

SHEET INDEX	
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1	TITLE SHEET
2	FORCE MAIN PLAN
3	FORCE MAIN PLAN
4	FORCE MAIN PROFILE
5	FORCE MAIN PROFILE & DETAILS
6	STREAM CROSSING DETAILS
7	DETAILS
8	PLAN
9	PLAN
10	SEPTIC TANK, DISTRIBUTION BOX AND TRENCH DETAILS AND NOTES
11	PROFILES
12	SEDIMENT CONTROL NOTES & DETAILS

QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
SIMPLEX GRINDER PUMP *	4 EA.			
DUPLEX GRINDER PUMP	6 EA.			
1 1/2" HOUSE CONNECTION	400 L.F.			
2" FORCE MAIN	4,382.5 L.F.			
TERMINAL FLUSHING CONNECTION	7 EA.			
*TRANSITION MH*	2 EA.			
4" PVC SCH. 40 PERFORATED LATERAL	4,500 L.F.			
4" Ø PVC SCH. 40 GRAVITY PIPE	1,635 L.F.			
6" Ø PVC SCH. 40 GRAVITY PIPE	915 L.F.			
5,000 GALLON SEPTIC TANK	4 EA.			
DISTRIBUTION BOX (VARIOUS SIZES)	8 EA.			
6" GATE VALVE AND ROADWAY BOX	8 EA.			
SEPTIC TANK EFFLUENT FILTER	4 EA.			
4" Ø PVC SCH. 40 LATERAL INSPECTION	45 EA.			
AIR RELEASE MANHOLE	1 EA.			
4" GATEVALVE & ROADWAY BOX	45 EA.			

NAME OF UTILITY CONTRACTOR

SURVEY AND DRAFTING DIVISION AS-BUILT DATE:

\*ENVIRONMENTAL ONE OR EQUAL SEE SHEET 7 OF 12

SHARED SEPTIC SYSTEM FLOW TABLE			
SHARED SEPTIC SYSTEM	# OF LOTS	# OF BEDROOM HOUSE	TOTAL SYSTEM FLOW
SHARED SEPTIC SYSTEM 'A'	8 LOTS	7 - 4 BEDROOMS 1 - 5 BEDROOMS	4,950 GPD
SHARED SEPTIC SYSTEM 'B'	8 LOTS	7 - 4 BEDROOMS 1 - 5 BEDROOMS	4,950 GPD

- NOTE:
- A SEPTIC FEE IN 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.
  - A SIGNED "DECLARATION OF COVENANTS" WILL BE REQUIRED ON SHARED SEPTIC LOTS.
  - THE BUILDER SHALL INSTALL BACK FLOW PREVENTER AND RELIEF VENT ON THE SEWER SERVICE AT THE HOUSE, AT THE TIME OF THE HOUSE CONNECTION OR AS REQUIRED BY THE PLUMBING INSPECTOR.
  - SEPTIC TANKS SHALL BE VACUUM TESTED AND WATER TESTED ON-SITE BY THE MANUFACTURER. SEPTIC TANK SHOP DRAWINGS FROM THE MANUFACTURER SHALL BE PERMITTED TO THE HOWARD COUNTY ENVIRONMENTAL HEALTH DEPARTMENT PRIOR TO ANY INSTALLATION OF THE SEPTIC TANKS.
  - 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.
  - OBSERVATION WELL TO BE INSTALLED AFTER TRENCH INSTALLATION IS COMPLETED.
  - THE HOWARD COUNTY HEALTH DEPARTMENT SHALL AS-BUILT THE SEPTIC TRENCH PORTION OF THE COMMON SEPTIC SYSTEM. THE COLLECTION PORTION OF THIS SYSTEM SHALL BE AS-BUILT BY OTHERS AS SPECIFIED BY THE DEVELOPER AGREEMENT.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, LOTS 2, 13-16, 23-26, AND 28-32; AND FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEM FOR LOTS 3-10, 17-22, 27, AND 12. HOWARD COUNTY HEALTH DEPARTMENT

*Robert L. Weber* 6/21/05  
HOWARD COUNTY HEALTH OFFICER DATE

HOWARD SOIL CONSERVATION DISTRICT:  
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*John M. ...* 6/1/05  
U.S. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John R. ...* 6/1/05  
HOWARD COUNTY SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER 6P05-50

OWNERS:  
PRESCRIPTION ACRES, LLC.  
c/o DONALD H. PATTERSON  
PO BOX 1  
CLENELG, MD. 21737

DEVELOPER:  
TRADELPHIA FARM, LLC.  
6258 CARDINAL LANE  
COLUMBIA, MD. 21044

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

American Land Development  
and Engineering, Inc.  
10749 BIRMINGHAM WAY WOODSTOCK, MD. 21163  
TEL. (410) 465-7903 FAX. (410) 465-3845



DES.: DW/AG					
DRN.: AVG					
CHK.: DW					
DATE: 4-21-05					
BY NO.					
REVISIONS					
DATE					

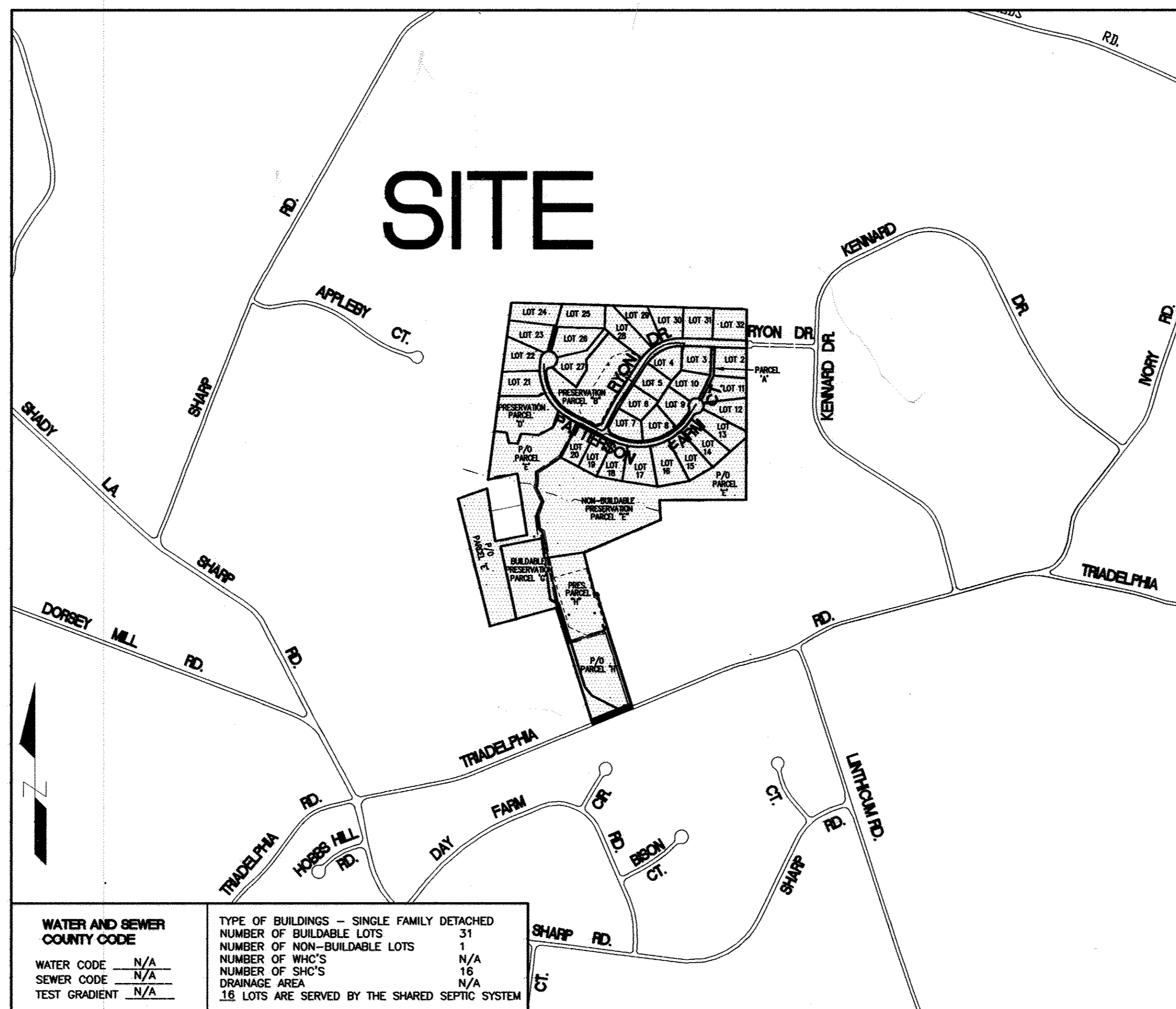
TITLE SHEET

HOPKINS CHOICE  
LOTS 2 THRU 32 & PRESERVATION PARCELS A THRU H  
SHARED SEWAGE DISPOSAL AND FORCE MAIN

SCALE:  
AS SHOWN

CONTRACT No. : 50-4254-D  
4th ELECTION DISTRICT HOWARD COUNTY, MD.

SHEET No.  
1 OF 12



LOCATION MAP  
SCALE: 1" = 600'

WATER AND SEWER COUNTY CODE	TYPE OF BUILDINGS - SINGLE FAMILY DETACHED
WATER CODE N/A	NUMBER OF BUILDABLE LOTS 31
SEWER CODE N/A	NUMBER OF NON-BUILDABLE LOTS 1
TEST GRADIENT N/A	NUMBER OF WH'S N/A
	NUMBER OF SHO'S 16
	DRAINAGE AREA N/A
	18 LOTS ARE SERVED BY THE SHARED SEPTIC SYSTEM

# HOPKINS CHOICE

## LOTS 2 THRU 32 & PRESERVATION PARCELS A THRU H

### SHARED SEWAGE DISPOSAL AND FORCE MAIN

#### CONTRACT # 50-4254-D

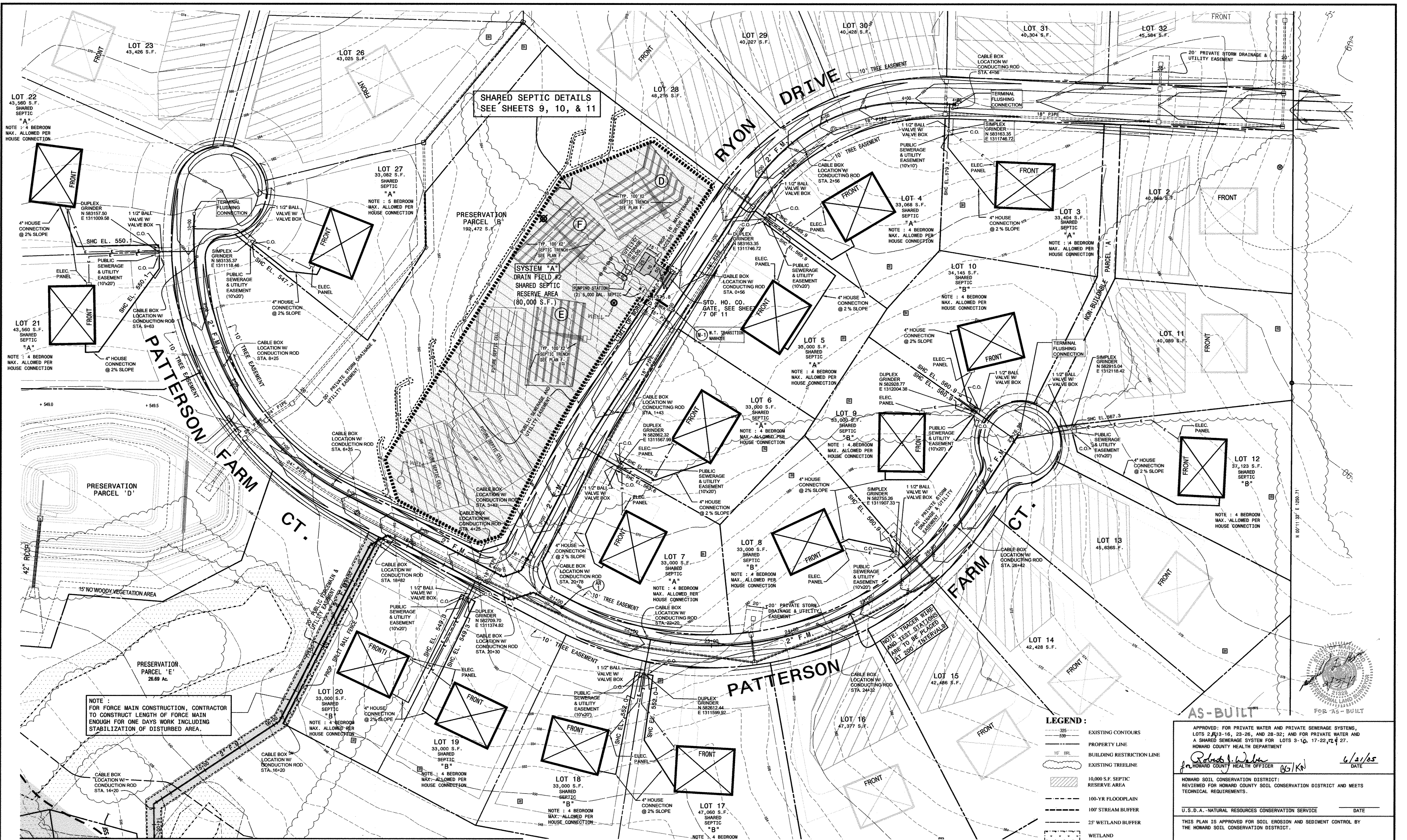
GENERAL NOTES :

- PART I
- Approximate location 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.
  - All horizontal controls are based on Maryland State Coordinates [North American Datum of 1983 (NAD '83)].
  - All vertical controls are based on NAVD 88.
  - All pipe elevations shown are invert elevations unless otherwise noted on the plans.
  - Clear all utilities by a minimum of 12". Clear all poles by 5'-0" minimum or tunnel as required. 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 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.
  - For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Detail 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  $\odot$  at the location of the test pit. 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 the contractor two weeks in advance of construction operations at his own expense.
  - Contractor shall notify the following utility companies or agencies at least five (5) working days before starting work shown on these plans:
 

AT&T	1-800-252-1133
BGE Contractor Services	410-850-4620
BGE Under Ground Damage Control	410-291-4607
Bureau of Utilities	410-313-6900
Colonial Pipeline Company	410-795-1390
Miss Utility	1-800-257-7777
State Highway Administration	410-531-5533
Verizon	1-800-743-0033 / 410-224-9210
  - Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the contractor.
  - Contractor shall remove trees, stumps and roots along 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 (5) working days before any 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 the DPW requirements per Section 18.14(a) of the Howard County Code.
  - Place regulation "men working" and warning signs as required to comply with Maryland state highway administration manual of traffic control for highway maintenance operations.
- PART II
- 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.
  - 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.
  - 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.
  - 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.
- PART III
- All sewer mains shall be dip and p.v.c. unless otherwise noted.
  - The contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
  - All manholes shall be 4'-0" inside diameter unless otherwise noted.
  - Force mains shall be HDPE DR11
  - Manholes shown with 12" and 16" walls are for brick manholes only.
  - Manholes designated w.t. in plan and profile shall have watertight frame and covers, standard detail 65.52 where watertight manhole frame and cover is used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
  - House(s) with the symbol "c.n.s." indicates that cellar cannot be serviced.

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS	
STATE HIGHWAY ADMINISTRATION	531-5533
BALTIMORE GAS & ELECTRIC CO.	
CONTRACTOR SERVICES	850-4620
BALTIMORE GAS & ELECTRIC CO.	
UNDERGROUND DAMAGE CONTROL	787-9068
MISS UTILITY	1-800-257-7777
COLONIAL PIPELINE CO	795-1390
HOWARD COUNTY DEPT. OF PUBLIC WORKS	
BUREAU OF UTILITIES	313-4900
HO. CO. ENVIRONMENTAL HEALTH DEPT	410-313-2640

1: SUBMITTAL - PROJECTS - HOPKINS CHOICE - FINAL FOR CEMINITY FOR CEMINITY L.P. DWG, FOR CEMINITY 1, 5/24/2005 5:09:20 PM, g12



SHARED SEPTIC DETAILS  
SEE SHEETS 9, 10, & 11

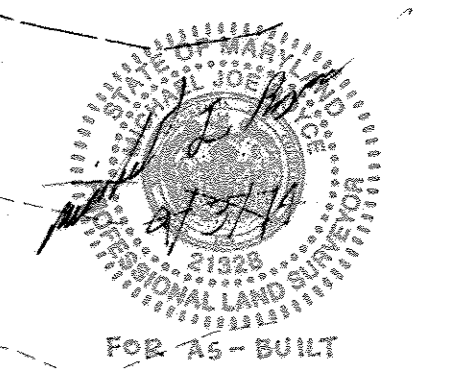
SYSTEM "A"  
DRAIN FIELD #2  
SHARED SEPTIC  
RESERVE AREA  
(80,000 S.F.)

NOTE:  
FOR FORCE MAIN CONSTRUCTION, CONTRACTOR  
TO CONSTRUCT LENGTH OF FORCE MAIN  
ENOUGH FOR ONE DAYS WORK INCLUDING  
STABILIZATION OF DISTURBED AREA.

NOTE:  
FOR 20' SCALE REDLINE OF SEPTIC  
SYSTEM "A" SEE SHEET 11 OF 12.

- LEGEND:**
- 305 --- EXISTING CONTOURS
  - --- PROPERTY LINE
  - 10' --- BUILDING RESTRICTION LINE
  - --- EXISTING TREELINE
  - ▨ 10,000 S.F. SEPTIC RESERVE AREA
  - 100-YR FLOODPLAIN
  - 100' STREAM BUFFER
  - 25' WETLAND BUFFER
  - WETLAND
  - LIMIT OF DISTURBANCE
  - SILT FENCE
  - SUPER SILT FENCE

PLAN  
SCALE: 1" = 50'



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS,  
LOTS 2, 13-16, 23-26, AND 28-32; AND FOR PRIVATE WATER AND  
A SHARED SEWERAGE SYSTEM FOR LOTS 3-10, 17-22, 27 & 27.  
HOWARD COUNTY HEALTH DEPARTMENT

*Robert H. Walker* 6/2/05  
DATE

HOWARD COUNTY HEALTH OFFICER (B6/KN)

HOWARD SOIL CONSERVATION DISTRICT:  
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS  
TECHNICAL REQUIREMENTS.

U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE  
IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE  
HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER  
ROAD CONSTRUCTION PLANS PER F-05-29.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Robert H. Walker*  
6-3-05  
DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*Michael J. ...*  
DATE

PREPARED BY:  
**American Land Development  
and Engineering, Inc.**  
10749 BIRMINGHAM WAY WOODSTOCK, MD. 21153  
TEL. (410) 465-7903 FAX. (410) 465-3845



DES: DWIAG					
PRN: AVG					
CHK: DW					
DATE: 4-21-05					
BY NO.		REVISIONS		DATE	

**FORCE MAIN PLAN**

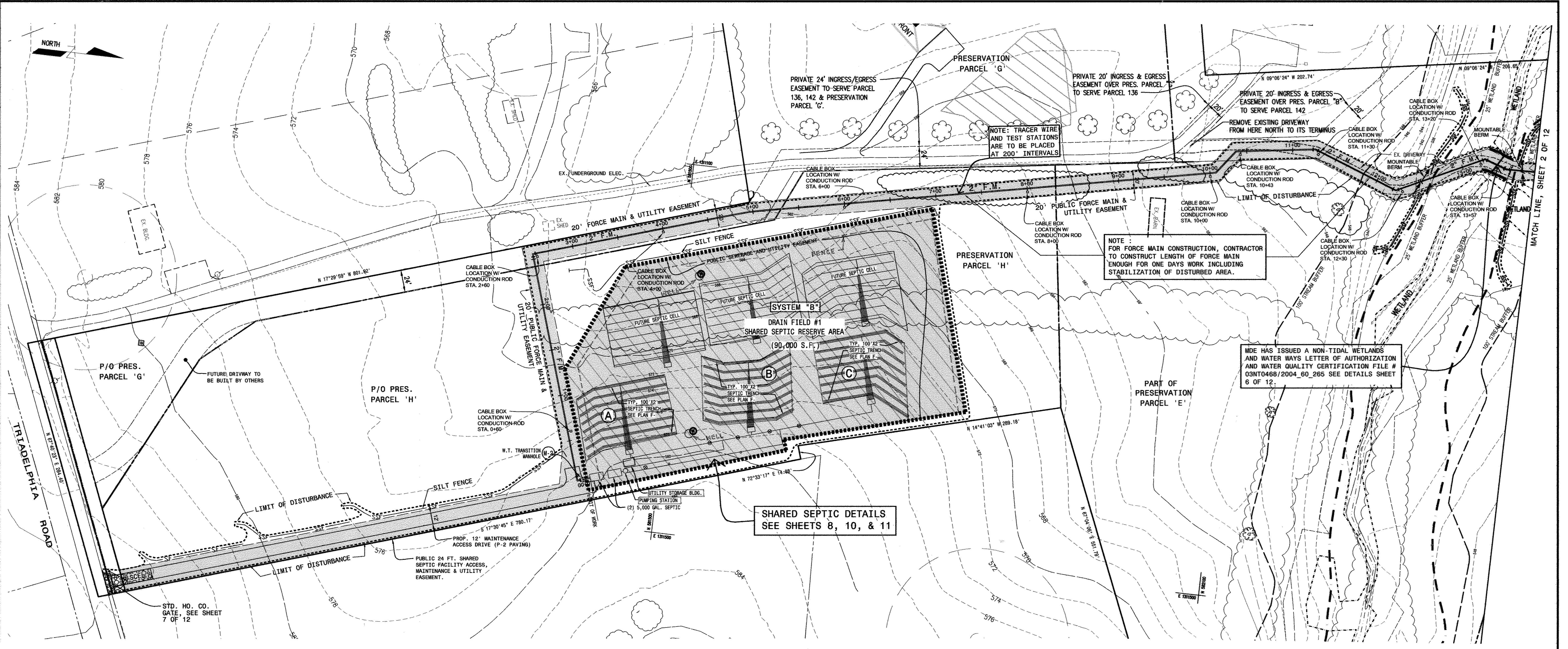
600' SCALE MAP No. 21 BLOCK No. 12

**HOPKINS CHOICE**  
LOTS 2 THRU 32 & PRESERVATION PARCELS A THRU H  
SHARED ON-SITE SEWAGE DISPOSAL AND FORCE MAIN

CONTRACT No. : 50-4254-D  
4th ELECTION DISTRICT HOWARD COUNTY, MD.

SCALE:  
1" = 50'

SHEET No.  
2 OF 12

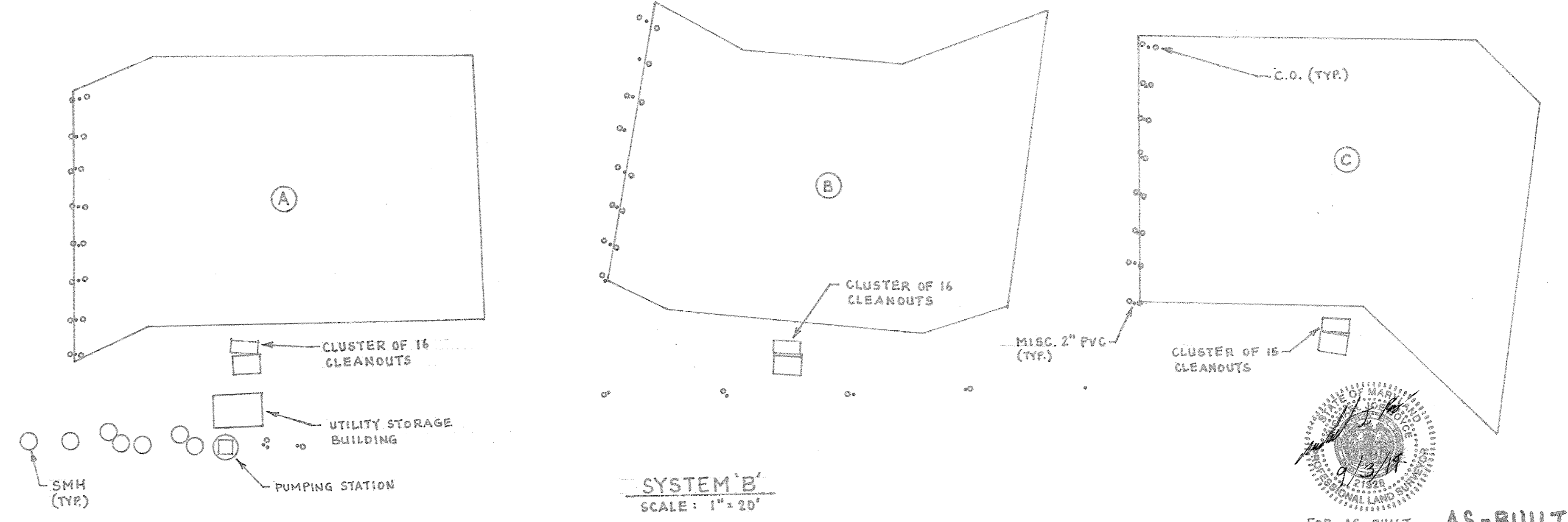


SHARED SEPTIC DETAILS  
SEE SHEETS 8, 10, & 11

NOTE:  
FOR FORCE MAIN CONSTRUCTION, CONTRACTOR TO CONSTRUCT LENGTH OF FORCE MAIN ENOUGH FOR ONE DAYS WORK INCLUDING STABILIZATION OF DISTURBED AREA.

MDE HAS ISSUED A NON-TIDAL WETLANDS AND WATERWAYS LETTER OF AUTHORIZATION AND WATER QUALITY CERTIFICATION FILE # 03MT0468/2004\_60\_265 SEE DETAILS SHEET 6 OF 12.

- LEGEND:**
- 325 --- EXISTING CONTOURS
  - 330 --- EXISTING CONTOURS
  - --- PROPERTY LINE
  - --- BUILDING RESTRICTION LINE
  - --- EXISTING TREELINE
  - --- 10,000 S.F. SEPTIC RESERVE AREA
  - --- 100-YR FLOODPLAIN
  - --- 100' STREAM BUFFER
  - --- 25' WETLAND BUFFER
  - --- WETLAND
  - --- LIMIT OF DISTURBANCE
  - --- SILT FENCE
  - --- SUPER SILT FENCE



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, LOTS 2, 13-16, 23-26, AND 28-32; AND FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEM FOR LOTS 3-10, 17-22, 27, AND 12 HOWARD COUNTY HEALTH DEPARTMENT

*Robert J. Wain* 6/21/05  
HOWARD COUNTY HEALTH OFFICER DATE

*Jim Meyer* 6/1/05  
U.S. F.S.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE

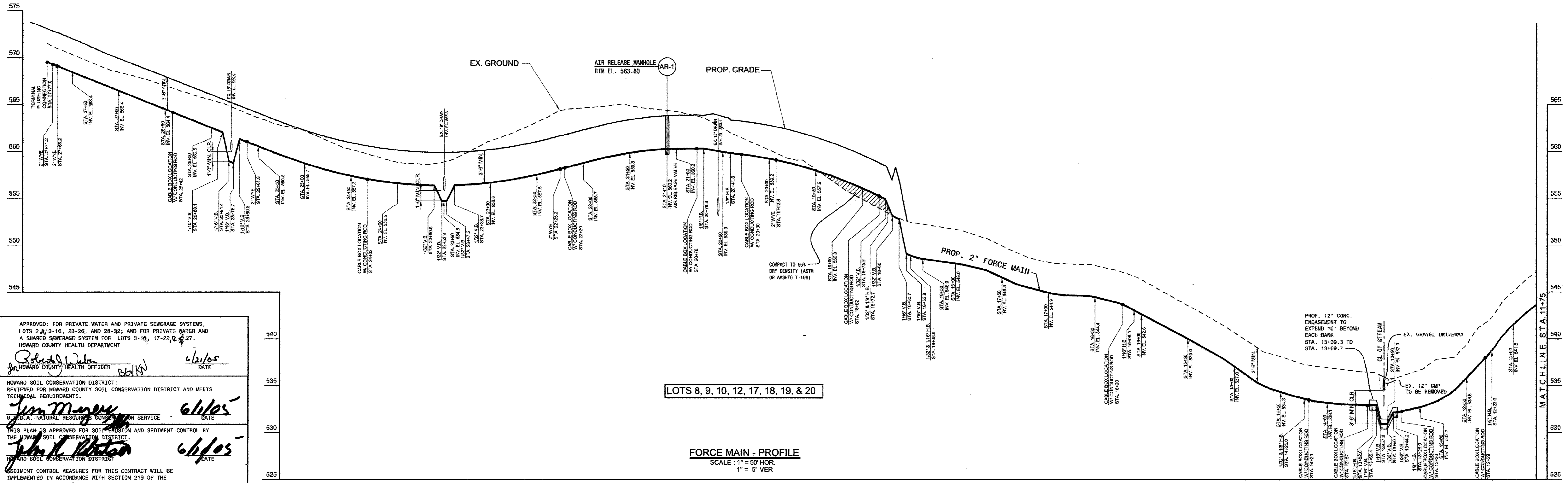
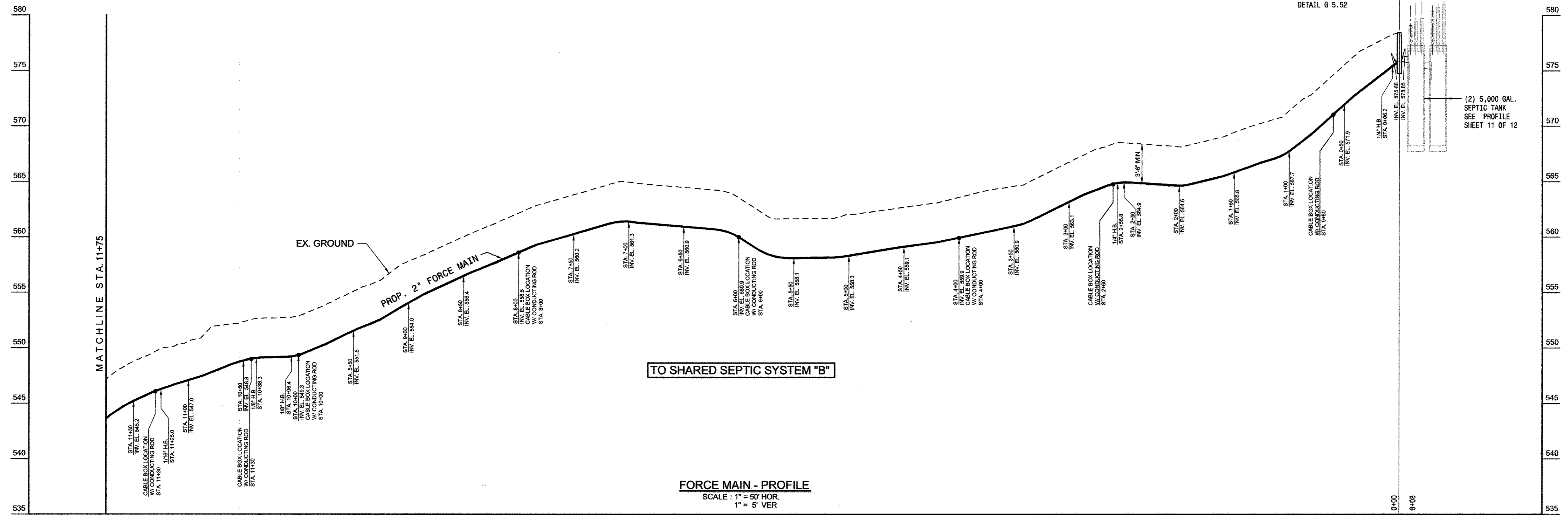
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

*John K. ...* 6/1/05  
HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER ~~...~~ GPO3-50

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	PREPARED BY: <b>American Land Development and Engineering, Inc.</b> 10749 BIRMINGHAM WAY WOODSTOCK, MD. 21163 TEL. (410) 465-7903 FAX. (410) 465-3845	DES.: DW/AG DRN.: AVG CHK.: DW/JL DATE: 4-21-05	BY NO. REVISIONS DATE	600' SCALE MAP No. 21	BLOCK No. 12	<b>HOPKINS CHOICE</b> LOTS 2 THRU 32 & PRESERVATION PARCELS A THRU H SHARED SEWAGE DISPOSAL AND FORCE MAIN CONTRACT No. : 50-4254-D 4th ELECTION DISTRICT HOWARD COUNTY, MD.	SCALE : 1" = 50' SHEET No. 3 OF 12
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APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, LOTS 2, 8, 13-15, 23-26, AND 28-32; AND FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEM FOR LOTS 3-10, 17-22, 24, & 27.  
HOWARD COUNTY HEALTH DEPARTMENT

*Robert W. ...* 6/21/05  
HOWARD COUNTY HEALTH OFFICER

HOWARD SOIL CONSERVATION DISTRICT:  
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

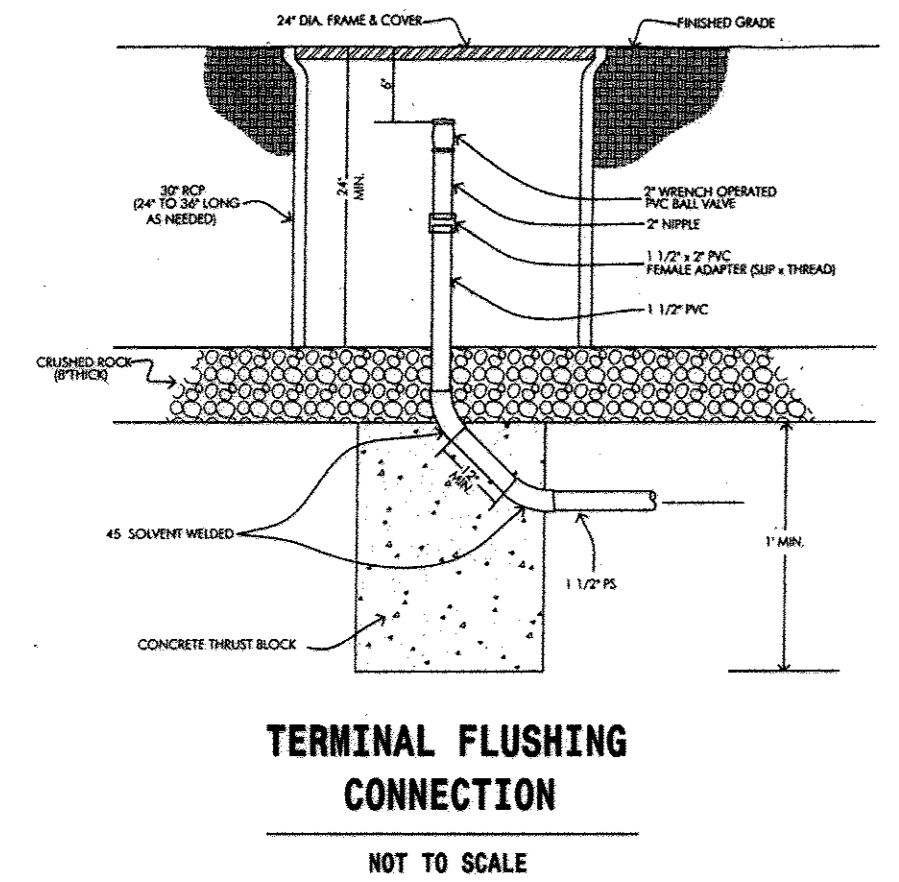
*Jim Meyer* 6/16/05  
U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE

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

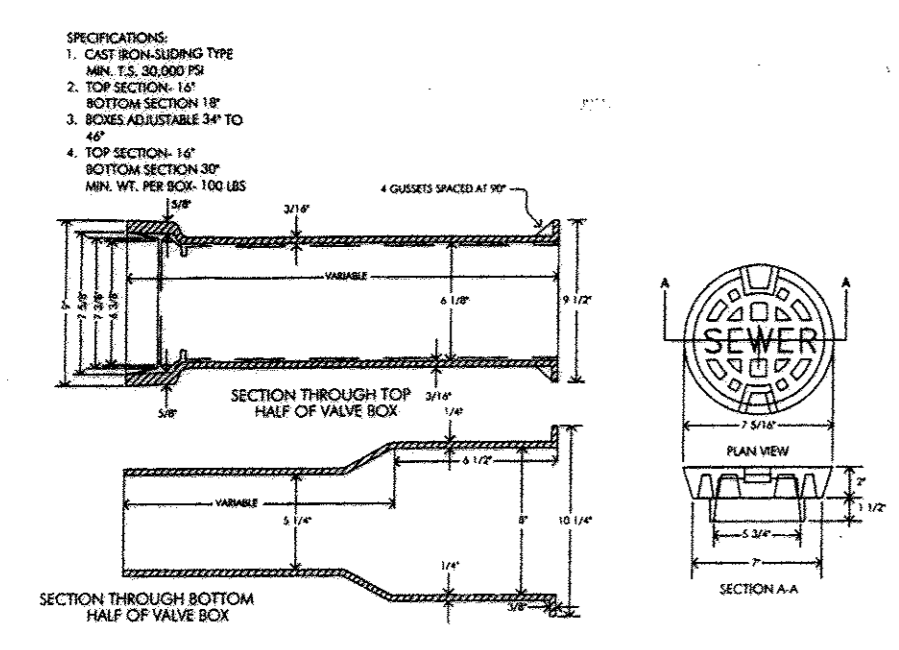
*John R. ...* 6/16/05  
HOWARD COUNTY SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER **GP-05-50**

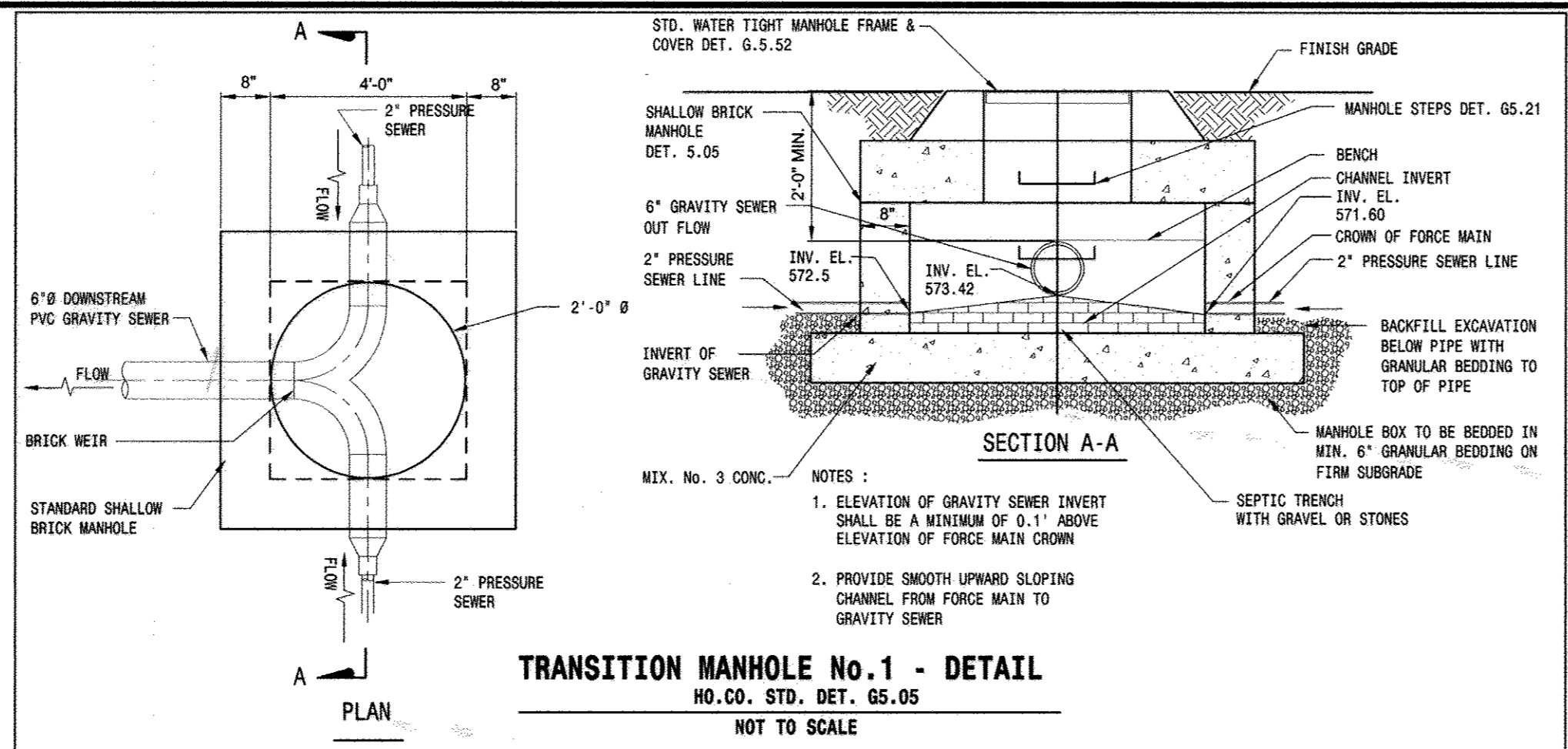
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	PREPARED BY: <b>American Land Development and Engineering, Inc.</b> 10749 BIRMINGHAM WAY WOODSTOCK, MD. 21163 TEL (410) 465-7903 FAX (410) 465-3645	DES.: DW/AG	DRN.: AVG	CHK.: DW	DATE: 4-21-05	BY	NO.	REVISIONS	DATE	600' SCALE MAP No. 21	BLOCK No. 12	<b>HOPKINS CHOICE</b> LOTS 2 THRU 32 & PRESERVATION PARCELS A THRU H SHARED SEWAGE DISPOSAL AND FORCE MAIN CONTRACT No. : 50-4254-D 4th ELECTION DISTRICT HOWARD COUNTY, MD.	SCALE: 1" = 50'	SHEET No. 4 OF 12
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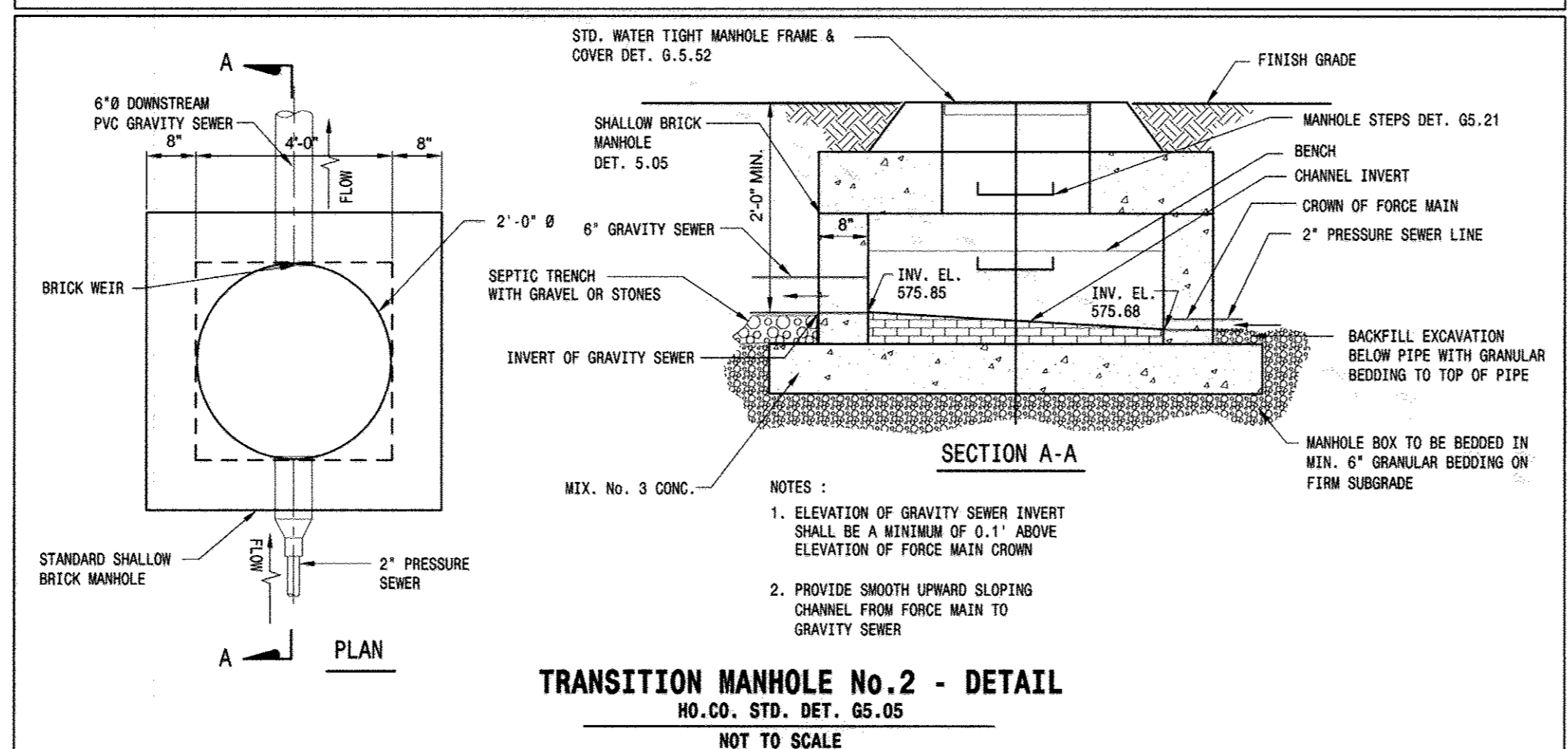
**TERMINAL FLUSHING CONNECTION**  
NOT TO SCALE



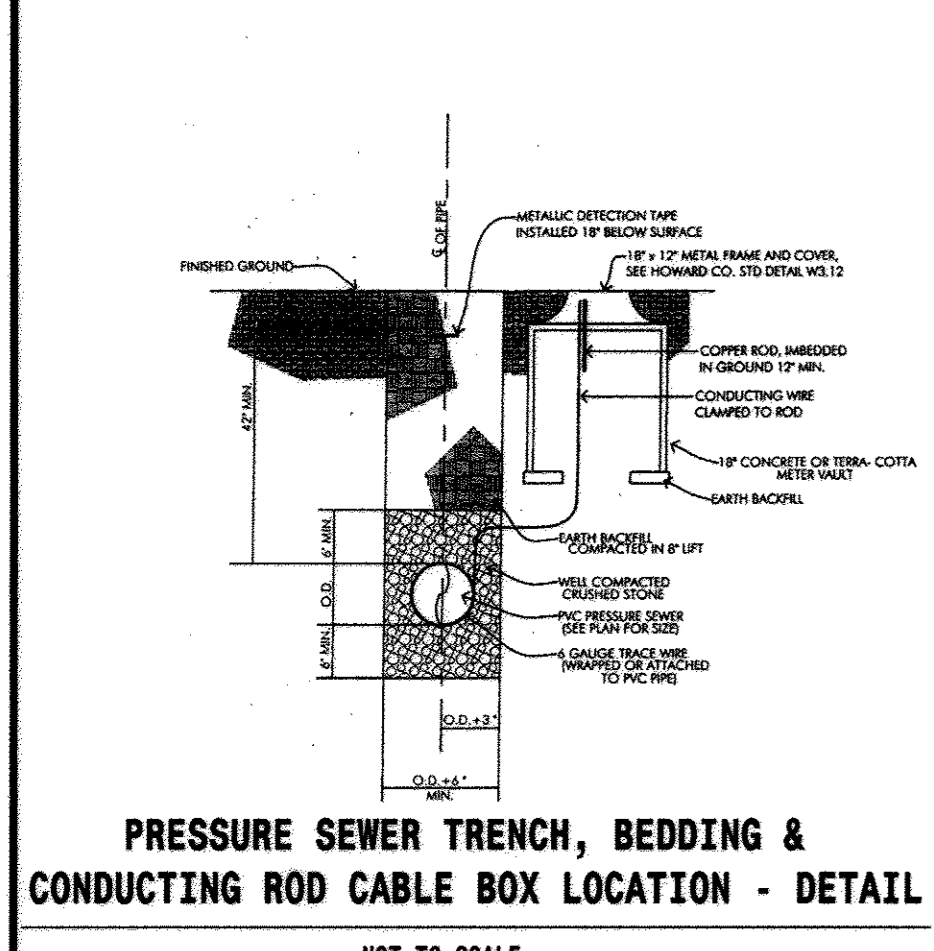
**ADJUSTABLE VALVE BOX ROUND HEAD SLIDING TYPE**  
NOT TO SCALE



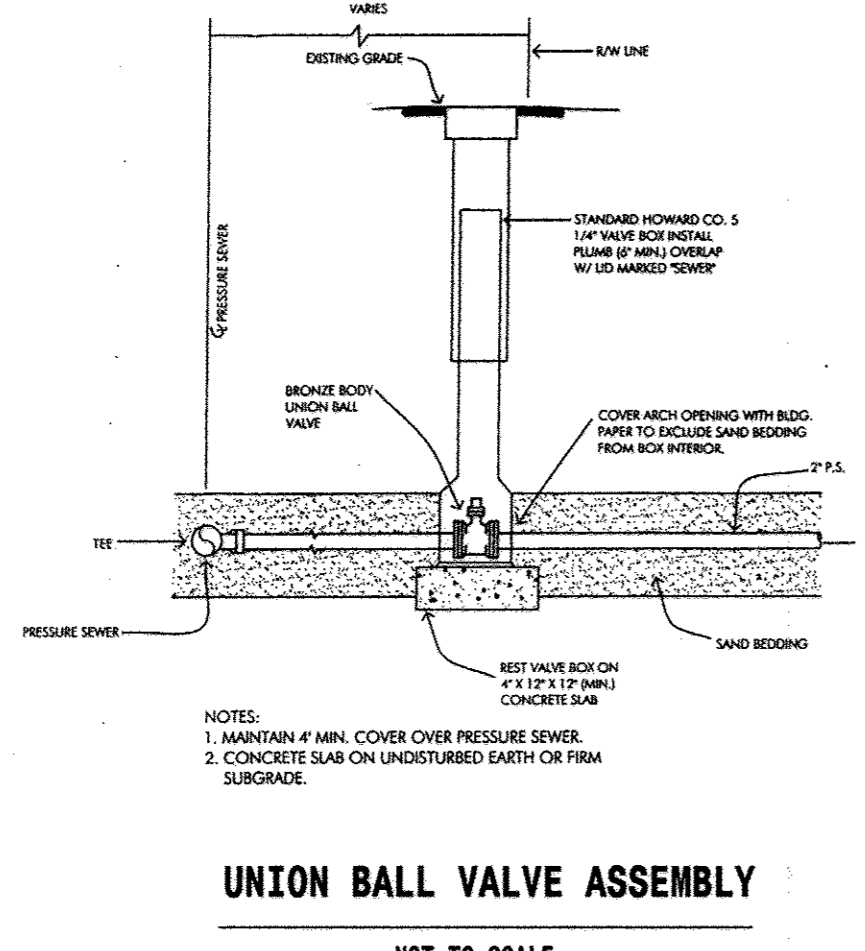
**TRANSITION MANHOLE No. 1 - DETAIL**  
HO.CO. STD. DET. 65.05  
NOT TO SCALE



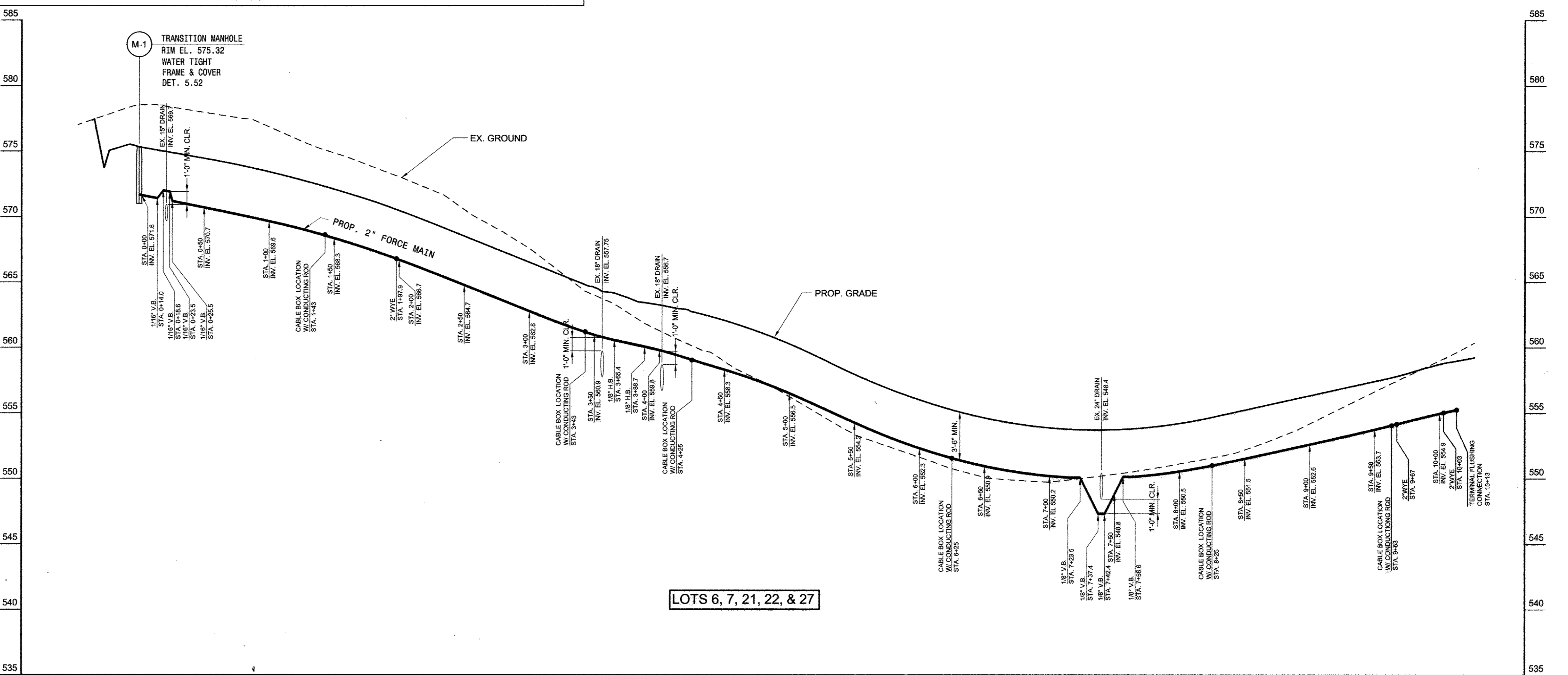
**TRANSITION MANHOLE No. 2 - DETAIL**  
HO.CO. STD. DET. 65.05  
NOT TO SCALE



**PRESSURE SEWER TRENCH, BEDDING & CONDUCTING ROD CABLE BOX LOCATION - DETAIL**  
NOT TO SCALE



**UNION BALL VALVE ASSEMBLY**  
NOT TO SCALE



**PROFILE**  
SCALE: 1" = 50' HOR.  
1" = 5' VER

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, LOTS 2, 11-13-16, 23-26, AND 28-32; AND FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEM FOR LOTS 3-10, 17-22, 27.  
HOWARD COUNTY HEALTH DEPARTMENT  
*Robert J. Weber* 6/21/05  
HOWARD COUNTY HEALTH OFFICER DATE

HOWARD SOIL CONSERVATION DISTRICT:  
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*Jim Meyer* 6/1/05  
U.S. NATURAL RESOURCES CONSERVATION SERVICE DATE

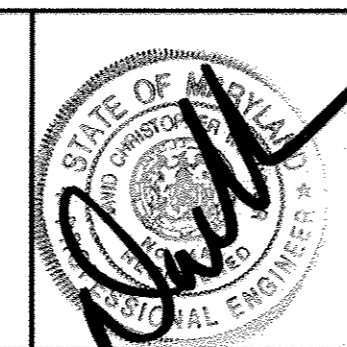
THIS PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Jim Meyer* 6/1/05  
HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER 66.05-50

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*Ruth B...* 6-3-05  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND  
*...* 6/2/05  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

PREPARED BY:  
**American Land Development and Engineering, Inc.**  
10749 BIRMINGHAM WAY WOODSTOCK, MD. 21163  
TEL. (410) 465-7903 FAX. (410) 465-3845



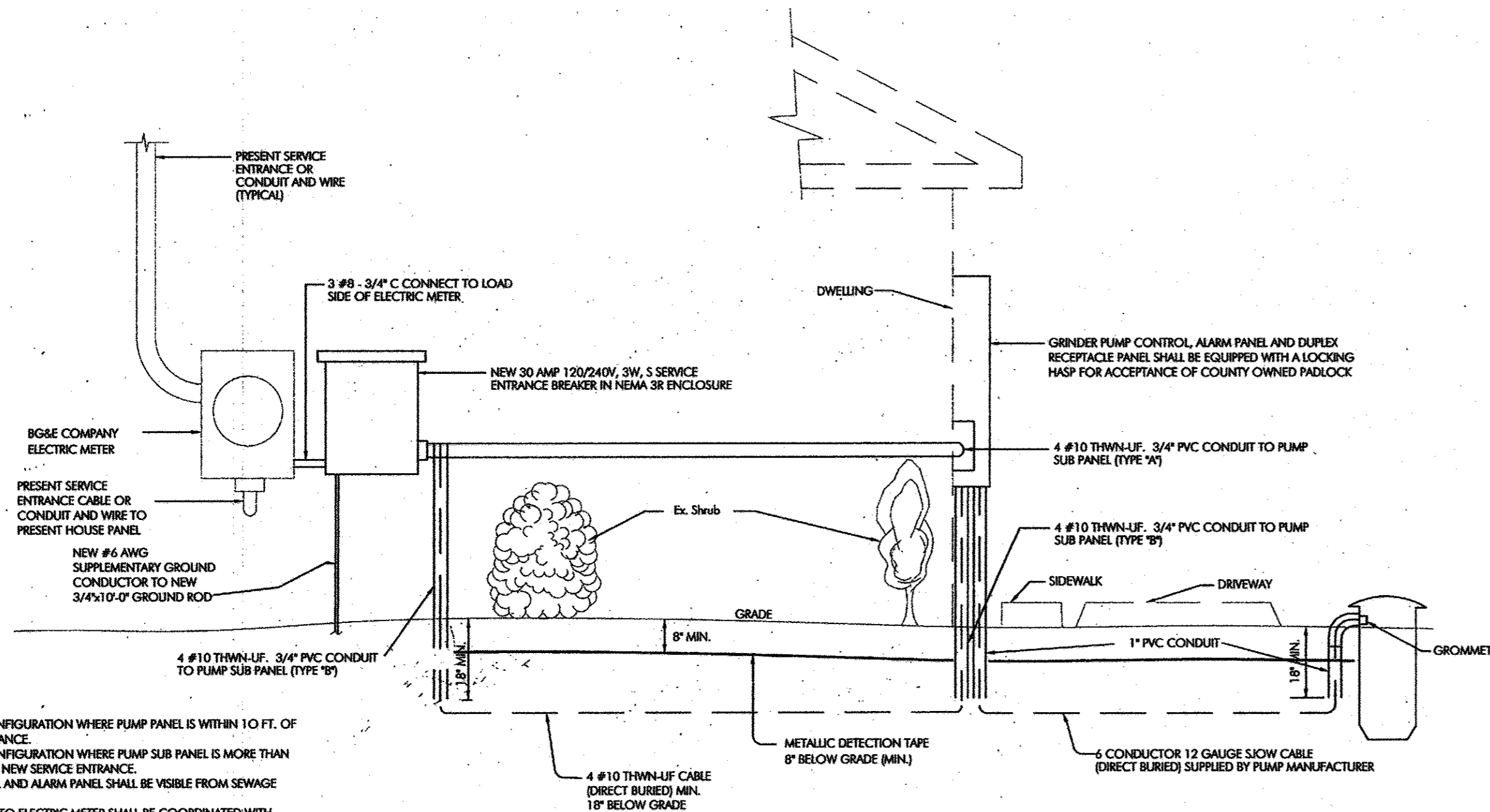
DES.: DW/AG					
DRN.: AVG					
CHK.: DW					
DATE: 4-21-05					
BY NO.		REVISIONS		DATE	

**FORCE MAIN PROFILE AND DETAILS**  
600' SCALE MAP No. 21 BLOCK No. 12

**HOPKINS CHOICE**  
LOTS 2 THRU 32 & PRESERVATION PARCELS A THRU H  
SHARED SEWERAGE DISPOSAL AND FORCE MAIN  
CONTRACT No. : 50-4254-D  
4th ELECTION DISTRICT HOWARD COUNTY, MD.

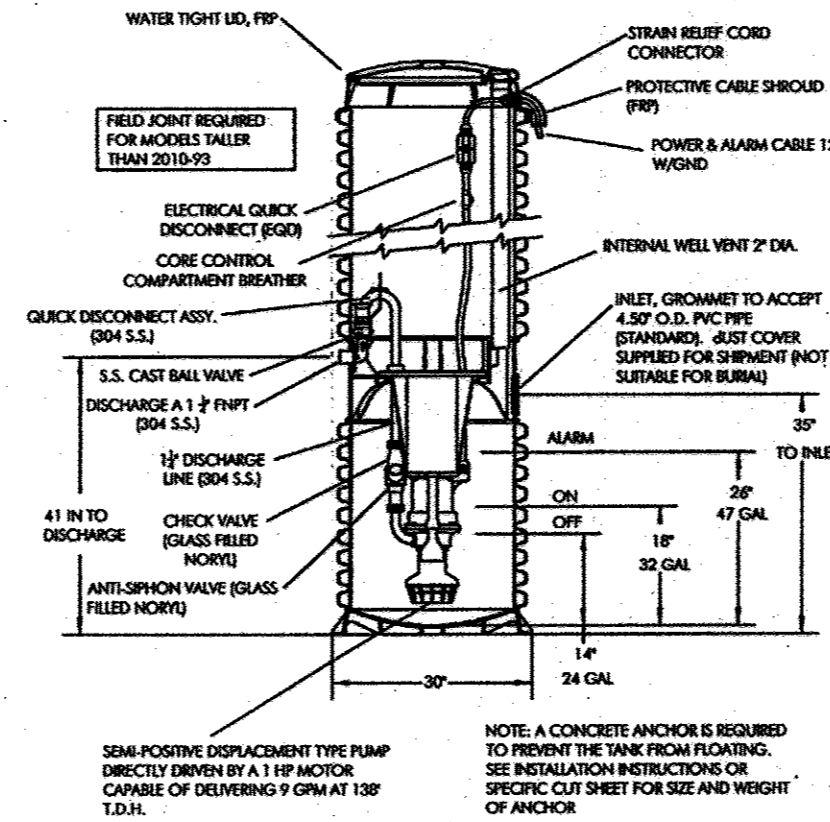
SCALE: 1" = 50'  
SHEET No. 5 OF 12



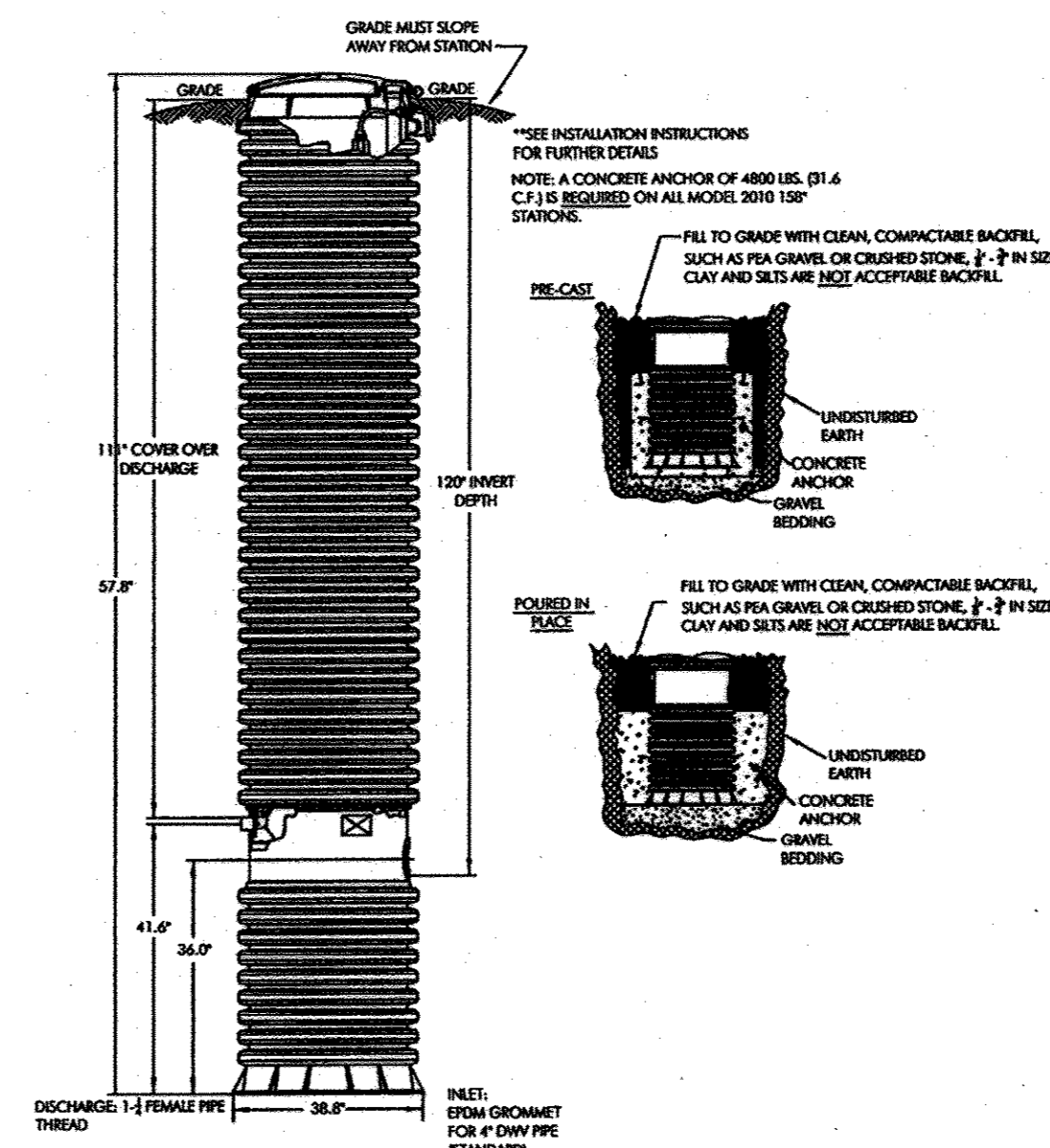


1. USE TYPE 'W' CONFIGURATION WHERE PUMP PANEL IS WITHIN 10 FT. OF NEW SERVICE ENTRANCE.
2. USE TYPE 'B' CONFIGURATION WHERE PUMP SUB PANEL IS MORE THAN 10 FT. AWAY FROM NEW SERVICE ENTRANCE.
3. PUMP SUB PANEL AND ALARM PANEL SHALL BE VISIBLE FROM SEWAGE GRINDER PUMP.
4. CONNECTIONS TO ELECTRIC METER SHALL BE COORDINATED WITH POWER COMPANY.
5. ALL PVC CONDUIT SHALL TERMINATE 18" BELOW GROUND.
6. PROVIDE LOCKING HASP ON SERVICE BREAKER FOR ACCEPTANCE OF COUNTY OWNED LOCK.

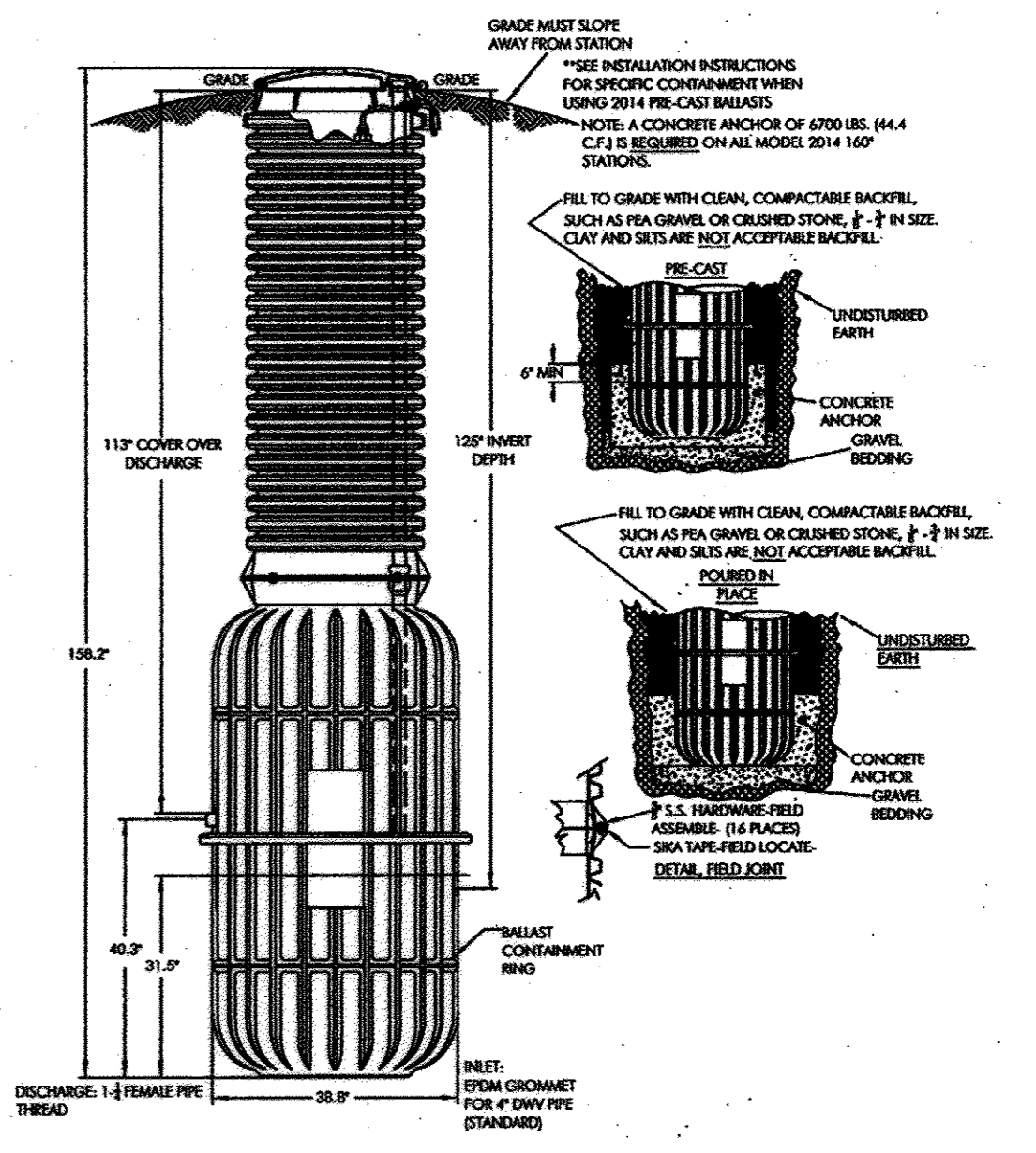
**TYPICAL GRINDER PUMP ELECTRIC POWER**  
NOT TO SCALE



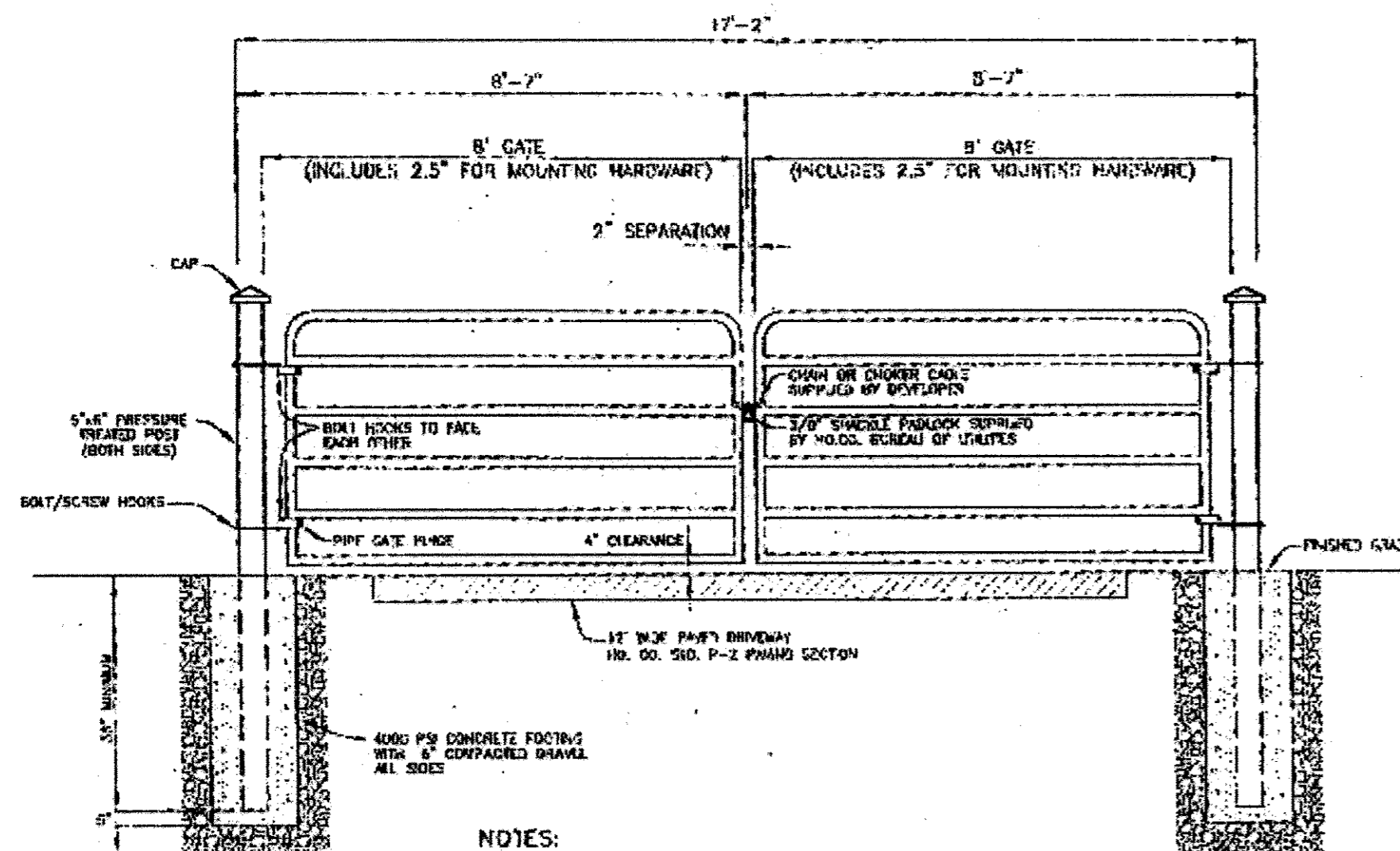
**SIMPLEX ENVIRONMENT ONE GRINDER PUMP MODEL 2010-158**  
NOT TO SCALE



**SIMPLEX ENVIRONMENT ONE GRINDER PUMP MODEL 2010-158**  
NOT TO SCALE

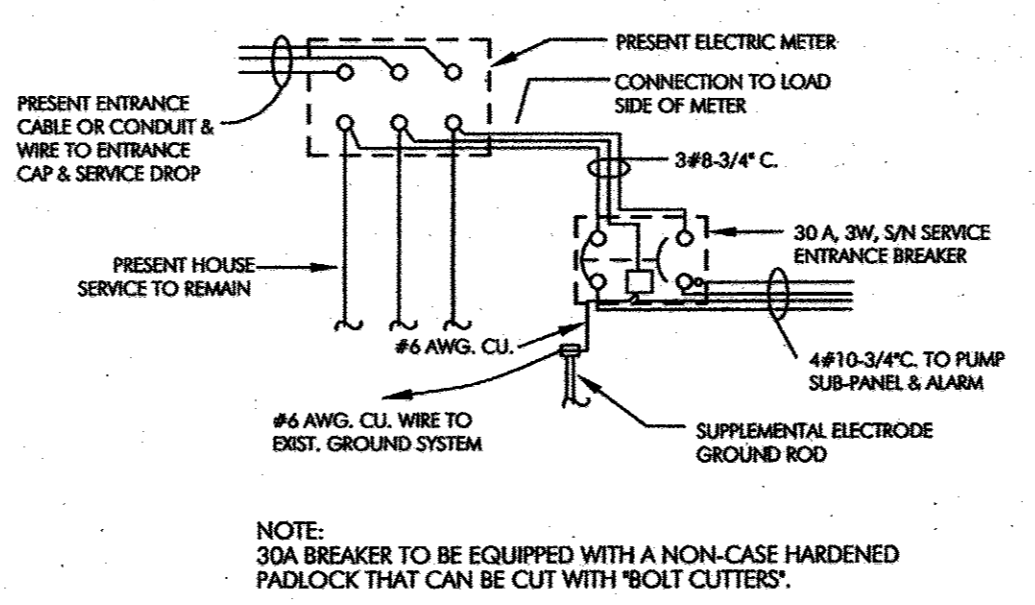


**DUPLEX ENVIRONMENT ONE GRINDER PUMP MODEL 2014-160**  
NOT TO SCALE

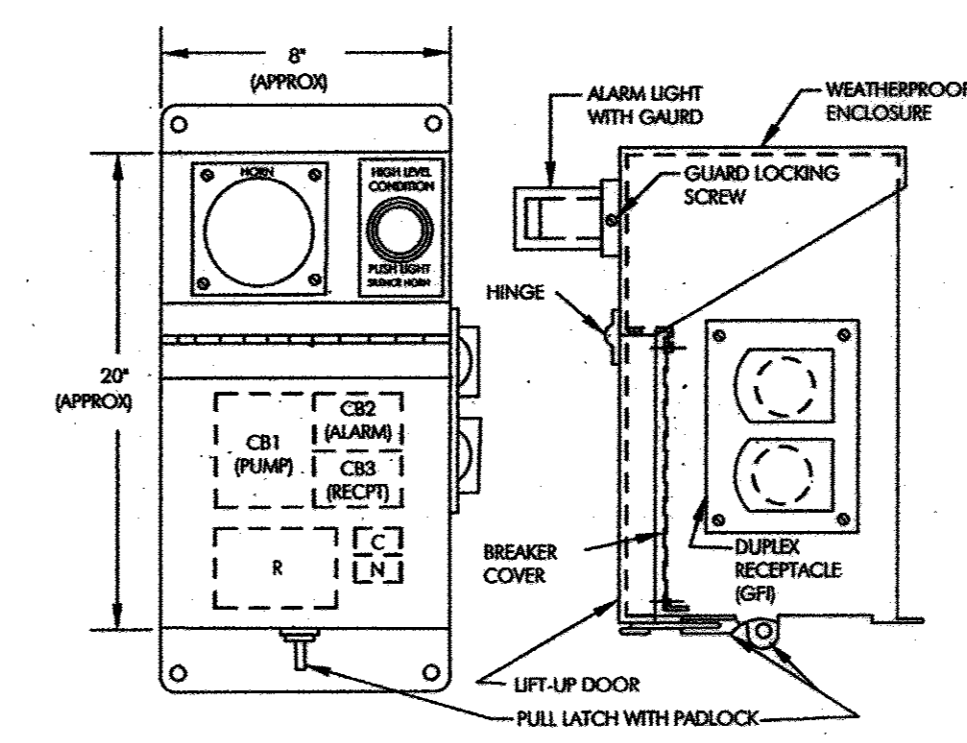


- NOTES:
1. GATES TO BE 2" 6-BAR HEAVY DUTY BULL GATE (16 GAUGE STEEL). GATE HEIGHT SHALL BE 50"-52" DEPENDING ON MANUFACTURER.
  2. GATES TO BE PAINTED RED.
  3. MOUNTING HARDWARE SUPPLIED BY MANUFACTURER WITH GATE.
  4. RE-1 ECTIVE TAPE TO BE PROVIDED ON CENTER OF POSTS AND CROSSBARS.
  5. PADLOCK TO BE SUPPLIED BY HOWARD COUNTY DPW MASTER KEY SYSTEM.

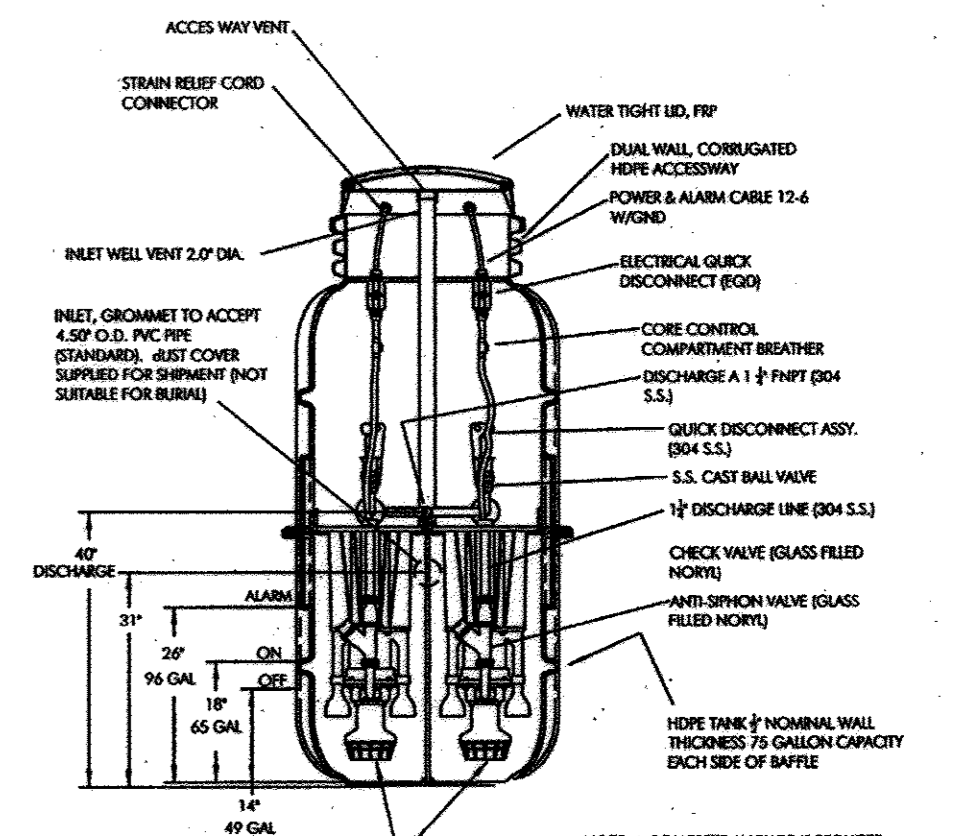
**GATE DETAIL**  
NOT TO SCALE



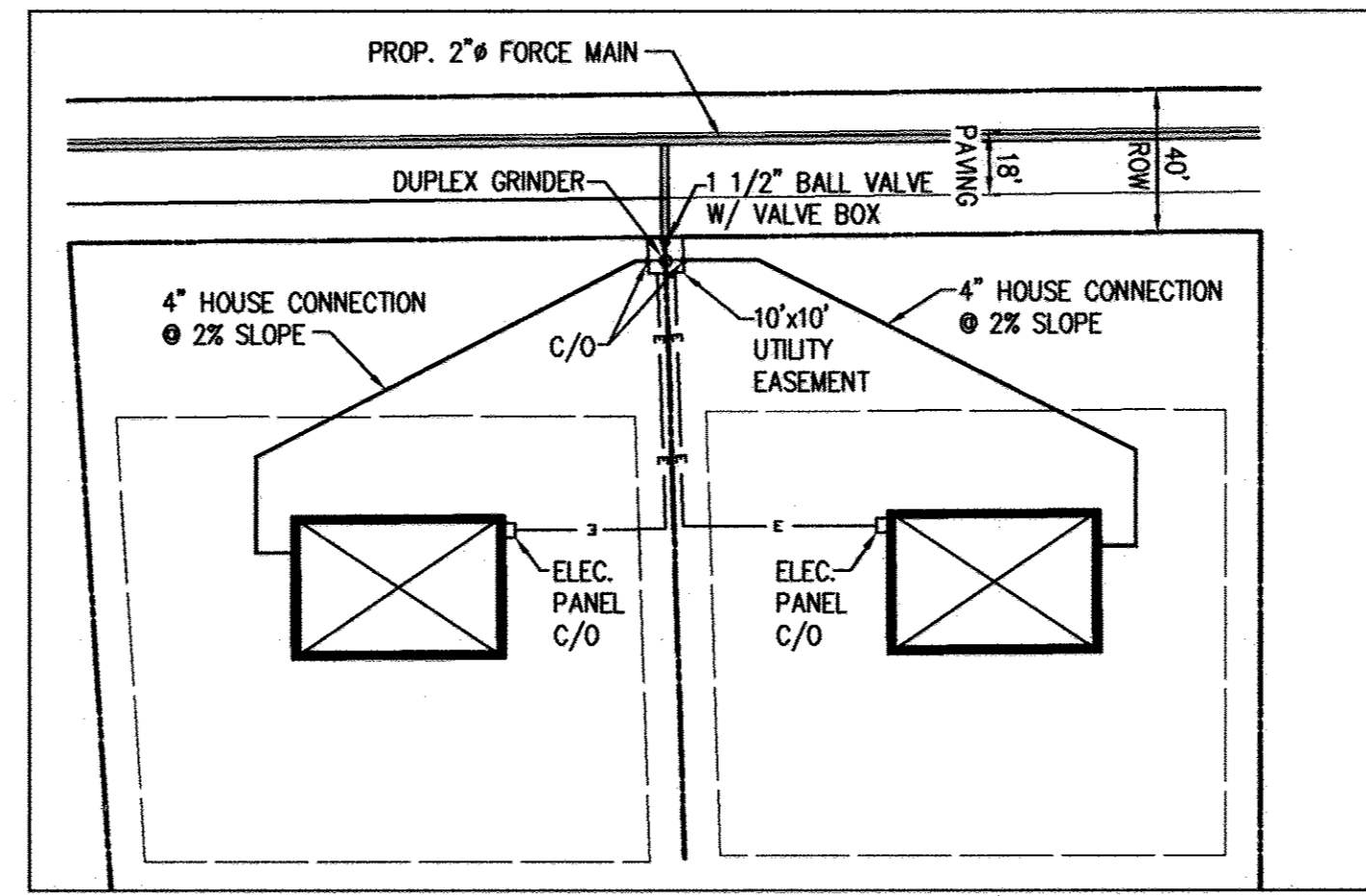
**NEW SERVICE ENTRANCE WIRING DIAGRAM**  
NOT TO SCALE



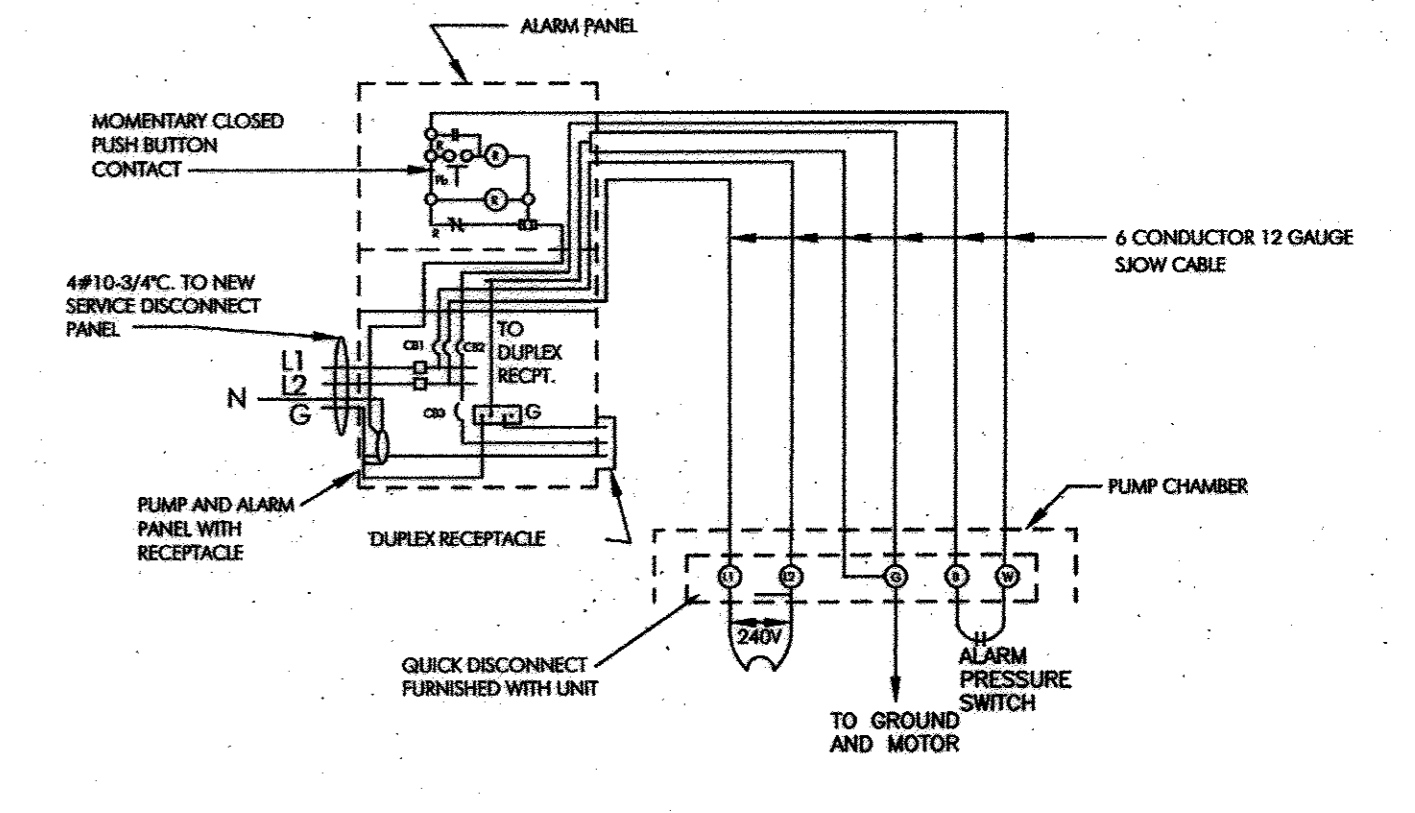
**GRINDER PUMP CONTROL & ALARM PANEL**  
NOT TO SCALE



**DUPLEX ENVIRONMENT ONE GRINDER PUMP MODEL 2014-160**  
NOT TO SCALE



**TYPICAL SEWER HOUSE CONNECTION FOR DUPLEX GRINDER**  
NOT TO SCALE



**SEWAGE GRINDER PUMP WIRING DIAGRAM (240 v) TYPICAL EACH PUMP UNIT**  
NOT TO SCALE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, LOTS 2113-16, 23-26, AND 28-32; AND FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEM FOR LOTS 3-10, 17-22, 12 & 27.  
HOWARD COUNTY HEALTH DEPARTMENT  
*Robert W. Weber* 6/21/05  
for HOWARD COUNTY HEALTH OFFICER: BG/KW DATE

HOWARD SOIL CONSERVATION DISTRICT:  
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE DATE  
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
HOWARD SOIL CONSERVATION DISTRICT DATE

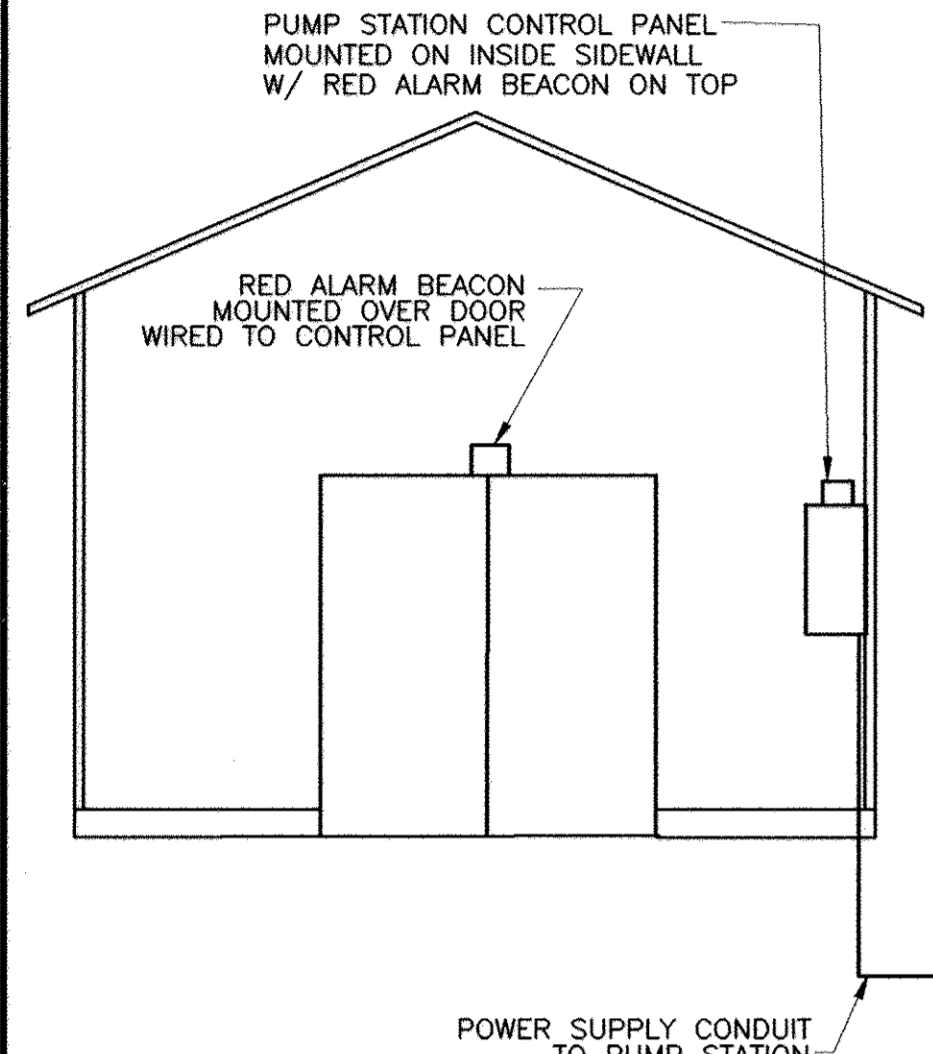
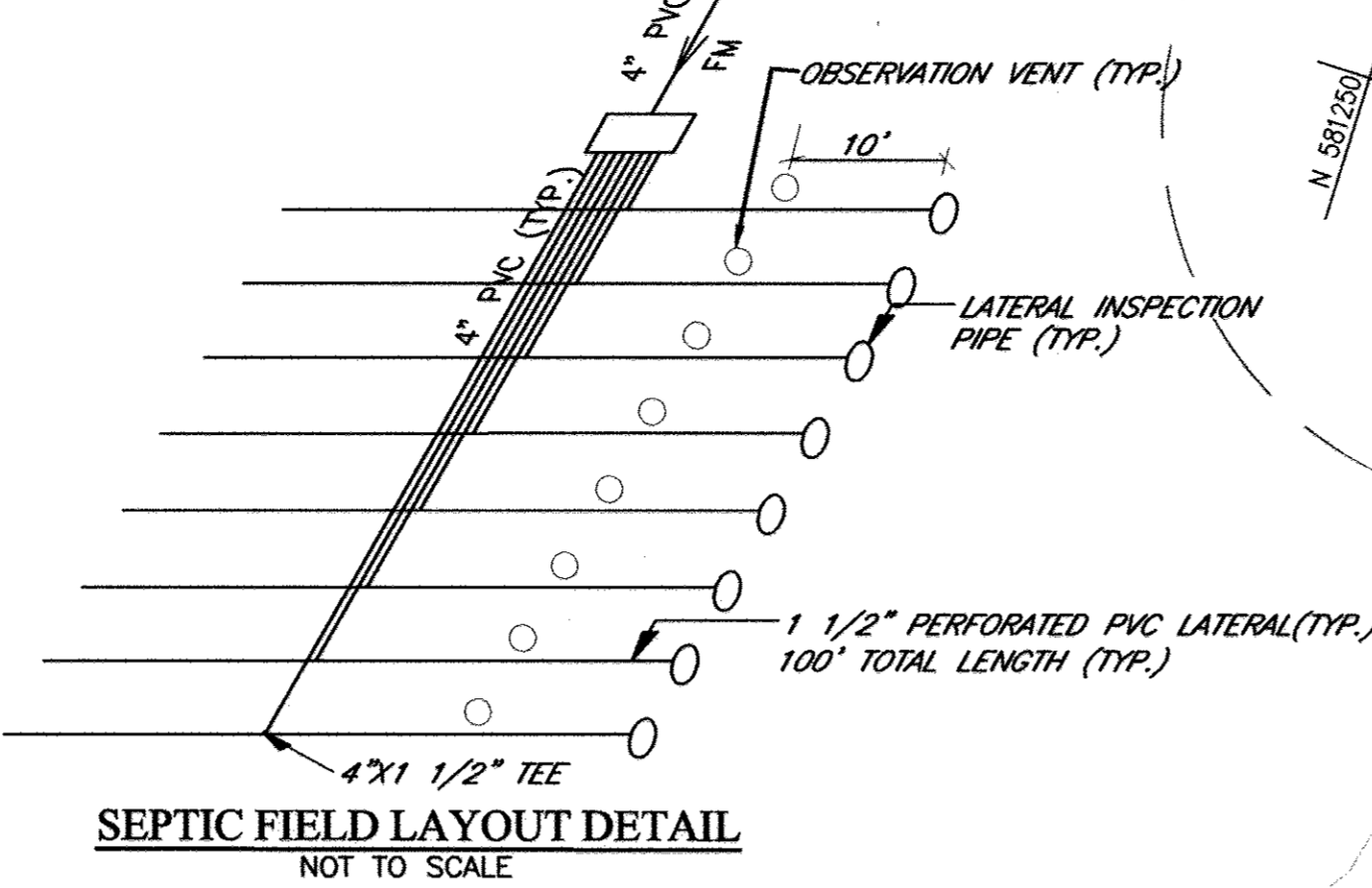
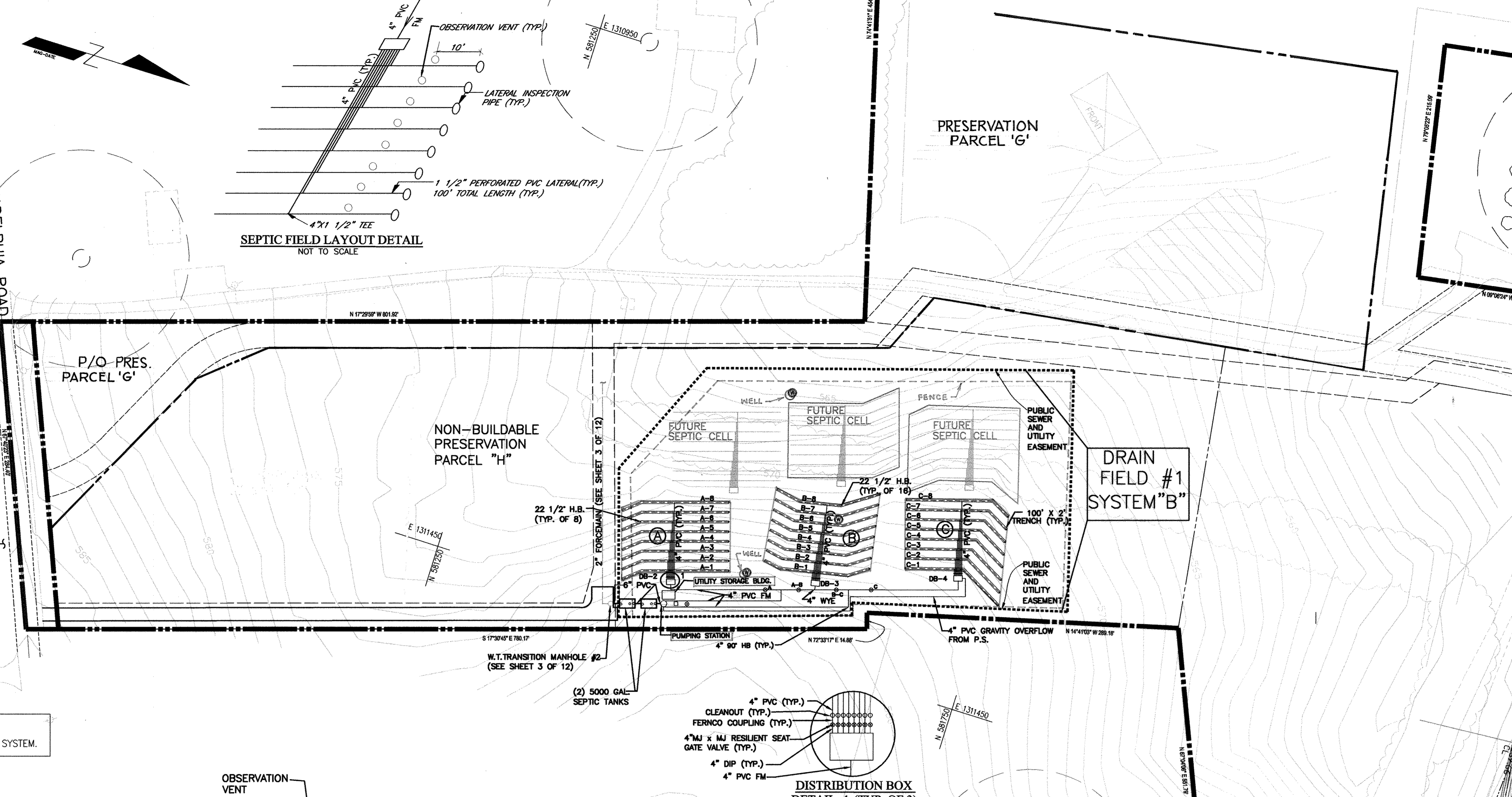
SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER F-05-29.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	PREPARED BY: <b>American Land Development and Engineering, Inc.</b> 10749 BIRMINGHAM WAY WOODSTOCK, MD. 21163 TEL. (410) 465-7900 FAX. (410) 465-3845	DES.: DW/AG	DRN.: AVG	CHK.: DW/JL	DATE: 4-21-05	BY NO.	REVISIONS	DATE	600' SCALE MAP No. 21	BLOCK No. 12	<b>HOPKINS CHOICE</b> LOTS 2 THRU 32 & PRESERVATION PARCELS A THRU H SHARED SEWAGE DISPOSAL AND FORCE MAIN CONTRACT No. : 50-4254-D 4th ELECTION DISTRICT HOWARD COUNTY, MD.	SCALE : AS SHOWN	SHEET No. 7 OF 12
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APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, LOTS 2, 4, 13-16, 23-26 AND 28-32; AND FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEM FOR LOTS 3-10, 17-22, 12 & 27. HOWARD COUNTY HEALTH DEPARTMENT

*Robert W. ...*  
 for HOWARD COUNTY HEALTH OFFICER

6/1/05  
 DATE



**UTILITY STORAGE BUILDING**  
 SCALE: N.T.S.  
 SEE SPECIFICATIONS (SHEET 10 OF 12)

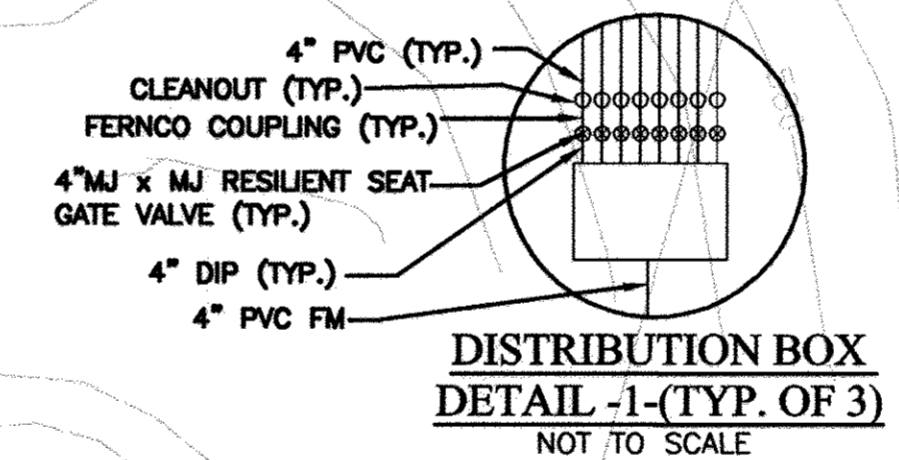
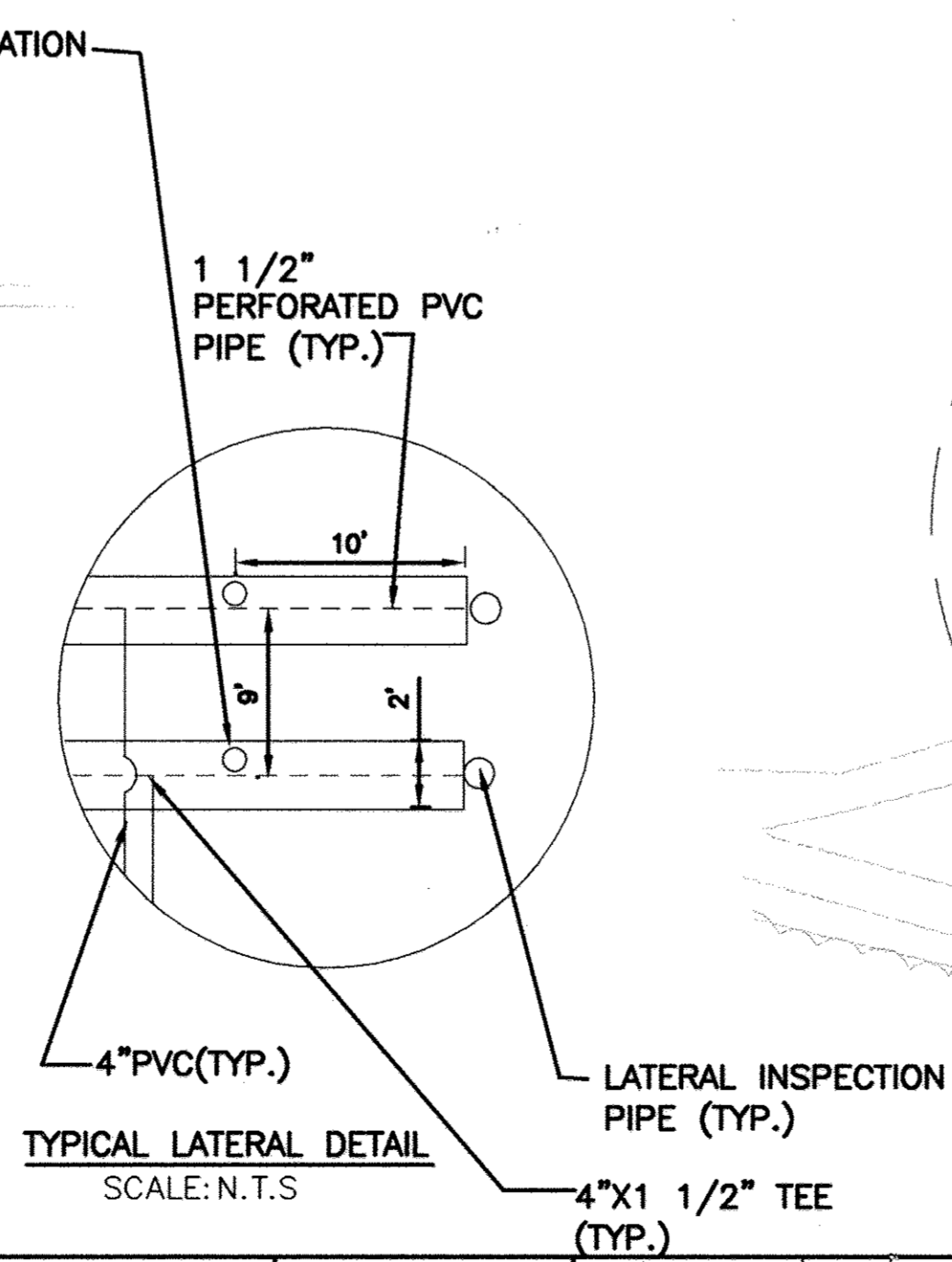
NOTE:  
 THIS SHARED ON SITE SEWAGE DISPOSAL SYSTEM MUST BE PLACED IN SERVICE BEFORE THE COLLECTION SYSTEM.

DRAIN FIELD SCHEDULE, FIELD 1 (B)

TRENCH LAYOUT- PRESSURE, DEEP TRENCH, 1 1/2" DIAMETER LATERALS

TRENCH NO.	LATERAL INV.	STONE DEPTH (FT.) BELOW LATERAL	TRENCH LENGTH (FT.)	LATERAL LENGTH (FT.)	DESIGN HEAD (FT.)	ORIFICE DIA. (IN.)	ORIFICE FLOW RATE (GPM.)	ORIFICE SPACING (FT.)	NUMBER OF ORIFICES	LATERAL FLOW RATE (GPM.)
A-1	573.7	5	100	50	2.0	5/16	1.6	8.3	6	9.8
A-2	573.7	5	100	50	2.0	5/16	1.6	8.3	6	9.8
A-3	573.7	5	100	50	2.0	5/16	1.6	8.3	6	9.8
A-4	573.0	5	100	50	2.0	5/16	1.6	8.3	6	9.8
A-5	572.0	5	100	50	2.0	5/16	1.6	8.3	6	9.8
A-6	571.5	5	100	50	2.0	5/16	1.6	8.3	6	9.8
A-7	570.5	5	100	50	2.0	5/16	1.6	8.3	6	9.8
A-8	569.7	5	100	50	2.0	5/16	1.6	8.3	6	9.8
B-1	572.3	4	100	50	2.0	5/16	1.6	8.3	6	9.8
B-2	572.5	5	100	50	2.0	5/16	1.6	8.3	6	9.8
B-3	572.3	5	100	50	2.0	5/16	1.6	8.3	6	9.8
B-4	572.3	5	100	50	2.0	5/16	1.6	8.3	6	9.8
B-5	571.4	5	100	50	2.0	5/16	1.6	8.3	6	9.8
B-6	570.5	5	100	50	2.0	5/16	1.6	8.3	6	9.8
B-7	569.5	5	100	50	2.0	5/16	1.6	8.3	6	9.8
B-8	569.0	5	100	50	2.0	5/16	1.6	8.3	6	9.8
C-1	570.3	4	100	50	2.0	5/16	1.6	8.3	6	9.8
C-2	570.7	5	100	50	2.0	5/16	1.6	8.3	6	9.8
C-3	571.0	4.6	100	50	2.0	5/16	1.6	8.3	6	9.8
C-4	571.0	5	100	50	2.0	5/16	1.6	8.3	6	9.8
C-5	570.7	5	100	50	2.0	5/16	1.6	8.3	6	9.8
C-6	570.4	5	100	50	2.0	5/16	1.6	8.3	6	9.8
C-7	570.0	5	100	50	2.0	5/16	1.6	8.3	6	9.8
C-8	569.5	5	100	50	2.0	5/16	1.6	8.3	6	9.8

NOTE:  
 FOR SEPTIC TANK, DISTRIBUTION BOX, AND TRENCH DETAILS, SEE SHEET 10 OF 12

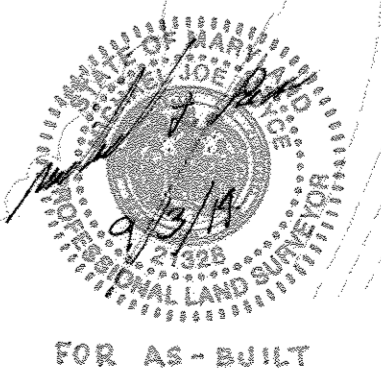


**PLAN**  
 SCALE: 1"=50'

NOTE:  
 FOR 20 SCALE REDLINE OF SEPTIC SYSTEM "B" SEE SHEET 3 OF 12.

**LEGEND**

- ⊙ PROP. MONITORING WELL
- POTABLE WELL (EXISTING)
- ⊞ POTABLE WELL (PROPOSED)
- ⊞ SEPTIC EASEMENT AREA
- ⊞ RESILIENT SEAT GATE VALVE AND ROADWAY BOX
- SANITARY CLEAN OUT



**AS-BUILT**

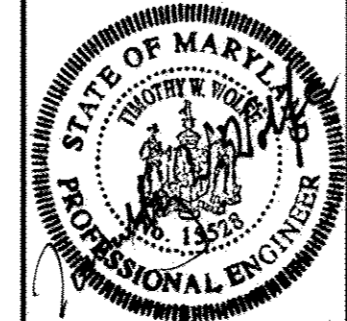
DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Robert W. ...*  
 6-3-05  
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

*...*  
 6/2/05  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**KCI TECHNOLOGIES**  
 ENGINEERS PLANNERS ARCHITECTS CONSTRUCTION MANAGERS  
 10 HOBBS PLACE DRIVE  
 HERRINGTON, MD 21090  
 PHONE: (410) 316-7800  
 FAX: (410) 316-7817  
 www.kci.com



DES.: KAK					
DRN.: CK					
CHK.: TWW					
DATE: Mar 31, 2005	BY	NO.	REVISIONS	DATE	

**PLAN**

600' SCALE MAP No. 21 BLOCK No. 12

**HOPKINS CHOICE**  
 LOTS 1 THRU 31 & PRESERVATION PARCELS A THRU B  
**SHARED SEWAGE DISPOSAL SYSTEM**  
 CONTRACT No.:  
 4th ELECTION DISTRICT HOWARD COUNTY, MD.

SCALE:  
 AS SHOWN

SHEET No.  
 8 OF 12

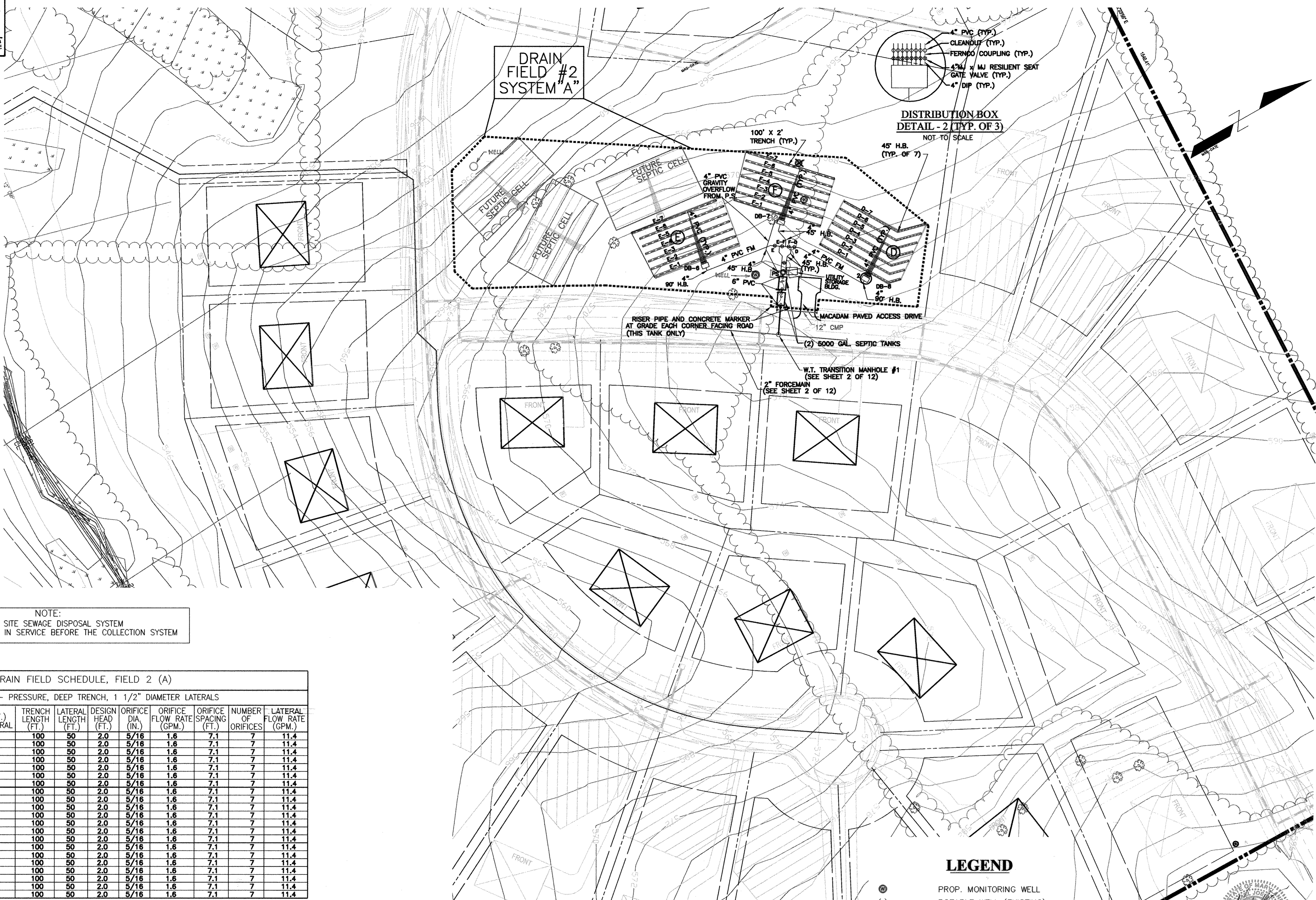
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APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, LOTS 2, 4, 13-16, 23-26, AND 28-32; AND FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEM FOR LOTS 3-10, 12, 17-22 & 27.  
 HOWARD COUNTY HEALTH DEPARTMENT

*Robert J. Wilson*  
 for HOWARD COUNTY HEALTH OFFICER

6/21/85  
 DATE



NOTE:  
 THIS SHARED ON SITE SEWAGE DISPOSAL SYSTEM  
 MUST BE PLACED IN SERVICE BEFORE THE COLLECTION SYSTEM

DRAIN FIELD SCHEDULE, FIELD 2 (A)

TRENCH LAYOUT- PRESSURE, DEEP TRENCH, 1 1/2" DIAMETER LATERALS

TRENCH NO.	LATERAL INV.	STONE DEPTH (FT.) BELOW LATERAL	TRENCH LENGTH (FT.)	LATERAL LENGTH (FT.)	DESIGN HEAD (FT.)	ORIFICE DIA. (IN.)	ORIFICE FLOW RATE (GPM.)	ORIFICE SPACING (FT.)	NUMBER OF ORIFICES	LATERAL FLOW RATE (GPM.)
D-1	568.4	4	100	50	2.0	5/16	1.6	7.1	7	11.4
D-2	568.4	4	100	50	2.0	5/16	1.6	7.1	7	11.4
D-3	568.0	4	100	50	2.0	5/16	1.6	7.1	7	11.4
D-4	568.0	4	100	50	2.0	5/16	1.6	7.1	7	11.4
D-5	568.0	4	100	50	2.0	5/16	1.6	7.1	7	11.4
D-6	567.5	4	100	50	2.0	5/16	1.6	7.1	7	11.4
D-7	567.0	4	100	50	2.0	5/16	1.6	7.1	7	11.4
E-1	570.5	5	100	50	2.0	5/16	1.6	7.1	7	11.4
E-2	570.5	5	100	50	2.0	5/16	1.6	7.1	7	11.4
E-3	570.0	5	100	50	2.0	5/16	1.6	7.1	7	11.4
E-4	569.5	5	100	50	2.0	5/16	1.6	7.1	7	11.4
E-5	569.5	5	100	50	2.0	5/16	1.6	7.1	7	11.4
E-6	569.5	5	100	50	2.0	5/16	1.6	7.1	7	11.4
E-7	569.0	5	100	50	2.0	5/16	1.6	7.1	7	11.4
F-1	568.5	5	100	50	2.0	5/16	1.6	7.1	7	11.4
F-2	568.5	5	100	50	2.0	5/16	1.6	7.1	7	11.4
F-3	568.0	5	100	50	2.0	5/16	1.6	7.1	7	11.4
F-4	567.5	5	100	50	2.0	5/16	1.6	7.1	7	11.4
F-5	567.0	5	100	50	2.0	5/16	1.6	7.1	7	11.4
F-6	566.3	5	100	50	2.0	5/16	1.6	7.1	7	11.4
F-7	565.7	5	100	50	2.0	5/16	1.6	7.1	7	11.4

NOTE:  
 FOR SEPTIC TANK, DISTRIBUTION BOX AND TRENCH DETAILS  
 SEE SHEET 10 OF 12.

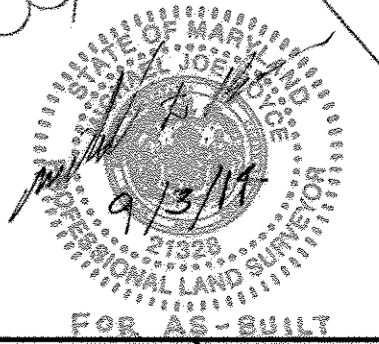
**PLAN**  
 SCALE: 1"=50'

NOTE:  
 FOR 20 SCALE REPLINE OF SEPTIC SYSTEM 'A' SEE SHEET 11 OF 12.

**LEGEND**

- ⊙ PROP. MONITORING WELL
- ( ) POTABLE WELL (EXISTING)
- ⊠ POTABLE WELL (PROPOSED)
- SEPTIC EASEMENT AREA
- ⊗ RESILIENT SEAT GATE VALVE AND ROADWAY BOX
- SANITARY CLEAN OUT

**AS-BUILT**



Mar 31, 2005 10:44am User: Kaito MA:2004A01042370 Drawing:VEB 05--HNC--3\_Plan.dwg

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
*Robert J. Wilson* 6-3-05  
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND  
*Robert J. Wilson* 6/23/05  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**KCI**  
 TECHNOLOGIES  
 ENGINEERS  
 PLANNERS  
 SCIENTISTS  
 CONSTRUCTION MANAGERS  
 10 Norton Farm Drive  
 Hunt Valley, MD 21030  
 Phone: (410) 316-7800  
 Fax: (410) 316-7817  
 www.kci.com



DES.: KAK					
DRN.: CK					
CHK.: TW					
DATE: Mar 31, 2005	BY	NO.	REVISIONS	DATE	

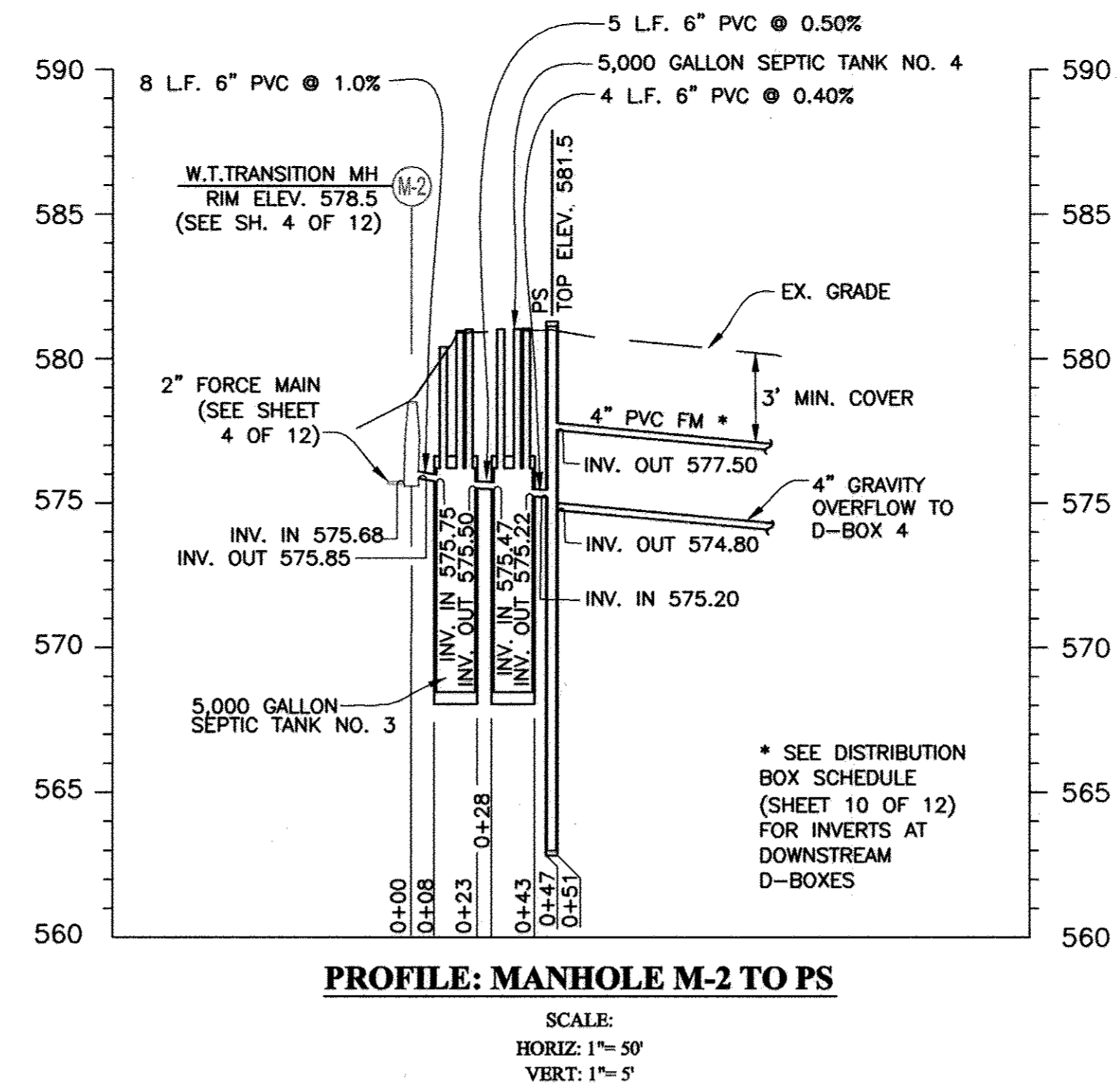
**PLAN**

600' SCALE MAP No. 21      BLOCK No. 12

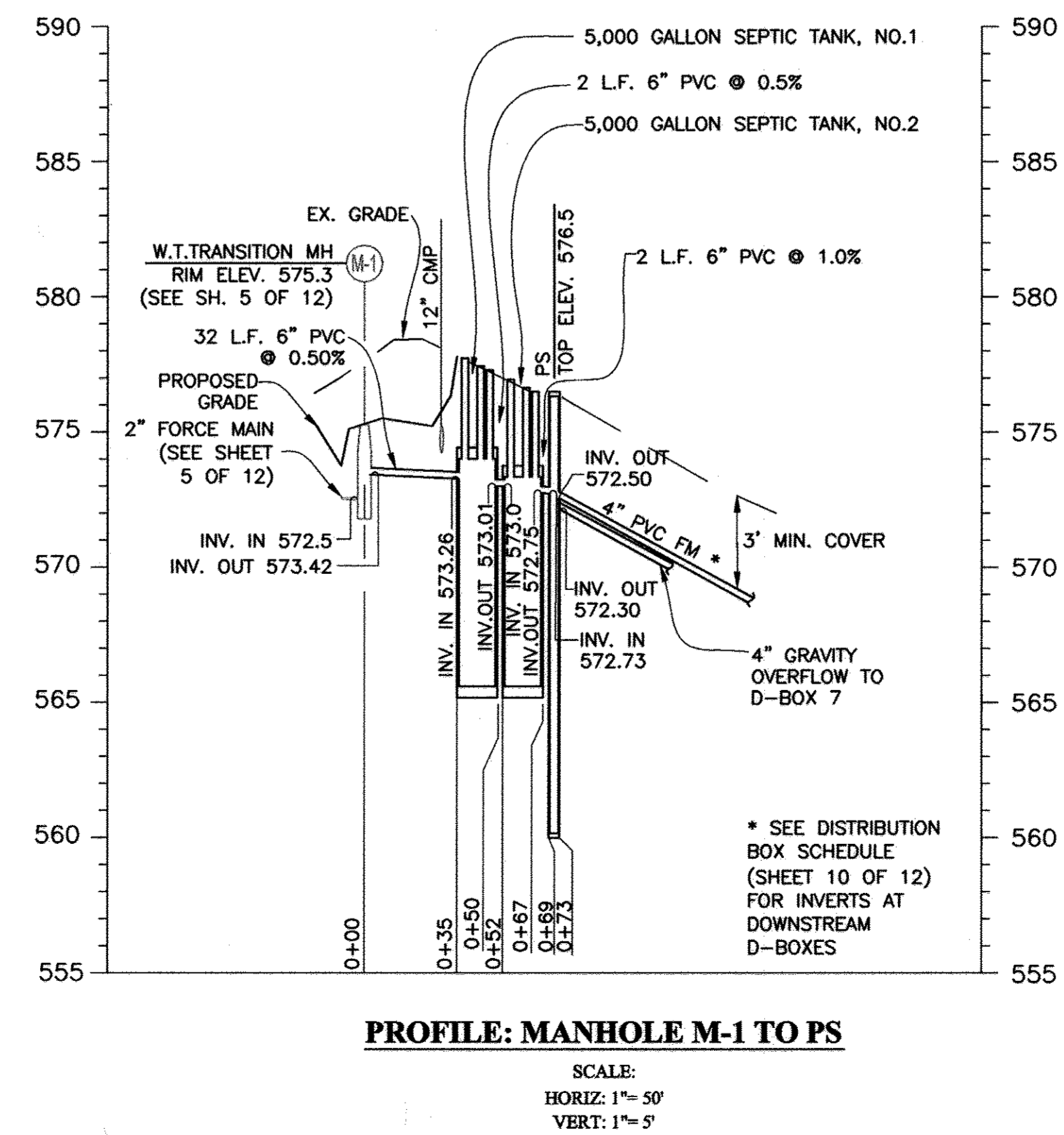
**HOPKINS CHOICE**  
 LOTS 1 THRU 31 & PRESERVATION PARCELS A THRU B  
**SHARED SEWAGE DISPOSAL SYSTEM**  
 CONTRACT No.:  
 4th ELECTION DISTRICT      HOWARD COUNTY, MD.

SCALE:  
 AS SHOWN  
 SHEET No.  
 9 OF 12

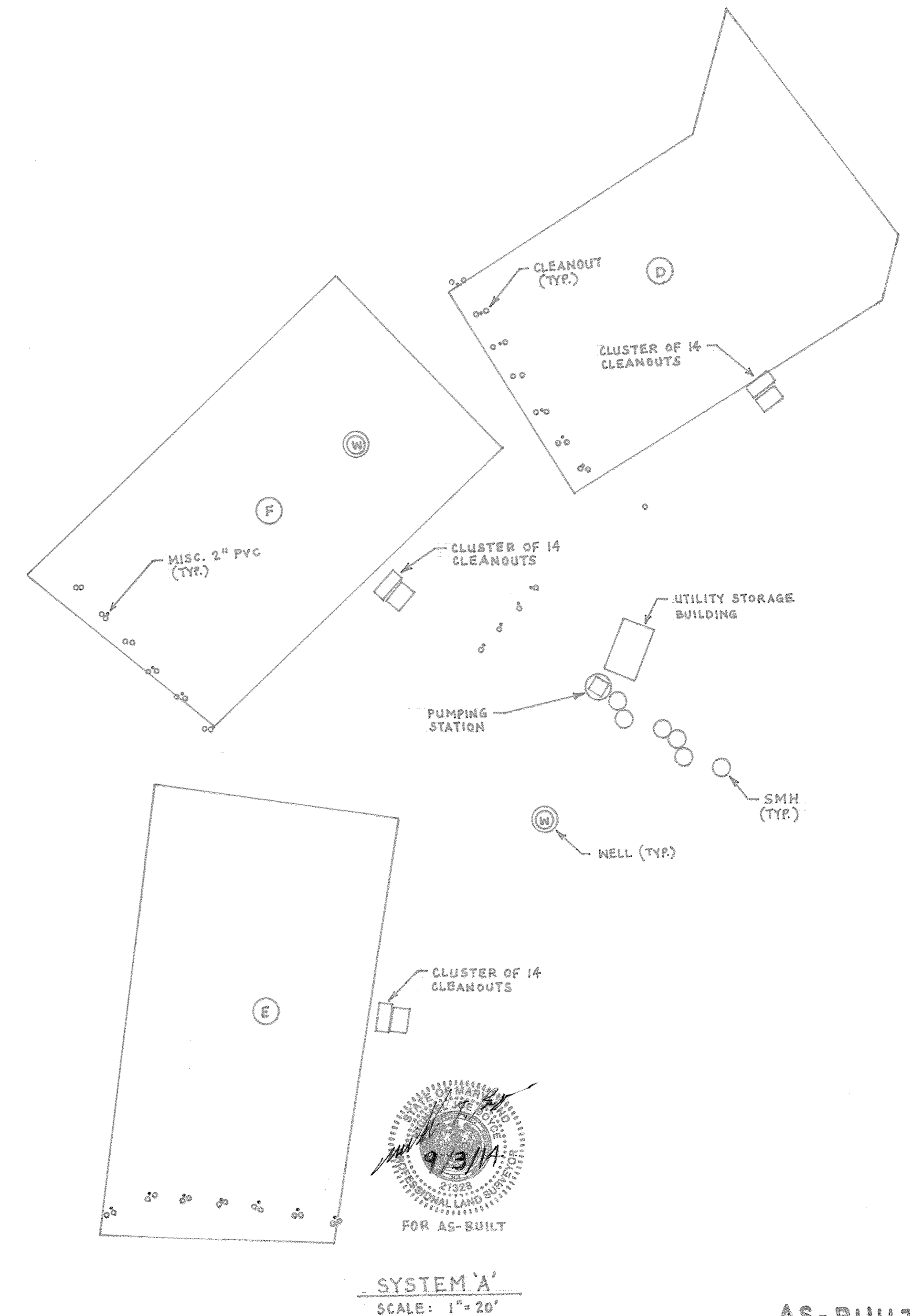




## DRAINFIELD #1 PROFILE



## DRAINFIELD #2 PROFILE



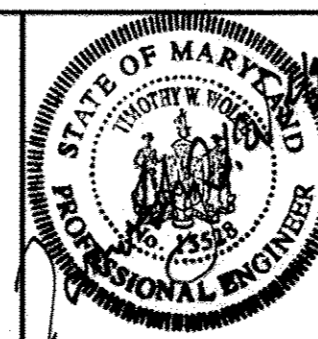
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, LOTS 2, 11, 13-16, 23-26, AND 28-32; AND FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEM FOR LOTS 3-10, 12, 17-22 & 27.

HOWARD COUNTY HEALTH DEPARTMENT  
*Robert G. W. Delo*  
 HOWARD COUNTY HEALTH OFFICER  
 DATE: 6/21/05

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

**KCI**  
 ENGINEERS  
 PLANNERS  
 SURVEYORS  
 CONSTRUCTION MANAGERS  
 10 NORTH PINE DRIVE  
 HUNT VALLEY, MD 21030  
 PHONE: (410) 316-7800  
 FAX: (410) 316-7817  
 www.kci.com



DES.: KAK					
DRN.: CK					
CHK.: TWW					
DATE: Mar 31, 2005	BY	NO.	REVISIONS	DATE	

### PROFILES

600' SCALE MAP No. 21      BLOCK No. 12

**HOPKINS CHOICE**  
 LOTS 1 THRU 31 & PRESERVATION PARCELS A THRU B  
**SHARED SEWAGE DISPOSAL SYSTEM**  
 CONTRACT No.:  
 4th ELECTION DISTRICT      HOWARD COUNTY, MD.

SCALE:  
AS SHOWN

SHEET No.  
11 OF 12

**STANDARD SEDIMENT CONTROL NOTES**

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permit, Sediment Control Division prior to the start of any construction (313-1856).
- 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 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- 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.
- All sediment traps/basins shall be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12 of the Howard County Design Manual, Storm Drainage.
- All disturbed areas must be fenced within the time period specified above in accordance with 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (sec. 51), sod (sec. 54), temporary seeding (sec. 50) and mulching (sec. 52). Temporary stabilization with mulch alone can be done only when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis :
 

Total Area of Site	66.84	Acres
Area Disturbed	5.72	Acres
Area to be roofed or paved	0.15	Acres
Area to be vegetatively stabilized	5.97	Acres
Total Cut	4,000	Cu. Yds.
Total Fill	4,000	Cu. Yds.
Offsite waste/borrow area location :	0.0000	

**PERMANENT SEEDING NOTES**

- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Seeded 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 recommendations, use one of the following schedules :
- Preferred -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Narrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
  - Acceptable -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Narrow or disk into upper three inches of soil.
- Seeding:** For the periods March 1 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by:
- Option 1 -- Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
- Option 2 -- Use sod. Option 3 -- Seed 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 anchoring.
- Maintenance:** Inspect all seeding areas and make needed repairs, replacements and reseedings.

**TEMPORARY SEEDING NOTES**

- Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.
- Seeded Preparation:** Loosen upper three inches of soil by raking, disking 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 March 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 (.071lbs/1000 sq. ft.). For the period November 16 -- February 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.
- Mulching:** 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 anchoring.
- Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rate and methods not covered.

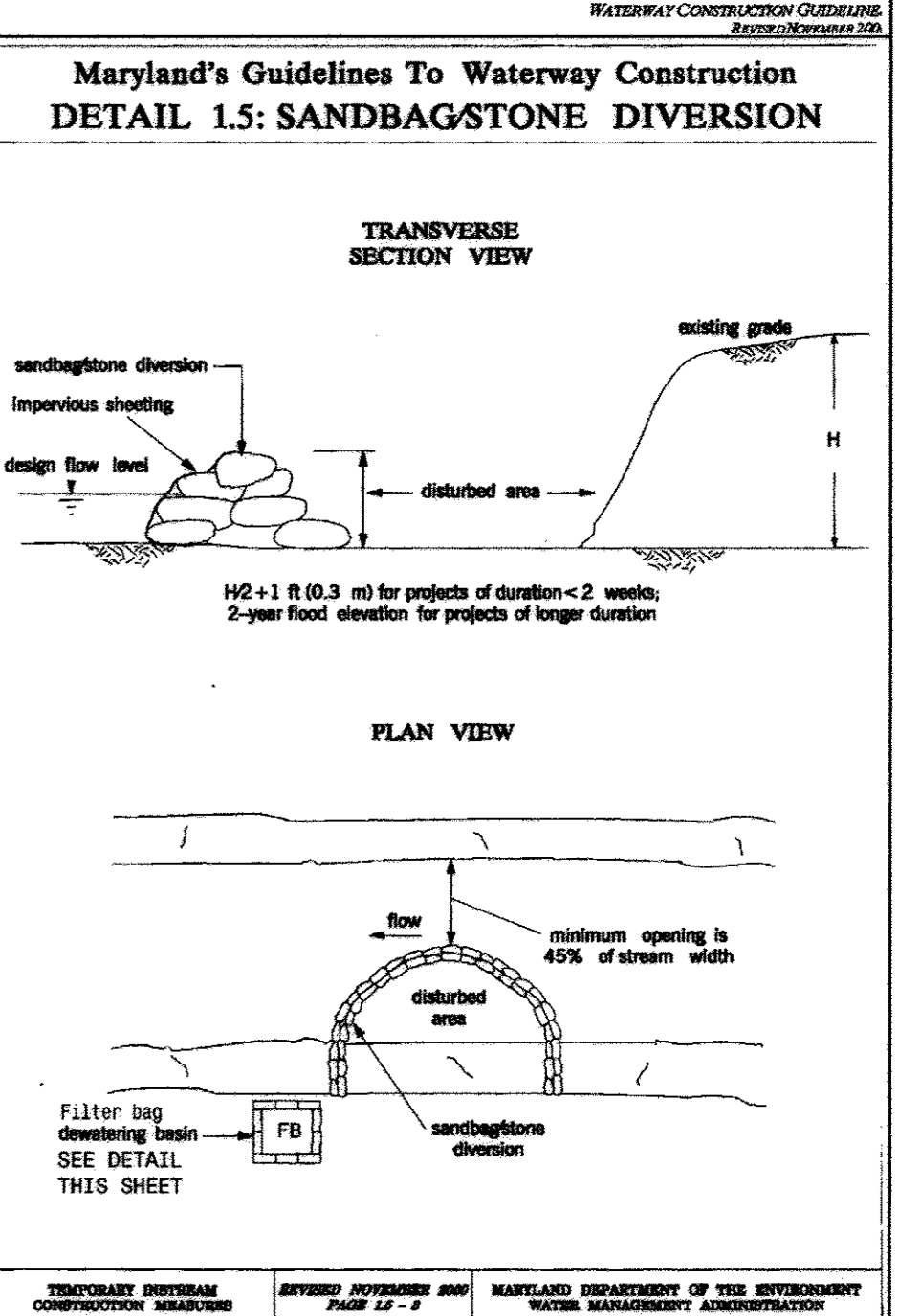
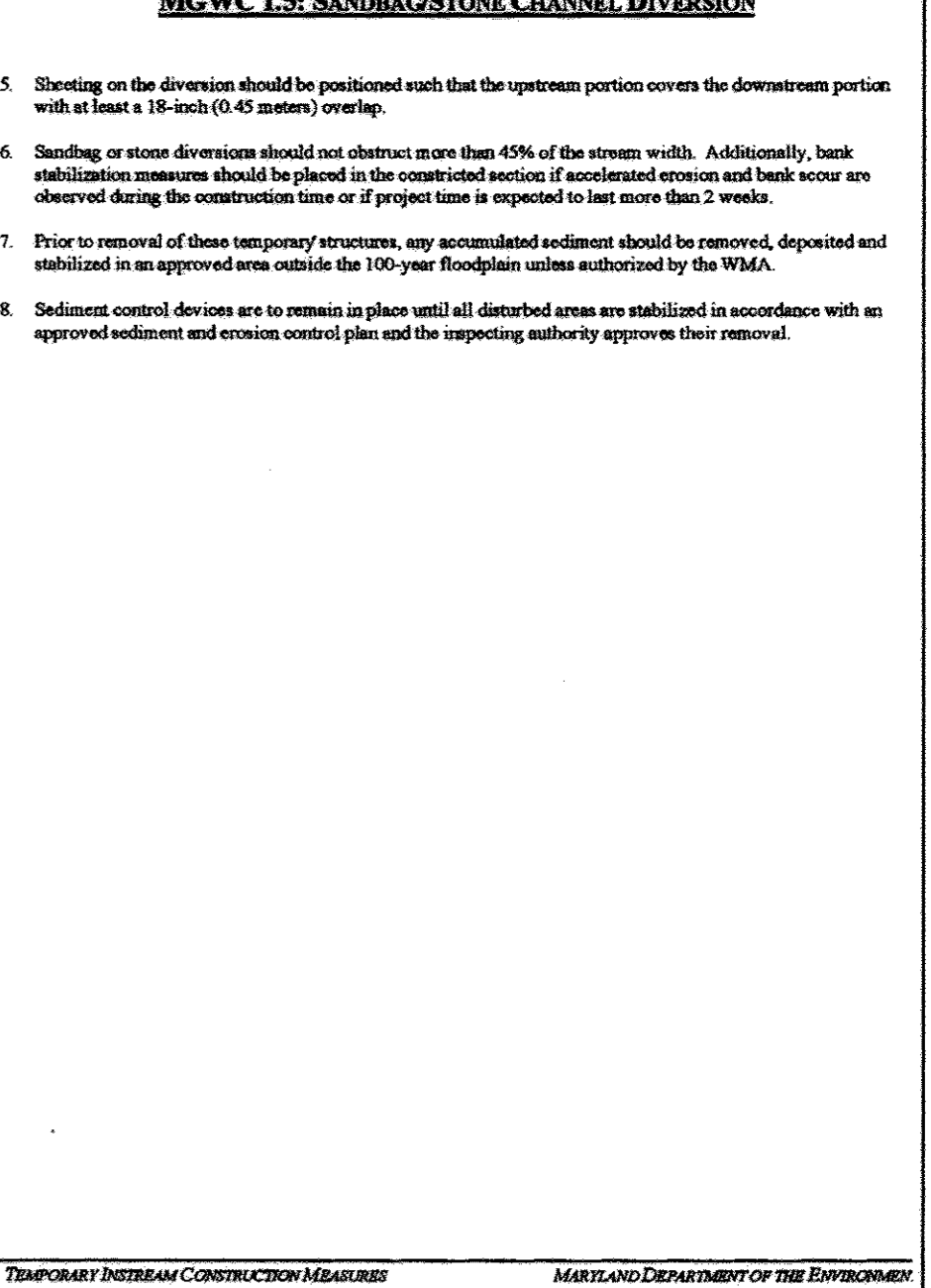
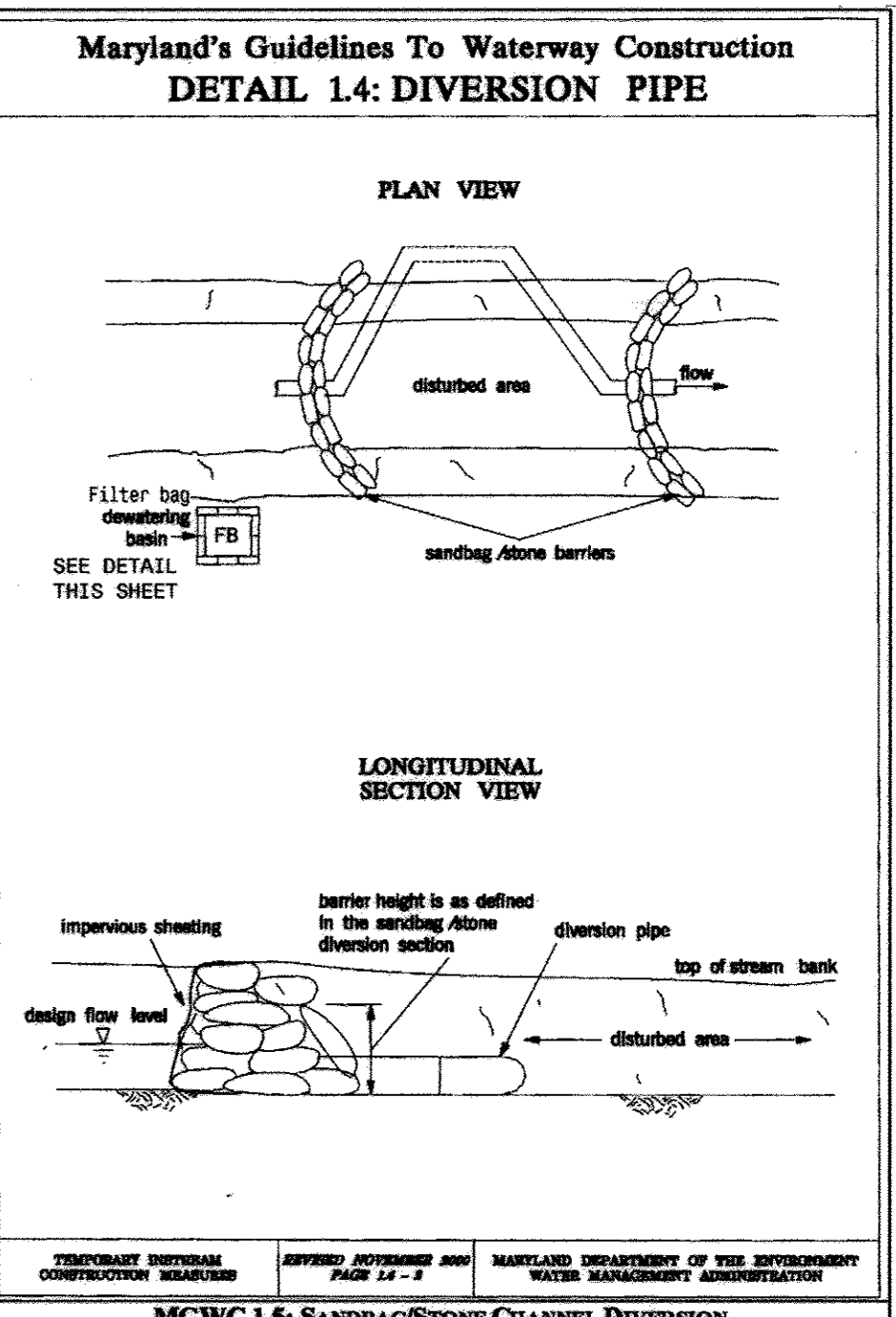
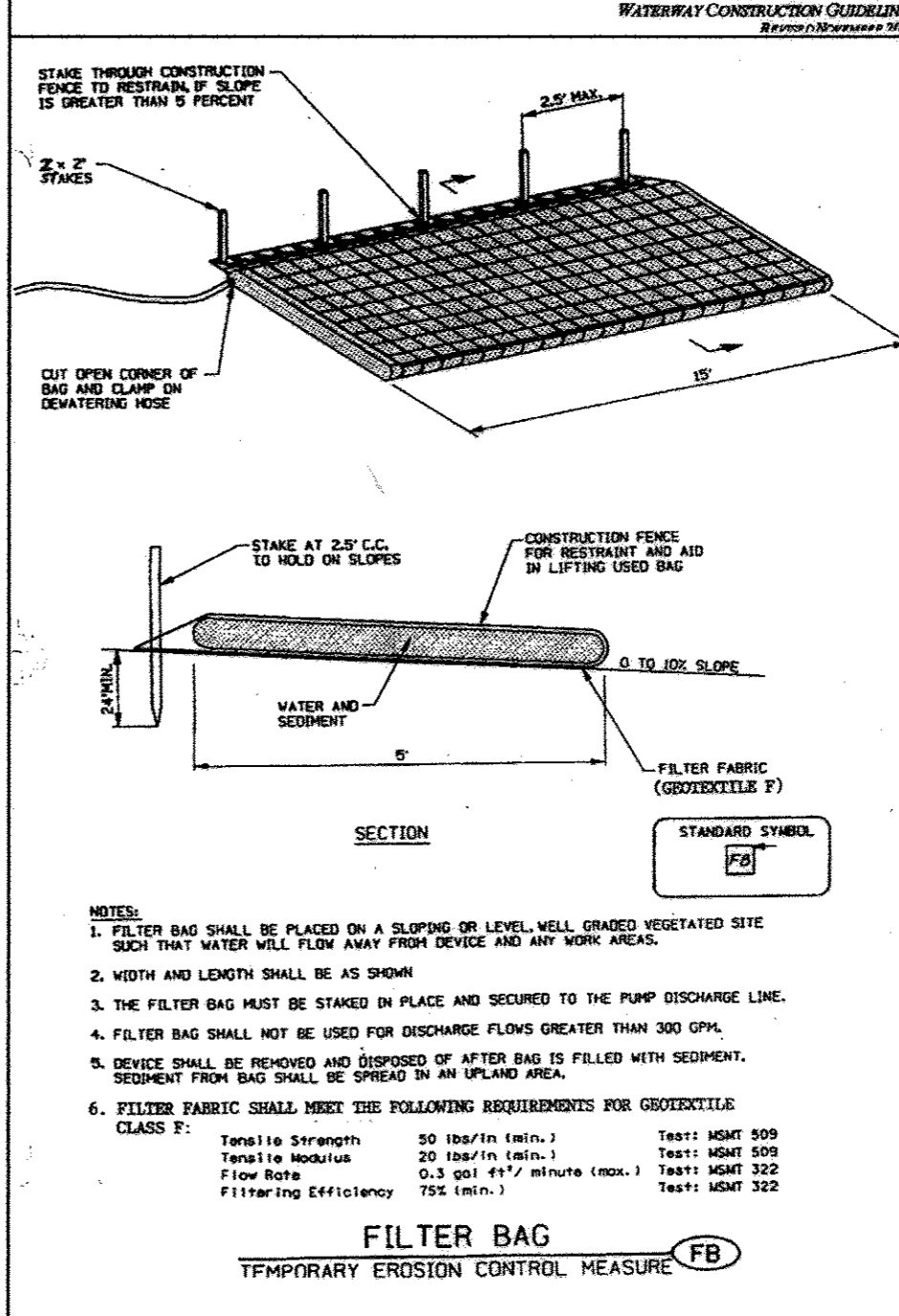
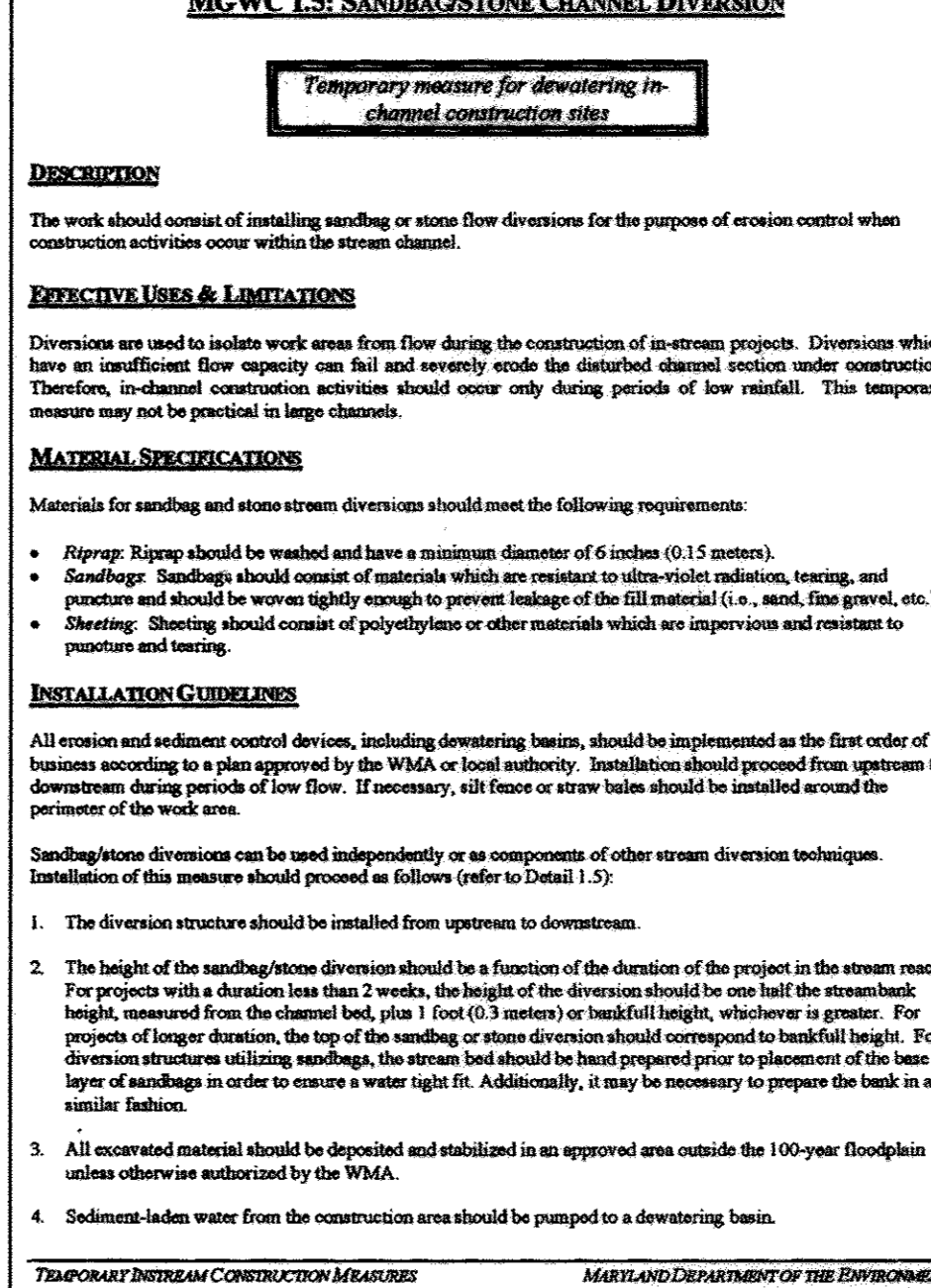
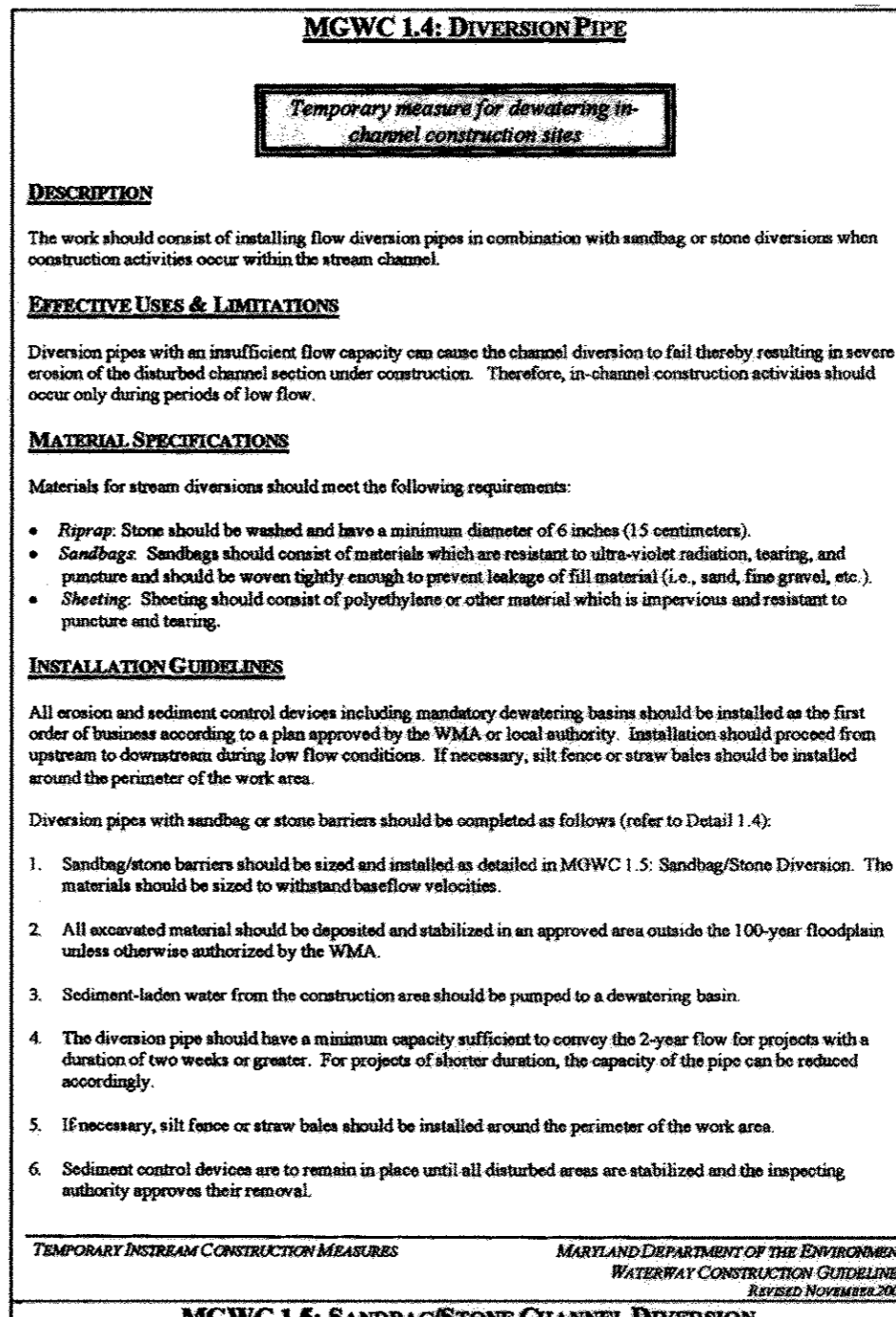
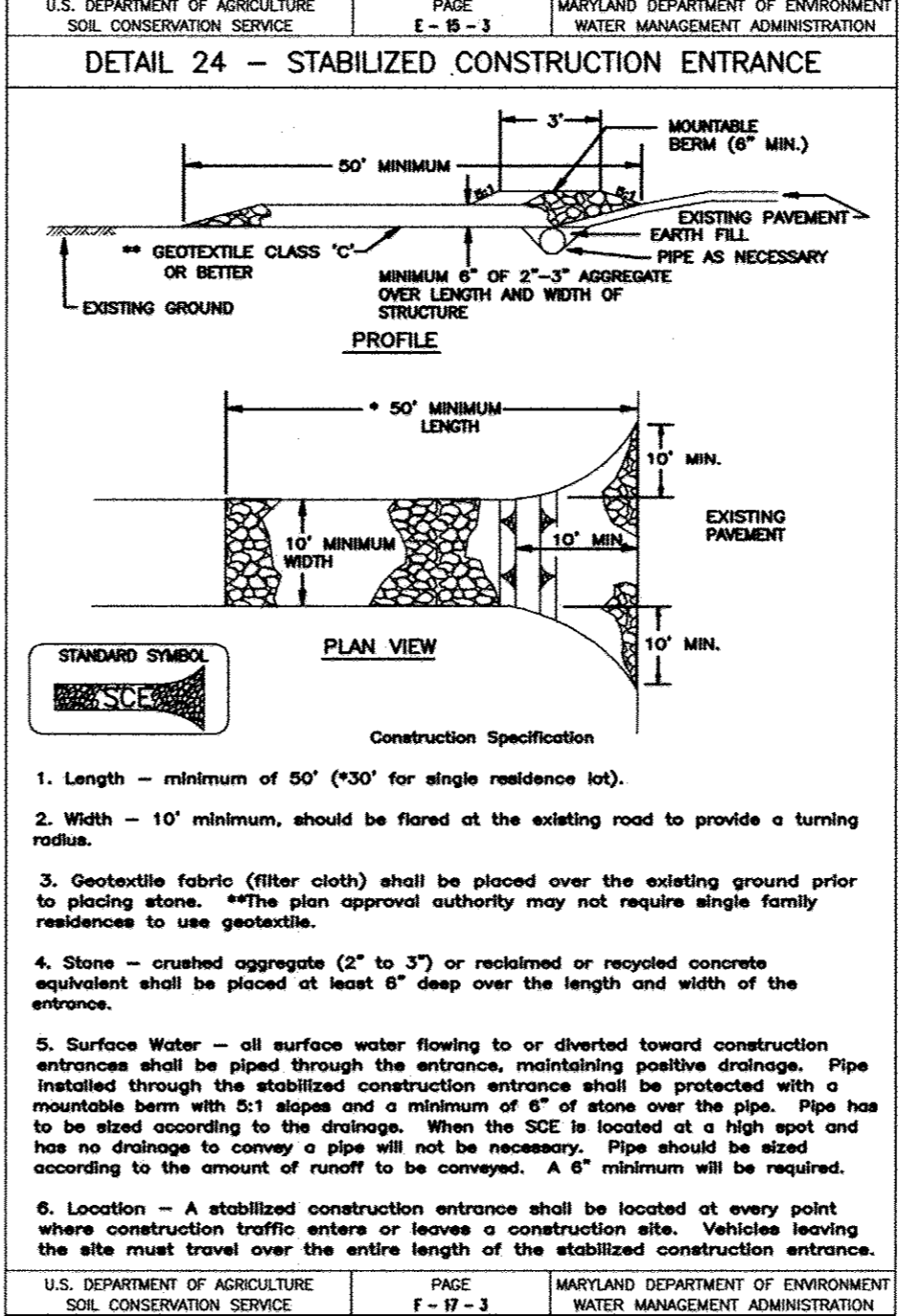
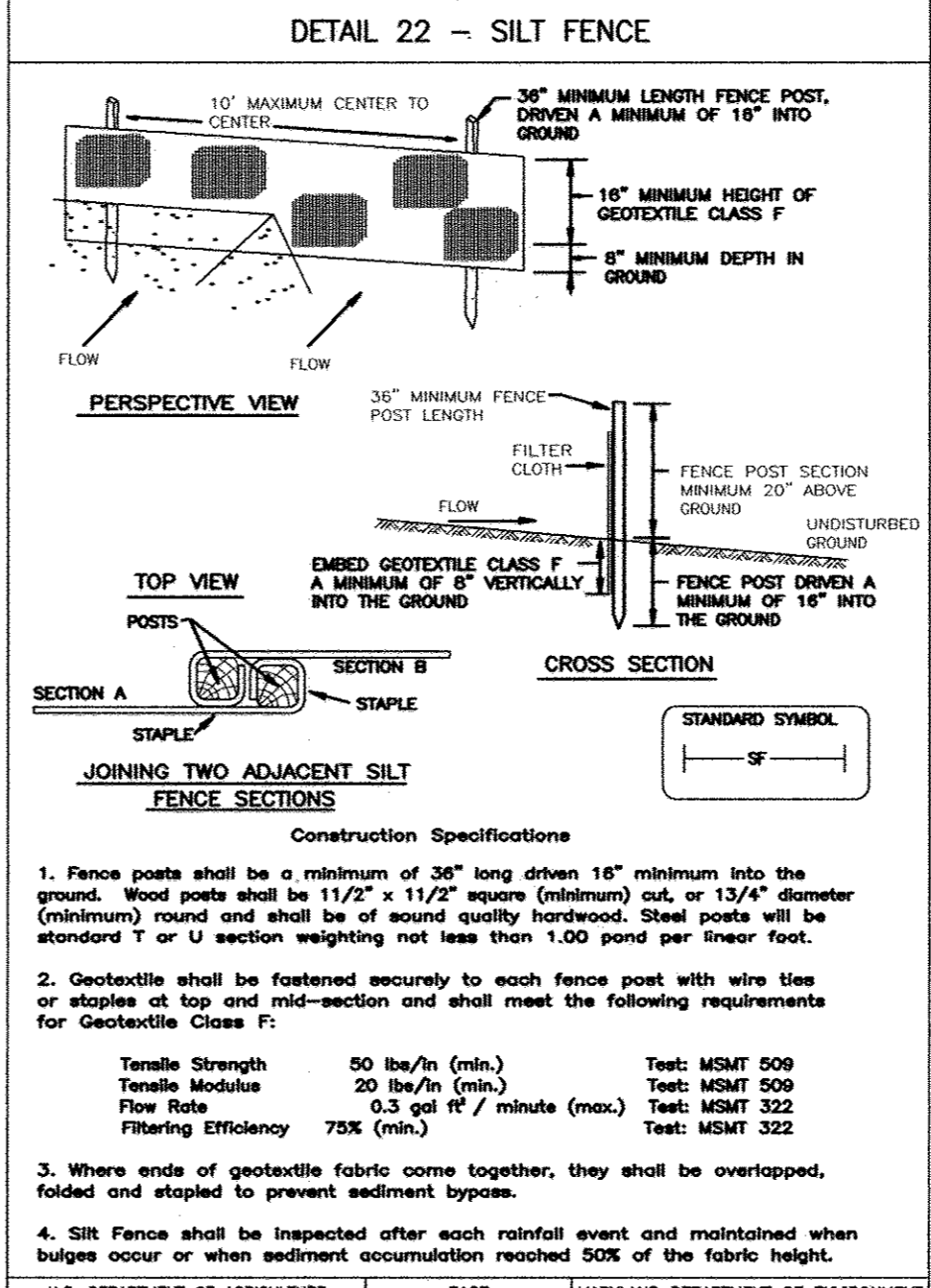
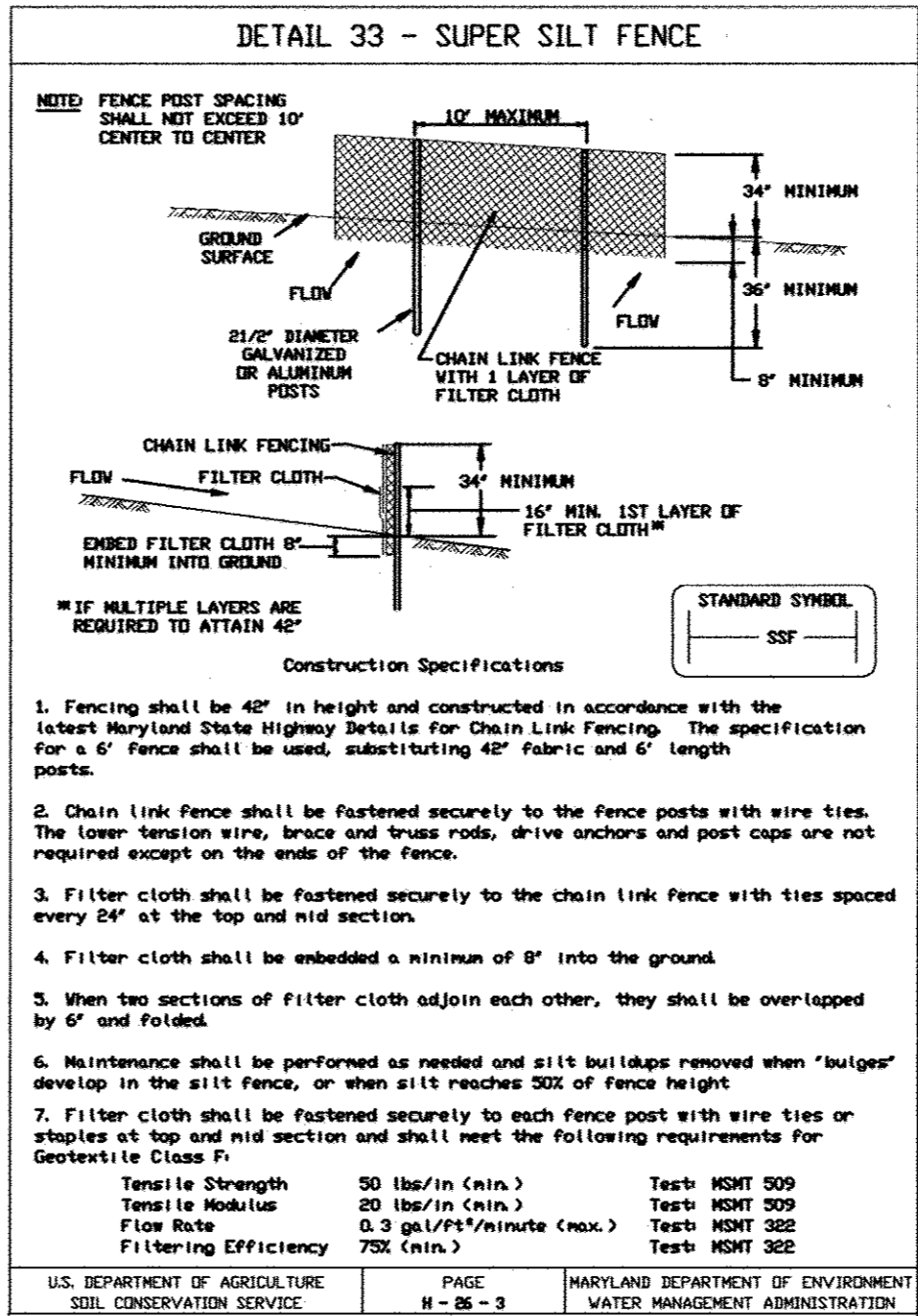
**STANDARDS AND SPECIFICATIONS FOR TOPSOIL**

- DEFINITION**  
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
- PURPOSE**  
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**
- This practice is limited to areas having 2:1 or flatter slopes where:
    - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
    - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
    - The original soil to be vegetated contains material toxic to plant growth.
    - The soil is so acidic that treatment with limestone is not feasible. If, 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 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-SCA in cooperation with Maryland Agricultural Experimental Station.
  - Topsoil Specification -- 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 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, slogs, coarse fragments, gravel, sticks, roots, trash, or other materials larger than the 1 1/2" in diameter.
    - 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.
    - 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.
  - For sites having disturbed areas under 5 acres:
    - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
  - For sites having disturbed areas over 5 acres:
    - On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
      - 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 higher.
      - 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 not be used.
      - 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 phytotoxic 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. If, place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

- V. Topsoil Application**
- When topsoiling, maintain needed erosion and sediment control practices such as ditches, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
  - Grades on the areas to be top soiled, which have been previously established, shall be maintained, albeit 4"-8" higher in elevation.
  - 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.
  - 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 seeded preparation.
  - 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:
    - 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:
      - 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.
      - 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.
      - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
    - 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.



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, LOTS 2, 11, 13-16, 23-26, AND 28-32; AND FOR PRIVATE WATER AND A SHARED SEWERAGE SYSTEM FOR LOTS 3-10, 17-22, 24 & 27. HOWARD COUNTY HEALTH DEPARTMENT

*Ruth W. Baker* 6/21/05  
HOWARD COUNTY HEALTH OFFICER

*Jim M. Morgan* 6/1/05  
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

HOWARD SOIL CONSERVATION DISTRICT: REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*John M. Morgan* 6/1/05  
HOWARD SOIL CONSERVATION DISTRICT

PERMIT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS PER F-05-29.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Ruth W. Baker* 6-2-05  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

PREPARED BY :  
**American Land Development and Engineering, Inc.**  
10749 BIRMINGHAM WAY WOODSTOCK, MD. 21163  
TEL. (410) 465-7903 FAX. (410) 465-3845

*John M. Morgan* 6/2/05  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

DES. : DW/AG	
DRN. : AVG	
CHK. : DW/JL	
DATE: 4-21-05	
BY NO.	
REVISIONS	

**SEDIMENT CONTROL NOTES AND DETAILS**

DATE 600' SCALE MAP No. 21 BLOCK No. 12

**HOPKINS CHOICE**  
LOTS 2 THRU 32 & PRESERVATION PARCELS A THRU H  
SHARED SEWAGE DISPOSAL AND FORCE MAIN  
CONTRACT No. : 50-4254-D  
4th ELECTION DISTRICT HOWARD COUNTY, MD.

SCALE : AS SHOWN  
SHEET No. 12 OF 12