELL FORMED, SYMMETRICAL, AND CONFORM TO THE A.A.N. SPECIFICATIONS. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE LANDSCAPE MANUAL.
6. NO SUBSTITUTION SHALL BE MADE WITHOUT PRIOR APPROVAL FROM HOWARD COUNTY DPZ AND THE OWNER OR HIS REPRESENTATIVE.
7. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED, OR MULCHED SHALL BE SODDED OR SEEDED IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATION. A MINIMUM OF 4" OF TOPSOIL SHALL BE PROVIDED TO ALL PLANTING AREAS (FOR TOPSOIL SPEC. SEE SHEET 31).
8. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF HE/SHE ENCOUNTERS SOIL DRAINAGE CONDITIONS THAT MAY BE DETRIMENTAL TO THE GROWTH OF THE PLANTS.
9. ALL EXPOSED EARTH WITHIN THE LIMITS OF PLANTING BEDS SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH PER THE PLANTING DETAILS.
10. DO NOT PLANT WITHIN THE PUBLIC WATER, SEWER AND UTILITY EASEMENT.
11. "SCHEDULE A" AND "SCHEDULE-C" (SEE SHEET 65) ARE PROVIDED FOR LANDSCAPE SURETY CALCULATION PURPOSES. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING SHALL BE POSTED TO THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF $21,600.00 AS FOLLOWS:

    36 SHADE TREES AT $300/TREE = $ 10,800.00
    72 EVERGREEN TREES @ $150/TREE = $ 10,800.00

- FOR LANDSCAPE INSPECTION TO OBTAIN THE RELEASE OF THE SURETY, CONTACT HOWARD COUNTY DEPT. OF PLANNING & ZONING AT 410-313-2350.

NOTES:

1. AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
2. THE OWNER 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 MATERIAL TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE

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

DEVELOPER'S/OWNER'S DATE 11/18/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

NOTE: FOR MICRO-BIORETENTION PLANTINGS/QUANTIES INFORMATION SEE SHEETS 58-60.

PLANT LIST

SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT/COMMENTS
SHADE TREES				
AC	10	ACER GINNALA / AMUR MAPLE	2 1/2-3" Cal.	B4B
	26	ACER RUBRUM 'AUTUMN FLAME' / AUTUMN FLAME MAPLE QUERCUS PALUSTRIS / PIN OAK	2 1/2-3" Cal.	B4B; TO BE A MIXTURE OF THE 2 SHADE TREES IDENTIFIED
EVERGREEN TREES				
	52	PINUS STROBUS / WHITE PINE ILEX OPACA / AMERICAN HOLLY PICEA ABIES / NORWAY SPRUCE	6'-8' Ht.	B4B; TO BE A MIXTURE OF THE 3 EVERGREENS IDENTIFIED. MUST HAVE ONE MAIN CENTRAL LEADER.
	20	PICEA PUNGENS 'FAT ALBERT' / FAT ALBERT BLUE SPRUCE	6'-8' Ht.	B4B
ORNAMENTAL TREES				
	22	CERCIS CANADENSIS / EASTERN REDBUD	2 - 2 1/2" CAL 8-10' HT.	B4B, TREE FORM W/ 4' MIN. CLEAR TRUNK

THIS PLAN IS FOR PLANTING PURPOSES ONLY

STATE OF MARYLAND
Michael B. Trew
REGISTERED LANDSCAPE ARCHITECT
933
11-18-2013

0 20 50 100 200
1 inch = 100 ft.

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-LS.dwg | DES. DDS | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

LANDSCAPE & STREET TREE PLAN

WINCOPIA FARMS

LOTS 1-201, 208-220, 258-263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	63 OF 71

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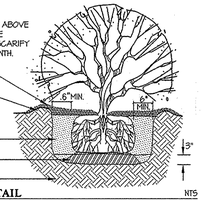
F-13-103

SYMBOL	ROAD NAME	QUANTITY	NAME (BOTANICAL/COMMON)	SIZE	REMARKS
⊙	WINCOPIA FARMS WAY HENRY HEARN WAY	161	ACER SACHARUM / GREEN MOUNTAIN SUGAR MAPLE	2 1/2" cal.	B & B FULL HEADS
	CYPRESS WAY ROWAN LANE ANISE COURT	155	QUERCUS RUBRA / NORTHERN RED OAK		
	FENNEL WAY CALLA COURT ERICA LANE BLUEBELL WAY FLORA COURT PEONY LANE	155	QUERCUS COCCINEA / SCARLET OAK		
	BALSAM WAY LOCH LESS LANE SIENNA WAY	67	QUERCUS PHELLOS / WILLOW OAK		

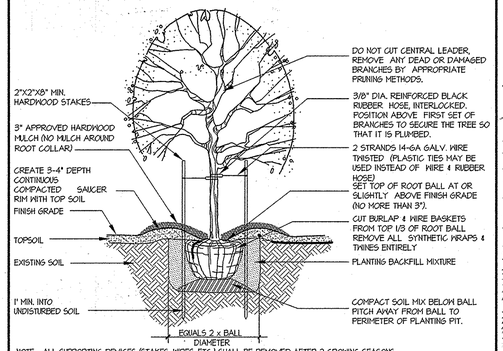
STREET TREE SCHEDULE

LINEAR FEET OF CURBLINE	21,533 L.F.
NUMBER OF STREET TREES REQUIRED: STREET TREES (1:40)	538
NUMBER OF STREET TREES PROVIDED STREET TREES OTHER TREES (2:1 SUBSTITUTION)	538 0

NOTE:
1. A 20' MINIMUM DISTANCE SHALL BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND ANY STREET LIGHT.



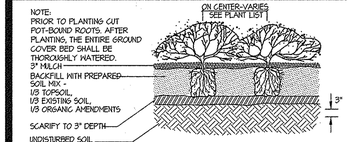
SHRUB PLANTING DETAIL NTS



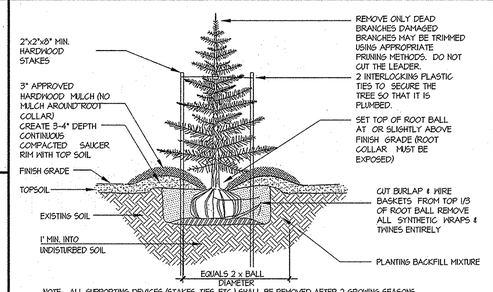
NOTE: ALL SUPPORTING DEVICES (STAKES, WIRES, ETC.) SHALL BE REMOVED AFTER 2 GROWING SEASONS.

DECIDUOUS TREE PLANTING DETAIL NTS

FOR PLANTING MATERIAL UP TO 3 1/2" CALIPER

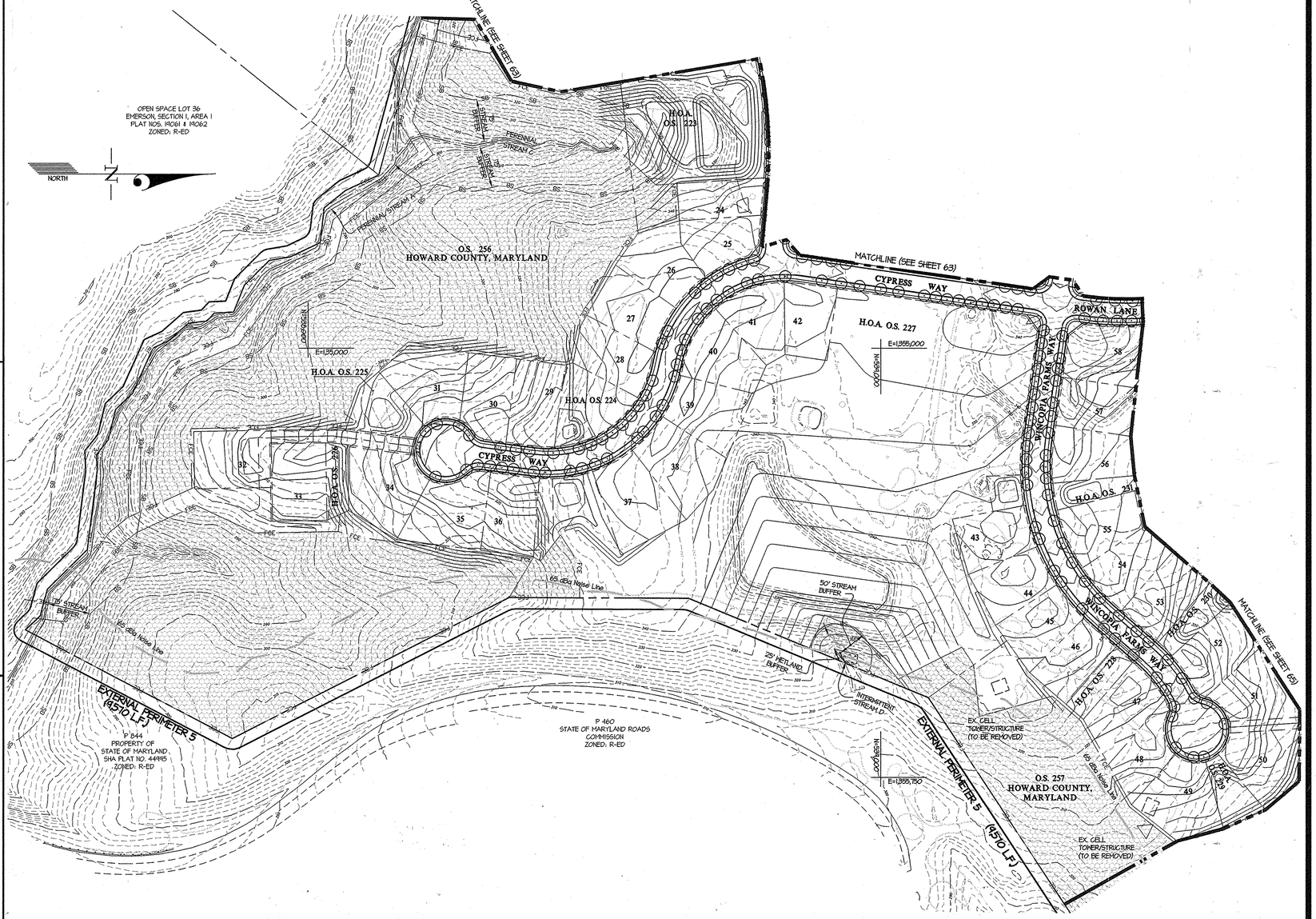


GROUNDCOVER PLANTING DETAIL NTS



NOTE: ALL SUPPORTING DEVICES (STAKES, TIES, ETC.) SHALL BE REMOVED AFTER 2 GROWING SEASONS.

EVERGREEN TREE PLANTING DETAIL NTS



0 20 50 100 200
1 inch = 100 ft.

STATE OF MARYLAND
Michael S. Traub
LANDSCAPE ARCHITECT
11-18-2013

THIS PLAN IS FOR PLANTING PURPOSES ONLY

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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L:\CADD\DRAWINGS\08052\FINALS\08052-LS.dwg | DES. DDS | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

LANDSCAPE & STREET TREE PLAN

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	64 OF 71

F-13-103

STATE OF MARYLAND
Michael E. Trice
REGISTERED 983 LANDSCAPE ARCHITECT
11-18-2013

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-5-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12-17-13

RESIDENTIAL LOT INTERNAL LANDSCAPING - SCHEDULE C

BUILDING TYPE	NUMBER OF PLANTS REQUIRED: SHADE TREES	SHRUBS	NOTES
SINGLE FAMILY ATTACHED	1 SHADE TREE PER SFA LOT (LOTS 191-194)	NONE REQUIRED	DEFERRED TO SDP
SINGLE FAMILY DETACHED	B-BUFFER SHALL BE PROVIDED FOR SIDE/REAR OF LOTS ORIENTED TO ROADWAY (LOTS 1, 14, 22, 25, 58, 62, 73, 84, 88, 91, 93, 100, 108, 109, 113, 115, 119, 124, 125, 130, 184 186-187, 189, 192-193, 196-197, 204-205, 212, 213 & 219)		DEFERRED TO SDP

THE BUFFERS SHOWN IN THE SCHEDULES ARE IN ACCORDANCE WITH THE LANDSCAPE MANUAL, CHAPTER IV, TABLE I.

EDGE TYPE	LANDSCAPE CHARACTER	SHADE TREES/L.F	EVERGREEN/L.F	SHRUBS/L.F
A	LIGHT BUFFER	1:60	0	0
B	MEDIUM BUFFER	1:50	1:40	0
C	HEAVY BUFFER	1:40	1:20	0

PERIMETER PLANTING - SCHEDULE A

PERIMETER	LAND USE	ADJACENT LAND USE	TYPE OF BUFFER	LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED.	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED.	NUMBER OF PLANTS REQUIRED: SHADE TREES	EVERGREEN TREES	SHRUBS	NUMBER OF PLANTS PROVIDED: SHADE TREES	EVERGREEN TREES
EXTERNAL PERIMETER 1	OPEN SPACE	ROADWAY	'C' Buffer	341'	YES, 112' (RETENTION OF EX. FOREST)	NO	4	8	0	4	17
EXTERNAL PERIMETER 2	OPEN SPACE	ROADWAY	'C' Buffer	538'	NO	NO	13	27	0	13	21
EXTERNAL PERIMETER 3	OPEN SPACE	ROADWAY	'C' Buffer	104'	NO	NO	3	5	0	3	0 *
EXTERNAL PERIMETER 4	OPEN SPACE	RESIDENTIAL	'C' Buffer	636'	NO	NO	16	32	0	16	28 *
EXTERNAL PERIMETER 5	OPEN SPACE	RESIDENTIAL	'A' Buffer	9,510'	YES, 9,560' (RETENTION OF EX. FOREST)	NO	0	0	0	0	0

* THE (5) REQUIRED EVERGREEN TREES FOR EXTERNAL PERIMETER 3 ARE RELOCATED AWAY FROM THE UNDERPASS FOR PEDESTRIAN SAFETY/SECURITY. ALSO, SOME (4) OF THE REQUIRED EVERGREEN TREES FOR EXTERNAL PERIMETER 4 ARE RELOCATED FOR THE SAME REASON. A 9 (TOTAL) TREES ARE RELOCATED TO EXTERNAL PERIMETER 1.

THIS PLAN IS FOR PLANTING PURPOSES ONLY

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-LS.dwg | DES. DDS | DRN. KLP | CHK. CKG

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

LANDSCAPE & STREET TREE PLAN

WINCOPIA FARMS
LOTS 1-20, 208-220, 258-263 & OPEN SPACE LOTS 221 THROUGH 257

L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	65 OF 71

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F-13-103

SIGNIFICANT / SPECIMEN TREE LIST				
TAG NO.	COMMON NAME	SCIENTIFIC NAME	DBH (IN.)	REMARKS / CONDITION
1	Tulip Poplar	Liriodendron tulipifera	45	GOOD
2	Tulip Poplar	Liriodendron tulipifera	36	GOOD
3	Tulip Poplar	Liriodendron tulipifera	31.5	GOOD
4	Tulip Poplar	Liriodendron tulipifera	34	GOOD
5	Tulip Poplar	Liriodendron tulipifera	45.5	GOOD
6	Tulip Poplar	Liriodendron tulipifera	36	POOR, Insect / Limb Damage
7	Tulip Poplar	Liriodendron tulipifera	38	FAIR, Limb Damage
8	Tulip Poplar	Liriodendron tulipifera	45.5	FAIR, Limb Damage
9	Tulip Poplar	Liriodendron tulipifera	45.5	FAIR, Multi-trunk
10	Tulip Poplar	Liriodendron tulipifera	36	GOOD
11	Tulip Poplar	Liriodendron tulipifera	41	FAIR, Limb Damage
12	American Sycamore	Platanus occidentalis	36	GOOD
13	Tulip Poplar	Liriodendron tulipifera	47	FAIR, Limb Damage
14	Tulip Poplar	Liriodendron tulipifera	30	POOR, Trunk / Limb Damage
15	Tulip Poplar	Liriodendron tulipifera	38	GOOD
16	Tulip Poplar	Liriodendron tulipifera	42	FAIR, Limb Damage
17	White Oak	Quercus alba	36	GOOD
18	Tulip Poplar	Liriodendron tulipifera	40	FAIR
19	Tulip Poplar	Liriodendron tulipifera	38	GOOD
20	Tulip Poplar	Liriodendron tulipifera	31	GOOD
21	Tulip Poplar	Liriodendron tulipifera	36	FAIR, Limb Damage
22	Tulip Poplar	Liriodendron tulipifera	31	GOOD
23	Tulip Poplar	Liriodendron tulipifera	36	FAIR, Limb Damage
24	Tulip Poplar	Liriodendron tulipifera	38	FAIR, Limb Damage
25	Tulip Poplar	Liriodendron tulipifera	36	FAIR, Limb Damage
26	Northern Red Oak	Quercus rubra	38.5	FAIR, Trunk Damage
27	Tulip Poplar	Liriodendron tulipifera	39	GOOD
28	Tulip Poplar	Liriodendron tulipifera	38	GOOD
29	Tulip Poplar	Liriodendron tulipifera	48	DEAD
30	Tulip Poplar	Liriodendron tulipifera	40	FAIR, Insect Damage / Trunk Rot
31	Southern Red Oak	Quercus falcata	46	GOOD
32	Black Cherry	Prunus serotina	39	POOR
33	Norway Maple	Acer platanoides	38	GOOD
34	Norway Maple	Acer platanoides	52.5	FAIR, Limb Damage
35	Linden	Tilia sep.	47.5	FAIR, Limb Damage
36	Tulip Poplar	Liriodendron tulipifera	39	FAIR, Small Trunk Dead
37	White Oak	Quercus alba	44	FAIR, Trunk Damage

NOTE: WP-11-076 WAS APPROVED ON 11-17-10 TO WAIVE SUBSECTION 16.1205(a)(10) OF THE HOWARD COUNTY CODE TO ALLOW REMOVAL OF 6 SPECIMEN TREES WITHIN THE PROPOSED DEVELOPMENT LIMITS AND THE SEWER ALIGNMENT IS DESIGNED TO MINIMIZE IMPACTS TO SPECIMEN TREES.

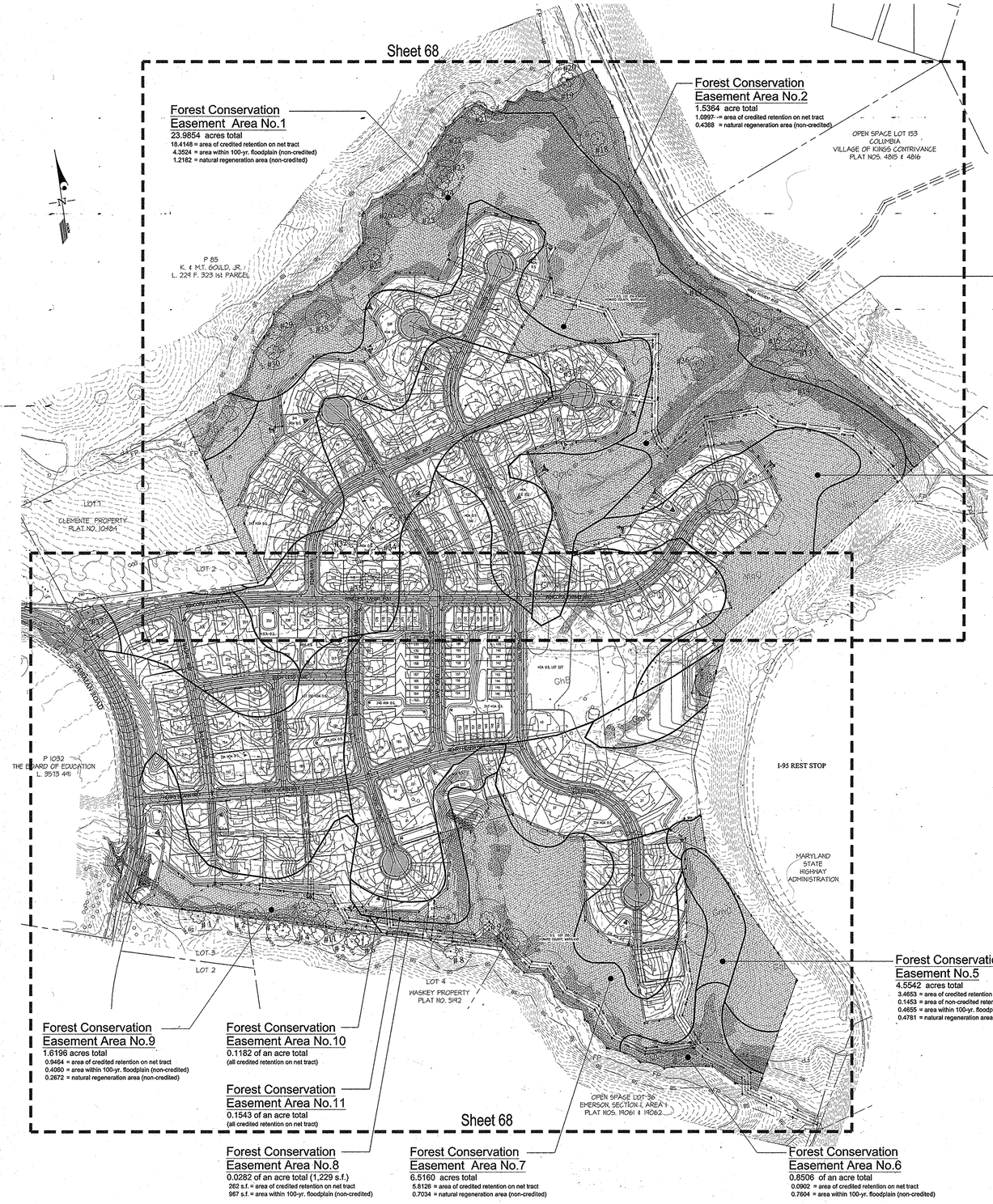
SOIL TYPES

CeB Chillum loam, 2 to 5 percent slopes
Co Codorus and Hatboro silt loams, 0 to 3 percent slopes
GgA Glenelg loam, 0 to 3 percent slopes
GgB Glenelg loam, 3 to 8 percent slopes
GgC Glenelg loam, 8 to 15 percent slopes
GkB Glenelg-Urban land complex, 0 to 8 percent slopes
GmB Glenville silt loam, 3 to 8 percent slopes
GmC Glenville silt loam, 8 to 15 percent slopes
GnB Glenville-Baile silt loams, 0 to 8 percent slopes
GoB Glenville-Codorus silt loams, 0 to 8 percent slopes
LaC Legore silt loam, 8 to 15 percent slopes
LaB Legore silt loam, 3 to 8 percent slopes, stony
LaC Legore silt loam, 8 to 15 percent slopes, stony
LmB Legore-Montalto silt loams, 3 to 8 percent slopes
LoB Legore-Montalto-Urban land complex, 0 to 8 percent slopes
LoC Legore-Montalto-Urban land complex, 8 to 15 percent slopes
LrD Legore-Relay gravelly loams, 15 to 25 percent slopes, very stony
LrF Legore-Relay gravelly loams, 25 to 65 percent slopes, very stony
MaB Manor Loam, 3 to 8 percent slopes
MaC Manor Loam, 8 to 15 percent slopes
MaD Manor Loam, 15 to 25 percent slopes
MaD Manor Loam, 15 to 25 percent slopes, very rocky
MkF Manor Brinklow complex, 25 to 65 percent slopes, very rocky
MoB Mount Lucas silt loam, 3 to 8 percent slopes, stony
MoC Mount Lucas silt loam, 8 to 15 percent slopes, stony
RaB Russett fine sandy loam, 2 to 5 percent slopes
RuB Russet and Beltsville soils, 2 to 5 percent slopes
RuC Russet and Beltsville soils, 5 to 10 percent slopes
SaB Sassafras loam, 2 to 5 percent slopes
SaC Sassafras loam, 5 to 10 percent slopes
SfB Sassafras gravelly sandy loam, 2 to 5 percent slopes
SrD Sassafras and Croom soils, 10 to 15 percent slopes
UaF Udorthents, Highway, 0 to 65 percent slopes
UeE Udorthents, 0 to 45 percent slopes, Gravel pits
W Water
WcB Watchung silt loam, 3 to 8 percent slopes, stony

FOREST NARRATIVE

THE SITE IS CURRENTLY IN AGRICULTURAL USE. THE CENTRAL AREA OF THE SITE IS FAIRLY FLAT, AND IS USE AS A NURSERY AND GREENHOUSE OPERATION. A WIDE BAND OF FOREST FRAMES THE SITE ON THE NORTH, EAST, AND SOUTHERN BOUNDARY LINES. THE EXISTING FOREST COVERS APPROXIMATELY 55.8% OF THE 127.59 AC SITE.

APPROXIMATELY HALF OF THE FOREST IS LOCATED WITHIN ENVIRONMENTAL BUFFERS OR STEEP SLOPES. THE MAJORITY OF THESE AREA WILL REMAIN UNDISTURBED, WITH THE EXCEPTION OF CLEARING FOR UTILITY CONNECTIONS. THE REMAINING FOREST OUTSIDE OF THE ENVIRONMENTAL BUFFERS WILL ALSO BE PRESERVED TO CREATE A BUFFER BETWEEN THE SITE AND THE ADJACENT PROPERTIES.



LEGEND

- EXISTING STRUCTURES (ALL TO BE RAZED)
- 123 — PROPOSED HOUSE & LOT NUMBER
- FOREST CLEARING **
- FOREST RETENTION **
- NON-CREDITED NATURAL REGENERATION **
- 100-YR FLOOD PLAIN
- WETLAND
- FCE — FOREST CONSERVATION EASEMENT AREA
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINES
- FOREST CONSERVATION SIGNS (FINAL LOCATION ALONG FCE)
- SLOPES 25% AND STEEPER
- #18 — FIELD SURVEYED TREE CRITICAL ROOT ZONE
- ChC3 — SOIL DELINEATION
- FCE — FOREST CONSERVATION EASEMENT
- TPF — TREE PROTECTION FENCE **
- FP — FLOODPLAIN
- WB — WETLAND BUFFER
- STREAM
- SB — STREAM BUFFER
- LIMIT OF DISTURBANCE**

** FOR CLARITY, THESE PATTERNS & LINE TYPES ARE NOT SHOWN ON THE 200-SCALE OVERVIEW WHICH WOULD MAKE THE PLAN ILLEGIBLE. THESE PATTERNS & LINE TYPES ARE SHOWN ON THE 100-SACLE DRAWINGS, ON SHEETS 67 & 68.

STATE OF MARYLAND
Michael B. Tran
REGISTERED
933
LANDSCAPE ARCHITECT
11.18.2013

DNR WATERSHED No.: 2131106 (MIDDLEPATUXENT RIVER)

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12-17-13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

SCALE: 1" = 200'
0' 50'100' 200' 300' 400'

FOREST CONSERVATION PLAN (Overview)

WINCOPIA FARMS
LOTS 1-201, 208-220, 258-263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=200'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	66 of 71

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F-13-103

MATCH SHEET 68

MATCH SHEET 68

GORMAN ROAD

PEONY LANE

BASSAM WAY

SERENA WAY

ERICA LANE

CYPRESS WAY

FLORA FORT

TOOTH LESS LANE

HENRY HEARN WAY

P/O 1032
THE BOARD OF EDUCATION
L. 3513 441

LOT 3

LOT 2

LOT 4
MASKEY PROPERTY
PLAT NO. 5182

HOA O.S. LOT 227

HOA O.S. LOT 255
HOWARD COUNTY, MARYLAND

OPEN SPACE LOT 36
EMERSON, SECTION 1, AREA 1
PLAT NOS. 19061 & 19062

MARYLAND STATE HIGHWAY ADMINISTRATION

LEGEND

- EXISTING STRUCTURES (ALL TO BE RAZED)
- 123 — PROPOSED HOUSE & LOT NUMBER
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- FOREST RETENTION
- NON-CREDITED NATURAL REGENERATION
- 100-YR FLOOD PLAIN
- WETLAND
- FOREST CONSERVATION EASEMENT AREA
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINES
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- SLOPES 25% AND STEEPER
- #18 — FIELD SURVEYED TREE CRITICAL ROOT ZONE
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- FP — FLOODPLAIN
- WB — WETLAND BUFFER
- STREAM
- SB — STREAM BUFFER
- LIMIT OF DISTURBANCE

0.21± ACRES OF NET TRACT CLEARING (9,130 s.f.)

17,635 S.F. NATURAL REGENERATION AREA

0.6464 ACRES CREDITED RETENTION (on net tract)

100-YR. FLOODPLAIN AREA W/N FCE No.9 17,615 S.F.

0.5202 ACRE OF NET TRACT CLEARING (22,227 s.f.)

100-YR. FLOODPLAIN AREA W/N FCE No.9 72 S.F.

100-YR. FLOODPLAIN AREA W/N FCE No.8 967 S.F.

30,640 S.F. NATURAL REGENERATION AREA

5.8126± ACRES CREDITED RETENTION

5.0987± ACRES OF NET TRACT CLEARING (222,100 s.f.)

100-YR. FLOODPLAIN AREA W/N FCE No.6 33,123 S.F.

0.266± ACRE OF NET TRACT CLEARING (11,607 s.f.)

3,064 S.F. NON-CREDITED RETENTION

4,499 S.F. NATURAL REGENERATION AREA

PART OF FOREST CONSERVATION EASEMENT AREA No.4

I-95 REST STOP

6,330 S.F. NON-CREDITED RETENTION

20,826 S.F. NATURAL REGENERATION AREA

3.4653 ACRES CREDITED RETENTION (on net tract)

100-YR. FLOODPLAIN AREA W/N FCE No.5 20,276 S.F.

8,274 S.F. OF PUBLIC SEWER & UTILITY EASEMENT ON THE EMERSON PROPERTY. THE FORESTED CONSERVATION OBLIGATION FOR THE CLEARING IN THIS EASEMENT IS PROVIDED "OFF-SITE" AT WINCOPIA FARM (see the footnote at below the Forest Conservation Worksheet on Sheet 69).

Forest Conservation Easement Area No.5

4.5542 acres total
- 3.4653 = area of credited retention on net tract
- 0.1453 = area of non-credited retention on net tract
- 0.4655 = area within 100-yr. floodplain (non-credited)
- 0.4781 = natural regeneration area (non-credited)

Forest Conservation Easement Area No.9

1.6196 acres total
- 0.9464 = area of credited retention on net tract
- 0.4060 = area within 100-yr. floodplain (non-credited)
- 0.2672 = natural regeneration area (non-credited)

Forest Conservation Easement Area No.8

0.0282 of an acre total (1,229 s.f.)
- 262 s.f. = area of credited retention on net tract
- 967 s.f. = area within 100-yr. floodplain (non-credited)

Forest Conservation Easement Area No.7

6.5160 acres total
- 5.8126 = area of credited retention on net tract
- 0.7034 = natural regeneration area (non-credited)

Forest Conservation Easement Area No.10

0.1182 of an acre total
(all credited retention on net tract)

Forest Conservation Easement Area No.11

0.1543 of an acre total
(all credited retention on net tract)

Forest Conservation Easement Area No.6

08506 of an acre total
- 0.0902 = area of credited retention on net tract
- 0.7604 = area within 100-yr. floodplain (non-credited)

NOTE: ALL FOREST CONSERVATION EASEMENTS (FCE'S) MUST BE DEVOID OF TRASH, DEBRIS, STRUCTURES, FENCES, ETC.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

STATE OF MARYLAND
Michael B. Traub
No. 983
REGISTERED LANDSCAPE ARCHITECT
11.18.2013

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
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DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

SCALE: 1" = 100'

0' 25' 50' 100' 150' 200'

FOREST CONSERVATION PLAN

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	67 of 71

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LEGEND

- EXISTING STRUCTURES (ALL TO BE RAZED)
- 123 — PROPOSED HOUSE & LOT NUMBER
- FOREST CLEARING
- FOREST RETENTION
- NON-CREDITED NATURAL REGENERATION
- 100-YR FLOOD PLAIN
- WETLAND
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- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREE LINES
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- SLOPES 25% AND STEEPER
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- TPF — TREE PROTECTION FENCE
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- WB — WETLAND BUFFER
- STREAM
- SB — STREAM BUFFER
- LIMIT OF DISTURBANCE

NOTE: ALL FOREST CONSERVATION EASEMENTS (FCE'S) MUST BE DEVOID OF TRASH, DEBRIS, STRUCTURES, FENCES, ETC.

Forest Conservation Easement Area No.1

23.9854 acres total

18.4148 = area of credited retention on net tract
4.3524 = area within 100-yr. floodplain (non-credited)
1.2182 = natural regeneration area (non-credited)

Forest Conservation Easement Area No.2

1.5364 acres total

1.0997 = area of credited retention on net tract
0.4368 = natural regeneration area (non-credited)

Forest Conservation Easement Area No.3

3.3592 acres total

2.8007 = area of credited retention on net tract
0.5585 = natural regeneration area (non-credited)

Forest Conservation Easement No.4

5.1822 acres total

4.6595 = area of credited retention on net tract
0.0703 = area of non-credited retention on net tract
0.4524 = natural regeneration area (non-credited)

STATE OF MARYLAND
Michael B. Tran
593
REGISTERED LANDSCAPE ARCHITECT
11-18-2013

P 85
K. & M.T. GOULD, JR.
L. 224 F. 329 1st PARCEL

100-YR. FLOODPLAIN AREA W/N FCE No.1 4.35± ACRES (189,591s.f.)

17.0476± ACRES CREDITED RETENTION (on net tract on this side clearing area behind OS Lot 241)

21,966 S.F. NATURAL REGENERATION AREA

4,872 S.F. NATURAL REGENERATION AREA

9.9723± ACRES OF NET TRACT CLEARING (434,394 s.f.)

O.S. LOT 256 HOWARD COUNTY, MARYLAND

356 S.F. NATURAL REGENERATION AREA

19,026 S.F. NATURAL REGENERATION AREA

18,491 S.F. NATURAL REGENERATION AREA (including 1,527 s.f. w/in floodplain)

2,001 S.F. NET TRACT CLEARING

47,901 S.F. CREDITED RETENTION

59,555 S.F. CREDITED RETENTION (ON WEST SIDE OF CLEARING AREA)

8,906 S.F. NATURAL REGENERATION AREA

LOT 1

CLEMENTE PROPERTY PLAT NO. 10484

LOT 2

24,327 S.F. NATURAL REGENERATION AREA

2.8007± ACRES CREDITED RETENTION

4,470 S.F. NATURAL REGENERATION AREA

4.6595± ACRES CREDITED RETENTION (on net tract)

10,738 S.F. NATURAL REGENERATION AREA

0.331± ACRE OF NET TRACT CLEARING (14,500 s.f.)

10.369± ACRES OF NET TRACT CLEARING (451,693 s.f.)

AREA OF CLEARING FOR NEW SEWER MAIN ON THE S.H.A. PROPERTY SHALL BE REPLANTED ELSE WHERE ON S.H.A. PROPERTY IN ACCORDANCE WITH THE AGREEMENT WITH S.H.A.

OPEN SPACE LOT 153
COLUMBIA
VILLAGE OF KINGS CONTRIVANCE
PLAT NOS. 4815 & 4816

MIDDLE PATUXENT RIVER

CALLE COURT

FENNEL WAY

BEEBREE WAY

WINCOPIA FARMS WAY

MATCH SHEET 67

H.O.A. O.S.

NORTH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 12-20-13
Chief, Development Engineering Division — Date 12.17.13

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DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

SCALE: 1" = 100'
0' 25' 50' 100' 150' 200'

FOREST CONSERVATION PLAN

WINCOPIA FARMS

LOTS 1 -201, 208 - 220, 258 - 263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
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F-13-103

FOREST CONSERVATION WORKSHEET

Project Name: **WINCOPIA FARMS** DPZ File No.: **F-13-103**

		Acreage
1	**Site Data**	
A.	Gross Site Area	127.598
B.	Area within 100-yr floodplain, if any	6.110
C.	Area of existing easement for major utility transmission lines, if any	0.000
D.	Area of external public road (frontage) dedication, if any	0.000
E.	Net Tract Area	121.488
F.	Land Use Category	Residential - Suburban
2	**Input Data**	
A.	Net Tract Area	121.488
B.	Reforestation Threshold (percent of net tract = 20 %)	24.298
C.	Afforestation Threshold (percent of net tract = 15 %)	18.223
D	Existing Forest on Net Tract Area	64.589
E.	Forest Clearing on Net Tract Area	26.806
F.	Forest Retention on Net Tract Area	37.783
3	**Reforestation and/or Afforestaion Calculations**	
A.	Net tract forest clearing **above** reforestation threshold, if applicable	26.806
B.	Net tract forest clearing **below** reforestation threshold, if applicable	0.000
C.	Planting up to afforestation threshold, if applicable	0.000
D.	Reforestation planting required for clearing **above** threshold (3A x 0.25)	6.701
E,	Reforestation planting required for clearing **below** threshold (3B x 2.0)	0.000
F.	Net tract forest retention above reforestation threshold (2F-2B, available credit)	13.485
G.	Debit to retention credit to satisfy off-site forest conservation obligation **	-0.380
H.	Remaining available credit (3F-3G)	13.106
I	Total reforestation planting required (3C+3D+3E - 3F)	0.000
4	**Break Even Point (BEP) Calculations**	
A.	Maximum clearing allowed with no reforestation planting (2D-2B)/1.25	32.233
B.	Minimum net tract retention at BEP 0.20(2D-2B)+2B or 2D-4A	32.356
5	**Forest Conservation Required**	
A.	Minimum retention required with no reforestation planting (BEP, 4B)	32.356
B.	Total net tract retention to be recorded within on-stie FCEs	37.783
	EXCESS RETENTION TO BE BANKED	5.427 AC.

** The subtraction (in line 3G) to the available credited forest retention area is to satisfy the off-site forest conservation obligation associated with the water & sewer main extension into the adjacent Emerson Property. That extension requires approximately 8,274 s.f. of public water, sewer & utility easement area on the Emerson Property; therefore, the subtraction amount is 16,548 s.f. (which is 2 x 8274) or 0.38 of an acre.

FOREST CONSERVATION ACREAGE TABULATION

Forest Conservation Easement No.	Credited Retention Area on Net Tract	Non-Credited Retention Area on Net Tract	100-yr floodplain area within FCE (non-credited)	Non-credited Area of Natural Regeneration	Total Area of Forest Conservation Easement (non-credited portion is in parenthesis)	
FCE-1	18.4148	0.0	4.3524	1.2182	23.9854	(5.5706)
FCE-2	1.0997	0.0	0.0	0.4368	1.5364	(0.4368)
FCE-3	2.8007	0.0	0.0	0.5585	3.3592	(0.5585)
FCE-4	4.6595	0.0703	0.0000	0.4524	5.1822	(0.5228)
FCE-5	3.4653	0.1453	0.4655	0.4781	4.5542	(1.0889)
FCE-6	0.0902	0.0	0.7604	0.0000	0.8506	(0.7604)
FCE-7	5.8126	0.0	0.0000	0.7034	6.5160	(0.7034)
FCE-8	0.0060	0.0	0.0222	0.0000	0.0282	(0.0222)
FCE-9	0.9464	0.0	0.4060	0.2672	1.6196	(0.6732)
FCE-10	0.1182	0.0	0.0	0.0	0.1182	(0.00)
FCE-11	0.1543	0.0	0.0	0.0	0.1543	(0.00)
TOTAL	37.5676	0.2157	6.0065	4.1145	47.9043	(10.3367)

FOREST CONSERVATION OBLIGATION SUMMARY

THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION (WINCOPIA FARMS) ARE MET BY THE CREATION OF ELEVEN (11) FOREST CONSERVATION EASEMENTS THAT CONTAIN MORE THAN THE BREAK-EVEN POINT MINIMUM ACREAGE FOR CREDITED RETENTION.

THE MAXIMUM CLEARING AREA AT THE BREAK-EVEN POINT IS 32.2± ACRES AND THE PROPOSED CLEARING AREA FOR THIS DEVELOPMENT IS LESS THAN THAT AMOUNT. THE MINIMUM CREDITED RETENTION AREA AT THE BREAK-EVEN POINT IS 32.3± ACRES AND THE PROPOSED CREDITED RETENTION AREA WITHIN THE ELEVEN FCES IS MORE THAN 37 ACRES; THEREFORE, AN EXCESS OF CREDITED RETENTION ACREAGE IS AVAILABLE THAT COULD BE APPLIED TO FOREST CONSERVATION OBLIGATION FROM OFF-SITE DEVELOPMENTS OR POSSIBLE ADDITIONAL CLEARING ON-SITE.

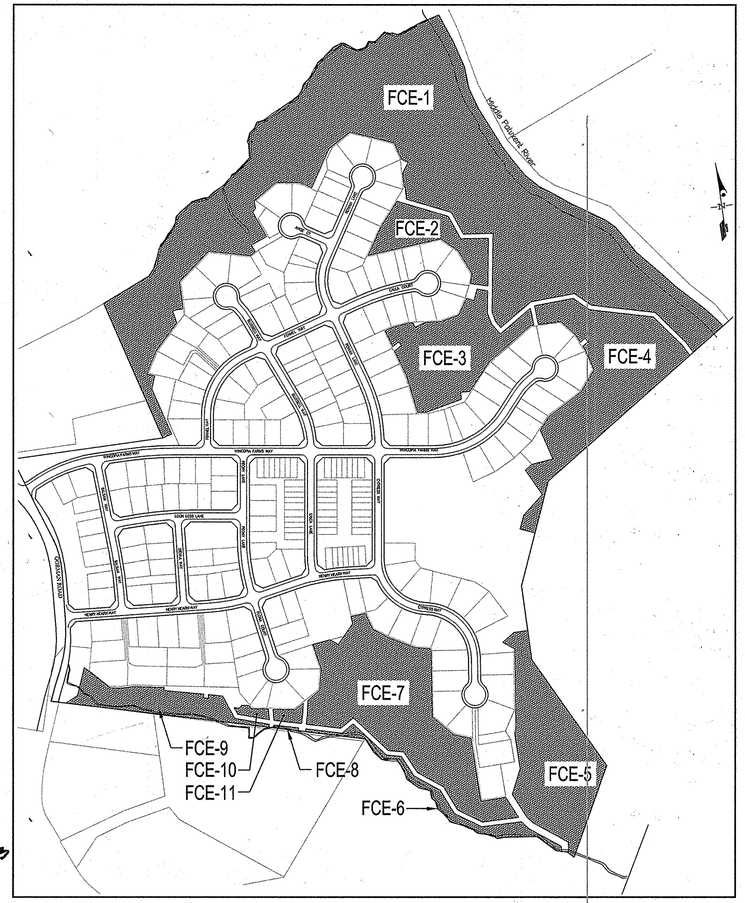
AS INDICATED IN THE FOREST CONSERVATION WORKSHEET THE AVAILABLE RETENTION CREDIT FOR THIS SUBDIVISION IS DEBITED BY 0.38 OF AN ACRE TO SATISFY THE FOREST CONSERVATION OBLIGATION FOR THE EXTENSION OF A PUBLIC WATER/SEWER MAIN AND APPURTENANCES INTO THE ADJACENT EMERSON PROPERTY.

FOREST BANK TRACKING CHART

DPZ FILE NUMBER	PROJECT NAME	FOREST CONSERVATION BANK USED	REMAINING BANK AREA
F-13-103	WINCOPIA FARMS	----	5.427 Ac.

FCE LOCATION DIAGRAM

SCALE: 1" = 300'



TREE PLANTING AND MAINTENANCE CALENDAR

TASKS	MONTHS: JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC
TRANSPLANT OF 2" DBH OR GREATER	▨ ▨
PLANTING SEEDINGS, WHIPS	▨ ▨
MINIMUM MONITORING	* * *
FERTILIZER + (IF NEEDED)	▭ ▭
WATER ++	▭ ▭
PRUNING	▭ ▭ ▭

KEY

* ACTIVITIES DURING THESE MONTHS ARE DEPENDENT UPON GROUND CONDITIONS

▨ GREATLY RECOMMENDED

▨ RECOMMENDED WITH ADDITIONAL CARE

▭ RECOMMENDED

\+ DEPENDENT UPON SITE CONDITIONS

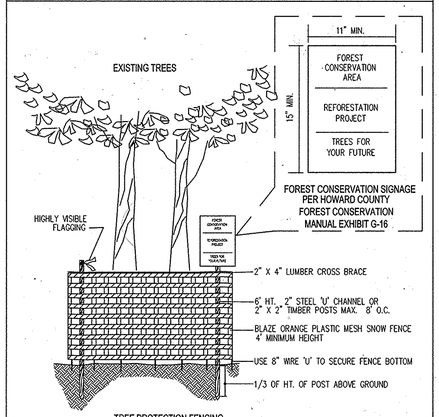
++ DEPENDENT UPON SITE CONDITIONS; WEEKLY WATERING IS GREATLY RECOMMENDED FROM MAY THROUGH OCTOBER UNLESS WEEKLY RAINFALL EQUALS 1"

NOTE:
THE PLANTING AND CARE OF TREES IS MOST SUCCESSFUL WHEN COORDINATED WITH THE LOCAL CLIMATIC CONDITIONS. THIS CALENDAR SUMMARIZES SOME OF THE RECOMMENDED TIME FRAMES FOR BASIC REFORESTATION AND STRESS REDUCTION ACTIVITIES.

SOURCE: ADAPTED FROM THE MARYLAND STATE FOREST CONSERVATION MANUAL

TREE PROTECTION FENCE & FOREST CONSERVATION SIGNAGE

NOT TO SCALE



TREE PROTECTION FENCING

NOTES:

1. THE TREE PROTECTION FENCING SHOWN ON THESE PLANS IS TEMPORARY AND SHALL REMAIN IN PLACE DURING CONSTRUCTION ACTIVITY, BUT THE FOREST CONSERVATION SIGN IS PERMANENT AND SHALL REMAIN IN PLACE AROUND THE FOREST CONSERVATION EASEMENTS AFTER THE REMOVAL OF THE TREE PROTECTION FENCING. WHERE SUPER SILT FENCE REQUIRED ALONG AN MODDED LIMIT OF DISTRUBANCE/CLEARING, THE INSTALLATION OF THIS FENCE CAN BE OMITTED OR DELAYED AT THE DISCRETION OF THE INSPECTOR.
2. FOREST CONSERVATION SIGNS SHALL BE INSTALLED ALONG THE PERIMETER OF THE CONSERVATION EASEMENT AT 50' TO 100' APART.
3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.

GENERAL NOTES

1. THIS RETENTION PLAN IS PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF SUBTITLE 12 "FOREST CONSERVATION" OF THE HOWARD COUNTY CODE.
2. IMPLEMENTATION OF THIS PLAN MUST BE PERFORMED BY A CONTRACTOR THAT IS KNOWLEDGEABLE AND EXPERIENCED IN AFFORESTATION/REFORESTATION TECHNIQUES AND PRACTICES.
3. THE OWNER IS RESPONSIBLE FOR A 2-YEAR (MIN.) POST-CONSTRUCTION MAINTENANCE PERIOD WHICH INVOLVES ACTIVITIES NECESSARY TO ENSURE SURVIVAL AND GROWTH OF THE CONSERVATION AREA. TWO INSPECTIONS PER YEAR BY A QUALIFIED PROFESSIONAL AT BEGINNING AND END OF THE GROWING SEASON, ARE RECOMMENDED IN ORDER TO TAKE REMEDIAL STEPS AS NECESSARY. IF, AFTER ONE YEAR, THE POSSIBILITY EXISTS THAT THE ORIGINAL PLANTING (IF APPLICABLE) WILL NOT MEET SURVIVAL RATE STANDARDS, THE APPLICANT MAY CHOOSE TO ESTABLISH REINFORCEMENT PLANTINGS.
4. AT THE END OF THE POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD, CERTIFICATION BY A QUALIFIED CONSULTANT WILL BE REQUIRED BEFORE TO THE OWNER CAN BE RELEASED FROM HIS/HER FOREST CONSERVATION OBLIGATION TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.
5. THE DEVELOPER/BUILDER SHALL (IN WRITING) NOTIFY ALL HOME OWNERS IN THIS DEVELOPMENT OF THE EXISTENCE OF FOREST CONSERVATION AREAS AND THAT DISTURBANCE TO THE FOREST CONSERVATION AREAS OR THE REMOVAL OF FOREST CONSERVATION SIGNS IS PROHIBITED.
6. WHERE APPLICABLE, REFORESTATION/AFFORESTATION TREE PLANTINGS SHOULD BE INSTALLED IN A CURVILINEAR PATTERN TO FACILITATE MAINTENANCE BUT AVOID A GRID APPEARANCE. EACH SPECIES OF TREE SHALL BE DISTRIBUTED EVENLY WITHIN EACH FOREST CONSERVATION EASEMENT AREA.

CONSTRUCTION PERIOD PROTECTION PROGRAM

1. THE LIMIT OF FOREST RETENTION SHALL BE STAKED AND FLAGGED.
2. A PRE-CONSTRUCTION MEETING AT THE SITE SHOULD BE HELD TO CONFIRM THE LIMITS OF CLEARING SPECIFIED. THE MEETING SHOULD INCLUDE THE OWNER OR THE OWNER'S REPRESENTATIVE, THE ON-SITE FOREMAN IN CHARGE OF LAND DISTURBANCE, THE ENVIRONMENTAL CONSULTANT AND THE APPROPRIATE HOWARD COUNTY INSPECTORS.
3. FOREST PROTECTION DEVICES AND SIGNS (SEE DETAILS) SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING. THE PROTECTION DEVICES AND SIGNS SHALL BE MAINTAINED DURING THE ENTIRE CONSTRUCTION PERIOD. NONE OF THE DEVICES SHALL BE ANCHORED OR ATTACHED IN ANY WAY TO THE TREES TO BE SAVED.
4. EQUIPMENT, VEHICLES AND BUILDING MATERIALS SHALL NOT BE WITHIN THE PROTECTED AREA. ACTIVITIES STRICTLY TO IMPLEMENT ANY REFORESTATION PLANTING AND MAINTENANCE (I.E. WATERING, FERTILIZING THINNING, PRUNING, REMOVAL OF DEAD AND DISEASED TREES WHERE NECESSARY, ETC.) OF THE CONSERVATION AREA ARE PERMITTED. CLEARING FOR THE PURPOSE OF SODDING OR PLANTING GRASS IS NOT PERMITTED WITHIN THE FOREST CONSERVATION AREAS ONCE THEY'RE ESTABLISHED.
5. AT THE END OF THE CONSTRUCTION PERIOD, THE DESIGNATED QUALIFIED PROFESSIONAL SHALL CONVEY TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM CERTIFICATION THAT ALL FOREST RETENTION AREAS HAVE BEEN PRESERVED, ALL REFORESTATION AND/OR AFFORESTATION PLANTINGS (IF APPLICABLE) HAVE BEEN INSTALLED AS REQUIRED BY THE FOREST CONSERVATION PLAN, AND THAT ALL PROTECTION MEASURES REQUIRED FOR THE POST-CONSTRUCTION PERIOD HAVE BEEN INSTALLED. UPON REVIEW OF THE FINAL CERTIFICATION DOCUMENT FOR COMPLETENESS AND ACCURACY, THE PROGRAM COORDINATOR WILL NOTIFY THE OWNER OF RELEASE FROM THE CONSTRUCTION PERIOD OBLIGATIONS. THE 2-YEAR (MIN.) POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD THEN COMMENCES.

FOREST CONSERVATION PROGRAM SEQUENCE

1. OBTAIN ALL NECESSARY PERMITS.
2. STAKEOUT LIMITS OF DISTURBANCE.
3. FIELD MEETING TO REVIEW AND VERIFY LIMIT OF DISTURBANCE FOR THE SITE GRADING AND CONSTRUCTION.
4. INSTALL FOREST CONSERVATION SIGNS AND FOREST PROTECTION DEVICES (FENCES) ALONG THE PORTION OF THE LIMIT OF DISTURBANCE (THAT INVOLVES CLEARING AND/OR RETENTION OF TREES).
5. COMMENCE SITE CONSTRUCTION.
6. PREPARE SITE SOIL BY MULCHING AND REMOVAL OF TRASH AND WEEDS INCLUDING AN APPLICATION OF HERBICIDES TO CONTROL NOXIOUS WEEDS AND INVASIVE SPECIES.
7. INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE CONSTRUCTION PERIOD OBLIGATIONS; START OF POST-CONSTRUCTION MANAGEMENT PERIOD. ALL FOREST CONSERVATION EASEMENTS (FCE's) MUST BE DEVOID OF TRASH, DEBRIS, STRUCTURES, FENCES, ETC.
8. POST-CONSTRUCTION MANAGEMENT FOR A PERIOD OF 2 YEARS (MIN.).
9. FINAL INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE OWNER'S FOREST CONSERVATION OBLIGATIONS.

STATE OF MARYLAND
Michael P. Tran
933
REGISTERED LANDSCAPE ARCHITECT
11.18.2013

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

L:\CADD\DRAWINGS\08052\FINALS\08052-FINAL FCP.dwg | DES. mbt | DRN. KLP | CHK. mbt

DATE	REVISION	BY	APP'R.

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

FOREST CONSERVATION CHARTS, DETAILS, NOTES & FOREST BANK TABULATION

WINCOPIA FARMS

LOTS 1 - 201, 208 - 220, 258 - 263 & OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=200'	R-ED	08052
DATE	TAX MAP - GRID	SHEET
NOV., 2013	47-3	69 of 71

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F-13-103

GENERAL NOTES

ALL STANDARD REGULATORY AND WARNING SIGNS USED FOR MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).

ALL TEMPORARY TRAFFIC SIGNS SHALL BE INSTALLTED IN ACCORDANCE TO MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS MDSHA BOOK OF STANDARDS, AND NCHRP 350.

ALL BARRICADES AND OTHER TRAFFIC CONTROL DEVICES MUST BE IN ACCORDANCE WITH THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).

ALL SIGNS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT EXISTING TRAFFIC CONTROL DEVICES (MINIMUM 200' SPACING).

ANY CORRECTIONS, MODIFICATIONS OR ADDITIONS TO THIS PLAN MUST BE APPROVED BY THE HOWARD COUNTY DEPT. OF PUBLIC WORKS TRAFFIC DIVISION.

MISS UTILITY MUST BE NOTIFIED PRIOR TO PLACEMENT OF SIGNING, IF MOUNTING ON POSTS.

SIGN INSTALLATION SHALL NOT LAST ANY LONGER THAN 15 MINUTES PER LOCATION. IF LONGER THAN 15 MINUTES, APPROPRIATE TRAFFIC CONTROL PERMITS MUST BE USED.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL TRAFFIC CONTROL DEVICES. AT ANYTIME THE CONTRACTOR DOES NOT MAKE NECESSARY REPAIRS WITHIN 24 HOURS OF NOTIFICATION, APPROPRIATE WORK TIME REDUCTION AND/OR FINES MAY BE APPLIED.

ALL SIGNS SHALL CONFORM TO CURRENT MDSHA MATERIAL AND REFLECTIVITY REQUIREMENTS.

ALL DRIVEWAY ENTRANCES MUST BE MAINTAINEDD AT ALL TIMES.

ALL SIGN LOCATIONS SHALL BE MARKED AND/OR APPROVED BY HOWARD COUNTY TRAFFIC (410-313-2430) PRIOR TO THE INSTALLATION OF ANY SIGNS.

ALL SIGNS SHALL BE COVERED OR REMOVED AT THE END OF THE WORKDAY.

DURING NON-FLAGGER PERIODS INSTALL TRAFFIC CONTROL DEVICES AS SHOWN IN MD STANDARD NO. 104.04-02 (SHOULDER WORK).

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

IMPORTANT:
THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-81

NOTES:
SHOULDER WORK SIGNS SHALL BE MOUNTED ON THE SIDE OF THE ROADWAY WHERE THE SHOULDER IS AFFECTED. USAGE OF SHOULDER WORK SIGNS ON THE OPPOSITE SIDE OF DIVIDED HIGHWAYS IS OPTIONAL.

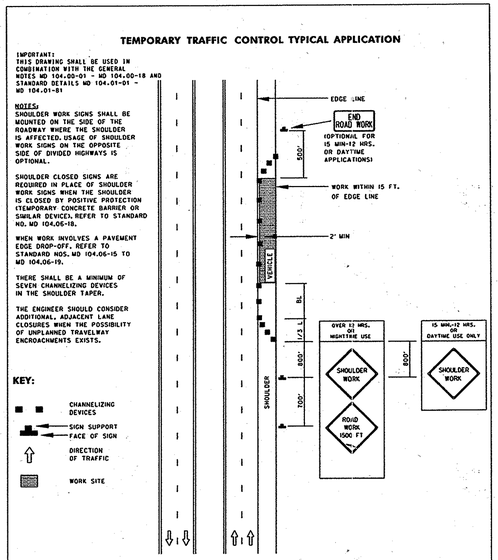
SHOULDER CLOSED SIGNS ARE REQUIRED IN PLACE OF SHOULDER WORK SIGNS WHEN THE SHOULDER IS CLOSED BY POSITIVE PROTECTION (TEMPORARY CONCRETE BARRIER OR SIMILAR DEVICE). REFER TO STANDARD NO. MD 104.06-15.

WHEN WORK INVOLVES A PAVEMENT EDGE DROP-OFF, REFER TO STANDARD NOS. MD 104.06-15 TO MD 104.06-19.

THERE SHALL BE A MINIMUM OF SEVEN CHANNELIZING DEVICES IN THE SHOULDER TAPER.

THE ENGINEER SHOULD CONSIDER ADDITIONAL, ADJACENT LANE CLOSURES WHEN THE POSSIBILITY OF UNPLANNED TRAVELWAY ENCROACHMENTS EXISTS.

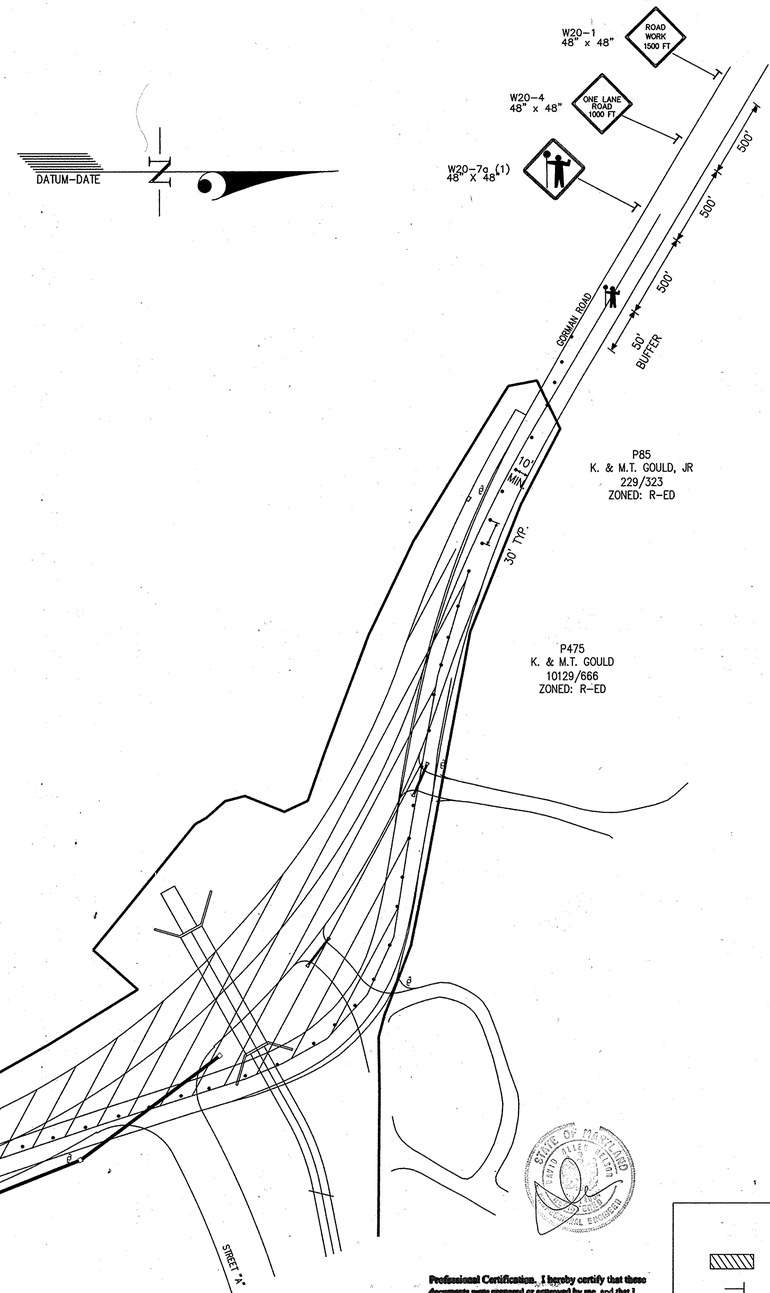
KEY:
- CHANNELIZING DEVICES
- SIGN SUPPORT / FACE OF SIGN
- DIRECTION OF TRAFFIC
- WORK SITE



SPECIFICATION 104	CATEGORY CODE ITEMS
APPROVED	DIRECTOR - OFFICE OF TRAFFIC AND SAFETY

REVISIONS	APPROVAL + SHA	APPROVAL + FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	8-30-93	9-23-93
REVISED	8-11-10	7-29-10
REVISED		
REVISED		

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SHOULDER WORK/DIVIDED UNCON. EQL/LESS THAN 40 MPH
STANDARD NO. MD 104.04-02



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 19022 Expiration Date: 9/15/14

STATE OF MARYLAND — DAVID ALAN NEUMAN — 19022 — REGISTERED PROFESSIONAL ENGINEER

KEY

- WORK AREA
- SIGN POST
- TEMPORARY TRAFFIC DRUM
- FLAGGER

ZONING	TAX MAP - GRID
R-ED	47-3

F-13-103

WINCOPIA FARMS
LOTS 1-201, 208-220, 258-263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Division of Land ~~Management~~ DEVELOPMENT — Date 12-20-13
Chief, Development Engineering Division — Date 12.17.13

REVISIONS		
DATE:	SIGNED:	
DATE:	SIGNED:	
DATE:	SIGNED:	
DATE:	SIGNED:	

DRAWN BY: MN
DESIGNED BY: MN
CHECKED BY:
DATE: November 2013
SCALE: NA

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy., N.W.
Glen Burnie, Maryland 21061
Phone (410) 590-5500
Fax (410) 590-6637

GORMAN ROAD TRAFFIC CONTROL PLAN
PHASE 1

STATE: MARYLAND COUNTY: HOWARD

F-13-103

ALL STANDARD REGULATORY AND WARNING SIGNS USED FOR MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).

ALL TEMPORARY TRAFFIC SIGNS SHALL BE INSTALLED IN ACCORDANCE TO MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS MDSHA BOOK OF STANDARDS, AND NCHRP 350.

ALL BARRICADES AND OTHER TRAFFIC CONTROL DEVICES MUST BE IN ACCORDANCE WITH THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).

ALL BARRICADES MUST MEET AND HAVE BEEN TESTED UNDER THE NCHRP 350 CRASH CRITERIA.

ALL DETOUR SIGNS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT EXISTING TRAFFIC CONTROL DEVICES (MINIMUM 200' SPACING).

ANY CORRECTIONS, MODIFICATIONS OR ADDITIONS TO THIS PLAN MUST BE APPROVED BY THE HOWARD COUNTY DEPT. OF PUBLIC WORKS TRAFFIC DIVISION.

MISS UTILITY MUST BE NOTIFIED PRIOR TO PLACEMENT OF SIGNING, IF MOUNTING ON POSTS.

SIGN INSTALLATION SHALL NOT LAST ANY LONGER THAN 15 MINUTES PER LOCATION. IF LONGER THAN 15 MINUTES, APPROPRIATE TRAFFIC CONTROL AND PERMITS MUST BE USED.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL TRAFFIC CONTROL DEVICES. AT ANYTIME THE CONTRACTOR DOES NOT MAKE NECESSARY REPAIRS WITHIN 24 HOURS OF NOTIFICATION, APPROPRIATE WORK TIME REDUCTION AND/OR FINES MAY BE APPLIED.

THE HOWARD COUNTY TRAFFIC ENGINEER SHALL DETERMINE EXACT PLACEMENT OF TYPE III BARRICADES.

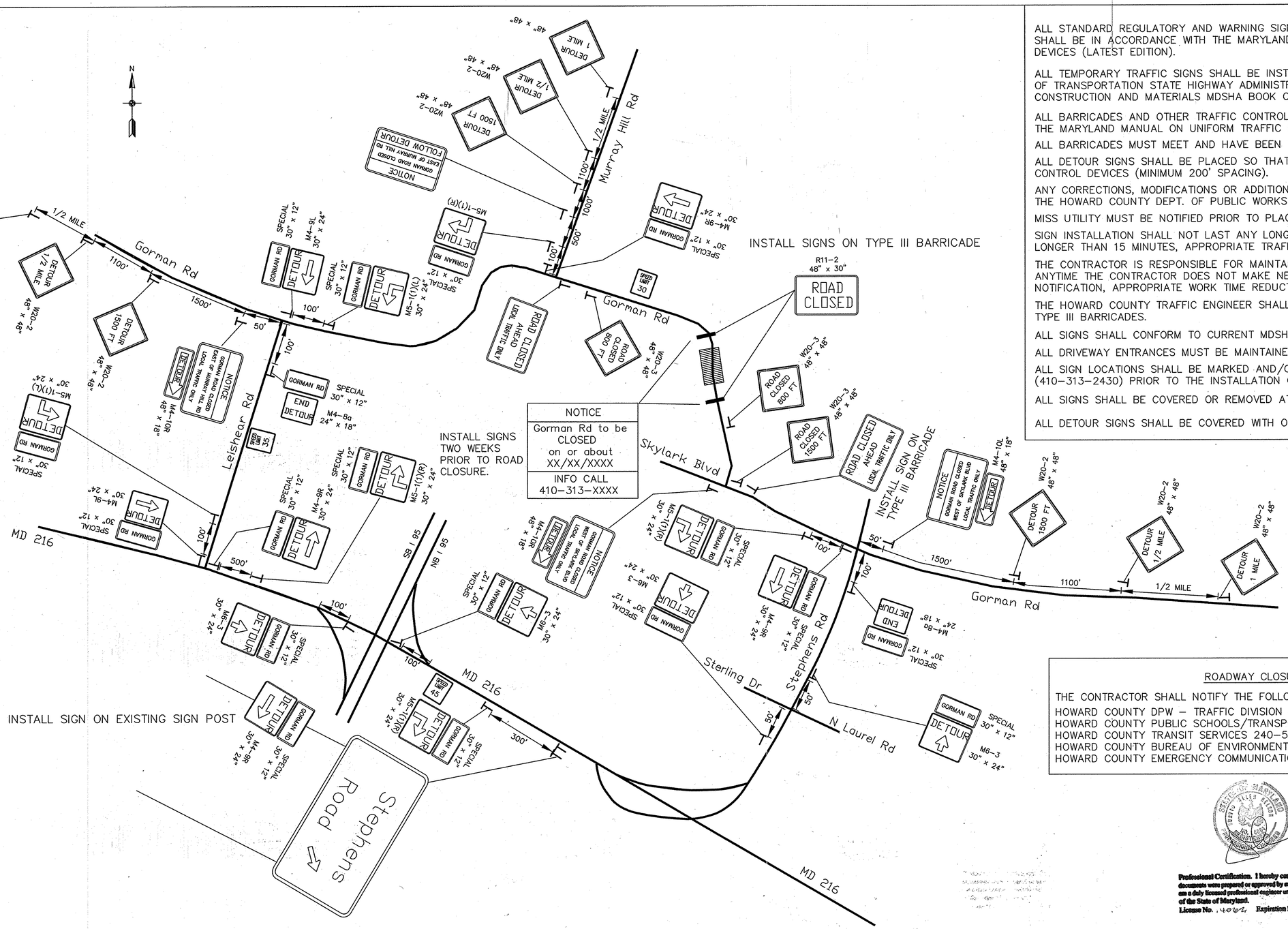
ALL SIGNS SHALL CONFORM TO CURRENT MDSHA MATERIAL AND REFLECTIVITY REQUIREMENTS.

ALL DRIVEWAY ENTRANCES MUST BE MAINTAINED AT ALL TIMES.

ALL SIGN LOCATIONS SHALL BE MARKED AND/OR APPROVED BY HOWARD COUNTY TRAFFIC (410-313-2430) PRIOR TO THE INSTALLATION OF ANY SIGNS.

ALL SIGNS SHALL BE COVERED OR REMOVED AT THE END OF THE WORKDAY.

ALL DETOUR SIGNS SHALL BE COVERED WITH OPAQUE MATERIAL UNTIL THE ROAD IS CLOSED.



ROADWAY CLOSURE NOTIFICATION:

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES AT LEAST 4 WEEKS IN ADVANCE.
HOWARD COUNTY DPW – TRAFFIC DIVISION 410-313-2430
HOWARD COUNTY PUBLIC SCHOOLS/TRANSPORTATION DIVISION 410-313-6728 (IF DURING SCHOOL TIMES)
HOWARD COUNTY TRANSIT SERVICES 240-581-5800
HOWARD COUNTY BUREAU OF ENVIRONMENTAL SERVICES 410-313-6470
HOWARD COUNTY EMERGENCY COMMUNICATIONS/911 CENTER 410-313-2300

F-13-103

WINCOPIA FARMS
LOTS 1-201, 208-220, 258-263 &
OPEN SPACE LOTS 221 THROUGH 257
L. 11388 F. 725
PARCEL 472

LEGEND

⊣ – SIGN POST/FACE OF SIGN

▨ – AREA OF ROAD CLOSURE

ZONING
R-ED

TAX MAP – GRID
47-3

PREPARED FOR:
BEAZER HOMES CORP.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD 21046
BRIAN KNAUFF
410-381-3222

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 12-9-13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 12-20-13

Chief, Development Engineering Division — Date 12.17.13

REVISIONS		
DATE:		SIGNED:
DATE:		SIGNED:
DATE:		SIGNED:
DATE:		SIGNED:

DRAWN BY: MN
DESIGNED BY: MN
CHECKED BY:
DATE: November 2013
SCALE: NA

STREET TRAFFIC STUDIES, LTD.
400 Crain Hwy., N.W.
Glen Burnie, Maryland 21061
Phone (410) 590-5500
Fax (410) 590-6637

GORMAN ROAD DETOUR PLAN
PHASE 2

STATE: MARYLAND COUNTY: HOWARD

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 40042 Expiration Date: 8.15.14

F-13-103