

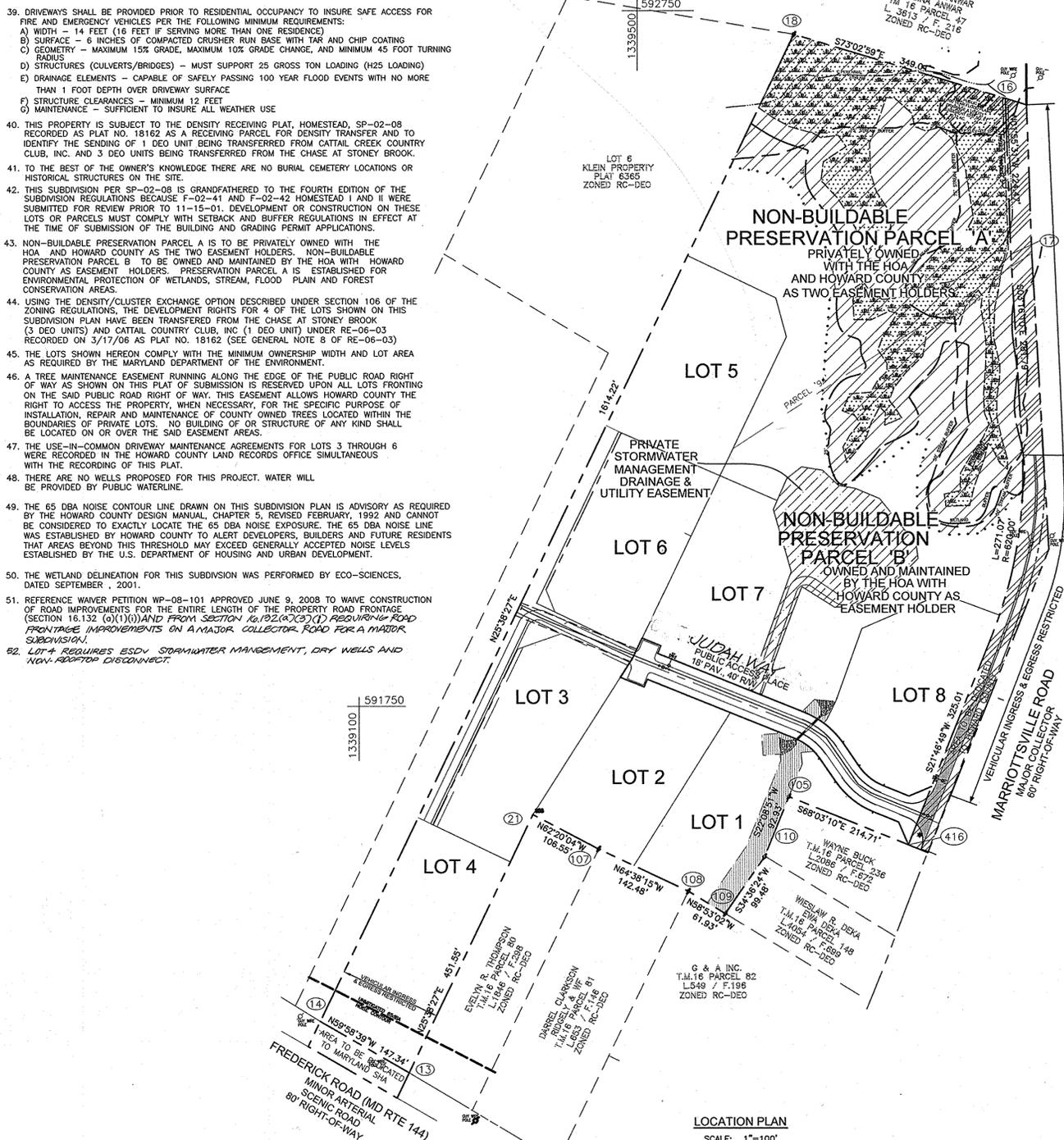
FINAL ROAD CONSTRUCTION PLAN

BRANTWOOD OVERLOOK

LOTS 1-8 AND NON-BUILDABLE PRESERVATION PARCELS 'A' & 'B' HOWARD COUNTY, MARYLAND

SITE DATA
 LOCATION: TAX MAP 16, GRIDS 15, 16, 21 & 22, PARCELS '94' & '259'
 3RD ELECTION DISTRICT
 EXISTING ZONING: RC-DEO, AS PER THE 02-02-04 COMPREHENSIVE ZONING PLAN AND THE COMBINED ZONING REGULATION AMENDMENTS EFFECTIVE 07-28-06.
 GROSS AREA OF PROJECT: 17.01 AC.
 AREA OF 100-YEAR FLOOD PLAIN DRAINAGE & UTILITY EASEMENT: 0.12 AC (5237 SF)
 AREA OF STEEP SLOPES: 0.22 AC. (9640 SF AREA OUTSIDE OF THE FLOOD PLAIN±)
 NET AREA OF PROJECT: 16.67 AC
 AREA OF PROPOSED BUILDABLE LOTS: 8.50 AC (370,260 SF±)
 AREA OF OPEN SPACE REQUIRED: 0 AC
 NON-BUILDABLE AREA: 0 AC. AREA OF PROPOSED NON-BUILDABLE PARCELS: 0
 AREA OF PROPOSED RIGHT-OF-WAY: 1.40 AC (60,984 SF±)
 NUMBER OF LOTS/PARCELS PROPOSED: 8 BUILDABLE LOTS + 2 NON-BUILDABLE PRESERVATION PARCELS
 TOTAL APPROXIMATE LIMIT OF DISTURBANCE: 1.61 AC (70,176 SF±)

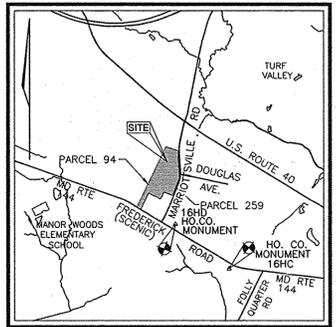
- GENERAL NOTES**
- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
 - DEED REFERENCE: 5871/36 (PARCEL 94) 5239/319 (PARCEL 259)
 - DENSITY: 16.66 AC/2.8 = 8
 NUMBER OF DWELLING UNITS PERMITTED BY RIGHT: 17.01 AC/4.25 = 4
 NUMBER OF DWELLING UNITS PROPOSED: 8 CLUSTER LOTS
 DEO'S REQUIRED: 4
 - THE SENDING PARCEL FOR THIS SUBDIVISION WILL BE THE RECORDED PROPERTIES OF "THE CHASE AT STONEY BROOK" AND "CATTAIL CREEK COUNTRY CLUB, INC." PER RE 06-03.
 THE PROJECT BOUNDARY IS BASED ON A SURVEY PERFORMED BY FREDERICK WARD ASSOCIATES, DATED AUGUST 2001.
 - THE TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN TOPOGRAPHY SURVEY BY FREDERICK WARD ASSOCIATES, DATED AUGUST 2001.
 - WATER FOR THIS PROJECT WILL BE PUBLIC AND SEWER WILL BE PRIVATE. WATER WILL PROVIDED THROUGH CONTR. NO. 44-3480.
 - STORM WATER MANAGEMENT TO BE PROVIDED FOR THE DEVELOPMENT. THE STORM WATER MANAGEMENT FACILITY IS HAZARD CLASS 'A' AND DOES NOT QUALIFY AS A MD-378 FACILITY. THE MICROPOOL EXTENDED DETENTION POND WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.
 - DRY WELLS TO BE PROVIDED FOR EACH HOUSE AND WILL BE PROVIDED WITH BUILDING PERMITS
 - STREAMS AND WETLANDS SHOWN ON SITE ARE BASED ON A FIELD INVESTIGATION PERFORMED BY ECO-SCIENCES, DATED SEPTEMBER 2001.
 - THE 100-YEAR FLOODPLAIN SHOWN HEREON IS BASED ON ANALYSIS PERFORMED BY FREDERICK WARD ASSOCIATES.
 - FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 OF THE HOWARD COUNTY CODE FOR THIS SUBDIVISION WILL BE UTILIZED BY A FOREST CONSERVATION RETENTION EASEMENT ON NON-BUILDABLE PRESERVATION PARCEL A IN THE AMOUNT OF 6.38 AC. AND A FEE IN LIEU PAYMENT IN THE AMOUNT OF \$327.00 FOR THE REQUIRED REFORESTATION A FINANCIAL SURETY IN THE AMOUNT OF \$55,583.00 WILL BE POSTED WITH THE CONSTRUCTION MAINTENANCE AGREEMENT TOTAL FOREST CONSERVATION OBLIGATION FOR THIS SUBDIVISION IS 6.39 AC. RETENTION (6.38 AC.) 277912.80 SF. x 0.20 = 55583.00 FEE-IN-LIEU FOR REMAINING REFORESTATION 0.01AC. 435,605F. x 0.75 = \$327.00
 - A TRAFFIC STUDY WAS PREPARED BY THE TRAFFIC GROUP, DATED MARCH 29, 2002.
 - ALL LANDSCAPING REQUIREMENTS AS SET FORTH IN SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL SHALL BE COMPLIED WITH FINANCIAL SURETY FOR THE REQUIRED 23 SHADE TREES AND 2 EVERGREEN TREES IN THE AMOUNT OF \$7200.00 WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.
 - STREET LIGHTING IS NOT REQUIRED FOR THIS SITE.
 - SEDIMENT AND EROSION CONTROL IS PROVIDED FOR THIS SITE.
 - THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
 - TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL/CEMETARY LOCATIONS ON SITE.
 - STREET TREES ARE PROVIDED FOR THIS SUBDIVISION IN ACCORDANCE WITH SECTION 16.124(a)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 31 STREET TREES IN THE AMOUNT OF \$9,300 WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.
 - NON-BUILDABLE PRESERVATION PARCEL 'A' TO BE PRIVATELY OWNED WITH THE HOA AND HOWARD COUNTY AS THE TWO EASEMENT HOLDERS. NON-BUILDABLE PARCEL B TO BE OWNED AND MAINTAINED BY THE HOA WITH HOWARD COUNTY AS EASEMENT HOLDERS.
 - EXISTING STRUCTURES ON LOT 4 ARE TO REMAIN. NO ADDITIONS OR EXPANSIONS ARE ALLOWED UNLESS IN COMPLIANCE WITH THE APPLICABLE ZONING REGULATIONS.
 - A NOISE STUDY WAS PREPARED BY FREDERICK WARD ASSOCIATES, DATED SEPTEMBER 2001 AND APPROVED UNDER SP-02-08.
 - NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAMS, OR THEIR BUFFERS, AND THE FOREST CONSERVATION EASEMENTS AND 100 YEAR FLOODPLAIN.
 - LOTS 3-6 WILL UTILIZE A USE-IN-COMMON DRIVEWAY. HOWARD COUNTY STANDARD DETAIL NO. R-6.06 WILL BE UTILIZED FOR THE ENTRANCE AT THE INTERSECTION OF THE PUBLIC ROAD.
 - FREDERICK ROAD (MARYLAND ROUTE 144) IS A SCENIC ROAD.
 - TREE PROTECTION FENCING WILL BE PROVIDED AT THE LIMITS OF DISTURBANCE WHERE GRADING IS ADJACENT TO ENVIRONMENTAL AREAS.
 - THIS SITE HAS BEEN SUBDIVIDED IN ACCORDANCE WITH CLUSTER SUBDIVISION PROVISIONS OF SECTION 106 OF THE HOWARD COUNTY ZONING REGULATIONS.
 - THIS SUBDIVISION COMPLIES WITH THE 4TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL 50-2001.
 - WATER SERVICE TO LOTS 1-8 WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122(b) OF THE HOWARD COUNTY CODE. PUBLIC WATER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME. ACCESS TO WATER HAS BEEN PROVIDED UNDER CONTRACT NO. 44-3480.
 - REFUSE COLLECTION, SNOW REMOVAL, AND MAINTENANCE FOR LOTS 3-6 SHALL BE PROVIDED AT THE JUNCTION OF THE PRIVATE USE-IN-COMMON ACCESS EASEMENT AND RIGHT-OF-WAY OF JUDAH WAY.
 - THE PURPOSE OF NON-BUILDABLE PRESERVATION PARCEL 'A' IS TO PRESERVE EXISTING FOREST, STREAMS, STREAM BUFFERS, WETLANDS AND WETLAND BUFFERS. THE PURPOSE OF NON-BUILDABLE PRESERVATION PARCEL 'B' IS TO CONSTRUCT A STORMWATER MANAGEMENT FACILITY FOR THIS SUBDIVISION.
 - THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENT INTO THE PRIVATE SEWAGE EASEMENT.
 - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 MISS UTILITY 1-800-257-7777
 VERIZON TELEPHONE CO. 725-9976
 HOWARD COUNTY BUREAU OF UTILITIES: 313-2366
 VERIZON CABLE LOCATION DIVISION: 393-3553
 B.G.&E. CO. CONTRACTOR SERVICES: 850-4620
 B.G.&E. CO. UNDERGROUND DAMAGE CONTROL: 787-4620
 STATE HIGHWAY ADMINISTRATION: 531-5533
 - 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 PACEMENT OF ANY ASPHALT.
 - STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY VULCAN (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
 - 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 (1 1/2 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE GAP SHALL BE MOUNTED ON TOP OF EACH POST.



STORMWATER MANAGEMENT REQUIREMENTS

DRAINAGE AREA	AREA AC.	Cpv	WQv	Rev
DA 1	16.4	12,000 CF (3)	768 AC-FT (2)	0.40 AC-FT (1)
DA 2	7.5	0 CF (4)	0 AC-FT (5)	0 AC-FT (5)

- Rev PROVIDED BY ROOFTOP DISCONNECTS.
- WQV PROVIDED FOR BY ENVIRONMENTALLY SENSITIVE CREDIT EXCLUDING THE PROPOSED ROAD RIGHT-OF-WAY. REMAINING WQV PROVIDED IN THE POND AS EXTENDED DETENTION AND MICROPOOL.
- INCLUDES 50% OF WQV REMAINING 50% PROVIDED IN MICROPOOL.
- NOT REQUIRED FOR ENVIRONMENTALLY SENSITIVE CREDIT AREA SINCE Cpv IS 2 CFS.
- NOT REQUIRED DUE TO ENVIRONMENTALLY SENSITIVE CREDIT AREA (NO DEVELOPMENT).



LEGEND

- WETLANDS
- VARIABLE WIDTH ACCESS EASEMENT FOR LOTS 3 THRU 6.
- PUBLIC DRAINAGE & UTILITY EASEMENT
- PUBLIC STORM WATER MANAGEMENT CREDIT
- AREA TO BE DEDICATED TO HOWARD COUNTY
- PRIVATE STORMWATER MANAGEMENT DRAINAGE & UTILITY EASEMENT HOWARD COUNTY
- 100 YR FLOODPLAIN DRAINAGE & UTILITY EASEMENT

BENCHMARKS

NO.	NORTHING	EASTING	ELEVATION	TYPE
16HC	N 589780.908	E 1341530.147		
16HD	N 590674.171	E 1340043.586		

MINIMUM LOT SIZE CHART

LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
4	57214 SQ. FT.	8666 SQ. FT.	48548 SQ. FT.
5	54662 SQ. FT.	7610 SQ. FT.	47052 SQ. FT.

SHEET INDEX

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FOREST CONSERVATION PLAN & DETAILS	9 OF 9

DENSITY EXCHANGE CHART

TOTAL GROSS AREA OF SUBDIVISION	17.01 ACRES
AREA OF 100 YEAR FLOODPLAIN	0.12 ACRES
AREA OF 25% SLOPES (OUTSIDE FLOODPLAIN)	0.22 ACRES
NET TRACT AREA	16.67 ACRES
NUMBER OF RESIDENTIAL UNITS ALLOWED BY RIGHT	4 (GROSS AREA/4.25)
NUMBER OF RESIDENTIAL UNITS ALLOWED BY DENSITY EXCHANGE	8 (NET AREA/2)
NUMBER OF RESIDENTIAL UNITS PROPOSED	8
NUMBER OF DEO UNITS REQUIRED	4 (8-4 BASE DENSITY)
SENDING PARCEL INFORMATION	3 DEO UNITS FROM CHASE AT STONEY BROOK, LOCATED ON TAX MAP NO. 7, GRID 17, PARCEL NO. 133, LIBER 8377, FOLIO 176 AND 1 DEO UNIT FROM CATTAIL CREEK COUNTRY CLUB, INC. ON TAX MAP 21, GRID 3 PARCEL NO. 3, LIBER 4617, FOLIO 100, RE-06-03 RECORDED ON 3/17/08 AS PLAT NO. 18162.

OWNER/DEVELOPER
 TRINITY QUALITY HOMES, INC.
 3675 PARK AVE., STE. 301
 ELLICOTT CITY, MARYLAND
 21043



AS-BUILT CERTIFICATION
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.
 6/4/14
 ROBERT H. VOGEL, P.E. NO. 16193

COORDINATE CHART

POINT	NORTH	EAST
13	591187.14028	1339154.03280
14	591280.87540	1339026.43818
16	592614.38133	1340058.81154
17	592400.93969	1340065.99949
18	592716.13450	1339724.95400
21	591594.32913	1339349.20357
105	591619.77330	1339716.88000
107	591544.85690	1339443.57200
108	591483.82190	1339572.32900
109	591451.81920	1339625.34700
110	591533.82760	1339681.84600
416	591539.50599	1339916.07592
417	591975.48985	1340090.28362

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 5-3-08
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 9/19/05
 Chief, Division of Land Development

[Signature] 5/12/06
 Chief, Development Engineering Division

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. 16193 EXPIRATION DATE: 09-27-2008."

FINAL ROAD CONSTRUCTION PLAN COVER SHEET
BRANTWOOD OVERLOOK
 LOTS 1-8 AND NON-BUILDABLE PRESERVATION PARCELS 'A' & 'B'
 TAX MAP 16 BLOCK 15, 16, 21 & 22 PARCELS '94' & '259'
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 REF.: F-02-41,F-02-42,SP-02-08,RE-06-03,WP-08-101

ROBERT H. VOGEL ENGINEERS, SURVEYORS, & PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410-461-7666 FAX: 410-461-8961

DESIGN BY: RHW/RJ
 DRAWN BY: RJ
 CHECKED BY: RHW
 DATE: 03-28-2008
 SCALE: AS SHOWN
 W.O. NO.: 201712.00-05-65

1 SHEET OF 9

AS-BUILT 6/4/14 F-08 42



GRADING PLAN
SCALE: 1"=50'
MATCHLINE - SHEET 3 OF 9

- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - DIRECTION OF FLOW
 - EXISTING TREES TO REMAIN
 - AREA OF 15 TO 24.9 PERCENT SLOPES
 - AREA OF 25 PERCENT OR GREATER SLOPES
 - PUBLIC FOREST CONSERVATION AREA (RETENTION)
 - WETLANDS
 - NO WOODY BUFFER
 - WETLANDS BUFFER
 - STREAM CENTERLINE
 - STREAM BUFFER
 - PROP. STREET LIGHT
 - PUBLIC STORM WATER MANAGEMENT CREDIT EASEMENT
 - VARIABLE WIDTH ACCESS EASEMENT FOR LOTS 4, 5 & 6
 - PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT
 - PRIVATE STORMWATER MANAGEMENT DRAINAGE & UTILITY EASEMENT
 - TREE PROTECTION FENCE

APPROVED: DEPARTMENT OF PUBLIC WORKS
W. J. ... 9-3-08
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
... 9/19/08
 CHIEF, DEVELOPMENT ENGINEERING DIVISION J.R. DATE

... 9/19/08
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
John K. ... 8/28/08
 HOWARD SCD

ENGINEERS CERTIFICATE

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

Robert H. Vogel 8/28/08
 Signature of Engineer Date
 ROBERT H. VOGEL

DEVELOPER'S CERTIFICATE

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

Michael C. ... 8.25.08
 Signature of Developer Date
 TRINITY QUALITY HOMES, INC.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

Robert H. Vogel 6/4/14
 ROBERT H. VOGEL, P.E. 16193

STATE OF MARYLAND
 ROBERT HARRIS VOGEL
 P.E. 16193
 PROFESSIONAL ENGINEER

OWNER/DEVELOPER

TRINITY QUALITY HOMES, INC.
 3675 PARK AVE., STE. 301
 ELLICOTT CITY, MARYLAND
 21043

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. 16193 EXPIRATION DATE: 09-27-2008."

NO.	REVISION	DATE

**FINAL ROAD CONSTRUCTION PLAN
 GRADING, SEDIMENT & EROSION CONTROL PLAN**

BRANTWOOD OVERLOOK
 LOTS 1-8 AND NON-BUILDABLE
 PRESERVATION PARCELS 'A' & 'B'

TAX MAP 16 BLOCK 15, 16, 21 & 22
 3RD ELECTION DISTRICT
 REF.: F-02-41, F-02-42, SP-02-08, RE-06-03, WP-08-101 PARCELS '94' & '259'
 HOWARD COUNTY, MARYLAND

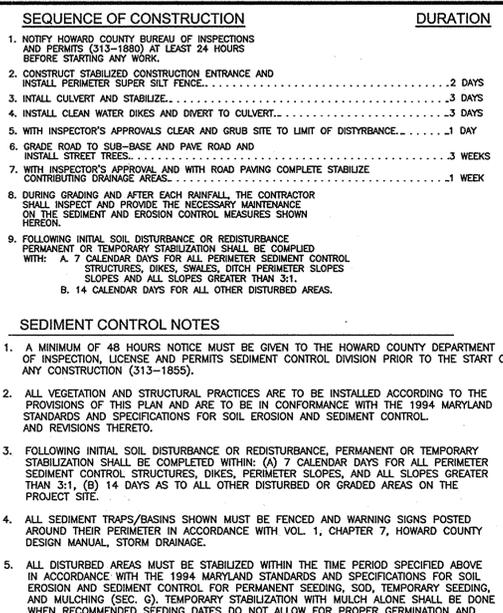
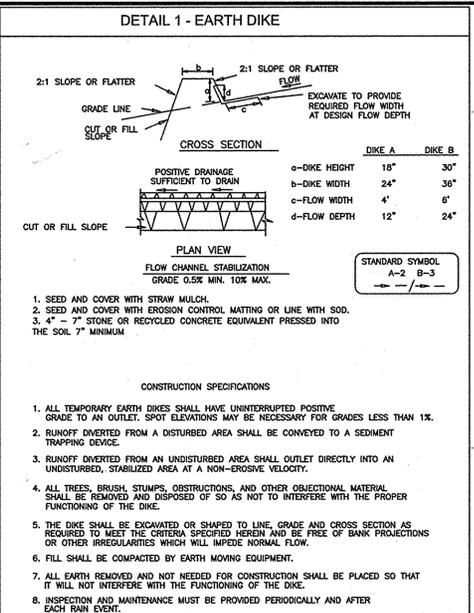
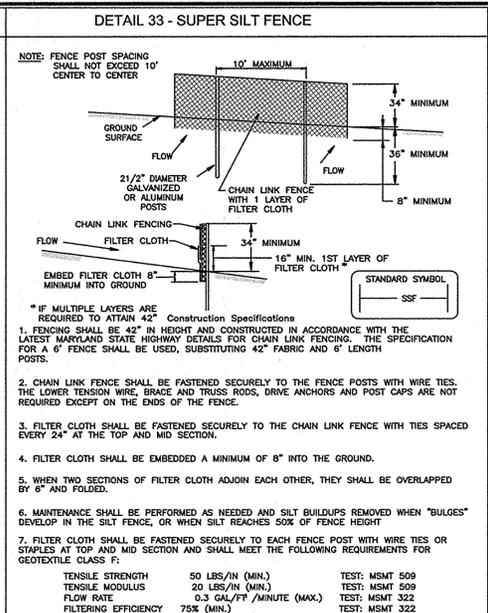
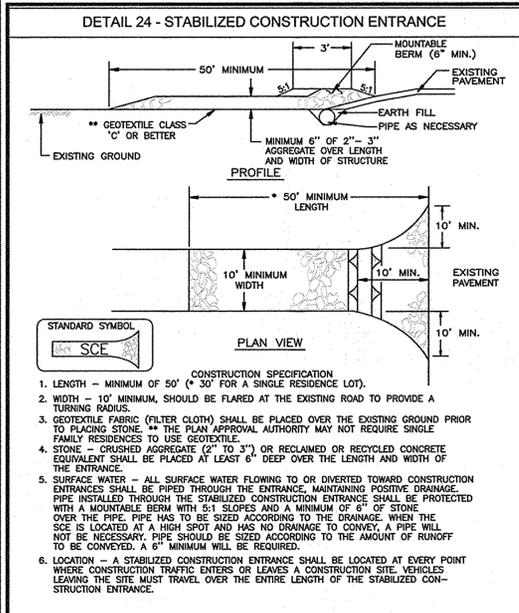
**ROBERT H. VOGEL
 ENGINEERING, INC.**

ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RHV/RJ
 DRAWN BY: RJ
 CHECKED BY: RHV
 DATE: 03-28-2008
 SCALE: AS SHOWN
 W.O. NO.: 2017112.00
 05-65

4 SHEET OF 9



MARYLAND 378 STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. 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 BENCHES SHALL BE SLOPED TO NO STEEPER THAN 1:1. ALL TREES SHALL BE CLEARED AND GRUBBED WITHIN 15 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 UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH, AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

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, AND CUT OFF TRENCH SHOULDER, CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING THE #200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL 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 EMBANKMENT, AND CUT OFF TRENCH SHOULDER. FILL 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/TAMPING OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVELED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE 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 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN ±1-2% 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).

CUT OFF TRENCH/CUT OFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE COVERED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

EMBANKMENT 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 EXTEND UP TO AT LEAST THE 10 YEAR WATER ELEVATION OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 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 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 THE STRUCTURE OR PIPE.

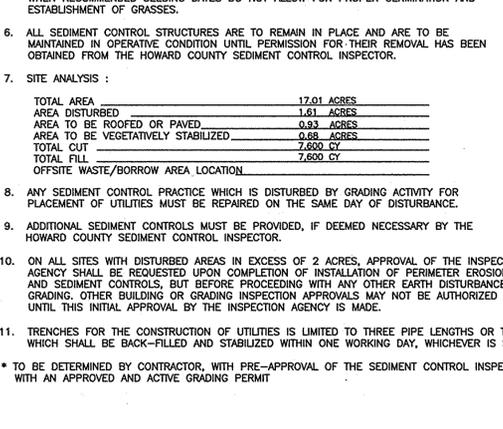
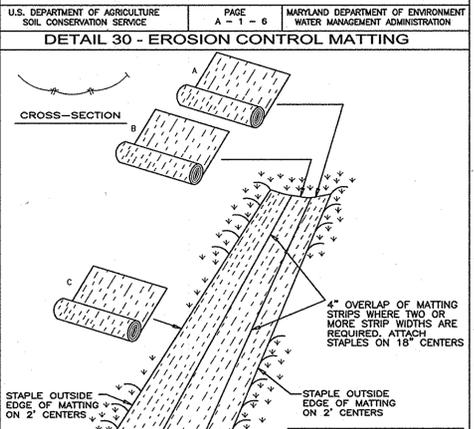
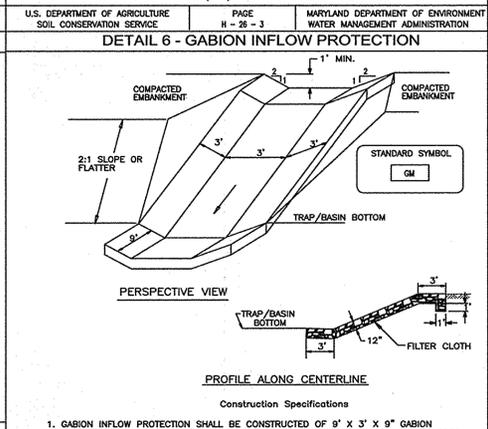
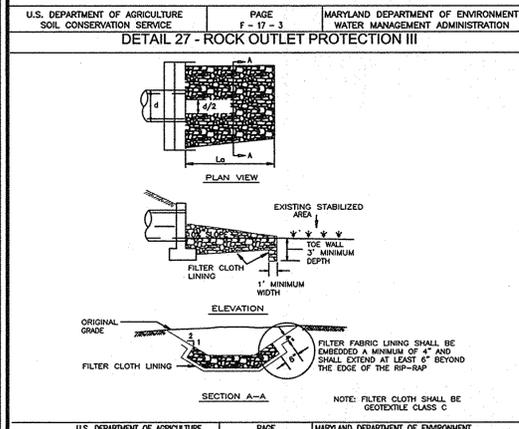
STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 313 AS MODIFIED. THE MIXTURE SHALL HAVE A 100-200 PSI, 28 DAY UNCONFINED COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE A MINIMUM PH OF 10.0. A MINIMUM DENSITY OF 2,000 OBM/CM. MATERIAL SHALL BE PLACED SUCH THAT MINIMUM OF 6" (MEASURED PERPENDICULAR TO THE OUTSIDE OF THE PIPE) OF FLOWABLE FILL SHALL BE UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE. IF ONLY NEEDS TO EXTEND TO THE END OF THE STRUCTURE, THE FILL SHALL BE PLACED UNDER (BEDDING), OVER AND, ON THE SIDES OF THE PIPE. FLOWABILITY OF THE MATERIAL, ADEQUATE MEASURES SHALL BE TAKEN (SAND BAGS, ETC.) TO PREVENT FLOATING THE PIPE, WHEN USING FLOWABLE FILL. ALL METAL PIPE SHALL BE BITUMINOUS COATED. ANY ADJOINING 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 THE 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 (FLOWABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL-PIPE OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

- MATERIALS - (POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMERIC COATING SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (0.10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 & M-246 WITH WATER TIGHT 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 WATER TIGHT 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 OR EQUIPPED WITH AN ALUMINUM COATED TYPE. ANY ALUMINUM COATED PIPE, UNLESS OTHERWISE SPECIFIED, SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND. ALUMINUM SURFACES THAT ARE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO COATS OF ASPHALT.



OPERATION, MAINTENANCE AND INSPECTION

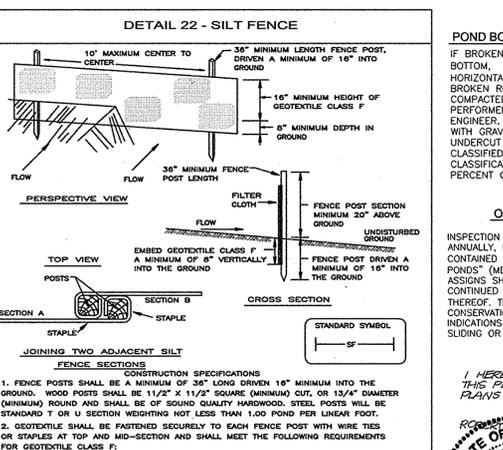
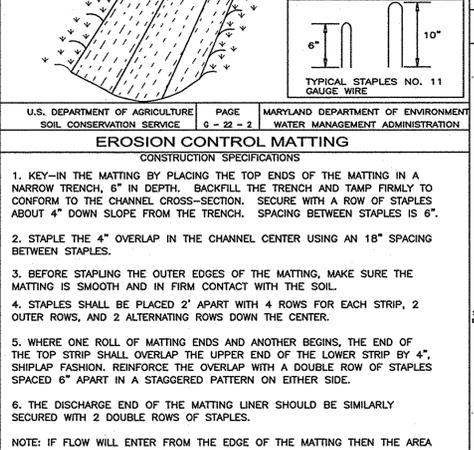
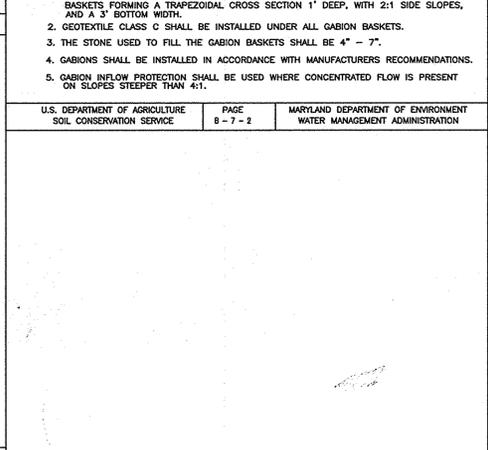
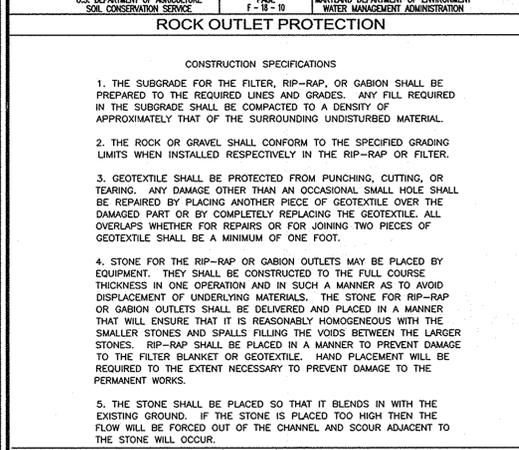
INSPECTION OF THE POND SHOW HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, NRCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN IN THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

STATE OF MARYLAND
COUNTY OF HOWARD
PROFESSIONAL ENGINEER
No. 16193
ROBERT H. VOGEL, PE No. 16193

OWNER/DEVELOPER
THE PRESERVE AT WATERY GLEN LLC.
3675 PARK AVENUE, SUITE 301
ELICOTT CITY, MARYLAND 21043
(410) 460-0023



FINAL ROAD CONSTRUCTION PLAN SEDIMENT AND EROSION CONTROL DETAILS

BRANTWOOD OVERLOOK
LOTS 1-8 AND NON-BUILDABLE PRESERVATION PARCELS 'A' & 'B'

TAX MAP 18 BLOCK 15, 16, 21 & 22
3RD ELECTION DISTRICT
REF: F-02-41, F-02-42, SP-02-08, RE-06-03, WP-02-10
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: RHRVJ
DRAWN BY: RJ
CHECKED BY: RHV
DATE: 03-28-2008
SCALE: AS SHOWN
W.O. NO.: 2017112.00-05-65

5 SHEET OF 9

APPROVED: DEPARTMENT OF PUBLIC WORKS
William J. Walsh
CHIEF, BUREAU OF HIGHWAYS
DATE: 9-3-08

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John K. Roberts
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 9/19/08

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 18 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 8 - 7 - 2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 0 - 22 - 2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 0 - 22 - 2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 0 - 15 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

ENGINEERS CERTIFICATE

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

Robert H. Vogel
Signature of Engineer
ROBERT H. VOGEL
Date: 8/18/08

DEVELOPER'S CERTIFICATE

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

Michael P. ...
Signature of Developer
TRINITY QUALITY HOMES, INC.
Date: 08/20/08

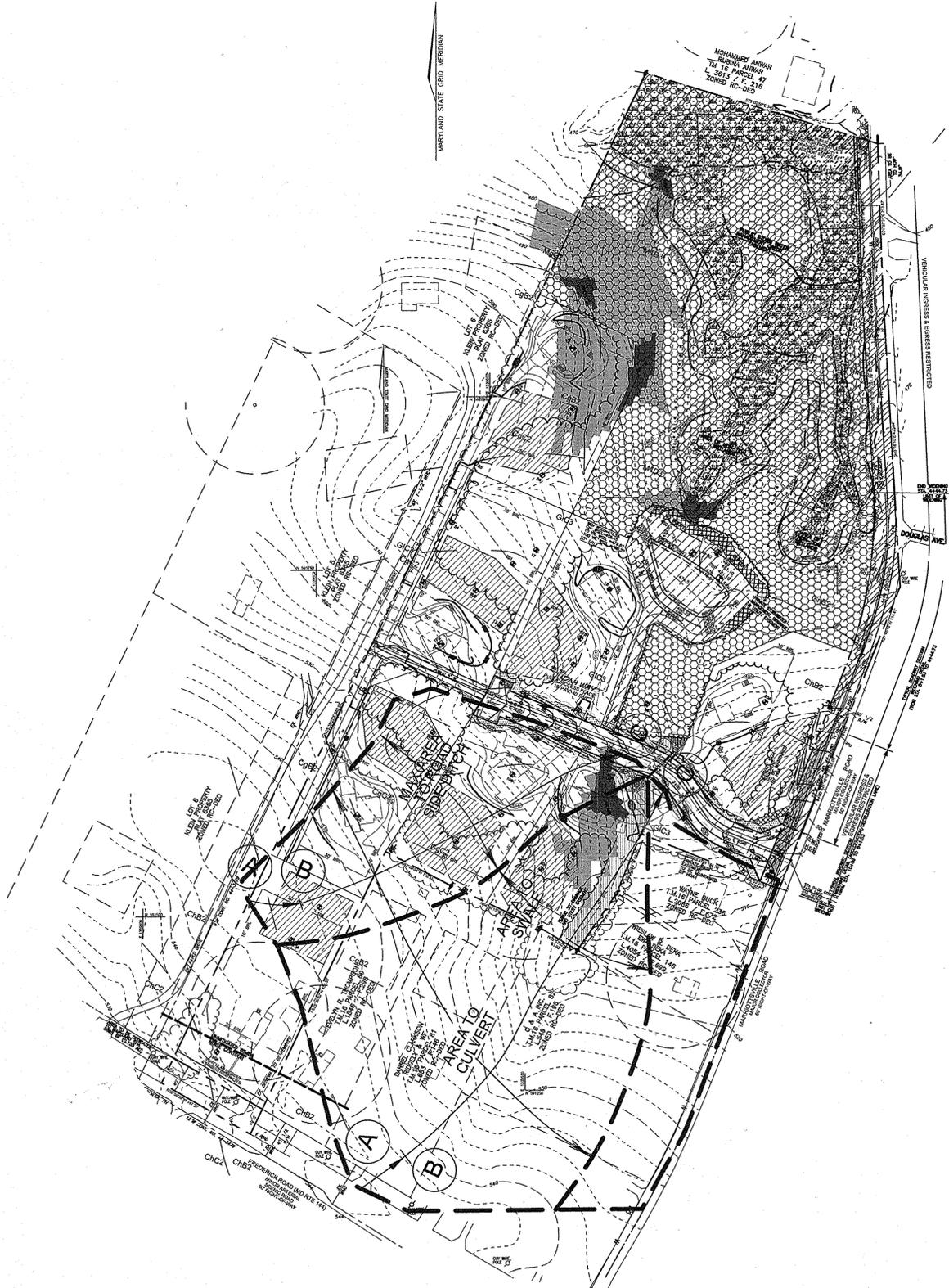
PROFESSIONAL CERTIFICATION

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. 16193 EXPIRATION DATE: 09-27-2008.

Robert H. Vogel
Signature of Professional Engineer
ROBERT H. VOGEL, PE No. 16193

AS-BUILT 6/4/2014 F-08-42

SOIL TABLE		
Ba	BAILE SILT LOAM, (HYDRIC)	D
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
MTD3	MANOR LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED	B
ChB2	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
ChC2	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
G1C3	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B
CgC2	CHESTER GRAVELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
CgB2	CHESTER GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MgC2	MANOR GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B



LEGEND

EXISTING CONTOUR		382
PROPOSED CONTOUR		+82.53
SPOT ELEVATION		
EXISTING TREES TO REMAIN		
SOILS DMIDE		KcB2 NeB2
DRAINAGE AREA TO CULVERT		
DRAINAGE AREA TO SWALE		

TC PATH INFORMATION

AREA : 9.2 ACRES (AREA TO CULVERT)
5.1 ACRES (AREA TO SWALE)

TC: 0.14 HR

A-B SHEET FLOW 75' @ 9.0% B-C SHALLOW CONCENTRATED 605' @ 10.0%

ROAD SIDE DITCH (WORST CASE)

AREA : 4.1 ACRES

TC: A-B 75' SHEET FLOW (GRASS) @3.3%
B-C 520' SHALLOW CONCENTRATED (UNPAVED) @8.0%

TC : 0.19 HR.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLAN AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ROBERT H. VOGEL, PE, NO. 16193

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. 16193 EXPIRATION DATE: 09-27-2008.

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN DRAINAGE AREA MAP FOR CULVERT

BRANTWOOD OVERLOOK
LOTS 1-8 AND NON-BUILDABLE PRESERVATION PARCELS 'A' & 'B'

TAX MAP 16 BLOCK 15, 16, 21 & 22 PARCELS '94' & '259'
3RD ELECTION DISTRICT
REF: F-02-41, F-02-42, SP-02-08, RE-06-03, WP-08-101 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLCOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RHW/RJ
DRAWN BY: RJ
CHECKED BY: RHW
DATE: 03-28-2008
SCALE: AS SHOWN
W.O. NO.: 2017112.00
03-05

6 SHEET OF 9

APPROVED: DEPARTMENT OF PUBLIC WORKS

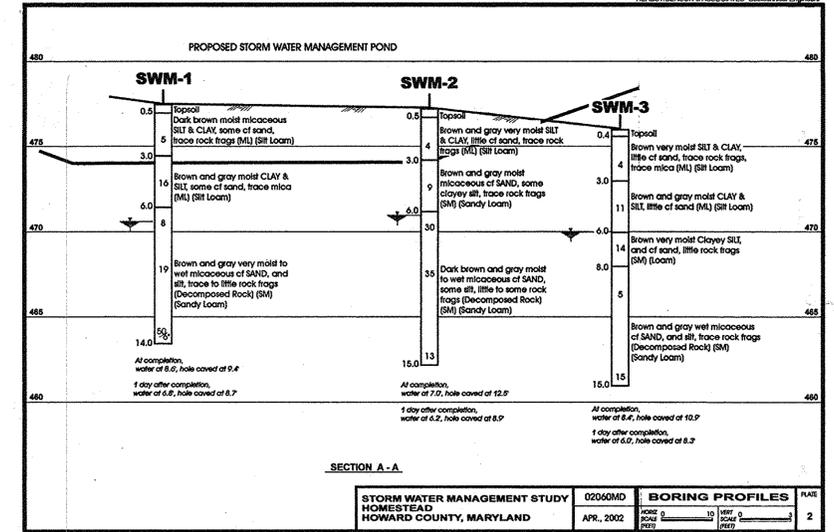
Michelle R. ... 9-3-08
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy ... 9/19/08
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

... 9/19/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

PLAN VIEW
SCALE: 1"=100"



GEOTECHNICAL RECOMMENDATIONS FOR SWM FACILITY

GENERAL CONDITIONS

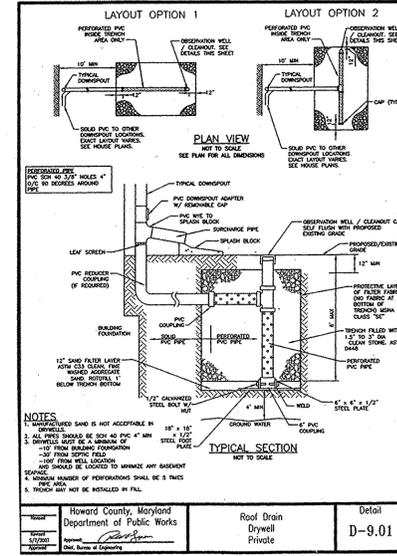
This report has been prepared in accordance with generally accepted geotechnical engineering practice to aid in the evaluation and design of this project. In the event of changes in the proposed construction (types, elevations, locations, etc.) the conclusions and recommendations presented in this report should not be considered valid unless changes are reviewed and the conclusions of this report are modified or approved in writing by our office.

The analyses and recommendations included in this report are based upon the data obtained from the test borings performed at the approximate locations indicated on the boring location plan. This report does not reflect variations which may occur between the borings. The nature and extent of the variations may not become evident until the time of construction. If significant variations then become evident, it may be necessary for us to reevaluate the recommendations of this report.

We appreciate the opportunity to provide geotechnical services during the design phase of this project. We will be available to provide additional consultation as necessary during the design phase and hope to have the opportunity to provide geotechnical services during the construction phase of the project as well.

If you have any questions, please do not hesitate to contact us.

Most Sincerely,
 HERBSTENSON & ASSOCIATES
 By: Robert C. Benson, Principal
 RCB/rlh
 02060MD
 cc: Frederick Ward Associates; Attn: Mr. Rob Vogel



LOCATIONS AND SIZES OF DRYWELLS TO BE DETERMINED BY BUILDING PERMIT PLANS

OPERATION AND MAINTENANCE SCHEDULE FOR STORMWATER MANAGEMENT FACILITY

STORMWATER MANAGEMENT FACILITY ROUTINE MAINTENANCE BY HOA

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

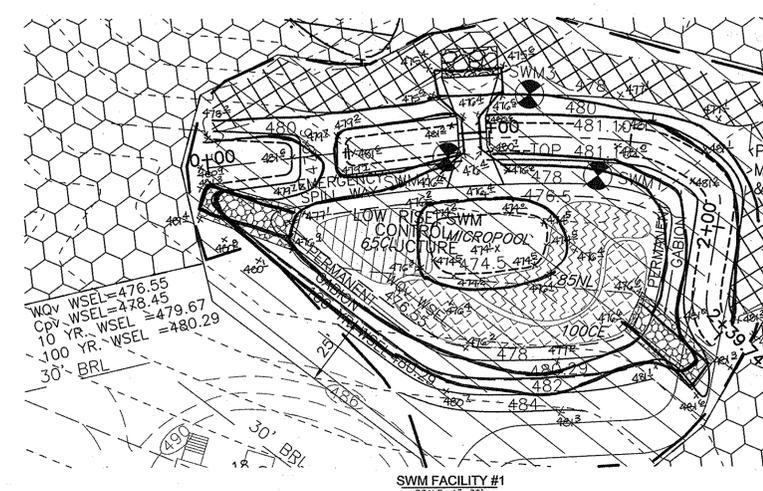
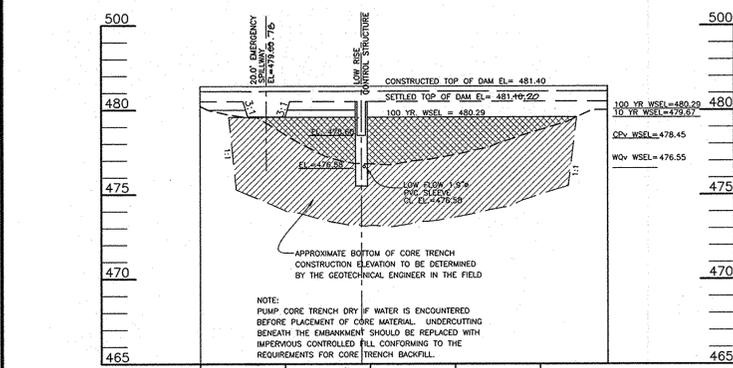
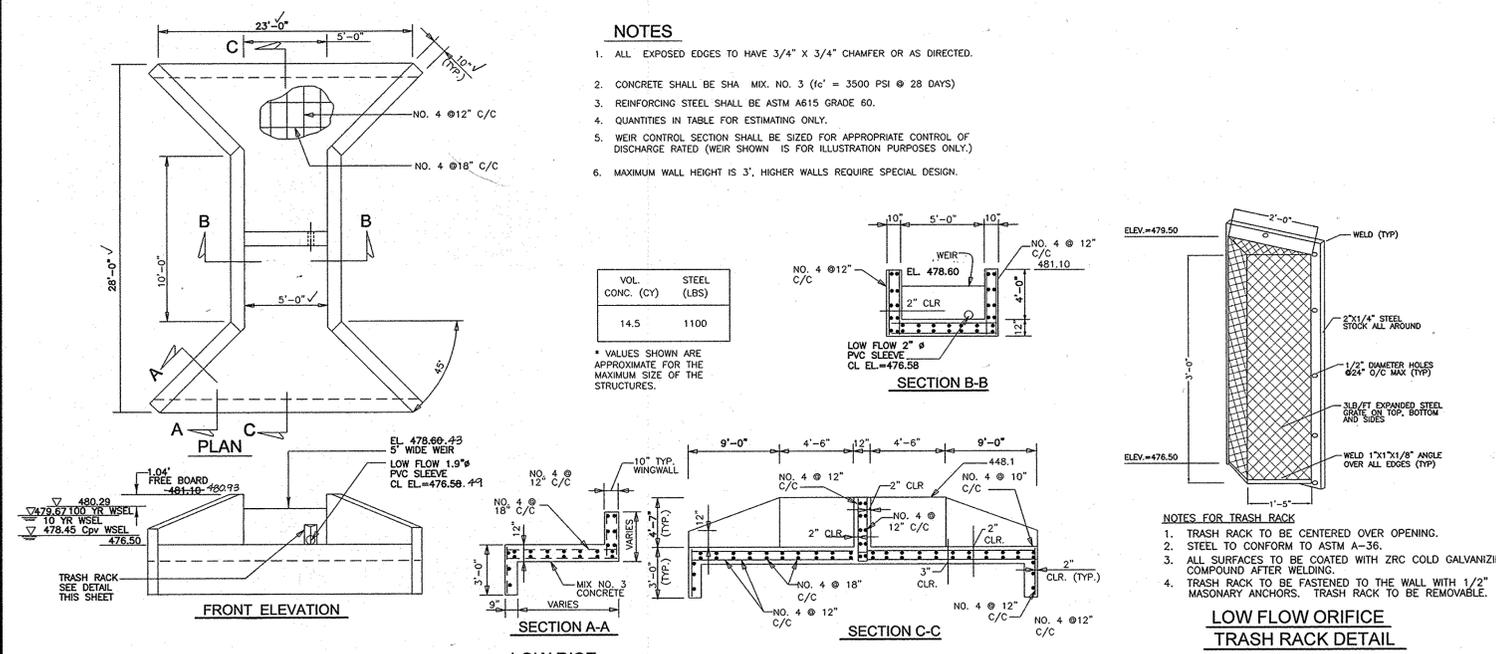
NON-ROUTINE MAINTENANCE BY HOA

- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
- SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERE WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

- NOTES**
- ALL EXPOSED EDGES TO HAVE 3/4" X 3/4" CHAMFER OR AS DIRECTED.
 - CONCRETE SHALL BE SHA MIX. NO. 3 (f'c = 3500 PSI @ 28 DAYS)
 - REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.
 - QUANTITIES IN TABLE FOR ESTIMATING ONLY.
 - WEIR CONTROL SECTION SHALL BE SIZED FOR APPROPRIATE CONTROL OF DISCHARGE RATED (WEIR SHOWN IS FOR ILLUSTRATION PURPOSES ONLY).
 - MAXIMUM WALL HEIGHT IS 3'. HIGHER WALLS REQUIRE SPECIAL DESIGN.

VOL. CONC. (CY)	STEEL (LBS)
14.5	1100

* VALUES SHOWN ARE APPROXIMATE FOR THE MAXIMUM SIZE OF THE STRUCTURES.



FACILITY #1

KEY	QUAN.	BOTANICAL NAME	SIZE	REMARKS
CE	100	Cyperus esculentus Yellow Nut Sedge	plug	2' oc
NL	85	Nuphar luteum Spatterdock	plug	1.5' oc
CL	65	Carex lacustris Lake Sedge	plug	2' oc

APPROVED: DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 9-3-08

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Date: 9/19/08

Chief, Development Engineering Division
 Date: 9/19/08

DEVELOPER'S CERTIFICATE

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

Signature of Developer
 TRINITY QUALITY HOMES, INC.

ENGINEER'S CERTIFICATE

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

Signature of Engineer
 ROBERT H. VOGEL

Reviewed for HOWARD SCD and meets Technical Requirements.

USDA-Natural Resources Conservation Service
 Date: 8/18/08

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

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. 16193 EXPIRATION DATE: 09-27-2008."

OWNER/DEVELOPER
 MICHAEL PFAU
 TRINITY QUALITY HOMES, INC.
 3675 PARK AVE., STE. 301
 ELLICOTT CITY, MARYLAND 21043
 (410) 480-0023

FINAL ROAD CONSTRUCTION PLAN
STORMWATER MANAGEMENT DETAILS

BRANTWOOD OVERLOOK
 LOTS 1-8 AND NON-BUILDABLE PRESERVATION PARCELS 'A' & 'B'

TAX MAP 16 BLOCK 15, 16, 21 & 22
 3RD ELECTION DISTRICT
 REF.: F-02-41, F-02-42, SP-02-08, RE-06-03, WP-08-101 PARCELS '9A' & '29B'
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

DESIGN BY: RHW/RL
 DRAWN BY: RJ
 CHECKED BY: RIV
 DATE: 03-28-2008
 SCALE: AS SHOWN
 W.O. NO.: 2017112.00
 05-65

7 SHEET OF 9

AS-BUILT 6/14/2014 F-08-42



SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS							ADJACENT TO PERIMETER PROPERTIES							TOTAL
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	
PERIMETER/FRONTAGE DESIGNATION	1	2	3	4	5	6	7	1	2	3	4	5	6	7	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	265'	377'	386'	896'	509'	657'	361'	265'	165'	311'	No	No	No	No	
CREDIT FOR EXISTING VEGETATION (YES/NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	Yes* 265'	Yes* 165'	Yes* 311'	No	Yes* 509'	Yes* 657'	Yes* 361'	No	No	No	No	No	No	No	
CREDIT FOR WALL FENCE OR BERM (YES/NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
NUMBER OF PLANTS REQUIRED	1:50 0	212' 0	1:60 4	1:60 15	1:60 0	1:60 0	1:60 0	1:50 0	1:60 4	1:60 2	1:60 15	1:60 0	1:60 0	1:60 0	
NUMBER OF PLANTS PROVIDED	0	4	2	15	0	0	0	0	4	2	15	0	0	0	
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED															

* EXISTING WOODS TO REMAIN
** 575' OF P-6 IS THE SWM PERIMETER WITH THE REMAINING 82' OF PERIMETER RECEIVING CREDIT FOR EXISTING TREES.

PUBLIC ACCESS PLACE STREET TREE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
○	27	ACER SACCHARUM 'GOLDSPIRE'	2 1/2"-3" CAL.	B & B
+	4	AMUR MAPLE	2"-3" CAL.	B & B

STREET TREE CALCULATIONS

STREET NAME	LINEAR FEET	NO. REQUIRED	NO. PROVIDED
MARRIOTTVILLE - RD IMPROVEMENT	158/40	4	4
COTTAGE FARM LANE	1075/40	27	27
TOTAL		31	31

LANDSCAPE SCHEDULE THIS SHEET

QUAN.	BOTANICAL NAME	SIZE	REM.
21	Acer rubrum 'Red Sunset'	2 1/2"-3" Cal.	B & B
2	Quercus coccinea	2 1/2"-3" Cal.	B & B
2	picea abies	6'-8' Ht.	B & B

- GENERAL NOTES**
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SHAPED TO CONFORM TO THE MOST CURRENT AN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LCAMW PLANTING SPECIFICATIONS.
 - CONTRACTOR SHALL CERTIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
 - FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
 - CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

- LANDSCAPE NOTES**
- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF THE REQUIRED PLANTING MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE 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 THE APPLICABLE PLANS.
 - THE OWNER, TENANTS 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.
 - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. 4. NO CLEARING OF EXISTING VEGETATION IS PERMITTED WITHIN THE LANDSCAPE AREAS FOR WHICH CREDIT IS BEING TAKEN; HOWEVER, MAINTENANCE IS AUTHORIZED.

B.G. & E. NOTES:

- THE LANDSCAPING ON WIREZONE 140' FROM BGE 2008 IS IN ACCORDANCE WITH BGE LIST OF TREES AND PLANTS AND MEETS THE APPROVED SPECIFICATIONS.
- BGE RESERVES THE RIGHT TO TRIM, TOP OR CUT DOWN ANY TREE IN PROXIMITY TO THE LINE THAT IN THE OPINION OF BGE SHALL BE DEEMED A HAZARD TO THE SAFE AND RELIABLE DELIVERY OF ELECTRICITY.
- THE DEPARTMENT OF PLANNING AND ZONING MAY AUTHORIZE THE TRIMMING OR REMOVAL OF TREES OR VEGETATION WITHIN THE FOREST CONSERVATION EASEMENTS LOCATED IMMEDIATELY ADJACENT TO THE BGE R/W OR EASEMENT, IF BGE DETERMINES THE TREES ARE COMPROMISING THE SAFETY OR A TRANSMISSION LINE LOCATED WITHIN THEIR UTILITY R/W OR EASEMENT. IF BGE INTENDS TO TRIM OR REMOVE TREES WITHIN A FOREST CONSERVATION EASEMENT, A LETTER SPECIFYING THE LOCATION AND SCOPE OF WORK NEEDS TO BE SENT TO DPZ AT LEAST 30 DAYS IN ADVANCE OF UNDERTAKING THE WORK. DPZ UNDERSTANDS CONSTRUCTION ENERGY'S NEED TO PROTECT ITS TRANSMISSION LINES AND WILL NOT UNREASONABLE WITHHOLD.

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. 16193 EXPIRATION DATE: 09-27-2008.

OWNER/DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., STE. 301
ELLCOTT CITY, MARYLAND
21043

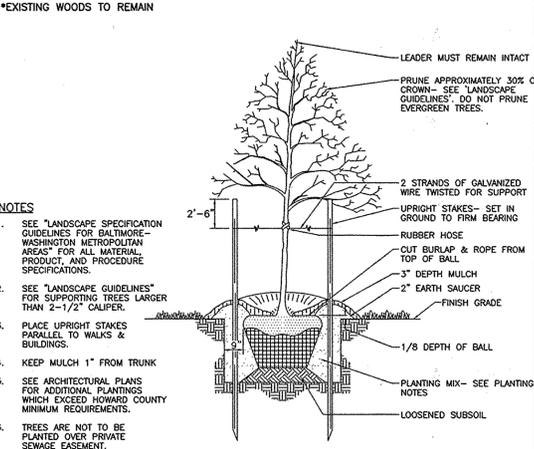
AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED SPECIFICATIONS.

ROBERT H. VOGEL, P.E. NO. 16193

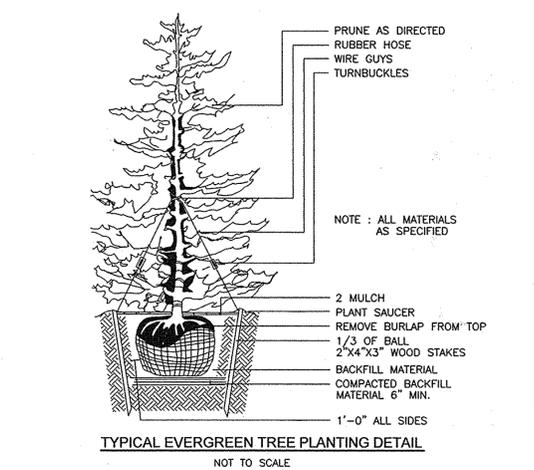
SCHEDULE D: STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	575 LF
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	YES* 480'
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
NUMBER OF TREES REQUIRED (95')	(95')
SHADE TREES	2 SHADE TREES
EVERGREEN TREES	2 EVERGREEN TREES
NUMBER OF TREES PROVIDED	2 SHADE TREES
EVERGREEN TREES	2 EVERGREEN TREES
SHRUBS	2 EVERGREEN TREES

* EXISTING WOODS TO REMAIN



TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER
NOT TO SCALE



NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
LANDSCAPE PLAN & DETAILS
BRANTWOOD OVERLOOK
LOTS 1-8 AND NON-BUILDABLE PRESERVATION PARCELS 'A' & 'B'

TAX MAP 16 BLOCK 15, 16, 21 & 22
3RD ELECTION DISTRICT
REF: F-02-41-F-02-42-SP-02-08, RE-06-03, WP-08-101
PARCELS '94' & '259'
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8951

DESIGN BY: RHR/RJ
DRAWN BY: RJ
CHECKED BY: RHR
DATE: 03-28-2008
SCALE: AS SHOWN
W.O. NO.: 2017112.00-05-65

8 SHEET OF 9

APPROVED: DEPARTMENT OF PUBLIC WORKS
W. J. [Signature] 9-3-07
Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy [Signature] 9/19/08
Chief, Division of Land Development

9/16/07
Chief, Development Engineering Division

DEVELOPER'S AGREEMENT

STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$9,300.00 TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE REQUIRED 31 PUBLIC STREET TREES.

FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING PROVIDED PER THE LANDSCAPE MANUAL TO BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$7,200.00 FOR THE REQUIRED 23 SHADE TREES AND THE REQUIRED 2 EVERGREEN TREES.

DEVELOPER'S LANDSCAPE CERTIFICATE

I/WE CERTIFY THAT LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF THE PROJECT, 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.

Michael [Signature]
DEVELOPER'S NAME:
TRINITY QUALITY HOMES, INC.

OWNER/DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., STE. 301
ELLCOTT CITY, MARYLAND
21043

R. [Signature]
ROMA JOSHI
DNR QUALIFIED FOREST PROFESSIONAL

