


GENERAL NOTES

- PART I**
- 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 ON SEPTEMBER, 2004 BY FREDERICK WARD ASSOCIATES, INC.
  - HORIZONTAL AND VERTICAL CONTROLS:  
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 47C4 AND NO. 47R1. ALL VERTICAL CONTROLS ARE BASED ON NGVD29. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE CONCRETE MONUMENT.
  - 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 5'-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 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 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 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 WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT & T	1-800-252-1133
BCE (CONTRACTOR SERVICE)	410-850-4620
BCE (EMERGENCY)	410-685-1400
BUREAU OF UTILITIES	410-313-4900
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 THE 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 WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.



**PART II WATER**

- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOP OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" 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 INSTALLED IN ACCORDANCE WITH 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.
- WATER HOUSE CONNECTIONS SHALL BE 1/2" WITH 1" OUTSIDE METER SETTINGS.


**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 SHOWN 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 THE CELLAR CANNOT BE SERVED.


SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH SITE DEVELOPMENT PLAN SDP-05-16

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. FINAL PLAT NO. F-05-06 SITE PLAN NO. SDP-05-16  10/17/05 SOIL CONSERVATION DISTRICT	REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  10/17/05 U.S. SOIL CONSERVATION DISTRICT
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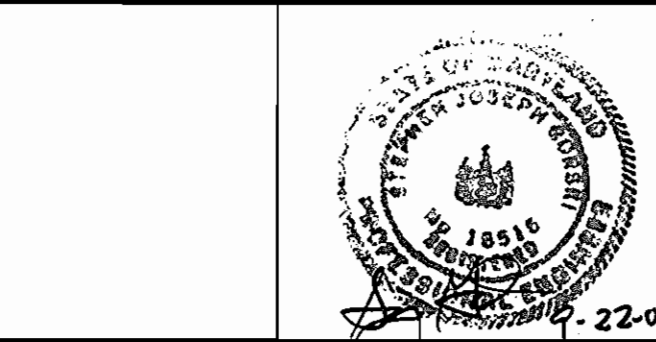
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

 10-3-05  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

 10/17/05  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**FWA**  
FREDERICK WARD ASSOCIATES, INC.  
ARCHITECTS ENGINEERS PLANNERS SURVEYORS  
P.O. BOX 727, S.S. MAIN STREET  
BEL AIR, MARYLAND 21014-0727  
410-878-2000  
410-855-1243 fax  
www.fredward.com



DES:	SJG			
DRN:	MPB			
CHK:	SJG			
DATE:	SEPTEMBER 2005	BY:	K.C.I. 1	ASBUILT DATA (FIELD 12/06)
		NO.:		4/30/07

DPZ SITE DEVELOPMENT NOS: SDP-05-16

COVER SHEET	600' SCALE MAP NO. 43	BLOCK NO. 22
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**JONES ROAD**  
**AGE RESTRICTED ADULT HOUSING**  
**CONTRACT NO. 24-4253-D**

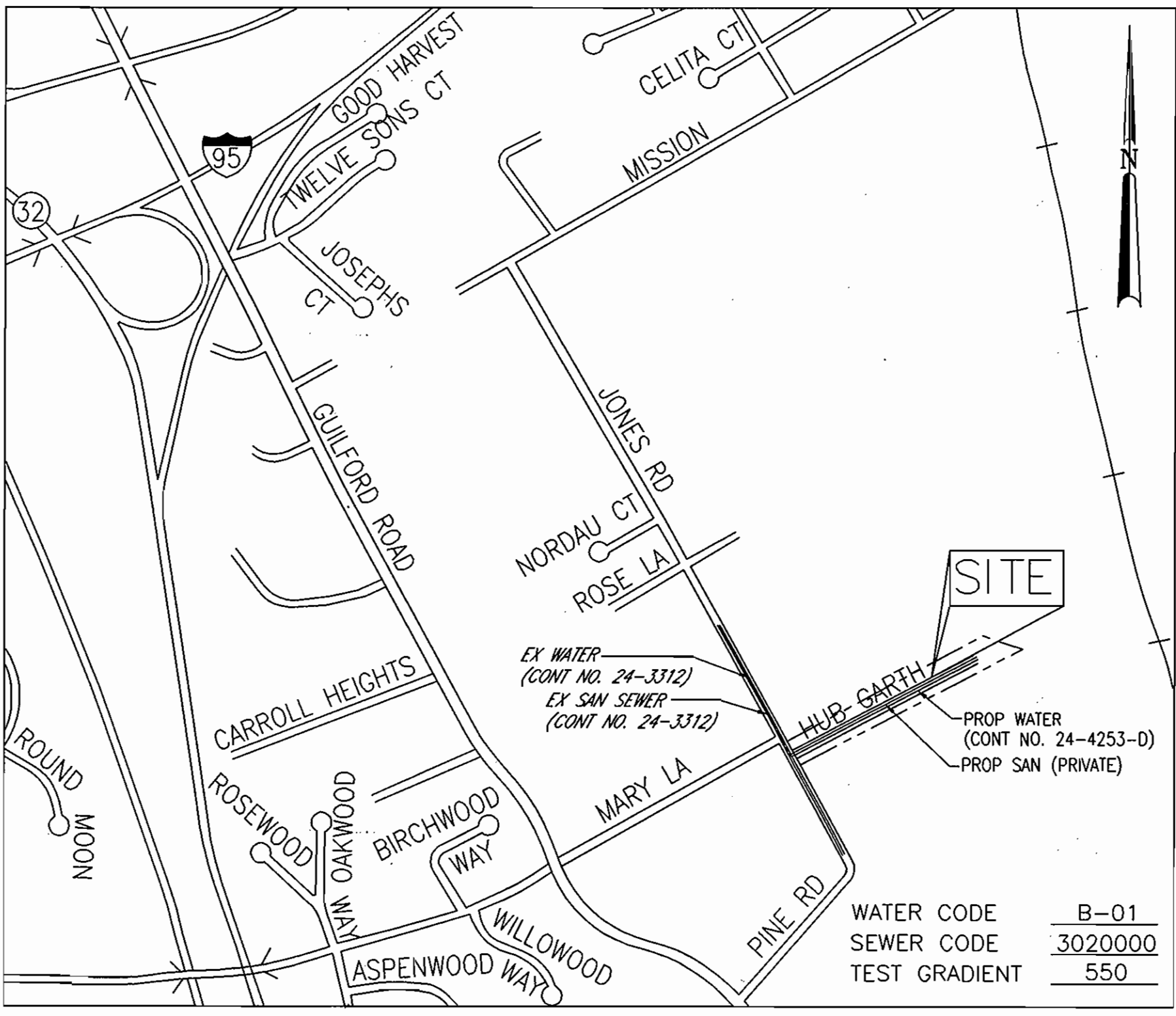
NUMBER OF LOTS: 27  
TAX MAP 42, BLOCK 24  
6TH ELECTION DISTRICT

PARCEL 143  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 1 OF 3

# WATER PLAN JONES ROAD

## AGE RESTRICTED ADULT HOUSING HOWARD COUNTY, MARYLAND CONTRACT NO. 24-4253-D



**VICINITY MAP**

SCALE: 1" = 600'  
BENCHMARK NO. 1, COUNTY MONUMENT #47C4  
TYPICAL HOWARD COUNTY CONCRETE MONUMENT  
N 539,645,6687, E 1,361,379,3637  
ELEV. = 288.845  
BENCHMARK NO. 2, COUNTY MONUMENT #47R1  
TYPICAL HOWARD COUNTY CONCRETE MONUMENT  
N 539,734,5080, E 1,363,098,8714  
ELEV. = 282.440

TYPE OF BUILDING:	COMMERCIAL
NO. OF UNITS/PARCELS:	26/1
NO. OF WATER HOUSE CONNECTIONS:	27
NO. OF SEWER HOUSE CONNECTIONS:	1
DRAINAGE AREA:	PATAPSCO WATERSHED
TREATMENT PLANT:	PATAPSCO WASTEWATER

QUANTITIES				
NAME OF UTILITY CONTRACTOR : WHEELER CONSTRUCTION INC.				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE : K.C.I.				
AS-BUILT 12/06				
ITEMS	QUANTITIES ESTIMATED	QUANTITIES TYPE MANUFACTURER/SUPPLIER		
		WATER		
8"x8" TAPPING SLEEVE	1 EA.	1.0 EA.	8x8 SSTSV	FORD/H.D. SUPPLY
8" WATER	1167 L.F.	1,167 L.F.	06-52	GRIFFIN/H.D. SUPPLY
6" WATER	23 L.F.	23 L.F.	06-52	" " "
1 1/2" WHC	522 L.F.	522 L.F.	K	READING/H.D. SUPPLY
8" X 6" TEE	2 EA.	2EA	HJ TEE	MUELLER/H.D. SUPPLY
8" VALVE	2 EA.	2EA	GATE V.	" " "
6" VALVE	2 EA.	2EA	GATE V.	" " "
FIRE HYDRANT	2 EA.	2EA		
8" CAP & BUTTRESS	1 EA.	1EA	M.J.	TYLER/H.D. SUPPLY
SANITARY MANHOLE	1 EA.	1EA	PRECAST	FREDERICK CONCRETE
8" SAN SEWER	30 LF	30LF	SDR-35	J.H. MANUF./H.D. SUPPLY

SHEET INDEX	
DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 3
FINAL WATER PLAN & PROFILE	2 OF 3
WATER LINE PROFILE	3 OF 3

"ASBUILT" 12/06  
B.R.

**NOTE:**

SK PROPERTIES, LTD.  
C/O WILLIAM KNOTT  
57 WEST TIMONIUM RD, SUITE 106  
TIMONIUM, MD 21093  
(443) 271-5646  
SHALL BE CONTACTED IN CASE OF AN EMERGENCY FOR MAINTAINANCE OF ALL PRIVATE UTILITIES

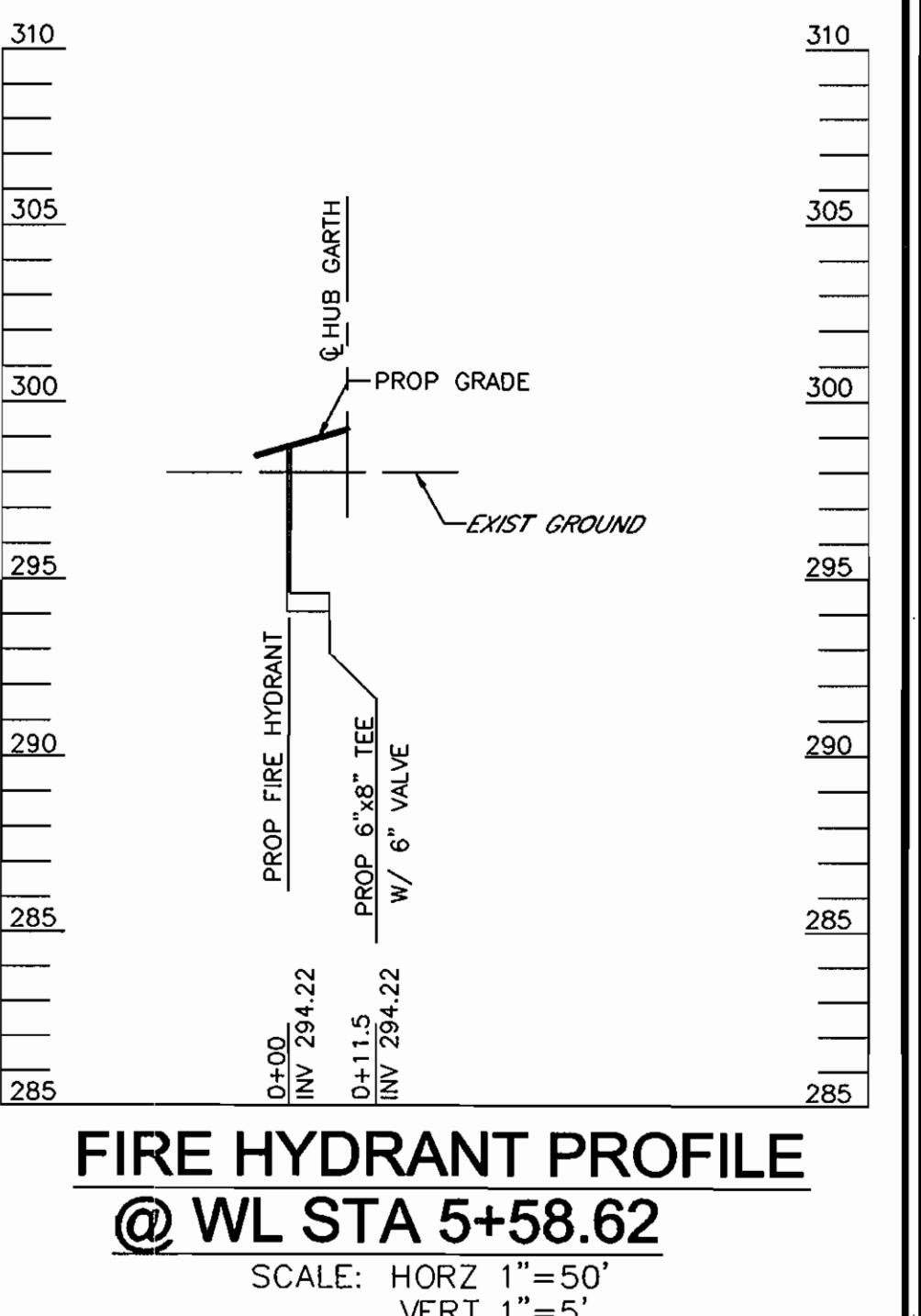
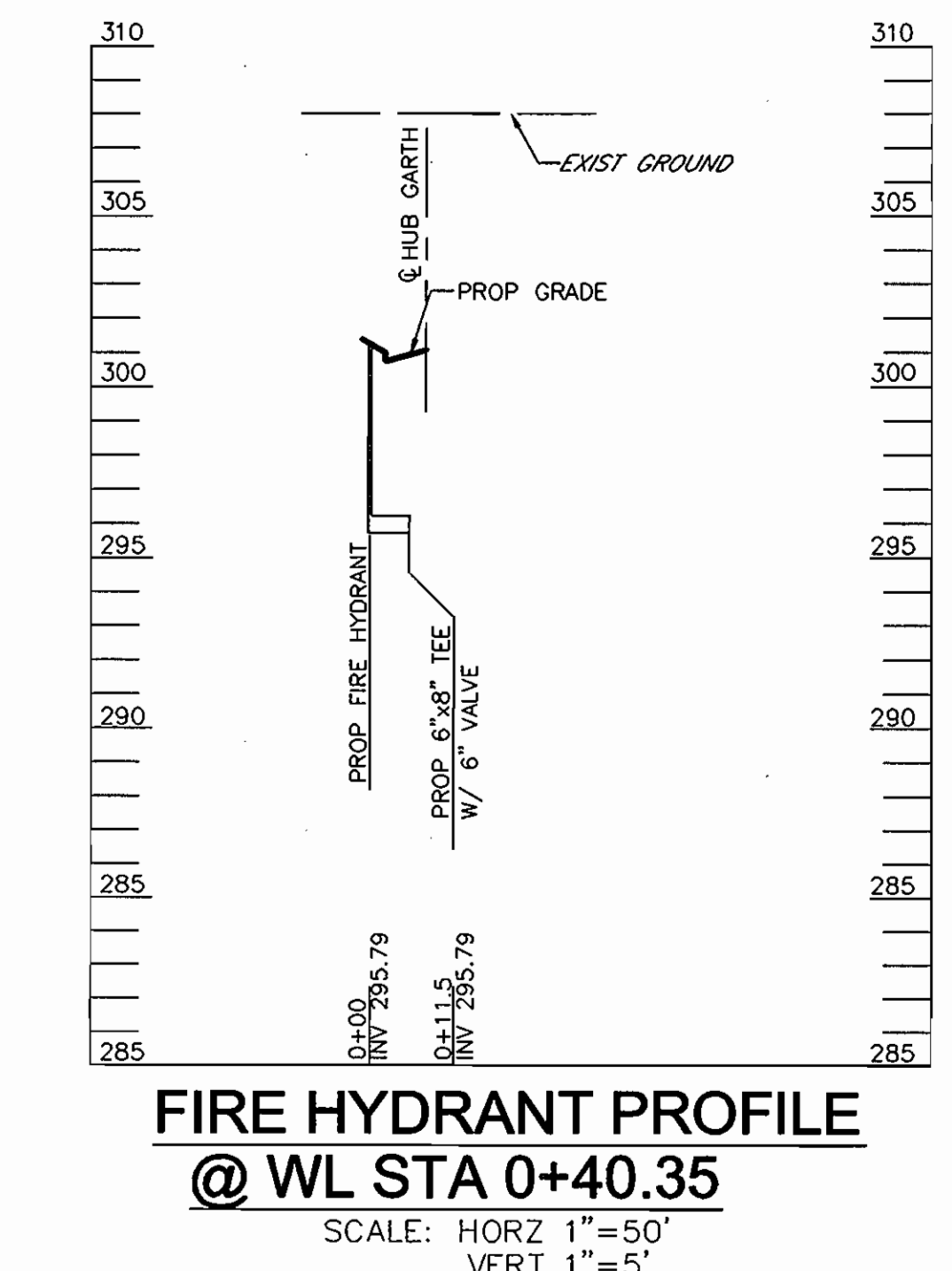
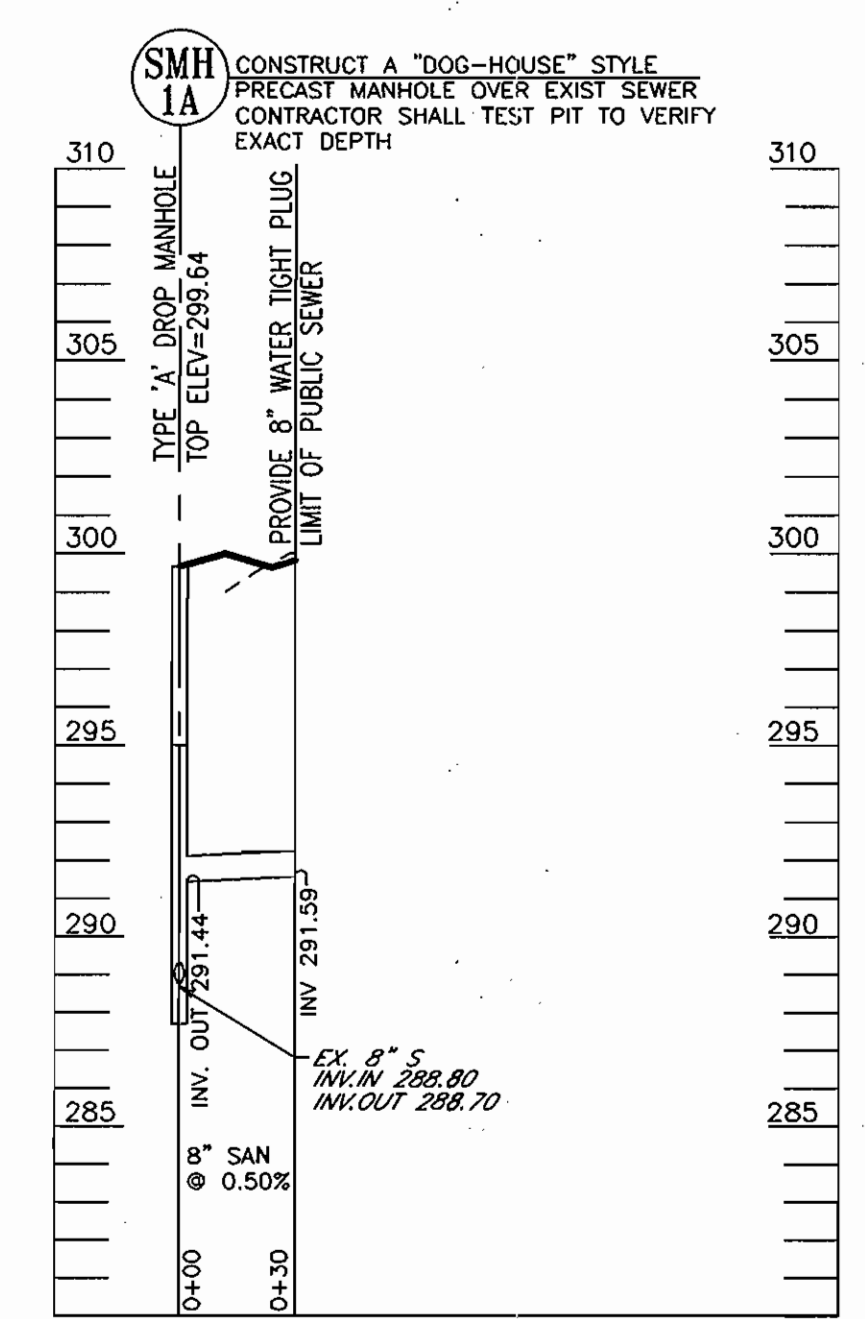
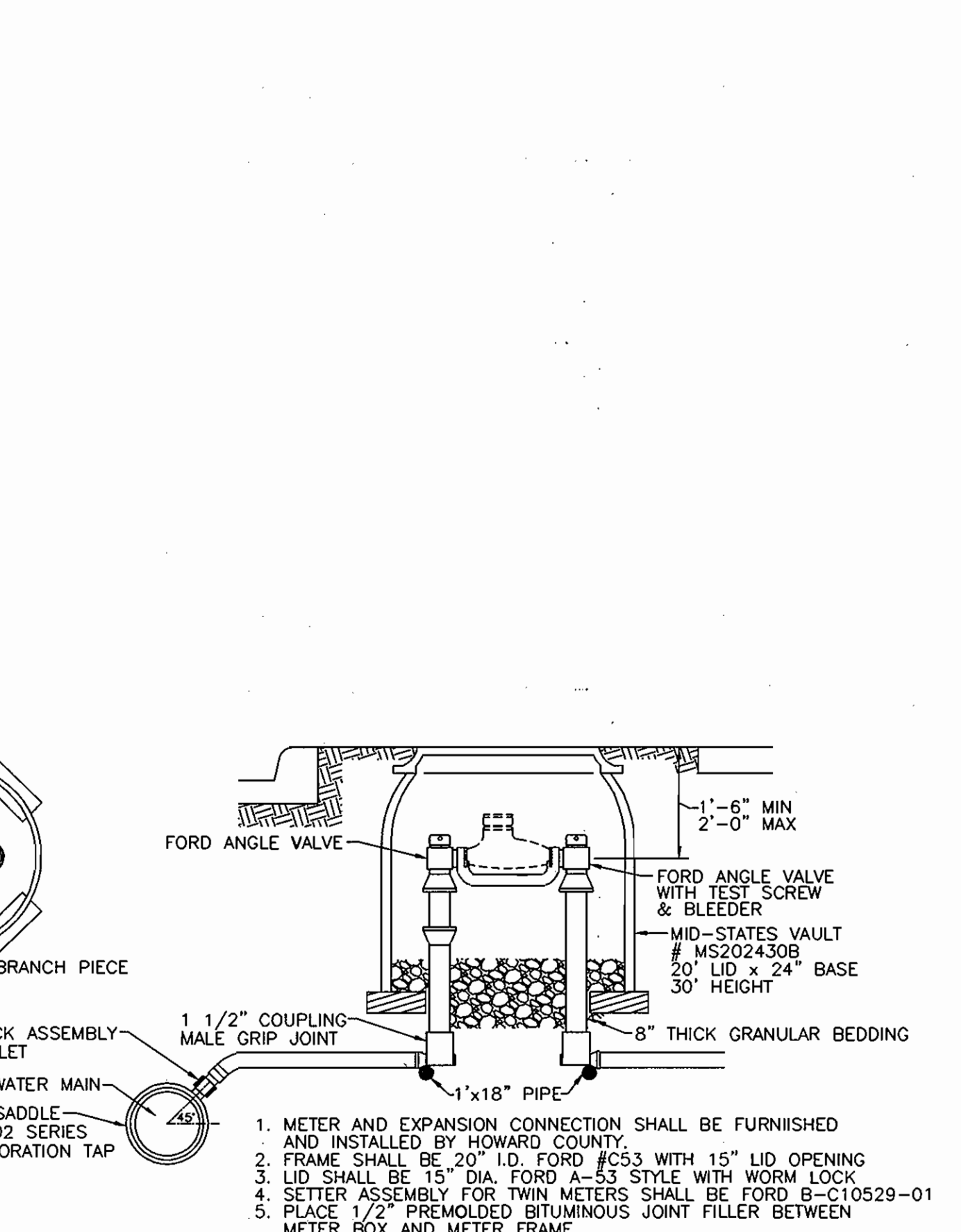
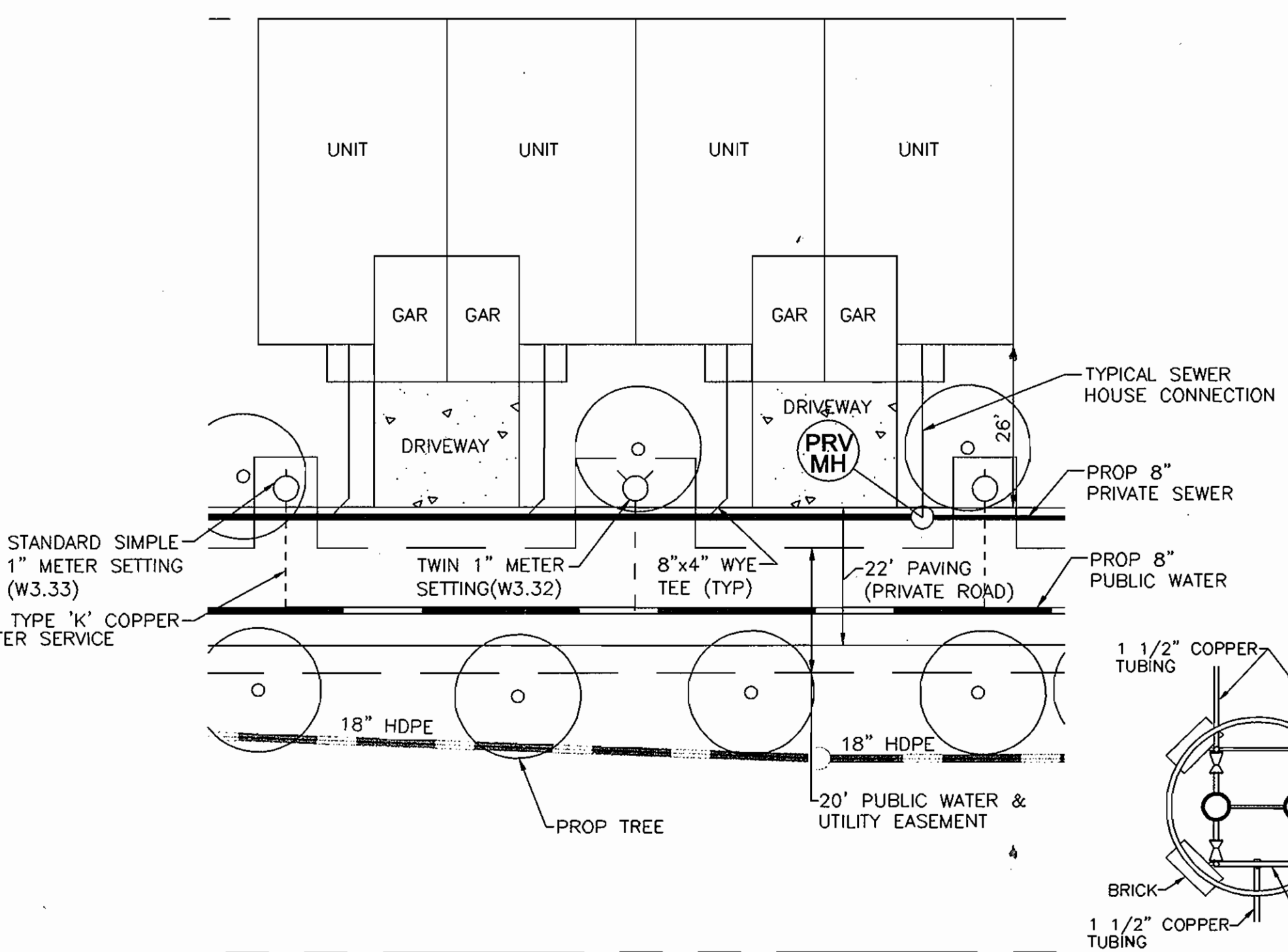
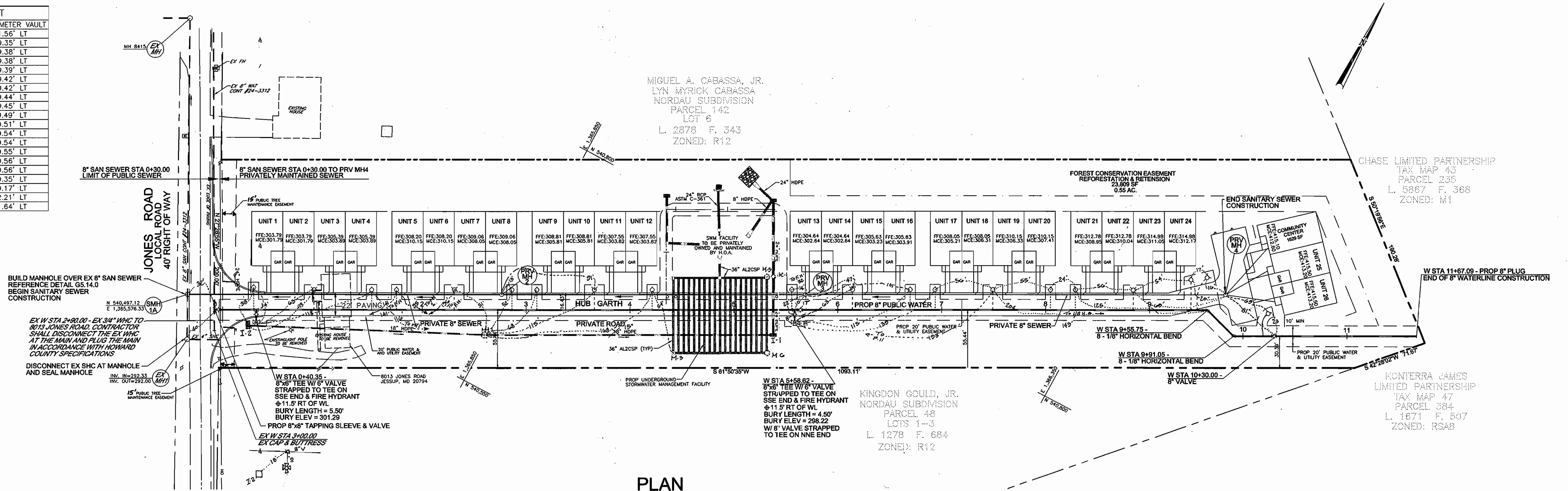
**OWNER**

SK KING GEORGE, LLC  
8013 JONES ROAD  
JESSUP, MD 20789

**DEVELOPER**

SK PROPERTIES, LTD.  
C/O WILLIAM KNOTT  
57 WEST TIMONIUM RD, SUITE 106  
TIMONIUM, MD 21093  
(443) 271-5646

UNIT NO.	WATER LINE STATION	Ø TO Ø METER VAULT
1	0+37.75	21.56' LT
2 & 3	0+95.87	19.35' LT
4	1+51.37	19.38' LT
5	1+75.37	19.38' LT
6 & 7	2+30.87	19.39' LT
8	2+86.37	19.42' LT
9	3+10.37	19.42' LT
10 & 11	3+65.76	19.44' LT
12	4+21.37	19.45' LT
13	5+55.79	19.49' LT
14 & 15	6+14.21	19.51' LT
16	6+69.71	19.54' LT
17	6+93.71	19.54' LT
18 & 19	7+49.21	19.55' LT
20	8+04.71	19.56' LT
21	8+28.71	19.56' LT
22 & 23	8+84.21	19.35' LT
24	9+39.71	29.17' LT
CC & 25	10+12.58	42.21' LT
26	10+24.24	21.64' LT



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

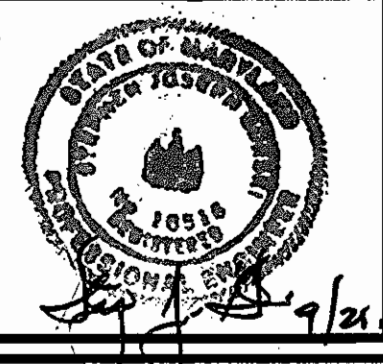
*Ruth Beavers* 10-3-05  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 10/2/05  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**FWA**  
FREDERICK WARD ASSOCIATES, INC.  
ARCHITECTS ENGINEERS PLANNERS SURVEYORS www.frederickward.com

P.O. BOX 722, 5 & 6 MAIN STREET  
SEL. ARL, MARYLAND 21014-0722  
410-878-2090  
410-880-1243 fax



DES:	SJG				
DRN:	MPB				
CHK:	SJG				
DATE:	SEPTEMBER 2005	BY:	K.C.I.	NO.	1
					AS-BUILT DATA
					5/21/07
					REVISION

FINAL WATER PLAN & PROFILE

600' SCALE MAP NO. 43 BLOCK NO. 22

OWNER  
SK KING GEORGE, LLC  
8013 JONES ROAD  
JESSUP, MD 20798

DEVELOPER  
SK PROPERTIES, LTD.  
C/O WILLIAM KNOTT  
57 WEST TIMONIUM RD, SUITE 106  
TIMONIUM, MD 21093  
(443) 271-5646

JONES ROAD  
AGE RESTRICTED ADULT HOUSING  
CONTRACT NO. 24-4253-D

NUMBER OF LOTS: 27  
TAX MAP 42, BLOCK 24  
6TH ELECTION DISTRICT

PARCEL 143  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 3

**ROAD & UTILITY CONSTRUCTION FILL SPECIFICATIONS**

**1. BEDDING SPECIFICATIONS**

The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support. Backfill material shall be 6" CR-6 in accordance with requirements of: Howard County Design Manual Volume IV - Standard Specifications and Details, Latest Edition.

**2. BACKFILL**

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment.

The material shall completely fill all voids adjacent to the flowable fill zone. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

**3. FILL MATERIAL**

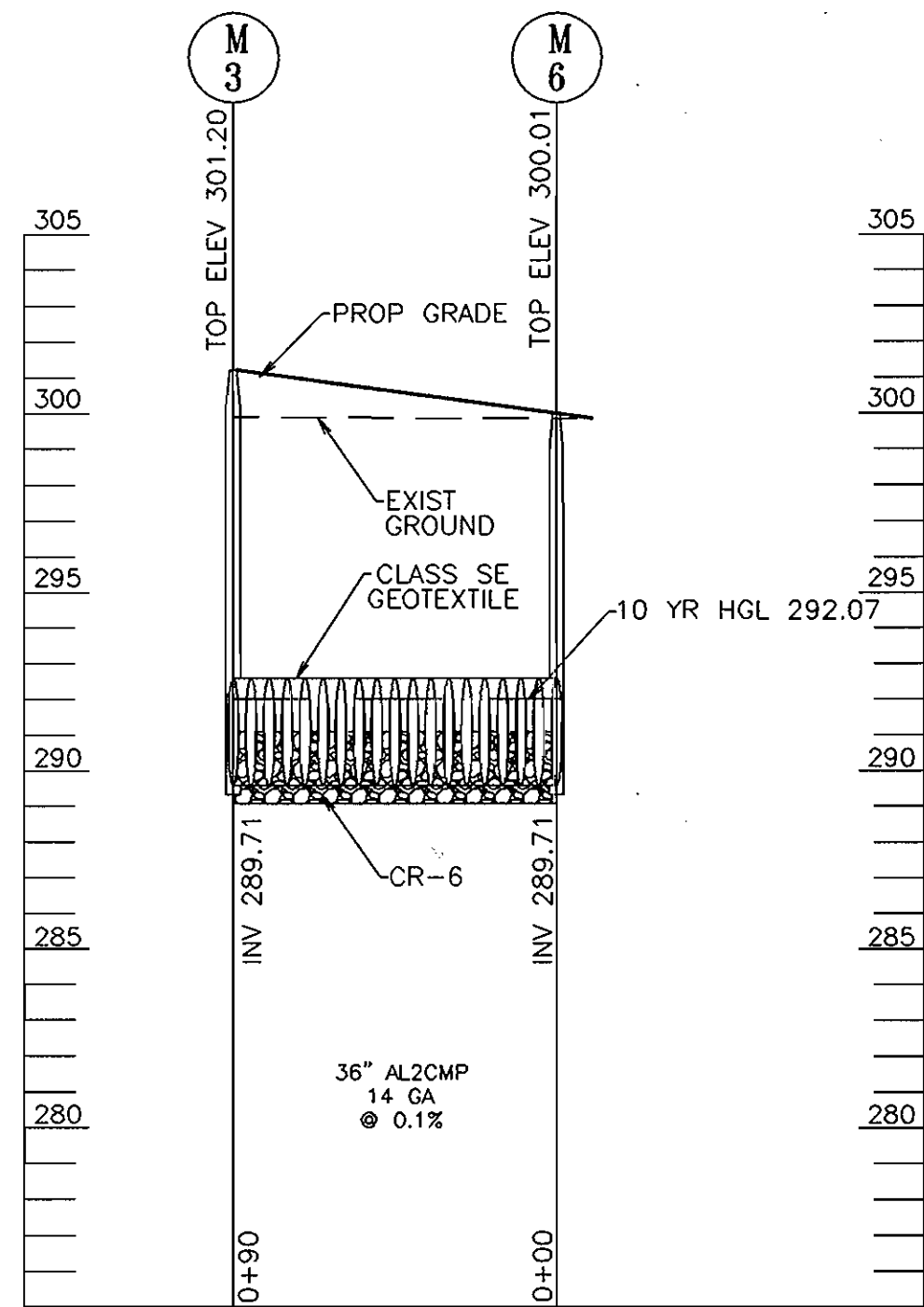
The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Considerations may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

**4. COMPACTION**

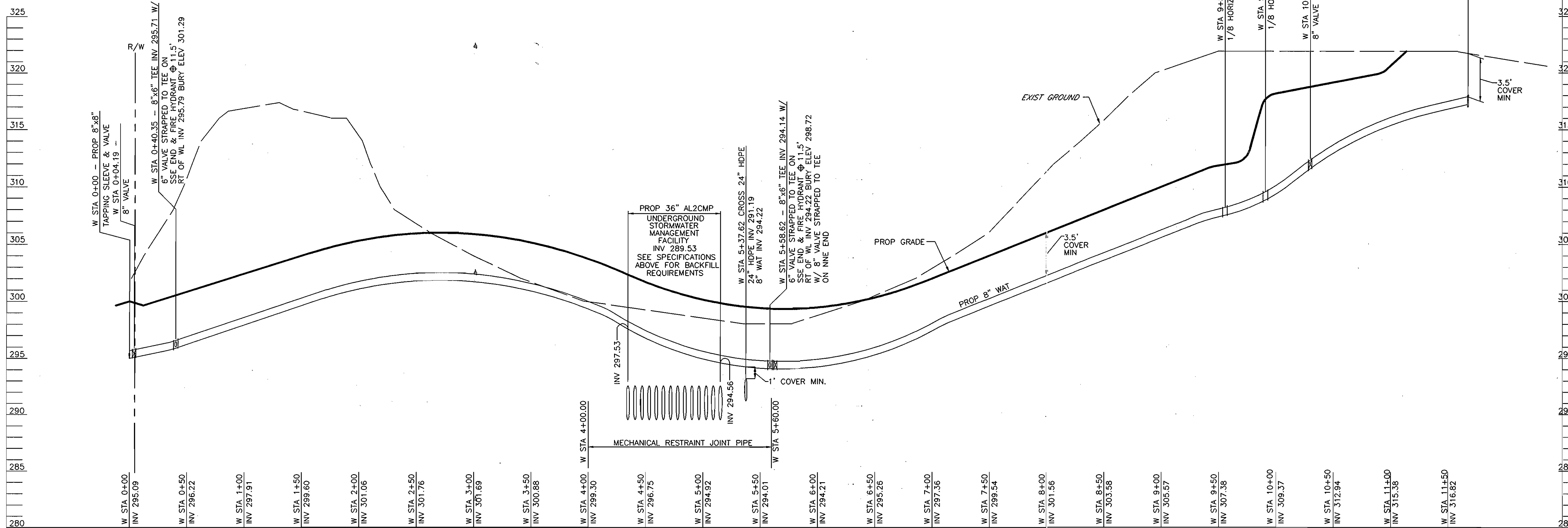
Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).



**DETAIL OF 19-36" AL2CMP UNDERGROUND SWM FACILITY**

SCALE: HORZ 1"=50'  
VERT 1"=5'



**WATER MAIN PROFILE**

SCALE: HORZ 1"=50'  
VERT 1"=5'

**OWNER**  
SK KING GEORGE, LLC  
8013 JONES ROAD  
JESSUP, MD 20789

**DEVELOPER**  
SK PROPERTIES, LTD.  
C/O WILLIAM KNOTT  
57 WEST TIMONIUM RD, SUITE 106  
TIMONIUM, MD 21093  
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

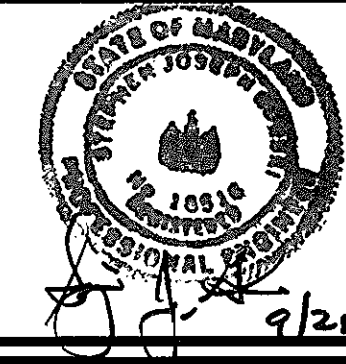
*Robert Baugher* 10-3-05  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*[Signature]* 11/2/05  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**FWA**  
FREDERICK WARD ASSOCIATES, INC.  
ARCHITECTS | ENGINEERS | PLANNERS | SURVEYORS | www.fwainc.com

P.O. BOX 727, S.E. MAIN STREET  
563 AVE, MARYLAND 21014-0727  
410-979-2090  
410-883-1243 fax



DES:	DZ				
DRN:	DZ				
CHK:	RHV				
DATE:	SEPTEMBER 2005	BY:		NO.	
		REVISION		DATE	

600' SCALE MAP NO.	43
BLOCK NO.	22

**WATER PROFILE**

**JONES ROAD**  
**AGE RESTRICTED ADULT HOUSING**  
**CONTRACT NO. 24-4253-D**

NUMBER OF LOTS: 27  
TAX MAP 42, BLOCKS 24  
6TH ELECTION DISTRICT

PARCEL 143  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 3 OF 3