

- GENERAL NOTES:**
1. ZONING: SITE IS BEING DEVELOPED UNDER MD-3 REGULATIONS, PER ZB495M, APPROVED ON 2/10/11 AND ZB-1039M APPROVED 03/20/10 AND THE COMPREHENSIVE ZONING PLAN DATED 02/01/04. UNDERLYING ZONING IS RR-DEO AND THE COMP LITE ZONING REGULATION AMENDMENTS DATED 07/28/06.
 2. THE PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: 5-01-11, 5-06-16, ZB-495M, ZB-1039M, FB-353, FB-378, MP-01-11, MP-03-02, F-05-113, F-06-162, F-06-211, F-07-14, F-07-112, F-07-140, F-07-210, F-08-04, F-08-15, F-08-16, F-08-12, MP-03-120.
 3. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS HAWERS HAVE BEEN APPROVED.
 4. THE CEMETERY INVENTORY MAPS DO NOT SHOW ANY CEMETERIES WITHIN THE PROJECT LIMITS. THE EXISTING CEMETERY ONCE LOCATED ON THE NESEEL PROPERTY WAS RELOCATED UNDER MP-05-12.
 5. THE SCENIC ROADS MAP DOES NOT INDICATE ANY SCENIC ROADS WITHIN OR ADJACENT TO THE PROJECT LIMITS.
 6. THIS PROPERTY WAS BROUGHT INTO THE METROPOLITAN DISTRICT ON APRIL 26, 2011.
 7. THIS AREA OF DEVELOPMENT HAS BOTH PUBLIC AND PRIVATE ROADS, WHICH HAVE BEEN DENOTED ON THE PLAN.
 8. SITE ANALYSIS
GROSS SITE AREA FOR PHASES 1 THROUGH 6C: 360.24 ACRES ±
AREA OF THIS PLAN SUBMISSION: 302.22 ACRES ±
DISTURBED AREA: 51.2 ACRES ±
AREA OF OPEN SPACE: 15.58 ACRES ±
AREA OF 100 YR FLOODPLAIN: 4.70 ACRES ±
AREA OF ROADWAY (PUBLIC): 4.11 ACRES ±
AREA OF ROADWAY (PRIVATE): 0.84 ACRES ±
AREA OF RESIDENTIAL LOTS: 153 ACRES ±
AREA OF OR LOTS/PARCELS: 0.0 ACRES ±
AREA OF STRIP LOTS: 1.53 ACRES ±
TOTAL UNITS (PER 5-06-16 ALLOCATIONS): 160 LOTS
TOTAL NUMBER OF LOTS / PARCELS (THIS PLAN SUBMISSION): 81 LOTS
NO. OF OR LOTS/PARCELS: 0 LOTS
NO. OF STRIP LOTS: 81 LOTS
AREA OF NON-BUILDABLE PARCELS: 15.58 ACRES ±
RECREATIONAL OPEN SPACE REQUIRED FOR THIS PLAN SUBMISSION: 1.36 ACRES ±
RECREATIONAL OPEN SPACE PROVIDED: 1.24 ACRES ±
(SEE CHART-SHEET 2)

- EXCESS OPEN SPACE FROM THIS PHASE WILL BE USED TO FULFILL THE MINIMUM OPEN SPACE REQUIREMENTS FOR FUTURE PHASES.
10. THE 160 UNITS WILL BE BROUGHT INTO THE PROJECT AS FOLLOWS:
12 FROM THE HILLSIDE DISTRICT (P II-027)
61 FROM THE WESTSIDE DISTRICT (P II-001)
81 FROM THE MIDTOWN WEST DISTRICT (P II-002)
 11. SOILS DATA WAS TAKEN FROM THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND ISSUED JULY 1968.
 12. CONTOURS SHOWN WERE TAKEN FROM AERIAL TOPOGRAPHY PREPARED DURING MARCH 1981 BY 301 AND THEN UPDATED BY GRADE CHECKS PERFORMED BY GUTSCHICK, LITTLE & WEBER, P.A. AND BASED ON F-04-12. BOUNDARY INFORMATION SHOWN IS BASED UPON A FIELD SURVEY PREPARED BY GUTSCHICK, LITTLE & WEBER, P.A. ON OR ABOUT JUNE, 2001.
 13. WETLAND DELINEATION WAS DETERMINED BY EXPLORATION RESEARCH, INC. AND APPROVED BY THE CORPS OF ENGINEERS UNDER JCP 63101-3 ON 03/15/06. NOTICE OF INTENT TO ISSUE A PERMIT IS COVERED BY MDE TRACKING #01-11-0344/20065421.
 14. THE 100-YEAR FLOOD PLAIN LIMITS WERE DETERMINED BY THE FLOODPLAIN STUDY PREPARED BY GUTSCHICK, LITTLE & WEBER, P.A. AS PART OF F-02-12. THIS FLOODPLAIN STUDY TAKES THE FLOODPLAIN FROM THE LIMITS SHOWN IN THE EARLIER STUDY AND CONTINUES IT UPSTREAM TO THE LIMIT OF THE PROPERTY.
 15. HORIZONTAL AND VERTICAL DATUM IS BASED ON HOWARD COUNTY STATION 46BC AND 46BD.
 16. EXISTING UTILITIES WERE TAKEN FROM AVAILABLE HOWARD COUNTY RECORDS.
 17. PUBLIC WATER AND SEWER TO BE UTILIZED:
EXISTING WATER CONTRACT NUMBER: 24-4113-D
EXISTING SEWER CONTRACT NUMBER: 24-4113-D, 20-3506
 18. TRAFFIC STUDY WAS PREPARED AND SUBMITTED AS PART OF 5-06-16, WHICH WAS SIGNED BY THE PLANNING BOARD ON 02/20/07.
 19. PERENNIAL STREAM BUFFERS ARE DETERMINED BY LAND USE ADJOINING THE OPEN SPACE (I.E. EMPLOYMENT = 50' BUFFER, RESIDENTIAL = 75' BUFFER). ALL USES ADJOINING AN INTERMITTENT STREAM = 50' BUFFER.
 20. STORMWATER MANAGEMENT, BOTH QUALITY AND QUANTITY, FOR THE DEVELOPMENT PROPOSED BY THESE PLANS WILL BE SATISFIED BY AN EXISTING REGIONAL FACILITY CONSTRUCTED UNDER F-03-90 AND THE FACILITY BEING PROPOSED BY THIS SUBMISSION ON OPEN SPACE LOT 81. THE EXISTING FACILITY AND THE FACILITY ON OPEN SPACE LOT 81 ARE P-2 PONDING WITH EXTENDED DETENTION AND WILL BE PUBLICLY OWNED AND JOINTLY MAINTAINED. THE RECHARGE REQUIREMENTS FOR THIS DEVELOPMENT WILL BE PROVIDED IN A PRIVATELY OWNED AND MAINTAINED FACILITY ON OPEN SPACE LOT 85. THE RECHARGE FACILITY WILL BE AN INFILTRATION TRENCH AND WILL BE PRIVATELY OWNED AND MAINTAINED BY THE MAPLE LAWN FARM HOA. A MICRO BIO-RETENTION FACILITY IS BEING PROVIDED ON OPEN SPACE LOT 86 TO TREAT THE RUNOFF FROM LOTS 66 THRU 74 THAT DOES NOT DRAIN TO THE POND. THIS FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED BY THE MAPLE LAWN FARM HOA.
 21. THE RESIDENTIAL LOTS, PARCELS AND EMPLOYMENT USE STRUCTURES DEVELOPED OR PROPOSED ON THE ORIGINAL 307 ACRE TRACT FOR MAPLE LAWN FARMS ARE GRANDFATHERED TO THE FOURTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AS DEVELOPED UNDER 5-01-11, FB CASE 393 AND ZB CASE NO. 495M. HOWEVER, THE PROPOSED RESIDENTIAL AND EMPLOYMENT USES THAT ARE TO BE DEVELOPED UNDER THE AMENDED CSP 5-06-16 AND ZB CASE NO. 1039M FOR THE FORMER NESEEL AND OLIVER PROPERTIES ARE SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS PER COUNCIL BILL NO. 75-2003.
 22. AS STATED IN THE DECISION AND ORDER FOR THIS PLAN, THE PLANNING BOARD SHALL REVIEW AND APPROVE SITE DEVELOPMENT PLANS FOR ALL SINGLE FAMILY ATTACHED AND MULTI-FAMILY RESIDENTIAL USES, AND ALL EMPLOYMENT AND EMPLOYMENT RELATED USES FOR THE SUBJECT MAPLE LAWN FARMS PROJECT. ALL OF THE IMPROVEMENTS THAT WERE NECESSARY FOR THE MAPLE LAWN FARMS PROJECT TO BE IN COMPLIANCE WITH THE FINDINGS TEST EVALUATION RESTRICTIONS ENUNCIATED BY THE ZONING BOARD ON PAGE 22-23 OF ITS DECISION ON THE PDF HAVE BEEN CONSTRUCTED.
 23. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, OR PLACEMENT OF NEW STRUCTURES IS PERMITTED WITHIN LIMITS OF WETLANDS OR THEIR STREAM BUFFERS, AND 100 YEAR FLOOD PLAIN AREAS, EXCEPT AS PERMITTED UNDER MP-02-54, MP-03-02, AND MP-03-120.
 24. OPEN SPACE LOTS MAY CONTAIN ACTIVE RECREATIONAL FACILITIES AS ALLOWED BY THE APPROVED COMPREHENSIVE DEVELOPMENT CRITERIA.
 25. PHASING FOR THIS PROJECT IS IN ACCORDANCE WITH THE DECISION AND ORDER FOR ZONING BOARD CASE NO. ZB-495M & ZB-1039M AND THE DECISION AND ORDER FOR FB CASE NO. 353 (COMPREHENSIVE SKETCH PLAN, 5-01-11) AND NO. 378 (COMPREHENSIVE SKETCH PLAN, 5-06-16) AND THE DPZ AFFO RE-PHASING LETTER DATED JULY 8, 2008.
 26. DEVELOPMENT FOR THIS PHASE WILL BE DONE IN ACCORDANCE WITH THE COMPREHENSIVE DEVELOPMENT CRITERIA APPROVED WITH 5-01-11, 5-06-16, FB-353, AND FB-378.
 27. THE TRANSPORTATION AND TRANSIT DESIGN WILL BE IMPLEMENTED AS OUTLINED IN THE PETITIONER'S EXHIBIT 55 AS SUBMITTED AS PART OF ZB495M.
 28. A NOISE STUDY WAS PREPARED BY WILKINSON & ASSOCIATES FOR 5-01-11, APPROVED BY PLANNING BOARD ON AUGUST 8, 2001, AND UPDATED BY WILSON T. BALLARD COMPANY IN MAY 2006 FOR 5-06-16 (APPROVED BY PLANNING BOARD ON FEBRUARY 20, 2007).
 29. THE LIMITS OF THIS SUBMISSION DOES NOT INCLUDE MODERATE INCOME HOUSING UNITS.
 30. FOR SOIL TYPES, DESCRIPTIONS AND LIMITATIONS, SEE 5-01-11, AND 5-06-16.

GENERAL NOTES (cont.):

31. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 161022 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS PHASE OF THE PROJECT WILL BE PROVIDED UNDER F-12-24 AND UNDER FUTURE PHASES.
32. THE '15' TREE CONFLICT EASEMENT SHOWN ON THESE PLANS GRANTS PEPCO THE RIGHT TO ENTER THE EASEMENT FOR THE PURPOSE OF CUTTING DOWN TRIMMING, REMOVING AND/OR KEEPING CUT ALL TREES WHICH MAY INTERFERE WITH ANY TOWERS, POLES, STRUCTURES, WIRES, CABLES, CONDUITS OR OTHER IMPROVEMENTS WITHIN THE PEPCO R/W, AS PER LIEN# 2305 FOLIO 33.
33. MINIMUM BUILDING SETBACK RESTRICTIONS FROM PUBLIC ROADS AND PROPERTY LINES WILL BE PROVIDED IN ACCORDANCE WITH THE COMPREHENSIVE DEVELOPMENT CRITERIA APPROVED FOR THIS PROJECT UNDER 5-06-16, FB-378 AND ZB-1039M.
34. CONFLICTS BETWEEN STORM DRAIN AND STREET TREES WILL BE RESOLVED AT FINAL PLAN STAGE.
35. ALL ERECTIONS AND OTHER LANDSCAPING REQUIREMENTS/FEATURES NOT SHOWN ON THIS FINAL PLAN OR F-12-24 WILL BE SHOWN AT THE SITE DEVELOPMENT PLAN STAGE AND WILL BE PROVIDED IN ACCORDANCE WITH THE COMPREHENSIVE SKETCH PLAN CRITERIA.
36. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II. IT WAS DETERMINED THAT THIS PROJECT MET THE CRITERIA OUTLINED IN THE MDE STORMWATER MANAGEMENT REGULATIONS, GUIDANCE FOR IMPLEMENTATION FOR ACCEPTANCE OF THE 2000 DESIGN CRITERIA AND THROUGH THE ADMINISTRATIVE ADJUSTMENT PROCESS, WAS GRANTED A WAIVER. THIS PLAN RECEIVED COMPREHENSIVE SKETCH PLAN APPROVAL (5-06-16) ON JANUARY 25, 2007. THIS PLAN IS ALSO SUBJECT TO THE EXPIRATION OF THIS WAIVER UNLESS ALL OF THE STORMWATER MANAGEMENT IS CONSTRUCTED BY MAY 4, 2011.

- MP-01-11**
ON MAY 2, 2001, MP-01-11 WAS GRANTED FOR THE FOLLOWING:
• ADDITIONAL POINTS OF ACCESS ALLOWED ONTO SANNER ROAD OTHER THAN THOSE PERMITTED BY 16107(F), SUBJECT TO FURTHER ANALYSIS AND APPROVALS AT LATER PLAN STAGES.
• RESIDENTIAL LOTS ARE ALLOWED TO FRONT ON NEIGHBORHOOD PARKS INSTEAD BEING LIMITED FRONTAGE ON PUBLIC R/W'S AS IN 16102(G)(2), SUBJECT TO ADEQUATE PRIVATE ALLEY ACCESS.
- MP-02-54**
ON APRIL 2, 2002, MP-02-54 WAS GRANTED, ALLOWING THE FOLLOWING:
• DEVELOPMENT WITHIN A 100 YEAR FLOODPLAIN, AND
• GRADING AND REMOVAL OF VEGETATIVE COVER WITHIN A 25' WETLAND BUFFER AND A 50' STREAM BUFFER.
THE APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
• THE WAIVER PETITION APPROVAL PERTAINS TO THE LIMITS OF DISTURBANCE TO THE WETLANDS, STREAM CHANNEL, AND FLOODPLAIN AREAS IDENTIFIED WITHIN THE PROPOSED EMPLOYMENT DISTRICT LOCATED IN THE SOUTHEAST PORTION OF PARCEL C-2.
• MDE WATERWAY CONSTRUCTION APPROVAL IS REQUIRED PRIOR TO ROAD PLAN APPROVAL.
• ALL GRADING, CLEARING AND FILLING DISTURBANCES WITHIN THE 100 YEAR FLOODPLAIN, WETLANDS, STREAM CHANNEL AND THEIR REQUIRED BUFFERS ARE SUBJECT TO OBTAINING ALL NECESSARY WATER QUALITY CERTIFICATES, AND PERMITS FROM THE MARYLAND DEPARTMENTS OF THE ENVIRONMENT NATURAL RESOURCES AND THE U.S. ARMY CORPS OF ENGINEERS, AND PRIOR TO COMMENCEMENT OF ANY GRADING DISTURBANCES, REFERENCE THE APPROVED PERMITS, CERTIFICATES OR TRACKING NUMBERS ON ALL FUTURE PLAN AND PERMIT SUBMITTALS.
• THE PHASE I STREAM CHANNEL MITIGATION AND RESTORATION PLAN SHALL BE IMPLEMENTED FOR THIS PROJECT AS PROPOSED AND SHOWN ON THE PETITIONER'S WAIVER PETITION PLAN EXHIBIT 'E'.
- MP-03-02**
ON OCT. 11, 2002, MP-03-02 WAS GRANTED TO ALLOW:
• GRADING WITHIN THE '15' STREAM BUFFER AND FLOODPLAIN AS SHOWN ON THE REVISED GRADING EXHIBIT SUBMITTED 4/6/02 (WAIVER FROM SECTION 16116 (A)(2)(I) AND SECTION 16115 (C)(2) RESPECTIVELY.
• ELIMINATION OF TRUNCATION AT RIGHT-OF-WAY CORNERS OF RESIDENTIAL LOTS AND OTHER PARCEL CORNERS AT RIGHT-OF-WAYS WHERE NECESSARY TO ACHIEVE THE TRADITIONAL NEIGHBORHOOD DESIGN (WAIVER FROM SECTION 16114 (B)(5)).
THE DISTURBANCE WITHIN THE FLOODPLAIN AND STREAM BUFFER IS SUBJECT TO OBTAINING THE NECESSARY PERMITS FROM MDE AND DNR. ELIMINATION OF THE TRUNCATIONS IS SUBJECT TO HAVING ADEQUATE SIGHT AND INTERSECTION DISTANCE AS DETERMINED BY THE DPZ DEVELOPMENT ENGINEERING DIVISION.
- MP-03-120**
ON JULY 24, 2003, MP-03-120 WAS GRANTED FOR THE FOLLOWING:
• INSTALLATION OF A TEMPORARY STREAM CROSSING FOR THE PURPOSE OF EARTH MOVING OPERATIONS.
- MP-05-02**
ON AUGUST 20, 2004, MP-05-02 WAS GRANTED, ALLOWING THE FOLLOWING:
• DEVELOPMENT OR SUBDIVISION IN A CEMETERY (WAIVER FROM SECTION 161304).
• REMOVAL OF HUMAN REMAINS FROM A CEMETERY PRIOR TO DEVELOPMENT (WAIVER FROM SECTION 161306).

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Michael A. ... 3-1-12
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Carl K. Gutschick 3/14/12
Chief, Division of Land Development Date
Michael ... 3/14/12
Chief, Development Engineering Division Date

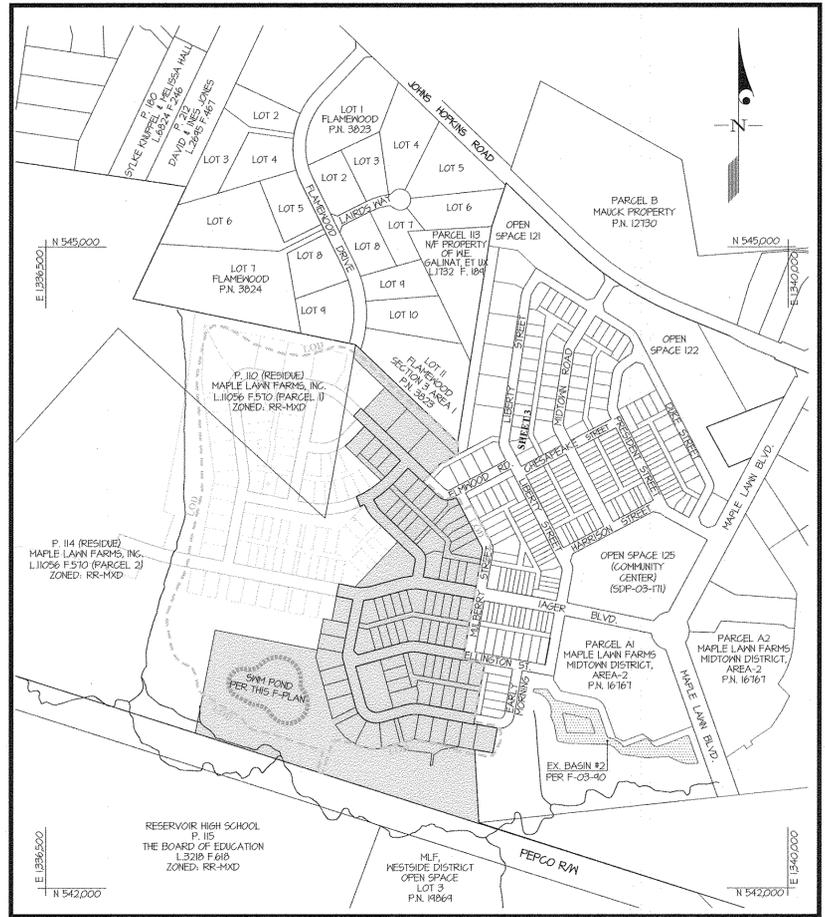
GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3829 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
BURTNSVILLE, MARYLAND 20866
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DES. DEV DRN. KLP CHK. CKG DATE

PREPARED FOR:
C&R DEVELOPMENT, INC.
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

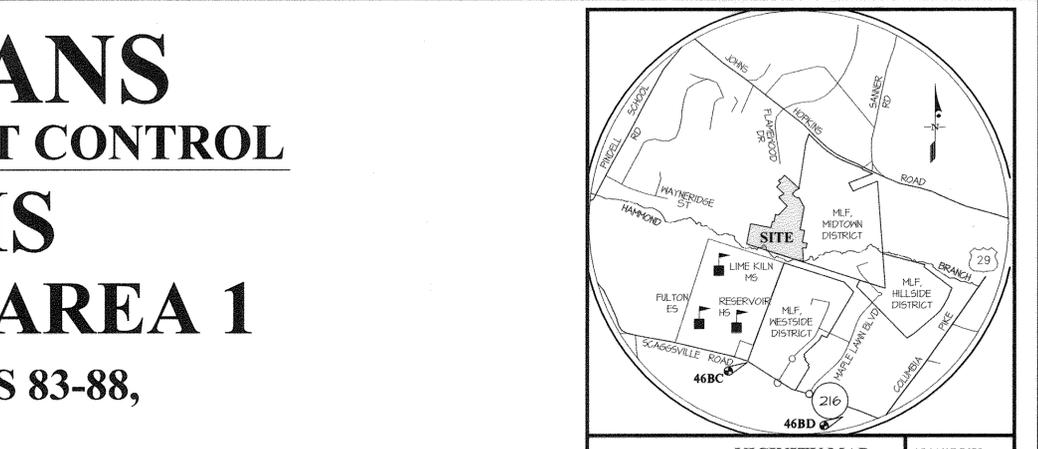
REVISION BY APPR.

LOCATION PLAN
SCALE: 1" = 400'



SHEET INDEX

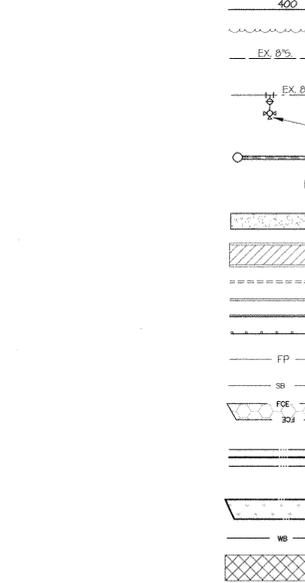
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VICINITY MAP
SCALE: 1" = 2000'

BENCHMARKS
46BC
ELEV. = 472.16
N = 534425.13 E = 1331205.71
STANDARD DISC ON CONCRETE MONUMENT

46BD
ELEV. = 431.17
N = 538656.76 E = 1339461.55
STANDARD DISC ON CONCRETE MONUMENT



LAND USE MAP
SCALE: 1" = 600'

OPEN SPACE LOTS (15.58 AC.) SINGLE FAMILY DETACHED (81.91 AC.)

THIS PLAN SET, F-12-29 (PLAT AND ROAD PLANS) AND F-12-30 (SWM AND SEDIMENT CONTROL) REPRESENT ALL OF THE WORK CALLED FOR ON P-11-02, AND ARE MEANT TO BE REVIEWED AND APPROVED TOGETHER. THE REASON FOR THE DUAL SET OF PLANS IS THE DIFFERENTIAL TIMES FOR DEDICATING THE SWM FACILITIES AND THE REST OF THE PUBLIC IMPROVEMENTS.

PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland License No. 12915, Signature Date: May 26 2018.

Carl K. Gutschick
Professional Engineer
Maryland Reg. No. 12915

COVER SHEET
SCALE AS SHOWN ZONING MXD-3 G. L. W. FILE NO. 09001
DATE June 2016 TAX MAP - GRID SHEET 41-21/46-3 1 OF 20
DEC., 2011

MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 1
LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92

SUMMARY OF DEVELOPMENT CRITERIA (PER S-06-16)

OPEN SPACE (OS)

PERMITTED USES
 ANY USES WHICH DO NOT INVOLVE AN EXTENSIVE COVERAGE OF LAND WITH STRUCTURES, INCLUDING, BUT NOT LIMITED TO, PARKS, PLAYING FIELDS, PLAYGROUNDS, TENNIS, BASKETBALL AND ALL PURPOSE COURTS, GOLF COURSES, POOLS, PATHWAYS, ANY OTHER OUTDOOR RECREATIONAL USES, AND ENVIRONMENTAL FACILITIES SUCH AS STORM WATER MANAGEMENT FACILITIES OR WATER QUALITY FACILITIES. IN ADDITION, BUILDINGS AND PARKING LOTS SHALL BE PERMITTED IF THEY ARE FOR THE PUBLIC OR FOR RESIDENTS AND PEOPLE WORKING WITHIN THE SUBJECT PROPERTY AND ARE OWNED BY A HOMEOWNERS OR BUSINESS OWNERS ASSOCIATION, OR ARE FOR NON-PROFIT USES SUCH AS A SCHOOL, LIBRARY, FIRE AND RESCUE STATION, POST OFFICE, MUSEUM, ART GALLERY, NATURE CENTER, OR COMMUNITY BUILDING. PARKING LOTS ARE PERMITTED ONLY AS AN ACCESSORY USE TO AN APPROVED USE ON THE SAME LOT. OPEN LAND WITHIN DESIGNATED RESIDENTIAL LAND USE AREAS SHALL BE CONSIDERED OPEN SPACE IF IT IS HELD FOR THE COMMON USE OF PERSONS RESIDING IN THE VICINITY OF SUCH LAND.

OTHER PERMITTED USES

- PUBLIC OR PRIVATE CHILD CARE CENTER.
- COMMUNITY CENTER FOR CUSTOMARY COMMUNITY ACTIVITIES INCLUDING BUT NOT LIMITED TO:
 - PRESENTATION AND PERFORMANCE OF OUTDOOR COMMUNITY ACTIVITIES, PUBLIC OR PRIVATE, SUCH AS MUSICAL AND THEATRICAL PERFORMANCES, OUTDOOR PICNICS, ART SHOWS, AND CARNAVALS.
 - RUMAGE SALES, WHITE ELEPHANT SALES, CAKE SALES, DANCES, AND SIMILAR ACTIVITIES.
 - OPERATION OF A COMMUNITY HALL INCLUDING LEASING OF SAME FOR PUBLIC OR PRIVATE USE.
 - OPERATION OF INCIDENTAL COMMERCIAL ACTIVITIES SUCH AS A SNACK BAR.
- PUBLIC OR PRIVATE TENNIS COURTS, TOGETHER WITH SUCH INCIDENTAL COMMERCIAL ACTIVITIES AS ARE CONSISTENT WITH PRIMARY USE OF THE LOT AS A TENNIS FACILITY.
- BUILDINGS AND PARKING LOTS WHICH ARE OWNED AND USED BY ANY GOVERNMENTAL ENTITY OR HOMEOWNERS ASSOCIATION OR ARE USED FOR NON-PROFIT PURPOSES INCLUDING BUT NOT LIMITED TO:
 - COMMUNITY LIBRARY FACILITY
 - TEEN CENTER BUILDING INCLUDING INCIDENTAL SALES ON THE PREMISES OF FOOD AND BEVERAGES
 - BUILDINGS USED PRIMARILY FOR RELIGIOUS ACTIVITIES
 - HALL, MAIL ROOM, POST OFFICE, POOL HOUSE, MEETING HALL, EXERCISE FACILITY, LEASING OFFICES, ADMINISTRATIVE OFFICES, INCLUDING INCIDENTAL SALES ON THE PREMISES OF FOOD AND BEVERAGES
- PARK STRUCTURES INCLUDING BUT NOT LIMITED TO GAZEBOS, PAVILIONS, AMPHITHEATER SEATING, DECKS, FOUNTAINS, WALKS, HARDCAPE PLAZAS, TRAILS, PATIOS, ETC.
- UTILITY FACILITIES
- RECREATIONAL FACILITIES SUCH AS DRAINAGE, STORMWATER MANAGEMENT FACILITIES, WETLAND MITIGATION AFForestation OR REFORESTATION
- ACTIVITY AREAS SUCH AS LOT LOTS, VOLLEYBALL AND MULTI-PURPOSE COURTS, PICNIC AREAS, ETC.
- SIGN AND ENTRY FEATURES MAY BE LOCATED AT ANY LOCATION IN A SETBACK, IF APPROVED BY THE PLANNING BOARD AND DOES NOT INTERFERE WITH SIGHT DISTANCE ALONG PUBLIC ROADS.

LOT AREA

NO MINIMUM MAXIMUM LOT SIZES APPLY WITHIN OPEN SPACE LAND USE AREAS EXCEPT THAT 35% OF THE GROSS ACRES OF ALL RECORDED LAND MUST BE OPEN SPACE AND 10% OF THE OPEN SPACE MUST BE AVAILABLE FOR ACTIVE RECREATION.

SETBACKS

BUILDINGS OR STRUCTURES WITHIN OPEN SPACE LAND USE AREAS SHALL BE A MINIMUM OF 10' FROM ANY RIGHT-OF-WAY OR PROPERTY LINE, EXCEPT THAT PARK LIKE STRUCTURES SUCH AS GAZEBOS, PAVILIONS, DECKS, FOUNTAINS AND SIMILAR STRUCTURES MAY BE LOCATED ANYWHERE WITHIN AN OPEN SPACE LOT. EXCEPT, HOWEVER, THAT BUILDINGS AND STRUCTURES MAY BE PERMITTED ANYWHERE WITHIN OPEN SPACE LAND USE AREAS IN ACCORDANCE WITH A SITE DEVELOPMENT PLAN APPROVED BY THE HOWARD COUNTY PLANNING BOARD.

HEIGHT

THERE SHALL BE NO HEIGHT LIMITATIONS FOR BUILDINGS OR STRUCTURES IN OPEN SPACE LAND USE AREAS PROVIDED IMPROVEMENTS ARE CONSTRUCTED IN ACCORDANCE WITH A SITE DEVELOPMENT PLAN APPROVED BY THE HOWARD COUNTY PLANNING BOARD.

COVERAGE

NO COVERAGE REQUIREMENT IS IMPOSED UPON LOTS WITHIN OPEN SPACE LAND USE AREAS.

PARKING

- HEALTH CLUB 10.0 SPACES PER 1000 SQUARE FEET OF NET LEASABLE AREA
- SHIMMING POOL, COMMUNITY 1.0 SPACE PER SEVEN PERSONS PERMITTED IN THE POOL AT ONE TIME BY THE HEALTH DEPT.
- TENNIS COURT 2.0 SPACES PER COURT

SUCH PARKING AREAS MAY BE IN PARKING LOTS, PARALLEL SPACES LOCATED ON PAVED AREAS IN AND/OR ADJACENT TO PUBLICLY MAINTAINED ROADWAYS, ADJACENT TO PUBLIC OR PRIVATE SERVICE DRIVES OR ORIENTED DIAGONALLY OR AT RIGHT ANGLES TO SUCH ROADWAYS OR SERVICE DRIVES.

REDUCTIONS IN PARKING REQUIREMENTS ARE PERMITTED PURSUANT TO THE HOWARD COUNTY ZONING REGULATIONS SECTIONS 133.D.9 (PARKING STUDIES), AND 133.E.1 (SHARED PARKING).

ACCESSORY USES

ANY USE NORMALLY AND CUSTOMARILY INCIDENTAL TO ANY USE PERMITTED IN ANY LAND USE AREA SHALL BE PERMITTED.

SINGLE FAMILY DETACHED (SFD)

PERMITTED USES

ALL LOTS WITHIN SINGLE FAMILY DETACHED LAND USE AREAS SHALL BE USED ONLY FOR ONE SINGLE FAMILY DETACHED DWELLING, OR ONE ZERO LOT LINE DWELLING UNIT PER LOT. PUBLIC RECREATIONAL FACILITIES, SUCH AS SHIMMING POOLS, TENNIS COURTS AND BASKETBALL COURTS RESERVED FOR THE ON-SITE RESIDENTS AND THEIR GUESTS ARE ALSO PERMITTED. ACCESSORY STRUCTURES AND ACCESSORY USES ARE ALSO PERMITTED.

ANY OF THE PERMITTED USES MAY INCLUDE HOME OCCUPATIONS WITHIN THE PRINCIPAL STRUCTURE.

THE FOLLOWING ADDITIONAL USES NOT REFERRED TO OR INCLUDED IN THE ABOVE USES, WHICH ARE ALLOWED BY SPECIAL EXCEPTION IN THE RR DISTRICT, WILL BE PERMITTED AS A MATTER OF RIGHT IN THE SINGLE FAMILY DETACHED LAND USE AREAS, AND ARE SPECIFICALLY APPROVED BY THE PLANNING BOARD ON THIS ANTIENED COMPREHENSIVE SKETCH PLAN.

- ANTIQUE SHOPS, ART GALLERIES AND CRAFT SHOPS
- BED AND BREAKFAST INNS
- CONCERT OR RECITAL ESTABLISHMENTS
- HOME OCCUPATIONS (ALSO SEE SECTION 126.C.1 FOR ACCESSORY USE PROVISIONS)
- CHARITABLE AND PHILANTHROPIC INSTITUTIONS
- HOMES-NURSING HOMES, GROUP CARE FACILITIES, CHILDRENS HOMES
- ATHLETIC FACILITIES-ATHLETIC FIELDS, COMMERCIAL OR COMMUNITY SHIMMING POOLS, TENNIS CLUBS AND SIMILAR USES
- COUNTRY CLUBS AND GOLF COURSES
- PUBLIC UTILITY USES, LIMITED TO: (A) UTILITY SUBSTATION, (B) ABOVE GROUND PIPELINES, (C) PUMPING STATIONS, (D) TELEPHONE EXCHANGES, (E) OTHER UTILITY DEVICES SUCH AS TRANSFORMERS, SWITCH GEAR, TELEPHONE CABINETS, ETC.
- ENTRANCE FEATURES FOR SUBDIVISIONS
- ACCESSORY DWELLING UNITS (SUCH UNITS SHALL NOT COUNT TOWARDS THE MAXIMUM NUMBER OF DWELLING UNITS, SUCH UNITS SHALL BE OWNED AND MAINTAINED BY THE OWNER OF THE PRINCIPAL DWELLING UNIT, ALSO SEE SECTION 10A).

FOR ALL LOTS AND PARCELS WHICH ARE TECHNICALLY IN THE SFD LAND USE, BUT LATER RECORDED AS ADDITIONAL OPEN SPACE (E.G. NCOS 4 WALKWAY PARCELS) THE PROVISIONS OF THE OPEN SPACE CRITERIA SHALL BE USED IN LIEU OF THE SFD CRITERIA.

DENSITY

AVERAGE DENSITY SHALL NOT EXCEED 2.0 DWELLING UNITS PER GROSS ACRE BASED ON THE ENTIRE AREA OF THE SINGLE FAMILY DETACHED LAND USE.

SUMMARY OF DEVELOPMENT CRITERIA (CONTINUED)

LOT SIZE AND WIDTH

LOT TYPE	MINIMUM LOT SIZE	MIN. LOT WIDTH AT FRONT BLD.
Cottage	2500 Square Feet	32'
Manor	4000 Square Feet	48'
Villa	5000 Square Feet	54'
Estate	20000 Square Feet	120'

*EXCEPT FOR LOTS IDENTIFIED ON A BINDER C/F, WHICH SHALL NOT BE LESS THAN 100' AT FRONT BLD.

LOT TYPE SHALL BE DESIGNATED ON FINAL PLATS FOR ALL SINGLE FAMILY DETACHED AREAS. ESTATE LOTS SHALL BE LOCATED AS SHOWN ON THIS PLAN.

STRUCTURE SETBACKS

THE MINIMUM REQUIRED SETBACKS FOR SINGLE FAMILY DETACHED STRUCTURES SHALL BE AS FOLLOWS:

LOT TYPE	MIN. FRONT SETBACK	MIN. SIDE SETBACK	MINIMUM REAR SETBACK	
			TO PRINCIPAL STRUCTURE	TO REAR GARAGE (ATTACHED OR DETACHED) OR TO ACCESSORY STRUCTURE
Cottage	10'	4' EXCEPT FOR GARAGE WHICH MAY BE 0'	20'	3'
Manor	12'	6' EXCEPT FOR GARAGE WHICH MAY BE 0'	20'	3'
Villa	12'	6' EXCEPT FOR GARAGE WHICH MAY BE 0'	20'	3'
Estate	20'	20' EXCEPT FOR GARAGE WHICH MAY BE 10'	20'	20'

A ZERO LOT LINE DWELLING UNIT MAY BE LOCATED ON ANY PROPERTY LINE WHICH IS NOT A STREET RIGHT-OF-WAY PROVIDED THAT (1) NO PART OF THE DWELLING SHALL ENCRoACH ONTO THE ADJOINING LOT, (2) AN ACCESS EASEMENT FOR THE PURPOSE OF MAINTENANCE TO THE SIDE OF THE STRUCTURE SHALL BE INCLUDED IN THE DEED WHERE APPROPRIATE. SPACING BETWEEN DWELLING UNITS SHALL BE A MINIMUM OF 8'. GARAGES HOWEVER, MAY ADJOIN ALONG THE PROPERTY LINE, PROVIDED THEY COMPLY WITH ALL BUILDING AND FIRE CODE REGULATIONS.

HABITABLE SPACE AND/OR OPEN/ENCLOSED DECKS MAY BE BUILT OVER ATTACHED GARAGES. IN THOSE CASES, THE GARAGE SETBACKS SHALL GOVERN.

OTHER DECKS MUST BE A MINIMUM OF 10' FROM REAR PROPERTY LINE, AND ARE SUBJECT TO SIDE YARD SETBACKS.

FACING ACCESSORY STRUCTURES AND DETACHED GARAGES (ACROSS AN ALLEY/LANE R.O.W.) SHALL BE A MINIMUM OF 30' APART.

STRUCTURES MAY BE LOCATED ANYWHERE WITHIN SUCH SETBACK AREAS IN ACCORDANCE WITH A SITE DEVELOPMENT PLAN APPROVED BY THE HOWARD COUNTY PLANNING BOARD.

EXCEPTIONS TO SETBACK REQUIREMENTS

- EXCEPT FOR THE FOLLOWING, SECTION 126.A.1 APPLIES:
 - POURCHES MAY ENCRoACH INTO THE FRONT YARD TO WITHIN 2' FROM THE FRONT PROPERTY LINE OR RIGHT-OF-WAY FOR COTTAGES, MANORS, AND VILLAS, TO WITHIN 12' FOR ESTATES. PORCHES MAY ENCRoACH INTO THE SIDE YARD OF CORNER LOTS TO WITHIN 2' FROM THE RIGHT-OF-WAY FOR COTTAGES, MANORS, AND VILLAS, TO WITHIN 12' FOR ESTATES. PORCHES MAY ENCRoACH INTO THE REAR YARD OF CORNER LOTS TO WITHIN 2' FROM THE RIGHT-OF-WAY FOR COTTAGES, MANORS, AND VILLAS, TO WITHIN 12' FOR ESTATES. PORCHES MAY ENCRoACH INTO THE FRONT AND SIDE YARDS TO WITHIN 1' FROM THE FRONT PROPERTY LINE.
 - STOOPS AND STEPS MAY ENCRoACH INTO THE FRONT AND SIDE YARDS TO WITHIN 1' FROM THE FRONT PROPERTY LINE.
 - GARDEN WALLS, FENCES, PIERS, GATES AND SIMILAR ORNAMENTS MAY BE BUILT IN THE FRONT AND SIDE YARDS NOT CLOSER THAN 1' FROM THE FRONT PROPERTY LINE, NOT GREATER THAN 40" IN HEIGHT ALONG THE FRONT PROPERTY LINE AND NOT GREATER THAN 12' ALONG THE SIDE AND REAR PROPERTY LINES. AN ARCHWAY OR PIERS DEFINING A LEAD WALK MAY BE UP TO 6'.
 - MASONRY VENEERS MAY ENCRoACH A MAXIMUM OF SIX INCHES INTO ANY REQUIRED SETBACK.

ACCESS

PERMANENT ACCESS TO LOTS MAY BE PROVIDED BY MEANS OF ALLEYS, USING PERPETUAL RECIPROCAL EASEMENTS OR OTHER ACCEPTABLE LEGAL PROVISIONS.

BUILDING HEIGHT

MAXIMUM BUILDING HEIGHT ON ALL LOTS SHALL BE 30' TO THE MIDPOINT OF THE ROOF HEIGHT MEASURED FROM THE HIGHEST ADJOINING GROUND ELEVATION ADJACENT TO THE BUILDING, EXCEPT AS OTHERWISE APPROVED ON A SITE DEVELOPMENT PLAN BY THE HOWARD COUNTY PLANNING BOARD.

COVERAGE

LOT COVERAGE FOR ESTATE LOTS SHALL NOT EXCEED 50 PERCENT, INCLUDING PRINCIPAL AND ACCESSORY STRUCTURES BUT NOT INCLUDING SIDEWALKS, PAVED PARKING AREAS, DRIVEWAYS, PORCHES, STOOPS, STEPS, DECKS, PATIOS, IN-GROUND POOLS, LANDSCAPING AND SIMILAR STRUCTURES.

PARKING

NO LESS THAN TWO PARKING SPACES SHALL BE PROVIDED FOR EACH SINGLE FAMILY DETACHED DWELLING UNIT. NO LESS THAN ONE PARKING SPACE SHALL BE PROVIDED FOR EACH ACCESSORY DWELLING UNIT. SUCH PARKING MAY CONSIST OF GARAGE, DRIVEWAY AND/OR SIMILAR OFF-STREET PARKING SPACES. VISITOR PARKING AND OVERFLOW PARKING MAY BE ACCOMMODATED AS ON-STREET PARKING WITHIN THE PUBLIC RIGHT-OF-WAY.

OTHER RESIDENTIAL (OR)

PERMITTED USES

APARTMENT DWELLINGS (INCLUDING STACKED TOWNHOUSES AND OTHER ARCHITECTURAL LAYOUTS WITH BOTH HORIZONTAL AND VERTICAL PARTY WALLS), SINGLE FAMILY ATTACHED DWELLINGS, LIVE-WORK UNITS, SEMI-DETACHED DWELLINGS AND TWO-FAMILY DWELLINGS SHALL BE PERMITTED WITHIN OTHER RESIDENTIAL LAND USE AREAS. MIDTOWN PARCEL A-1 AND THE OR AREA OF THE RESTSIDE DISTRICT MAY CONTAIN LIVE-WORK UNITS.

STACKED TOWNHOUSES HAVE THE APPEARANCE OF CONVENTIONAL TOWNHOUSES, BUT ARE ACTUALLY SEPARATED BOTH HORIZONTALLY AND VERTICALLY. THE UNITS MAY OR MAY NOT HAVE INTEGRAL AT-GRADE GARAGES.

LIVE-WORK UNITS ARE VERTICALLY INTEGRATED BUILDING TYPES, WHERE THE FIRST FLOOR (AND BASEMENT, IF PROVIDED) SHALL BE UTILIZED AS COMMERCIAL SPACE AND THE UPPER LEVEL(S) SHALL BE RESIDENTIAL USE ONLY.

UPPER FLOORS OF ALL OTHER RESIDENTIAL STRUCTURES SHALL BE RESIDENTIAL USE ONLY.

APARTMENT BUILDING TYPES MAY ALSO INCLUDE ACCESSORY USES, SUPPORT SERVICES, AND AMENITIES INCLUDING BUT NOT LIMITED TO EXERCISE FACILITY, ADMINISTRATIVE OFFICES, MAIL ROOM, MEETING ROOMS, ETC. WITH NO LIMITATIONS IN SIZE. COMMERCIAL/RETAIL SPACE ON THE FIRST FLOOR OF AN APARTMENT BUILDING MAY NOT EXCEED 1200 SQUARE FEET OR 15% OF THE GROSS FIRST FLOOR AREA, WHICHEVER IS GREATER. THIS CRITERIA IS NOT MEANT TO PROHIBIT VERTICALLY INTEGRATED USES WHERE THE FIRST FLOOR IS COMMERCIAL/RETAIL AND THE UPPER FLOORS RESIDENTIAL.

OTHER PERMITTED USES INCLUDE PRIVATE RECREATIONAL FACILITIES SUCH AS LOT LOTS, SHIMMING POOLS, BASKETBALL COURTS AND TENNIS COURTS, RESERVED FOR THE USE OF A SPECIFIC PROJECT'S RESIDENTS AND THEIR GUESTS. SUCH FACILITIES MAY BE LOCATED WITHIN CONDOMINIUM DEVELOPMENTS AS WELL AS WITHIN COMMUNITIES WHERE ALL PROPERTIES ARE INCLUDED WITHIN RECORDED COVENANTS AND LIENS, WHICH GOVERN AND PROVIDE FINANCIAL SUPPORT FOR OPERATIONS OF THE FACILITIES.

ANY OF THE PERMITTED USES MAY INCLUDE HOME OCCUPATIONS WITHIN THE PRINCIPAL STRUCTURE.

ACCESSORY STRUCTURES AND USES ARE ALSO PERMITTED FOR ALL OTHER RESIDENTIAL LAND USE AREAS.

THE FOLLOWING ADDITIONAL USES NOT REFERRED TO OR INCLUDED IN THE ABOVE USES, WHICH ARE ALLOWED BY SPECIAL EXCEPTION IN THE RR DISTRICT, WILL BE PERMITTED AS A MATTER OF RIGHT IN THE OTHER RESIDENTIAL LAND USE AREAS, AND ARE SPECIFICALLY APPROVED BY THE PLANNING BOARD ON THIS ANTIENED COMPREHENSIVE SKETCH PLAN.

- ANTIQUE SHOPS, ART GALLERIES AND CRAFT SHOPS
- BED AND BREAKFAST INNS
- CONCERT OR RECITAL ESTABLISHMENTS
- HOME OCCUPATIONS (ALSO SEE SECTION 126.C.1 FOR ACCESSORY USE PROVISIONS)
- CHARITABLE AND PHILANTHROPIC INSTITUTIONS
- HOMES-NURSING HOMES, GROUP CARE FACILITIES, CHILDRENS HOMES
- ATHLETIC FACILITIES-ATHLETIC FIELDS, COMMERCIAL OR COMMUNITY SHIMMING POOLS, TENNIS CLUBS AND SIMILAR USES
- COUNTRY CLUBS AND GOLF COURSES
- PUBLIC UTILITY USES, LIMITED TO: (A) UTILITY SUBSTATION, (B) ABOVE GROUND PIPELINES, (C) PUMPING STATIONS, (D) TELEPHONE EXCHANGES, (E) OTHER UTILITY DEVICES SUCH AS TRANSFORMERS, SWITCH GEAR, TELEPHONE CABINETS, ETC.
- ENTRANCE FEATURES FOR SUBDIVISIONS
- ACCESSORY DWELLING UNITS (SUCH UNITS SHALL NOT COUNT TOWARDS THE MAXIMUM NUMBER OF DWELLING UNITS, SUCH UNITS SHALL BE OWNED AND MAINTAINED BY THE OWNER OF THE PRINCIPAL DWELLING UNIT, ALSO SEE SECTION 10A).

FOR ALL LOTS AND PARCELS WHICH ARE TECHNICALLY IN THE OR LAND USE, BUT LATER RECORDED AS ADDITIONAL OPEN SPACE (E.G. NCOS 4 WALKWAY PARCELS) THE PROVISIONS OF THE OPEN SPACE CRITERIA SHALL BE USED IN LIEU OF THE OR CRITERIA.

DENSITY

AVERAGE DENSITY SHALL NOT EXCEED 4.0 UNITS PER GROSS ACRE BASED ON THE ENTIRE AREA OF OTHER RESIDENTIAL LAND USE.

LOT SIZE

NO MINIMUM OR MAXIMUM LOT SIZE IS ESTABLISHED FOR THE OTHER RESIDENTIAL LAND USE AREAS.

SUMMARY OF DEVELOPMENT CRITERIA (CONTINUED)

STRUCTURE SETBACKS

THE MINIMUM REQUIRED SETBACKS FOR OTHER RESIDENTIAL STRUCTURES SHALL BE AS FOLLOWS:

LOT TYPE	MIN. FRONT SETBACK	MIN. SIDE SETBACK	MINIMUM REAR SETBACK	
			TO PRINCIPAL STRUCTURE	TO REAR GARAGE (ATTACHED OR DETACHED) OR TO ACCESSORY STRUCTURE
SINGLE FAMILY ATTACHED	0'	0'	20'	3'
LIVE-WORK	0'	0'	20'	3'
SEMI-DETACHED	10'	4' EXCEPT FOR GARAGE WHICH MAY BE 0'	20'	3'
TWO-FAMILY	10'	4' EXCEPT FOR GARAGE WHICH MAY BE 0'	20'	3'
APARTMENT	10'	4' EXCEPT FOR GARAGE WHICH MAY BE 0'	20'	3'

HABITABLE SPACE AND/OR OPEN/ENCLOSED DECKS MAY BE BUILT OVER ATTACHED GARAGES. IN THOSE CASES, THE GARAGE SETBACKS SHALL GOVERN WHERE THE REAR LOT LINE IS CONTIGUOUS TO GREEN OPEN SPACE, THE REAR PRINCIPAL STRUCTURE SETBACK MAY BE REDUCED TO 10' AND THE REAR SETBACK FOR DECKS MAY BE REDUCED TO 5'.

OTHER DECKS MUST BE A MINIMUM OF 10' FROM REAR PROPERTY LINE, AND ARE SUBJECT TO SIDE YARD SETBACKS.

FACING ACCESSORY STRUCTURES AND DETACHED GARAGES (ACROSS AN ALLEY/LANE R.O.W.) SHALL BE A MINIMUM OF 30' APART.

BETWEEN APARTMENT BUILDINGS, THE MINIMUM SETBACK DISTANCES SHALL BE 30' FRONT TO FRONT, 50' BACK TO BACK, 50' FRONT TO BACK AND 15' FOR ALL OTHER CONDITIONS. BETWEEN SINGLE-FAMILY ATTACHED BUILDINGS, THE MINIMUM SETBACK DISTANCES SHALL BE 30' FRONT TO FRONT, 50' BACK TO BACK (EXCEPT ACROSS AN ALLEY), 50' BACK TO FRONT AND 6' (OR AS REQUIRED BY THE BUILDING CODE) FOR ALL OTHER CONDITIONS.

IN THE HILLSIDE DISTRICT, THE FRONT AND SIDE SETBACKS FROM MAPLE LAWN BLVD. MAY BE REDUCED TO 5'. ON PARCEL A-1 IN MIDTOWN, THE FRONT SETBACK FOR APARTMENTS, ALONG MAPLE LAWN BLVD. MAY BE REDUCED TO 10'.

STRUCTURES MAY BE LOCATED ANYWHERE WITHIN SUCH SETBACK AREAS IN ACCORDANCE WITH A SITE DEVELOPMENT PLAN APPROVED BY THE HOWARD COUNTY PLANNING BOARD.

EXCEPTIONS TO SETBACK REQUIREMENTS

- EXCEPT FOR THE FOLLOWING, SECTION 126.A.1 APPLIES:
 - POURCHES MAY ENCRoACH INTO THE FRONT YARD TO WITHIN 2' FROM THE FRONT PROPERTY LINE OR RIGHT-OF-WAY FOR ALL OTHER RESIDENTIAL LOT TYPES.
 - STOOPS AND STEPS MAY ENCRoACH INTO THE FRONT YARD TO WITHIN 1' FROM THE FRONT PROPERTY LINE.
 - GARDEN WALLS, FENCES, PIERS, GATES AND SIMILAR ORNAMENTS MAY BE BUILT IN THE FRONT AND SIDE YARDS NOT CLOSER THAN 1' FROM THE FRONT PROPERTY LINE, NOT GREATER THAN 40" IN HEIGHT ALONG THE FRONT PROPERTY LINE AND NOT GREATER THAN 12' ALONG THE SIDE AND REAR PROPERTY LINES. AN ARCHWAY OR PIERS DEFINING A LEAD WALK MAY BE UP TO 6'.
 - MASONRY VENEERS MAY ENCRoACH A MAXIMUM OF 6" INTO ANY REQUIRED SETBACK AREA.

ACCESS

PERMANENT ACCESS TO LOTS MAY BE PROVIDED BY MEANS OF ALLEYS, USING PERPETUAL RECIPROCAL EASEMENTS OR OTHER ACCEPTABLE LEGAL PROVISIONS.

BUILDING HEIGHT

MAXIMUM BUILDING HEIGHT IN THE OTHER RESIDENTIAL LAND USE AREAS SHALL BE 50' FOR ATTACHED, SEMI-DETACHED AND TWO-FAMILY DWELLING UNITS, AND 60' FOR LIVE-WORK UNITS AND APARTMENTS. IN EACH CASE TO THE MIDPOINT OF THE ROOF HEIGHT MEASURED FROM THE HIGHEST ADJOINING GROUND ELEVATION ADJACENT TO THE BUILDING, EXCEPT AS OTHERWISE APPROVED ON A SITE DEVELOPMENT PLAN BY THE HOWARD COUNTY PLANNING BOARD.

COVERAGE

NO COVERAGE REQUIREMENTS ARE IMPOSED IN OTHER RESIDENTIAL LAND USE AREAS.

PARKING

NO LESS THAN TWO PARKING SPACES SHALL BE PROVIDED FOR EACH SINGLE FAMILY ATTACHED, LIVE-WORK, SEMI-DETACHED, AND TWO-FAMILY DWELLING UNIT. NO LESS THAN ONE AND ONE-HALF PARKING SPACES SHALL BE PROVIDED FOR EACH APARTMENT UNIT. SUCH SPACES MAY CONSIST OF GARAGE, DRIVEWAY AND/OR SIMILAR OFF-STREET PARKING SPACES. NO LESS THAN ONE PARKING SPACE SHALL BE PROVIDED FOR EACH ACCESSORY DWELLING UNIT. SUCH PARKING SHALL BE PROVIDED IN PROXIMITY TO SUCH DWELLING UNIT AND MAY BE INCLUDED AS PART OF A COMMON PARKING AREA PROVIDED FOR RESIDENTS, TENANTS AND GUESTS. PRINCIPAL STRUCTURES SHALL BE NO CLOSER THAN 15' TO THE CURB OF COMMON PARKING AREAS WITH HEAD-IN OR ANGLED PARKING, AND NO CLOSER THAN 10' TO THE CURB FOR PARALLEL PARKING, UNLESS SUFFICIENT LANDSCAPING IS PROVIDED TO JUSTIFY A REDUCTION IN THE SETBACK. PER THE HOWARD COUNTY LANDSCAPE MANUAL, LIVE-WORK UNITS ARE EXEMPT FROM THIS SETBACK REQUIREMENT. VISITOR PARKING AND OVERFLOW PARKING MAY ALSO BE ACCOMMODATED AS ON STREET AND PARALLEL PARKING WITHIN THE PUBLIC RIGHT-OF-WAY.

SUCH PARKING AREAS MAY BE PARALLEL SPACES LOCATED ON PAVED AREAS IN AND/OR ADJACENT TO PUBLICLY MAINTAINED ROADWAYS, ADJACENT TO PUBLIC OR PRIVATE SERVICE DRIVES OR ORIENTED DIAGONALLY OR AT RIGHT ANGLES TO SUCH ROADWAYS OR SERVICE DRIVES.

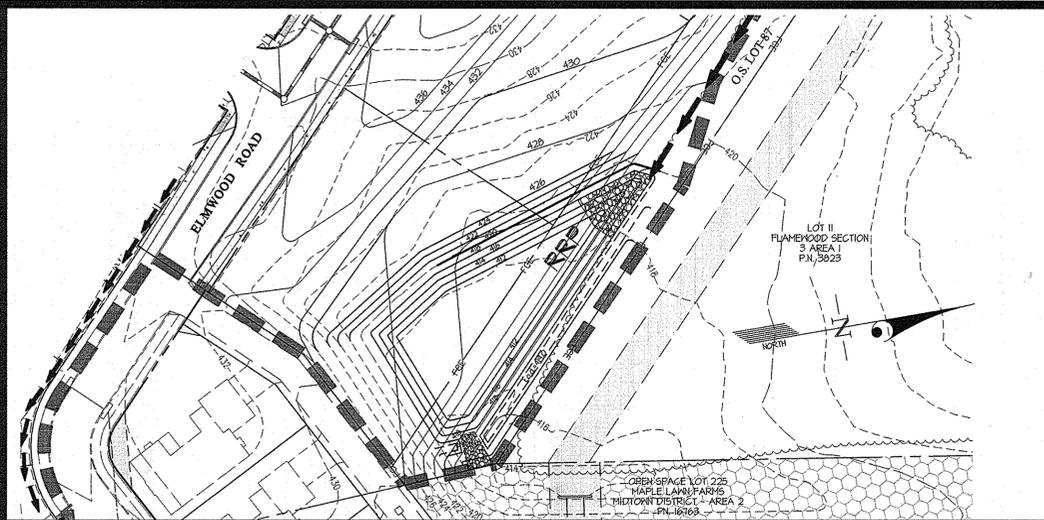
REDUCTIONS IN PARKING REQUIREMENTS ARE PERMITTED PURSUANT TO THE HOWARD COUNTY ZONING REGULATIONS SECTION 133.E.1 (SHARED PARKING).

HOUSING FOR ELDERLY AND/OR HANDICAPPED PERSONS

IN THE EVENT A FACILITY QUALIFIES UNDER FEDERAL, STATE OR COUNTY PROGRAMS INTENDED TO PROMOTE HOUSING FOR THE ELDERLY OR HANDICAPPED, THE PARKING REQUIREMENTS MAY BE MODIFIED TO PROVIDE FOR FOUR PARKING SPACES FOR EVERY TEN DWELLING UNITS PARTICIPATING IN SUCH PROGRAM. IN THE EVENT THE UNITS ARE WITHDRAWN FROM SUCH A HOUSING PROGRAM, THE OWNER OF THE FACILITY SHALL IMMEDIATELY NOTIFY THE DEPARTMENT OF PLANNING AND ZONING AND SHALL CONSTRUCT, PRIOR TO FURTHER OCCUPANCY OF THE WITHDRAWN UNITS, SUCH ADDITIONAL PARKING SPACES AS ARE NECESSARY TO PROVIDE ONE AND ONE-HALF PARKING SPACE FOR EACH DWELLING UNIT WITHDRAWN.

OVERALL TRACKING CHART

PHASE NO.	FILE REF. NO.	GROSS ACREAGE	NON-BUILDABLE					SFD, AC. (%)	OR, AC. (%)	EMP, AC. (%)	O.S. AC. (%)	RUB. RD.			PRIV. RD. ACREAGE	SFD UNITS	OR UNITS (APT./S.F.A.)	SFD DENSITY	OR DENSITY	BHP BLDG. AREA	BHP F.A.R.			
			SF	OR	EMP	O.S.	%					SF	OR	BHP										
1	F-09-01	5.48	0.00	0.00	0.00	0.00	(0.0)																	
2	F-09-40	31.43	0.52	0.43	0.24	0.00	(3.2)	10.84	(24.0)	8.04	(21.6)	1.56	(4.2)	3.72	3.74	1.56	1.68	55	65	5.1/AC.	8.0/AC.			
3	F-04-12	58.80	-0.52	-0.43	2.71	0.00	(3.0)	7.11	(12.1)	12.28	(20.9)	4.80	(25.2)	22.85	(38.4)	2.52	0.46	0.00	100	41	5.8/AC.	6.4/AC.		
4a	F-05-81 / F-05-82	15.41	0.00	1.48	-1.64	0.00	(-1.4)	0.00	(0.0)	7.24	(47.1)	1.64	(10.9)	6.70	(43.3)	0.00	3.40	1.64			5.1/AC.	6.4/AC.		
4b	F-05-84 / F-07-06	31.2	0.00	0.00	-1.26	0.00	(-4.0)	0.00	(0.0)	0.00	(0.0)	3.15	(10.1)	1.28	(4.1)	0.00	0.00	2.04						
4c	F-05-112 / F-05-113	30.00	0.00	0.00	0.00	0.00	(0.0)	0.00	(0.0)	0.85	(2.8)	2.05	(6.8)	0.00	(0.0)	0.85	2.05							
5a	F-06-43	0.00	0.00	-1.25	0.00	0.00	(0.0)	0.00	(0.0)	1.25	(0.0)	0.00	(0.0)	0.00	(0.0)	0.00	0.00							
5b	F-06-161	33.26	0.00	-0.23	0.00	0.00	(-0.1)	1.13	(23.2)	7.26	(21.8)	0.00	(0.0)	16.50	(55.6)	2.22	3.16	0.00	0.88	41	63	5.3/AC.	8.1/AC.	
5c	F-09-12	85.06	0.00	0.00	0.00	0.00	(0.0)	0.00	(0.0)	9.55	(63.5)	0.00	(0.0)	5.50	(36.5)	0.00	0.80							



INITIAL GRADING FOR SEDIMENT TRAP SCALE: 1" = 50'

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT AND ARRANGE FOR AN ON-SITE PRE-CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR. (1 DAY)
- CONTRACTOR IS TO INSPECT THE EXISTING SEDIMENT BASIN IN OPEN SPACE LOT 225, CONSTRUCTED UNDER F 03-40 AND MAKE THE NECESSARY REPAIR TO THE FACILITY. (2 WEEKS)
- WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, INSTALL STABILIZED CONSTRUCTION ENTRANCES, SILT FENCE, AND SUPER SILT FENCE. (2 WEEKS)
- BEGIN CONSTRUCTION OF THE SEDIMENT BASIN. (1 MONTH)
- ONCE THE FILL FOR THE SEDIMENT BASIN REACHES THE TOP OF DAM, INSTALL THE EARTH DIKES BEGINNING AT THE DOWNSTREAM END. INSTALL THE EARTH DIKES AS SHOWN IN ORDER TO PROVIDE POSITIVE DRAINAGE TO THE BASIN. THE CONTRACTOR MUST CONTINUE TO PROVIDE POSITIVE DRAINAGE ALONG THE DIKES AS THE FILL CONTINUES AND THE EARTH DIKES ARE RELOCATED.
- ONCE PERMISSION HAS BEEN GRANTED BY THE SEDIMENT CONTROL INSPECTOR, BEGIN MASS GRADINGS. THE CONTRACTOR MUST IMPLEMENT DUST CONTROL MEASURES PER SPECIFICATIONS ON SHEET 10 AS REQUESTED BY THE SEDIMENT CONTROL INSPECTOR. IN THE SOUTHWEST CORNER OF THE DISTURBED AREA, THE CONTRACTOR IS TO PERFORM THE PHASE 1 GRADING AS SHOWN ON SHEET 6. ONCE COMPLETED, THE SUPER SILT FENCE IS TO BE INSTALLED ALONG THE NEW TOE OF SLOPE AND A TYPE A-2 CLEAN WATER DIVERSION ACROSS THE TOP TO ALLOW FOR THE PHASE 2 GRADING AS SHOWN ON SHEET 10. A PIPE SLOPE DRAIN MUST BE INSTALLED AT THE LOCATION SHOWN ON THESE PLANS TO SAFELY CONVEY THE RUNOFF PICKED UP BY THE CLEANWATER DIVERSION TO THE SEDIMENT BASIN. (2 MONTHS)
- INSTALL THE STORM DRAINS PER F 12-24 AND THE WATER AND SEWER PER CONT. #24-4102-D AND CONT. #24-4104-D. ALL STORM DRAINS ARE TO REMAIN OPEN SO THAT ALL RUNOFF CAN BE DIRECTED TO THE SEDIMENT BASIN. (3 MONTHS)
- INSTALL THE CURB AND GUTTER, SIDEWALKS, AND BASE PAVING. (2 MONTHS)
- FINE GRADE SITE AND STABILIZE DISTURBED AREAS. (1 MONTH)
- ONCE PERMISSION HAS BEEN OBTAINED FROM THE SEDIMENT CONTROL INSPECTOR, DEVICES MAY BE REMOVED. IMMEDIATELY STABILIZE ANY DISTURBANCE DUE TO THEIR REMOVAL. (1 MONTH)
- WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, FLUSH THE STORM DRAIN SYSTEM. (1 WEEK)
- THE CONTRACTOR SHALL REMOVE ALL NON-NATURAL ITEMS (DEBRIS AND JUNK) FROM ALL SENSITIVE AREAS (FLOODPLAINS, FOREST, STREAMS, WETLANDS AND BUFFERS) ON THE SITE AND STABILIZE. (1 MONTH) WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CERTAIN ITEMS MAY BE PERFORMED CONCURRENTLY.

SEDIMENT CONTROL DESIGN INFORMATION	SEDIMENT BASIN	SEDIMENT TRAP #1
TYPE OF TRAP / BASIN	---	STONE OUTLET (ST 1)
PRE-DEVELOPMENT DRAINAGE AREA	40.2 ACRES	8.2 ACRES
POST-DEVELOPMENT DRAINAGE AREA	40.2 ACRES	2.5 ACRES
TOTAL STORAGE REQUIRED (NET & DRY VOLUME)	144,720 C.F.	21,520 C.F.
TOTAL STORAGE REQUIRED (NET VOLUME & 1 YR. TSM-1)	243,428 C.F.	N/A (I)
TOTAL STORAGE PROVIDED	250,412 C.F.	42,056 C.F.
RISER DIMENSIONS	10' x 5'	N/A
BARREL SIZE	54"	N/A
TOP OF EMBANKMENT ELEVATION	400.00	418.00
NER CREST ELEVATION	---	417.50
RISER CREST LENGTH	30'	10'
RISER CREST ELEVATION	396.50	---
OUTLET ELEVATION (LIMIT OF NET VOLUME)	342.75	415.20
CLEANOUT ELEVATION	391.60	415.60
BOTTOM ELEVATION	340.40	412.00
BOTTOM DIMENSIONS	VARIABLES	VARIABLES
PRE-DEVELOPMENT 1 YEAR DISCHARGE	2.64 CFS	N/A (I)
POST-DEVELOPMENT 1 YEAR DISCHARGE (UNMANAGED)	71.01 CFS	N/A (I)
POST-DEVELOPMENT 1 YEAR DISCHARGE (MANAGED)	2.31 CFS @ 396.28	N/A (I)
NET VOLUME REQUIRED	12,360 C.F.	14,760 C.F.
NET VOLUME PROVIDED	78,944 C.F. @ 392.75	21,520 C.F. @ 415.20
DRY VOLUME REQUIRED	12,360 C.F.	14,760 C.F.
DRY VOLUME PROVIDED	171,568 C.F. @ 396.28	20,551 C.F. @ 411.50

(I) TEMPORARY STORMWATER MANAGEMENT FOR THE AREA DRAINING TO THE TRAP WILL BE PROVIDED AT THE EXISTING SEDIMENT BASIN CONSTRUCTED UNDER F 03-40.

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John K. Robertson 5/6/14
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

W. R. M. M. C. 5-8-14
Chief, Bureau of Highways DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kevin Schindler 5-16-14
Chief, Division of Land Development DATE

Chad Elmer 5-15-14
Chief, Development Engineering Division DATE

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

DES. DEV	DRN. KLP	CHK. CKG
DATE	REVISION	BY APPR.

BUILDER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

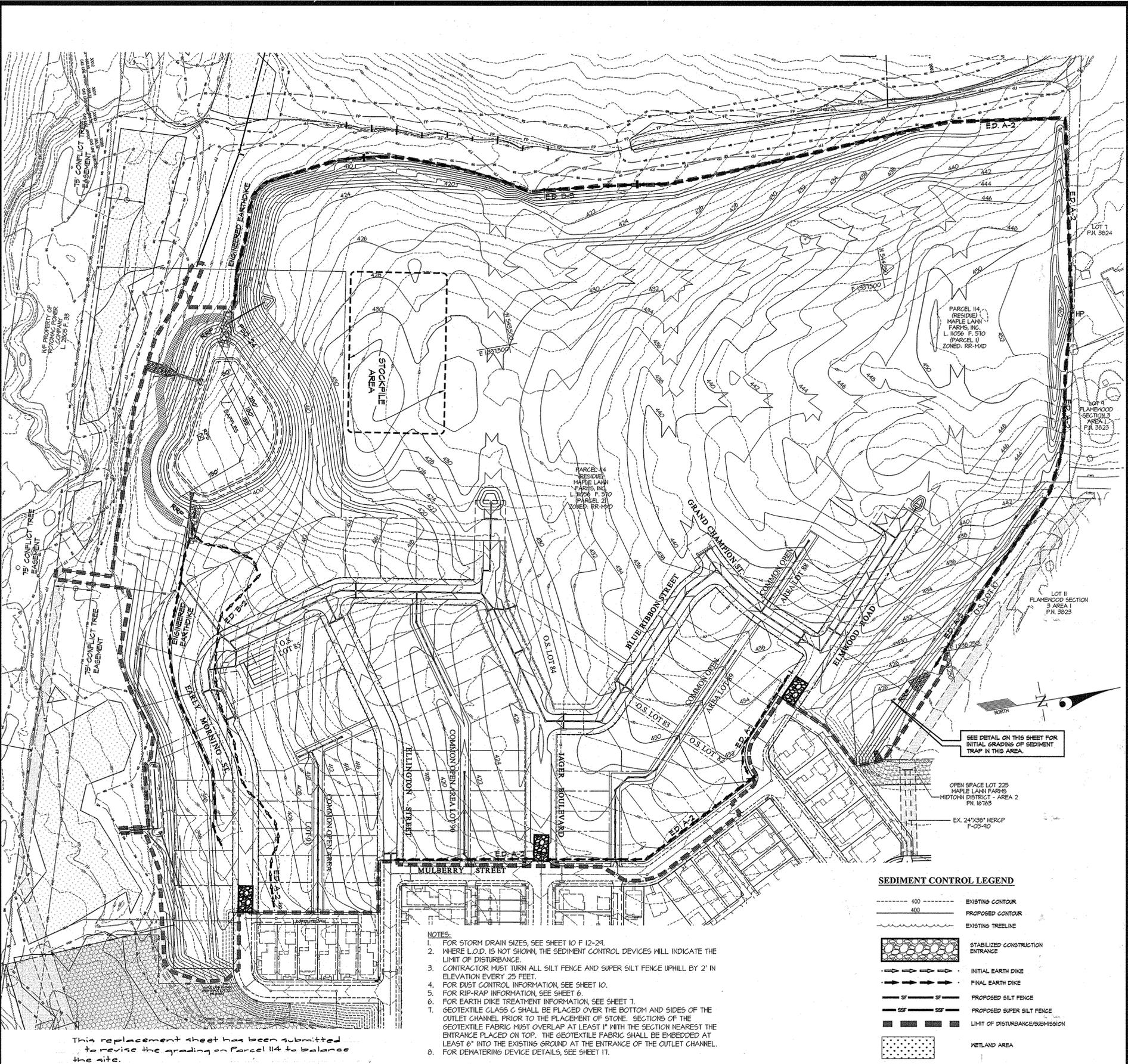
M. B. H. V. B. C. 4/23/14
SIGNATURE OF DEVELOPER/BUILDER DATE

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

CKG 4/21/14
ENGINEER'S SIGNATURE DATE

04-18-14	REPLACEMENT SHEET - THIS SHEET SUPERCEDES PLAN SIGNED 03-14-2012	DEV



This replacement sheet has been submitted to revise the grading on Parcel 114 to balance the site.

- NOTES:
- FOR STORM DRAIN SIZES, SEE SHEET 10 F 12-24.
 - WHERE L.O.D. IS NOT SHOWN, THE SEDIMENT CONTROL DEVICES WILL INDICATE THE LIMIT OF DISTURBANCE.
 - CONTRACTOR MUST TURN ALL SILT FENCE AND SUPER SILT FENCE UPHILL BY 2' IN ELEVATION EVERY 25 FEET.
 - FOR DUST CONTROL INFORMATION, SEE SHEET 10.
 - FOR RIP-RAP INFORMATION, SEE SHEET 6.
 - FOR EARTH DIKE TREATMENT INFORMATION, SEE SHEET 7.
- GEOTEXTILE CLASS C SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE OUTLET CHANNEL PRIOR TO THE PLACEMENT OF STONE. SECTIONS OF THE GEOTEXTILE FABRIC MUST OVERLAP AT LEAST 1" WITH THE SECTION NEAREST THE ENTRANCE PLACED ON TOP. THE GEOTEXTILE FABRIC SHALL BE EMBEDDED AT LEAST 6" INTO THE EXISTING GROUND AT THE ENTRANCE OF THE OUTLET CHANNEL.
 - FOR DEMATERING DEVICE DETAILS, SEE SHEET 11.

SEDIMENT CONTROL LEGEND

---	EXISTING CONTOUR
---	PROPOSED CONTOUR
---	EXISTING TREELINE
[Pattern]	STABILIZED CONSTRUCTION ENTRANCE
[Pattern]	INITIAL EARTH DIKE
[Pattern]	FINAL EARTH DIKE
[Pattern]	PROPOSED SILT FENCE
[Pattern]	PROPOSED SUPER SILT FENCE
[Pattern]	LIMIT OF DISTURBANCE/SUBMISSION
[Pattern]	WETLAND AREA

<p>PREPARED FOR:</p> <p>G&R DEVELOPMENT, INC. SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD BALTIMORE, MD 21208 ATTN: MARK BENNETT 410-484-8400</p>	<p>PROFESSIONAL CERTIFICATION</p> <p>I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. J2975.</p> <p>EXPIRATION DATE: MAY 28, 2016</p> <p>4/21/14</p>	<p>Revised OVERALL SEDIMENT CONTROL PLAN</p> <p>MAPLE LAWN FARMS MIDTOWN WEST DISTRICT AREA 1 LOTS 1-9, 17-49, 53-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92</p>	<p>SCALE</p> <p>1" = 100'</p>	<p>ZONING</p> <p>MXD-3</p>	<p>G. L. W. FILE NO.</p> <p>09001</p>
<p>DATE</p> <p>APRIL, 2014</p>	<p>REVISION</p>	<p>DATE</p> <p>APRIL, 2014</p>	<p>TAX MAP - GRID</p> <p>41-21/46-3</p>	<p>SHEET</p> <p>3 OF 20</p>	<p>ELECTION DISTRICT No. 5</p> <p>HOWARD COUNTY, MARYLAND</p>

STORMWATER MANAGEMENT SUMMARY FOR FACILITY ON OPEN SPACE LOT 87

DRAINAGE AREA = 40.24 AC. OR 0.09280 SQ. MILES

PRE-DEVELOPMENT
CURVE NUMBER = 54 TIME OF CONCENTRATION = 0.27 HOURS

POST-DEVELOPMENT
CURVE NUMBER = 82 TIME OF CONCENTRATION = 0.31 HOURS

WATER QUALITY VOLUME REQUIRED: 54,242 C.F. PROVIDED: 61,954 C.F.
 RECHARGE VOLUME REQUIRED: 20,804 C.F. PROVIDED: SEE NOTE 4 BELOW
 CHANNEL PROTECTION VOLUME REQUIRED: 100,824 C.F. PROVIDED: 123,275 C.F. @ 345.85
 1 YEAR DISCHARGE = 115 C.F.S.
 100 YEAR DISCHARGE = 161.84 C.F.S.

- NOTES:**
- THE FACILITY WILL BE PUBLICLY OWNED AND MAINTAINED. OPEN SPACE LOT 87 WILL BE CONVEYED TO THE COUNTY.
 - THE FACILITY WILL BE A P-3 NET POND WITH EXTENDED DETENTION.
 - THE FACILITY HAS AN 'A' POND CLASSIFICATION.
 - THE STORAGE WILL BE PROVIDED IN AN INFILTRATION TRENCH TYPE FACILITY ON OPEN SPACE LOT 85. THE FACILITY WILL SATISFY THE STORAGE REQUIREMENTS FOR THE AREA SHOWN ON THESE PLANS AS WELL AS THE STORAGE REQUIREMENTS FOR FUTURE AREAS DRAINING TO THE POND ON OPEN SPACE LOT 87.

POND SUMMARY			
	BEFORE	UNMANAGED	MANAGED
	FINAL SPM @ POND		
1 YR	264 C.F.S.	4552 C.F.S.	115 C.F.S. @ 345.55
10 YR	50.29 C.F.S.	184.70 C.F.S.	82.25 C.F.S. @ 346.44
100 YR	108.42 C.F.S.	283.94 C.F.S.	161.84 C.F.S. @ 347.14

RIP RAP INFORMATION		
DESIGN ITEM	REQUIRED	PROVIDED
D 50	16" (CLASS III)	16"
D 100	24"	24"
LENGTH	27'	40'
BLANKET THICKNESS	32"	32"

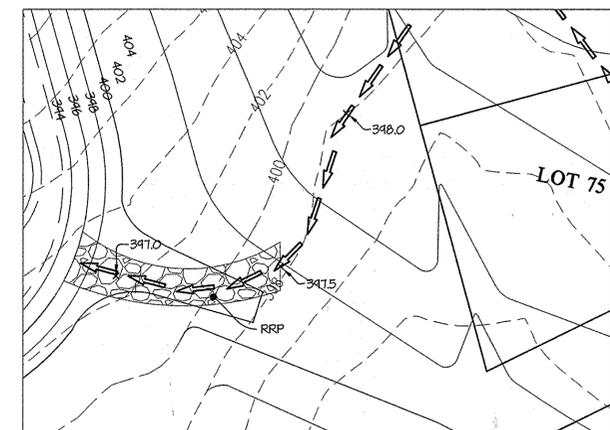
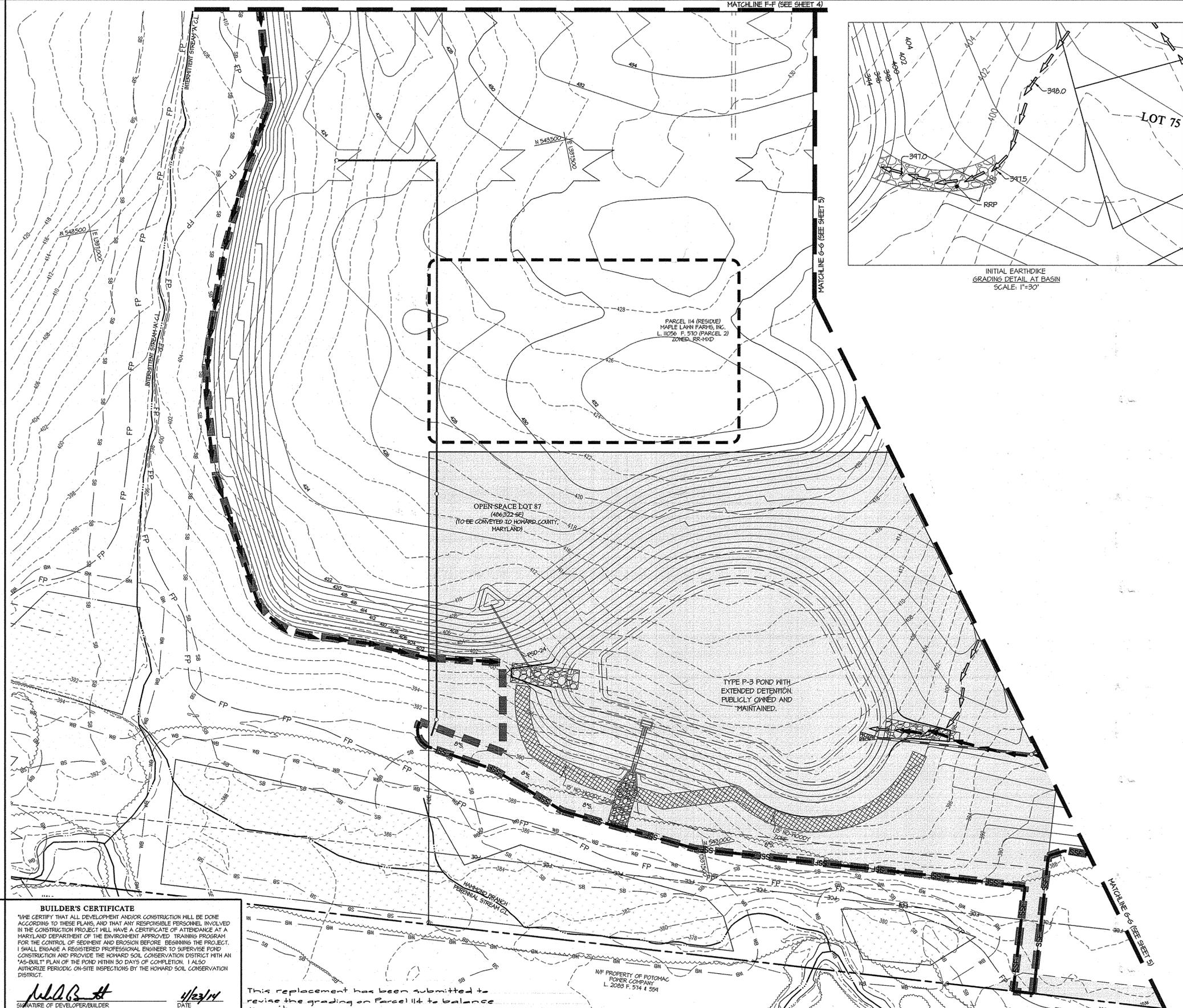
SIZING BASED UPON 161.84 C.F.S. THROUGH A 54" PIPE ASSUMING MAXIMUM TAILWATER CONDITION.

100 YEAR FLOODPLAIN STUDY	
CROSS SECTION	ELEV. FT.
STREAM 'A'	
2+40	344.32
6+50	403.68
7+11	403.68
8+65	404.42
HAMMOND BRANCH	
62+00	381.20
64+22	383.45
67+00	385.17
68+84	386.20
70+72	389.21
72+38	394.58
73+64	341.04

FOR PHASE 2 GRADING IN THE OPEN SPACE, SEE SHEET 10.

SEDIMENT CONTROL LEGEND

- 400 --- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING TREELINE
- 100 YEAR FLOODPLAIN
- CENTERLINE OF STREAM
- BOTTOM OF STREAM
- SB --- STREAM BUFFER
- FCE --- FOREST CONSERVATION EASEMENT
- STABILIZED CONSTRUCTION ENTRANCE
- INITIAL EARTH DIKE
- FINAL EARTH DIKE
- SF --- PROPOSED SILT FENCE
- SSF --- PROPOSED SUPER SILT FENCE
- LIMIT OF DISTURBANCE/SUBMISSION



INITIAL EARTHDIKE GRADING DETAIL AT BASIN SCALE: 1"=30'

THESE PLANS FOR SMALL POND CONSTRUCTION SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John K. Robertson 5/16/14
 HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Wanda R. ... 5-8-14
 Chief, Bureau of Highways DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Kate ... 5-16-14
 Chief, Division of Land Development DATE
... 5-15-14
 Chief, Development Engineering Division DATE

ENGINEER'S CERTIFICATE
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... 4/21/14
 ENGINEER'S SIGNATURE DATE

BUILDER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

... 4/23/14
 SIGNATURE OF DEVELOPER/BUILDER DATE

This replacement has been submitted to revise the grading on Parcel 114 to balance the site.

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 251 - BURTONTOWNE OFFICE PARK
 BURTONTOWNE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/WA: 301-989-2524 FAX: 301-421-4188

REV.	DATE	REVISION	BY	APP'R.
04-18-14		REPLACEMENT SHEET - THIS SHEET SUPERCEDES PLAN 03-14-2012	DEV	

PREPARED FOR:
 G&R DEVELOPMENT, INC.
 SUITE 300 WOODHOLME CENTER
 1829 REGISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: MARK BENNETT
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PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19375
 EXPIRATION DATE: MAY 28, 2012

4/21/14

Revised **SEDIMENT CONTROL PLAN**

MAPLE LAWN FARMS
 MIDTOWN WEST DISTRICT - AREA 1
 LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92

SCALE 1" = 50'	ZONING MXD-3	G. L. W. FILE No. 09001
DATE APRIL, 2014	TAX MAP - GRID 41-21/46-3	SHEET 6 OF 20

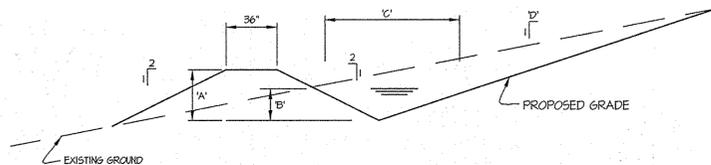
HOWARD COUNTY, MARYLAND

EARTH DIKE TREATMENT (ED #1) - LOCATED ALONG WESTERN LIMIT OF DISTURBANCE						
STARTING STATION	ENDING STATION	PERCENT	AREA	TOTAL AREA	TREATMENT	
22+25	18+80	3.1%	26,100 SF	0.61 AC.	---	A-2
18+80	16+00	2.8%	11,003 SF	1.63 AC.	---	A-2
16+00	15+00	1.6%	4,658 SF	1.14 AC.	2.71 AC.	A-2
15+00	14+00	2.8%	63,340 SF	1.50 AC.	4.21 AC.	A-2
14+00	12+00	2.5%	54,886 SF	1.26 AC.	5.53 AC.	A-2
12+00	10+00	2.5%	52,108 SF	1.21 AC.	6.74 AC.	B-2
10+00	9+00	3.1%	64,464 SF	1.49 AC.	8.22 AC.	B-3
9+00	8+00	2.5%	119,256 SF	2.80 AC.	10.82 AC.	B-3
8+00	6+00	0.8%	66,211 SF	1.52 AC.	12.34 AC.	36" DIKE
6+00	4+00	0.4%	30,442 SF	0.70 AC.	15.04 AC.	36" DIKE
4+00	2+00	2.4%	40,075 SF	0.92 AC.	13.46 AC.	36" DIKE
2+00	0+00	0.3%	7,147 SF	1.74 AC.	15.15 AC.	36" DIKE

EARTH DIKE TREATMENT (ED #2) - LOCATED ALONG MULBERRY STREET						
STARTING STATION	ENDING STATION	PERCENT	AREA	TOTAL AREA	TREATMENT	
9+50	8+00	1.3%	28,532 SF	0.54 AC.	1.23 AC.	A-1
8+00	6+00	2.3%	30,056 SF	0.64 AC.	2.48 AC.	A-2
6+00	4+00	1.8%	54,450 SF	1.25 AC.	3.34 AC.	A-2
4+00	2+00	1.8%	39,640 SF	0.91 AC.	3.34 AC.	A-2
2+00	0+00	2.3%	21,443 SF	0.63 AC.	4.02 AC.	A-2

EARTH DIKE TREATMENT (ED #3) - LOCATED ALONG EARLY MORNING STREET						
STARTING STATION	ENDING STATION	PERCENT	AREA	TOTAL AREA	TREATMENT	
10+25	9+00	0.07%	15,682 SF	0.36 AC.	---	A-2
9+00	8+00	1.5%	104,480 SF	2.41 AC.	6.74 AC.	B-2
8+00	6+00	0.33%	32,234 SF	0.74 AC.	7.53 AC.	B-2
6+00	3+00	0.12%	35,321 SF	1.21 AC.	8.80 AC.	B-2
3+00	2+00	0.07%	46,194 SF	10.13 AC.	13.53 AC.	42" DIKE

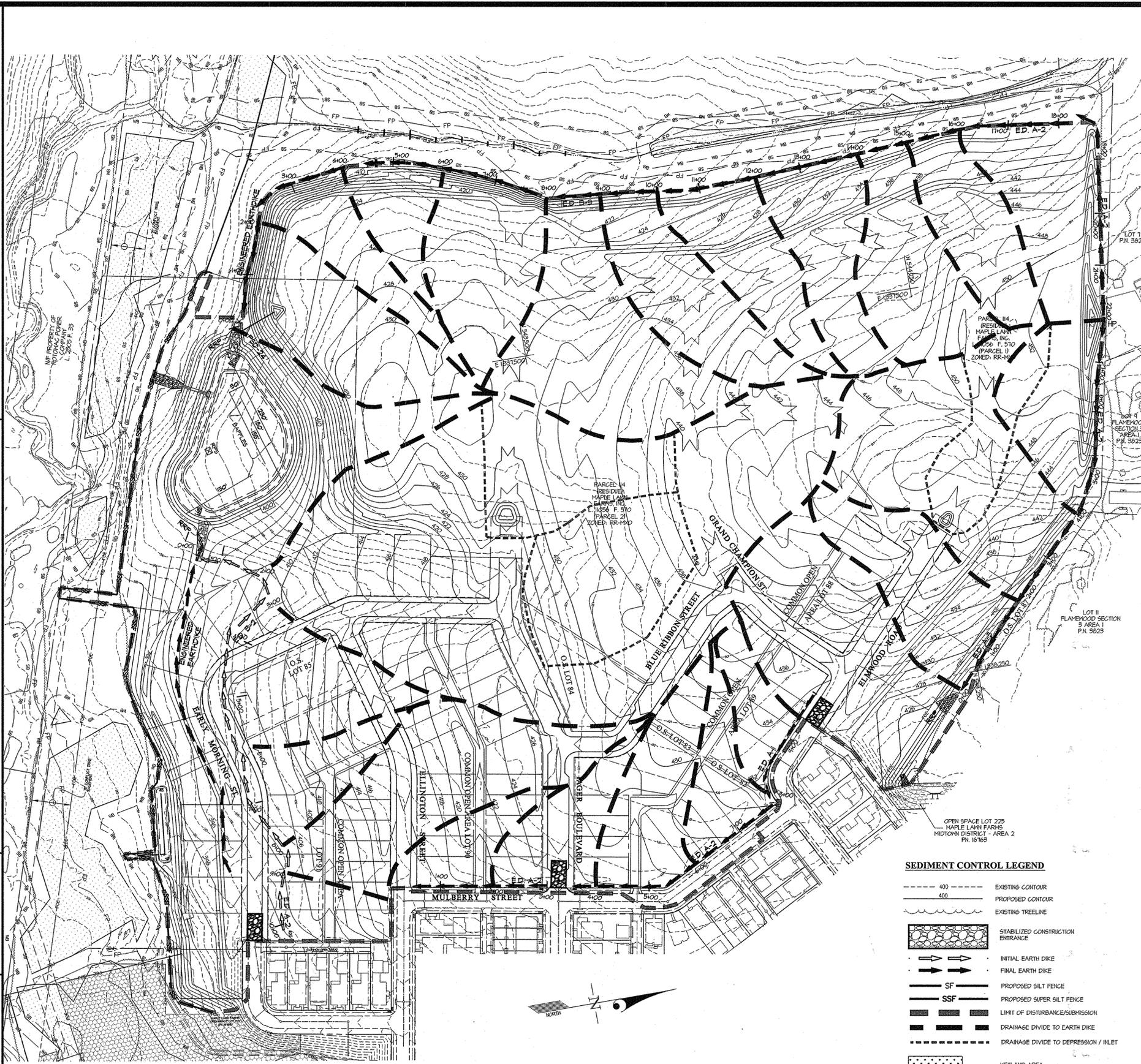
EARTH DIKE TREATMENT (ED #4) - LOCATED ALONG NORTH EAST LIMIT OF DISTURBANCE						
STARTING STATION	ENDING STATION	PERCENT	AREA	TOTAL AREA	TREATMENT	
7+80	4+00	5.1%	30,000 SF	0.64 AC.	---	A-2
4+00	2+00	3.0%	160,000 SF	3.61 AC.	4.36 AC.	A-2
2+00	0+00	4.0%	34,950 SF	0.80 AC.	5.16 AC.	A-3



EARTH DIKE TREATMENT (ED #3) - LOCATED ALONG EARLY MORNING STREET										
ENDING STATION	TOTAL AREA	CN*	TC	Q _s	A	B	C	D	TREATMENT	REMARKS
0+00	14.53 AC.	43	0.14	63.5 c.f.s.	42"	3"	16.4'	3.3	STONE LINED	

EARTH DIKE TREATMENT (ED #1) - LOCATED ALONG WESTERN LIMIT OF DISTURBANCE										
ENDING STATION	TOTAL AREA	CN*	TC	Q _s	A	B	C	D	TREATMENT	REMARKS
6+00	12.34 AC.	43	0.12	45.2 c.f.s.	36"	2"	8.7'	3.0	STONE LINED	
4+00	13.04 AC.	43	0.15	45.0 c.f.s.	36"	1"	16.4'	10.0	STONE LINED	
2+00	13.46 AC.	43	0.16	46.1 c.f.s.	36"	14"	6.4'	2.0	STONE LINED	
0+00	15.15 AC.	43	0.14	41.1 c.f.s.	36"	22"	13.0'	5.0	STONE LINED	

* ASSUMED 'D' SOIL IN BARE DIRT CONDITION



SEDIMENT CONTROL LEGEND

- 400 --- EXISTING CONTOUR
- 400 --- PROPOSED CONTOUR
- EXISTING TREELINE
- [Pattern] STABILIZED CONSTRUCTION ENTRANCE
- [Arrow] INITIAL EARTH DIKE
- [Arrow] FINAL EARTH DIKE
- [Line] SF PROPOSED SILT FENCE
- [Line] SSF PROPOSED SUPER SILT FENCE
- [Line] LIMIT OF DISTURBANCE/SUBMISSION
- [Line] DRAINAGE DIVIDE TO EARTH DIKE
- [Line] DRAINAGE DIVIDE TO DEPRESSION / INLET
- [Pattern] WETLAND AREA

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J. D. G. et al. 4/23/14
 SIGNATURE OF DEVELOPER/BUILDER DATE

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[Signature] 4/23/14
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THESE PLANS FOR SHALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Roberts 5/6/14
 HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 5-8-14
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
[Signature] 5-16-14
 Chief, Division of Land Development Date
[Signature] 5-15-14
 Chief, Development Engineering Division Date

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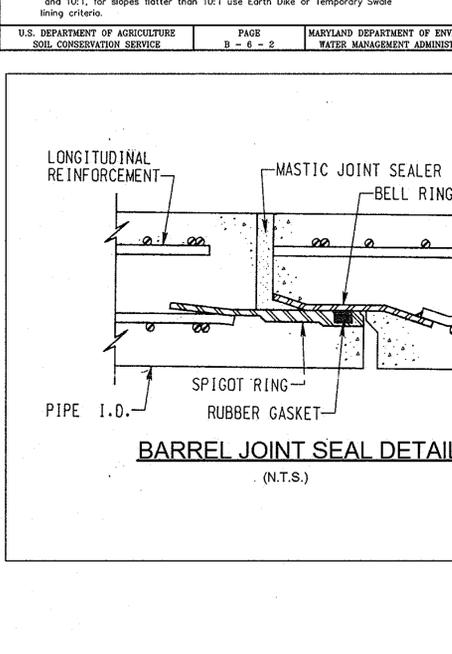
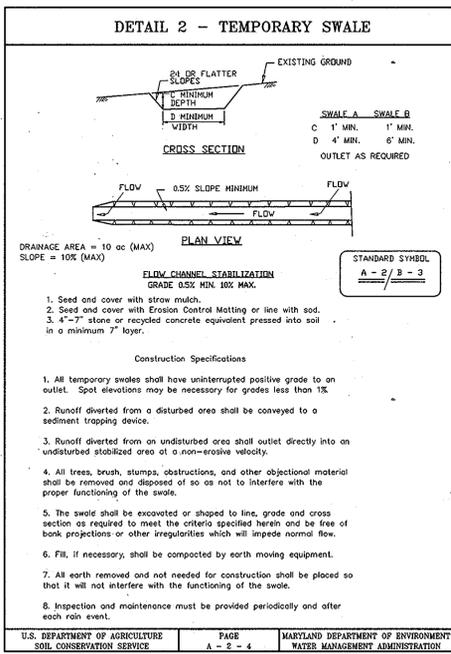
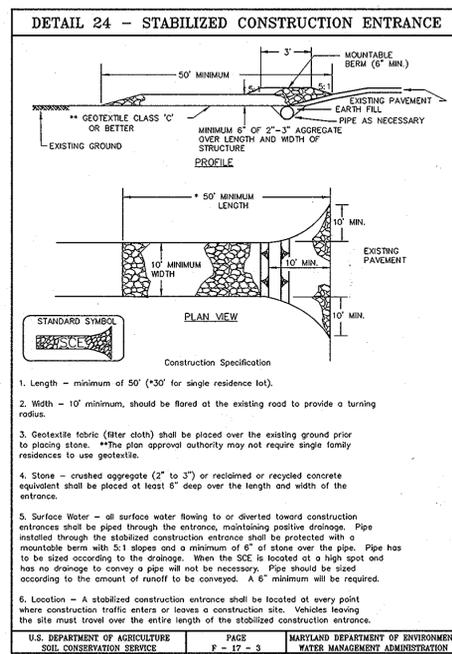
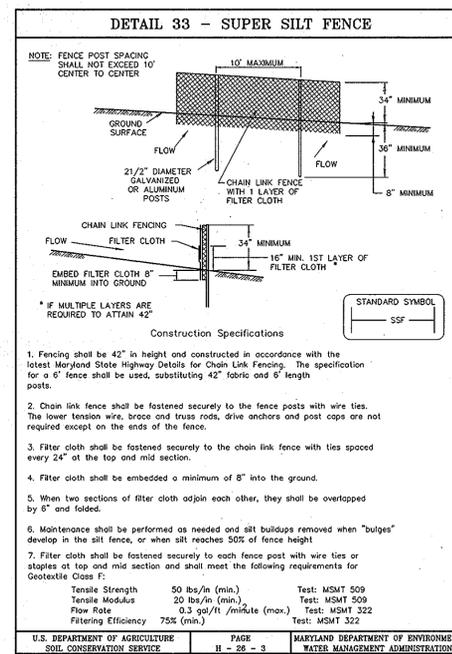
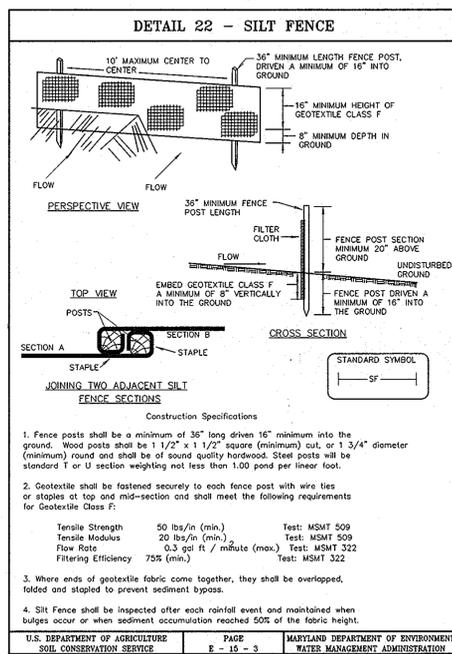
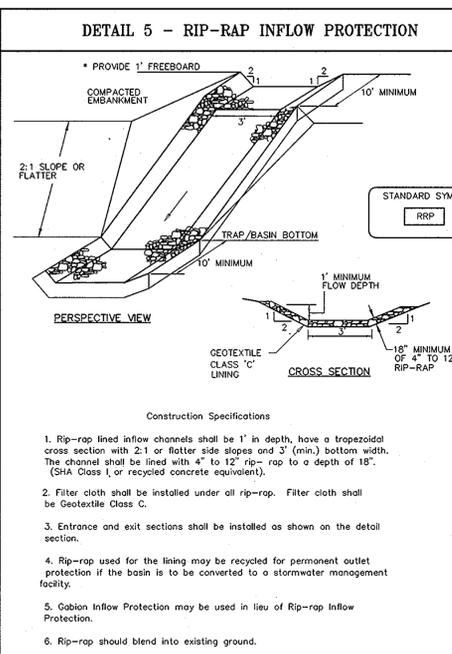
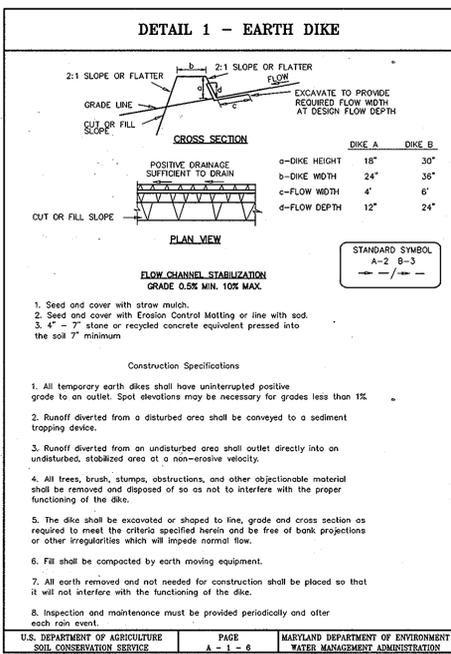
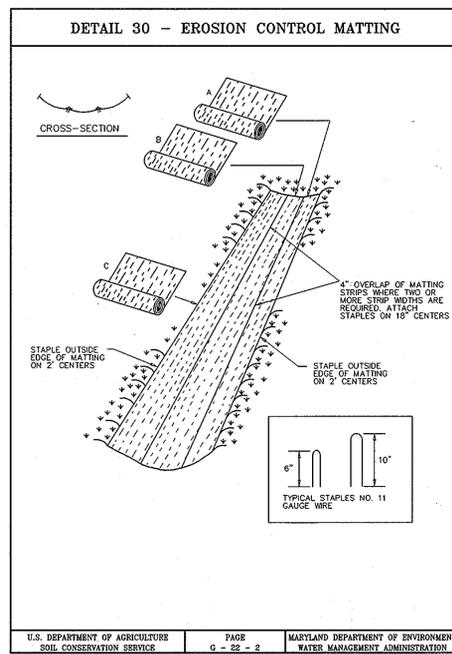
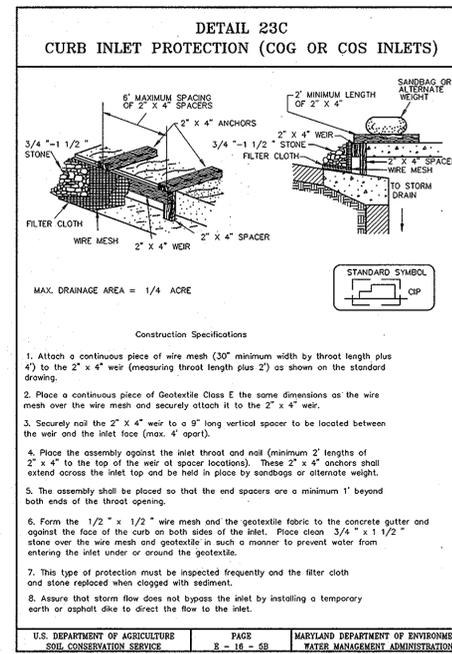
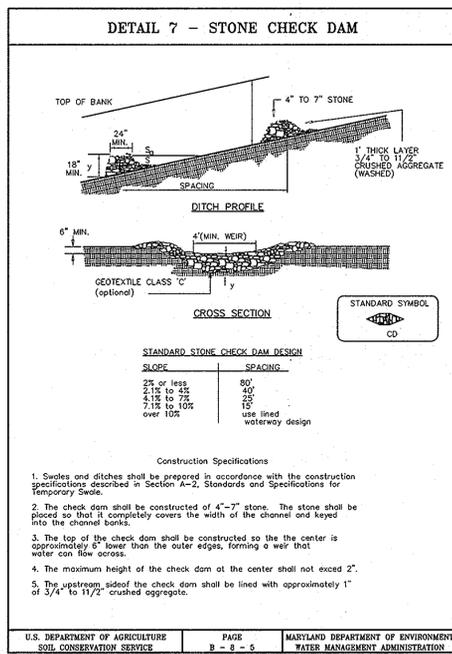
PREPARED FOR:
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 1829 REISTERSTOWN ROAD
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 ATTN: MARK BENNETT
 410-484-8400

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 EXPIRATION DATE: MAY 26, 2016
 4/21/14



Revised EARTH DIKE TREATMENT PLAN
MAPLE LAWN FARMS
 MIDTOWN WEST DISTRICT - AREA 1
 LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92
 ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1" = 100'	MXD-3	09001
DATE	TAX MAP - GRID	SHEET
APRIL, 2014	41-21/46-3	7 OF 20



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. J. M. M. M. 2/1/12
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
K. S. S. S. 2/14/12
 Chief, Division of Land Development
C. S. S. S. 2/14/12
 Chief, Development Engineering Division

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C. S. S. S. 2/6/12
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M. S. S. S. 2/6/12
 SIGNATURE OF DEVELOPER/BUILDER DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
J. S. S. S. 2/16/12
 HOWARD S.C.D. DATE

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DATE	REVISION	BY	APPR.

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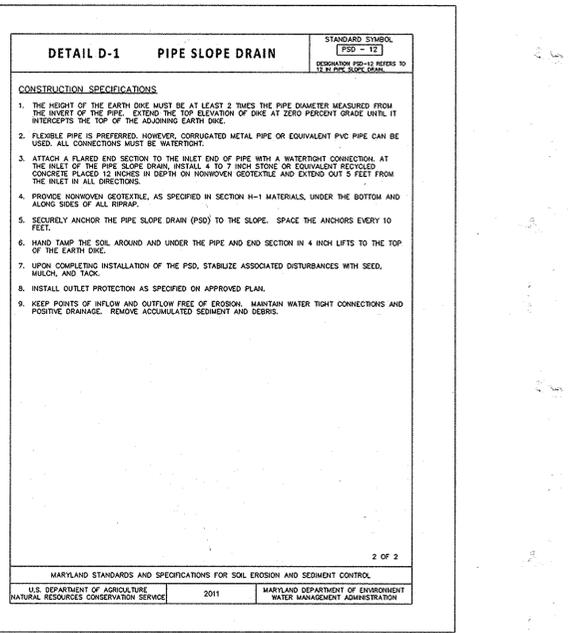
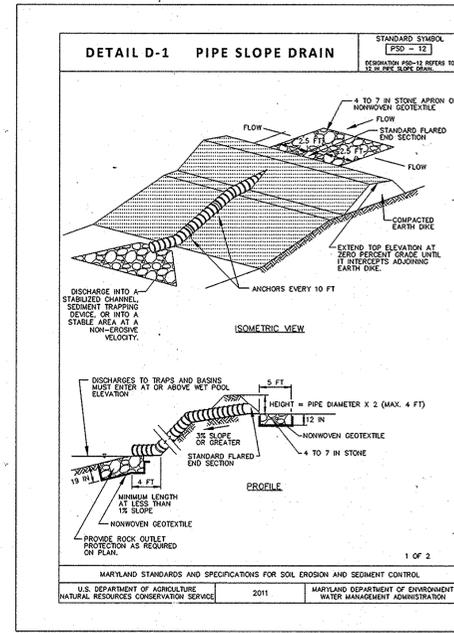
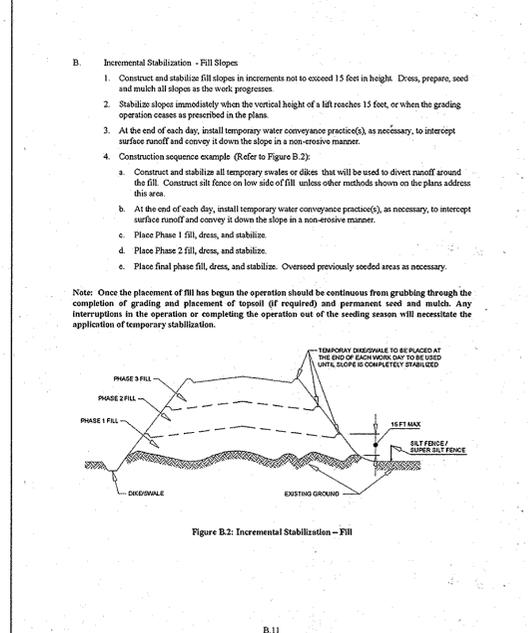
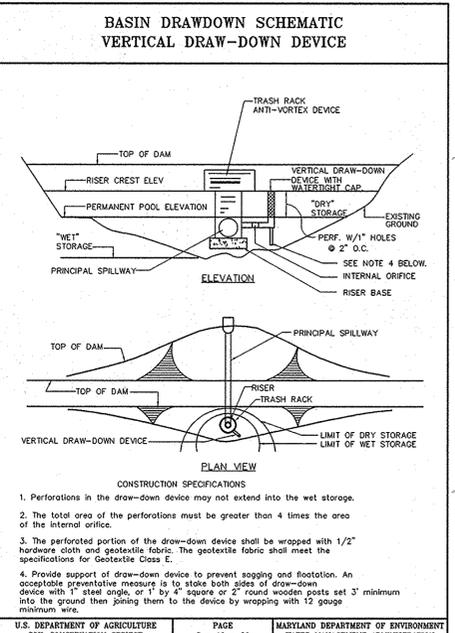
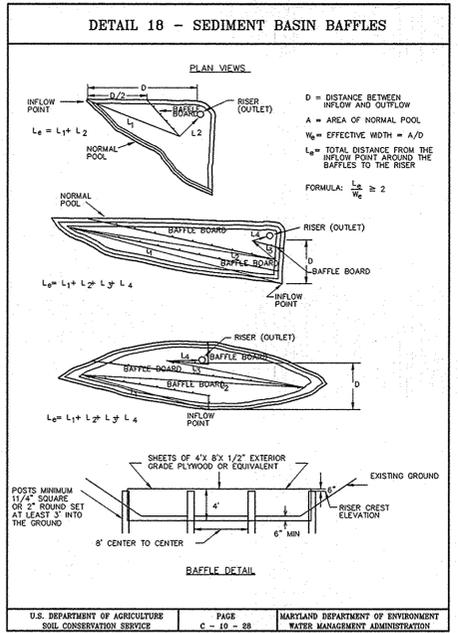
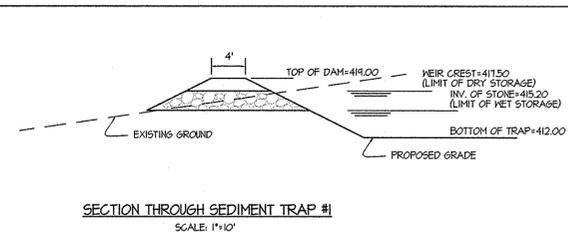
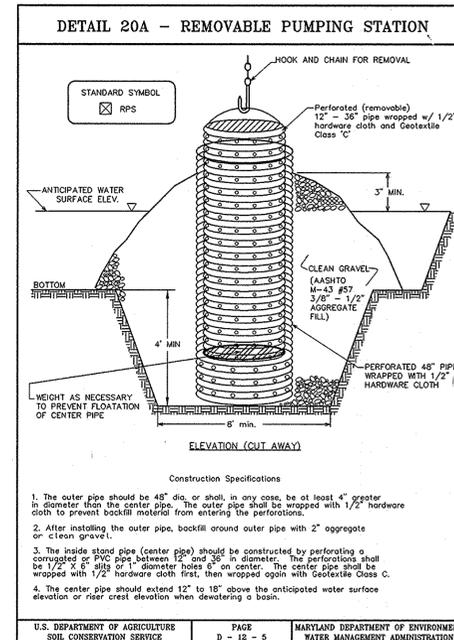
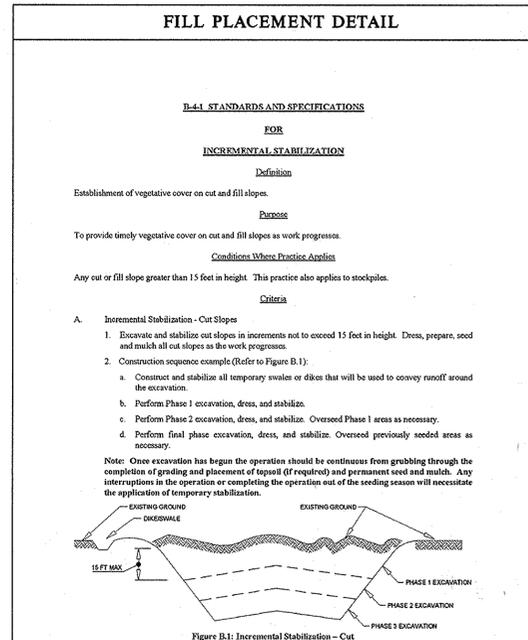
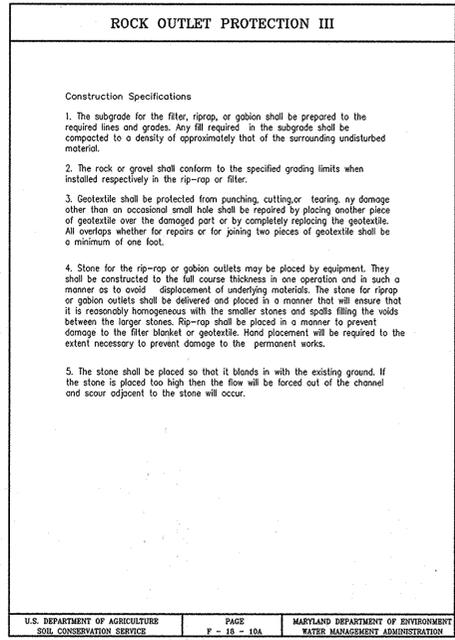
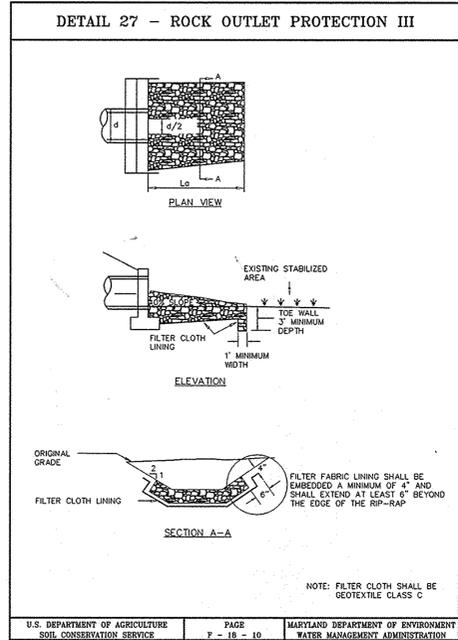
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 12875 EXPIRATION DATE: MAY 28, 2012
C. S. S. S.
 ELECTION DISTRICT No. 5

SEDIMENT CONTROL NOTES and DETAILS

MAPLE LAWN FARMS
 MIDTOWN WEST DISTRICT - AREA 1
 LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	09001
DATE	TAX MAP - GRID	SHEET
DEC., 2011	41-21/46-3	8 OF 20

HOWARD COUNTY, MARYLAND



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Howard P. ... 5-8-14
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Kathleen ... 5-16-14
Chief, Division of Land Development

John ... 5-15-14
Chief, Development Engineering Division

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

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

CLW 4/21/14
ENGINEER'S SIGNATURE DATE

BUILDER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

John ... 4/23/14
SIGNATURE OF DEVELOPER/BUILDER DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John ... 5/6/14
HOWARD S.C.D. DATE

This replacement sheet has been submitted to provide additional details to mass grade the site as shown on these plans.

Revised SEDIMENT CONTROL NOTES and DETAILS

DATE	REVISION	BY	APPR.

REPLACEMENT SHEET - THIS SHEET SUPERCEDES PLAN SIGNED 03-14-2012	DEV		

PREPARED FOR:	G&R DEVELOPMENT, INC. SUITE 300 WOODHOLME CENTER 1829 REISTERSTOWN ROAD BALTIMORE, MD 21208 ATTN: MARK BENNETT 410-484-8400
---------------	--

PROFESSIONAL CERTIFICATION

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

EXPIRATION DATE: MAY 28, 2016

4/21/14 *CLW*



MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 1
LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92

ELECTION DISTRICT No. 5

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	MXD-3	09001
DATE	TAX MAP - GRID	SHEET
APRIL, 2014	41-21/46-3	9 OF 20

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

DEFINITION: THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION. PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

A. SOIL PREPARATION

- 1. TEMPORARY STABILIZATION
a. SEEDBED PREPARATION CONSISTS OF LOOSING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT...
2. PERMANENT STABILIZATION
a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE...

B. TOPSOILING

- 1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION...
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS...
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. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

- 1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE...
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT...

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

DEFINITION: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER. PURPOSE: TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

A. SEEDING

- 1. SPECIFICATIONS
a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW...
2. APPLICATION
a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS...
b. DRILL OR MULTIPLOVER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH 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...
2. APPLICATION
a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING...
3. ANCHORING
a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER...

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS. PURPOSE: TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

TEMPORARY SEEDING SUMMARY

Table with columns: No., SPECIES, APPLICATION RATE (lb./ac), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac), LIME RATE (lb./ac)

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS...
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"...

STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

- 1. MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3 SEEDING AND MULCHING, AND SECTION B-4-4 TEMPORARY STABILIZATION...
2. VEGETATIVE COVER: SEE SECTION B-4-4 TEMPORARY STABILIZATION...
3. ANCHORING: SEE SECTION B-4-4 TEMPORARY STABILIZATION...

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION. PURPOSE: TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

TEMPORARY SEEDING SUMMARY

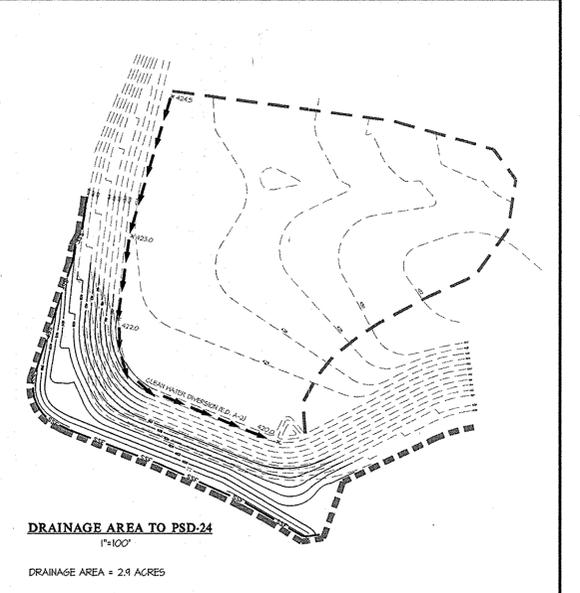
Table with columns: No., SPECIES, APPLICATION RATE (lb./ac), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac), LIME RATE (lb./ac)

PERMANENT SEEDING SUMMARY

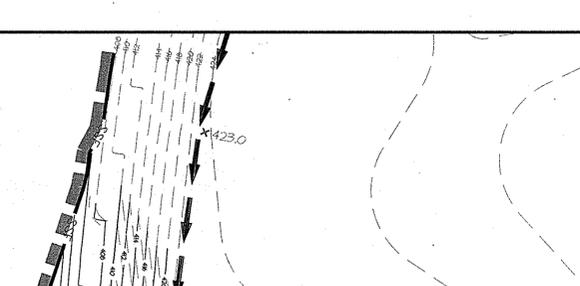
Table with columns: No., SPECIES, APPLICATION RATE (lb./ac), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (lb./ac), LIME RATE (lb./ac)

NOTES

- 1. IDEAL TIMES FOR SEEDING FOR TURF GRASS MIXTURES: WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1...
2. 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 FULLY ESTABLISHED...



PERMANENT SEEDING SUMMARY



PLAN 1"=50'

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND JOINTLY MAINTAINED RETENTION POND

- ROUTINE MAINTENANCE (BY COMMERCIAL OWNERS ASSOCIATION)
1. THE FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS...
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOVED A MINIMUM OF TWO (2) TIMES PER YEAR...
3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS...
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS THE RIP-RAP OR GABION OUTLET SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

HOWARD SOIL CONSERVATION DISTRICT OPERATION, MAINTENANCE, AND INSPECTION NOTE

- INSPECTION OF THE POND(S) CHECK HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE SHOWLIST AND REQUIREMENTS CONTAINED WITHIN THE USDAOCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-370)...
2. SEDIMENT SHALL BE REMOVED FROM THE POND AND FOREBAY NO LATER THAN WHEN THE CAPACITY OF THE POND IS HALF-FULL OF SEDIMENT OR WHEN DEEMED NECESSARY FOR AESTHETIC REASONS...

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND JOINTLY MAINTAINED RETENTION POND

- ROUTINE MAINTENANCE (BY HOA)
1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS...
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOVED A MINIMUM OF TWO (2) TIMES PER YEAR...
3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS...
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS THE RIP-RAP OR GABION OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND JOINTLY MAINTAINED RETENTION POND

- ROUTINE MAINTENANCE (BY COUNTY)
1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE...
2. SEDIMENT SHALL BE REMOVED FROM THE POND AND FOREBAY NO LATER THAN WHEN THE CAPACITY OF THE POND IS HALF-FULL OF SEDIMENT OR WHEN DEEMED NECESSARY FOR AESTHETIC REASONS...

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Department Engineering Division

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS

DATE: 04-18-14 REVISION: REPLACEMENT SHEET - THIS SHEET SUPERCEDES PLAN SIGNED 03-14-2012

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD S.C.D. DATE

DATE: 04-18-14 REVISION: REPLACEMENT SHEET - THIS SHEET SUPERCEDES PLAN SIGNED 03-14-2012

DATE: 04-18-14 REVISION: REPLACEMENT SHEET - THIS SHEET SUPERCEDES PLAN SIGNED 03-14-2012

DATE: 04-18-14 REVISION: REPLACEMENT SHEET - THIS SHEET SUPERCEDES PLAN SIGNED 03-14-2012

PREPARED FOR: G&R DEVELOPMENT, INC.
1320 WOODHOLME CENTER
1929 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12276.

EXPIRATION DATE: MAY 26, 2016

EXPIRATION DATE: MAY 26, 2016

EXPIRATION DATE: MAY 26, 2016

ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS...

ENGINEER'S SIGNATURE: [Signature] DATE: 4/21/14

ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS...

ENGINEER'S SIGNATURE: [Signature] DATE: 4/21/14

BUILDER'S CERTIFICATE
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT...

BUILDER'S SIGNATURE: [Signature] DATE: 4/23/14

Revised SEDIMENT CONTROL NOTES and DETAILS
MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 1
LOTS 19, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92

Table with columns: SCALE, ZONING, G. L. W. FILE NO., DATE, TAX MAP - GRID, SHEET



LEGEND

	OPEN SPACE AREA
	SINGLE FAMILY DETACHED
	ROAD RIGHT OF WAY (PUBLIC & PRIVATE)
	LIMIT OF SUBMISSION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Walter J. Mahan 3-1-12
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Kat Sheldahl 3/14/12
 Chief, Division of Land Development Date

Chris Deane 3/14/12
 Chief, Development Engineering Division Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 230 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-589-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

PREPARED FOR:
 G&R DEVELOPMENT, INC.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: MARK BENNETT
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975
 EXPIRATION DATE: MAY 26, 2012
2-2-12



LAND USE PLAN
MAPLE LAWN FARMS
MIDTOWN WEST DISTRICT - AREA 1
 LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92

ELECTION DISTRICT No. 5

HOWARD COUNTY, MARYLAND

SCALE 1" = 100'	ZONING MXD-3	G. L. W. FILE No. 09001
DATE DEC., 2011	TAX MAP - GRID 41-21/46-3	SHEET 11 OF 20

DRAINAGE AREA INFORMATION				
DRAINAGE AREA	AREA (AC.)	AREA (SQ. MI.)	CN	TC (HR)
TO SEDIMENT TRAP	0.2	0.0126	---	---
TO PROPOSED POND	37.1	0.0580	54	0.21
TO F 03-40 POND	4.1	0.0064	---	---



LEGEND

	B SOILS		DRAINAGE DIVIDE
	C SOILS		TC PATH
	D SOILS		

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. R. Marshall 5-8-14
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
K. S. Schell 5-16-14
 Chief, Division of Land Development Date

A. L. Clark 5-15-14
 Chief, Development Engineering Division Date

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

DATE	REVISION	BY	APPR.
04-10-14	REPLACEMENT SHEET - THIS SHEET SUPERCEDES PLAN SIGNED 03-14-2012	DEV	

PREPARED FOR:
 G&R DEVELOPMENT, INC.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: MARK BENNETT
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE
 PLANS WERE PREPARED OR
 APPROVED BY ME, AND THAT I AM A
 DULY LICENSED PROFESSIONAL
 ENGINEER UNDER THE LAWS OF THE
 STATE OF MARYLAND,
 LICENSE NO. 12115
 EXPIRATION DATE: MAY 28, 2016



TEMPORARY SWM DRAINAGE AREA MAP -- PRE-DEVELOPMENT

**MAPLE LAWN FARMS
 MIDTOWN WEST DISTRICT - AREA 1**
 LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND
 COMMON OPEN AREA LOTS 89-92

ELECTION DISTRICT No. 5

SCALE	ZONING	G. L. W. FILE No.
1"=100'	MXD-3	09001
DATE	TAX MAP - GRID	SHEET
APRIL, 2014	41-21/46-3	12 OF 20

DRAINAGE AREA INFORMATION				
DRAINAGE AREA	AREA (AC.)	AREA (SQ. MI.)	CN	TC (HR)
TO SEDIMENT TRAP	2.5	0.0034	---	---
TO PROPOSED POND	40.2	0.0628	41	0.23
TO F 03-90 POND	6.7	0.0105	---	---



LEGEND	
	B SOILS
	C SOILS
	D SOILS
	DRAINAGE DIVIDE
	TC PATH

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. J. M. M. M. 5-8-14
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
K. J. S. S. S. 5-16-14
 Chief, Division of Land Development Date

A. J. P. P. 5-15-14
 Chief, Development Engineering Division Date

This replacement sheet has been submitted to reflect the revised grading within the future open space just north of the sediment basin.

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20886
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-988-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
04-10-14	REPLACEMENT SHEET - THIS SHEET SUPERCEDES PLAN SIGNED 03-14-2012	DEV	

PREPARED FOR:
 G&R DEVELOPMENT, INC.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: MARK BENNETT
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14715
 EXPIRATION DATE: MAY 26, 2012
 4/21/14



TEMPORARY SWM DRAINAGE AREA MAP -- POST-DEVELOPMENT

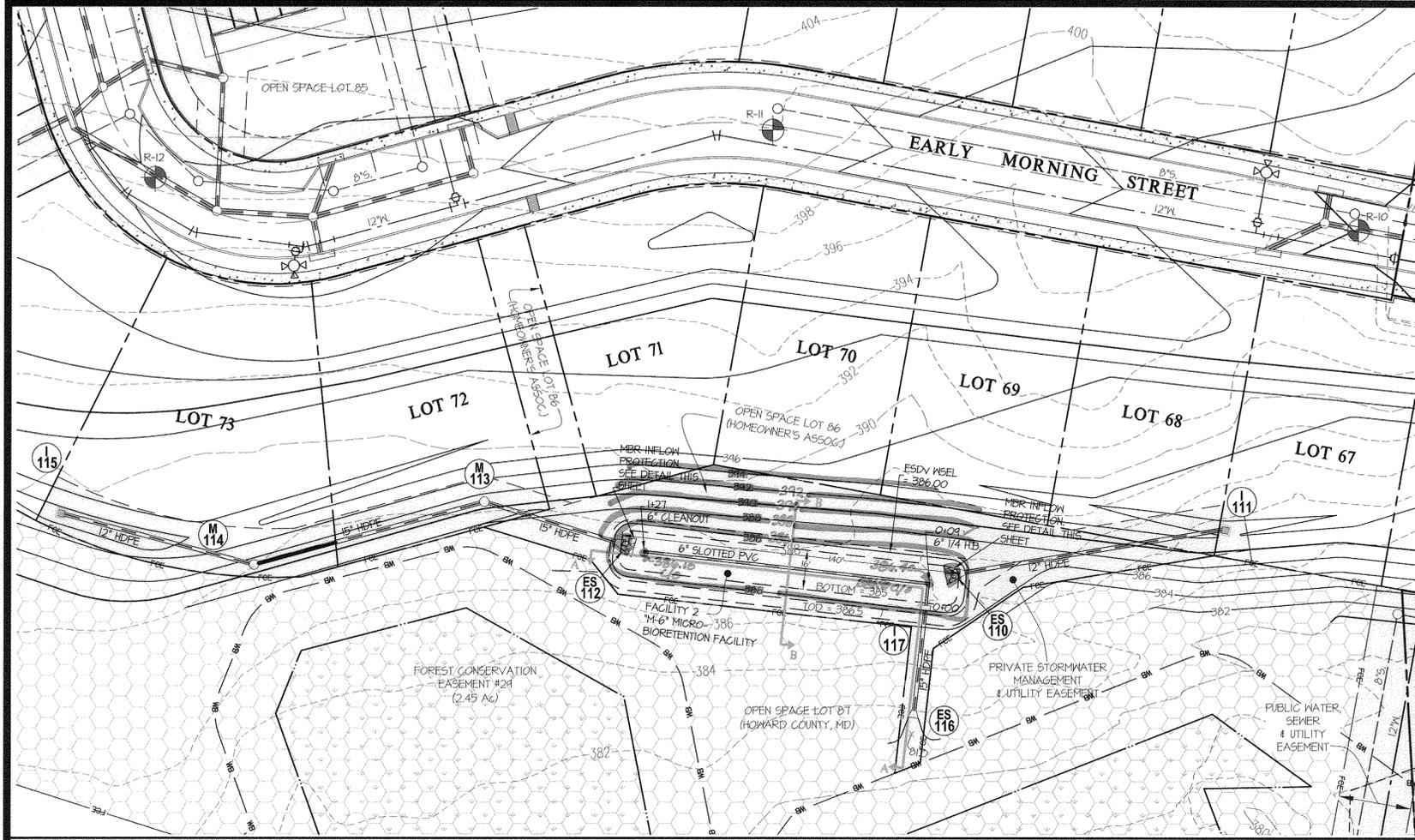
MAPLE LAWN FARMS
 MIDTOWN WEST DISTRICT - AREA 1
 LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92

SCALE: 1"=100'
 ZONING: MXD-3
 DATE: APRIL, 2014
 TAX MAP - GRID: 41-21/46-3
 SHEET: 13 OF 20

ELECTION DISTRICT No. 5
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=100'	MXD-3	09001
DATE	TAX MAP - GRID	SHEET
APRIL, 2014	41-21/46-3	13 OF 20

C:\GARD\DRAWINGS\09001\09001\SWM\SC\08001 SWM TEMP_12-13.dwg DES. DEV DRN. KLP CHK. CKG
 C:\GARD\DRAWINGS\09001\09001\SWM\SC\08001 SWM TEMP_12-13.dwg DES. DEV DRN. KLP CHK. CKG



STORMWATER MANAGEMENT PLAN VIEW SCALE: 1" = 30'

S.D. STRUCTURE SCHEDULE										
NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION		INVERT ELEVATION		STANDARD DETAIL	NOTES	LOCATION	OWNERSHIP & MAINTENANCE
			UPPER	LOWER	UPPER	LOWER				
I-111	5' INLET	2' 1 1/2"	381.50	381.50	---	381.75	H.O. C.O. D 4.22		N. 542672 E. 1338451	PRIVATE
I-115	5' INLET	2' 1 1/2"	383.50	383.50	---	384.71	H.O. C.O. D 4.22		N. 542674 E. 1337471	PRIVATE
I-117	DOUBLE 5'	2' 1 1/2"	385.44	385.84	382.11	381.42	H.O. C.O. D 4.23		N. 542640 E. 1338321	PRIVATE
I-118	STD MANHOLE	4'	381.00	---	385.41	385.81	H.O. C.O. D 5.12		N. 542669 E. 1338145	PRIVATE
I-114	STD MANHOLE	4'	381.00	---	381.50	381.15	H.O. C.O. D 5.12		N. 542658 E. 1338250	PRIVATE
ES-110	12" END SECTION	---	---	386.00	---	385.00	384.57		N. 542655 E. 1338338	PRIVATE
ES-112	15" END SECTION	---	---	386.25	---	385.00	384.16		N. 542666 E. 1338204	PRIVATE
ES-116	15" END SECTION	---	---	382.25	---	381.00	380.76		N. 542597 E. 1338323	PRIVATE

GENERAL NOTES

1. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREA ARE DETAILED IN TABLE B.3.2.

2. PLANTING SOIL

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

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

PH RANGE 5.2 - 7.0
 ORGANIC MATTER 15 - 4% (BY HEIGHT)
 MAGNESIUM 35 LB/AC
 PHOSPHORUS (PHOSPHATE - P2O5) 15 LB/AC
 POTASSIUM (POTASH - K2O) 85 LB/AC
 SOLUBLE SALTS NOT TO EXCEED 500 PPM

ALL BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL WAS EXCAVATED.

SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY. SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.

3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION APPENDIX B.3. CONSTRUCTION SPECIFICATIONS FOR SAND FILTERS, BIORETENTION AND OPEN CHANNELS B.3.3 AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR HARSH 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 GRISEL 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 OPTIMAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

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

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

4. PLANT MATERIAL

SEE PLANTING THIS SHEET

5. PLANT INSTALLATION

MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3" SHREDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND HOOK CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED 50% DEEPER THAN THE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING FIT 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, INTERFERES WITH THIS GOAL. ONLY ADD FERTILIZERS IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS

UNDERDRAINS ARE TO BE PLACED ON A 3'-0" WIDE SECTION OF FILTER CLOTH. PIPE IS PLACED NEXT, FOLLOWED BY THE GRAVEL BEDDING. THE ENDS OF UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL SHALL BE CAPPED.

THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.3% OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS

THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

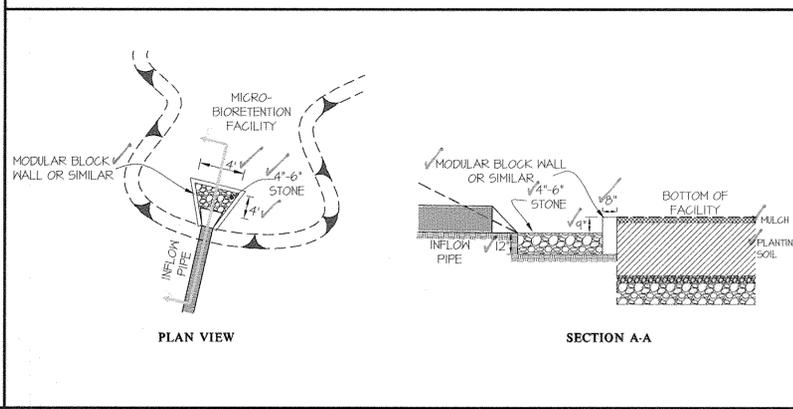
S.D. PIPE SUMMARY TABLE PRIVATELY OWNED AND MAINTAINED			
SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
6	SLOTTED PVC	127	SCHEDULE 40
12	HDPE	184	ADS N12 or equiv.
15	HDPE	195	ADS N12 or equiv.

SWM POND SUMMARY TABLE

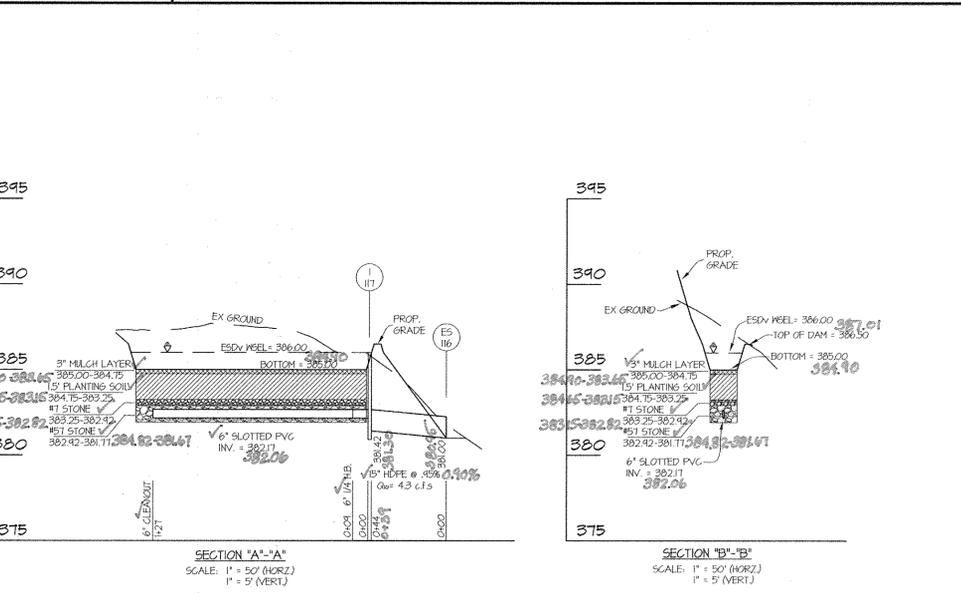
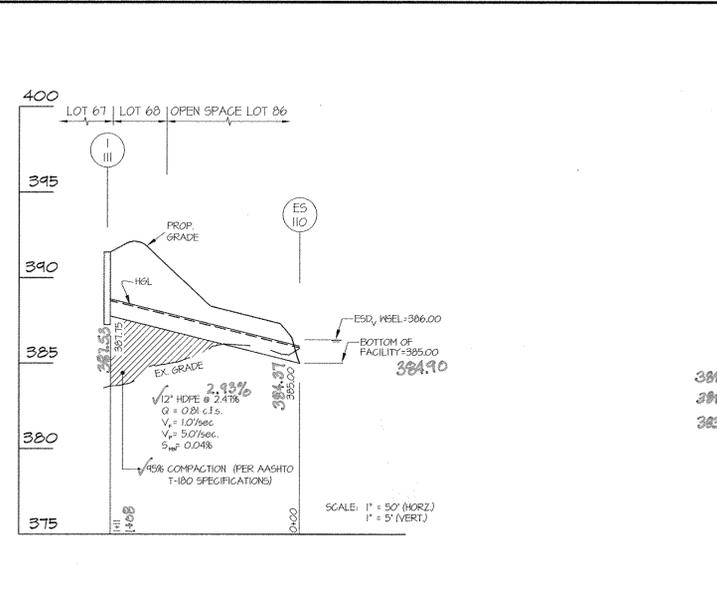
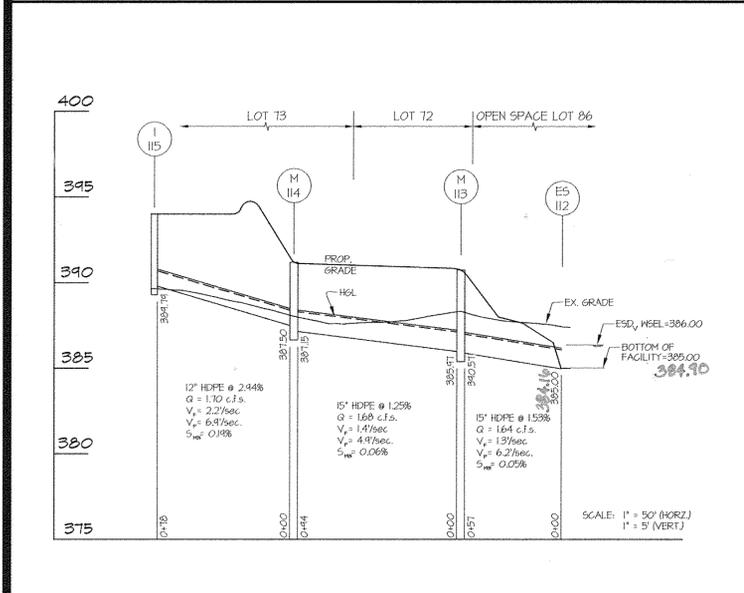
TYPE (PER MDE): MICRO BIORETENTION SYSTEM (M4)
 NON - MDE 310 FACILITY

TOTAL DRAINAGE AREA TO FACILITY = 1.17 ACRES
 TARGET PE = 1.8"
 PE PROVIDED = 1.8"
 FILL PE PROVIDED, CPV SATISFIED
 ESDV REQUIRED = 2653 CU-FT
 ESDV PROVIDED = 2648 CU-FT (6386.00)
 REV REQUIRED = 345 CU-FT
 REV PROVIDED BY STONE BENEATH UNDERDRAIN

LOW-FLOW OUTFALL: PERFORATED UNDERDRAIN SYSTEM
 HIGH-FLOW OUTFALL: I-117 (DOUBLE 5' INLET, TOP = 386.00)
 T.O.D. = 386.50



MICRO-BIORETENTION INFLOW PROTECTION DETAIL SCALE: NTS



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 3-1-12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Date: 3/14/12

Chief, Development Engineering Division
 Date: 3/14/12

PROFESSIONAL CERTIFICATION
 I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland License No. 12915, Expiration Date: May 26, 2018.

8/11/16
 Date: [Signature]
 Civil Engineer
 Maryland Reg. No. 12915

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3009 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4188

PREPARED FOR:
 C&R DEVELOPMENT, INC.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: MARK BENNETT
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12915, EXPIRATION DATE: MAY 26, 2012.

2-2-12
 Date: [Signature]
 Civil Engineer
 Maryland Reg. No. 12915

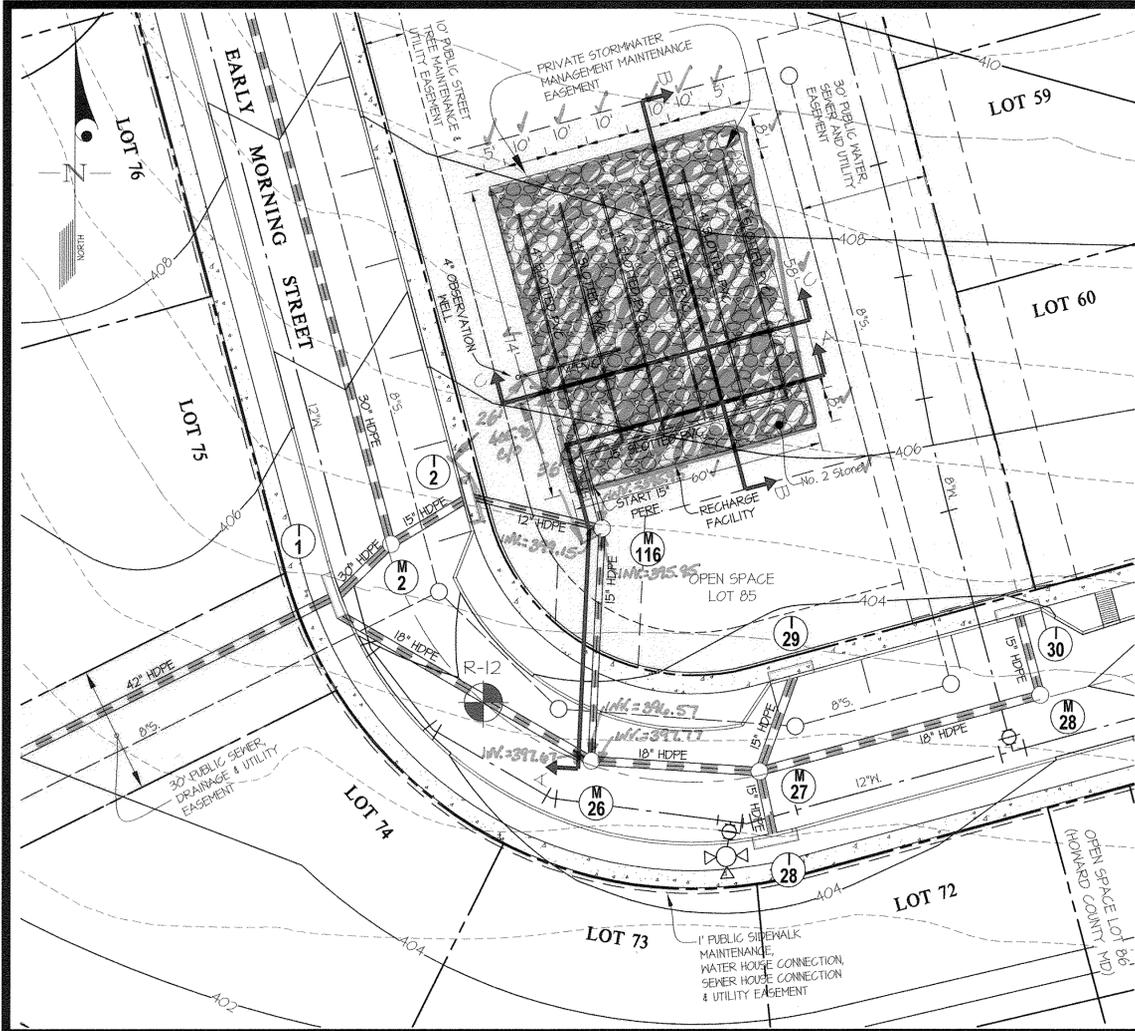
MICRO BIO-RETENTION FACILITY DETAILS

MAPLE LAWN FARMS
 MIDTOWN WEST DISTRICT - AREA 1
 LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92

ELECTION DISTRICT No. 5

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	09001
DATE: 3/14/12	TAX MAP - GRID	SHEET
DEC., 2011	41-21/46-3	15 OF 20

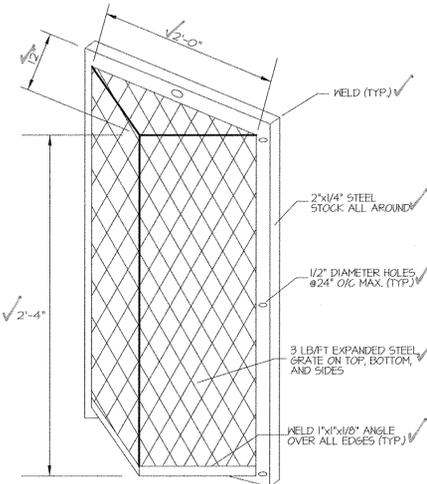
HOWARD COUNTY, MARYLAND



RECHARGE FACILITY PLAN VIEW SCALE: 1" = 20'

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES

1. THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
2. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
3. A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
4. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 12 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
5. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
6. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



DETAIL FOR LOW FLOW TRASH RACK PROTECTION FOR MH 116 N15

- NOTES FOR TRASH RACK
1. TRASH RACK TO BE CENTERED OVER OPENINGS.
 2. STEEL TO CONFORM TO ASTM A-36.
 3. ALL SURFACES TO BE COATED WITH ZINC COLD GALVANIZING COMPOUND AFTER WELDING.
 4. TRASH RACK TO BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS. TRASH RACK TO BE REMOVABLE.
 5. BOTTOM OF TRASH RACK TO BE LEFT OPEN (HOODED) AND SET 6" BELOW INVERT OF 12" OPENING.

S.D. PIPE SUMMARY TABLE PRIVATELY OWNED AND MAINTAINED			
SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	375	SCHEDULE 40
4	PVC	15	SCHEDULE 40
15	SLOTTED PVC	50	SCHEDULE 40
15	PVC	8	SCHEDULE 40

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. Z. ... 3-1-12
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
V. ... 3/14/12
 Chief, Division of Land Development

M. ... 3/14/12
 Chief, Development Engineering Division

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-889-2524 FAX: 301-421-4186

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Midtown West Boring No. B-10
 Location: Howard County, Maryland Job # 11096A

Date: 4/14/2011
 Date Started: 3/23/2011
 Date Completed: 4/14/2011

Elevation/Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes		SPT Blows/Feet	
			Fac	NM	N	Curve
0		Topsoil 4"	14"	3-5-6	11	10 30 50
4		No groundwater encountered while drilling	16"	3-8-8	18	
8		Hidden brown to brown, moist, medium dense to dense, micaceous silty SAND, trace rock fragments (RF)	4"	13-11-11	22	
12			18"	16-17-16	33	
16		Bottom of Boring at 10.0'				

SAMPLER TYPE: DRIVEN SHIELD SPOON UNLESS OTHERWISE NOTED
 SAMPLER CONDITIONS: 0 - IDENTIFIED
 AT COMPLETION: 0 - IDENTIFIED
 GROUND WATER: Dry
 CAVE IN DEPTH: 6.5'

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Midtown West Boring No. B-11
 Location: Howard County, Maryland Job # 11096A

Date: 3/23/2011
 Date Started: 3/23/2011
 Date Completed: 3/23/2011

Elevation/Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes		SPT Blows/Feet	
			Fac	NM	N	Curve
0		Topsoil 4"	12"	3-3-5	8	10 30 50
4		Reddish brown, moist, medium silty to stiff, silty CLAY with mica, trace to some sand (CL-CH)	18"	8-8-14	23	
8			18"	7-10-13	23	
12			18"	21-15-15	30	
16		Bottom of Boring at 10.0'				

SAMPLER TYPE: DRIVEN SHIELD SPOON UNLESS OTHERWISE NOTED
 SAMPLER CONDITIONS: 0 - IDENTIFIED
 AT COMPLETION: 0 - IDENTIFIED
 GROUND WATER: Dry
 CAVE IN DEPTH: 8.9'

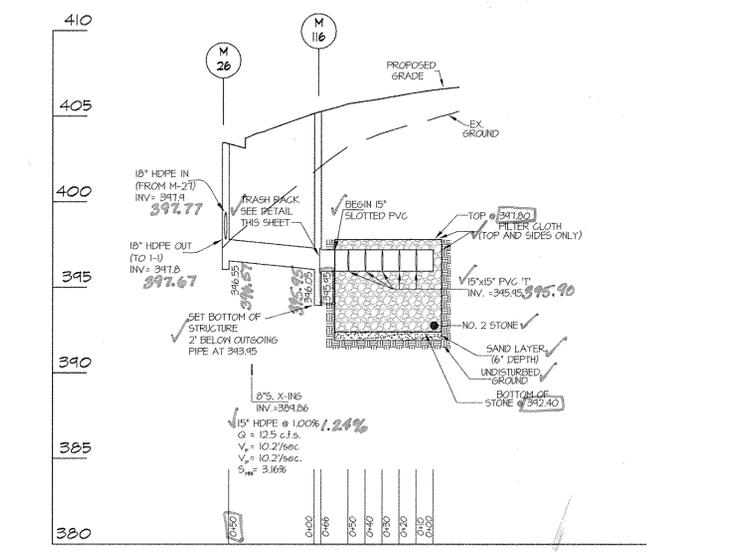
HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: Maple Lawn - Midtown West Boring No. B-12
 Location: Howard County, Maryland Job # 11096A

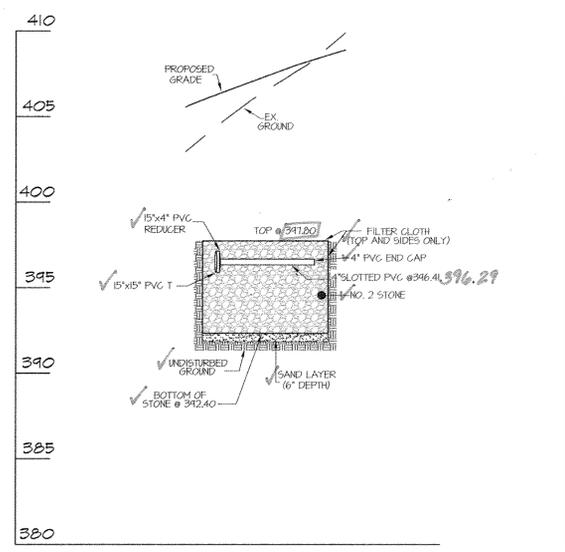
Date: 3/23/2011
 Date Started: 3/23/2011
 Date Completed: 3/23/2011

Elevation/Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes		SPT Blows/Feet	
			Fac	NM	N	Curve
0		Topsoil 4"	15"	3-4-4	7	10 30 50
4		Brown, moist, medium silty, silty CLAY (CL-ML)	18"	15-18-12	30	
8			18"	15-30-25	35	
12			17"	7-7-0	17	
16		Bottom of Boring at 10.0'				

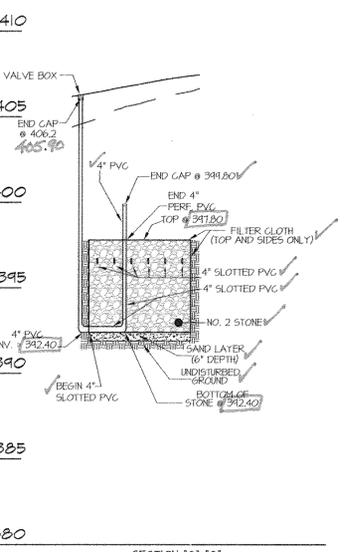
SAMPLER TYPE: DRIVEN SHIELD SPOON UNLESS OTHERWISE NOTED
 SAMPLER CONDITIONS: 0 - IDENTIFIED
 AT COMPLETION: 0 - IDENTIFIED
 GROUND WATER: Dry
 CAVE IN DEPTH: 7.8'



SECTION "A-A" SCALE: 1" = 50' (HORIZ) 1" = 5' (VERT)



SECTION "B-B" SCALE: 1" = 50' (HORIZ) 1" = 5' (VERT)



SECTION "C-C" SCALE: 1" = 50' (HORIZ) 1" = 5' (VERT)

PROFESSIONAL CERTIFICATION
 I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12915, Expiration Date: May 26, 2018

8/11/16
 Date
 E. K. ...
 Professional Engineer
 Maryland Reg. No. 12915

ASBUILTS

RECHARGE FACILITY DETAILS
MAPLE LAWN FARMS
 MIDTOWN WEST DISTRICT - AREA 1
 LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 8-88 AND COMMON OPEN AREA LOTS 89-92

ASBUILT SHEET 3 OF 6

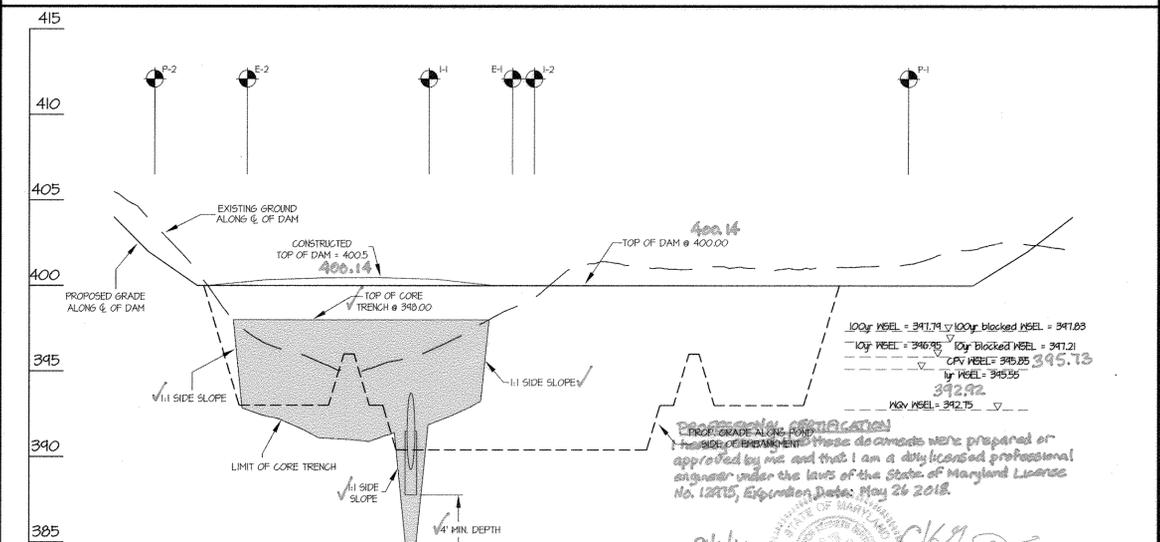
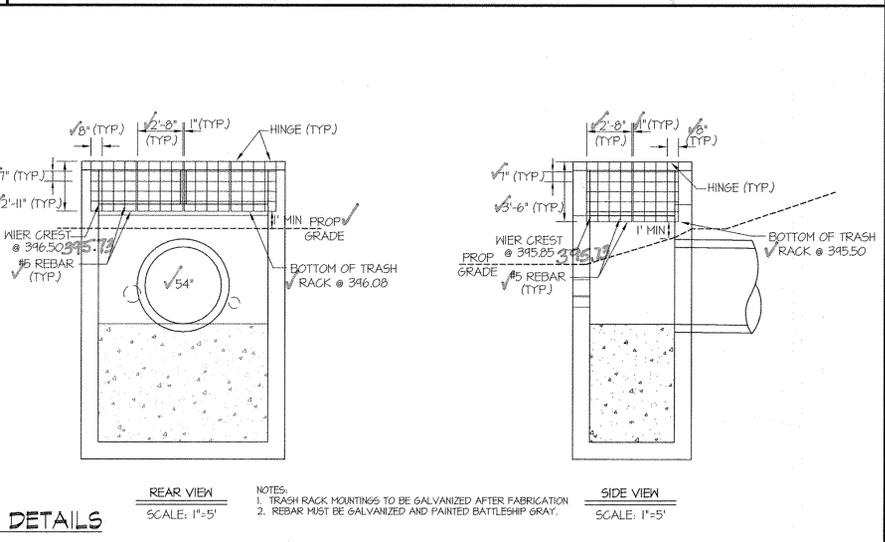
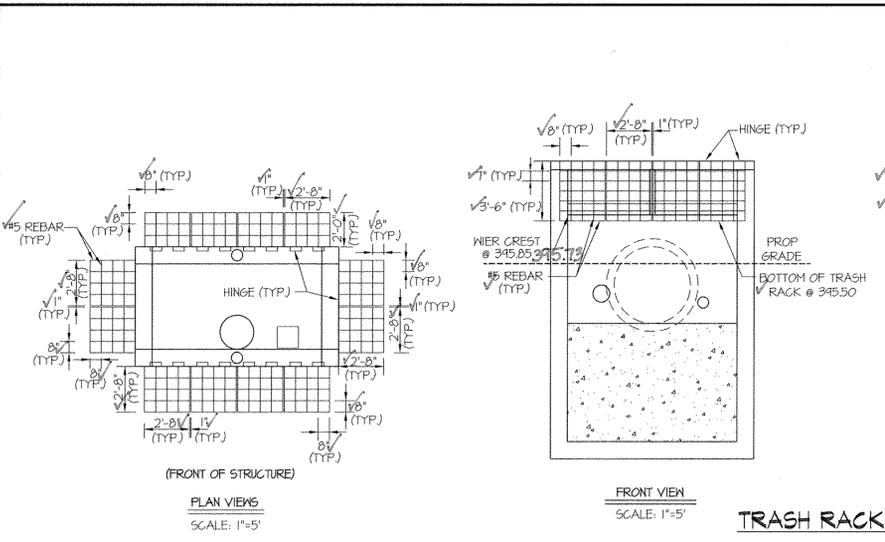
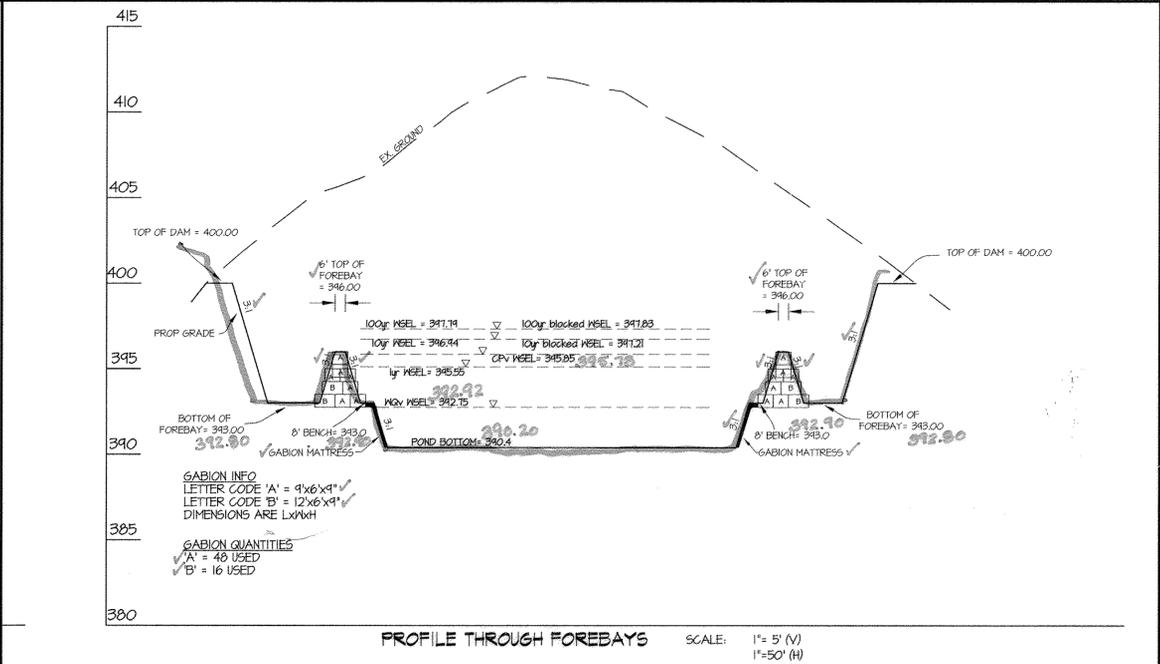
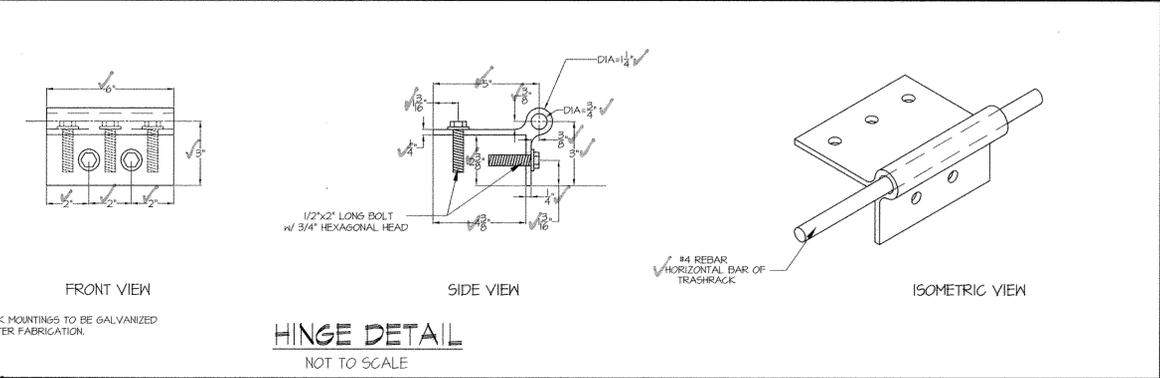
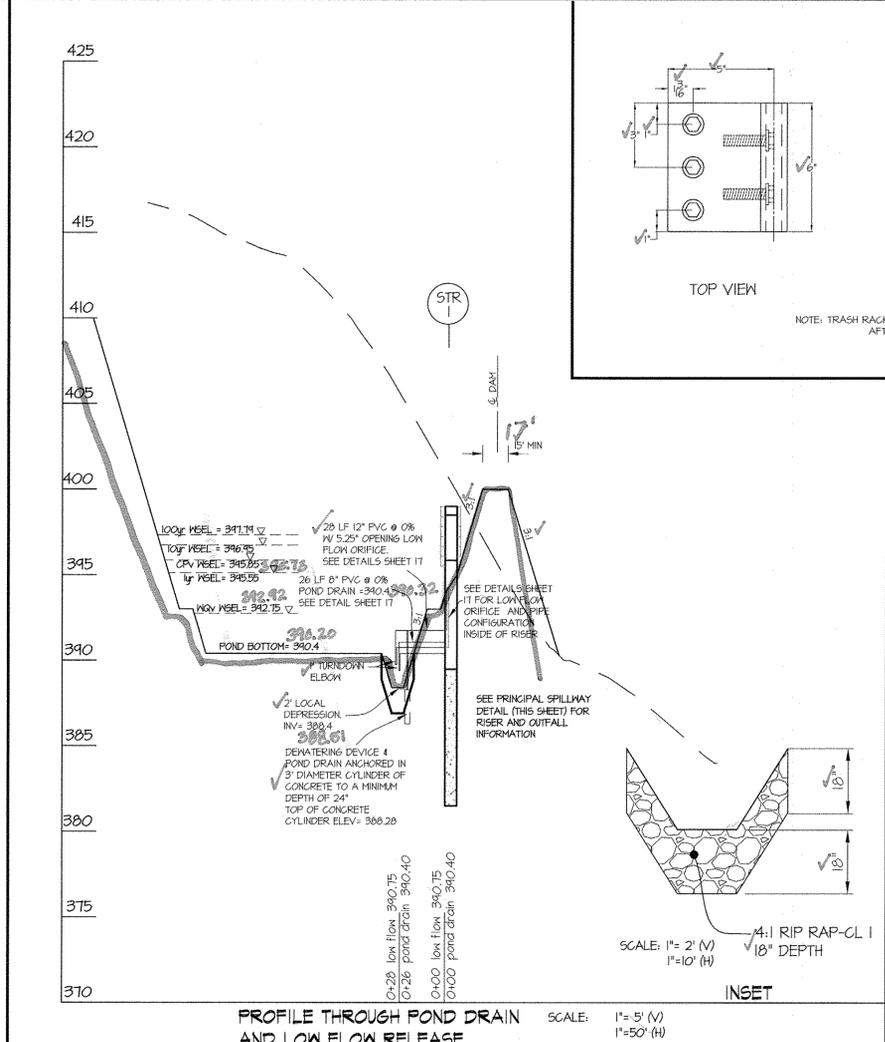
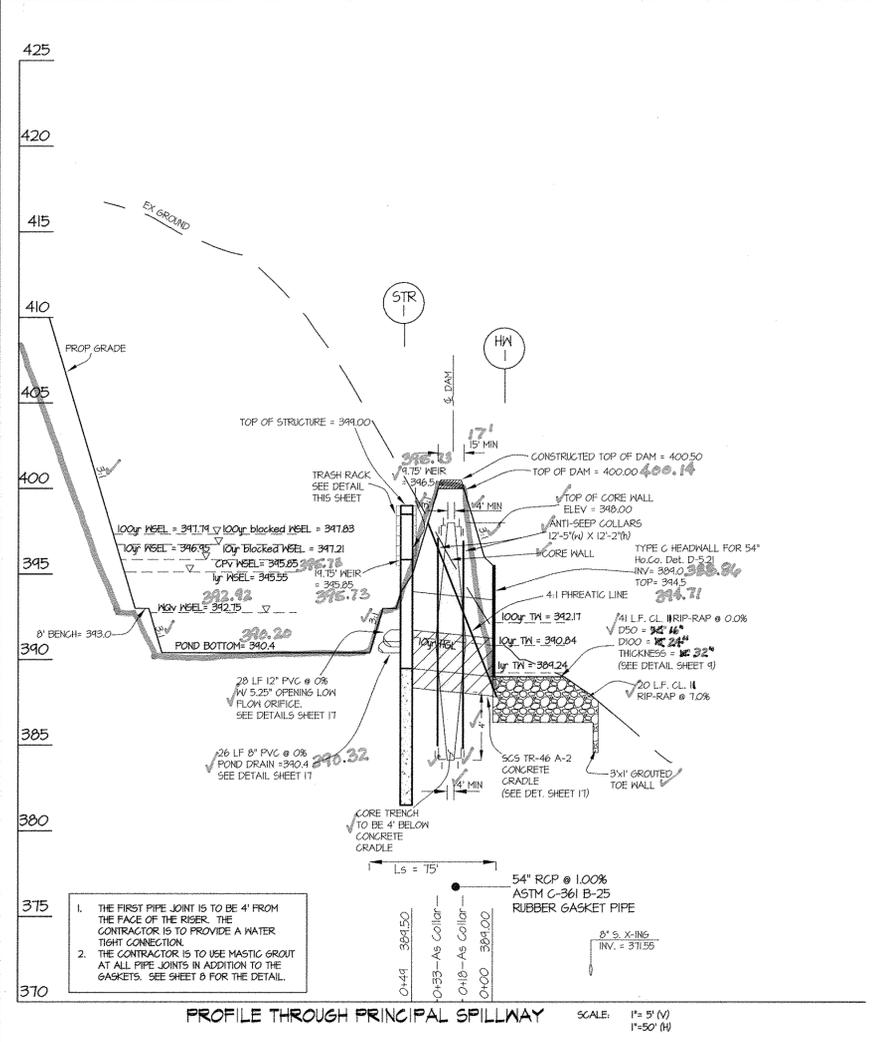
PREPARED FOR:
 G&R DEVELOPMENT, INC.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: MARK BENNETT
 410-484-8400

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12915, EXPIRATION DATE: MAY 26, 2018



ELECTION DISTRICT No. 5

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	09001
DATE	TAX MAP - GRID	SHEET
JUNE 2016 DEC, 2011	41-21/46-3	16 OF 20



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 3-1-12

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND HONORABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 Date: 2/2/12

BUILDER'S CERTIFICATE
 I ME CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Date: 2/2/12

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975.
 Date: 2/16/12

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

DATE	REVISION	BY	APP'R

PREPARED FOR:
 G&R DEVELOPMENT, INC.
 SUITE 300 WOODHOLME CENTER
 1829 REGISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: MARK BENNETT
 410-484-8400

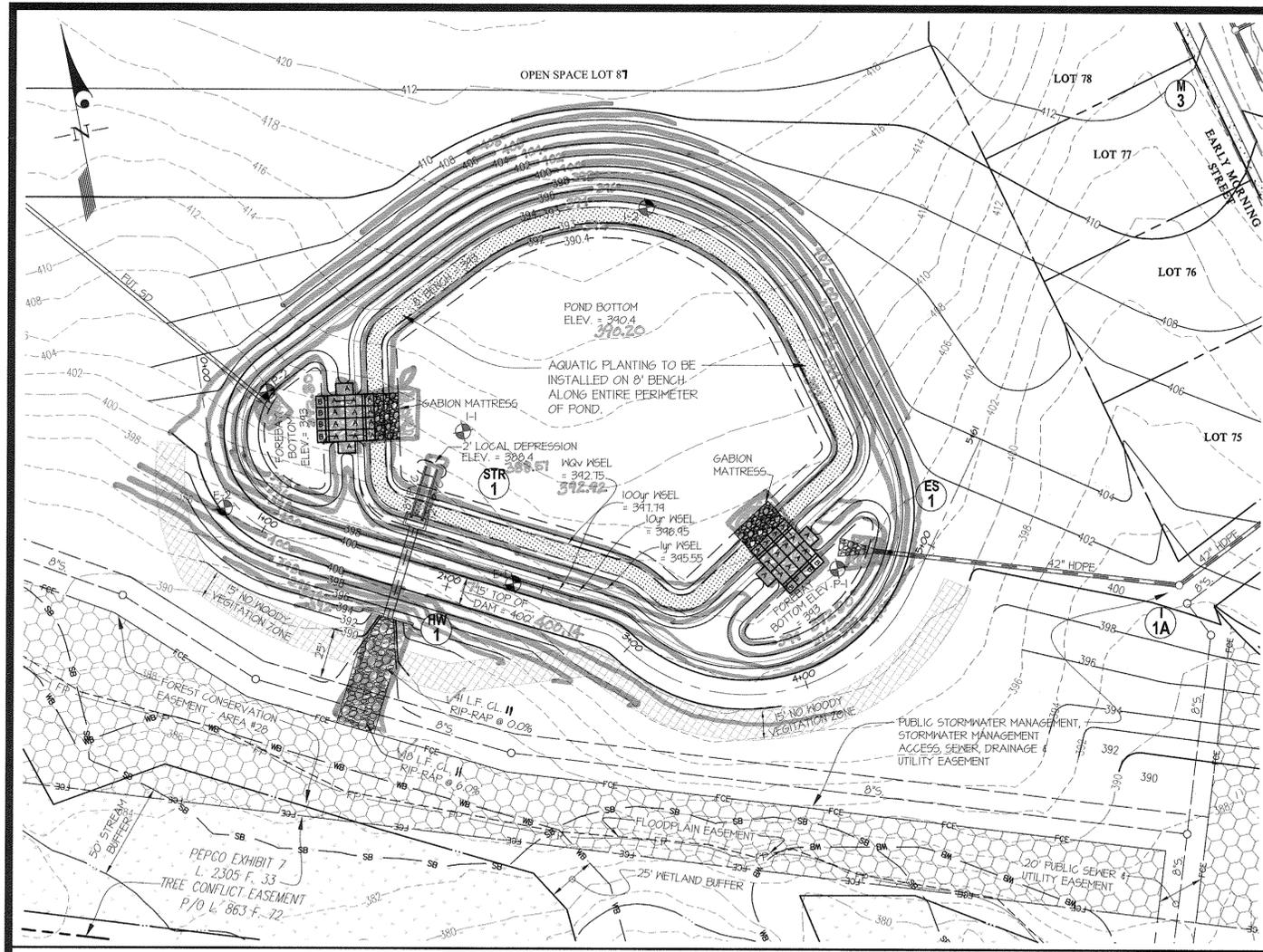
ASBUILT CROSS SECTION OF DAM ALONG CENTERLINE SCALE: 1"=5' (V) 1"=50' (H)

ASBUILT SHEET 5 OF 6

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	09001
DATE: June 2011	TAX MAP - GRID: 41-21/46-3	SHEET: 18 OF 20

MAPLE LAWN FARMS
 MIDTOWN WEST DISTRICT - AREA 1
 LOTS 1-9, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92

HOWARD COUNTY, MARYLAND

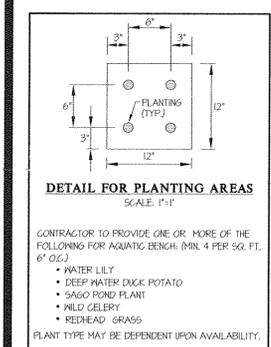


STORMWATER MANAGEMENT POND 1 ENLARGEMENT / PLANTING PLAN SCALE: 1" = 40'

STORMWATER MANAGEMENT POND 1
 STORMWATER MANAGEMENT POND 1 PROVIDES QUALITY CONTROL (QW) AND QUANTITY CONTROL FOR 40.2 ACRES OF THE PROPOSED DEVELOPMENT. POND IS PROVIDED VIA A PERMANENT POOL. C/PV IS PROVIDED VIA EXTENDED DETENTION. SAFE PASSAGE OF THE 100-YEAR DESIGN STORM HAS BEEN ANALYZED FOR THE BLOCKED CONDITION AND A MINIMUM 2-FOOT OF FREEBOARD HAS BEEN PROVIDED.
 TYPE (PER MDE) : MET POND (P2)
 MD-318 HAZARD CLASS A FACILITY
 TOTAL DRAINAGE AREA TO FACILITY = 40.24 ACRES (AREA 1)
 CN = 52
 ZONING: MXD-3, 3.0% IMPERVIOUS
 TC = 0.31 HRS
 MOV PROVIDED = 1.36 AC-FT
 MOV/PERMANENT POOL WSEL = 392.75 **392.72**
 C/PV PROVIDED = 2.28
 C/PV WSEL = 395.85 **395.73**
 REV REQUIREMENT = 0.48 AC-FT
 REV TO BE PROVIDED BY INFILTRATION TRENCHES (SEE BELOW)
 1-YR (QP = 115 CFS) (WSEL = 395.50)
 10-YR (QP = 81.75 CFS) (WSEL = 396.45)
 100-YR (QP = 181.60 CFS) (WSEL = 397.70)
 100-YR BLOCKED FLOW (WSEL = 397.93)
 LAG: 16 HOURS
 8 FT AQUATIC BENCH = 393.00
 CUTOFF WALL PRECAST RISER STRUCTURE TO 54" RCP TO STREAM BUFFER
 T.O.D. = 400.00
 400.14
 *THE RECHARGE REQUIREMENT FOR THIS DRAINAGE AREA WILL BE PROVIDED BY INFILTRATION TRENCHES ON OPEN SPACE LOT 85 AND A FUTURE INFILTRATION TRENCH LOCATED ON A FUTURE OPEN SPACE LOT. THE INFILTRATION TRENCH ON OPEN SPACE LOT 85 WILL BE DESIGNED UNDER THIS PLAN SET AND PROVIDE 0.22 AC-FT OF INFILTRATION VOLUME. THE REMAINDER OF THE INFILTRATION VOLUME WILL BE DESIGNED UNDER A FUTURE PLAN SET.

POND CONSTRUCTION SPECIFICATIONS
 THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS FACILITIES. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.
SITE PREPARATION
 AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1. ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 20 FEET OF THE TOE OF THE EMBANKMENT.
 AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL. AREAS DESIGNATED ON THE PLANS, TREES, BRUSH, AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE.
 ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.
EARTH FILL
 MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH STONES GREATER THAN 6" FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE. CONSIDERATION SHALL BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOLOGICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOLOGICAL ENGINEER.
 MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT.
 PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8-INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.
 COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR PASSES OF A SHEEPSFOOT, RUBBER Tired OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.
 WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 98% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 1.5% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).
 EMBANKMENT CORE - THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE TOP WIDTH OF THE CORE SHALL BE A MINIMUM OF FOUR FEET. THE HEIGHT SHALL EXCEED UP TO AT LEAST THE 10-YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1:1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.
STRUCTURE BACKFILL
 BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER PIPE.
 STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS SECTION 201.04. THE MIXTURE SHALL HAVE A 100-300 PERCENT (30% UNCOMPACTED) COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE A MINIMUM PH OF 4.0 AND A MINIMUM RESISTIVITY OF 2000 OHM-CM. MATERIAL SHALL BE PLACED SUCH THAT A MINIMUM OF 6" (MEASURED PERPENDICULAR TO THE ZOOOD OF THE PIPE) OF FLOWABLE FILL SHALL BE UNDER (BEDDING) OVER AND ON THE SIDES OF THE PIPE. IT ONLY NEEDS TO EXTEND UP TO THE SPRING LINE FOR RISER CONDUITS. AVERAGE SLOPE OF THE FILL SHALL BE 1" TO 1" TO ASSURE FLOWABILITY OF THE MATERIAL. ADEQUATE MEASURES SHALL BE TAKEN (SAND BAGS, ETC.) TO PREVENT FLOATING OF THE PIPE. WHEN USING FLOWABLE FILL, ALL METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADDITIONAL SOIL FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL SHALL COMPLETELY FILL ALL VOIDS ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. BACKFILL MATERIAL OUTSIDE THE STRUCTURAL BACKFILL (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO OTHER EMBANKMENT MATERIALS.

PLASTIC PIPE - THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:
 1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1105 OR ASTM D-2241. CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" - 10" HIGH DENSITY POLYETHYLENE SHALL MEET THE REQUIREMENTS OF AASHTO M225 TYPE 5, AND 12" THROUGH 24" HIGH SHALL MEET THE REQUIREMENTS OF AASHTO M24 TYPE 5.
 2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT.
 3. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
 4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
 5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.
CONCRETE
 CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 404, MIX NO. 3.
ROCK RIPRAP
 ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 301.
 GEOTECHNICAL SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 421.01, CLASS C.
CARE OF WATER DURING CONSTRUCTION
 ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DRAINS, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER "AVING" SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED, LEVELLED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DESIRED "WHATSOEVER" OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FILL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTION OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER SOPS FROM WHICH THE WATER SHALL BE PUMPED.
 STABILIZATION
 ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPILL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIME, FERTILIZING AND MULCHING.
 EROSION AND SEDIMENT CONTROL
 CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT SHALL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.
 OPERATION AND MAINTENANCE
 AN OPERATION AND MAINTENANCE PLAN IN ACCORDANCE WITH LOCAL OR STATE REGULATIONS WILL BE PREPARED FOR ALL PONDS. AS A MINIMUM, THE DAM INSPECTION CHECKLIST LOCATED IN APPENDIX A SHALL BE INCLUDED AS PART OF THE OPERATION AND MAINTENANCE PLAN AND PERFORMED AT LEAST ANNUALLY. WRITTEN RECORDS FOR THE SAFETY OF THE POND AND MAJOR REPAIRS NEEDS TO BE RETAINED IN A FILE. THE ISSUANCE OF A MAINTENANCE AND REPAIR PERMIT FOR ANY REPAIRS OR MAINTENANCE THAT INVOLVES THE MODIFICATION OF THE DAM OR SPILLWAY FROM ITS ORIGINAL DESIGN AND SPECIFICATIONS IS REQUIRED. A PERMIT IS ALSO REQUIRED FOR ANY REPAIRS OR RECONSTRUCTION THAT INVOLVE A SUBSTANTIAL PORTION OF THE STRUCTURE. ALL INDICATED REPAIRS ARE TO BE MADE AS SOON AS PRACTICAL.



PLANT LIST FOR STORMWATER MANAGEMENT PONDS

SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	NOTES
PERENNIALS/GROUND COVER				
SL	312	Sagittaria latifolia Duck Potato	1 pint cont. or bare root	12" o.c.
SP	635	Scirpus pungens Three-Square Bulrush	1 pint cont. or bare root	12" o.c.
FR	514	Polygonum reptans Jacob's Ladder	1 pint cont. or bare root	12" o.c.
PV	570	Peltandra virginica Arrow Arum	1 pint cont. or bare root	12" o.c.

NOTE: STORMWATER MANAGEMENT POND PLANTINGS ARE PER MDE 2000 REQUIREMENTS



PROFESSIONAL CERTIFICATION
 I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12475, Expiration Date: May 26, 2018.

8/11/16
 Date: *Edri K. Guttschick*
 Edri K. Guttschick
 Professional Engineer
 Maryland Reg. No. 12475

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. Z. Marshall
 Chief, Bureau of Highways
 3-1-12
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
K. T. Seidman
 Chief, Division of Land Development
 3/14/12
 Date

M. J. ...
 Chief, Development Engineering Division
 3/14/12
 Date

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Edri K. Guttschick
 ENGINEER'S SIGNATURE
 2/2/12
 DATE

BUILDER'S CERTIFICATE
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

John K. ...
 SIGNATURE OF DEVELOPER/BUILDER
 2/2/12
 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John K. ...
 HOWARD SOIL CONSERVATION DISTRICT

PIPE CONDUITS
 ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.
CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:
 1. MATERIALS - POLYMER COATED STEEL PIPE - STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (0.25 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 4 M-246 WITH WATERTIGHT COUPLING BANDS OR FLANGES.
 MATERIALS - ALUMINUM COATED STEEL PIPE - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-274 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED STEEL PIPE WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT THE NEED FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-H0 TYPE A. ANY ALUMINUM COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT.
 MATERIALS - ALUMINUM PIPE - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-H0 OR M-H1 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM PIPE WHEN USED WITH FLOWABLE FILL OR WHEN SOIL AND/OR WATER CONDITIONS WARRANT FOR INCREASED DURABILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-H0 TYPE A. ALUMINUM SURFACES THAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT. HOT DIP GALVANIZED STEEL BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE SURROUNDING SOILS SHALL BE BETWEEN 4 AND 8.
 2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC. MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.
 3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATERTIGHT. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT.
 ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRELATIONS TO ACCOMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE WITH A CIRCULAR 3/8 INCH CLOSED CELL NEOPRENE GASKET, PRE-PUNCHED TO THE FLANGE BOLT CIRCLE, SANDWICHED BETWEEN ADJACENT FLANGES; A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12-INCH WIDE HISSER TYPE BAND WITH O-RING GASKETS HAVING A MINIMUM DIAMETER OF 1/2 INCH GREATER THAN THE CORROSION DEPTH. PIPES 24 INCHES IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24 INCH LONG ANNULAR CORRUGATED BAND USING A MINIMUM OF 4 (FOUR) RODS AND LUGS, 2 ON EACH CONNECTING PIPE END. A 24-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET SHALL BE INSTALLED WITHIN 12 INCHES OF THE END OF EACH PIPE. FLANGED JOINTS WITH 3/8 INCH CLOSED CELL GASKETS THE FULL WIDTH OF THE FLANGE IS ALSO ACCEPTABLE.
 HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS WITH INTERNAL GALVANIZING OR A NEOPRENE BEAD.
 4. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.
 5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
 6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

HOWARD SOIL CONSERVATION DISTRICT OPERATION, MAINTENANCE AND INSPECTION NOTE
 INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN THE USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-318), THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND MAJOR REPAIRS NEEDS TO BE RETAINED IN A FILE. THE ISSUANCE OF A MAINTENANCE AND REPAIR PERMIT FOR ANY REPAIRS OR MAINTENANCE THAT INVOLVES THE MODIFICATION OF THE DAM OR SPILLWAY FROM ITS ORIGINAL DESIGN AND SPECIFICATIONS IS REQUIRED. A PERMIT IS ALSO REQUIRED FOR ANY REPAIRS OR RECONSTRUCTION THAT INVOLVE A SUBSTANTIAL PORTION OF THE STRUCTURE. ALL INDICATED REPAIRS ARE TO BE MADE AS SOON AS PRACTICAL.

OPERATION AND MAINTENANCE SCHEDULE FOR PUBLICLY OWNED AND JOINTLY MAINTAINED RETENTION POND

ROUTINE MAINTENANCE (BY HOMEOWNERS ASSOCIATION)

- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
- TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOVED A MINIMUM OF TWO (2) TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOVED AS NEEDED.
- DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AS NEEDED.
- VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS THE RIP-RAP OR GABION OUTLET SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE (BY HOWARD COUNTY)

- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
- SEDIMENT SHALL BE REMOVED FROM THE POND AND FOREBAY NO LATER THAN WHEN THE CAPACITY OF THE POND IS HALF-FULL OF SEDIMENT OR WHEN DEEDED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

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

PREPARED FOR:
 C&R DEVELOPMENT, INC.
 SUITE 300 WOODHOLME CENTER
 1829 REISTERSTOWN ROAD
 BALTIMORE, MD 21208
 ATTN: MARK BENNETT
 410-484-8400

DATE	REVISION	BY	APP'R.

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12475, EXPIRATION DATE: MAY 26, 2012.

2-2-12
Edri K. Guttschick
 PROFESSIONAL ENGINEER
 MARYLAND REG. NO. 12475

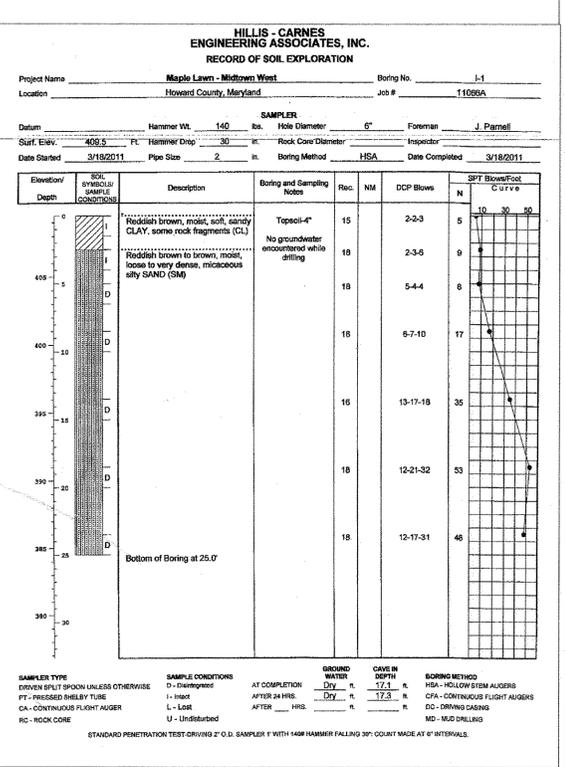
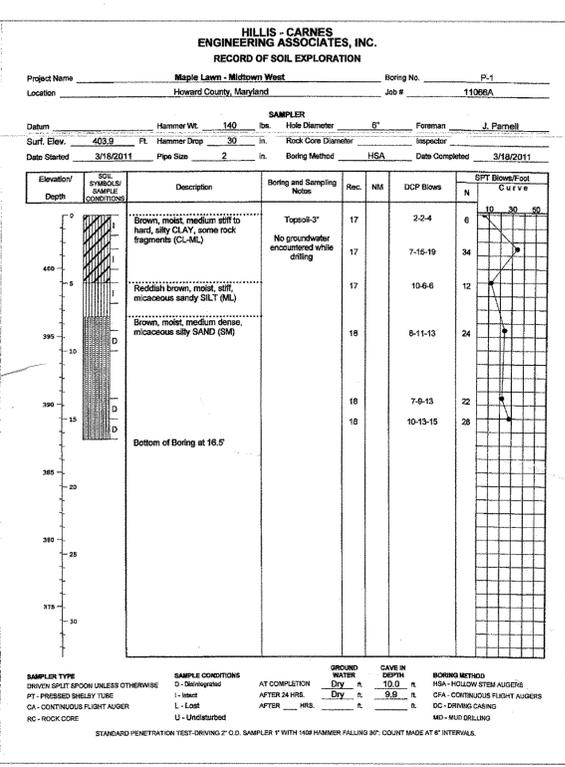
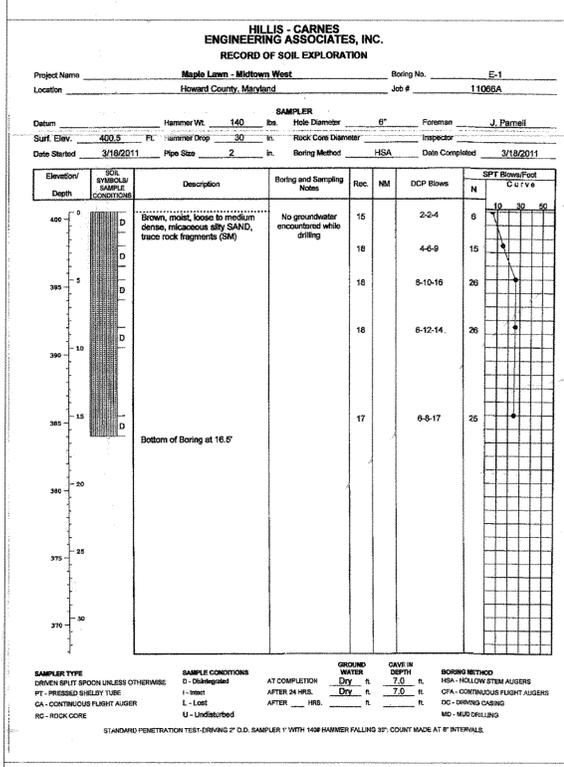
POND CONVERSION, DETAILS AND NOTES

MAPLE LAWN FARMS MIDTOWN WEST DISTRICT - AREA 1
 LOTS 19, 17-49, 52-65, 67-81, OPEN SPACE LOTS 83-88 AND COMMON OPEN AREA LOTS 89-92

ELECTION DISTRICT No. 5

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	MXD-3	09001
DATE JUNE 2016	TAX MAP - GRID 41-21/46-3	SHEET 19 OF 20

HOWARD COUNTY, MARYLAND



EVALUATION

Based on the State of Maryland's "2000 Maryland Stormwater Design Manual, Volumes I & II", infiltration basins and trenches are not acceptable practices when an infiltration rate of less than 0.52 inches per hour is obtained. Bioretention facilities in areas with in-situ infiltration rates of less than 0.52 inches per hour require underdrains. Also, the bottom of the facility should be located a minimum of 4 ft above the seasonally high water table and/or bedrock. Additionally, Howard County requires a minimum infiltration rate of 1.02 inches per hour.

Based on the in-situ infiltration rates measured and the above-noted criteria, infiltration methods of stormwater management are not feasible at the locations tested at this site.

EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION

The area of the SWM pond facility should be stripped of topsoil and any other unsuitable materials from the embankment or structure areas in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade materials should be profiled with a loaded dump truck or similar equipment in the presence of a geotechnical engineer or his representative. For areas that are not accessible to a dump truck, the exposed materials should be observed and tested by a geotechnical engineer or his representative utilizing a Dynamic Cone Penetrometer. Any excessively soft or loose materials identified by profiling or penetrometer testing should be excavated to suitable firm soil, and then grades re-established by backfilling with suitable soil.

A representative of the Geotechnical Engineer should be present to monitor placement and compaction of fill for the embankment and cut-off trench. In accordance with NRCS-MD Code No. 378 Pond Standards/Specifications, soils considered suitable for the center of embankment and cut-off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve.

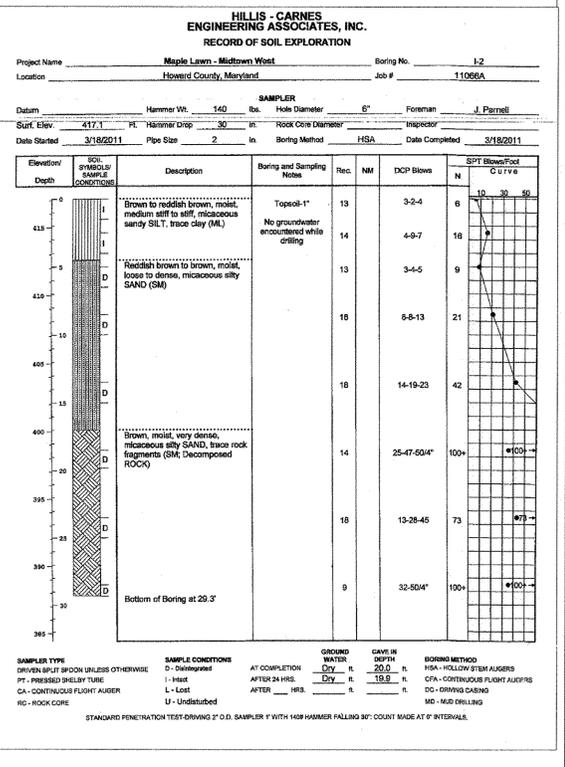
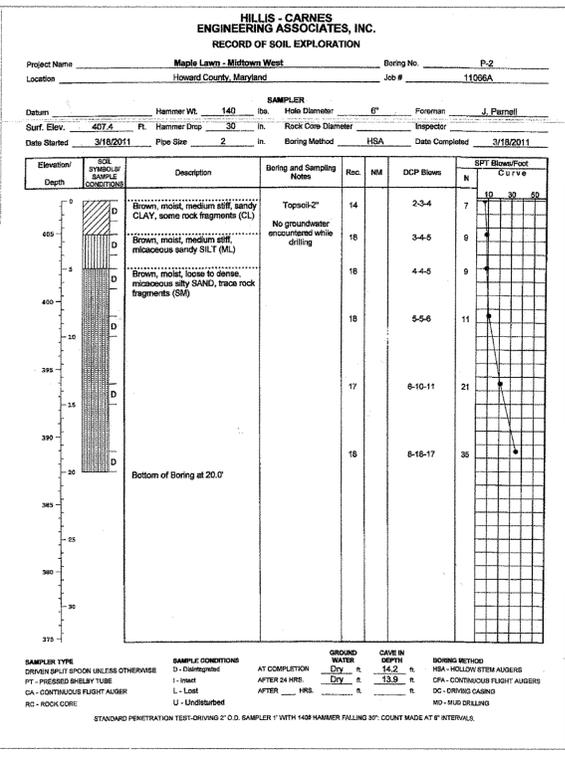
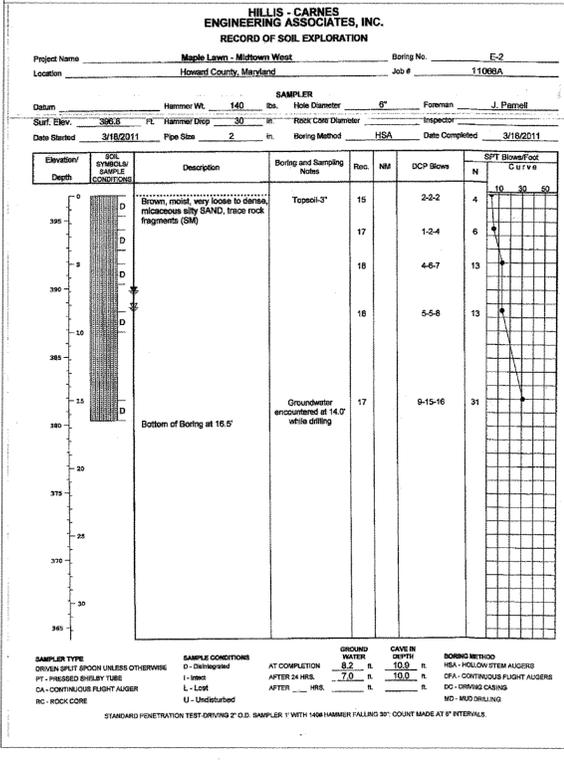
It is our professional opinion that in addition to the soil materials described above a fine-grained soil, including Silt (ML) with a plasticity index of 10 or more can be utilized for the center of the embankment and core trench. All fill materials must be placed and compacted in accordance with NRCS-MD Code No. 378 specifications.

REMARKS

The evaluations contained in this report are based on our understanding of the proposed construction, the data obtained from our field exploration, and our experience with the soils and subsurface conditions in this area. If there are any changes to the project characteristics, this office should be advised so that the evaluations made in this report may be re-evaluated.

The reader is referred to the Records of Soil Exploration in the Appendix for details related to the subsurface conditions encountered in the borings. It should be noted that stratification lines shown on the Records of Soil Exploration represent approximate transitions between material types. In-situ, strata changes could occur gradually or at slightly different levels. Also, it should be noted that the soil borings depict conditions at the particular locations and at the particular times indicated. Some conditions, particularly groundwater conditions, could change with time.

We appreciate having been of service to you in the subsurface exploration of this project and we are prepared to assist you during the construction phase as well. If you have any questions concerning the contents of this report or any of our consulting, design, testing, and inspection services, please contact this office.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
W. R. M... 3-1-12
Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
K. S. S... 3/14/12
Chief, Division of Land Development

C. D. D... 3/14/12
Chief, Development Engineering Division

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

[Signature] 2/2/12
ENGINEER'S SIGNATURE DATE

BUILDER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 2/2/12
SIGNATURE OF DEVELOPER/BUILDER DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 2/16/12
HOWARD S.C.D. DATE

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

DATE	REVISION	BY	APPR.

PREPARED FOR:
C&R DEVELOPMENT, INC.
SUITE 300 WOODHOLME CENTER
1829 REISTERSTOWN ROAD
BALTIMORE, MD 21208
ATTN: MARK BENNETT
410-484-8400

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12275.
EXPIRATION DATE: MAY 26, 2012
2-2-12 *[Signature]*

SOIL BORINGS AND RECOMMENDATIONS		SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN		AS SHOWN	MXD-3	09001
DATE	TAX MAP - GRID	SHEET		
DEC., 2011	41-21/46-3	20 OF 20		

NO ASBUILT INFORMATION

ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND