## GENERAL NOTES

#### PART I - GENERAL

- 1. Subject property Zoned "M-2" per 02/02/04 Comprehensive Zoning Plan and per the Comp. Lite Zoning Regulation admenments effective on 07/28/06.
- 2. The project is in conformance with the latest Howard County Standards unless waivers have been approved.
- 3. Approximate locations of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
- 4. The existing topography is based on field survey by FSH Associates in October, 2008. 5. The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System NAD 83/91. Howard County
- Monument Nos. 38GA and No. 38DA were used for this project. (see vicinity map) 6. All vertical controls are based on NAVDI88. Vertical controls provided on the drawinas are 38GA and 38DA (see vacinity map).
- 7. Existing utilities are based on Howard County Contract Drawings and field run surveys. 8. All pipe elevations shown are invert elevations unless otherwise noted on the plans. 9. Clear all utilities by a minimum of 12 inches. Clear all poles by  $5-0^{11}$  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 to the Contractor. The Contractor shall coordinate with the utility companies to

- schedule the bracing of the poles. 10. 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
- 11. The contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

AT # T BGE(Contruction Services) BGE(Emergency) Bureau of Utilities Colonial Pipeline Company Miss Utility Verizon

1.800.252.1133 410.850.4620 410.685,1400 410.313.4900 1.800,257,7777 1.800.624.9675

1.800.743.0033/410.224.9210

- 12. Trees and shrubs are to be protected from damage to the maximum extent possible. Trees and shrubs located within the construction strip are not to be removed or
- damaged by the Contractor. 13. The Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for the construction of the main.
- 14. The Contractor shall notify the Bureau of Highways, Howard County, at 410.313.7450 at least five working days before any open cutting or boring/jacking of any county road for laying water 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. 15. There are no wetlands on this site.

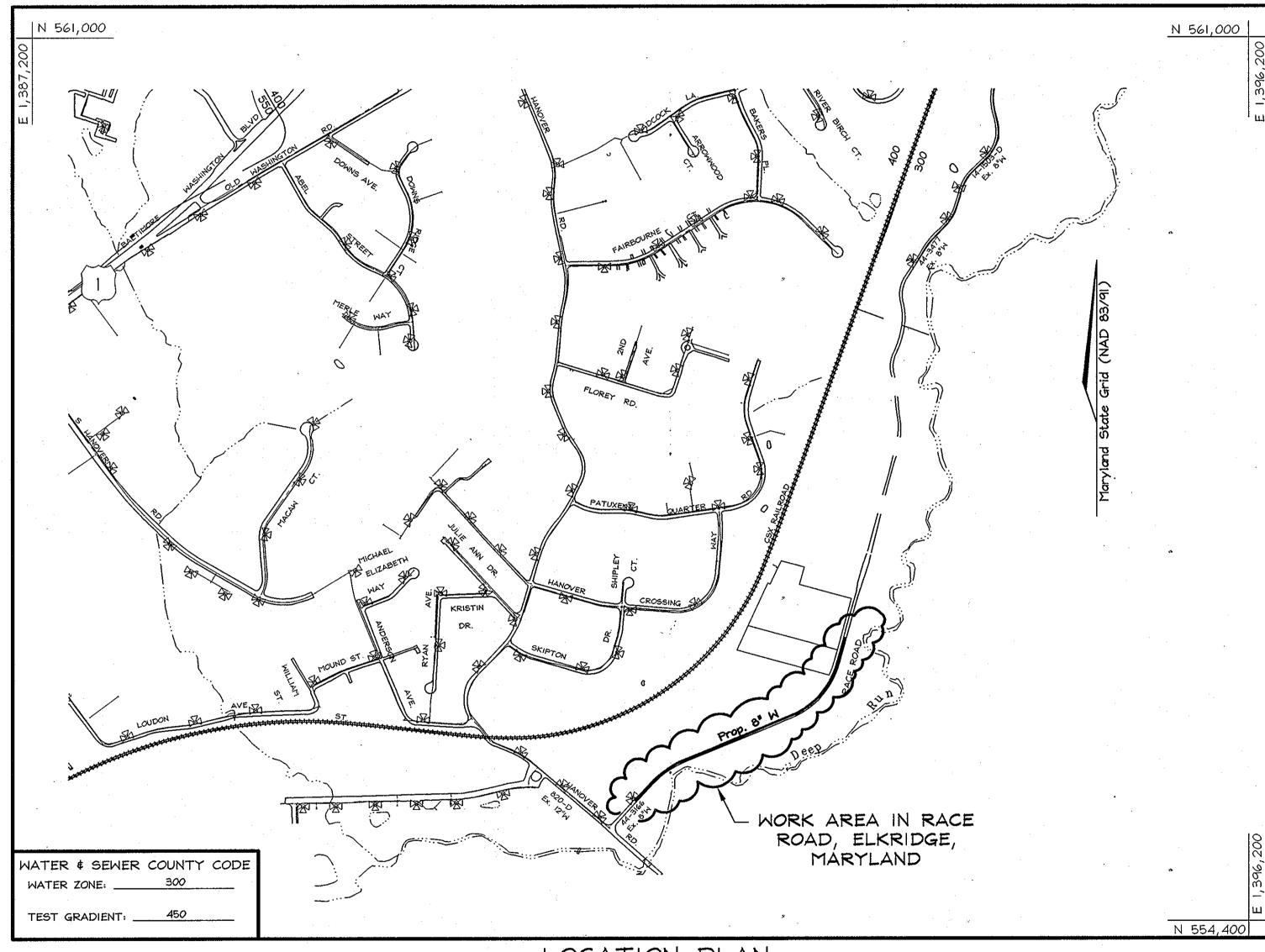
### PART II - WATER

- 1. All water mains to be C-900 P.V.C. unless otherwise noted.
- 2. Tops of all water mains to have a minimum of 31-611 of cover unless otherwise noted 3. Valves adjacent to tees shall be strapped to tees.
- 4. All fittings shall be buttressed or anchored with concrete in accordance with
- the Standard Details unless otherwise provided for on the Drawings. 5. Fire Hydrants shall be set to the bury line elevations shown on the drawings. All Fire Hydrants shall be restrained and buttressed with concrete in accordance with Standard Details. The soil around Fire Hydrant shall be compacted in accordance with Section 1000 and 1005 of the Standard Specifications.
- 6. The Contractor shall not operate any water main valves on the existing water system.
- 7. All water house connections shall be for outside meter settings unless otherwise noted on the Plans or in Specifications. ALL WHC'S 1/2" WITH 1" OUTSIDE METER.
- 8. The construction of the water main must be in accordance with the following Howard County Design Manual sections: 1002.02.06, 1002.03.04, 1002.05.02, and Details 5.01, 5.02, 5.03, 5.04.
- 9. At each proposed Fire Hydrant, a Continuity Test Station ("C.T.S.") shall be installed to Howard County standards, and to the satisfaction of the Howard County Inspector. Each proposed Fire Hydrant herein has been labeled with "C.T.S." to indicate this.
- 10. Unless otherwise noted on the plans or in the specifications, seventeen (17) pound sacrificial anodes shall be installed on all valves and metallic fittings used with PVC water mains in accordance with Volume IV, Standard Specifications and Details for including restraints and harnesses. Zinc anodes shall be installed on all stainless steel fittings and saddles used with PVC mains. All "tees" used with PVC mains shall be

# FINAL PUBLIC WATER PLANS RACE ROAD WATER L

# EXTENSION

HOWARD COUNTY, MARYLAND CONTRACT NO. 44-4676-D



TYPE OF BUILDING: NO. OF LOTS/PARCELS NO. OF WATER HOUSE CONNECTIONS LOCATION PLAN SCALE : 1"=600"

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE STANDARD SPECIFICATIONS AND WITH WATER CONTRACT #44-4676-D

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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND



# <u>FSH</u> Engineer

FSH Associates	WHIT!
Engineers Planners Surveyors	
6339 Howard Lane, Elkridge, MD 21075	推二:
Tel: 410-567-5200 Fax: 410-796-1562	性な
E-mail: info@fsheri.com	雕多
	111 28 5

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. #22418, Expiration Date: 07/29/2011.

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	DATE: June 10, 2010			REVISION			600' SCALE
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FINAL LIC WATER PLANS

COVER SHEET DATE | 600 SCALE MAP NO : 38 BLOCK NO : 15 RACE ROAD WATER LINE EXTENSION 6330 RACE ROAD ZONED M-2

IST ELECTION DISTRICT

44-4676-D PARCELS 493 \$ 812 HOWARD COUNTY, MARYLAND

HOWARD COUNTY ANNE ARUNDEL COUNTY

> VICINITY MAP SCALE:1"=2000'

HOWARD COUNTY ADC MAP 49 37, E-10 \$ F-10

## GEODETIC SURVEY CONTROL

Sta. 38GA N 555,897.325 E 1,390,132.118 EL.: 80.840

Sta. 38DA N 556,796.303 E 1,390,221.477 EL.: 126.133

SHEET INDEX	
DESCRIPTION	SHEET No.
Water Cover Sheet	1 of 4
Water Plan and Profile Sheet	2 of 4
Water Plan and Profile Sheet	3 of 4
Notes and details	4 of 4

	WATER HOUSE	CONNECTION AS-BUILT LO	CATION TABLE	
PARCEL #	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2	
812	6330 RACE ROAD			

D C.T.S.

**LEGEND** 

Continuity Test Stations

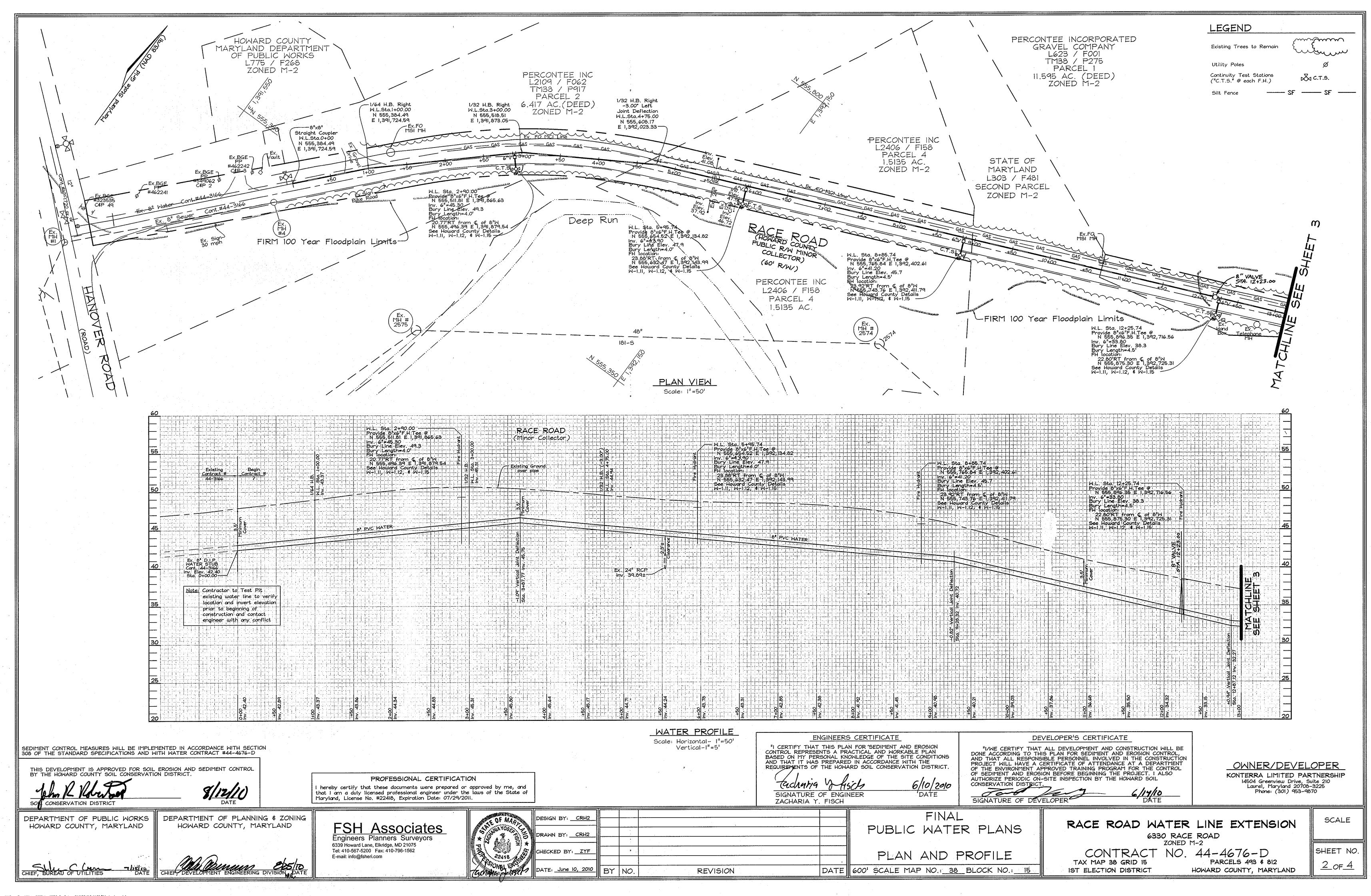
("C.T.S." @ each F.H.)

. [	QUANTITIES									
	NAME OF UTILITY	CONTRACTOR	₹ :							
	SURVEY AND DRA	AFTING DIVISION	ON AS-BUILT D	ATE :						
	ITEMS	QUANTITIES		AS	-BUILT					
	HEID	ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER					
	8" WATER	2,160 L.F.								
	I" WHC	22 L.F.								
	FIRE HYDRANT W/ 6" Valve	6								
•	8" CAP ¢ BUTTRESS	1								
	8" VALVE	2								
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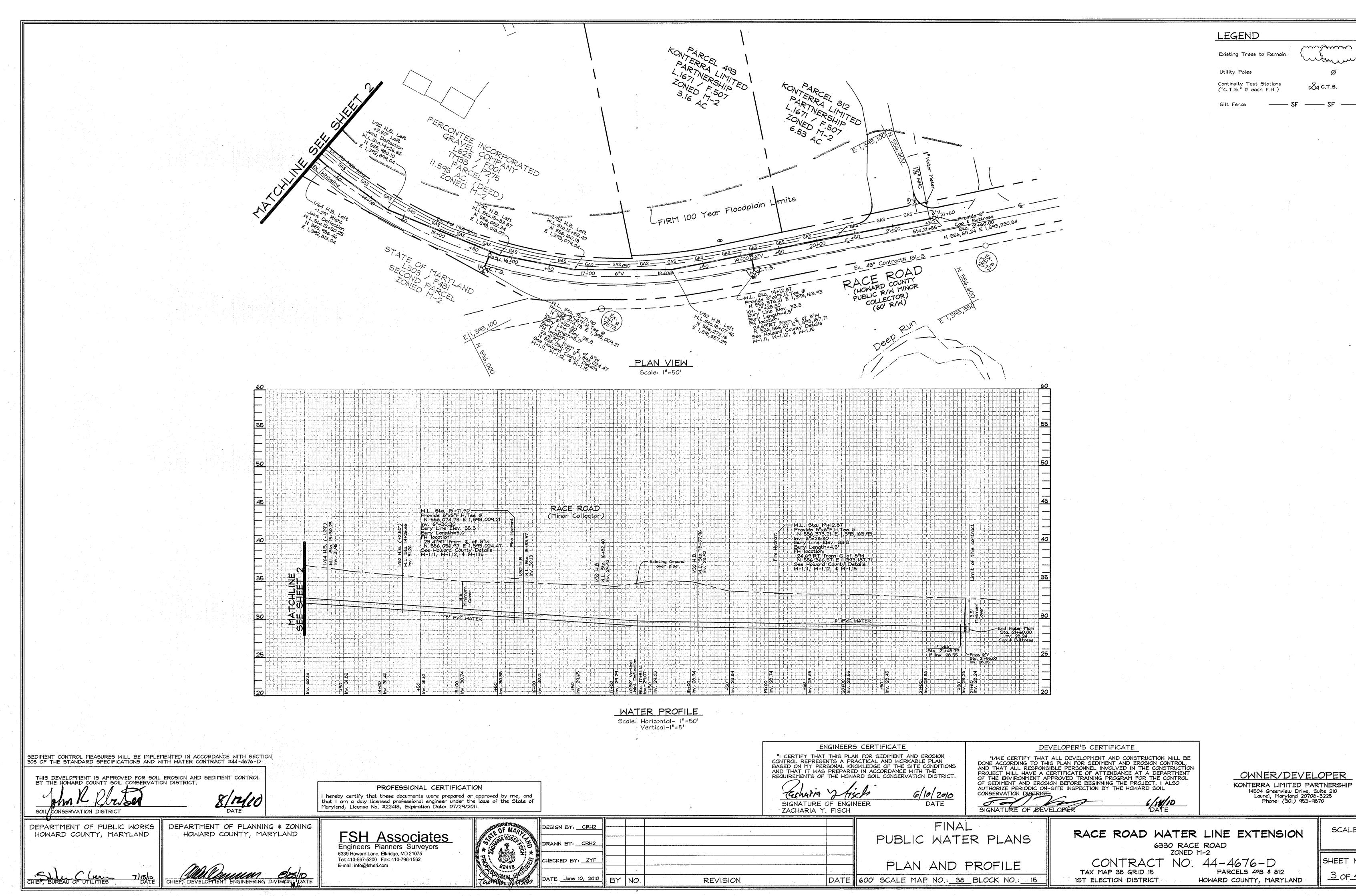
OWNER/DEVELOPER KONTERRA LIMITED PARTNERSHIP 14504 Greenview Drive, Suite 210 Laurel, Maryland 20708-3225 Phone: (301) 953-9870

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SHEET NO. \_\_\_OF\_4



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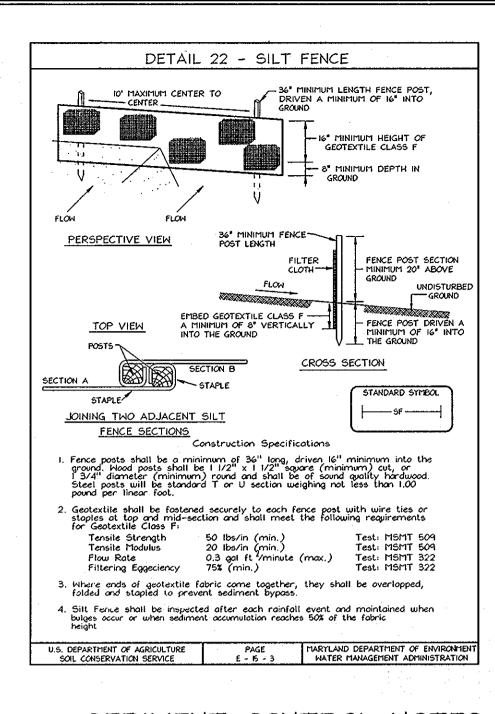
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## SEDIMENT CONTROL NOTES

- 1. A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (313–1855).
- 2. 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.
- 3. 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
- 4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding, 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.
- 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 \_
  - Area Disturbed 0.496 Acres 0.482 Acres 0.014 Acres Area to be roofed or paved Area to be vegetatively stabilized Total Fill \_\_\_\_ 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. I. Additional sediment controls must be provided, if deemed necessary by the
- Howard County Sediment Control Inspector. 10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection
- 1. Trenches for the construction of utilities is limited to three pipe lengths or which shall be back-filled and stabilized within one working day, whichever is shorter.
- \* Earthwork quantities are solely for the purpose of calculating fees. Contractor to verify all 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

## 21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Placement of topsoil over a prepared subsoil prior to establishment

of permanent vegetation. To provide a suitable soil medium for vegetable 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 This practice is limited to areas having 2:1 or flatter slopes

- 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
- c. The original soil to be vegetated contains material toxic to plant growth. d. The soil is so acidic that treatment with limestone
- 11. 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 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 in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

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 a 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, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger that I and 1/2" in diameter.

ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, 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.

11. 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.

III. For sites having disturbed areas over 5 acres: i. On soil meeting topsoil specifications, obtain test results dictating fertilizer and time 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 time shall be prescribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used. d. No sod or seed shall be placed on soil soil which has been treated with soil 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 auglified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural

ii. Place topsoil (if required) and apply soil amendments specified in 20.0 Vegetative Stabilization-Section I-Vegetative Stabilization Methods and Materials.

V. Topsoil Application i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins. ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in

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 seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of

depressions or water pockets. iv. Topsoil shall not be place while 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.

### PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone (92 lbs/1000 s.f.) And 900 lbs. / acre (20.7 lbs./1000s.f.) of 10-20-20 before seeding. Harrow or disc into upper 3 in. Of soil. SEEDING: Apply a mixture of Turf Type Tall fescue(80%) and Hard Fescue (20%) in accordance with seeding dates and rates shown in the Permanent Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below and apply permanent seeding when within proper seeding dates. MULCHING: Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 Tons/acre if a mulch anchorina tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. Of wood fibre/ 100 gal. of water. Synthetic liquid binders such as Terra Tax II. Acrylic DLR (Agro- Tack), DCA-70, Petroset and other approved equals may be used at rates recommended by the manufacturers.

	Pe	ermanen	t Seed	ling S	iumm	ary		
Seed Mixture (Hardiness Zone <u>7a and 6b)</u> Fertilizer Rate From Table 25 (10-20-20)							Lime Rate	
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
10	Tall Fescue (80%) Hard Fescue (20%)	120 30	3/1-5/15 8/15-11/15	0.5 in.	901b/ac (2.01b/ 1000sf)	1751b/ac (41b/ 1000sf)	1751b/ac (41b/ 1000sf)	2tons/ac (1001b/ 1000sf)

TEMPORARY SEEDING NOTES

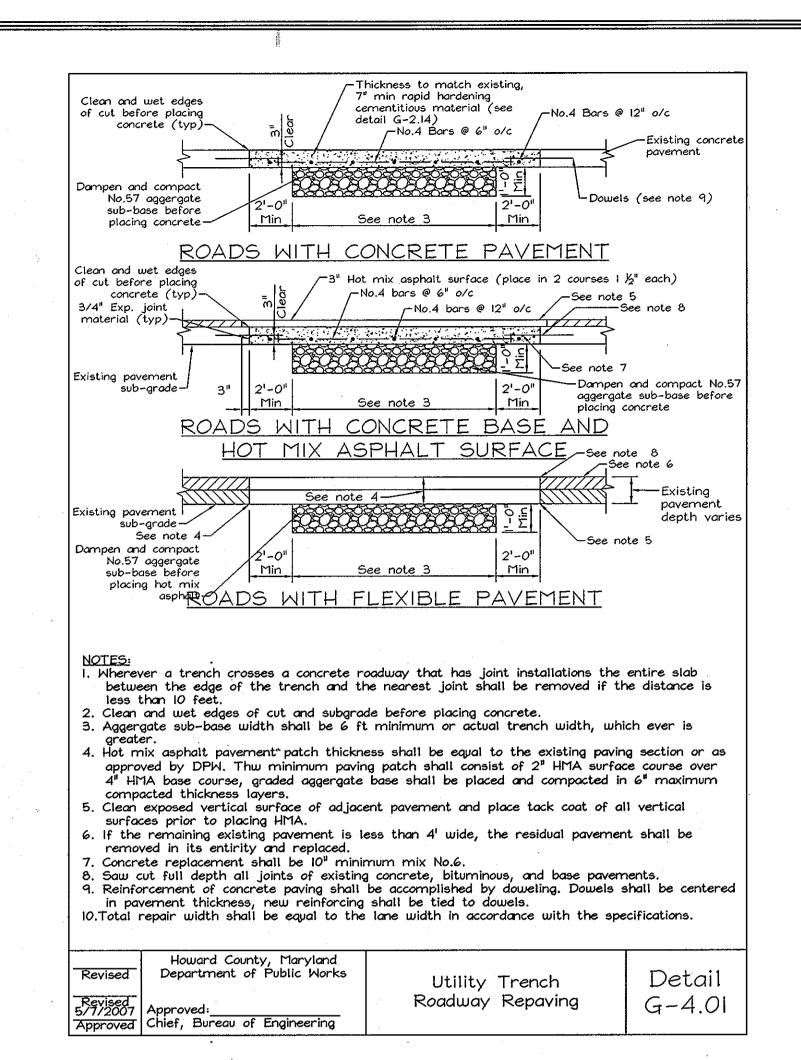
SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use the following schedule: Apply 2 tons per acre dolomitic limestone(92 lbs/1000 s.f.) And 600 lbs. / acre (15 lbs./1000s.f.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. Of soil. SEEDING: Apply the Maryland State Highway approved seed mixture of Barley or Rye plus Foxtail Millet in accordance with seeding dates and rates shown in the Temporary Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and

MULCHING: Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at a rate of 2 tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. Of wood fibre/ 100 gal. of water. Synthetic liquid binders such as Terra Tax II. Acrylic DLR (Agro- Tack), DCA-70, Petroset and other approved equals may be used at rates recommended by the manufacturers.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROLFOR RATE AND METHODS NOT COVERED.

	Temporary Seeding Summary								
	Seed Mixtu	re (Hardiness Zor From Table 26		Fertilizer Rate (10-10-10)	Lime Rate				
No.	Species	Application Rate (1b/ac)	Seeding Dates	Seeding Depths		, '			
2	Barley or Rye plus Foxtail Millet	150 lbs (3.51bs/1000sqf)	2/1-11/30 (7a) 3/15-10/31 (6a)	1/4 in- 1/2 in	600 lb/ac (151b/1000sf)	2 tons/ac (1001b/1000sf)			



SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE STANDARD SPECIFICATIONS AND WITH WATER CONTRACT #44-4676-D THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL

CONSERVATION DISTRICT

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. #22418, Expiration Date: 07/29/2011.

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

6/10/200 Cacharia Voltisch SIGNATURE OF ENGINEER ZACHARIA Y. FISCH

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

CONSERVATION DISTRICT SIGNATURE OF DEVELOPER

DEVELOPER'S CERTIFICATE

OWNER/DEVELOPER KONTERRA LIMITED PARTNERSHIP 14504 Greenview Drive, Suite 210 Laurel, Maryland 20708-3225 Phone: (301) 953-9870

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

DEPARTMENT OF PLANNING \$ ZONING HOWARD COUNTY, MARYLAND

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



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	DESIGN BY: CRH2		
台灣	DRAWN BY: CRH2		PUBLIC WATER PLANS
*			
	CHECKED BY: ZYF		NOTEC AND DETAILS
HIN.	A,		NOTES AND DETAILS
b	DATE: June 10, 2010	BY NO. REVISION DA	TE 600' SCALE MAP NO .: 38 BLOCK NO .:

RACE ROAD WATER LINE EXTENSION 6330 RACE ROAD

ZONED M-2 CONTRACT 44-4676-D TAX MAP 38 GRID 15 PARCELS 493 \$ 812 IST ELECTION DISTRICT

SHEET NO. <u>4 of 4</u>

SCALE

HOWARD COUNTY, MARYLAND

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