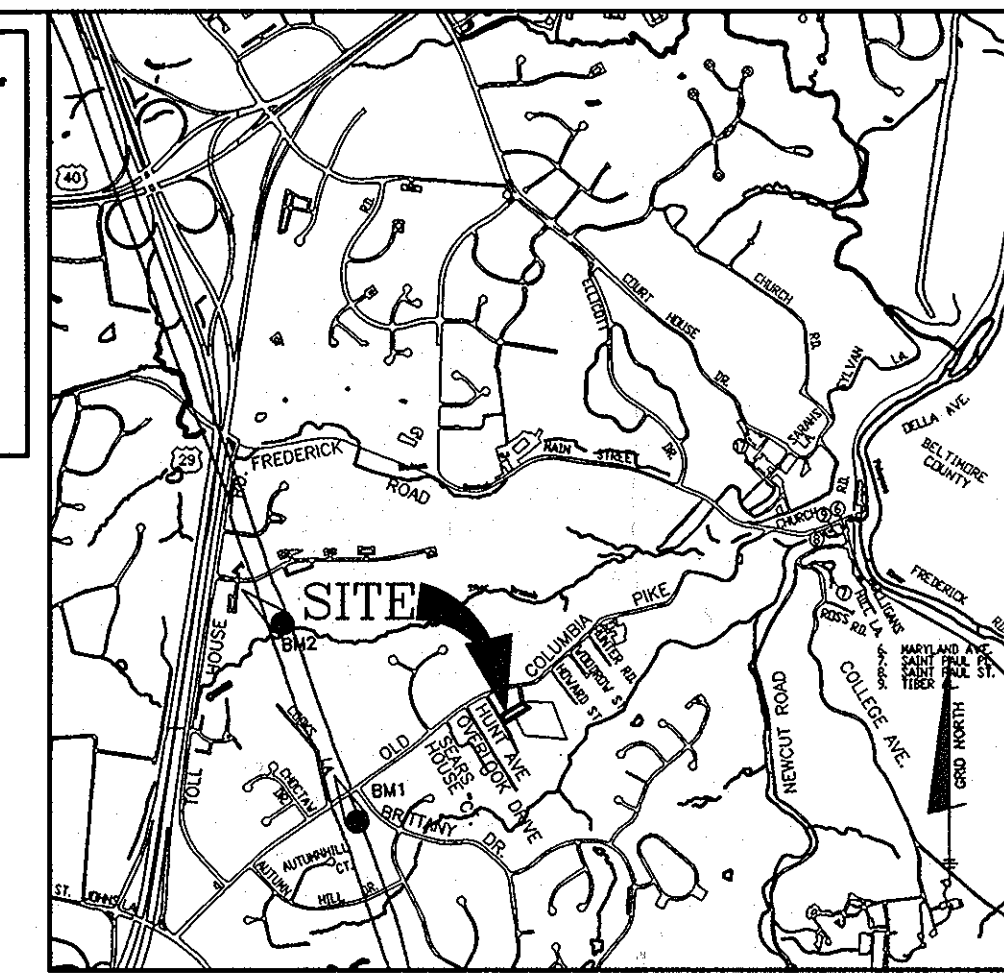


# THE WALTER DAVIS PROPERTY

## PUBLIC WATER AND PUBLIC SEWER CONSTRUCTION PLANS

### CONTRACT NO. 14-4670-D

BENCHMARKS NAD'83 HORIZONTAL	
HO. CO. #24FB	
N 582652.1506'	E 1364255.9193'
ELEVATION: 422.498'	
HO. CO. #2413	
N 580648.9394'	E 1364974.4661'
ELEVATION: 403.699'	



ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
6" DIP WATER	389 LF			
6"x6" TS & V	1 EA			
1.5" PVC WHC	40 LF			
1.0" OUTSIDE METERS	4 EA			
6" PVC SEWER	22 LF			
1.5" FORCE MAIN	380 LF			
MANHOLES	2			
V.F. OF MANHOLES (total)	23			
GRINDER PUMP	4 EA			
TERMINAL FLUSHING CONN.	1 EA			
VALVE BOX w/CONDUCTING ROD	4 EA			

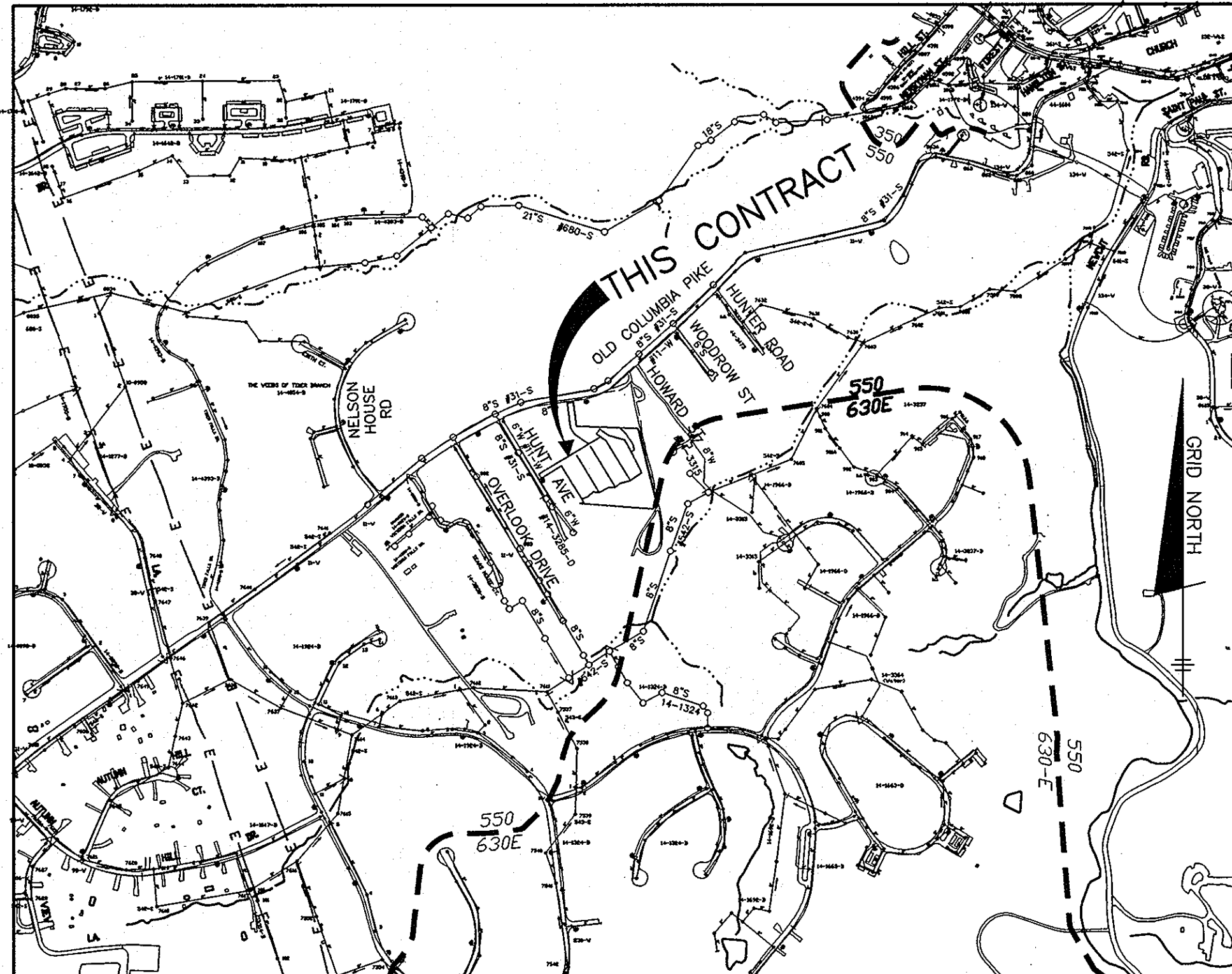
NAME OF UTILITY CONTRACTOR:  
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE				
LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2	
2	4039 HUNT AVENUE			
3	4035 HUNT AVENUE			
4	4031 HUNT AVENUE			
5	4027 HUNT AVENUE			

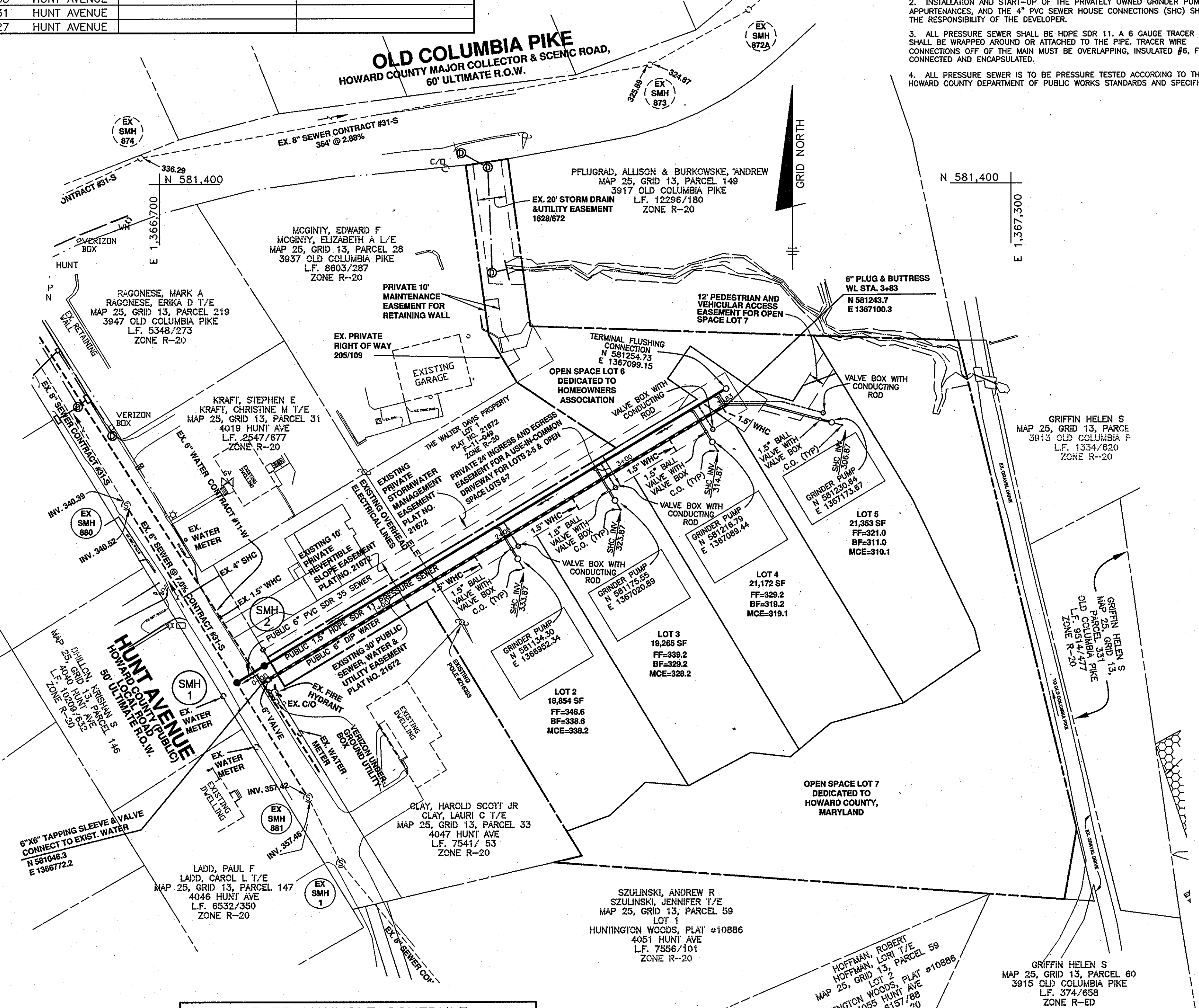
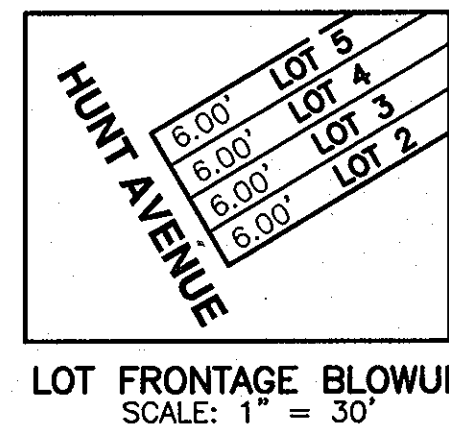
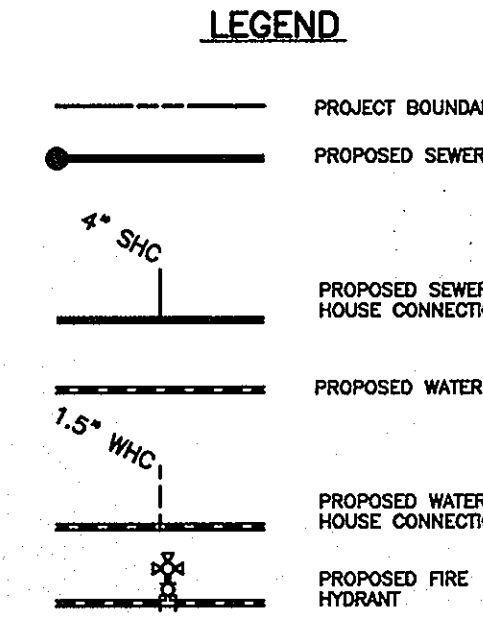
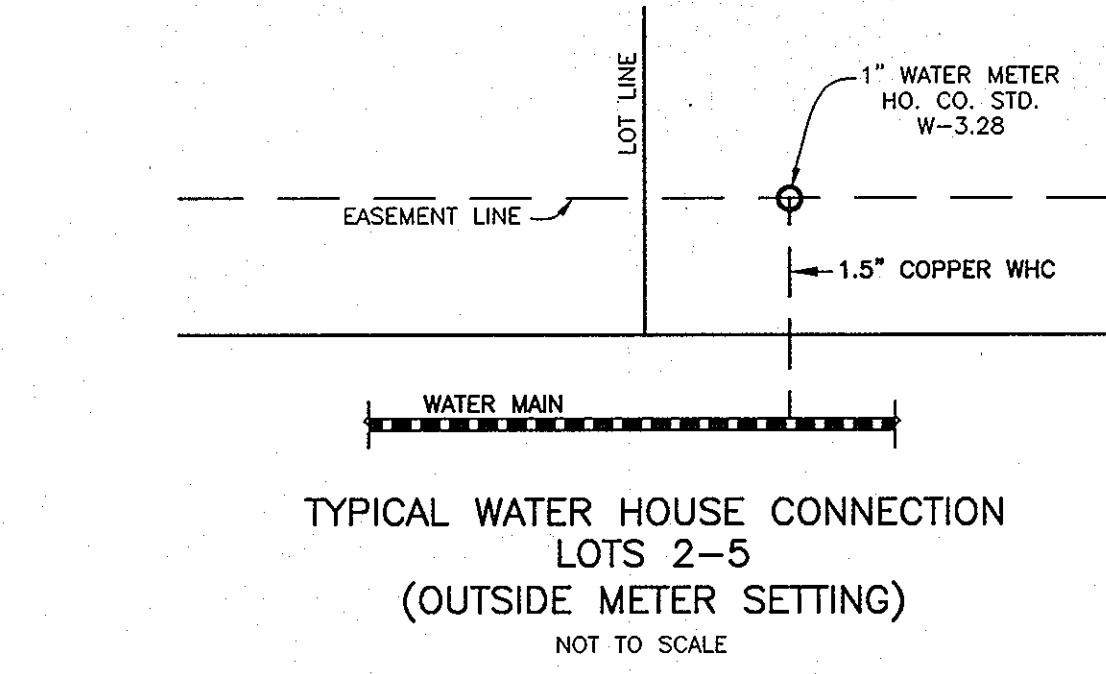
SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE				
LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2	
2	4039 HUNT AVENUE			
3	4035 HUNT AVENUE			
4	4031 HUNT AVENUE			
5	4027 HUNT AVENUE			

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET/PLAN VIEW OF PUBLIC WATER & SEWER MAINS
2	PROFILES OF PUBLIC WATER & SEWER MAINS
3	GRINDER PUMP DETAILS

- PRESSURE SEWER NOTES:**
- 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 PRIVATELY 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 HDPE 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.
  - ALL PRESSURE SEWER IS TO BE PRESSURE TESTED ACCORDING TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS STANDARDS AND SPECIFICATIONS.



TYPE OF BUILDING:	SFD
NO. OF LOTS/PARCELS/UNITS:	4
NUMBER OF SHC'S:	4
NUMBER OF WHC'S:	4
DRAINAGE AREA:	
TREATMENT PLANT:	
WATER ZONE:	550
TEST GRADIENT:	700



SEWER MANHOLE SCHEDULE		
MANHOLE	LOCATION	RIM ELEVATION
1	N 581046.91 E 1366754.30	363.50
2	N 581058.82 E 1366773.55	364.00

### GENERAL NOTES

- PART I - GENERAL**
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
  - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN FEBRUARY, 2003 BY BENCHMARK ENGINEERING, INC.
  - THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROVIDED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 0012 AND NO. 16E1.
  - ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 0012 AND 16E1.
  - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
  - CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 6'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED TO THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
  - FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
  - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST 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 THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
  - THE 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 (CONSTRUCTION SERVICES).....410-850-4620  
 BGE (EMERGENCY).....410-685-1400  
 BUREAU OF UTILITIES.....410-313-4000  
 COLONIAL PIPELINE CO.....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 THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
  - THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 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 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(c) OF THE HOWARD COUNTY CODE.

- PART II - WATER**
- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
  - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
  - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
  - ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
  - FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED OR ANCHORED IN CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
  - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
  - ALL WATER HOUSE CONNECTIONS SHALL BE 1.5 INCHES WITH A 1 INCH OUTSIDE METER SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.

- PART III - SEWER**
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
  - ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
  - FORCE MAINS SHALL BE D.I.P. ONLY.
  - MANHOLES DESIGNED WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
  - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER. STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE 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 SERVED.

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

*John R. Robertson* 8/9/12  
HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER F-12-091

OWNER/DEVELOPER:  
WALTER DAVIS JR & WIFE  
3959 OLD COLUMBIA ROAD  
ELLCOTT CITY, MARYLAND 21043  
443-340-2890

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2013.

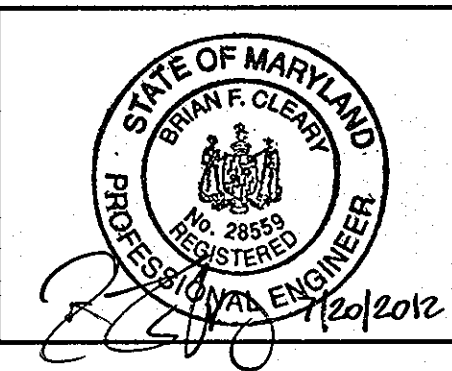
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John C. C...* 8/1/12  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*...* 8/15/12  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE & SUITE 418 & ELLCOTT CITY, MARYLAND 21043  
(P) 410-465-8100 (F) 410-465-8644  
60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702  
(P) 301-371-3505 (F) 301-371-3506  
WWW.BCI-ENR.COM



DES:	BFC/DBT			
DRAFT:	DBT			
CHK:	BFC			
DATE:	7/2012	BY	NO.	REVISIONS

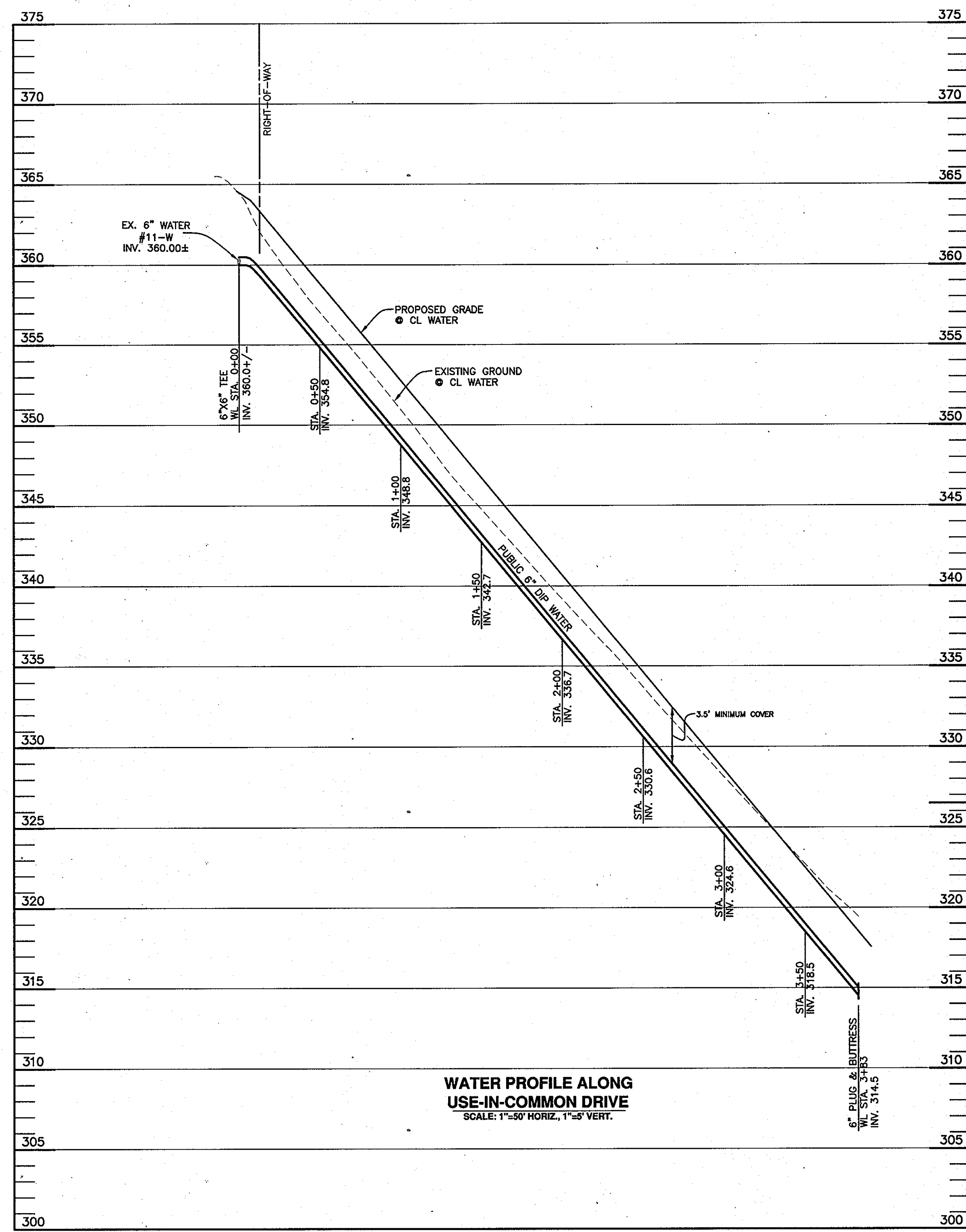
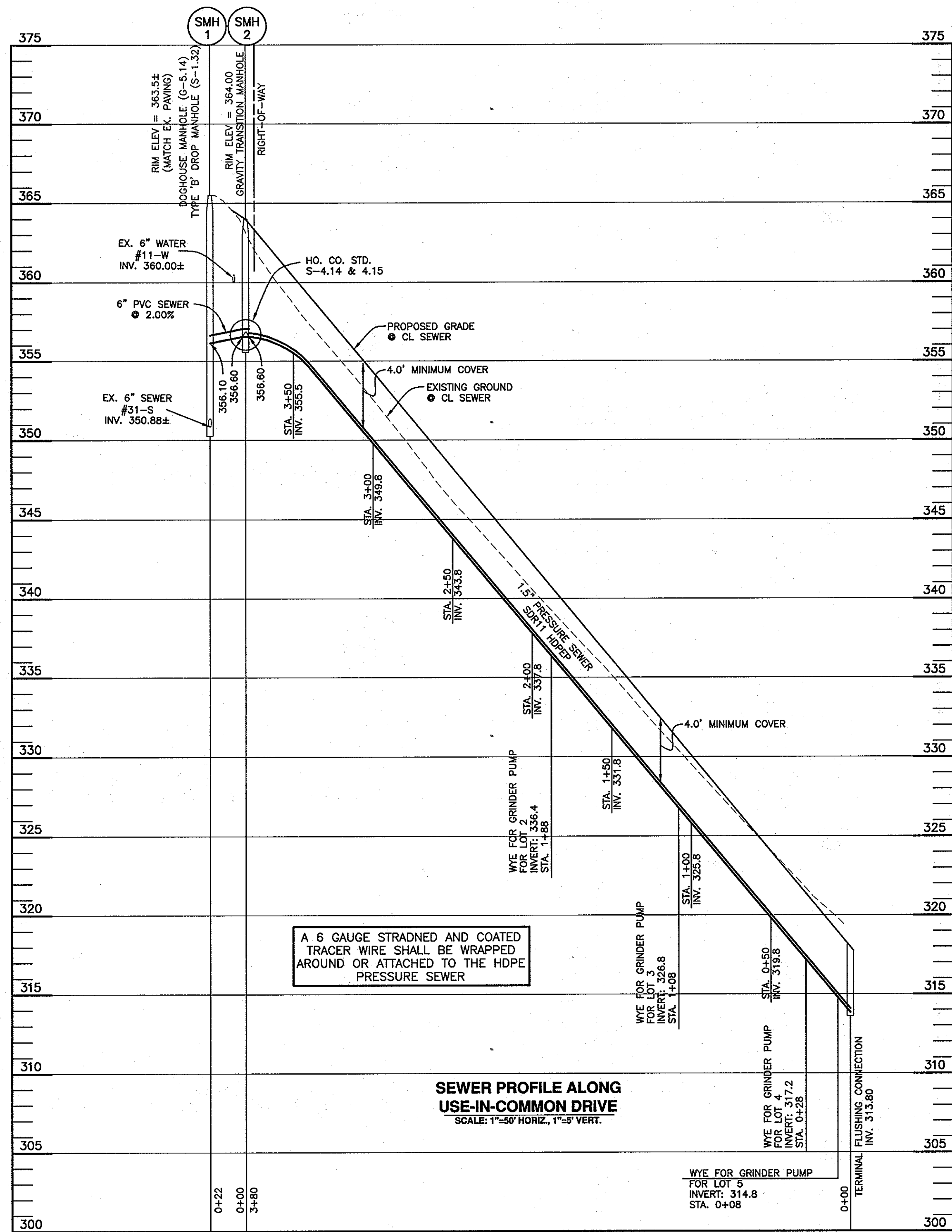
TITLE SHEET  
PUBLIC WATER & SEWER MAINS

600 SCALE MAP NO. 25 BLOCK: 13 200 SCALE MAP NO. .

**THE WALTER DAVIS PROPERTY**  
LOTS 2 thru 5  
OPEN SPACE LOTS 6 AND 7  
TAX MAP: 25 - BLOCK: 13 - PARCEL: 148 - ZONED: R-20- ELECTION DISTRICT: 2  
**CONTRACT NO. 14-4670-D**

SCALE:  
AS SHOWN

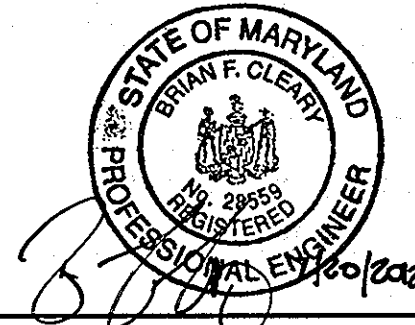
SHEET NO.  
1 OF 3



OWNER/DEVELOPER:  
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443-340-2890

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**BENCHMARK ENGINEERING, INC.**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
8480 BALTIMORE NATIONAL PIKE & SUITE 416 & ELLCOTT CITY, MARYLAND 21043  
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(P) 301-371-3505 (F) 301-371-3508  
WWW.BE-CIVILENGINEERING.COM

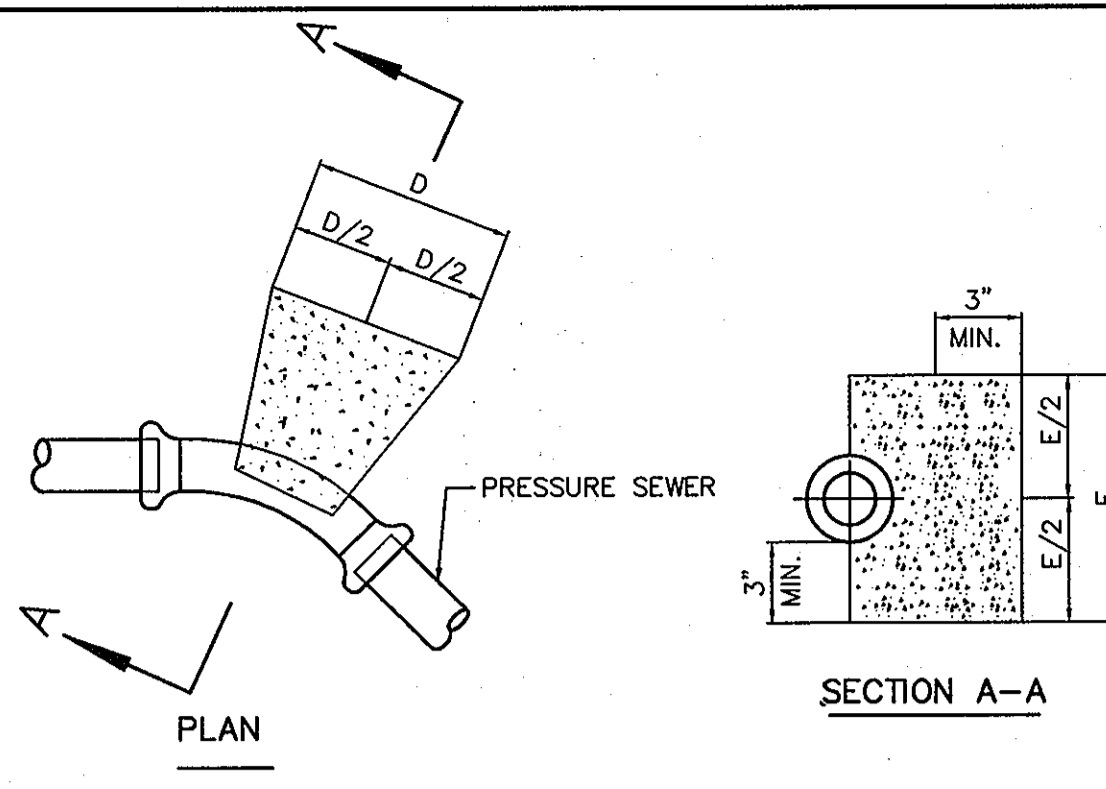
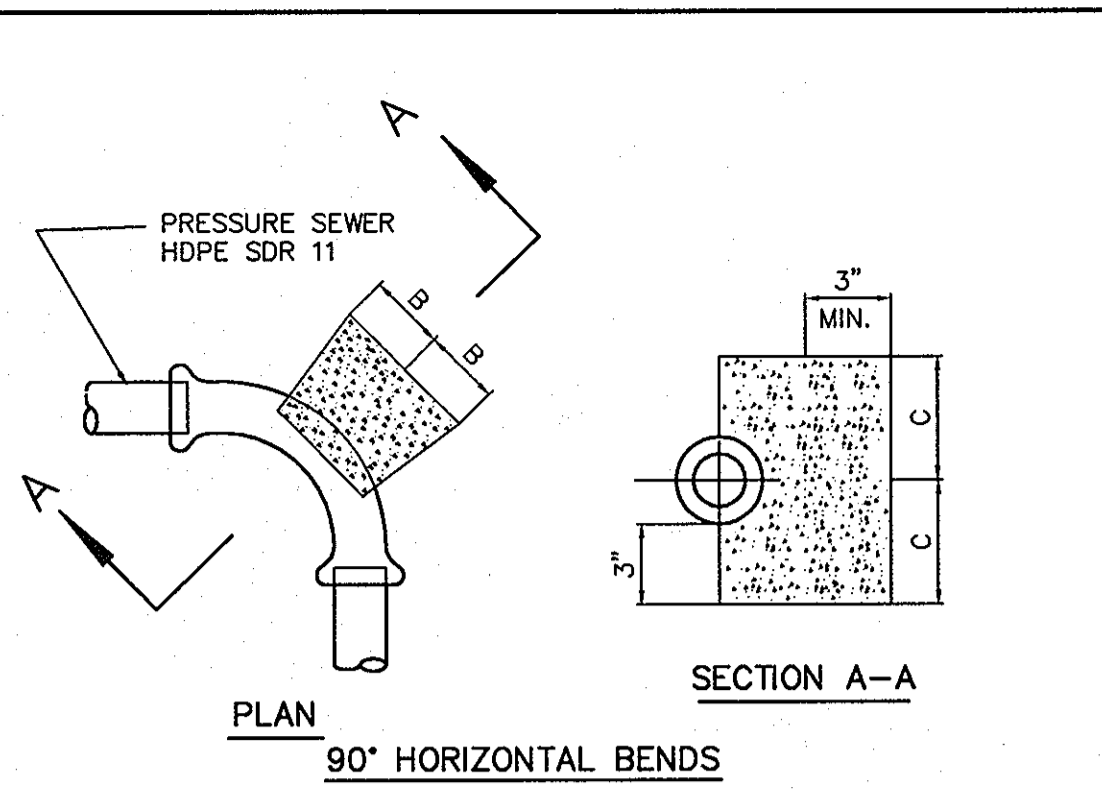


DESIGN: DBT				
DRAFT: DBT				
CHK: BFC				
DATE: 7/2012	BY	NO.	REVISIONS	DATE

**PROFILES OF PUBLIC WATER & SEWER MAINS**

**THE WALTER DAVIS PROPERTY**  
LOTS 2 thru 5  
OPEN SPACE LOTS 6 AND 7  
TAX MAP: 25 - BLOCK: 13 - PARCEL: 148 - ZONED: R-20- ELECTION DISTRICT: 2  
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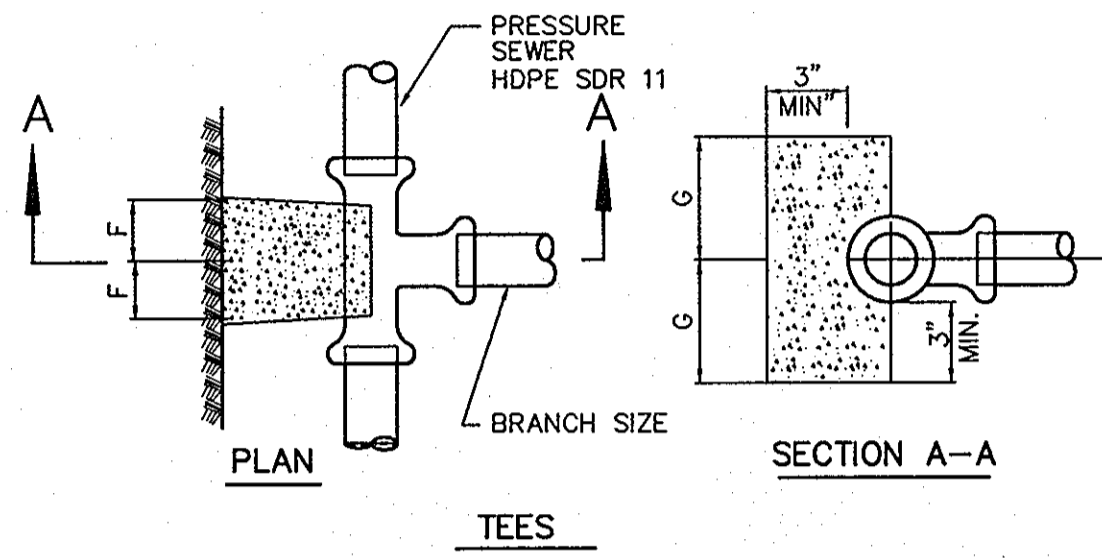
SCALE: AS SHOWN  
SHEET NO. 2 OF 3



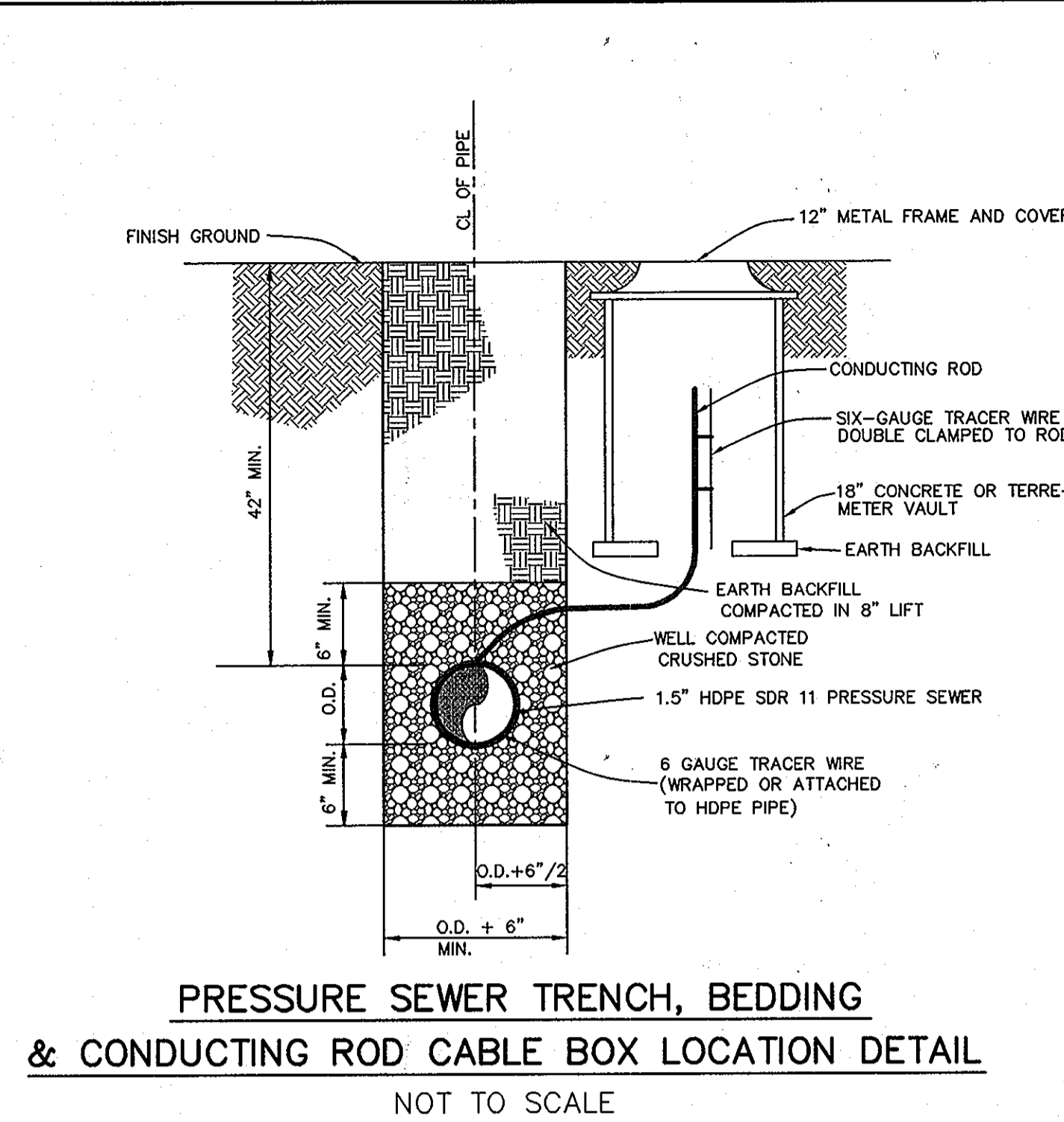
11-1/4, 22-1/2, 45° HORIZONTAL & LOWER VERTICAL BENDS

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"

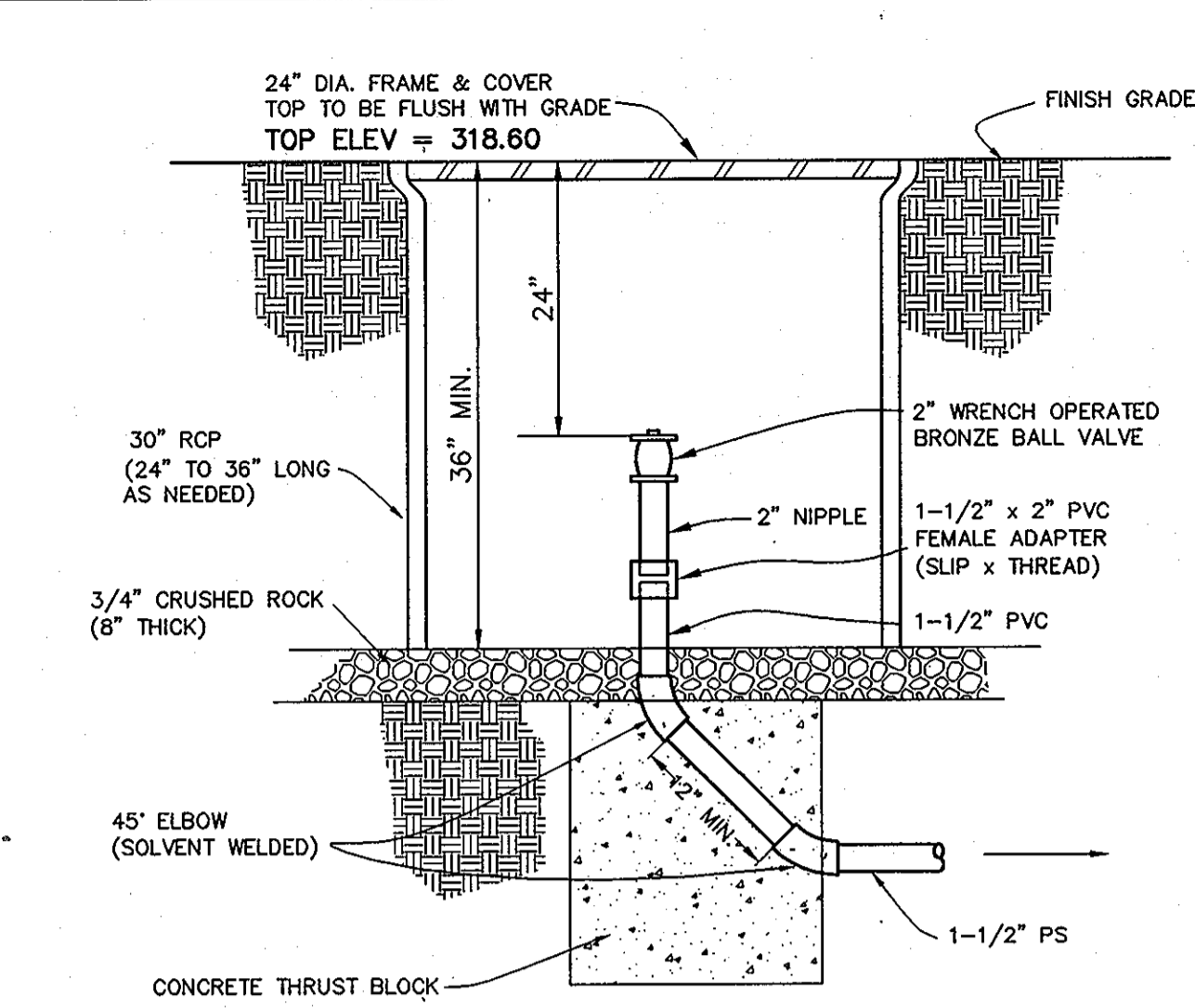
- NOTES:
1.  $f_c = 3000$  psi @ 28 DAYS.
  2. CARRY ALL BEARING SURFACE TO UNDISTURBED GROUND OR FIRM SUBGRADE.
  3. BUTTRESS SIZED FOR 150 psi.
  5. DO NOT ENCASE JOINTS.



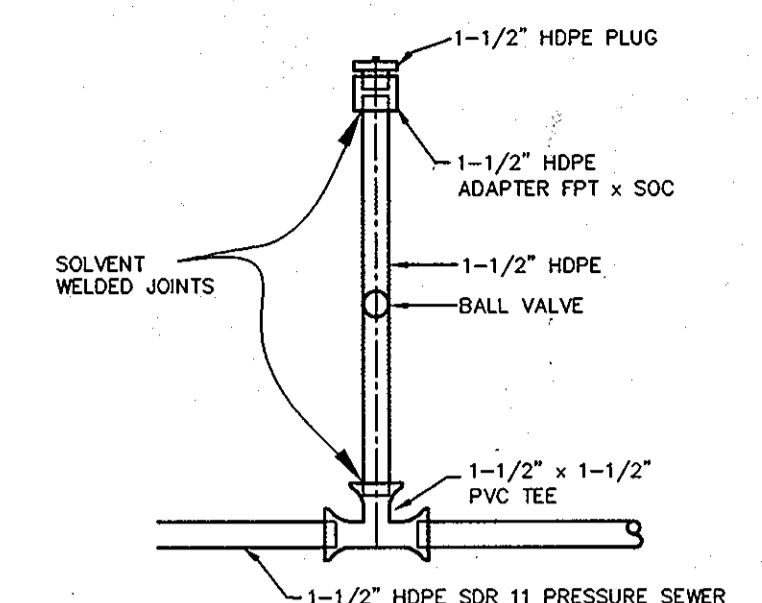
PRESSURE SEWER BLOCKING DETAILS  
NOT TO SCALE



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



TERMINAL FLUSHING CONNECTION  
NOT TO SCALE

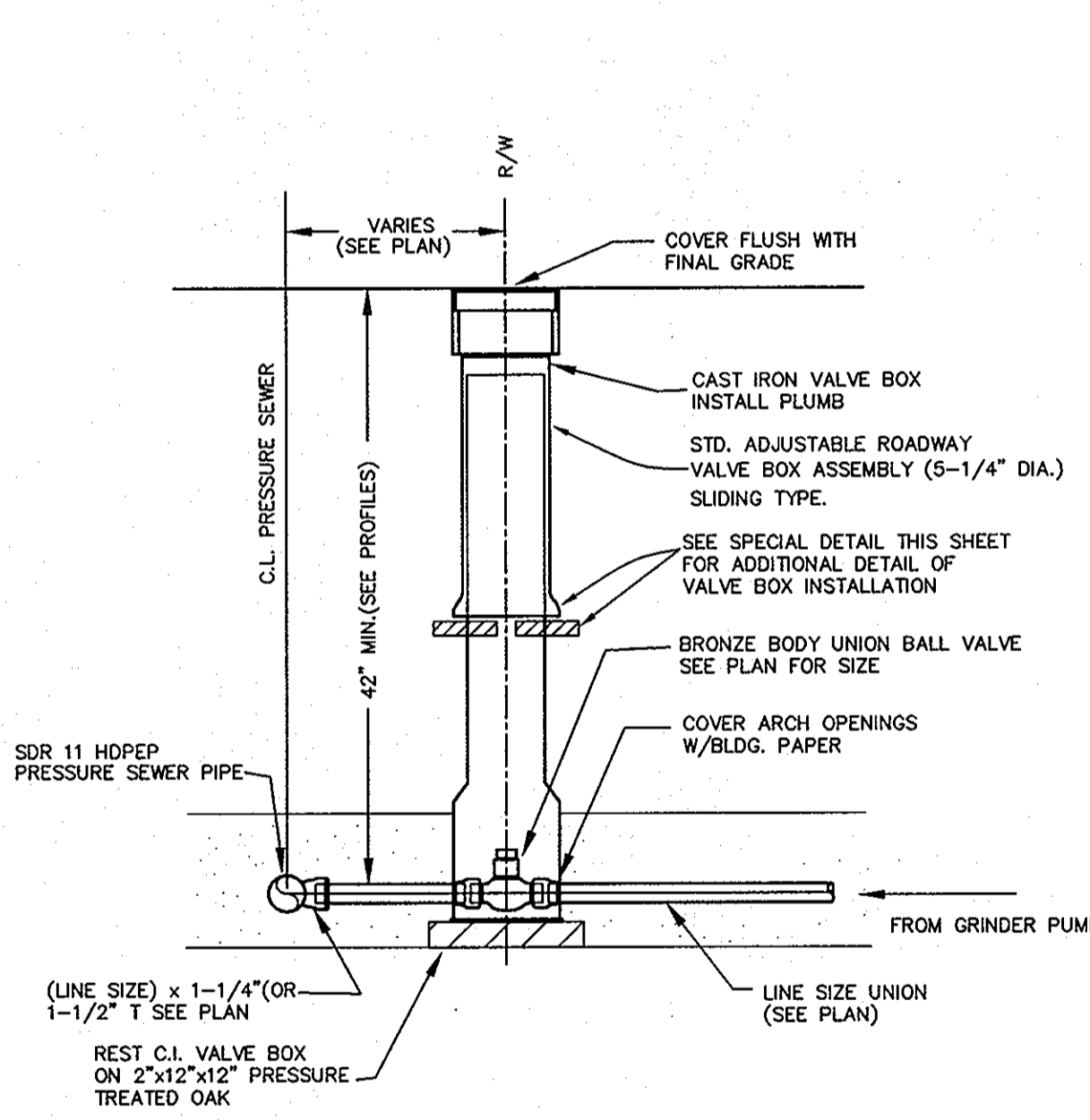


RISER ASSEMBLY FITTING DETAIL  
NOT TO SCALE

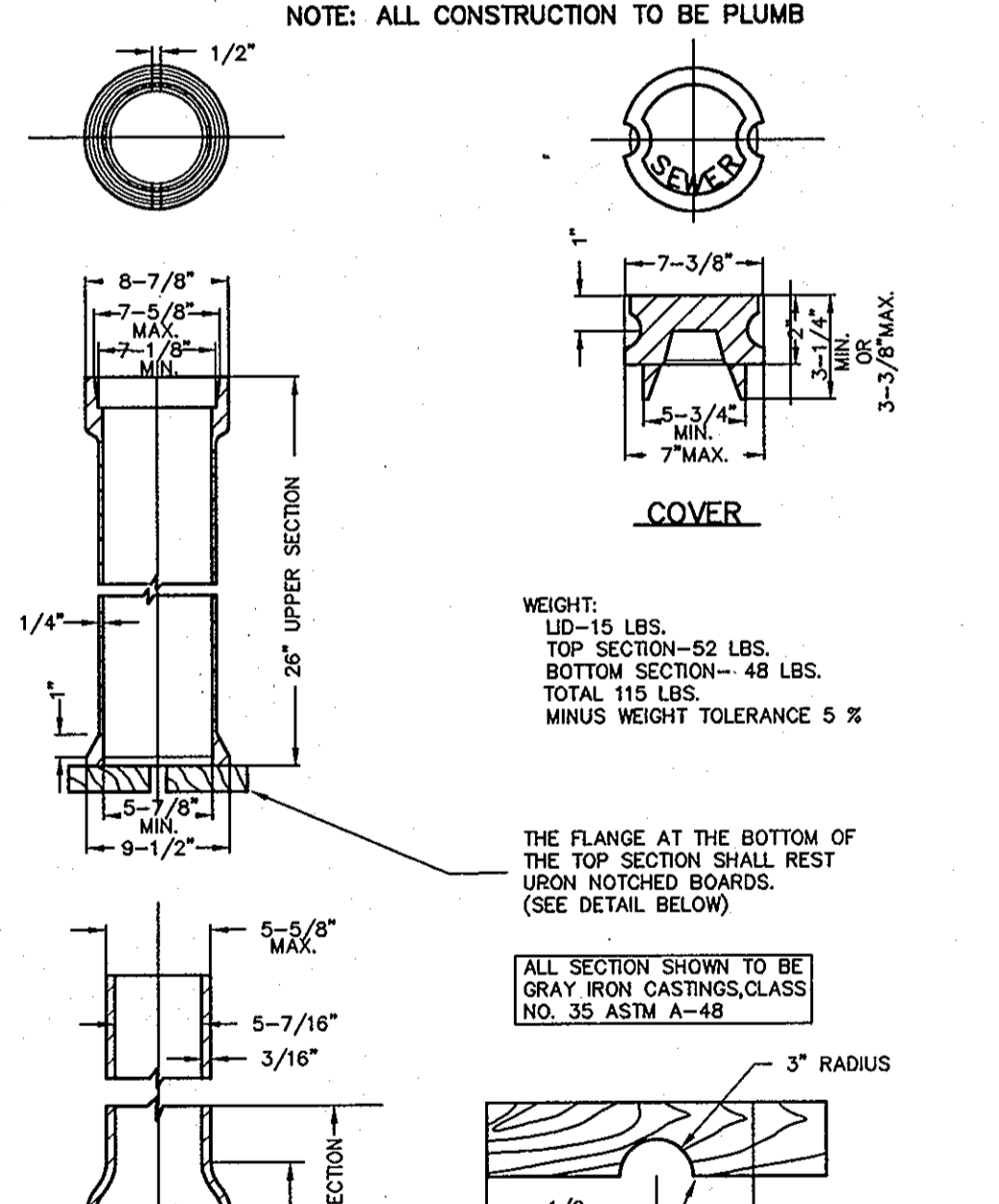
LOTS	TOP ELEV.	BOTTOM ELEV.	DEPTH	INLET ELEV.	DISCHARGE ELEV.	REMARKS
2	341.0	330.41	10.59' (127.1")	333.67	334.25	MODEL NO. DH151-129
3	331.0	320.41	10.59' (127.1")	323.67	324.25	MODEL NO. DH151-129
4	322.0	311.41	10.59' (127.1")	314.67	315.25	MODEL NO. DH151-129
5	314.0	303.41	10.59' (127.1")	306.67	307.25	MODEL NO. DH151-129

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

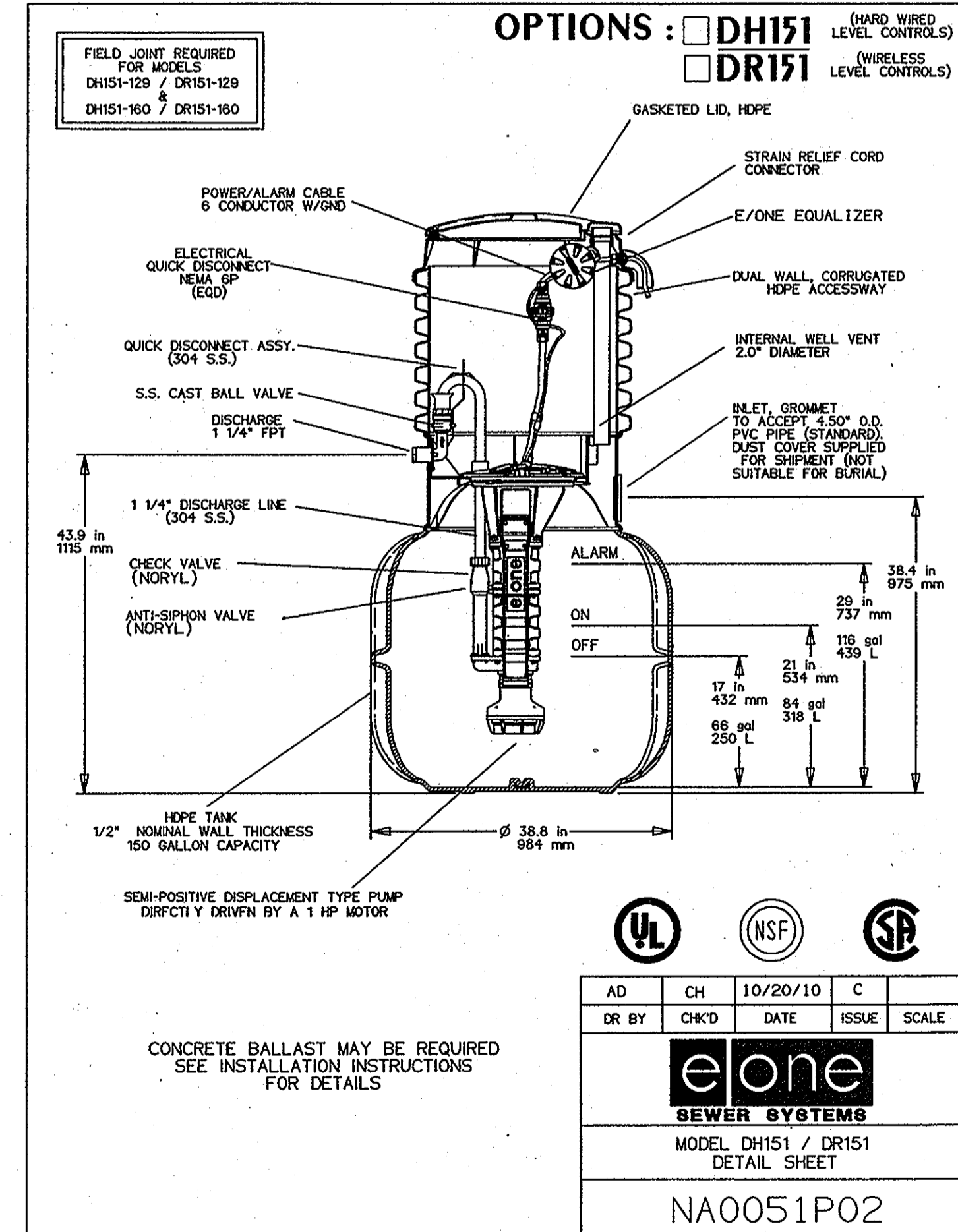
ACCEPTABLE ALTERNATE TO ENVIRONMENT ONE GRINDER PUMP:  
VORTEK GRINDER PUMPS  
C/O FLUID SOLUTIONS, INC.  
TANEYTOWN, MARYLAND  
410-756-9292



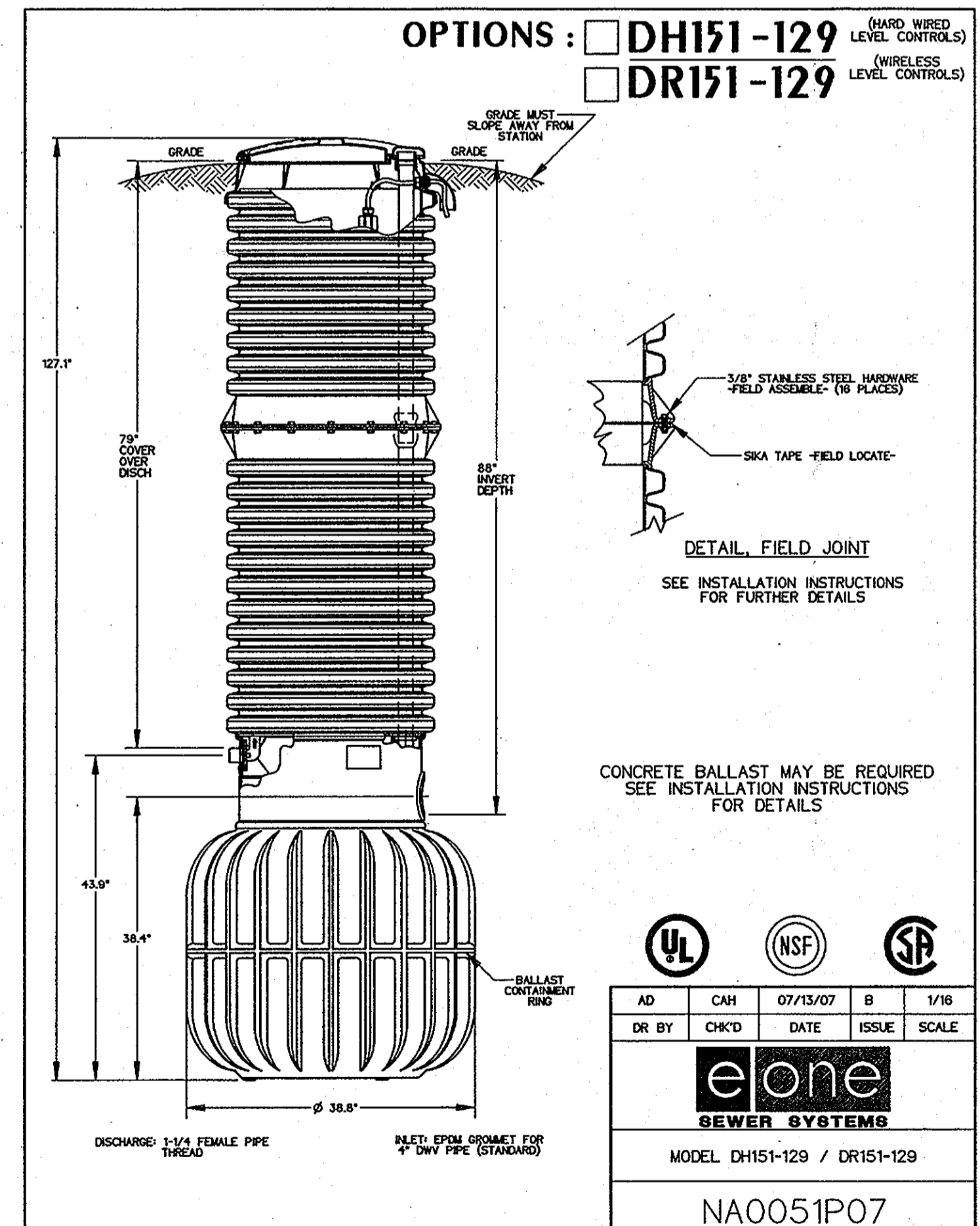
UNION BALL VALVE ASSEMBLY  
NOT TO SCALE



ADJUSTABLE VALVE BOX ROUND HEAD SLIDING TYPE  
NOT TO SCALE



AD	CH	10/20/10	C	
DR BY	CHK'D	DATE	ISSUE	SCALE
<b>eone</b> SEWER SYSTEMS				
MODEL DH151 / DR151 DETAIL SHEET				
NA0051P02				



AD	CH	07/13/07	B	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE
<b>eone</b> SEWER SYSTEMS				
MODEL DH151-129 / DR151-129				
NA0051P07				

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DESIGN:	DBT				
DRAFT:	DBT				
CHK:	BFC				
DATE:	7/2012				
BY	NO.	REVISIONS	DATE	600 SCALE MAP NO. 25	BLOCK: 13 200 SCALE MAP NO.

DETAIL SHEET

**THE WALTER DAVIS PROPERTY**  
LOTS 2 thru 5  
OPEN SPACE LOTS 6 AND 7  
TAX MAP: 25 - BLOCK: 13 - PARCEL: 148 - ZONED: R-20 - ELECTION DISTRICT: 2  
**CONTRACT NO. 14-4670-D**

SCALE:  
AS SHOWN  
SHEET NO.  
3 OF 3