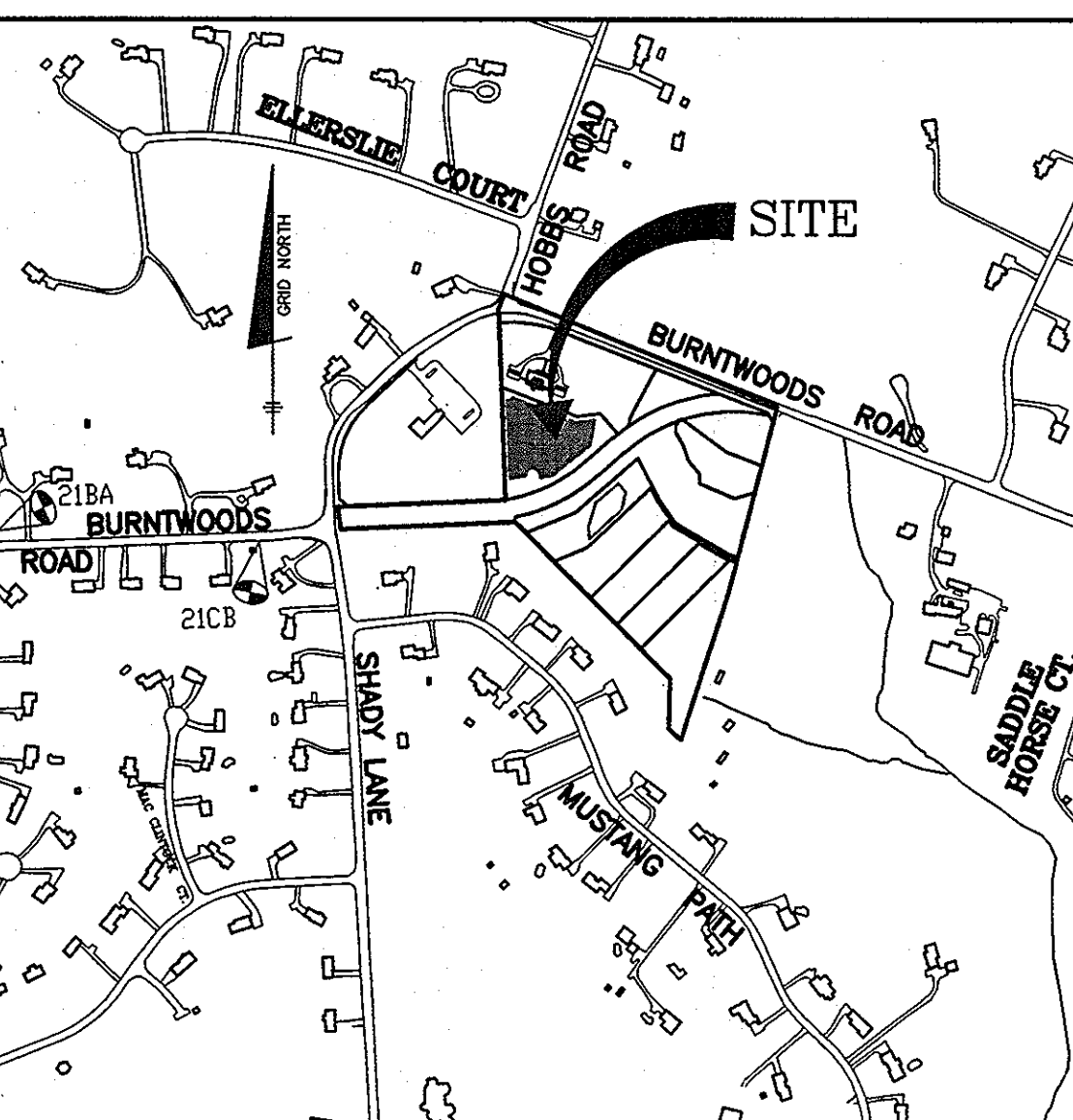


SHEET INDEX		BENCHMARKS NAD'83 HORIZONTAL	
NO.	TITLE	HO. CO. #21CB	ELEV. 590.645
1	PLAN VIEW OF SHARED SEPTIC AND NOTES	STAMPED BRASS DISK SET ON TOP OF CONCRETE BASE	N 588188.043
2	PROFILES OF SEWER MAIN AND DETAILS		E 1306716.629
3	DETAILS	HO. CO. #21BA	ELEV. 532.832
4	DETAILS	STAMPED BRASS DISK SET ON TOP OF CONCRETE BASE	N 588125.184
5	PRIVATE PRETREATMENT UNIT SPECIFICATIONS AND DETAILS		E 1303655.353



DEVELOPER:
BURNWOODS, L.L.C.
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041-0417
(410) 465-4244

OWNER:
GHASSANI NESHAWAT
14445 BURNWOODS ROAD
GLENWOOD, MARYLAND 21738-9530

SEPTIC TANK CAPACITY
*USE 5 BEDROOM HOUSE
1500 GALLONS PER 5 BEDROOM HOUSE
4 HOUSES X 1500 GALLONS = 6,000 GALLONS
USE TWO 3,000 GALLON TANKS

WATER AND SEWER COUNTY CODE		TYPE OF BUILDING - SINGLE FAMILY DETACHED	
WATER CODE:	N/A	NUMBER OF BUILDABLE LOTS:	6
SEWER CODE:	N/A	NUMBER OF SHC'S:	4
TEST GRADIENT:	N/A	NUMBER OF WHIC'S:	0
		DRAINAGE AREA:	PATUNY
		TREATMENT PLANT:	N/A

VICINITY MAP
SCALE: 1" = 600'
ADC HO. CO. MAP#9, G-2; H-2; G-3 AND H-3

TRENCH REQUIREMENTS
INITIAL SYSTEM
RESERVE #11.002
USE 5 BEDROOM HOUSE (WITH 150 GPD PER BEDROOM)
750 GPD PER HOUSE
750 GPD/HOUSE X 4 HOUSES = 3,000 GPD
3,000 GPD / 0.8 GPD/INCH DAY = 3,750 S.F. EFFECTIVE AREA
3,750 S.F. / 3 (3 FT. WIDE TRENCH) = 1,250 L.F.
1,250 L.F. X 0.62 (% DECREASE FOR 2' SIDEWALL) = 775 L.F.

GENERAL NOTES

PART 1 - GENERAL

- WELLS ON THE LOTS SURROUNDING THE COMMON SHARED SEPTIC AREAS SHALL BE TESTED FOR BACKGROUND LEVELS OF CONTAMINANTS TO BE SPECIFIED BY THE DEPARTMENT OF PUBLIC WORKS PRIOR TO PUTTING THE SHARED SEPTIC SYSTEM IN SERVICE.
- THE BUILDER SHALL INSTALL BACKFLOW 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.
- INSTALLATION AND START-UP OF THE PUBLICLY OWNED GRINDER PUMPS AND APPURTENANCES, AND THE 4" PVC SEWER HOUSE CONNECTIONS (SHC) SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
- ALL PRESSURE SEWER SHALL BE HOPE SDR 11 A 6 GAUGE TRACER WIRE SHALL BE WRAPPED AROUND OR ATTACHED TO THE PIPE. TRACER WIRE CONNECTIONS OFF OF THE MAIN MUST BE OVERLAPPING, INSULATED #6, FIRMLY CONNECTED AND ENCAPSULATED.
- SEPTIC TANKS SHALL BE VACUUM OR WATER TESTED ON-SITE BY THE MANUFACTURER. SEPTIC TANK SHORT DRAININGS FROM THE MANUFACTURER SHOULD BE SUBMITTED TO THE HOWARD COUNTY ENVIRONMENTAL HEALTH DEPARTMENT PRIOR TO ISSUANCE OF SHARED SEPTIC SYSTEM PERMIT.
- ALL PRESSURE SEWER IS TO BE PRESSURE TESTED ACCORDING TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL NOTIFY HOWARD CO. HEALTH DEPARTMENT AT (410) 313-1771 AT LEAST FIVE (5) WORKING DAYS BEFORE ANY PRESSURE TEST OF PRESSURE SEWERS, AND ANY SEPTIC TANKS VACUUM OR WATER TESTING IS PERFORMED.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE REQUIREMENTS AND METHOD OF INSTALLATION OF GRINDER PUMP AND ITS APPURTENANCES.
- OBSERVATION WELLS TO BE INSTALLED AFTER TRENCH INSTALLATION IS COMPLETED.
- LOTS WITH "CELLAR NOT SERVED VIA GRAVITY" IS INDICATED, EJECTOR PUMPS LOCATED INSIDE THE BASEMENT ARE REQUIRED IN ORDER TO SERVICE THE CELLAR.
- PRIOR TO INSTALLATION, A PRECONSTRUCTION MEETING MUST BE SCHEDULED TO REVIEW THE INSTALLATION. THE ON-SITE SEWAGE DISPOSAL SYSTEM MUST BE PROFESSIONALLY STAKED FOR THE MEETING. THE MEETING SHALL INCLUDE:
 - MICHAEL DAVIS
HOWARD COUNTY DEPARTMENT OF HEALTH
410-313-1771
 - BARRY GLOTTLEY
MARYLAND DEPARTMENT OF THE ENVIRONMENT
410-537-4158
 - REBECCA KUEHL
DEPARTMENT OF PUBLIC WORKS, BUREAU OF UTILITIES
410-313-4874
 - ON-SITE DISPOSAL SYSTEM INSTALLATION CONTRACTOR.
 - GENERAL CONTRACTOR FOR THE PROJECT.
 - ENGINEER.
 A MINIMUM OF FIVE (5) DAYS NOTICE MAY BE REQUIRED TO SCHEDULE THE MEETING.
- ANY CHANGES TO THE APPROVED PLAN MUST BE PRESENTED TO THE DEPARTMENT OF HEALTH, MARYLAND DEPARTMENT OF THE ENVIRONMENT AND THE DEPARTMENT OF PUBLIC WORKS BY THE ENGINEER.
- PRIOR TO WASTEWATER DISCHARGE TO THE ON-SITE SEWAGE DISPOSAL SYSTEM, THE ENGINEER MUST CERTIFY THAT THE SYSTEM HAS BEEN INSTALLED AS DESIGNED AND RECEIVE APPROVAL FOR DISCHARGE FROM THE DEPARTMENT OF HEALTH, DEPARTMENT OF PUBLIC WORKS AND MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- PRIOR TO INSTALLATION OF ANY COMPONENT OF THE SYSTEM, PROPER PERMITS MUST BE OBTAINED FROM THE DEPARTMENT OF HEALTH, SEPTIC SYSTEM INSTALLATION PERMIT.

TRENCH REQUIREMENTS
INITIAL SYSTEM
RESERVE #13
USE 5 BEDROOM HOUSE (WITH 150 GPD PER BEDROOM)
750 GPD PER HOUSE
750 GPD/HOUSE X 4 HOUSES = 3,000 GPD
3,000 GPD / 0.8 GPD/INCH DAY = 3,750 S.F. EFFECTIVE AREA
3,750 S.F. / 3 (3 FT. WIDE TRENCH) = 1,250 L.F.
1,250 L.F. X 0.83 (% DECREASE FOR 1' SIDEWALL) = 1038 L.F.

APPROVED:
FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
B. Wilson for Peter Beilensky, MD 8/3/07
COUNTY HEALTH OFFICER

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Howard Soil Conservation District 7/6/07
DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS F-07-121

- CONTROL PANEL SPECS.**
- CONTROL PANEL SHALL BE SITUATED ON HOUSE SO THAT A CLEAR LINE OF VISION IS MAINTAINED BETWEEN ITSELF AND THE PUMP CHAMBER.
 - SEALING BOX 8" BELOW CONTROL PANEL ON HOUSE IN LINE WITH CONDUIT; SEAL WITH CHILE WATERPROOF SEALANT TO CREATE VAPOR LOCK.
 - CONTROL PANEL MUST BE DIRECT WIRED FROM B2&S METER BOX.
 - CONTROL PANEL SHOULD HAVE FUNCTIONAL HOA/PUSH TO RUN SWITCH.
 - CONTROLS MUST HAVE OVER CURRENT DEVICE AND DISCONNECT LOCATED NEXT TO THE ELECTRIC METER, BETWEEN THE METER AND THE CONTROL PANEL.
 - ALL WIRING SHALL BE RUN THROUGH CONDUIT, NOT DIRECT BURIED.

****MAXIMUM NUMBER OF BEDROOMS FOR EACH HOUSE ON LOTS 1 AND 3 - 5 SHALL BE FIVE (5).
**ALL SEWAGE GRINDER PUMPS ARE TO BE PUBLICLY OWNED AND MAINTAINED.
**ALL PRETREATMENT SYSTEMS ARE TO BE PRIVATELY OWNED AND MAINTAINED IN PURSUITY.
SEDIMENT AND EROSION CONTROL PROVIDED BY ROAD CONSTRUCTION PLANS F-07-121.

BUILDING PERMITS FOR LOTS 1, 3, 4 & 5 SHALL NOT BE ISSUED UNTIL THE SHARED SEWAGE DISPOSAL FACILITY IS COMPLETED AND THE "IN SERVICE" PERMIT HAS BEEN ISSUED.

LEGEND

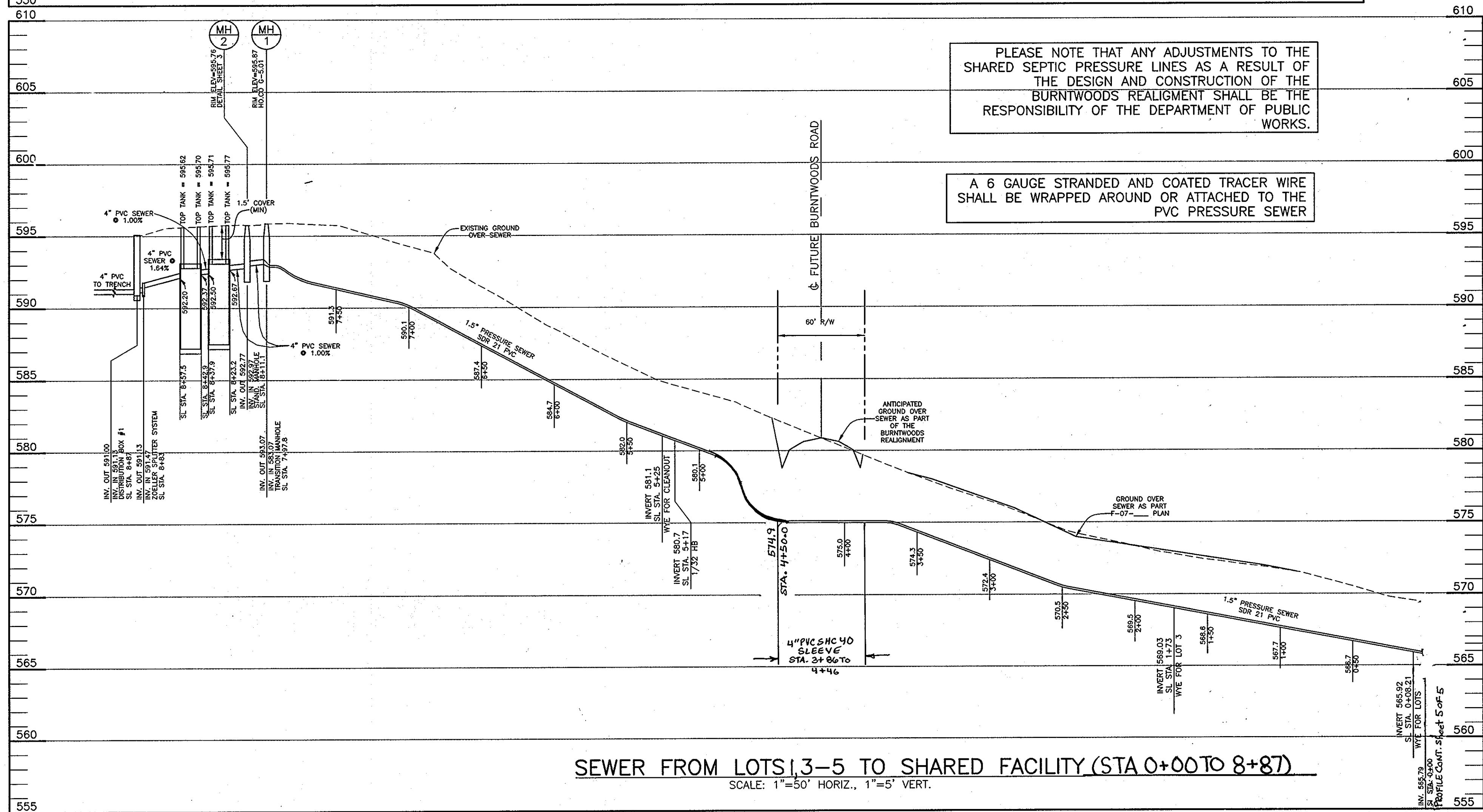
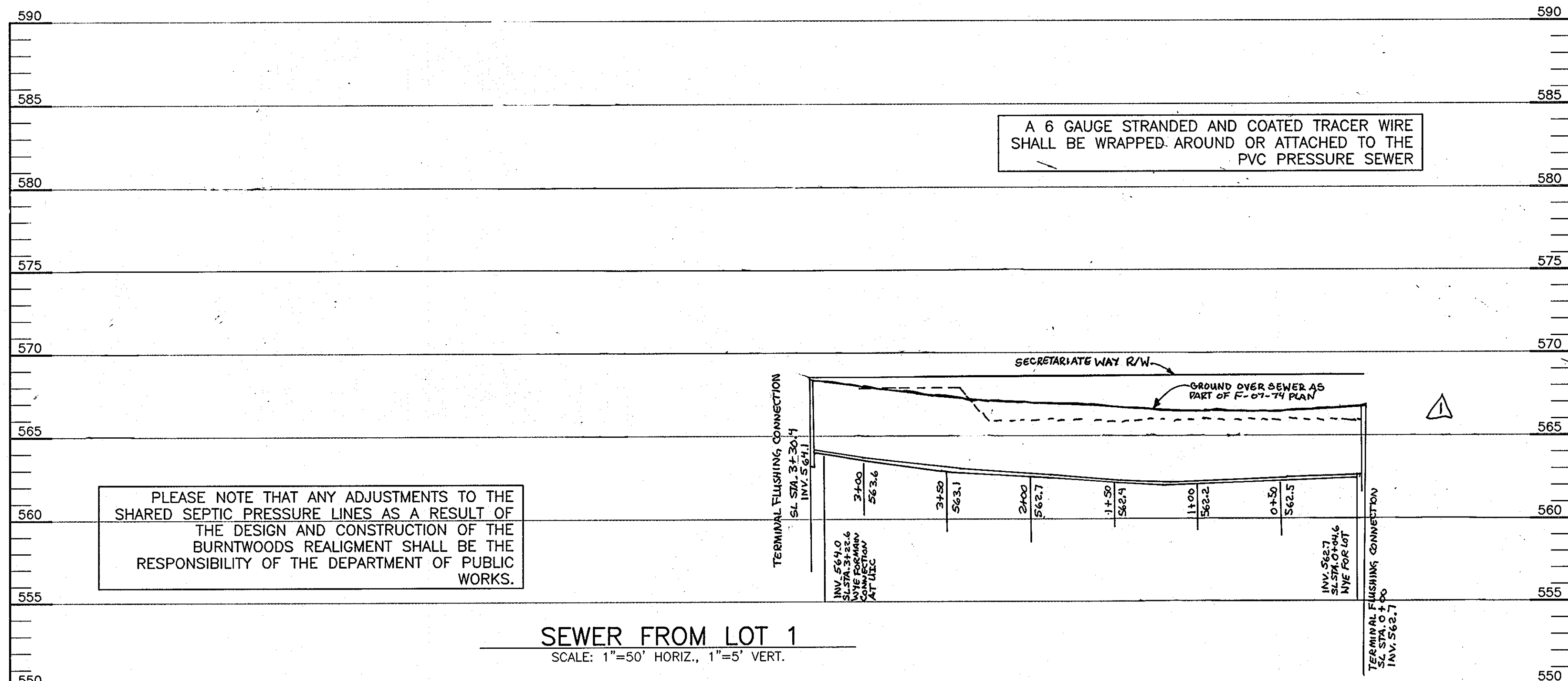
SOILS CLASSIFICATION	PROPOSED STRUCTURE
AbC1	[Symbol]
EXISTING SEPTIC FIELD	[Symbol]
PROPOSED SEPTIC FIELD	[Symbol]
EXIST. PERCOLATION TEST (PASS)	[Symbol]
EXIST. PERCOLATION TEST (FAIL)	[Symbol]
PASSED PERC TEST DUG 8/23/03	[Symbol]
FAILED PERC DUG 8/23/03	[Symbol]
PASSED PERC TEST DUG 10/14/03	[Symbol]

QUANTITIES

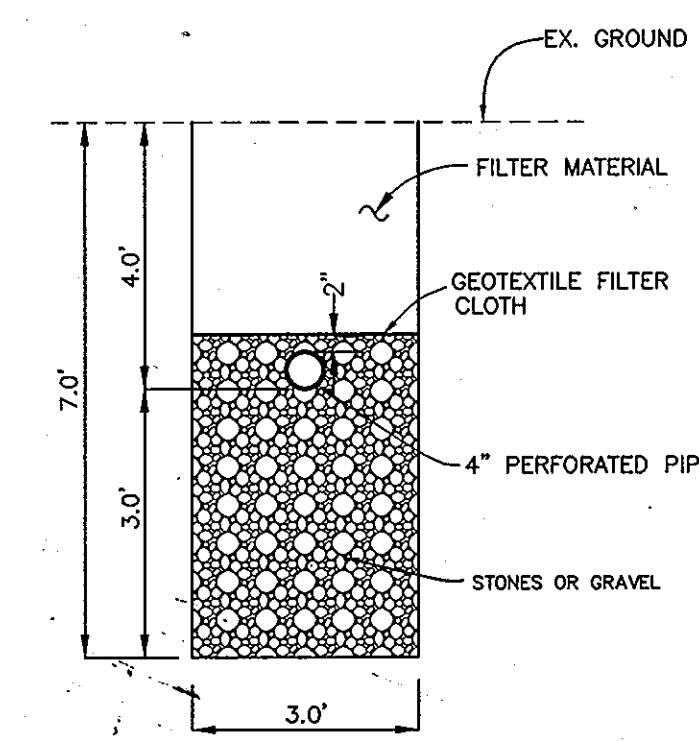
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
DUPLEX GRINDER PUMP	1 EA.	1EA.	PVC	CHARLOTTE
TERMINAL FLUSHING CONNECTION	3 EA.	3EA.	PVC	CHARLOTTE
3000GPD SEPTIC TANKS	2 EA.	2EA.	PRECAST	HAYER BROS.
CONC. DISTRIBUTION BOX	1 EA.	1EA.	PRECAST	HAYER BROS.
LEACHING FIELD	775 L.F.			
VALVE BOX WITH CONDUCTING ROD	4 EA.	4EA.		HAEMEYER
1.5" PVC SDR 21 SEWER	1630 L.F.	1640	PVC	CHARLOTTE
TRANSITION MANHOLE	1 EA.	1EA.	PRECAST	ATLANTIC CONCRETE
STANDARD MANHOLE	1 EA.	1EA.		
ZOELLER SPLITTER BOX	1 EA.			
MONITORING WELLS	2 EA.	2EA.	STEEL	JONES DRILLING
GRINDER PUMP(SIMPLEX)	2 EA.	2 EA.		
1.5" - 1/8" HB	2 EA.	2 EA.	PVC	CHARLOTTE
1.5" - 1/16" HB	1 EA.	1		
1.5" - 1/32" HB	3 EA.	3		

NAME OF UTILITY CONTRACTOR: **HATFIELD'S EQUIPMENT**
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:

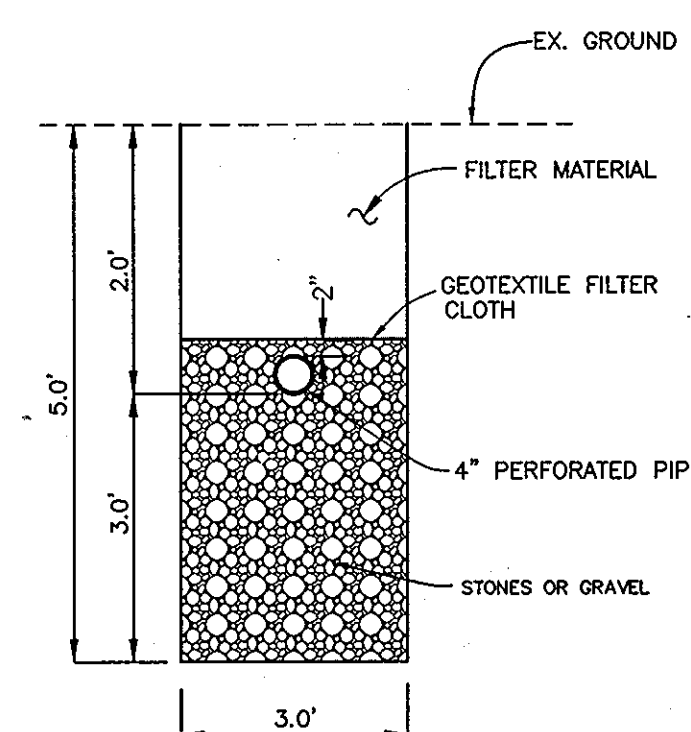
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Richard Wilson</i> 8/29/07 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>William Wilson</i> 8/10/07 CHIEF, DEVELOPMENT ENGINEERING DIVISION	BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 418 ELLCOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 FAX: 410-465-6644 <i>R. Wilson</i> 8/10/2007	DESIGN: BFC DRAFT: BFC CHECK: DAM DATE: 6-18-07 BY NO. REVISIONS DATE KCI 2 AS-BUILT REVISIONS 8-18-10 EDD 1 REVISE SEWER MAIN FOR LOT 1 7-14-2010	PLAN VIEW OF SHARED SEPTIC SYSTEM AND NOTES BLOCK N/A 600 SCALE MAP NO. 21	NESHAWAT PROPERTY LOTS 1 TO 5, NON-BUILDABLE PRESERVATION PARCELS A, B, E & F, NON-BUILDABLE BULK PARCEL D AND BUILDABLE PRESERVATION PARCEL C FOURTH ELECTION DISTRICT CONTRACT NO.50-4294-D	SCALE: AS SHOWN SHEET NO. 1 OF 5
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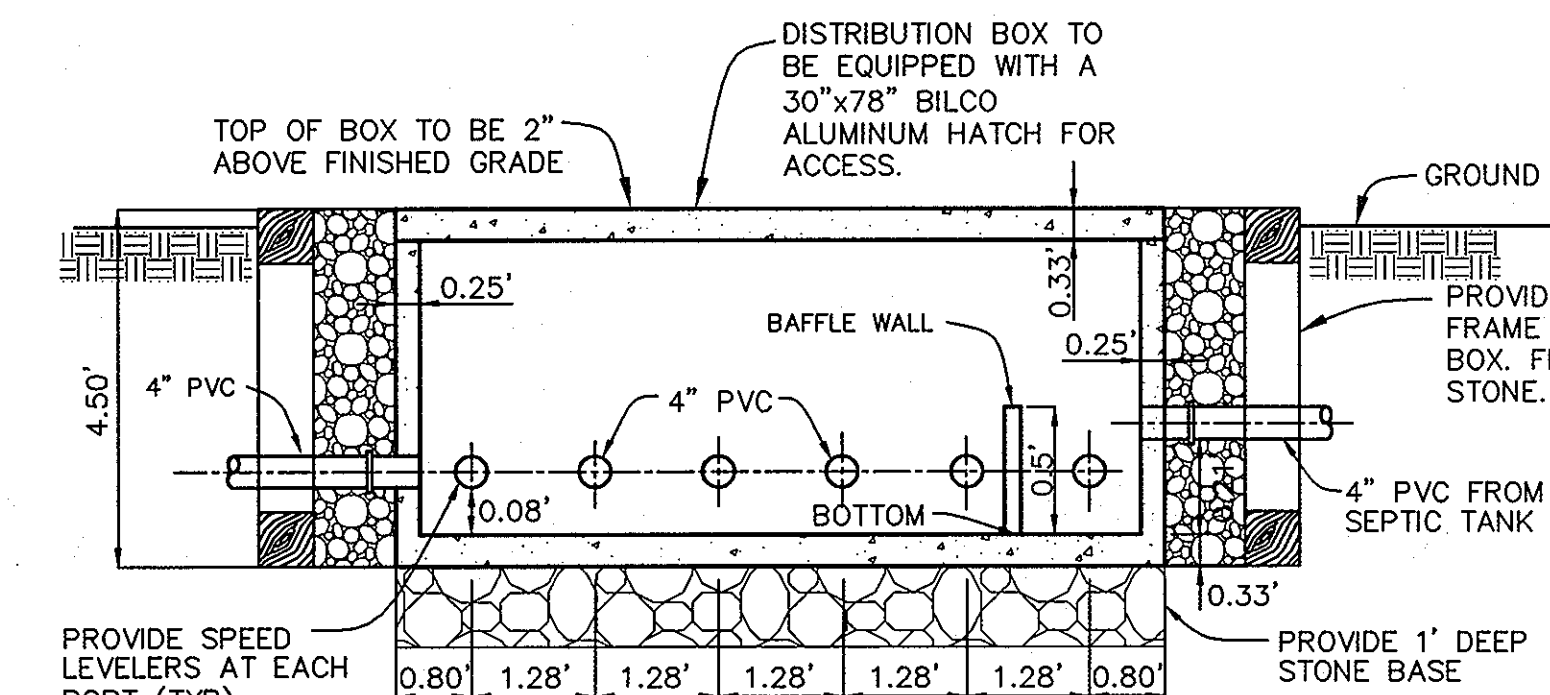
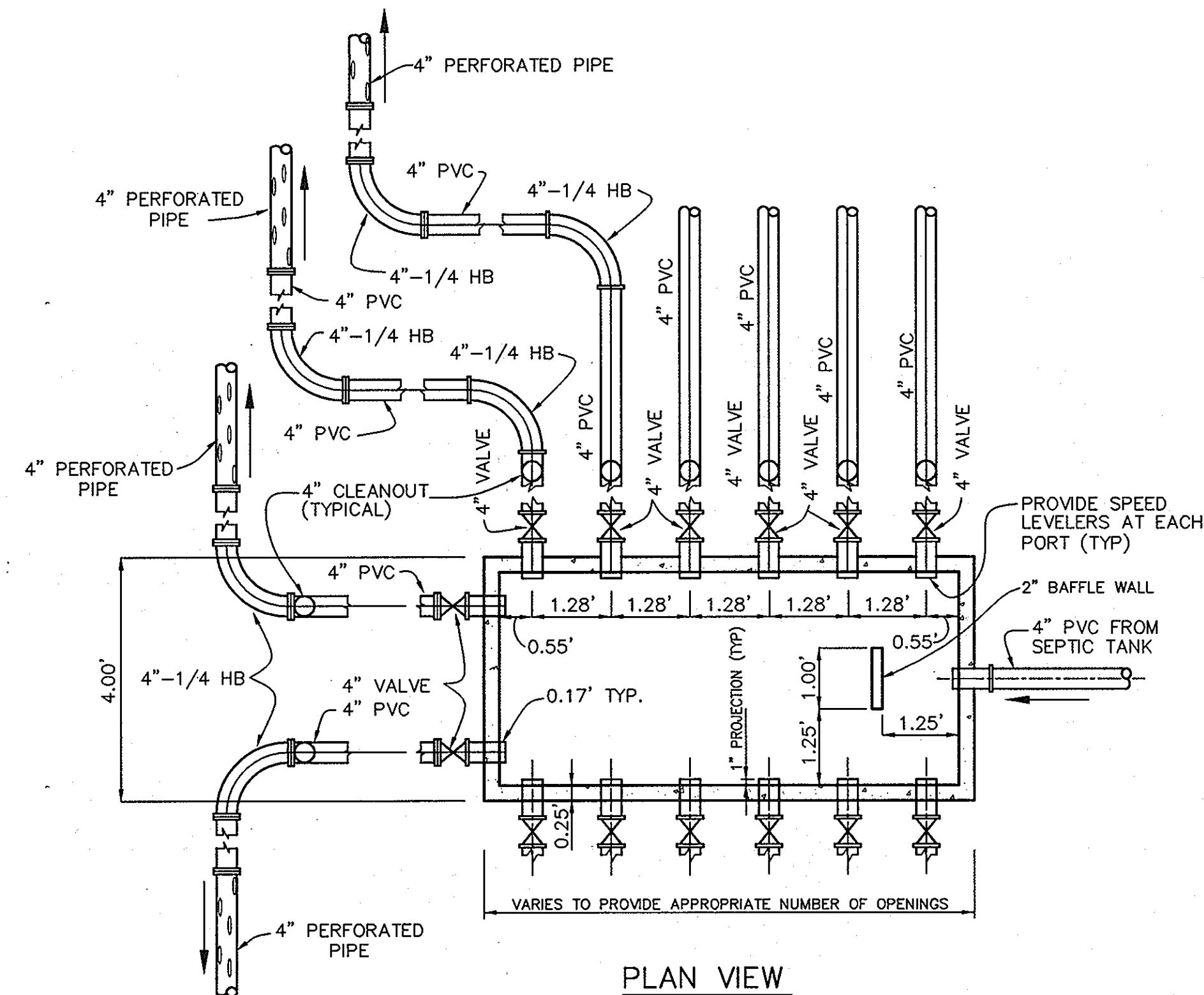
MANUFACTURER OF DISTRIBUTION BOX SHALL BE AS BELOW OR EQUIVALENT:
MAYER BROTHERS, INC.
6264 RACE ROAD
ELKCRIDGE, MARYLAND 21227
410-796-1434



SEPTIC TRENCH DETAILS
NOT TO SCALE



SEPTIC TRENCH DETAILS
NOT TO SCALE



TYPICAL CONCRETE DISTRIBUTION BOX DETAIL
NOT TO SCALE

DISTRIBUTION BOX DATA					
BOX NO.	INLET SIDE	TOP ELEV.	INLET INV.	OUTLET INV.	TRENCH BOTTOM
BOX #1	N 588620.07 E 1307756.90	595.07	591.13	591.00	A-588.3
					B-588.1
					C-588.0
					D-587.9
					E-587.7
					F-587.6
BOX #2	N 588523.53 E 1307760.04	594.55	590.61	590.48	A-587.3
					B-587.0
					C-586.7
					D-584.9
					E-584.9
					F-587.5
BOX #3	N 588508.14 E 1307781.18	593.88	589.94	589.81	A-585.3
					B-584.9
					C-584.9
					D-582.7
					E-581.9
					F-588.7

NOTES:
1. COORDINATE LOCATION IS AT THE TOP CENTER OF BOX.

DEVELOPER:
BURNWOODS, L.L.C.
P.O. BOX 417
ELLCOTT CITY, MARYLAND 21041-0417
(410) 465-4244

OWNER:
GHASSANI NESHAWAT
14445 BURN WOODS ROAD
GLENWOOD, MARYLAND 21738-9530

APPROVED:
FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B. Nishawati for Peter Beilman, MD 8/3/07
COUNTY HEALTH OFFICER DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS
ENGINEERING, INC.

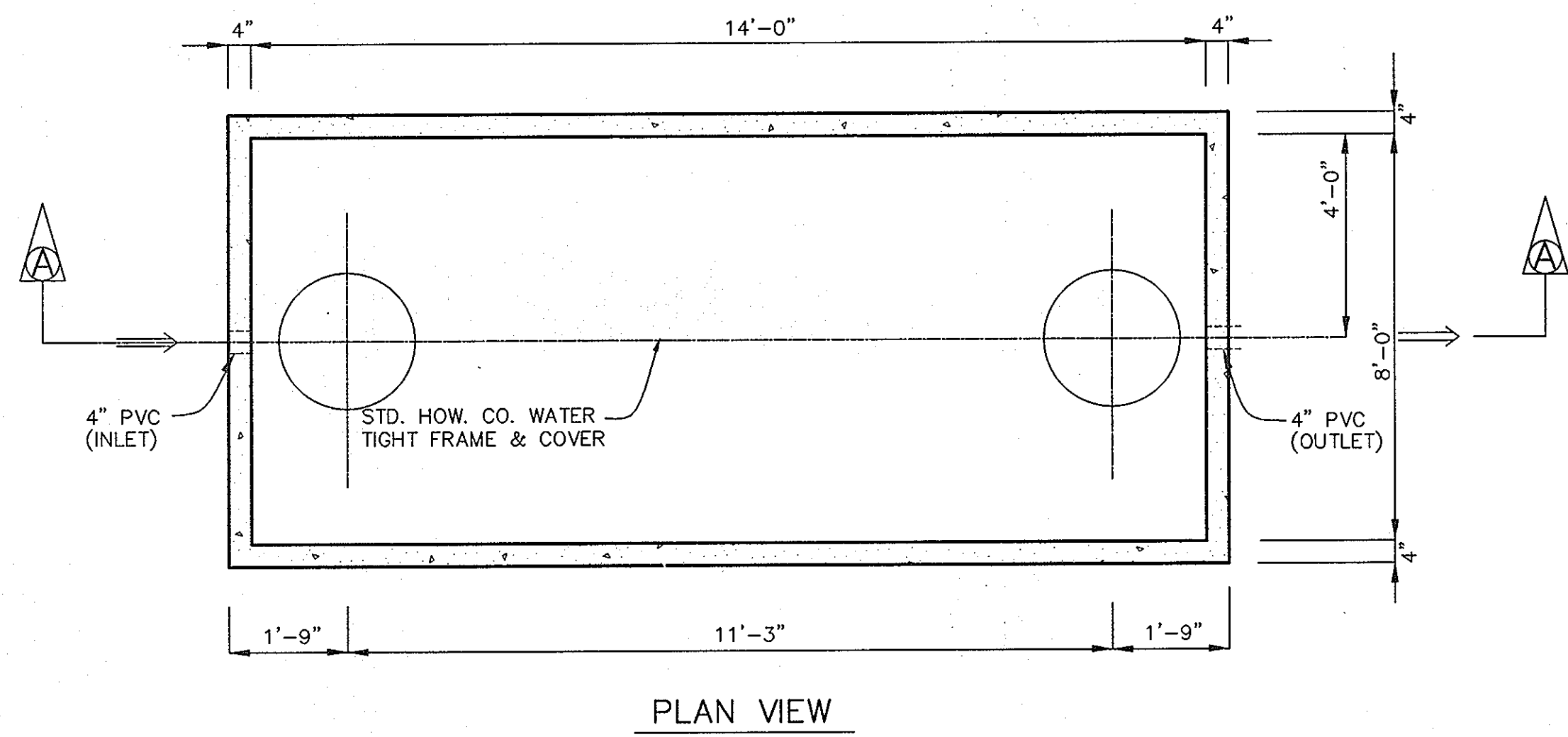
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644

DESIGN:	BFC			
DRAFT:	BFC			
CHK:	DAM			
DATE:	6-18-07			
BY:	EDD			
NO.:				
REVISIONS:	REVISE SEWERMAIN PROFILE FOR LOT 1			
DATE:	7-14-2010			

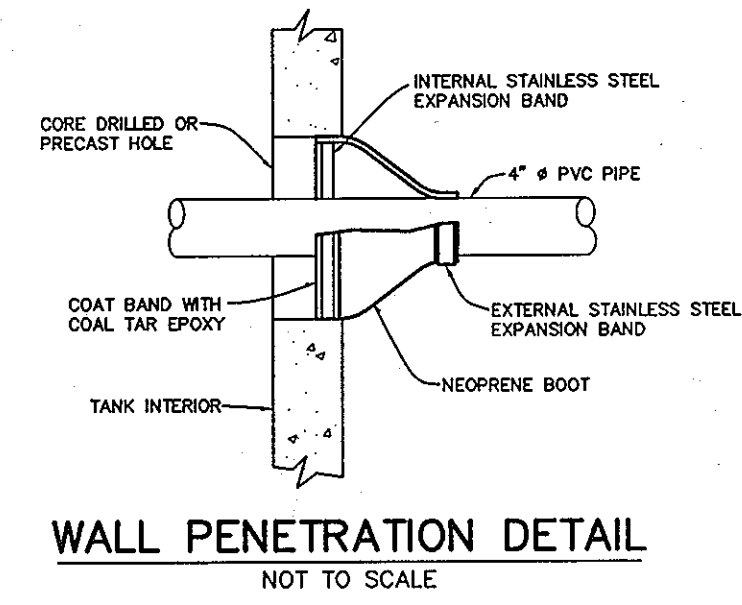
PROFILE OF SEWER MAINS
AND DETAILS

NESHAWAT PROPERTY
LOTS 1 TO 5, NON-BUILDABLE PRESERVATION PARCELS A, B, E & F,
NON-BUILDABLE BULK PARCEL D AND BUILDABLE PRESERVATION PARCEL C
FOURTH ELECTION DISTRICT
CONTRACT NO. 50-4294-D

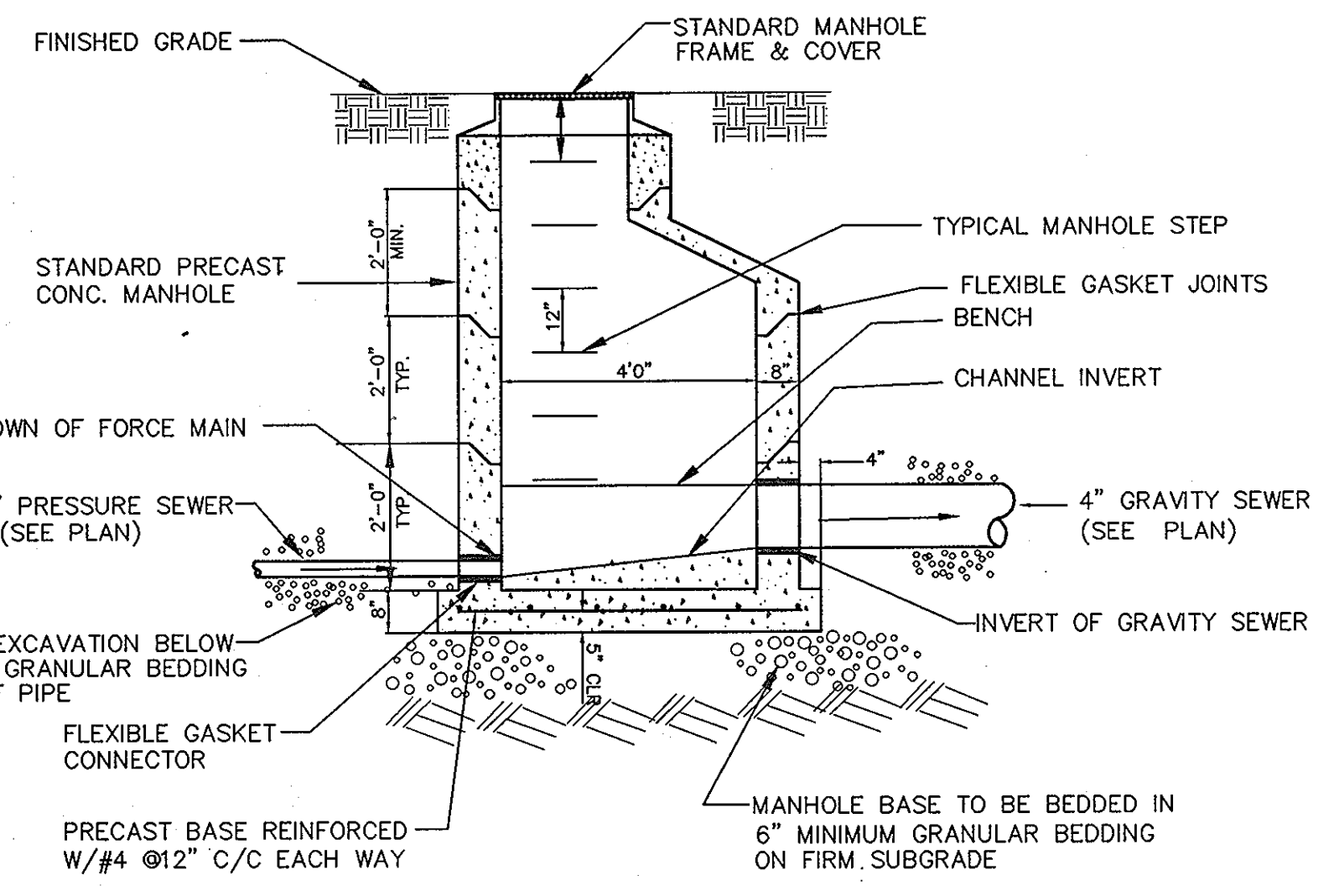
SCALE:
AS SHOWN
SHEET NO.
2 OF 5



PLAN VIEW

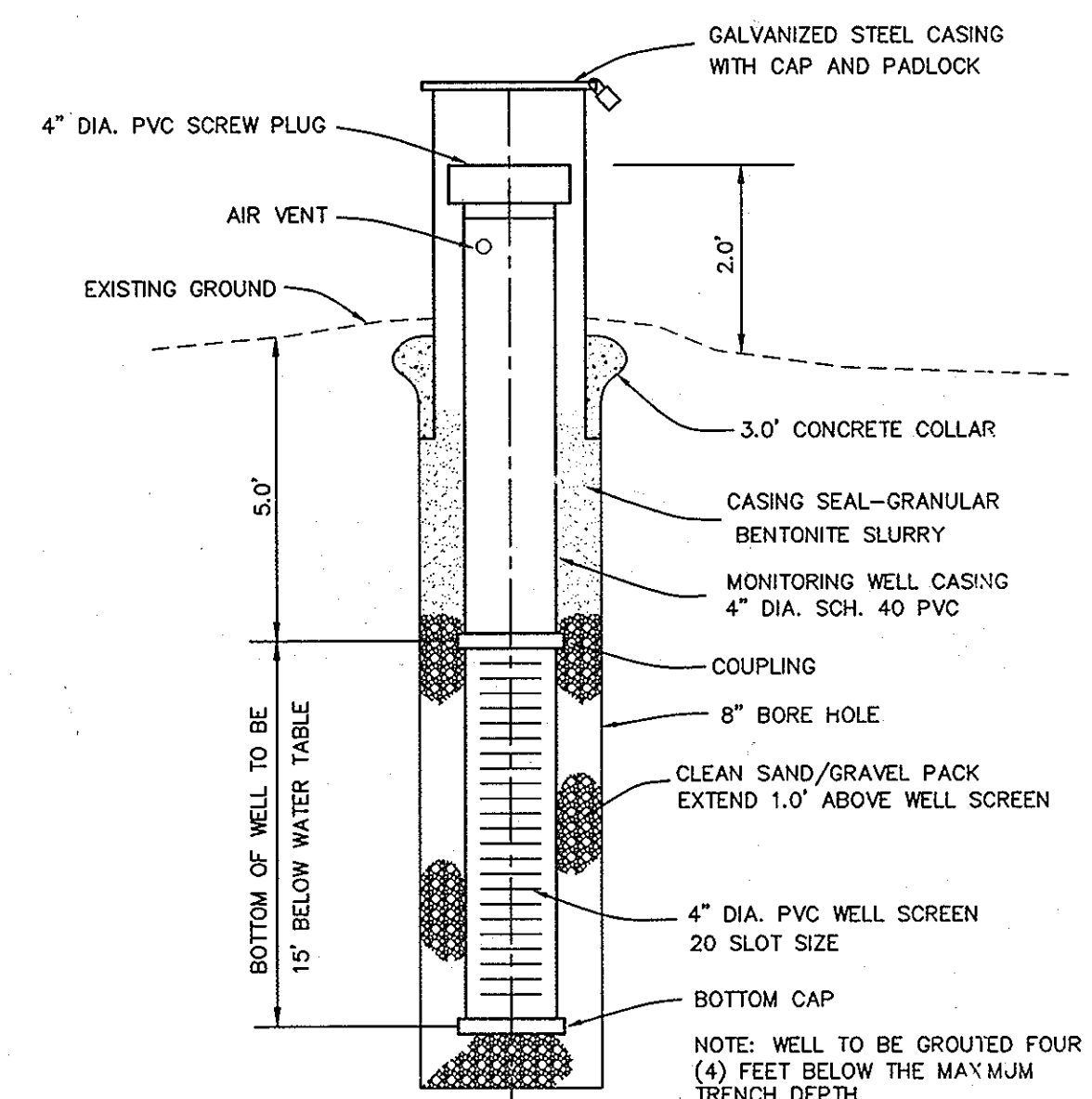


WALL PENETRATION DETAIL
NOT TO SCALE

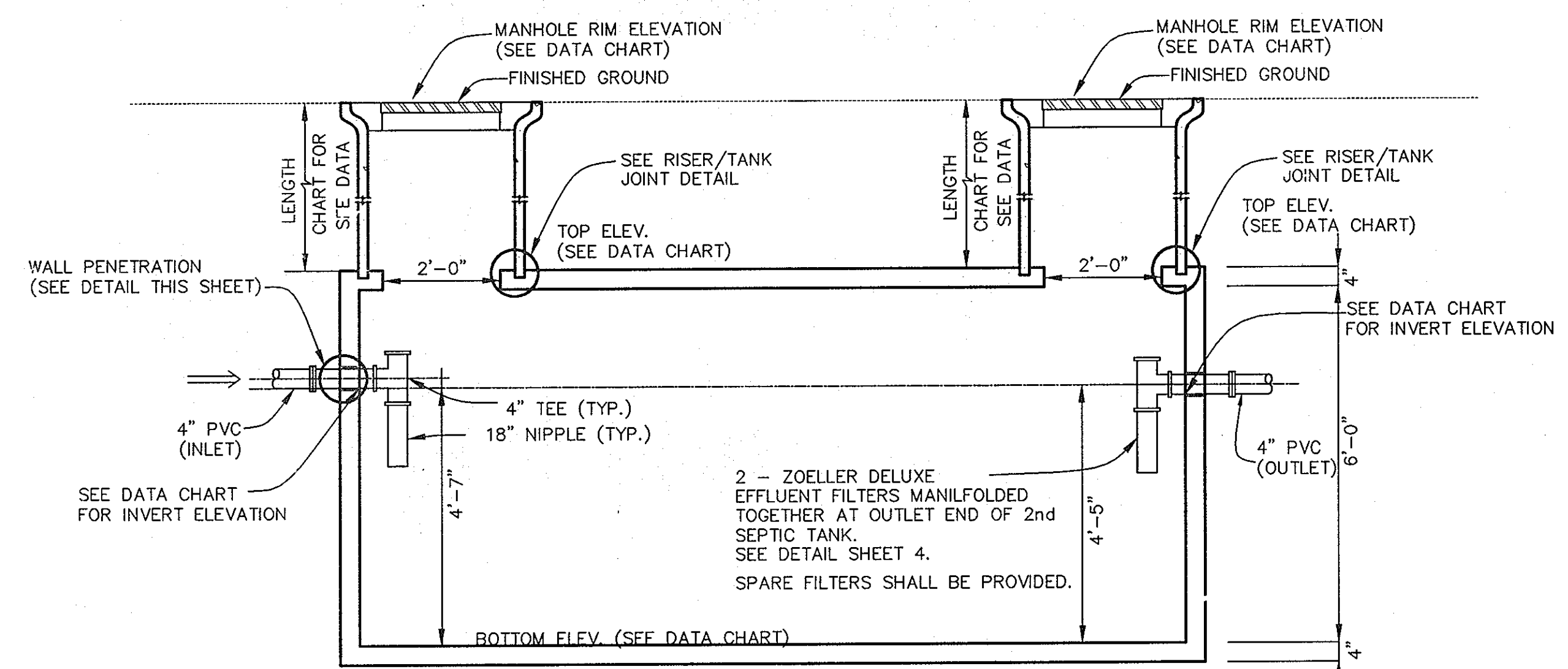


- NOTES:
- ELEVATION OF GRAVITY SEWER INVERT SHALL BE MINIMUM 0.1' ABOVE ELEVATION OF PRESSURE SEWER CROWN.
 - PROVIDE SMOOTH UPWARD SLOPING CHANNEL FROM FORCE MAIN TO GRAVITY SEWER.

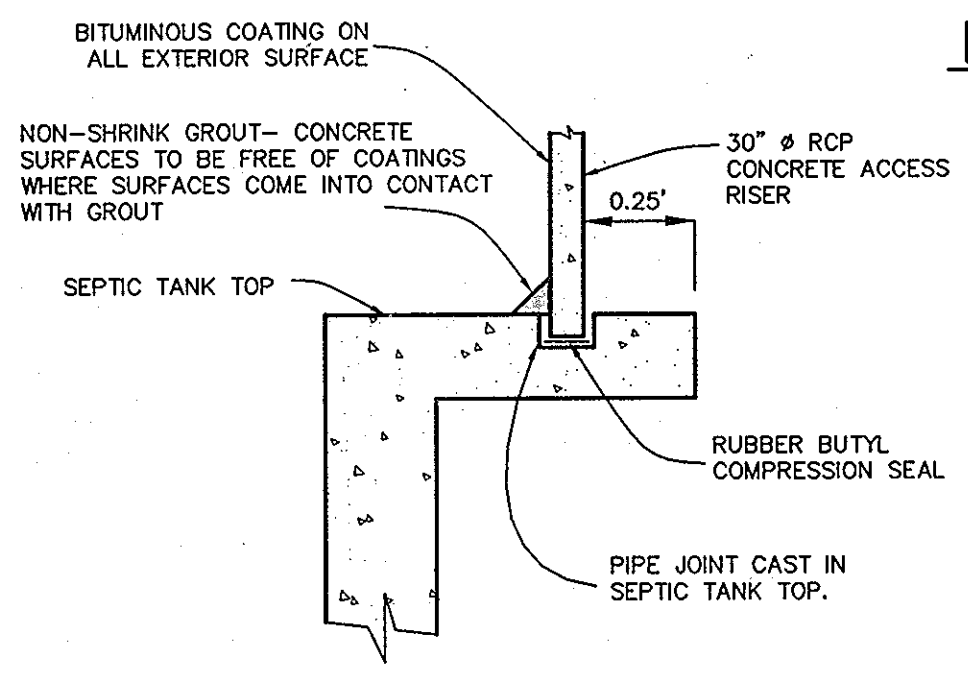
TRANSITION MANHOLE:
PRESSURE SEWER TO GRAVITY SEWER
NOT TO SCALE



MONITORING WELL DETAIL
NOT TO SCALE



SECTION VIEW A-A



RISER/TANK JOINT DETAIL
NOT TO SCALE

GRINDER PUMP DATA TABLE							
LOTS	TOP ELEV.	BOTTOM ELEV.	DEPTH	INLET ELEV.	DISCHARGE ELEV.	CONC. ANCHOR VOLUME	REMARKS
4 & 5	569.9	559.9	10.00' (120")	562.77	565.9	35.7 C.F.	MODEL NO. 2014 (DUPLX)
3	573.3	563.3	10.00' (120")	566.17	569.3	35.7 C.F.	MODEL NO. 2010
1	568.2	558.2	10.00' (120")	560.87	564.2	35.7 C.F.	MODEL NO. 2010

NOTE: SEE MANUFACTURER'S MANUAL FOR GRINDER PUMP INSTALLATION REQUIREMENT, PROCEDURE, AND ELECTRICAL CONNECTION.

DEVELOPER:
BURNWOODS, L.L.C.
P.O. E.X 417
ELLCOTT CITY, MARYLAND 21041-0417
(410) 465-4244

OWNER:
GHASSANI NESHAWAT
14445 BURNWOODS ROAD
GLENWOOD, MARYLAND 21738-9530

REINFORCING:
WALLS - #4 REBAR, 12" C/C E/W
SLAB TOP - #4 REBAR, 12" C/C E/W
BASE - #4 REBAR, 12" C/C E/W
REBAR GRADE 60

JOINTS SEALED WITH BUTYL ROPE FORM AND MORTAR.

CONCRETE 4,000 PSI IN 28 DAYS

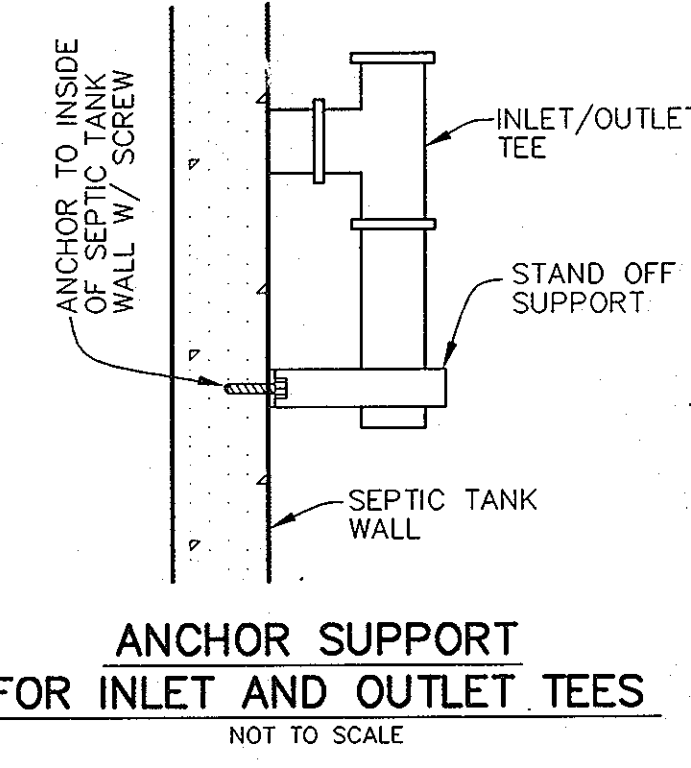
INTERIOR COATED WITH TWO COATS INERT COATING.

3,000 GALLON SEPTIC TANK DATA				
	TANK ELEVATION	INVERT ELEVATION	TANK COORDINATES	MANHOLE RIM ELEVATION
SEPTIC TANK #1	TOP = 593.42	592.67 IN	N 588645.93 E 4307701.83	595.7
	BOT = 587.17	592.50 OUT	N 588640.60 E 1307715.50	
SEPTIC TANK #2	TOP = 593.12	592.37 IN	N 588638.78 E 1307720.16	595.6
	BOT = 586.87	592.20 OUT	N 588633.45 E 1307733.83	

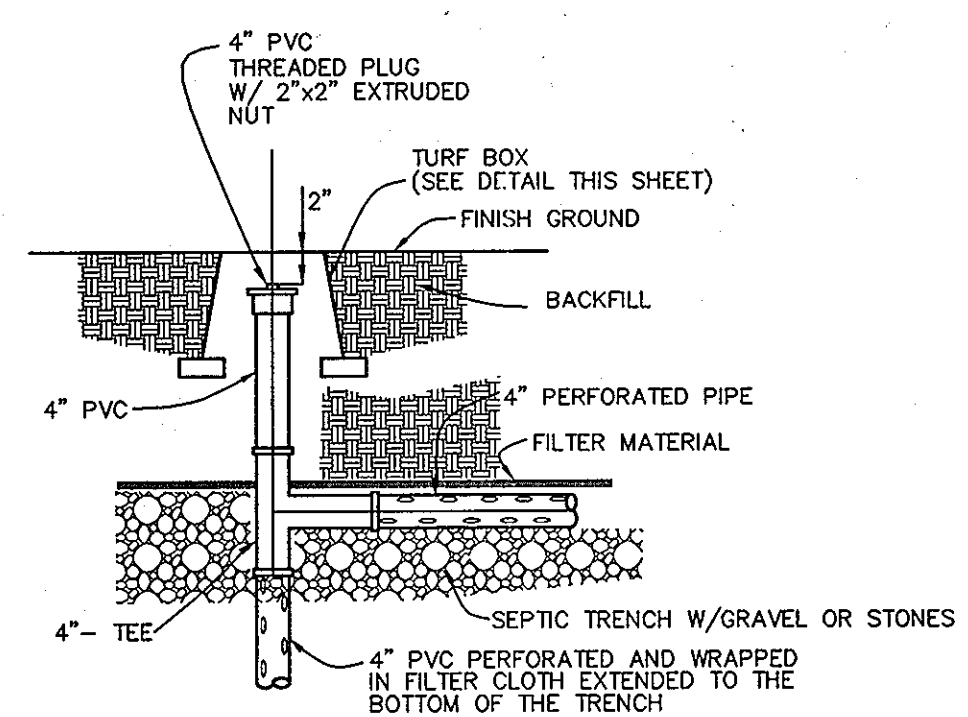
- NOTES:
- MANHOLE RIM ELEVATION SHOWN HEREON IS AT THE CENTER OF THE RIM.
 - TANK COORDINATES ARE AT THE MIDPOINT OF EACH END.

SEPTIC TANK TO BE PRECAST BY J.F. GILLESPIE, INC. OR EQUAL.

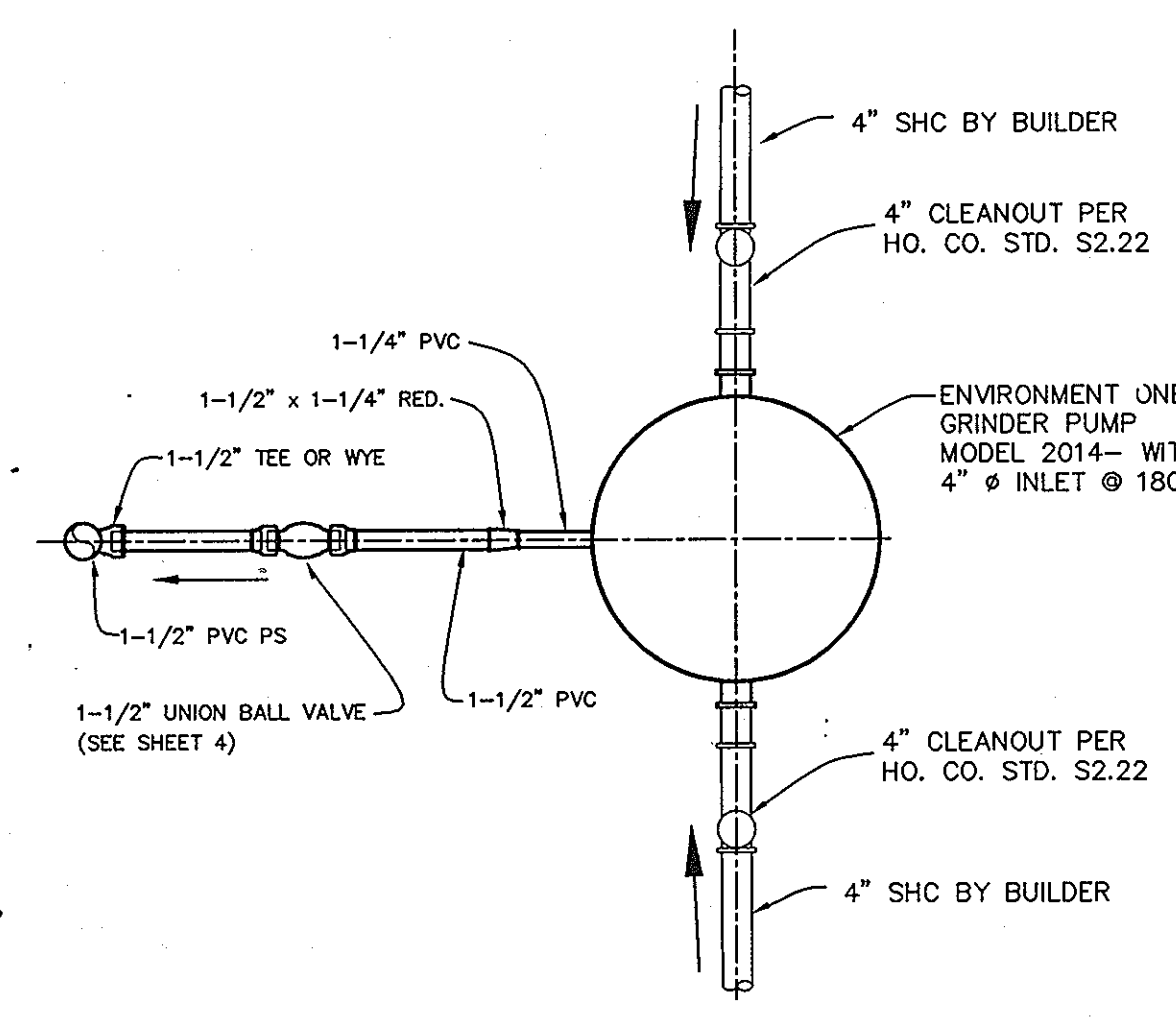
PRECAST CONCRETE 3,000 GALLON CAPACITY SINGLE COMPARTMENT SEPTIC TANK
SCALE: 1" = 2'



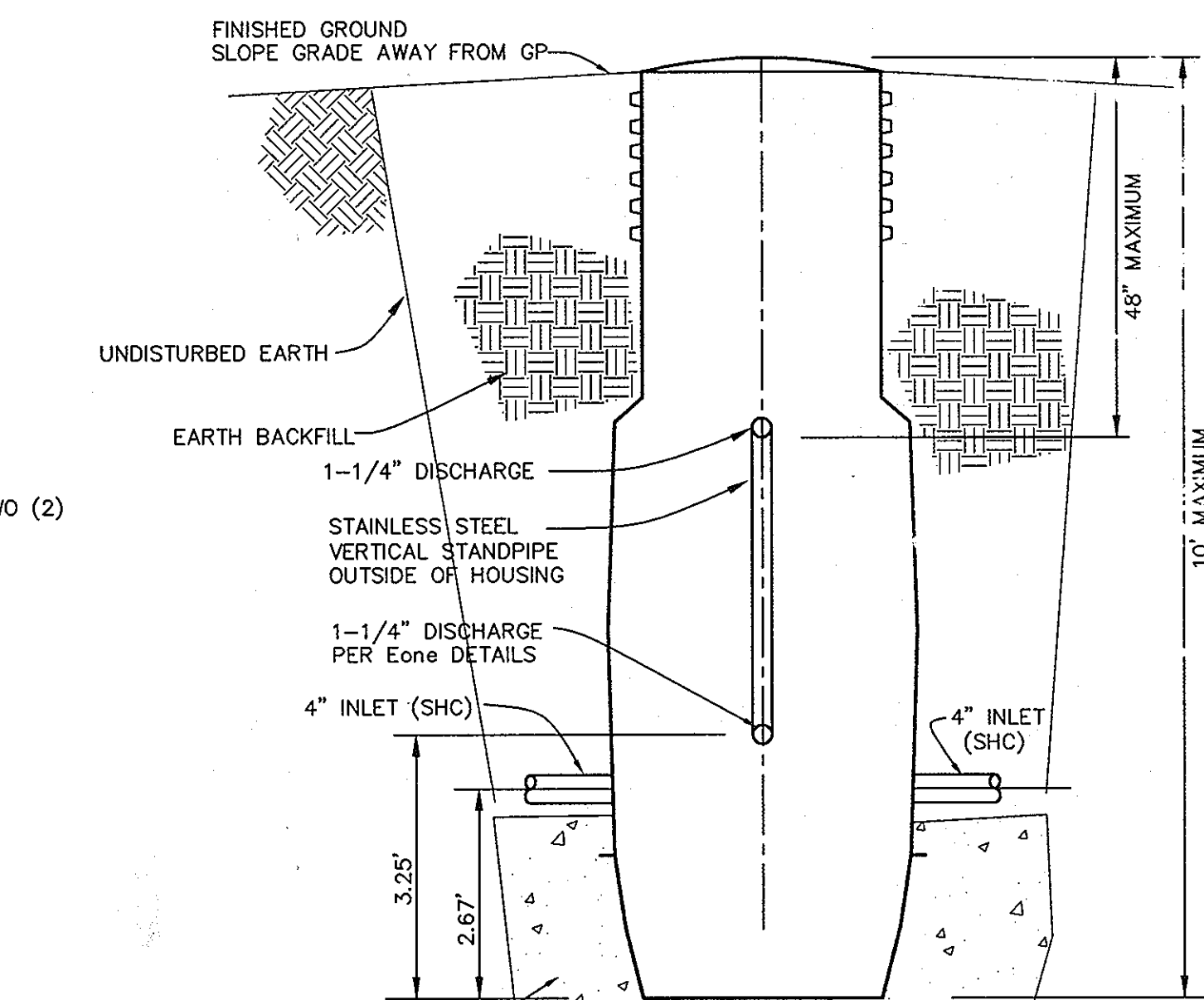
ANCHOR SUPPORT FOR INLET AND OUTLET TEES
NOT TO SCALE



DISTRIBUTION LATERAL TERMINATION DETAIL
NOT TO SCALE

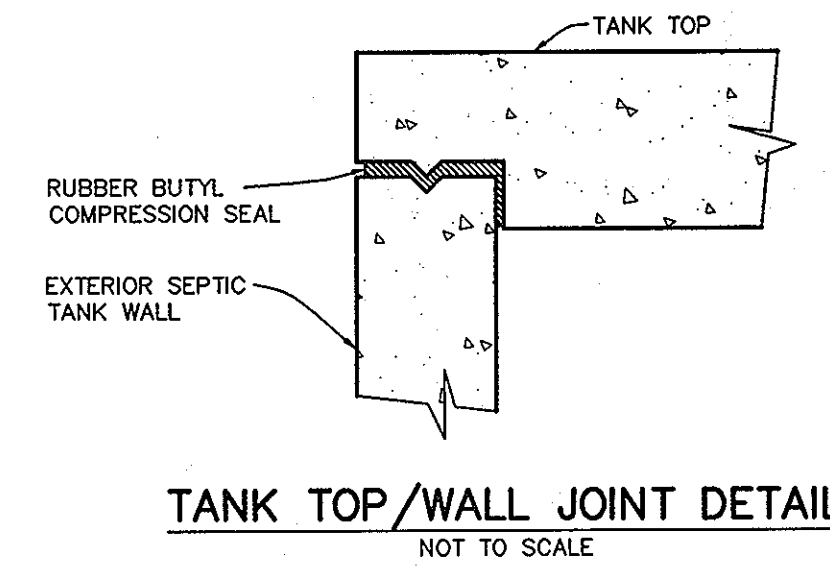


PLAN VIEW

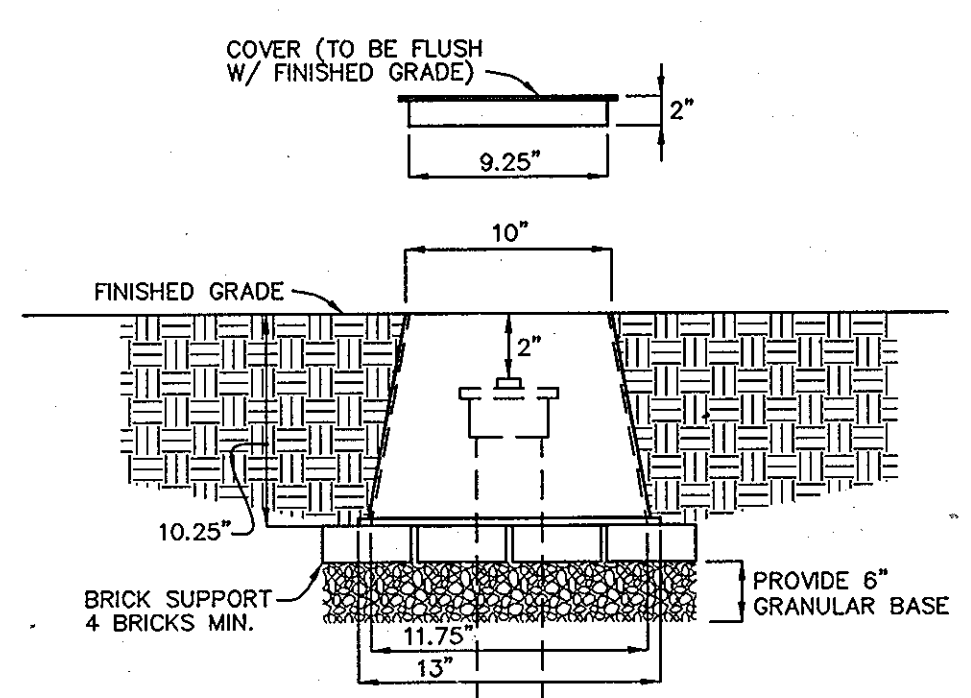


SECTION VIEW

TYPICAL DUPLEX GRINDER PUMP (MODEL #2012 ABD 2014)
NOT TO SCALE



TANK TOP/WALL JOINT DETAIL
NOT TO SCALE



TURF BOX DETAIL
NOT TO SCALE

APPROVED:
FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

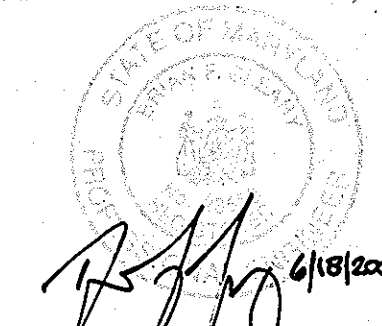
[Signature]
COUNTY HEALTH OFFICER

[Signature] 6/18/07
DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6844



DESIGN:	BFC				
DRAFT:	BFC				
CHK:	DAM				
DATE:	6-18-07	BY:	NO.	REVISIONS	DATE

DETAILS

NESHAWAT PROPERTY
LOTS 1 TO 5, NON-BUILDABLE PRESERVATION PARCELS A, B, E & F,
NON-BUILDABLE BULK PARCEL D AND BUILDABLE PRESERVATION PARCEL C
FOURTH ELECTION DISTRICT
CONTRACT NO. 50-4294-D

SCALE:
AS SHOWN
SHEET NO.
3 OF 5

[Signature]
CHIEF, BUREAU OF UTILITIES, DATE: 6/18/07

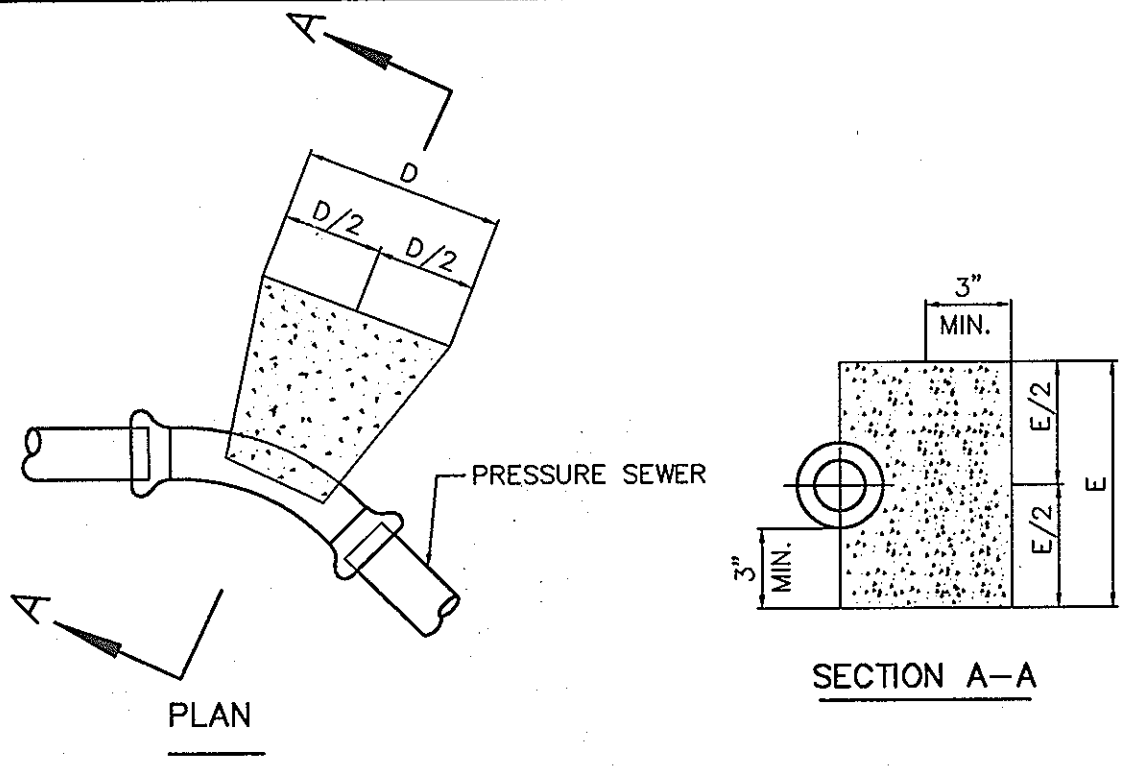
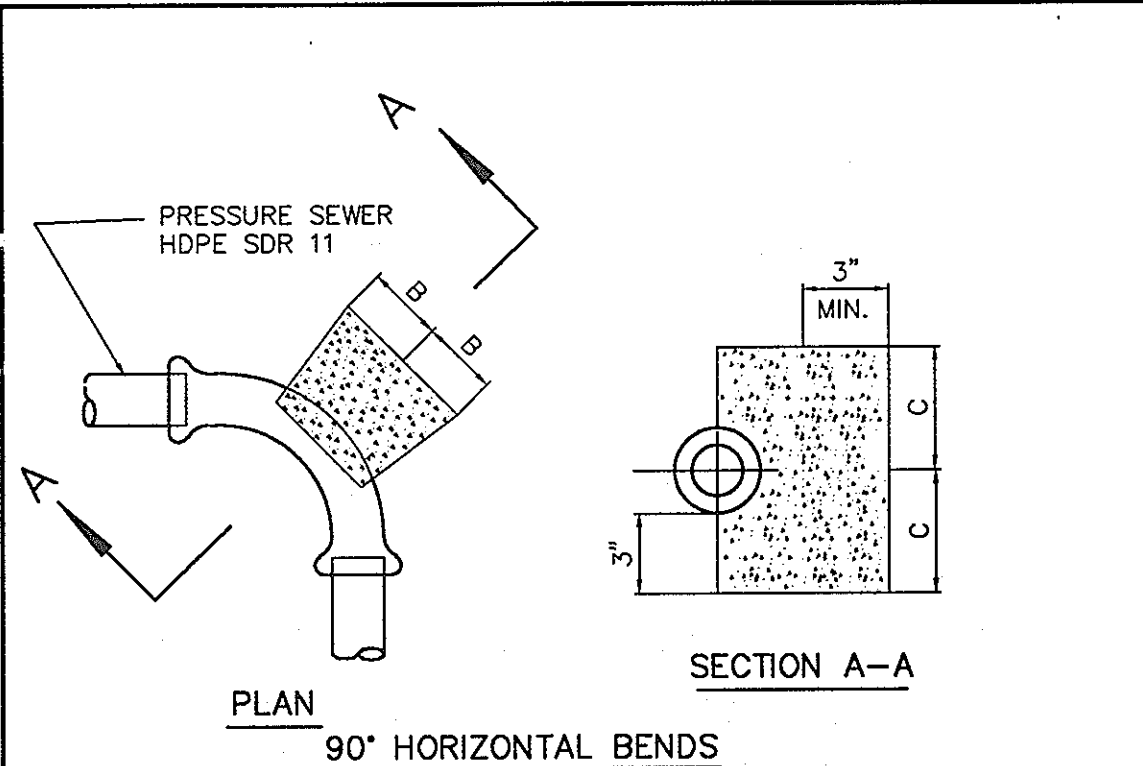
[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE: 6/18/07

PHONE: 410-465-6105 FAX: 410-465-6844

[Signature] 6/18/07

600 SCALE-MAP NO. 21 BLOCK N/A

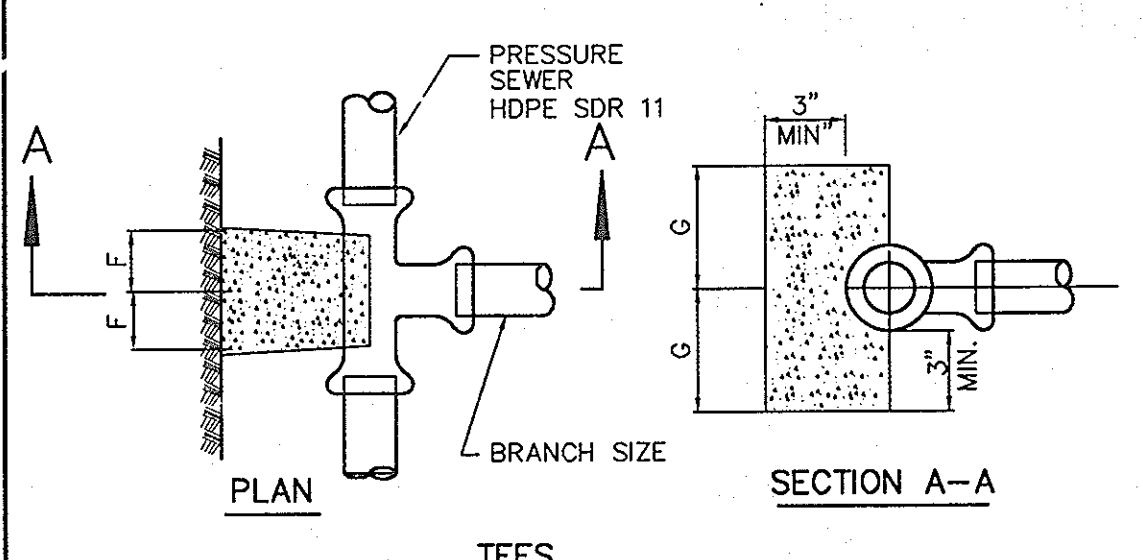
REVISIONS



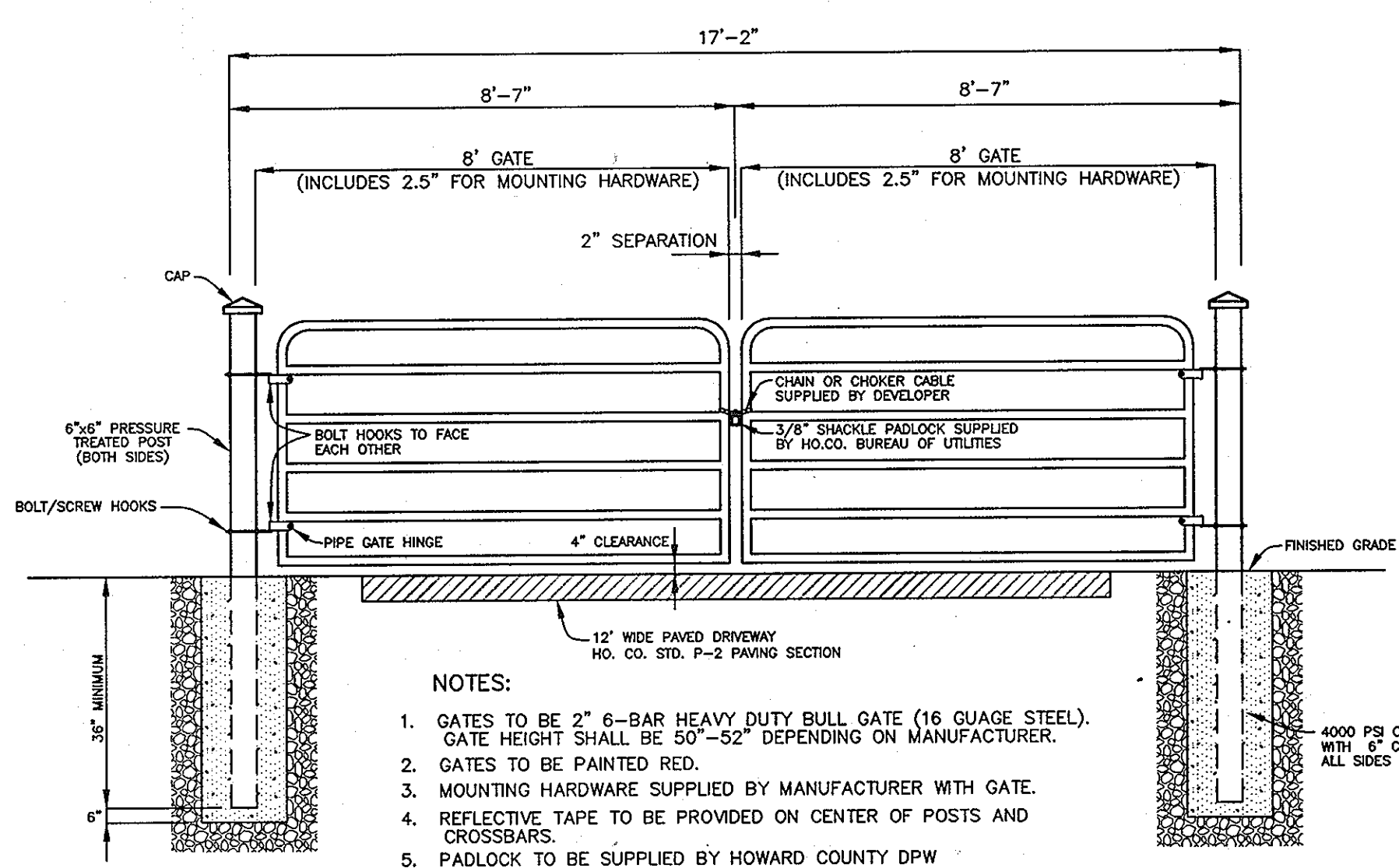
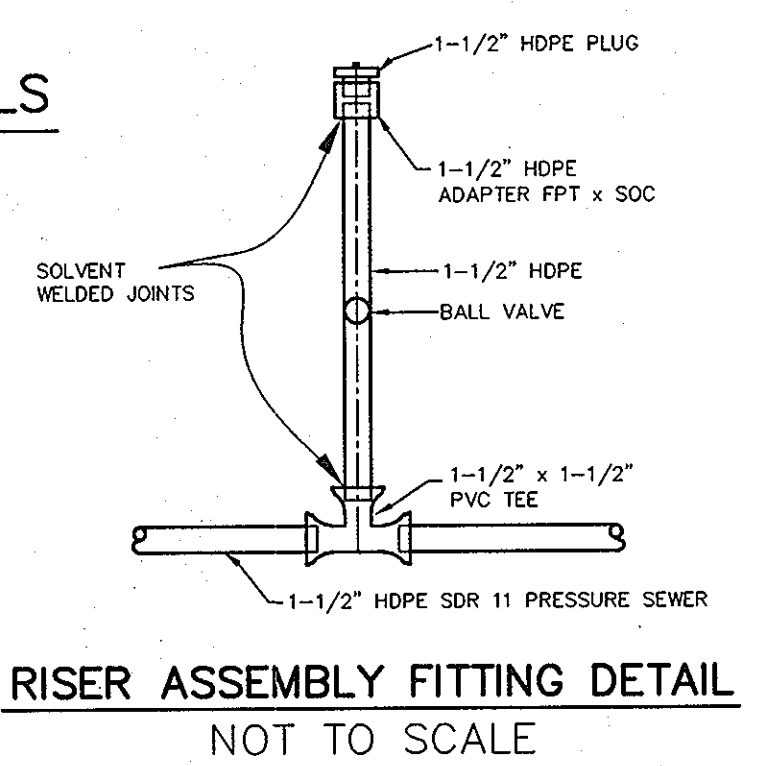
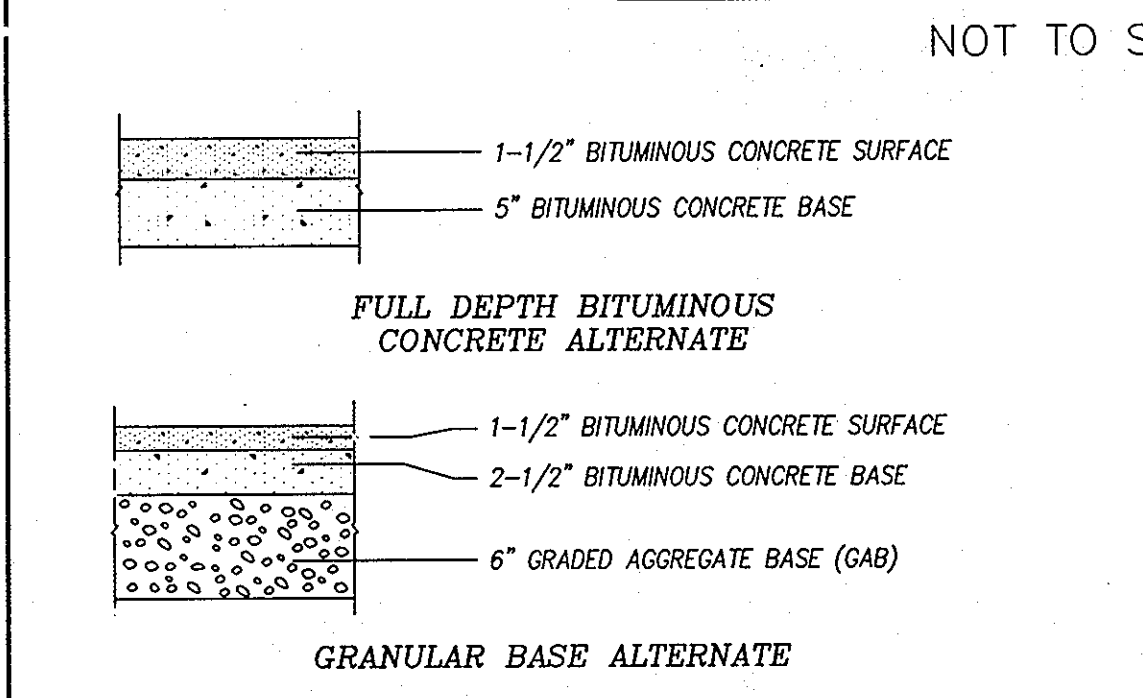
11-1/4, 22-1/2, 45° HORIZONTAL & LOWER VERTICAL BENDS

PIPE SIZE	B	C	D	E	F	G
1-1/4" & 1-1/2"	4"	4"	5"	5"	3"	3"
2"	5"	5"	7"	7"	5"	5"

- NOTES:
- f_c = 3000 psi @ 28 DAYS.
 - CARRY ALL BEARING SURFACE TO UNDISTURBED GROUND OR FIRM SUBGRADE.
 - BUTTRESS SIZED FOR 150 psi.
 - DO NOT ENCASE JOINTS.



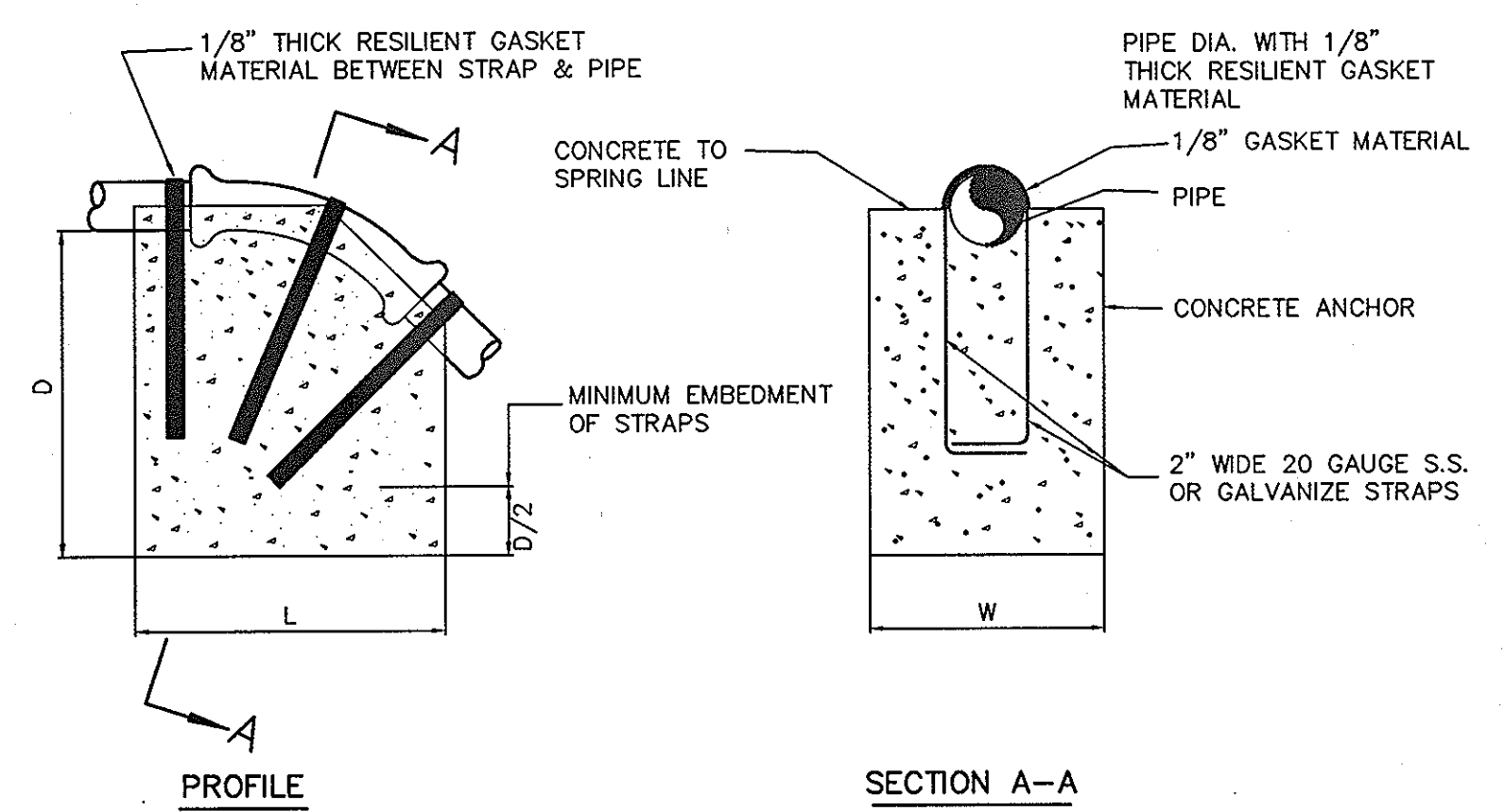
PRESSURE SEWER BLOCKING DETAILS



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

DEVELOPER:
 BURNWOODS, L.L.C.
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041-0417
 (410) 465-4244

OWNER:
 CHASSANI NESHAWAT
 14445 BURNWOODS ROAD
 GLENWOOD, MARYLAND 21738-9530



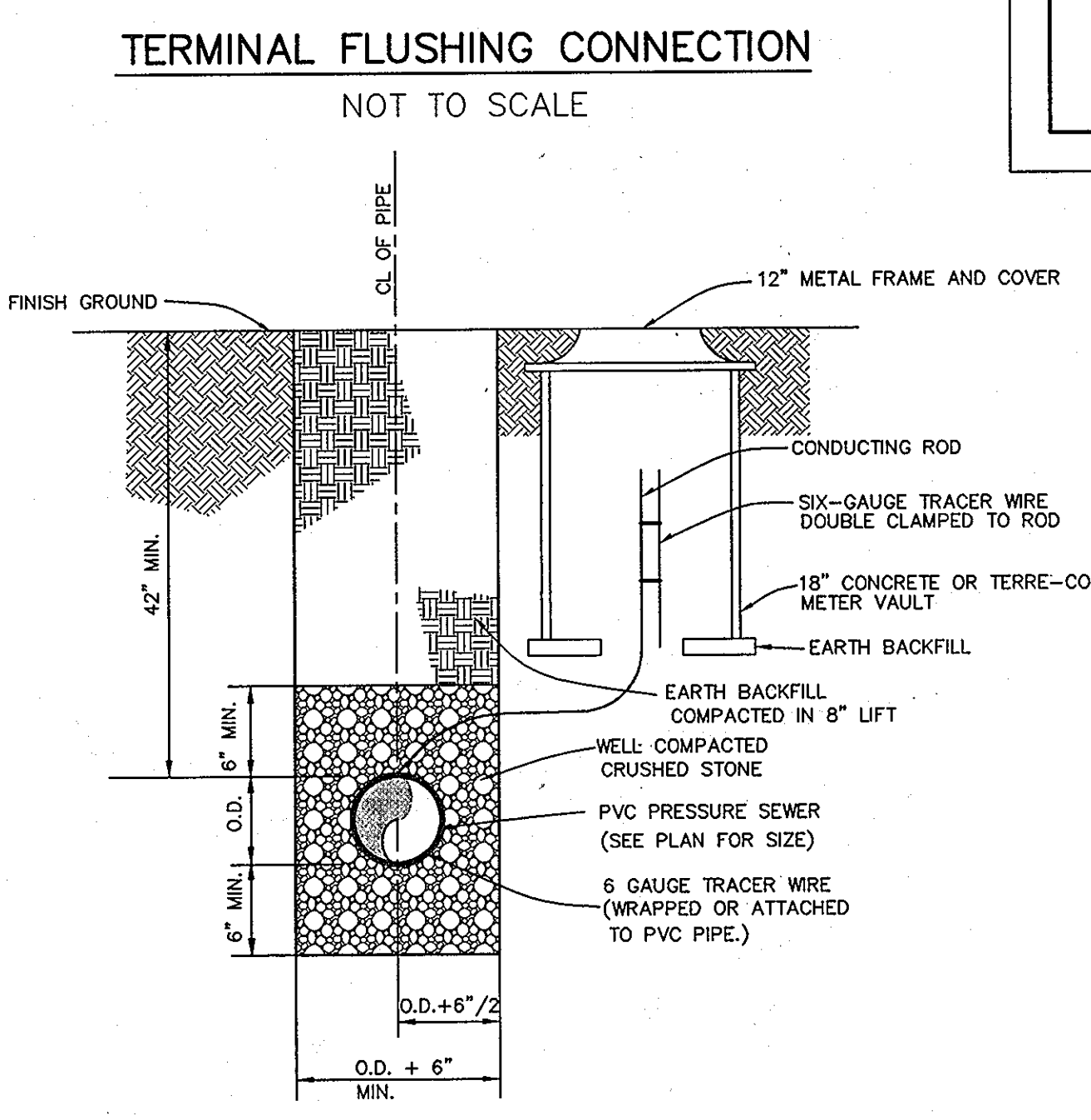
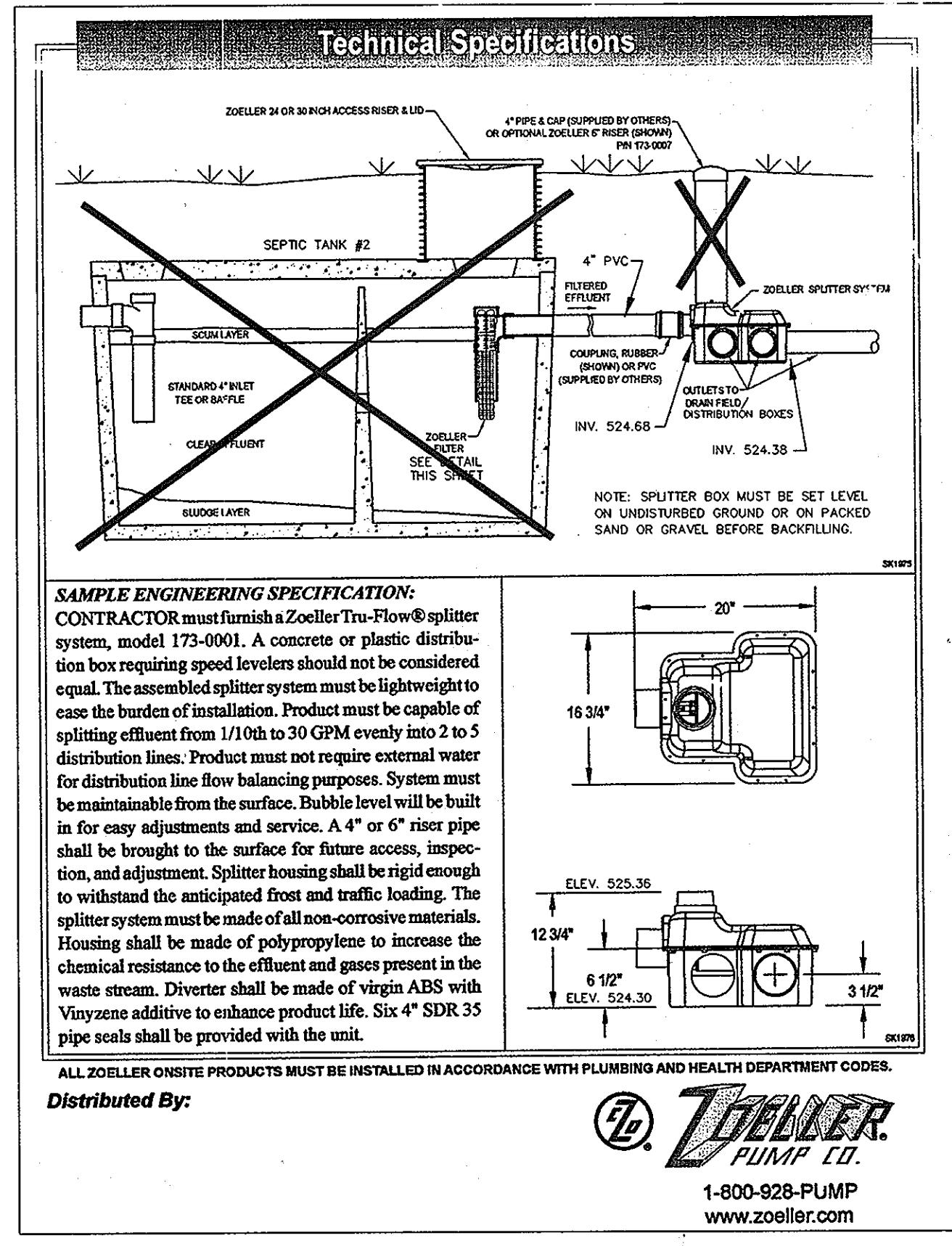
BEND	L	1-1/4"	1-1/2"
11-1/4"	L	12"	12"
	W	10"	10"
22-1/2"	L	15"	15"
	W	15"	15"
45°	L	20"	20"
	W	20"	20"

- NOTES:
- PAINT EXPOSED GALVANIZE STRAPS WITH TWO(2) COATS OF BITUMINOUS PAINT.
 - f_c = 3000 psi AT 28 DAYS.
 - CARRY ALL BEARING SURFACE TO UNDISTURBED EARTH OR FIRM SUBGRADE.
 - CONCRETE ANCHORAGE DIMENSIONS ARE BASED ON TOTAL PRESSURE OF 150 psi.

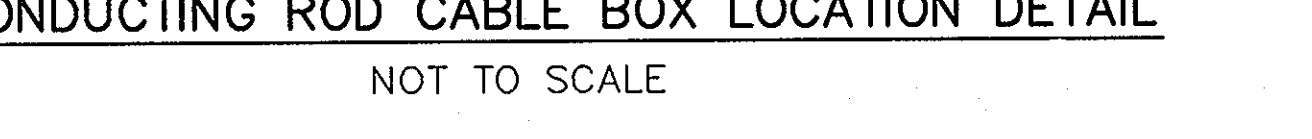
ANCHORING PRESSURE SEWERS
 (UPPER VERTICAL BENDS)
 NOT TO SCALE

SPECIFICATIONS FOR UTILITY STORAGE BUILDING

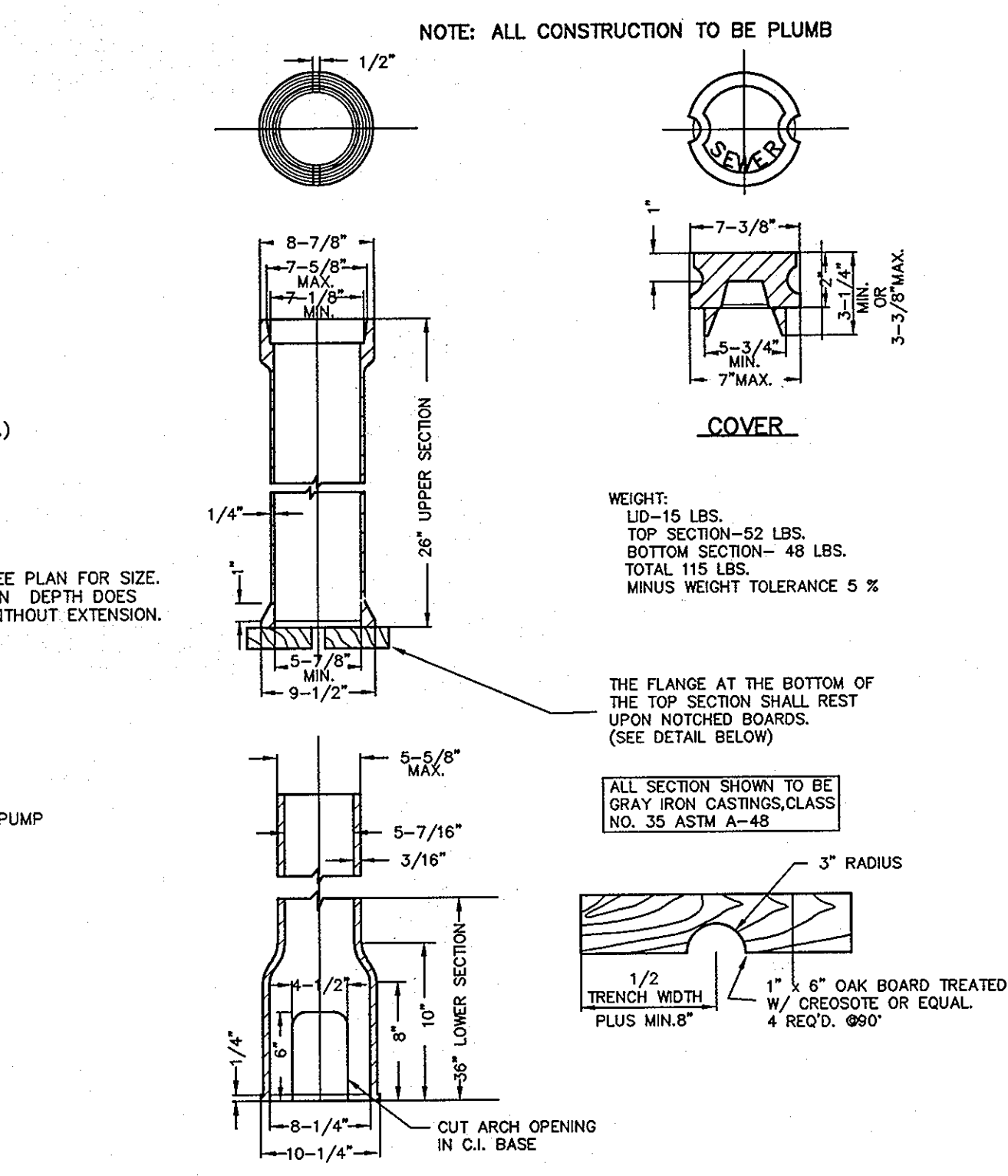
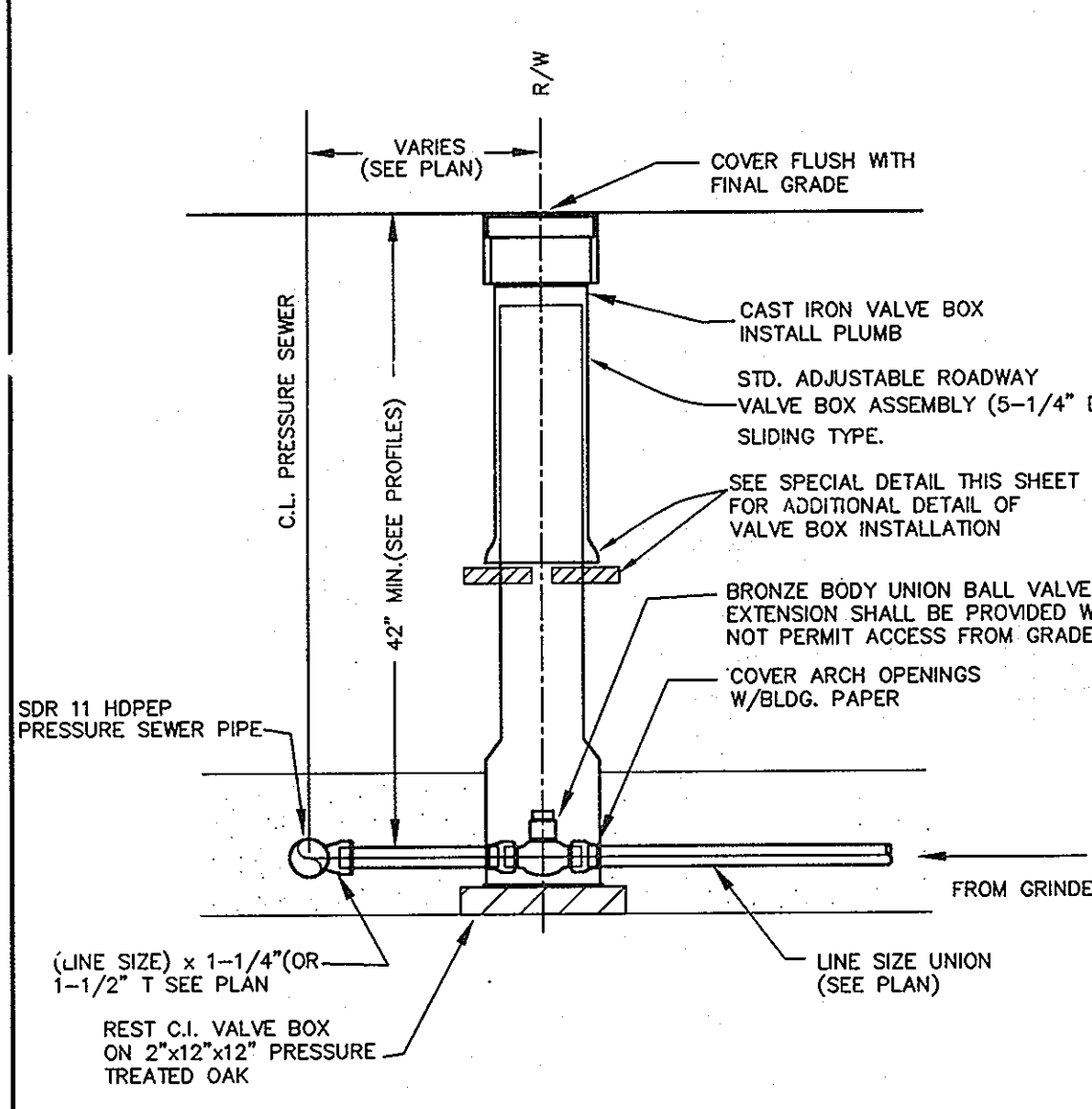
- BUILDING SHALL BE 8'x12' VINYL SIDED STORAGE BUILDING
 - SHALL BE HIGH WALL BARN STYLE WITH 6' SIDE WALLS
 - ONE DOUBLE DOOR ON END OF BUILDING
 - DOORS AND FRAME TO BE REINFORCED
 - DOOR HINGES MUST BE "T" TYPE OR STRAP TYPE; 3 HINGES PER DOOR
 - PIANO HINGES ARE NOT ACCEPTABLE
 - NO WINDOWS
 - 10' RIDGE VENT
 - 4'x4' PRESSURE TREATED SKIDS
 - 2'x4" FLOOR JOIST 16" ON CENTER
 - 5/8" PLYWOOD FLOOR SHEATHING
 - 2'x4" STUDS 16" ON CENTER
 - ALL WALLS TO BE PLATED AT BOTTOM AND DOUBLE PLATED AT THE TOP
 - 1/2" ROOF SHEATHING
 - 240 POUND ASPHALT 20-YEAR SHINGLES
 - LOCKS ARE TO BE KEYPED ALIKE WITH BAUER CH751 LOCK
 - ALMOND COLORED VINYL SIDING AND TRIM
 - BROWN COLORED ROOF SHINGLES
- REFERENCE: RIDGE CABINET COMPANY
 4636 RIDGE ROAD
 MT. AIRY, MARYLAND
 410-875-2211



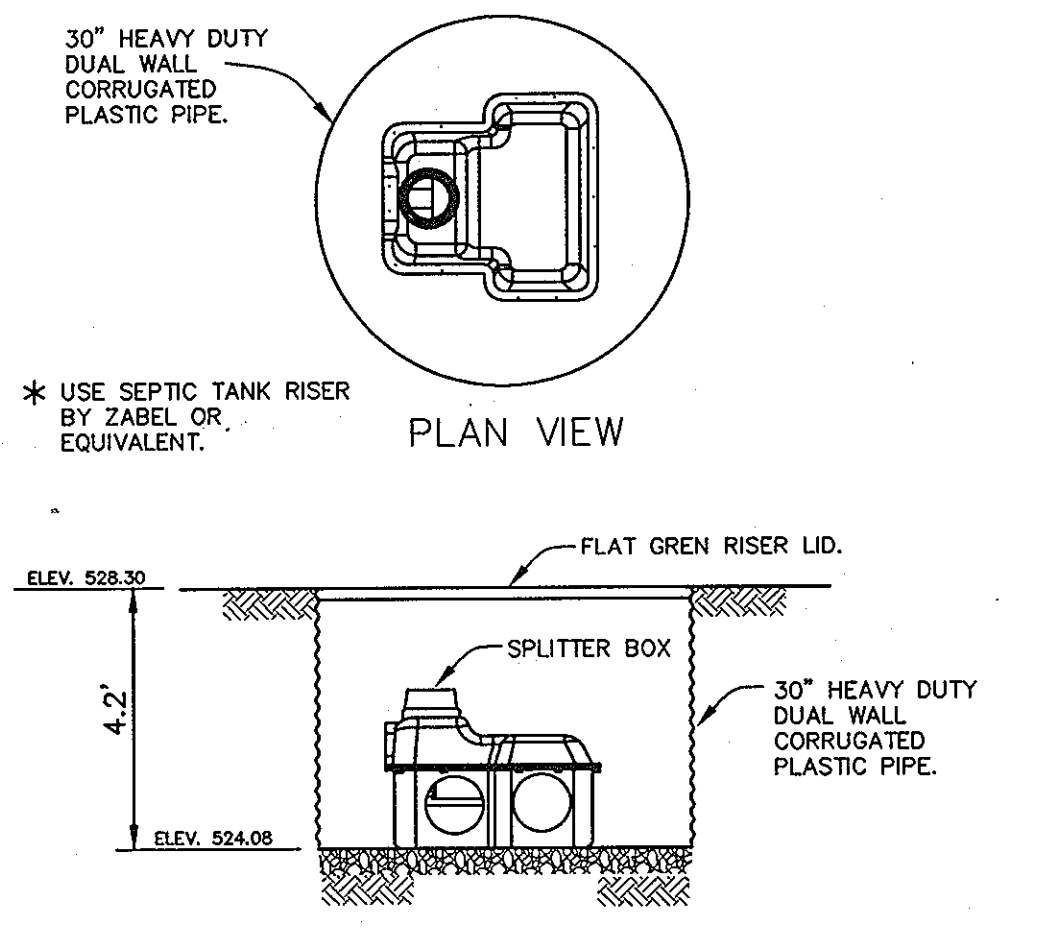
PRESSURE SEWER TRENCH, BEDDING & CONDUCTING ROD CABLE BOX LOCATION DETAIL



PAVING SECTION P-2
 NOT TO SCALE



ADJUSTABLE VALVE BOX ROUND HEAD SLIDING TYPE
 NOT TO SCALE



MANHOLE DETAIL FOR SPLITTER BOX
 NOT TO SCALE

APPROVED:
 FOR PRIVATE WATER AND PUBLIC SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT

William J. Davis
 COUNTY HEALTH OFFICER

DATE: 8/10/07

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

William J. Davis
 CHIEF, BUREAU OF UTILITIES

DATE: 6-29-07

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

William J. Davis
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 6/10/07

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
 ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6844

William J. Davis
 6/10/2007

DESIGN: BFC					
DRAFT: BFC					
CHK: DAM					
DATE: 6-18-07	BY: NO.	REVISIONS	DATE		

600 SCALE MAP NO. 21

BLOCK N/A

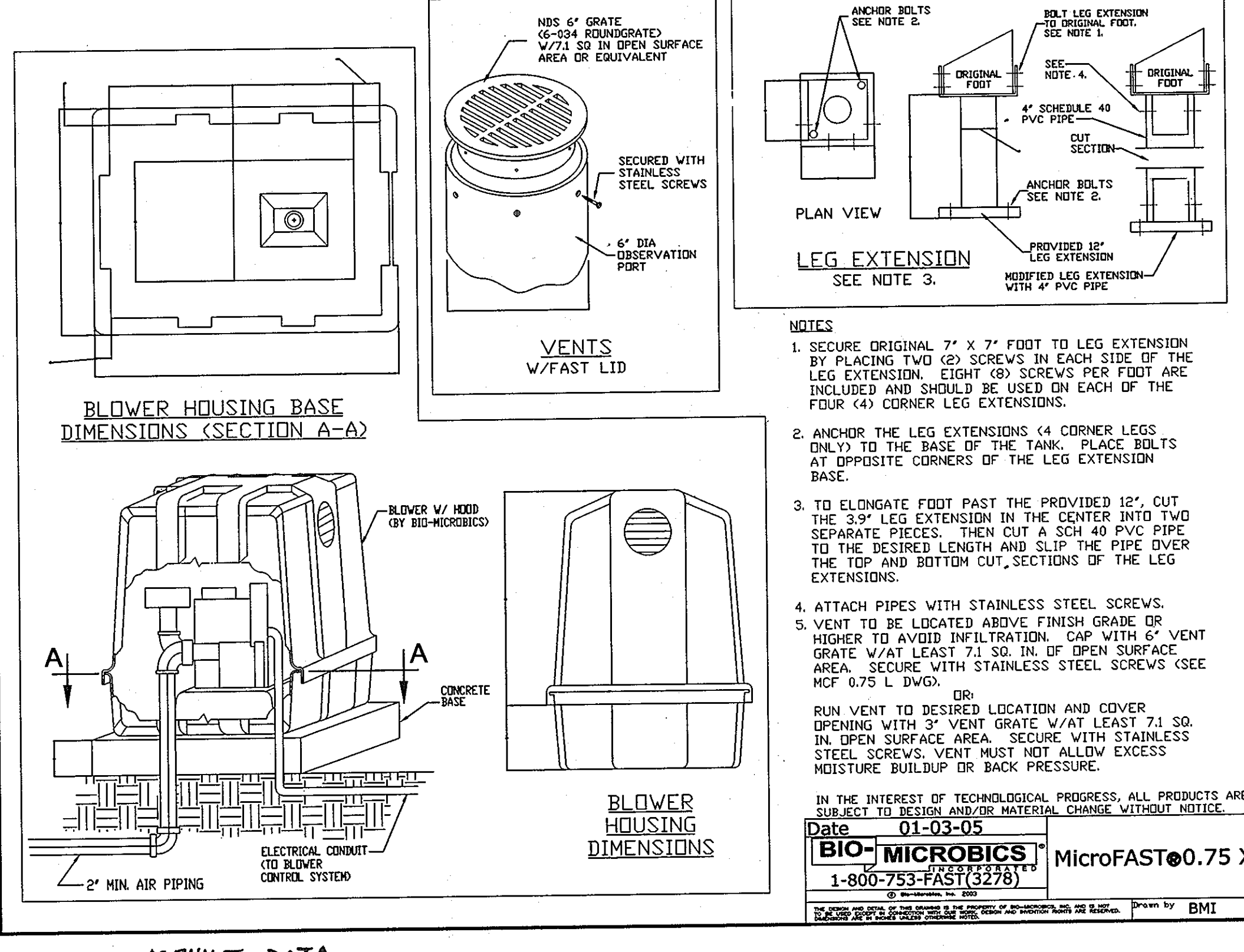
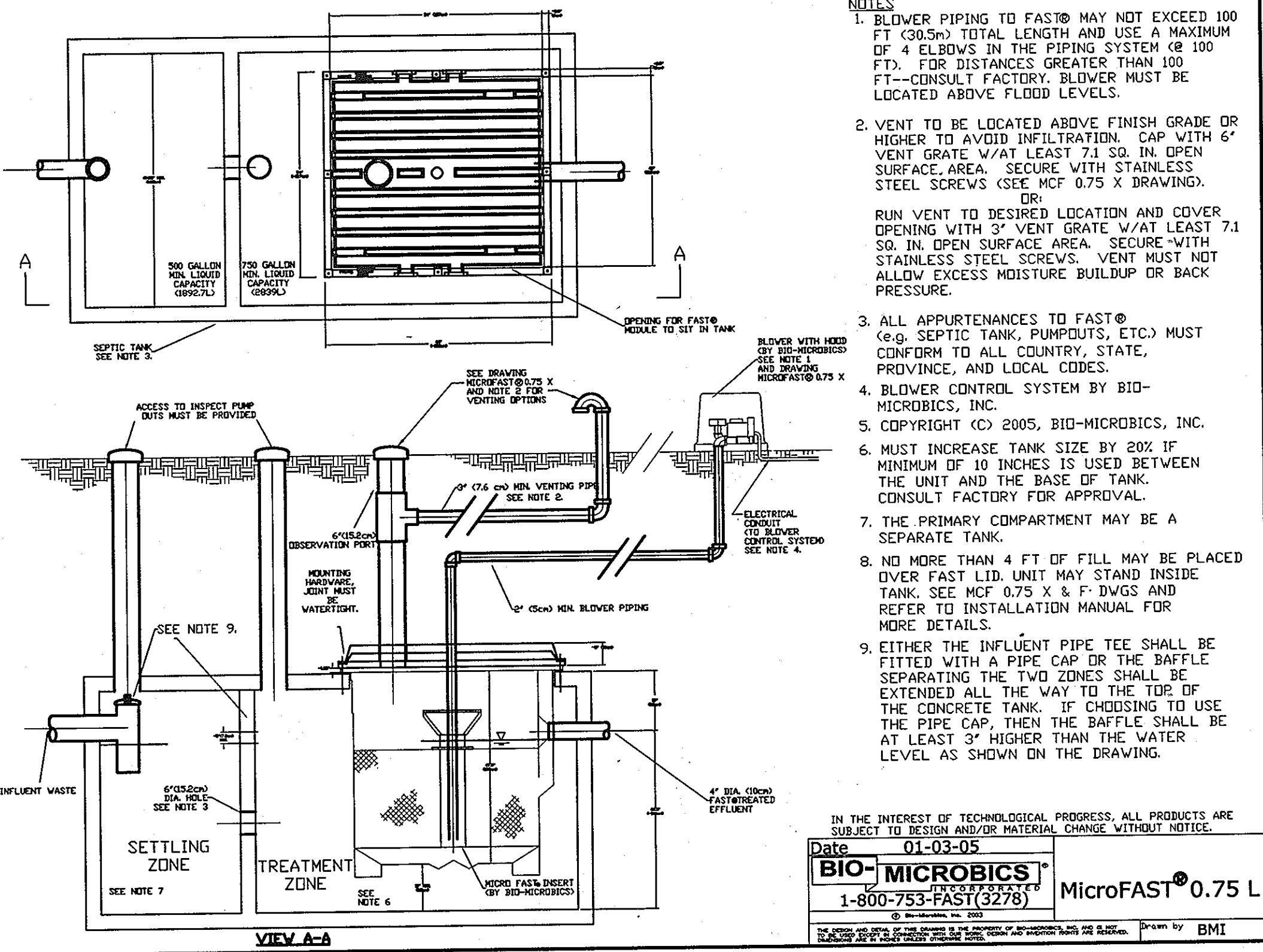
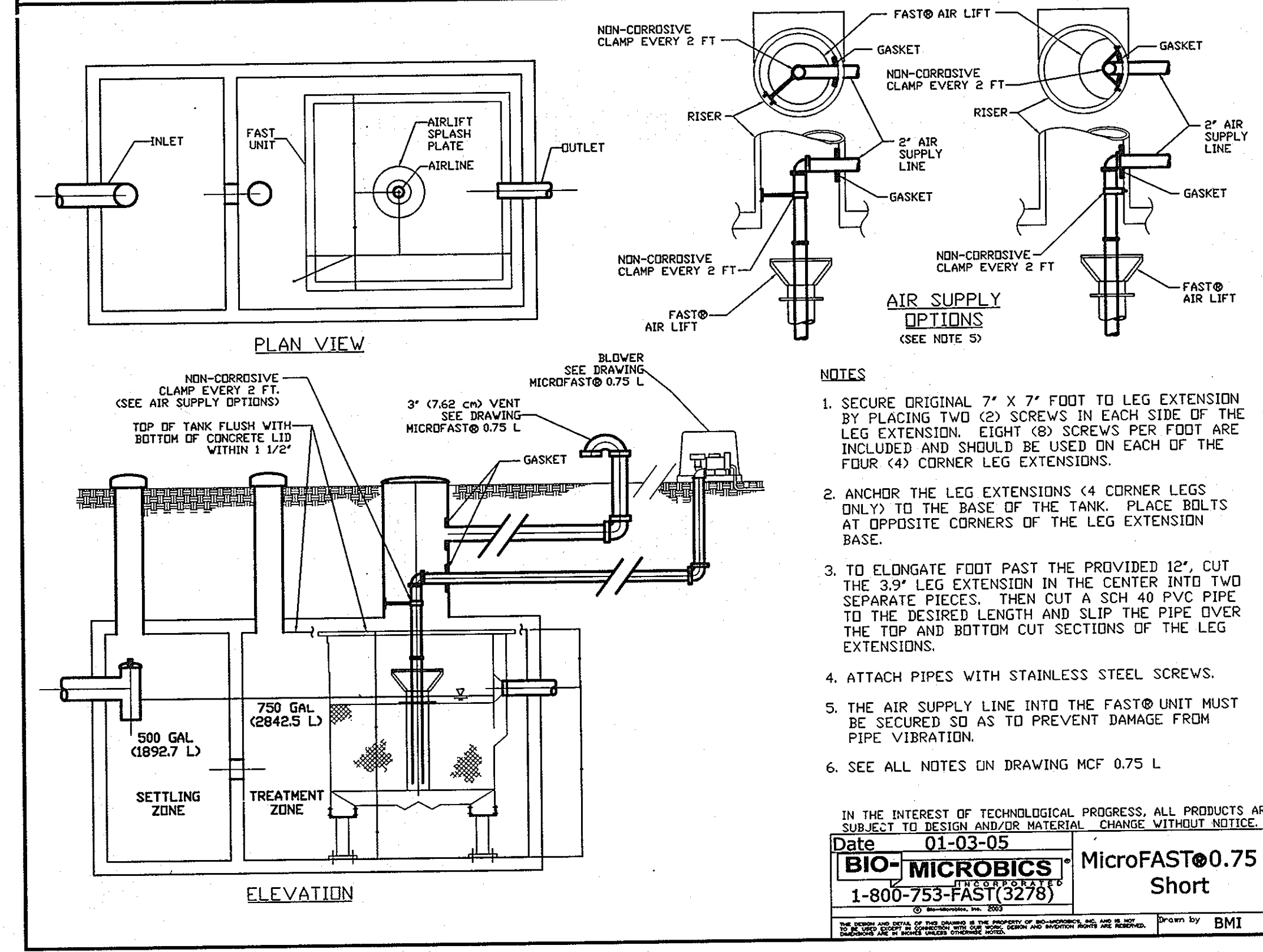
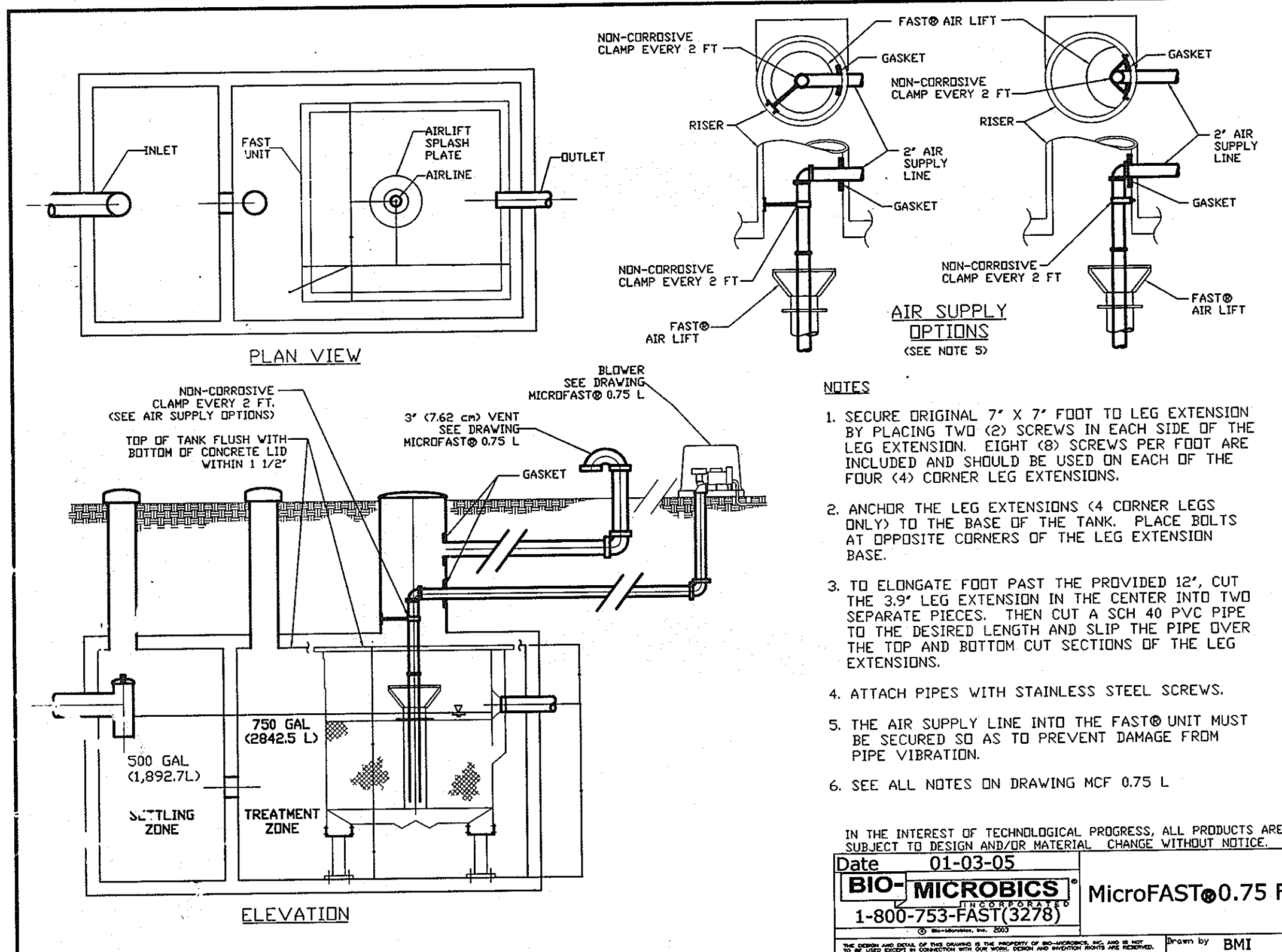
DETAILS

NESHAWAT PROPERTY
 LOTS 1 TO 5, NON-BUILDABLE PRESERVATION PARCELS A, B, E & F,
 NON-BUILDABLE BULK PARCEL D AND BUILDABLE PRESERVATION PARCEL C

FOURTH ELECTION DISTRICT
 CONTRACT NO. 50-4294-D

SCALE:
 AS SHOWN

SHEET NO.
 4 OF 5



Specifications for MicroFAST 0.75 Wastewater Treatment System

1. GENERAL
The contractor shall furnish and install (1) MicroFAST 0.75 treatment system as manufactured by Bio-Microbics, Inc. The treatment system shall be complete with all needed equipment as shown on the drawings and specified herein.

2. REMOTE MOUNTED BLOWER
The blower may be mounted remote with no more than 100 ft (30.5 M) of piping and no more than four elbows, from the MicroFAST unit on a contractor supplied concrete base. The blower must not set in standing water and its elevation must be higher than the normal floor level. A two-piece, rectangular housing shall be provided with taper-proof screws. The discharge air line from the blower to the MicroFAST shall be provided and installed by the contractor.

3. ELECTRICAL
The electrical source should be within 150 feet of the blower. Consult local code for longer wiring distances. All wiring must conform to code. The input power required for the blower is 115/230 Volts, Single Phase, 60/50 Hertz, 3.8/1.9 Full Load Amps, minimum wire size is 16 A.W.G. (Locked Rotor Amps are 18.6/9.3). All conduit and wiring between the electrical control panel (optional), the power supply, and the blower shall be furnished and installed by the contractor.

4. ALARMS
The alarm system shall consist of a visual and audible alarm to indicate loss of power to the blower and/or high water level. A manual silence switch is included.

5. MEDIA
The FAST media shall be manufactured of rigid PVC, polyethylene or polypropylene and it shall be supported by the polyethylene insert. The media shall be fixed in position and contain no moving or vibrating parts and shall not corrode. The media shall be designed and installed to ensure that sloughed solids immediately descend through the media to the bottom of the septic tank.

6. BLOWER
The MicroFAST 0.75 unit shall come equipped with a regenerative type blower capable of delivering 17-25 CFM. The blower assembly shall include an inlet filter with metal filter element.

7. WARRANTY
The manufacturer of the MicroFAST 0.75 treatment system shall warrant for three years from the date of shipment or two years from the date of start-up, whichever occurs first, that the equipment they provide will be free from defects in material and workmanship.

8. IN THE EVENT A MECHANICAL COMPONENT FAILS TO PERFORM AS SPECIFIED OR IS PROVEN DEFECTIVE IN SERVICE DURING THE WARRANTY PERIOD, THE MANUFACTURER SHALL REPAIR OR REPLACE SUCH DEFECTIVE PARTS. (Cost of labor on repair/replacement is not covered under this warranty.) The replacement or repair of those items normally consumed in service such as air filter, etc., shall be considered as part of routine maintenance and upkeep.

9. IT IS NOT INTENDED THAT THE MANUFACTURER ASSUME RESPONSIBILITY FOR CONSEQUENTIAL LIABILITIES OR CONSEQUENTIAL DAMAGES OF ANY NATURE RESULTING FROM ACCIDENTS, OR DELAYS IN DELIVERY, REPLACEMENT, OR OTHERWISE.

10. FLOW AND LOSING
Wastewater treatment systems work best when influent flow is delivered as consistently as possible. FAST systems have been successfully designed, tested and certified receiving gravity, demand-based influent flow. However, when influent flow is controlled (either by pump or other means) to the FAST system to help with highly variable flow conditions, then multiple feeding events should be used to help assure even flow, optimum performance, and reliability.

IN THE INTEREST OF TECHNOLOGICAL PROGRESS, ALL PRODUCTS ARE SUBJECT TO DESIGN AND/OR MATERIAL CHANGE WITHOUT NOTICE.
Date: 01-03-05
BIO-MICROBICS MicroFAST® 0.75 S
1-800-753-FAST (3278)
Drawn by BMI

