SITE DEVELOPMENT PLAN
MORRIS PLACE
LOTS 194 THRU 202, OPEN SPACE LOTS 203 AND 204
PHASE VII

TAX MAP No. 43 GRID No. 4 PARCEL NO. 599
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

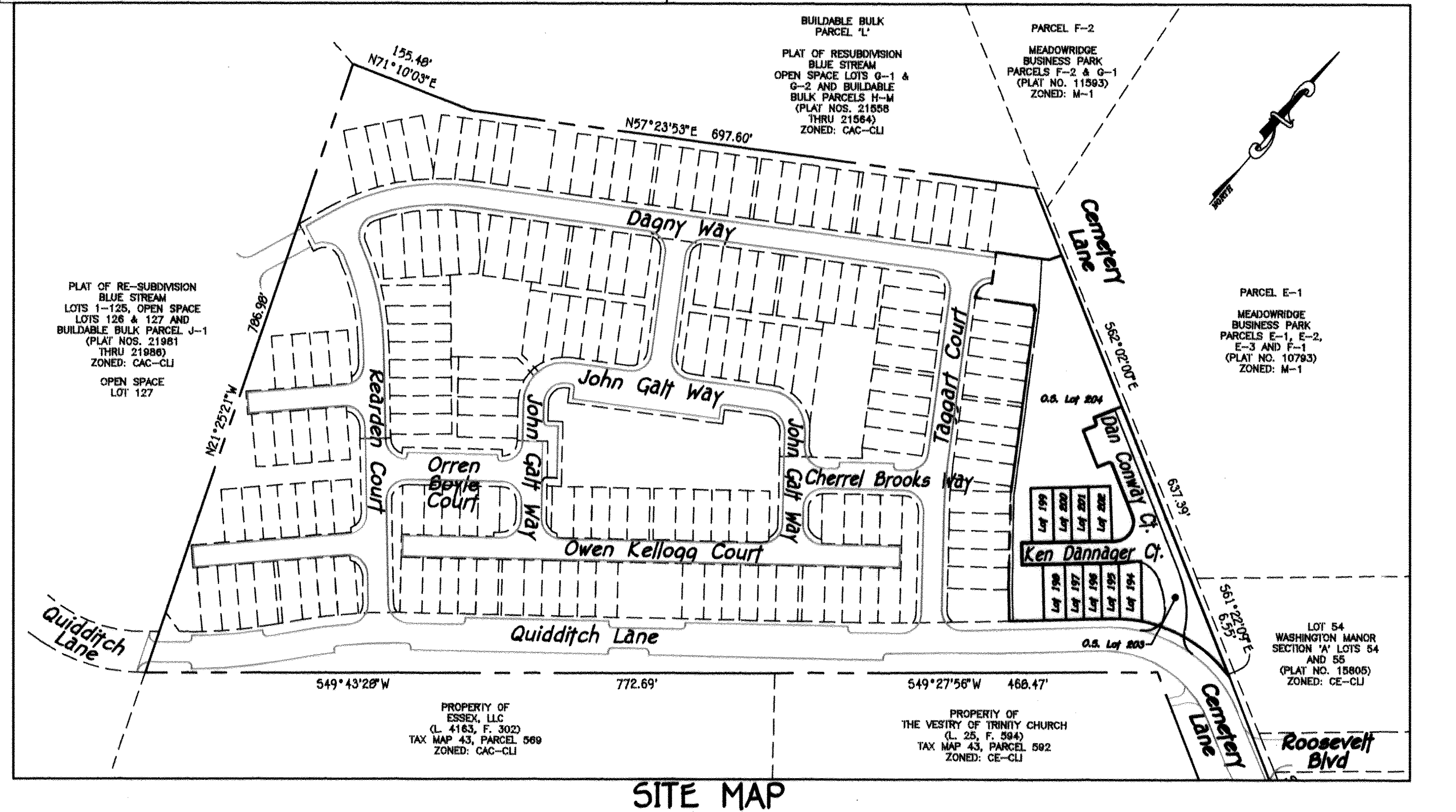
SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	SEDIMENT & EROSION CONTROL PLAN
4	SEDIMENT & EROSION CONTROL NOTES AND DETAILS
5	STORM DRAIN DRAINAGE AREA MAP AND SOILS MAP
6	STORM DRAIN PROFILES
7	STORM WATER MANAGEMENT DETAILS
8	STREET TREES & LANDSCAPE PLAN
9	LANDSCAPE DETAILS
10	GEOMETRY PLAN

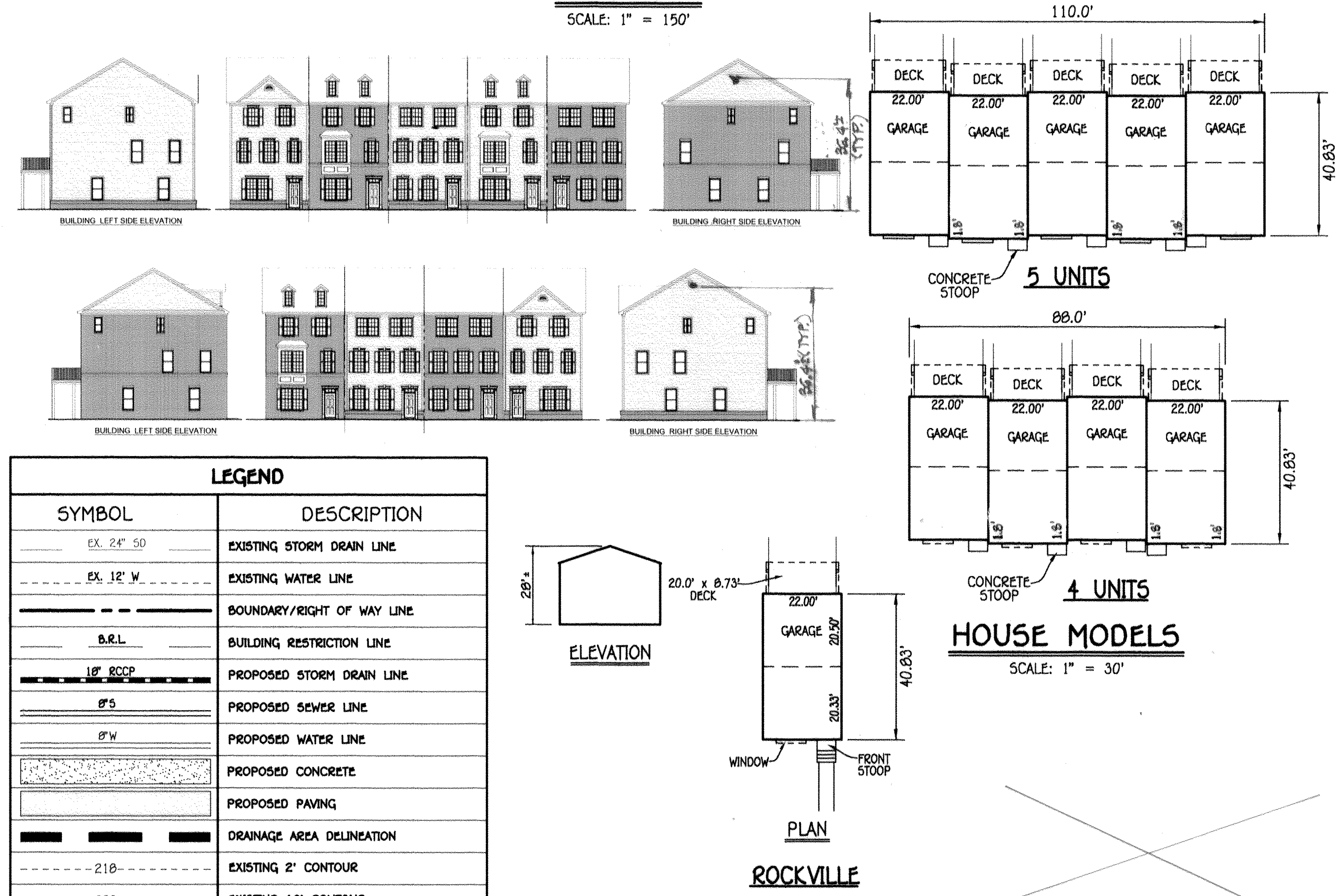
WALKWAY/STREET LIGHT CHART (PRIVATE)PHASE VII

STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
DAN CONWAY COURT	2+88.51	26.6' L	100-WATT HPS VAPOR EQUIVALENT LED "MAPLE LAWN ACORN" FIXTURE MOUNTED ON A 12-FOOT BLACK FIBERGLASS POLE (WITH A SHROUD)
KEN DANNAGER COURT	0+26.52	17.7' L	

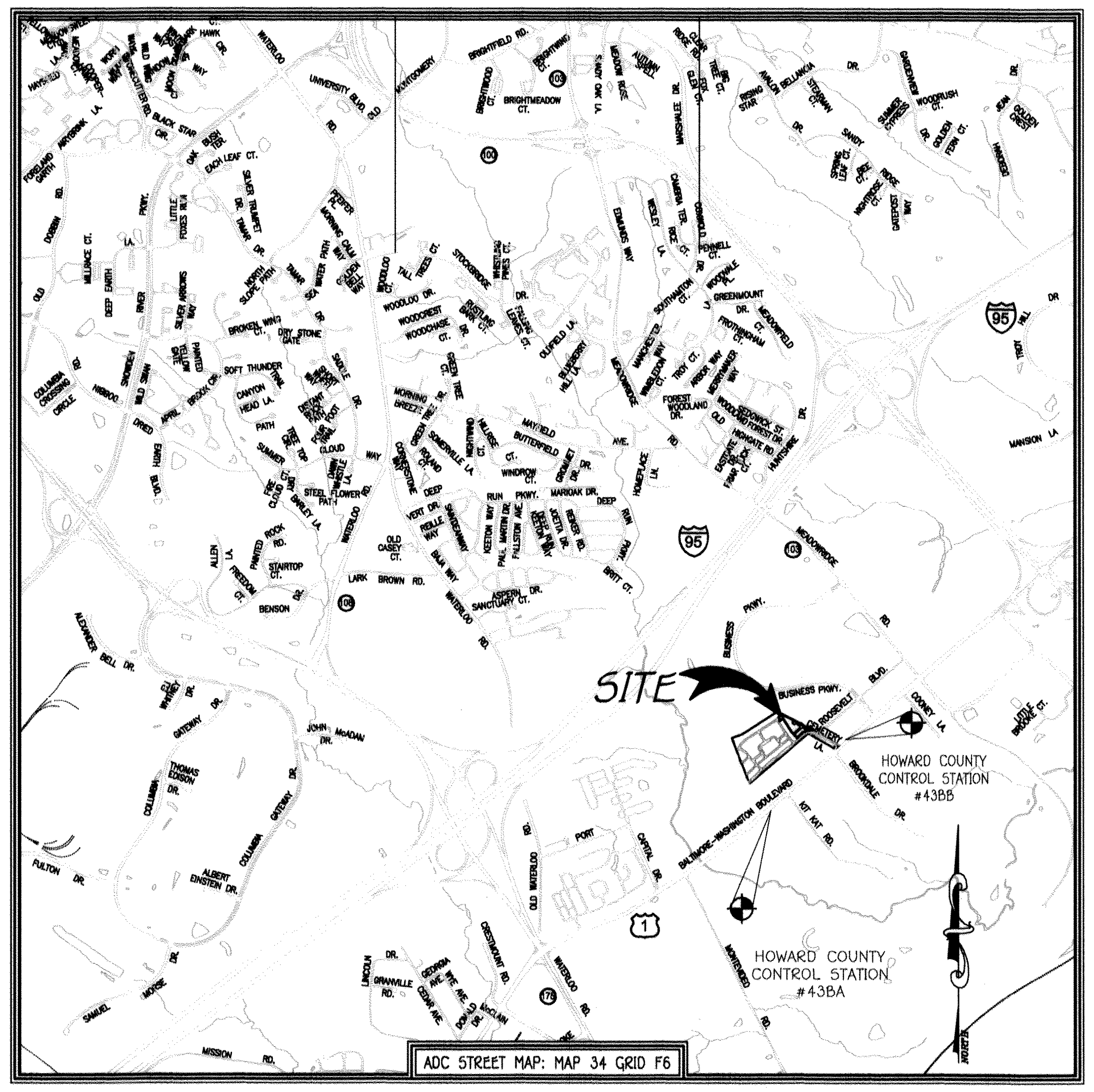
0' 150' 300' 600'
SCALE: 1" = 150'


BUILDABLE BULK PARCEL 'L'
PLAT OF RESUBDIVISION BLUE STREAM OPEN SPACE LOTS G-1 & G-2 AND BUILDABLE BULK PARCELS H-M (PLAT NOS. 21558 THRU 21564) ZONED: CAC-CLI
PARCEL F-2
MEADOWRIDGE BUSINESS PARK PARCELS F-2 & G-1 (PLAT NO. 11593) ZONED: M-1
155.48' N71°10'03"E
N57°23'53"E 697.60'
Dagny Way
John Galt Way
Kearden Court
Orren Boyle Court
Taggart Court
Cherrel Brooks Way
Owen Kellogg Court
Dan Conway Ct.
Ken Dannager Ct.
Cemetery Lane
Quidditch Lane
Roosevelt Blvd
PARCEL E-1 MEADOWRIDGE BUSINESS PARK PARCELS E-1, E-2, E-3 AND F-1 (PLAT NO. 10793) ZONED: M-1
PLAT OF RE-SUBDIVISION BLUE STREAM LOTS 1-125, OPEN SPACE LOTS 126 & 127 AND BUILDABLE BULK PARCEL J-1 (PLAT NOS. 21981 THRU 21986) ZONED: CAC-CLI
LOT 54 WASHINGTON MANOR SECTION 'A' LOTS 54 AND 55 (PLAT NO. 15805) ZONED: CE-CLI
PROPERTY OF ERRIX, LLC (L. 4163, F. 302) TAX MAP 43, PARCEL 569 ZONED: CAC-CLI
PROPERTY OF THE VESTRY OF TRINITY CHURCH (L. 28, F. 594) TAX MAP 43, PARCEL 592 ZONED: CE-CLI
S49°43'28"W 772.69'
S49°27'58"W 468.47'
O.S. Lot 203
O.S. Lot 204

SITE MAP
SCALE: 1" = 150'



HOUSE MODELS
SCALE: 1" = 30'


SITE
HOWARD COUNTY CONTROL STATION #43BB
HOWARD COUNTY CONTROL STATION #43BA
ADC STREET MAP: MAP 34 GRID F6

VICINITY MAP
SCALE: 1" = 2000'

0' 2000' 4000' 8000'
SCALE: 1" = 2000'

BENCH MARKS

T.P. 43BA ELEV. 209.471	T.P. 43BB ELEV. 209.012
N. 551,676.380	N. 550,534.184
E. 1,378,108.486	E. 1,376,905.389
LOC. NEAR INTERSECTION OF WASHINGTON BLVD. & KIT KAT RD.	LOC. NEAR INTERSECTION OF WASHINGTON BLVD. & CEMETERY RD.

LEGEND

SYMBOL	DESCRIPTION
EX. 24" SD	EXISTING STORM DRAIN LINE
EX. 12' W	EXISTING WATER LINE
▬ ▬ ▬	BOUNDARY/RIGHT OF WAY LINE
B.R.L.	BUILDING RESTRICTION LINE
18" RCCP	PROPOSED STORM DRAIN LINE
8"S	PROPOSED SEWER LINE
8"W	PROPOSED WATER LINE
▨	PROPOSED CONCRETE
▨	PROPOSED PAVING
▬ ▬ ▬	DRAINAGE AREA DELINEATION
218	EXISTING 2' CONTOUR
220	EXISTING 10' CONTOUR
218	PROPOSED 2' CONTOUR
×219.07	SPOT ELEVATION
▨	WATER AND SEWER EASEMENT
▬ ▬	SOIL DELINEATION

RESIDENTIAL PARKING TABULATION

TOTAL RESIDENTIAL PARKING REQUIRED: 403 PARKING SPACES
TOWNHOUSES: 2 SPACES PER UNIT
175 UNITS X 2 = 350 PARKING SPACES
OVERFLOW PAKING 0.3 PER UNIT
175 UNITS X 0.3 = 52.5 PARKING SPACES

EXISTING PHASES I-IV RESIDENTIAL PARKING PROVIDED: 172 PARKING SPACES
48 FRONT LOAD TOWNHOUSES: 96 SPACES
2 SPACES PER UNIT (1 GARAGE + 1 DRIVEWAY)
5 REAR LOAD TOWNHOUSES: 20 SPACES
4 SPACES PER UNIT (2 GARAGE + 2 DRIVEWAY)
OVERFLOW SPACES: 56 SPACES PROVIDED BY ON-STREET PARKING
EXISTING ON-STREET PARKING PER F-14-028: 53 SPACES
PROPOSED UNDER THIS PHASE: 3 SPACES

EXISTING PHASE V RESIDENTIAL PARKING PROVIDED: 140 PARKING SPACES
34 REAR LOAD TOWNHOUSES: 136 SPACES
4 SPACES PER UNIT (2 GARAGE + 2 DRIVEWAY)
OVERFLOW SPACES: 4 SPACES PROVIDED BY ON-STREET PARKING

EXISTING PHASE VI RESIDENTIAL PARKING PROVIDED: 239 PARKING SPACES
52 FRONT LOAD TOWNHOUSES: 104 SPACES
2 SPACES PER UNIT (1 GARAGE + 1 DRIVEWAY)
27 REAR LOAD TOWNHOUSES: 108 SPACES
4 SPACES PER UNIT (2 GARAGE + 2 DRIVEWAY)
OVERFLOW SPACES: 27 SPACES PROVIDED BY ON-STREET PARKING

PHASE VII RESIDENTIAL PARKING PROVIDED: 41 PARKING SPACES
9 REAR LOAD TOWNHOUSES: 36 SPACES
4 SPACES PER UNIT (2 GARAGE + 2 DRIVEWAY)
OVERFLOW SPACES: 5 SPACES PROVIDED BY ON-STREET PARKING

TOTAL RESIDENTIAL PARKING PROVIDED: 592 PARKING SPACES
TOTAL TOWNHOUSES: 500 SPACES
TOTAL ON-STREET PARKING: 92 PARKING SPACES

0' 30' 60' 120'
SCALE: 1" = 30'

GENERAL NOTES

1. SUBJECT PROPERTY IS ZONED CAC-CLI AND GRANDFATHERED PER THE 10/06/13 COMPREHENSIVE ZONING PLAN.
2. COORDINATES BASED ON NAD '83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 43BA AND NO. 43BB.
   - ✓ STA. 43BA N 551,676.380 E 1,378,108.486 ELEVATION 209.471
   - ✓ STA. 43BB N 550,534.184 E 1,376,905.389 ELEVATION 209.012
3. THIS PLAN IS BASED ON FIELD RUN BOUNDARY SURVEY PERFORMED ON OR ABOUT OCTOBER 2007, BY FISHER, COLLINS AND CARTER, INC.
4. DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID MEASUREMENT.
5. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
   - WIDTH – 12' (16' SERVING MORE THAN ONE RESIDENCE)
   - SURFACE – 6" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1 1/2" MIN)
   - GEOMETRY – MAX. 15% GRADE, MAX 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS
   - STRUCTURE (CULVERTS/BRIDGES) – CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
   - DRAINAGE ELEMENTS – SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
   - MAINTENANCE – SUFFICIENT TO INSURE ALL WEATHER USE
6. PROPERTY SUBJECT TO PRIOR DEPARTMENT OF PLANNING AND ZONING FILE NO'S: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, SDP-15-029, W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D, SP-17-013, SDP-16-101, AND F-19-013
7. TO THE BEST OF OUR KNOWLEDGE, NO CEMETERIES EXIST ON SITE BY BOTH VISUAL OBSERVATION AND REVIEW OF AVAILABLE HOWARD COUNTY INFORMATION.
8. THERE IS NO FLOODPLAIN WITHIN THE LIMITS OF THIS SITE DEVELOPMENT PLAN SUBMISSION.
9. THIS PROPERTY IS NOT LOCATED IN A HISTORIC DISTRICT.
10. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 2004 ZONING REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO. 75-2003 AND THE "COMP-LITE" ZONING REGULATION AMENDMENTS EFFECTIVE 7/28/06. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A BUILDING OR GRADING PERMIT APPLICATION.
11. ARTICLES OF INCORPORATION FOR THE MORRIS PLACE COMMUNITY ASSOCIATION, INC. WAS FILED WITH THE MARYLAND STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ON SEPTEMBER 23, 2014, RECEIPT NO. D16094062.
12. THE FOREST STAND DELINEATION AND WETLAND DELINEATION REPORT FOR THIS PROJECT WERE PREPARED BY MCCARTHY AND ASSOCIATES ON JUNE, 2009 AND WAS APPROVED WITH THE COMPREHENSIVE SKETCH PLAN, S-10-002 BY THE PLANNING DIRECTOR ON JUNE 7, 2010.
13. THE TRAFFIC STUDY AND THE APFO (ADEQUATE PUBLIC FACILITIES ORDINANCE) ROAD FACILITIES TEST FOR THIS SUBDIVISION WAS APPROVED WITH THE COMPREHENSIVE SKETCH PLAN, S-10-002, BY THE PLANNING DIRECTOR, ON JUNE 7, 2010. AN UPDATED APFO TRAFFIC EVALUATION DATED 6/7/17 WAS PREPARED BY THE TRAFFIC GROUP, INC. AND WAS APPROVED ON OCTOBER 25, 2018 UNDER F-19-013.
14. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
15. PUBLIC WATER AND SEWER IS PROVIDED VIA CONTRACT NO. 14-5020-D
16. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE.
17. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON MAY 31, 2017 FOR THIS PROJECT.
18. THERE ARE NO WETLANDS, STREAMS, 100 YEAR FLOODPLAIN OR STEEP SLOPES WITH A CONTIGUOUS AREA GREATER THAN 20,000 SQUARE FEET LOCATED ON THIS SITE DEVELOPMENT PLAN. THERE ARE NO WETLANDS ON-SITE THAT WILL BE DISTURBED OR THAT WILL REQUIRE 401 AND 404 WETLANDS PERMITS FROM THE STATE OF MARYLAND.
19. FOREST CONSERVATION FOR ENTIRE PROJECT HAS BEEN PROVIDED UNDER F-14-028.
20. NO FOREST RESOURCES EXIST ON THIS SITE PER A LETTER OF FINDINGS BY ECO SCIENCE PROFESSIONALS, INC. DATE MAY 25, 2017.
21. A 10' PUBLIC TREE MAINTENANCE EASEMENT AND A 10' PRIVATE PARKING SETBACK RUNNING ALONG THE EDGE OF THE PUBLIC ROAD RIGHT-OF-WAY, AS SHOWN ON THIS PLAN OF SUBDIVISION IS RESERVED UPON ALL LOTS FRONTING ON THE SAID PUBLIC ROAD RIGHT-OF-WAY. THIS EASEMENT ALLOWS HOWARD COUNTY THE RIGHT TO ACCESS THE PROPERTY, WHEN NECESSARY, FOR THE SPECIFIC PURPOSE OF THE INSTALLATION, REPAIR AND MAINTENANCE OF COUNTY OWNED TREES LOCATED WITHIN THE BOUNDARIES OF THE PRIVATE LOTS. NO BUILDING OR STRUCTURE OF ANY KIND SHALL BE LOCATED ON OR OVER THE SAID EASEMENT AREA.
22. THE LOTS CREATED BY THIS SUBDIVISION PLAT AREA SUBJECT TO A FEE OR ASSESSMENT TO COVER OR DEFRAY ALL OR PART OF THE DEVELOPER'S COST OF THE INSTALLATION OF THE WATER AND SEWER FACILITIES, PURSUANT TO THE HOWARD COUNTY CODE SECTION 18.112. THIS FEE OR ASSESSMENT, WHICH RUNS WITH THE LAND, IS A CONTRACTUAL OBLIGATION BETWEEN THE DEVELOPER AND EACH OWNER OF THIS PROPERTY AND IS NOT IN ANY WAY A FEE OR ASSESSMENT OF HOWARD COUNTY.
23. H.O.A. COVENANTS AND RESTRICTIONS ARE RECORDED IN LIBER 16221, FOLIO 418 AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND. AN AMENDED DECLARATION OF COVENANTS AND RESTRICTIONS WILL BE RECORDED WITH THE FINAL PLAT.
24. REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE FOR PRIVATE ROADS ARE PROVIDED BY THE MORRIS PLACE COMMUNITY ASSOCIATION, INC. FOR THE TOWNHOUSE LOTS FRONTING PRIVATE STREETS.
25. QUIDDITCH LANE IS A PUBLIC ROAD MAINTAINED BY HOWARD COUNTY, MARYLAND. ALL OTHER ROADS OR STREETS ARE PRIVATELY OWNED AND MAINTAINED BY THE MORRIS PLACE HOMEOWNERS ASSOCIATION, INC.
26. THIS PLAN IS SUBJECT TO A LETTER DATED MARCH 16, 2010 WHICH THE PLANNING DIRECTOR GRANTED APPROVAL TO ALLOW A REDUCTION IN THE REQUIRED COMMERCIAL SPACE TO 200 SQUARE FEET PER RESIDENTIAL UNIT. HOWEVER, IF THE ADJOINING LUSKINS PROPERTY (PARCEL 569), WHICH HAS FRONTAGE ON ROUTE 1 IS LATER INTEGRATED WITH THIS SUBDIVISION, 300 SQUARE FEET OF COMMERCIAL SPACE FOR EACH RESIDENTIAL UNIT MAY BE REQUIRED, OR WHAT REGULATIONS DICTATE AT THAT TIME.
27. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. LANDSCAPING OBLIGATIONS FOR THIS SITE DEVELOPMENT (APFO PHASE VI) HAS BEEN PROVIDED BY A FINANCIAL SURETY IN THE AMOUNT OF $8,370.00 BASED ON 23 SHADE TREES @ $300/SHADE TREE, 8 EVERGREEN @ $150/EVERGREEN TREES, AND 9 SHRUBS @ $30/SHRUB WHICH WILL BE ARE POSTED AS PART OF THE DEVELOPERS AGREEMENT FOR THIS SITE DEVELOPMENT PLAN.
28. THIS PROJECT COMPLIES WITH THE ROUTE 1 MANUAL IN REGARDS TO THE "CAC-CLI" ZONING DISTRICT.
29. ON FEBRUARY 6, 2012 AND JULY 10, 2013 THE DEPARTMENT OF PLANNING AND ZONING HAS TENTATIVELY ALLOCATED FOR THIS SUBDIVISION IN THE ROUTE 1 PLANNING AREA IN ACCORDANCE WITH THE FOLLOWING ALLOCATION SCHEDULE AND MILESTONES:

PHASE NO.	FILE NO.	ALLOCATION YEAR	NO. OF ROUTE 1 ALLOCATIONS	NO. OF M.I.H.U. ALLOCATIONS	TOTAL NO. OF ALLOCATIONS	FINAL PLANS OR SITE DEVELOPMENT PLAN
I-IV	F-14-028	2016	43	10	53	FINAL PLANS BY NOVEMBER 9, 2013
V	F-15-047	2017	16	18	34	SITE DEVELOPMENT PLAN BETWEEN 07/01/14 & 11/01/14
VI	F-16-017	2018	79	0	79	SITE DEVELOPMENT PLAN BETWEEN 07/01/15 & 11/01/16
TOTALS			138	28	166	------

30. AMENITY AREA REQUIREMENTS PROVIDED WITH SDP FOR APFO PHASES I THRU VII. SEE AMENITY AREA CHART THIS SHEET.
31. STORMWATER MANAGEMENT FOR THIS REDEVELOPMENT PROJECT HAS BEEN PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MARYLAND DEPARTMENT OF ENVIRONMENT STORM WATER DESIGN MANUAL, VOLUMES I AND II, REVISED 2009, UNDER F-14-028, SDP-15-017 AND BY THE CONSTRUCTION OF ONE (1) M-6 BIO RETENTION FACILITY UNDER THIS SITE DEVELOPMENT PLAN. THE STORMWATER FACILITY LOCATED ON OPEN SPACE LOT 204 WILL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
32. THE COMMERCIAL COMPONENT HAS BEEN FULFILLED BY THE PAYMENT OF A FEE-IN-LIEU ON SEPTEMBER 29, 2017 WITH SP-17-013. THE RESIDENTIAL UNITS ARE NOT LEED CERTIFIED WHICH ALLOWS FOR A REDUCTION IN THE FEE. ADDITIONAL AMENITY AREA NUMBER 9 HAS BEEN CREATED. CONTRIBUTIONS WERE NOT PAID FOR PUBLIC IMPROVEMENTS IN EXCESS OF THE PROPORTIONAL SHARE REQUIRED BY THE COUNTY.
33. PHASE VII IS SUBJECT TO FEE-IN-LIEU PAYMENT OF $259,00.00 FOR REPLACING THE COMMERCIAL COMPONENT WITH RESIDENTIAL (TOWNHOUSE) DEVELOPMENT THAT WAS PAID ON SEPTEMBER 29, 2017 WITH SP-17-013. SECTION 127.5.E.3.D PROVIDES THAT COMMERCIAL SPACE MAY BE REDUCED FROM 70 SQUARE FEET PER UNIT TO ZERO UPON PAYMENT OF $25 PER SQUARE FOOT OF REQUIRED COMMERCIAL SPACE. THE FEE-IN-LIEU AMOUNT OF $259,000.00 WAS DERIVED AS FOLLOWS:
    1). TOTAL NUMBER OF TOWNHOUSES, PHASES I THRU VII = 175 UNITS.
    2). TOTAL NUMBER OF M.I.H.U. UNITS, PHASES I THRU VII = 27 UNITS.
    3). TOTAL NUMBER OF MARKET UNITS = 148 UNITS. (175 UNITS – 27 UNITS)
    4). TOTAL COMMERCIAL AREA REQUIRED = 10,360 SQUARE FEET. (148 UNITS X 70 SQUARE FEET/UNIT)
    5). FEE-IN-LIEU PAYMENT REQUIRED = $259,000.00. (10,360 SQUARE FEET X $25/SQUARE FOOT)

GENERAL NOTES (continued):

34. PLAT SUBJECT TO WP-14-068 WHICH THE PLANNING DIRECTOR ON JANUARY 17, 2014 APPROVED TO WAIVE SECTION 16.120(C)(4) –SINGLE FAMILY ATTACHED LOTS SHALL HAVE A MINIMUM 15 FEET OF FRONTAGE ON A PUBLIC ROAD. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
    1). THE PETITIONER OR DESIGNEE SHALL BE RESPONSIBLE FOR MAINTENANCE OF SAFE VEHICULAR ACCESS TO ALL RESIDENTIAL UNITS. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO, MAINTENANCE OF THE PRIVATE ROAD PROVIDING ACCESS TO THE RESIDENTIAL UNITS, MAINTENANCE OF THE PRIVATE ROAD SYSTEM INCLUDING FOR SNOW REMOVAL AND PLOWING ON THE PRIVATE ROAD.
    2). UPON COMPLETION OF ANY PORTION OF THE PROPOSED RESIDENTIAL DEVELOPMENT, THE PETITIONER OR DESIGNEE SHALL PROVIDE ROAD MAINTENANCE, PRIVATE TRASH REMOVAL SERVICES, SNOW REMOVAL TO THE DEVELOPMENT UNTIL THE ROADS ARE TRANSFERRED TO THE H.O.A.
    3). ON ALL FUTURE SUBDIVISION PLANS AND SITE DEVELOPMENT PLANS, PROVIDE A BRIEF DESCRIPTION OF WAIVER PETITION, WP-14-068, AS A GENERAL NOTE TO INCLUDE REQUESTS, SECTIONS OF THE REGULATIONS, ACTION AND DATE.
    4). ON ALL FUTURE SUBDIVISION PLANS, PROVIDE A BRIEF DESCRIPTION OF THE DESIGN MANUAL WAIVER, AS A GENERAL NOTE TO INCLUDE REQUESTS, ACTION AND DATE.
    5). COMPLIANCE WITH THE DEVELOPMENT ENGINEERING DIVISION COMMENTS DATED JANUARY 10, 2014.
    6). SUBJECT TO PROVIDING THE REQUIRED VISITOR AND OVERFLOW PARKING SPACES FOR THE RESIDENTIAL UNITS ON THE SITE DEVELOPMENT PLAN(S).
35. THE OPEN SPACE SHOWN HEREON IS HEREBY DEDICATED TO A PROPERTY OWNERS ASSOCIATION FOR THE RESIDENTS OF THIS SUBDIVISION AND RECORDING REFERENCES OF THE ARTICLES OF INCORPORATION AND RESTRICTIONS ARE SHOWN HEREON.
36. A MODERATE INCOME HOUSING UNIT (M.I.H.U.) AGREEMENT AND M.I.H.U. COVENANTS HAS BEEN RECORDED FOR PHASE I THRU VI IN LIBER 16221 AT FOLIO 490 (PHASES I – IV). IN LIBER 16634 AT FOLIO 471 (PHASES V) AND IN LIBER 17100 AT FOLIO 470 (PHASES VI). A SEPARATE (M.I.H.U.) AGREEMENT AND M.I.H.U. COVENANTS WAS RECORDED FOR PHASE VII AT LIBER 18578 FOLIO 306.
37. SOILS BOUNDARIES ARE BASED ON NRCS WEBSOIL SURVEY.
38. TOPOGRAPHIC CONTOURS ARE BASED ON AERIAL CONTOURS MAPPING BY HARFORD AERIAL PHOTOGRAPHED ON SEPTEMBER 18, 2007 AND SUPPLEMENTED WITH A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, INC. DATED APRIL 24, 2017.
39. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IS APPLICABLE.
40. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
41. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE. ANY DAMAGE TO PUBLIC ROADS OR EXISTING UTILITIES WILL BE CORRECTED AT CONTRACTOR'S EXPENSE.
42. TRAFFIC CONTROL DEVICES:
    A. THE R1-1 (STOP) SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
    B. THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410) 313-2430 PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
    C. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (MdMUTCD)
    D. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED (QUICK PUNCH), SQUARE TUBE (POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) – 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO QUICK PUNCH HOLES ABOVE GROUND LEVEL A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
43. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES 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. AS SHOWN ON "WALKWAY/STREET LIGHT CHART (PRIVATE) PHASE VII" STREET LIGHT TYPES HAVE BEEN CHOSEN TO MATCH EXISTING STREET LIGHTS ON PREVIOUS MORRIS PLACE PHASES.
44. A PRIVATE ROAD STREET NAME SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED (FOR EACH OF THE PRIVATE ROADS INTERSECTING QUIDDITCH LANE) BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT (410) 313-5752 FOR DETAILS AND COST ESTIMATES.
45. ALL SWALES AND SLOPES SHALL BE PERMANENTLY SEEDED OR OTHERWISE STABILIZED
46. ALL FILL AREAS (ROADWAYS, UNDER STRUCTURES, ECT.) TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION AS REQUIRED BY ASHTO 180.
47. IN ACCORDANCE WITH SECTION 128.0 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 OR REAR YARD SETBACK.
48. DECKS MUST BE 10' FROM THE PUBLIC SEWER, WATER AND UTILITY EASEMENT, UNLESS SUBJECT TO AN APPROVED WAIVER.

AMENITY AREA CHART

PHASE	REQUIRED	PROVIDED
EXISTING I-IV	0.72 AC.	0.738 AC.
EXISTING V	0.27 AC.	0.334 AC.
EXISTING VI	0.74 AC.	0.870 AC.
VII	0.00 AC.	0.575 AC.
TOTAL	1.73 AC.	2.517 AC.

STREET ADDRESS CHART

LOT NO.	STREET ADDRESS
194	7701 KEN DANNAGER COURT
195	7703 KEN DANNAGER COURT
196	7705 KEN DANNAGER COURT
197	7707 KEN DANNAGER COURT
198	7709 KEN DANNAGER COURT
199	7710 KEN DANNAGER COURT
200	7708 KEN DANNAGER COURT
201	7706 KEN DANNAGER COURT
202	7704 KEN DANNAGER COURT

SITE ANALYSIS DATA CHART

A. TOTAL AREA OF THIS SUBMISSION = 1.547 AC.±.
B. LIMIT OF DISTURBED AREA = 1.48 AC.±.
C. PRESENT ZONING DESIGNATION = CAC-CLI (PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
D. PROPOSED USE: RESIDENTIAL
E. BUILDING COVERAGE OF SITE: 12%
F. PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, SDP-15-029, F-19-013, SP-17-013, SDP-15-029, SDP-16-101, W & S CONTR. NO. 14-4777-D, CONTR. NO. 14-4897-D AND SP-17-013
G. TOTAL AREA OF FLOODPLAIN LOCATED ON SITE 0.00 AC±
H. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.00 AC±
I. NET TRACT AREA = 1.547 AC.±. (TOTAL SITE AREA – FLOODPLAIN – STEEP SLOPES AREA)
J. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0 AC.±
K. TOTAL AREA OF FOREST = 0 AC±
L. TOTAL IMPERVIOUS AREA = 0.36 AC±
M. TOTAL AREA OF SEVERELY ERODIBLE SOILS = 0 AC.±

THE INSTRUMENTS USED IN PERFORMING AS-BUILT SURVEY:
10 SECOND ROBOTIC TOTAL STATION & PRISM

AS BUILT 3/17/21

MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTIONS TRACKING

Total Number of Lots/Units Proposed	175
Number of MIHU Required	27
Number of MIHU Provided Onsite (exempt from APFO allocations)	0
Number of APFO Allocations Required (remaining lots/units)	148
MIHU Fee-in-Lieu (indicate lot/unit numbers)	LOTS 1-175

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development BL — Date 5-13-19
Chief, Development Engineering Division HSP — Date 5-9-19
Director – Department of Planning and Zoning — Date 5-14-19

PROJECT	SECTION	LOTS NO.
MORRIS PLACE	N/A	LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 AND 204

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24965-24966	4	CAC-CLI	43	1	6069.02

WATER CODE	SEWER CODE
C-02	7390000

TITLE SHEET

SINGLE FAMILY TOWNHOUSE
MORRIS PLACE
LOTS 194 THRU 202
AND OPEN SPACE LOTS 203 AND 204
PHASE VII
ZONED: CAC-CLI
PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, F-19-013, SP-17-013, SDP-15-029, SDP-16-101, W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2019
SHEET 1 OF 10
SDP-19-029

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE
1	REVISED BUILDING FOOT PRINT	7/26/19

FRANK JOHN MANALANSAN II
No. 21476
EXPIRATION DATE: 7/14/19

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional surveyor under the laws of the State of Maryland, License No. 21476, Expiration date: 7/14/19.

Frank John Manalansan II — 4/9/19
FRANK JOHN MANALANSAN II, L.S. — Date

OWNER/DEVELOPER

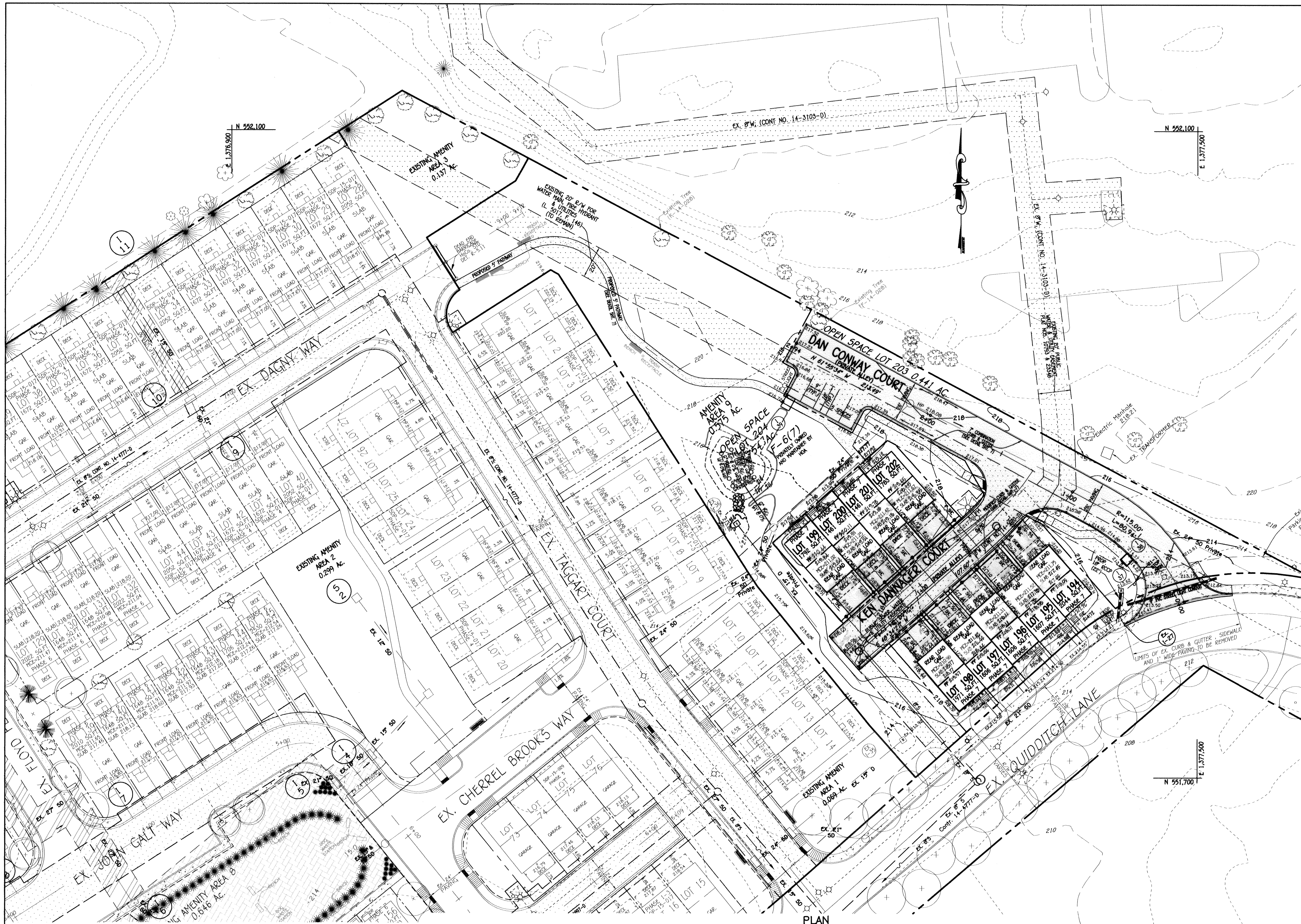
BEAZER HOMES, LLC
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
ATTN: ROD HART
(410) 720-5071

AS-BUILT

NOTE:

1) DIMENSIONS SHOWING DISTANCE FROM BUILDING TO PROPERTY LINE AND CLOSEST DISTANCE BETWEEN BUILDINGS HAVE BEEN PROVIDED ON GEOMETRY PLAN-SHEET 11.

2) DIMENSIONS DELINEATING THE REQUIRED 18 FOOT MINIMUM PARKING AREA DISTANCE FROM FACE OF UNIT TO FLOW LINE OR BACK OF SIDEWALK HAVE BEEN PROVIDED ON THIS SHEET.

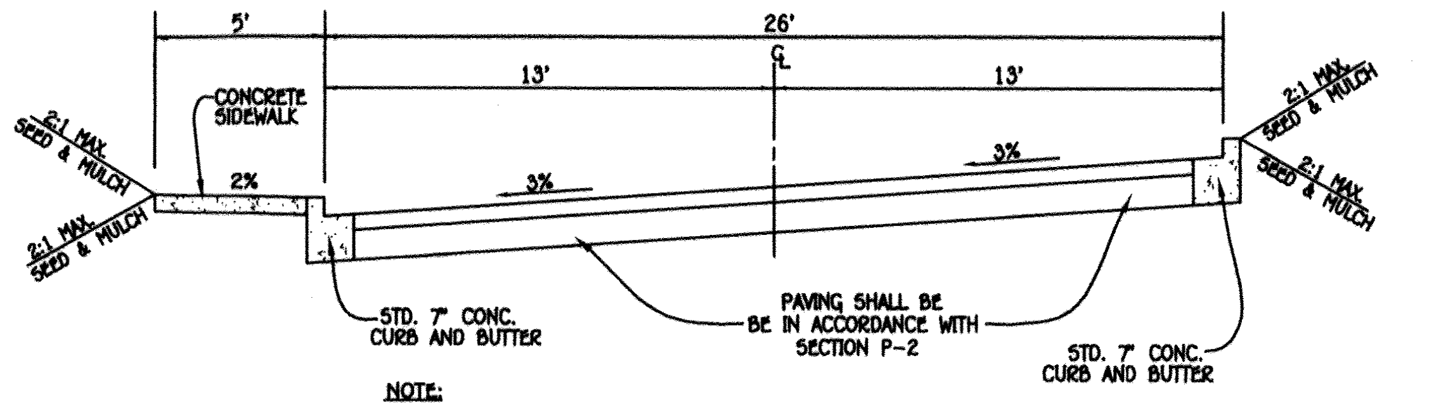

N 552,100
E 1,376,900
N 552,100
E 1,377,500
N 551,700
E 1,377,500
EX. 8"W. (CONT NO. 14-3103-D)
EXISTING AMENITY AREA 3 0.137 Ac.
EXISTING 20' R/W FOR WATER MAIN, FIRE HYDRANT & UTILITIES (L. 17017 F. 46) (TO REMAIN)
PROPOSED 5' PATHWAY
OPEN SPACE LOT 203 0.441 AC.
DAN CONWAY COURT (PRIVATE ALLEY)
AMENITY AREA 9 0.515 Ac.
OPEN SPACE LOT 204 0.154 AC.
KEN DANNAGER COURT (PRIVATE ALLEY)
LOT 194
LOT 195
LOT 196
LOT 197
LOT 198
LOT 199
LOT 200
LOT 201
LOT 202
PHASE 7
EX. DAGNY WAY
EX. TAGGART COURT
EX. CHERREL BROOKS WAY
EX. QUIDDITCH LANE
EX. JOHN GALT WAY
EX. FLOYD
EXISTING AMENITY AREA 2 0.299 Ac.
EXISTING AMENITY AREA 1 0.069 Ac.
AMENITY AREA 8 0.646 Ac.
Existing 10' Parking Setback Line Plat No. 23348
Existing Concrete Sidewalk(F-14-028)
Electric Manhole
EX. TRANSFORMER
LIMITS OF EX. CURB & GUTTER, SIDEWALK AND 1' WIDE PAVING TO BE REMOVED
R=115.00'
L=80.94'
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 9
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 20
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
LOT 26
LOT 27
LOT 73
LOT 74
LOT 75
LOT 76
212
214
216
218
220

PLAN

SCALE : 1" = 30'

0'
30'
60'
120'

SCALE: 1" = 30'

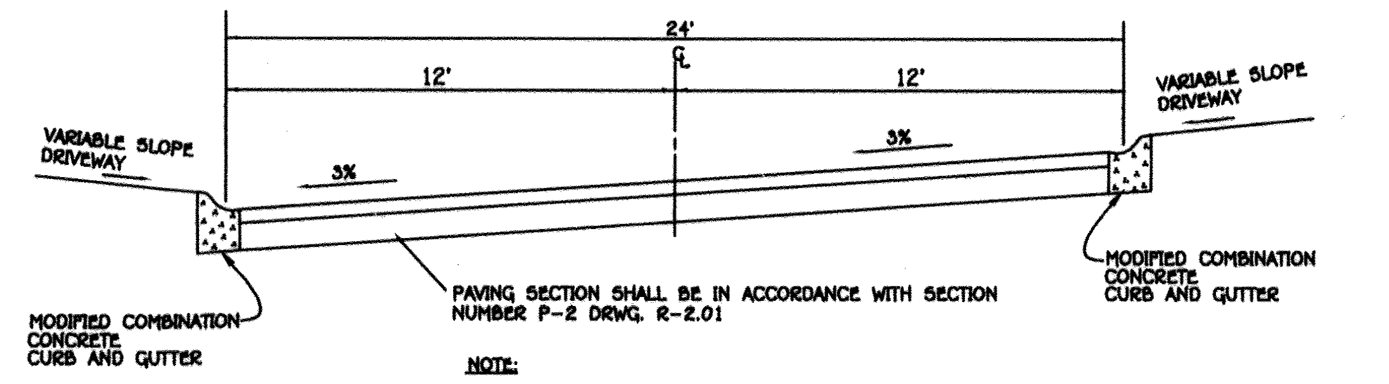

5'
26'
13'
13'
℄
CONCRETE SIDEWALK
2%
3%
3%
2:1 MAX. SEED & MULCH
2:1 MAX. SEED & MULCH
STD. 7" CONC. CURB AND BUTTER
PAVING SHALL BE BE IN ACCORDANCE WITH SECTION P-2
STD. 7" CONC. CURB AND BUTTER

NOTE:

ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

TYPICAL ROADWAY SECTION – DAN CONWAY COURT

NO SCALE


24'
℄
12'
12'
3%
3%
VARIABLE SLOPE DRIVEWAY
VARIABLE SLOPE DRIVEWAY
MODIFIED COMBINATION CONCRETE CURB AND GUTTER
PAVING SECTION SHALL BE IN ACCORDANCE WITH SECTION NUMBER P-2 DRWG. R-2.01
MODIFIED COMBINATION CONCRETE CURB AND GUTTER

NOTE:

ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

TYPICAL ROADWAY SECTION – KEN DANNAGER COURT

NO SCALE

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

3/17/21
Date

NOTE: FOR LOT BEARINGS AND DISTANCES, SEE GEOMETRY PLAN SHEET 10.

LEGEND	
SYMBOL	DESCRIPTION
EX. 24" SD	EXISTING STORM DRAIN LINE
EX. 12' W	EXISTING WATER LINE
▬ ▬ ▬	BOUNDARY/RIGHT OF WAY LINE
B.R.L.	BUILDING RESTRICTION LINE
18" RCCP	PROPOSED STORM DRAIN LINE
8"S	PROPOSED SEWER LINE
8"W	PROPOSED WATER LINE
▨	PROPOSED CONCRETE
▨	PROPOSED PAVING
▬ ▬ ▬	PROPOSED L.O.D.
- - -218- - -	EXISTING 2' CONTOUR
— 220 —	EXISTING 10' CONTOUR
—218—	PROPOSED 2' CONTOUR
×219.07	SPOT ELEVATION
░	WATER AND SEWER EASEMENT

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE
2	REVISED STORMWATER MANAGEMENT PER FIELD CONDITIONS	8/14/20
1	REVISED ELEVATIONS PER NEW BUILDING FOOT PRINT	7/20/19

No. 21476

EXPIRATION DATE: 7/14/19

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional surveyor under the laws of the State of Maryland, License No. 21476, Expiration date: 7/14/19.

Frank John Manalansan II
FRANK JOHN MANALANSAN II, L.S.

4/2/19
Date

OWNER/DEVELOPER

BEAZER HOMES, LLC
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
ATTN: ROD HART
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 5.13.19 Date

Chief, Development Engineering Division — 5.9.19 Date

Director – Department of Planning and Zoning — 5-14-19 Date

PROJECT			SECTION		LOTS NO.
MORRIS PLACE			N/A		LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 AND 204
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24965-24966	4	CAC-CLI	43	1	6069.02
WATER CODE			SEWER CODE		
C-02			7390000		

SITE DEVELOPMENT PLAN

SINGLE FAMILY TOWNHOUSE
MORRIS PLACE
LOTS 194 THRU 202
AND OPEN SPACE LOTS 203 AND 204
PHASE VII
ZONED: CAC-CLI
PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, F-19-013, SP-17-013, SDP-15-029, SDP-16-101,
W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2019
SHEET 2 OF 10

SDP-19-029

AS - BUILT

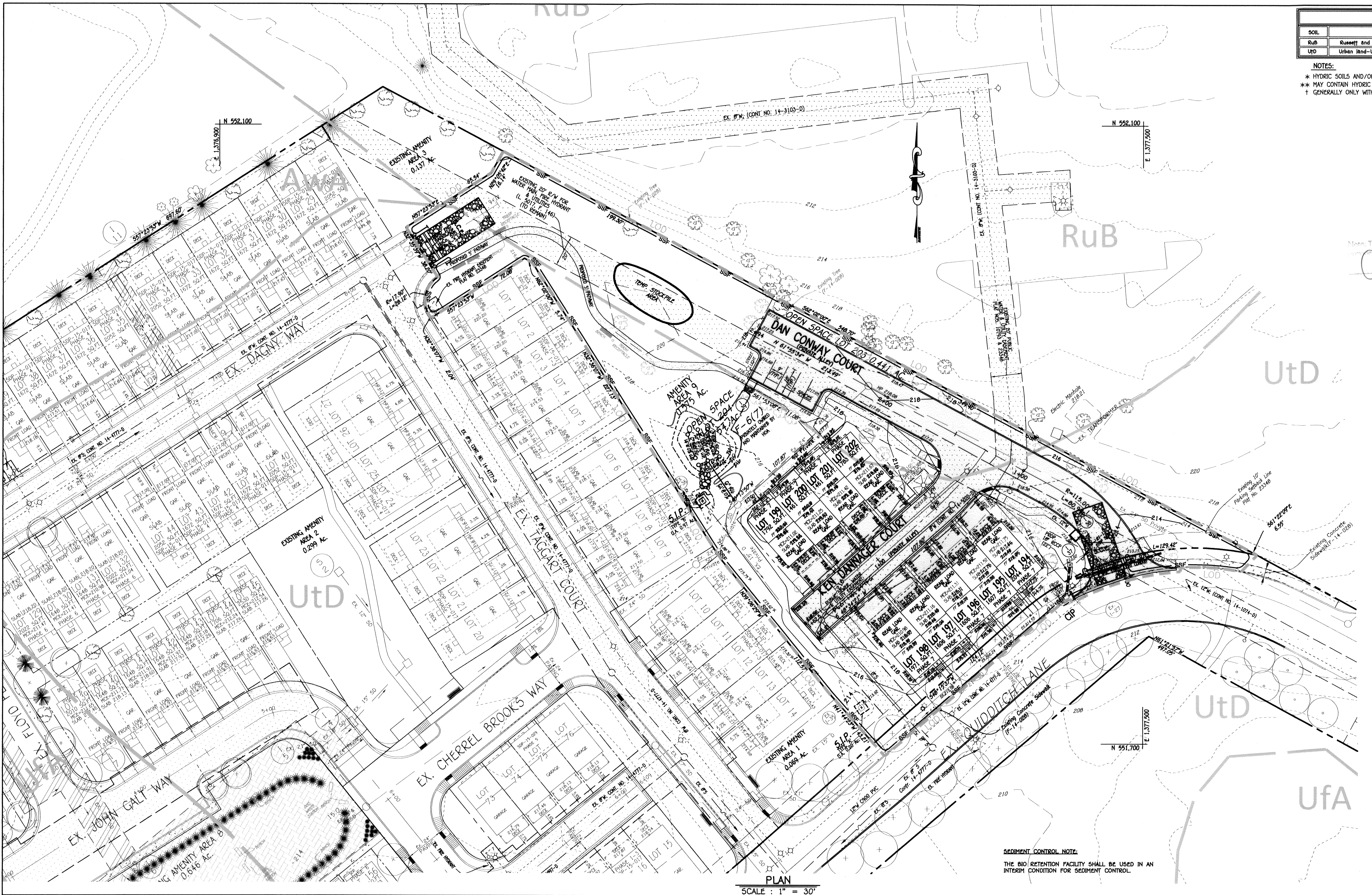
I:\2007\07053\dwg\SDP\PHASE VII\Plan Set\07053-3001 SHEET-2-PHASES VII SDP.dwg, CO_2 SDP, 1:1

SOILS LEGEND

SOIL	NAME	CLASS	Kw
RuB	Russett and Beltsville soils, 2 to 5 percent slopes	C	N/A
UtD	Urban land-Udorthents complex, 0 to 15 percent slopes	D	N/A

NOTES:

∗ HYDRIC SOILS AND/OR CONTAINS HYDRIC INCLUSIONS
∗∗ MAY CONTAIN HYDRIC INCLUSIONS
† GENERALLY ONLY WITHIN 100-YEAR FLOODPLAIN AREAS


RuB
UtD
UfA
N 552,100
E 1,376,900
E 1,377,500
N 551,700
EX. 8"W (CONT NO. 14-3103-D)
EXISTING AMENITY AREA 3 0.137 Ac.
EXISTING AMENITY AREA 2 0.299 Ac.
EXISTING AMENITY AREA 1 0.069 Ac.
EXISTING AMENITY AREA 6 0.646 Ac.
AMENITY AREA 9
OPEN SPACE LOT 204
OPEN SPACE LOT 203 0.441 Ac.
TEMP. STOCKPILE AREA
EX. DAGNY WAY
EX. TAGGART COURT
EX. CHERREL BROOKS WAY
EX. JOHN GALT WAY
EX. FLOYD
DAN CONWAY COURT
KEN DANNAGER COURT
EX. QUIDDITCH LANE
LOT 194
LOT 195
LOT 196
LOT 197
LOT 198
LOT 199
LOT 200
LOT 201
LOT 202
SSF
LOD
CIP
S.I.P.

SCALE: 1" = 30'

SEDIMENT CONTROL NOTE:

THE BIO RETENTION FACILITY SHALL BE USED IN AN INTERIM CONDITION FOR SEDIMENT CONTROL.

AS-BUILT CERTIFICATION
Note: There is no "AS BUILT" information provided on this sheet
3/17/21
Date

LEGEND

SYMBOL	DESCRIPTION
EX. 24" SD	EXISTING STORM DRAIN LINE
EX. 12' W	EXISTING WATER LINE
▬ ‒ ‒ ▬	BOUNDARY/RIGHT OF WAY LINE
B.R.L.	BUILDING RESTRICTION LINE
18" RCCP	PROPOSED STORM DRAIN LINE
8"S	PROPOSED SEWER LINE
8"W	PROPOSED WATER LINE
▨	PROPOSED CONCRETE
░	PROPOSED PAVING
▬ ▬ ▬	PROPOSED L.O.D.
-210-	EXISTING 2' CONTOUR
220	EXISTING 10' CONTOUR
218	PROPOSED 2' CONTOUR
×219.07	SPOT ELEVATION
⋯	WATER AND SEWER EASEMENT
SSF	SUPER SILT FENCE

PLAN
SCALE : 1" = 30'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE
2	REVISED STORMWATER MANAGEMENT PER FIELD CONDITIONS	8/14/20
1	REVISED ELEVATIONS PER NEW BUILDING FOOT PRINT	7/26/20

FRANK JOHN MANALANSAN II
No. 21476
EXPIRATION DATE: 7/14/19

BUILDER/DEVELOPER'S CERTIFICATE

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

Signature of Developer BRIAN KNAUFF — 4/9/2019 Date

PROFESSIONAL CERTIFICATE

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

Frank John Manalansan II
FRANK JOHN MANALANSAN II, L.S. — 4/9/2019 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

John R Robertson
Howard SCD — 4/9/19 Date

OWNER/DEVELOPER

BEAZER HOMES, LLC
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
ATTN: ROD HART
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 5-13-19 Date
Chief, Development Engineering Division HSP — 5.9.19 Date
Director – Department of Planning and Zoning — 5.14.19 Date

PROJECT			SECTION		LOTS NO.
MORRIS PLACE			N/A		LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 AND 204
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24965-24966	4	CAC-CLI	43	1	6069.02
WATER CODE			SEWER CODE		
C-02			7390000		

SEDIMENT & EROSION CONTROL PLAN

SINGLE FAMILY TOWNHOUSE
MORRIS PLACE
LOTS 194 THRU 202
AND OPEN SPACE LOTS 203 AND 204
PHASE VII
ZONED: CAC-CLI
PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-140, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-060, F-14-028, F-15-047, F-16-017, SDP-15-017, F-19-013, SP-17-013, SDP-15-029, SDP-16-101,
W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2019
SHEET 3 OF 10
SDP-19-029

THERE IS NO AS-BUILT INFO. ON THIS SHEET

I:\2007\07053\dwg\SDP\PHASE VII\Plan Set\07053-3001 SHEET-3-PHASES VII SEC Plan.dwg, CO_3 SEC 1 1

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION
   - A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
   - B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
   - C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. PERMANENT STABILIZATION
   - A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
     - I. SOIL PH BETWEEN 6.0 AND 7.0.
     - II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
     - III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
     - IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
     - V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
   - B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
   - C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
   - D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
   - E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
   - A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
   - B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
   - C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
   - D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
   - A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 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 & 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.

DUST CONTROL

DEFINITION

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE

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

CONDITIONS WHERE PRACTICE APPLIES

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

SPECIFICATIONS

TEMPORARY METHODS

1. MULCHES – SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGETATIVE COVER – SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE – TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF THE SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION – THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
5. BARRIERS – SOLID BOARD FENCES SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALE DIKES AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CONTROLLING SOIL BLOWING. CURRENTS AND SOIL BLOWING. CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN
6. CALCIUM CHLORIDE – APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS

1. PERMENENT VEGETATION – SEE STANDARDS FOR PERMANENT VEGETATIVE COVER AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING – COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE – COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

TEMPORARY SEEDING NOTES (B-4-4)

DEFINITION

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

PURPOSE

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

CONDITIONS WHERE PRACTICE APPLIES

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

CRITERIA

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

TEMPORARY SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): 6B SEED MIXTURE (FROM TABLE B.1):				FERTILIZER RATE (10-20-20)	LIME RATE
SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS		
BARLEY	96	3/1 – 5/15, 8/15 – 10/15	1"	436 LB/AC (10 LB/ 1000 SF)	2 TONS/AC (90 LB/ 1000 SF)
OATS	72		1"		
RYE	112		1"		

PERMANENT SEEDING NOTES (B-4-5)

A. SEED MIXTURES

1. GENERAL USE
   - A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
   - B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 – CRITICAL AREA PLANTING.
   - C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY. D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
2. TURFGRASS MIXTURES
   - A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
   - B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
     - I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
     - II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET, CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
     - III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
     - IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

     NOTE:
     SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE
   - C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A) CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
   - D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
   - E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE B.3): 6B SEED MIXTURE (FROM TABLE B.3): 8					FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P_2O_5	K_2O	
8	TALL FESCUE	100	MAR. 1-MAY 15 AUG. 15-OCT. 15	1/4-1/2 IN.	45 LBS. PER ACRE (1.0 LB/ 1000 SF)	90 LB/AC (2 LB/ 1000 SF)	90 LB/AC (2 LB/ 1000 SF)	2 TONS/AC (90 LB/ 1000 SF)

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

1. GENERAL SPECIFICATIONS
   - A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
   - B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS TO 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
   - C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
   - D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OF WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
   - E. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
2. SOD INSTALLATION
   - A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
   - B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
   - C. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
   - D. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING, AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
3. SOD MAINTENANCE
   - A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
   - B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
   - C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

STANDARD STABILIZATION NOTE

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

A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1).
B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

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 (410-313-1855).
2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 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 BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
6) SITE ANALYSIS:

TOTAL AREA OF SITE	1.547 ACRES
AREA DISTURBED	1.48 ACRES
AREA TO BE ROOFED OR PAVED	0.36 ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.12 ACRES
TOTAL CUT	100 CU.YDS.
TOTAL FILL	100 CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A

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 SHALL 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 ACRE 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 PROCEEDING 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.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING & 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.

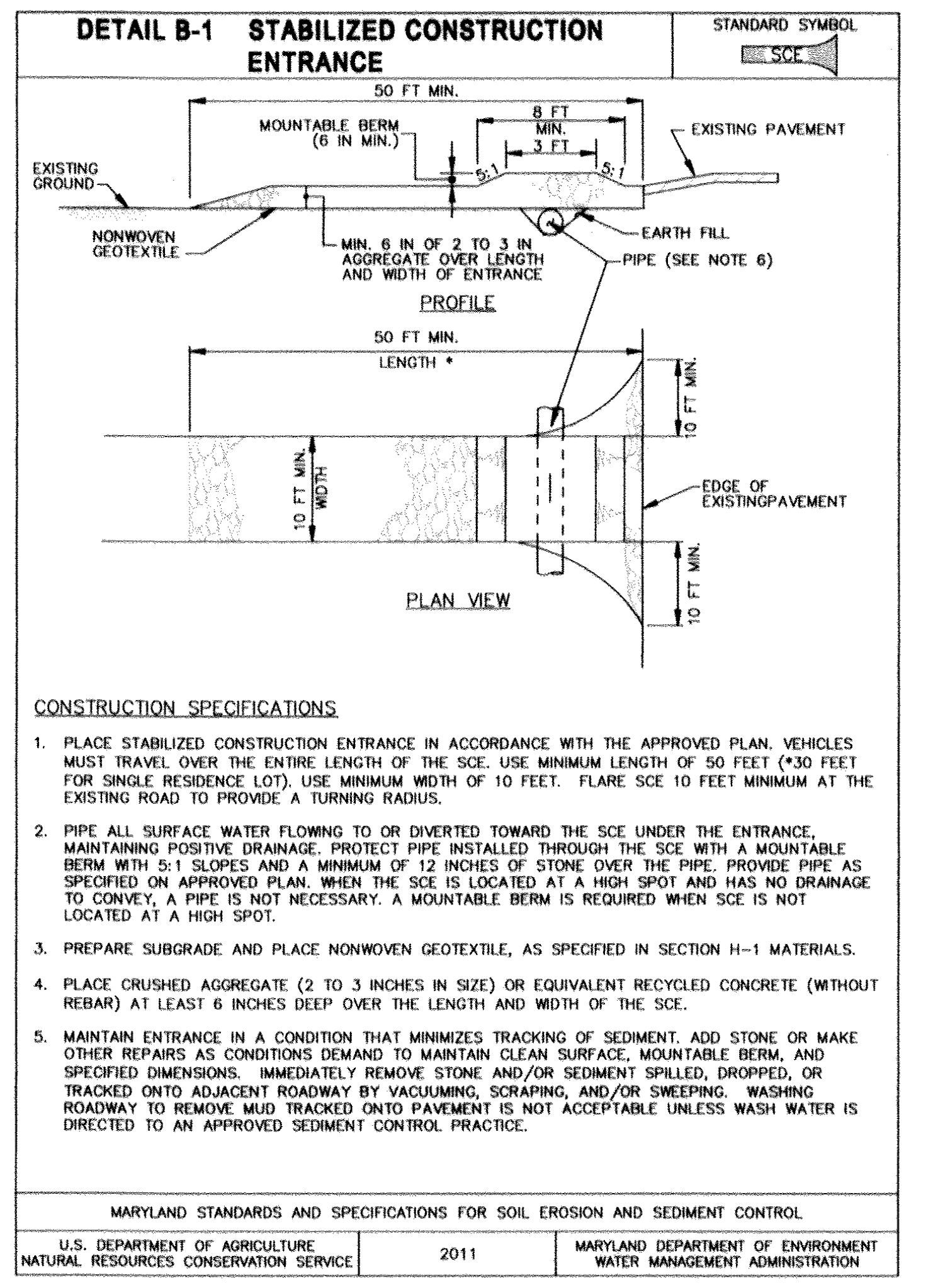
A. SEEDING

CRITERIA

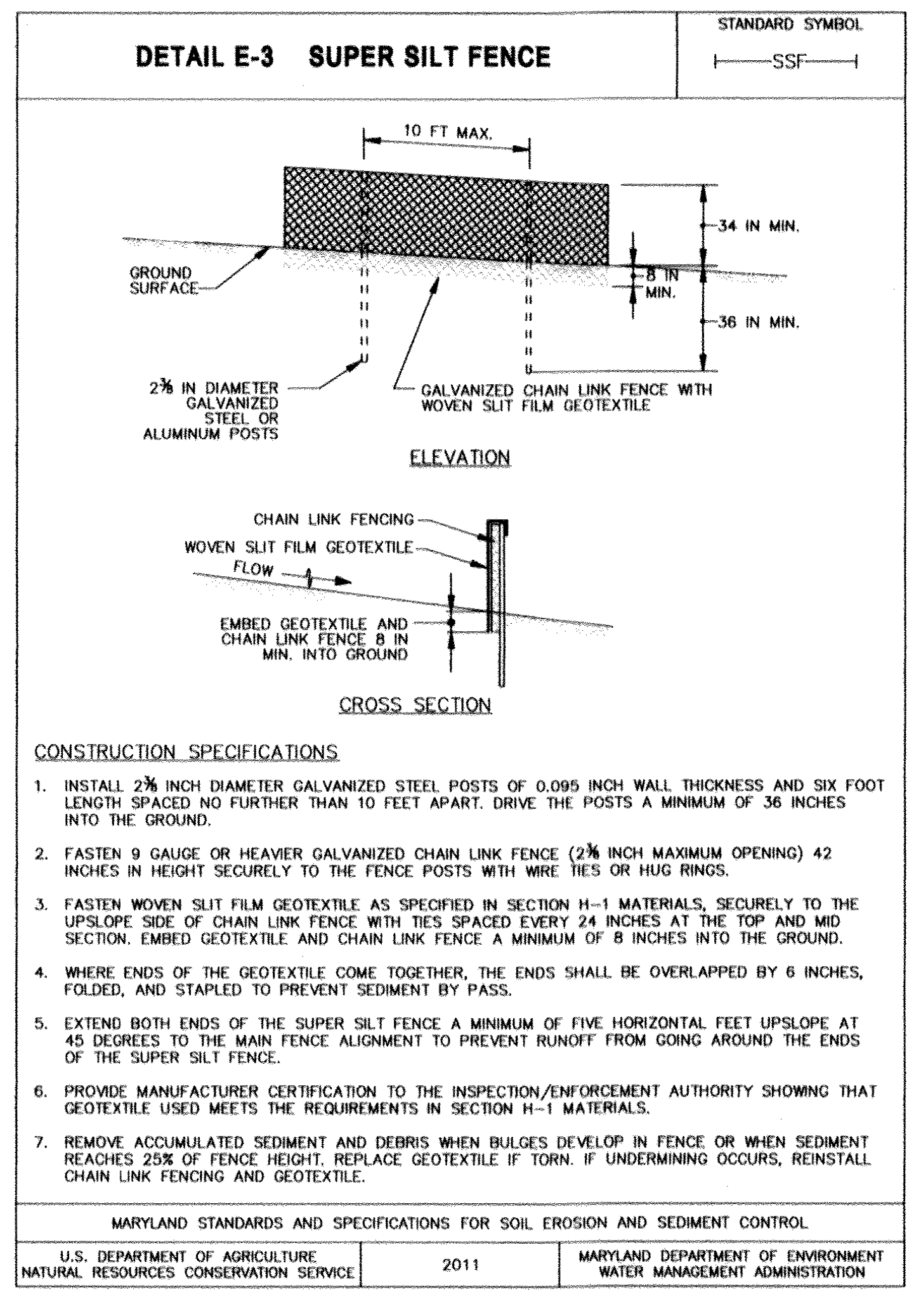
1. SPECIFICATIONS
   - A. ALL SEED MUST MEET THE REQUIREMENT OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO 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 WEEDCONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
2. APPLICATION
   - A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
     - I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
     - II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH 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; P_2O_5 (PHOSPHORUS), 200 POUNOS PER ACRE; K_2O (POTASSIUM), 200 POUNDS PER ACRE.
     - II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
     - III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
     - IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

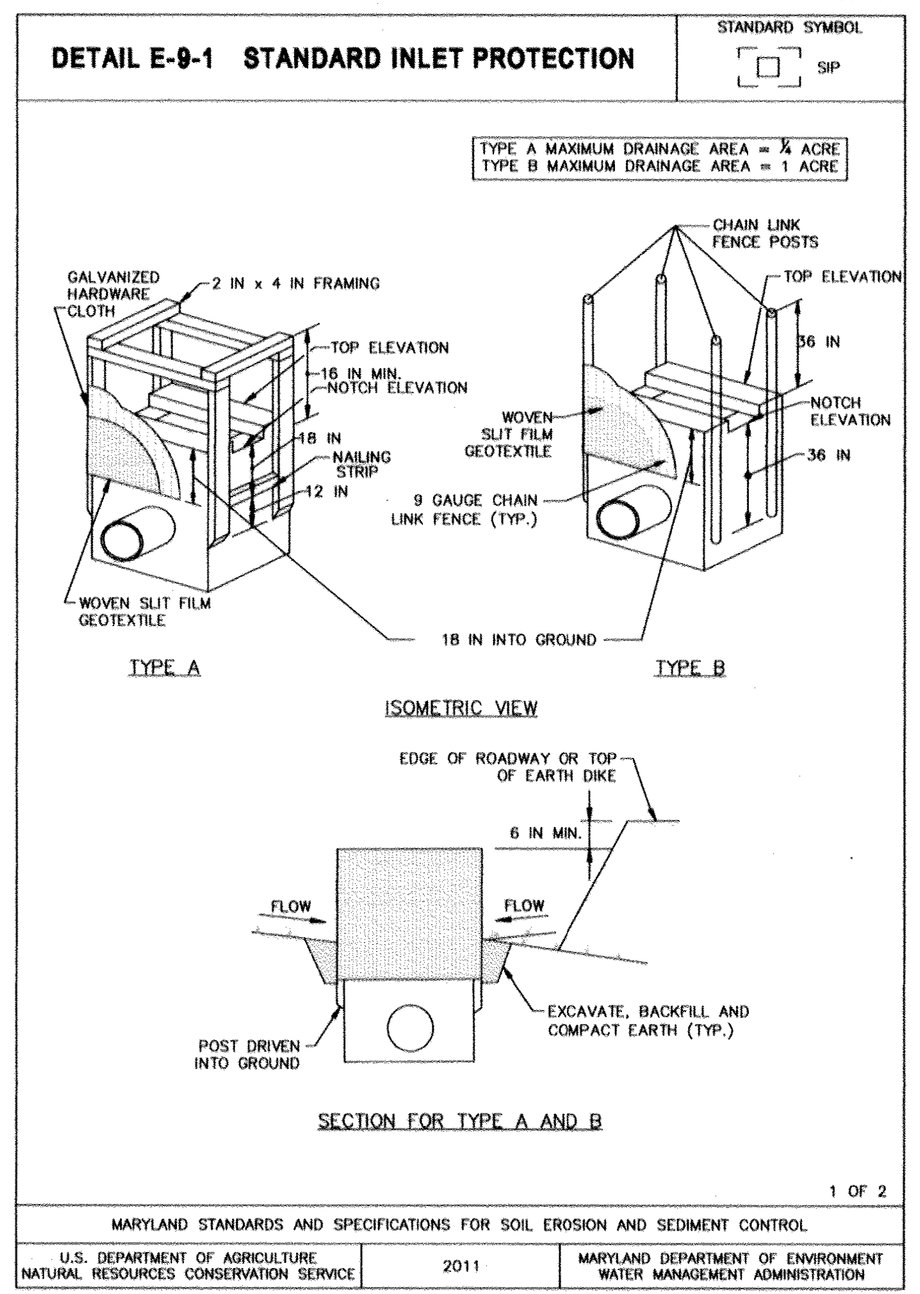
1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
   - A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
   - B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO UNIFORM FIBROUS PHYSICAL STATE.
     - I. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOT 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 BY 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 TO 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 4-15 FEET WIDE AND 300 TO 3,000 FEET LONG.



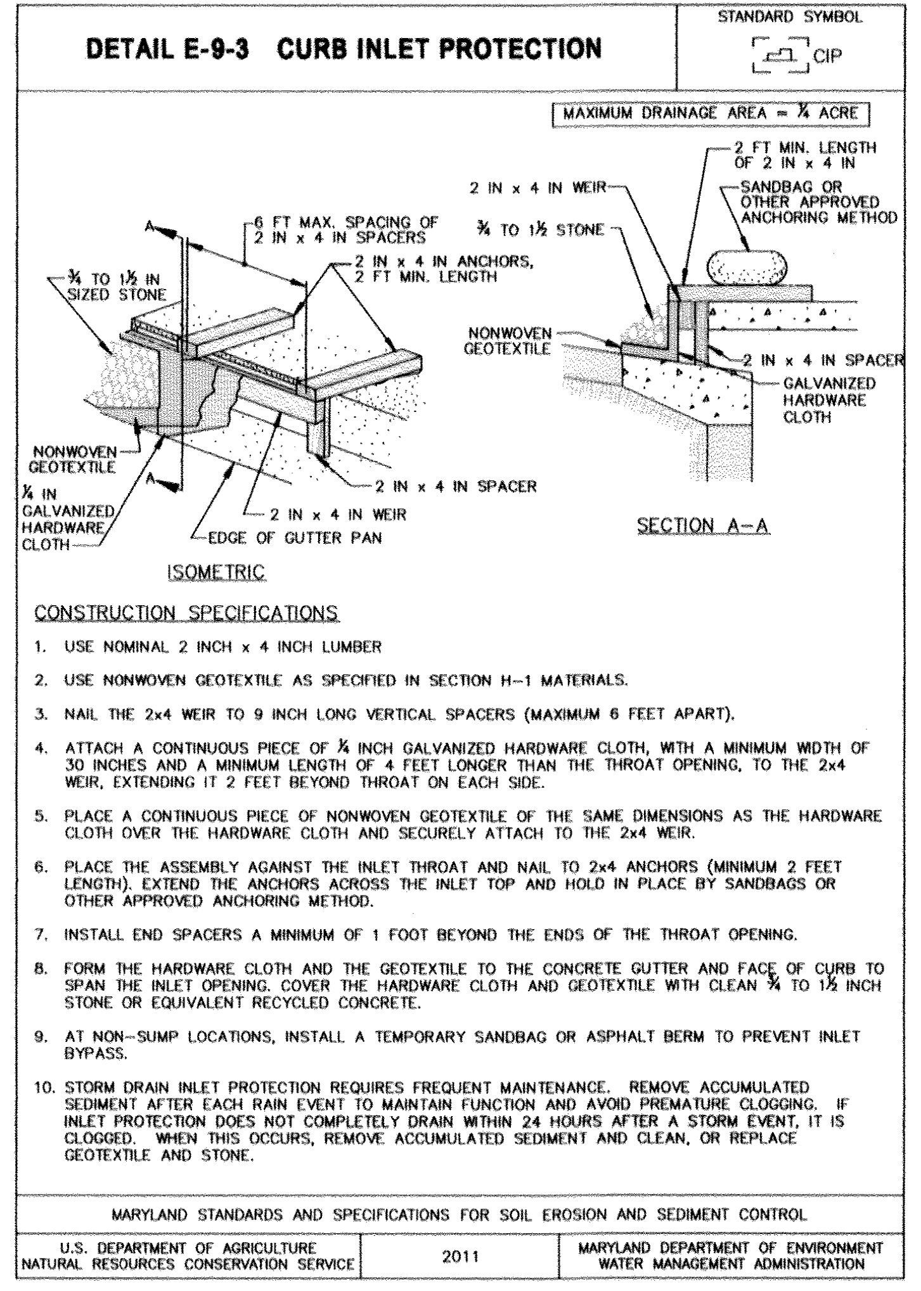
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE
STANDARD SYMBOL
SCE
PROFILE
PLAN VIEW
CONSTRUCTION SPECIFICATIONS
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE
2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



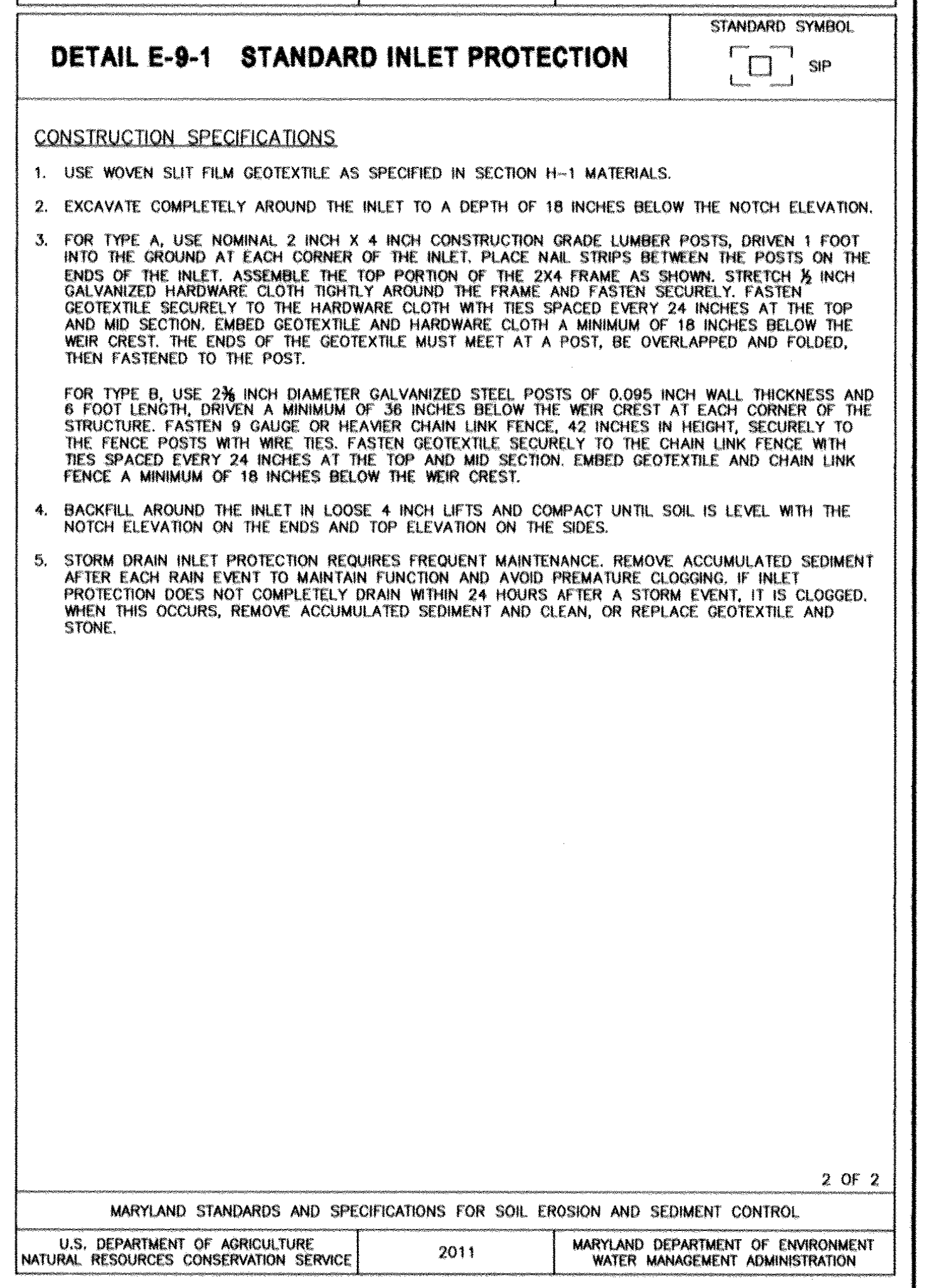
DETAIL E-3 SUPER SILT FENCE
STANDARD SYMBOL
SSF
ELEVATION
CROSS SECTION
CONSTRUCTION SPECIFICATIONS
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE
2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



DETAIL E-9-1 STANDARD INLET PROTECTION
STANDARD SYMBOL
SIP
TYPE A
TYPE B
ISOMETRIC VIEW
SECTION FOR TYPE A AND B
1 OF 2
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE
2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



DETAIL E-9-3 CURB INLET PROTECTION
STANDARD SYMBOL
CIP
ISOMETRIC
SECTION A-A
CONSTRUCTION SPECIFICATIONS
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE
2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



DETAIL E-9-1 STANDARD INLET PROTECTION
CONSTRUCTION SPECIFICATIONS
2 OF 2
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE
2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION

A MOUND OR PILE OF SOIL PROTECTED 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

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.

TABLE B.1 TEMPORARY SEEDING FOR SITE STABILIZATION

PLANT SPECS	SEEDING RATE [1]		SEEDING DEPTH [2] (INCHES)	RECOMMENDED SEEDING DATES BY PLANT HARDINESS ZONE [3]		
	LB./AC.	LB./1000 FT.^{2}		5b AND 6a	6b	7a AND 7b
COOL-SEASON GRASSES						
ANNUAL RYEGRASS (LOLIUM PERENNE SSP. MUTIFLORUM)	40	1.0	0.5	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 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 SEPT. 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 SEPT. 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 SEPT. 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. 31 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	JUNE 1 TO JULY 31	MAY 16 TO JULY 31	MAY 1 TO AUGUST 14
PEARL MILLET (PENNISETUM GLAUCUM)	20	0.5	0.5	JUNE 1 TO JULY 31	MAY 16 TO JULY 31	MAY 1 TO AUGUST 14

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.

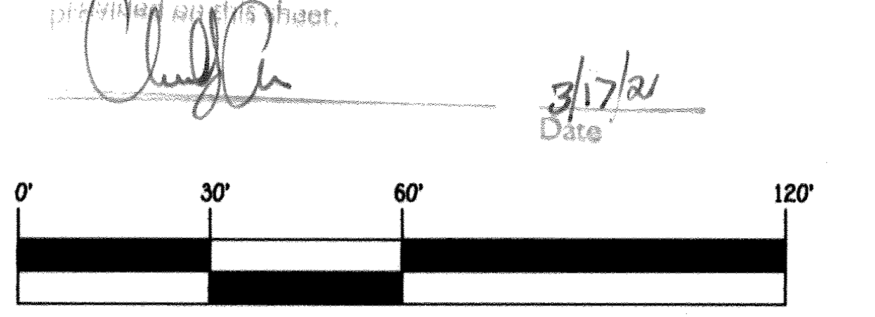
   OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.
2. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.
3. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT. (2 WEEKS)
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK.
3. REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY.
4. THE INFRASTRUCTURE NECESSARY, AS DETERMINED BY THE CONSTRUCTION INSPECTION DIVISION, FROM F-14-028, SDP-15-017 AND SDP-15-029 MUST BE COMPLETED PRIOR TO BEGINNING CONSTRUCTION ON THIS PLAN.
5. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCE, AND INLET PROTECTION. (1 WEEK)
6. INSTALL STORM DRAIN AND PIPING, AND BEGIN TO GRADE SITE TO SUB-GRADE. WITHIN THE SAME SPECIFIED AREA. (1 MONTH)
7. BEGIN CONSTRUCTION OF CURB & GUTTER AND INSTALLATION OF ROAD BASE COURSE. (2 WEEKS)
8. GRADE AND STABILIZE WITH TEMPORARY SEEDING THE BUILDING PADS. (1 MONTHS)
9. COMMENCE CONSTRUCTION OF TOWNHOUSES (6 MONTHS)
10. INSTALL FINISHED SURFACE COURSE, SIDEWALKS AND STREET TREES. (2 WEEKS)
11. CONTRACTOR SHALL REMOVE ALL OLD AND NEW JUNK, TRASH.
12. OBTAIN APPROVAL OF APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO REMOVAL OF SEDIMENT CONTROLS. (3 DAYS)
13. REMOVAL OF CONTROLS AND STABILIZATION OF AREAS THAT ARE DISTURBED BY REMOVAL OF SEDIMENT CONTROLS.

NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE AFTER EACH RAINFALL AND ON A DAILY BASIS. REMOVE SEDIMENT FROM ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON.

AS-BUILT CERTIFICATION
Note: There is no "AS BUILT" information provided on this sheet.
3/17/21
Date



SCALE: 1" = 30'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE

FRANK JOHN MANALANSAN II
No. 21436
EXPIRATION DATE: 7/14/19

BUILDER/DEVELOPER'S CERTIFICATE

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

Signature of Developer BRIAN KNAUFF 4/9/2019 Date

PROFESSIONAL CERTIFICATE

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

Frank John Manalansan II
FRANK JOHN MANALANSAN II, L.S. 4/9/19 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

John R Robertson
Howard SCD 4/9/19 Date

OWNER/DEVELOPER

BEAZER HOMES, LLC
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
ATTN: ROD HART
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kent Sheubrooks
Chief, Division of Land Development 5-13-19 Date

Chief, Development Engineering Division 5.9.19 Date

Director – Department of Planning and Zoning 5-14-19 Date

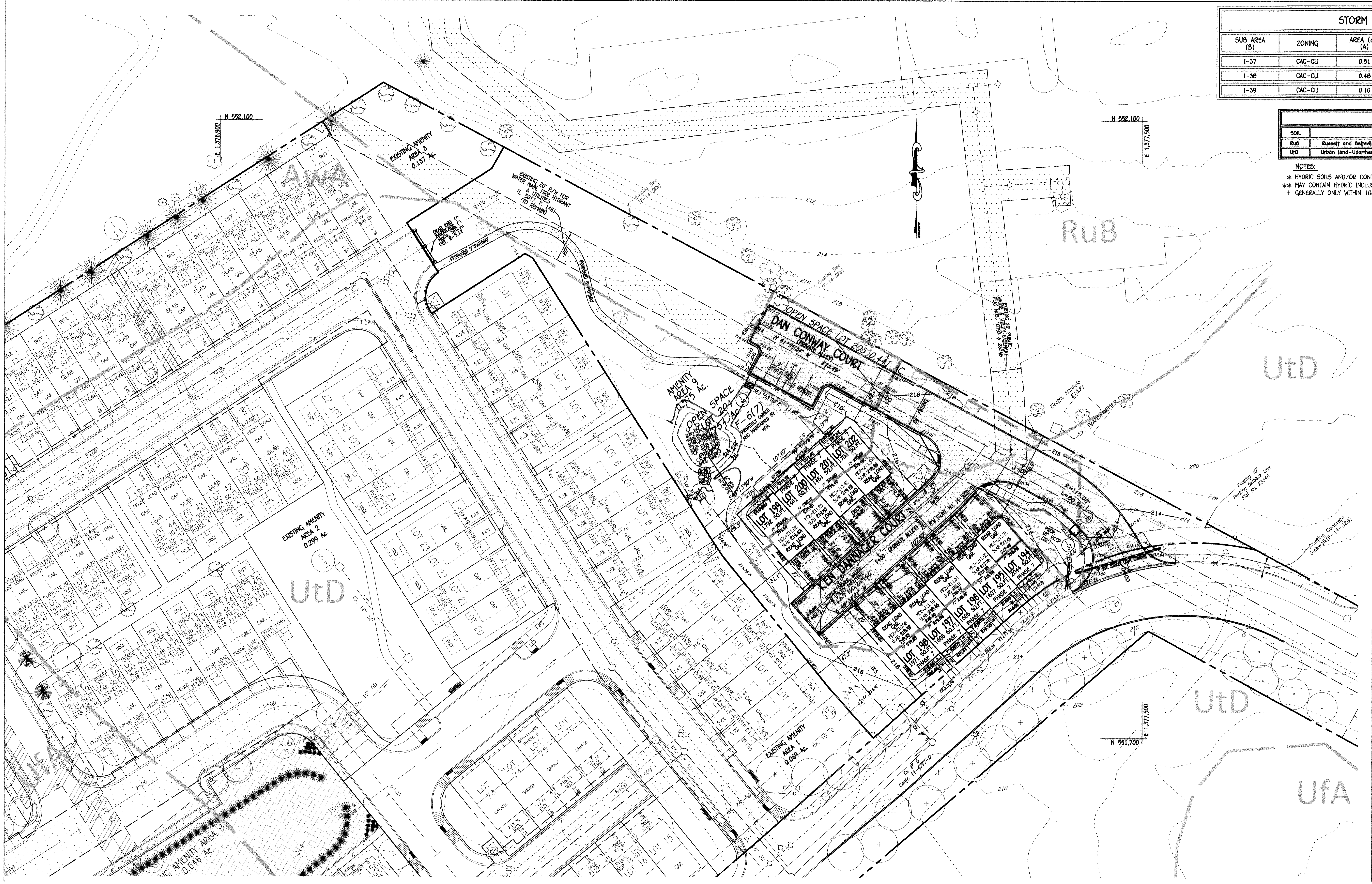
PROJECT				SECTION	LOTS NO.
MORRIS PLACE				N/A	LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 AND 204
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24965-24966	4	CAC-CLI	43	1	6069.02
WATER CODE C-02			SEWER CODE 7390000		

SEDIMENT & EROSION CONTROL NOTES AND DETAILS

SINGLE FAMILY TOWNHOUSE
MORRIS PLACE
LOTS 194 THRU 202
AND OPEN SPACE LOTS 203 AND 204
PHASE VII
ZONED: CAC-CLI
PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, F-19-013, SP-17-013, SDP-15-029, SDP-16-101,
W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2019
SHEET 4 OF 10
SDP-19-029

THERE IS NO AS-BUILT INFO. ON THIS SHEET

I:\2007\07053\dwg\SDP\PHASE VII\Plan Set\07053-3001 SHEET 4-PHASE VII SEC Notes & Details.dwg, Sheet 4, 1:1


N 552,100
E 1,376,900
N 552,100
E 1,377,500
N 551,700
E 1,377,500
EXISTING AMENITY AREA 3 0.137 Ac.
EXISTING 20' R/W FOR WATER MAIN, FIRE HYDRANT & UTILITIES (L. 2017 F. 16) (TO REMAIN)
PROPOSED 5' PATHWAY
OPEN SPACE LOT 203 0.141 Ac.
DAN CONWAY COURT (PRIVATE ALLEY)
AMENITY AREA 9 0.175 Ac.
OPEN SPACE LOT 204
KEN DANNAGER COURT (PRIVATE ALLEY)
LOT 194
LOT 195
LOT 196
LOT 197
LOT 198
LOT 199
LOT 200
LOT 201
LOT 202
PHASE 7
EXISTING AMENITY AREA 2 0.299 Ac.
EXISTING AMENITY AREA 1 0.069 Ac.
AMENITY AREA 8 0.646 Ac.
RuB
UtD
UtD
UtD
UfA
UfA
AwB
I-37
I-38
I-39
Electric Manhole
EX. TRANSFORMER
Existing Concrete Sidewalk (F-14-028)
Existing 10' Parking Setback Line Plat No. 23348

AS-BUILT CERTIFICATION
Note: There is no "AS BUILT" information provided on this sheet.

3/17/21
Date

STORM DRAINAGE AREAS

SUB AREA (B)	ZONING	AREA (ac) (A)	"C" FACTOR (C)	% IMPERVIOUS (P)	Tc (HR)
I-37	CAC-CLI	0.51	73	73	0.08
I-38	CAC-CLI	0.48	73	77	0.08
I-39	CAC-CLI	0.10	73	70	0.08

SOILS LEGEND

SOIL	NAME	CLASS	Kw
RuB	Russett and Beltsville soils, 2 to 5 percent slopes	C	N/A
UtD	Urban land-Udorthents complex, 0 to 15 percent slopes	D	N/A

NOTES:

* HYDRIC SOILS AND/OR CONTAINS HYDRIC INCLUSIONS
** MAY CONTAIN HYDRIC INCLUSIONS
† GENERALLY ONLY WITHIN 100-YEAR FLOODPLAIN AREAS

LEGEND

SYMBOL	DESCRIPTION
EX. 24" SD	EXISTING STORM DRAIN LINE
EX. 12' W	EXISTING WATER LINE
━━ ━ ━ ━━	BOUNDARY/RIGHT OF WAY LINE
B.R.L.	BUILDING RESTRICTION LINE
18" RCCP	PROPOSED STORM DRAIN LINE
8"S	PROPOSED SEWER LINE
8"W	PROPOSED WATER LINE
▨	PROPOSED CONCRETE
▨	PROPOSED PAVING
▬ ▬ ▬	DRAINAGE AREA DELINEATION
218	EXISTING 2' CONTOUR
220	EXISTING 10' CONTOUR
218	PROPOSED 2' CONTOUR
×219.07	SPOT ELEVATION
⋯	WATER AND SEWER EASEMENT
▬ ▬	SOIL DELINEATION

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE
2	REVISED STORMWATER MANAGEMENT PER FIELD CONDITIONS	8/14/20
1	REVISED ELEVATIONS PER NEW BUILDING FOOT PRINT	7/26/19

EXPIRATION DATE: 7/14/19

PLAN
SCALE : 1" = 30'

0' 30' 60' 120'
SCALE: 1" = 30'

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional surveyor under the laws of the State of Maryland, License No. 21476, Expiration date: 7/14/19.

Frank John Manalansan II
FRANK JOHN MANALANSAN II, L.S.
4/9/19
Date

OWNER/DEVELOPER

BEAZER HOMES, LLC
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
ATTN: ROD HART
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 5-13-19 Date
Chief, Development Engineering Division KSP — 5.9.19 Date
Director – Department of Planning and Zoning — 5-14-19 Date

PROJECT	SECTION	LOTS NO.
MORRIS PLACE	N/A	LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 AND 204

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24965-24966	4	CAC-CLI	43	1	6069.02

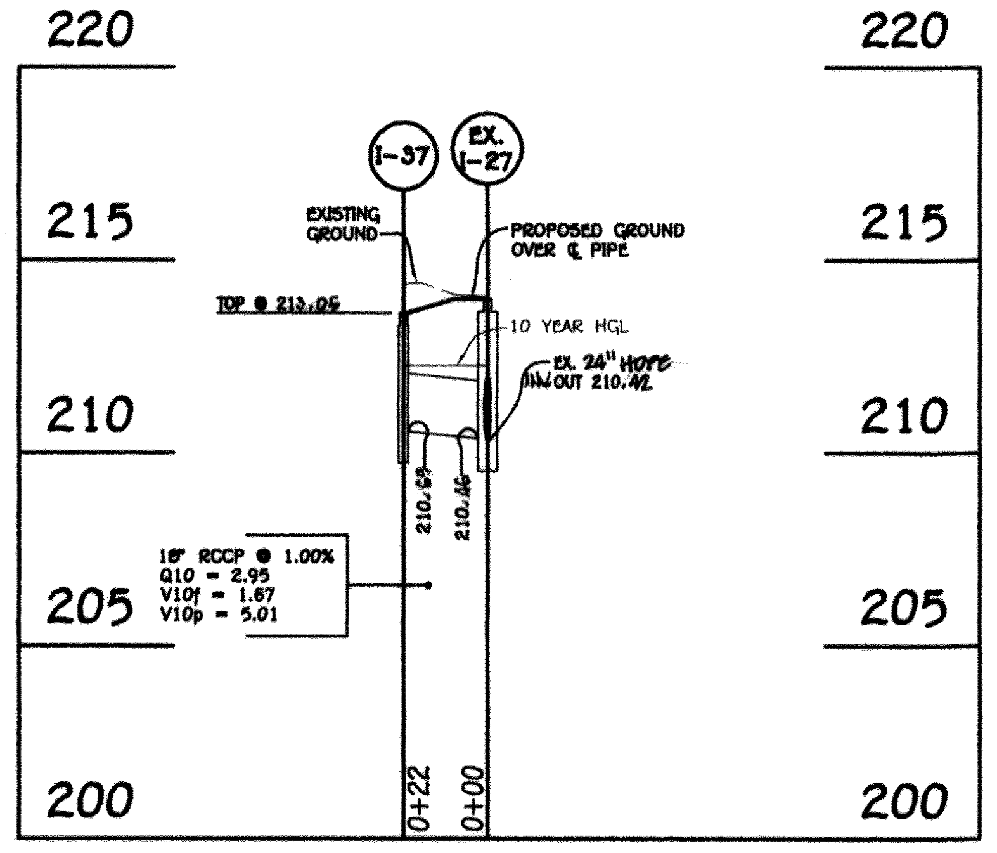
WATER CODE	SEWER CODE
C-02	7390000

STORM DRAIN DRAINAGE AREA MAP & SOILS MAP

SINGLE FAMILY TOWNHOUSE
MORRIS PLACE
LOTS 194 THRU 202
AND OPEN SPACE LOTS 203 AND 204
PHASE VII
ZONED: CAC-CLI
PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, F-19-013, SP-17-013, SDP-15-029, SDP-16-101,
W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2019
SHEET 5 OF 10
SDP-19-029

THERE IS NO AS-BUILT INFO. ON THIS SHEET

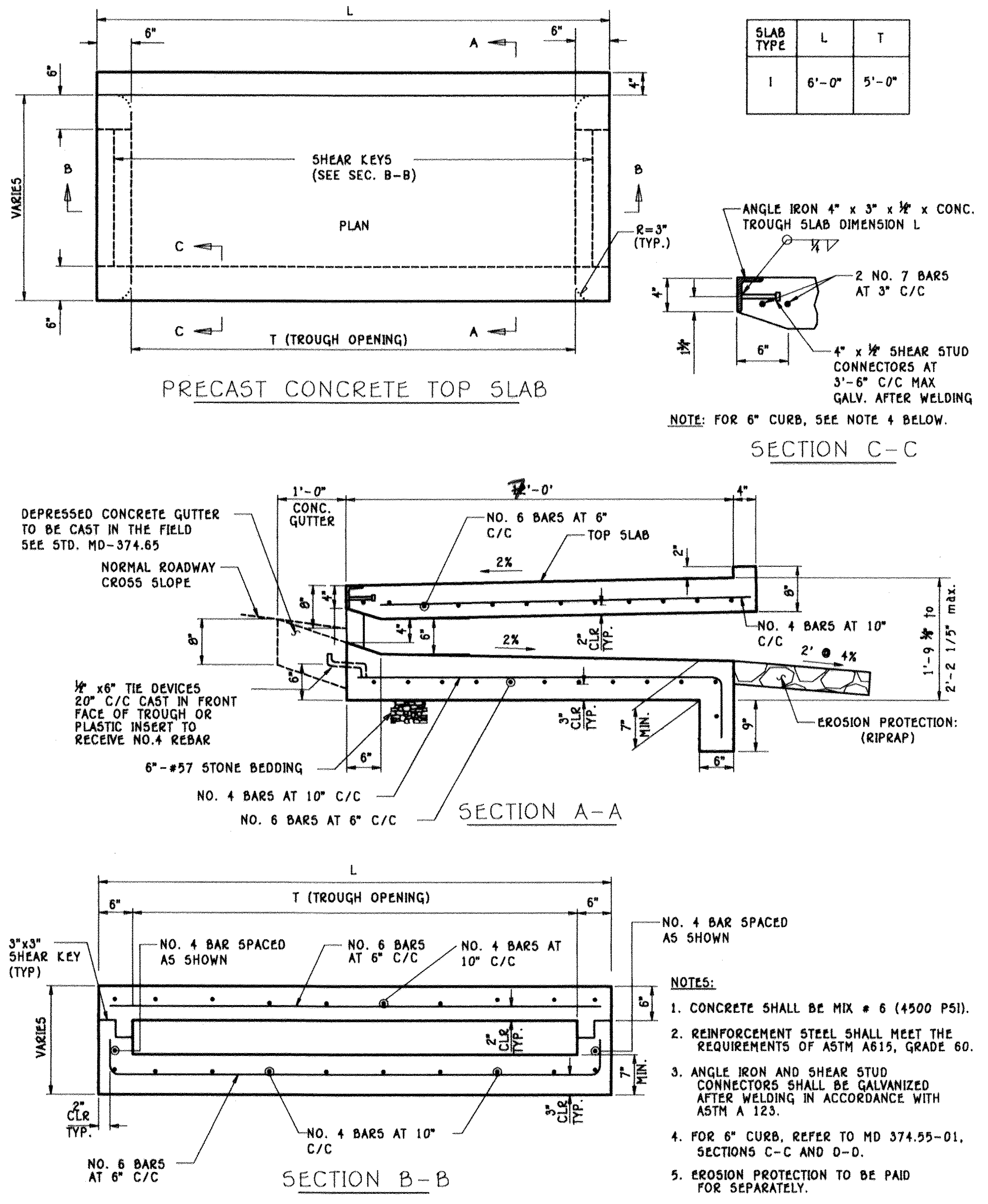
I:\2007\07053\dwg\SDP\PHASE VII\Plan Set\07053-3001 SHEET-5-PHASE VII StormDrain DAM.dwg, CO_5 SD DAM, 1:1


220
215
210
205
200
I-37
EX. I-27
EXISTING GROUND
PROPOSED GROUND OVER ℄ PIPE
TOP @ 213.05
10 YEAR HGL
EX. 24" HDPE INV OUT 210.42
210.69
210.46
18" RCCP @ 1.00%
Q10 = 2.95
V10f = 1.67
V10p = 5.01
0+22
0+00

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

PIPE SCHEDULE

SIZE	CLASS	LENGTH
18"	RCCP	22'


L
6"
6"
A
B
C
VARIES
SHEAR KEYS (SEE SEC. B-B)
PLAN
R=3" (TYP.)
T (TROUGH OPENING)
4"
ANGLE IRON 4" x 3" x ½" x CONC. TROUGH SLAB DIMENSION L
¼
2 NO. 7 BARS AT 3" C/C
4" x ½" SHEAR STUD CONNECTORS AT 3'-6" C/C MAX GALV. AFTER WELDING
1½"
DEPRESSED CONCRETE GUTTER TO BE CAST IN THE FIELD SEE STD. MD-374.65
NORMAL ROADWAY CROSS SLOPE
1'-0"
CONC. GUTTER
7'-0'
NO. 6 BARS AT 6" C/C
TOP SLAB
2%
2"
8"
NO. 4 BARS AT 10" C/C
2' @ 4%
1'-9 ½" to 2'-2 1/5" max.
2" CLR TYP.
3" CLR TYP.
7" MIN.
9"
EROSION PROTECTION: (RIPRAP)
½" x6" TIE DEVICES 20" C/C CAST IN FRONT FACE OF TROUGH OR PLASTIC INSERT TO RECEIVE NO.4 REBAR
6"-#57 STONE BEDDING
NO. 4 BARS AT 10" C/C
NO. 6 BARS AT 6" C/C
3"x3" SHEAR KEY (TYP)
NO. 4 BAR SPACED AS SHOWN
NO. 6 BARS AT 6" C/C
NO. 4 BARS AT 10" C/C
NO. 4 BAR SPACED AS SHOWN
2" CLR TYP.

PRECAST CONCRETE TOP SLAB

SLAB TYPE	L	T
I	6'-0"	5'-0"

NOTE: FOR 6" CURB, SEE NOTE 4 BELOW.

SECTION C-C

SECTION A-A

SECTION B-B

NOTES:

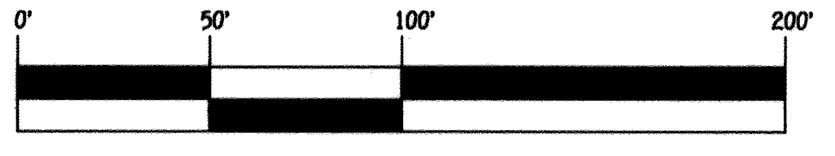
1. CONCRETE SHALL BE MIX # 6 (4500 PSI).
2. REINFORCEMENT STEEL SHALL MEET THE REQUIREMENTS OF ASTM A615, GRADE 60.
3. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123.
4. FOR 6" CURB, REFER TO MD 374.55-01, SECTIONS C-C AND D-D.
5. EROSION PROTECTION TO BE PAID FOR SEPARATELY.

PRECAST OR CAST-IN-PLACE COG/COS OPENING FOR 8" CURB (5' TROUGH OPENING ONLY)

STRUCTURE SCHEDULE

STRUCTURE NO.	OWNERSHIP AND MAINTENANCE	TOP ELEVATION	INV IN	INV OUT	COORDINATES	TYPE	REMARKS
Ex. I-27	PRIVATE	214.05	210.46 (I-37) 18"	210.42 24"	N 551793.56 E 1377452.43	A-5 INLET	D-4.01
I-37	PRIVATE	213.05		210.69 18"	N 551816.00 E 1377450.67	YARD INLET	D-4.14
I-38	PRIVATE	215.01	214.16	213.66	N 551838.07 E 1377457.46	COG / COS OPENING 5' WIDE	MD-374.68
I-39	PRIVATE	216.84	215.84	215.55	N 551935.14 E 1377247.81	COG / COS OPENING 5' WIDE	MD-374.68

AS BUILT CERTIFICATION
Note: There is no "AS BUILT" information provided on this sheet.
3/17/21
Date



SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
1	REVISED PROFILE & STRUCTURE SCHEDULE PER FIELD CONDITIONS	2/4/20

FRANK JOHN MANALANSAN II
No. 21476
EXPIRATION DATE: 7/14/19

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional surveyor under the laws of the State of Maryland, License No. 21476, Expiration date: 7/14/19.

Frank John Manalansan II
FRANK JOHN MANALANSAN II, L.S.
4/9/19
Date

OWNER/DEVELOPER
BEAZER HOMES, LLC
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
ATTN: ROD HART
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kent Sheubrooks
Chief, Division of Land Development — 5.13.19 Date

Chief, Development Engineering Division — 5.9.19 Date

Director - Department of Planning and Zoning — 5-14-19 Date

PROJECT		SECTION	LOTS NO.
MORRIS PLACE		N/A	LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 AND 204

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24965-24966	4	CAC-CLI	43	1	6069.02

WATER CODE	SEWER CODE
C-02	7390000

STORM DRAIN PROFILES

SINGLE FAMILY TOWNHOUSE
MORRIS PLACE
LOTS 194 THRU 202
AND OPEN SPACE LOTS 203 AND 204
PHASE VII
ZONED: CAC-CLI
PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, F-19-013, SP-17-013, SDP-15-029, SDP-16-101,
W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2019
SHEET 6 OF 10
SDP-19-029

THERE IS NO AS-BUILT INFO. ON THIS SHEET

I:\2007\07053\dwg\SDP\PHASE VII\Plan Set\07053-3001 SHEET-6-PHASE VII StormDrain Profiles.dwg, C0_6 SD PROFILE 1:1

INFILTRATION AND FILTER SYSTEM CONSTRUCTION SPECIFICATIONS

INFILTRATION AND FILTER SYSTEMS EITHER TAKE ADVANTAGE OF EXISTING PERMEABLE SOILS OR CREATE A PERMEABLE MEDIUM SUCH AS SAND FOR WC), AND RE V. IN SOME INSTANCES WHERE PERMEABILITY IS GREAT, THESE FACILITIES MAY BE USED FOR QP AS WELL. THE MOST COMMON SYSTEMS INCLUDE INFILTRATION TRENCHES, INFILTRATION BASINS, SAND FILTERS, AND ORGANIC FILTERS.

WHEN PROPERLY PLANTED, VEGETATION WILL THRIVE AND ENHANCE THE FUNCTIONING OF THESE SYSTEMS. FOR EXAMPLE, PRE-TREATMENT BUFFERS WILL TRAP SEDIMENTS THAT OFTEN ARE BOUND WITH PHOSPHOROUS AND METALS. VEGETATION PLANTED IN THE FACILITY WILL AID IN NUTRIENT UPTAKE AND WATER STORAGE. ADDITIONALLY, PLANT ROOTS WILL PROVIDE ARTERIES FOR STORMWATER TO PERMEATE SOIL FOR GROUNDWATER RECHARGE. FINALLY, SUCCESSFUL PLANTINGS PROVIDE AESTHETIC VALUE AND WILDLIFE HABITAT MAKING THESE FACILITIES MORE DESIRABLE TO THE PUBLIC.

DESIGN CONSTRAINTS:

> PLANTING BUFFER STRIPS OF AT LEAST 20 FEET WILL CAUSE SEDIMENTS TO SETTLE OUT BEFORE REACHING THE FACILITY, THEREBY REDUCING THE POSSIBILITY OF CLOGGING.
> DETERMINE AREAS THAT WILL BE SATURATED WITH WATER AND WATER TABLE DEPTH SO THAT APPROPRIATE PLANTS MAY BE SELECTED (HYDROLOGY WILL BE SIMILAR TO BIORETENTION FACILITIES, SEE FIGURE A.5 AND TABLE A.4 FOR PLANTING MATERIAL GUIDANCE).
> PLANTS KNOWN TO SEND DOWN DEEP TAPROOTS SHOULD BE AVOIDED IN SYSTEMS WHERE FILTER FABRIC IS USED AS PART OF FACILITY DESIGN.
> TEST SOIL CONDITIONS TO DETERMINE IF SOIL AMENDMENTS ARE NECESSARY.
> PLANTS SHALL BE LOCATED SO THAT ACCESS IS POSSIBLE FOR STRUCTURE MAINTENANCE.
> STABILIZE HEAVY FLOW AREAS WITH EROSION CONTROL MATS OR SOD.
> TEMPORARILY DIVERT FLOWS FROM SEEDED AREAS UNTIL VEGETATION IS ESTABLISHED.
> SEE TABLE A.5 FOR ADDITIONAL DESIGN CONSIDERATIONS.

BIO-RETENTION
SOIL BED CHARACTERISTICS

THE CHARACTERISTICS OF THE SOIL FOR THE BIORETENTION FACILITY ARE PERHAPS AS IMPORTANT AS THE FACILITY LOCATION, SIZE, AND TREATMENT VOLUME. THE SOIL MUST BE PERMEABLE ENOUGH TO ALLOW RUNOFF TO FILTER THROUGH THE MEDIA, WHILE HAVING CHARACTERISTICS SUITABLE TO PROMOTE AND SUSTAIN A ROBUST VEGETATIVE COVER CROP. IN ADDITION, MUCH OF THE NUTRIENT POLLUTANT UPTAKE (NITROGEN AND PHOSPHORUS) IS ACCOMPLISHED THROUGH ABSORPTION AND MICROBIAL ACTIVITY WITHIN THE SOIL PROFILE. THEREFORE, SOILS MUST BALANCE THEIR CHEMICAL AND PHYSICAL PROPERTIES TO SUPPORT BIOTIC COMMUNITIES ABOVE AND BELOW GROUND.

THE PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX (SHOULD CONTAIN A MINIMUM 35 TO 60% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 5% BY VOLUME [ENVIRONMENTAL QUALITY RESOURCES (EQR), 1996; ENGINEERING TECHNOLOGY INC. AND BIOHABITATS, INC. (ETAB), 1993]. SOILS SHOULD FALL WITHIN THE SM, ML, SC CLASSIFICATIONS OR THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.5"/HR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. BRUSH OR SEEDS FROM NOXIOUS WEEDS (E.G., JOHNSON GRASS, MUGWORT, NUTSEDGE, AND CANADA THISTLE OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.) SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN 12 TO 18 LIFTS THAT ARE LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET OR TRAVERSED BY DOZER TRACKS). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN TABLE A.3.

TABLE A.3 PLANTING SOIL CHARACTERISTICS

PARAMETER	VALUE
PH RANGE	5.2 TO 7.00
ORGANIC MATTER	1.5 TO 4.0% (BY WEIGHT)
MAGNESIUM	35 LBS. PER ACRE, MINIMUM
PHOSPHORUS (PHOSPHATE - P205)	75 LBS. PER ACRE, MINIMUM
POTASSIUM (POTASH -1(K20)	85 LBS. PER ACRE, MINIMUM
SOLUBLE SALTS	500 PPM
CLAY	0 TO 5 %
SILT	30 TO 55 %
SAND	35 TO 60%

MULCH LAYER

THE MULCH LAYER PLAYS AN IMPORTANT ROLE IN THE PERFORMANCE OF THE BIORETENTION SYSTEM. THE MULCH LAYER HELPS MAINTAIN SOIL MOISTURE AND AVOIDS SURFACE SEALING, WHICH REDUCES PERMEABILITY. MULCH HELPS PREVENT EROSION, AND PROVIDES A MICROENVIRONMENT SUITABLE FOR SOIL BIOTA AT THE MULCH/SOIL INTERFACE. IT ALSO SERVES AS A PRETREATMENT LAYER, TRAPPING THE FINER SEDIMENTS, WHICH REMAIN SUSPENDED AFTER THE PRIMARY PRETREATMENT.

THE MULCH LAYER SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE SHREDDED HARDWOOD MULCH OR CHIPS. THE MULCH LAYER SHOULD BE WELL AGED (STOCKPILED OR STORED FOR AT LEAST 12 MONTHS), UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS, SUCH AS WEED SEEDS, SOIL, ROOTS, ETC. THE MULCH SHOULD BE APPLIED TO A MAXIMUM DEPTH OF THREE INCHES. GRASS CLIPPINGS SHOULD NOT BE USED AS A MULCH MATERIAL.

PLANTING GUIDANCE

PLANT MATERIAL SELECTION SHOULD BE BASED ON THE GOAL OF SIMULATING A TERRESTRIAL FORESTED COMMUNITY OF NATIVE SPECIES. BIORETENTION SIMULATES AN UPLAND-SPECIES ECOSYSTEM. THE COMMUNITY SHOULD BE DOMINATED BY TREES, BUT HAVE A DISTINCT COMMUNITY OF UNDERSTORY TREES, SHRUBS AND HERBACEOUS MATERIALS. BY CREATING A DIVERSE, DENSE PLANT COVER, A BIORETENTION FACILITY WILL BE ABLE TO TREAT STORMWATER RUNOFF AND WITHSTAND URBAN STRESSES FROM INSECTS, DISEASE, DROUGHT, TEMPERATURE, WIND, AND EXPOSURE.

THE PROPER SELECTION AND INSTALLATION OF PLANT MATERIALS IS KEY TO A SUCCESSFUL SYSTEM. THERE ARE ESSENTIALLY THREE ZONES WITHIN A BIORETENTION FACILITY (FIGURE A.5). THE LOWEST ELEVATION SUPPORTS PLANT SPECIES ADAPTED TO STANDING AND FLUCTUATING WATER LEVELS. THE MIDDLE ELEVATION SUPPORTS PLANTS THAT LIKE DRIER SOIL CONDITIONS, BUT CAN STILL TOLERATE OCCASIONAL INUNDATION BY WATER. THE OUTER EDGE

IS THE HIGHEST ELEVATION AND GENERALLY SUPPORTS PLANTS ADAPTED TO DRYER CONDITIONS. A SAMPLE OF APPROPRIATE PLANT MATERIALS FOR BIORETENTION FACILITIES ARE INCLUDED IN TABLE A.4. THE LAYOUT OF PLANT MATERIAL SHOULD BE FLEXIBLE, BUT SHOULD FOLLOW THE GENERAL PRINCIPALS DESCRIBED IN TABLE A.5. THE OBJECTIVE IS TO HAVE A SYSTEM, WHICH RESEMBLES A RANDOM, AND NATURAL PLANT LAYOUT, WHILE MAINTAINING OPTIMAL CONDITIONS FOR PLANT ESTABLISHMENT AND GROWTH. FOR A MORE EXTENSIVE BIORETENTION PLAN, CONSULT ETAB, 1993 OR CLAYTOR AND SCHUELER, 1997.

B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS, LANDSCAPE INFILTRATION & INFILTRATION BERMS

1. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.

2. FILTERING MEDIA OR PLANTING SOIL

THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION)

ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).

CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.

PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE PH.

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL

RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION

COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" ~~TO~~ SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8 TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS

UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OR HDPE).

PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.

GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

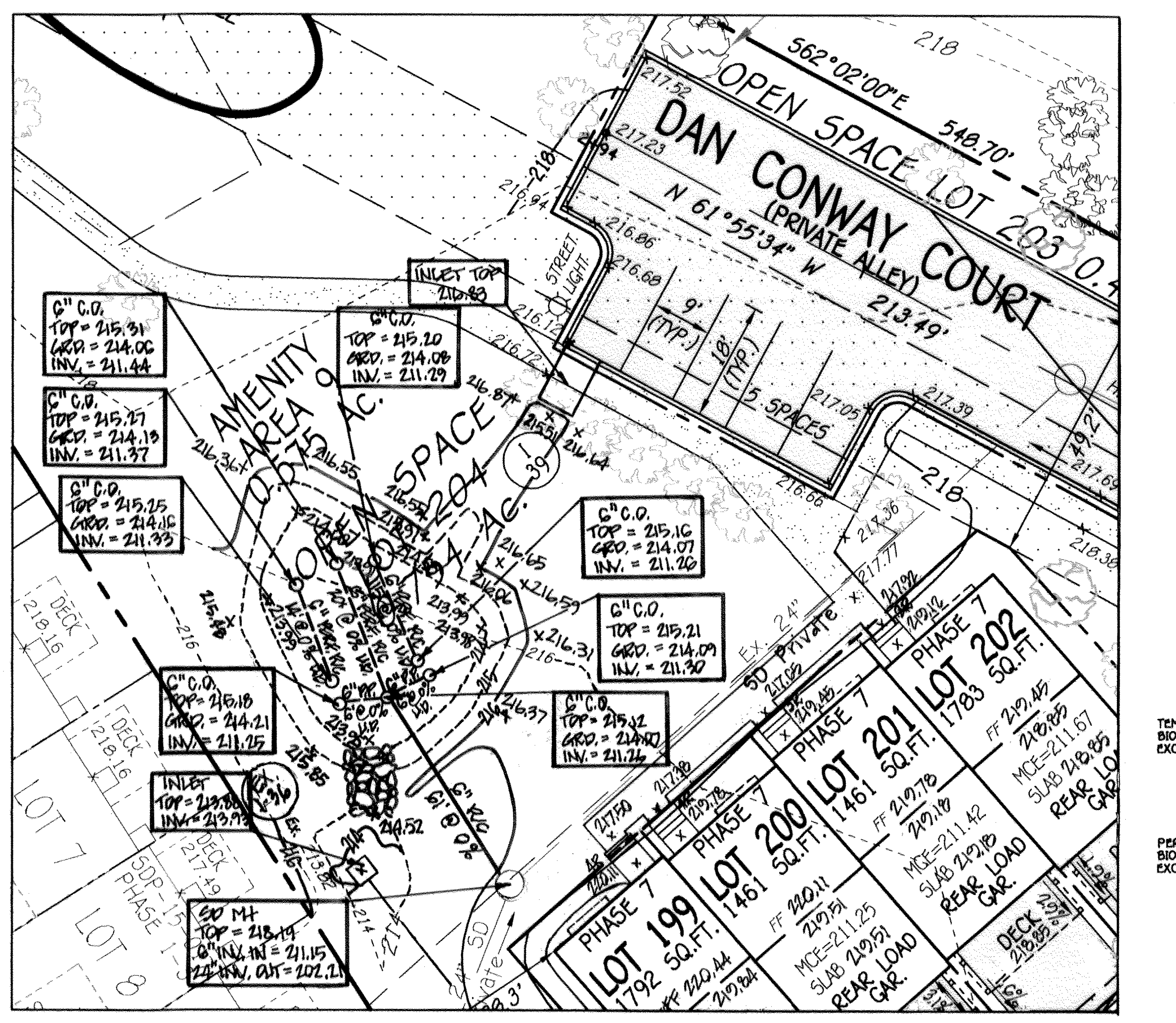
A 4" LAYER OF PEA GRAVEL (1/4" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS

THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO <5	5 TO <7	≥7	3 TO <5	5 TO <7	≥7
		PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
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)	8.0	4.0	3.0	4.0	4.0	4.0

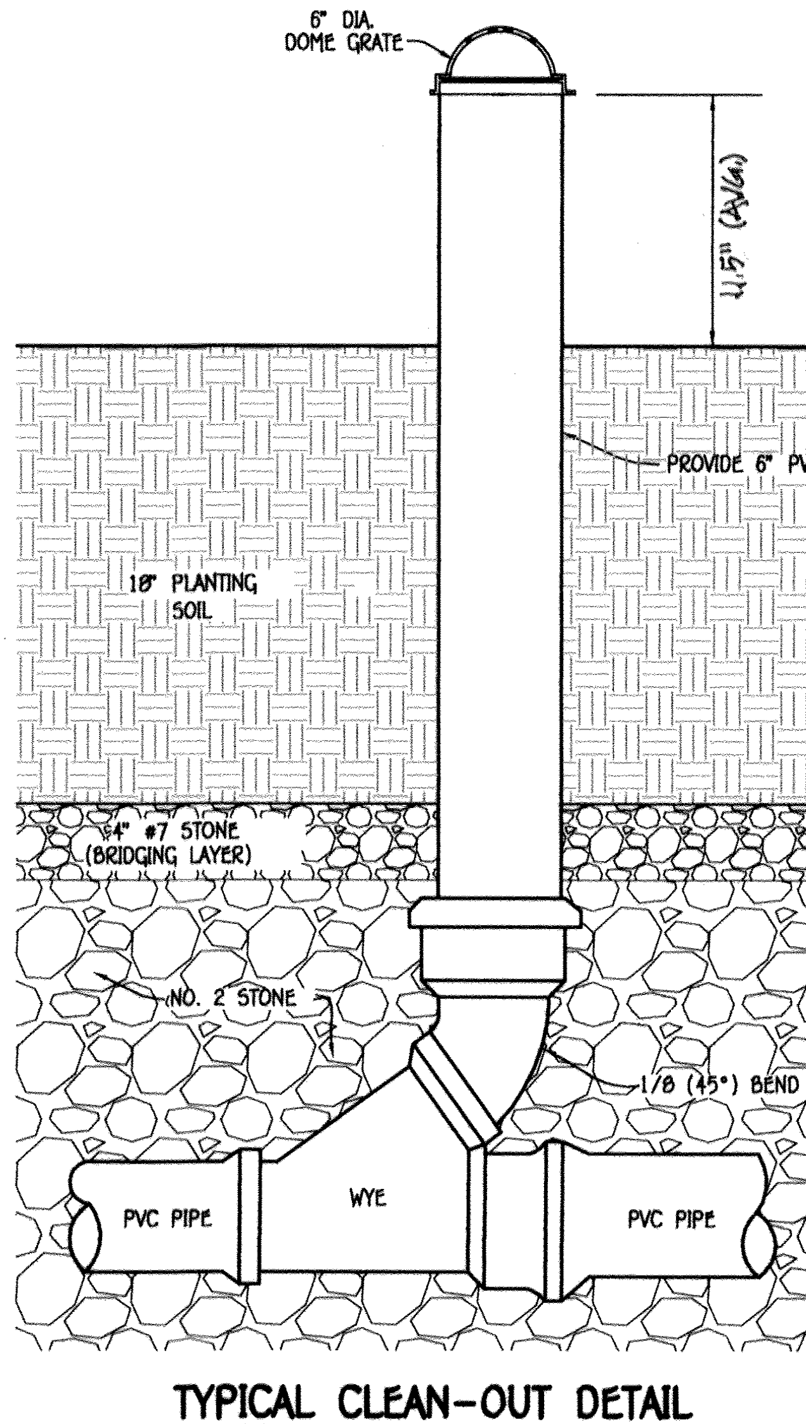


BIO-RETENTION FACILITY DETAIL

SCALE: 1" = 20'

DRAINAGE AREA F-6 (7) BIORETENTION PLANT MATERIAL

QUANTITY	NAME	MAXIMUM SPACING (FT.)
255	MIXED PERENNIALS	1 FT.
128	SHRUBS / MIXED GRASSES	2 FT.



TYPICAL CLEAN-OUT DETAIL

NOT TO SCALE

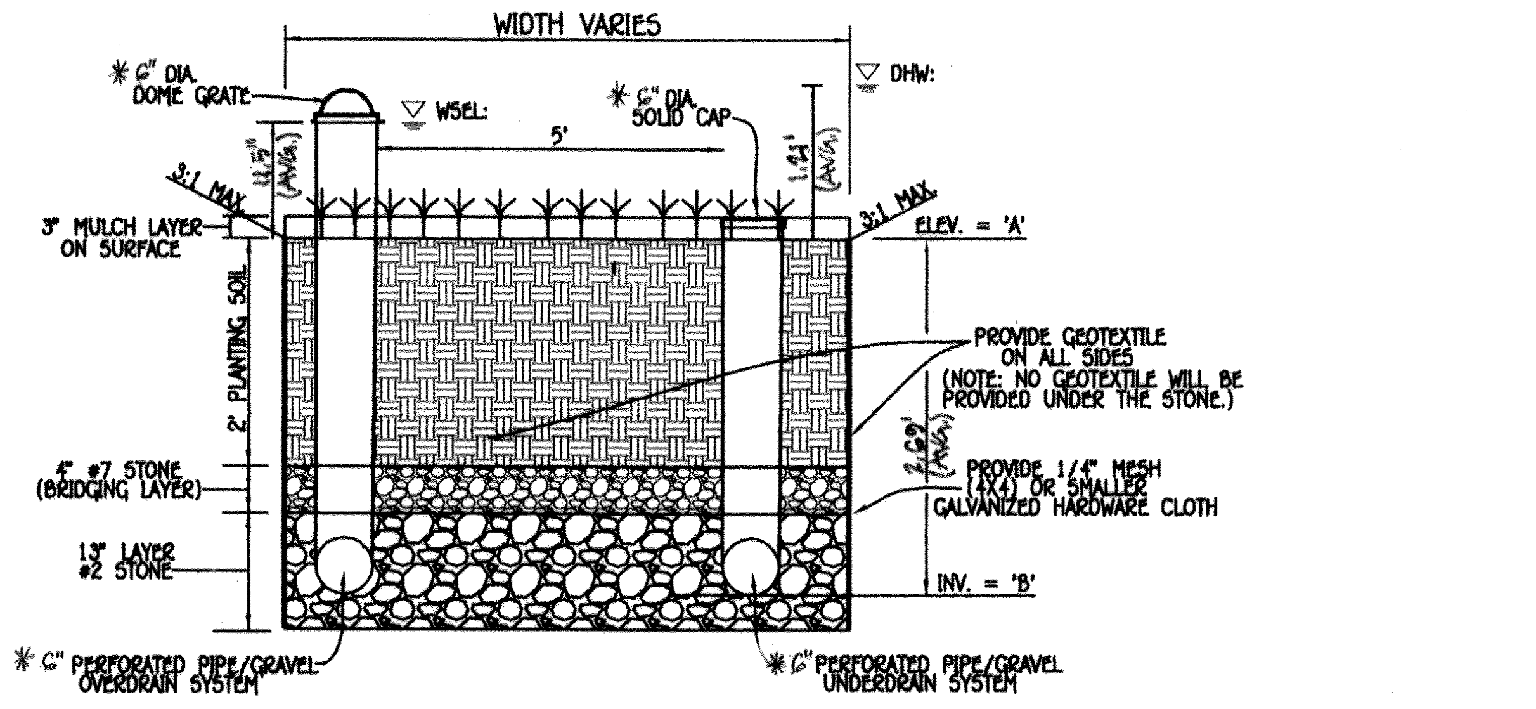
F-6 (7)

(BIO-RETENTION FACILITY)
SCALE: 1" = 20'
DRAINAGE AREA: 42,396 SqFt.
FILTER AREA: 894 SqFt.
ELEVATION 214'
PERIMETER 116'
WEIR ELEVATION 215.71'

FACILITY NO.	A	B
F-6 (7)	214.00	211.31 (AVG.)

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (F-6)

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDER BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS. WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

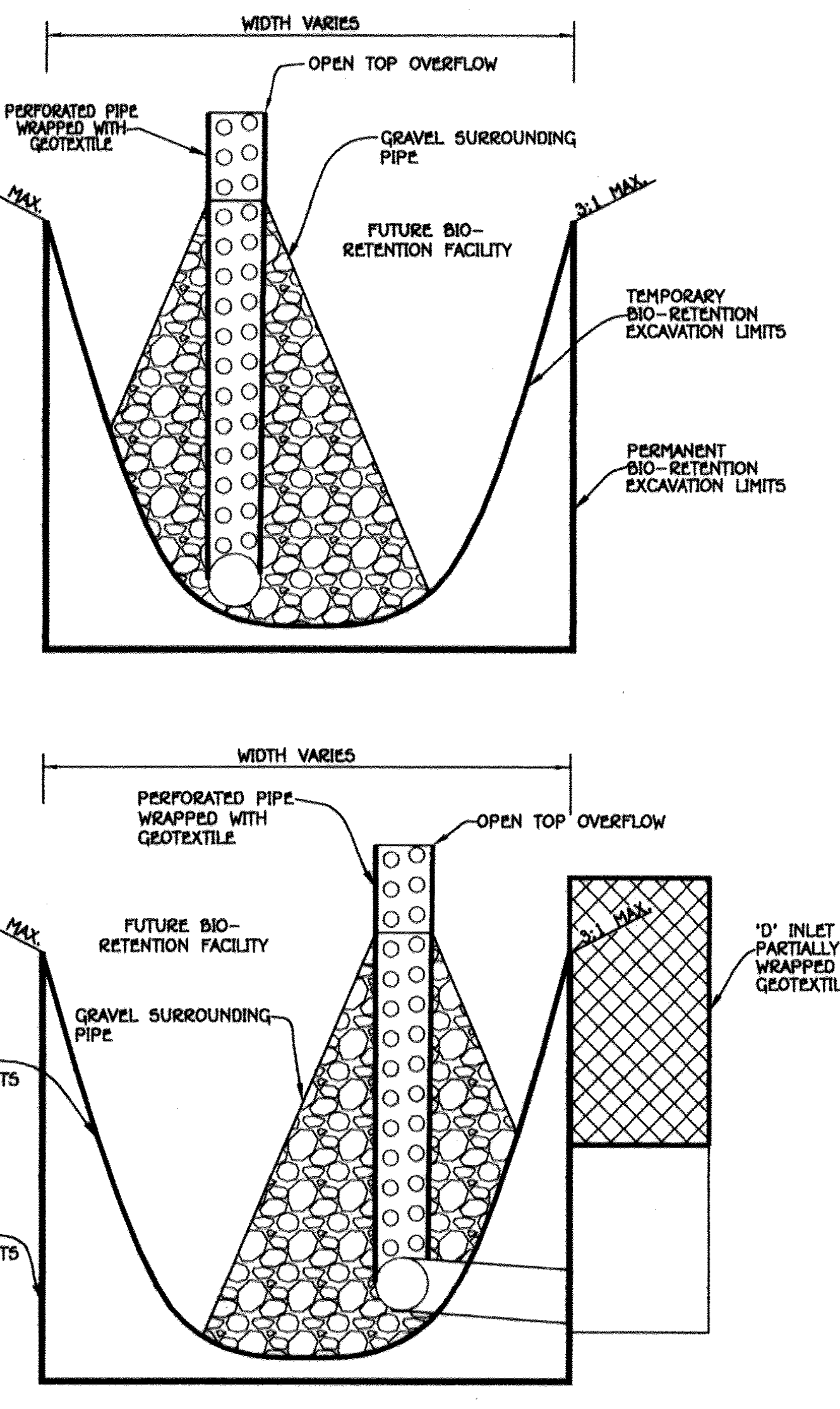

WIDTH VARIES
* 6" DIA. DOME GRATE
WSEL:
* 6" DIA. SOLID CAP
DHW:
5'
11.5" (AVG.)
1.24' (AVG.)
3:1 MAX.
3:1 MAX.
3" MULCH LAYER ON SURFACE
ELEV. = 'A'
2' PLANTING SOIL
PROVIDE GEOTEXTILE ON ALL SIDES (NOTE: NO GEOTEXTILE WILL BE PROVIDED UNDER THE STONE.)
2.69' (AVG.)
4" #7 STONE (BRIDGING LAYER)
PROVIDE 1/4" MESH (4X4) OR SMALLER GALVANIZED HARDWARE CLOTH
13" LAYER #2 STONE
INV. = 'B'
* 6" PERFORATED PIPE/GRAVEL OVERDRAIN SYSTEM
* 6" PERFORATED PIPE/GRAVEL UNDERDRAIN SYSTEM

NOTE: THE BOTTOM OF EACH BIO-RETENTION FACILITY (M-6) SHALL BE ROTOTILLED PRIOR TO STONE INSTALLATION.

TYPICAL SECTION BIO-RETENTION FACILITY (F-6)

NOT TO SCALE

* CONTRACTOR MAY SUBSTITUTE 6" DIAMETER SLOTTED HDPE PIPE CLASS II PER AASHTO SPECIFICATION M252 (ADS N-12 ST IB PIPE OR EQUIVALENT)


WIDTH VARIES
OPEN TOP OVERFLOW
PERFORATED PIPE WRAPPED WITH GEOTEXTILE
GRAVEL SURROUNDING PIPE
FUTURE BIO-RETENTION FACILITY
3:1 MAX.
3:1 MAX.
TEMPORARY BIO-RETENTION EXCAVATION LIMITS
PERMANENT BIO-RETENTION EXCAVATION LIMITS
'D' INLET PARTIALLY WRAPPED WITH GEOTEXTILE

TYPICAL SECTION - OPTIONAL INTERIM BIO-RETENTION FACILITY

(USED FOR MINOR SEDIMENT TRAPPING)
NOT TO SCALE

NOTES:

UNDERDRAIN PIPE SHALL BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28 OR AASHTO-M- 278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PIPE (e.g., PVC OR HDPE).

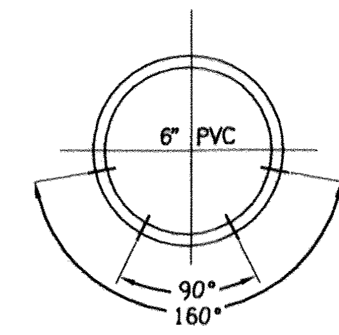
PERFORATIONS SHALL BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (No. 4 OR 4 x 4) GALVANIZED HARDWARE CLOTH.

GRAVEL LAYER SHALL BE (No. 57 STONE PREFERRED) AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

A RIGID, NON PERFORATED OBERSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQ.FT.) TO PROVIDE A CLEANOUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".



PIPE SIZE: 6"
HOLE SIZE: 3/8"
CENTER TO CENTER: 3"
ROWS OF HOLES: 2 @ 90°
2 @ 160° (+/-3°)

SCH40 PVC PERFORATED UNDERDRAIN PIPE DETAIL FOR HORIZONTAL DRAIN PIPE

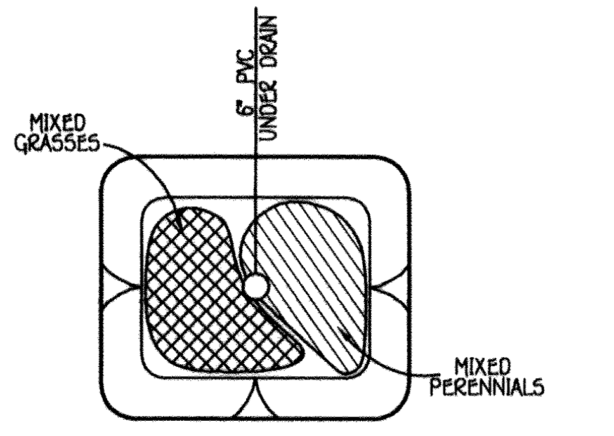
NOT TO SCALE

▩ **MIXED PERENNIALS** *
CUT-LEAF CONEFLOWER
CARDINAL FLOWER
TRADUSCANT ASTER

▨ **SHRUBS** * / **MIXED GRASSES** *
INK BERRY / VIRGINIA SWITCHGRASS
ARROWWOOD / PENDULOUS SEDGE
BAYBERRY / LITTLE BLUESTEM

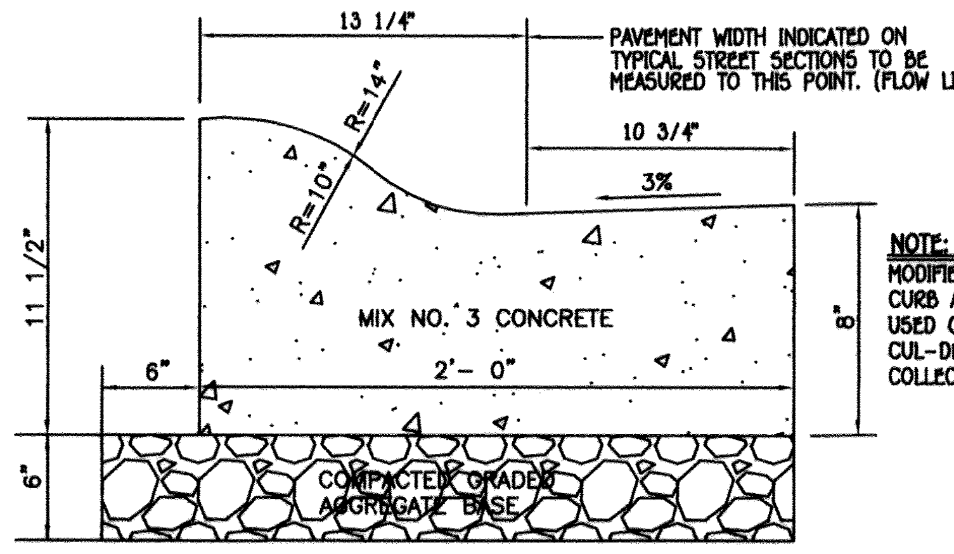
* SEE PLANT MATERIAL CHARTS FOR QUANTITIES AND SPACING

NOTE:
PLANT MATERIAL MUST COVER AT LEAST 50% OF THE SURFACE AREA OF THE MICRO-BIORETENTION



MICRO-BIORETENTION PLANTING DETAIL

NOT TO SCALE

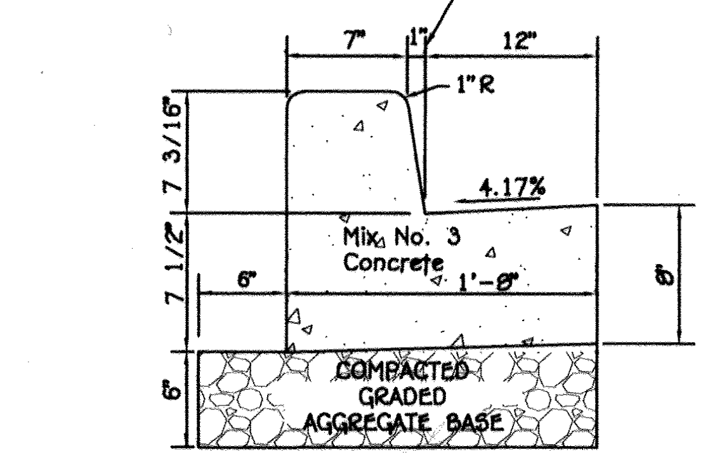

13 1/4"
PAVEMENT WIDTH INDICATED ON TYPICAL STREET SECTIONS TO BE MEASURED TO THIS POINT. (FLOW LINE)
R=14"
R=10"
10 3/4"
3%
11 1/2"
MIX NO. 3 CONCRETE
8"
6"
2'- 0"
6"
COMPACTED GRADED AGGREGATE BASE

NOTE:
MODIFIED COMBINATION CURB AND GUTTER TO BE USED ONLY ON LOCAL, CUL-DE-SAC AND MINOR COLLECTOR ROADS.

MODIFIED COMBINATION CURB AND GUTTER

NOT TO SCALE

NOTE:
PAVEMENT WIDTH INDICATED ON TYPICAL STREET SECTIONS TO BE MEASURED TO THIS POINT (THE FLOW LINE)



7" COMBINATION CONCRETE CURB AND GUTTER

NOT TO SCALE

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the [illegible] shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

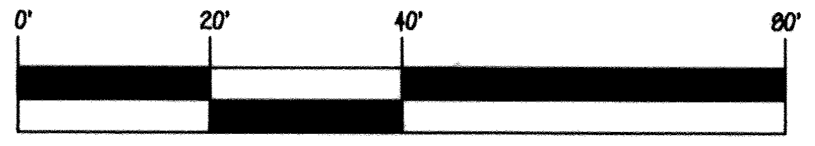
3/17/21
Date

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REVISED BIO-RETENTION DETAIL/TYPICAL SECTION PER FIELD CONDITIONS	8/14/20
1	REVISED BIO-RETENTION DETAIL TO REFLECT NEW BUILDING FOOT PRINT	7/26/19

FRANK JOHN MANALANSAN II No. 21476

EXPIRATION DATE: 7/14/19



SCALE: 1" = 20'

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional surveyor under the laws of the State of Maryland, License No. 21476, Expiration date: 7/14/19.

Frank John Manalansan II
FRANK JOHN MANALANSAN II, L.S. — 4/9/19 Date

OWNER/DEVELOPER

BEAZER HOMES, LLC
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
ATTN: ROD HART
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development — 5-13-19 Date
Chief, Development Engineering Division HSP — 5.9.19 Date
Director - Department of Planning and Zoning — 5-14-19 Date

PROJECT	SECTION	LOTS NO.
MORRIS PLACE	N/A	LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 AND 204

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24965-24966	4	CAC-CLI	43	1	6069.02

WATER CODE	SEWER CODE
C-02	7390000

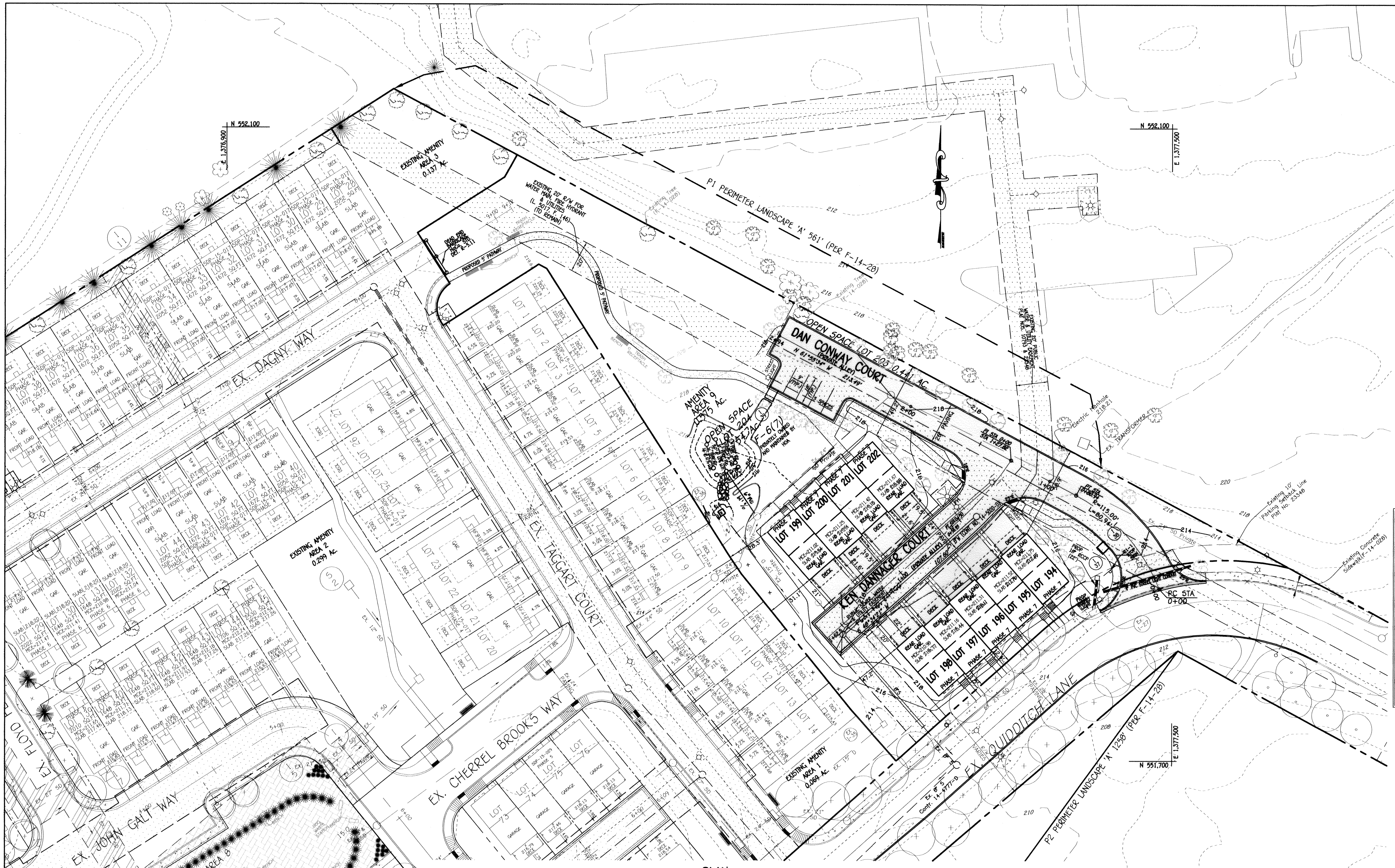
STORM WATER MANAGEMENT DETAILS

SINGLE FAMILY TOWNHOUSE
MORRIS PLACE
LOTS 194 THRU 202
AND OPEN SPACE LOTS 203 AND 204
PHASE VII
ZONED: CAC-CLI
PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, F-19-013, SP-17-013, SDP-15-029, SDP-16-101,
W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2019
SHEET 7 OF 10

SDP-19-029

"AS-BUILT"

I:\2007\07053\dwg\SDP\PHASE VII\Plan Set\07053-3001 SHEET-7- PHASE VII SWM Details.dwg, C0_7 SWM DETAILS, 1:1


P1 PERIMETER LANDSCAPE 'A' 561' (PER F-14-28)
P2 PERIMETER LANDSCAPE 'A' 1258' (PER F-14-28)
N 552,100
E 1,375,900
E 1,377,500
N 551,700
EXISTING AMENITY AREA 3 0.157 Ac.
EXISTING 20' R/W FOR WATER MAIN, FIRE HYDRANT & UTILITIES (L. 5017, F. 146) (TO REMAIN)
PROPOSED 5' PATHWAY
OPEN SPACE LOT 203 0.441 AC.
DAN CONWAY COURT (PRIVATE ALLEY)
N 61°55'34" W 213.49'
AMENITY AREA 9 0.375 Ac.
OPEN SPACE LOT 204 0.547 Ac.
F-6(7)
PRIVATELY OWNED AND MAINTAINED BY HOA
KEN DANNAGER COURT (PRIVATE ALLEY)
LOT 194
LOT 195
LOT 196
LOT 197
LOT 198
LOT 199
LOT 200
LOT 201
LOT 202
PHASE 7
REAR LOAD GAR.
DECK
EXISTING 20' PUBLIC WATER & UTILITY EASEMENT PLAT NOS. 10793 & 23348
Electric Manhole 218.21
EX. TRANSFORMER
Existing 10' Parking Setback Line Plat No. 23348
Existing Concrete Sidewalk(F-14-028)
Existing Tree (F-14-028)
R=115.00'
L=80.94'
PC STA 0+00
PROP. STREET LIGHT
STREET LIGHT
PROP. 18" RCCP (22')
EX. QUIDDITCH LANE
EX. TAGGART COURT
EX. DAGNY WAY
EX. CHERREL BROOKS WAY
EX. JOHN GALT WAY
EX. FLOYD
EXISTING AMENITY AREA 2 0.299 Ac.
EXISTING AMENITY AREA 1 0.069 Ac.
AMENITY AREA 8 0.646 Ac.
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 9
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 20
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
LOT 26
LOT 27
SDP-15-017 PHASE 1-3
218
216
214
212
210
220

PLAN
SCALE : 1" = 30'

0'
30'
60'
120'
SCALE: 1" = 30'

LEGEND

SYMBOL	DESCRIPTION
EX. 24" SD	EXISTING STORM DRAIN LINE
EX. 12' W	EXISTING WATER LINE
—— - - ——	BOUNDARY/RIGHT OF WAY LINE
B.R.L.	BUILDING RESTRICTION LINE
18" RCCP	PROPOSED STORM DRAIN LINE
8"S	PROPOSED SEWER LINE
8"W	PROPOSED WATER LINE
▨	PROPOSED CONCRETE
▨	PROPOSED PAVING
- - - - -	PROPOSED L.O.D.
218	EXISTING 2' CONTOUR
220	EXISTING 10' CONTOUR
218	PROPOSED 2' CONTOUR
×219.07	SPOT ELEVATION
⋯	WATER AND SEWER EASEMENT
✿ ✿	PROPOSED TREES
○ ✺ ✿	DENOTES EXISTING LANDSCAPING FROM F-14-028 AND SDP-15-017

SCHEDULE 'A' PERIMETER LANDSCAPE EDGE

PERIMETER	P1	P2
CATEGORY	SINGLE FAMILY ATTACHED REAR/SIDE TO ROADWAY	SINGLE FAMILY ATTACHED REAR/SIDE TO ROADWAY
LANDSCAPE TYPE	C	C
LINEAR FEET OF PERIMETER	40'	40'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE IF NEEDED)	NO	NO
NUMBER OF PLANTS REQUIRED		
SHADE TREES	1	1
EVERGREEN TREES	2	2
SHRUBS	–	–
NUMBER OF PLANTS PROVIDED		
SHADE TREES	1	1
EVERGREEN TREES	2	2
OTHER TREES (2:1 SUBSTITUTION)	–	–
SHRUBS (10:1 SUBSTITUTION)	–	–
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	–	–

AS-BUILT CERTIFICATION
Note: There is no "AS BUILT" information provided on this sheet.
3/17/21
Date

LANDSCAPE DEVELOPER'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 year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

4/9/2019
Date

This plan has been prepared in accordance with the provision of Section 16.124 of the Howard County Code and Landscape Manual. Financial surety for the required landscaping will be posted as part of the developor's agreement.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REVISED STORMWATER MANAGEMENT PER FIELD CONDITIONS	8/14/20
1	REVISED SLAB ELEVATIONS PER NEW BUILDING FOOT PRINT	7/26/19

FRANK JOHN MANALANSAN II
No. 21476
EXPIRATION DATE: 7/14/19

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional surveyor under the laws of the State of Maryland, License No. 21476, Expiration date: 7/14/19.

Frank John Manalansan
FRANK JOHN MANALANSAN II, L.S.
4/2/19
Date

OWNER/DEVELOPER
BEAZER HOMES, LLC
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
ATTN: ROD HART
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kent Sheubrooks
Chief, Division of Land Development
5-13-19
Date

Chad Edmondson
Chief, Development Engineering Division HSP
5-9-19
Date

Valdis Lazdins
Director - Department of Planning and Zoning
6-14-19
Date

PROJECT			SECTION		LOTS NO.
MORRIS PLACE			N/A		LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 AND 204
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24965-24966	4	CAC-CLI	43	1	6069.02
WATER CODE C-02			SEWER CODE 7390000		

STREET TREES AND LANDSCAPE PLAN

SINGLE FAMILY TOWNHOUSE
MORRIS PLACE
LOTS 194 THRU 202
AND OPEN SPACE LOTS 203 AND 204
PHASE VII
ZONED: CAC-CLI
PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, F-19-013, SP-17-013, SDP-15-029, SDP-16-101,
W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2019
SHEET 8 OF 10
SDP-19-029

THERE IS NO AS-BUILT INFO. ON THIS SHEET

I:\2007\07053\dwg\SDP\PHASE VII\Plan Set\07053-3001 SHEET-8-PHASE VII Landscape Plan.dwg, C0_8 LANDSCAPE, 1:1

LANDSCAPING PLANT LIST

SYMBOL	QUANTITY	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	8	ACER RUBRUM 'ARMSTRONG' RED MAPLE	2 1/2" – 3" CAL.	
	9	CLETHRA ALNIFOLIA SUMMERSWEET CLETHRA	2 1/2" – 3" HGT.	
	23	QUERCUS PHELLOS WILLOW OAK	2 1/2" – 3" HGT.	

NOTE:

THE LANDSCAPE MANUAL. SURETY IN THE AMOUNT OF $8,370.00 FOR 23 SHADE TREES @ $300/SHADE TREE, 8 EVERGREEN @ $150/EVERGREEN TREE, AND 9 SHRUBS @ $30/SHRUB SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS PLAN (SDP-19-029).

STREET TREE SCHEDULE

QTY.	SIZE	COMMENTS
294.43/40 = 7.36 7.36 x 2 = 14.72 15 TREES	2 1/2 – 3" CAL.	40' APART DAN CONWAY COURT
164.53/40 = 4.11 4.11 x 2 = 8.22 9 TREES	2 1/2 – 3" CAL.	40' APART KEN DANNAGER COURT

SCHEDULE A PERIMETER LANDSCAPE EDGE

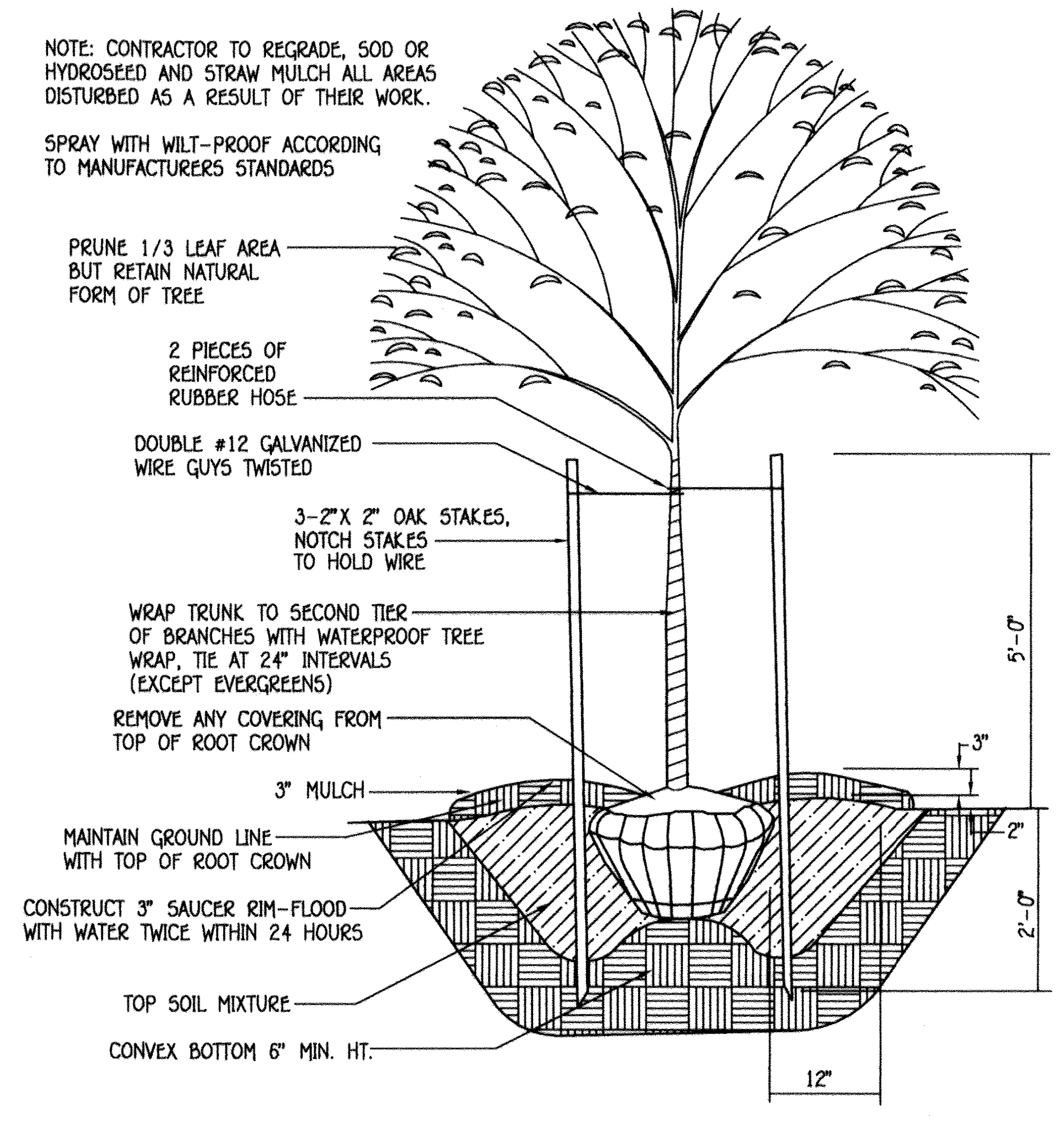
PERIMETER	P1	P2
CATEGORY	SINGLE FAMILY ATTACHED REAR/SIDE TO ROADWAY	SINGLE FAMILY ATTACHED REAR/SIDE TO ROADWAY
LANDSCAPE TYPE	C	C
LINEAR FEET OF PERIMETER	40'	40'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE IF NEEDED)	NO	NO
NUMBER OF PLANTS REQUIRED		
SHADE TREES	1	1
EVERGREEN TREES	2	2
SHRUBS	–	–
NUMBER OF PLANTS PROVIDED		
SHADE TREES	1	1
EVERGREEN TREES	2	2
OTHER TREES (2:1 SUBSTITUTION)	–	–
SHRUBS (10:1 SUBSTITUTION)	–	–
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	–	–

SCHEDULE B
PARKING LOT
INTERNAL LANDSCAPING

	SINGLE FAMILY ATTACHED
NUMBER OF PARKING SPACES	5
NUMBER OF TREES REQUIRED (1:10)	1

SCHEDULE C
RESIDENTIAL DEVELOPMENT
INTERNAL LANDSCAPING

	SINGLE FAMILY ATTACHED
NUMBER OF DWELLING UNITS	9
NUMBER OF TREES REQUIRED (1:DU SFA) (1:3 DU APTS)	9 –


NOTE: CONTRACTOR TO REGRADE, SOD OR HYDROSEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF THEIR WORK.
SPRAY WITH WILT-PROOF ACCORDING TO MANUFACTURERS STANDARDS
PRUNE 1/3 LEAF AREA BUT RETAIN NATURAL FORM OF TREE
2 PIECES OF REINFORCED RUBBER HOSE
DOUBLE #12 GALVANIZED WIRE GUYS TWISTED
3-2"X 2" OAK STAKES, NOTCH STAKES TO HOLD WIRE
WRAP TRUNK TO SECOND TIER OF BRANCHES WITH WATERPROOF TREE WRAP, TIE AT 24" INTERVALS (EXCEPT EVERGREENS)
REMOVE ANY COVERING FROM TOP OF ROOT CROWN
3" MULCH
MAINTAIN GROUND LINE WITH TOP OF ROOT CROWN
CONSTRUCT 3" SAUCER RIM-FLOOD WITH WATER TWICE WITHIN 24 HOURS
TOP SOIL MIXTURE
CONVEX BOTTOM 6" MIN. HT.
5'-0"
3"
2"
2'-0"
12"

TREE PLANTING DETAIL

NOT TO SCALE

PLANTING SPECIFICATIONS

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BORERS AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATION SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS", (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING ALL AGENDA.

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.

CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONTRACTORS AND "MISS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTRACTOR MAY MAKE MINOR ADJUSTMENTS IN SPACING AND LOCATION OF PLANT MATERIAL TO AVOID CONFLICTS WITH UTILITIES. DAMAGE TO EXISTING STRUCTURE AND UTILITIES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

PROTECTION OF EXISTING VEGETATION TO REMAIN SHALL BE ACCOMPLISHED BY THE TEMPORARY INSTALLATION OF 4 FOOT HIGH SNOW FENCE OR BLAZE ORANGE SAFETY FENCE AT THE DRIP LINE.

CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL MATERIAL IN THE PROPER PLANTING SEASON FOR EACH PLANT TYPE. ALL PLANTING IS TO BE COMPLETED WITHIN THE GROWING SEASON OF COMPLETION OF SITE CONSTRUCTION.

BID SHALL BE BASE ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS

PLANT QUANTITIES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN TAKE PRECEDENCE

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

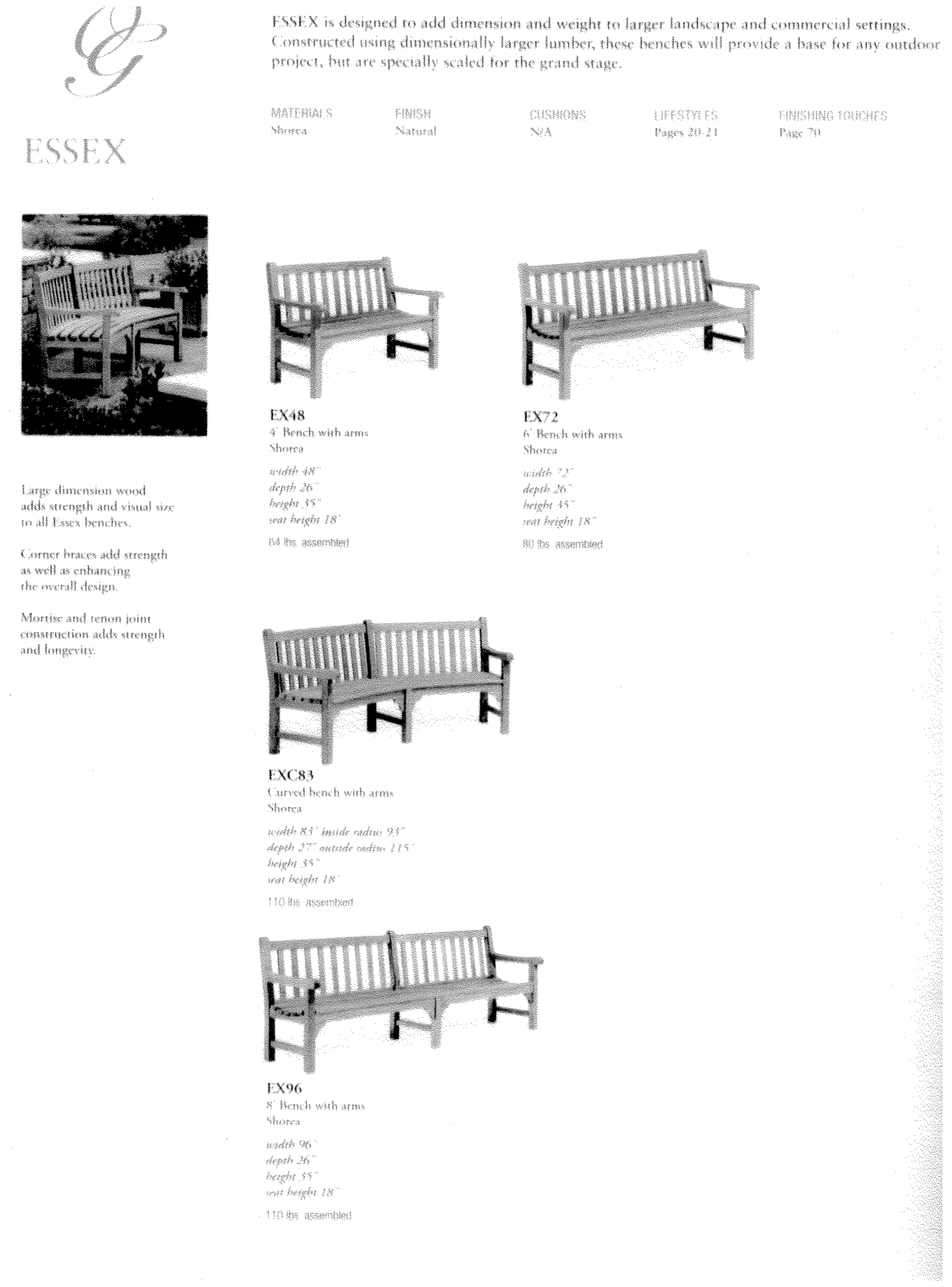
POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE).

PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS – TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE. ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS – TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL. ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDED.

THIS PLAN IS INTENDED FOR LANDSCAPE USE ONLY. SEE OTHER PLAN SHEETS FOR MORE INFORMATION ON GRADING, SEDIMENT CONTROL, LAYOUT, ETC.



ESSEX

ESSEX is designed to add dimension and weight to larger landscape and commercial settings. Constructed using dimensionally larger lumber, these benches will provide a base for any outdoor project, but are specially scaled for the grand stage.

MATERIALS	FINISH	CUSHIONS	LIFESTYLES	FINISHING TOUCHES
Shorea	Natural	N/A	Pages 20-21	Page 70

Large dimension wood adds strength and visual size to all Essex benches.

Corner braces add strength as well as enhancing the overall design.

Mortise and tenon joint construction adds strength and longevity.

EX48
4' Bench with arms
Shorea
width 48"
depth 26"
height 35"
seat height 18"
64 lbs. assembled

EX72
6' Bench with arms
Shorea
width 72"
depth 26"
height 35"
seat height 18"
80 lbs. assembled

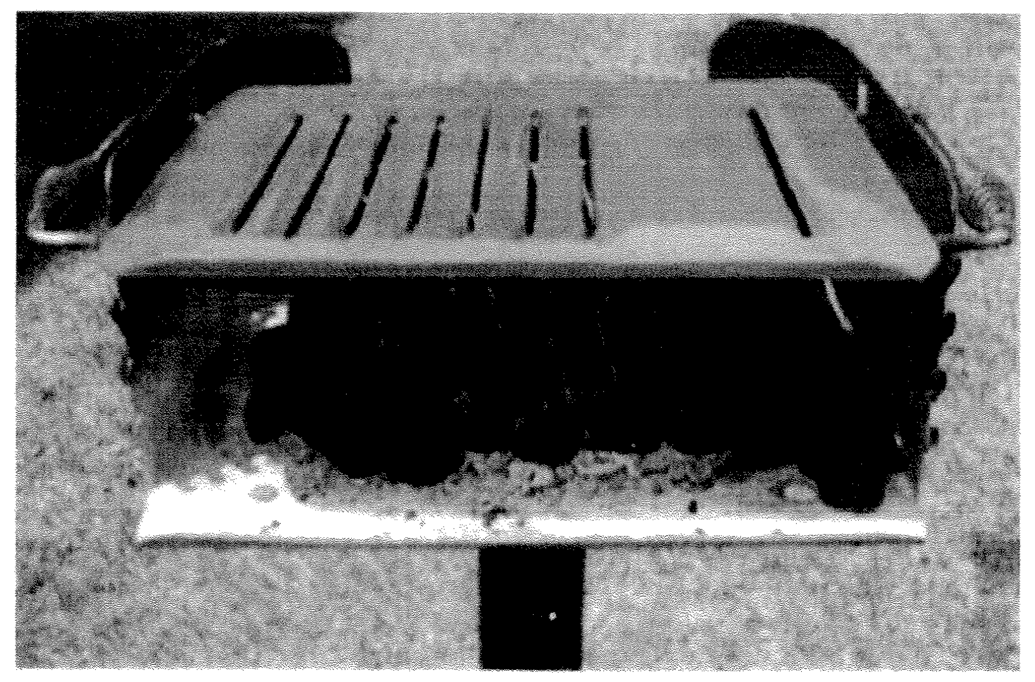
EXC83
Curved bench with arms
Shorea
width 83" inside radius 93"
depth 27" outside radius 115"
height 35"
seat height 18"
110 lbs. assembled

EX96
8' Bench with arms
Shorea
width 96"
depth 26"
height 35"
seat height 18"
110 lbs. assembled

BENCH DETAIL

TYPE: ESSEX (OR APPROVED EQUAL)

NOT TO SCALE



STAINLESS STEEL GRILL

TYPE: STAINLESS STEEL (OR APPROVED EQUAL)

NOT TO SCALE

A-FRAME PICNIC TABLE

TYPE: BARCO BOARD (OR APPROVED EQUAL)

NOT TO SCALE

AS-BUILT CERTIFICATION

Note: There is no "AS BUILT" information provided on this sheet

3/17/21
Date

LANDSCAPE DEVELOPER'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 year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

4/9/2019
Date

This plan has been prepared in accordance with the provision of Section 16.124 of the Howard County Code and Landscape Manual. Financial surety for the required landscaping will be posted as part of the developor's agreement.

0' 30' 60' 120'

SCALE: 1" = 30'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

NO.	REVISION	DATE

FRANK JOHN MANALANSAN II
No. 21476

EXPIRATION DATE: 7/14/19

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional surveyor under the laws of the State of Maryland, License No. 21476, Expiration date: 7/14/19.

Frank John Manalansan II
FRANK JOHN MANALANSAN II, L.S.
4/9/19
Date

OWNER/DEVELOPER

BEAZER HOMES, LLC
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
ATTN: ROD HART
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kent Sheubrook
Chief, Division of Land Development
5-13-19
Date

Chief, Development Engineering Division
5-9-19
Date

Director – Department of Planning and Zoning
5-14-19
Date

PROJECT	SECTION	LOTS NO.
MORRIS PLACE	N/A	LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 AND 204

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24965-24966	4	CAC-CLI	43	1	6069.02

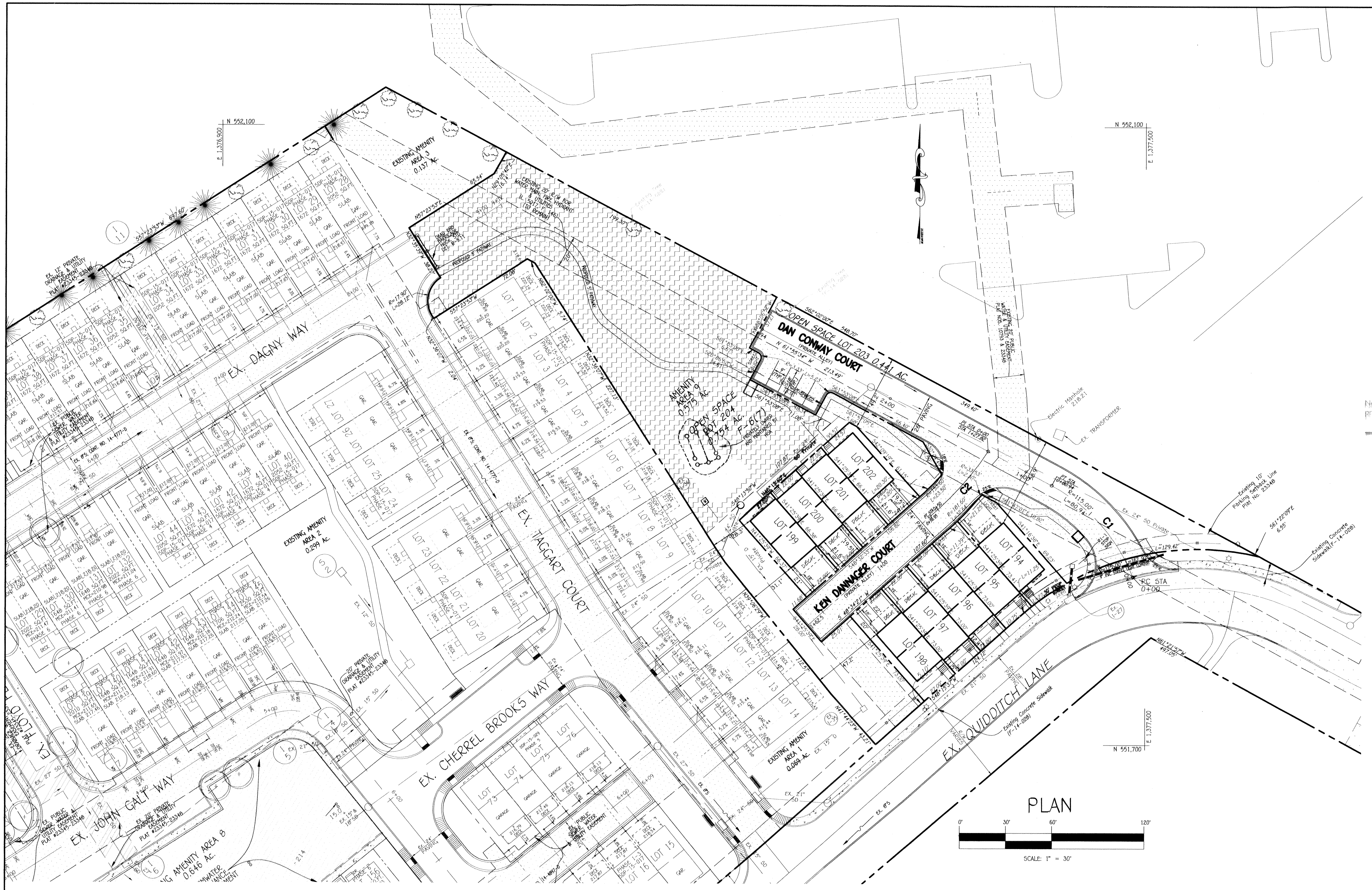
WATER CODE	SEWER CODE
C-02	7390000

LANDSCAPE DETAILS

SINGLE FAMILY TOWNHOUSE
MORRIS PLACE
LOTS 194 THRU 202
AND OPEN SPACE LOTS 203 AND 204
PHASE VII
ZONED: CAC-CLI
PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, F-19-013, SP-17-013, SDP-15-029, SDP-16-101,
W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2019
SHEET 9 OF 10
SDP-19-029

THERE IS NO AS-BUILT INFO. ON THIS SHEET

I:\2007\07053\dwg\SDP\PHASE VII\Plan Set\07053-3001 SHEET-9-PHASE VII Landscape Details.dwg, CO_9 LANDSCAPE DETAILS, 1:1


N 552,100
E 1,376,900
N 552,100
E 1,377,500
N 551,700
E 1,377,500
EX. DAGNY WAY
EX. TAGGART COURT
EX. CHERREL BROOKS WAY
EX. JOHN GALT WAY
EX. QUIDDITCH LANE
DAN CONWAY COURT (PRIVATE ALLEY)
KEN DANNAGER COURT (PRIVATE ALLEY)
OPEN SPACE LOT 203 0.441 AC.
OPEN SPACE LOT 204 0.754 AC.
AMENITY AREA 9 0.575 AC.
EXISTING AMENITY AREA 3 0.137 AC.
EXISTING AMENITY AREA 2 0.299 AC.
EXISTING AMENITY AREA 1 0.069 AC.
AMENITY AREA 8 0.646 AC.
LOT 194
LOT 195
LOT 196
LOT 197
LOT 198
LOT 199
LOT 200
LOT 201
LOT 202
C1
C2
EXISTING 20' R/W FOR WATER MAIN, FIRE HYDRANT & UTILITIES
PROPOSED 8' PATHWAY
Existing 10' Parking Setback Line Plat No. 23348
Existing Concrete Sidewalk (F-14-028)
EX. TRANSFORMER
Electric Manhole
PLAN
0'
30'
60'
120'
SCALE: 1" = 30'

LEGEND

SYMBOL	DESCRIPTION
EX. 24" SD	EXISTING STORM DRAIN LINE
EX. 12' W	EXISTING WATER LINE
▬ ▬ ▬	BOUNDARY/RIGHT OF WAY LINE
B.R.L.	BUILDING RESTRICTION LINE
18" RCCP	PROPOSED STORM DRAIN LINE
8"S	PROPOSED SEWER LINE
8"W	PROPOSED WATER LINE
▨	PROPOSED CONCRETE
☐	PROPOSED PAVING
▬ ▬ ▬	PROPOSED L.O.D.
- - - 218 - - -	EXISTING 2' CONTOUR
— 220 —	EXISTING 10' CONTOUR
—218—	PROPOSED 2' CONTOUR
×219.07	SPOT ELEVATION
▨	WATER AND SEWER EASEMENT
▨	AMENITY AREA

AS-BUILT CERTIFICATION

Note: There is no "AS BUILT" information provided on this sheet.

3/17/21
Date

NOTE:

1) DIMENSIONS SHOWING DISTANCE FROM BUILDING TO PROPERTY LINE AND CLOSEST DISTANCE BETWEEN BUILDINGS HAVE BEEN PROVIDED ON THIS SHEET.

2) DIMENSIONS DELINEATING THE REQUIRED 18 FOOT MINIMUM PARKING AREA DISTANCE FROM FACE OF UNIT TO FLOW LINE OR BACK OF SIDEWALK HAVE BEEN PROVIDED ON SHEET 3.

PROPOSED ALIGNMENT CURVE TABLE

CURVE#	ROAD NAME	CL STATION	RADIUS	LENGTH	DELTA	TANGENT	CHORD
C1	DAN CONWAY COURT	STA 0+00 TO STA 0+80.94	115.00'	80.94'	049°49'21"	79.28'	N41°43' 17.66"W
C2	KEN DANNAGER COURT	STA 0+00 TO STA 0+56.95	210.00'	56.95'	015°53'80"	56.78'	S41°42' 11"W

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

NO.	REVISION	DATE
2	REVISED STORMWATER MANAGEMENT PER FIELD CONDITIONS	8/14/20
1	REVISED BUILDING FOOT PRINT	7/26/19

FRANK JOHN MANALANSAN II No. 21476

EXPIRATION DATE: 7/14/19

PROFESSIONAL CERTIFICATION

I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional surveyor under the laws of the State of Maryland, License No. 21476, Expiration date: 7/14/19.

Frank John Manalansan II
FRANK JOHN MANALANSAN II, L.S.

4/2/19
Date

OWNER/DEVELOPER

BEAZER HOMES, LLC
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
ATTN: ROD HART
(410) 720-5071

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kent Sheubrooks
Chief, Division of Land Development — 5-13-19 Date

Chief, Development Engineering Division — 5.9.19 Date

Valdis Lazdins
Director - Department of Planning and Zoning — 5-14-19 Date

PROJECT	SECTION	LOTS NO.
MORRIS PLACE	N/A	LOTS 194 THRU 202 AND OPEN SPACE LOTS 203 AND 204

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24965-24966	4	CAC-CLI	43	1	6069.02

WATER CODE	SEWER CODE
C-02	7390000

GEOMETRY PLAN

SINGLE FAMILY TOWNHOUSE
MORRIS PLACE
LOTS 194 THRU 202
AND OPEN SPACE LOTS 203 AND 204
PHASE VII
ZONED: CAC-CLI
PREVIOUS HOWARD COUNTY FILES: ECP-13-035, SDP-82-148, SDP-91-50, S-10-02, P-13-001, WP-12-173, WP-14-068, F-14-028, F-15-047, F-16-017, SDP-15-017, F-19-013, SP-17-013, SDP-15-029, SDP-16-101,
W & S CONTR. NO. 14-4777-D AND CONTR. NO. 14-4897-D
TAX MAP NO.: 43 PARCEL NO.: 599 GRID NO.: 4
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: APRIL, 2019
SHEET 10 OF 10

SDP-19-029

THERE IS NO AS-BUILT INFO. ON THIS SHEET

I:\2007\07053\dwg\SDP\PHASE VII\Plan Set\07053-3001 SHEET-10-PHASES VII Geometry.dwg, C0_10 GEOMETRY, 1:1