

ENGINEER'S CERTIFICATE

I hereby certify that this Plan for Erosion and Sediment Control Represents a Reasonable and Workable Plan Based on My Personal Knowledge of the Conditions and That It Was Prepared in Accordance with the Requirements of The Howard Soil Conservation District.

Signature of Engineer: *[Signature]* Date: 5/26/10

APPROVED: *[Signature]* Date: 6/03/10
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] Date: 6/18/10
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

PIPE SCHEDULE

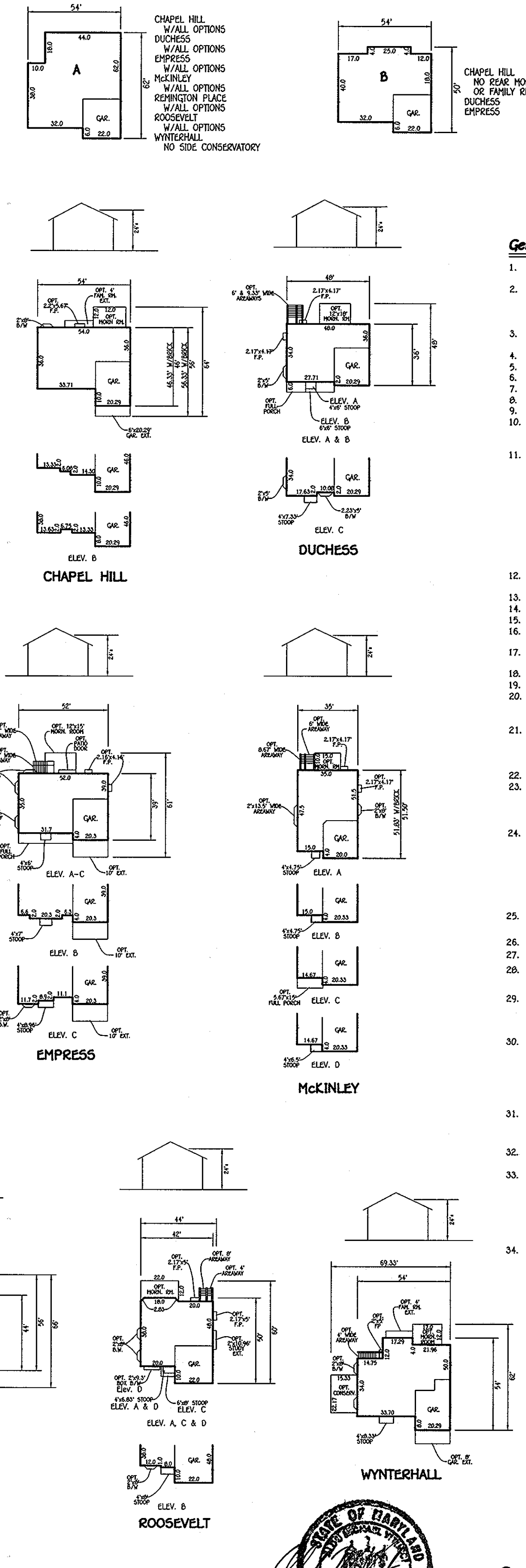
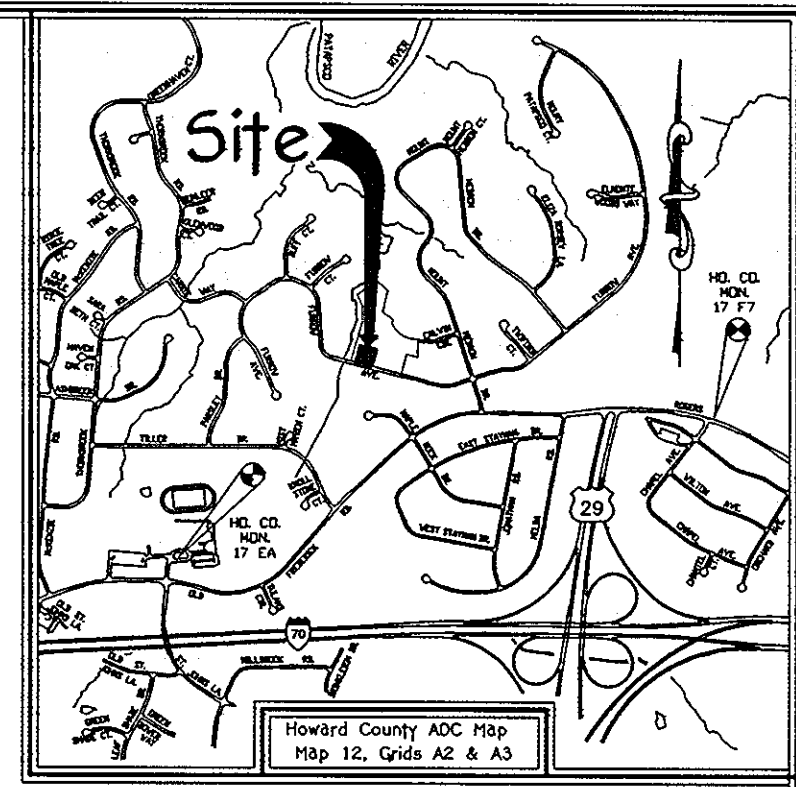
SIZE	CLASS	LENGTH
4"	PVC, SCH. 40	57'

SOILS LEGEND

SOIL	NAME	CLASS
GnA	Glenview silt loam, 0 to 3 percent slopes	C
MIC2	Major loam, 8 to 15 percent slopes, moderately eroded	B

NOTES:

- * Hydric soils and/or contains hydric inclusions
- ** May contain hydric inclusions
- † Generally only within 100-year floodplain areas



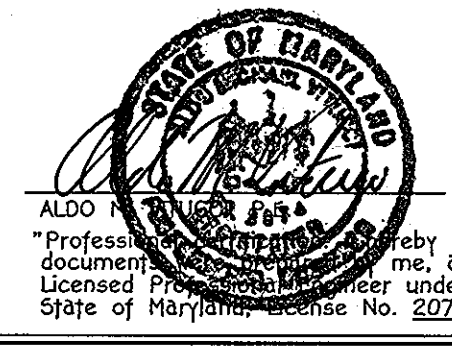
- General Notes:**
- Subject Property Zoned R-20 Per the 02/02/04 Comprehensive Zoning Plan and The Comp-Like Zoning Amendments Dated 07-29-06.
 - Coordinates Based on NAD 83, Maryland Coordinate System As Projected by Howard County Geodetic Control Stations No. 176A and 177A.
 - This Plan is Based on Field Run Monumented Boundary Survey Performed On Or About January, 2003, By Fisher, Collins & Carter, Inc.
 - B.E.L. Denotes Building Restriction Line.
 - Denotes Iron Pipe Set With Cap "F.C.C. 100".
 - Denotes Iron Pipe Or Iron Bar Found.
 - Denotes Angular Change in Bearing of Boundary Or Right-of-Way.
 - Denotes Concrete Monument Set With Cap "F.C.C. 100".
 - Denotes Concrete Monument Or Stone Found.
 - For Flag Or Pipe Stem Lots, Refuse Collection, Snow Removal And Road Maintenance Are Provided To The Junction of Flag Or Pipe Stem And The Road Right-Of-Way Line Only And Not Onto The Flag Or Pipe Stem Lot Driveways.
 - Driveways Shall Be Provided Prior To Residential Occupancy To Ensure Safe Access For Fire And Emergency Vehicles Per The Following (Minimum) Requirements:
 - Width - 12 Feet (16 Feet Serving More Than One Residence);
 - Surface - Six (6) Inches Of Compacted Crusher Run Base With Tar And Chip Coating, (1 1/2" Minimum);
 - Geometry - Maximum 15% Grade, Maximum 10% Grade Change And 45-Foot Turning Radius;
 - Structures (Culverts/Bridges) - Capable Of Supporting 25 Gross Tons (H2S-Loading);
 - Drainage Elements - Capable Of Safely Passing 100 Year Flood With No More Than 1 Foot Depth Over Surface;
 - Structure Clearances - Minimum 12 Feet;
 - Maintenance - Sufficient To Ensure All Weather Use.
 - No Grading, Removal Of Vegetative Cover Or Placement Of New Structures Is Permitted Within The Limits Of Wetlands, Streams, Or Their Buffers And Forest Conservation Easement Areas.
 - All Lot Areas Are More Or Less (±).
 - Distances Shown Are Based On Surface Measurement And Not Reduced To Nad 83 Grid Measurement.
 - Traffic Study For This Project Was Prepared By Mars Group, Dated February, 2010.
 - No Cemeteries Exist On This Site Based On A Visual Site Visit And Based On An Examination Of The Howard County Cemetery Inventory Map.
 - Previous Department Of Planning And Zoning File Numbers: 5-06-015, P-08-005, BA 08-20, F-09-027, WP-09-091 & F-09-019.
 - There Is No 100 Year Floodplain Within Lots 14 And 15.
 - This Property Is Located Within The Metropolitan District.
 - Public Water And/Or Sewer Allocations For This Development Are Subject To Section 18.122B Of The Howard County Code. Allocations Will Be Made Available At The Time Of Final Plat Approval, If Capacity Is Available At That Time.
 - This Plat Is In Compliance With The Amended Fifth Edition Of The Subdivision And Land Development Regulations Per Council Bill 45-2000 And The Zoning Regulations As Amended By Council Bill 75-2003. Development Or Construction On These Lots Must Conform With Setback And Buffer Regulations In Effect At The Time Of Submission Of The Site Development Plan, Waiver Petition Application, Or Building/Grading Permit.
 - No Noise Study Is Required For This Project Per Howard County Design Manual, Vol. III, Section 5.2.9.
 - The Forest Stand Delineation And Wetland Delineation For This Project Was Prepared By Geo-Science Professionals, Inc., Dated March, 2006 And Approved Under P-09-005. Under The F-09-019 Plan A Further Jurisdictional Determination Request Was Prepared By Environmental Systems Analysis, Inc. Dated May, 2009. This Jurisdictional Determination Was Approved By The U.S. Army Corps Of Engineers On July 23, 2009.
 - Stormwater Management For This Project Has Been Provided In Accordance With Howard County And Maryland 578 Specifications. Recharge Volume Will Be Provided Through The Use Of A Stone Reservoir. Water Quality And Channel Protection Volume Will Be Provided By A Micro-Pool Extended Detention Pond With Developers Agreement For F-09-019. Overbank Flood Protection Volume And Extreme Flood Volume Are Not Required For This Site. The Stormwater Management Facilities Located On Open Space Lot 13, Plat No. Will Be Privately Owned And Maintained By Mt. Hebron, Section 24 Homeowners Association.
 - The Forest Conservation Requirements Per Section 16.1200 Of The Howard County Code And The Forest Conservation Manual For This Subdivision Have Been Fulfilled Under F-09-019.
 - The Landscaping Surety For This Subdivision Has Been Fulfilled Under F-09-019.
 - The Street Tree Surety For This Subdivision Has Been Fulfilled Under F-09-019.
 - Articles Of Incorporation For Mount Hebron Homeowners Association, Inc. Was Filed With The Maryland State Department Of Assessment And Taxation On April 12, 2010, Receipt No. 013552005.
 - The Property Is Listed On The Historic Sites Inventory As "40-49, Mt. Hebron". It Is Not Located Within The Boundary Of The Howard County Historic District. See The Minutes Of The May 4, 2009 Historic District Commission For Advisory Comments.
 - Denotes An Existing Public Tree Maintenance Easement, Ten Feet In Width, Running Along The Edge Of The Public Road Right-Of-Way As Shown On This Plat Of Subdivision Is Reserved Upon All Lots Fronting On The Said Public Road Right-Of-Way. This Easement Allows Howard County The Right To Access The Property, When Necessary, For The Specific Purpose Of Maintaining, Repairing And Maintaining Of County-Owned Trees Located Within The Boundaries Of Private Lots. No Building Or Structure Of Any Kind Shall Be Located On Or Over The Said Easement Area.
 - Public Water And Sewer Shall Be Utilized Within This Development. The Public Water And Sewer Contract No. Is 14-4407-D For This Subdivision. Existing Sewer Line From Contract No. 744-5 Will Be Utilized To Provide Sewer House Connections To Lots 14 And 15.
 - Open Space Obligation For Lots 14 And 15 Provided Under F-09-019 Within Open Space Lot 13.
 - Recreational Open Space Tabulation:
 - Total Recreational Open Space Required = 2,800 Sq. Ft.
 - 14 Lots (Lots 1 thru 12, 13 And 14) x 200 Sq. Ft./Lot.
 - Total Recreational Open Space Provided = 4,905 Sq. Ft. (Within Open Space Lot 13, F-09-019)
 - Approval Of A Site Development Plan Is Required For The Development Of Lots 14 And 15 Prior To The Issuance Of Any Grading Or Building Permits For New House Construction In Accordance With Section 16.155 Of The Subdivision And Land Development Regulations.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SOURCE OFFICE PARK - 10722 BALDOR PARKWAY
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895

PLAN
 SCALE: 1" = 20'

OWNER
 MT. HEBRON, INC.
 C/O MR. H. JONES BAKER, JR.
 5400 VANTAGE POINT ROAD
 APT. 1209
 COLUMBIA, MARYLAND 21044
 (410) 992-1005

OWNER/DEVELOPER
 ELM STREET DEVELOPMENT
 5074 DORSEY HALL DRIVE
 SUITE 209
 ELICOTT CITY, MD. 21042
 ATTN: MR. JASON VAN KIRK
 (410) 720-3021



5-26-10
 Zoned: R-20
 Tax Map No. 17 Grid No. 10 Parcel No. 250
 Second Election District
 Howard County, Maryland
 Date: MAY 26, 2010
 Sheet 1 Of 2

F-10-089

Conclusions and Recommendations

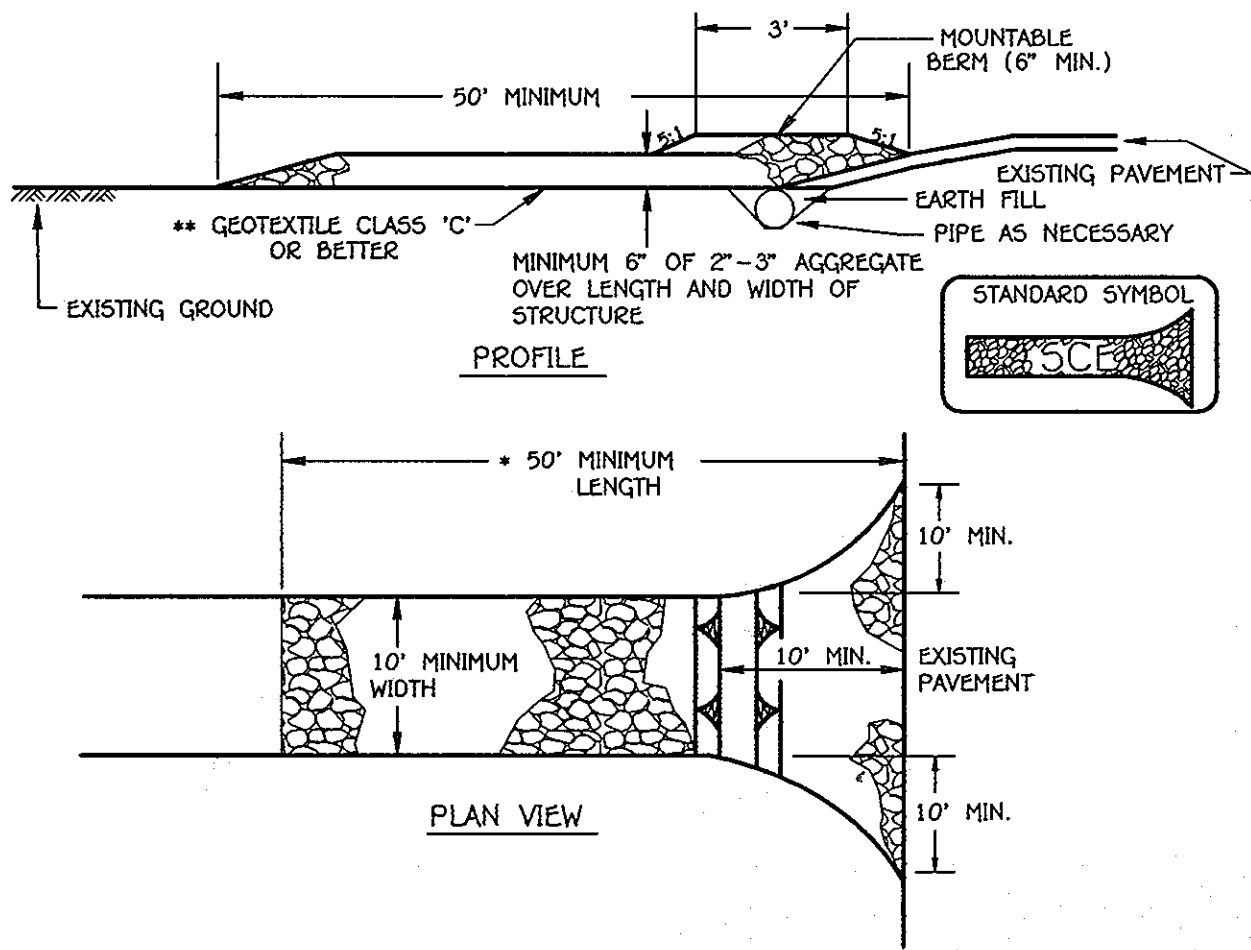
GTA understands that this groundwater data will be utilized for planning and design of final basement and foundation levels and possible foundation underdrain systems. Based on the test pit data and existing ground surface elevations, construction of basements within the proposed lots is considered feasible provided the standard level of care is taken during construction and the recommendations presented herein are followed.

GTA recommends construction of basement floor levels a minimum of four feet above the highest groundwater level observed in the explorations on each lot. The explorations encountered groundwater, generally at depths greater than 3.5 feet below existing grades. Standard perimeter drains connected to a sump-pump system shall be provided for all basement units if the basement floor is held four feet above groundwater.

If the basement floor elevation is planned at four feet above the groundwater on each lot, existing fill soils will be present below the proposed slabs and footings. There is risk associated with constructing structures on undocumented and likely uncontrolled fill soils. To eliminate the risk associated with building structures on undocumented/uncontrolled fill soils, the existing fill soils should be removed and replaced with controlled fill.

Alternatively, a gravity outfall can be constructed for the perimeter drains. If a gravity outfall is provided for the perimeter drains, the basement floors can be lowered such that the footings of the proposed single-family homes will be founded within or close to the natural soils. The perimeter drains should be set a minimum of one foot below the proposed basement levels. The civil engineer should set the proposed basement elevations and design the gravity outfall for the perimeter drains to allow for the system to function with the existing storm drain and stormwater management systems to control the groundwater.

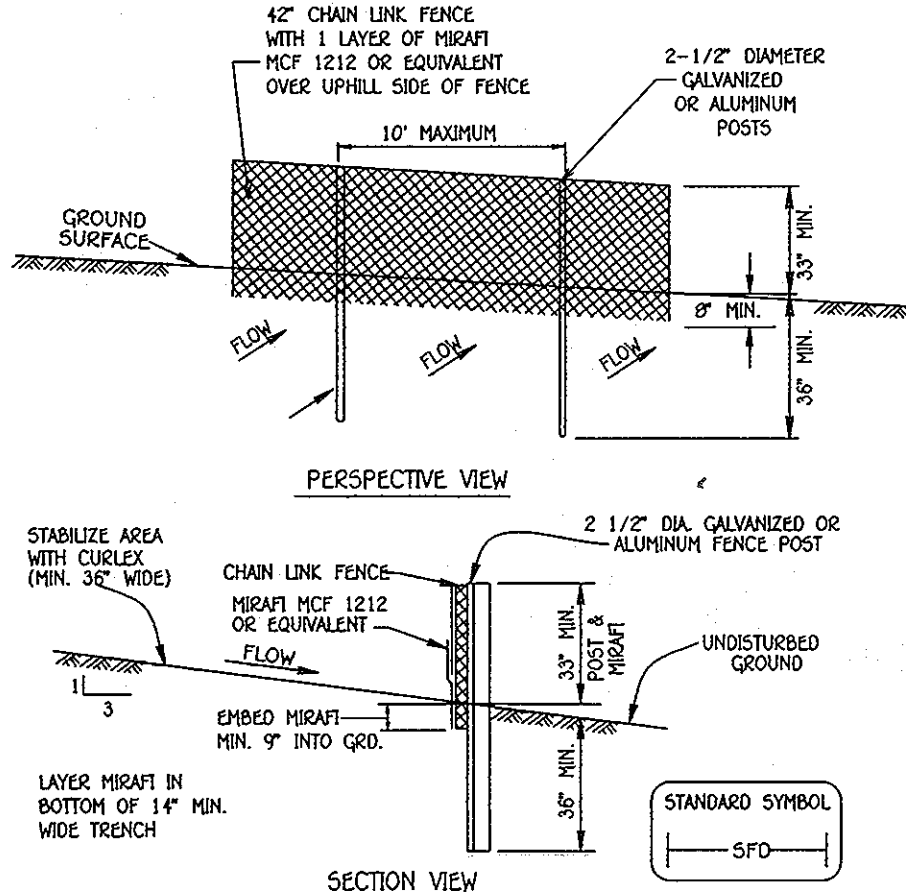
Recommended Minimum Basement Slab Elevation with Pumped Perimeter Drain			
Lot	Highest Elevation of Ground Water Encountered (EI)	Lowest Elevation of Existing Fill Encountered (EI)	Recommended Minimum Basement Slab Elevation with Pumped Perimeter Drain (EI)
14	411.5	411	415.5
15	411.5	410.5	415.5



CONSTRUCTION SPECIFICATION

- LENGTH - MINIMUM OF 50' (+30' FOR SINGLE RESIDENCE LOT).
- WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
- STONE - CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
- SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BEAM WITH A 5:1 SLOPE AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
- LOCATION - A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.

STABILIZED CONSTRUCTION ENTRANCE



CONSTRUCTION SPECIFICATIONS

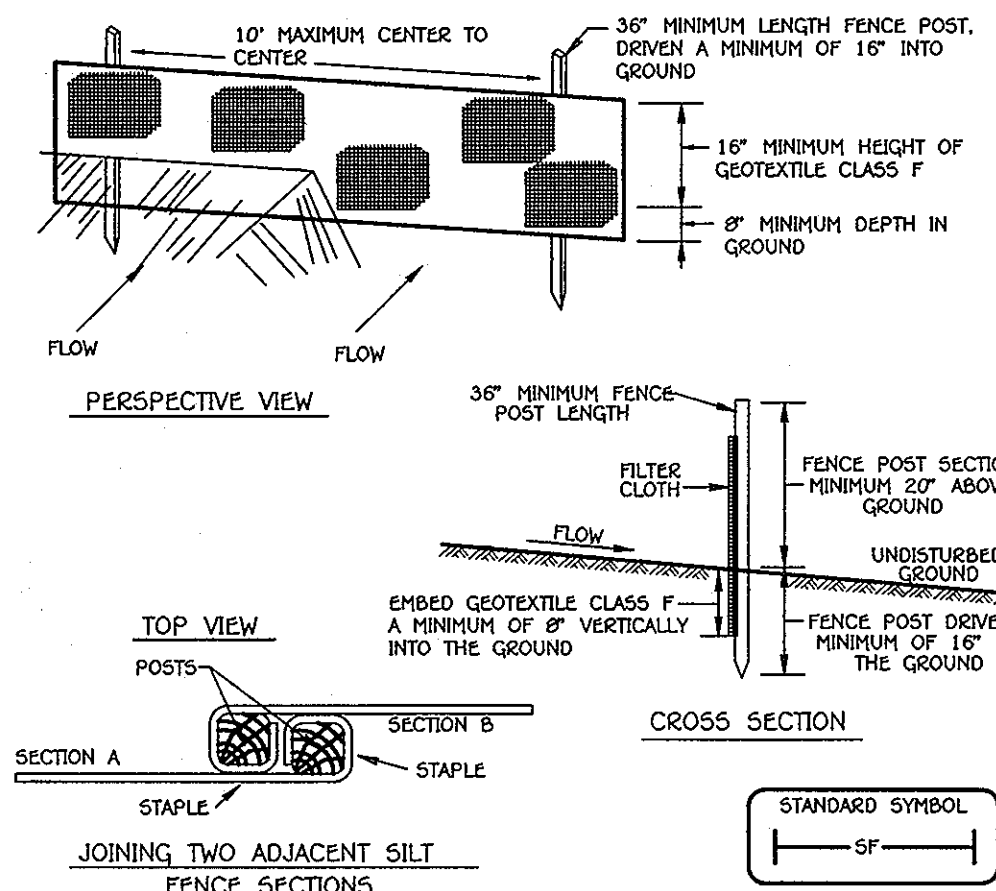
- FENCING SHALL BE 42" HIGH CHAIN LINK CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS 690.01 AND 690.02 FOR CHAIN U FENCING, THE SPECIFICATIONS FOR A 6'-0" FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 9" POSTS. POSTS SHALL BE PLACED WITHOUT CONCRETE EMBEDMENT.
- CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
- FILTER CLOTH TO BE FASTENED SECURELY TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
- FILTER CLOTH SHALL BE IMBEDDED A MINIMUM OF 9" INTO THE GROUND.
- WHEN TWO SECTIONS OF DIVERSION CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED.

Fabric Properties	Value	Test Method
Gab Tensile Strength (lbs.)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682
Hullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lbs.)	40	ASTM D751
Slurry Flow Rate (gal/min/ft)	0.3	Virginia DOT VPM-51
Equivalent Opening Size	40-80	US Std Sieve CW-02215
UV Radiation Stability (%)	90	ASTM G-26

Design Criteria		
Slope Steepness	Slope Length (Maximum)	Silt Fence Length (Minimum)
0 - 10%	0 - 101'	Unlimited
10 - 20%	10:1 - 5:1	1,500 feet
20 - 33%	5:1 - 3:1	1,000 feet
33 - 50%	3:1 - 2:1	500 feet
50% +	2:1 +	250 feet

SUPER FENCE DIVERSION

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
Tensile Strength: 50 lbs/in (min.) Test: MSHIT 509
Tensile Modulus: 20 lbs/in (min.) Test: MSHIT 509
Flow Rate: 0.3 gal/ft / minute (max) Test: MSHIT 322
Filtering Efficiency: 75% (min.) Test: MSHIT 322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

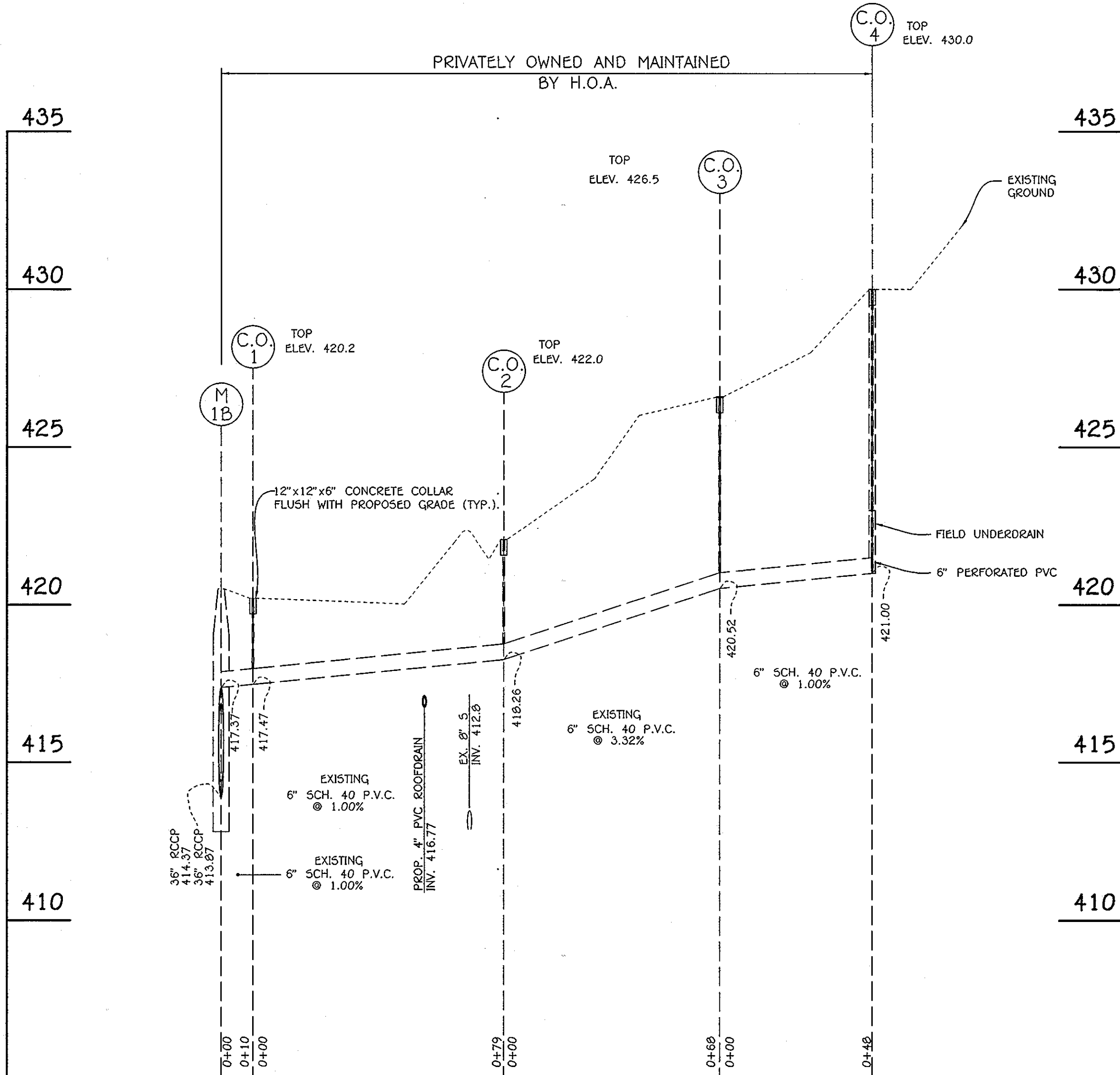
Silt Fence Design Criteria

Slope Steepness	(Minimum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

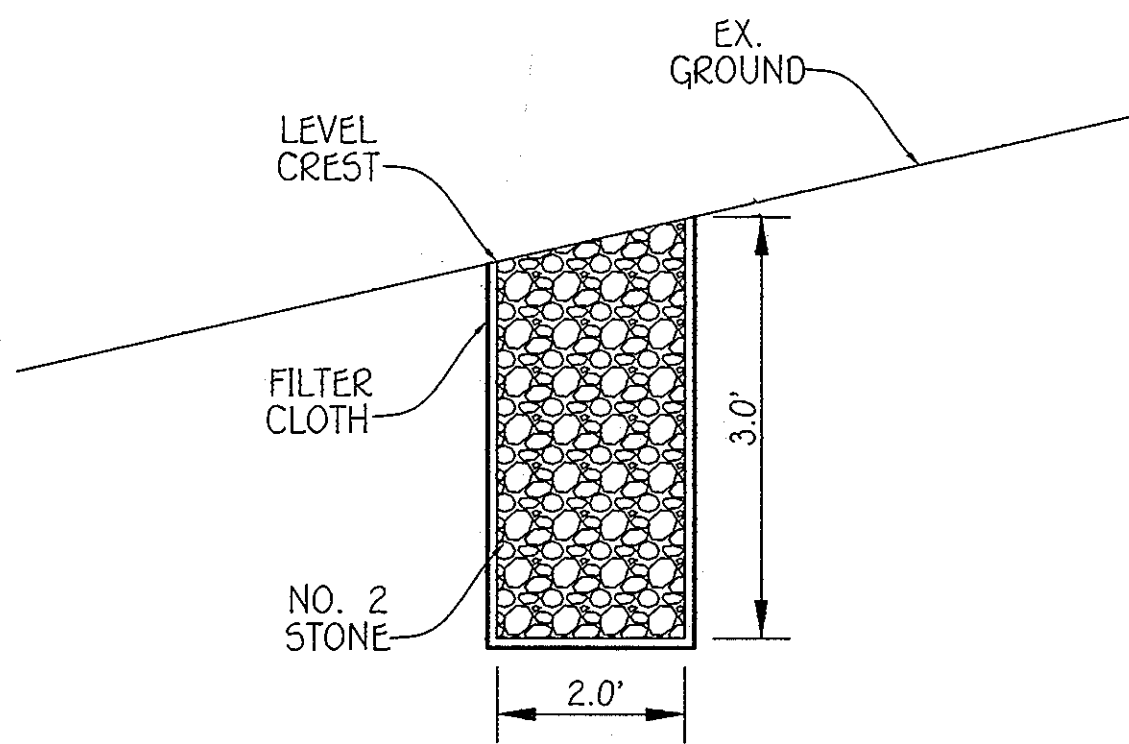
SILT FENCE

NOT TO SCALE



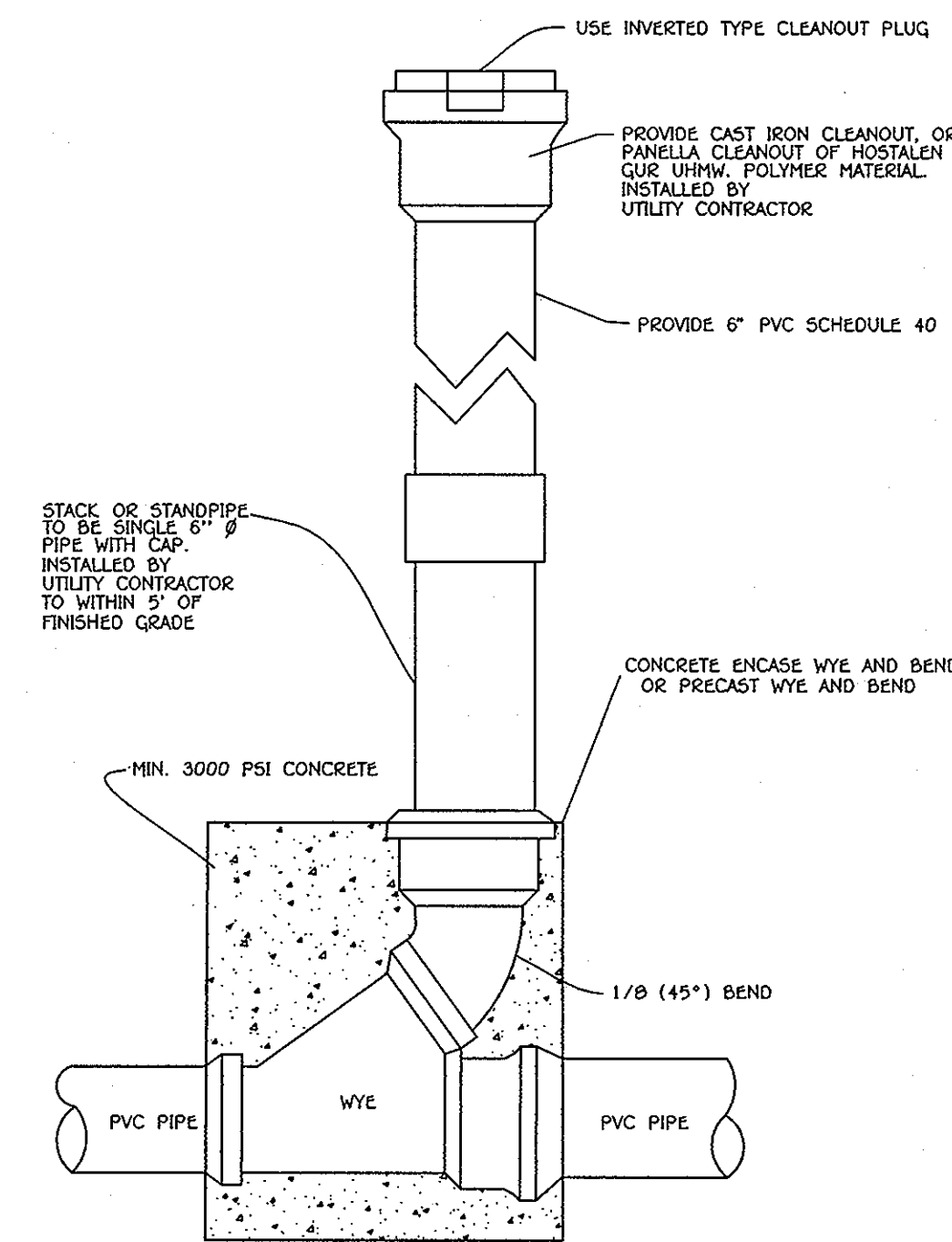
EXISTING FIELD UNDERDRAIN PROFILE PER F-09-019

SCALE: HOR. : 1" = 30'
VER. : 1" = 3'



LEVEL SPREADING DEVICE DETAIL (LOT 15)

NOT TO SCALE



CLEAN-OUT DETAIL

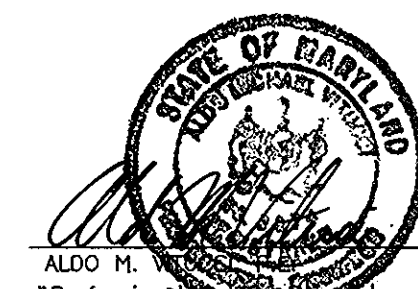
NO SCALE

SUPPLEMENTAL PLAN NOTES & DETAILS

MT. HEBRON SECTION 24 LOTS 14 AND 15

A Resubdivision Of Non-Buildable Bulk Parcel 'A', As Shown On Plate Entitled "Mt. Hebron, Section 24, Lots 1 Thru 12, Non-Buildable Bulk Parcel 'A' And Open Space Lot 13" And Recorded Among The Land Records Of Howard County, Maryland As Plat Nos. Thru

Zoned: R-20
Tax Map No. 17 Grid No. 10 Parcel No. 250
Second Election District
Howard County, Maryland
Date: May 26, 2011
Sheet 2 Of 2



5-26-10 DATE

"Professional Engineer hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-11"

F-10-089