SITE DEVELOPMENT PLAN
BLUE STREAM TOWNS - SECTION 2
BLUE STREAM
LOTS 1-105 & OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1
TOWNHOMES

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY STANDARDS AND SPECIFICATIONS. ALL WORK AND MATERIALS SHALL COMPLY WITH O.S.H.A. STANDARDS.
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:

MISS UTILITY	1-800-257-7777
VERIZON:	1-800-743-0033
BUREAU OF UTILITIES:	410-313-4900
AT&T:	1-800-252-1133
B.G.&E. (CONSTRUCTION SERVICES):	410-637-8713
B.G.&E. (EMERGENCY):	410-685-0123
STATE HIGHWAY ADMINISTRATION:	410-531-5533
COLONIAL PIPELINE CO.:	410-795-1390

4. SITE ANALYSIS:
   TOTAL PROJECT AREA: 7.64 AC. (PARCEL L-1)
   PRESENT ZONING: CAC-CLI
   USE OF STRUCTURE: TOWNHOMES
   TOTAL NUMBER OF PROPOSED TOWNHOMES: 105
   TOTAL MIHU UNITS REQUIRED: 202 / MIHU UNITS PROVIDED: 19 (THIS SDP)
   TOTAL BUILDING COVERAGE: 85,632 SF (1.97 AC. OR 25.79% OF GROSS AREA)
   PAVED PARKING LOT/AREA ON SITE: 94,854 SF (2.18 AC. OR 28.53% OF GROSS AREA)
   AREA OF LANDSCAPE ISLAND: 6,827 SF (0.16 AC. OR 2.09% OF GROSS AREA)
   LIMIT OF DISTURBED AREA: 7.69 AC
   CUT: 0 CY FILL: 8,567 CY
5. PROJECT BACKGROUND:
   LOCATION: TAX MAP 43 BLOCK 4 PARCELS 14, PARCELS L-1
   ZONING : CAC-CLI
   SUBDIVISION : BLUE STREAM
   SECTION/AREA : N/A
   ALLOCATION PHASE : PHASES III AND IV.
   SITE AREA : 7.64 AC.
   DEED REFERENCES : L.4389 / F.156, L.4389 / F.150, L.4389/138, 11086/199
   DPZ REFERENCES : S-99-08, WP-99-80, F-00-126, P-00-20, WP-00-116, WP-03-66, S-06-018, WP-08-003, WP-08-126, PLAT 14421 & 14422, WP-09-116, P-08-011, P-09-004, P-10-005, F-10-055, WP-10-120, SDP-11-032, F-02-035, P-11-003, F-11-082, WP-11-201, F-12-056, WP-12-146, SDP-11-040, WP-11-201, WP-12-091, WP-12-133, WP-12-132, P-12-003, WP-13-042, F-13-051, WP-13-070, WP-13-142 , P-13-004, WP-14-046, WP-14-081 , PLAT # 23338-23342.
6. 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 START OF WORK.
7. ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
8. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
9. EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND AND SEWER EXTENSION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
10. ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM OF 28 DAYS STRENGTH OF 3,500 P.S.I.
11. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
12. ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
13. SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST PRIOR TO CONSTRUCTION.
14. THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE SYSTEM. HOWARD COUNTY MONUMENT NOS. 43B2 AND 43B6 WERE USED FOR THIS PROJECT.
15. THE PROPERTY LINES SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PERFORMED BY VOGEL & ASSOCIATES, INC.; DATED FEBRUARY 1998.
16. THE EXISTING TOPOGRAPHY SHOWN HEREON IS TAKEN FROM AN AERIAL TOPOGRAPHIC SURVEY PREPARED BY POTOMAC AERIAL SURVEYS; DATED MARCH, 1998; AND BY FIELD RUN TOPO BY ROBERT H. VOGEL ENGINEERING, INC. ON MARCH 8, 2013.
17. GEOTECHNICAL REPORT PREPARED BY ECS-MIDATLANTIC, LLC; DATED 06/01/09, REVISED 09/10/09 AND 01/05/2011.
18. THE GEOTECHNICAL ENGINEER TO CONFIRM PAVING SECTION PRIOR TO CONSTRUCTION. ALL PAVING TO BE MINIMUM HOWARD COUNTY STANDARD DETAIL P-2, UNLESS OTHERWISE NOTED.
19. ALL CURB AND GUTTER TO BE HOWARD COUNTY STANDARD DETAIL 3.01 UNLESS OTHERWISE NOTED.
20. WHERE DRAINAGE FLOWS AWAY FROM CURB, CONTRACTOR TO REVERSE THE GUTTER PAN.
21. ALL ELEVATIONS ARE TO FLOWLINE/BOTTOM OF CURB UNLESS OTHERWISE NOTED.
22. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
23. CONTRACTOR RESPONSIBLE FOR CONSTRUCTING ALL HANDICAP RAMPS AND HANDICAP ACCESS IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
24. PUBLIC WATER AVAILABLE THROUGH CONTRACT NO. 14-4837-D. PUBLIC SEWER AVAILABLE THROUGH CONTRACT NO. 14-4837-D.
25. APFO TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP DATED MAY 30, 2006, REVISED JUNE 5, 2008; AND APPROVED UNDER F-02-035 (REDLINE).
26. THE UNMITIGATED NOISE STUDY WAS PREPARED BY ROBERT H. VOGEL ENGINEERING DATED JUNE 2006. THE UNMITIGATED 65DBA NOISE CONTOUR GENERATED BY I-95 TRAFFIC DOES NOT IMPACT THE REAR YARDS OR AMENITY AREAS ASSOCIATED WITH THIS PROJECT. (REFERENCE S-06-018)
27. THE SUBJECT PROPERTY IS ZONED CAC-CLI PER THE 10/06/2013 COMPREHENSIVE ZONING PLAN.
28. THERE ARE NO WETLANDS, STREAMS, 100 YR FLOODPLAIN, OR STEEP SLOPES WITH A CONTIGUOUS AREA GREATER THAN 20,000 SF LOCATED ON PARCEL 'L-1'.
29. ALL STORMDRAIN PIPE BEDDING IS TO BE CLASS 'C', AS REQUIRED BY AASHTO-180.
30. THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
31. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE, THE LANDSCAPE MANUAL, AND THE APPROVED LANDSCAPE AND STREET TREE DESIGN CRITERIA.
32. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THIS SITE DEVELOPMENT PLAN FOR 145 SHADE TREES AND 5 EVERGREEN TREES FOR A SURETY OF $44,250.00. DED WILL BUILD THE 13 PUBLIC STREET TREES ($3,900.00) INTO THEIR COST ESTIMATE FOR ROAD CONSTRUCTION. TOTAL OVERALL SURETY DUE IS $48,150.00.
33. ANY EXISTING STREET TREES DAMAGED OR DESTROYED DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR.
34. FOREST STAND DELINEATION PLAN PREPARED BY KOPECK AND ASSOCIATES; DATED NOVEMBER, 1998.
35. THE FOREST CONSERVATION OBLIGATIONS INCURRED BY THIS PROJECT HAVE BEEN PREVIOUSLY MET UNDER F-02-35 BY:
    PREVIOUS ON-SITE FOREST RETENTION .... 1.24 AC.
    PREVIOUS AFFORESTATION OBLIGATION .... 12.80 AC.
    PREVIOUS ON-SITE AFFORESTATION PROVIDED .... 7.49 AC.
    OFF-SITE AFFORESTATION IN HOWARD COUNTY
    WINKLER CONSERVATION BANK (PLAT 17020-17026) .... 5.29 AC.
    OUTSTANDING AFFORESTATION FEE-IN-LIEU (PAID UNDER APPROVED F-02-35) 871.2 SF ($435.60)
    WITH PLAT F-10-055 THE TOTAL RETENTION WAS REDUCED BY 0.15 AC., THE TOTAL AFFORESTATION WAS REDUCED BY 0.58 AC., AND REFORESTATION OF 0.15 AC. WAS PROVIDED.
    NETTING THE FOLLOWING:
    ON-SITE FOREST RETENTION PROVIDED .... 1.09 AC.
    ON-SITE AFFORESTATION PROVIDED .... 6.91 AC.
    ON-SITE REFORESTATION PROVIDED .... 0.15 AC.
    WITH PLAT F-13-051 THE TOTAL RETENTION WAS REDUCED BY 0.03 AC., THE TOTAL REFORESTATION WAS INCREASED BY 0.01 AC., AND THE TOTAL AFFORESTATION WAS INCREASED BY 0.05 AC.
    NETTING THE FOLLOWING:
    ON-SITE FOREST RETENTION PROVIDED .... 1.06 AC.
    ON-SITE AFFORESTATION PROVIDED .... 6.91 AC.
    ON-SITE REFORESTATION PROVIDED .... 0.16 AC.
    FINANCIAL SURETY IN THE AMOUNT OF $173,867.30 HAS BEEN POSTED WITH THE FC INSTALLATION AND MAINTENANCE AGREEMENT UNDER F-02-35.
    EXISTING FOREST CONSERVATION EASEMENTS B AND C CREATED UNDER F-02-35 WERE ABANDONED AND REPLACED WITH FOREST CONSERVATION EASEMENTS B-1, B-2, C-1, D-1, AND D-2 UNDER F-10-055. THEREFORE, A FOREST CONSERVATION EASEMENT ABANDONMENT FEE OF $31581.00 WAS PAID TO THE HOWARD COUNTY FOREST CONSERVATION FUND UNDER F-10-055. FOREST CONSERVATION EASEMENT A-2 AND B-3 WERE ESTABLISHED UNDER F-13-051.
    THERE ARE NO SURETIES OR FEES FOR FOREST CONSERVATION ASSOCIATED WITH THIS PLAN.
36. THIS PROJECT IS SUBJECT TO COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/ GRADING PERMIT APPLICATIONS.
37. EXISTING BLUE STREAM DRIVE IS CLASSIFIED AS A MAJOR COLLECTOR (PUBLIC ROAD). THE EXTENSION OF BLUE STREAM DRIVE BEYOND THE EXISTING CULDESAC WILL BE PRIVATE.
38. THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED ON THIS PROPERTY.
39. FIRE LANES SHOULD BE PROVIDED IN THIS SITE TO ALLOW EMERGENCY VEHICLE ACCESS. EITHER FIRE LANE SIGNAGE SHOULD BE INSTALLED, OR THE CURBS SHOULD BE PAINTED IN RED AND STENCILED TO IDENTIFY THE ROAD AS A FIRE LANE.
40. 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.
41. ALL EXTERIOR LIGHTING TO COMPLY WITH THE REQUIREMENTS FOUND IN ZONING SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS. (DETAIL ON SHEET 3)
42. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
43. TRASH AND RECYCLING COLLECTION TO BE PRIVATE.
44. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHING THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION AREAS AND 100 YEAR FLOODPLAIN.
45. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
    A. WIDTH - 12 FEET (16 FEET IF SERVING MORE THAN ONE RESIDENCE)
    B. SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING
    C. GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT TURNING RADIUS
    D. STRUCTURES (CULVERTS/BRIDGES) - MUST SUPPORT 25 GROSS TON LOADING (H25 LOADING)
    E. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
    F. STRUCTURE CLEARANCES - MINIMUM 12 FEET
    G. MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE
46. TOWNHOUSE DRIVEWAY ENTRANCE SHALL BE IN ACCORDANCE WITH HOWARD COUNTY VOLUME IV DESIGN MANUAL DETAIL R-6.03, MODIFIED FOR SIDEWALK ADJACENT TO CURB.
47. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT FRONT OR REAR YARD SETBACK.
48. THERE ARE NO SPECIMEN OR CHAMPION TREES WITHIN THE LOD.
49. STORMWATER MANAGEMENT FOR PARCEL L-1 IS TO BE ACCOMMODATED BY THE POND LOCATED ON OPEN SPACE PARCEL G-2. THE POND HAS BEEN CONSTRUCTED WITH THE BLUE STREAM PROJECT (F-02-035)
50. THIS PROJECT COMPLIES WITH THE ROUTE 1 MANUAL IN REGARDS TO THE 'CAC' ZONING DISTRICT.
51. INGRESS AND EGRESS TO ROUTE 1 IS RESTRICTED. ACCESS WILL BE PROVIDED BY BLUE STREAM DRIVE (PUBLIC AND PRIVATE).
52. ON AUGUST 2, 2007 AND JULY 7, 2008, THE DEPARTMENT OF PLANNING AND ZONING HAS TENTATIVE ALLOCATED FOR THIS SUBDIVISION IN THE ROUTE 1 PLANNING AREA IN ACCORDANCE WITH THE FOLLOWING ALLOCATION SCHEDULE AND MILESTONES:

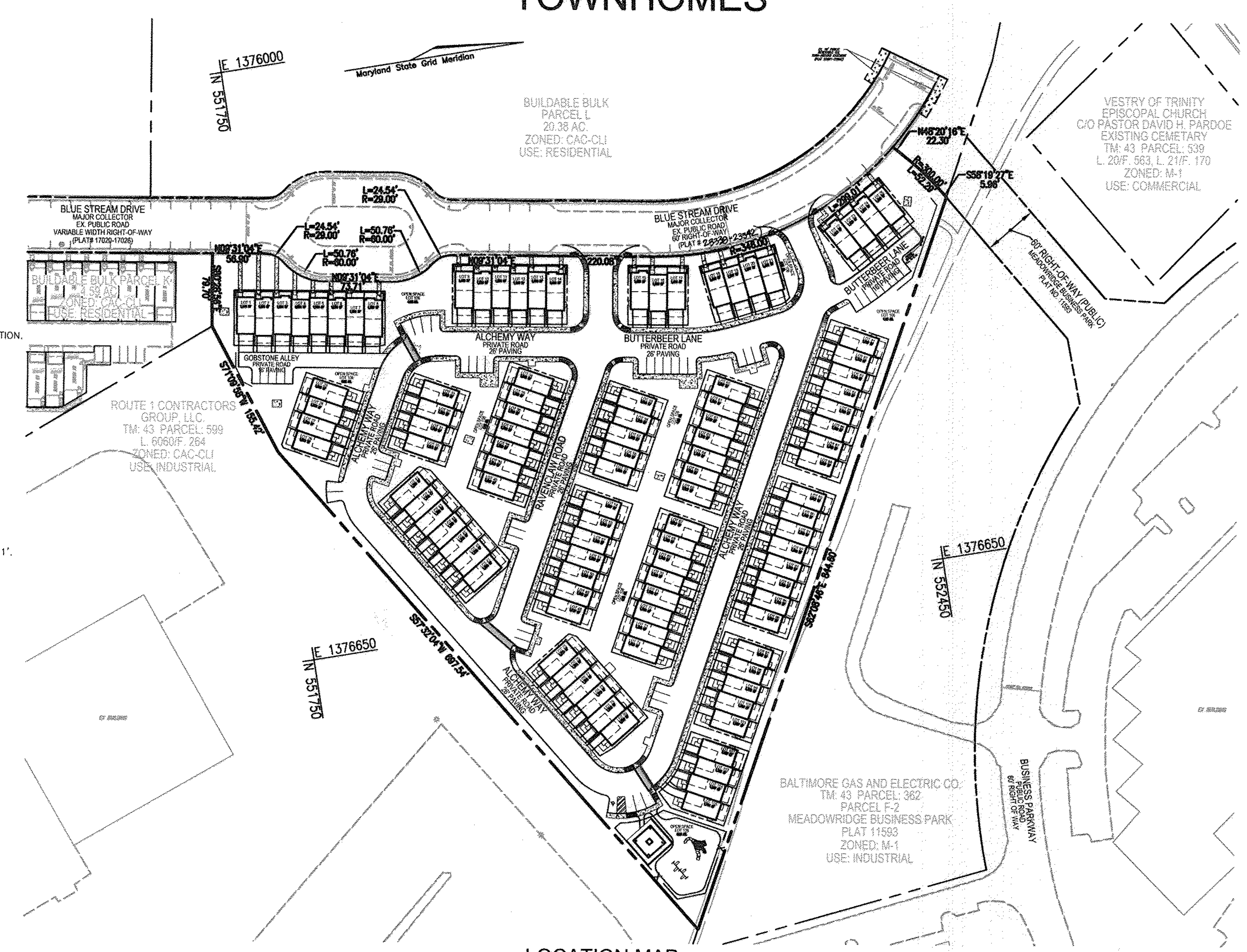
PHASE NUMBER	ALLOCATION YEAR	NO. OF ROUTE 1 CAC ALLOCATIONS	NO. OF MIHU ALLOCATIONS	TOTAL NO. OF ALLOCATIONS	PRELIMINARY PLAN DUE DATE
I (P-08-011)	2010	125	22	147	BY MAY 3, 2008
II (P-09-004)	2011	136	24	160	BETWEEN JULY 1, 2008 AND APRIL 1, 2009
III (P-10-005)	2012	137	24	161	BETWEEN JULY 1, 2009 AND APRIL 1, 2010
IV (P-11-003)	2013	150	27	177	BETWEEN JULY 1, 2010 AND APRIL 1, 2011
V (P-12-003)	2014	150	27	177	BETWEEN JULY 1, 2011 AND APRIL 1, 2012
VI (P-13-004)	2015	150	26	176	BETWEEN JULY 1, 2012 AND APRIL 1, 2013
VII (P-14-002)	2016	150	26	176	BETWEEN JULY 1, 2013 AND APRIL 1, 2014
VII	2017	145	26	171	BETWEEN JULY 1, 2014 AND APRIL 1, 2015

53. SPRINKLER SYSTEMS FOR SINGLE RESIDENTIAL DWELLING UNITS SHALL HAVE WATER HOUSE CONNECTIONS AND WATER METERS THAT ARE SIZED IN ACCORDANCE WITH THE DESIGN OF THE SPRINKLER SYSTEMS. SPRINKLER SYSTEMS FOR SINGLE RESIDENTIAL DWELLINGS SHALL HAVE A MINIMUM OF A 1.5" SERVICE CONNECTION WITH A 1" OUTSIDE METER SETTING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[signature] CHIEF, DEVELOPMENT ENGINEERING DIVISION HSP	5-20-15 DATE
[signature] CHIEF, DIVISION OF LAND DEVELOPMENT	6-02-15 DATE
[signature] DIRECTOR	6/2/15 DATE

SCALE 1"=100'
50' 0' 100'



LOCATION MAP
SCALE: 1"=100'

GENERAL NOTES (CONTINUED...)

54. THE OFFICE/RETAIL DESIGN YEARS AND AREAS SHOWN ON THE BELOW CHART ARE IN ACCORDANCE WITH THE APPROVED APFO STUDY. SHOULD THE SUBSEQUENT SITE DEVELOPMENT PLAN SUBMISSIONS DIFFER FROM THIS SCHEDULE, AN UPDATED APFO STUDY WILL BE REQUIRED.

PHASE NUMBER	YEAR	SHOPPING CENTER (SQ. FT.)	GENERAL OFFICE (SQ. FT.)	TOTAL OFFICE PER YEAR
I (P-08-011)	2010	25,000*	0	25,000*
II (P-09-004)	2011	16,667*	16,667*	33,334*
III (P-10-005)	2012	25,000*	80,000*	105,000*
IV (P-11-003)	2013	0	263,334*	263,334*
V (P-12-003)	2014	0	0	0
VI (P-13-004)	2015	0	56,000	56,000
VII (P-14-002)	2016	0	40,667	40,667
VII	2017	0	16,667	16,667
	TOTALS:	66,667	473,335	540,002

*THE OFFICE AND COMMERCIAL COMPONENTS IN THESE PHASES WILL BE DEVELOPED IN A FUTURE PHASE. (REFERENCE GENERAL NOTE NUMBER 59)

55. A SIGNAL WARRANT ANALYSIS WAS COMPLETED ON APRIL 20, 2011 BY THE TRAFFIC GROUP FOR THE FIRST TWO DEVELOPMENT PROJECTS WITHIN BLUE STREAM SUBDIVISION; GROSVENOR HOUSE (SDP-11-032) AND DORSET GARDENS (SDP-11-040). BASED UPON THE DATA AND ANALYSIS IN THIS REPORT, IT WAS DETERMINED THAT THAT TRAFFIC SIGNALIZATION WOULD BE WARRANTED AT THE INTERSECTION OF US ROUTE 1 AND BLUE STREAM DRIVE. ADDITIONAL SIGNAL WARRANT ANALYSIS MAY BE REQUIRED DURING WITH THE FUTURE DEVELOPMENT PROJECTS OF THE BLUE STREAM SUBDIVISION TO DETERMINE WHEN A SIGNAL IS WARRANTED. THE TRAFFIC GROUP AND SHA DISCRICT OFFICE HAS DETERMINED THAT A SIGNAL WARRANT ANALYSIS IS NOT REQUIRED IN CONJUNCTION WITH THIS SITE DEVELOPMENT PLAN.
56. UPDATED TRAFFIC STUDIES WILL BE REQUIRED PERIODICALLY IN THE FUTURE TO ACCURATELY DETERMINE THE SPECIFIC TIMING OF POSSIBLE INTERSECTION IMPROVEMENTS FOR MD ROUTE 103 AND ROUTE 1 AND MONTEVIDEO ROAD AND ROUTE 1. SHOULD THESE INTESECTIONS BE PROJECTED TO FAIL THEN THE STUDY WILL SPECIFY THE EXTENT OF IMPROVMENTS AND THE DEVELOPER WILL BE REQUIRED TO CONSTRUCT SUCH IMPROVEMENTS OR CONTRIBUTE A PRO RATA FEE FOR THE CAPITAL PROJECT IMPROVMENTS. IF THE STUDY CONCLUDES THAT THE INTERSECTION WILL FAIL, THE ROAD IMPROVEMENTS OR A FEE WILL BE REQUIRED PRIOR TO THE SITE DEVELOPMENT PLAN PHASE WHICH CORRESPONDS TO THE YEAR IN WHICH ONE OR BOTH INTERSECTIONS FAIL. A SIGNAL IS CURRENTLY NOT WARRANTED AT BLUE STREAM DRIVE AND ROUTE 1. THE INTERSECTION WILL BE REEVALUATED IN THE FUTURE.
57. THE OPEN SPACE REQUIREMENTS FOR THE BLUE STREAM SUBDIVISION IS 12.75 AC, WHICH IS 20% OF THE NET AREA FOR THIS DEVELOPMENT (75.67 AC. GROSS AREA - 10.07 AC. FLOODPLAIN - 1.86 AC. STEEP SLOPE = 63.71 NET AC. x 20% OF NET ACREAGE = 12.75 AC.), AND HAS BEEN PROVIDED UNDER F-10-055, OPEN SPACE LOTS G-1 AND G-2 (TOTAL 18.10 AC.). THIS PROJECT PROVIDES 4.28 AC. OF OPEN SPACE (LOT 106).
58. THE INDIVIDUAL BUILDABLE PARCELS WITHIN THE BLUE STREAM SUBDIVISION WILL COMBINE TO PROVIDE THE AMENITY AREA REQUIREMENT (50% OF OPEN SPACE REQUIREMENT = 6.37 AC.) WITH THEIR CORRESPONDING SITE DEVELOPMENT PLANS. THIS PLAN ACCOUNTS FOR 0.79 AC. OF AMENTIY SPACE, SEE SHEET 11 FOR DETAILS. REFER TO THE AMENITY AREA CHART FOR THE BLUE STREAM SUBDIVISION BELOW:

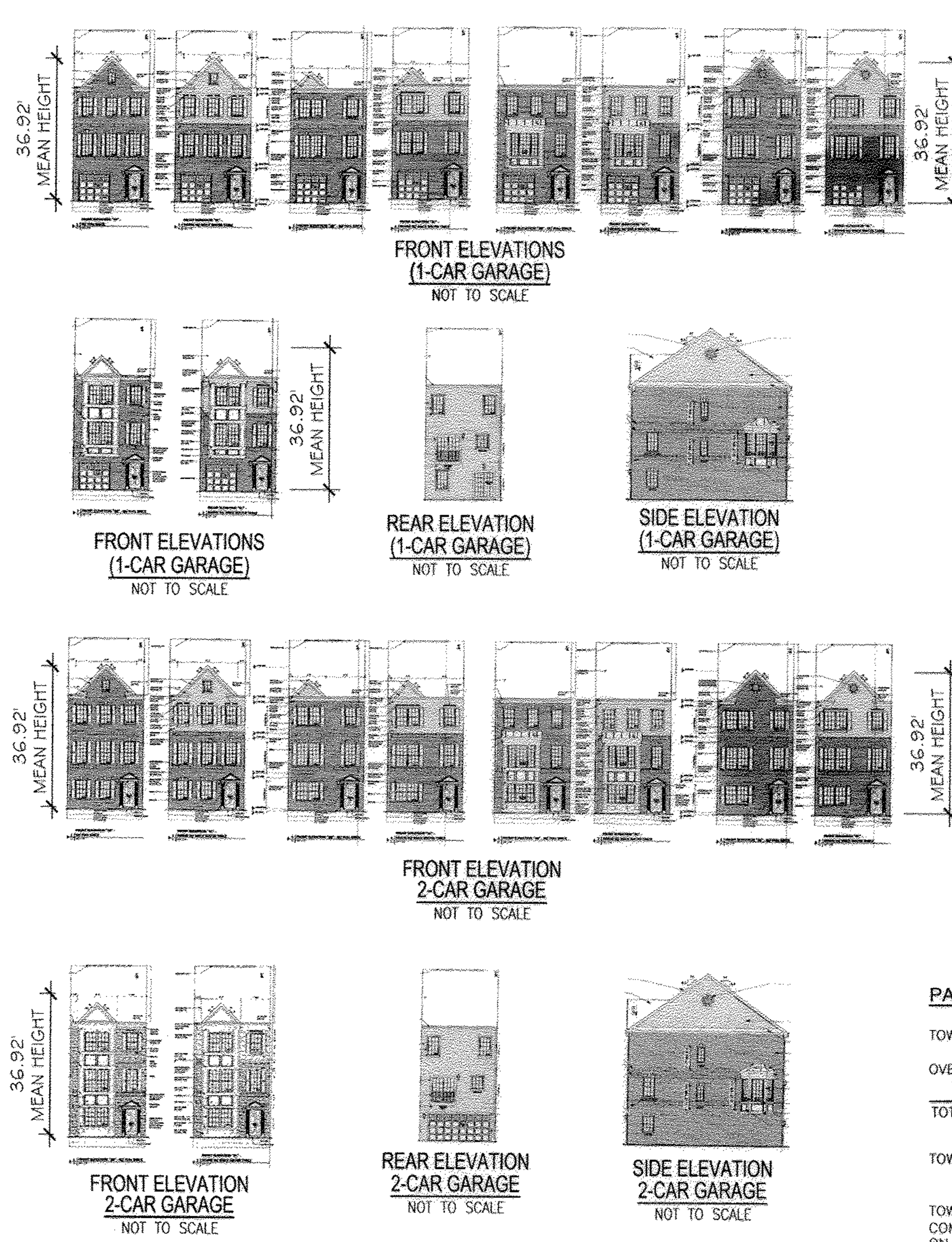
BLUE STREAM SUBDIVISION AMENITY AREA CHART 6.37 AC. REQUIRED

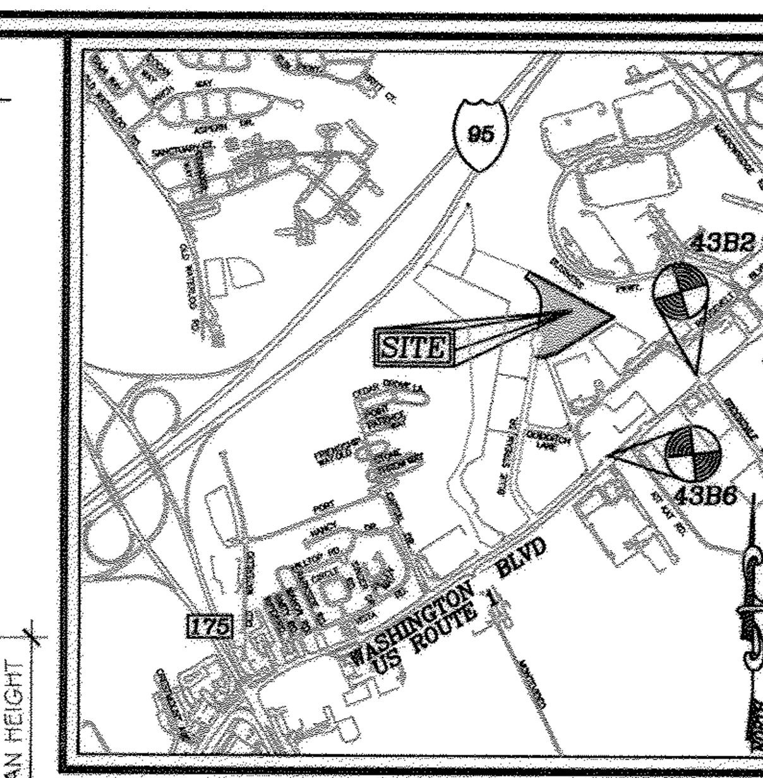
PLAN	PROVIDED	REMAINING
BLUE STREAM (F-02-035)	0.00 AC.	6.37 AC.
GROSVENOR HOUSE (SDP-11-032)	0.99 AC.	5.38 AC.
DORSET GARDENS (SDP-11-040)	1.02 AC.	4.36 AC.
BLUE STREAM TOWNS - SECTION 2 (SDP-14-029)	1.22 AC.	3.14 AC.
BROMPTON 2 (SDP-14-077)	0.87 AC.	2.27 AC.

59. IN ACCORDANCE WITH ZONING REGULATION SECTION 127.5.E.3.e, THE PHASING OF RESIDENTIAL AND COMMERCIAL DEVELOPMENT AND OPEN SPACE SHALL BE ROUGHLY PROPORTIONAL. NO MORE THAN 60% OF THE RESIDENTIAL UNITS SHALL BE CONSTRUCTED PRIOR TO COMMENCING A ROUGHLY PROPORTIONAL AMOUNT OF COMMERCIAL CONSTRUCTION AND OPEN SPACE. COMMERCIAL USES ARE ALSO REQUIRED TO COMPLY WITH ZONING REGULATION SECTION 127.5.E.2
60. THE 19 MIHU UNITS ARE TO BE PROVIDED ON PARCEL L-1 (REFERENCE MIHU AGREEMENT).
61. THE MODERATE INCOME HOUSING UNIT AGREEMENT FOR THE 19 DWELLING UNITS WAS RECORDED IN THE HOWARD COUNTY LAND RECORDS ON 05/21/15, BY LIBER 16208 AND FOLIO 443.
62. THIS PROJECT IS SUBJECT TO WP-14-081; APPROVED 02/19/14; TO WAIVE SUBDIVISION SECTION 16.120(c)(4), TO ALLOW FEE SIMPLE SINGLE FAMILY ATTACHED LOTS ON A PRIVATE ROAD BEYOND 200 FEET FROM THE EDGE OF THE PUBLIC RIGHT-OF-WAY ALONG THE CENTERLINE OF THE PRIVATE ROAD.
    APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
    1. THE HOME OWNER'S ASSOCIATION WILL BE THE RESPONSIBLE PARTY FOR THE MAINTENANCE OF THE PRIVATE ROADS AND STORM WATER CONVEYANCE AND MANAGEMENT FACILITIES. WATER AND SEWER SHALL BE PUBLIC AND MAINTENANCE FOR EACH UNIT WITHIN A RECORDED PUBLIC EASEMENT.
    2. BLUE STREAM DRIVE AS SHOWN ON SDP-14-029, NORTH OF THE CUL-DE-SAC, SHALL BE PUBLIC UP TO THE TEE TURNAROUND PER THE ATTACHED COMMENTS FROM THE DEVELOPMENT ENGINEERING DIVISION.
    3. THE PROPOSED, PRIVATE, INTERNAL ROADS WITHIN THE PROJECT SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF DED AND DFRS AS PART OF SDP-14-029.
    4. A GENERAL NOTE SHALL BE ADDED TO SDP-14-029 THAT CLEARLY STATES THAT ALL INTERNAL ROADS IN THIS DEVELOPMENT ARE PRIVATELY OWNED AND TO BE MAINTAINED BY THE HOA, WHICH WILL PROVIDE PRIVATE TRASH COLLECTION AND SNOW REMOVAL SERVICES.
    5. THE DEVELOPER SHALL RECORD ANY NECESSARY "CROSS-EASEMENTS" FOR SHARED ACCESS AND PARKING FOR THIS DEVELOPMENT AND REFERENCE THE RECORDED EASEMENT LIBER/FOLIO AS A GENERAL NOTE ON SDP-14-029 AND THE ASSOCIATED FINAL PLAT(S).
63. THE PUBLIC AMENITY AREA, INCLUDING PLAY EQUIPMENT, SHALL COMPLY WITH THE 2010 ADA STANDARDS.
64. IN ACCORDANCE WITH THE RECORDED AGREEMENT (12831/193) THE REMAINING BLUE STREAM DEVELOPMENT (EXCLUDING GROVESNOR HOUSE) IS REQUIRED TO PROVIDE 18.5% MIHU UNITS OR 202 TOTAL UNITS. THIS SDP PROVIDES 19 MIHU (18.10% FOR THIS PHASE).
65. A DESIGN ADVISORY PANEL MEETING WAS HELD ON OCTOBER 23, 2013.
66. ALL INTERNAL ROADS IN THIS DEVELOPMENT ARE PRIVATELY OWNED AND TO BE MAINTAINED BY THE HOA, WHICH WILL PROVIDE PRIVATE TRASH COLLECTION AND SNOW REMOVAL SERVICES.

LEGEND

EXISTING CONTOUR — 382
PROPOSED CONTOUR — 382
EXISTING SPOT ELEVATION — +82.53
PROPOSED SPOT ELEVATION — +82.53
DIRECTION OF FLOW
EXISTING TREES TO REMAIN
LIGHT POLES
SOIL TYPE — M1B2 / M1D3
CONCRETE

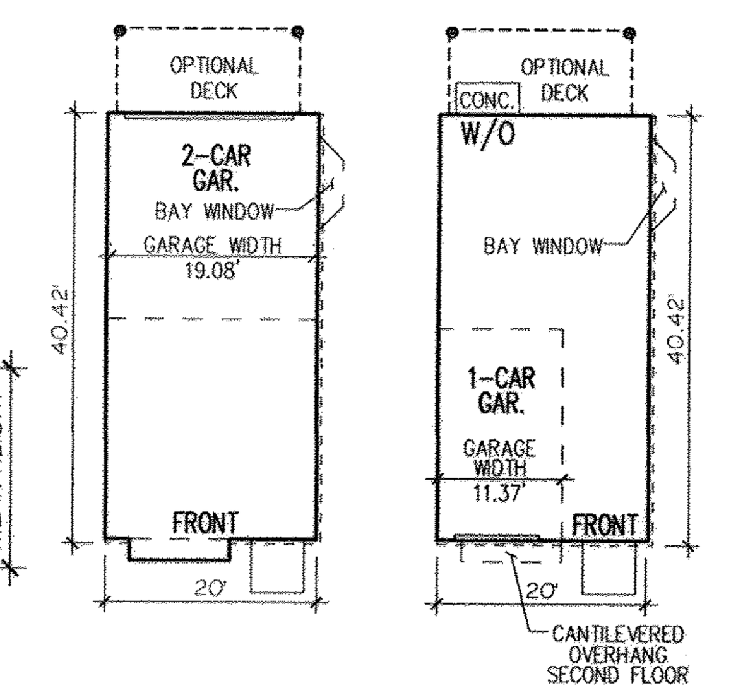




VICINITY MAP
SCALE: 1"=2000'
ADC MAP COORDINATES: PAGE 34 / GRID E6

BENCHMARKS

HOWARD COUNTY BENCHMARK 43B2
N 551,654.993 E 1,378,176.951 ELEV.: 209.601'
HOWARD COUNTY BENCHMARK 43B6
N 550,601.597 E 1,376,866.072 ELEV.: 210.559'



TOWNHOUSE FOOTPRINTS
NOT TO SCALE

PARKING TABULATION

	REQUIRED
TOWNHOUSE 105 UNITS @ 2 SPACES PER UNIT	210 SPACES
OVERFLOW PARKING 105 UNITS @ 0.5 SPACES PER UNIT	53 SPACES
TOTAL SPACES REQUIRED:	263 SPACES
	PROVIDED
TOWNHOUSE GARAGE SPACES PROVIDED (1-CAR GARAGE TOWNHOMES - 80) (2-CAR GARAGE TOWNHOMES - 25)	130 SPACES
TOWNHOUSE DRIVEWAY SPACES PROVIDED	130 SPACES
COMMON PARKING SPACES PROVIDED	49 SPACES
ON-STREET PARKING PROVIDED	12 SPACES
TOTAL SPACES PROVIDED:	321 SPACES

SHEET INDEX

PERMIT INFORMATION CHART

SUBDIVISION NAME			SECTION/AREA	LOTS/PARCEL #	
BLUE STREAM			N/A	PARCEL L-1	
PLAT # OR L/F	BLOCK NO.	ZONE	TAX MAP	ELECT. DIST.	CENSUS TR.
21558-21564 22991-22992 23338-23342	4	CAC-CLI	43	1ST	6012.02
WATER CODE:	B01		SEWER CODE:	2153000	

OWNER/DEVELOPER

U.S. HOME CORPORATION
C/O JOSEPH FORTINO
10211 WINCOPIN CIRCLE
SUITE 180
COLUMBIA, MD 21044
410-997-5522

ADDRESS CHART

UNIT	STREET ADDRESS	UNIT	STREET ADDRESS	UNIT	STREET ADDRESS	UNIT	STREET ADDRESS
UNIT 1	7950 BLUE STREAM DRIVE	UNIT 28	7932 ALCHEMY WAY	UNIT 55	8019 RAVENCLAW ROAD	UNIT 82	8016 ALCHEMY WAY
UNIT 2	7952 BLUE STREAM DRIVE	UNIT 29	7930 ALCHEMY WAY	UNIT 56	8017 RAVENCLAW ROAD	UNIT 83	8014 ALCHEMY WAY
UNIT 3	7954 BLUE STREAM DRIVE	UNIT 30	7931 ALCHEMY WAY	UNIT 57	8015 RAVENCLAW ROAD	UNIT 84	8012 ALCHEMY WAY
UNIT 4	7956 BLUE STREAM DRIVE	UNIT 31	7929 ALCHEMY WAY	UNIT 58	8013 RAVENCLAW ROAD	UNIT 85	8010 ALCHEMY WAY
UNIT 5	7958 BLUE STREAM DRIVE	UNIT 32	7927 ALCHEMY WAY	UNIT 59	8011 RAVENCLAW ROAD	UNIT 86	8008 ALCHEMY WAY
UNIT 6	7960 BLUE STREAM DRIVE	UNIT 33	7925 ALCHEMY WAY	UNIT 60	8007 ALCHEMY WAY	UNIT 87	8006 ALCHEMY WAY
UNIT 7	7962 BLUE STREAM DRIVE	UNIT 34	8010 RAVENCLAW ROAD	UNIT 61	8005 ALCHEMY WAY	UNIT 88	8004 ALCHEMY WAY
UNIT 8	7964 BLUE STREAM DRIVE	UNIT 35	8012 RAVENCLAW ROAD	UNIT 62	8003 ALCHEMY WAY	UNIT 89	8000 ALCHEMY WAY
UNIT 9	7970 BLUE STREAM DRIVE	UNIT 36	8014 RAVENCLAW ROAD	UNIT 63	8001 ALCHEMY WAY	UNIT 90	7998 ALCHEMY WAY
UNIT 10	7972 BLUE STREAM DRIVE	UNIT 37	8016 RAVENCLAW ROAD	UNIT 64	7999 ALCHEMY WAY	UNIT 91	7996 ALCHEMY WAY
UNIT 11	7974 BLUE STREAM DRIVE	UNIT 38	8018 RAVENCLAW ROAD	UNIT 65	7997 ALCHEMY WAY	UNIT 92	7994 ALCHEMY WAY
UNIT 12	7976 BLUE STREAM DRIVE	UNIT 39	8020 RAVENCLAW ROAD	UNIT 66	7995 ALCHEMY WAY	UNIT 93	7992 ALCHEMY WAY
UNIT 13	7978 BLUE STREAM DRIVE	UNIT 40	8022 RAVENCLAW ROAD	UNIT 67	7991 ALCHEMY WAY	UNIT 94	7990 ALCHEMY WAY
UNIT 14	7980 BLUE STREAM DRIVE	UNIT 41	7935 ALCHEMY WAY	UNIT 68	7989 ALCHEMY WAY	UNIT 95	7988 ALCHEMY WAY
UNIT 15	7990 BLUE STREAM DRIVE	UNIT 42	7937 ALCHEMY WAY	UNIT 69	7987 ALCHEMY WAY	UNIT 96	7986 ALCHEMY WAY
UNIT 16	7992 BLUE STREAM DRIVE	UNIT 43	7939 ALCHEMY WAY	UNIT 70	7985 ALCHEMY WAY	UNIT 97	7982 ALCHEMY WAY
UNIT 17	7994 BLUE STREAM DRIVE	UNIT 44	7941 ALCHEMY WAY	UNIT 71	7983 ALCHEMY WAY	UNIT 98	7980 ALCHEMY WAY
UNIT 18	8000 BLUE STREAM DRIVE	UNIT 45	7943 ALCHEMY WAY	UNIT 72	7981 ALCHEMY WAY	UNIT 99	7978 ALCHEMY WAY
UNIT 19	8002 BLUE STREAM DRIVE	UNIT 46	7945 ALCHEMY WAY	UNIT 73	7979 ALCHEMY WAY	UNIT 100	7976 ALCHEMY WAY
UNIT 20	8004 BLUE STREAM DRIVE	UNIT 47	7947 ALCHEMY WAY	UNIT 74	7977 ALCHEMY WAY	UNIT 101	7974 ALCHEMY WAY
UNIT 21	8006 BLUE STREAM DRIVE	UNIT 48	8035 RAVENCLAW ROAD	UNIT 75	7951 ALCHEMY WAY	UNIT 102	7970 ALCHEMY WAY
UNIT 22	8010 BLUE STREAM DRIVE	UNIT 49	8033 RAVENCLAW ROAD	UNIT 76	7953 ALCHEMY WAY	UNIT 103	7968 ALCHEMY WAY
UNIT 23	8012 BLUE STREAM DRIVE	UNIT 50	8031 RAVENCLAW ROAD	UNIT 77	7955 ALCHEMY WAY	UNIT 104	7966 ALCHEMY WAY
UNIT 24	8014 BLUE STREAM DRIVE	UNIT 51	8029 RAVENCLAW ROAD	UNIT 78	7957 ALCHEMY WAY	UNIT 105	7964 ALCHEMY WAY
UNIT 25	8016 BLUE STREAM DRIVE	UNIT 52	8027 RAVENCLAW ROAD	UNIT 79	7959 ALCHEMY WAY	O/S LOT 106	7960 ALCHEMY WAY
UNIT 26	7936 ALCHEMY WAY	UNIT 53	8025 RAVENCLAW ROAD	UNIT 80	7961 ALCHEMY WAY		
UNIT 27	7934 ALCHEMY WAY	UNIT 54	8023 RAVENCLAW ROAD	UNIT 81	8018 ALCHEMY WAY		

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE TO THE SOUTHEASTERN PROPERTY LINE	12/21/16

SITE DEVELOPMENT PLAN
COVER SHEET
BLUE STREAM TOWNS - SECTION 2
BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1
TOWNHOMES
ZONED: CAC-CLI
TAX MAP 43 GRID 4 — PARCEL 14
1ST ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE No.16193

DESIGN BY:	RHV
DRAWN BY:	JMR
CHECKED BY:	RHV
DATE:	APRIL 2015
SCALE:	AS SHOWN
W.O. NO.:	06-26.14

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014

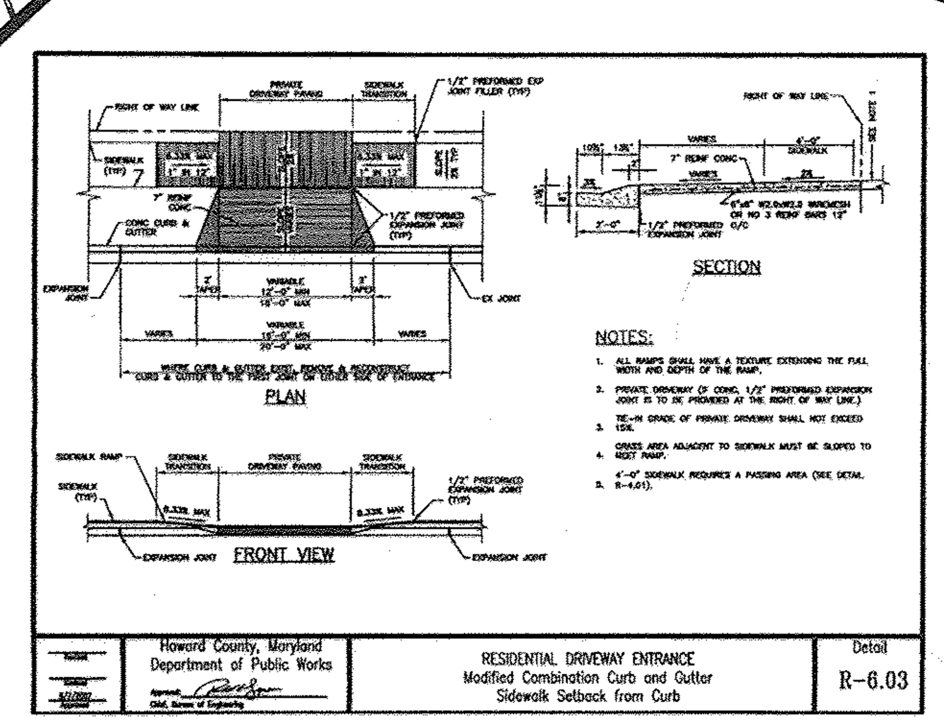
SHEET 1 OF 13

SDP-14-029

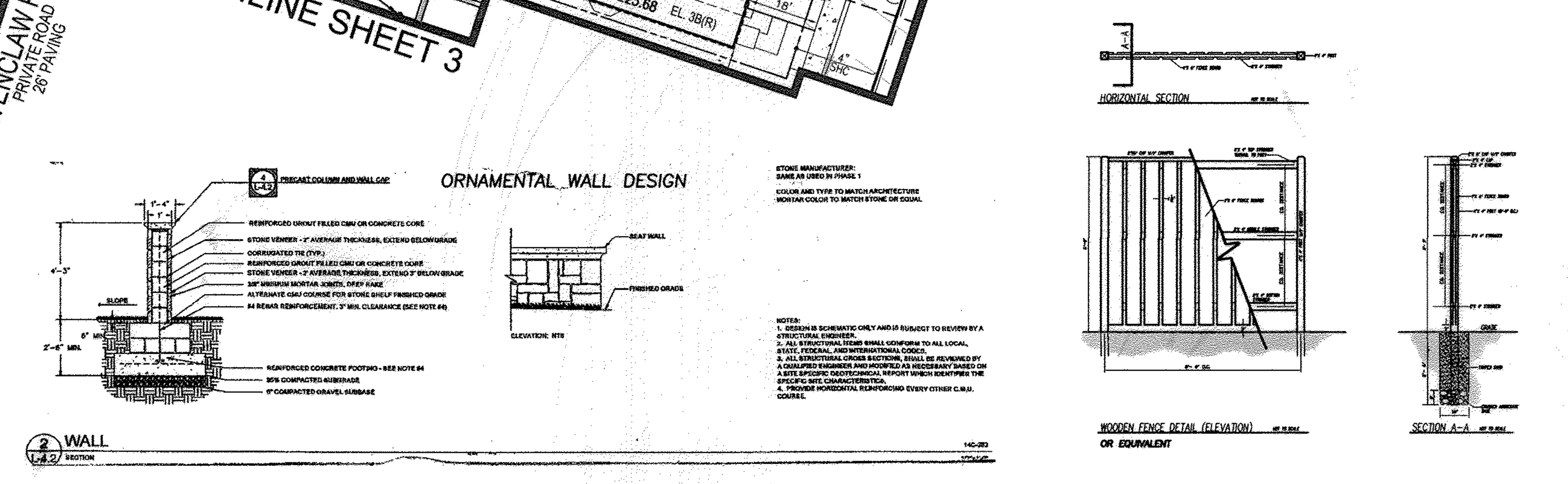
K:\Projects\06-26\ENGR\dwg\SDP\TOWNS201_COVER.dwg, 5/5/2015 10:08:01 AM

LEGEND:

Symbol	Description	Symbol	Description	Hatch	Easement
	PROPERTY LINE		EXISTING TREES		EX. 10' PUBLIC REVERTIBLE TEE TURN-AROUND EASEMENT (PLAT 22991-22992)
	RIGHT-OF-WAY LINE		EXISTING FENCE		10' PARKING SETBACK EX. 10' PUBLIC SIDEWALK, STREET LIGHT, & STREET TREE MAINTENANCE EASEMENT (PLAT 21558-21564) (PLAT 22991-22992)
	ADJACENT PROPERTY LINE		PROPOSED STORMDRAIN		EX. 30' PUBLIC SEWER, WATER AND UTILITY EASEMENT (PLAT 21558-21564)
	EXISTING CURB AND GUTTER		PROPOSED STORMDRAIN INLET		EX. 30' PUBLIC FIRE ACCESS EASMENT (PLAT 21558-21564)
	EXISTING UTILITY POLE		PROPOSED SIDEWALK		EX. 50' PRIVATE ACCESS EASEMENT FOR THE BENEFIT OF PARCELS L AND M (PLAT 21558-21564)
	EXISTING LIGHT POLE		PROPOSED TREELINE		EX. 20' PRIVATE STORM DRAIN, DRAINAGE AND UTILITY EASEMENT (PLAT 21558-21564)
	EXISTING SIGN		PROPOSED CURB		EX. 50' PRIVATE ACCESS EASEMENT FOR INGRESS & EGRESS TO CEMETARY (PLAT 11593)
	EXISTING SANITARY MANHOLE		PROPOSED STREET LIGHT		
	EXISTING SANITARY LINE		PRIVATE DRAINAGE & UTILITY EASEMENT (PLAT 23338-42)		
	EXISTING CLEANOUT		VARIABLE WIDTH PUBLIC SEWER, WATER & UTILITY EASEMENT (PLAT 23338-42)		
	EXISTING FIRE HYDRANT		10' RETAINING WALL CONSTRUCTION BUFFER & "NO PLANTING" ZONE (PLAT 23338-42)		
	EXISTING WATER LINE				
	EXISTING TREELINE				



SCALE 1"=30'



MATCHLINE SHEET 3

OWNER/DEVELOPER
U.S. HOME CORPORATION
C/O JOSEPH FORTINO
10211 WINCOPIN CIRCLE
SUITE 180
COLUMBIA, MD 21044
410-997-5522

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE ALONG THE SOUTHEASTERN PROPERTY LINE	12/21/16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature	Date
CHIEF, DEVELOPMENT ENGINEERING DIVISION	5.20.15
CHIEF, DIVISION OF LAND DEVELOPMENT	6-02-15
DIRECTOR	6/2/15

SITE DEVELOPMENT PLAN

LAYOUT PLAN

BLUE STREAM TOWNS - SECTION 2

BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1
TOWNHOMES
ZONED: CAC-CLI

TAX MAP 43 GRID 4 — PARCEL 14
1ST ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

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STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER
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DESIGN BY:	RHV
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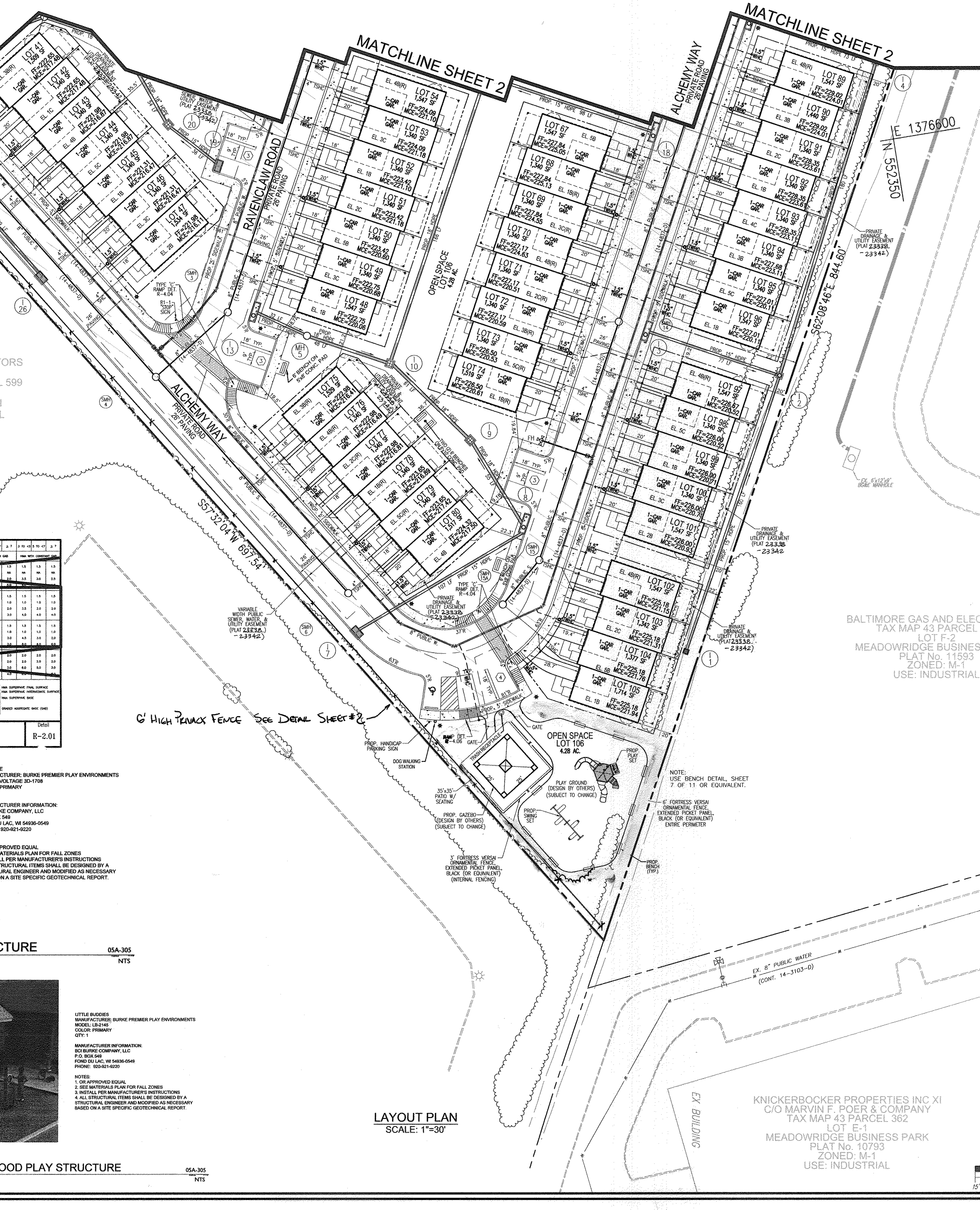
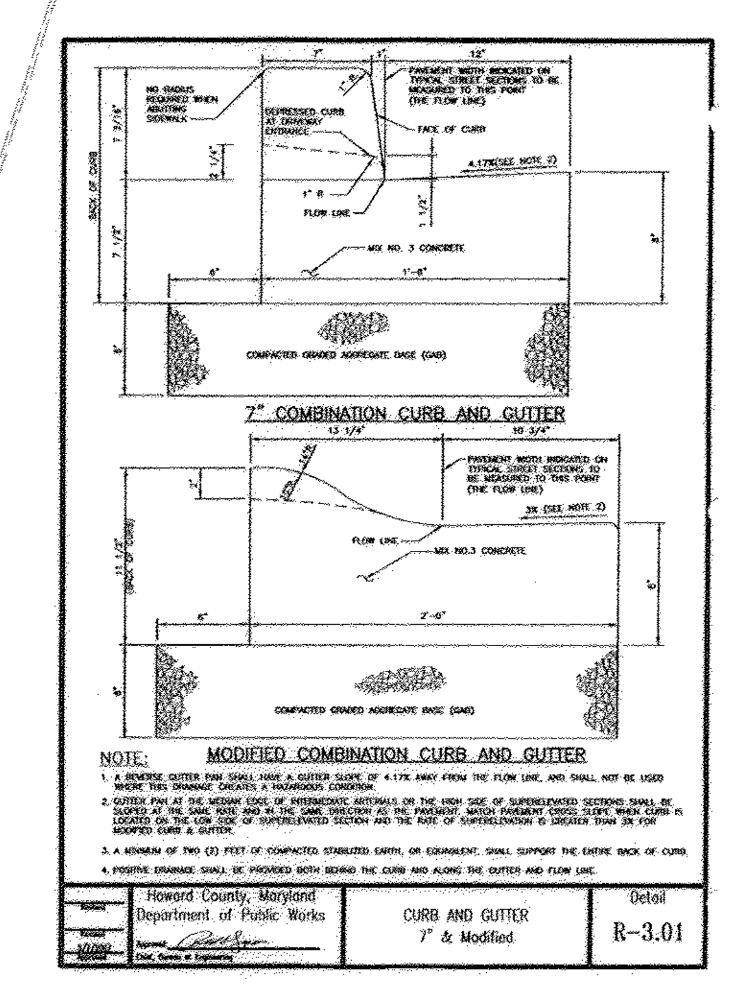
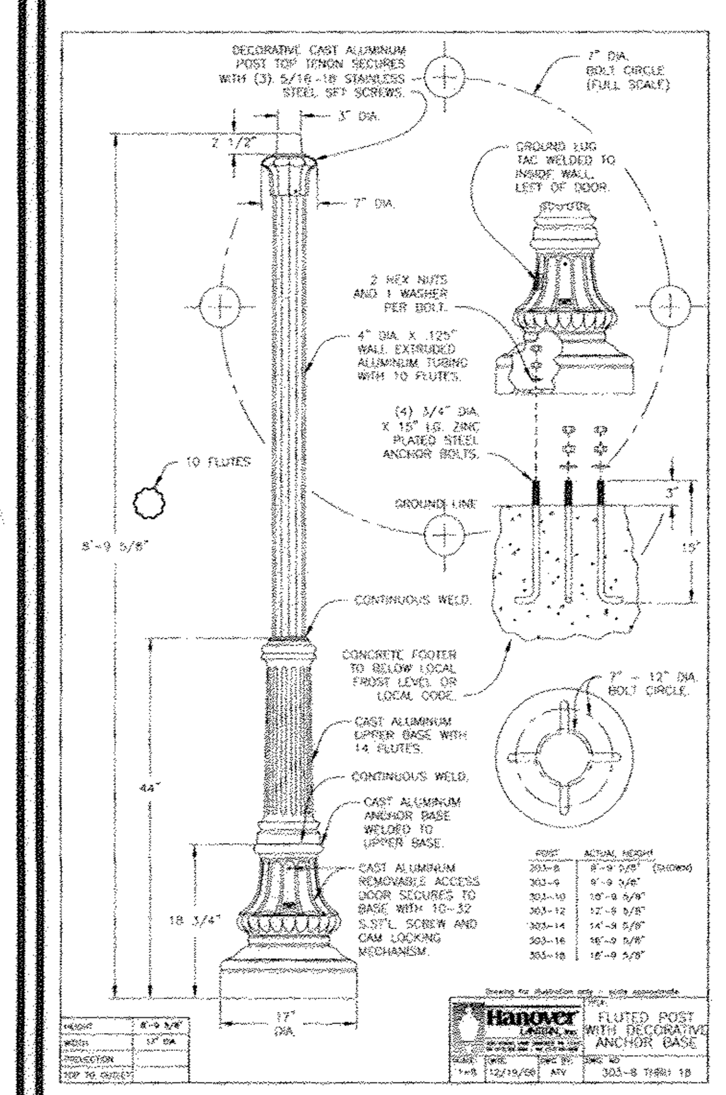
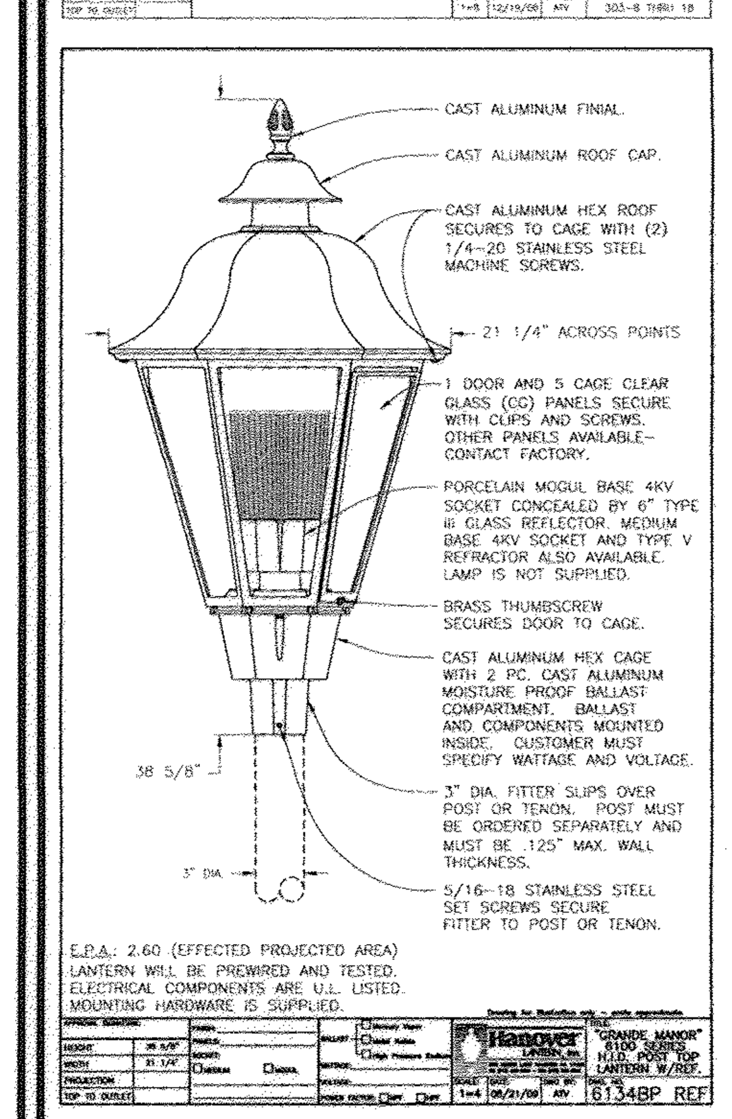
LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING TREELINE
- EXISTING TREES
- EXISTING FENCE
- PROPOSED STORMDRAIN
- PROPOSED STORMDRAIN INLET
- PROPOSED SIDEWALK
- PROPOSED TREELINE
- PROPOSED CURB
- PROPOSED STREET LIGHT
- PRIVATE DRAINAGE & UTILITY EASEMENT (PLAT 23338-42)
- VARIABLE WIDTH PUBLIC SEWER, WATER & UTILITY EASEMENT (PLAT 23338-42)







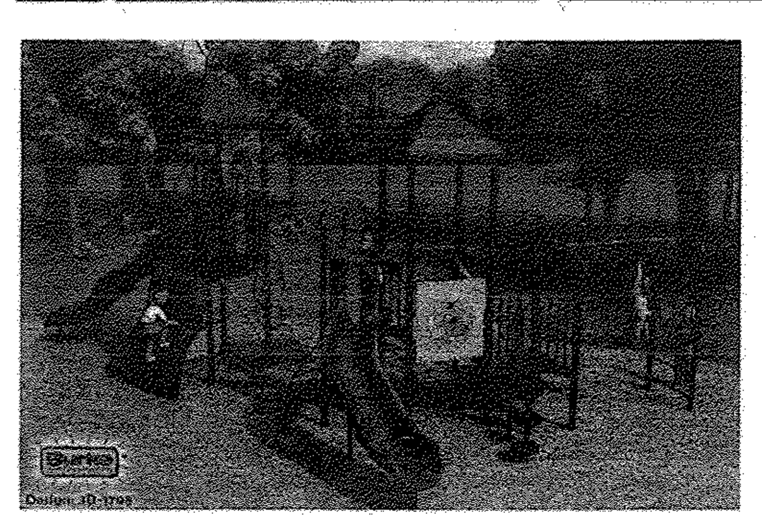


SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR) / PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB: 3 TO <5	MIN HMA WITH GAB: 5 TO <7	MIN HMA WITH GAB: ≥ 7	HMA WITH CONSTANT GAB: 3 TO <5	HMA WITH CONSTANT GAB: 5 TO <7	HMA WITH CONSTANT GAB: ≥ 7
P-1	[illegible] RESIDENTIAL AND NON-[illegible] PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM PG 64-22, LEVEL 1 (ESAL)	[illegible]	1.5	1.5	1.5	1.5	1.5
		[illegible] INTERMEDIATE SURFACE (NA)	NA	NA	NA	NA	NA	NA
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	[illegible]	3.0	2.0	3.5	3.0	2.5
		[illegible]	8.5	7.0	5.0	[illegible]	[illegible]	[illegible]
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	6.0	4.0	3.0	4.0	4.0	4.0
P-3	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: NON-RESIDENTIAL MINOR COLLECTORS:	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	3.0	3.0	3.0	4.5	3.0	2.0
		[illegible]	10.0	6.0	3.0	6.0	6.0	6.0
P-4	[illegible] NON-RESIDENTIAL MAJOR COLLECTORS	HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 64-22, LEVEL 2 (LOW ESAL)	[illegible]	2.0	2.0	2.0	2.0	2.0
		HMA [illegible] LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 2 (LOW ESAL)	[illegible]	4.0	3.0	6.0	5.0	3.0
		GRADED AGGREGATE BASE (GAB)	13.0	7.0	4.0	[illegible]	[illegible]	4.0

Notes:
1) HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARBAGE TRUCKS.
2) HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2.0" MIN TO 4.0" MAX), 12.5 MM SURFACE (1.5" MIN TO 3.0" MAX), AND 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX)
3) GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 6" MAX COMPACTED THICKNESS LAYERS.
4) THE INTERMEDIATE SURFACE COURSE LAYER MUST BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION INSPECTION AND BOND REDUCTION.
5) IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL/INDUSTRIAL ENTRANCE APRONS WITHIN THE COUNTY RIGHT-OF-WAY WHERE AUXILIARY LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE PAVEMENT LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.
6) THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CBR VALUE FOR EACH ROADWAY

HMA SUPERPAVE FINAL SURFACE
HMA SUPERPAVE INTERMEDIATE SURFACE
HMA SUPERPAVE BASE
GRADED AGGREGATE BASE (GAB)

Howard County, Maryland Department of Public Works | PAVING SECTIONS P-1 to P-4 | Detail R-2.01

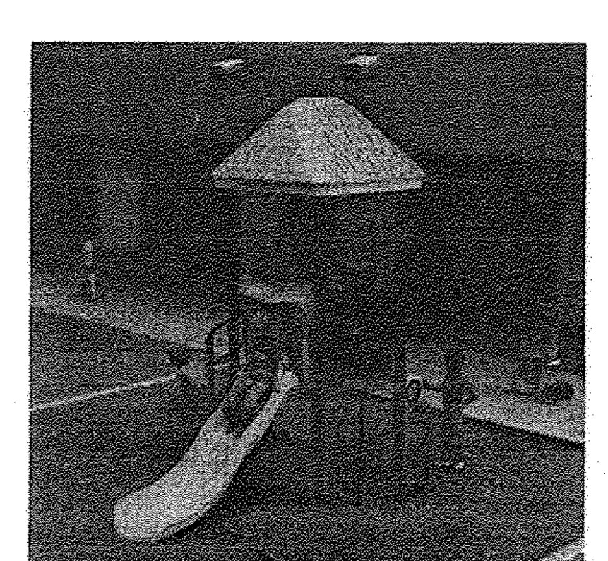


VOLTAGE
MANUFACTURER: BURKE PREMIER PLAY ENVIRONMENTS
MODEL: VOLTAGE 3D-1708
COLOR: PRIMARY
QTY: 1

MANUFACTURER INFORMATION:
BCI BURKE COMPANY, LLC
P.O. BOX 549
FOND DU LAC, WI 54936-0549
PHONE: 920-921-9220

NOTES:
1. OR APPROVED EQUAL
2. SEE MATERIALS PLAN FOR FALL ZONES
3. INSTALL PER MANUFACTURER'S INSTRUCTIONS
4. ALL STRUCTURAL ITEMS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER AND MODIFIED AS NECESSARY BASED ON A SITE SPECIFIC GEOTECHNICAL REPORT.

7 / L-4.1 SCHOOL AGE CHILD PLAY STRUCTURE — PICTORIAL — 05A-305 — NTS



LITTLE BUDDIES
MANUFACTURER: BURKE PREMIER PLAY ENVIRONMENTS
MODEL: LB-2145
COLOR: PRIMARY
QTY: 1

MANUFACTURER INFORMATION:
BCI BURKE COMPANY, LLC
P.O. BOX 549
FOND DU LAC, WI 54936-0549
PHONE: 920-921-9220

NOTES:
1. OR APPROVED EQUAL
2. SEE MATERIALS PLAN FOR FALL ZONES
3. INSTALL PER MANUFACTURER'S INSTRUCTIONS
4. ALL STRUCTURAL ITEMS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER AND MODIFIED AS NECESSARY BASED ON A SITE SPECIFIC GEOTECHNICAL REPORT.

6 / L-4.1 EARLY CHILDHOOD PLAY STRUCTURE — PICTORIAL — 05A-305 — NTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.20.15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6-02-15
DIRECTOR	DATE 6/2/15

TYPICAL PLAYGROUND PAVING SECTION

- MIN. 2.5" POROUS RUBBER
- 4" AIR-ENTRAINED PORTLAND CEMENT CONCRETE (MIN. 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI) (SLOPED TO INLET/DRAIN)
- 4" COMPACTED DENSE-GRADED AGGREGATE SUBBASE (CR-6 OR GASB)

** SEE MANUFACTURES SECTION, ACTUAL SECTION MAY VARY BASED ON PRODUCT.

CONCRETE PAVING SECTIONS DRIVEWAYS APRONS

- MIN. 4.0" AIR-ENTRAINED PORTLAND CEMENT CONCRETE (MIN. 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI)
- MIN 4" COMPACTED DENSE-GRADED AGGREGATE SUBBASE (CR-6 OR GASB)

NOTE:
PAVING SECTIONS ARE TO BE VERIFIED AND APPROVED BY THE GEOTECH PRIOR TO CONSTRUCTION.

OWNER/DEVELOPER

U.S. HOME CORPORATION
C/O JOSEPH FORTINO
10211 WINCOPIN CIRCLE
SUITE 180
COLUMBIA, MD 21044
410-997-5522

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE ALONG THE SOUTHEASTERN PROPERTY LINE	12/21/16

SITE DEVELOPMENT PLAN

LAYOUT PLAN

BLUE STREAM TOWNS - SECTION 2

BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1
TOWNHOMES
ZONED: CAC-CLI

TAX MAP 43 GRID 4 — 1ST ELECTION DISTRICT — PARCEL 14 — HOWARD COUNTY, MARYLAND

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STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE No.16193

DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: APRIL 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.14

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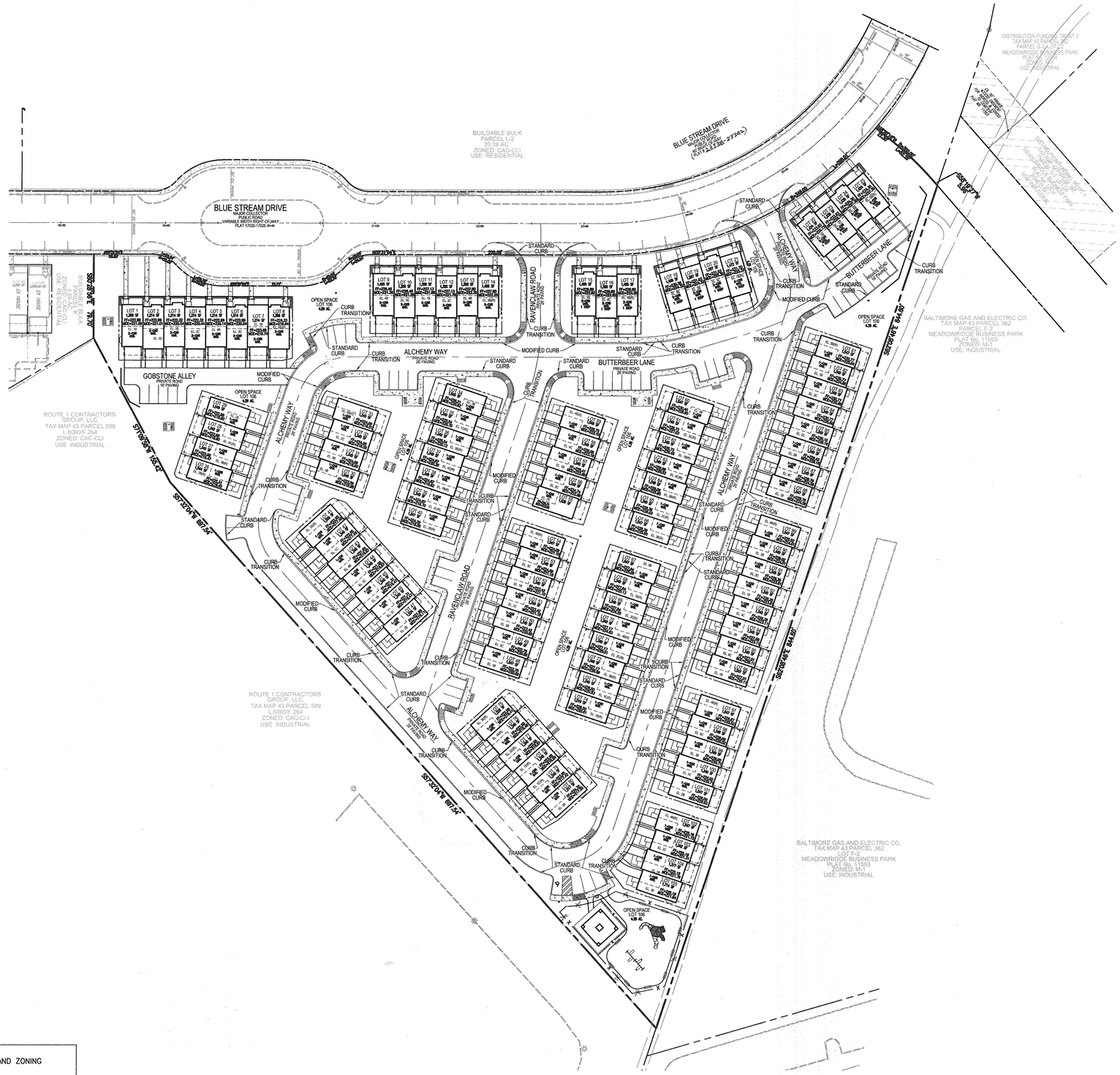
SDP-14-029



CURB TRANSITION PLAN

SCALE: 1"=50'

SCALE 1"=50'

25' 0' 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.20.15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6-02-15
DIRECTOR	DATE 6/3/15

OWNER/DEVELOPER

U.S. HOME CORPORATION
C/O JOSEPH FORTINO
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410-997-5522

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE ALONG THE SOUTHEASTERN PROPERTY LINE	12/21/16

SITE DEVELOPMENT PLAN

CURB TRANSITION PLAN

BLUE STREAM TOWNS - SECTION 2

BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1

TAX MAP 43 GRID 4 — TOWNHOMES — PARCEL 14
1ST ELECTION DISTRICT — ZONED: CAC-CLI — HOWARD COUNTY, MARYLAND

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ROBERT H. VOGEL, PE No.16193

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SHEET 4 OF 13

SDP-14-029

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OWNER/DEVELOPER

U.S. HOME CORPORATION
C/O JOSEPH FORTINO
10211 WINCOPIN CIRCLE
SUITE 180
COLUMBIA, MD 21044
410-997-5522

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE ALONG THE SOUTHEASTERN PRIVACY LINE	12/21/16

SITE DEVELOPMENT PLAN

GRADING, SEDIMENT AND EROSION CONTROL PLAN

BLUE STREAM TOWNS - SECTION 2

BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1
TOWNHOMES
ZONED: CAC-CLI

TAX MAP 43 GRID 4 — 1ST ELECTION DISTRICT — PARCEL 14 — HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: APRIL 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.14

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014

STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — REGISTERED PROFESSIONAL ENGINEER

ROBERT H. VOGEL, PE No.16193

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.20.15
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-02-15
DIRECTOR — DATE 6/2/15

BY THE DEVELOPER:

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

U.S. HOME CORP.
SIGNATURE OF DEVELOPER VICE PRES. — DATE 5.8.15

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 5/13/15

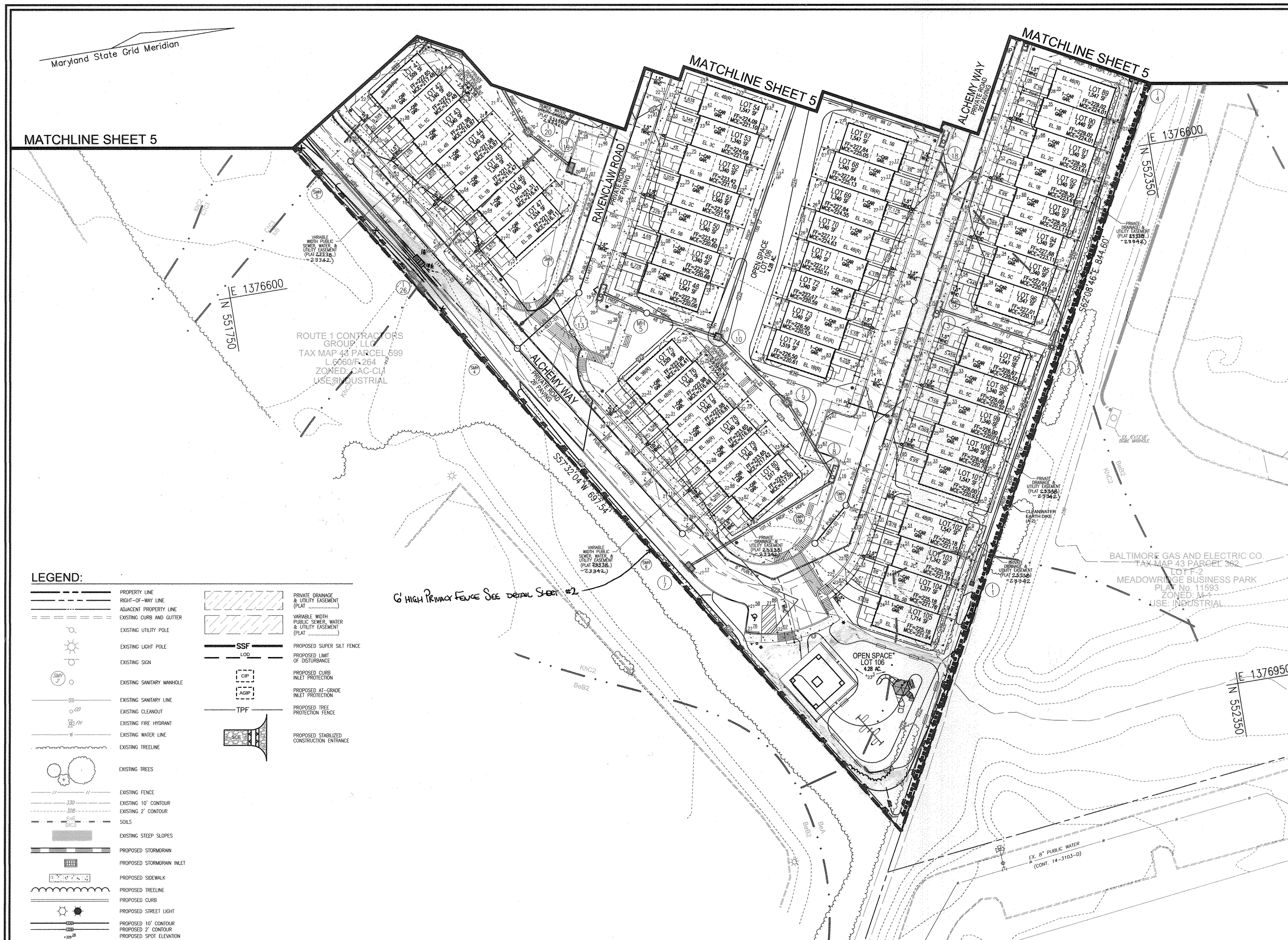
SCALE 1"=30'

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

HOWARD S.C.D. — DATE 5/18/15

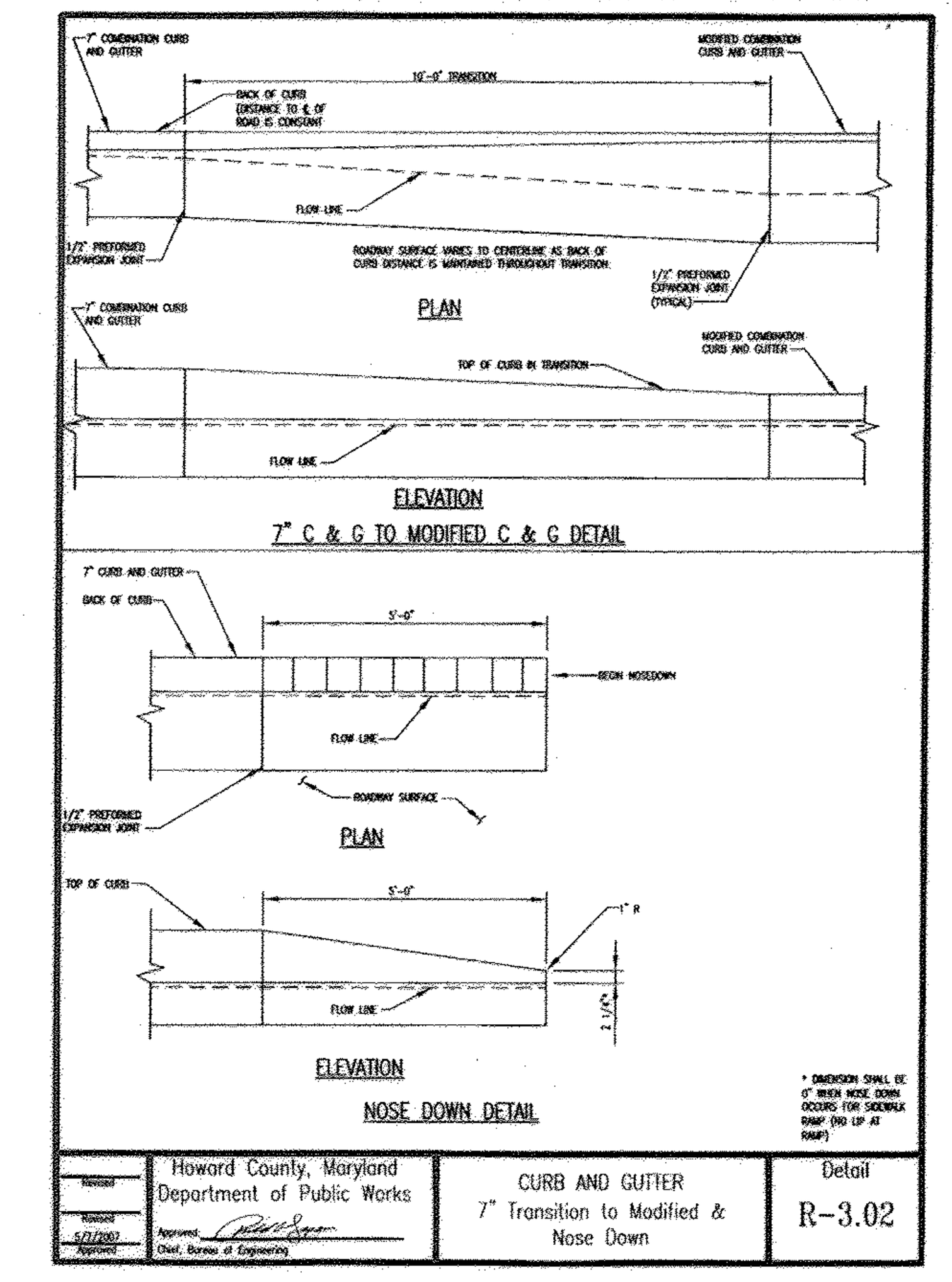
SDP-14-029

K:\Projects\06-26\ENGR\dwg\SDP\TOWNS2\05_GRADING.dwg, 5/8/2015 10:44:53 AM

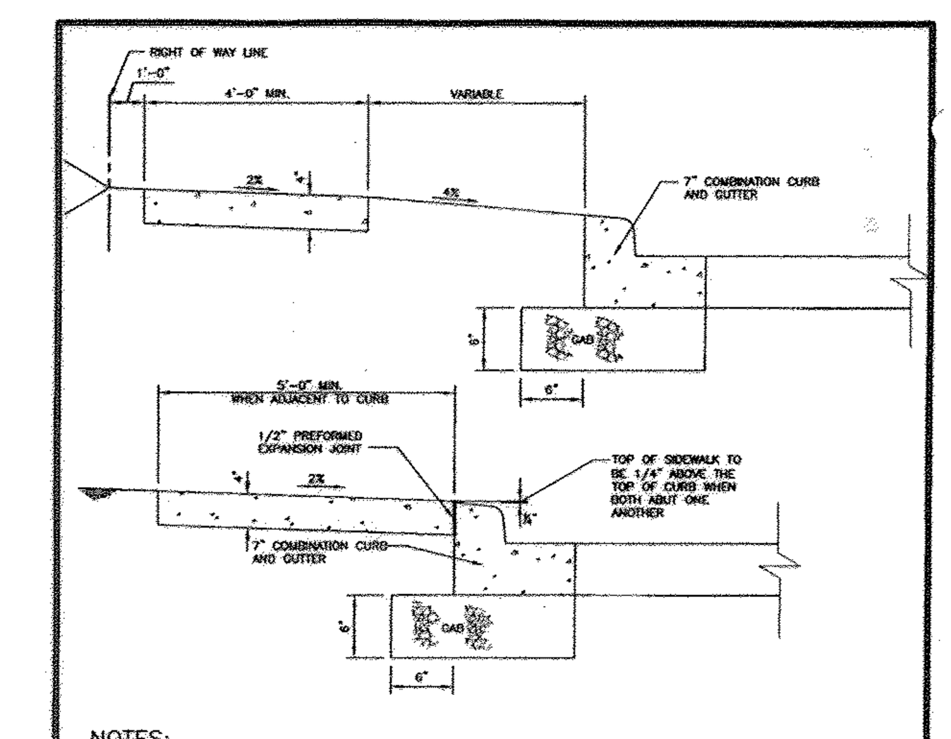


LEGEND:

PROPERTY LINE	PRIVATE DRAINAGE & UTILITY EASEMENT (PLAT ______)
RIGHT-OF-WAY LINE	VARIABLE WIDTH PUBLIC SEWER, WATER & UTILITY EASEMENT (PLAT ______)
ADJACENT PROPERTY LINE	PROPOSED SUPER SILT FENCE (SSF)
EXISTING CURB AND GUTTER	PROPOSED LIMIT OF DISTURBANCE (LOD)
EXISTING UTILITY POLE	PROPOSED CURB INLET PROTECTION (CIP)
EXISTING LIGHT POLE	PROPOSED AT-GRADE INLET PROTECTION (AGIP)
EXISTING SIGN	PROPOSED TREE PROTECTION FENCE (TPF)
EXISTING SANITARY MANHOLE	PROPOSED STABILIZED CONSTRUCTION ENTRANCE (SCE)
EXISTING SANITARY LINE	
EXISTING CLEANOUT	
EXISTING FIRE HYDRANT	
EXISTING WATER LINE	
EXISTING TREELINE	
EXISTING TREES	
EXISTING FENCE	
EXISTING 10' CONTOUR	
EXISTING 2' CONTOUR	
SOILS	
EXISTING STEEP SLOPES	
PROPOSED STORMDRAIN	
PROPOSED STORMDRAIN INLET	
PROPOSED SIDEWALK	
PROPOSED TREELINE	
PROPOSED CURB	
PROPOSED STREET LIGHT	
PROPOSED 10' CONTOUR	
PROPOSED 2' CONTOUR	
PROPOSED SPOT ELEVATION	



Howard County, Maryland Department of Public Works — CURB AND GUTTER 7" Transition to Modified & Nose Down — Detail R-3.02



NOTES:

1. SIDEWALK TO BE SCRIBED IN 5'-0" MAXIMUM SQUARES.
2. EXPANSION JOINTS ACROSS THE SIDEWALK NOT TO BE MORE THAN 15' APART.
3. 1/2" PREFORMED EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" BELOW SURFACE OF SIDEWALK.
4. CONCRETE TO BE MIX NO.3.
5. WHEN SIDEWALK ABUTS CURB, SIDEWALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED EXPANSION JOINT BETWEEN SIDEWALK AND CURB.
6. ON LONGITUDINAL SIDEWALK GRADES OF 5% OR GREATER, A CONCRETE HEADER, 6" THICK AND 6" DEEP BELOW THE NORMAL 4" SIDEWALK THICKNESS SHALL BE CONSTRUCTED FOR THE FULL WIDTH OF THE SIDEWALK AT INTERVALS OF 48 FEET. THE HEADERS SHALL BE PLACED AT THE EXPANSION JOINT LOCATIONS AND SHALL BE MONOLITHIC WITH THE SIDEWALK.
7. SIDEWALK WIDTH ADJACENT TO CURB SHALL BE 5'-0" MINIMUM EXCEPT SIDEWALK ADJACENT TO CURB IN CUL-DE-SAC BULBS MAY BE 4'-0" WIDE.
8. SIDEWALK LOCATED 2' OR MORE FROM CURB MAY BE 4'-0" IN WIDTH WITH A 5'x5' PAVED SECTION PLACED 200' APART.
9. 4'-0" SIDEWALK REQUIRES A PASSING AREA (SEE DETAIL R-4.01).

Howard County, Maryland Department of Public Works — Concrete Sidewalk — Detail R-3.05

OWNER/DEVELOPER

U.S. HOME CORPORATION
C/O JOSEPH FORTINO
10211 WINCOPIN CIRCLE
SUITE 180
COLUMBIA, MD 21044
410-997-5522

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE ALONG THE SOUTHEASTERN PROPERTY LINE	12/21/16

SITE DEVELOPMENT PLAN

GRADING, SEDIMENT AND EROSION CONTROL PLAN

BLUE STREAM TOWNS - SECTION 2

BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1
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GRADING PLAN
SCALE: 1"=30'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.20.15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6-02-15
DIRECTOR	DATE 6/4/15

BY THE DEVELOPER:

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SIGNATURE OF ENGINEER — DATE 3/13/15

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

HOWARD S.C.D. — DATE 5/18/15

SDP-14-029

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

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

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA
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 DISCHARROWS 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 1½ 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.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. 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 SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEENOBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
6. SITE ANALYSIS:

TOTAL SITE AREA	7.64 ACRES
AREA DISTURBED	7.69 ACRES
AREA TO BE ROOFED OR PAVED	4.15 ACRES
AREA TO BE VEGETATIVELY STABILIZED	3.54 ACRES
TOTAL CUT	17,398 CY*
TOTAL FILL	20,542 CY*
OFFSITE WASTE/BORROW LOCATION	ON-SITE **

7. ANY SEDIMENT CONTROL PRACTICE THAT 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 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 THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED BY THE END OF EACH WORKDAY, 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 BEEN 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.

* ESTIMATE ONLY. CONTRACTOR SHALL VERIFY QUANTITIES TO HIS OWN SATISFACTION.
**TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, WITH AN APPROVED AND ACTIVE GRADING PERMIT.

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 8.1, PERMANENT SEEDING TABLE 8.3, 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, LYE, 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 TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
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.

PERMANENT SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): ZONE 6b SEED MIXTURE (FROM TABLE B.3): 11					FELIZER RATE (10-20-20)			LIME RATE
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P_2O_5	K_2O	
11	CREEPING RED FESCUE	30 LB / AC	MAR 1 TO MAY 15 AUG 15 TO OCT 15	1/4-1/2 IN.	45 LB/AC (1 LB PER 1000 SF)	90 LB/AC (2 LB PER 1000 SF)	90 LB/AC (2 LB PER 1000 SF)	2 TONS/AC (90 LB PER 1000 SF)
	CHEWINGS FESCUE,	30 LB / AC						
	KENTUCKY BLUEGRASS	20 LB / AC						

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION
A MOUND OR PILE OF SOIL PROTECTION BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

PURPOSE
TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.

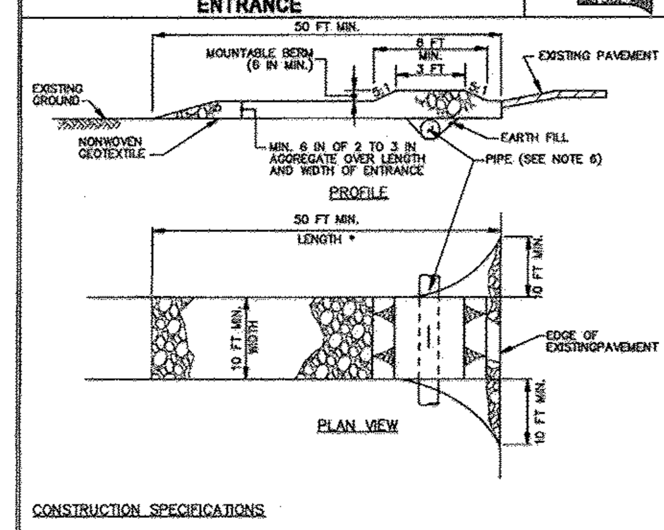
CONDITIONS WHERE PRACTICE APPLIES
STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CRITERIA

I-0.13,I.0.13;1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
7. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

MAINTENANCE
THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

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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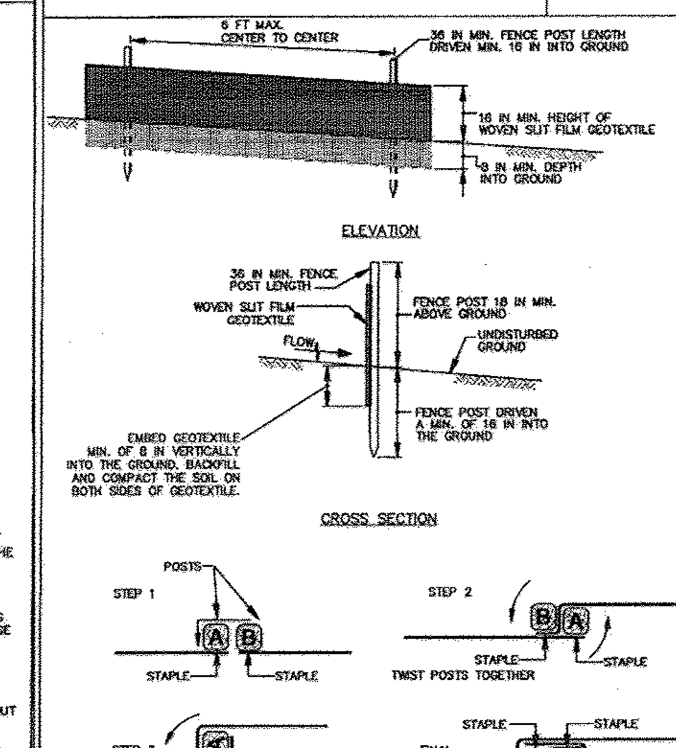
DETAIL E-1 SILT FENCE
STANDARD SYMBOL —SF—



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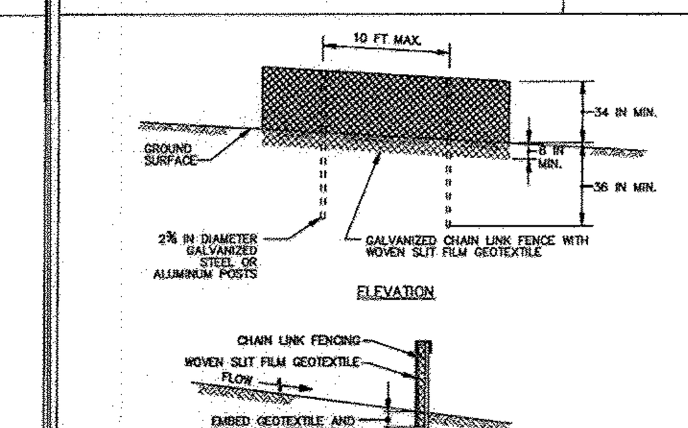
DETAIL E-3 SUPER SILT FENCE
STANDARD SYMBOL —SSF—



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 (2⅝ 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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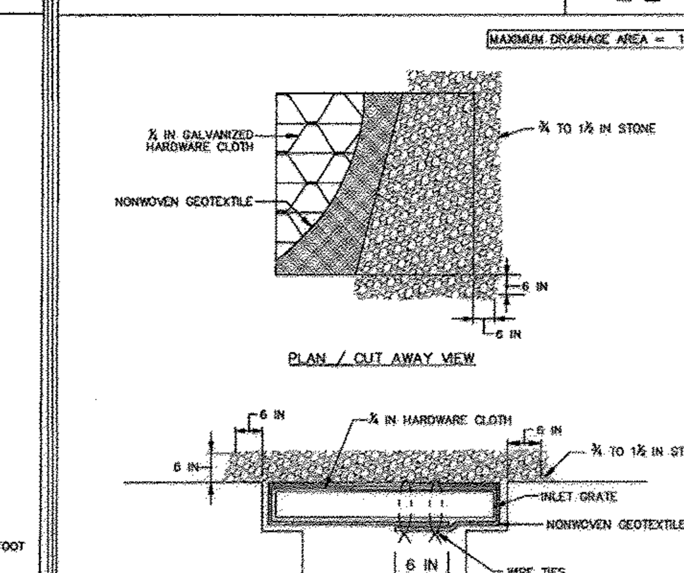
DETAIL E-9-2 AT-GRADE INLET PROTECTION
STANDARD SYMBOL AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE



CONSTRUCTION SPECIFICATIONS
1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. 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
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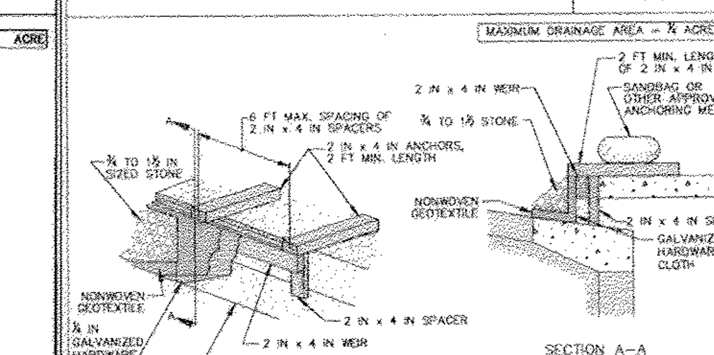
DETAIL E-9-3 CURB INLET PROTECTION
STANDARD SYMBOL CIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



CONSTRUCTION SPECIFICATIONS
1. USE NOMINAL 2-INCH x 4-INCH LUMBER.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. 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
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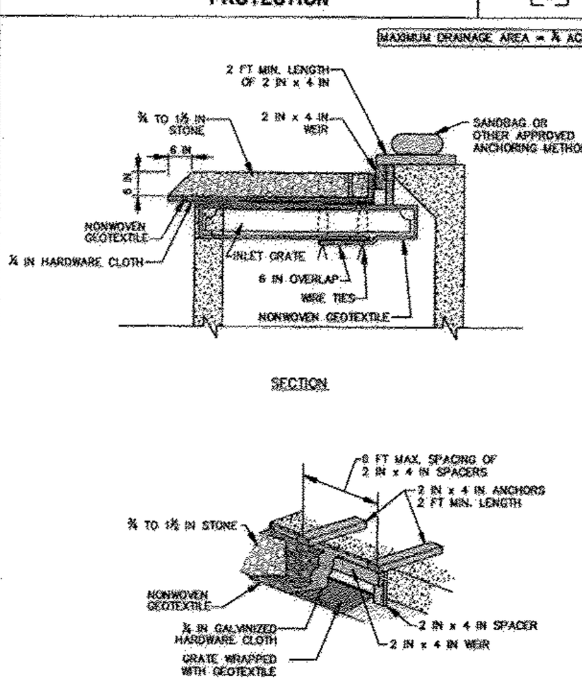
DETAIL E-9-6 COMBINATION INLET PROTECTION
STANDARD SYMBOL COIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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SEQUENCE OF CONSTRUCTION

1. OBTAIN HOWARD COUNTY GRADING PERMIT. (WEEK 1)
2. NOTIFY HOWARD COUNTY AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION. (WEEK 1)
3. CONDUCT A PRE-CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR PRIOR TO ANY LAND DISTURBANCE. (WEEK 1)
4. INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM. (WEEK 2)
5. CLEARING AND GRUBBING AS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS. (2 DAYS)
6. INSTALL ALL PERIMETER CONTROLS INCLUDING SILT FENCE, SUPER SILT FENCE AND EARTH DIKES, AS INDICATED ON PLANS. (WEEK 2)
6. WITH APPROVAL OF SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF SITE. (WEEK 3)
7. BEGIN SITE GRADING AND UTILITY CONSTRUCTION. ELIMINATE EXISTING SEDIMENT BASIN #4 PER GP-11-002 AND BRING SITE TO GRADE, DIRECT RUNOFF TO INLETS AND SEDIMENT BASIN #2 PER F-02-035. REFERENCE F-02-035 FOR MAINTENANCE OF SEDIMENT BASIN NO. 2.
8. AFTER STORM DRAIN IS COMPLETE FINE GRADE AS REQUIRED TO DIRECT RUNOFF TO INLETS.
9. ESTABLISH TOWNHOUSE PADS. (2 WEEKS)
10. WITH INSPECTOR'S APPROVAL, BEGIN INSTALLATION OF CURB AND GUTTER AND ON-SITE BASE COURSE PAVING. (3 WEEKS)
11. COMPLETE TOWNHOUSE AND UTILITY CONSTRUCTION.
12. COMPLETE ALL CURB & GUTTER CONSTRUCTION. (1 WEEK)
13. COMPLETE ALL BASE COURSE PAVEMENT CONSTRUCTION. (1 WEEK)
14. CONSTRUCT SURFACE COURSE PAVING AND SIDEWALKS. (1 WEEK)
15. WITH THE INSPECTOR'S APPROVALM, FINE GRADE AND STABILIZE ALL AREAS OF PARCEL INCLUDING ANY EXPOSED EARTH AREAS OUTSIDE THE LOD. REMOVE ALL TRASH JUNK AND DEBRIS FROM ENTIRE PARCEL. (1 WEEK)
16. INSTALL SITE LANDSCAPING. (WEEK 15)
17. FLUSH STORM DRAIN SYSTEM AND REMOVE ALL REMAINING SEDIMENT CONTROLS AFTER RECIEVING APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR. STABILIZE ALL REMAINING DISTURBED AREAS.

NOTES:
1. DURING GRADING AND AFTER EACH RAINFALL, CONTRACTOR WILL INSPECT AND PROVIDE NECESSARY MAINTENANCE TO THE SEDIMENT CONTROL MEASURES ON THIS PLAN.
2. FOLLOWING INITIAL SOIL DISTURBANCES OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL 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 TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

DETAIL E-1 SILT FENCE
STANDARD SYMBOL —SF—

CONSTRUCTION SPECIFICATIONS
1. USE WOOD POSTS 1¾ X 1¾ ± ⅟₁₆ 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.

H-5 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.

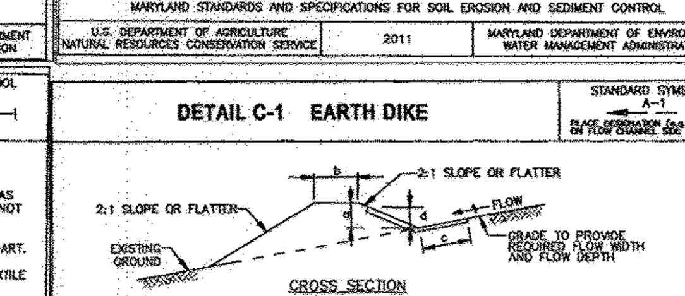
Conditions Where Practice Applies

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.

DETAIL C-1 EARTH DIKE
STANDARD SYMBOL A-1



	DIKE TYPE A	DIKE TYPE 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 EARTHDIKE.
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. 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.

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
C.5

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate [1] lb/ac	Seeding Rate [1] lb/1000 ft²	Seeding Depth [2] (inches)	Recommended Seeding Dates by Plant Hardiness Zone [3] 5b and 6a	6b	7a and 7b
Cool-Season Grasses						
Annual Ryegrass (*Lolium perenne ssp. multiflorum*)	40	1.0	0.5	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Barley (*Hordeum vulgare*)	96	2.2	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Oats (*Avena sativa*)	72	1.7	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Wheat (*Triticum aestivum*)	120	2.8	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Cereal Rye (*Secale cereale*)	112	2.8	1.0	Mar 15 to May 31; Aug 1 to Oct 31	Mar 1 to May 15; Aug 1 to Nov 15	Feb 15 to Apr 30; Aug 15 to Dec 15
Warm-Season Grasses						
Foxtail Millet (*Setaria italica*)	30	0.7	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14
Pearl Millet (*Pennisetum glaucum*)	20	0.5	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14

FERTILIZER RATE (10-20-20)	LIME RATE
436 LB/AC (10 LB PER 1000 SF)	2 TONS/AC (90 LB PER 1000 SF)

NOTES:
1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

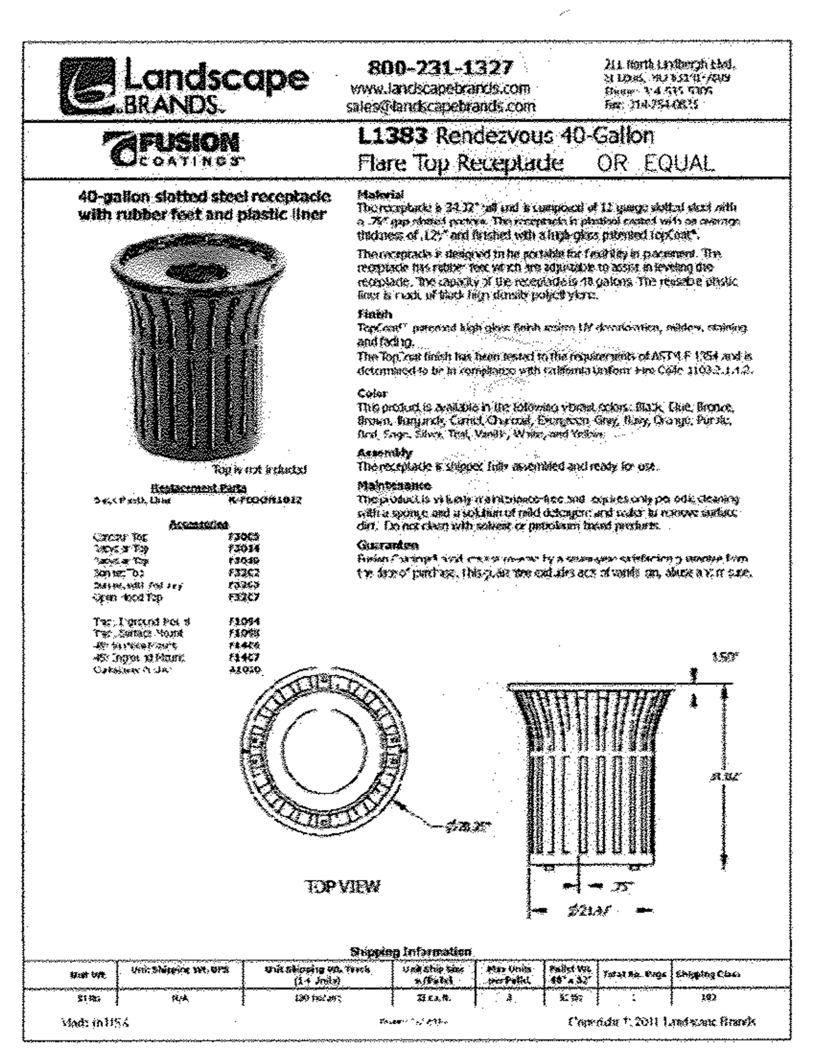
Oats are the recommended nurse crop for warm-season grasses.

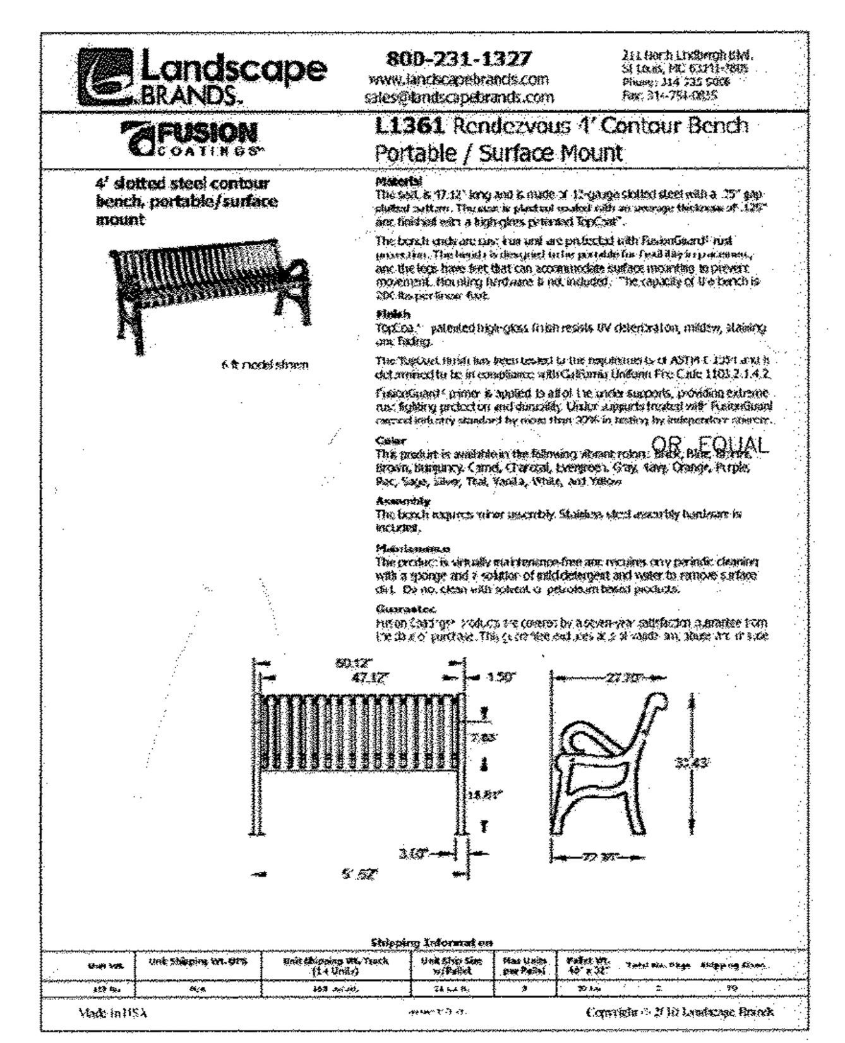
2/ For sandy soils, plant seeds at twice the depth listed above.
3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

DETAIL E-9-6 COMBINATION INLET PROTECTION
STANDARD SYMBOL COIP

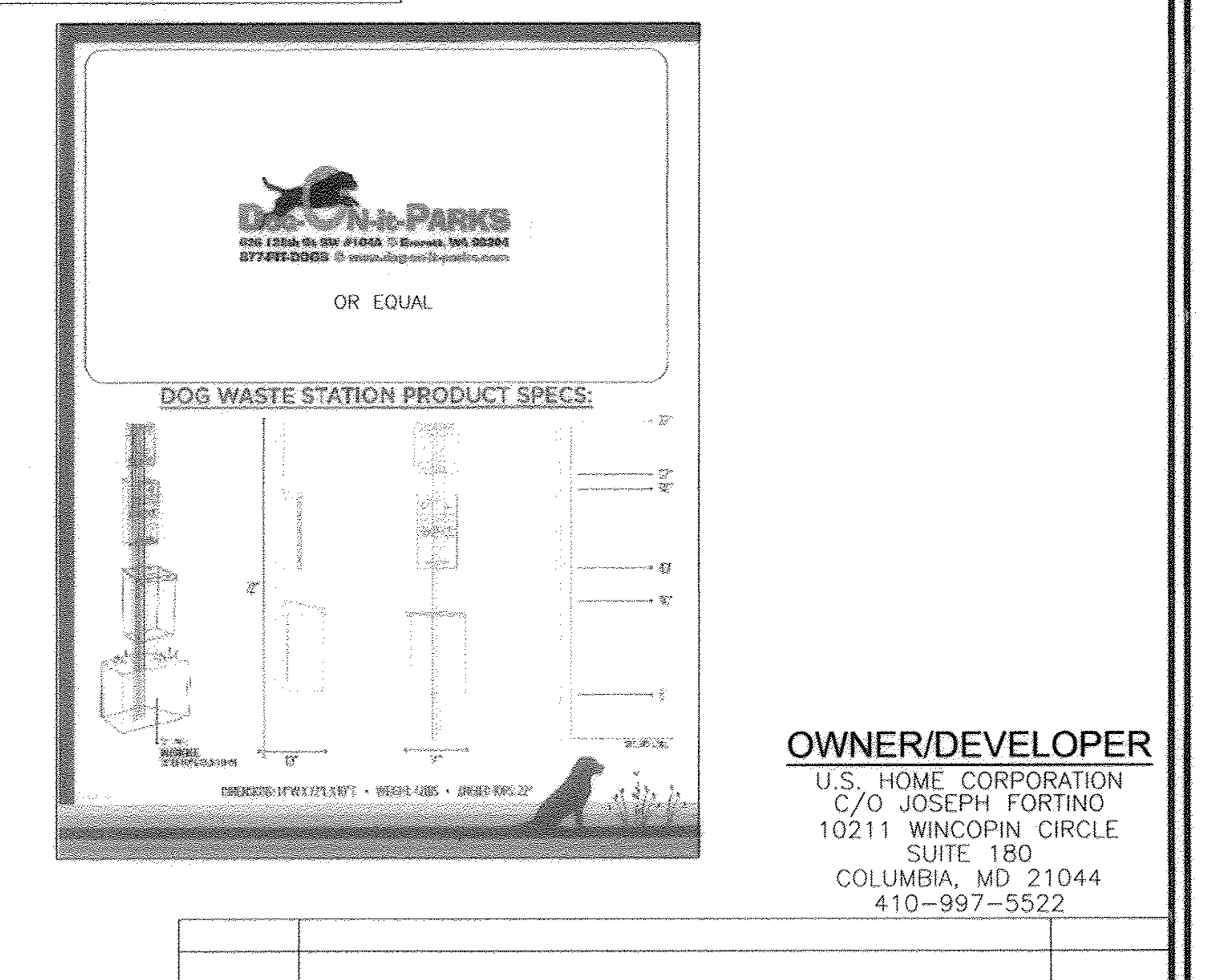
CONSTRUCTION SPECIFICATIONS
1. USE NOMINAL 2 INCH x 4 INCH LUMBER.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. LIFT GRATE, AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2X4 WEIR, EXTENDING 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH IT TO THE WEIR.
6. NAIL THE 2X4 WEIR TO THE TOP OF A 9 INCH LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAXIMUM 4 FEET APART).
7. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2X4 ANCHORS (MINIMUM 2 FOOT LENGTHS OF 2X4 INCH TO THE TOP OF THE WEIR AT SPACER LOCATIONS). EXTEND 2X4 ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
8. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND BOTH ENDS OF THE THROAT OPENING.
9. FORM THE ¼ INCH HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE OVER THE HARDWARE CLOTH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
10. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
11. 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.

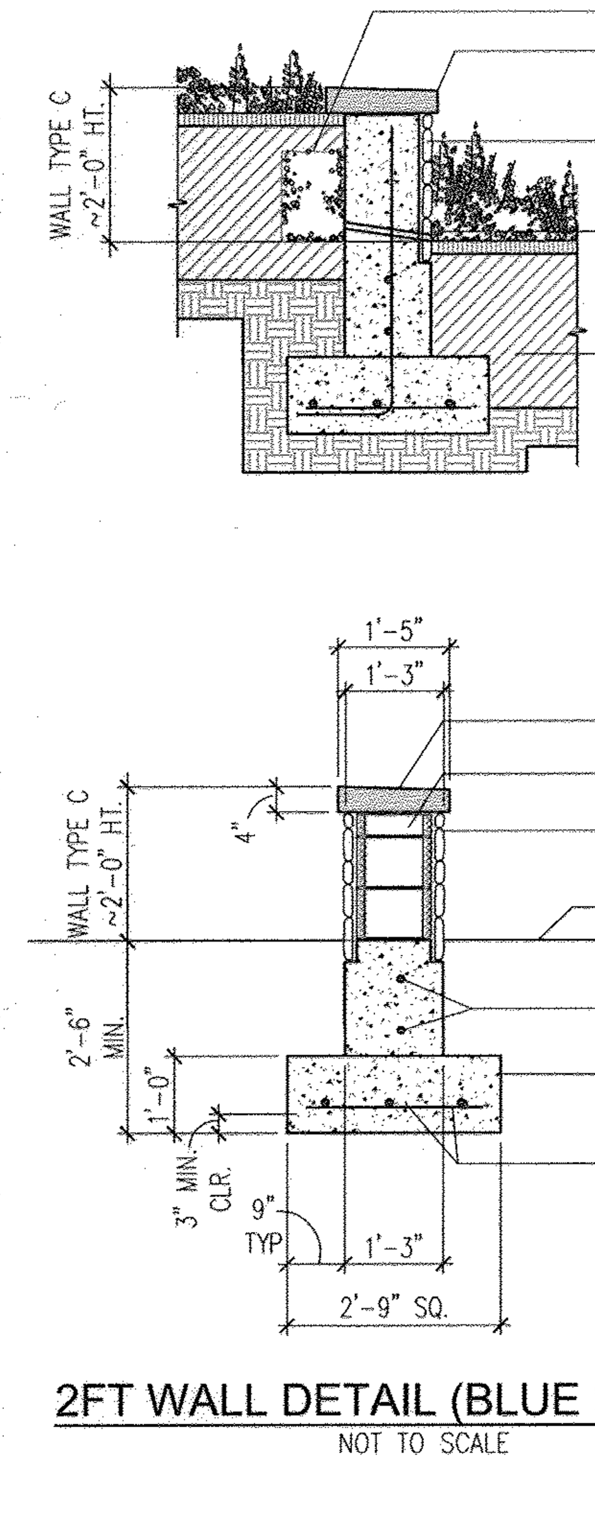
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



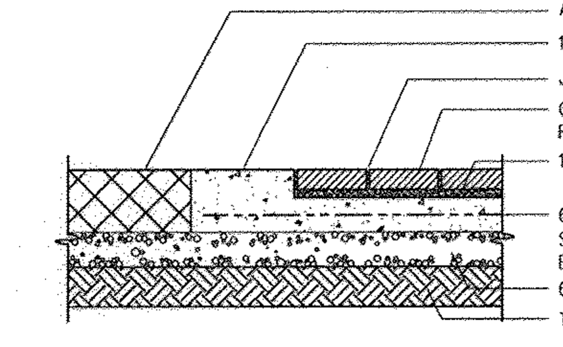


RECREATION OPEN SPACE AMENITIES





2FT WALL DETAIL (BLUE STREAM)
NOT TO SCALE



NOTE:
* SLOPE PAVERS 1/4" PER FOOT MIN. FOR DRAINAGE
* JOINT SAND: APPLY SAND, SWEEP JOINTS, REMOVE LARGE SAND PARTICLES FROM SURFACE, REPEAT PROCESS 3 TIMES MIN.
* F'C=4000 PSI

CROSSWALK PAVER DETAIL
NOT TO SCALE

OWNER/DEVELOPER

U.S. HOME CORPORATION
C/O JOSEPH FORTINO
10211 WINCOPIN CIRCLE
SUITE 180
COLUMBIA, MD 21044
410-997-5522

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE ALONG THE SOUTHEASTERN PROPERTY LINE	12/21/16

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-20-15
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-02-15
DIRECTOR — DATE 6/4/15

BY THE DEVELOPER:

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

U.S. HOME CORP.
SIGNATURE OF DEVELOPER VICE PRES. — DATE 5-8-15

BY THE ENGINEER:

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

SIGNATURE OF ENGINEER — DATE 2/13/15

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

HOWARD S.C.D. /CS — DATE 5/11/15

SITE DEVELOPMENT PLAN
SITE, SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
BLUE STREAM TOWNS - SECTION 2
BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1
TOWNHOMES
ZONED: CAC-CLI
TAX MAP 43 GRID 4 — PARCEL 14
1ST ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

STATE OF MARYLAND — ROBERT HARRIS VOGEL — NO.16193 REGISTERED PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE No.16193

DESIGN BY:	RHV
DRAWN BY:	JMR
CHECKED BY:	RHV
DATE:	APRIL 2015
SCALE:	AS SHOWN
W.O. NO.:	06-26.14

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014

STORM DRAIN DRAINAGE AREA MAP
SCALE: 1"=50'

SCALE 1"=50'
25' 0' 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-20-15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6-02-15
DIRECTOR	DATE 6/8/15

LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING TREELINE
- EXISTING TREES
- EXISTING FENCE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- SOILS
- EXISTING STEEP SLOPES
- PROPOSED STORMDRAIN
- PROPOSED STORMDRAIN INLET
- PROPOSED SIDEWALK
- PROPOSED TREELINE
- PROPOSED CURB
- PROPOSED STREET LIGHT
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED DRAINAGE AREA
- 10' PARKING SETBACK EX. 10' PUBLIC SIDEWALK, STREET LIGHT, & STREET TREE MAINTENANCE EASEMENT (PLAT 21558-21564) (PLAT 22991-22992)
- EX. 10' PUBLIC REVERTIBLE TEE TURN-AROUND EASEMENT (PLAT 22991-22992)
- EX. 30' PUBLIC SEWER, WATER AND UTILITY EASEMENT (PLAT 21558-21564)
- EX. 30' PUBLIC FIRE ACCESS EASMENT (PLAT 21558-21564)
- EX. 50' PRIVATE ACCESS EASEMENT FOR THE BENEFIT OF PARCELS L AND M (PLAT 21558-21564)
- EX. 20' PRIVATE STORM DRAIN, DRAINAGE AND UTILITY EASEMENT (PLAT 21558-21564)
- EX. 50' PRIVATE ACCESS EASEMENT FOR INGRESS & EGRESS TO CEMETARY (PLAT 11593)
- PRIVATE DRAINAGE & UTILITY EASEMENT (PLAT 23339-42)
- VARIABLE WIDTH PUBLIC SEWER, WATER & UTILITY EASEMENT (PLAT 23339-42)
- 10' RETAINING WALL CONSTRUCTION BUFFER & "NO PLANTING" ZONE (PLAT 23339-42)

OWNER/DEVELOPER

U.S. HOME CORPORATION
C/O JOSEPH FORTINO
10211 WINCOPIN CIRCLE
SUITE 180
COLUMBIA, MD 21044
410-997-5522

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE ALONG THE SOUTHEASTERN PROPERTY LINE	12/21/16

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
BeA	BELTSVILLE SILT LOAM, 0 TO 1 PERCENT SLOPES	C
BeB2	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	C
C1C3	CHILLUM GRAVELLY LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED	C
IuB	IUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES	C
KhC2	KEYPORT SILT LOAM, 3 TO 10 PERCENT SLOPES, MODERATELY ERODED	C
RuB2	RUMFORD LOAMY SAND, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
SsE	SASSAFRAS SOILS, 15 TO 40 PERCENT SLOPES	B
S1B2	SASSAFRAS LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
WoB2	WOODSTOWN SANDY LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	C

NOTE: BASED ON HOWARD SOIL SURVEY

SITE DEVELOPMENT PLAN

STORM DRAIN DRAINAGE AREA MAP, PAVING PLAN, AND SOILS MAP

BLUE STREAM TOWNS - SECTION 2

BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1
TOWNHOMES
ZONED: CAC-CLI

TAX MAP 43 GRID 4 — PARCEL 14
1ST ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

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STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE No.16193

DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: APRIL 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.14

PROFESSIONAL CERTIFICATE

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SDP-14-029

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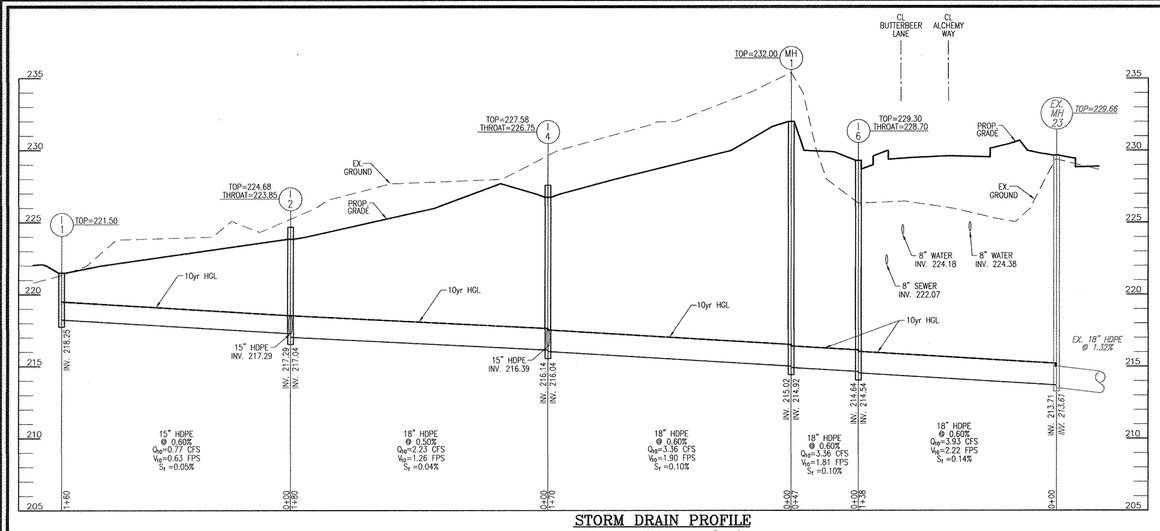
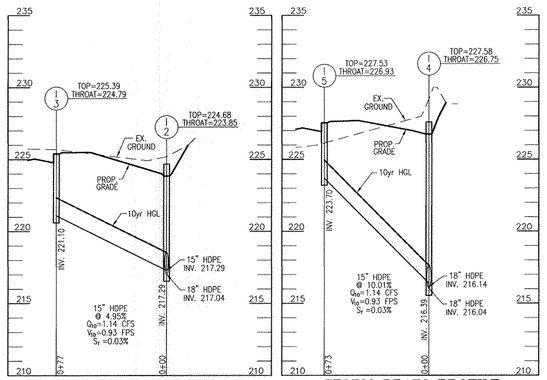


STORM DRAIN PROFILE
SCALE : HORIZONTAL – 1"=50'
VERTICAL – 1"=5'



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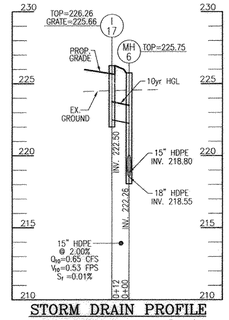

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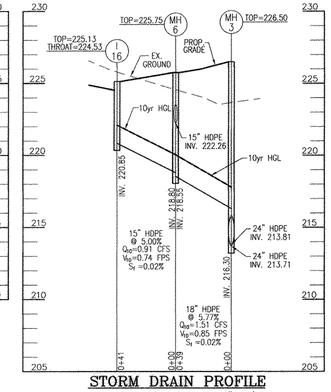

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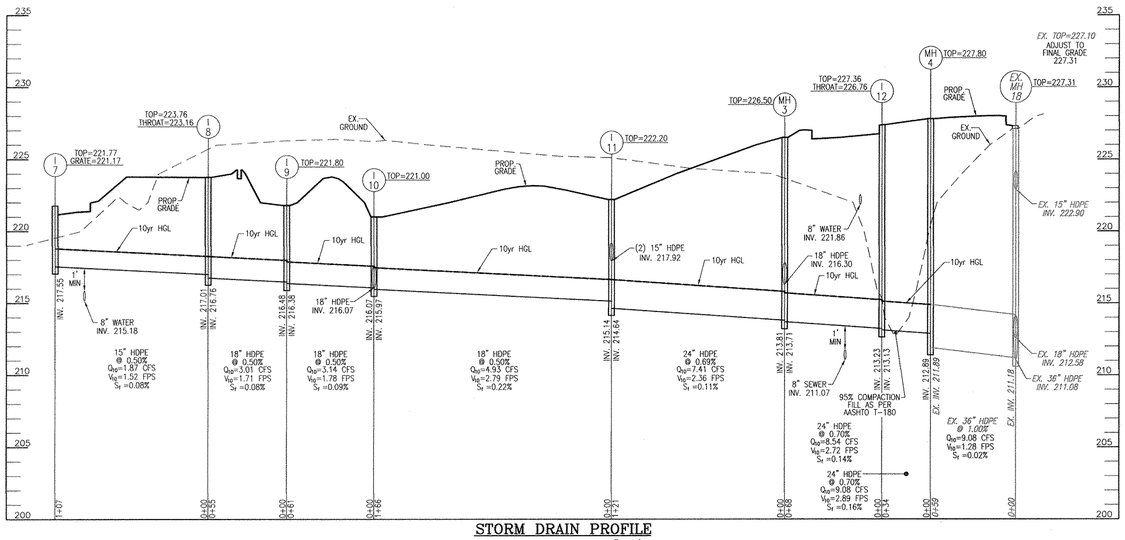

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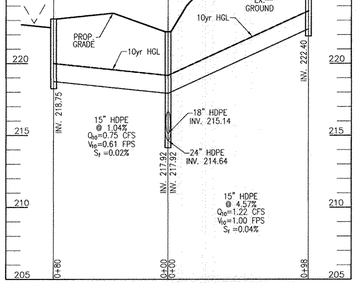

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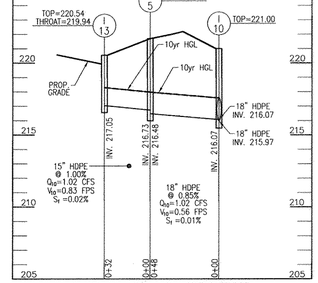

STORM DRAIN PROFILE
SCALE : HORIZONTAL – 1"=50'
VERTICAL – 1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.20.15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6-23-15
DIRECTOR	DATE 6/2/15

OWNER/DEVELOPER
U.S. HOMES CORPORATION
C/O JOSEPH FORTINO
10211 WINCOPIN CIRCLE
#180
COLUMBIA, MARYLAND 21044
410-997-5522

~~OWNER/DEVELOPER~~
~~BLUE STREAM LLC~~
~~P.O. BOX 416~~
~~ELLICOTT CITY, MD 21041~~
~~C/O. ARNOLD SAGNER~~
~~410 465 2020~~

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL ADD A 6' HIGH PRIVACY FENCE ALONG THE SOUTHEASTERN PROPERTY LINE	12/21/16

SITE DEVELOPMENT PLAN

STORM DRAIN PROFILES

BLUE STREAM TOWNS - SECTION 2

BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1

TAX MAP 43 GRID 4 — TOWNHOMES — PARCEL 14
1ST ELECTION DISTRICT — ZONED: CAC-CLI — HOWARD COUNTY, MARYLAND

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STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER
ROBERT H. VOGEL, PE No.16193

DESIGN BY:	RHV
DRAWN BY:	JMR
CHECKED BY:	RHV
DATE:	APRIL 2015
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SHEET 9 OF 13

SCALE 1"=50'
25' 0' 50'

SDP-14-029

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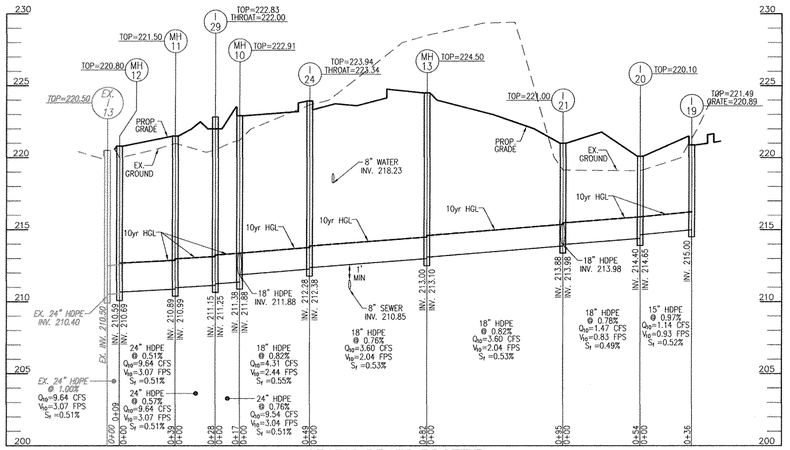

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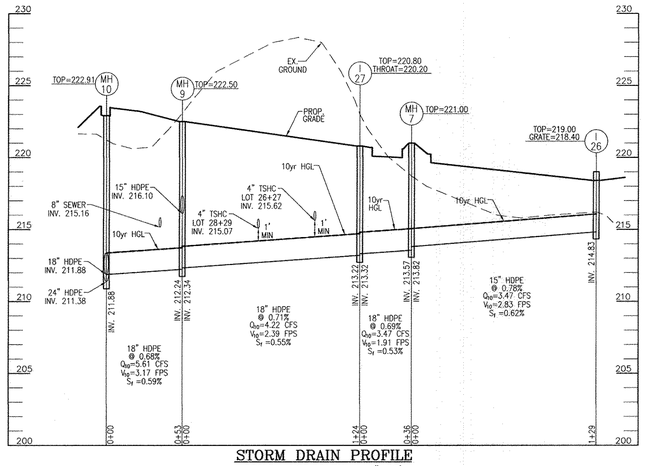

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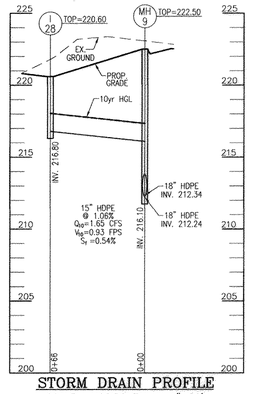

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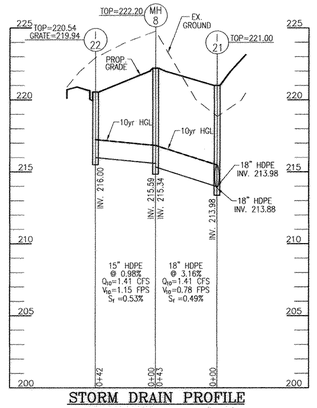

STORM DRAIN PROFILE

SCALE : HORIZONTAL – 1"=50'
VERTICAL – 1"=5'

STRUCTURE SCHEDULE

STR #	TYPE	LOCATION	TOP	THROAT	INV. IN	INV. OUT	DETAIL	REMARKS
I-1	YARD INLET	N 552191.50, E 1376858.90	221.50		-	218.25	D-4.14	
I-2	D	N 552267.01, E 1376717.84	224.68	223.85	217.29 / 217.29	217.04	D-4.10	
I-3	TYPE A-10	N 528142.93, E 1350459.61	225.39	224.79	-	221.10	D-4.03	
I-4	D	N 552347.39, E 1376556.73	227.58	226.75	216.39 / 216.14	216.04	D-4.10	
I-5	TYPE A-10	N 552281.02, E 1376521.66	227.53	226.93	-	223.70	D-4.03	
I-6	TYPE A-5	N 552402.38, E 1376369.57	229.30	228.70	214.64	214.54	D-4.01	
I-7	DOUBLE WR INLET	N 552014.71, E 1376818.27	221.77		-	217.55	D-4.35	
I-8	TYPE A-10	N 552116.77, E 1376775.91	223.76	223.16	217.01	216.76	D-4.03	
I-9	TYPE 'S'	N 552092.78, E 1376724.89	221.80		216.48	216.38	D-4.22	
I-10	TYPE 'S'	N 552055.89, E 1376676.10	221.00		216.07	215.97	D-4.22	
I-11	TYPE 'S'	N 552133.68, E 1376528.90	222.20		217.92 / 215.14	214.64	D-4.22	
I-12	TYPE A-10	N 552222.36, E 1376363.90	227.36	226.76	213.23	213.13	D-4.03	
I-13	TYPE A-10	N 551985.18, E 1376634.95	220.54	219.94	-	217.05	D-4.03	
I-15	TYPE A-10	N 552058.12, E 1376497.84	223.10	222.50	-	218.75	D-4.03	
I-16	TYPE A-10	N 552113.40, E 1376392.31	225.13	224.53	-	220.85	D-4.03	
I-17	DOUBLE WR INLET	N 552155.30, E 1376396.12	226.26		-	222.50	D-4.35	
I-18	TYPE A-10	N 552222.12, E 1376575.64	226.70	226.10	-	222.40	D-4.03	
I-19	DOUBLE WR INLET	N 551980.83, E 1376553.46	221.49		-	215.00	D-4.35	
I-20	TYPE 'S'	N 551956.50, E 1376526.57	220.10		214.65	214.40	D-4.03	
I-21	TYPE 'S'	N 551936.20, E 1376477.02	221.00		213.98 / 213.98	213.88	D-4.03	
I-22	DOUBLE WR INLET	N 551858.02, E 1376464.05	220.54		-	216.00	D-4.35	
I-24	TYPE A-5	N 528528.19, E 1351267.40	223.94	223.34	212.38	212.28	D-4.01	
I-26	DOUBLE WR INLET	N 528712.88, E 1350986.25	219.00		-	214.83	D-4.35	
I-27	TYPE A-10	N 551815.79, E 1376454.88	220.80	220.20	213.82	213.57	D-4.03	
I-28	DOUBLE-S	N 551805.49, E 1376333.08	220.60		-	216.80	D-4.23	
I-29	D	N 551901.68, E 1376286.53	222.83	222.00	211.25	211.15	D-4.10	
M-1	STD. 4' PRECAST MANHOLE	N 552429.69, E 1376408.02	232.00		215.05	214.92	G 5.12	(1)
M-3	STD. 4' PRECAST MANHOLE	N 552190.17, E 1376421.99	226.50		216.30 / 213.81	213.71	G 5.12	(1)
M-4	STD. 5' PRECAST MANHOLE	N 552225.68, E 1376327.72	227.80		212.89	211.89	G 5.13	(1)
M-5	STD. 4' PRECAST MANHOLE	N 552013.19, E 1376653.53	221.70		216.73	216.48	G 5.12	(1)
M-6	STD. 4' PRECAST MANHOLE	N 552153.31, E 1376407.97	225.75		222.26 / 218.80	218.55	G 5.12	(1)
M-7	STD. 4' PRECAST MANHOLE	N 551805.19, E 1376488.51	221.00		213.82	213.57	G 5.12	(1)
M-8	STD. 4' PRECAST MANHOLE	N 551898.55, E 1376457.12	222.20		215.59	215.34	G 5.12	(1)
M-9	STD. 4' PRECAST MANHOLE	N 551870.46, E 1376343.97	222.50		216.10 / 212.34	212.24	G 5.12	(1)
M-10	STD. 4' PRECAST MANHOLE	N 527872.21, E 1351127.08	222.91		211.88 / 211.88	211.38	G 5.12	(1)
M-11	STD. 4' PRECAST MANHOLE	N 528088.17, E 1351212.23	221.50		210.99	210.89	G 5.12	(1)
M-12	STD. 4' PRECAST MANHOLE	N 528247.76, E 1351220.92	220.80		210.69	210.59	G 5.12	(1)
M-13	STD. 4' PRECAST MANHOLE	N 551980.61, E 1376392.97	224.50		213.10	213.00	G 5.12	(1)

(1) Coordinate for Proposed Structure = Centerline of Structure

PIPE SCHEDULE

Size	Class	Total Length *
15"	HDPE	953
18"	HDPE	1,440
24"	HDPE	614

* The total length of pipe is linear feet only.

HDPE is to be smooth interior. Contractor shall install pipe in accordance with manufacturer's specifications

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.20.15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6-02-15
DIRECTOR	DATE 6/2/15

OWNER/DEVELOPER
U.S. HOME CORPORATION
10211 WINCOPIN CIRCLE
5TH FLOOR
COLUMBIA, MARYLAND 21044
410-997-5522

~~OWNER/DEVELOPER~~
~~BLUE STREAM LLC~~
~~P.O. BOX 416~~
~~ELLICOTT CITY, MD 21041~~
~~C/O: ARNOLD SAGNER~~
~~410 465 2020~~

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE ALONG THE SOUTHEASTERN PROPERTY LINE	12/21/16

SITE DEVELOPMENT PLAN

STORM DRAIN PROFILES

BLUE STREAM TOWNS - SECTION 2

BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1

TAX MAP 43 GRID 4 — TOWNHOMES — PARCEL 14
1ST ELECTION DISTRICT — ZONED: CAC-CLI — HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961

STATE OF MARYLAND — ROBERT HARRIS VOGEL — No. 16193 — PROFESSIONAL ENGINEER

ROBERT H. VOGEL, PE No.16193

DESIGN BY:	RHV
DRAWN BY:	JMR
CHECKED BY:	RHV
DATE:	APRIL 2015
SCALE:	AS SHOWN
W.O. NO.:	06-26.14

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014

SCALE 1"=50'
25' 0' 50'

10 SHEET OF 13

SDP-14-029

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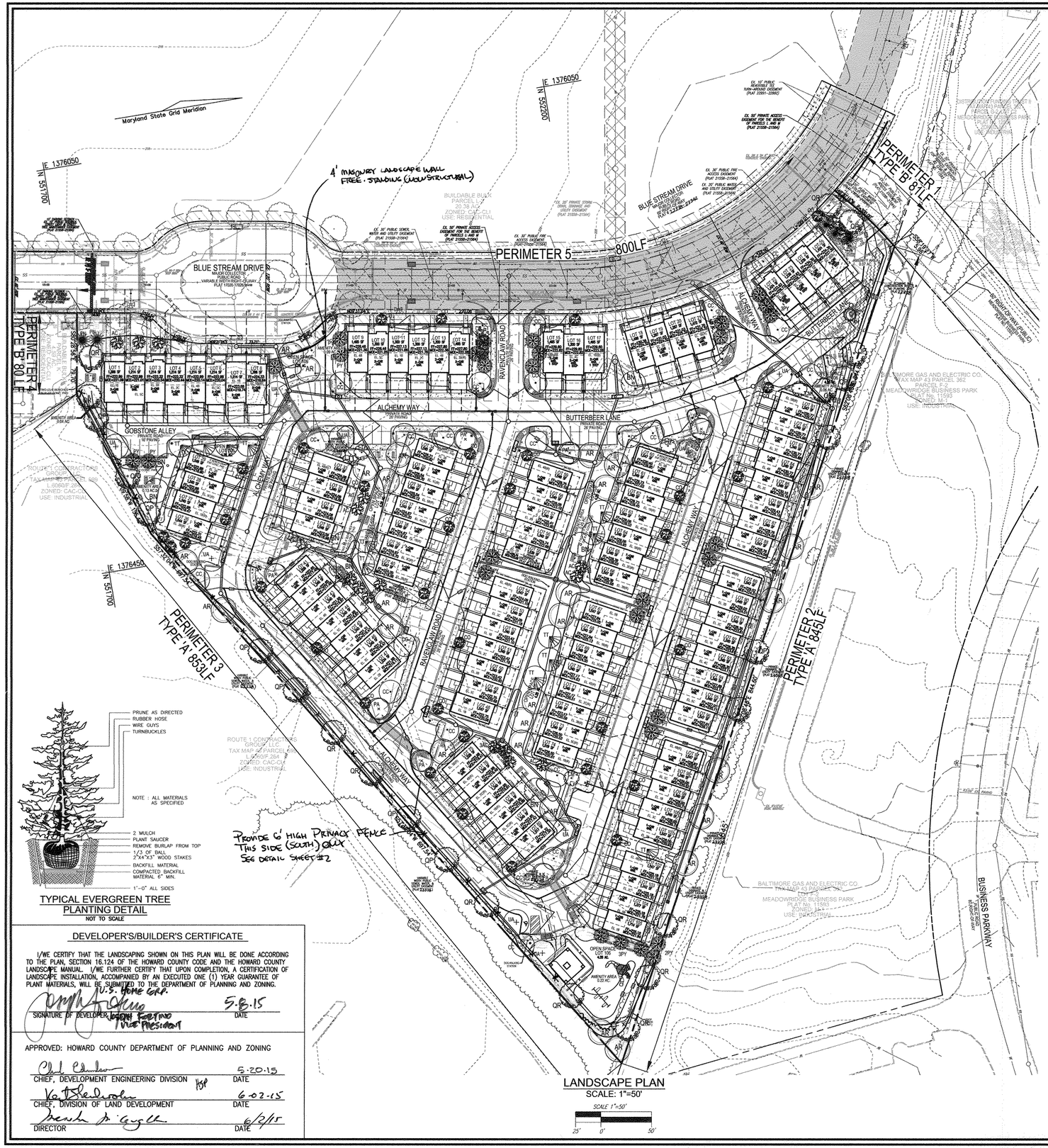


LANDSCAPE PLAN
SCALE: 1"=50'

SCALE 1"=50'
25' 0' 50'

GENERAL NOTES:

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. THE REQUIRED PARKING AND PERIMETER LANDSCAPING WILL BE BONDED PER THIS SUBMISSION.
2. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THIS SITE DEVELOPMENT PLAN FOR 145 SHADE TREES AND 5 EVERGREEN TREES FOR A SURETY OF $44,250.00. DED WILL BUILD THE 1.5 PUBLIC STREET TREES ($3,900.00) INTO THEIR COST ESTIMATE FOR ROAD CONSTRUCTION. TOTAL OVERALL SURETY DUE IS $46,150.00.

LANDSCAPE SCHEDULE NOTE:

1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRD PLANTING SPECIFICATIONS.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
5. THE OPEN SPACE REQUIREMENTS FOR THE BLUE STREAM SUBDIVISION (20% OF NET ACREAGE = 12.75 AC.) HAS BEEN PROVIDED UNDER F-10-055, OPEN SPACE LOTS G-1 AND G-2 (TOTAL 18.10 AC.).
6. THE INDIVIDUAL BUILDABLE PARCELS WITHIN THE BLUE STREAM SUBDIVISION WILL COMBINE TO PROVIDE THE AMENITY AREA REQUIREMENT (50% OF OPEN SPACE REQUIREMENT = 6.37 AC.) WITH THEIR CORRESPONDING SITE DEVELOPMENT PLANS. THIS PLAN ACCOUNTS FOR 0.79 AC. OF AMENITY SPACE. REFER TO THE AMENITY AREA CHART FOR THE BLUE STREAM SUBDIVISION BELOW:

BLUE STREAM SUBDIVISION AMENITY AREA CHART 6.37 AC. REQUIRED

PLAN	PROVIDED	REMAINING
BLUE STREAM (F-02-035)	0.00 AC.	6.37 AC.
GROSVENOR HOUSE (SDP-11-032)	0.99 AC.	5.38 AC.
DORSET GARDENS (SDP-11-040)	1.02 AC.	4.36 AC.
BLUE STREAM TOWNS – SECTION 2 (SDP-14-029)	1.22 AC.	3.14 AC.
BROMPTON 2 (SDP-14-077)	0.87 AC.	2.27 AC.

LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	ROOT	ROOT
AR	27	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2.5" CAL	B & B	B & B
QR	12	QUERCUS RUBRA NORTHERN RED OAK	2.5" CAL	B & B	B & B
QP	12	QUERCUS PALUSTRIS PIN OAK	2.5" CAL	B & B	B & B
UA	11	ULMUS AMERICANA ' VALLEY FORGE' VALLEY FORGE AMERICAN ELM	2.5" CAL	B & B	B & B
TT	12	TILIA TOMENTOSA SILVER LINDEN	2.5" CAL	B & B	B & B
BN	7	BETULA NIGRA 'HERITAGE' HERITAGE CLUMP BIRCH	12' HT.	B & B	B & B
CC	26	CARPINUS CAROLINIANA AMERICAN HORNBEAM	1.5"–2" CAL	B & B	B & B
PA	7	PLATANUS X ACERIFOLIA 'BLOODGOOD' LONDON PLANE TREE	1.5"–2" CAL	B & B	B & B
PN	2	PINUS NIGRA AUSTRIAN PINE	8' HT.	B & B	B & B
PS	2	PINUS STROBUS EASTERN WHITE PINE	8' HT.	B & B	B & B
CO	34	CERCIS CANADENSIS 'OKLAHOMA' OKLAHOMA RED BUD	8' HT.	B & B	B & B
PY	29	PRUNUS Y YEDONESIS 'AKEBONO' AKEBONO YOSHINO CHERRY	12' HT.	B & B	B & B
AC	15	AMELAINCHIER CANADENSIS SHADBLOW SERVICEBERRY	1.5"–2" CAL	B & B	B & B
SM	4	SYRINGA VULGARIS 'MONORE' BLUE SKIES LILAC	8' HT.	B & B	B & B
CM	4	LAGERSTROEMIA TUSCARORA TUSCARORA CRAPE MYRTLE	12' HT.	B & B	B & B
AH	1	ILEX OPACA AMERICAN HOLLY	5' – 6' HT.	B & B	B & B

LANDSCAPE SCHEDULE 'C'

NUMBER OF DWELLING UNITS	105 SFA
NUMBER OF TREES REQUIRED (1/DU SFA)	105
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION)	49 112 –

SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	53
NUMBER OF TREES REQUIRED (1:9 SPACES)	6
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	6 –

LEGEND:

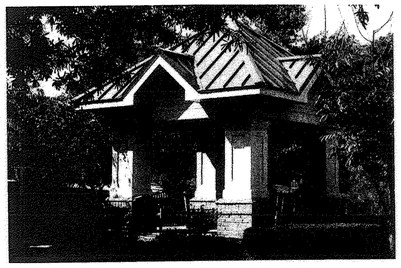
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING WATER LINE
- EXISTING TREELINE
- EXISTING TREES
- EXISTING FENCE
- EXISTING STEEP SLOPES
- PROPOSED STORMDRAIN
- PROPOSED STORMDRAIN INLET
- PROPOSED SIDEWALK
- PROPOSED TREELINE
- PROPOSED CURB
- PROPOSED STREET LIGHT
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- 10' PARKING SETBACK
- EX. 10' PUBLIC SIDEWALK, STREET LIGHT, & STREET TREE MAINTENANCE EASEMENT (PLAT 21558-21564) (PLAT 22991-22992)
- EX. 30' PUBLIC SEWER, WATER AND UTILITY EASEMENT (PLAT 21558-21564)
- EX. 30' PUBLIC FIRE ACCESS EASEMENT (PLAT 21558-21564)
- EX. 50' PRIVATE ACCESS EASEMENT FOR THE BENEFIT OF PARCELS L AND M (PLAT 21558-21564)
- EX. 20' PRIVATE STORM DRAIN, DRAINAGE AND UTILITY EASEMENT (PLAT 21558-21564)
- EX. 50' PRIVATE ACCESS EASEMENT FOR ACCESS & EGRESS TO CEMETARY (PLAT 11593)
- EX. 10' PUBLIC REVERTIBLE ICE TURN-AROUND EASEMENT (PLAT 22991-22992)
- PRIVATE DRAINAGE & UTILITY EASEMENT (PLAT 23235-42)
- VARIABLE WIDTH PUBLIC SEWER, WATER & UTILITY EASEMENT (PLAT 23235-42)
- 10' RETAINING WALL CONSTRUCTION BUFFER & 'NO PLANTING' ZONE (PLAT 23271-42)
- PROPOSED SHADE TREE
- PROPOSED EVERGREEN TREE
- LANDSCAPE PERIMETER

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS AND PERIMETER PROPERTIES					
PERIMETER/FRONTAGE DESIGNATION	1	2	3	4	5	
LANDSCAPE TYPE	B	A	A	B	B	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	81'	845'	853'	80'	800'	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	TOTAL
NUMBER OF PLANTS REQUIRED						
SHADE TREES	1:50 2	1:60 15	1:60 15	1:50 2	–	34
EVERGREEN TREES	1:40 3	–	–	1:40 2	–	5
SHRUBS	–	–	–	–	–	
NUMBER OF PLANTS PROVIDED						
SHADE TREES	2	14	15	2	–	33
EVERGREEN TREES	3	–	–	2	–	5
OTHER TREES (2:1 SUBSTITUTION)	–	2	–	–	–	2
SHRUBS (10:1 SUBSTITUTION)	–	–	–	–	–	–
EX. SHADE TREES	–	–	–	–	–	–
EX. EVERGREEN TREES	–	–	–	–	–	–
EX. OTHER TREES (2:1 SUBSTITUTION)	–	–	–	–	–	–
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	–	–	–	–	–	–

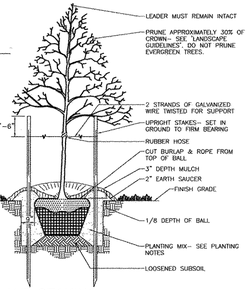
** SUBSTITUTE 2 ORNAMENTAL FOR 1 SHADE TREES IN PERIMETER 2.

TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

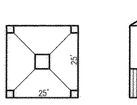


PROPOSED PAVILION (DESIGN BY OTHERS)*
NOT TO SCALE

*IMAGE IS ONLY REPRESENTATIVE OF THE TYPE OF PRODUCT TO BE PROVIDED FOR THE PROJECT BUT MAY BE SUBSTITUTED WITH ALTERNATIVE PRODUCT TYPES, SIZES AND QUANTITIES AT THE TIME OF FINAL INSTALLATION AND CONSTRUCTION.



TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2–1/2" CALIPER NOT TO SCALE



PROPOSED PAVILION (DESIGN BY OTHERS)
NOT TO SCALE

OWNER/DEVELOPER
U.S. HOME CORPORATION
C/O JOSEPH FORTINO
10211 WINCOPIN CIRCLE
SUITE 180
COLUMBIA, MD 21044
410–997–5522

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE TO THE SOUTHEASTERN PROPERTY LINE	12/21/16

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

U.S. HOME CORP. 5.8.15
SIGNATURE OF DEVELOPER: JOSEPH FORTINO, VICE PRESIDENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.20.15
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6.02.15
DIRECTOR — DATE 6/2/15

SITE DEVELOPMENT PLAN
LANDSCAPE AND AMENITY AREA PLAN
BLUE STREAM TOWNS - SECTION 2
BLUE STREAM
LOTS 1-105, AND OPEN SPACE LOT 106
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L-1
TAX MAP 43 GRID 4 — TOWNHOMES — PARCEL 14
1ST ELECTION DISTRICT — ZONED: CAC-CLI — HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

STATE OF MARYLAND — ROBERT HARRIS VOGEL — NO. 16193 — REGISTERED PROFESSIONAL ENGINEER — 5/13/15
ROBERT H. VOGEL, PE No.16193

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014

DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: APRIL 2015
SCALE: AS SHOWN
W.O. NO.: 06-26.14

SHEET 11 OF 13

SDP-14-029

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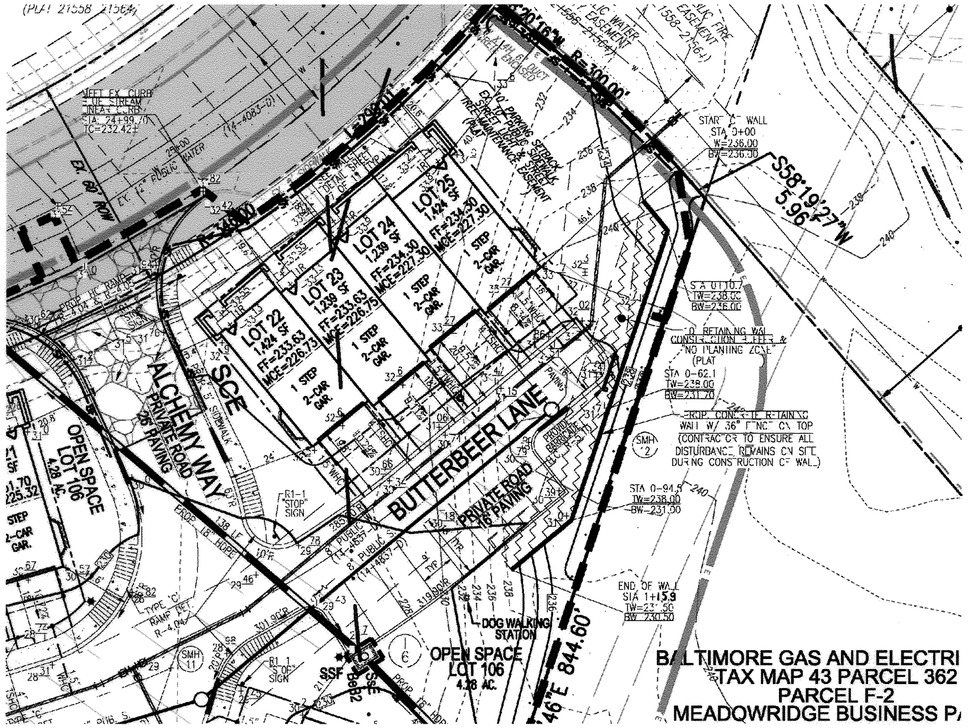
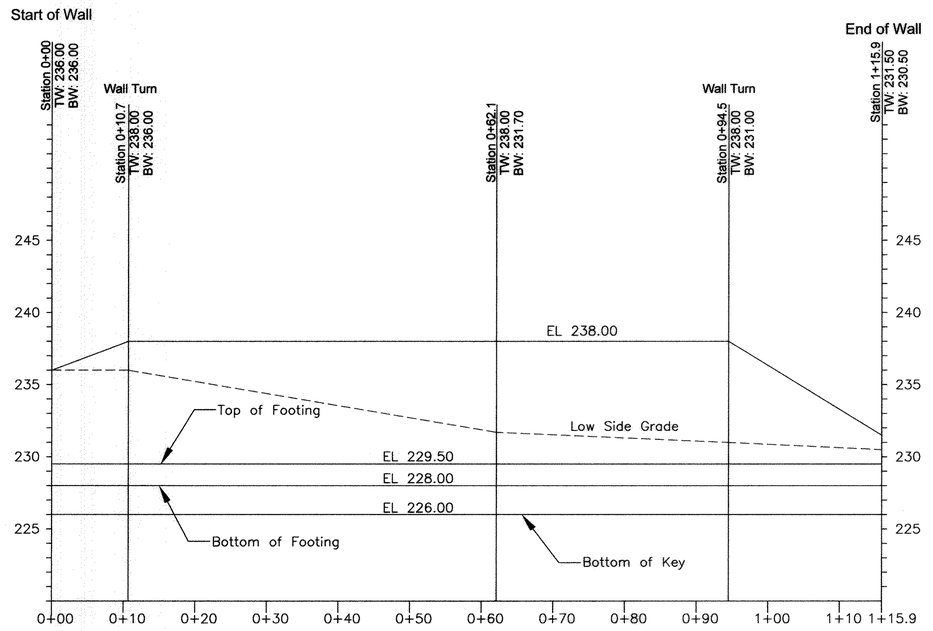


SITE PLAN (BASED ON PLAN
PROVIDED BY ROBERT H. VOGEL ENGINEERING, INC)
SCALE: 1"=20'



WALL PROFILE
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.20.15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6.02.15
DIRECTOR	DATE 6/3/15

OWNER/DEVELOPER
U.S. HOME CORPORATION
C/O JOSEPH PORTINO
10211 WINCOPIN CIRCLE
#TBD
COLUMBIA, MARYLAND 21044
410-997-5522

~~OWNER/DEVELOPER~~
~~BLUE STREAM LLC~~
~~P.O. BOX 416~~
~~ELLICOTT CITY, MD 21041~~
~~C/O: ARNOLD SAGNER~~
~~410-465-2020~~

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE TO THE SOUTHEASTERN PROPERTY LINE	12/2/14

RETAINING WALL
PLAN & PROFILE

BLUE STREAM TOWNS - SECTION 2
BLUE STREAM
LOTS 1-103, AND OPEN SPACE LOT 104
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L
TAX MAP 43 GRID 4 — TOWNHOMES — PARCEL 14
1ST ELECTION DISTRICT — ZONED: CAC-CLI — HOWARD COUNTY, MARYLAND

ECS
1340 CHARWOOD ROAD
SUITE A
HANOVER, MARYLAND 21076
PHONE: (410) 859 - 4300
FAX: (410) 859 - 4324

STATE OF MARYLAND
HASAN M. ABOUMATAR
No. 22953
PROFESSIONAL ENGINEER
HASAN M. ABOUMATAR, PE

DESIGN BY:	HMA
DRAWN BY:	DMA
CHECKED BY:	DMA
DATE:	JANUARY 2015
SCALE:	AS SHOWN
W.O. NO.:	06-26.14

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22953 EXPIRATION DATE: 12-31-2015

SHEET 12 OF 13

SDP-14-029

Retaining Wall Specifications and Guidelines

Part 1: General

1.01 Description
A. Retaining walls must be constructed under the supervision of a Maryland Registered Professional Engineer.
B. Work includes preparation of foundation soils, furnishing all materials, and installing all materials to the lines and grades shown on the construction drawings.

1.02 Codes and Standards
A. 'International Building Code - 2012', International Code Council, Inc.
B. 'ACI Manual of Concrete Practice - Parts 1 Through 5 - 2012'
C. 'Manual of Standard Practice' - Concrete Steel Reinforcing Institute
D. 'American Society For Testing and Materials'

1.03 Damage, Storage, and Handling
A. The Contractor shall check the materials upon delivery to assure that the proper materials have been received.
B. The Contractor shall properly handle and store the materials to prevent damage to the materials. Damaged materials shall not be incorporated into the wall.

1.04 Quality Assurance
A. The Owner shall engage a qualified testing agency to provide observation and testing services as described below.
B. Concrete Placement
1. The agency shall inspect the formwork and reinforcing steel placement for compliance with the contract documents. Reinforcing steel should be inspected for correct size, quantity, and spacing.
2. Fresh concrete shall be sampled in accordance with ASTM C 172, and tested for slump, air entrainment, and temperature.
3. Test cylinders shall be molded in accordance with ASTM C 31. Four test cylinders shall be molded for each day's pour, or for every 50 cubic yards of concrete placed, whichever is greater.
C. Fill Placement
1. All soil fills shall be tested in accordance with ASTM D 2922.
2. A minimum of one compaction test per lift should be made per 2,500 square feet of fill lift area, but not fewer than two tests per lift should be made.
3. The elevations and locations of the field density tests should be clearly identified at the time of fill placement and compaction.

Part 2: Materials

2.01 Concrete
A. Concrete shall conform to Virginia Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414
B. Concrete shall have a minimum 28-day compressive strength of 3,500 psi.
C. Concrete shall have a slump range of 2 to 5 inches and shall be air entrained to 6% (+/- 1%) by volume.
D. Concrete shall have a minimum density of 145 pcf and a maximum water-to-cement ratio of 0.45

2.02 Steel Reinforcement
A. Steel reinforcing shall conform to ASTM A-615, Grade 60.
B. Submit shop drawings at least 15 business days before date reviewed submittals will be needed. Shop drawings shall bear the contractor's stamp of approval which shall constitute that he has verified all field measurements, construction criteria, materials, and similar data, and has checked each drawing for completeness, coordination, and compliance with contract documents.

2.03 Soil Backfill
A. Material should consist of soil classified as SM, SC, or more granular, in accordance with ASTM D 2487.
B. Material should have no particle larger than 2.5 inches and shall contain at least 30 percent, by weight, retained on the U.S. No. 200 sieve.
C. Materials should have a Liquid Limit less than 40, and a Plasticity Index less than 15.
D. Material should have a minimum friction angle of 28 degrees.
E. The Contractor should submit samples of the proposed backfill soils to the Geotechnical Engineer of Record for approval prior to their use.

2.04 Drainage Board
A. Drainage board used behind the walls shall consist of Miradrain 6200.

Part 3: Construction

3.01 General
A. All existing underground utilities shall be properly marked, and relocated if necessary, prior to construction.
B. All proposed underground utilities or structures in the general wall area shall be completely installed prior to the construction of the wall.
C. Protect all existing and/or new structures from damage by construction equipment. Immediately repair any damage that may occur.

3.02 Foundation
A. The wall foundation shall be excavated to the grades and lines as shown on the construction drawings. Contractor should take care not to disturb foundation soils beyond the lines and grades shown.
B. The foundation shall bear at the minimum embedment depths indicated, as measured from the final grade at the front of the wall.
C. The foundation subgrade soils shall be testing by a qualified representative of the Geotechnical Engineer to verify the availability of the design bearing pressure of 3,000 psf.
D. If unsuitable soils are encountered at design foundation levels, the unsuitable soils shall be removed and the over-excavated areas shall be replaced with compacted structural fill.

3.03 Steel Reinforcement
A. All steel reinforcing shall have a minimum clear cover of 2.5 inches unless otherwise noted on the contract documents.
B. Where applicable, splices for reinforcing steel shall be made by contact tension lap splices.
C. Welding and field-bending of reinforcing steel is not permitted.
D. Furnish all accessories, chairs, space bars, supports, etc. necessary to secure reinforcing.

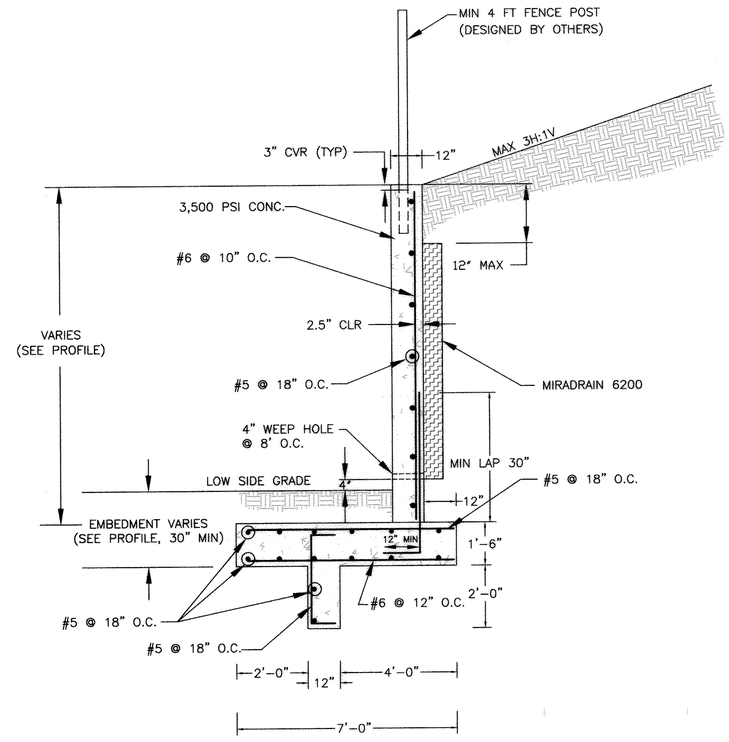
3.04 Cast-in-Place Concrete.

A. Footing Concrete
1. The vertical faces of the footing and key excavation may be used as forms for placement of foundation concrete.
2. Foundation concrete, or protective mud mats, should be placed the same day that the foundation subgrade is approved.
3. Provide concrete protection against freezing during placement and for 5 days thereafter.

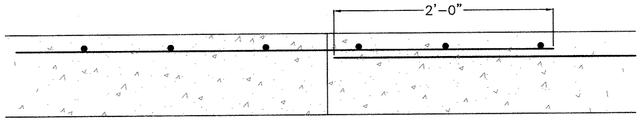
B. Wall Concrete
1. Furnish and erect concrete forms to the lines and grades shown on the construction drawings.
2. Locate construction joints as to not impair the strength of the structure, but not more than 60 feet in any direction. Provide continuous bentonite strip waterstrip at all construction joints.
3. Make stops in concrete pours using vertical bulkheads.
4. All reinforcing shall be continuous through joints and bulkheads.
5. Chamfer exposed concrete corners 3/4" by 3/4" minimum.
6. Provide 4" diameter weep holes every 8 feet along the bottom of the wall and at wall ends. The weep holes should be formed in place prior to concrete placement by using PVC pipe. Weep hole locations must not interfere with steel reinforcing, and shall be no greater than 4 inches above final grade at the front of the wall.
7. Where a fence is required, it is recommended that the fence posts be installed during wall concrete placement. The fence posts shall have a minimum of 24 inches of embedment into the wall, and be located along the center of the wall. Alternatively, provide 4 inch diameter by 24 inch deep post holes at the designated fence post locations along the centerline of the wall. The post holes should be formed in place prior to concrete placment by using PVC pipe.

3.05 Backfilling
A. All soil backfill shall conform to the material requirements of section 2.03.
B. Backfill shall be moisture conditioned to within 2 percentage points of the optimum moisture content, as determined in accordance with ASTM D-698.
C. Backfill shall be placed in loose lifts, not exceeding 8 inches in thickness, and then compacted to at least 95 percent of the maximum dry density, as determined in accordance with ASTM D-698.
D. Backfilling shall not occur against the wall until the wall concrete has attained at least 75 percent of the 28-day design strength, and no earlier than 3 days after placement.
E. Where feasible, maintain equal grades on each side of the wall during backfilling to prevent overturning and lateral movements. When the grade differential at the wall exceeds 12 inches, only hand-operated compaction equipment shall be allowed.
F. Drainage boards shall be placed against the wall, extending from the weep hole up within 12 inches of final grade at the top of the wall.

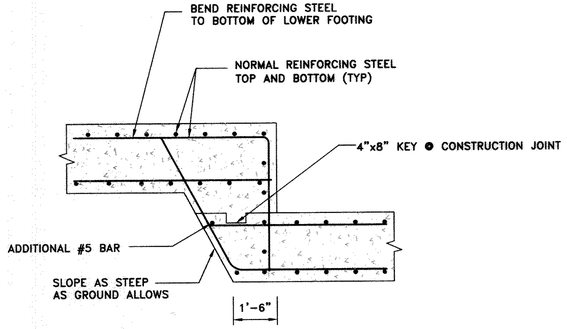
3.06 Finish
A. Final grades at the wall shall be established by the Contractor in the field.
B. Final grades shall be stabilized and seeded per the approved civil plans unless noted otherwise on the site grading plans.
C. Install a 4 ft fence at the top of the wall. If fence posts are installed subsequent to wall construction, the fence posts shall be grouted into the PVC post holes using 3,000 psi non-shrink grout.



TYPICAL WALL SECTION



CONSTRUCTION JOINT
NTS



FOOTING STEP
NTS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.20.15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6.02.15
DIRECTOR	DATE 6/2/15

OWNER/DEVELOPER
U.S. HOME CORPORATION
C/O JOSEPH FORTINO
10211 WINCOPIN CIRCLE
#180
COLUMBIA, MARYLAND 21044
410-997-5522

~~OWNER/DEVELOPER~~
~~BLUE STREAM LLC~~
~~P.O. BOX 416~~
~~ELLICOTT CITY, MD 21041~~
~~C/O: ARNOLD SAGNER~~
~~410 465 2020~~

NO.	REVISION	DATE
1	REVISE PLAN TO ADD A 4' HIGH ORNAMENTAL WALL AND A 6' HIGH PRIVACY FENCE TO THE SOUTHEASTERN PROPERTY LINE	12/21/16

RETAINING WALL
DETAILS & SECTIONS

BLUE STREAM TOWNS - SECTION 2
BLUE STREAM
LOTS 1-103, AND OPEN SPACE LOT 104
A RE-SUBDIVISION OF BUILDABLE BULK PARCEL L

TAX MAP 43 GRID 4 — TOWNHOMES — PARCEL 14
1ST ELECTION DISTRICT — ZONED: CAC-CLI — HOWARD COUNTY, MARYLAND

1340 CHARWOOD ROAD
SUITE A
HANOVER, MARYLAND 21076
PHONE: (410) 859 - 4300
FAX: (410) 859 - 4324

STATE OF MARYLAND
HASAN M. ABOUMATAR
No. 29553
PROFESSIONAL ENGINEER
HASAN M. ABOUMATAR, PE

DESIGN BY:	HMA
DRAWN BY:	DMA
CHECKED BY:	DMA
DATE:	JANUARY 2015
SCALE:	AS SHOWN
W.O. NO.:	06-26.14

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 29553 EXPIRATION DATE: 12-31-2015

13 SHEET OF 13

SDP-14-029