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2	WATER AND SEWER PLAN
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
# PROPOSED WATER & PUBLIC SEWER MAIN

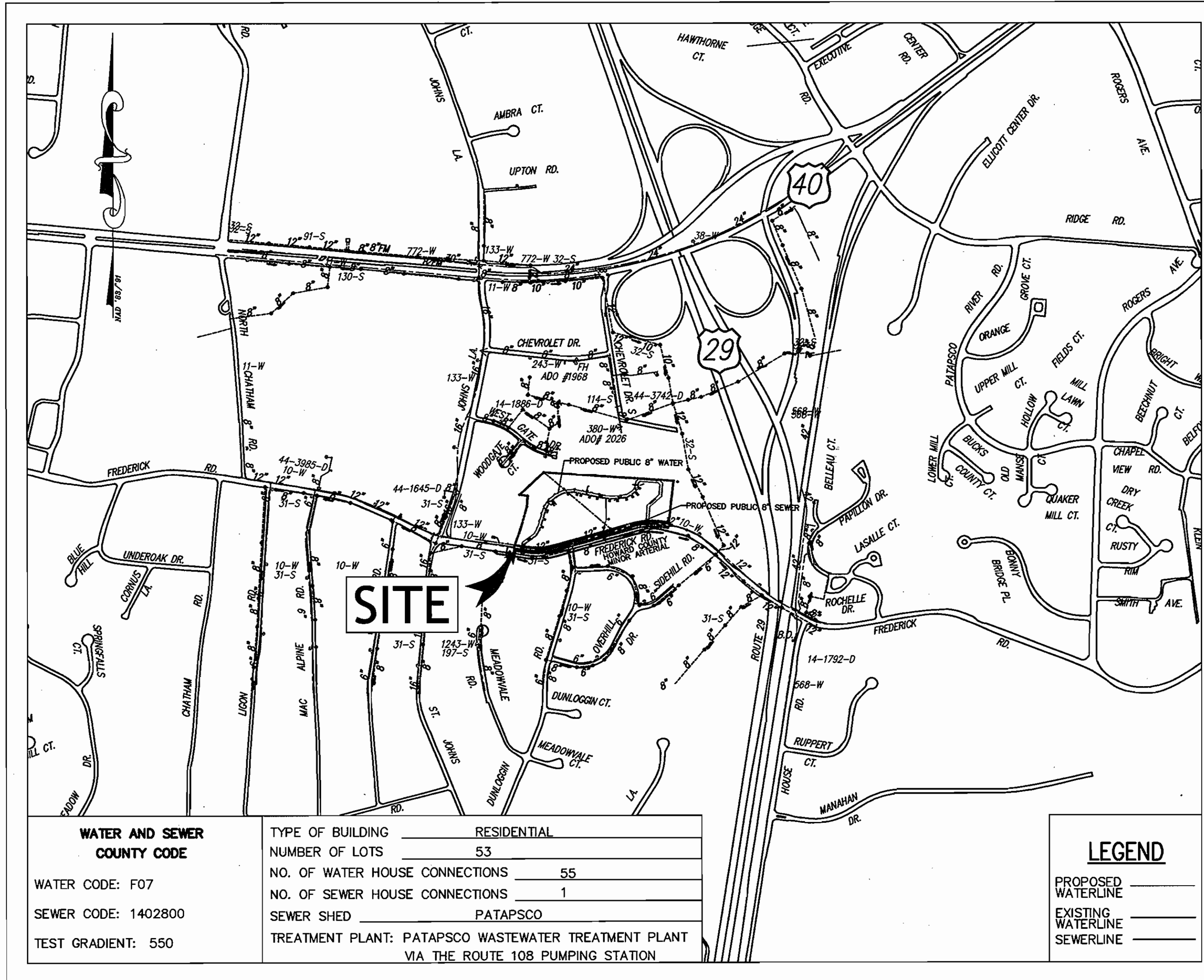
## VILLAS OF DUNLOGGIN

### 2nd ELECTION DISTRICT, TAX MAP 24, GRID 11, PARCEL 117

### HOWARD COUNTY, MARYLAND 21042

#### GENERAL NOTES

- 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.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OCTOBER, 2004 BY AB CONSULTANTS, INC.
- HORIZONTAL & VERTICAL SURVEY CONTROLS:  
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEMS NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS HOWARD COUNTY MONUMENT 'LEATHER' AND NO. 241A.  
ALL VERTICAL CONTROLS ARE BASED ON NAD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 241A (STANDARD DISC ON CONCRETE MONUMENT) AND JV7033 (STANDARD DISC ON CONCRETE MONUMENT STAMPED HO. CO. CONTROL 3243015 2/91).
- 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 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 BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY 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 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 VERIFIED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:  
AT&T: 1-800-252-1133  
BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES: 410-850-4620  
BALTIMORE GAS & ELECTRIC CO. (EMERGENCY): 410-685-1400  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 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 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 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.
- ALL ROADWAY/STREET ARE PRIVATE AND HAS 24' WIDTH, PAVEMENT SECTION IS P2.



**VICINITY MAP**  
SCALE: 1"=600'

#### WATER GENERAL NOTES

- ALL WATER MAINS TO BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO 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 THE 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 STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL WATER HOUSE CONNECTIONS FOR THE TOWN HOUSES SHALL BE 1-1/2" FOR 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED ON THE PLANS, SERVING BOTH SPRINKLERS AND DOMESTIC USES. (REFER TO STD DETAIL W3.32 FOR TWIN 1" METER SETTING AND STD DETAIL W-3.28 FOR SINGLE 1" METER SETTINGS)
- FOR COMMUNITY CENTER WATER HOUSE CONNECTION SHALL BE 4" FOR INSIDE METER SETTING.
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACES SO AS TO HAVE AT LEAST ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.

#### SEWER GENERAL NOTES

- 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 COVERS, STANDARD DETAIL G5.52. WHERE WATERTIGHT 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 THE CELLAR CANNOT BE SERVED.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATER-TIGHT FRAME AND COVERS STANDARD DETAIL G5.52 WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- ALL PRIVATE SEWER SYSTEM WILL MAINTAIN BY HOME OWNER ASSOCIATION.

ITEMS	QUANTITIES ESTIMATED	QUANTITIES AS-BUILT		
		QUANTITIES	TYPE	MANUF./ SUPPLIER
8" WATER MAIN	1634 LF			
6" WATER MAIN	38 LF			
4" WATER MAIN	25 LF			
1-1/2" WHC	936 LF			
8" SEWER MAIN	51 LF			
FHT	3 EA			
FIRE HYDRANTS	3 EA			
12" X 8" TS&V	2 EA			
8" X 4" T	1 EA			
8-1/8" HB	7 EA			
8-1/16" HB	4 EA			
8-1/32" HB	5 EA			
8" VALVE	2 EA			
4" VALVE	1 EA			
4" CAP	1 EA			
24" STEEL CASING PIPE	20 LF			
SEWER MANHOLES	1 EA			

NAME OF UTILITY CONTRACTOR: \_\_\_\_\_

SURVEY AND DRAFTING DIVISION AS - BUILT DATE: \_\_\_\_\_

**DEVELOPER CONTACT INFORMATION**  
Skirven Enterprises, Inc.  
5405 Twin Knolls Road, Suite 6  
Columbia, MD 21045  
Attn: Charles Skirven  
410.730.8945

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

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

DATE: 12/20/07

John R. Roberts  
HOWARD SCD

13. THESE PLANS REFERENCE SECTION 219 OF HO. CO. DESIGN MANUAL # 4.

14. THESE PLANS REFERENCE SDP-01-054 FOR SEDIMENT & EROSION CONTROL.

15. A GRADING PERMIT IS REQUIRED FOR SEDIMENT & EROSION CONTROL FOR THE 8" WATER & 8" SEWER NOT COVERED BY SDP-01-054.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Michael J. D'Amico  
CHIEF, BUREAU OF UTILITIES

DATE: 12/21/07

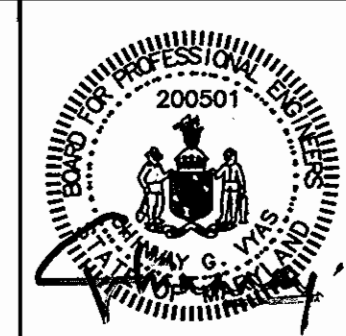
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

David Edwards  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 12/21/07

**AB CONSULTANTS, INC.**  
9450 ANNAPOLIS ROAD  
LANHAM, MARYLAND 20706  
PHONE: (301) 306-3091  
FAX: (301) 306-3092

CONTACT: DAVID T. DOWS PHONE: 301-306-3091 x25



DES.: HRP					
DRN.: SPR					
CHK.: CN					
DATE: 11/16/07					
BY:	NO.	REVISIONS	DATE	50' SCALE MAP NO. 17	BLOCK NO. 8 & 14

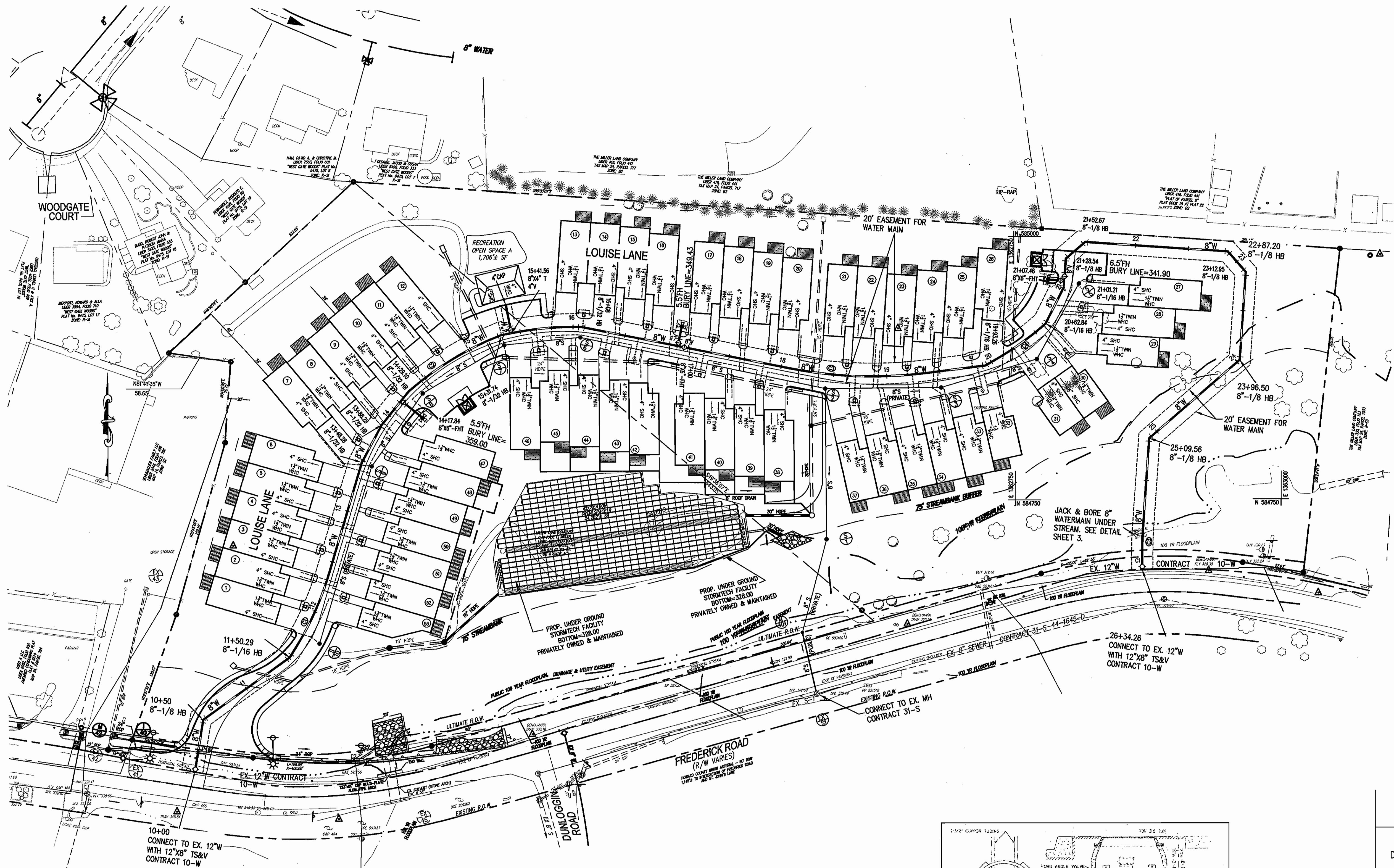
**VILLAS OF DUNLOGGIN**  
AGE-RESTRICTED ADULT HOUSING COMMUNITY

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TAX MAP 24, GRID 11, PARCEL 115 & 117

CONTRACT NO. : 14-4477-D

SCALE:  
AS SHOWN

SHEET NO.  
1 OF 3

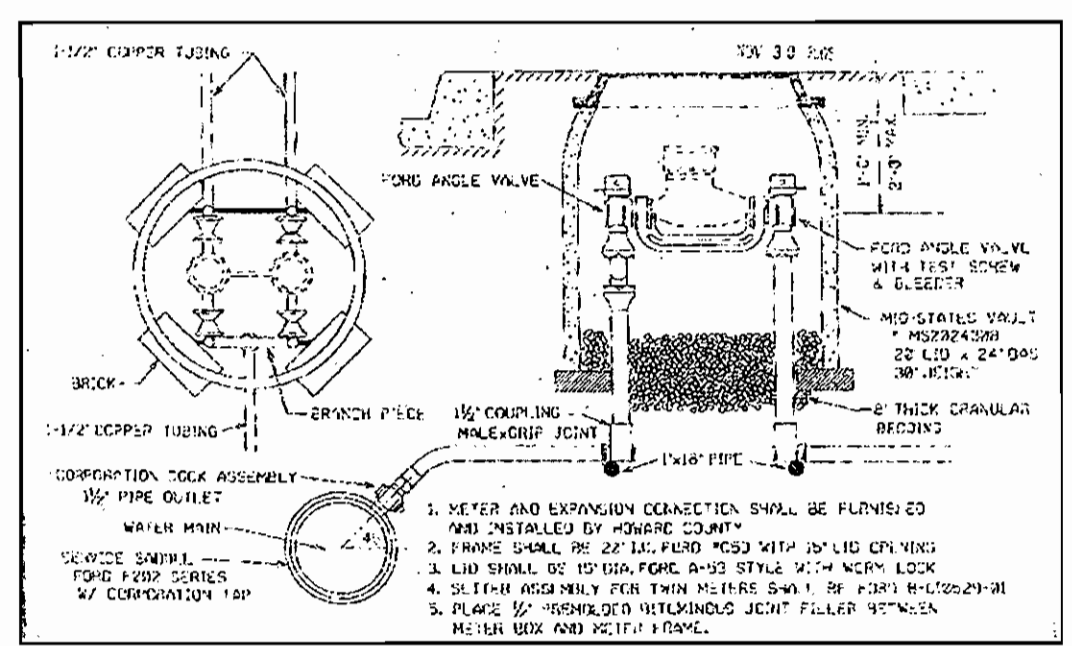


**UTILITY NOTES**  
 NOTIFY 'MISS UTILITY' AT 1-800-257-7777 - 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA.  
 THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

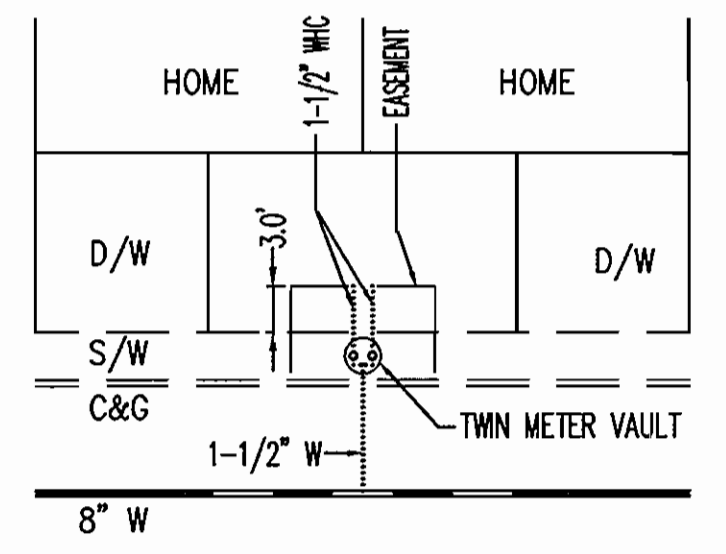
**NOTE:**  
 UNITS NO. 42 AND 47 HAVE SINGLE WATER HOUSE CONNECTION AND REST OF UNITS HAVE TWIN WATER HOUSE CONNECTION

**CURVE TABLE**

CURVE NO.	PC	PT	R
C1	11+62.49	11+39.47	290.00
C2	14+38.00	15+26.48	290.00
C3	18+07.65	19+38.00	400.00
C4	20+02.85	20+59.79	290.00
C5	25+96.43	26+16.41	290.00

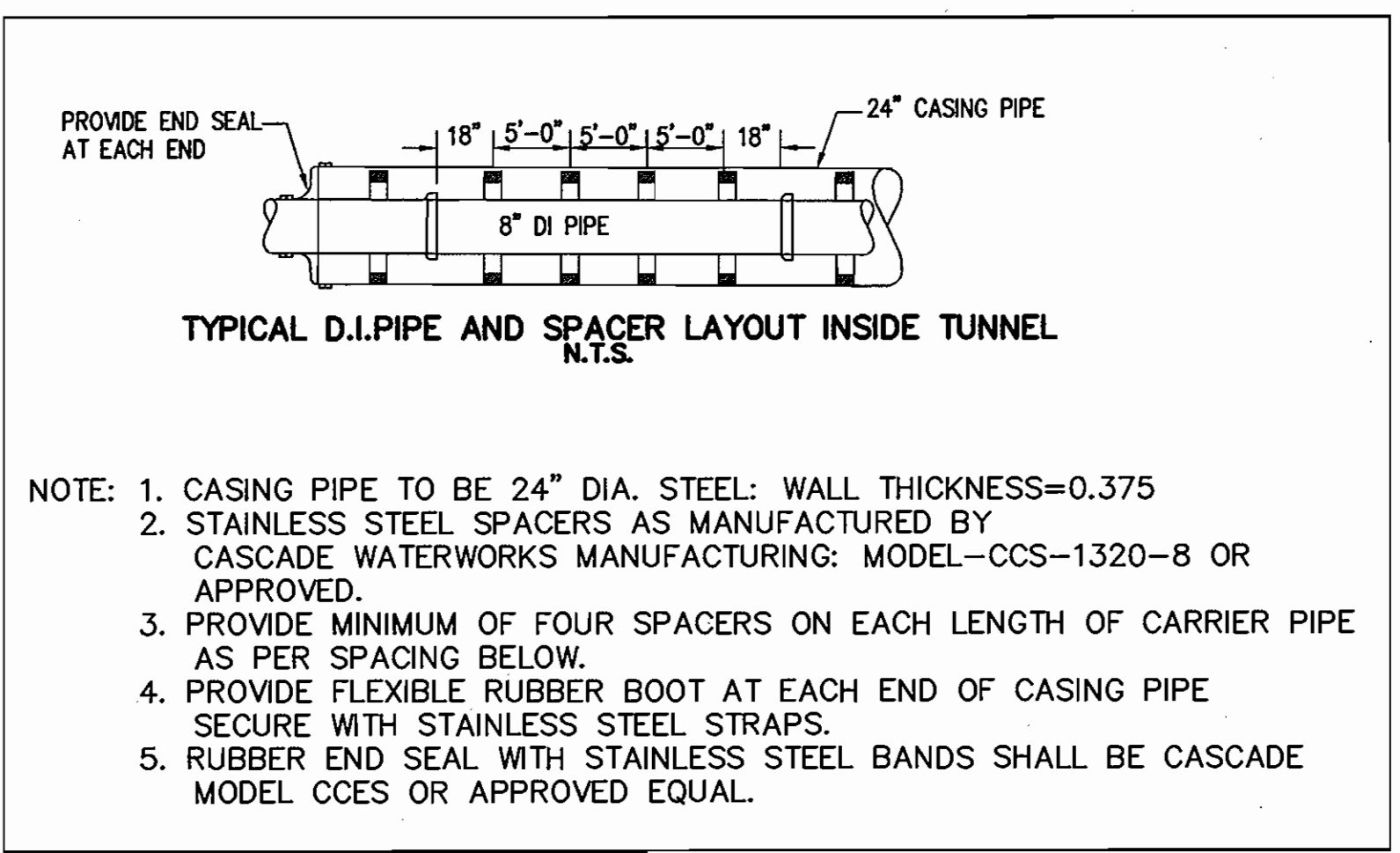
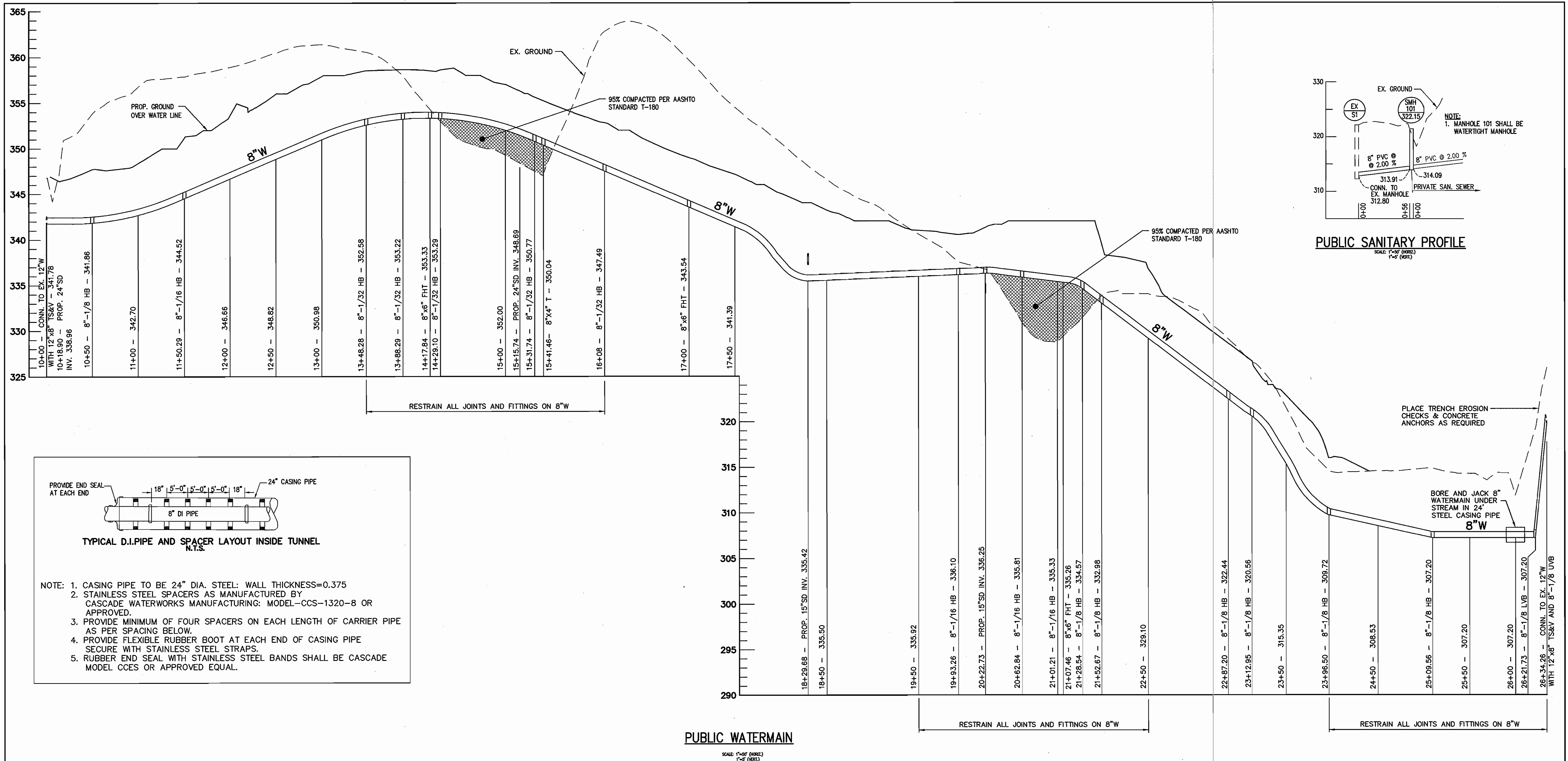


**STANDARD INSTALLATION**  
 (1 1/2" WATER SUPPLY AND TWIN 1" METER SETTING)  
 (N.T.S.)



**TYPICAL TWIN WATER HOUSE CONNECTION DETAIL**  
 (N.T.S.)

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND  <i>Chief, Bureau of Utilities</i> DATE: 12/1/07	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND  <i>Chief, Development Engineering Division</i> DATE: 12-21-07	<b>AB CONSULTANTS, INC.</b> 9450 ANNAPOLIS ROAD LANHAM, MARYLAND 20706 PHONE: (301) 306-3091 FAX: (301) 306-3092  CONTACT: DAVID T. DOWS    PHONE: 301-306-3091 x25		DES.: HRP DRN.: SPR CHK.: CN DATE: 11/16/07	BY: _____ NO. _____ REVISIONS: _____ DATE: _____	<b>PLAN SHEET</b> 50' SCALE MAP NO. 17    BLOCK NO. 8 & 14	<b>VILLAS OF DUNLOGGIN</b> AGE-RESTRICTED ADULT HOUSING COMMUNITY 2nd ELECTION DISTRICT    HOWARD COUNTY, MARYLAND TAX MAP 24, GRID 11, PARCEL 115 & 117 <b>CONTRACT NO. : 14-4477-D</b>	SCALE: 1" = 50'  SHEET NO. 2 OF 3
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Adis Michael D. DiVincentis*  
CHIEF, BUREAU OF UTILITIES

12/5/07  
DATE

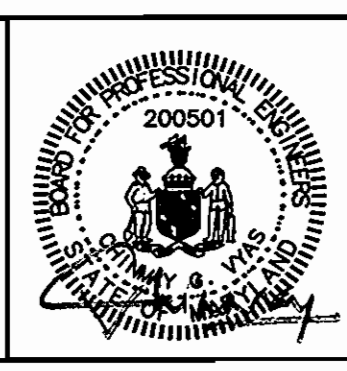
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

*David Edwards*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

12.21.07  
DATE

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DES. : HRP			
DRN. : SPR			
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**PROFILES SHEET**

50' SCALE MAP NO. 17  
BLOCK NO. 8 & 14

**VILLAS OF DUNLOGGIN**  
AGE-RESTRICTED ADULT HOUSING COMMUNITY

2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TAX MAP 24, GRID 11, PARCEL 115 & 117

CONTRACT NO. : 14-4477-D

SCALE:  
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SHEET NO.  
3 OF 3