0LAYOUT 8/4/08 INSP 4 _____

INSP 2 8/5/08 INSP 5 _____

INSP 3 8/6/08 INSP 6 _____

ISSUE DATE: 07/30/2008

PERMIT

P 529500

APPROVAL DATE: 8/6/08 Logged Into Permit Manager A 518641-05

TAX ID # 03348911

ON-SITE SEWAGE DISPOSAL SYSTEM
HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH

Charlie's Bobcat Service, Inc. IS PERMITTED TO INSTALL ☒ ALTER ☐

ADDRESS: 13 Energetic Endeavor Drive, Sykesville PHONE NUMBER: 410-549-8020

SUBDIVISION: Cloverfield LOT NUMBER: 15

ADDRESS: 2410 Ellies Way PROPERTY OWNER: Cloverfield Pfefferkorn

SEPTIC TANK CAPACITY (GALLONS): 2000 OUTLET BAFFLE FILTER REQUIRED ☐

PUMP CHAMBER CAPACITY (GALLONS): _____ COMPARTMENTED TANK REQUIRED ☒

NUMBER OF BEDROOMS: 4 3' Wide 4-7.5'

SQUARE FEET PER BEDROOM: _____

LINEAR FEET OF TRENCH REQUIRED: 103 2-52' Trenches

TRENCHES:	Trench to be 3.0 feet wide. Inlet 3.0 feet below original grade. Bottom maximum depth 7.0 feet below original grade. Effective area begins at 5.0 feet below original grade. 4.0 feet of stone below distribution pipe.
LOCATION:	
NOTES:	Layout inspection required prior to installation. Install system per plan unless otherwise directed by HCHD.

PLANS APPROVED: Heidi Scott DATE: 6/2/08

NOTE: PERMIT VOID AFTER 2 YEARS
NOTE: CONTRACTOR RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION INSPECTION FOR ALL INSTALLATIONS
NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE 100 FEET FROM ANY WATER WELL
NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS UNLESS SPECIFICALLY AUTHORIZED

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM
PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT
CALL 410-313-1771 FOR INSPECTION OF SEPTIC SYSTEM

NOT TO SCALE

See As-Built Drawing On Separate Sheet

ROAD

TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	4'	7.5'

NUMBER OF TRENCHES 2
TOTAL LENGTH 107'
ABSORPTION AREA 321 + Sidewall
DISTRIBUTION BOX LEVEL Levelers
DISTRIBUTION BOX BAFFLE Yes
DISTRIBUTION BOX PORT Yes

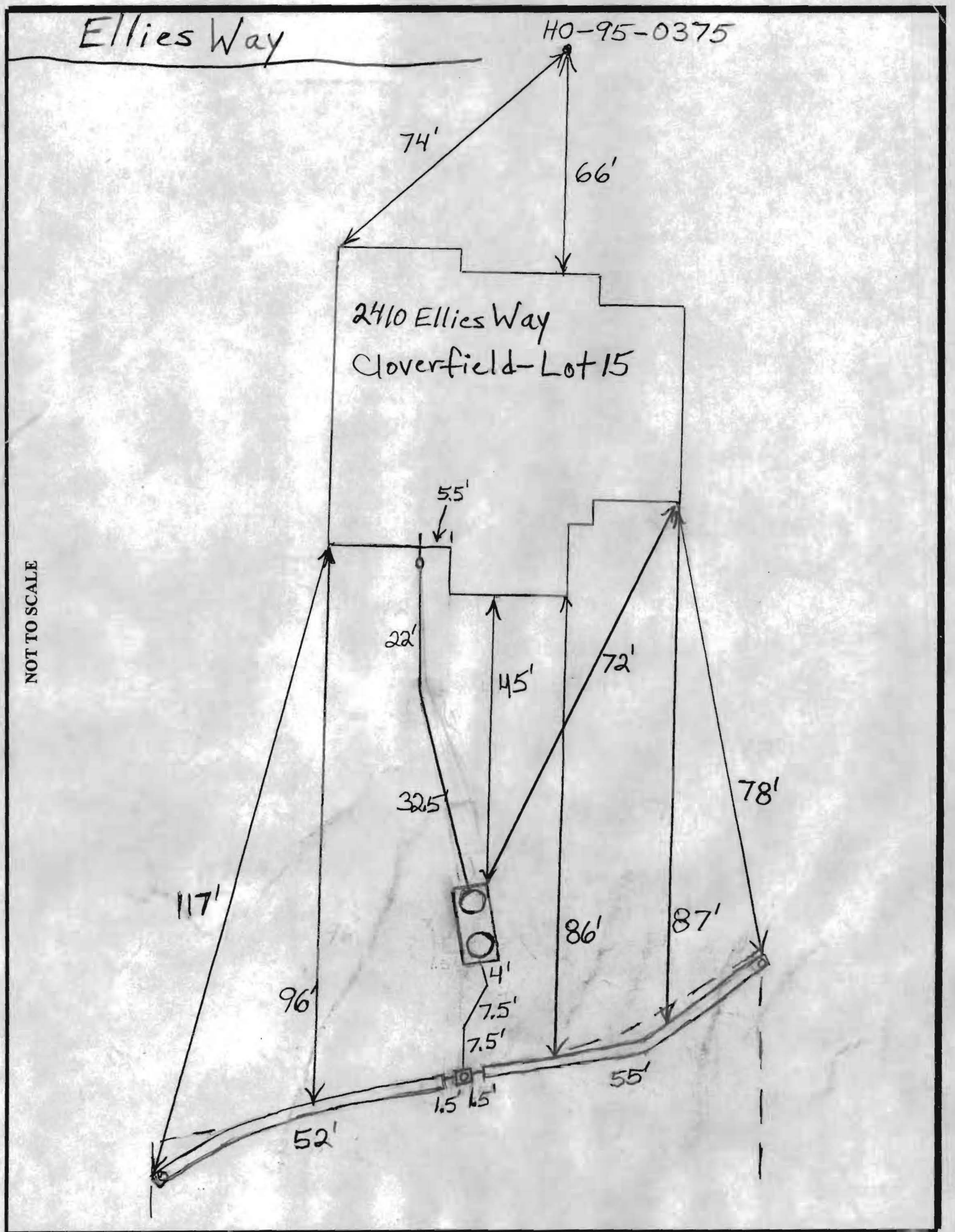
SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL Yes
CAPACITY 2000 GAL
SEAM LOC Top
TANK LID DEPTH 1-2'
Slotted Baby/on BAFFLES Yes
BAFFLE FILTER No
MANHOLE LOC Front + Rear
6" PORT LOC None
WATERTIGHT TEST No

SEPTIC TANK 2 LEVEL N/A
CAPACITY _____ GAL
SEAM LOC _____
TANK LID DEPTH _____
BAFFLES _____
BAFFLE FILTER _____
MANHOLE LOC _____
6" PORT LOC _____
WATERTIGHT TEST _____

PRE-CONSTRUCTION 8/4/08 O.K to put the dist. box in the middle of the essement and install a 52' trench in
INSTALLATION each direction. Clay in tank hole is deep. Trench specs. may be changed. No perc. test notes in file. BB 8/5/08 Found perc. test notes. Trench inlet changed to 4' and bottom is 7.5'. Tank set. House connection made. One trench done. BB 8/6/08 System finished. O.K to backfill BB

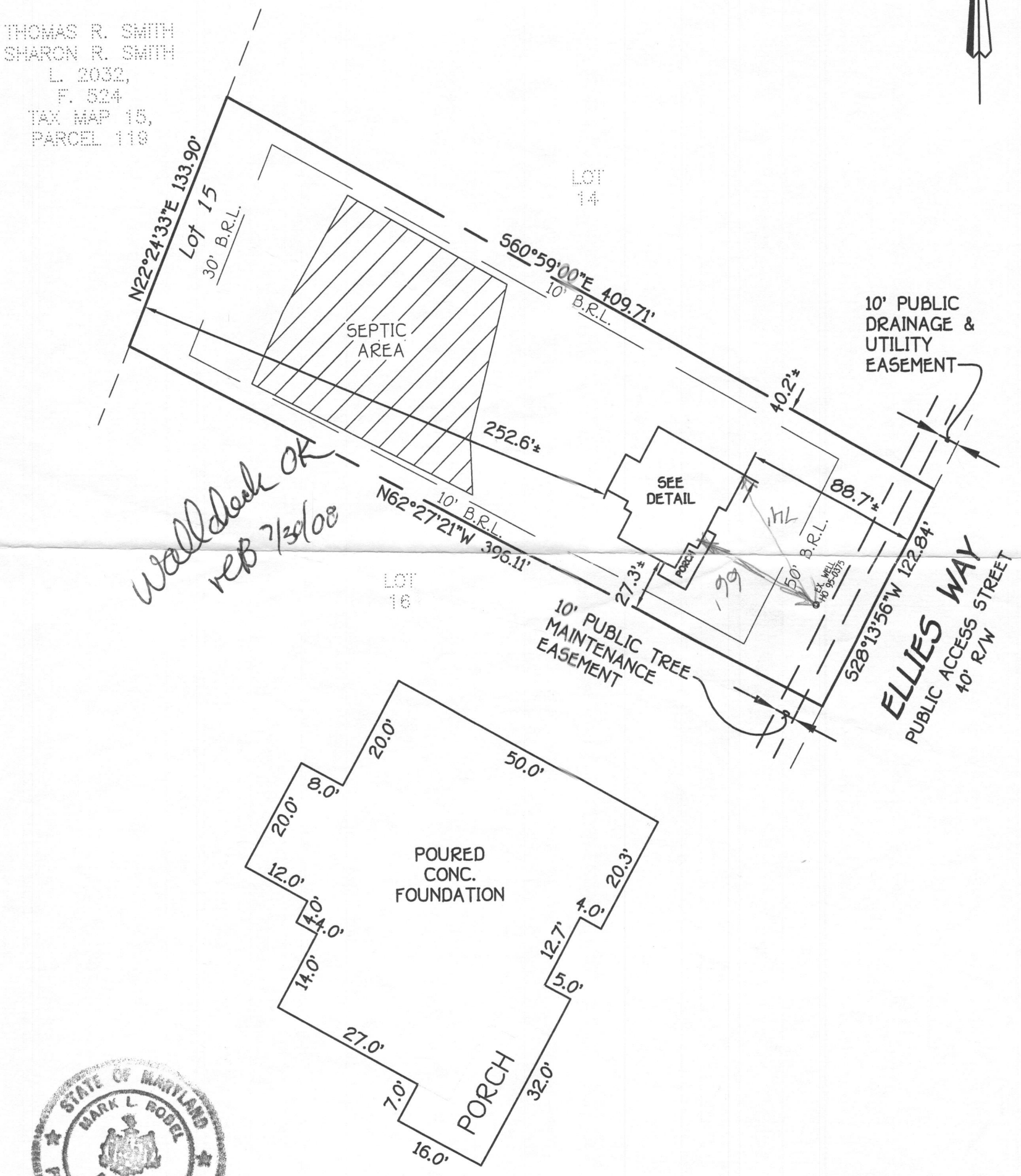
FINAL INSPECTOR B. Baker DATE OF APPROVAL 8/6/08


Ellies Way
HO-95-0375
74'
66'
2410 Ellies Way
Cloverfield-Lot 15
5.5'
22'
45'
72'
32.5'
78'
117'
86'
87'
4'
96'
7.5'
7.5'
55'
1.5'
1.5'
52'
NOT TO SCALE

GENERAL NOTES:

1) THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INSOFAR AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS INDICATED AS BEING A BOUNDARY SURVEY, THIS LOCATION DRAWING IS NOT INTENDED FOR USE IN THE ESTABLISHMENT OF PROPERTY LINES AND IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATIONS OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE IMPROVEMENTS. AS A RESULT, THIS LOCATION DRAWING DOES NOT PROVIDE FOR ACCURATE IDENTIFICATION OF PROPERTY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR SECURING FINANCING FOR RE-FINANCING.
2) SUBJECT PROPERTY IS SHOWN IN ZONE C ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 2400440015B EFFECTIVE DEC. 4, 1986.
3) THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 1.0'(±)
4) NO TITLE REPORT FURNISHED. SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND CONDITIONS OF RECORD.
5) THE EXISTING WELL(S) SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO- 95 -0375) HAS BEEN FIELD LOCATED BY FISHER, COLLINS AND CARTER, INC. PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.

NAD '83



DETAIL:
1"=20'

STATE OF MARYLAND
MARK L. BODEL
NO. 339
REGISTERED
PROPERTY LINE SURVEYOR

Mark L. Bodel 7/01/08
PROFESSIONAL LAND SURVEYOR DATE
REG. #339

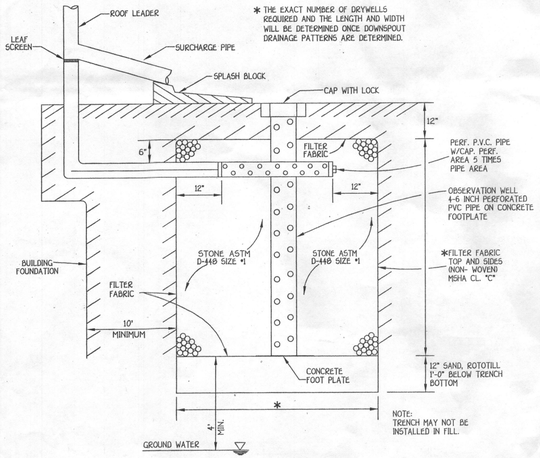
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

LOT 15
CLOVERFIELD
LOTS 1-21, BUILDABLE
PRESERVATION PARCEL A,
NON-BUILDABLE PRESERVATION
PARCELS B-E & NON-BUILDABLE
BULK PARCEL F
3RD ELECTION DISTRICT
PLAT #18953-18959
#2410 ELLIES WAY
B.R.L.= BUILDING RESTRICTION LINE
TOP OF FOUNDATION ELEV.= 564.1'±

HOUSE LOCATION DRAWING

FOUNDATION LOCATION: 7/1/08
FINAL LOCATION: _____
BOUNDARY SURVEY: _____

SCALE: 1"=60'
DATE: 7/01/08
DRAWN BY: VLJ
CHECKED BY: MLR
PROJECT No.: 30757-1001



* THE EXACT NUMBER OF DRYWELLS REQUIRED AND THE LENGTH AND WIDTH WILL BE DETERMINED ONCE DOWNSPOUT DRAINAGE PATTERNS ARE DETERMINED.

DRY WELL DETAIL

NOT TO SCALE

DRY WELL CHART

LOT NO.	DRYWELL	DISCONNECTION LENGTH	% WQv BY DISCONNECTION	% WQv BY TREATED STORAGE	REQ'D. STORAGE VOLUME (CU.FT.)	SIZE OF DRYWELL	VOLUME PROVIDED (CU.FT.)
15	A	0	0%	100%	40	2.5'x4'x4'	40
15	B	0	0%	100%	40	2.5'x4'x4'	40
15	C	0	0%	100%	40	2.5'x4'x4'	40
15	D	0	0%	100%	40	2.5'x4'x4'	40

OPERATION & MAINTENANCE SCHEDULE FOR DRY WELLS

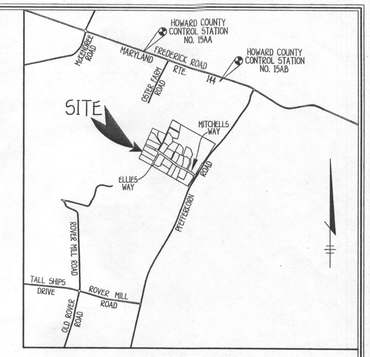
1. THE MONITORING OF WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AS WELL AS EVERY STORM EXCEEDING 1" OF RAINFALL.
2. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVEREAL DAYS TO INSURE TRENCH DRAINAGE.
3. A LOGBOOK SHALL BE MAINTAINED 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 LOGBOOK 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.

STORMWATER MANAGEMENT NOTES

1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL.
2. CREDITS ARE GIVEN FOR DISCONNECTION OF IMPERVIOUS COVERS.
3. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE LESS THAN 500 SQ. FT.
4. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT SE. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE FIGURE 5.2 OF THE MANUAL AND THE DETAIL SHOWN ON THIS SHEET.
5. FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.

LEGEND

SYMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
+362.5	SPOT ELEVATION
55F EX. 55F	EXISTING SUPER SILT FENCE
-55F- -55F-	SUPER SILT FENCE
LOD	LIMITS OF DISTURBANCE
WOB	WALKOUT BASEMENT
	EXISTING STREET TREES FROM F-06-110



VICINITY MAP

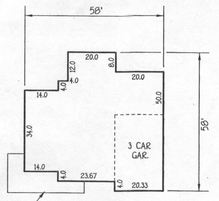
SCALE: 1" = 2,000'

GENERAL NOTES

1. SUBJECT PROPERTY ZONED: RC-DEO
2. TOTAL AREA OF PROPERTY: 51,575 SQ.FT.
3. SEPTIC EASEMENT SUBJECT TO HOWARD COUNTY HEALTH DEPARTMENT REVIEW.
4. LENGTH OF TRENCH TO BE DETERMINED AT TIME OF SEPTIC PERMIT ISSUANCE.
5. CONTRACTOR/BUILDER TO VERIFY ELEVATION IN THE FIELD BEFORE BEGINNING ANY CONSTRUCTION.
6. FIELD RUN TOPOGRAPHIC SURVEY DONE BY FISHER, COLLINS & CARTER, INC. ON APRIL, 2002.
7. NO WETLANDS CURRENTLY EXIST ON THE PROPERTY.
8. DRIVEWAY CULVERTS SHALL BE CONSTRUCTED AT SITE DEVELOPMENT PLAN STAGE IN ACCORDANCE WITH APPROVED CULVERT SIZE SHOWN ON F-06110
9. STORMWATER MANAGEMENT IS PROVIDED UNDER F-06-110.

NOTE

THE EXISTING WELL SHOWN ON THIS PLAN, TAG NO. HO 95-0375 HAS BEEN FIELD LOCATED BY FISHER, COLLINS & CARTER, INC., PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.



LEXINGTON

SCALE: 1" = 30'

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.	1 DAY
2. INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN.	1 DAY
3. CLEAR AND GRUB TO LIMITS OF DISTURBANCE AND MASS GRADE TO SUB-BASE.	1 DAY
4. INSTALL TEMPORARY SEEDING.	1 DAY
5. CONSTRUCT BUILDINGS.	2 MONTHS
6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE.	1 DAY
7. REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR.	2 DAYS

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PRESONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT".

SIGNATURE OF DEVELOPER — DATE 5/7/08

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

EARL D. COLLINS — DATE 5.7.08

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. 9753, EXPIRATION DATE: 2/28/10.

EARL D. COLLINS — DATE 5.7.08

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. APPROVED:

John R. Robertson — 5/7/08

HOWARD SOIL CONSERVATION DISTRICT — DATE

Note:
Catonsville Builders is the owner/ builder/developer for Lots 14, 15 & 16

BUILDER/DEVELOPER

CATONSVILLE BUILDERS
11175 STRATFIELD COURT
MARRIOTTSVILLE, MARYLAND 21104
410-442-2211

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

SITE DEVELOPMENT, SEDIMENT/EROSION CONTROL PLAN

CLOVERFIELD

LOT 15

ZONED: RC-DEO PLAT NO. 18955
TAX MAP NO.: 15 PARCEL NO.: 4 GRID NO.: 8
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' DATE: APRIL, 2008

SHEET 1 OF 2

G.P. 08-83

K:\Drawings 3\30757 Matthews Property\FINAL PLANS-CLOVERFIELD\30757 Sdp Lot 15.dwg, 5/6/2008 4:55:51 PM

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (Up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.
Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.
Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
   i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
   ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
   iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)
   i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
   ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
   iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
   iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

C. Seedbed Preparation
   i. Temporary Seeding
      a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
      b. Apply fertilizer and lime as prescribed on the plans.
      c. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
   ii. Permanent Seeding
      a. Minimum soil conditions required for permanent vegetative establishment:
         1. Soil pH shall be between 6.0 and 7.0.
         2. Soluble salts shall be less than 500 parts per million (ppm).
         3. The soil shall contain less than 40% clay, but enough fine grained material (30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or sericia lespedeza is to be planted, then a sandy soil (30% silt plus clay) would be acceptable.
         4. Soil shall contain 1.5% minimum organic matter by weight.
         5. Soil must contain sufficient pore space to permit adequate root penetration.
         6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
      b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
      c. Apply soil amendments as per soil test or as included on the plans.
      d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications
   i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
   Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
   ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding
   i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
      a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen: maximum of 100 lbs/ac per acre total of soluble nitrogen; P2O5 (phosphorous): 200 lbs/Ac; K2O (potassium): 200 lbs/Ac.
      b. Lime - use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
   ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 26.5 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
   iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (In order of preference)
   i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
   ii. Wood Cellulose Fiber Mulch (WCFM)
      a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
      b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
      d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      e. WCFM material shall contain no elements or compounds of concentration levels that will be phytol-toxic.
      f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
   Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
   i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
   ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
   iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
   i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
   ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
   iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 (Petroset), Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
   iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

I. Incremental Stabilization - Cut Slopes
   i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
   ii. Construction sequence (Refer to Figure 3 below):
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
      b. Perform Phase 1 excavation, dress, and stabilize.
      c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
      d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.

J. Incremental Stabilization of Embankments - Fill Slopes
   i. Embankments shall be constructed in lifts as prescribed on the plans.
   ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 10', or when the grading operation ceases as prescribed in the plans.
   iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
   iv. Construction sequence: Refer to Figure 4 (below).
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
      b. Place Phase 1 embankment, dress and stabilize.
      c. Place Phase 2 embankment, dress and stabilize.
      d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of and placement of topsoil (if required) grading and permanent seed and mulch. any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES 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 STANDARDS 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 DISTURBED SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER 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	1.112 ACRES
AREA DISTURBED	0.5464 ACRES
AREA TO BE ROOFED OR PAVED	0.1240 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.4224 ACRES
TOTAL CUT	50 CU.YDS.
TOTAL FILL	725 CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	TO BE NOT ALLOWED ON SITE

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 CONTROLS 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 WITHIN ONE WORKING 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, discing 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 per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10–10–10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30–0–0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).
2) Acceptable – Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10–10–10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding : For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options :

1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
2) Use sod.
3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching : Apply 1–1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.
Maintenance : Inspect all seeded areas and make needed repairs, replacements and reseedings.

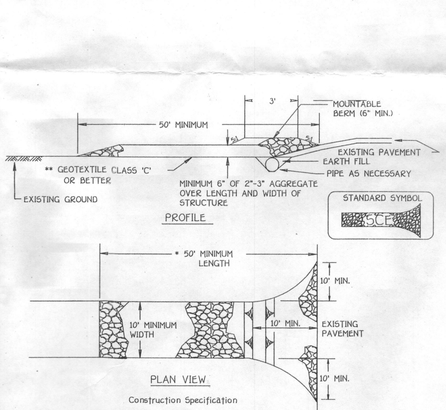
TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.
Seedbed Preparation : Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.
Soil Amendments : Apply 600 lbs. per acre 10–10–10 fertilizer (14 lbs. per 1000 sq.ft.).
Seeding : For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2–1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru February 28, protect site by applying 2 tons per 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 per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

SEQUENCE OF CONSTRUCTION

1.	OBTAIN GRADING PERMIT	7 DAYS
2.	INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN	7 DAYS
3.	CLEAR AND GRUB TO LIMITS OF DISTURBANCE	4 DAYS
4.	INSTALL TEMPORARY SEEDING	2 DAYS
5.	CONSTRUCT BUILDINGS	60 DAYS
6.	FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE	14 DAYS
7.	REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR.	7 DAYS



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
7. Filter cloth 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:

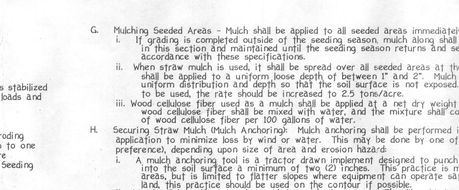
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft /minute (max.)*	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

Design Criteria

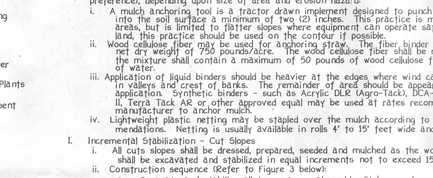
Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

SUPER SILT FENCE

NOT TO SCALE



PROFILE



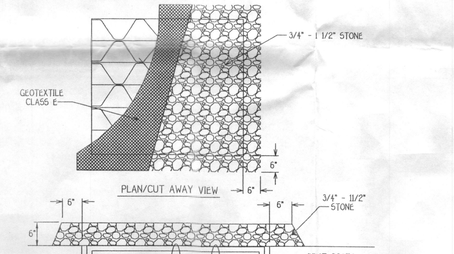
PLAN VIEW

Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. 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.
4. 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.
5. 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 berm with 5:1 slopes 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

NOT TO SCALE



Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

AT GRADE INLET PROTECTION

NOT TO SCALE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT".

SIGNATURE OF DEVELOPER — DATE 5/7/08

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT".

EARL D. COLLINS — DATE 5.7.08

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. 9753, EXPIRATION DATE: 2/28/10.

EARL D. COLLINS — DATE 5.7.08

STATE OF MARYLAND — EARL D. COLLINS — No. 9753 — PROFESSIONAL ENGINEER

BUILDER/DEVELOPER

CATONSVILLE BUILDERS
11175 STRATFIELD COURT
MARRIOTTSVILLE, MARYLAND 21104
410-442-2211

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: — HOWARD SOIL CONSERVATION DISTRICT — DATE 5/7/08

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

SEDIMENT/EROSION CONTROL NOTES & DETAILS
CLOVERFIELD
LOT 15

ZONED: RC-DEO — PLAT NO. 18955
TAX MAP NO.: 15 — PARCEL NO.: 4 — GRID NO.: 8
3RD ELECTION DISTRICT — HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN — DATE: APRIL, 2008

SHEET 2 OF 2

G.P. 08-83

K:\Drawings 3\30757 Matthews Property\FINAL PLANS-CLOVERFIELD\30757 Sec Notes & Details Ltr 15.dwg, 5/7/2008 8:03:22 AM