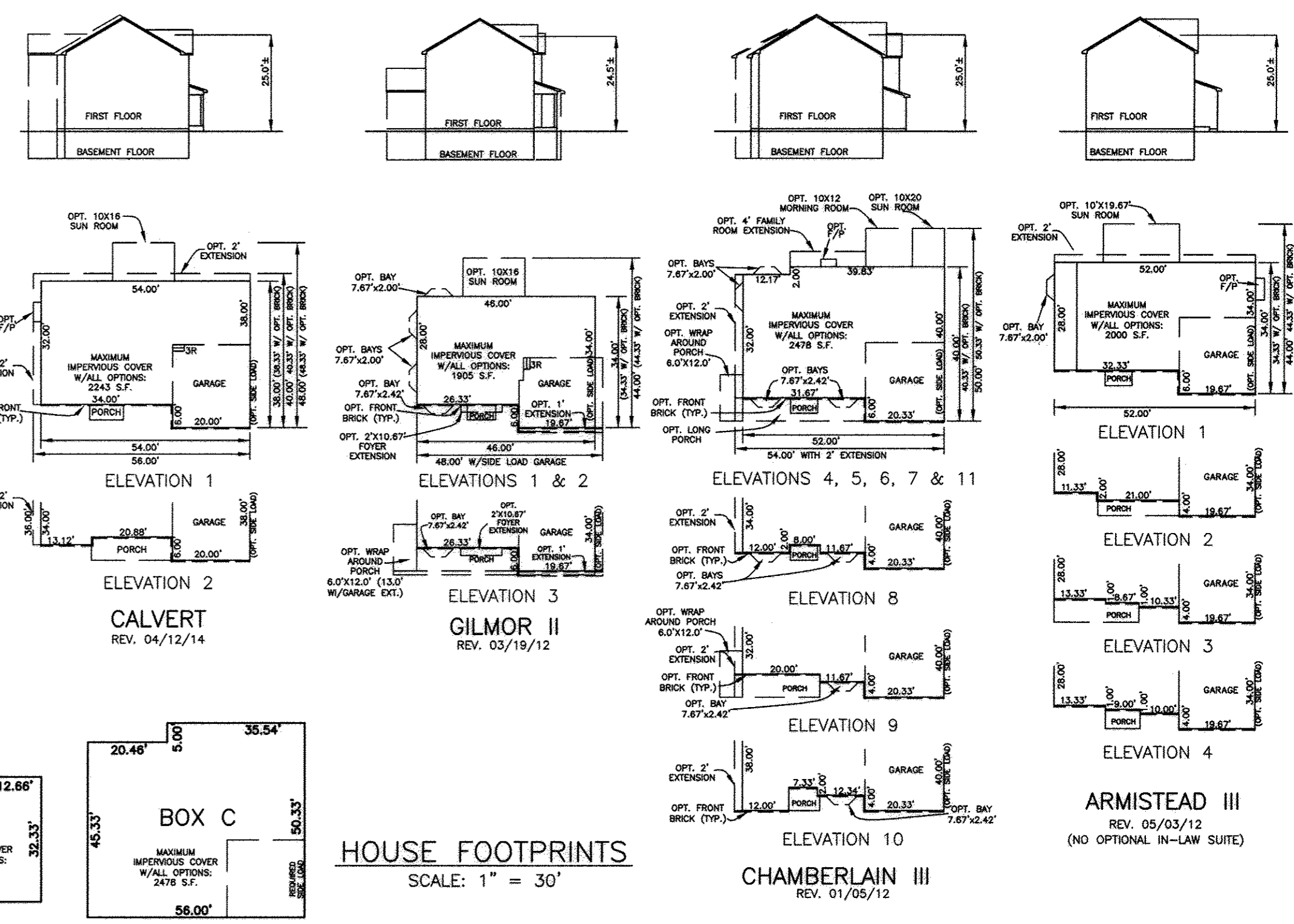
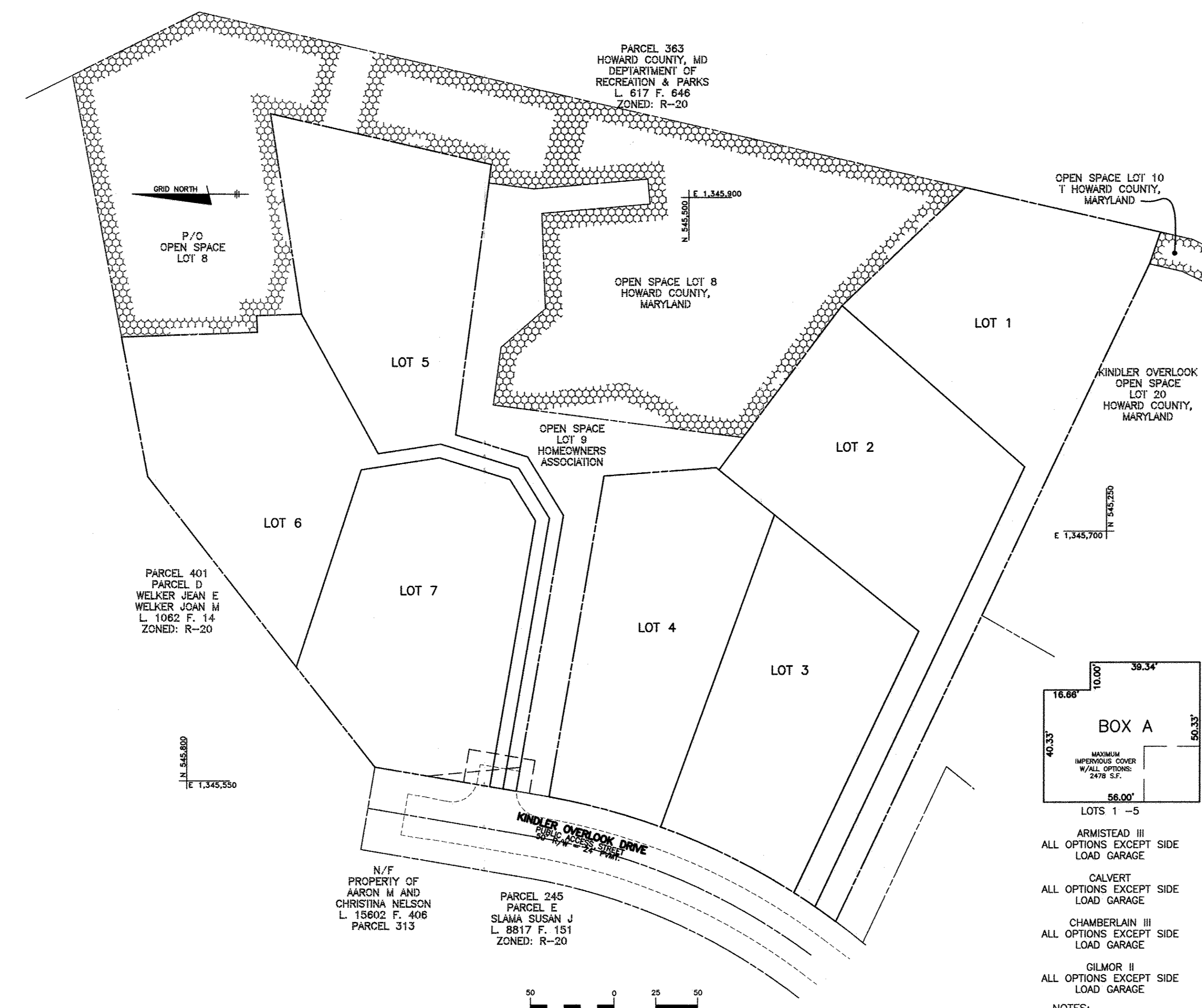


SHEET INDEX	
NO.	DESCRIPTION
1	COVER
2	SITE DEVELOPMENT AND GRADING PLAN
3	SEDIMENT AND EROSION CONTROL PLAN, NOTES, DETAILS AND SOILS MAP
4	STORMWATER MANAGEMENT DETAILS

SITE DEVELOPMENT PLAN KINDLER OVERLOOK II SINGLE FAMILY LOTS 1-7

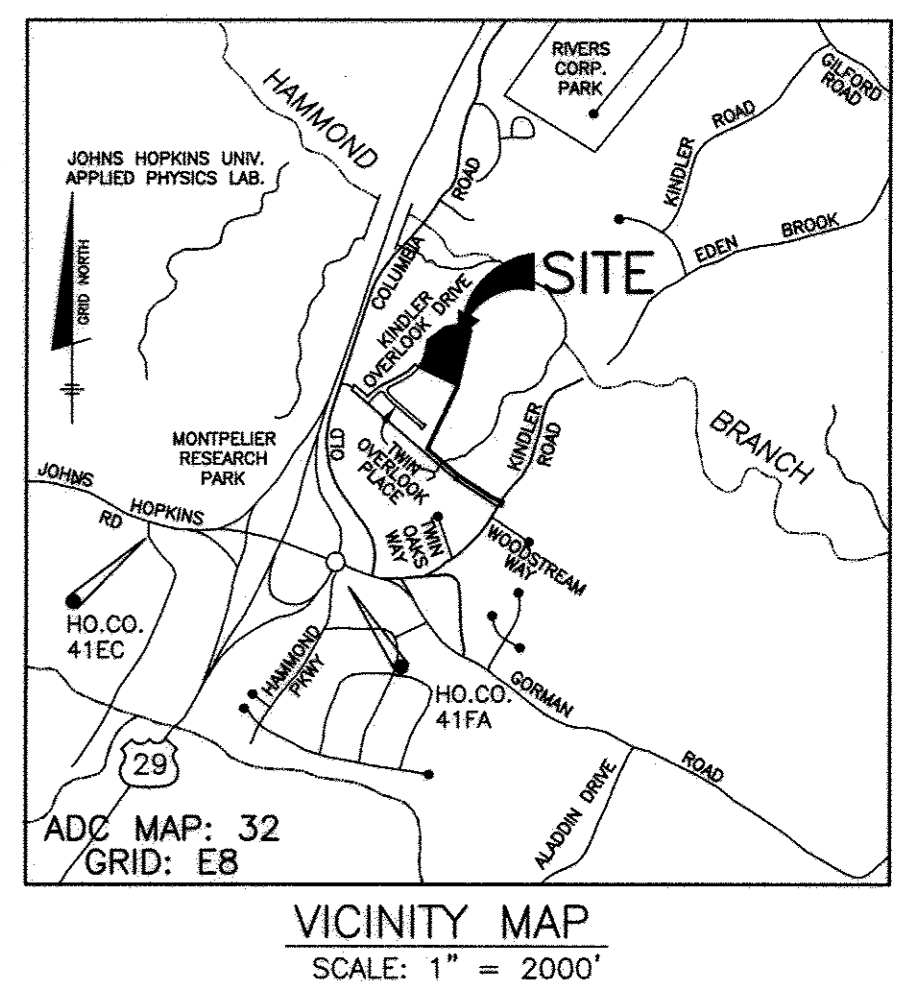
GENERAL NOTES

- SUBJECT PROPERTY ZONED R-20 PER THE 10-6-2013 COMPREHENSIVE ZONING PLAN.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM ROAD CONSTRUCTION PLANS F-10-051. ALL VERTICAL CONTROLS ARE BASED ON NAVD83.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 41EC AND 41FA WERE USED FOR THIS PROJECT.
- STORMWATER MANAGEMENT WILL BE PROVIDED VIA ENVIRONMENTAL SITE DESIGN METHODS, USING MICRO-BIORETENTION. ON-LOT FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED BY THE LOT OWNER. MB-A WILL BE PRIVATELY OWNED BY THE HOMEOWNERS ASSOCIATION, AND WILL BE JOINTLY MAINTAINED BY HOWARD COUNTY AND THE HOMEOWNER'S ASSOCIATION. MB-B WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
- EXISTING UTILITIES SHOWN WERE TAKEN FROM RECORD DRAWINGS PER CONTRACT #34-4613-D AND F-10-051. IF NECESSARY, CONTRACTOR SHALL ADJUST STRUCTURE TOPS TO MEET SDP GRADES.
- WETLAND DELINEATIONS PROVIDED BY WILDMAN ENVIRONMENTAL SERVICES DATED DECEMBER 17, 2008 AND REVISED IN JULY, 2007 AND BY ECO-SCIENCE PROFESSIONALS, INC. DECEMBER, 2008 WERE APPROVED FOR THE KINDLER OVERLOOK II SITE AS PART OF F-10-051. THERE ARE NO WETLANDS, WETLANDS BUFFERS, STREAMS, STREAM BUFFERS, STEEP SLOPES OR 100-YEAR FLOODPLAIN ON LOTS 1-7.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WAS POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT FOR F-10-051 IN THE AMOUNT OF \$5,700.00 FOR 19 SHADE TREES.
- TO THE BEST OF OUR KNOWLEDGE THERE ARE NO CEMETERIES ON THIS PROPERTY. THERE ARE NO HISTORIC STRUCTURES ON THE SITE.
- THIS PROJECT COMPLIED WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION UNDER F-10-051 BY MEETING THE TOTAL (2.83 AC) OBLIGATION WITH ON-SITE RETENTION OF 0.97 AC OF NET TRACT AREA FOREST WITHIN A FOREST CONSERVATION EASEMENT, AND OFFSITE PLANTING OF 1.86 ACRES WITHIN THE FOREST MITIGATION BANK LOCATED WITHIN THE MCKENDREE SPRINGS SUBDIVISION (F-09-108). FINANCIAL SURETY FOR THE OFF-SITE PLANTING WAS POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT FOR MCKENDREE SPRINGS (F-09-108). AN ADDITIONAL 0.74 ACRES WAS RETAINED ON OPEN SPACE LOT 8 AS A FOREST BANK UNDER F-10-051.
- UNLESS NOTED AS "PRIVATE", ALL EASEMENTS ARE PUBLIC.
- BRI. INDICATES ZONING RESTRICTION LINE. OTHER RESTRICTIONS MAY APPLY.
- IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS; BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS; PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE BUILDERS EXPENSE. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN, IF APPLICABLE.
- FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPE STEM AND ROAD RIGHT OF WAY LINE ONLY AND NOT ONTO THE FLAG OR PIPE STEM LOT DRIVEWAY.
- 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 COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.)
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45' TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
- ALL WATER METERS SHALL BE SET INSIDE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- FOR DRIVEWAY ENTRANCE DETAIL SEE HOWARD COUNTY STANDARD DETAILS R-6.03.
- SHC ELEVATIONS SHOWN ARE AT THE PROPERTY LINE OR EASEMENT LINE.
- THE PRIVATE USE-IN-COMMON MAINTENANCE AGREEMENTS FOR LOTS 1&2, AND 5-7 HAVE BEEN RECORDED IN THE LAND RECORDS OF HOWARD COUNTY AT L 15936 F 088 AND L 15936 F 073.
- THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS RECOMMENDED.
- DRIVEWAY SLOPES SHOWN ARE AVERAGE. THE SLOPE AT THE OUTSIDE EDGES COULD BE FLATTER OR STEEPER DEPENDING ON GRADE OF ROADWAY.
- THIS PLAN CONFORMS WITH THE 5th EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 1993 ZONING REGULATIONS AMENDED BY CS 50-2001. THE BUILDER SHALL APPLY FOR BUILDING PERMITS FOR ALL LOTS AS SHOWN ON THIS SITE DEVELOPMENT PLAN WITHIN FIVE YEARS OF SIGNATURE APPROVAL OF THIS PLAN.
- OPEN SPACE LOTS 8 AND 10 WERE DEDICATED TO HOWARD COUNTY, MARYLAND DEPARTMENT OF RECREATION AND PARKS ON PLAT 23144.
- ALL SEWER HOUSE CONNECTION SLOPES ARE 2.0% FROM THE PROPERTY LINE TO THE MAIN.
- THE COMMUNITY MEETING FOR THIS PROJECT WAS HELD ON SITE (7565 OLD COLUMBIA ROAD, LAUREL, MARYLAND, DECEMBER 27, 2008 AT 8:00 P.M.
- WP-15-157, ASSOCIATED WITH F-10-951 WAS APPROVED NOVEMBER 7, 2014. THIS PETITION WAIVED SECTION 16.144(a), WHICH ESTABLISHED THE DEADLINE TO COMPLETE THE FINAL SUBDIVISION PLAT ORIGINALS. THE APPROVAL WAS SUBJECT TO COMPLETION OF THE REDLINE REVISION TO THE ROAD CONSTRUCTION DRAWINGS BY DECEMBER 22, 2014. SUBMISSION OF THE FINAL PLAT ORIGINALS BY JANUARY 6, 2015, AND PAYMENT OF ANY ADDITIONAL PROCESSING FEES.
- A PUBLIC HEARING FOR TEMPORARY USE CASE 14-010 FOR 7565 KINDLER OVERLOOK DRIVE WAS CONDUCTED JANUARY 6, 2015. THE STATED PURPOSE OF THE TEMPORARY USE WAS TO ALLOW THE RECORDED OF THE PLAT TO PRECEDE THE DEMOLITION OF THE EXISTING HOUSE, CREATING A TEMPORARY SETBACK VIOLATION, PENDING THE REQUIRED MDE APPROVALS FOR REMOVAL OF THE UNDERGROUND OIL TANK. UPON RECEIVING MDE APPROVAL, THE TANK WILL BE REMOVED, AND THE HOUSE WILL BE DEMOLISHED. THE APPROVAL WAS GRANTED JANUARY 22, 2015, AND WAS CONDITIONED ON THE FOLLOWING:
 - THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND COUNTY LAWS AND REGULATIONS.
 - THE PETITIONER SHALL CONDUCT THE TEMPORARY USE IN SUBSTANTIAL CONFORMANCE WITH THE RECORDED TESTIMONY.



BENCH MARKS--(NAD'83)

HO.CO. 41EC	ELEV. 430.34
STAMPED DISC SET ON TOP OF 3" DEEP COLUMN OF CONCRETE	
N 543,588.8040	E 1,342,628.7800
HO.CO. 41FA	ELEV. 407.60
STAMPED DISC SET ON TOP OF 3" DEEP COLUMN OF CONCRETE	
N 545210.7590	E 1344786.9530



SITE ANALYSIS DATA CHART

A) TOTAL PROJECT AREA	3.24 AC.
B) AREA OF THIS PLAN SUBMISSION	3.24 AC.
C) APPROXIMATE LIMIT OF DISTURBANCE	2.07 AC.
D) PRESENT ZONING:	R-20 RESIDENTIAL
E) PROPOSED USE OF SITE:	SINGLE FAMILY DETACHED UNITS
F) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAT(S)	7
G) TOTAL NUMBER OF UNITS PROPOSED	7
H) APPLICABLE DPZ FILE REFERENCES:	S-07-003 WP-07-068 WP-08-048 P-09-003 WP-10-165 WP-11-090 WP-12-055 WP-13-151 WP-14-036 ECP-14-055, F-10-051
I) PROPOSED WATER AND SEWER SYSTEMS:	<input checked="" type="checkbox"/> PUBLIC <input type="checkbox"/> PRIVATE
J) PREVIOUS OPEN SPACE (F-10-051):	REQUIRED: 0.61 AC. PROVIDED: 1.67 AC. (CREDITED)

* PROJECT AREA IS LIMITED TO LOTS 1-7

STORMWATER MANAGEMENT PRACTICES CHART

LOT	STREET ADDRESS	MICRO-BIORETENTION M-B (NUMBER)
1	7583 KINDLER OVERLOOK DRIVE	1
2	7579 KINDLER OVERLOOK DRIVE	1
3	7575 KINDLER OVERLOOK DRIVE	1
4	7571 KINDLER OVERLOOK DRIVE	1
5	7567 KINDLER OVERLOOK DRIVE	1
6	7563 KINDLER OVERLOOK DRIVE	1
7	7559 KINDLER OVERLOOK DRIVE	1

MINIMUM LOT SIZE CHART

LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
1	22,501 S.F.	4,357 S.F.	18,144 S.F.
2	21,370 S.F.	2,588 S.F.	18,782 S.F.
5	20,171 S.F.	1,977 S.F.	18,194 S.F.
6	20,783 S.F.	2,510 S.F.	18,273 S.F.

ADDRESS CHART

LOT	STREET ADDRESS
1	7583 KINDLER OVERLOOK DRIVE
2	7579 KINDLER OVERLOOK DRIVE
3	7575 KINDLER OVERLOOK DRIVE
4	7571 KINDLER OVERLOOK DRIVE
5	7567 KINDLER OVERLOOK DRIVE
6	7563 KINDLER OVERLOOK DRIVE
7	7559 KINDLER OVERLOOK DRIVE

PERMIT INFORMATION CHART

SUBDIVISION NAME:	SECTION/AREA:	LOT/PARCEL #
KINDLER OVERLOOK II	N/A	PARCEL 386 (LOTS 1-7)
PLAT No.	GRID No.	ZONE
23144-23146	18	R-20
TAX MAP	ELECTION DISTRICT	CENSUS TRACT
41	6th	6068.02

APPROVED: DEPARTMENT OF PLANNING AND ZONING

K. J. Shuler 2/16/15 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

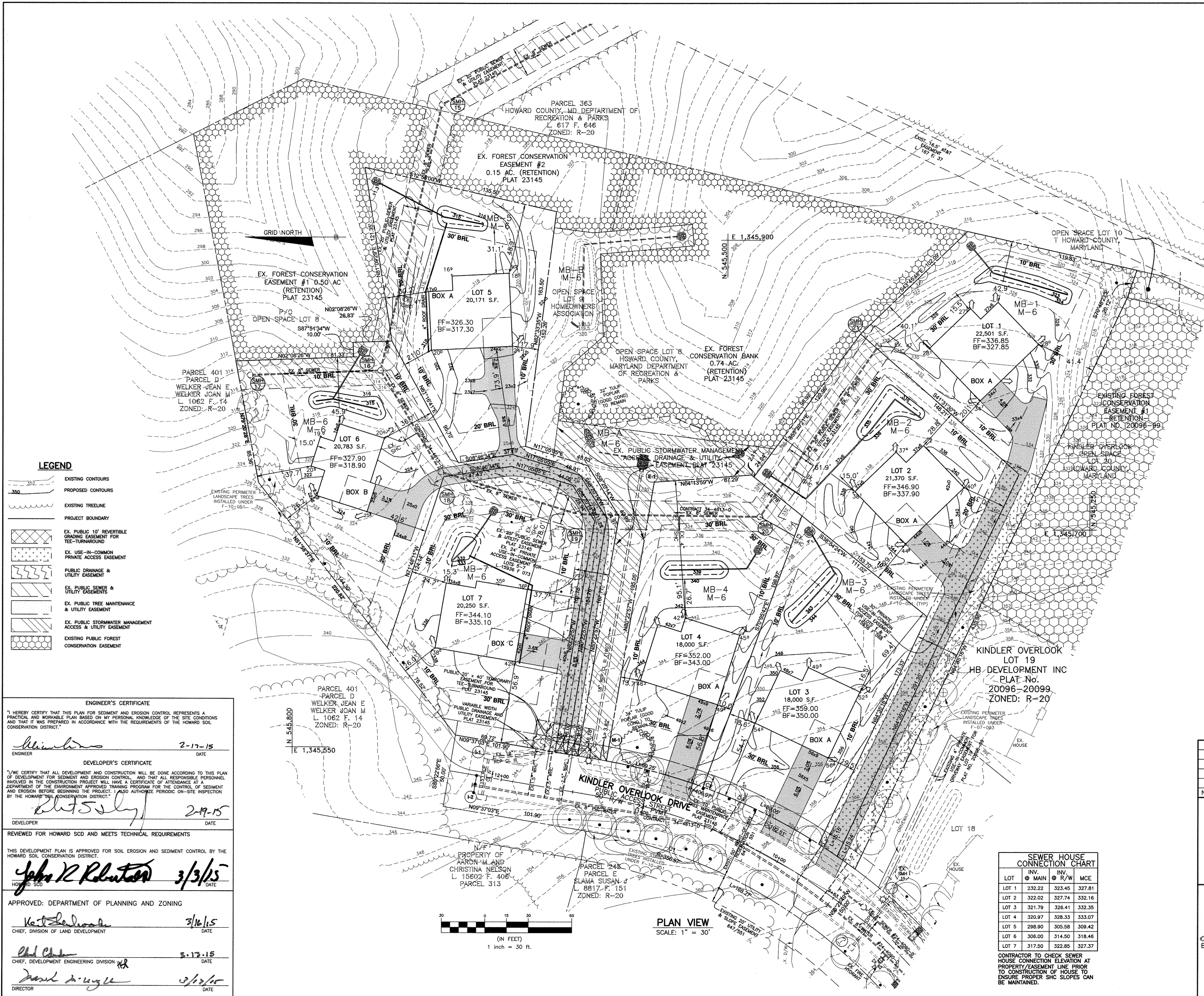
David M. Angelle 3-13-15 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

David M. Angelle 3/13/15 DATE
DIRECTOR

NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE SUITE 315 ELICOTT CITY, MARYLAND 21043
(P) 410-465-6103 (F) 410-465-6644
WWW.BE-CVLENGINEERING.COM

KINDLER OVERLOOK II SINGLE FAMILY LOTS 1 thru 7		
OWNER/ BUILDER:	DORSEY FAMILY HOMES 10717-B BIRMINGHAM WAY WOODSTOCK, MARYLAND 21163 410-463-4771	
LOCATION:	TAX MAP: 41 GRID: 18 PARCEL: 386 ZONED: R-20 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND	
TITLE:	COVER	
DATE:	FEBRUARY, 2015	BEI PROJECT NO. 1962
SCALE:	AS SHOWN	SHEET <u>1</u> OF <u>4</u>



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROJECT BOUNDARY
- EX. PUBLIC 10' REVERTIBLE GRADING EASEMENT FOR TEE-TURNAROUND
- EX. USE-IN-COMMON PRIVATE ACCESS EASEMENT
- PUBLIC DRAINAGE & UTILITY EASEMENT
- EX. PUBLIC SEWER & UTILITY EASEMENT
- EX. PUBLIC TREE MAINTENANCE & UTILITY EASEMENT
- EX. PUBLIC STORMWATER MANAGEMENT ACCESS & UTILITY EASEMENT
- EXISTING PUBLIC FOREST CONSERVATION EASEMENT

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 2-17-15
 ENGINEER DATE

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 2-17-15
 DEVELOPER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 3/3/15
 HOWARD SCD DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 3/16/15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

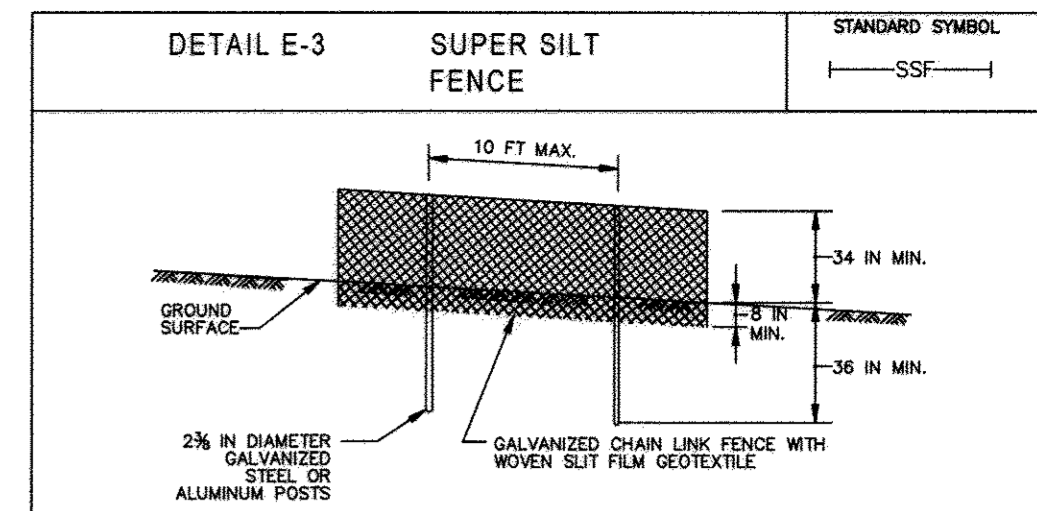
[Signature] 2-17-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 3/16/15
 DIRECTOR DATE

SEWER HOUSE CONNECTION CHART

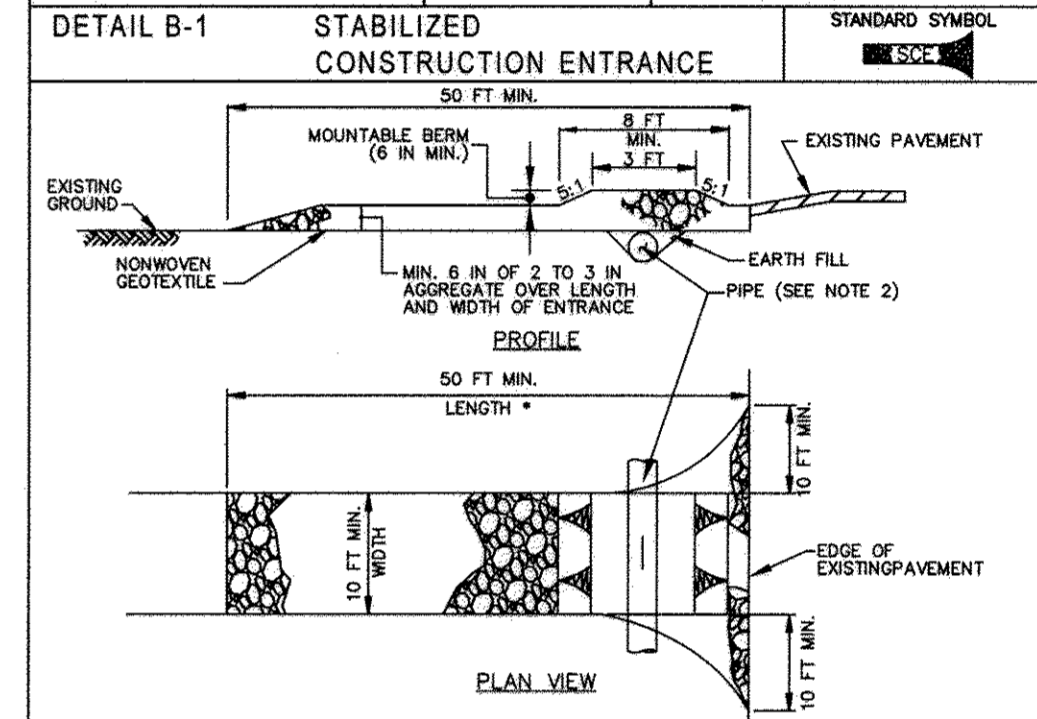
LOT	INV.	R/W	MCE
LOT 1	232.22	323.45	327.81
LOT 2	322.02	327.74	332.16
LOT 3	321.79	328.41	332.35
LOT 4	320.97	328.33	333.07
LOT 5	298.90	305.58	309.42
LOT 6	306.00	314.50	318.46
LOT 7	317.50	322.85	327.37

CONTRACTOR TO CHECK SEWER HOUSE CONNECTION ELEVATION AT PROPERTY/EASEMENT LINE PRIOR TO CONSTRUCTION OF HOUSE TO ENSURE PROPER SLOPES CAN BE MAINTAINED.



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

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



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

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

NO. DATE REVISION

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE A SUITE 315 A ELICOTT CITY, MARYLAND 21043
 (P) 410-465-8100 (F) 410-465-8044
 WWW.BE-CVLENGINEERING.COM

KINDLER OVERLOOK II
 SINGLE FAMILY LOTS 1 thru 7

LOCATION: TAX MAP: 41 GRID: 18 PARCEL: 386
 ZONED: R-20 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

TITLE: **SITE DEVELOPMENT AND GRADING PLAN**

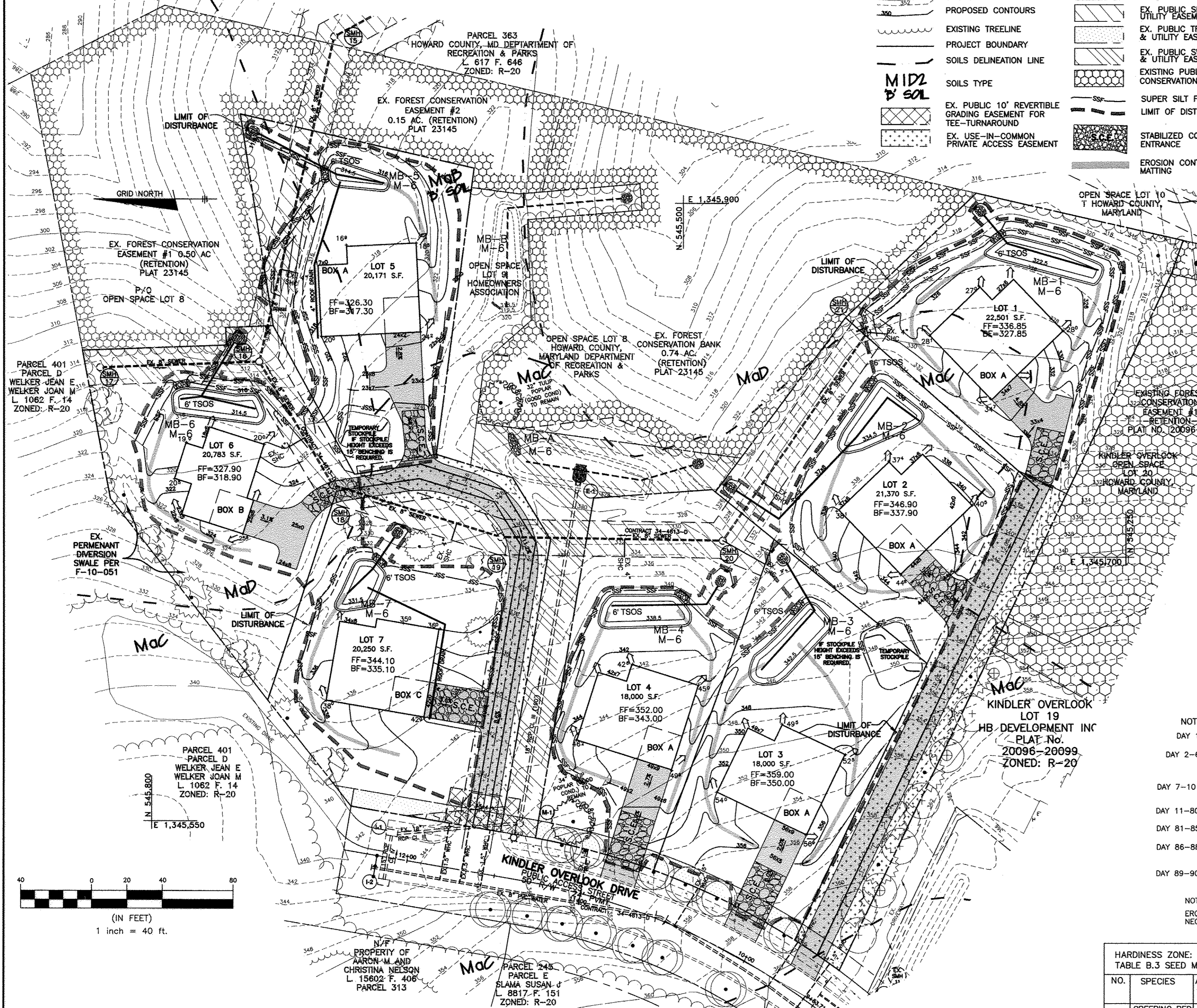
DATE: FEBRUARY, 2015 BEI PROJECT NO. 1962
 SCALE: AS SHOWN SHEET 2 OF 4

CONTRACTOR TO CHECK SEWER HOUSE CONNECTION ELEVATION AT PROPERTY/EASEMENT LINE PRIOR TO CONSTRUCTION OF HOUSE TO ENSURE PROPER SLOPES CAN BE MAINTAINED.

DORSEY FAMILY HOMES
 10717-B BIRMINGHAM WAY
 WOODSTOCK, MARYLAND 21163
 410-463-4771

SDP-15-022

THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY



- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - EXISTING TREELINE
 - PROJECT BOUNDARY
 - SOILS DELINEATION LINE
 - SOILS TYPE
 - EX. PUBLIC UTILITY EASEMENT
 - EX. PUBLIC SEWER & UTILITY EASEMENTS
 - EX. PUBLIC TREE MAINTENANCE & UTILITY EASEMENT
 - EX. PUBLIC SWIM ACCESS & UTILITY EASEMENT
 - EXISTING PUBLIC FOREST CONSERVATION EASEMENT
 - EX. PUBLIC 10' REVERSIBLE GRADING EASEMENT FOR TREE-TURNAROUND
 - EX. USE-IN-COMMON PRIVATE ACCESS EASEMENT
 - PUBLIC DRAINAGE & UTILITY EASEMENT
 - TEMPORARY STABILIZATION
 - SEEDBED PREPARATION
 - SEEDING
 - TOPSOILING
 - SOIL AMENDMENTS
 - EROSION CONTROL MATTING
- B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS**
- Soil Preparation
 - Temporary Stabilization
 - Seedbed Preparation
 - Seeding
 - Specifications
 - Application
 - Topsoiling
 - Specifications
 - Application
 - Soil Amendments (Fertilizer and Lime Specifications)
 - Lime
 - Fertilizer

- B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING**
- Seeding
 - Specifications
 - Application
 - Mulching
 - Specifications
 - Application

- B-4-4 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA**
- DEFINITION: A mound or pile of soil produced by any designated erosion and sediment control measure.
- 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: Stockpile areas are utilized when it is necessary to salvage and store soil for later use.
- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
 - 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. Batching must be provided in accordance with Section B-3 Land Grading.
 - Runoff from the stockpile area must drain to a suitable sediment control practice.
 - Access to the stockpile area from the upgrade side.
 - Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or fence. Diversion must be provided to intercept concentrated flow in a non-erosive manner.
 - When used to store soil, the stockpile must be stabilized by an appropriate erosion and sediment control practice must be used to intercept the discharge.
 - When used for storage of material, the stockpile must be stabilized by an erosion and sediment control practice as well as Standard B-4-1 Inert Stabilization and Standard B-4-4 Temporary Stabilization.
 - 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 impervious sheathing.
- 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 on 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.

- SEQUENCE OF CONSTRUCTION (SINGLE LOT CONSTRUCTION)**
- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION
- OBTAIN GRADING PERMIT AND REQUEST PRE-CONSTRUCTION MEETING.
 - INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SUPER SILT FENCE. ROUGH GRADE MICRO-BORSTATIONING AREAS WITHOUT EXCAVATING FOR PLANTING SOILS, AND INSTALL TEMPORARY STONE OUTLET STRUCTURE WITH TEMPORARY SEEDED NOTES.
 - EXCAVATE FOR FOUNDATION, ROUGH GRADE AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDED NOTES.
 - CONSTRUCT HOUSE, BACKFILL AND CONSTRUCT DRIVEWAY.
 - FINAL GRADE AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDED NOTES.
 - WHEN THE LOT IS FULLY STABILIZED, REMOVE TSOS AND CONSTRUCT ON-LOT STORMWATER FACILITY.
 - WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS.
- EROSION CONTROL MATTING SHALL BE PLACED IN SWALES WHERE DEEMED NECESSARY UNTIL VEGETATION IS ESTABLISHED OR SOILD SOUD SHOULD BE USED.

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate ¹ (lb/1000 ft ²)	Seeding Depth (inches)	Recommended Seeding Dates by Plant Hardiness Zone ²			
			5b and 6a	6b	7a and 7b	8
Cool-Season Grasses						
Annual Ryegrass (<i>Lolium perenne</i>)	40	1.0	May 15 to May 31; Aug 1 to Sep 30	May 1 to May 15; Aug 15 to Oct 30	Feb 15 to Apr 30; Aug 15 to Nov 30	Aug 15 to Oct 30
Bahia (<i>Bahia flexuosa</i>)	96	2.2	May 15 to May 31; Aug 1 to Sep 30	May 1 to May 15; Aug 15 to Oct 30	Feb 15 to Apr 30; Aug 15 to Nov 30	Aug 15 to Oct 30
Oats (<i>Avena sativa</i>)	72	1.7	May 15 to May 31; Aug 1 to Sep 30	May 1 to May 15; Aug 15 to Oct 30	Feb 15 to Apr 30; Aug 15 to Nov 30	Aug 15 to Oct 30
Wheat (<i>Triticum aestivum</i>)	110	2.8	May 15 to May 31; Aug 1 to Sep 30	May 1 to May 15; Aug 15 to Oct 30	Feb 15 to Apr 30; Aug 15 to Nov 30	Aug 15 to Oct 30
Cereal Rye (<i>Celestia cernua</i>)	112	2.8	May 15 to May 31; Aug 1 to Sep 30	May 1 to May 15; Aug 15 to Oct 30	Feb 15 to Apr 30; Aug 15 to Nov 30	Aug 15 to Oct 30
Warm-Season Grasses						
Festuca (Festuca sp.)	30	0.7	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14	
Perennial Ryegrass (<i>Lolium perenne</i>)	20	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14	

NOTES:

- 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, unless stated otherwise. When planted as a cover crop with permanent seed rates, use 1/3 of the seeding rate listed above for the heavy soils and 1/2 for the medium soils. For medium soils, use 1/2 of the seeding rate listed above for the heavy soils and 1/3 for the medium soils. For the overall permanent seeding rate, Cereals are generally applied at 1/2 to 2/3 of the seeding rate listed above. When planted as a cover crop, use 1/2 of the seeding rate listed above. Cereals are generally applied at 1/2 to 2/3 of the seeding rate listed above. When planted as a cover crop, use 1/2 of the seeding rate listed above.
- For sandy soils, plant seeds at twice the depth listed above.
- The planting dates listed are averages for each Zone and may vary regionally to reflect local conditions, especially near the boundaries of the zone.

PERMANENT SEED MIXTURE

NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS (IN)	FERTILIZER RATE (LB/AC)			LIME RATE
					N	P205	5K20	
11	CREEPING RED FESCUE	30	3/1 to 5/1 & 8/18 to 10/15	1/4-1/2 IN	45 LB	90 LB	90 LB	2 TONS PER ACRE (90 LB/1000 SF)
	KENTUCKY BLUEGRASS	30	3/1 to 5/1 & 8/18 to 10/15	1/4-1/2 IN	1000 SF	1000 SF	1000 SF	2 TONS PER ACRE (90 LB/1000 SF)

SOILS LEGEND

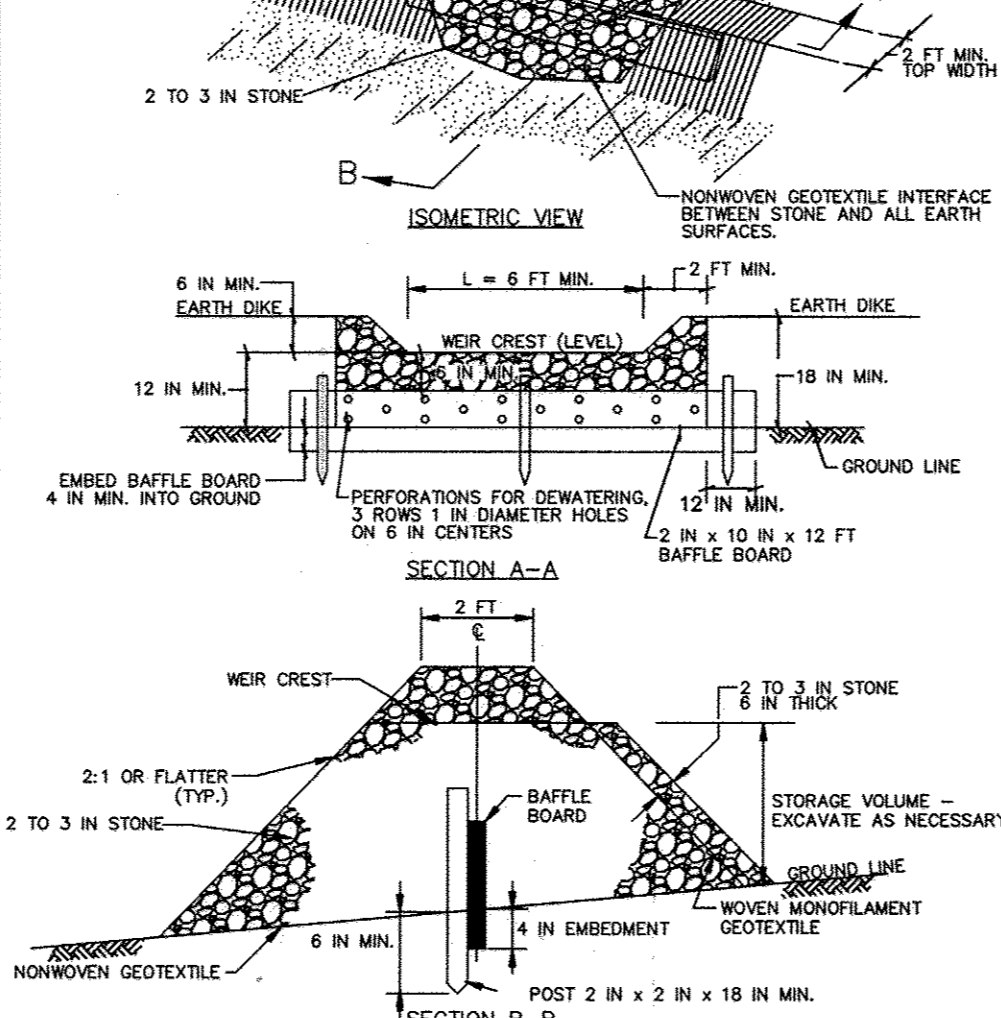
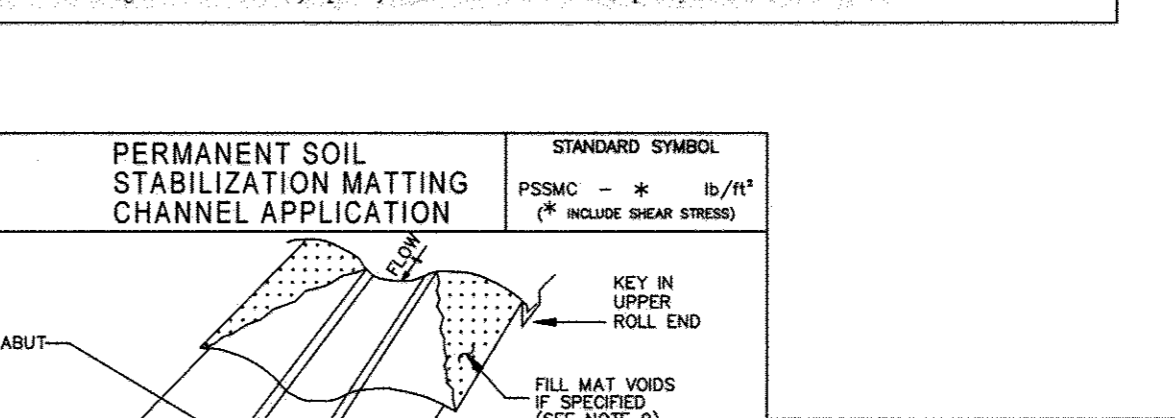
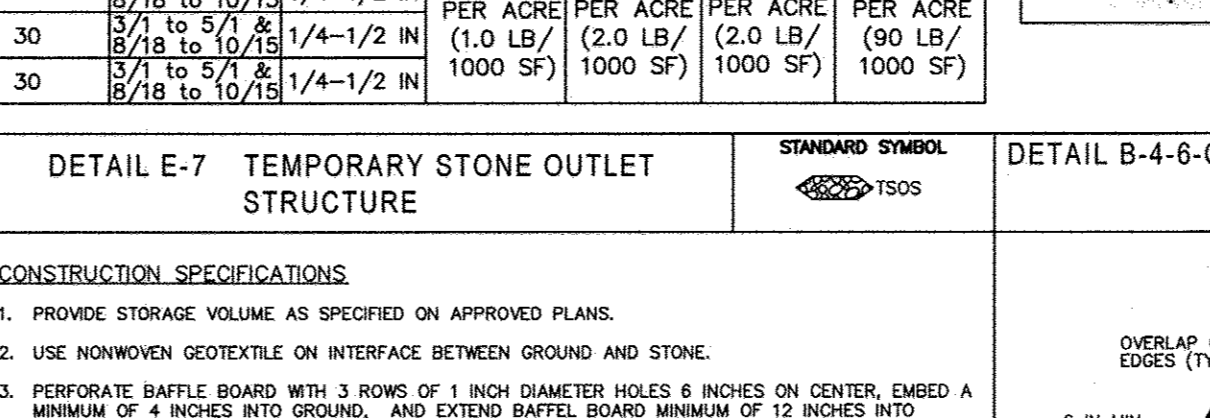
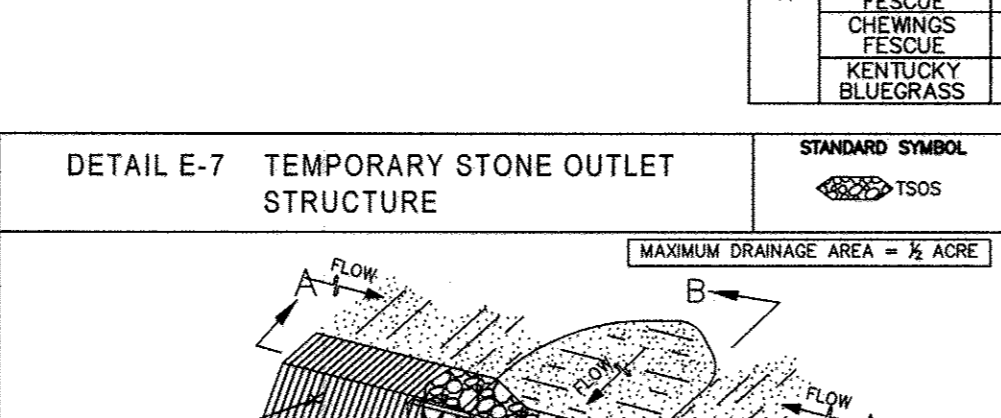
SYMBOL	TYPE	PERCENT	NAME
GgC	B	.20	GLENELF LOAM - 8 TO 15 PERCENT SLOPES - MODERATELY ERODED
GmC	B	.37	GLENVILLE SILT LOAM - 8 TO 15 PERCENT SLOPES
GoB	B	.37	GLENVILLE-CORDORUS SILT LOAMS - 0 TO 8 PERCENT SLOPES
MoB	B	.24	MANOR LOAM - 3 TO 8 PERCENT SLOPES
McC	B	.24	MANOR LOAM - 8 TO 15 PERCENT SLOPES
MaD	B	.24	MANOR LOAM - 15 TO 25 PERCENT SLOPES
MkF	B	.24	MANOR BRINKLOW COMPLEX, 25 TO 65 PERCENT SLOPES - VERY ROCKY AREAS ON THE PROJECT SITE

SOILS TAKEN FROM NRCS WEB SOIL SURVEY, MARCH 17, 2014
*WHOLE SOIL K FACTOR

- SEDIMENT CONTROL NOTES**
- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1855).
 - 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 SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL, REVISIONS THEREOF.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 - 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, REVISIONS THEREOF (SEC. B-4-5), AND APPROVED BY THE RESULT OF THE SEDIMENT CONTROL INSPECTOR OR AT THOSE TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL WHICH EVER IS MORE RESTRICTIVE.
 - ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
 - ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
 - ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 - ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE OBTAINED UPON COMPLETION OF INSTALLATION OF PERMETER 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.
 - TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
 - ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.

NOTE:

- ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- EITHER TEMPORARY OR PERMANENT STABILIZATION IS TO BE PROVIDED AT THE REQUEST OF THE SEDIMENT CONTROL INSPECTOR OR AT THOSE TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL WHICH EVER IS MORE RESTRICTIVE.



- CONSTRUCTION SPECIFICATIONS**
- PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.
 - USE NONWOVEN GEOTEXTILE ON INTERFACE BETWEEN CHANNEL AND STONE.
 - PERFORATE BAFFLE BOARD WITH 3 ROWS OF 1 INCH DIAMETER HOLES 8 INCHES ON CENTER, EMBED A MINIMUM OF 4 INCHES INTO GROUND, AND EXTEND BAFFLE BOARD MINIMUM OF 12 INCHES INTO EARTH DIKE.
 - USE CLEAN 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE WOVEN MONOLAYER GEOTEXTILE ON UPSTREAM FACE TO COVER WITH A MINIMUM OF 6 INCHES OF ADDITIONAL STONE.
 - USE NONWOVEN AND WOVEN MONOLAYER GEOTEXTILES AS SPECIFIED IN SECTION H-1 MATERIALS.
 - SET WEIR CREST OF STONE 6 INCHES LOWER THAN THE TOP OF EARTH DIKE. USE MINIMUM LENGTH OF 8 FEET FOR WEIR CREST.
 - REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 6 INCHES OF WEIR CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CEASES TO DRAIN, MAINTAIN LINE, GRADE, AND CROSS SECTION.
 - UPON REMOVAL OF STONE OUTLET STRUCTURE, GRADE AREA FLUSH WITH EXISTING GROUND, WITHIN 24 HOURS STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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 COUNTY CONSERVATION DISTRICT.

[Signature] 2-17-15
ENGINEER DATE

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION. THESE TRAINING PROGRAMS ARE AUTHORIZED PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT.

[Signature] 2-19-15
DEVELOPER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

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

[Signature] 2/3/15
HOWARD SCD DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 3-16-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 4/8
CHIEF, DIVISION ENGINEERING DIVISION DATE

[Signature] 3/23/15
DIRECTOR DATE

BENCHMARK

ENGINEERS & LAND SURVEYORS & PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE SUITE 315 A ELLOTT CITY, MARYLAND 21043
(410) 468-8100 (F) 410-468-8644
WWW.BE-COMINGENGINEERS.COM

Professional Certificate No. 15
Professional Engineer in the State of Maryland, License No. 28376, Expiration Date: 1-1-2017.

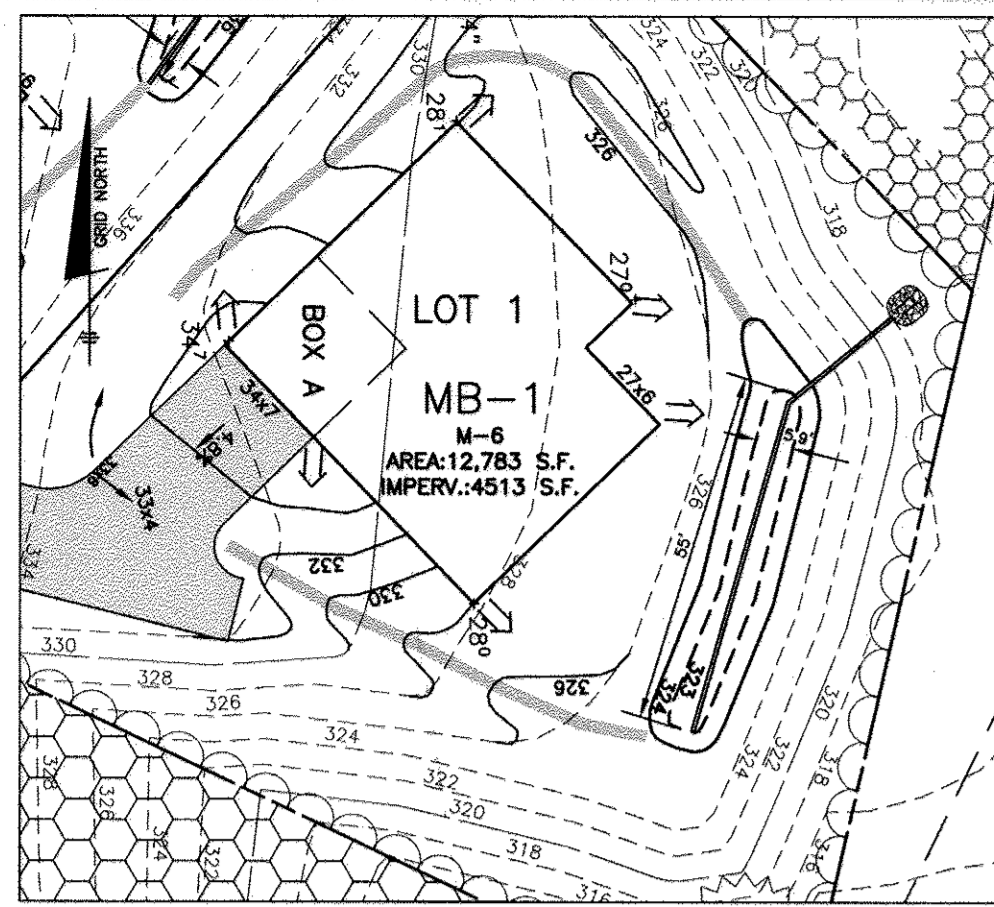
KINDLER OVERLOOK II

SINGLE FAMILY LOTS I thru 7

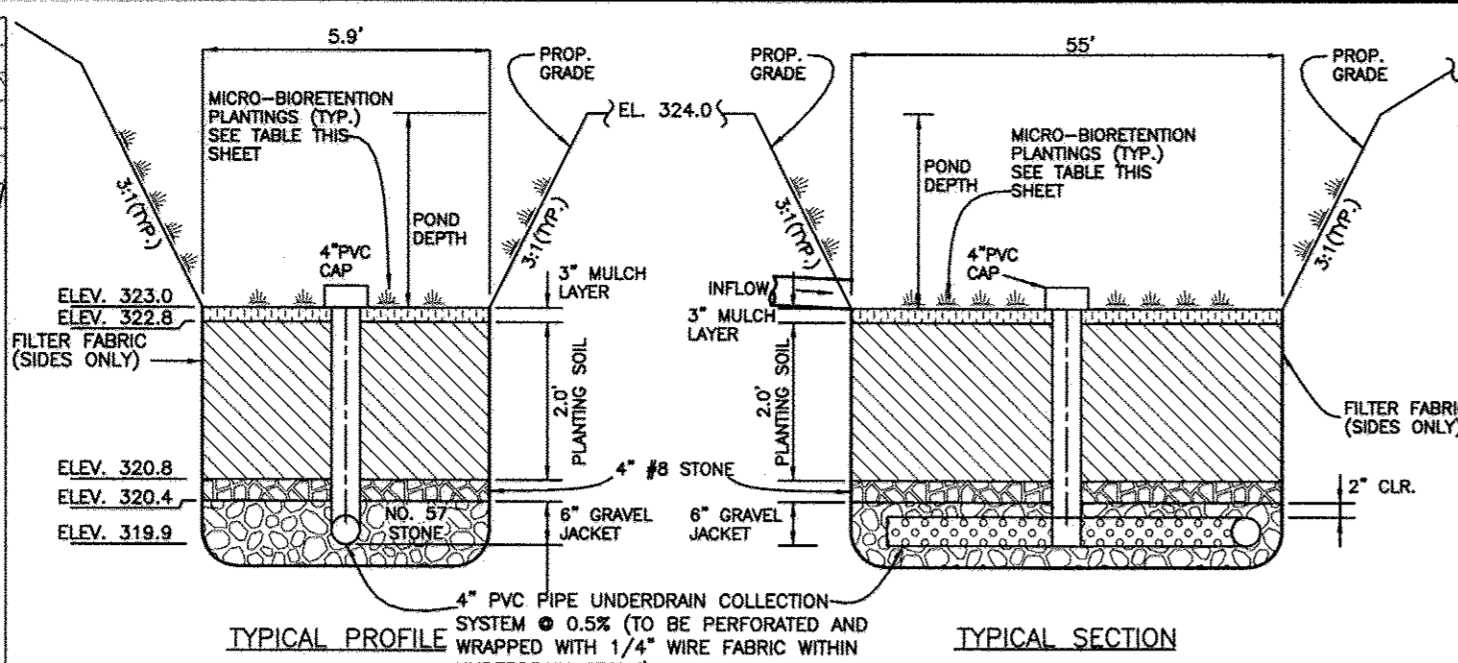
LOCATION: TAX MAP: 41 GRID: 18 PARCEL: 386
ZONED: R-20
ELECTION DISTRICT: NO. 6
HOWARD COUNTY, MARYLAND

SEDIMENT AND EROSION CONTROL NOTES, DETAILS AND SOILS MAP

DATE: FEBRUARY, 2015 BEI PROJECT NO. 1962
SCALE: AS SHOWN SHEET 3 OF 4
SDP-15-022

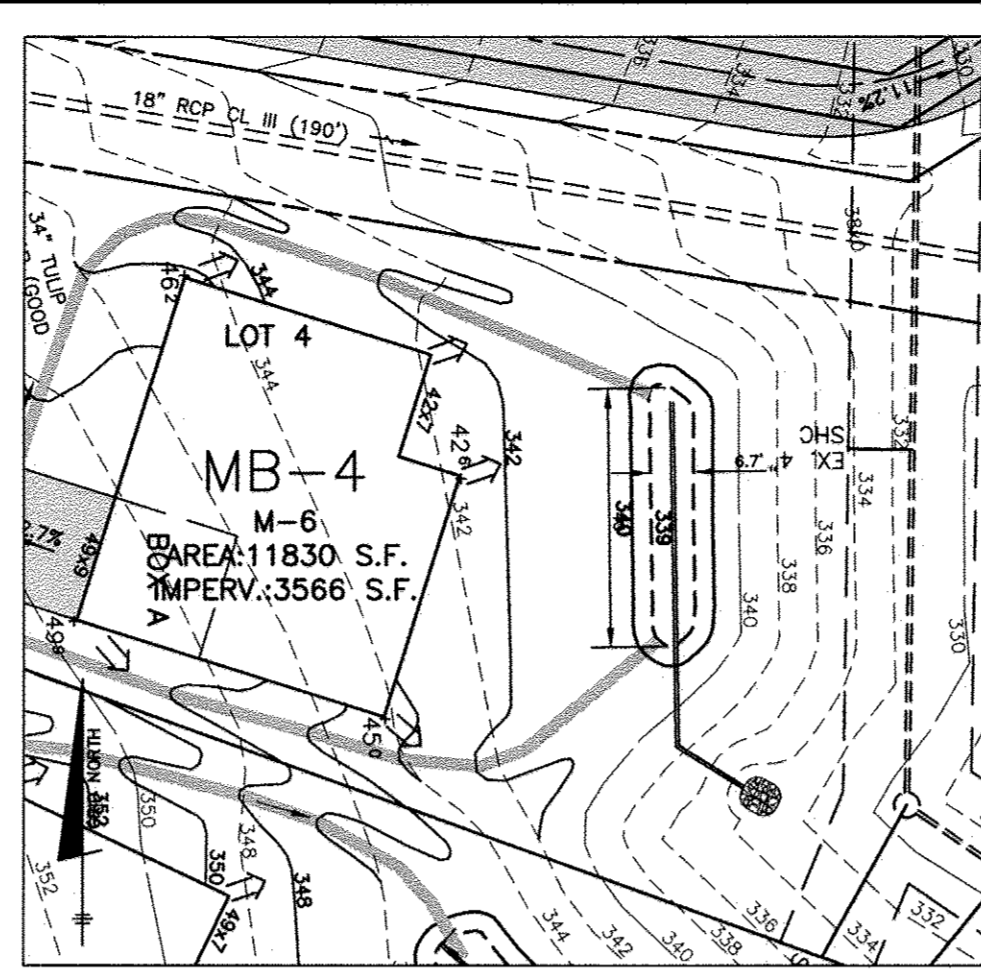


MICRO-BIORETENTION #1 - PLAN VIEW
SCALE: 1" = 30'

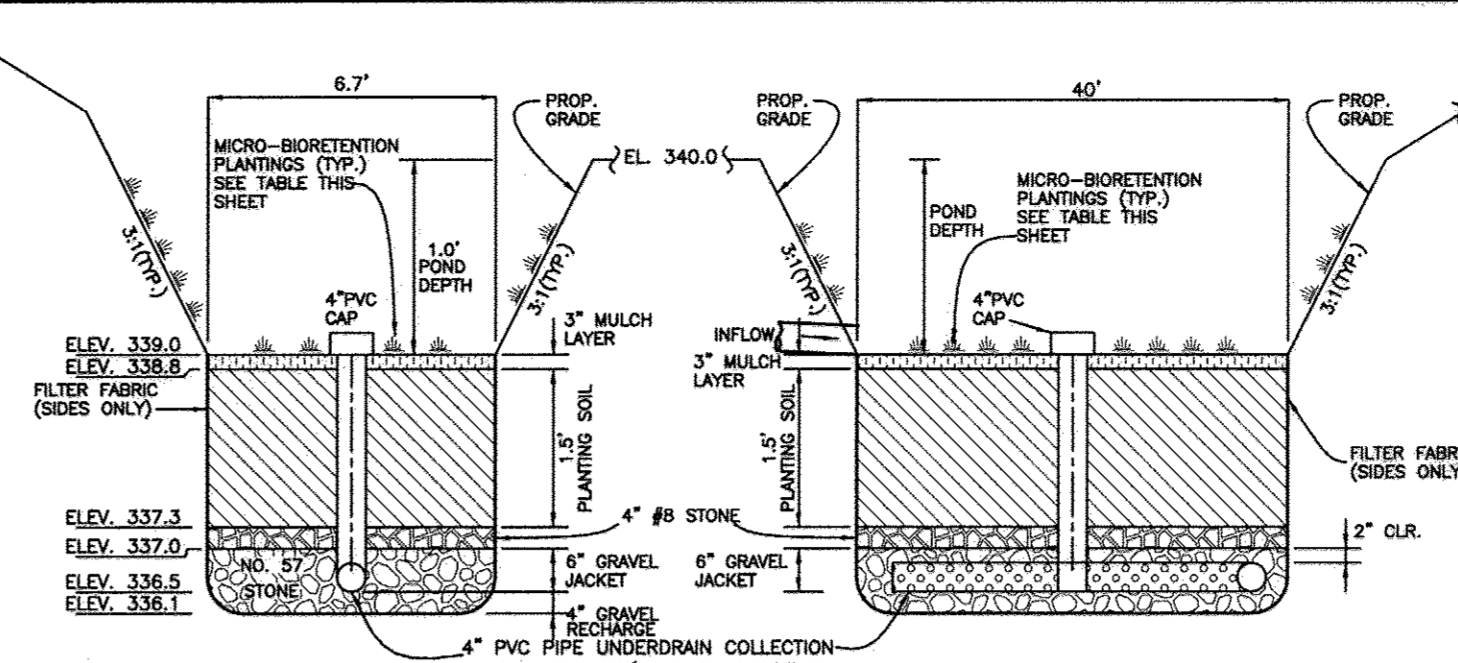


TYPICAL PROFILE TYPICAL SECTION
MICRO-BIORETENTION #1 DETAIL

LOT 1

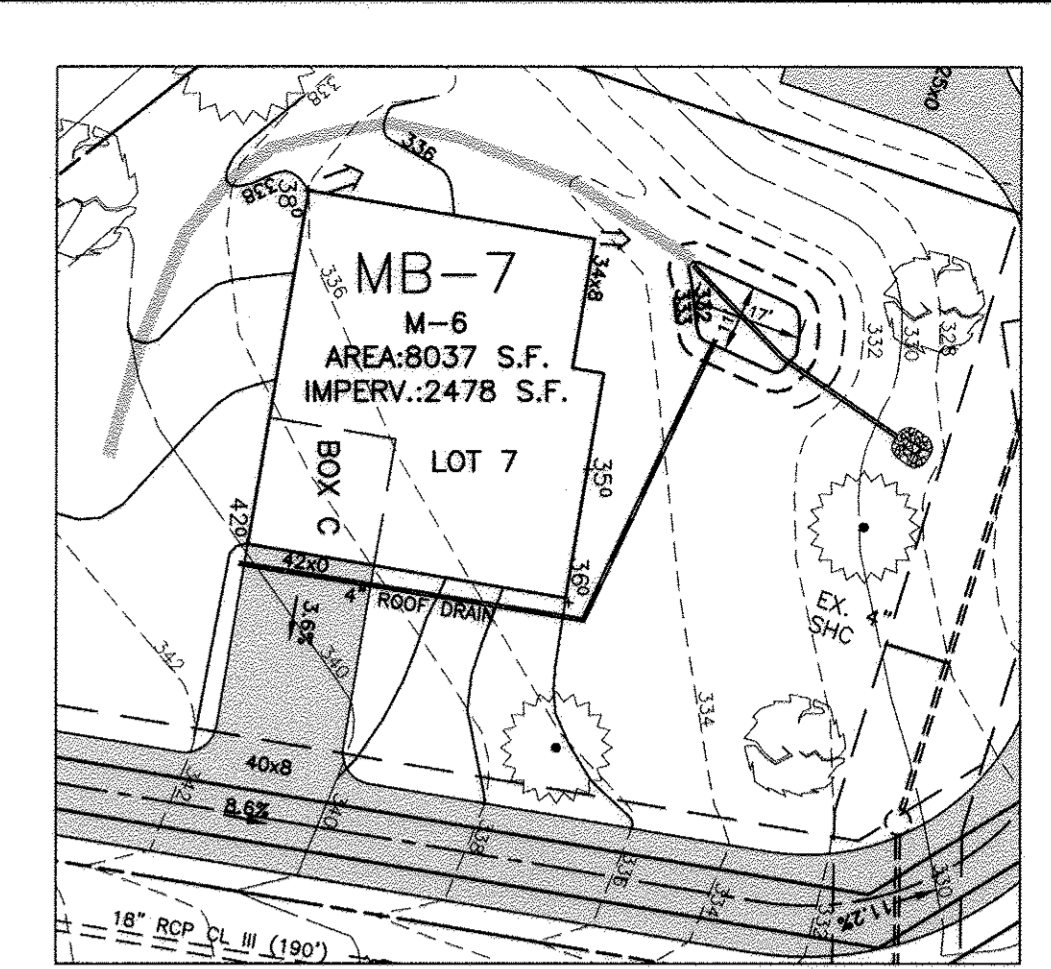


MICRO-BIORETENTION #4 - PLAN VIEW
SCALE: 1" = 30'

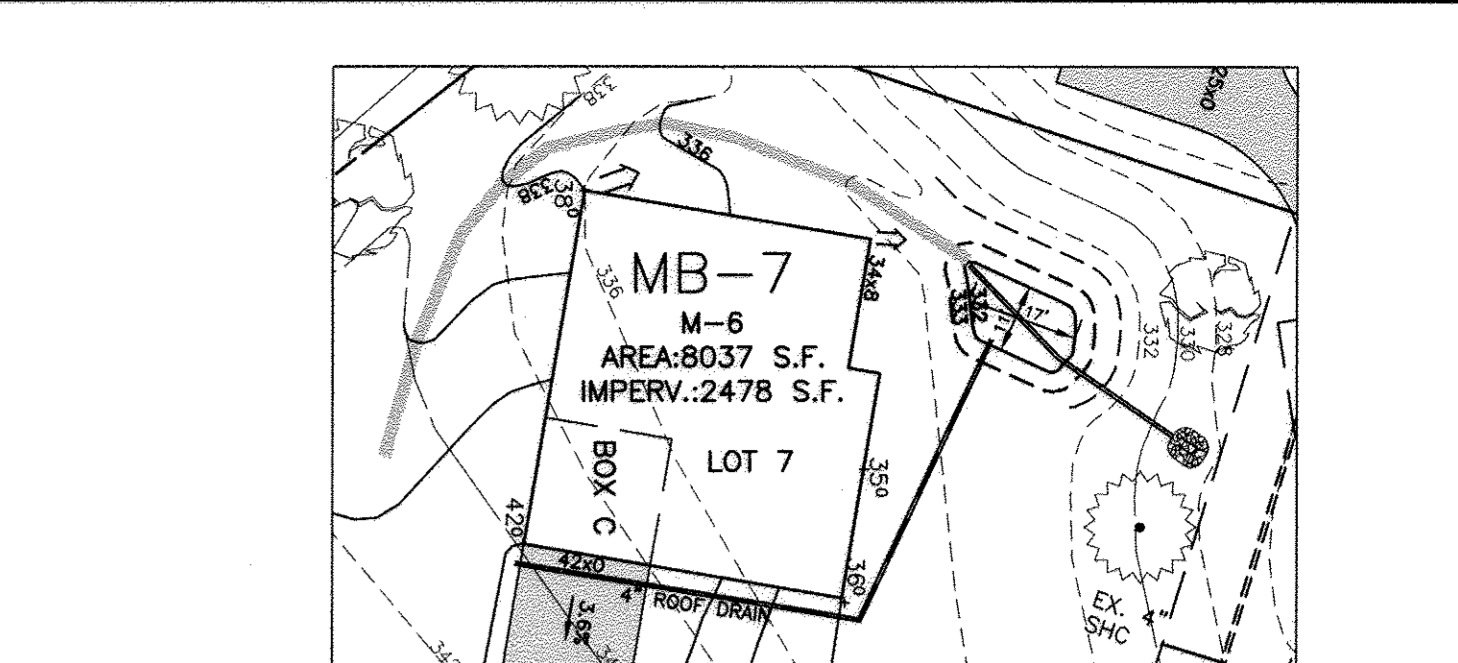


TYPICAL PROFILE TYPICAL SECTION
MICRO-BIORETENTION #4 DETAIL

LOT 4

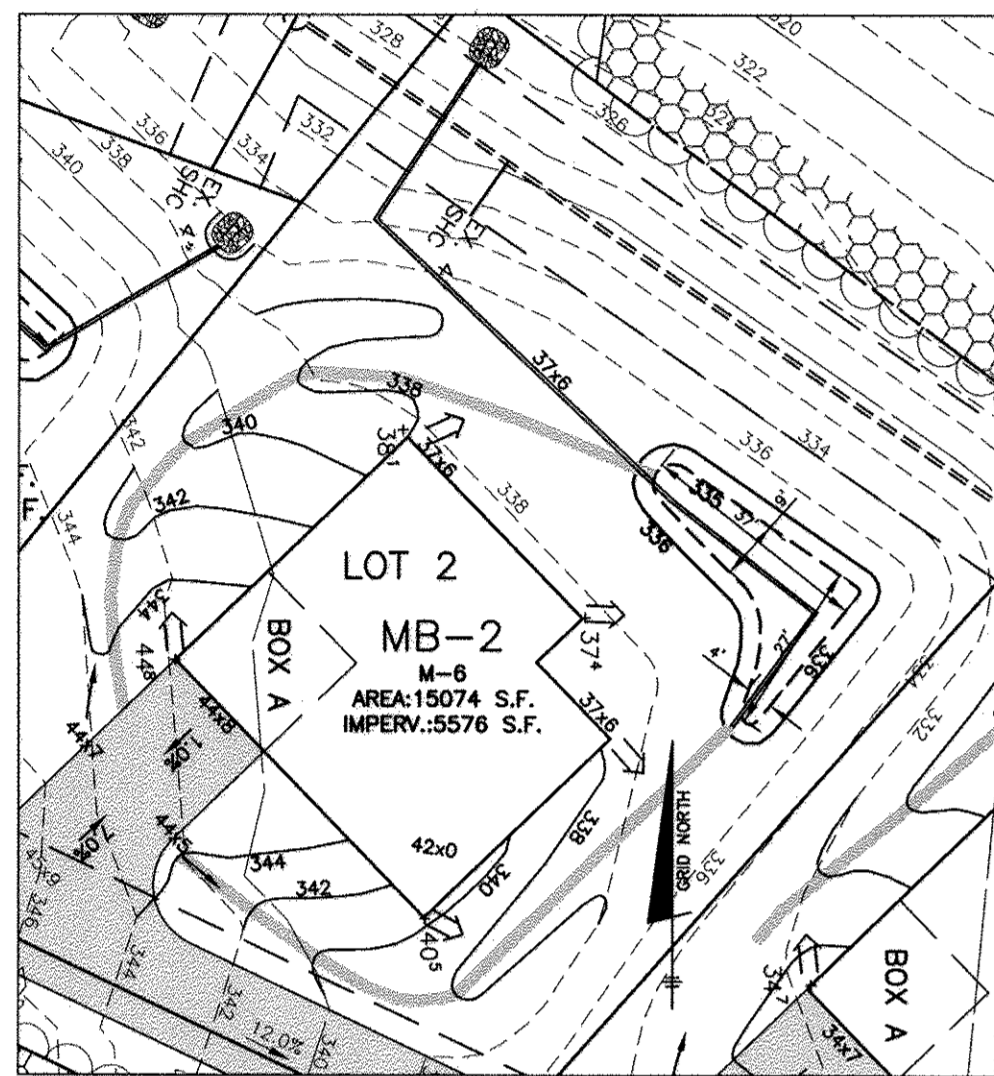


MICRO-BIORETENTION #7 - PLAN VIEW
SCALE: 1" = 30'

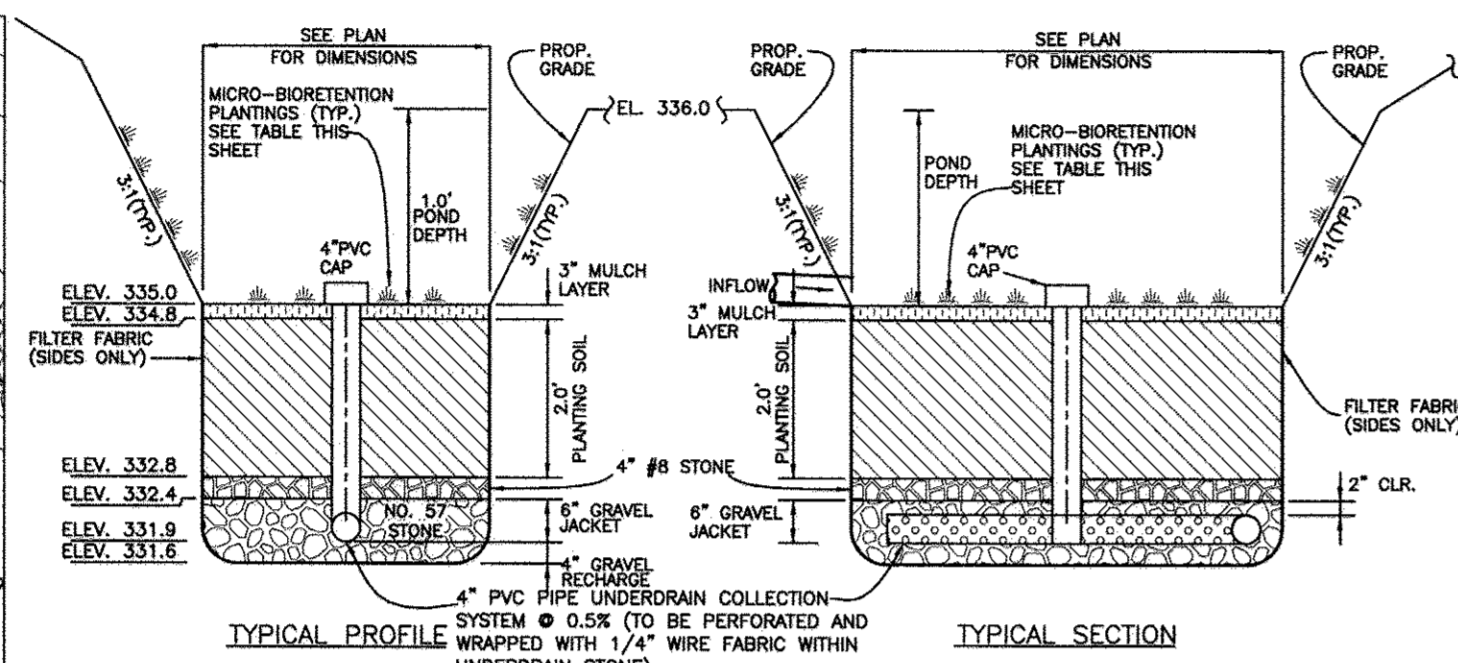


TYPICAL PROFILE TYPICAL SECTION
MICRO-BIORETENTION #7 DETAIL

LOT 7

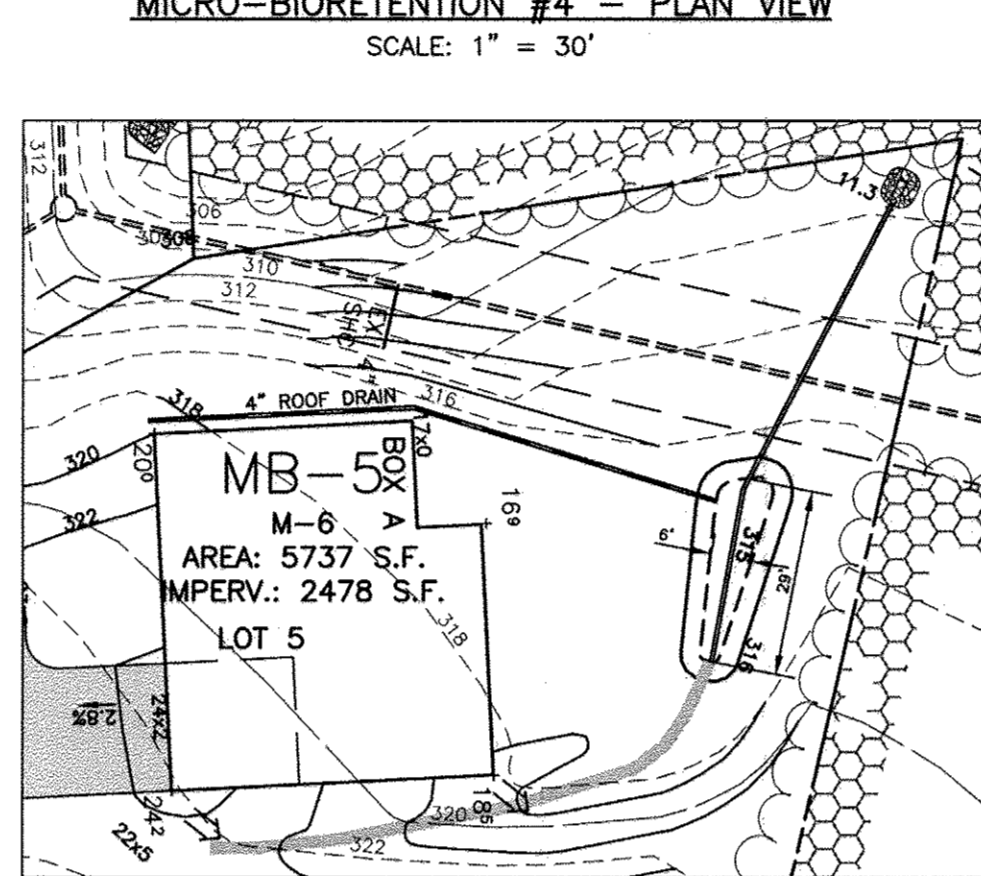


MICRO-BIORETENTION #2 - PLAN VIEW
SCALE: 1" = 30'

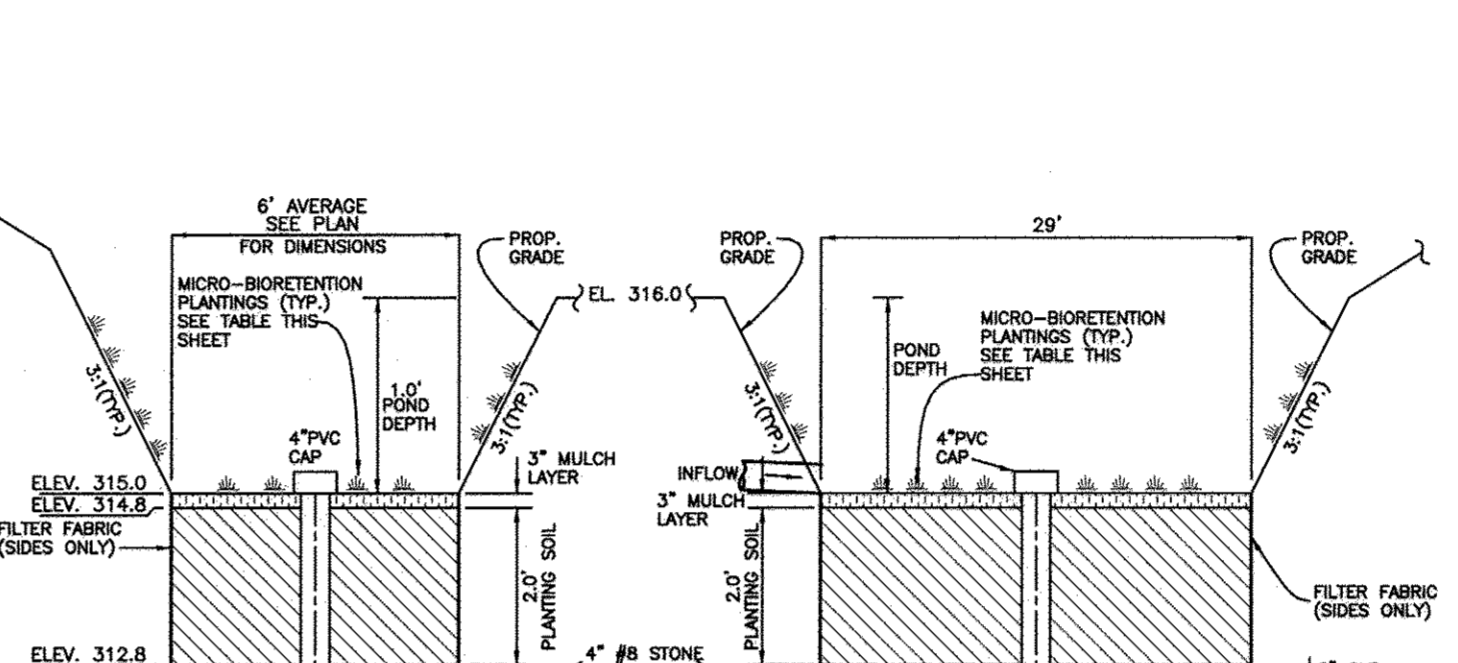


TYPICAL PROFILE TYPICAL SECTION
MICRO-BIORETENTION #2 DETAIL

LOT 2

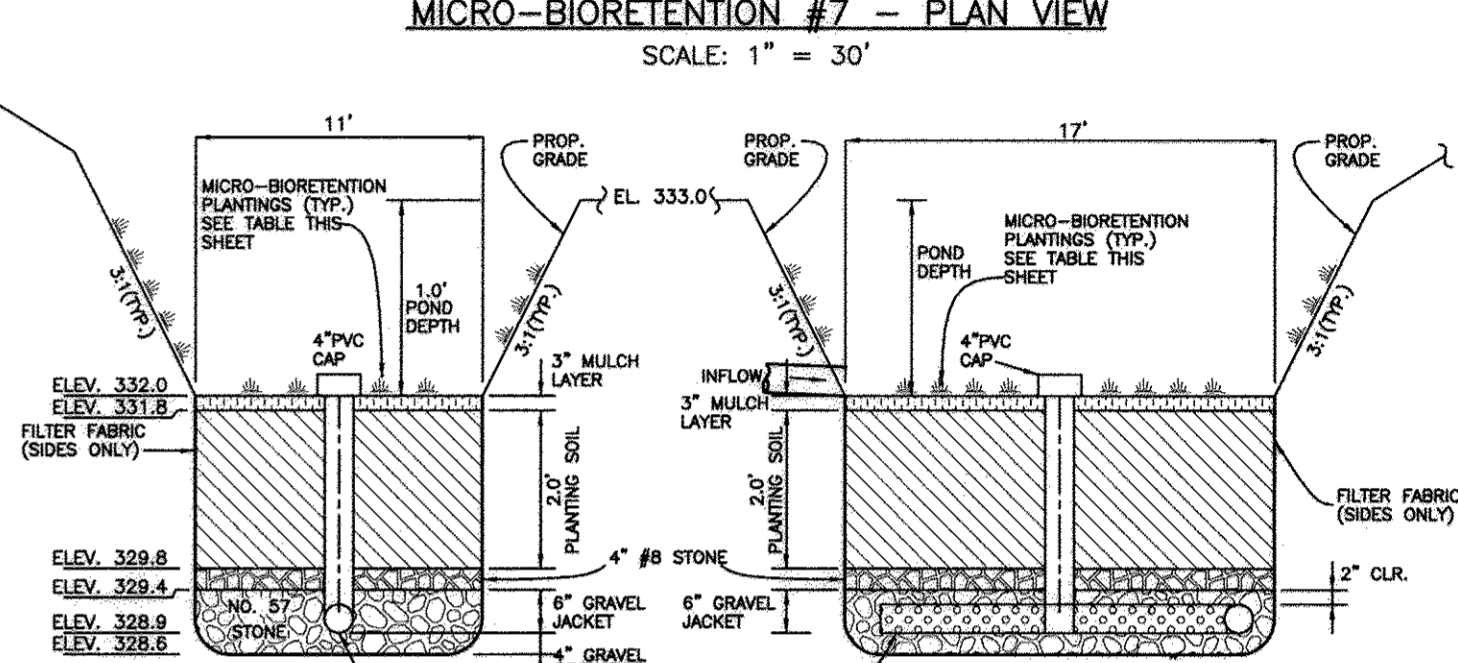


MICRO-BIORETENTION #5 - PLAN VIEW
SCALE: 1" = 30'



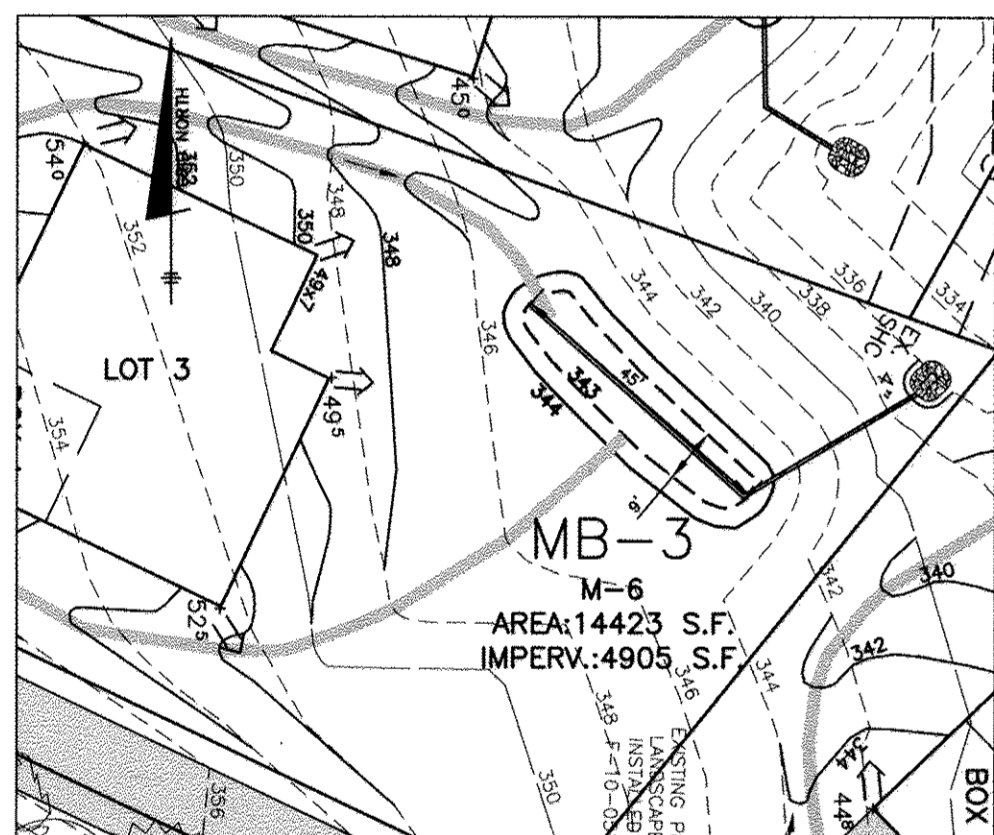
TYPICAL PROFILE TYPICAL SECTION
MICRO-BIORETENTION #5 DETAIL

LOT 5

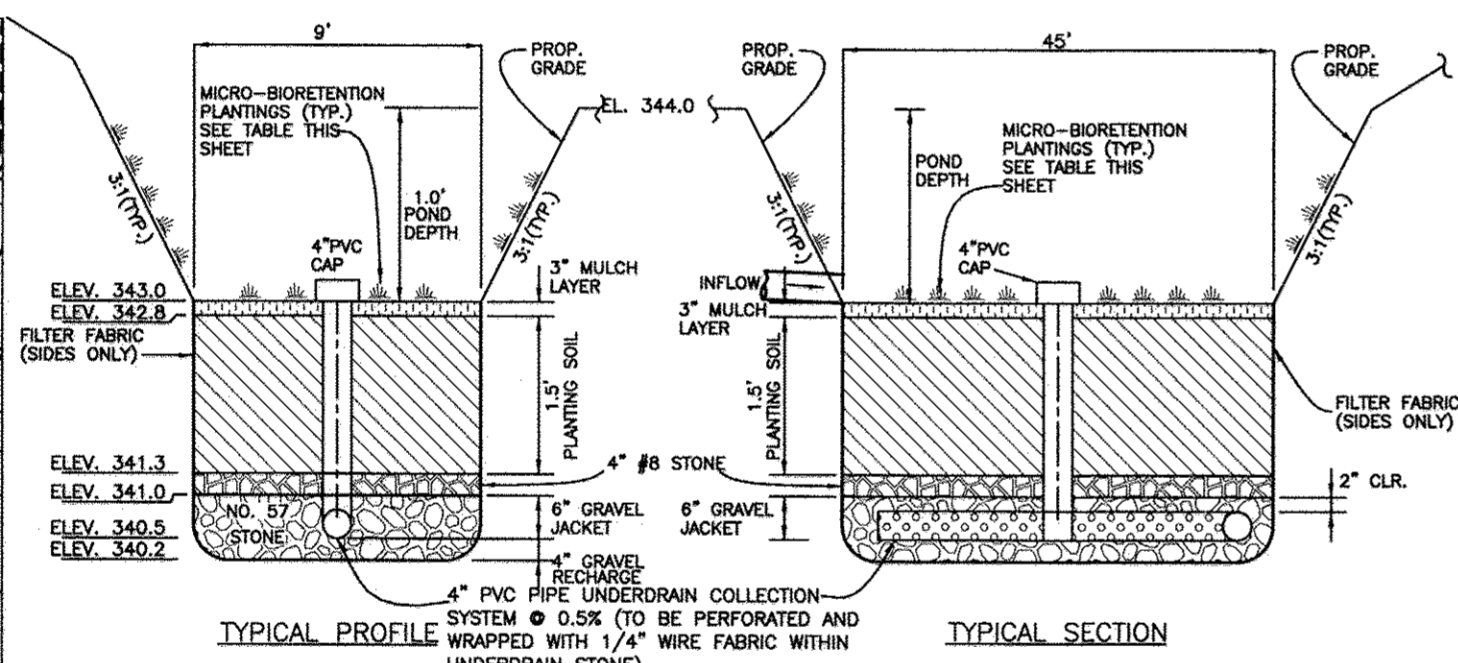


TYPICAL PROFILE TYPICAL SECTION
MICRO-BIORETENTION #7 DETAIL

LOT 7

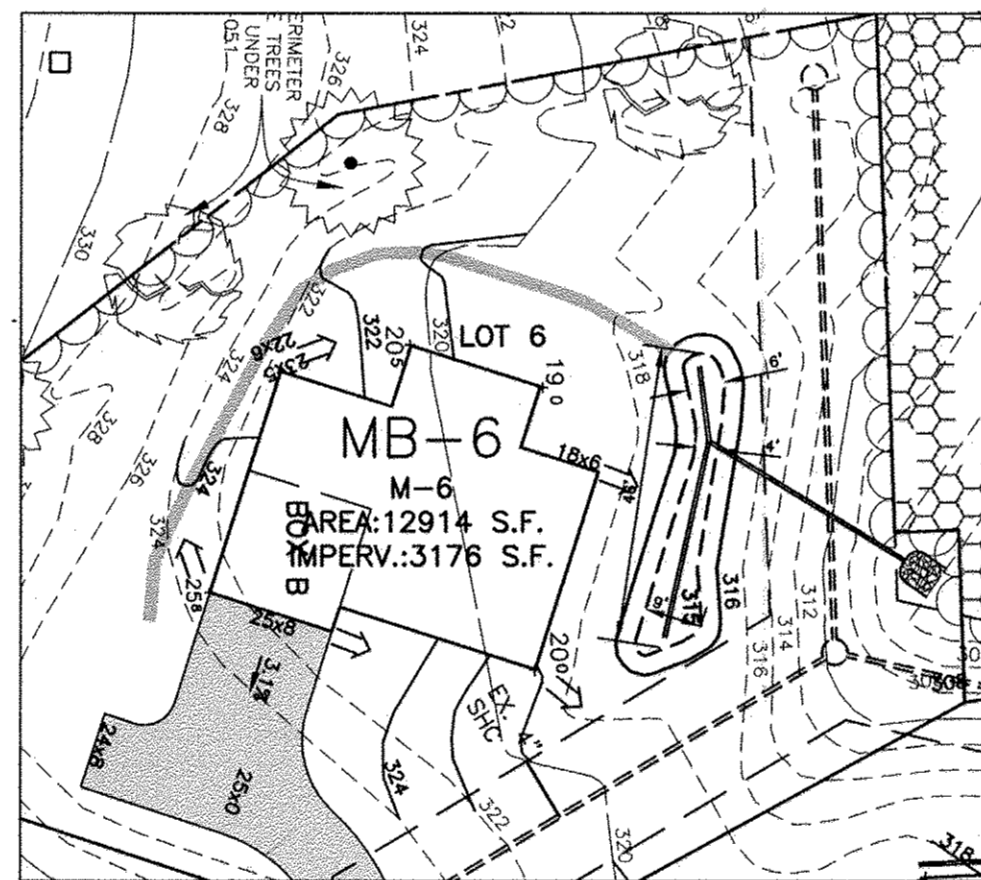


MICRO-BIORETENTION #3 - PLAN VIEW
SCALE: 1" = 30'

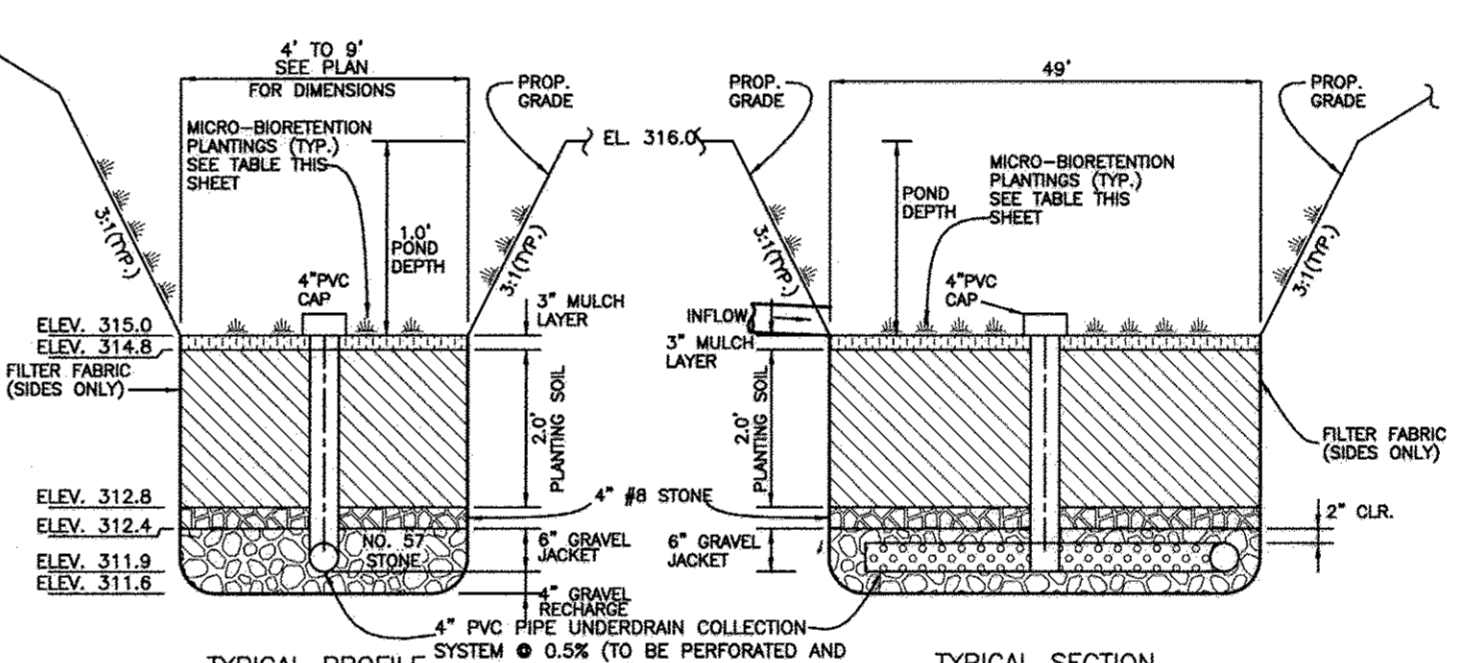


TYPICAL PROFILE TYPICAL SECTION
MICRO-BIORETENTION #3 DETAIL

LOT 3



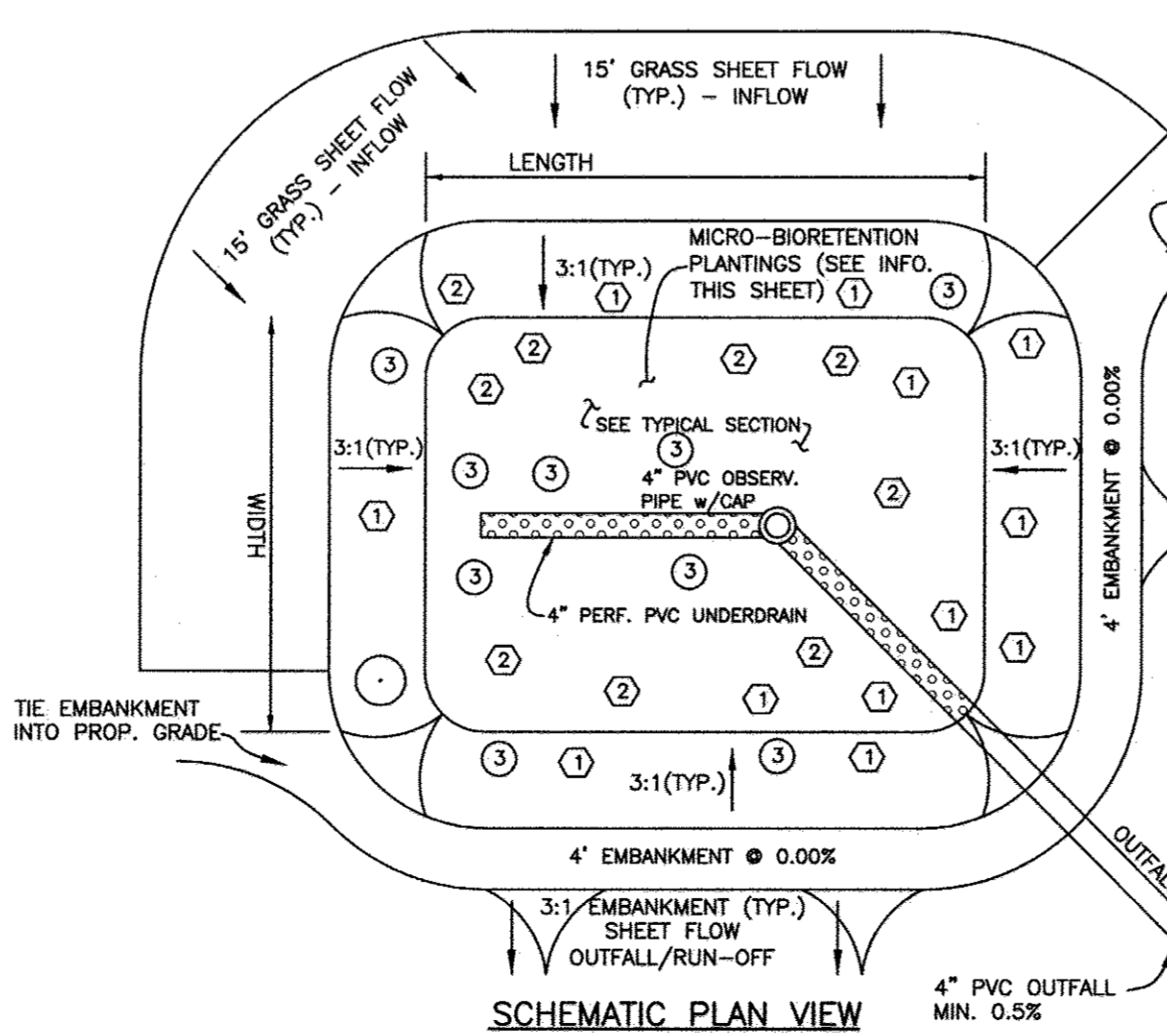
MICRO-BIORETENTION #6 - PLAN VIEW
SCALE: 1" = 30'



TYPICAL PROFILE TYPICAL SECTION
MICRO-BIORETENTION #6 DETAIL

LOT 6

MATERIALS & SPECIFICATIONS FOR MICRO-BIORETENTION			
MATERIAL	SPECIFICATION	SIZE	NOTES:
PLANTINGS	SEE APPENDIX A; TABLE A.4	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL (2.0' TO 4.0' DEEP)	LOAMY SAND 60-65% COMPOST 35-40% OR SANDY LOAM 30% COARSE SAND 30% & COMPOST 40%	N/A	USDA SOIL TYPES; LOAMY SAND OR SANDY LOAM; CLAY CONTENT <5%
ORGANIC CONTENT	MIN 10% BY DRY WEIGHT ASTM D 2974		
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM, NO PINE OR WOOD CHIPS
GEOTEXTILE (CLASS "C")		N/A	PE TYPE 1 NONWOVEN
GEOTEXTILE (1/4" WIRE MESH)		1/4" WIRE MESH	1/4" WIRE MESH
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6 3/8" TO 0.750"	
UNDERDRAIN PIPING	F758, TYPE P228 OR AASHTO M-278	4" TO 6" RIGID SDR35 OR HDPE	3/8" PERFORATED 6" O/C, 4 HOLES PER ROW; MINIMUM 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERNEATH PIPES; PIPE SHALL BE WRAPPED WITH 1/4-INCH GALVANIZED HARDWARE CLOTH
GEOTEXTILE (BELOW IMPERV. LINER)	ASTM-D-4833 (PUNCTURE STRENGTH 125LB) ASTM-D-4832 (TENSILE STRENGTH 300 LB)		



MICRO-BIORETENTION PLANTING SCHEDULE

- 1 IRIS VERSICOLOR - IRIS
- 2 RUDBECKIA SUBSTANTIOSA - SHEET CONEFLOWER
- 3 LOBELIA CARDINALIS - CARDINAL FLOWER
- 4 CALLUNA VULGARIS (HEATHER)
- 5 ACER RUBRUM - RED MAPLE

FACILITY	PLANTING SCHEDULE		
	(1)	(2)	(3)
LOT OWNER OWNED AND MAINTAINED			
MB-1	14	11	11
MB-2	19	14	14
MB-3	17	13	13
MB-4	12	9	9
MB-5	8	6	6
MB-6	12	9	9
MB-7	8	6	6

PLANTING DATA

- PLANTINGS WITHIN THE PONDING AREA OF THE FACILITY ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE
- PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE FACILITY ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE
- AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE FACILITY NEAR OBSERVATION PIPE AND UNDERDRAIN.

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Kate Schindler 3-16-15
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
John Schindler 3-13-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
David M. Long 3/13/15
 DIRECTOR DATE

NO.	DATE	REVISION

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 315 • ELICOTT CITY, MARYLAND 21043
 (P) 410-466-6100 (F) 410-466-6944
 WWW.BE-CMENGINEERING.COM

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 17-15
 I certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 28376, Expiration Date: 1-1-2017.

KINDLER OVERLOOK II	
SINGLE FAMILY LOTS 1 thru 7	
LOCATION:	TAX MAP: 41 GRID: 18 PARCEL: 386 ZONED: R-20 ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND
TITLE:	STORMWATER MANAGEMENT DETAILS
DATE:	FEBRUARY, 2015 BEI PROJECT NO. 1962
SCALE:	AS SHOWN SHEET 4 OF 4