TIBER BRANCH/CATROCK RUN ODOR MITIGATION

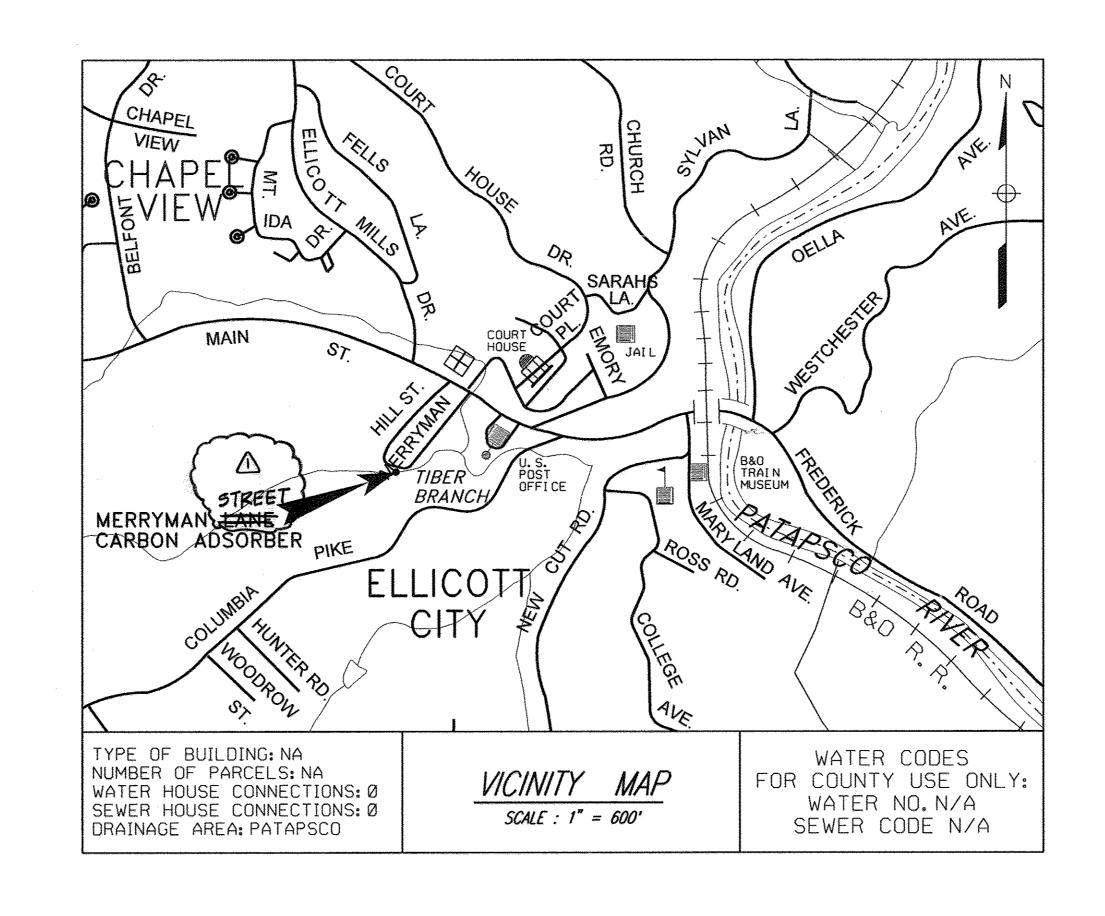
CONTRACT NO. 10-4201

CAPITAL PROJECT NO. S-6226

HOWARD COUNTY, MARYLAND

INDEX OF DRAWINGS

		•
SHEET NO.	DRAWING NO.	DESCRIPTION
4	G-1	TITLE SHEET - VICINITY MAP, INDEX OF DRAWINGS, AND QUANTITIES
2	G-2	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
3	C-1	MERRYMAN LANE CARBON ADSORBER SYSTEM: SITE/UTILITY PLAN
4	C-2	MISCELLANEOUS DETAILS
5	C-3	FENCE DETAIL
6	S-1	STRUCTURAL GENERAL NOTES AND DETAILS
7	M-1	REMOTE CARBON SYSTEM PLAN AND SECTIONS
8	E-1	ELECTRICAL LEGEND AND ABBREVIATIONS
9	E-2	REMOTE CARBON SYSTEM PLAN, SCHEDULE AND DIAGRAM



	EQUIPMENT	QUANTITIE	.S	
TTSA	COTIMATED		AS- BUILT	
ITEM	ESTIMATED	QUANTITIES		SUPPLIER
CARBON ADSORBER SYSTEM	1 EA.	/IEA.	SIEMENS	
12" FRP DUCT	3 LF	3.5	MERCER RUBBER	(A)
12" PVC DUCT	18 LF	20	PVC 50H.80	/
FENCE AND GATE	56 FT.			
NAME OF UTILITY CONTRACTOR:				

NOTE: QUANTITIES IN THE ABOVE TABLE ARE SOLEY FOR RECORD PURPOSES. CONTRACTOR SHALL NOT RELY ON THE QUANTITIES IN THE TABLE AND SHALL USE HIS/HER OWN TAKE-OFF TO ESTABLISH MATERIALS AND QUANTITIES NEEDED FOR THIS PROJECT.

ELECTION DISTRICT 3

AS-BUILT 1/08

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS

DATE

HIEF, BUREAU OF UTILITIES

DATE

CHIEF UTILITY DESIGN DIVISION

8/3/06

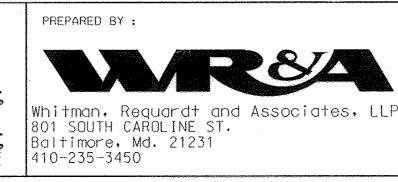
8/3/06

DATE

8-9-06

CHIEF UTILITY DESIGN DIVISION

DATE



May May	
5/25/1	**************************************
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 DAIC: 4/20/06	BY	NO.	REVISION	DAT
DATE: 4/28/06			AS-BUILT 1/08	
CHK: HWL				
DRN: EJM				
DES: LLB				

TITLE SHEET - VICINITY MAP, INDEX OF DRAWINGS, AND QUANTITIES

TE 600' SCALE MAP NO. 30 BLOCK NO.

TIBER BRANCH/CATROCK RUN
ODOR MITIGATION
CONTRACT NO. 10-4201

CONTRACT NO. 10-4201 CAPITAL PROJECT NO. S-6226

SHEET

SCALE

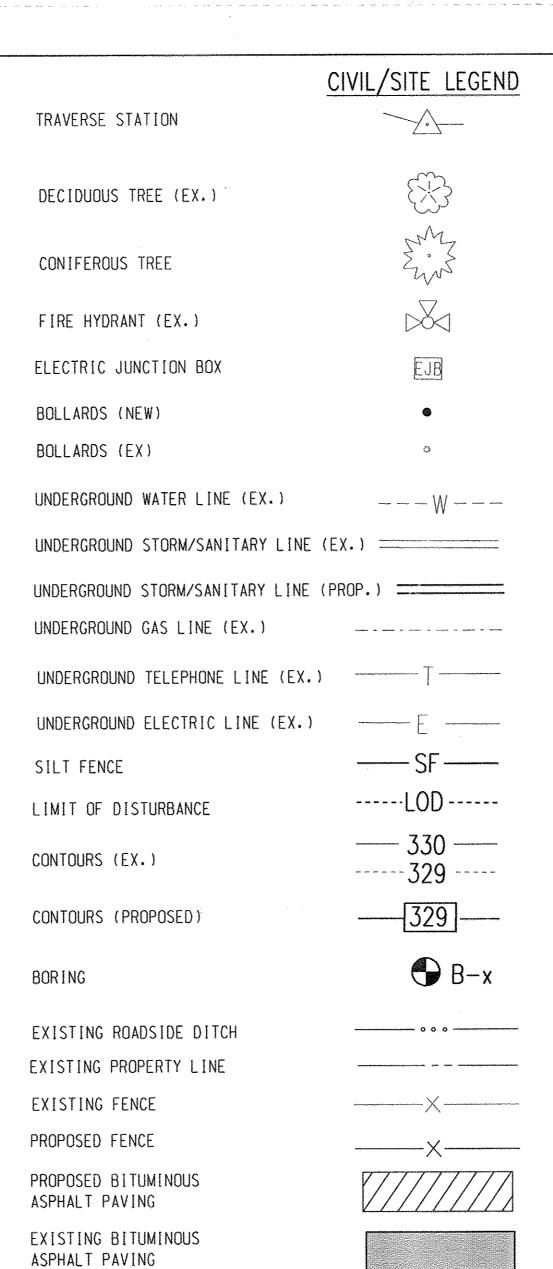
SHOWN

GENERAL NOTES

- 1. APPROXIMATE LOCATION 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 JUNE, 2003 BY WHITMAN, REQUARDT AND ASSOCIATES, LLP.
- 3. HORIZONTAL AND VERTICAL SURVEY CONTROLS: 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. 24FA, NO. AE2448 AND A POINT ESTABLISHED BY NATIONAL GEODETIC SURVEY. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 24" REBAR WITH 1" PLASTIC CAPS.
- 4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON PLANS.
- 5. CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 5'-0" MINIMUM, OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF THE POLES AS SHOWN ON DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COSTS INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- 6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, 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.
- 7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS 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 CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- 8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS

AT&T	1-800-252-1133
BGE (CONSTRUCTION SERVICES)	410-850-4620
BGE (EMERGENCY)	410-685-1400
BUREAU OF UTILITIES	
VERIZON	1-800-743-0033/410-224-9210
COLONIAL PIPELINE CO	
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533

- 9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- 10. 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.
- 11. 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.



ABBREVIATIONS

ACP	ASBESTOS CONCRETE PIPE
APPROX.	APPROXIMATE
CONTR.	CONTRACT
EL.	ELEVATION
EX.	EXISTING
0.0.	ON CENTER
RCP	REINFORCED CONCRETE PIPE
TYP.	TYPICAL
PK	P.K. NAIL
R/C	REBAR & CAP
PM	PARKING METER
MAC.	MACADAM
MG	MATCH EXISTING GRADE
SSD	SUB SURFACE DRAIN
FFE	FIRST FLOOR ELEVATION
MAC	MULTI - GRADE ASPHALT CEMENT
R	RADIUS
INV.	INVERT
WV	WATER VALVE
R/W	RIGHT OF WAY
PS	PUMP STATION
DIA	DIAMETER
CO	CLEAN-OUT
SS	STAINLESS STEEL
SW	SERVICE WATER

GENERAL NOTES, LEGEND AND

ABBREVIATIONS

DATE 600' SCALE MAP NO, 30 BLOCK NO.

A5-BUILT 1/08

G-2 SCALE SHOWN

SHEET

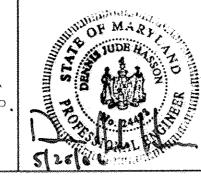
2 OF 9

TIBER BRANCH/CATROCK RUN ODOR MITIGATION CONTRACT NO. 10-4201

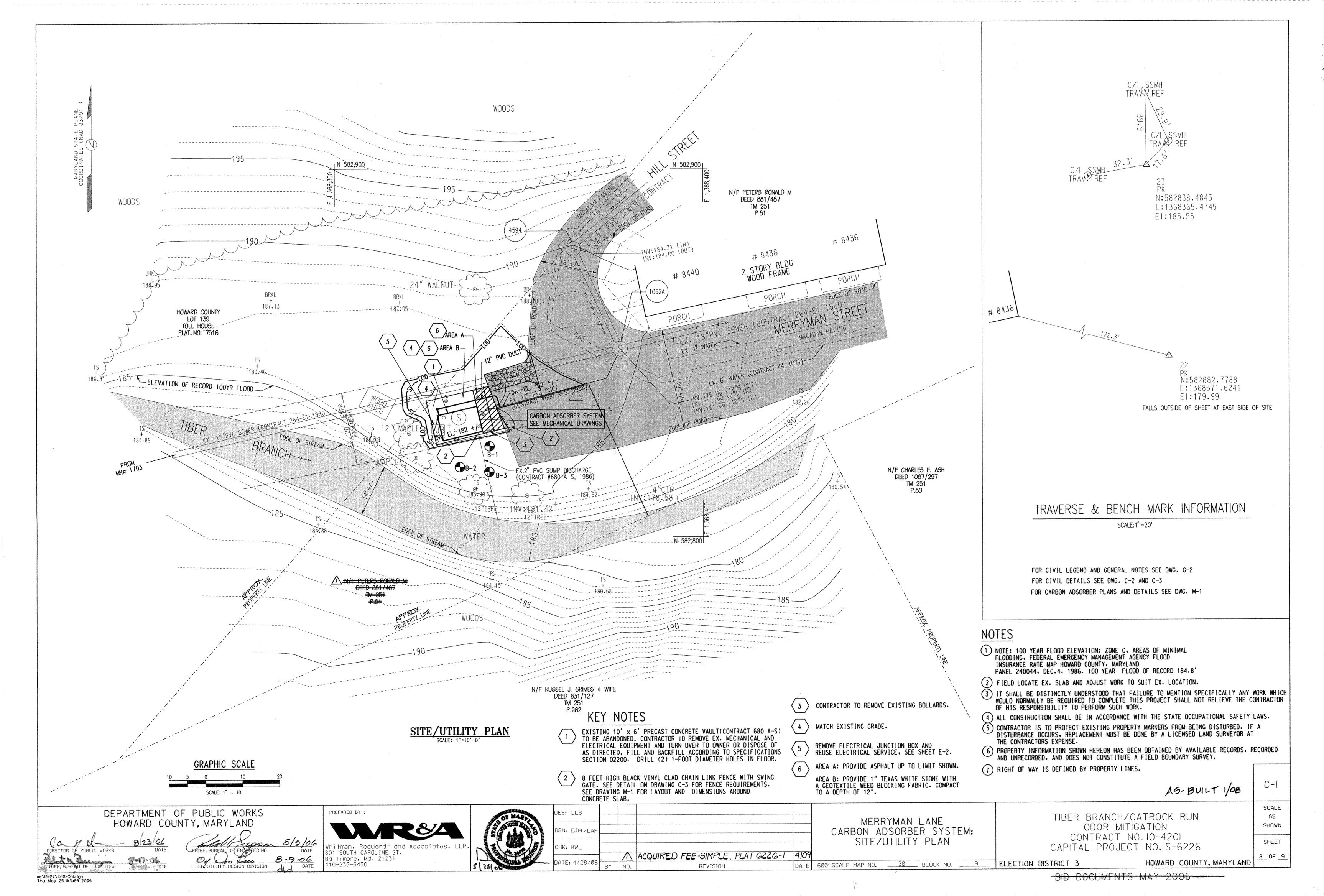
CAPITAL PROJECT NO. S-6226 HOWARD COUNTY, MARYLAND ELECTION DISTRICT 3

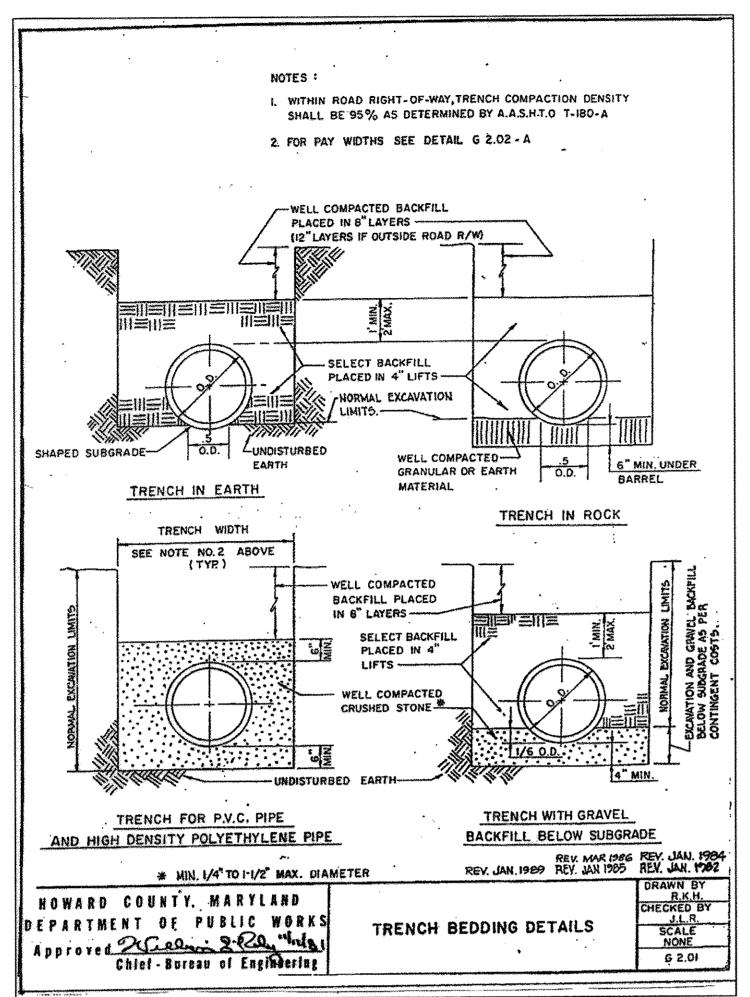
DEPARTMENT OF PUBLIC WORKS

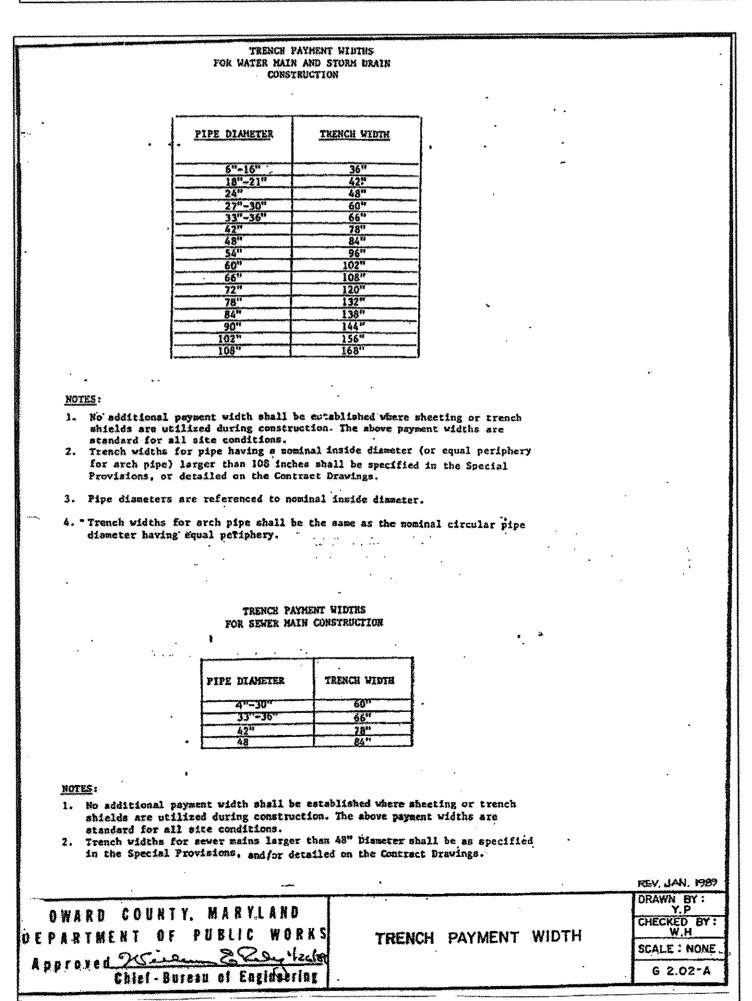
HOWARD COUNTY, MARYLAND



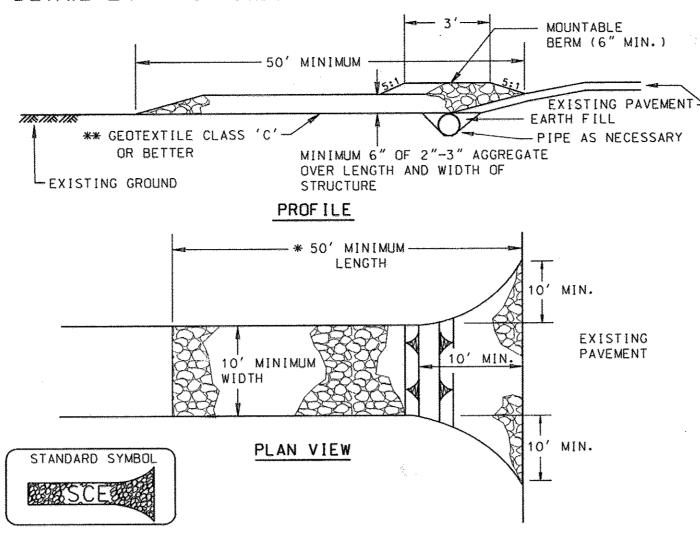
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CHK: HWL		-	
DATE: 4/28/06	BY	NO.	REVISION







DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

- Length minimum of 50' (*30' for single residence lot).
 Width 10' minimum, should be flared at the existing road to provide a turning radius.
- 3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
- 4. Stone crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- 5. Surface Water all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

-36" MINIMUM LENGTH FENCE POST. 10' MAXIMUM CENTER TO DRIVEN A MINIMUM OF 16" INTO - CENTER _ GROUND -16" MINIMUM HEIGHT OF GEOTEXTILE CLASS F - 8" MINIMUM DEPTH IN GROUND 36" MINIMUM FENCE POST LENGTH FLOW FILTER PERSPECTIVE VIEW CLOTH -- FENCE POST SECTION TOP VIEW MINIMUM 20" ABOVE FLOW GROUND UNDISTURBED TISTISTISTISTISTISTISTISTIS POSTS GROUND TISTISTISTISTISTISTISTIS ■ EMBED GEOTEXTILE CLASS F - FENCE POST DRIVEN A A MINIMUM OF 8" VERTICALLY MINIMUM OF 16" INTO INTO THE GROUND SECTION A _ THE GROUND STAPLE STANDARD SYMBOL CROSS SECTION

JOINING TWO ADJACENT SIL

FENCE SECTIONS

DETAIL 22 - SILT FENCE

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be $1^{1}{}_{2}$ " x $1^{1}{}_{2}$ " square (minimum) cut. or $1^{3}{}_{4}$ " diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

Construction Specifications

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

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

Tensile Strength 50 lbs/in (min.) Test: MSMT 509

ensile Strength	50 lbs/in (min.)	lest:	MOMI	203	
ensile Modulus	20 lbs/in (min.)	Test:	MSMT	509	
low Rate	0.3 gal ft 3/ minute (max.)	Test:	MSMT	322	
iltering Efficiency	75% (min.)	Test:	MSMT	322	

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length		
Flatter than 50:1	unlimited	unlimited		
50:1 to 10:1	125 feet	1.000 feet		
10:1 to 5:1	100 feet	750 feet		
5:1 to 3:1	60 feet	500 feet		
3:1 to 2:1	40 feet	250 feet		
2:1 and steeper	20 feet	125 feet		

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

DEFINITION

PLACEMENT OF TOP SOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

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.

CONDITION WHERE PRACTICE APPLIES

1. 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 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
- D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- 2. 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

- 1. 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.
- 2. TOPSOIL SPECIFICATIONS SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

 A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT 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, SLAG, COARSE FRAGMENTS, GRAVEL.
- B. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BURMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS

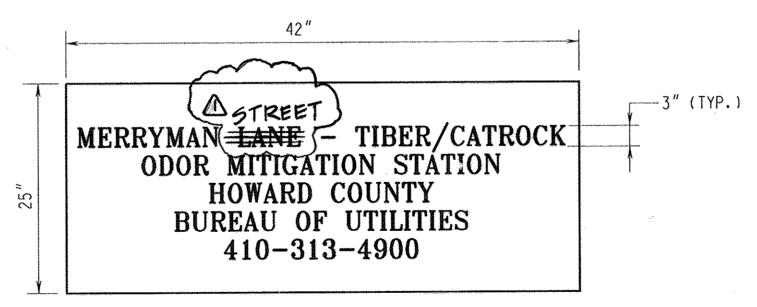
TICKS. ROOTS. TRASH. OR OTHER MATERIALS LARGER THAN 1

- C. 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
- 3. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
- A. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION SECTION I VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- 4. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
- A. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
- O. 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 PERSCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
- b. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT
- 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 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
- NOTE: 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.
- B. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

5. TOPSOIL APPLICATION

- A. 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.
- B. GRADES ON THE AREAS TO BE TOPSOILED. WHICH HAVE BEEN PREVIOUSLY ESTABLISHED. SHALL BE MAINTAINED. ALBEIT 4" 8" HIGHER IN ELEVATION.
- C. 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.
- D. TOPSOIL SHALL NOT BE PLACED 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.
- 6. 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:
- A. 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:
- G. COMPOSTED SLUDGE SHALL BE SUPPLIED BY. OR ORIGINATE FROM. A PERSON OR 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 REQUIREMENTS
 PRIOR TO USE.
- C. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1.000 SQUARE FEET.
- B. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1.000 SOURE 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.



NOTE: CONTRACTOR SHALL PROVIDE AND MOUNT
SIGN ON THE FRONT ACCESS SWING
GATE AT THE STATION ENTRANCE.

MATERIAL: 0.080-INCH THICK ALUMINUM SHEET METAL
FINISH: BAKED ENAMEL PAINT
COATINGS: POLYESTER BASED SPRAY

FACILITY SIGN DETAIL

SCALE: NONE

AS-BUILT 1/08

TIBER BRANCH/CATROCK RUN
ODOR MITIGATION
CONTRACT NO. 10-4201
CAPITAL PROJECT NO. S-6226

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SCALE

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HOWARD COUNTY, MARYLAND 4

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC-WORKS

m:\|3427\|TCO-CO2,dgn Thu May 25 ||:32:0|2006 CHIEF, BUREAU OF ENGINEERING BATE

On Street B-9-0

PREPARED BY:

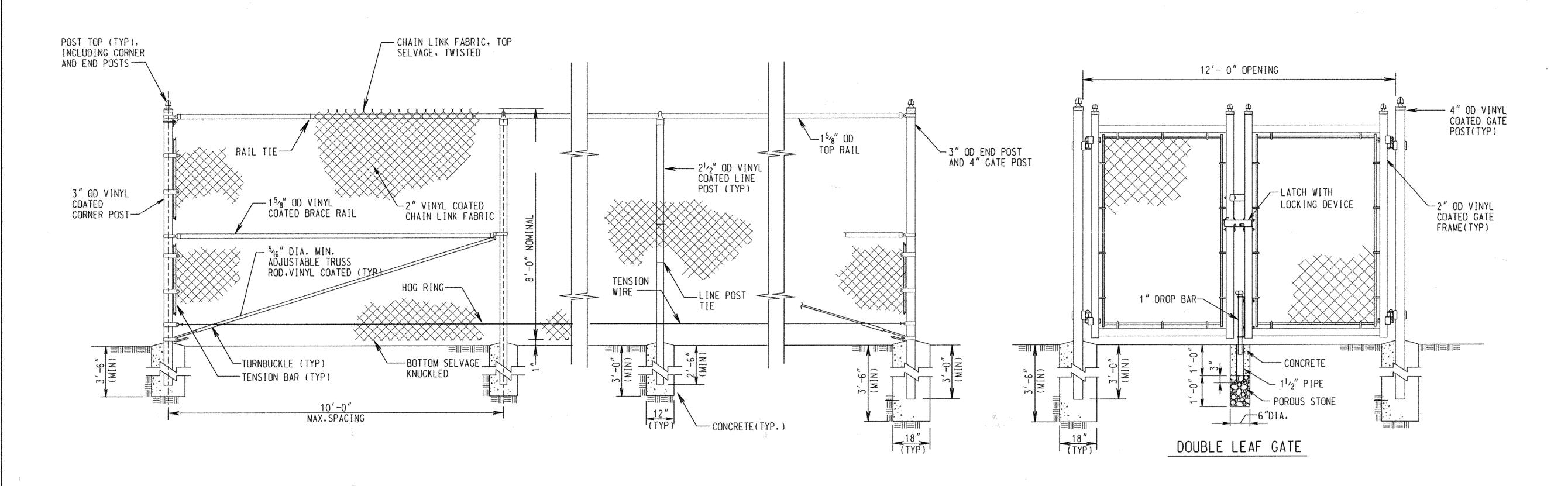
8/5/06

Whitman, Requardt and Associates, 801 SOUTH CAROLINE ST.
Baltimore, Md. 21231
410-235-3450



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DATE: 4/28/06	BY	NO.	REVISION	DATE	600'SCALE MAP NO. 30 BLOCK NO. 9	L

ELECTION DISTRICT 3



DETAIL - 8'-0" VINYL COATED CHAIN LINK FENCE AND GATES

SCALE : NONE

C-3 45-BUILT 1/08 SCALE DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DES: LLB TIBER BRANCH/CATROCK RUN ODOR MITIGATION SHOWN DRN: EJM/LAP FENCE DETAIL CONTRACT NO. 10-4201 SHEET Whitman, Requardt and Associates, 801 SOUTH CAROLINE ST. Baltimore, Md. 21231 410-235-3450 CAPITAL PROJECT NO. S-6226 CHK: HWL <u>5</u> 0F <u>9</u> DATE: 4/28/06 HOWARD COUNTY, MARYLAND ELECTION DISTRICT 3 DATE 600' SCALE MAP NO. <u>30</u> BLOCK NO. REVISION

STRUCTURAL NOTES

GENERAL NOTES:

- 1. FIELD VERIFY ALL DIMENSIONS, LOCATIONS AND ELEVATIONS SHOWN ON CONTRACT DRAWINGS FOR EXISTING STRUCTURES. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- 2. THE SIZES AND LOCATIONS OF EQUIPMENT PADS AND PEDESTALS, AS WELL AS EQUIPMENT—RELATED FLOOR AND WALL OPENINGS, ARE DEPENDENT ON THE ACTUAL EQUIPMENT FURNISHED. VERIFY AND COORDINATE ALL SUCH ITEMS. DIMENSIONS INDICATED ON THESE DRAWINGS SHALL NOT BE ALTERED WITHOUT APPROVAL OF THE ENGINEER. STRUCTURAL DRAWINGS MAY NOT SHOW ALL EQUIPMENT PADS AND OTHER EQUIPMENT SUPPORTS REQUIRED. REFER TO CIVIL, MECHANICAL AND ELECTRICAL
- 3. LOCATIONS OF BORINGS ARE SHOWN ON CIVIL DRAWINGS. BORING LOGS ARE INCLUDED IN SPECIFICATIONS.

CONCRETE NOTES:

- 1. PROVIDE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
- 2. DETAIL AND CONSTRUCT REINFORCED CONCRETE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE ACI 301, "SPECIFICATION FOR STRUCTURAL CONCRETE."
- 3. DETAIL REINFORCING STEEL IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE ACI 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," AND ACI SP-66, "ACI DETAILING MANUAL."
- 4. PROVIDE REINFORCEMENT CONFORMING TO ASTM A 615, GRADE 60, DEFORMED BARS...
- 5. UNLESS NOTED OTHERWISE ON THE DRAWINGS, THE CONCRETE COVER FOR REINFORCEMENT SHALL BE AS FOLLOWS:
 - A. BOTTOM BARS IN FOOTINGS AND IN SLABS ON EARTH OR GRAVEL:
 B. SLABS EXPOSED TO GROUND, AND WEATHER AFTER REMOVAL OF FORMS:
- 6. SUBMIT REINFORCING STEEL DETAILS (SHOP DRAWINGS) AND RECEIVE APPROVAL BEFORE PROCEEDING WITH FABRICATION.
- 7. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" UNLESS OTHERWISE NOTED.
- 8. DETAIL ALL SPLICES FOR REINFORCING BARS NOT DIMENSIONED ON THE DRAWINGS AS TABULATED ON THIS DRAWING.
- 9. SIZE AND LOCATE ANCHOR BOLTS AND EQUIPMENT PADS OR PEDESTALS TO SUIT EQUIPMENT FURNISHED.
- 10. REVIEW ALL DRAWINGS FROM OTHER DISCIPLINES AND COORDINATE ALL OPENINGS AND EMBEDDED ITEMS SUCH AS SLEEVES, ANCHORS, CONDUIT, ETC. THAT WILL BE INCORPORATED INTO CONCRETE WORK.

FOUNDATION NOTES:

- . DESIGN BEARING PRESSURE SHALL BE 250PSF.
- 2. KEEP ALL EXCAVATIONS DRY. STANDING WATER WILL NOT BE ALLOWED IN EXCAVATIONS. PLACE A 6" LAYER OF COMPACTED DENSE GRADED AGGREGATE UNDER ALL SLABS ON GRADE. ALL EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE PLACING ANY CONCRETE OR POROUS FILL.
- 3. FOR MECHANICAL AND ELECTRICAL WORK TO BE INCORPORATED IN FOUNDATION WORK, SEE MECHANICAL AND ELECTRICAL DRAWINGS.
- 4. FILL ALL EXCESS EXCAVATION BELOW THE ELEVATION OF THE CONCRETE AS SPECIFIED.

		LAP SPLIC	E LENGTH	MI	NIMUM TENS	ION EMBEDME	NTS		
BAR SIZE		SLAB AN	ID WALL	ВЕАМ		STANDARD 9	HOOK	STANDARD 180° HOOK	
SOFT METRIC	ENGLISH	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	idh	12db	ldh	4db
#10	#3	12"	16"	13"	18"	6"	5″	6"	21/2"
#13	#4	15"	20"	22"	28"	7"	6"	7"	21/2"
#16	#5	19"	24"	32"	41"	9"	8"	9"	3"
#19	#6	23"	30"	40"	52"	10"	9"	10"	3"
#22	#7	37"	48"	59"	76"	12"	11"	-12"	4"
#25	#8	48"	60"	68"	89"	14"	12"	14"	4"
#29	#9	58"	74"	77"	101"	15"	14"	15"	5"
#32	#10	70"	91"	88"	114"	17"	16"	17"	5"
#36	#11	83"	108"	98"	128"	19"	17"	19"	6"

SLAB AND WALL: 6" MINIMUM REBAR SPACING WITH CONCRETE COVER = 1.5" CLEAR
BEAM: MINIMUM CLEAR SPACING BETWEEN BARS = 1.5 (BAR DIAMETER)
MINIMUM CONCRETE COVER = 1.5" CLEAR
MINIMUM STIRRUP PROVIDED #4@12"

DEPARTMENT OF PUBLIC WORKS

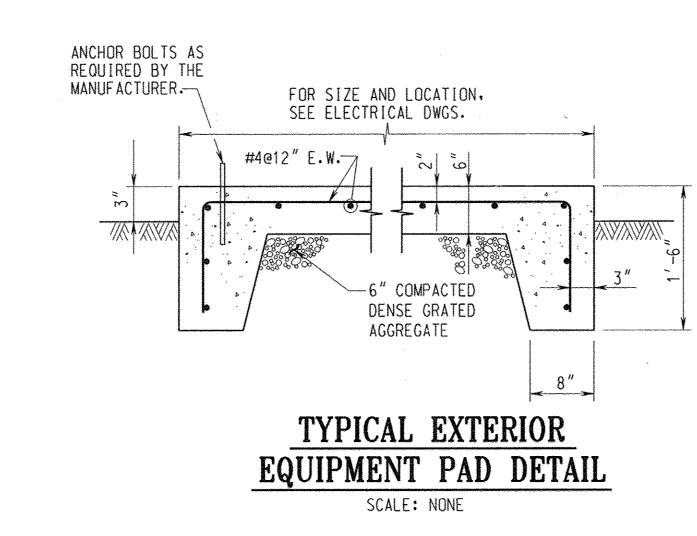
TOP BAR: TOP BAR FOR SLAB AND BEAM SHALL BE DEFINED AS REINFORCEMENT SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST BELOW THE SPLICE.

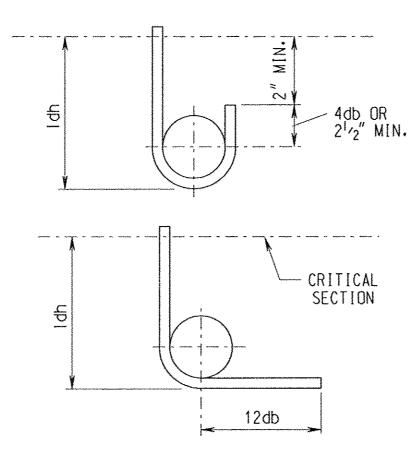
CODES AND STANDARDS:

- 1. INTERNATIONAL BUILDING CODE IBC (2000) INCLUDING THE MODIFICATIONS MADE BY LOCAL JURISDICTION.
- 2. AMERICAN CONCRETE INSTITUTE ACI-318 (2002), "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE

DESIGN LOADS:

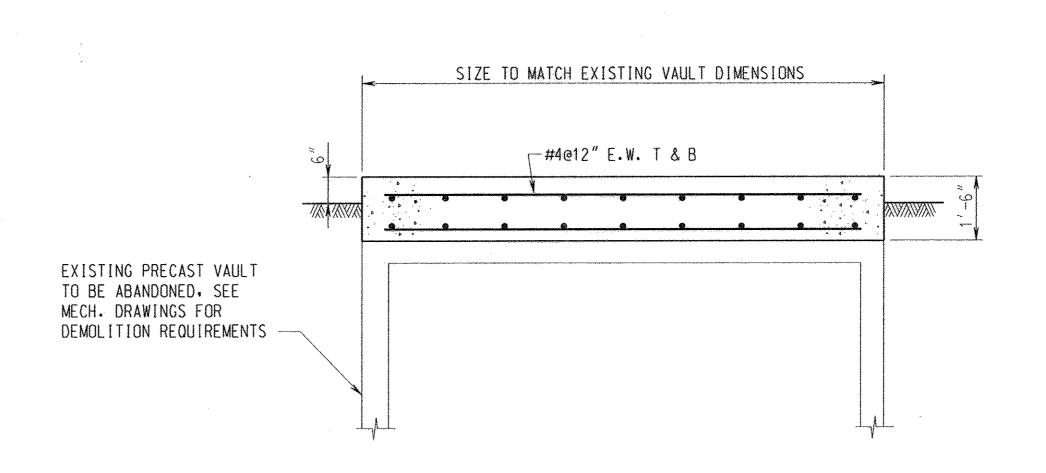
- 1. DEAD LOADS:
 - A. STRUCTURES ACTUAL WEIGHT
 B. WEIGHT OF SOIL 120 PCF FOR DEAD LOAD
- 2. LIVE LOADS:
 - A. FLOORS 150 PSF IN AREAS NOT OCCUPPIED BY EQUIPMENT OR TRUCK LOADING.
 B. EQUIPMENT ACTUAL WEIGHT OF EQUIPMENT OR MINIMUM 150 PSF.



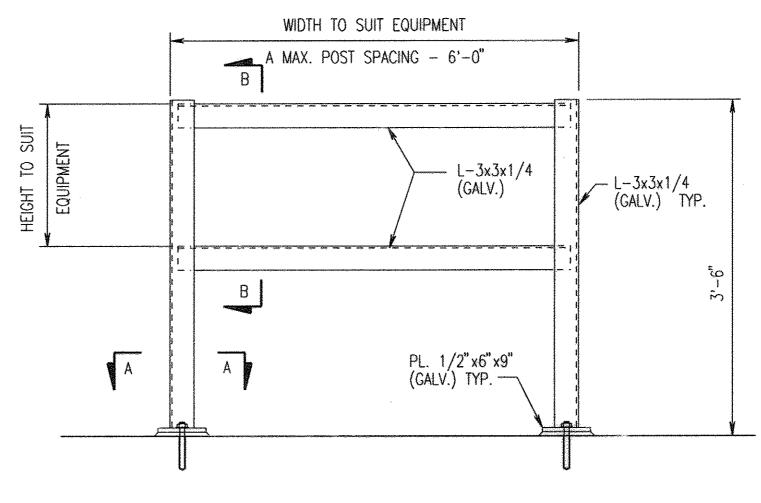


STANDARD HOOKS: SIDE COVER MORE THAN 2.5"
END COVER (90° HOOK) MORE THAN 2"
MINIMUM COVER TO TAIL = 2"

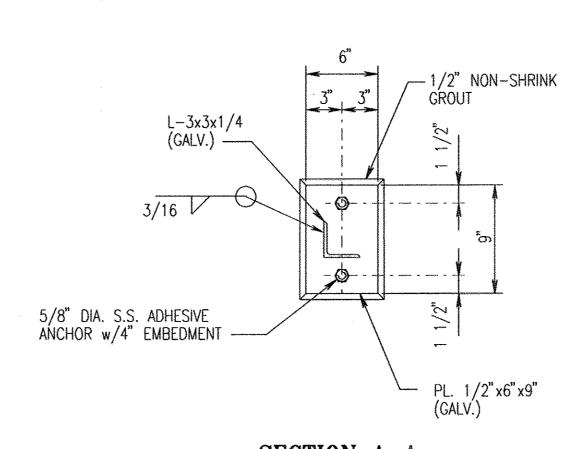
STANDARD 180° AND 90° END HOOKS



CARBON ABSORBER EQUIPMENT PAD

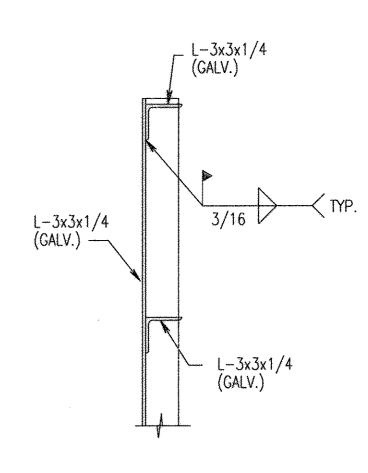


ELEVATION



SECTION A-A

600' SCALE MAP NO.



SECTION B-B

FRAMING SUPPORT DETAIL

SCALE: NONE

TENSION LAP SPLICE AND STANDARD HOOK LENGTH (ACI 318-02)

(NON-EPOXY COATED)

AS-BUILT 1/08

DIRECTOR OF PUBLIC WORKS

CHIEF, BUREAU OF UTILITIES

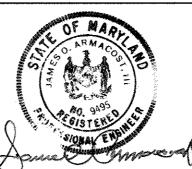
HOWARD COUNTY, MARYLAND

- 813/06
S DATE CHIEF, BUREAU OF INDICERNIC DATE

CHIEF, OTILITY DESIGN DIVISION DATE

CHIEF, OTILITY DATE





	DES:	JRC	**************************************		
	DRN:	LAR			
	CHK:	JOA		:	
14	DATE:	4/28/06	BY	NO.	REVISION

STRUCTURAL GENERAL NOTES
AND DETAILS

30 BLOCK NO.

TIBER BRANCH/CATROCK RUN
ODOR MITIGATION
CONTRACT NO. 10-4201

CONTRACT NO. 10-4201
CAPITAL PROJECT NO. S-6226

STRICT 3 HOWARD COUNTY, MARYLAND

SHEET 6 OF 9

SCALE

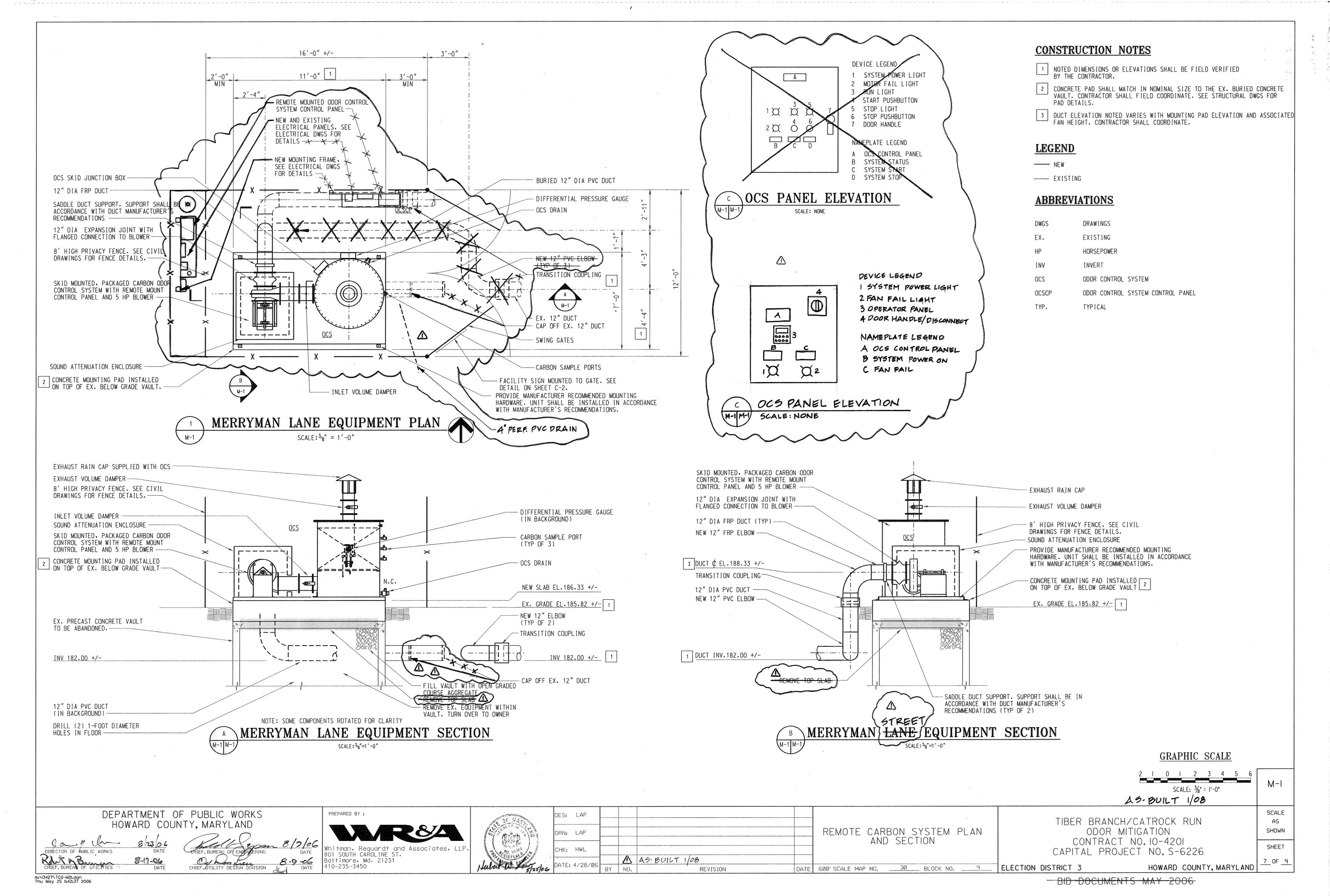
AS

SHOWN

BID DOCUMENTS MAY 2006

ELECTION DISTRICT 3

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LEGEND

BUILDING LUMINAIRES 0 FLUORESCENT LIGHTING FIXTURE. FLUORESCENT EMERGENCY AND/OR NIGHT LIGHTING FIXTURE

EMERGENCY BATTERY POWERED LIGHTING UNIT.

HIGH INTENSITY DISCHARGE LIGHTING FIXTURE.

LIGHTING FIXTURE TYPE.

DUPLEX CONVENIENCE RECEPTACLE. 20A, 125VAC. MOUNT 18" AFF WP INDICATES WEATHERPROOF.

DUPLEX CONVENIENCE RECEPTACLE WITH INTERNAL GROUND FAULT PROTECTION. 20A, 125VAC. MOUNT 18" AFG.

DUPLEX CONVENIENCE RECEPTACLE 20A, 125VAC. MOUNT 18" AFF ON WALL OR ON FLOOR MOUNTED CHANNELS.

SINGLE POLE SWITCH. 20A, 120/277V.

DOUBLE POLE SWITCH. 20A, 120/277V.

MANUAL MOTOR STARTER SWITCH WITH OVERLOADS AS REQUIRED.

SWITCH WITH PILOT LIGHT.

EQUIPMENT CONNECTION AS NOTED.

JUNCTION BOX.

MOTOR CONNECTION, HORSEPOWER INDICATED.

PLUG AND CORD (SUPPLIED BY DIV. 11)

MAGNETIC MOTOR CONTROLLER.

DISCONNECT SWITCH. IN NEMA 4X ENCLOSURE UON. 3P = NO. OF POLES, 60 = SWITCH RATING, 40 = FUSE RATING (NF INDICATES NON-FUSIBLE).

COMBINATION MAGNETIC MOTOR STARTER AND DISCONNECT SWITCH. IN NEMA 4X ENCLOSURE UON. 3P = NO. OF POLES, 60 = SWITCH RATING, 40 = FUSE RATING (NF INDICATES NON-FUSIBLE).

MOTOR OPERATED DAMPER

ELECTRICAL PANELBOARD (208Y/120 VOLT)

ELECTRICAL PANELBOARD (480Y/277 VOLT)

BRANCH CIRCUIT OR FEEDER WIRING IN CONDUIT. NO TICK MARKS OR INDICATE 2#12 CONDUCTORS & 1#12 GND. IN 3/4" CONDUIT UON. TICK MARKS, WHEN SHOWN, INDICATES GROUND.

HOMERUNS TO PANEL. PANEL AND CIRCUIT DESIGNATIONS AS INDICATED.

INDICATES A CONDUIT RUN CONCEALED IN CEILING, WALL, FLOOR, OR ABOVE SUSPENDED CEILING UON.

CONDUIT EXPOSED

O CONDUIT TURNED UP. CONDUIT TURNED DOWN.

> TELEPHONE/DATA OUTLET MOUNT ON WALL 18" AFF/OR ON INTERCOM OUTLET FLOOR MOUNTED CHANNELS.

TELEPHONE OUTLET. MOUNT ON WALL 18" AFF.

EMERGENCY POWER-OFF SWITCH

PUSH BUTTON.

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

DRY TYPE TRANSFORMER.

ABBREVIATIONS								
A	AMPERE							
AFF	ABOVE FINISHED FLOOR							
AFG	ABOVE FINISHED GRADE							
AHU	AIR HANDLING UNIT							
AWG	AMERICAN WIRE GAUGE							
C	CONDUIT							
CB	CIRCUIT BREAKER							
CKT	CIRCUIT							
EF	EXHAUST FAN							
EQUIP	EQUIPMENT							
ETR	EXISTING TO REMAIN							
EXIST	EXISTING							
EXP	INDICATES EXPLOSION PROOF EQUIPMENT							

GFCI GOVERNMENT FURNISHED CONTRACTOR INSTALLED

GOVERNMENT FURNISHED GOVERNMENT INSTALLED

GROUND FAULT INTERRUPTER

GROUND

HIGH INTENSITY DISCHARGE

HORSEPOWER

MAIN CIRCUIT BREAKER

MANHOLE

MAIN LUGS ONLY

MULTI-MODE

MOUNT

MOUNTING HEIGHT

NOT IN CONTRACT

NOT TO SCALE

PHASE

PANEL PNL

PNLBD PANELBOARD

RECEPT RECEPTACLE

REQUIRED

ROOM

TYPICAL TYP

UH UNIT HEATER

TRANSFORMER

UNDERGROUND

UON UNLESS OTHERWISE NOTED

VOLT

WIRE

WEATHERPROOF

A5-BUILT 1/08

TIBER BRANCH/CATROCK RUN ODOR MITIGATION

CONTRACT NO. 10-4201 CAPITAL PROJECT NO. S-6226

AS SHOWN SHEET

SCALE

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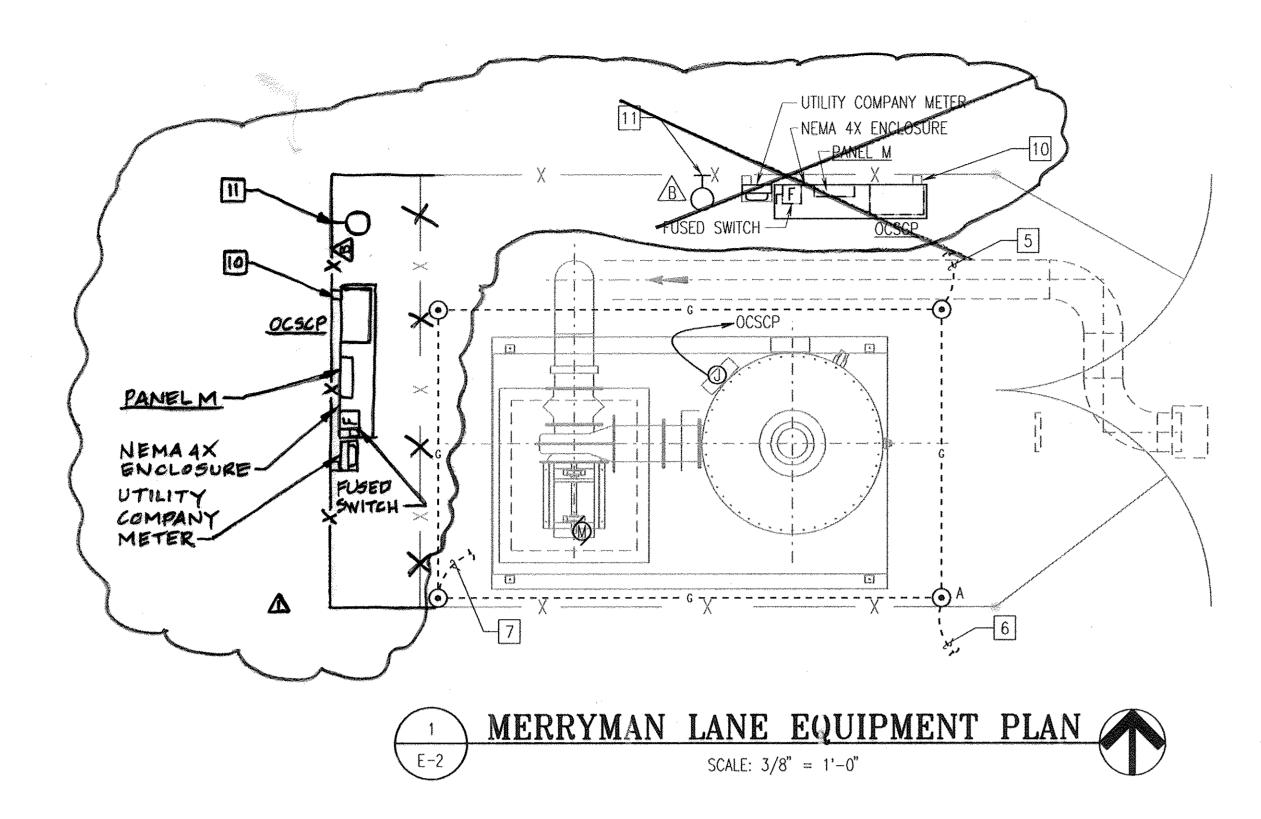
HOWARD COUNTY, MARYLAND BID DOCUMENTS MAY 2006

Whitman, Requardt and Associates, LLP. 801 SOUTH CAROLINE ST. Baltimore, Md. 21231 410-235-3450

DES: JVL

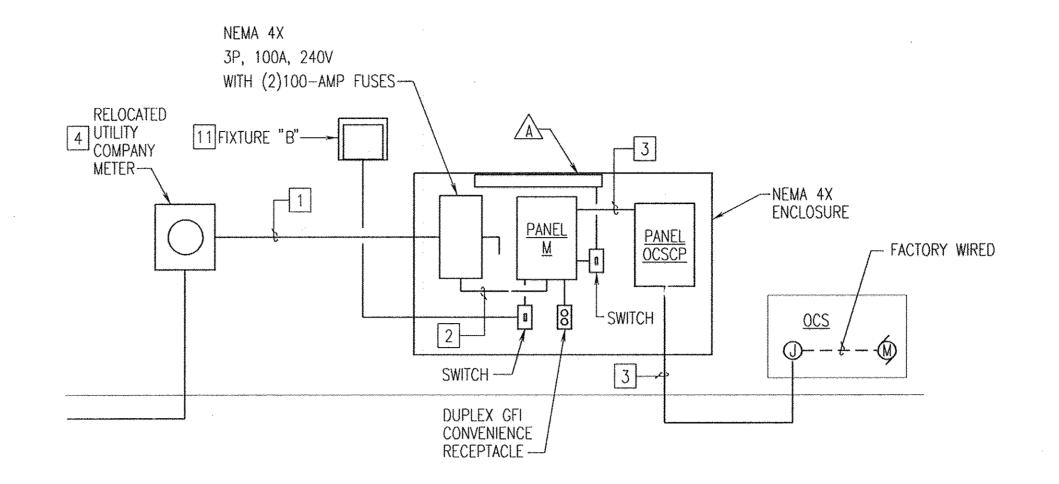
ELECTRICAL

LEGEND AND ABBREVIATIONS

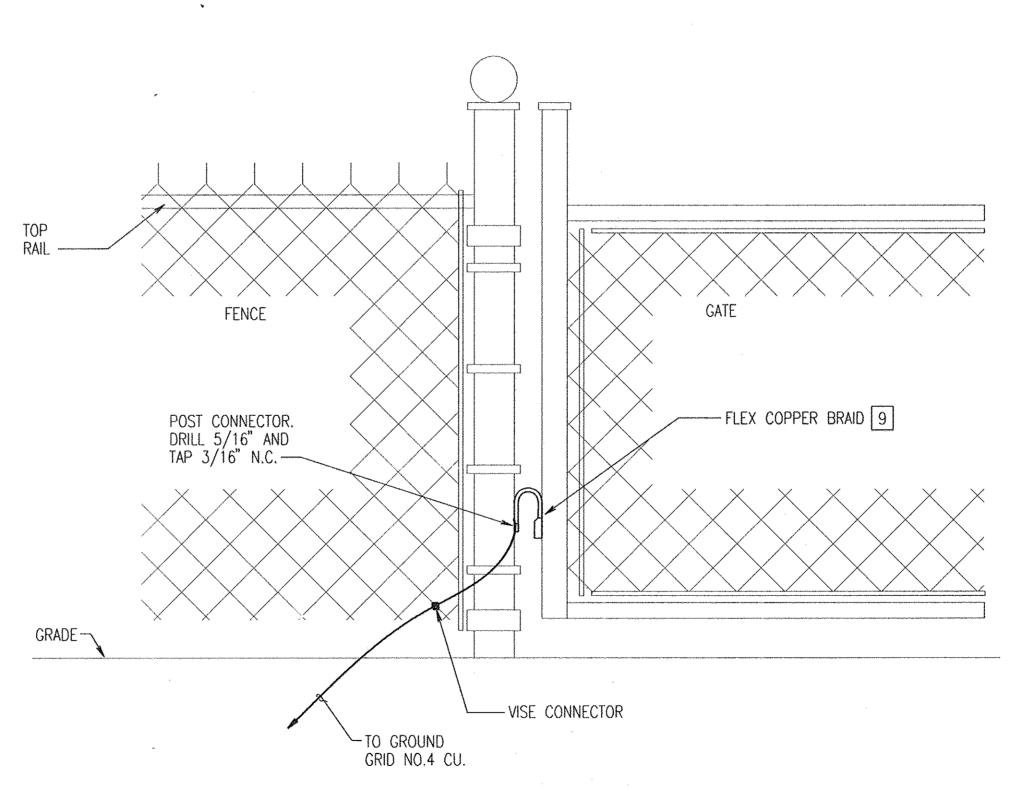


	-	PAI	VE	LB	\overline{OA}	$\overline{\text{RD}}$) M			
100 AMP BUS 100 AMP N										
10K RMS AIC	120/240 VOLTS							1 PHASE, 3 WIRE + GROUND		
NEMA 1 ENCLOSURE	SURFACE MOUNTED							PANEL LOCATION: ENCLOSURE		
LAAD CERVED	CIRCUIT BREAKER			CKT.	CKT.	CIRCUIT BREAKER		EAKER	LOAD SERVED	
LOAD SERVED	FRAME	TRIP	Р	NO.	NO.	Р	TRIP	FRAME	FOAD SERVED	
ODOR CONTROL SYSTEM OCS	100	60	2	1	2	1	15	100	LIGHTING	
				3	4	1	20	100	RECEPTACLE	
SPACE	100		1	5	6	1	wide	100	SPACE	

LIGHTING FIXTURE SCHEDULE								
FIXTURE TYPE	DESCRIPTION	MOUNTING	LAMPS No. WATTS TYPE			MANUFACTURER AND CATALOG No.	VOLTS	REMARKS
\triangle	FLUORESCENT 36" TASK LIGHTING FIXTURE, ALUMINUM HOUSING, ACRYLIC DIFFUSER, OPAQUE FRONT, ELECTRONIC BALLAST, FUSE.	SURFACE	1	25	F25T8	ALKCO SFLINCS150- 036/GMF	120	
B	FLOODLIGHT, CAST ALUMINUM HOUSING, HIGH POWER FACTOR BALLAST, FUSE, CORROSION RESISTANT, BLACK FINISH, VANDAL GUARD, SPECIFICATION GRADE. TENON SLIPFITTER MOUNT WITH 4" DIA ROUND ALUMINUM POLE WITH TENON CAP, BLACK FINISH.	POLE 8'-0"	1	35	HPS	LITHONIA TFM- RB-120-CR-SF- TFMVG TFMTS SLIPFITTER RSA 8-4-5B- T20 POLE	120	SEE DETAIL 5 THIS SHEET



ONE-LINE RISER DIAGRAM 4 SCALE: NONE



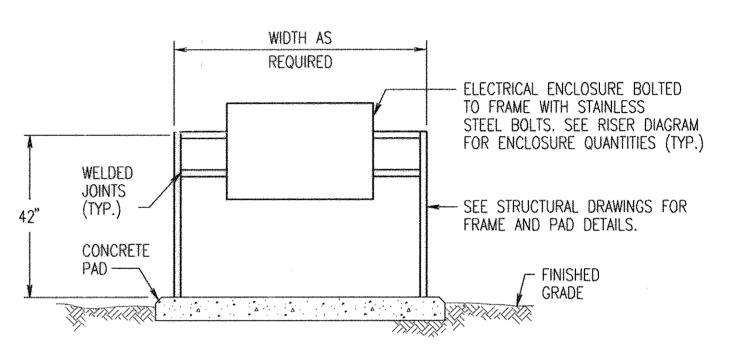
FENCE GATE GROUNDING DETAIL 8 SCALE: NONE

CONSTRUCTION NOTES

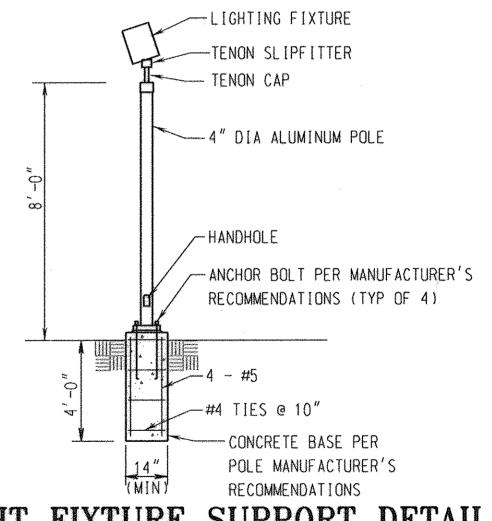
1. REFER TO C-1 FOR LOCATION OF SITE.

DRAWING NOTES

- 1 PROVIDE 2"C. CONDUCTORS BY OTHERS.
- 2 PROVIDE 3#3 & 1#8 GND IN 2" C.
- 3 PROVIDE 3#6 & 1#10 GND IN 2"C.
- 4 COORDINATE RELOCATION OF EXISTING METER WITH UTILITY COMPANY.
- 5 BOND TO PANELS AND ENCLOSURES.
- 6 BOND TO FENCE. REFER TO DETAIL 3, THIS SHEET.
- 7 BOND TO ODOR CONTROL SYSTEM EQUIPMENT FRAME.
- 8 EACH CORNER, ANGLE, AND OPENING POST SHALL BE GROUNDED IN SIMILAR MANNER.
- 9 FLEXIBLE COPPER BRAID SHALL BE MOUNTED SO THAT IT WILL NOT BE SUBJECTED TO DAMAGING STRAIN WHEN GATE IS FULLY OPEN IN EITHER DIRECTION.
- 10 REFER TO FRAMING SUPPORT DETAIL 4, THIS SHEET.
- 11 MOUNT FIXTURE TO SUPPORT POLE PER DETAIL 5 THIS SHEET.



FRAMING SUPPORT DETAIL SCALE: NONE



LIGHT FIXTURE SUPPORT DETAIL

SCALE: NONE

GRAPHIC SCALE

2 1 0 1 2 3 4 5 6 SCALE: 3/8" = 1'-0"	E-2
TIBER BRANCH/CATROCK RUN ODOR MITIGATION	SCALI AS SHOW
CONTRACT NO.10-4201 CAPITAL PROJECT NO.S-6226	SHEE
HOWARD COUNTY, MARYLAND	9 OF

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

PREPARED BY: Whitman, Requardt and Associates, LLF 801 SOUTH CAROLINE ST. Baltimore, Md. 21231



ES: JVL DRN: AGT REMOTE CARBON SYSTEM PLAN SCHEDULE AND DIAGRAM AS-BUILT 1/08 DATE: 4/28/06 ELECTION DISTRICT 3 DATE 600' SCALE MAP NO. 30 BLOCK NO. 9