GENERAL NOTES

1. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.

2. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.

3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.

4. Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.

5. Street light placement and the type of fixture pole shall be in accordance with the Howard County Design Manual, Volume III (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993).

   A minimum spacing of 20'shall be maintained between any street light and any tree.

6. The existing topography is taken from field run survey with maximum two foot contour intervals prepared by Shandberger & Lane June 27, 2008 and December 10, 2014.

7. The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System. Howard County Monument Nos. 30 HA and 36 BC were used for this project.

8. Water is public. Contract No. 24-4562D Little Patuxent.

9. Sewer is public. Contract No. 24-4562D Little Patuxent.

10. Stormwater Management for this site is provided by rooftop and non-rooftop disconnection credits. Privately maintained per previously submitted supplemental plan by Tesseract Sites, Inc. Preperation of Declaration of Covenants shall be done with the plat: required Site Development Plan. Additional stormwater management by drywells and micro-bioretention facilities on lots.

11. Existing utilities are based on plans of record, field run topography and field location by A.I. Data for underground, water, gas, electric, telephone, etc. located onsite.

12. There is no floodplain on this site.

13. There are no wetlands or streams on this site based on site inspection by Exploration Research, Inc. dated 12-19-14.

14. The traffic study for this project was prepared by the Mars Group, dated 1-10-08.

15. Project background information:

    Subdivision Name: Mill Haven, Tax Map 36, Parcel 2, Zoning: R-12, Election District: 6th, Total Tract Area 1.3652 Ac., Number of Proposed Lots 3, DPZ Reference Number F-08-121, F-86-23, F-90-133, SDP 94-74.

16. Waiver to Design Manual Volume III, Section 2.5.B.9 to allow the use of stopping sight distance instead of intersection sight distance was approved March 18, 2008.

17. Waiver to Design Manual Volume II, Section 5.4.B.5. to allow a sewer easement within 10' of an existing house was granted on August 11, 2008.

18. Waiver to Design Manual Volume II, Section 5.3.B.1 to allow a utility easement of 18-foot width was granted on August 11, 2008.

19. This Plan complies with the requirements of Section 16.1200 of the Howard County Code for Forest Conservation by payment of a fee of $6584 (8,712 Sq.Ft. X $0.75/Sq.Ft.)

20. The contractor shall test pit existing utilities at least five (5) days before starting work shown on these drawings to verify their location and elevation. The contractor shall notify the engineer immediately if location of utilities is other than shown.

21. Any damage caused by the Contractor to existing public right-of-way, existing paving, existing curb, and gutter, existing utilities, etc. shall be repaired at the Contractor's expense.

22. All hydraulic data is for the 10-year storm unless otherwise noted.

23. All fill areas shall be compacted to a minimum of 95% of the maximum dry density as determined and verified in accordance with AASHTO T-180.

24. All plan dimensions are to face-of-curb unless otherwise noted. Numerically written dimensions take precedence after scale dimensions.

25. There are no known cemeteries, burial grounds or historic sites and structures on this site.

26. No grading, removal of vegetative cover of trees, paving and new structures shall be permitted within the required wetlands, streams, or their buffers, forest conservation easement areas and 100 year floodplain.

27. Existing structure on lots 6 & 7 shall be removed.

28. A fee-in-lieu of open space of $3000.00 will be provided upon submission of the original final plats for signature.

29. All sign posts used for traffic control signs installed in the County right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel perforated, square tube sleeve (12 gauge) - 3' long. A galvanized steel pole cap shall be mounted on top of each post.

30. Landscaping for lots 5, 6 and 7 is provided in accordance with a certified landscape plan on file with this plat in accordance with section 16.124 of the Howard County Code and the landscape manual. landscape surety in the amount of $3600.00 (3 shade trees, 4 evergreen trees, and 7 street trees) shall be posted as part of the developer agreement.

31. The private range of address sign shall be fabricated and installed by Howard County Bureau of Highways at the developers expense. Contact Ho.Co. DPW Traffic at 313-5752.

32. In a letter dated August 29, 2008 Howard County Department of Planning and Zoning granted a Design Manual waiver from Sections 2.5.B.9 (Required Stopping Sight Distance) and 2.4.D (Modified Curb and Gutter) of Volume III and from Detail R-1.03 (Non-Typical Paving Section) of Volume IV.

33. Driveways shall be provided prior to issuance of a use and occupancy permit for any new dwellings to insure safe access for fire and emergency vehicles per the following minimum requirements:
    Width - 12' (16' serving more than one residence)
    Surface - 6" of compacted crusher run base with tar and chip coating (1-1 1/2" min)
    Geometry - max. 15% grade, max 10% grade change and min. 45' turning radius
    Structure (culverts/bridges) - capable of supporting 25 gross tons (H25 loading)
    Drainage elements - safely passing 100-year flood with no more than 1 foot depth over driveway surface
    Maintenance - sufficient to insure all weather use

34. For flag or pipestem lots, refuse collection, snow removal, and road maintenance are provided to the junction of the flag or pipestem and road right-of-way line and not onto the pipestem lot driveway.

35. On June 19, 2014 the planning director approved WP-14-133 which granted a waiver of section 16.144.(r).(6). of the subdivision and land development regulations, which required submission of the final plat original within 180 days of the final plan approval. approval of WP-14-133 is subject to the following conditions:
1. Applicant must hold a pre-submission community meeting prior to the submission of the revised final plans.
2. Applicant must submit a revised plan for review by the src agencies within 6 months of waiver approval.
3. The signed water and sewer plans and signed road construction drawings must be revised reflecting any changes proposed on the final plat within 6 months of waiver approval.
4. 1/2 of the initial processing fee must be paid at the time of submission of the revised final plan.
5. Plan must comply with any fee changes per the county fee schedule.
6. No new lots my be created with the re-activation of F-08-121.
7. Final plan must comply with all current county and state regulations.
8. Any removal of specimen trees will require the submission and approval of a waiver petition.
9. After review and approval of the final plan is complete, the subdivision will be tested for availability of housing unit allocations and the open/closed schools test in accordance with the adequate public facilities ordinance

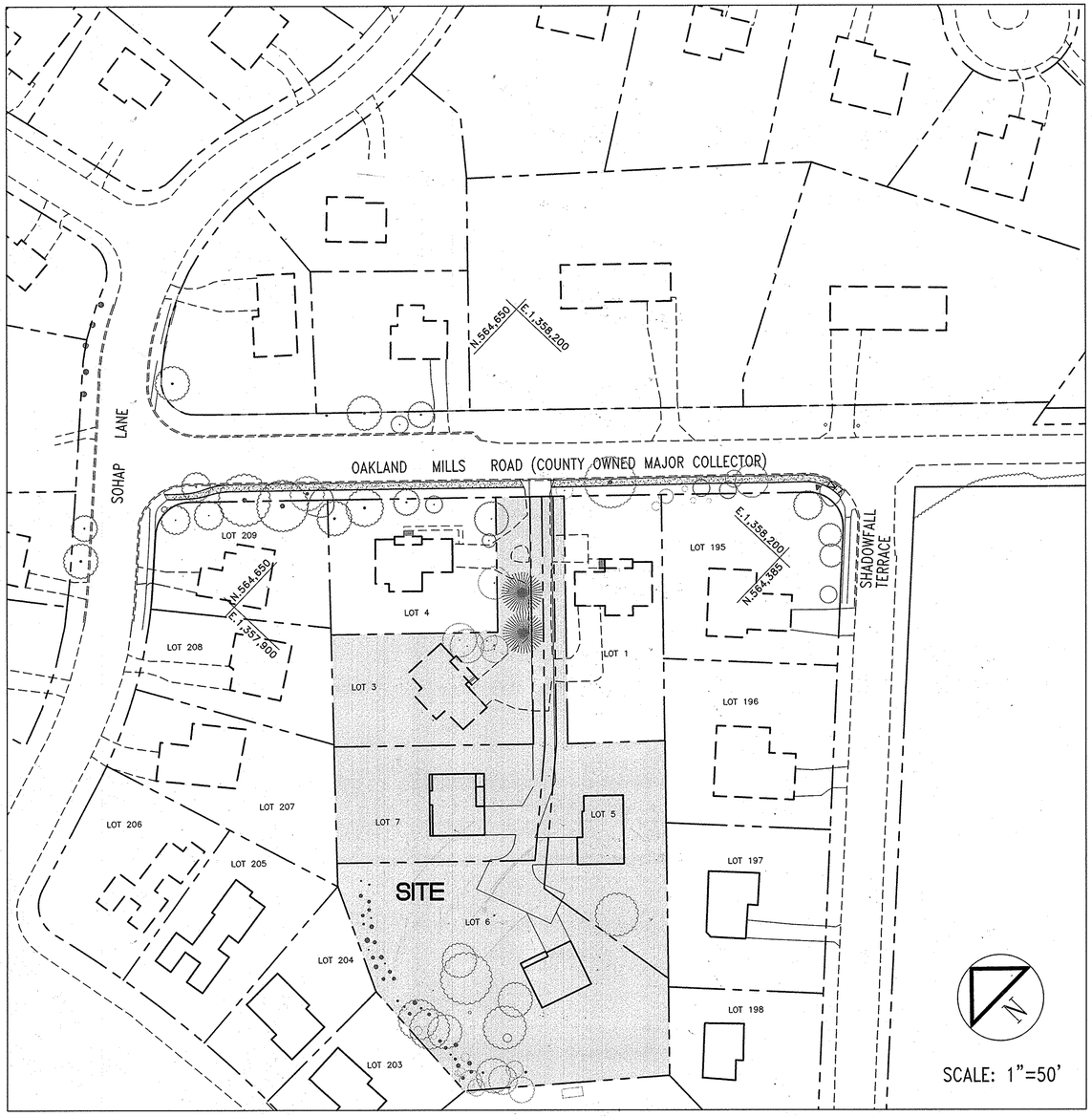
36. A preadmission meeting for this subdivision was held on August 6, 2014.

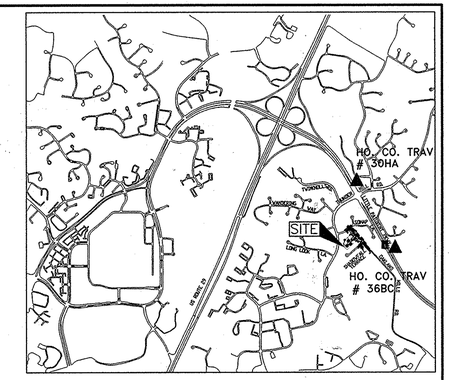
37. WP 04-150, WP 10-046, WP 11-075, WP 12-095; were approved to extend time to complete developer agreements and submit plat originals for signature.

38. At this time there are no allocations available for this planning area. When allocations are available, the Developer's Agreements and Declaration of Covenants shall be submitted for recordation, followed by the record plat.

APPROVED: DEPARTMENT OF PUBLIC WORKS	
Chief, Bureau of Highways	Date 3-26-2015
APPROVED: DEPARTMENT OF Planning & Zoning	
Chief, Division of Land Development	Date 4-06-15
Chief, Development Engineering Division	Date 4.1.15

DATE	REVISION
12/31/14	REVISED TO REFLECT CURRENT CONDITIONS AND REACTIVATION.





LOCATION MAP
SCALE :1"=2,000' ADC MAP 15 K-6

BENCHMARK DESCRIPTIONS

The courses and coordinates shown hereon are based on the following Howard County monuments:

Point	Northing	Easting	Elevation
30HA	566,030.6022	1,357,989.5726	387.036
36BC	563,264.1031	1,359,585.7446	410.028

General Notes Continued:

39. On November 6, 2014 the planning director approved WP-15-051 which allows the removal of one (1) of the four (4) specimen trees which have been identified to be located with the boundaries of this site. Approval of WP-15-051 is subject to the following conditions:

    As mitigation for the requested removal of one (1) specimen tree located within this site, the developer is required to plant a 2" caliper native shade tree material along the rear perimeter of proposed Lot 7. This tree will be shown on the landscaping plan and will be bonded with the landscaping surety.

    On the final plan (F-08-121) and all subsequent plans and/or plats, provide a brief description of waiver petition, WP-15-051, as a general note to include requests, sections of the regulations, action and date.

40. Temporary use Case No. 14-009 5626 Oakland Mills Road was granted December 8, 2014.

SHEET INDEX

SUMMARY OF ESDS

LOT 5	2 DRY WELLS	M-5
LOT 6	MICRO BIO RETENTION	M-6
LOT 7	MICRO BIO RETENTION	M-6

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. 14230, Expiration Date: 12/09/16.

Cover Sheet

for

OAKLAND MILLS ROAD

Howard County, Maryland

PARCEL 2 LOTS 3, 5-7

OWNER /DEVELOPER:
Michael Balakirsky
11755 Brogdon Wood
Clarksville, MD 21029
Phone: 410-340-7823

Tesseract™
TESSERACT SITES, INC
401 Washington Ave. Suite 303 p. 410.321.7600
Towson, Maryland, 21204 F. 410.321.7601

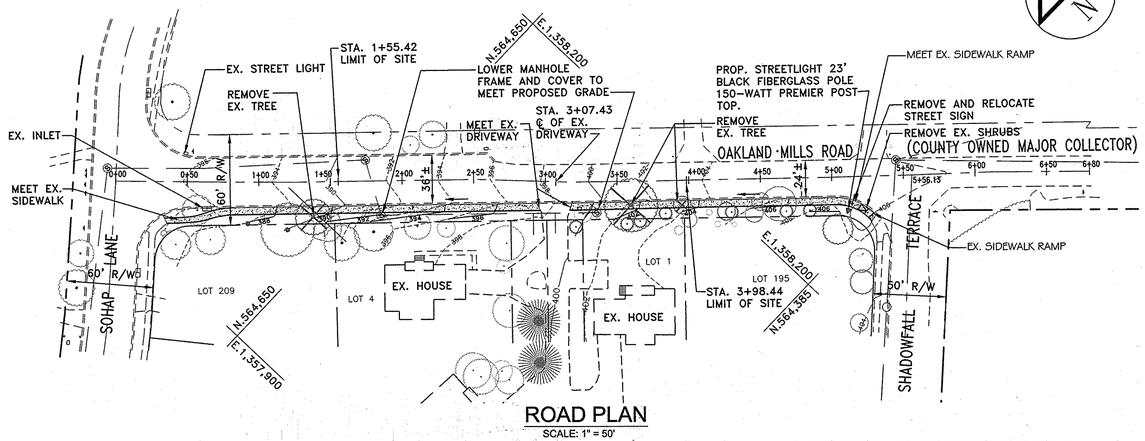
Revised Final Plan
MILL HAVEN LOTS 3, 5-7
OAKLAND MILLS ROAD
6th Election District, Howard County
Parcel 2
Zoning R-12

Cover Sheet

Date: March 13, 2015
Proj. No. 07015
Scale: 1"=50'

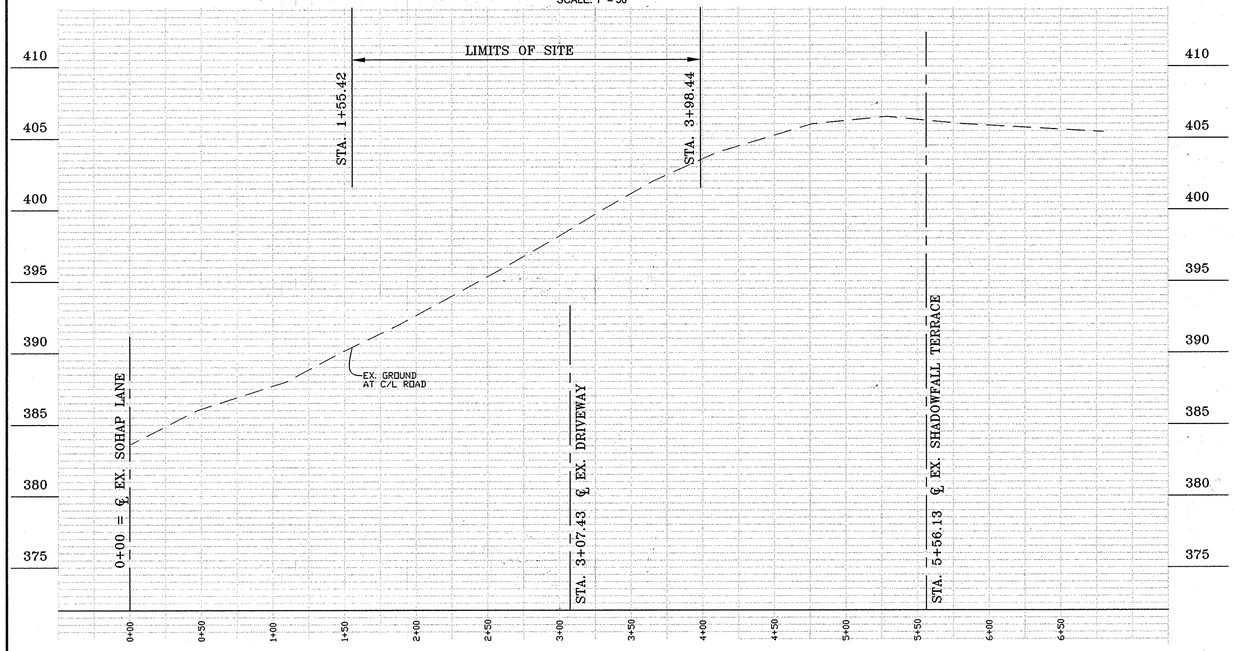
1 of 7

F-08-121



ROAD PLAN

SCALE: 1" = 50'



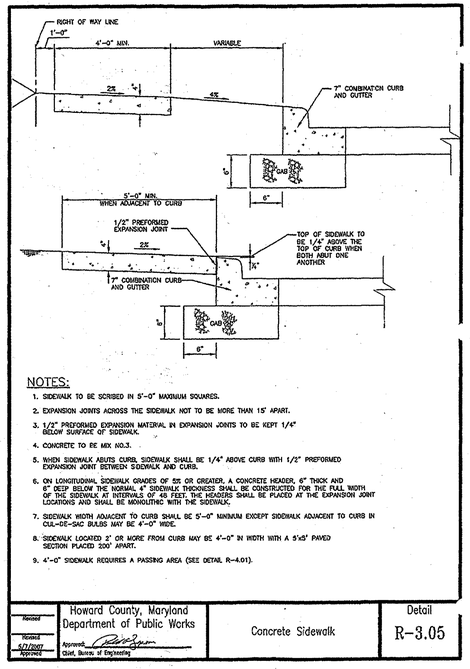
OAKLAND MILLS ROAD PROFILE

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

COUNTY ROAD
MAJOR COLLECTOR
ZONING = R-12
DESIGN SPEED 40 MPH

LEGEND

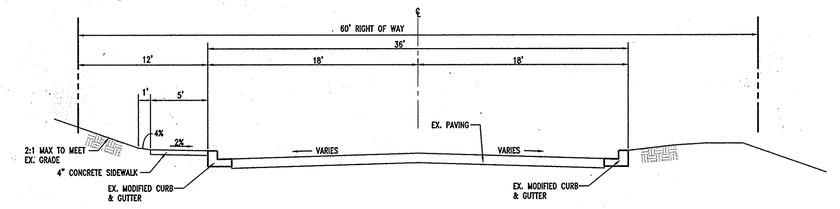
- EXISTING BUILDING
- EXISTING CONTOURS (400 / 398)
- PROPOSED CONTOURS (400 / 398)
- EXISTING ROADS
- EXISTING WALKS
- PROPOSED WALKS
- EXISTING TREE
- PROPOSED TREE
- LIMIT OF DISTURBANCE · · LOD · ·



NOTES:

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

Revised / Revised / Approved	Howard County, Maryland Department of Public Works — Approved: Chief, Bureau of Engineering	Concrete Sidewalk	Detail R-3.05



1 CLOSED SECTION - OAKLAND MILLS ROAD — NOT TO SCALE

MAJOR COLLECTOR
DESIGN SPEED 40 MPH STA. 0+44 TO STA. 5+35
ZONING R-12

IN THE MATTER OF MICHAEL BALAKIRSKY, PETITIONER
* BEFORE THE DIRECTOR OF
* DEPARTMENT OF PLANNING & ZONING
* TEMPORARY USE PERMIT CASE NO. 14-009
* 5626 OAKLAND MILLS ROAD

DECISION AND ORDER

On December 2, 2014 the Designee for the Director of the Department of Planning and Zoning conducted a public hearing to consider the petition of Michael Balakirsky, for authorization of a Temporary Use of land for an existing house in accordance with Section 132.0 of the Howard County Zoning Regulations. The notice of the hearing was posted on the subject property in accordance with all applicable regulations. Prior to the introduction of testimony, the following items were incorporated into the record by reference:

1. The Howard County Zoning Regulations.
2. The Subdivision and Land Development Regulations.
3. The Administrative Procedures Act of the Howard County Code.

During the hearing the following items were introduced as exhibits:

1. Petition and Temporary Use Plan submitted by Petitioner.
2. Photographs of the public notice posters submitted by the Department of Planning and Zoning.

Michael Balakirsky testified in favor of the petition. The Petitioner was not represented by counsel. There was no opposition to the petition.

Mr. Balakirsky testified that the temporary use approval is being sought because the lien holder requires documentation that the house may remain until the lots are recorded. He said that the house is unoccupied, electricity has been disconnected and the well has been sealed. He also stated he has started the process for a demolition permit and as soon as the lots are recorded the house will be demolished.

Based upon the testimony and exhibits presented at the hearing, the description of the subject property and vicinal properties resulting from a site inspection by a member of the planning staff, as well as the plans and materials submitted by the Petitioner as part of the petition, the Director makes the following

Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. The subject property is located on the southwest side of Oakland Mills Road approximately 260 feet southeast of Sohap Lane. The Property is identified as Tax Map 36, Grid 4, Parcel 2, and the address is 5626 Oakland Mills Road (the "Property"). The 1.36 acre Property is irregular in shape and located in an R-12 Zoning District.
2. The Property is the site of a single-family detached dwelling. The Property is in the subdivision process under F-08-121 and the existing house would be situated across a proposed lot line of the new subdivision and constitute a zoning violation of required zoning setbacks. The Petitioner requests a Temporary Use to allow the existing house to remain on the lot in its current configuration during the processing of the subdivision plat.
3. Adjoining properties to the northeast are zoned R-12 and all other adjoining properties are zoned NT. These lots are predominately improved with single-family detached dwellings.

CONCLUSIONS OF LAW

Based upon the foregoing Findings of Fact, the Director makes the following Conclusions of Law: Section 132.0 of the Zoning Regulations authorizes the Director of the Department of Planning and Zoning to approve a Temporary Use for a period not to exceed 90 days, provided the Director determines that the use will not adversely affect vicinal properties, and that the use does not require significant or permanent changes to the existing topography, vegetation, structures or other features of the site.

1. The Petitioner has provided sufficient evidence to establish that the Temporary Use will not adversely impact vicinal properties.
2. The Temporary Use would allow an existing structure to remain and would not require changes to the existing topography, vegetation, structures or other features of the Property.

ORDER

Based upon the foregoing Findings of Fact and Conclusions of Law, it is this 8th day of December, 2014 by the Director of the Department of Planning and Zoning for Howard County, ORDERED that the petition of Michael Balakirsky for authorization of a Temporary Use of land for an existing house to remain on the Property for a period of 90 days from the date of approval of this Decision and Order is hereby GRANTED, subject to the following conditions:

1. The Petitioner shall comply with all applicable Federal, State and County laws and regulations.
2. The Petitioner shall conduct the Temporary Use in substantial conformance with the recorded testimony and the information in the petition.
3. All temporary improvements shall be removed from the Property within five days of the termination of the 90 day use period.

Prepared By:
Howard County Department of Planning and Zoning

Marsha McLaughlin, Director
Department of Planning and Zoning

Zoni Eidelwein, Director's Designee
Department of Planning and Zoning

Notice: A person aggrieved by this decision may appeal it to the Howard County Board of Appeals within 30 days of the issuance of the decision. An appeal must be submitted to the Department of Planning and Zoning on a form provided by the Department. At the time the appeal petition is filed, the person filing the appeal must pay the appeal fees in accordance with the current schedule of fees. The appeal will be heard *on a de novo basis* by the Board. The person filing the appeal will bear the expense of providing notice and advertising the hearing.

NOTE: DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM HORIZONTAL –NAD 83/91, VERTICAL–NAVD 88

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. 14230, Expiration Date: 12/09/16.

Tesseract™
TESSERACT SITES, INC
401 Washington Ave, Suite 303
Towson, Maryland, 21204
p. 410.321.7600
f. 410.321.7601

Revised Final Plan
MILL HAVEN LOTS 3, & 5-7
OAKLAND MILLS ROAD
6th Election District, Howard County
Parcel 2
Zoning R-12

Road Plan

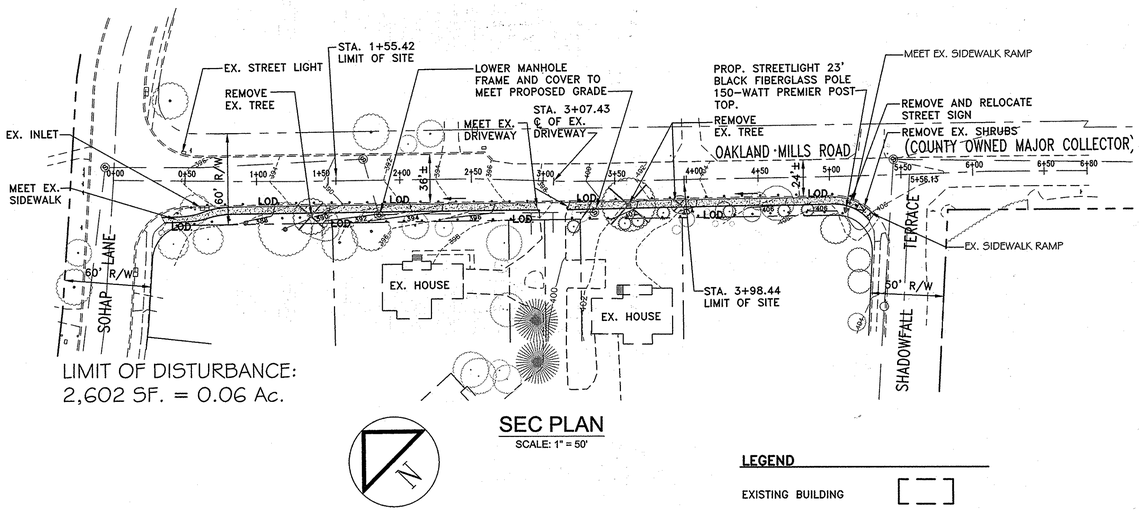
APPROVED: DEPARTMENT OF PUBLIC WORKS		DATE	REVISION
Chief, Bureau of Highways	Date 3.26.2015	12/31/14	REVISED TO REFLECT CURRENT CONDITIONS AND REACTIVATION.
APPROVED: DEPARTMENT OF Planning & Zoning			
Chief, Division of Land Development	Date 4.06.15		
Chief, Development Engineering Division	Date 4.1.15		

OWNER /DEVELOPER:
Michael Balakirsky
11755 Bragdon Wood
Clarksville, MD 21029
Phone: 410-340-7823

Date: March 11, 2015
Proj. No. 07015
Scale: 1"=50'

2 of 7

F-08-121



SEC PLAN

SCALE: 1" = 50'

LEGEND

EXISTING BUILDING

EXISTING CONTOURS

PROPOSED CONTOURS

EXISTING ROADS

EXISTING WALKS

PROPOSED WALKS

EXISTING TREE

PROPOSED TREE

LIMIT OF DISTURBANCE · · LOD · · ·

STREET TREES REQUIRED

PROPERTY FRONTAGE ON OAKLAND MILLS ROAD = 244.13'
TREES REQUIRED = 1/40 = 244.13/40 = 6.1 7 REQUIRED
TREES PROPOSED = 7'
TREES SHALL BE ACER RUBRUM BOWHALL 2½" CALIPER

SEDIMENT AND EROSION CONTROL NOTE:

IF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR DEEMS STABILIZED CONSTRUCTION ENTRANCE (SCE) AND/OR STOCKPILE AREA NECESSARY, THEN CONTRACTOR SHALL PROVIDE THESE IN THE LOCATION SPECIFIED BY THE COUNTY INSPECTOR.

SIDEWALK SHALL BE CONSTRUCTED IN SEGMENTS THAT CAN BE BUILT AND STABLIZED IN ONE DAY. SILT FENCE AND/OR INLET PROTECTION SHALL BE PROVIDED AS DIRECTED BY THE COUNTY INSPECTOR.

STANDARD PLAN SHALL BE USED FOR SEDIMENT & EROSION CONTROL FOR LOD LESS THAN 30,000 SF.

APPROVED: DEPARTMENT OF PUBLIC WORKS

Chief, Bureau of Highways — Date 3.26.2015

APPROVED: DEPARTMENT OF Planning & Zoning

Chief, Division of Land Development — Date 4-06-15

Chief, Development Engineering Division — Date 4.1.15

DATE	REVISION
12/31/14	REVISED TO REFLECT CURRENT CONDITIONS AND REACTIVATION.

HOWARD SOIL CONSERVATION DISTRICT

STANDARD SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND TANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis:

Total Area of Site	1.37 Acres
Area Disturbed	0.14 Acres
Area to be paved	0.06 Acres
Area to be vegetatively stabilized	0.06 Acres
Total Cut	219 Cu. Yds.
Total Fill	0 Cu. Yds.

Offsite waste/borrow area location: None required.

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

1. Preferred -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
2. Acceptable -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding -- For the periods March 1 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/100() sq. ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by:

Option 1 -- Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 --Use sod. Option 3 --- Seer: with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance -- Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES.

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seedbed preparation: -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: -- Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

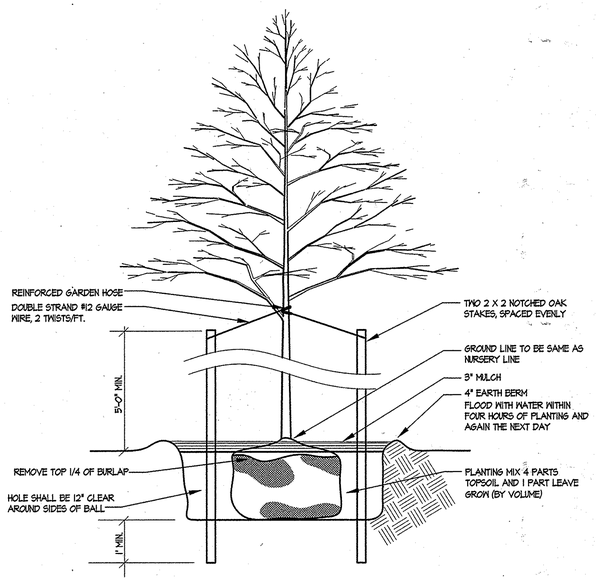
Seeding: -- For periods March 1 -- April 30 and from August 15 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). Fo~ the period November 16 -- February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MAR4AND STANDARDS AND SPECIFICATIONS FOR SOL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

SEQUENCE OF CONSTRUCTION

	NO. OF DAYS
1. OBTAIN GRADING PERMIT.	1
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.	5
3. CLEAR AND GRUB MINIMUM AREA REQUIRED FOR INSTALLATION OF SIDEWALK. CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE STABILIZED THE SAMEDAY.	2
4. COMPLETE SITE GRADING, REPLACE CURB AND GUTTER AND INSTALL SIDEWALK AND STREET LIGHT.	5
5. INSTALL TOPSOIL, FINE GRADE AND STABILIZE REMAINING DISTURBED/UNPAVED AREAS WITH SEED AND MULCH.	1
6. AFTER SITE IS PROPERLY STABILIZED, AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL REMINING DISTURBED AREAS.	1



DECIDUOUS TREE PLANTING DETAIL

WATER AND MAINTAIN PLANTS IN ACCORDANCE WITH THE SPECIFICATIONS. NOT TO SCALE
2-1/2" MIN. CALIPER

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. 14230, Expiration Date: 12/09/16.

Tesseract™
TESSERACT SITES, INC
401 Washington Ave. Suite 303
Towson, Maryland, 21204
p. 410.321.7600
F. 410.321.7601

Revised Final Plan

MILL HAVEN LOTS 3, & 5-7
OAKLAND MILLS ROAD

6th Election District, Howard County
Parcel 2
Zoning R-12

Sediment & Erosion Control Plan & Details

Date: March 11, 2015
Proj. No. 07015
Scale: 1"= 50'

3 of 7

OWNER /DEVELOPER:
Michael Balakirsky
11755 Bragdon Wood
Clarksville, MD 21029
Phone: 410-340-7823

F-08-121

LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE
	2	Quercus palustris Pin Oak	2 1/2"-3" Cal.	B & B
	4	Thuja occidentalis 'Emerald Green' Emerald Green Arborvitae	5'-6' Ht.	B & B
	4*	LIQUIDAMBAR STYRACIFLUA SWEETGUM	3"CAL	B&B

*FOR REPLACEMENT OF ST-1 PER WP-16-140

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES		
	1	2	3
Perimeter Designation Landscape Type	A	A	A
Linear Feet of Perimeter	245'	150'	281'
Credit for Existing Vegetation (Yes, No, Linear Feet) Remaining Perimeter Length	Yes, 89'* 156'	Yes, 68'* 82'	Yes, 110'* 171'
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) Remaining Perimeter Length	No	No	No
Number of Plants Required Shade Trees Evergreen Trees Shrubs	1:60 3 – –	1:60 1 – –	1:60 3 – –
Number of Plants Provided Shade Trees Evergreen Trees Other Trees (2:1 Substitution) Shrubs (10:1 Substitution) (Describe Plant Substitution Credits Below if needed)	1 4 – –	0** – – –	1*** – – –

* Credit taken for existing woodlands.
** Credit taken for 1 existing 12" tree.
*** Credit taken for 1 existing 6" tree and 2 existing pines.

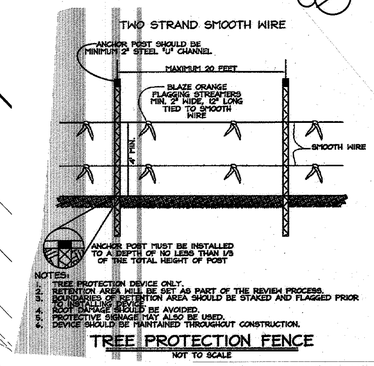
DATE	REVISION
12/31/14	REVISED TO REFLECT CURRENT CONDITIONS AND REACTIVATION.
2 10-13-16	ADD FOUR TREES TO REPLACE ST-1

	SPECIMEN TREE	CONDITION
~~ST-1~~	~~33.5" BLACK CHERRY~~	~~FAIR/GOOD~~
ST-2	32" ELM	FAIR/GOOD
ST-3	42.5" ELM	FAIR/GOOD
ST-4	31" HONEY LOCUST	FAIR/GOOD

2 REMOVED WP-16-140
REMOVED WP-15-051

LEGEND

- Ex. Shade Tree
- Ex. Evergreen
- Ex. Treeline
- Limit of Disturbance
- TPF — Tree Protection Fence
- Proposed Treeline
- Proposed Landscaping



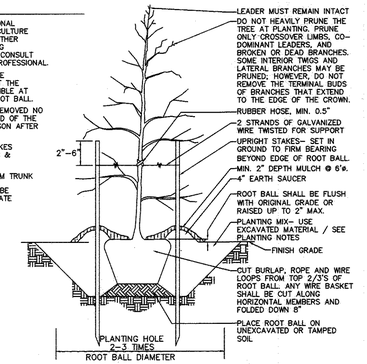
TREE PROTECTION FENCE
NOT TO SCALE

LANDSCAPE NOTES

1. At the time of installment, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from this approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to applicable plans and certificates.
2. The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
3. Financial surety for the required landscaping will be posted as part of the Developer's Agreement in the amount of $1,500 (3 shade trees @ $300.00 and 4 evergreens @ $150.00).
4. Trees with mature heights greater than 25' shall not be planted within 20' of overhead lines. Trees with mature heights greater than 40' shall not be planted within 45' of overhead lines.
5. No plant material shall be allowed to encroach on road right-of-ways so that sight distance is impeded.

NOTES

1. CONSULT INTERNATIONAL SOCIETY OF ARBORICULTURE GUIDELINES FOR FURTHER DETAILS OF PLANTING SPECIFICATIONS, OR CONSULT WITH A QUALIFIED PROFESSIONAL.
2. EACH TREE SHALL BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL.
3. STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON AFTER PLANTING.
4. PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
5. KEEP MULCH 1" FROM TRUNK
6. TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.



TYPICAL TREE PLANTING AND STAKING
ALL TREES SHALL BE A MINIMUM SIZE OF 2-1/2" CALIPER NOT TO SCALE

MANAGEMENT NOTES FOR TREE RETENTION AREAS

1. All proposed activities shall adhere to the conditions, schedules and terms of an approved sediment control and erosion plan.
2. After the boundaries of the retention area have been staked and flagged and before any disturbance has taken place on-site, a preconstruction meeting at the construction site shall take place. The developer, contractor or project manager, and appropriate County inspectors shall attend.
3. Tree protection for all retained areas:
   a. All retention areas within 50 feet of proposed construction activities shall be protected by highly visible, well anchored temporary protection devices (silt fence or tree protection fence).
   b. All protection devices shall be in place prior to any grading or land clearing.
   c. All protection devices shall be properly maintained and shall remain in place until construction has ceased.
   d. Attachment of signs, fencing or other objects to trees is prohibited.
   e. No equipment, machinery, vehicles, materials or excessive pedestrian traffic shall be allowed within protected areas.
4. If the critical root zone is affected by construction activities such as grade change, digging for foundations and roads or utility installation:
   a. Prune roots with a clean cut using proper pruning equipment.
   b. Water and fertilize as needed.
5. During construction phase, monitor and correct condition of retained trees for: soil compaction, root injury, flood conditions, drought conditions and other stress signs.
6. Post-Construction Phase
   a. Inspect existing trees around the perimeter of disturbed limits for evidence of soil compaction, root injury, limb injury, or other stress signs and correct with proper management techniques such as root or limb pruning, soil aeration, fertilization, crown reduction or watering. Inspection and evaluation shall be performed by a licensed arborist.
   b. Inspect for dead or dying trees or limbs which may pose safety hazard and remove.
   c. No burial of discarded materials will occur onsite within the conservation areas.
   d. No burning within 100 feet of wooded area.
   e. All temporary forest protection structures will be removed after construction.
   f. Following completion of construction, prior to use, the County inspector shall inspect the entire area.

10/21/14

FOREST CONSERVATION WORKSHEET
VERSION 1.0
(Enter in Yellow Cells)

NET TRACT AREA:

A. Total tract area	=	1.37
B. Area within 100 year floodplain	=	0.00
C. Area to remain in agricultural production	=	0.00
D. Net tract area	=	1.37

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

Input the number "1" under the appropriate land use zoning, and limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	0	1	0	0

E. Afforestation Threshold	15% x D =	0.20
F. Conservation Threshold	20% x D =	0.27

EXISTING FOREST COVER:

G. Existing forest cover (excluding floodplain)	=	0.00
H. Area of forest above afforestation threshold	=	0.00
I. Area of forest above conservation threshold	=	0.00

BREAK EVEN POINT:

J. Forest retention above threshold with no mitigation	=	0.00
K. Clearing permitted without mitigation	=	0.00

PROPOSED FOREST CLEARING:

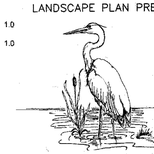
L. Total area of forest to be cleared	=	
M. Total area of forest to be retained	=	0.00

PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold	=	0.00
P. Reforestation for clearing below conservation threshold	=	0.00
Q. Credit for retention above conservation threshold	=	0.00
R. Total reforestation required	=	0.00
S. Total afforestation required	=	0.20
T. Total reforestation and afforestation required	=	0.20

1.0 1.0
1.0 1.0

LANDSCAPE PLAN PREPARED BY:



EXPLORATION RESEARCH, INC.
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
6339 HOWARD LANE
ELKRIDGE, MARYLAND 21075
TEL: (410) 567-5210 FAX (410) 796-1562

OWNER /DEVELOPER:
Michael Balakirsky
11755 Bragdon Wood
Clarksville, MD 21029
Phone: 410-340-7823

DEVELOPER'S/BUILDER'S CERTIFICATE

I/we certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Subdivision and Land Development Regulations and the Landscape Manual. I/we further certify that upon completion a letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

3/13/15
Name Michael Balakirsky Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

4.1.15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

4-6-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Tesseract™
TESSERACT SITES, INC
401 Washington Ave. Suite 303
Towson, Maryland, 21204
p. 410.321.7600
F. 410.321.7601

Revised Final Plan
MILL HAVEN LOTS 3, & 5-7
OAKLAND MILLS ROAD
6th Election District, Howard County
Parcel 2
Zoning R-12

LANDSCAPING PLAN, DETAILS & FOREST CONSERVATION PLAN

Date: March 11, 2015
Proj. No. 07015
Scale: 1" = 20'

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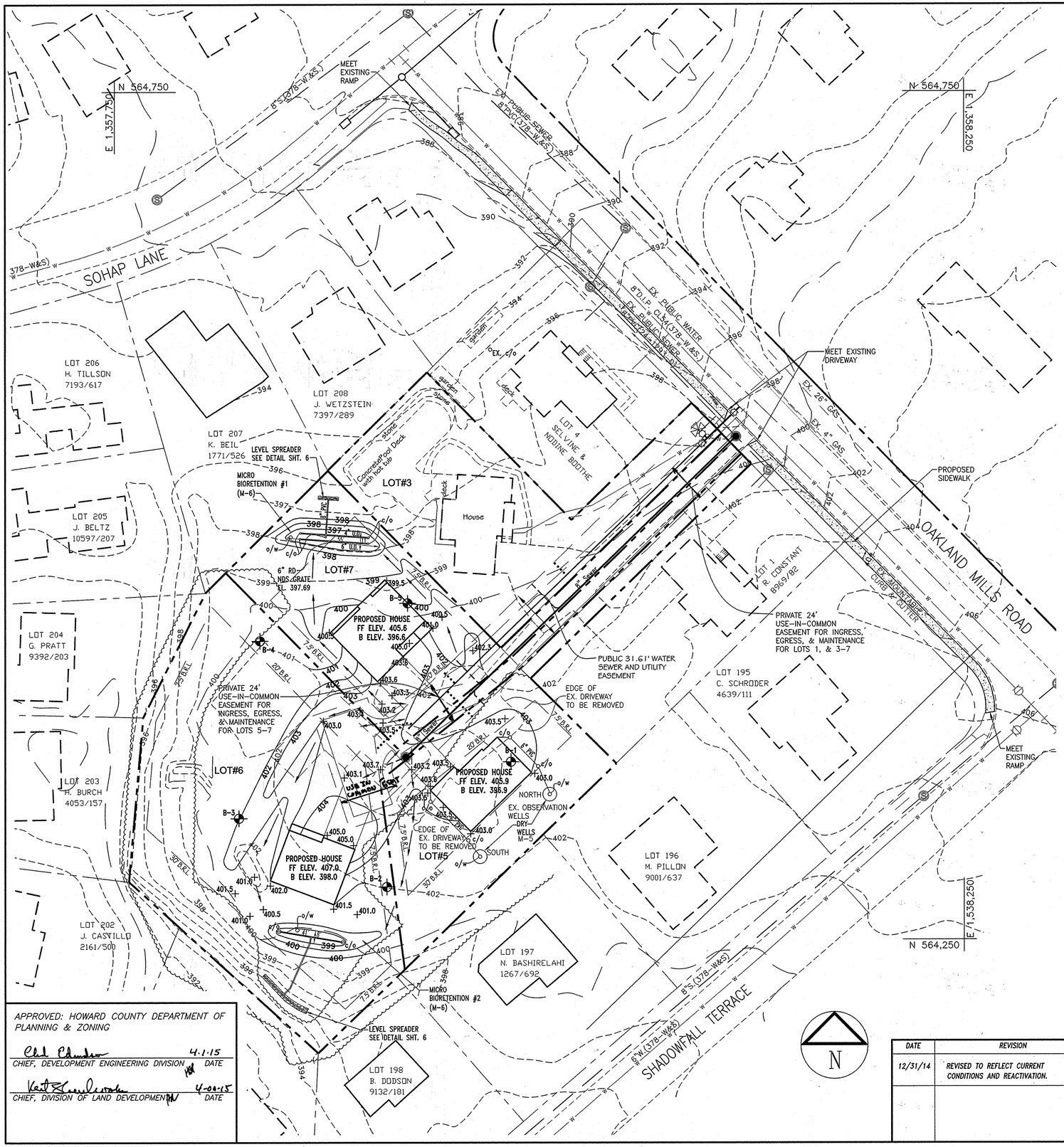
F 08-121



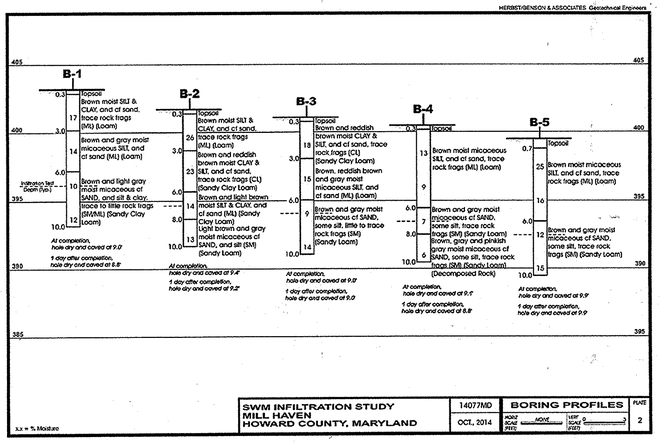
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4.1.15

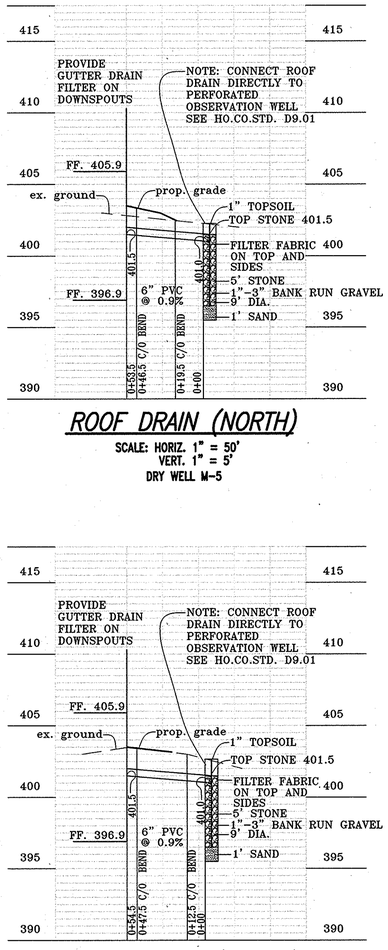
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-08-15

DATE	REVISION
12/31/14	REVISED TO REFLECT CURRENT CONDITIONS AND REACTIVATION.

HERBST/GENSON & ASSOCIATES Geotechnical Engineers



SWM INFILTRATION STUDY MILL HAVEN HOWARD COUNTY, MARYLAND	14077MD OCT, 2014	BORING PROFILES	PLATE 2



ROOF DRAIN (NORTH)

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'
DRY WELL M-5

ROOF DRAIN (SOUTH)

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'
DRY WELL M-5

OPERATION AND MAINTENANCE SCHEDULE FOR
PRIVATELY OWNED AND MAINTAINED
STORMWATER INFILTRATION TRENCHES (I-1),
DRY WELLS (M-5)

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 72 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.

OPERATION AND MAINTENANCE SCHEDULE FOR
LANDSCAPE INFILTRATION (M-3) MICRO-BIORETENTION (M-6),
RAIN GARDENS (M-7), BIORETENTION SWALE (M-8),
ENHANCED FILTERS (M-9)

1. Annual maintenance of plant material, mulch layer and soil layer is required. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland Stormwater Design Manual Volume II, Table A.4.1 and 2.
2. Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment, treatment of all diseased trees and shrubs and replacement of all deficient stakes and wires.
3. Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer once every 2 to 3 years.
4. Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.

OWNER /DEVELOPER:
Michael Balakirsky
11755 Bragdon Wood
Clarksville, MD 21029
Phone: 410-340-7823

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. 14230, Expiration Date: 12/09/16.

Tesseract™
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Revised Final Plan
MILL HAVEN LOTS 3, & 5-7
OAKLAND MILLS ROAD
6th Election District, Howard County
Parcel 2
Zoning R-12

STORMWATER MANAGEMENT PLAN AND DETAILS

Date: March 11, 2015
Proj. No. 07015
Scale: 1" = 30'

5 of 7

F 08-121

3.4.6. Construction Specifications

3.4.6.1. Timing

A dry well shall not be constructed or placed in service until all of the contributing drainage area has been stabilized and approved by the responsible inspector.

3.4.6.2. Dry Well Preparation

Excavate the dry well to the design dimensions. Excavated materials shall be placed away from the excavated sides to enhance wall stability. Large tree roots shall be trimmed flush with the sides in order to prevent fabric puncturing or tearing during subsequent installation procedures. The side walls of the dry well shall be roughened where sheared and sealed by heavy equipment

3.4.6.3. Fabric Laydown

The filter fabric roll shall be cut to the proper width prior to installation. The cut width must include sufficient material to conform to well perimeter irregularities and for a 6-inch minimum top overlap. Place the fabric roll over the well and unroll a sufficient length to allow placement of the fabric down into the well. Stones or other anchoring objects should be placed on the fabric at the edge of the well to keep the lined well open during windy periods. When overlaps are required between rolls, the upstream roll shall lap a minimum of 2 feet over the downstream roll in order to provide a shingled effect. The overlap ensures fabric continuity or the fabric conforms to the excavation surface during aggregate placement and compaction.

3.4.6.4. Aggregate Placement and Compaction

Drainage aggregate shall be placed in lifts and compacted using plate compactors. As a rule of thumb, a maximum loose lift thickness of 12 inches is recommended. The compaction process ensures fabric conformity to the excavation sides, thereby reducing the potential for soil piping and fabric clogging.

3.4.6.5. Overlapping and Covering

Following aggregate placement, the fabric previously weighted by stones should be folded over the aggregate to form a 6" minimum longitudinal lap. The desired fill soil should be placed over the lap at sufficient intervals to maintain the lap during subsequent backfilling.

3.4.6.6. Contamination

Care shall be exercised to prevent natural or fill soils from intermixing with the drainage aggregate. All contaminated aggregate shall be removed and replaced with uncontaminated aggregate.

3.4.6.7. Voids Behind Fabric

Voids can be created between the fabric and excavation sides and should be avoided. Removing boulders or other obstacles from the trench walls is one source of such voids. Natural soils should be placed in these voids at the most convenient time during construction to ensure fabric conformity to the excavation sides. Soil piping, fabric clogging, and possible surface subsidence will be avoided by this remedial process.

3.4.6.8. Unstable Excavation Sides

Vertically excavated trench walls may be difficult to maintain in areas where the soil moisture is high or where soft cohesive or cohesionless soils predominate. These conditions may require laying back of the side slopes to maintain stability; trapezoidal rather than rectangular cross sections may result.

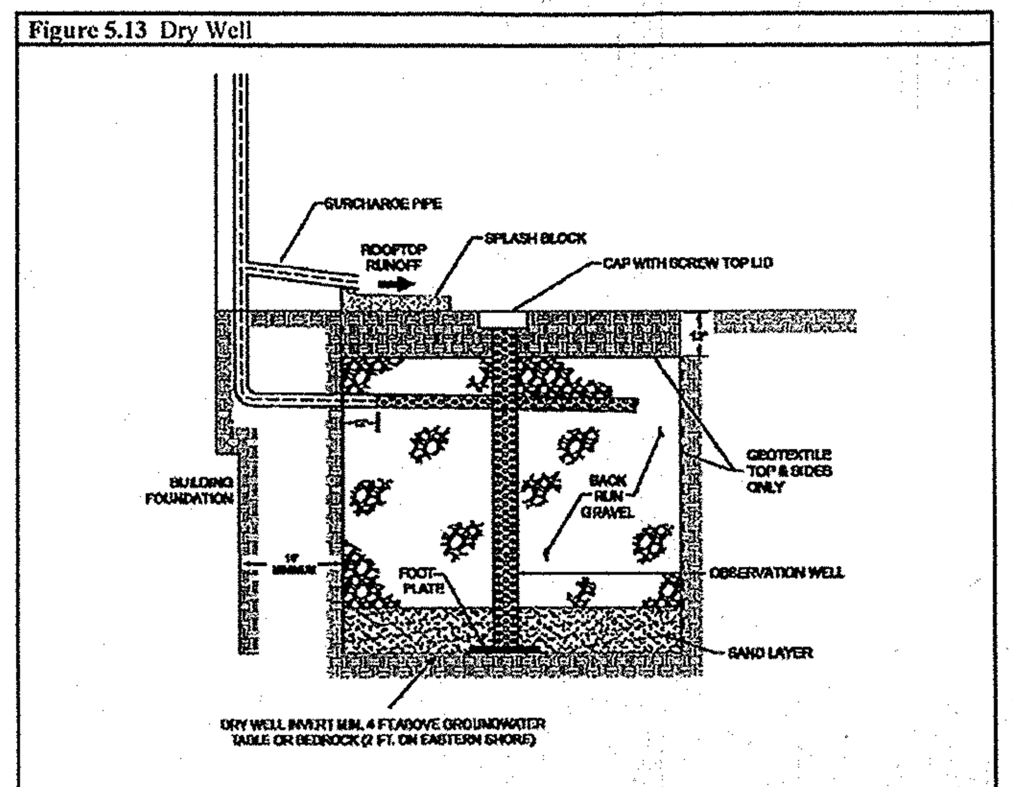
3.4.6.9. Foundation Protection

Dry wells 3 or more feet deep shall be located at least 10 feet down gradient from foundation walls.

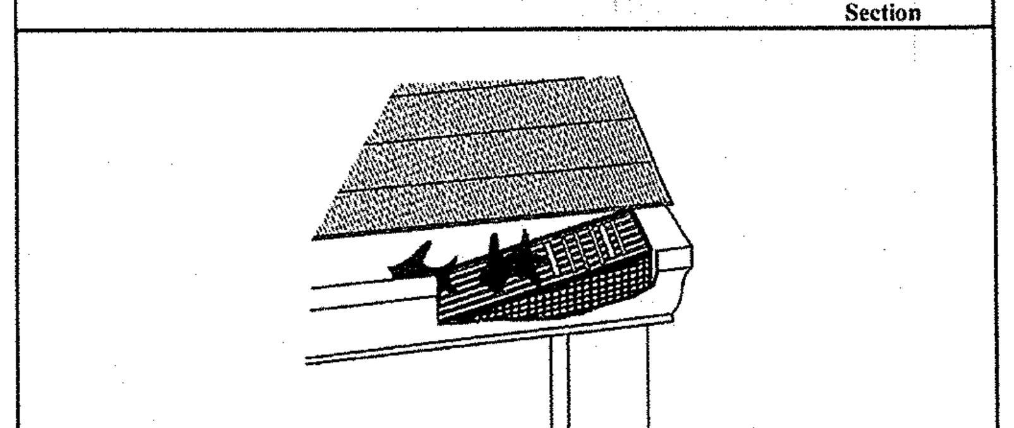
3.4.6.10. Observation Well

An observation well, as described in subsection 3.4.4.8 and Figure 3-5, will be provided. The depth of the well, at the time of installation, will be clearly marked on the well cap.

Figure 5.13 Dry Well



Section



Gutter Drain Filter (Typical)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 4-1-15

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4-06-15

Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration-

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 – 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with ¼-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f'_c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) *not using previously approved State or local standards* requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

B.3.B Specifications for Micro Bioretention

1. Material Specifications

The allowable materials to be used in bioretention area detailed in Table B.3.2.

2. Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

pH range	5.2 - 7.0
organic matter	1.5 - 4% (by weight)
magnesium	35lb. /ac
phosphorus (phosphate - P2O5)	75 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 testes 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 rubber tires with large lugs or high pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

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

Plant material shall be as indicated on the plans.

5. Plant Installation

Mulch should be placed to a uniform thickness of 2" to 3". Shredded hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention areas during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Root stock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grading surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be easily spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend soil. Rototill urea fertilizer at a rate of 2 pounds per 100 square feet.

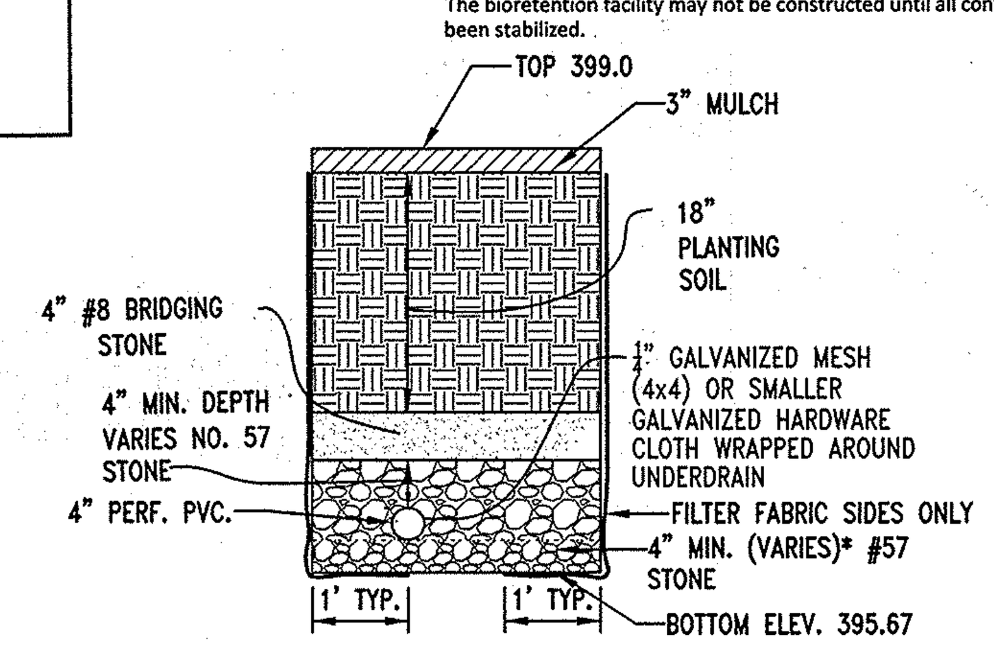
6. Underdrains

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 are not terminating in an observation well shall be capped.

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%.

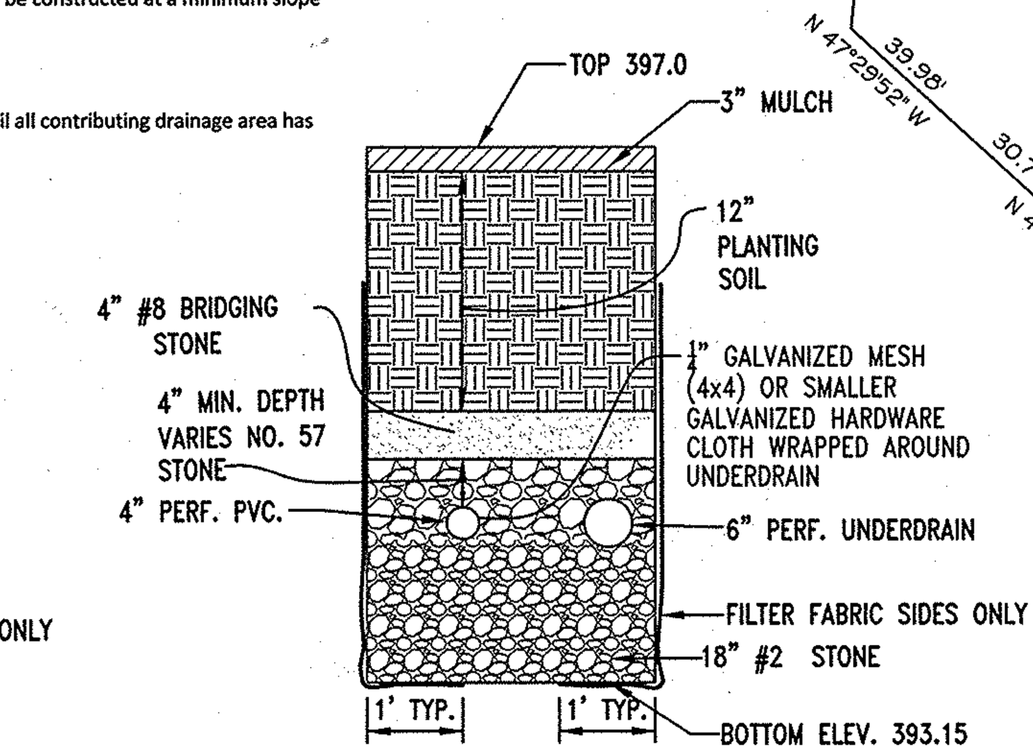
7. Miscellaneous

The bioretention facility may not be constructed until all contributing drainage area has been stabilized.



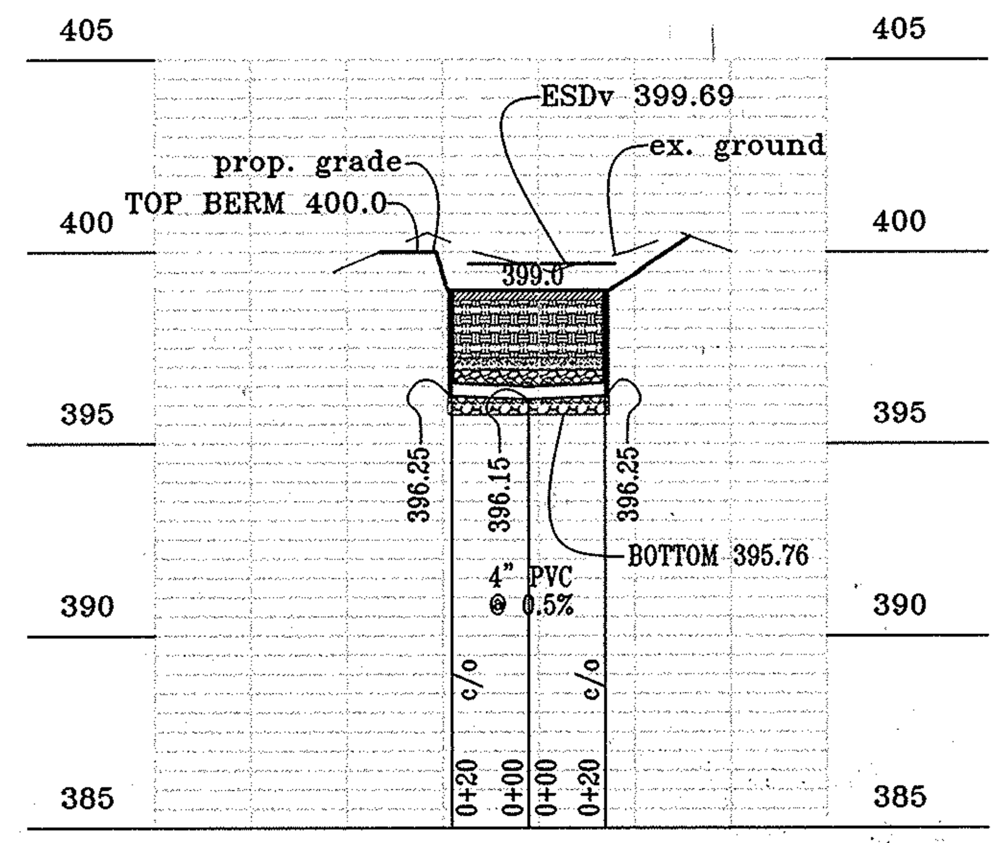
TYPICAL SECTION MICRO BIORETENTION LOT 6

SCALE: 1" = 2' * HOLD BOTTOM LEVEL STONE ABOVE & BELOW PIPE VARIES



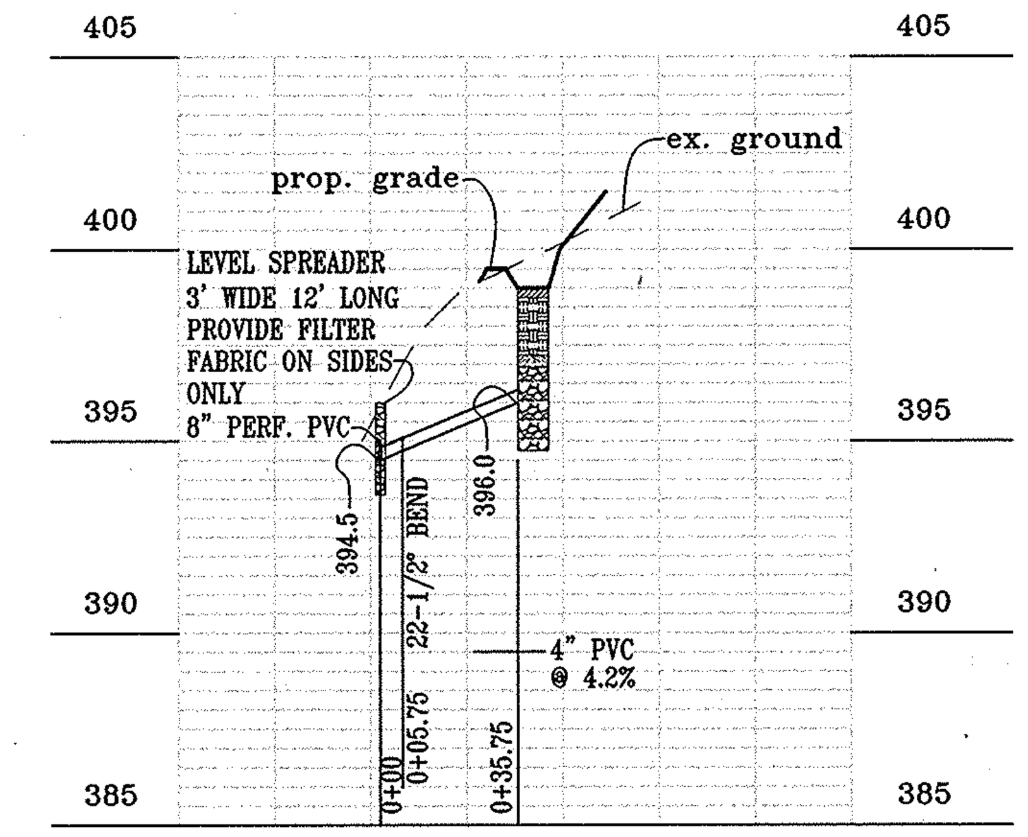
TYPICAL SECTION MICRO BIORETENTION LOT 7

SCALE: 1" = 2' * HOLD BOTTOM LEVEL STONE ABOVE & BELOW PIPE VARIES



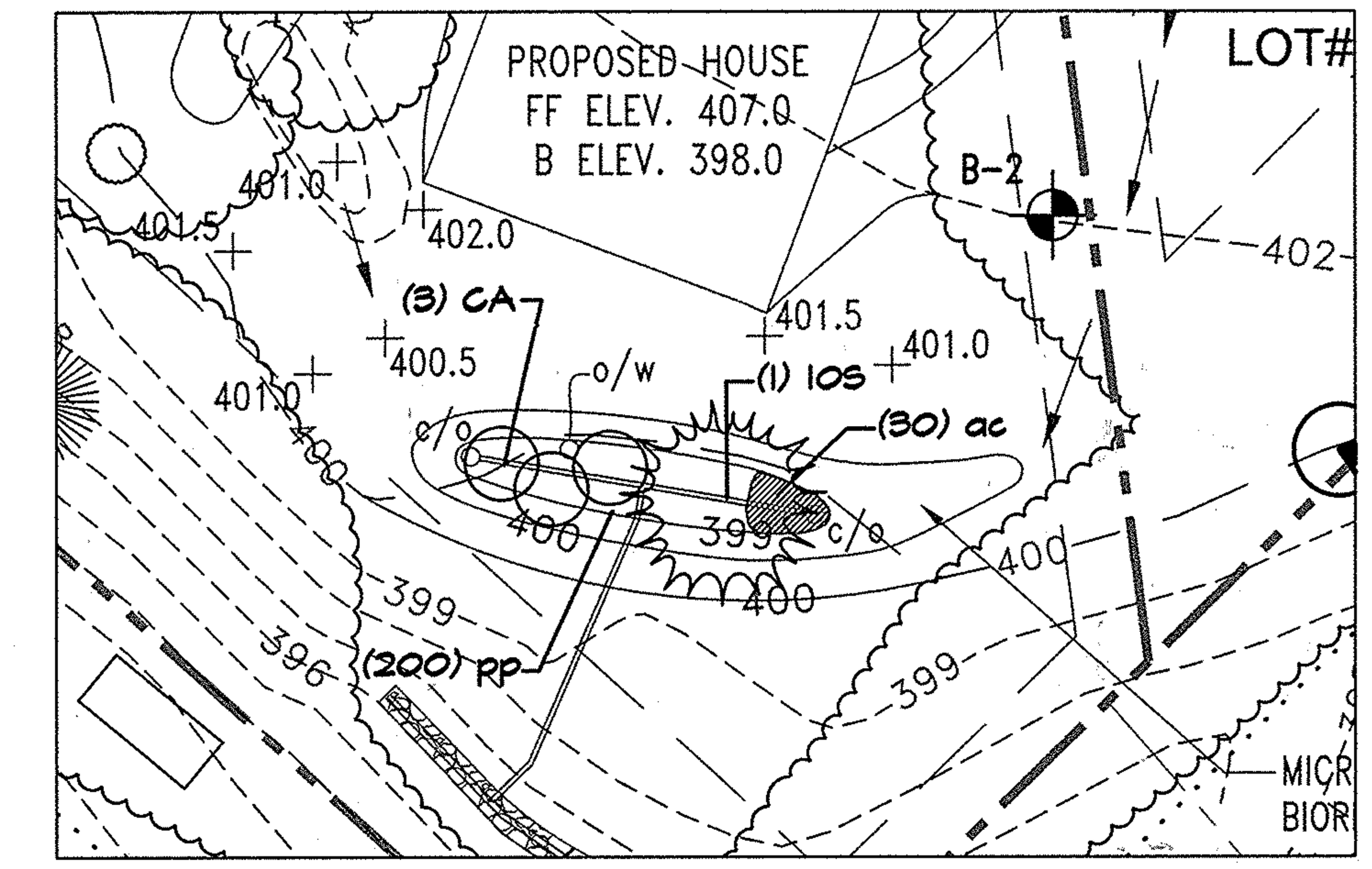
MICRO BIORETENTION LOT #6

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



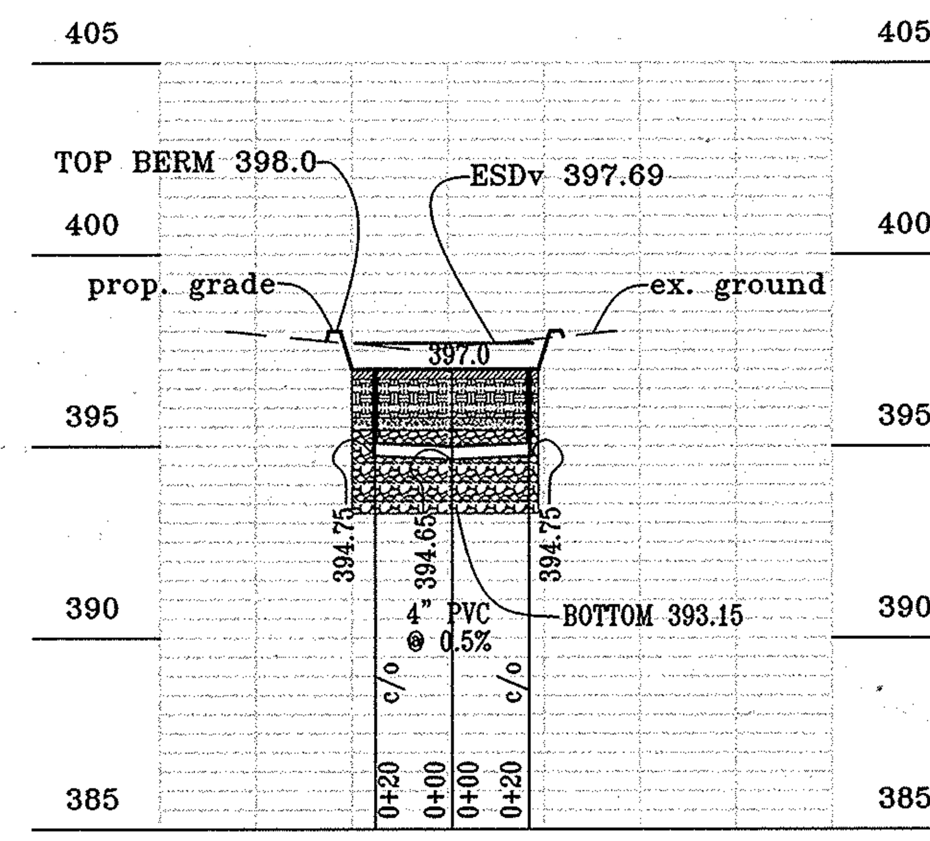
LEVEL SPREADER LOT #6

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



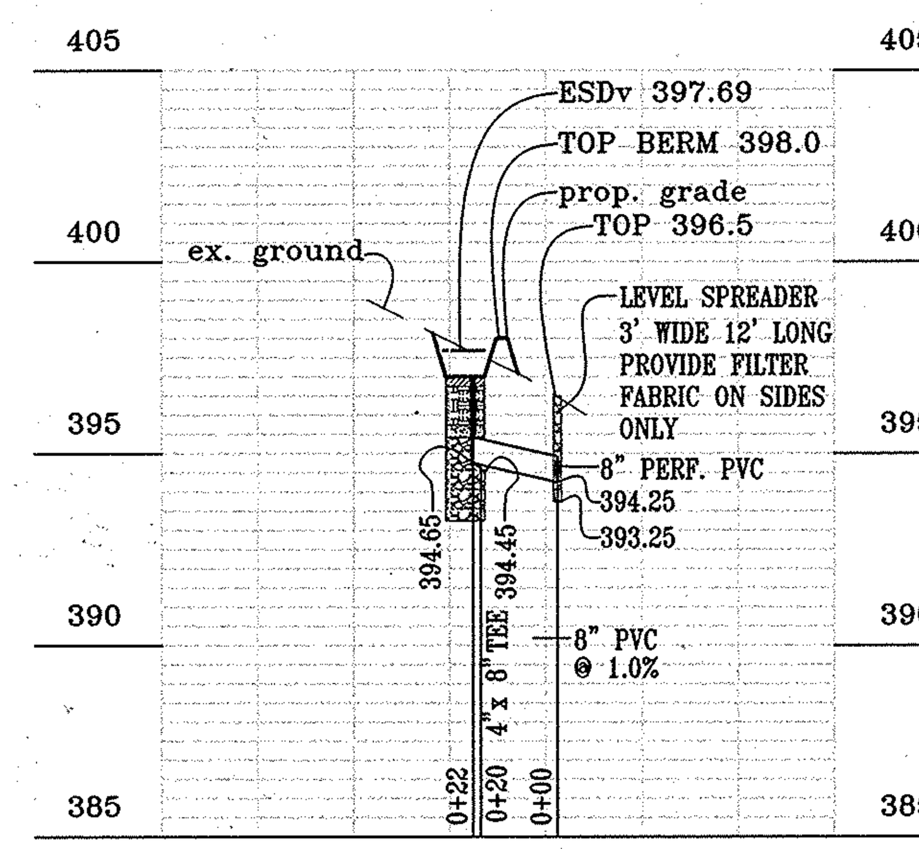
MICRO BIORETENTION PLANTING LOT #6

SCALE: 1" = 20'



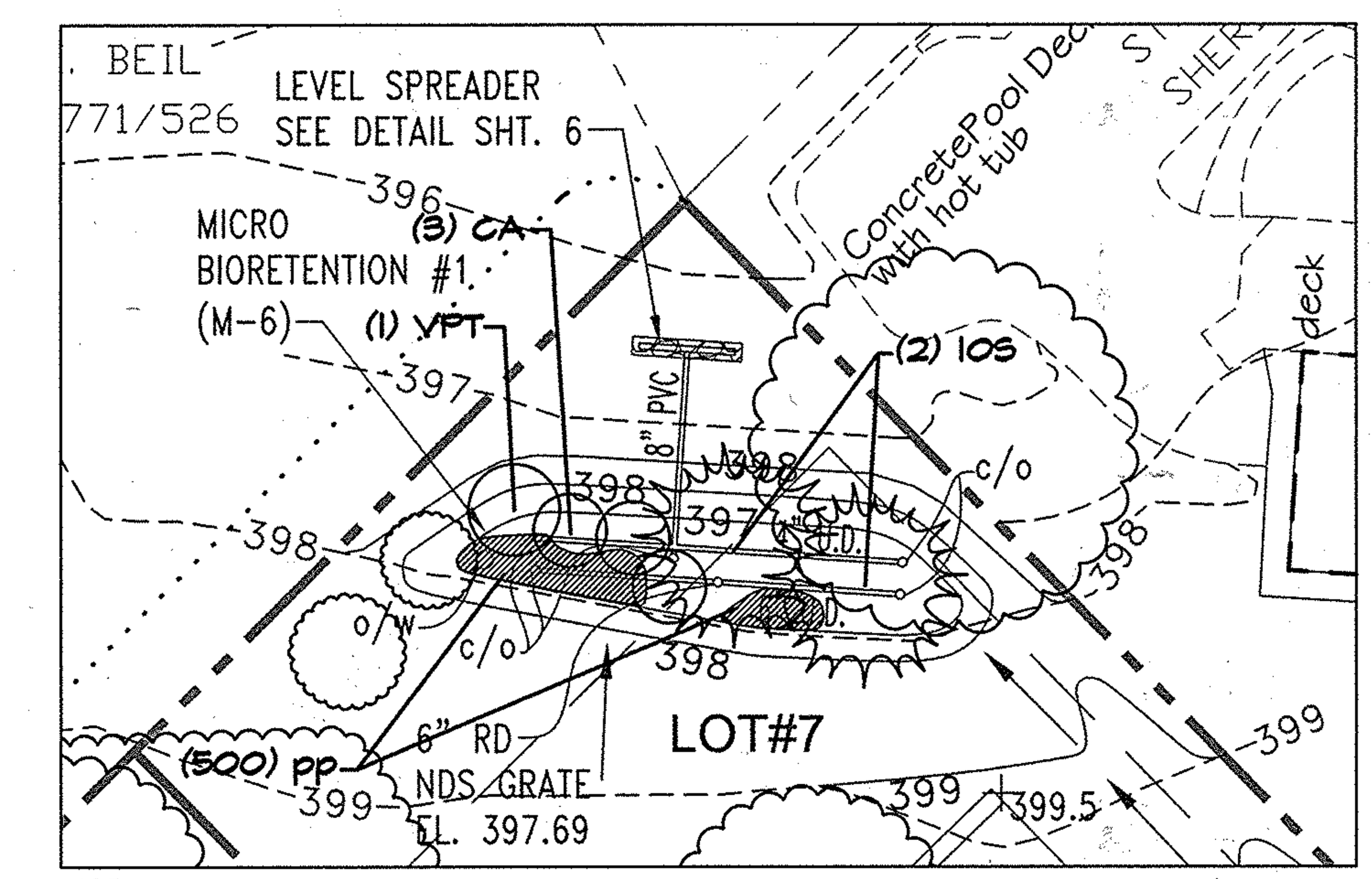
MICRO BIORETENTION LOT #7

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



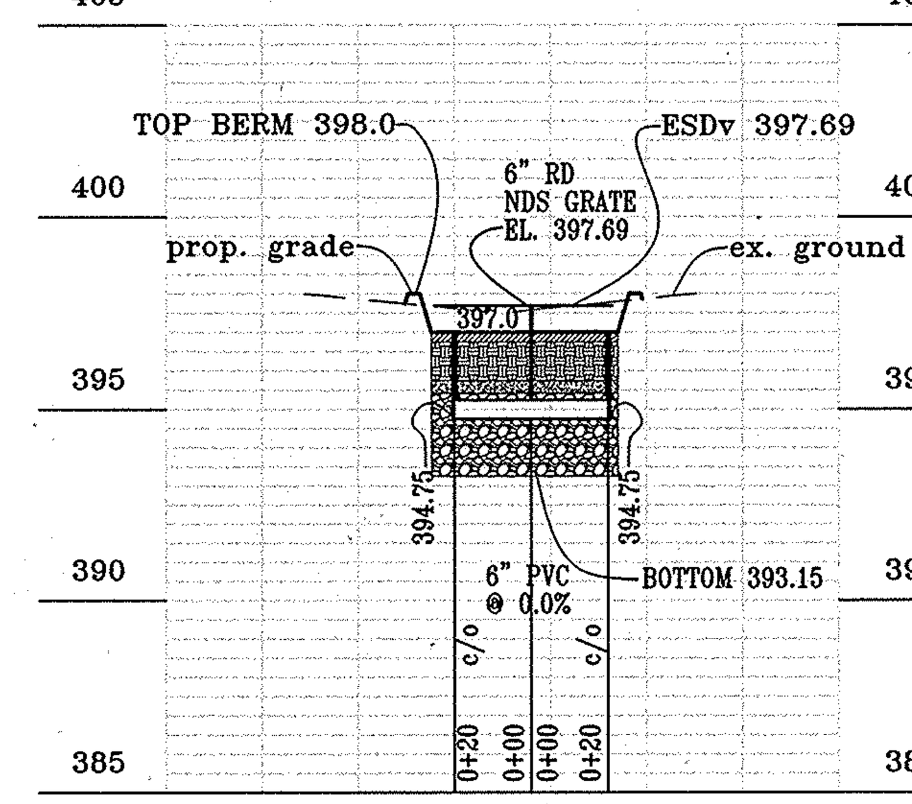
LEVEL SPREADER LOT #7

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



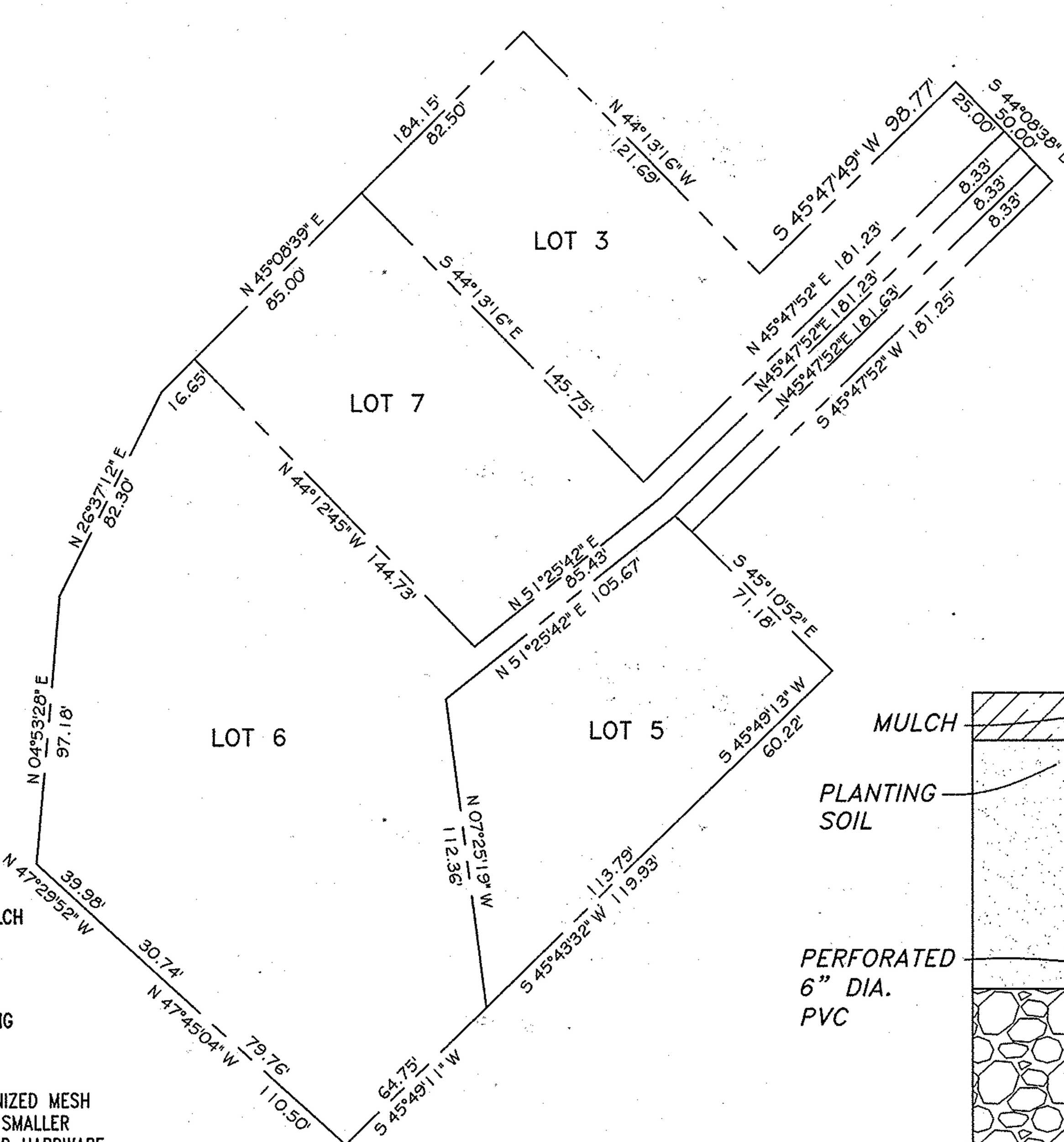
MICRO BIORETENTION PLANTING LOT #7

SCALE: 1" = 20'



6" UNDERDRAIN LOT #7

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

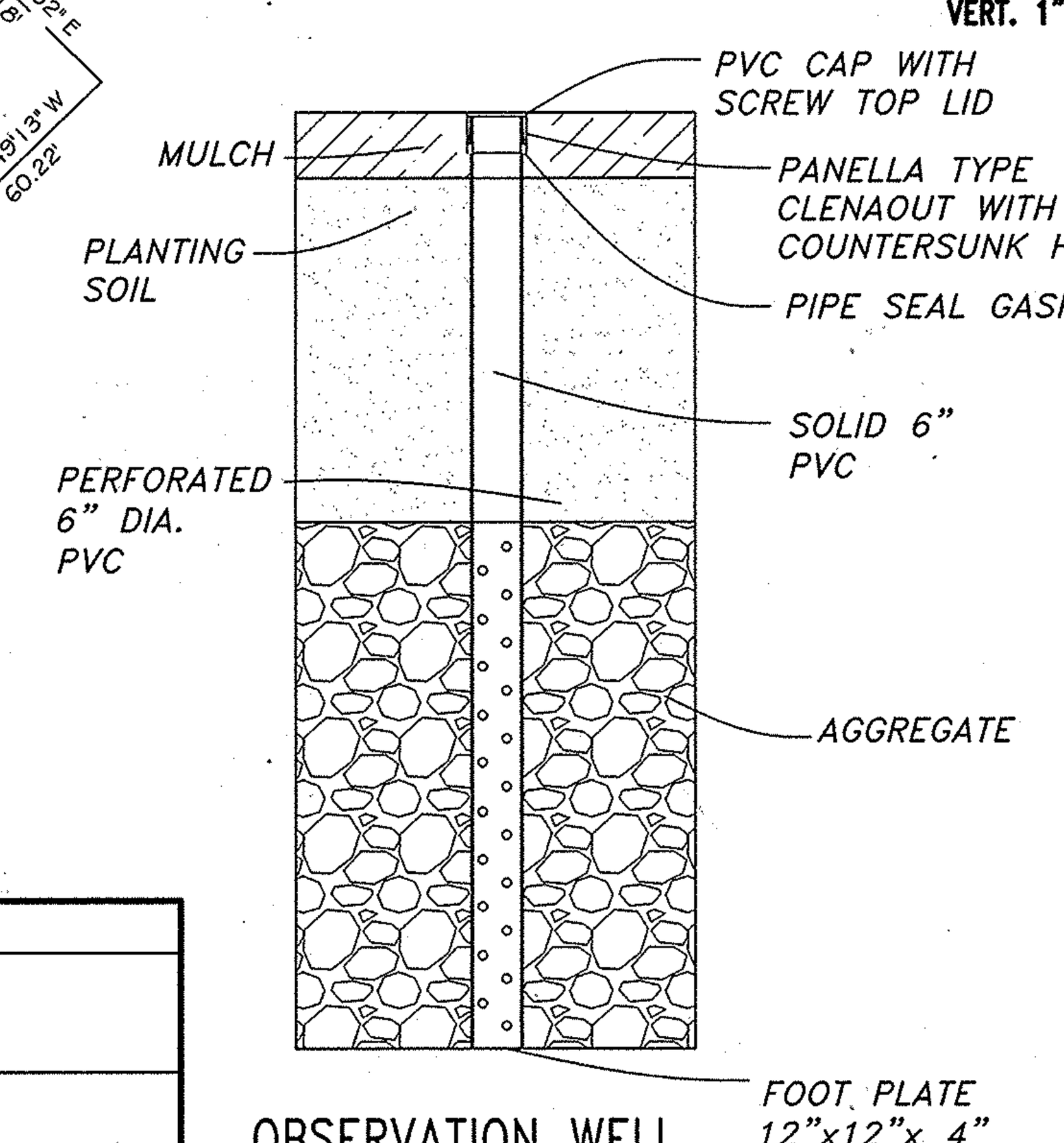


PROPERTY EXHIBIT

SCALE: 1"=50'

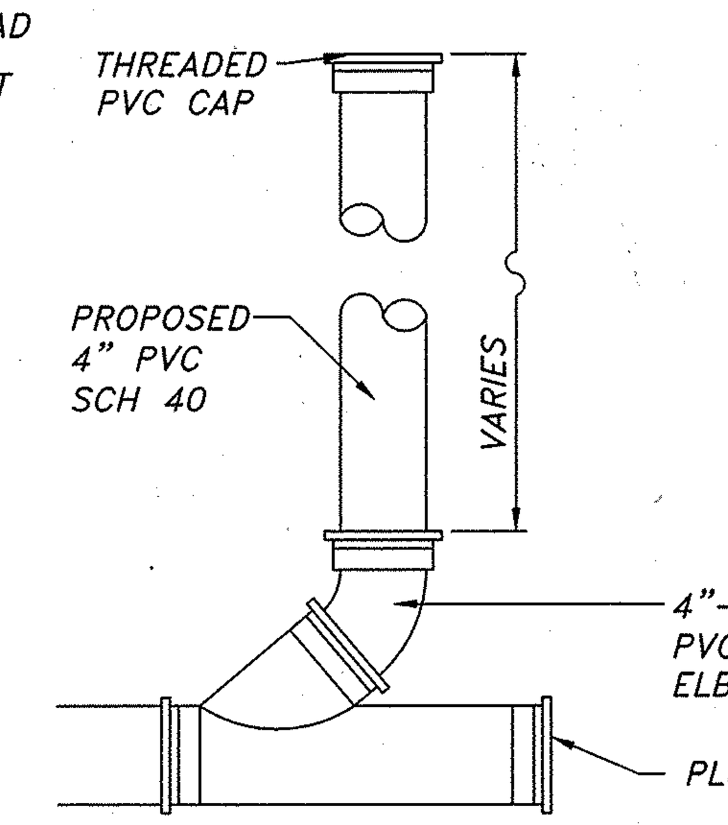
SWM PLANTING PLANS & SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SIZE	#	COMMENTS
IOS	ILEX OPACA 'SATYR HILL"	SATYR HILL HOLLY	6' HT	3	B&B OR CONT.
CA	CLETHRA ALNIFOLIA	SUMMERSWEET	24" HT.	6	B&B OR CONT.
VT	VIBURNUM TRILOBUM	AMERICAN CRANBERRYBUSH VIBURNUM	30" HT.	1	B&B OR CONT.
ac	ACORNUS CALAMUS 'VARIEGATUS'	VARIEGATED SWEETFLAG	QUART	30	@ 18" O.C.
PP	PACHYSANDRA PROCUMBENS	ALLEGHENY SPURGE	EACH	100	@ 6" O.C.



OBSERVATION WELL

NOT TO SCALE



CLEANOUT DETAIL

NOT TO SCALE

DATE	REVISION
12/31/14	REVISED TO REFLECT CURRENT CONDITIONS AND REACTIVATION.

OWNER /DEVELOPER:
Michael Balakirsky
11755 Bragdon Wood
Clarksville, MD 21029
Phone: 410-340-7823

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. 14230, Expiration Date: 12/09/16.

Tesseract™
TESSERACT SITES, INC
401 Washington Ave. Suite 303
Towson, Maryland, 21204
p. 410.321.7600
f. 410.321.7601

Revised Final Plan

MILL HAVEN LOTS 3, & 5-7

OAKLAND MILLS ROAD

6th Election District, Howard County

Parcel 2

Zoning R-12

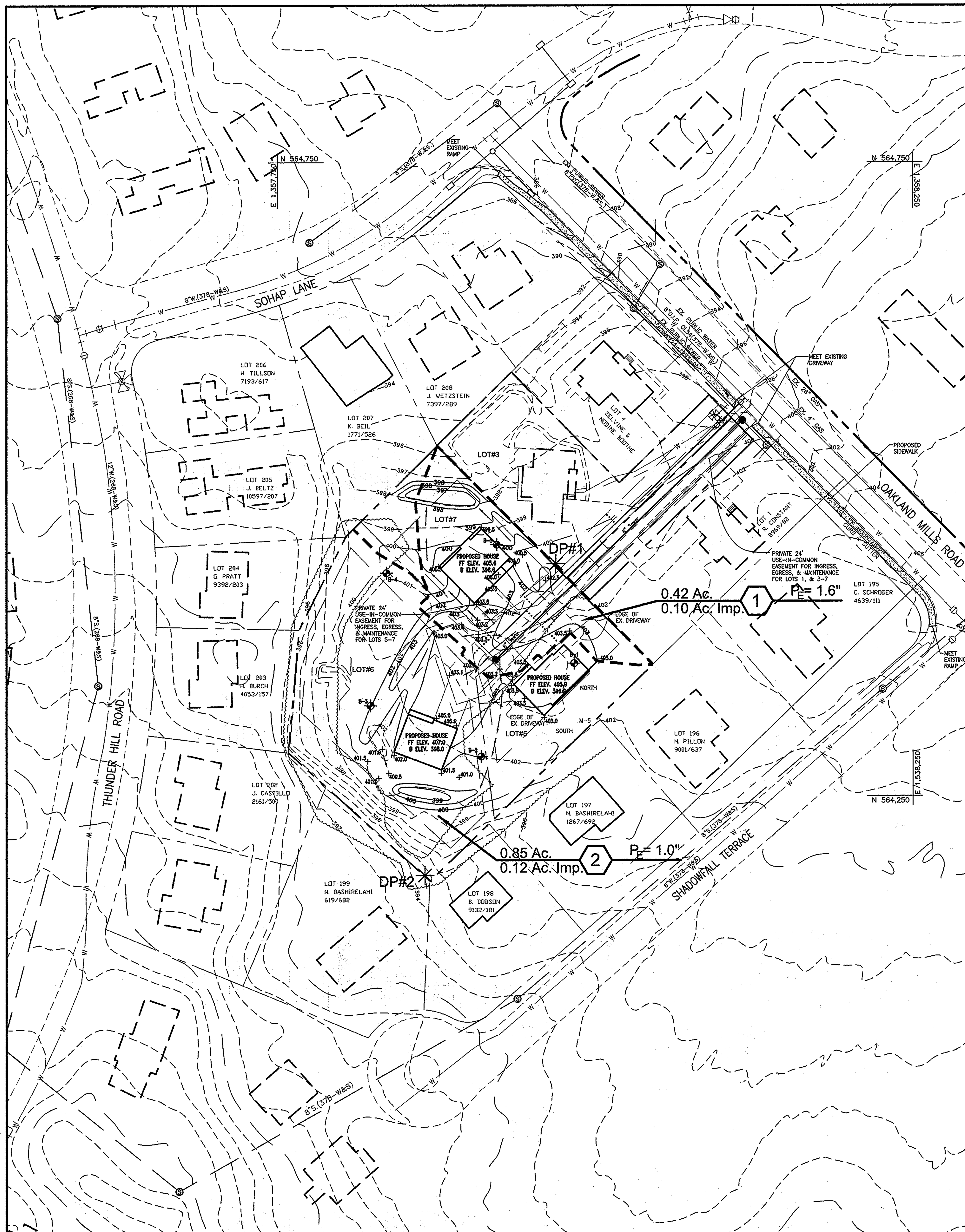
STORMWATER MANAGEMENT NOTES AND DETAILS

Date: March 11, 2015

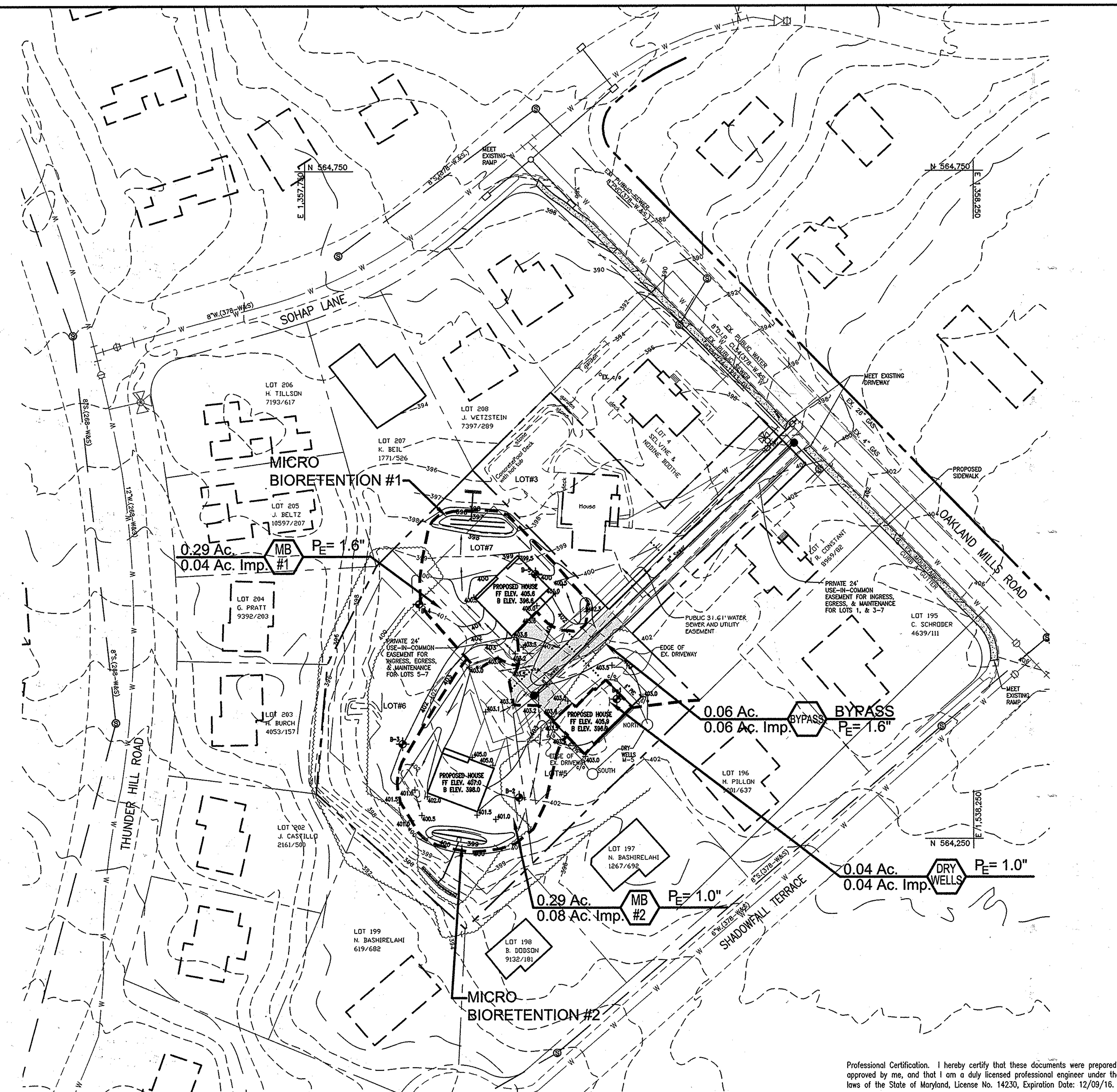
Proj. No. 07015

Scale: 1" = 30'

F 08-121



PROPOSED CONDITIONS
TO DESIGN POINTS



PROPOSED CONDITIONS
TO FACILITIES

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 4.1.15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 4-06-15

OWNER /DEVELOPER:
Michael Balakirsky
11755 Bragdon Wood
Clarksville, MD 21029
Phone: 410-340-7823

DATE	REVISION
12/31/14	REVISED TO REFLECT CURRENT CONDITIONS AND REACTIVATION.

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. 14230, Expiration Date: 12/09/16.

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Revised Final Plan
MILL HAVEN LOTS 3, & 5–7
OAKLAND MILLS ROAD
6th Election District, Howard County
Parcel 2
Zoning R–12

STORMWATER MANAGEMENT DRAINAGE AREA MAPS

Date: March 11, 2015
Proj. No. 07015
Scale: 1" = 50'

F 08-121