Q	QUANTITIES	: <u></u>			
ITEMS	QUANTITIES		AS-BUILT		
	ESTIMATED	QUANTITIES	TYPE	MANUF./SUPPLIER	
SIMPLEX GRINDER PUMP	1 EA.	I EA.		?	
DUPLEX GRINDER PUMP	3 EA.	3 <i>EA</i> .			
1 1/2" HOUSE CONNECTION	240 L.F.	240 LF	1		
1 1/2" FORCE MAIN	2231 L.F.	2230 LF			
TERMINAL FLUSHING CONNECTION	1 EA.	I EA			
IN-LINE FLUSHING CONNECTION (INLINE PRESSURE CLEANOUT)	5 EA.	5 EA			
"TRANSITION MH"	1 EA.	I EA	CONC.	MONARCH PRODUCTS	
4" PVC SCH. 40 PERFORATED LATERAL	3,243 L.F.		SCH 40 PVC	JM EAGLE	
4"Ø PVC SCH. 40 GRAVITY PIPE	3,838 L.F.		SCH 40 PVC	JM EAGLE	
6"Ø PVC SCH. 40 GRAVITY PIPE	1,464 L.F.		SCH 40 PVC	JM EAGLE	
3,000 GALLON SEPTIC TANK	4 EA.	4 EA	PRECAST CONC.	PRODUCTS	
DISTRIBUTION BOX (VARIOUS SIZES)	7 EA.	7 EA	PRECAST CONC.	MONARCH PRODUCTS	
			**	/	
SEPTIC TANK EFFLUENT FILTER	1 EA.	I EA		POLYLOK MODEL	
4" Ø PVC SCH. 40 LATERAL INSPECTION	53				
G'GATEVALVE AT DB-1			GATE VALVE	KENNEDY	
			1		
NAME OF UTILITY CONTRACTOR FOGLE	E CONSTR	CUCTION			
SURVEY AND DRAFTING DIVISION AS-BUIL	T DATE: 5-	19-110			

SHARED	SEPTIC S	SYSTEM FLOW T	<b>TABLE</b>
SHARED SEPTIC SYSTEM	# OF LOTS	# OF BEDROOM HOUSE	TOTAL SYSTEM FLOW
SHARED SEPTIC SYSTEMS A & B	7 LOTS	5 - 5 BEDROOMS 2 - 4 BEDROOMS	4,950 GPD

1. A SEPTIC FEE IN AMOUNT OF \$ 180 PER LOT SERVICED BY THE COMMON SEPTIC SYSTEM SHALL

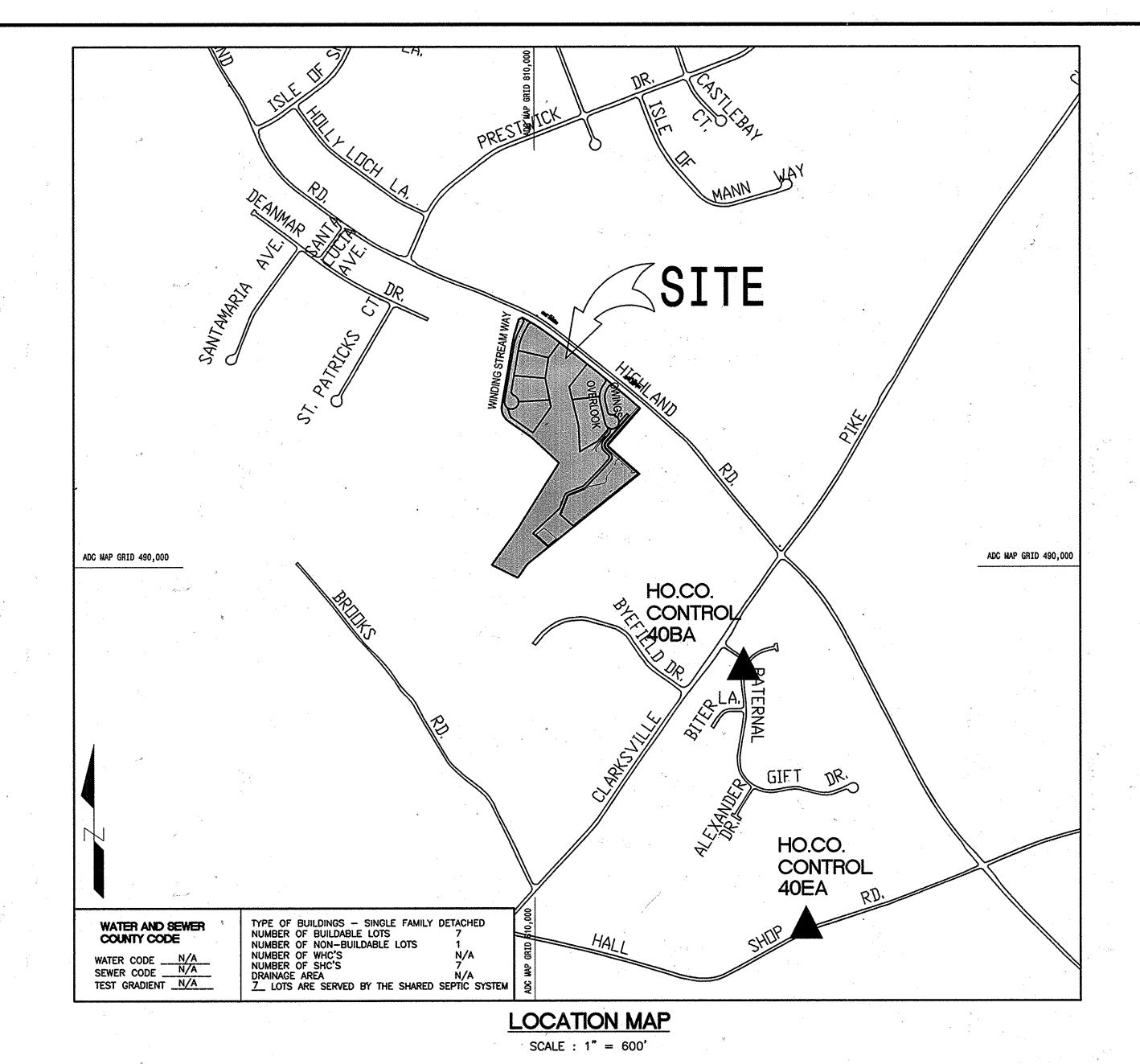
SEPTIC TANK SHOP DRAWINGS FROM THE MANUFACTURER SHALL BE PERMITTED TO THE HOWARD COUNTY

FIVE (5) WORKING DAYS BEFORE ANY PRESSURE TEST OF PRESSURE SEWERS, AND ANY SEPTIC TANKS

7. THE HOWARD COUNTY HEALTH DEPARTMENT SHALL AS-BUILT THE SEPTIC TRENCH PORTION OF THE COMMON SEPTIC SYSTEM. THE COLLECTION PORTION OF THE THIS SYSTEM SHALL BE AS-BUILT BY OTHERS AS SPECIFIED BY THE DEVELOPER AGREEMENT.

•.•	
	APPROVED: FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEMS, LOTS 17 THRU 23 AND FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEM FOR LOT 24.
for	HOWARD COUNTY HEALTH OFFICER  TOTAL  TOTAL
RET	WARD SOIL CONSERVATION DISTRICT: VIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICTION MEETS CHNICAL REQUIREMENTS  DATE  DATE
	E PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY E HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT I hereby certify that these documents were prepared or approved by me, and I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13265, Expiration Date: 12-26-08.



# OWINGS PROPERTY, LOT 5

LOTS 17-22, NON-BUILDABLE PRESERVATION PARCELS F, G AND NON-BUILDABLE BULK PARCEL H A RESUBDIVISION OF LOT 5 - HARWOOD OWINGS PROPERTY SHARED SEWAGE DISPOSAL AND FORCE MAIN CONTRACT # 50-4436-D OWNER/DEVELOPER
SK HOMES AT HIGHLAND OWINGS, LLC

## GENERAL NOTES

- Approximate locations of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the contractor's expense.
- 2. Topographic field surveys were performed on March 18, 2001 by A.B. Consultants Inc.
- 3. The coordinates shown on the drawings are based on Maryland State Reference System NAD '83/91' as projected by Howard County Geodetic Control Stations No. 40BA and No. 40EA.
- 4. All vertical controls are based on NAVD'88.
- 5. All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- Clear all utilities by a minimum of 12 inches. Clear all poles by 5'- 0" minimum or tunnel as required unless otherwise noted. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractor's work requires the bracing of additional poles, any cost incurred by the owner for the bracing of additional poles or damages shall be deducted from monies owed by the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- 7. For details not shown on the drawing, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
- Where test pits have been made on existing utilities, they are noted by the symbol 2 at the locations of the test pits. A note or notes containing the results of the test pit or pits in included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the contractor two weeks in advance of construction operations at his own expense.
- 9. The contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

## AT & T 1-800-252-1133

BGE (Construction Services) 410-850-4820 BGE (Emergency) 410-685-1400 Bureau of Utilities 410-313-4900 Colonial Pipeline Company 410-795-1390 Niss Utility 1-800-257-7777 State Highway Administration 410-531-5533

Verizon 1-800-743-0033/410-224-9210

- 10. Trees and shrubs are to be protected from damage to the maximum extent. Trees and shrubs located within the construction strip are not be removed or damaged by the contractor.
- 11. The contractor shall remove trees, stumps, and roots along the line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- The contractor shall notify the Bureau of Highways, Howard County, at (410)313-7450 at least five working days before open cutting or boring/jacking of any County road for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirements per section 18.114(a) of the Howard County Code.

- 1. A septic fee in the amount of \$ 396 per lot serviced by the common septic system shall be paid to the Howard County Environmental Health Department at the time of the septic construction permit issuance.
- 2. The builder shall install back flow preventer and relief vent on the sewer service at the house, at the time of the house construction or as required by the plumbing inspector.
- 3. The contractor shall notify howard county health department at (410) 313-2540 at least five (5) working days before any pressure test of pressure sewers, and any septic tanks vacuum or water testing is performed.
- 4. Installation of grinder pumps and appurtenances, and the 4" pvc sewer house connections (shc) are to be installed by the developer. The developer shall be required to prepurchase the specified grinder pumps and provide storage at the manufacturer's facility until such time as they are installed and placed into service, no pumps shall be set until the house is ready for u & o, and any debris which has entered the tank prior to the pump installation shall be pumped out at the developer's expense. The developer will retain responsibility for installation of the grinder pumps and shall contract with the manufacturer to provide start up services just prior to U & O. Gravity connection to the

grinder pumps will not be allowed until all work inside the homes is complete and the homes are ready for occupancy.

- 1. All sewer mains shall be dip and p.v.c. unless otherwise noted.
- 2. The contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
- 3. All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Force mains shall be HDPE DR1:
- 5. Manholes shown with 12" and 16" walls are for brick manholes on

- . The "cans" for simplex pumps shall be a minimum diameter of 36 inches

HOWARD COUNTY GEODETIC CONTROL MON. NOS. 549,925.102 1,324,025.124 534.654 547,911.373 1,324,510.058

## COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS

410-531-5533 BALTIMORE GAS & ELECTRIC CO. 410-850-4620 CONTRACTOR SERVICES BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL 410-787-9068 1-800-257-7777 MISS UTILITY COLONIAL PIPELINE CO 410-795-1390 HOWARD COUNTY DEPT. OF PUBLIC WORKS BUREAU OF UTILITIES 410-313-4900

HO. CO. ENVIRONMENTAL HEALTH DEPT

OWINGS PROPERTY, LOT 5

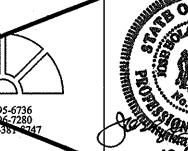
LOTS 17-22, NON-BUILDABLE PRESERVATION PARCELS F, G AND NON-BUILDABLE BULK PARCEL H A RESUBDIVISION OF LOT 5 - HARWOOD OWINGS PROPERTY SHARED SEWAGE DISPOSAL AND FORCE MAIN CONTRACT No. : 50-4436-D

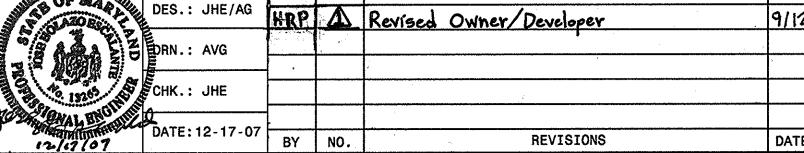
SHEET No. 1 OF 7

SCALE :

AS SHOWN

410-313-2640





TITLE SHEET

5th ELECTION DISTRICT

ROAD CONSTRUCTION PLANS PER F-06-112

HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

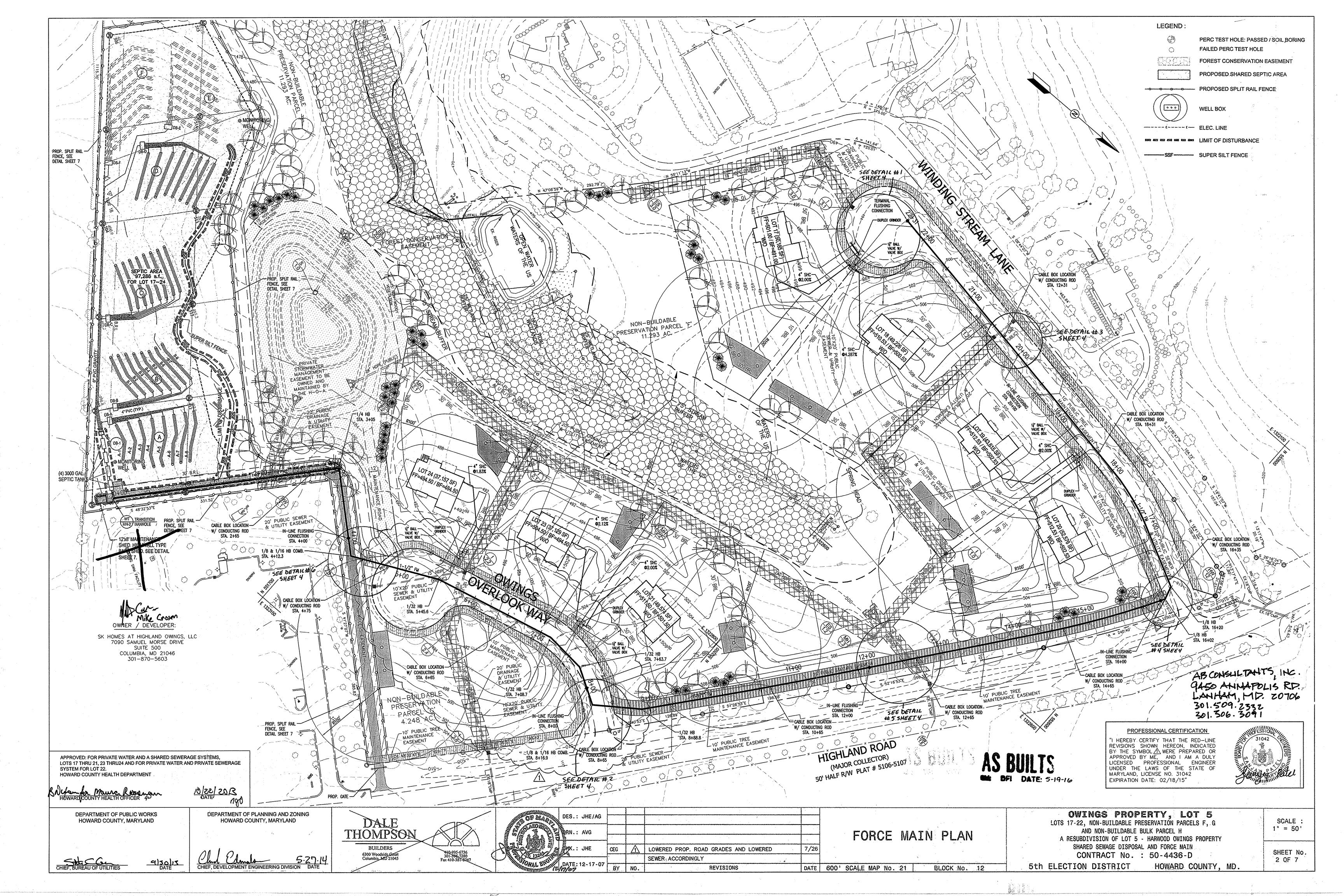
DEPARTMENT OF PLANNING AND ZONING

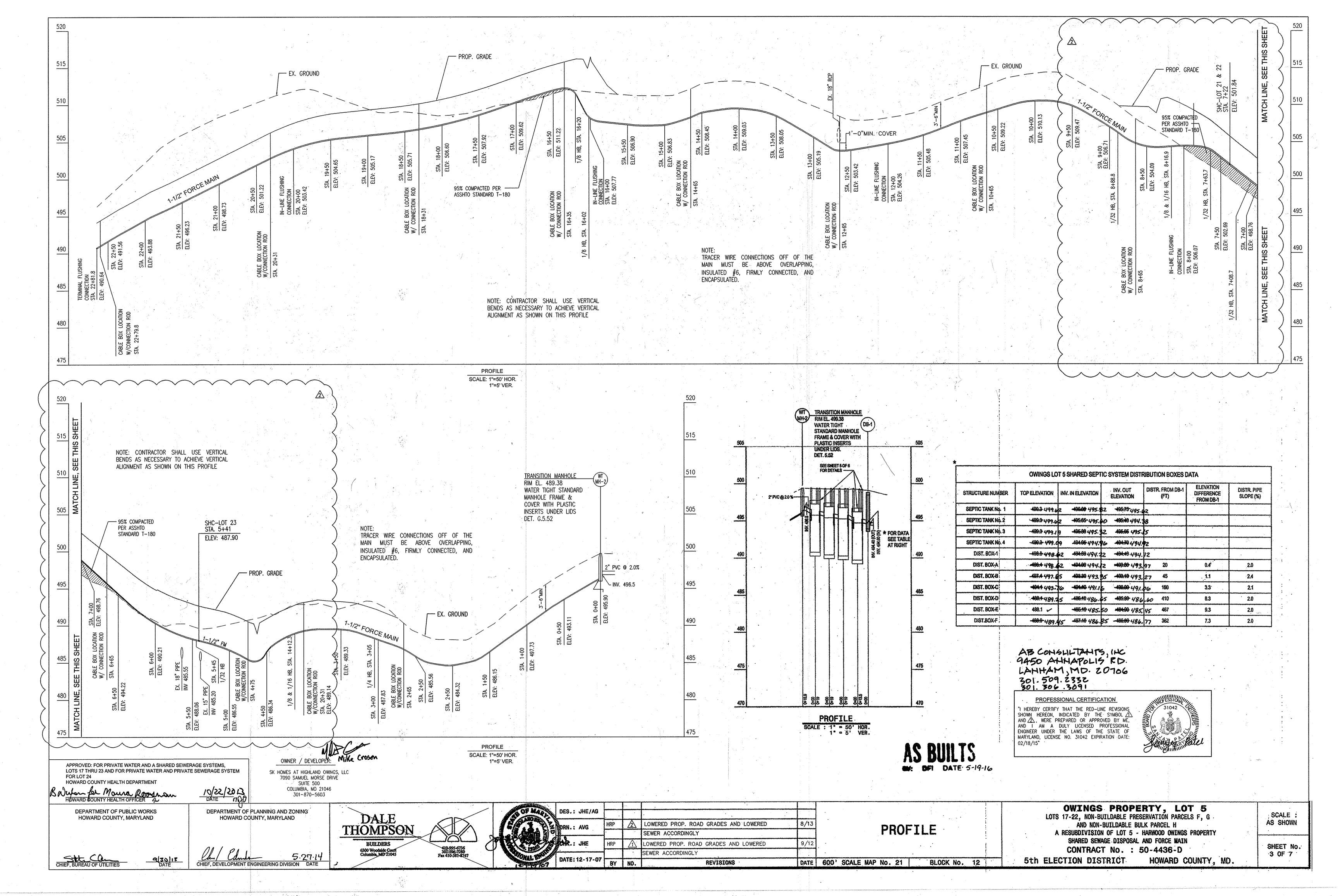
HOWARD COUNTY. MARYLAND

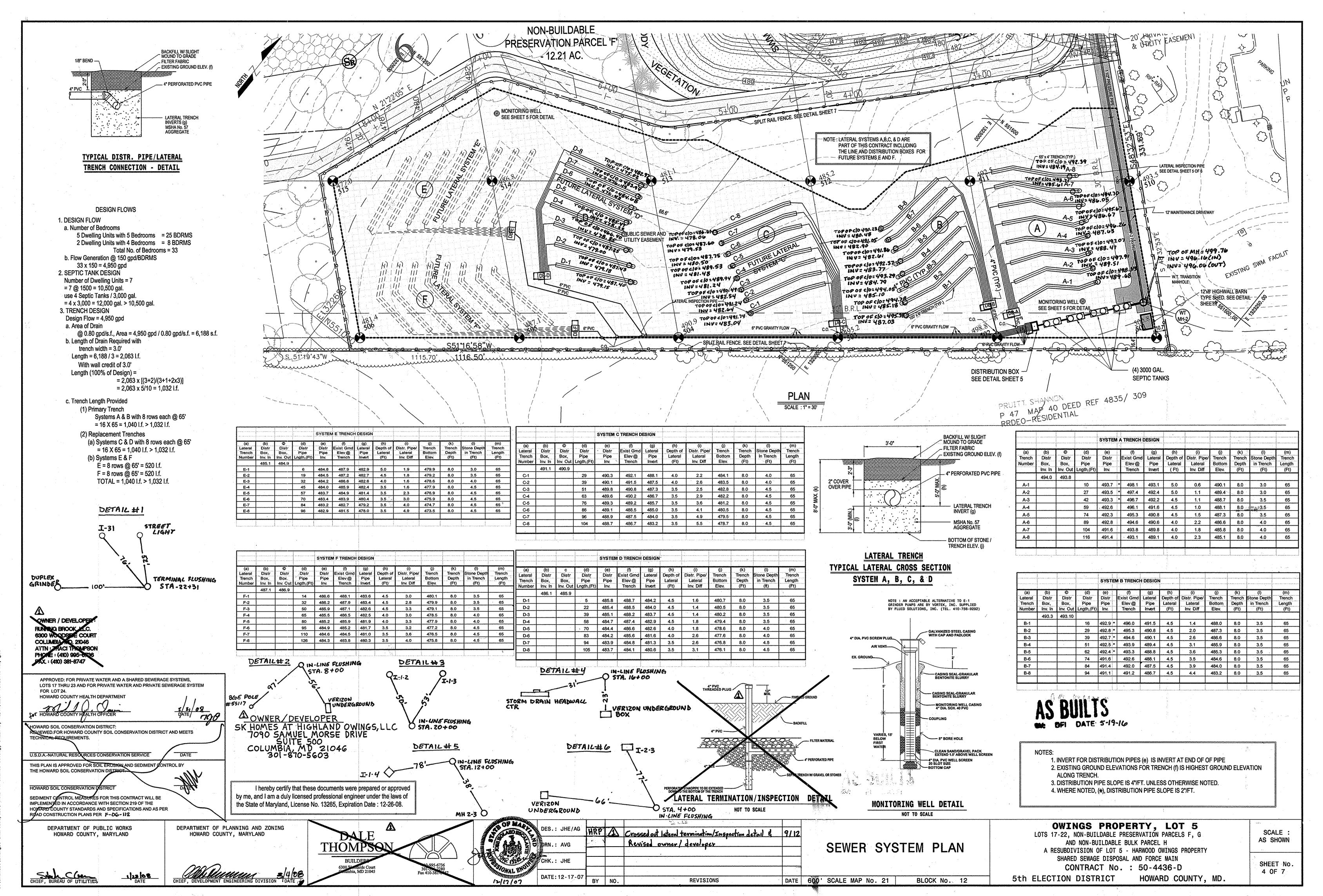
DATE 600' SCALE MAP No. 21

BLOCK No. 12

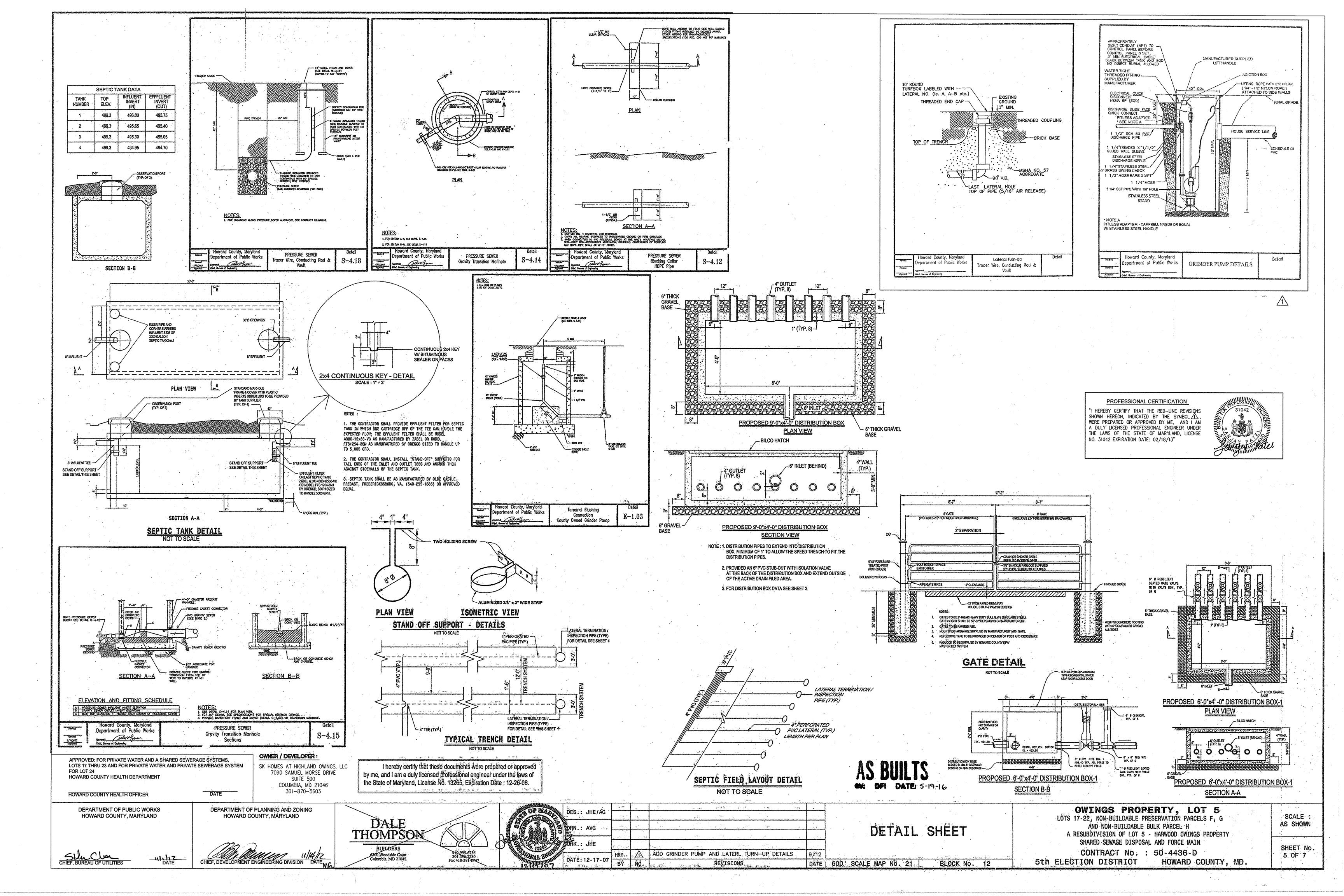
HOWARD COUNTY, MD.







I:\OWINGS5\owings5-sharedseptic\FINAL-FM-OWINGS 5b.dwg, SHEET4a, 12/17/2007 10:20:18 AM. quz



2. All vegetative and structural practice are to be installed according to the provisions of this plan and are to be conformance with the most current WARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions

3. Following initial soil disturbance or re-disturbance, 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.

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,

5. All disturbed areas must be fenced within the time period specified above in accordance with 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMEN CONTROL for permanent seeding (sec. 51), sod (sec. 54), temporary seeding (sec. 50) and mulching (sec. 52). Temporary stabilization with mulch alone can be done only when recommended seeding dates do not allow for proper germination and establishment of

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 Area Disturbed Area to be roofed or paved Area to be vegetatively stabilized 1,700 Cu. Yds. Total Fill 1,700 Cu. Yds. Offsite waste/borrow area location :

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 control must be provided, if deemed necessary by the Howard

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection 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

11. Trenches for the construction of utilities is limited to three pipe length or that which should be back-filled and stabilized by the end of each work day, whichever is

1. USE TYPE "A" CONFIGURATION WHERE PUMP PANEL IS WITHIN 10 FT OF SERVICE ENTRANCE

PROVIDE LOCKING HASP ON SERVICE BREAKER FOR ACCEPTANCE OF COUNTY OWNED LOCK.

7. NO WARING WILL BE PERMITTED WITHIN OR UNDER THE DWELLING, OR ANY OTHER STRUCTURE

Department of Public Works

APPROVED: FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEMS,

REVIEWED FOR HOWARD COUNTY SOIL COUSERIANT PRICE AND MEETS

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE

HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER

IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

ROAD CONSTRUCTION PLANS PER F-06-112

LOTS 17 THRU 23 AND FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEM

EGE COMPANY ELECTRIC METER-

6300 WOODSIDE COURT COLUMBIA NO. 21046

ATTN: TRACI NOMPSON

HOWARD COUNTY HEALTH DEPARTMENT

PHONE: (410) 993-6736

FOR LOT 24.

TECHNICAL REQUIREMENTS.

. CONNECTION TO ELECTRIC METER SHALL BE COORDINATED WITH POWER COMPANY.

2. USE TYPE 'B' CONFIGURATION WHERE PUMP SUB PANEL IS MORE THAN 10 FT AWAY FROM NEW SERVICE FATRANCE

. Sidemalks, driveways, and fences that are disturbed shall be replaced in kind, landscaping shall be rewoved, relocated or replaced as approved by the encaper.

- SERVICE ENTRANCE OR CONDUIT AND WIRE

3. Pump control and alarm panel must be installed on the side of the house at the fron corner within sight of the grinder pump.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to ismediate further disturbance where a permanent long-lived wegetative cover is needed.

Seedbed Preparation : Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test rescommendations, use one of the following schedules: Preferred -- Apply 2 tons/acre dolomitic limestone (92 bls/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk

upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform Acceptable -- Apply 2 tons/acre dolomitic limestone (92 bls/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk

Seeding -- For the periods Narch 1 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/sq. ft.) of Kentuky 31 Tall Fesque. For the perion Way 1 -- July 31, seed with 60lbs Kentucky 31 tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping

lovegrass. During the period of October 18 -- February 28, protect site by : Option 1 -- Two tons per acre of well anchored straw mulch and seed as soon as possible

Option 2 -- Use sod. Option 3 -- Seer : with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of rooted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for

<u>Maintenance</u> -- Inspect all seeding areas and make needed repairs, replacements and

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative

Seedbed Preparation: -- Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, unless previously loosened.

Soil Amendments: -- Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 lbs/1000 sq ft). Seeding: -- For periods Warch 1 -- April 30 and from August 15 -- October 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.) for the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07lbs/1000 sq. ft.). For the period November 16 -- Ferbruary 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Nulching: -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed free, small grain straw immediately after seeding, anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/ 1000 sq. ft.) of emulsified asphalt on flat areas. on slopes, 8 ft. or higher, use 348 gal per acre (8 gal/1000 sq. ft.) for

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

---- OWELLING

NOER PUMP CONTROL AND ALARM

4410 THWN-UF, 3/4" PVC CONDUIT T

E-1.01

PANEL (SEE DETAIL E-2.05)

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Placement of topsoil over a prepared subsoil prior to establishment of permanent

To provide a suitable soil medium for vegetative growth. Soils of concern have low

moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation. **CONDITIONS WHERE PRACTICE APPLIES** 

I. This practice 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

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. c. 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. II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans. CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. Topsoil salvaged from the existing site may be used provided that 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 Experimental Station.

Topsoil Specifications - Soil to be used as topsoil must meet the following: i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slags, coarse fragments, gravel, sticks, roots, trash, or other materials larger the 11/12" in diameter.

ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified. iii. Where the subsoil is either highly acidic or composed of heavy clays, ground

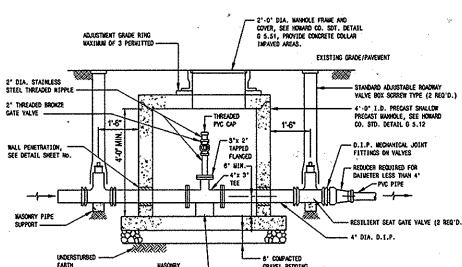
limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures. III. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials. IV. For sites having disturbed areas over 5 acres. i. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or

b. Organic content of topsoil shall be not less than 1.5 percent by weight. Topsoil having soluble salt content greater than 500 parts per million shall

d. No sod or seed shall be placed on soil which has been treated with soi sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials. Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate authority, may be used in lieu of natural topsoil. ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization  $\cdot$ Section I - Vegetative Stabilization Methods and Materials.



MOMENTARY CLOSED PUSH BUTTON 4#10-3/4"C. TO NEW SERVICE DISCONNECT CBH ((CBE) DUPLEX RECPT. ALARM PANEI WITH RECEPTACLE

SEWAGE GRINDER PUMP WIRING DIAGRAM (240V.) TYPICAL EACH PUMP UNIT

**NOT TO SCALE** 

- ALARM LIGHT

WITH GAURD

- GUARD LOCKING

-DUPLEX

RECEPTACLE

SCREW

i. When topsoilling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment DETAIL 33 - SUPER SILT FENCE

1. Fencing shall be 42' in height and constructed in accordance with the latest Maryland State Higheay Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42' fabric and 6' length

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

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced

5. When two sections of filter cloth adjoin each other, they shall be overlapped

Haintenance shall be performed as needed and silt buildups removed when foolges

7. Filter cloth shall be fastened securely to each fence post with wire ties or

20 lbs/in (nin.)

DETAIL 22 - SILT FENCE

36" MINIMUM FENCE"

EMBED GEOTEXTILE CLASS F --A MINIMUM OF 8" VERTICALLY INTO THE GROUND

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diamete (minimum) round and shall be of sound quality hardwood. Steel posts will be

Geotextile shall be fastened securely to each fence post with wire ties

or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength
Tensile Modulus
Flow Rate
Filtering Efficiency

50 lbe/in (min.)
20 lbe/in (min.)
7est: MSMT 509
Test: MSMT 509
Test: MSMT 322
Test: MSMT 322

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

PROFILE

4. Stone — crushed aggregate (2° to 3°) or reciaimed or recycled concrete equivalent shall be placed at least 6° deep over the length and width of the

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.

where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance

U.S. DEPARTMENT OF AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE F - 17 - 3 WATER MANAGEMENT ADMINISTRATION

5. Location - A stabilized construction entrance shall be located at every point

MINIMUM 6" OF 2"-3" AGGREGATE OVER LENGTH AND WIDTH OF STRUCTURE

GEOTEXTILE CLASS 'C'--'
OR BETTER

PAGE HARYLAND DEPARTMENT OF ENVIRONMENT

H - 26 - 3 VATER MANAGEMENT ADMINISTRATION

FENCE POST SECTION
MINIMUM 20" ABOVE
GROUND

FENCE POST DRIVEN A MINIMUM OF 16" INTO THE GROUND

STANDARD SYMBOL

**├**──\$**F** ──

WATER MANAGEMENT ADMINISTRATION

t. Filter cloth shall be embedded a minimum of 8' into the pround

develop in the silt fence, or when silt reaches 50% of fence height

10' HAXIHUH

NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER

CHAIN LINK FENCING-

required except on the ends of the fence.

every 24° at the top and mid section.

Tensille Strength

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

PERSPECTIVE VIEW

FLOV \_\_\_\_ FILTER CLOTH

20.0 STANDARDS AND SPECIFICATIONS

FOR VEGETATIVE STABILIZATION

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

improving wildlife habitat and visual resources.

SECTION 1 - VEGETATIVE STABILIZATION WETHODS AND MATERIALS

grade stabilization structures, berms, waterways, or sediment control basins.

EFFECTS OF WATER QUALITY AND QUANTITY

usually necessary for temporary seeding.

sites having disturbed area over 5 acres.

purposed may also be used for chemical analyses.

top 3-5" of soil by disking or other suitable means.

. Soil pH shall be between 6.0 and 7.0.

(<30% silt plus clav) would be acceptable.</p>

a. Minimum soil conditions required for permanent vegetative establishment;

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 serecia lespedezas is to be planted, then a sandy soil

4. Soil shall contain 1.5% minimum organic matter by weight. 5. Soil must contain sufficient pore space to permit adequate root penetration.

If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

create horizontal erosion check slots to prevent topsoil from sliding down a slope.

should be raked to smooth the surface, remove large objects like stones and branches, abd ready the

i. All seed must meet the requirements of the Warvland 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 month

ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specially for the species. Inoculants shall not be used later than the date indicated in 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. Temperature above 75°-80°F. can weaken bacteria amd make the inoculant less effective.

Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcas

a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed

hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use

shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 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.

a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch

shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds

a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical

b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate

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 seedings.

c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without

iii. Drill or Cultipacker Seeding: Nechanized seeders that apply and cover seed with soil

of soil covering. Seedbed must be firm after planting.

F. Wulch Specifications (In order of preference)

immediately preceding the date of sowing such material on this job. Note: Seed tags shall be made

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 slopee. The top 1-3° of soil should be loose and friable.

c. Apply soil amendments as per soil test or as included on the plans

B. Soil Amendments (Fertilizer and Lime Specifications)

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

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

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of run-off, 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 run-off to receiving waters. Plants will also help protect groundwater

supplies by assimilating those substances present within the root zone. Sediment control devices must

. Install erosion and sediment control structures (either temporary or permanent) such as diversion,

ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not

iii. Schedule required soil tests to determine soil amendment composition and application rates for

fertilizer on sites having disturbed areas over 5 acres. Soil analysis maybe performed by the

University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering

mesh sieve, iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable

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 plane. c. In corporate lime and fertilizer into the

retain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface

DEFINITION

STANDARD SYNBOL

----- SSF -

ii. Grades on the areas to be top soiled, which have been previously established, shall iii. Topsoil shall be uniformly distributed in a 4°-8° layer and lightly compacted to a

minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seed line can proceed with a minimum of additional soil preparation and tillage, Any irregularities in the surface resulting from top soiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen of muddy

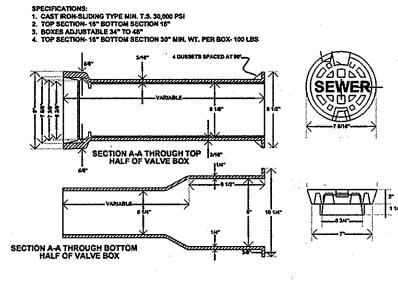
condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below: i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or  ${\color{black} }$ persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

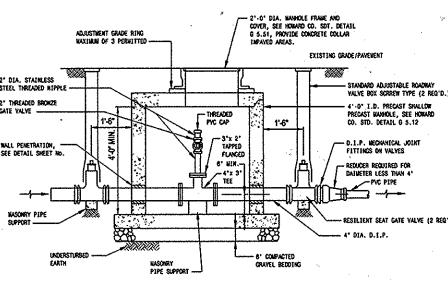
b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate. References, Guideline Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

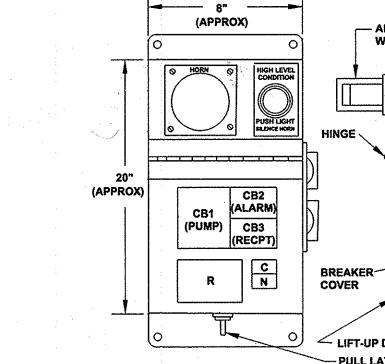


ADJUSTABLE VALVE BOX ROUND HEAD SLIDING TYPE

NOT TO SCALE



**SECTION B-B INLINE PRESSURE CLEANOUT NOT TO SCALE** 



**GRINDER PUMP CONTROL & ALARM PANEL NOT TO SCALE** 

**CONNECTION TO LOAD** PRESENT ENTRANCE SIDE OF METER CABLE OR CONDUIT & WIRE TO ENTRANCE **CAP & SERVICE DROP →** 30 A, 3W, S/N SERVICE ENTRANCE BREAKER PRESENT HOUSE ---SERVICE TO REMAIN #6 AWG. CU.-4#10-3/4"C. TO PUMP SUB-PANEL & ALARM #6 AWG. CU. WIRE TO SUPPLEMENTAL ELECTRODE **EXIST. GROUND SYSTEM GROUND ROD** 30A BREAKER TO BE EQUIPPED WITH A NON-CASE HARDENED PADLOCK THAT CAN BE CUT WITH "BOLT CUTTERS".

**NEW SERVICE ENTRANCE WIRING DIAGRAM** 

I hereby certify that these documents were prepared or approved by me, and I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13265, Expiration Date: 12-26-08.

**NOT TO SCALE** 

GRINDER PUMP WIRING & OTHER DETAILS. AND SEDIMENT CONTROL NOTES AND DETAILS

SHARED SEWAGE DISPOSAL AND FORCE MAIN CONTRACT No. : 50-4436-D

E. WCFM material shall contain no elements or compounds at 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

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

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 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 punc 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 hall be applied at a net dry weight of 750 lbs./acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of

iii. Application of liquid binders should be heavier at the edges where ind catches mulch, such as in valleys and crest of banks. The remainde

of area should appear uniform after binder application. Synthetic binders-AR or other approved equal may be used at rates recommended by the

iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4" to 15' wide and 300 to 3,000 feet long.

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 I. Incremental Stabilization - Cut Slopes i. All cuts slopes shall be dressed, prepared, seeded and mulched as the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the

work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed  $15^{\circ}$ . 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 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 as

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

my interruptions in the operation of completing 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. i. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15", or when the grading operation ceases as

iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to invercept surface runoff and convey it down the slope in a non-erosive manner to

 Construction sequence: Refer to Figure 4 (below). 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 a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slopr silt fence on low side of fill as shown in Figure 5, unless other methods shown

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

seaded areas as necessary. Note: Once the placement of fill 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 in the operation or completing the operation out ot the seeding season will necessitate the application of temporary

OWINGS PROPERTY, LOT 5 LOTS 17-22, NON-BUILDABLE PRESERVATION PARCELS F, G AND NON-BUILDABLE BULK PARCEL H

A RESUBDIVISION OF LOT 5 - HARWOOD OWINGS PROPERTY

-SHEET No. 6 OF 7

SCALE :

AS SHOWN

DEPARTMENT OF PLANNING AND ZONING

HOWARD COUNTY, MARYLAND

Electric Service

County Owned Grinder Pump

HOMES AT HIGHLAND OWINGS, LLC 7090 SAMUEL MORSE DRIVE

MAR

SUITE 500 COLUMBIA, MD 21046 301-870-5603

DATE

- WEATHERPROOF ALUMINUN

ENCLOSURE

HRP A Revised owner developer REVISIONS

DATE | 600' SCALE MAP No. 21

BLOCK No. 12

5th ELECTION DISTRICT

HOWARD COUNTY, MD.

