

ABBB

4" Slotted or Perforated-

Pipe; %" perf. @ 6" O.C.,

4 Holes Per Row; Min. of

3" of Gravel Over Pipes.

Perforated Pipe shall be

Wrapped with 1/4"

M-6 FACILITY No. 2 DETAILS

1-25-17

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND

SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION (6)

HDPE

ENGINEERS CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION

BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS

REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN

AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE

MICHAEL L. TAYLOR

4 Holes Per Row; Min. o

3" of Gravel Over Pipes.

Perforated Pipe shall be

Galvanized Hardware Cloth

Wrapped with 1/4"

FOR TYPE B, USE 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE CEOTEVILLE AND STONE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION S. DEPARTMENT OF AGRICULTURE L RESOURCES CONSERVATION SERVICE STANDARD SYMBOL PERMANENT SOIL STABILIZATION DETAIL B-4-6-D PSSMS- 4.0 (min.) lb/ff MATTING SLOPE APPLICATION RENCH PREPARED SLOPE WITH SEED IN PLACE-CONSTRUCTION SPECIFICATIONS USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH ENTERS ALONG LONGTUDINAL AXIS OF THE MATERIAL. TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEE UNROLL MATTING DOWN SLOPE, LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE, AVOID STRETCHING THE MATTING. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMEN ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE RAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION 2011 8.0" MINIMUM DEPTH CRUSHED STONE BASE (CR-6), DEPTH SHALL BE INCREASED AS NECESSARY BASED ON GEOTECHNICAL ENGINEERS SUB-SOIL INVESTIGATION TYPICAL GRAVEL SECTION Not to Scale

B-4-2 STANDARDS AND SPECIFICATIONS SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

The process of preparing the soils to sustain adequate vegetative stabilization.

To provide a suitable soil medium for vegetative growth. Conditions Where Practice Applies Where vegetative stabilization is to be established.

Soil Preparation

STANDARD SYMBOL

SIP

-TOP ELEVA

TYPE A MAXIMUM DRAINAGE AREA = 1/4 ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE

TYPE B

STANDARD INLET

PROTECTION

-TOP ELEVATION

9 GAUGE CHAIN --

ISOMETRIC VIEW

SECTION FOR TYPE A AND B

18 IN INTO GROUND -

EDGE OF ROADWAY OR TOP

6 IN MIN

-2 IN x 4 IN FRAMING

TYPE A

- 1. Temporary Stabilization a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches 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 must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked 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 to 5 inches of soil by disking or other
- suitable means. Permanent Stabilization a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
- i. Soil pH between 6.0 and 7.0. ii. Soluble salts less than 500 parts per million (ppm) iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount
- of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable. iv. Soil contains 1.5 percent minimum organic matter by weight. v. Soil contains sufficient pore space to permit adequate root penetration.
- b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

d. Apply soil amendments as specified on the approved plan or as indicated by the

- results of a soil test. e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter
- with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas. 1. Topsoil is placed over prepared subsoil prior to establishment of permanent
- Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation. 2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.

vegetation. The purpose is to provide a suitable soil medium for vegetative growth.

- 3. Topsoiling is limited to areas having 2:1 or flatter slopes where: a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
- b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients. The original soil to be vegetated contains material toxic to plant growth
- d. The soil is so acidic that treatment with limestone is not feasible. 4. Areas having slopes steeper than 2:1 require special consideration and design. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or
- loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 11/2 inches in diameter. b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack
- grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified. c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil. 6. Topsoil Application a. Erosion and sediment control practices must be maintained when applying topsoil.
- b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition
- when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation. Soil Amendments (Fertilizer and Lime Specifications)
- 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses. 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade
- name or trademark and warranty of the producer. 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass
- through a #20 mesh sieve. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means. 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior

to the placement of topsoil. SEDIMENT CONTROL NOTES

A minimum of 48 hours notice must be given to the Howard County Department of Public Works, Construction and Inspection Division (CID) prior to the start of any construction (410-313-1855). All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all perimeter sediment control structures,

dikes, perimeter slopes, and all slopes greater than 3:1, (b) 14 days as to all other disturbed or graded areas on the project site. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. I, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm

with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND

SEDIMENT CONTROL for permanent seeding, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall be done when recommended seeding dates do not allow for proper germination and establishment of grasses. 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. Site Analysis

Area Disturbed Acrest Area to be roofed or paved 98 Acrest Area to be vegetatively stabilized Total Cut Offsite waste/borrow area location Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance 1. Additional sediment controls must be provided, if deemed necessary by the Howard County Sediment Control Inspector.

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 control 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 agenc 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. Any changes or revisions to the sequence of construction must be reviewed and approved by the plan approval authority prior to proceeding with construction. * Earthwork quantities are solely for the purpose of calculating fees. Contractor to verify al quantities prior to the start of construction. ** To be determined by contractor, with pre-approval of the Sediment Control Inspector with

an approved and active grading permit

12-16-16

DEVELOPER'S CERTIFICATE

DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL,

AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION

PROJECT VILL 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.

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE

OWNER/DEVELOPER

Jessup, Maryland 20794

Telephone: (443) 733-1020

Fax: (410) 799-2729

7354 Montevideo Road, LLC GAULIN PROPERTIES, LLC c/o Mr. Mark Gaulin c/o Mr. Mark Gaulin 7340 Montevideo Road

weeks)

7340 Montevideo Road Jessup, Maryland 20794 Telephone: (443) 733-1020 Fax: (410) 799-2729

PROFESSIONAL CERTIFICATION

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. #34689, Expiration Date: 7/08/2017.

B-4-5 STANDARDS AND SPECIFICATIONS PERMANENT STABILIZATION

To stabilize disturbed soils with permanent vegetation To use long-lived perennial grasses and legumes to establish permanent ground cover on

Conditions Where Practice Applies Exposed soils where ground cover is needed for 6 months or more

A. Seed Mixtures General Use

B-4-3 STANDARDS AND SPECIFICATIONS

SEEDING AND MULCHING

Definition

Purpose

Conditions Where Practice Applies

Criteria

a. All seed must meet the requirements of the Maryland State Seed Law. All seed

must be subject to re-testing by a recognized seed laboratory. All seed used must

have been tested within the 6 months immediately preceding the date of sowing

tags must be available upon request to the inspector to verify type of seed and

b. Mulch alone may be applied between the fall and spring seeding dates only if the

c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a

Inoculants must not be used later than the date indicated on the container. Add

d. Sod or seed must not be placed on soil which has been treated with soil sterilants

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders

fresh inoculants as directed on the 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 to 80 degrees Fahrenheit can weaken bacteria

or chemicals used for weed control until sufficient time has elapsed (14 days min.)

i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding

Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with

at least 1/4 inch of soil covering. Seedbed must be firm after planting.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding

rate in each direction. Roll the seeded area with a weighted roller to provide good

i. Cultipacking seeders are required to bury the seed in such a fashion as to provide

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and

i. If fertilizer is being applied at the time of seeding, the application rates should not

exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen;

P2O5 (phosphorous), 200 pounds per acre; K2O (potassium), 200 pounds per

ii. 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

iii. Mix seed and fertilizer on site and seed immediately and without interruption.

a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably

Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty

Note: Use only sterile straw mulch in areas where one species of grass is desired.

provide an appropriate color to facilitate visual inspection of the uniformly spread

ii. WCFM, including dye, must contain no germination or growth inhibiting factors.

iii. WCFM materials are to be manufactured and processed in such a manner that

agitation and will blend with seed, fertilizer and other additives to form a

the wood cellulose fiber mulch will remain in uniform suspension in water under

homogeneous slurry. The mulch material must form a blotter-like ground cover,

on application, having moisture absorption and percolation properties and must

iv. WCFM material must not contain elements or compounds at concentration levels

approximately 10 millimeters, diameter approximately 1 millimeter, pH range of

4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90

v. WCFM must conform to the following physical requirements: fiber length of

b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per

acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform

c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500

a. Perform mulch anchoring immediately following application of mulch to minimize

i. A mulch anchoring tool is a tractor drawn implement designed to punch and

preference), depending upon the size of the area and erosion hazard:

loss by wind or water. This may be done by one of the following methods (listed by

anchor mulch into the soil surface a minimum of 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 follow the contour.

ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at

at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

as specified by the manufacturer. Application of liquid binders needs to be

heavier at the edges where wind catches mulch, such as in valleys and on

iv. Lightweight plastic netting may be stapled over the mulch according to

crests of banks. Use of asphalt binders is strictly prohibited.

wide and 300 to 3,000 feet long.

iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax

II, Terra Tack AR or other approved equal may be used. Follow application rates

manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet

SEQUENCE OF CONSTRUCTION

and phase II SCE and ED can be installed. (1 day)

for 95% compaction by Geotechnical Engineer. (8 weeks)

(410) 313-1880 at least 24 hours before starting any work.

Obtain Howard County grading permit (3 weeks) and MDE NOI Permit. (60 days)

3. Install stabilized construction entrance, earth dikes and super silt fence. Note: Phase I

2. Notify Howard County Department of Public Works, Construction and Inspection Division at

SCE and ED, along northern boundary, shall be initially installed until grading progresses

With approval of the sediment control inspector mass grade the site, install strom drains

(excluding 1-1 to S-1 \$ M-1 to S-2), temporary 15" flexible pipe, standard inlet (type

opening out of I-2. Note all select backfill material shall be field inspected and verified

'B') protection, micro-bioretention facilities and block 15" opening out of I-I and 12"

. Permanently stabilize site with stone and vegetation as indicated on the plan. NOTE:

Seeding and stabilization shall be performed at the direction of the sediment control

5. Upon stabilization of all disturbed areas and with the permission of the Sediment Control Inspector, remove all sediment control measures, install storm drains I-1 to M-1, M-2

to M-1 \$ M-1 to S-1, remove 12" opening blocking device at 1-3 and stabilize area. (2

Specifications for Soil Erosion and Sediment Control, whichever is more restrictive.

inspector or at the time intervals specified in the 2011 Maryland Standards and

a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water

maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

distribution and depth so that the soil surface is not exposed. When using a mulch

pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a

cover and hold grass seed in contact with the soil without inhibiting the growth of

bright in color. Straw is to be free of noxious weed seeds as specified in the

b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood

i. WCFM is to be dyed green or contain a green dye in the package that will

hydroseeding at any one time. Do not use burnt or hydrated lime when

iv. When hydroseeding do not incorporate seed into the soil.

cellulose processed into a uniform fibrous physical state.

a. Apply mulch to all seeded areas immediately after seeding.

anchoring tool, increase the application rate to 2.5 tons per acre.

pure culture of nitrogen fixing bacteria prepared specifically for the species.

ground is frozen. The appropriate seeding mixture must be applied when the

such material on any project. Refer to Table B.4 regarding the quality of seed. Seed

To the surface of all perimeter controls, slopes, and any disturbed area not under active

The application of seed and mulch to establish vegetative cover

1. Specifications

seeding rate

ground thaws.

2. Application

B. Mulchina

and make the inoculant less effective.

seed to soil contact.

rate in each direction.

1. Mulch Materials (in order of preference)

the grass seedlings.

2. Application

3. Anchoring

that will be phyto-toxic.

to permit dissipation of phyto-toxic materials.

To protect disturbed soils from erosion during and at the end of construction.

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed

Criteria

b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area

c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.

d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary

2. Turfgrass Mixtures a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding

dates in the Permanent Seeding Summary. The summary is to be placed on the

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore, Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in fu sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 11/2 to 3 pounds per 1000 square feet.

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland'

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of onsumer protection and assures a pure genetic line

Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 11/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasse will pose no difficulty.

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter) 1. General Specifications a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be

c. Ideal Times of Seeding for Turf Grass Mixtures

b. Sod must be machine cut at a uniform soil thickness of % inch, plus or minus 1/4 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.

c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.

d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil

a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.

b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying

c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the

d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

Sod Maintenance a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.

b. After the first week, sod watering is required as necessary to maintain adequate moisture content.

c. Do not mow until the sod is firmly rooted. No more than $\frac{1}{3}$ of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

Permanent Seeding Summary Hardiness Zone (From Figure B.3) 6b Fertilizer Rate Lime Rate Seed Mixture(From Table B.3) 3 & 6 (10-20-20)Application |Seeding Dates ** | Seeding P205 Species K20 Rate (lb/ac) Depths 3/1-5/15 ♦♦ 5/16-6/15 * Tongue 3/1-5/15 ♦♦ Sheep 20 1/16-6/15 * Fescue 3/1-5/15 ♦♦ Redtop $\frac{5}{16-6}$ $\frac{1}{15}$ * $\frac{1}{4}$ $\frac{1}{2}$ in. 45 lb/ac 90 lb/ac 90 lb/ac 2 tons/ac (1.0 lb/ (2 lb/ (2 lb/ (90 lb/ 1000sf) 1000sf) 1000sf) 3/1-5/15 ♦♦ Korean Lespedeza 5/16-6/15 * Tall 3/1-5/15 8/1-10/15 Fescue Perennial 3/1-5/15 8/1-10/15 Ryegrass 3/1-5/15 White 8/1-10/15 Clover

* Additional planting dates during which supplemental watering may be needed to ensure plant establishment.

** For mix no. 3: For the period 6/16 to 7/31 add either 2.5 lbs/ac. Foxtail Millet or 2.5 lbs./ac. Pearl Millet to the permanent seed mix.

For mix no. 6: For the period 5/16 to 7/31 add either 2.5 lbs/ac. Foxtail Millet or 2.5 lbs./ac. to the permanent seed mix.

◆◆ Warm-season grasses need a soil temperature of at least 50 degrees F in order to germinate. If soil temperatures are colder than 50 degrees, or moisture is not adequate, the seeds will remain dormant until conditions are favorable. In general, planting during the latter portion of this period allows more time for weed emergence and weed control prior to planting. When selecting a planting date, consider the need for weed control vs. the likelihood of having sufficient moisture for later plantings, especially on droughty sites.

B-4-4 STANDARDS AND SPECIFICATIONS TEMPORARY STABILIZATION

To stabilize disturbed soils with vegetation for up to 6 months

To use fast growing vegetation that provides cover on disturbed soils. Conditions Where Practice Applies Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required

Criteria

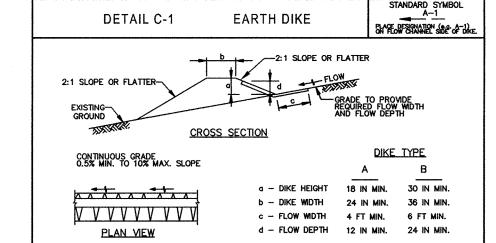
1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be out on the plan.

2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding

Temporary Seeding Summary

	Hardiness Zone (From Figure B.3) <u>6b</u>											
	No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)	Lime Rate					
S		Annual Ryegrass Lolium perenne	40	3/1-5/15 8/1-10/15	½ in.	436 lb/ac (10.0 lb/1000sf)	2 tons/ac (90 lb/1000sf)					
or I Ie		Foxtail Millet Setaria italica	30	5/16-7/31	½ in.	, ,	, , ,					
se .												



FLOW CHANNEL STABILIZATION

SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD. A-2/B-2 4 to 7 inch stone or equivalent recycled concrete pressed into soil a minimum of 7 inches and flush with ground.

CONSTRUCTION SPECIFICATIONS REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.

COMPACT FILL.

CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.

STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.

MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

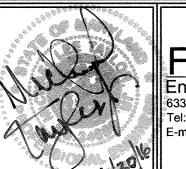
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL

SITE DEVELOPMENT PLAN - SEDIMENT & EROSION CONTROL AND SWM NOTES AND DETAILS GAULIN PROPERTY

PARCEL 'B' 7354 MONTEVIDEO ROAD \$ PARCEL 'A' 7430 MONTEVIDEO ROAD

TAX MAP 43 GRIDS 10 \$ 16

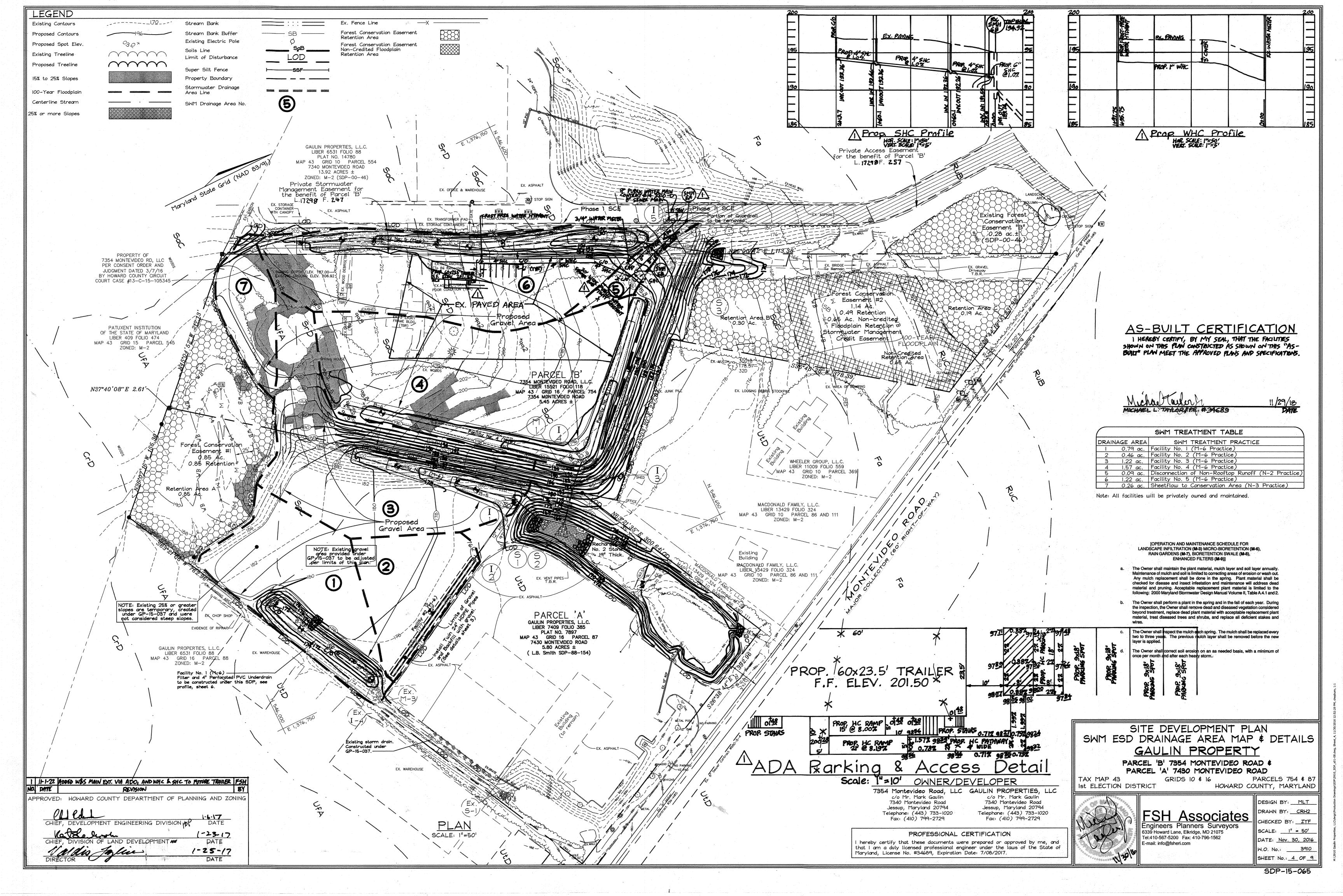
PARCELS 754 \$ 87 Ist ELECTION DISTRICT HOWARD COUNTY, MARYLAND

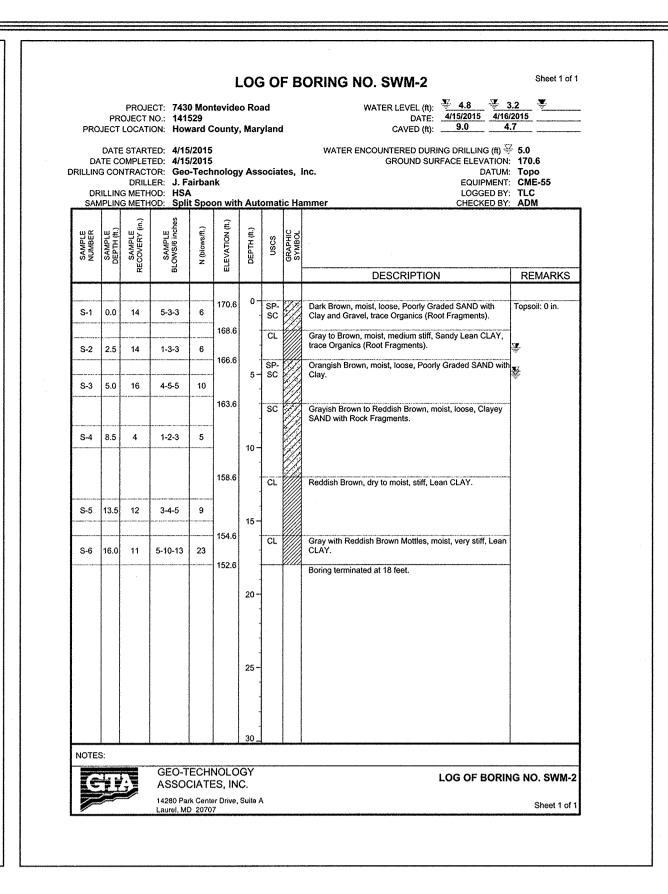


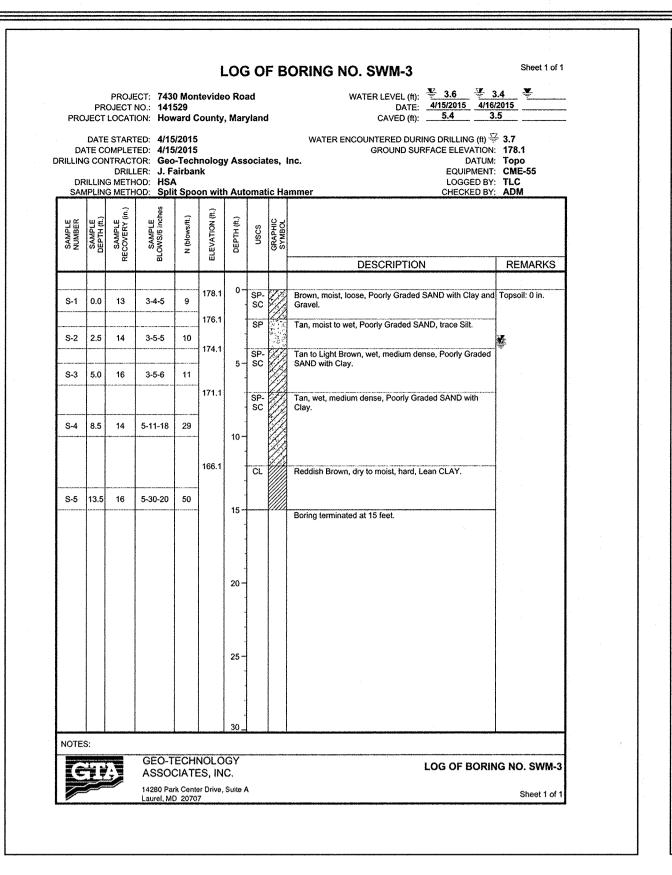
FSH Associates Engineers Planners Surveyors 6339 Howard Lane, Elkridge, MD 21075 Tel:410-567-5200 Fax: 410-796-1562 -mail: info@fsheri.com

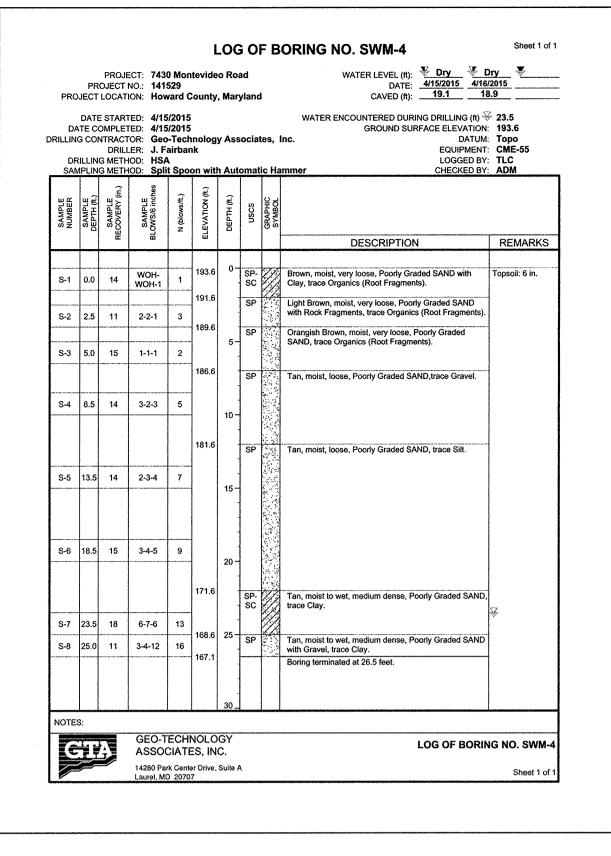
DRAWN BY: __CRH2_ CHECKED BY: ZYF SCALE: 1" = 30' DATE: <u>Nov. 30, 2016</u> W.O. No.: SHEET No .: 3 OF 9

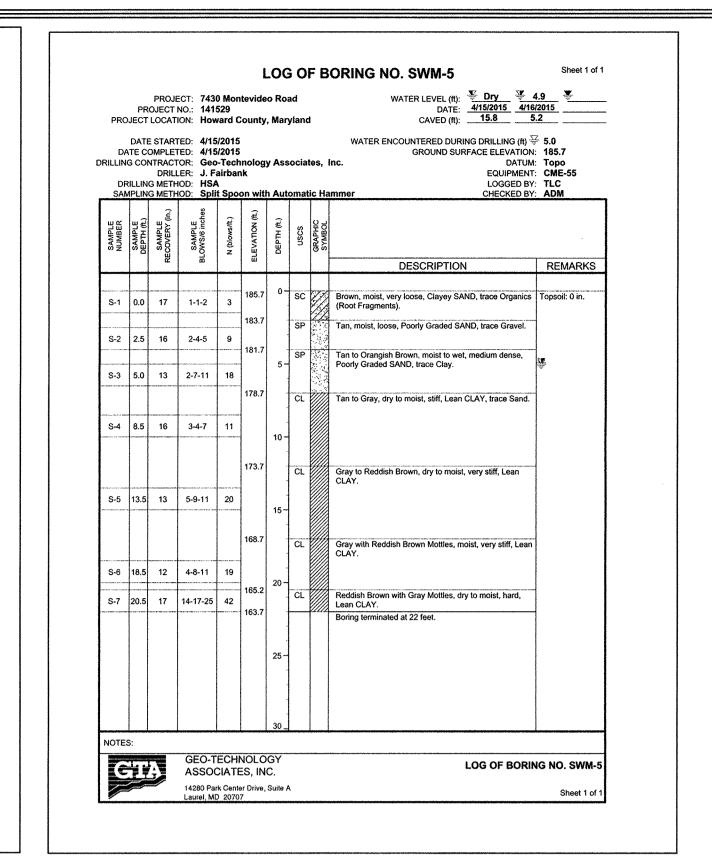
DESIGN BY: MLT

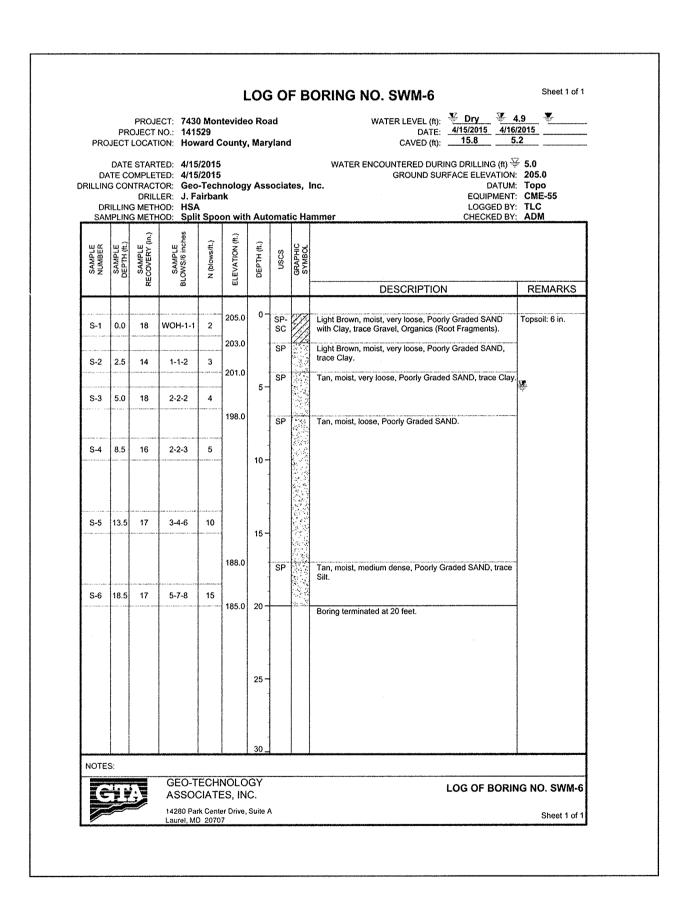


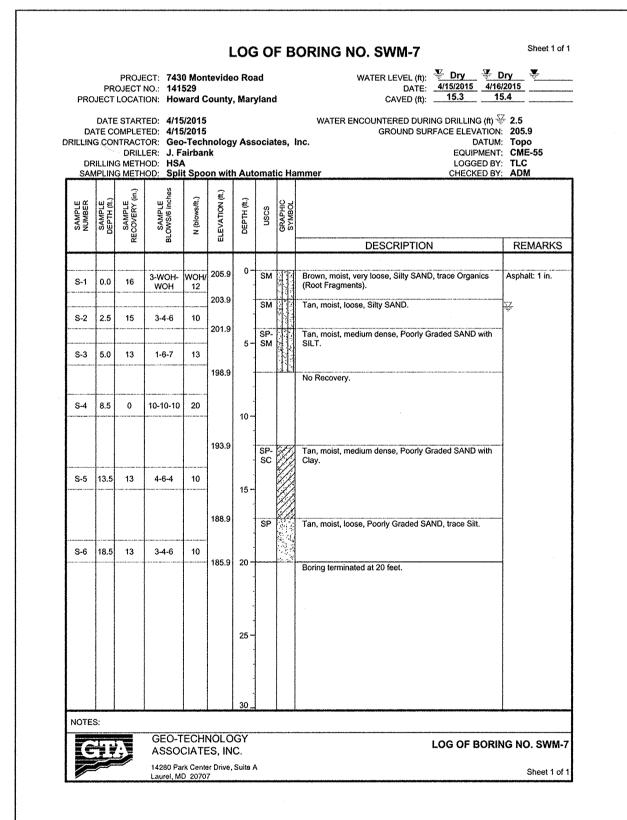


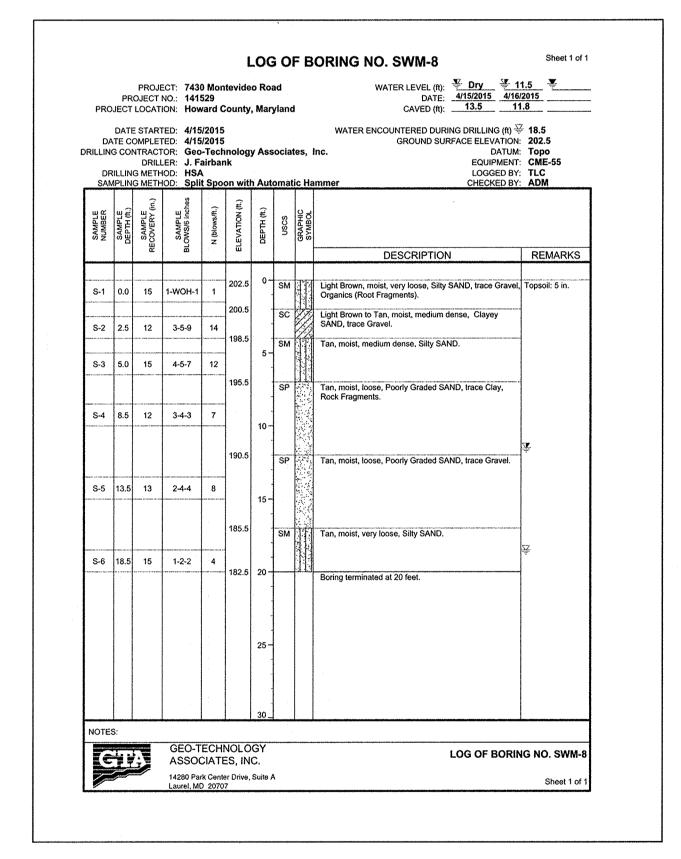


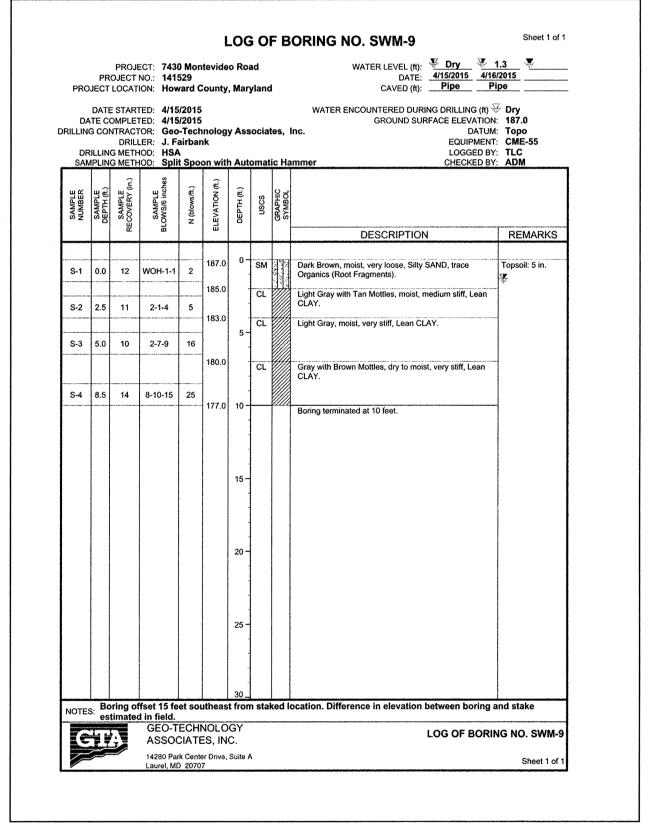












M-6 FACILITIES SOIL BORING LOGS

Not to Scale

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

Kettlehold

CHIEF, DIVISION OF LAND DEVELOPMENT

DIRECTOR 1-25-17 DATE

OWNER/DEVELOPER

c/o Mr. Mark Gaulin 7340 Montevideo Road Jessup, Maryland 20794 Telephone: (443) 733-1020 Fax: (410) 799-2729

7354 Montevideo Road, LLC GAULIN PROPERTIES, LLC c/o Mr. Mark Gaulin 7340 Montevideo Road Jessup, Maryland 20794 Telephone: (443) 733-1020 Fax: (410) 799-2729

PROFESSIONAL CERTIFICATION 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. #34689, Expiration Date: 7/08/2017.

M-6 FACILITIES SOIL BORING LOGS GAULIN PROPERTY

PARCEL 'B' 7354 MONTEVIDEO ROAD \$

PARCEL 'A' 7430 MONTEVIDEO ROAD GRIDS 10 \$ 16 PARCELS 754 \$ 87

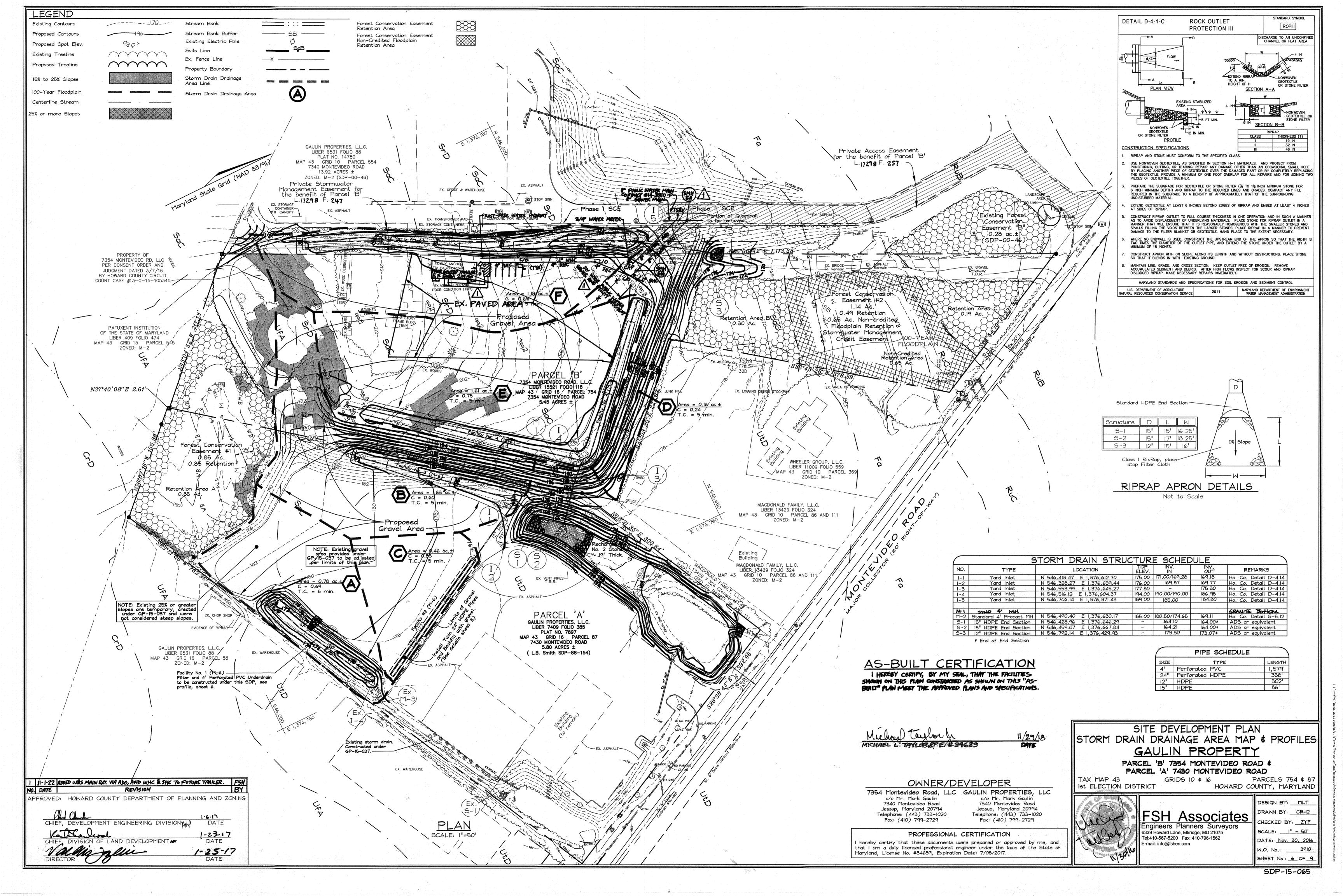
TAX MAP 43 Ist ELECTION DISTRICT

E-mail: info@fsheri.com

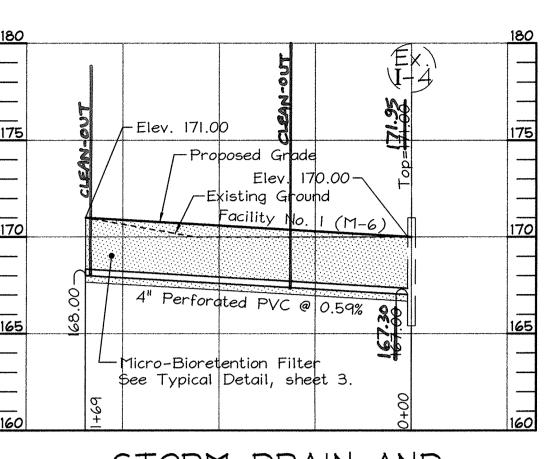
FSH Associates
Engineers Planners Surveyors 6339 Howard Lane, Elkridge, MD 21075

DESIGN BY: MLT DRAWN BY: CRH2 CHECKED BY: ZYF SCALE: 1" = 30' Tel:410-567-5200 Fax: 410-796-1562 DATE: Nov. 30, 2016 W.O. No.: 3910 SHEET No.: 5 OF 9

HOWARD COUNTY, MARYLAND



-Existing Ground ------Elev. 198.00 -Proposed Grade -Select Backfill Materlial shall be Field Inspected and Verified for 95% 190 Elev. 188.00-4" Perforated PVC @ 2.26% Compaction by Geotechnical Engineer. —See Typical Detail, sheet 3 -Class Riprap See Detail, 12" HDPE @ 11.06% she $Q_{10} = 7.0$ cfs $V_{F} = 8.9$ fps $Q_{2} = 4.8$ cfs 173.30 $V_{F} = 6.1$ fps 173.148 sheet 6. 175

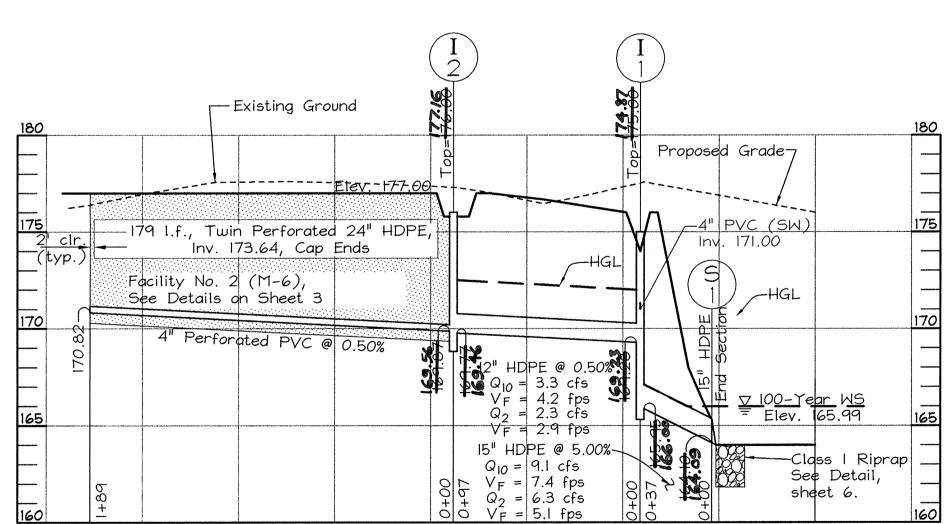


STORM DRAIN AND FACILITY NO. 1 PROFILE SCALE: HORIZ. 1"=50" VERT. 1"=5"

STORM DRAIN AND FACILITY NO. 5 PROFILE

SCALE: HORIZ. 1"=50"

VERT. 1"=5"



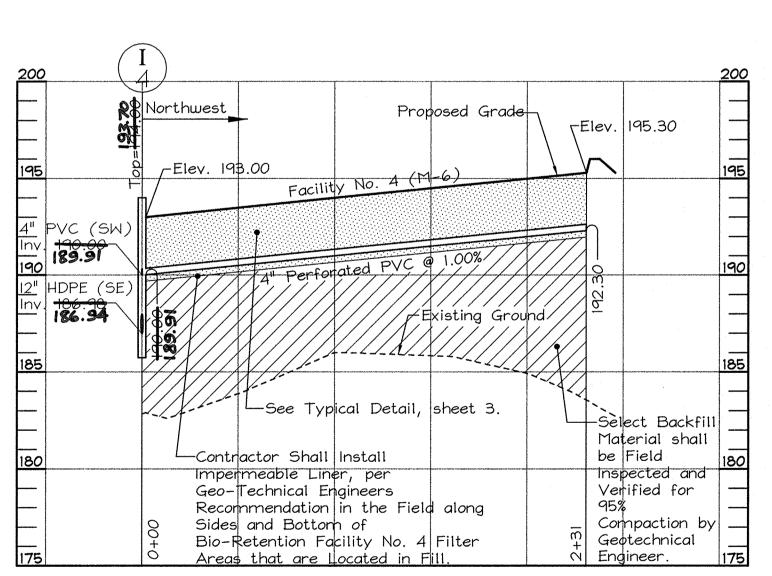
STORM DRAIN & FACILITY NO. 2 PROFILE SCALE: HORIZ. 1"=50" VERT. 1"=5"

AS-BUILT CERTIFICATION I HERELY CERTIFY, BY MY SEAL, THAT THE PACILITIES SHOWN ON THIS PLAN CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS. APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION 1.6.17 DATE 1-23-17

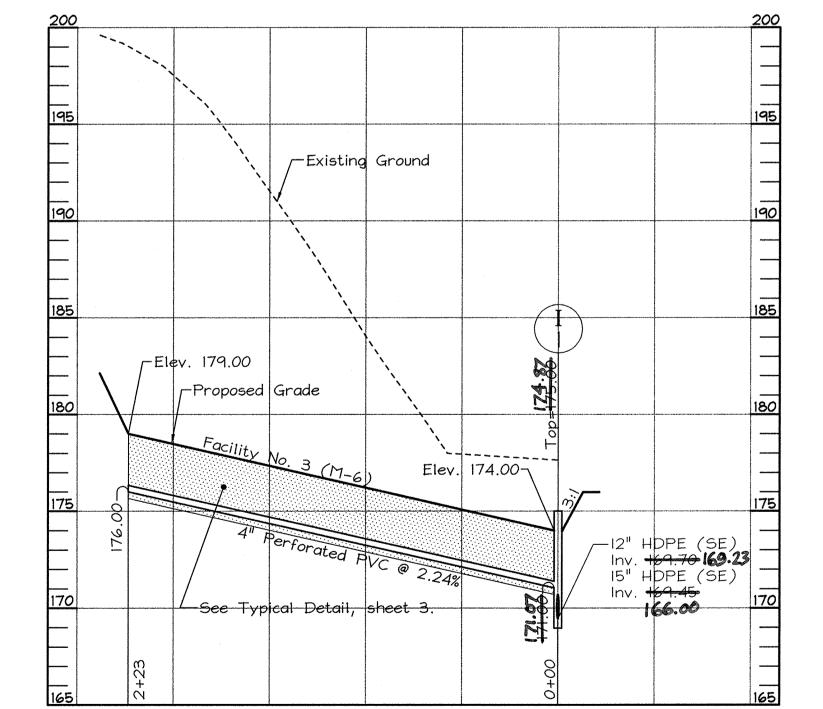
DATE

1-25-17

11/29/18



STORM DRAIN AND FACILITY NO. 4 (NORTHWEST) PROFILE SCALE: HORIZ. 1"=50' VERT. 1"=51



STORM DRAIN AND FACILITY NO. 3 PROFILE SCALE: HORIZ. 1"=50" VERT. 1"=5"

OWNER/DEVELOPER

c/o Mr. Mark Gaulin 7340 Montevideo Road Jessup, Maryland 20794 Telephone: (443) 733-1020 Fax: (410) 799-2729

7354 Montevideo Road, LLC GAULIN PROPERTIES, LLC c/o Mr. Mark Gaulin 7340 Montevideo Road Jessup, Maryland 20794 Telephone: (443) 733-1020 Fax: (410) 799-2729

PROFESSIONAL CERTIFICATION 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. #34689, Expiration Date: 7/08/2017.

by Geotechnical Engineer. 190 —Proposed Grade -Existing Ground 180.50 17**9.97** | 12" HDPE @ 1.00% $Q_{10} = 0.34 \text{ dfs}$ $V_{\rm F} = 0.40 \, {\rm fps}$ ||5|| HDPE (SE) $||Q_2|| = 0.24 \text{ dfs}$ Inv. 169.11 168.77 $V_F = 0.31 \text{ fps}$

-Select Backfill Material shall be Field Inspected and

Verified for 95% Compaction

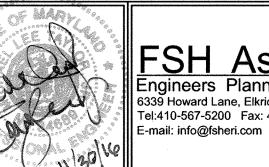
STORM DRAIN PROFILE SCALE: HORIZ. 1"=50" VERT. 1"=5"

SITE DEVELOPMENT PLAN SWM & STORM DRAIN PROFILES GAULIN PROPERTY

PARCEL 'B' 7354 MONTEVIDEO ROAD \$

PARCEL 'A' 7430 MONTEVIDEO ROAD GRIDS 10 \$ 16 PARCELS 754 \$ 87 TAX MAP 43

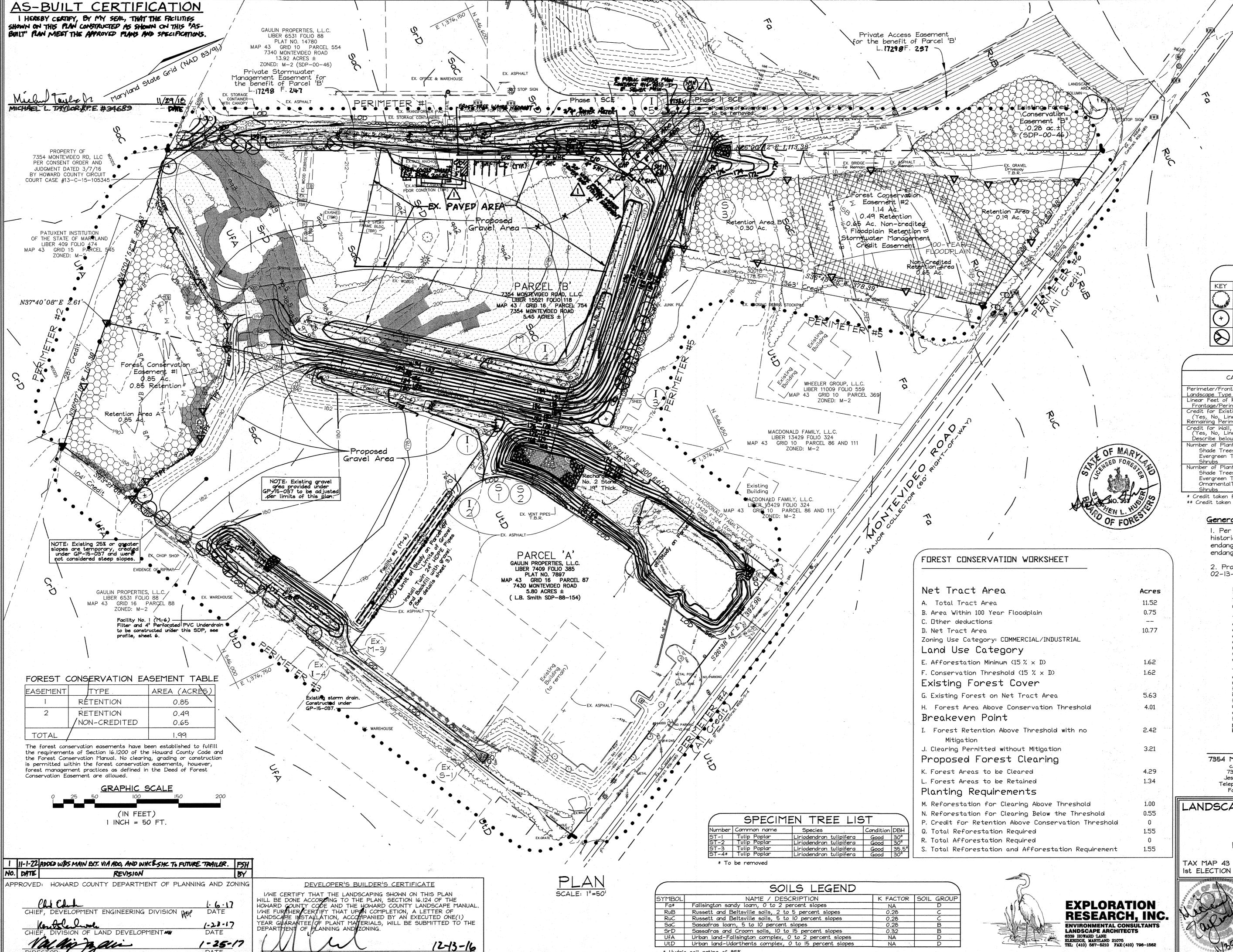
HOWARD COUNTY, MARYLAND Ist ELECTION DISTRICT



FSH Associates
Engineers Planners Surveyors 6339 Howard Lane, Elkridge, MD 21075 Tel:410-567-5200 Fax: 410-796-1562

DESIGN BY: MLT DRAWN BY: __CRH2_ CHECKED BY: ZYF SCALE: 1" = 50' DATE: Nov. 30, 2016 W.O. No.: 3910 SHEET No.: _7_OF_9

SDP-15-065



* Hydric soil rating of 85%

LEGEND _-----422_--Existing Contours Property Boundary Limit of FSD/FCP stud Existing Treeline my Proposed Treeline Soils Line 15% to 25% Slopes 25% or more Slopes Wetland Wetland Buffer Existing Tree Specimen Tree Forest Conservation Easement Retention Area Forest Conservation Easement Non-Credited Floodplain Retention Area Area of Existing Forest Considered cleared for Forest Conservation Purposes BioRetention Planting Area (See Sheet 9 for Schedule/Details) FCE Signage Combination Super Silt Fence/ — Tree Protection Fence LANDSCAPE PLANT LIST BOTANICAL/COMMON NAME SIZE Acer rubrum 'Red Sunset Red Sunset Red Maple 2 1/2"-3" Cal. Tilia tomentosa 2 1/2"-3" Cal. Silver Linden

SCHEDULE A PERIMETER LANDSCAPE EDGE ADJACENT TO PERIMETER PROPERTIES ADJACENT T ROADWAYS CATEGORY Perimeter/Frontage Designation Landscape Type Linear Feet of Roadway 1113' 375' 763' 9531 351' 232' Credit for Existing Vegetatio Yes* (104') (Yes, No, Linear Feet) Remaining Perimeter Length Credit for Wall, Fence or Berr (Yes, No, Linear Feet Describe below if needed Number of Plants Required Shade Trees 1:60 1 Everareen Trees Number of Plants Provided Evergreen Trees **OrnamentalTrees**

* Credit taken for existing trees to remain ** Credit taken for existing specimen tree #3 to remain

General Forest Conservation Notes

1. Per a Merlin search in September 2014, there are no historical sites and features or cemeteries; rare, threatened or endangered species; or critical habitats for rare, threatened or endangered species on the project site.

2. Project site is located in the Patapsco River watershed,

FOREST CONSERVATION NARRATIVE

This Forest Conservation Plan has been developed in accordance with the Howard County Forest Conservation Act of 1991.

The total tract area consists of 11.52 acres of land (Parcel 85 containing 5.45 acres plus Parcel 87 containing 5.80 acres plus a strip off land along the western boundary containing 0.27 acres). 0.75 acres of floodplain exist on site, so the net tract area is 10.77 acres. The site contains 5.63 acres of forest resources and 4 specimen trees. The majority of the specimen trees will be retained; one will be removed for site

The total forest conservation obligation for the site is 2.89 acres. There shall be two easements containing 1.99 acres of retained forest. Easement 1 contains 0.85 acres of retained forest. Easement 2 contains 0.65 acres of non-credited forest in the floodplain plus two areas of retention flanking the floodplain totaling 0.49 acres. Due to space limitations on site, we will request that the remainder of the forest planting obligations (1.55 acres, or 67,518 SF) be fulfilled with a fee-in-lieu payment of \$50,638.50 (\$0.75/sf for 67,518 sf) or purchase of bank credits from an approved forest conservation

OWNER/DEVELOPER

7354 Montevideo Road, LLC GAULIN PROPERTIES, LLC c/o Mr. Mark Gaulin 7340 Montevideo Road Jessup, Maryland 20794 Telephone: (443) 733-1020 Fax: (410) 799-2729

7340 Montevideo Road Jessup, Maryland 20794 Telephone: (443) 733-1020 Fax: (410) 799-2729

LANDSCAPE & FOREST CONSERVATION PLAN

GAULIN PROPERTY

PARCEL 'B' 7354 MONTEVIDEO ROAD \$

PARCEL 'A' 7430 MONTEVIDEO ROAD PARCELS 754 \$ 87

GRIDS 10 \$ 16 HOWARD COUNTY, MARYLAND Ist ELECTION DISTRICT

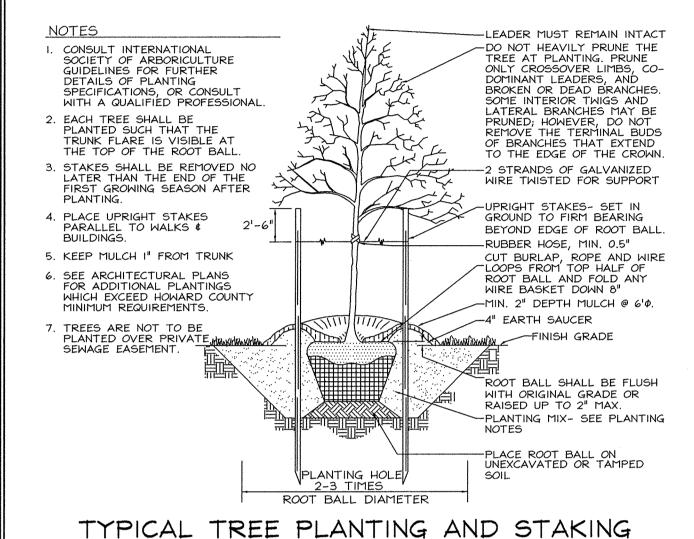


FSH Associates Engineers Planners Surveyors 6339 Howard Lane, Elkridge, MD 21075 Tel:410-567-5200 Fax: 410-796-1562

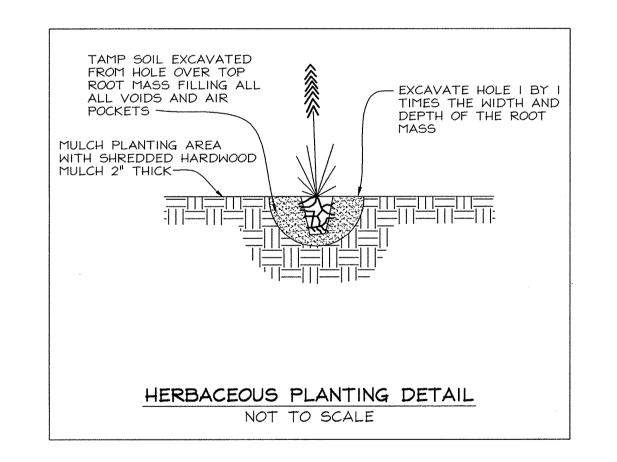
DESIGN BY: MLT&CRH2 DRAWN BY: CRH2/SMM CHECKED BY: SLH SCALE: 1"=50' DATE: Nov. 30, 2016 W.O. No.: 3910

SHEET No .: 8 OF 9

- 1. At the time of installment, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from this approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to applicable plans and certificates.
- 2. The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced. 3. Financial surety for the required landscaping will be posted as part of
- the Developer's Agreement in the amount of \$12,300 (41 shade trees @ 4. Stormwater Management Pond landscaping is not required due to parcel
- being in M-2 district, with extension of pond occurring away from the public road; view from road will not change.
- 5. Landscaping for parcels 'A' and 'B' is provided in accordance with SDP-15-065, in accordance with Section 16.124 of the Howard County Code and Landscape manual.



DECIDUOUS TREES UP TO 2-1/2" CALIPER



M-6 Facility Planting Schedule										
Qty. Facility #1	Qty. Facility #3	Qty. Facility #4	Qty. Facility #5	Species Name	Common Name	Notes				
238	207	448	350	Panicum virgatum	Switch Grass	Plant 24" o.c.				
238	207	448	350	Rudbeckia hirta	Black-Eyed Susan	Plant 24" o.c.				
238	207	448	350	Scirpus cyperinus	Woolgrass	Plant 24" o.c.				
238	207	448	350	Veronica noveboracensis	New York Ironweed	Plant 24" o.c.				

1-23-67

1-25-17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION IMP

Management Notes for Forest Retention Areas

I. All proposed activities shall adhere to the conditions, schedules and terms of an approved sediment control and erosion plan. 2. After the boundaries of the retention area have been staked and flagged and before any disturbance has taken place on-site, a preconstruction meeting at the construction site shall take place. The developer, contractor or project manager, and appropriate County inspectors shall attend. 3. Tree protection for all retained areas:

a. All retention areas within 50 feet of proposed construction activities shall be protected by highly visible, well anchored temporary protection devices (silt fence or blaze orange plastic mesh). b. All protection devices shall be in place prior to any grading or land

clearing. c. All protection devices shall be properly maintained and shall remain in place until construction has ceased. d. Attachment of signs, fencing or other objects to trees is prohibited.

e. No equipment, machinery, vehicles, materials or excessive pedestrian

traffic shall be allowed within protected areas. 4. If the critical root zone (see detail) is affected by construction activities such as grade change, digging for foundations and roads or utility installation: a. Prune roots with a clean cut using proper pruning equipment (see root pruning detail)

b. Water and fertilize as needed. 5. During construction phase, monitor and correct condition of retained trees for: soil compaction, root injury, flood conditions, drought conditions and other

6. Post-Construction Phase a. Inspect existing trees around the perimeter of disturbed limits for evidence of soil compaction, root injury, limb injury, or other stress signs and correct with proper management techniques such as root or pruning, soil aeration, fertilization, crown reduction or watering. Inspection and

evaluation shall be performed by a licensed arborist.

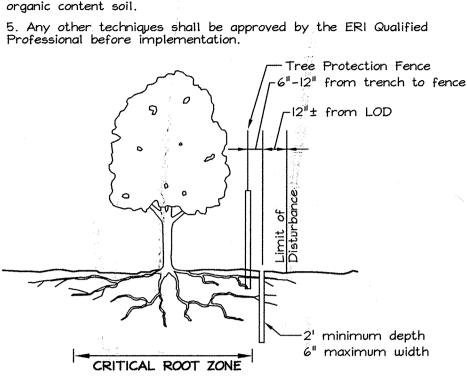
d. No burning within 100 feet of wooded area.

b. Inspect for dead or dying trees or limbs which may pose safety hazard and remove. c. No burial of discarded materials will occur onsite within the conservation

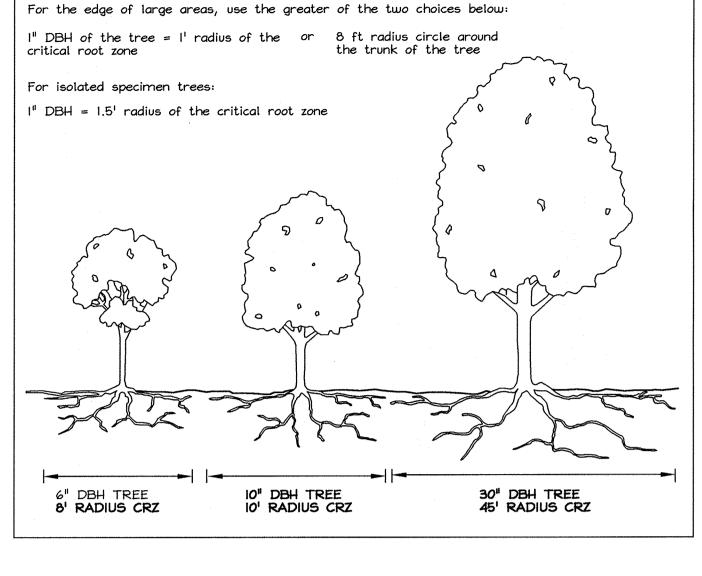
e. All temporary forest protection structures will be removed after construction. Temporary signage shall be replaced with permanent signage on posts in locations shown. f. Following completion of construction, prior to use, the County inspector shall inspect the entire area.

ROOT PRUNING

Retention areas shall be set prior to construction 2. Boundaries of retention areas shall be flagged, and location of trench shall be specified by ERI Qualified Professional. 3. Roots shall be cut cleanly with root pruning equipment. Where roots >1" are found, trenching shall be done by air spade or hand 4. Trench shall be immediately backfilled with soil removed or high organic content soil.



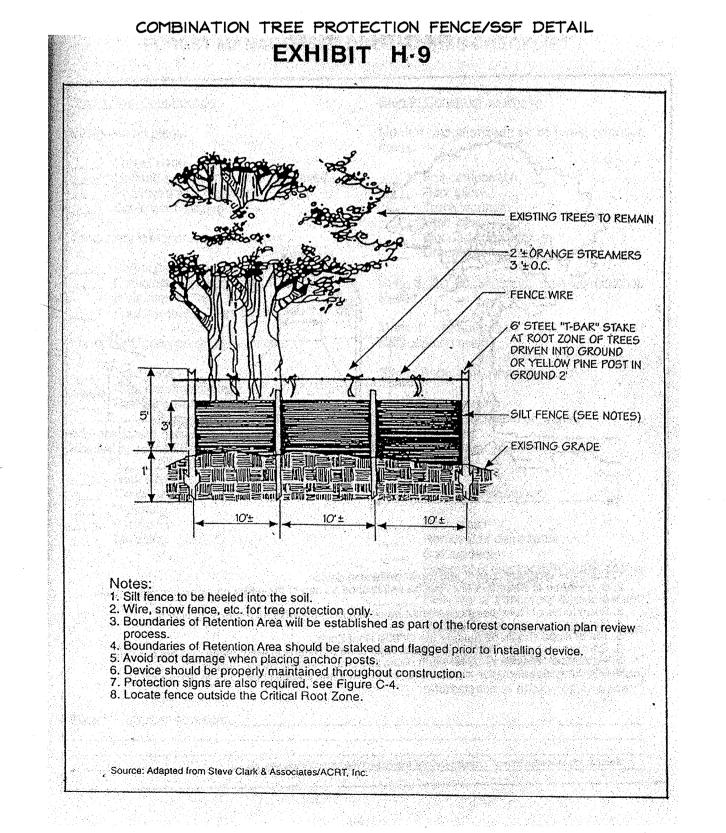
CRITICAL ROOT ZONE For the edge of large areas, use the greater of the two choices below: I" DBH of the tree = I' radius of the or 8 ft radius circle around critical root zone the trunk of the tree For isolated specimen trees: 1" DBH = 1.5' radius of the critical root zone 30" DBH TREE 45' RADIUS CRZ 6" DBH TREE 10" DBH TREE 8' RADIUS CRZ 10' RADIUS CRZ

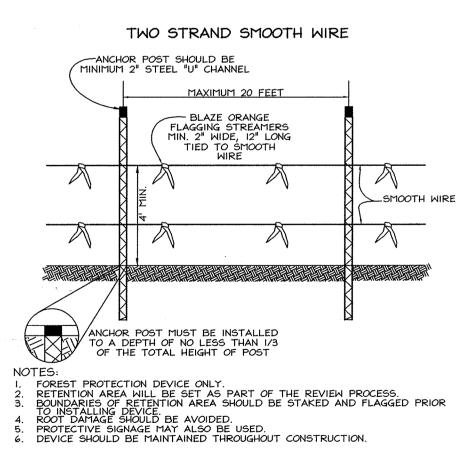


Protection Signage FOREST RETENTION AREA MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE MARYLAND FOREST CONSERVATION ACT OF 1991

Forest Retention Area

SIGNAGE NOTE: All tree protection signs shall be placed on metal 'T' posts or pressure treated wood poles. NO attachment of signs to trees is permitted.





TREE PROTECTION DETAIL



EXPLORATION RESEARCH, INC. ENVIRONMENTAL CONSULTANTS LANDSCAPE ARCHITECTS

c/o Mr. Mark Gaulin 7340 Montevideo Road Jessup, Maryland 20794 Telephone: (443) 733-1020

Fax: (410) 799-2729

Soil Protection Zone Notes

Pruning detail, shown on this plan.

Forest Conservation Professional.

treatment or removal.

Limit of Disturbance.

1. The Soil Protection Zone shall include all areas contained outside the

2. Where possible, the Soil Protection Zone shall extend to the drip line

drip line or 40% of the height of the tree, whichever is greater.

3. No construction activity is permitted within the Soil Protection Zone.

5. Root pruning shall occur prior to the beginning of construction.

of specimen trees. For other groups of trees, the zone shall be the

4. If soil has been compacted or grading has taken place in the vicinity of

6. Where the Limit of Disturbance must encroach inside the Critical Root

mulching, radial trenching, or another method approved by the ERI

the ERI Professional shall determine which trees will need preventative

7. Prior to construction, the Limits of Disturbance shall be marked and

8. Tree maintenance and removal shall be undertaken by a qualified

impact otherwise unprotected Critical Root Zone.

Maryland Tree Expert to ensure damage to surrounding trees is

9. Brush and limbs removed for construction shall be chipped and spread

at the edge of the Soil Protection Zone to a depth of 6 inches. This

shall occur outside the Soil Protection Zone where compaction could

Zone of a tree, soil disturbance shall be mitigated with vertical

the Soil Protection Zone, root pruning shall be implemented per Root

c/o Mr. Mark Gaulin 7340 Montevideo Road Jessup, Maryland 20794 Telephone: (443) 733-1020 Fax: (410) 799-2729

LANDSCAPE & FOREST CONSERVATION PLAN

GAULIN PROPERTY

E-mail: info@fsheri.com

PARCEL 'B' 7354 MONTEVIDEO ROAD \$ PARCEL 'A' 7430 MONTEVIDEO ROAD



FSH Associates Engineers Planners Surveyors

DESIGN BY: MLT&CRH DRAWN BY: CRH2/SMM CHECKED BY: SLH SCALE: ____1"=50' 6339 Howard Lane, Elkridge, MD 21075 Tel:410-567-5200 Fax: 410-796-1562 DATE: Nov. 30, 2016 W.O. No.: <u>3910</u>

SHEET No.: 9 OF

SDP-15-065



PARCELS 754 \$ 87 HOWARD COUNTY, MARYLAND