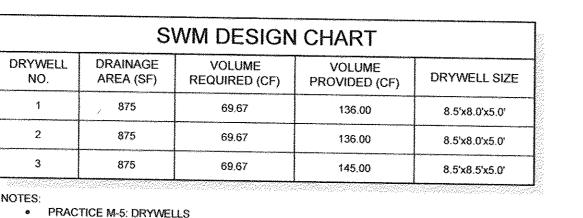


| | Ņ | IICRO-BIORE | TENTION | PLANT | LIST | |
|------------|----------------|--------------------|-----------------------------|--------|----------|--|
| | | | SHRUBS | | 1. 12400 | ************************************* |
| LEGEND | BOTANICAL NAME | COMMON NAME | SPACING | SIZE | REMARKS | QTY. |
| (+) | FALSE INDIGO | BAPTISIA AUSTRALIS | AS SHOWN* (MIN. 2' O.C.) | 1 GAL. | | 5 |

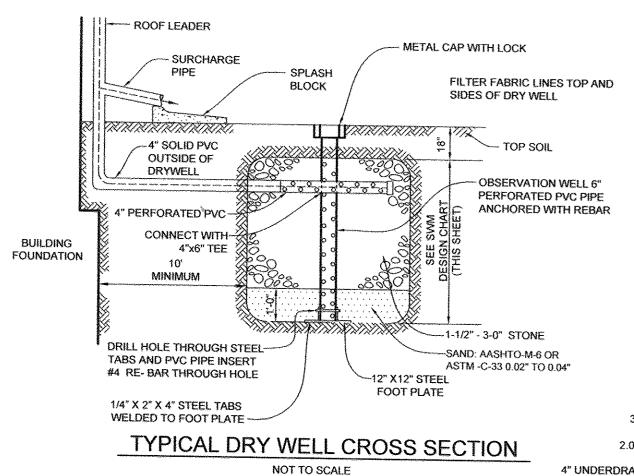
NOTE: PLANT MATERIAL MUST COVER 50% OF THE MULCH AREA AT MATURE GROWTH. *INTERSPERSE PLANTINGS THROUGHOUT BIORETENTION FILTER AREA BIO 1 - BIORETENTION AREA = 30.80 S.F. OR 0.0007 AC PROVIDED: 5 PERENNIALS

| LANDSCAP | ING PLAN - MICRO-BIORETENTION FACILITY |
|----------|--|
| | SCALE: 1" = 5' |
| | |

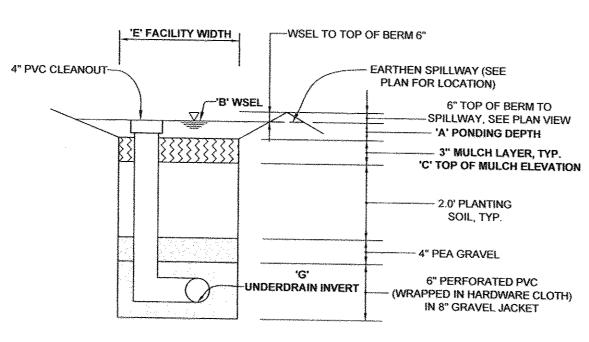
| MATERIAL | SPECIFICATION | SIZE | NOTES |
|---|---|---|--|
| PLANTINGS | SEE PLANT LIST THIS SHEET | N/A | PLANTINGS ARE SITE-SPECIFIC, SEE PLANT LIST THIS SHEET |
| PLANTING SOIL [2'-4' DEEP] | LOAMY SAND (60% - 65%) & COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%) | N/A | 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 AND CURTAIN DRAIN, IF REQUIRED | PEA GRAVEL: ASTM-D-448 ORNAMENTAL STONE: WASHED COBBLES | PEA GRAVEL: NO. 8 OR NO. 9 (1/8" TO 3/8") STONE: 2" TO 5" | OLD OTHER OR WOOD CHIPS |
| GEOTEXTILE | | N/A | DE TYPE A HOUSE |
| UNDERDRAIN GRAVEL | AASHTO M-43 | NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4") | PE TYPE 1 NONWOVEN |
| 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 GRAVE OVER PIPES; NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH. |



NOTES:

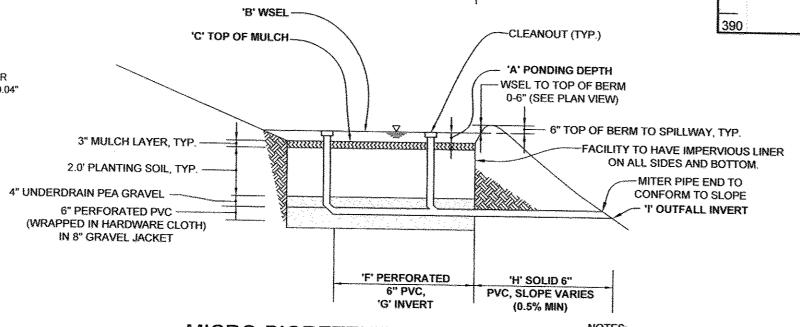


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION



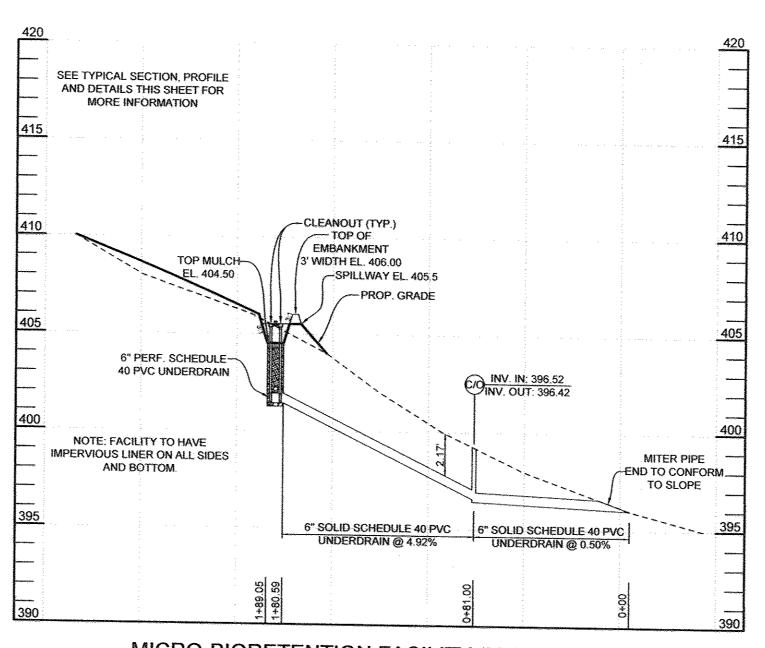
MICRO-BIORETENTION FACILITY (M-6) TYPICAL SECTION

'D' FACILITY LENGTH



MICRO-BIORETENTION FACILITY (M-6) TYPICAL PROFILE NOT TO SCALE

• FOR ADDITIONAL INFORMATION. SEE THE 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUMES I AND II. · SEE CHART, THIS SHEET, FOR **ELEVATIONS AND DISTANCES**



MICRO-BIORETENTION FACILITY (M-6) PROFILE HORIZONTAL SCALE: 1" = 50' VERTICAL SCALE: 1" = 5'

| MICRO-BIORETENTION | N ELEV | ATIONS AND DIMENSIONS |
|--------------------------------|--------|-----------------------|
| DESCRIPTION | BIO | |
| 'A' PONDING DEPTH | 1.00' | |
| 'B' WSEL | 405.50 | |
| 'C' TOP OF MULCH | 404.50 | |
| 'D' FACILITY LENGTH | 8.00' | |
| 'E' FACILITY WIDTH | 5.00 | |
| 'F' PERF. UNDERDRAIN DIMENSION | 7.20 | |
| 'G' UNDERDRAIN INVERT | 401.42 | |
| 'H' SOLID UNDERDRAIN DIMENSION | 180.59 | |
| "OUTFALL INVERT | 396.00 | |

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED MICRO-BIORETENTION FACILITIES (M-6)

STORMWATER MANAGEMENT DRAINAGE AREA PLAN

THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.

THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD OR DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES. 3. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS

4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1) DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2)

'C' SOIL

'C' SOIL

1. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE OWNER SHALL ENSURE THE AREAS RECEIVING RUNOFF ARE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
- WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOURS
- TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE
- COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- 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.

OWNER/DEVELOPER

DONALD S. & JUDITH ANN MARIE PROIA 13630 NICHOLS DRIVE CLARKSVILLE, MD 21029

CONCEPTUAL SWM PLAN, NOTES, & DETAILS PROIA PROPERTY LOTS 10 & 11

A RESUBDIVISION OF LOT 1, CLIFTON C. LINK PROPERTY ZONE: RR-DEO

TAX MAP 34 GRID 9 **5TH ELECTION DISTRICT**

HOWARD COUNTY, MARYLAND SILL - ENGINEERING GROUP, LLC

1130 Dovedale Court, Suite 200 Marriottsville, Maryland 21104 hone: 443.325.5076 ax: 410.696,2022

mail: info@sillengineering.com

DRAWN BY: MPO/RA CHECKED BY: PS SCALE: AS SHOWN DATE: JANUARY 2, 2018 PROJECT#: 15-043

DESIGN BY:

PARCEL 368

Civil Engineering for Land Development 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. 32025, EXPIRATION DATE: JUNE 20, 2019

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