


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 SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- A FIELD RUN TOPOGRAPHIC SURVEY WAS PERFORMED BY FREDERICK WARD ASSOCIATES, DATED APRIL 2001.
- HORIZONTAL AND VERTICAL SURVEY 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. 43EC, NO. 43EB
ALL VERTICAL CONTROLS ARE BASED ON NAVD' 88. VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:
GEODETIC SURVEY CONTROL #43EC (ELEV.=220.369)
N. 547821.276, E. 1372882.447
GEODETIC SURVEY CONTROL #43EB (ELEV. 214.991)
N. 545963.658, E. 1371573.830
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED.
- 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 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 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 NOTES 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 OPERATION AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN THESE PLANS:
AT & T 1-800-252-1133
BGE (CONTRACTOR SERVICE) 410-850-4620
BGE (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 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
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE ANY 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(g) OF THE HOWARD COUNTY CODE.
- AN EXISTING HOUSE ON THIS SITE, 8221 LINCOLN DRIVE, IS TO BE REMOVED AND THE EXISTING SHC AND EXISTING WHC SHALL BE ABANDONED AT THE MAIN AND THE MAIN PLUGGED.

PART II - WATER

- 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 INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE 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.
- FOR TWIN DROP HOUSE CONNECTIONS, SEE HO. CO. DETAIL S2.12 AND S2.14.

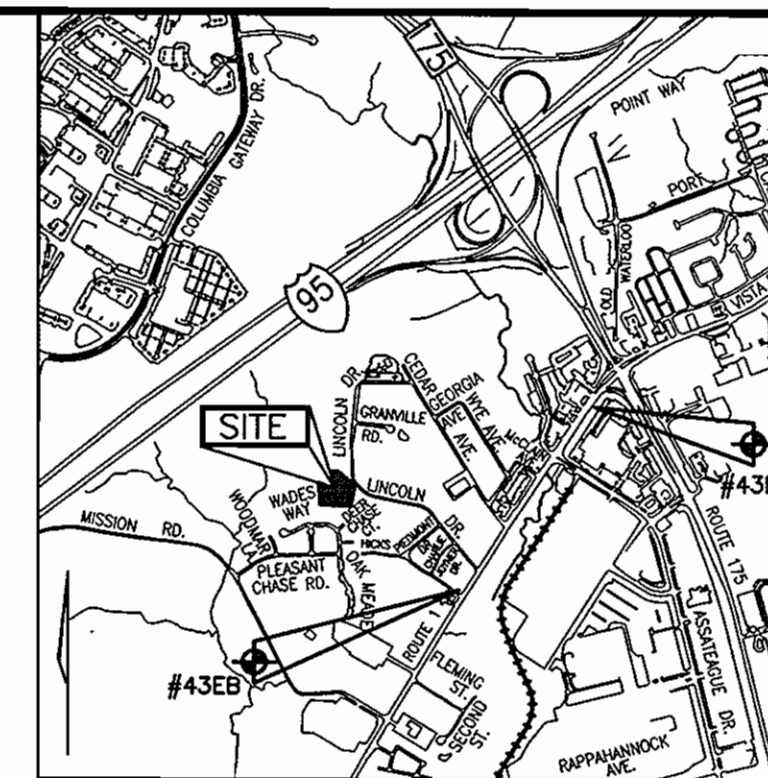
PART III - SEWER

- 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 FRAME 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.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH FINAL ROAD CONSTRUCTION PLAN. F-08-41

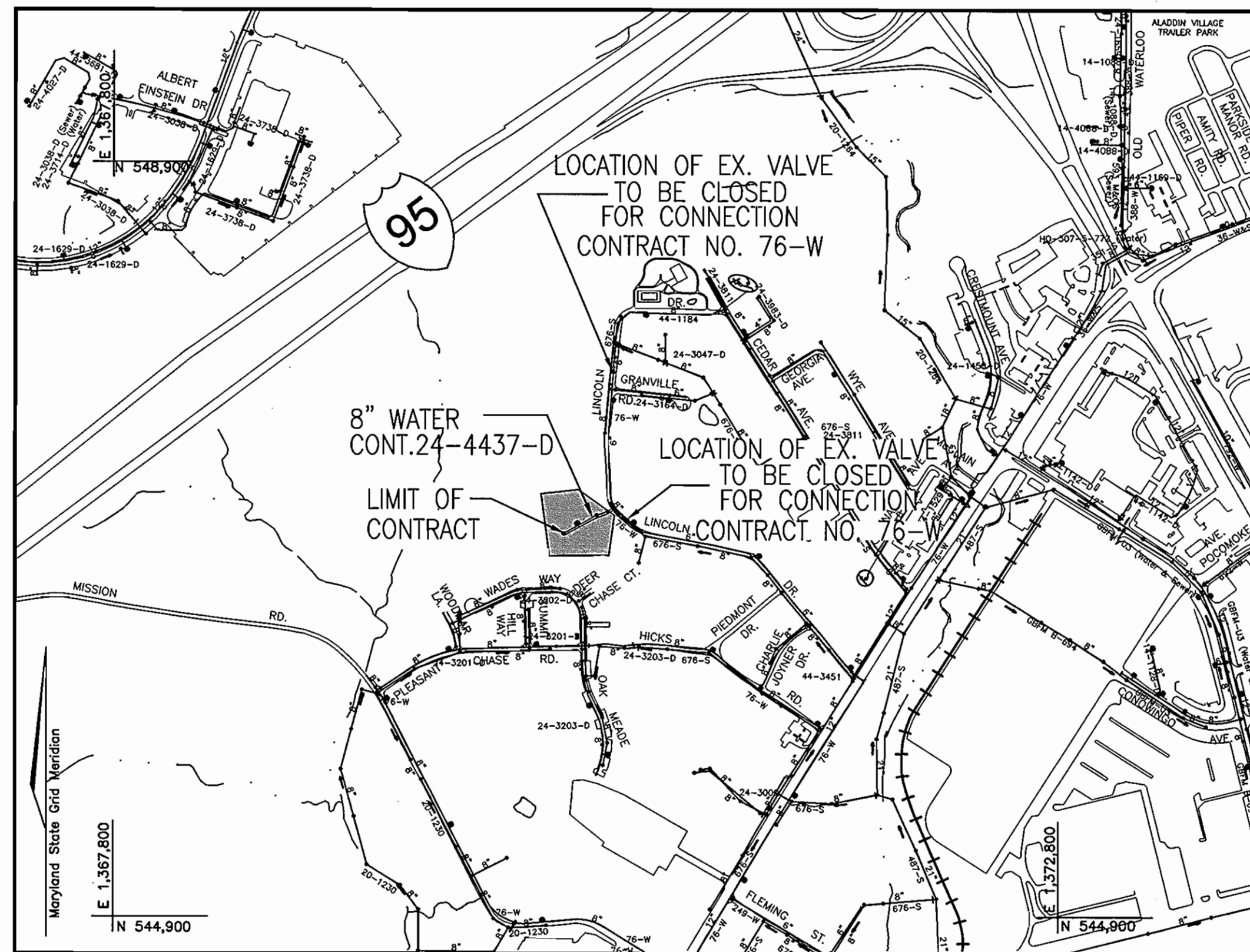
FINAL WATER AND SEWER LINCOLN GLEN

LOTS 1-10 & OPEN SPACE LOT 11 HOWARD COUNTY, MARYLAND CONTRACT NO. 24-4437-D



LOCATION MAP
SCALE: 1"=2,000'

BENCHMARK NO. 1: COUNTY CONTROL #43EC
N 547821.276 E 1372882.447
ELEV. = 220.369
BENCHMARK NO. 2: COUNTY CONTROL #43EB
N 545963.658 E 1371573.830
ELEV. = 216.991



VICINITY PLAN
SCALE: 1"=600'

WATER CODE: E06
SEWER CODE: 3290000
WATER TEST GRADIENT: 550

| | |
|---------------------------------|------------------------|
| TYPE OF BUILDING: | SINGLE FAMILY DETACHED |
| NO. OF BUILDINGS: | 10 |
| NO. OF WATER HOUSE CONNECTIONS: | 10 |
| NO. OF SEWER HOUSE CONNECTIONS: | 10 |
| DRAINAGE AREA: | LITTLE PATUXENT RIVER |
| TREATMENT PLANT: | DORSEY RW |

| QUANTITIES | | | | | |
|--|----------------------|------------|---------------|---|--|
| NAME OF UTILITY CONTRACTOR : GRADELINE CONSTRUCTION SERVICES (GCC) | | | | | |
| SURVEY AND DRAFTING DIVISION AS-BUILT DATE : OCTOBER 2008 | | | | | |
| ITEMS | QUANTITIES ESTIMATED | AS-BUILT | | | |
| | | QUANTITIES | TYPE | MANUFACTURER/SUPPLIER | |
| 8" W. (DIP) | LF | 314 | DIP, CL.54 | ATLANTIC STATES/FERGUSON | |
| 6" W. (DIP) | LF | 20 | DIP, CL.54 | ATLANTIC STATES/FERGUSON | |
| 8"x6" FIRE-HYDRANT TEE & VALVE | EACH | 1 | MJ C153 | TYLER-UNION FOUNDRY/ MUELLER COMPANY/ " | |
| FIREHYDRANT | EACH | 1 | (5') A423 | MUELLER COMPANY/ " | |
| 8" CAP & BUTTRESS | EACH | 1 | MJ | MUELLER COMPANY/ " | |
| 6"x6" TAPPING SLEEVE & VALVE | EACH | 1 | MJ C153 | MUELLER/TYLER / " | |
| 1/8 HB | EACH | 1 | MJ 22 1/2 | TYLER-UNION FOUNDRY/ " | |
| 8" SEWER MAIN | LF | 293 | PVC, SDR 35 | DIAMOND PLASTICS/FERGUSON | |
| SEWER MANHOLES | EACH | 4 | CONC. PRECAST | CONTRACTORS PRECAST CORP./SAME | |
| 1" WHC | LF | 145 | COPPER, TYK | MUELLER / FERGUSON | |
| 4" SHC | LF | 133 | PVC, SDR 35 | DIAMOND PLASTICS/FERGUSON | |
| 6"x8" REDUCER | EACH | 1 | DIP, CL.54 | TYLER-UNION FOUNDRY/ " | |

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

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

John K. Robertson
SOIL CONSERVATION DISTRICT

5/1/08
DATE

[Signature]
U.S. SOIL CONSERVATION DISTRICT

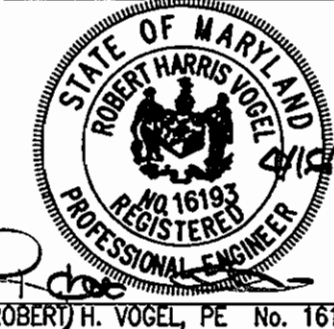
AS BUILT
DATE: OCTOBER 2008

OWNER/DEVELOPER
MICHAEL PFAU
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., STE. 301
ELLCOTT CITY, MARYLAND 21043
(410) 480-0023

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Shelby C. Green 4/25/08
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Michael Pfaus 5/5/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLCOTT CITY, MD 21043 FAX: 410.461.8961



| | | | | | |
|---------------------|----|-----|----------|------|--|
| DES: RJ | | | | | |
| DRN: RJ/JMR | | | | | |
| CHK: RHV | | | | | |
| DATE: FEBRUARY 2008 | BY | NO. | REVISION | DATE | |

FINAL WATER AND SEWER
CONSTRUCTION PLAN

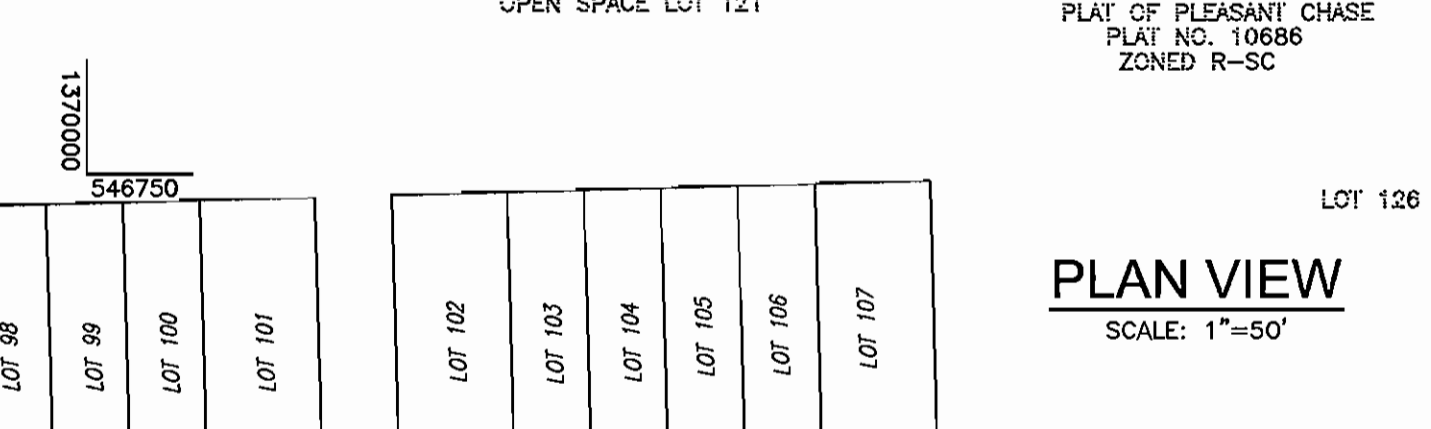
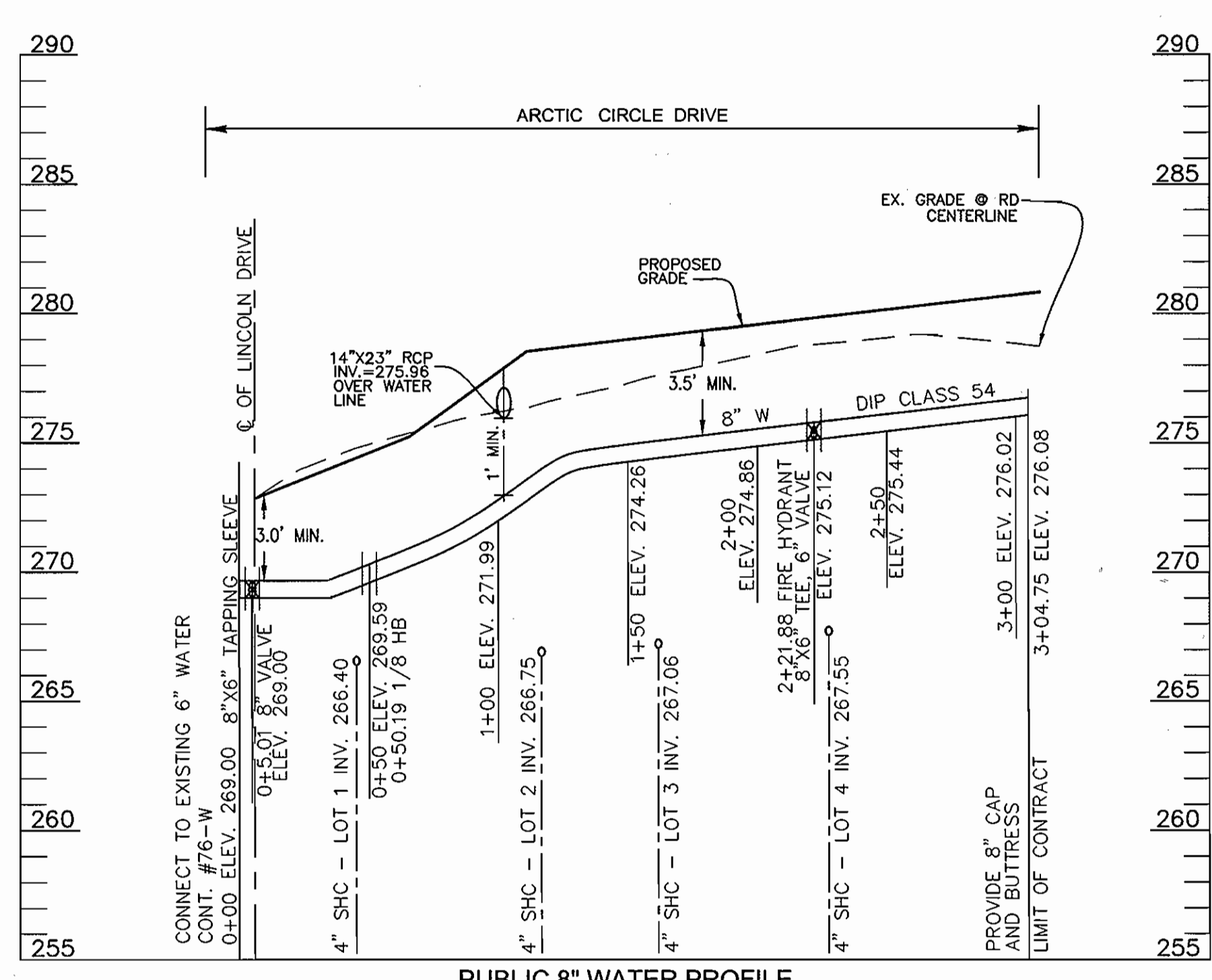
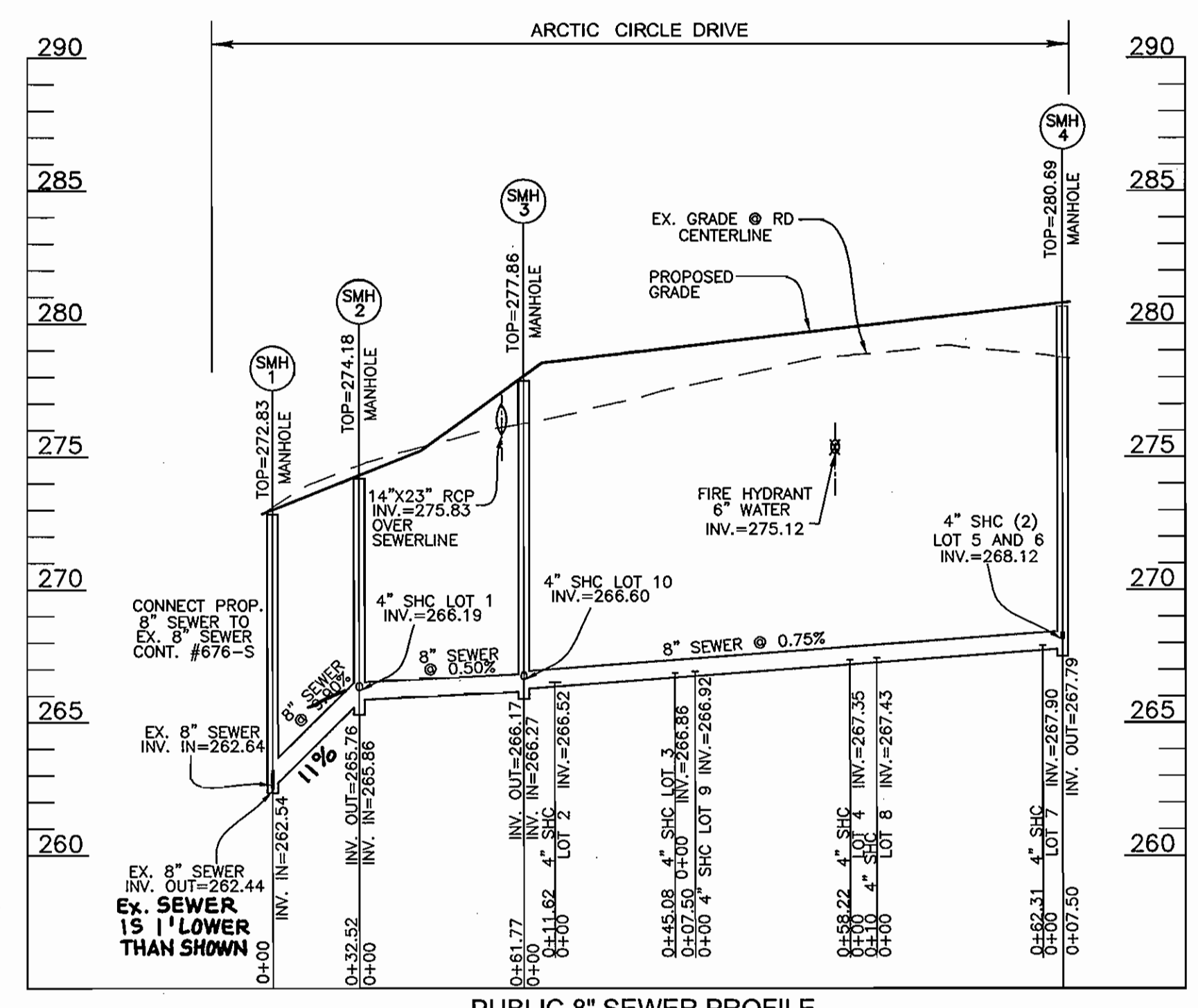
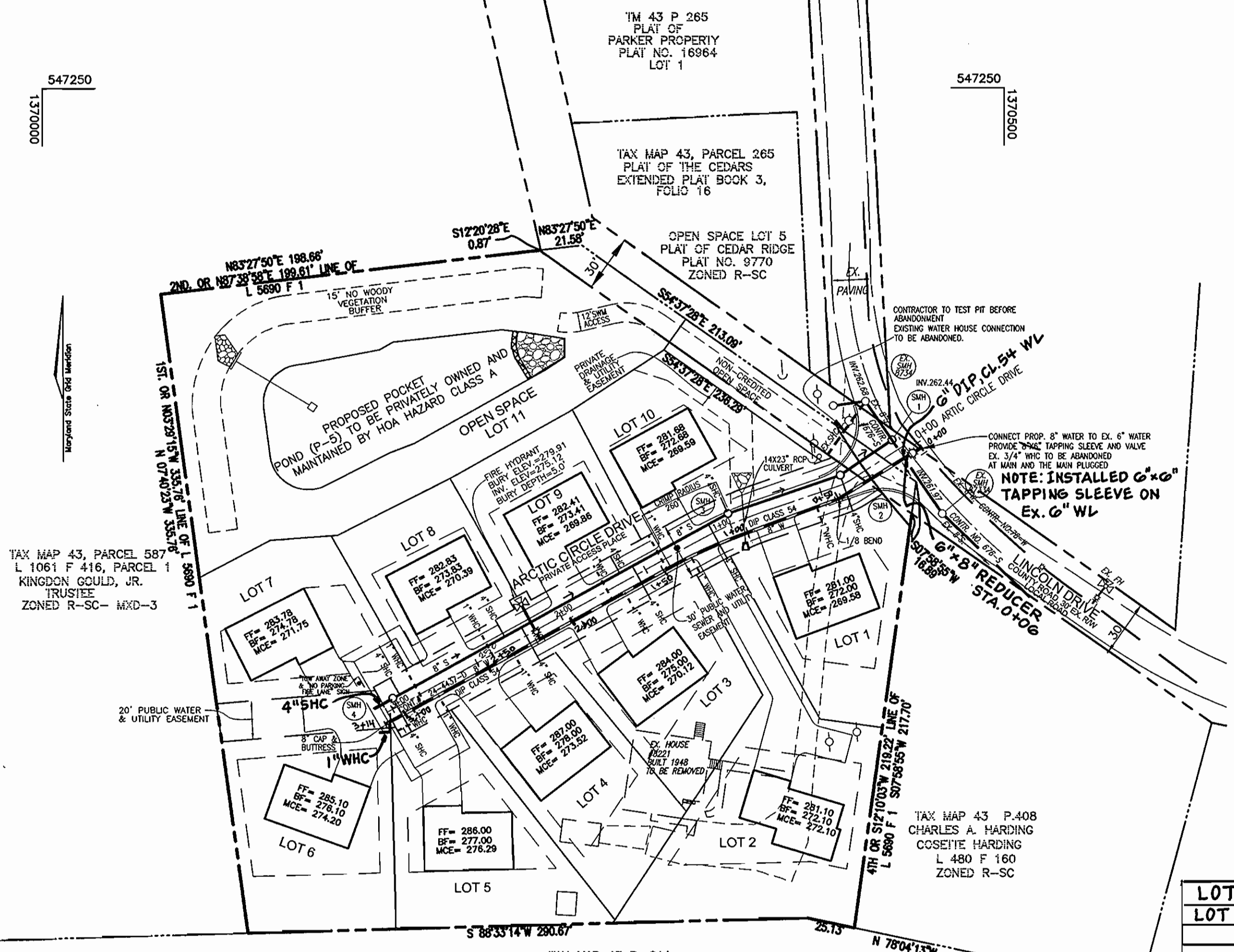
LINCOLN GLEN
LOTS 1-10 & OPEN SPACE LOT 11
CONTRACT NO. 24-4437-D

SCALE AS SHOWN

SHEET 1 OF 2

TAX MAP 43, BLOCK 8
6TH ELECTION DISTRICT

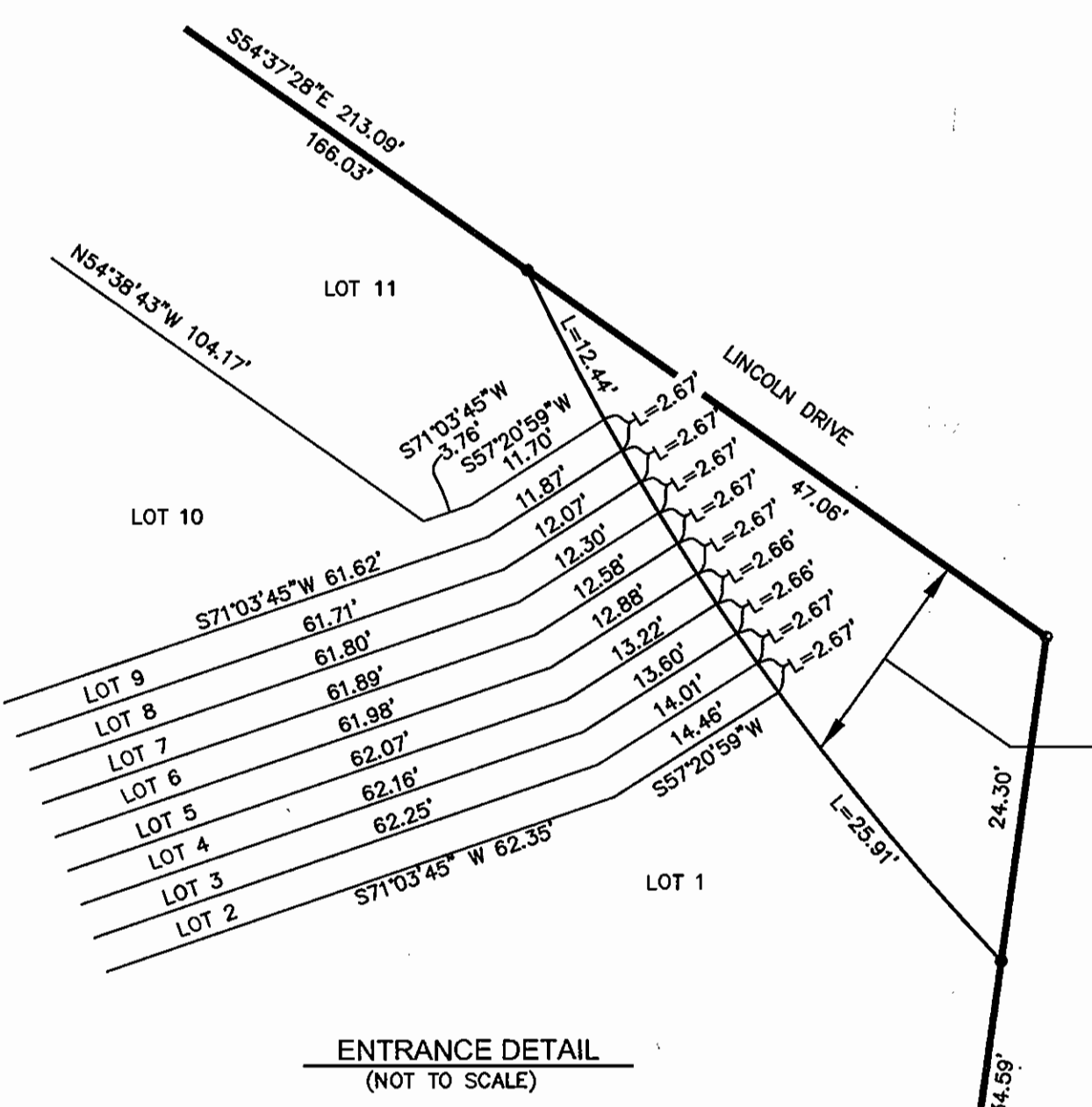
PARCEL 407
HOWARD COUNTY, MARYLAND



AN EXISTING HOUSE ON THIS SITE, 8221 LINCOLN DRIVE, IS TO BE REMOVED AND EXISTING SHC AND EXISTING WHC SHALL BE ABANDONED AT THE MAIN AND THE MAIN PLUGGED.

WHC & SHC - AS BUILTS

| LOT No. | FROM | TO | DISTANCE |
|-----------|-------------|-----|----------|
| LOT 3-SHC | LOT 3-WHC | SHC | 11.5' |
| | LOT 2-WHC | SHC | 28' |
| | LOT 9-WHC | SHC | 39.5' |
| LOT 3-WHC | LOT 3-SHC | WHC | 11.5' |
| | LOT 9-SHC | WHC | 30.5' |
| | LOT 10-WHC | WHC | 40.5' |
| LOT 4-SHC | LOT 4-WHC | SHC | 10' |
| | 6" FHV 2+21 | SHC | 14' |
| | LOT 8-SHC | SHC | 31' |
| LOT 4-WHC | LOT 4-SHC | WHC | 10' |
| | FH 2+21 | WHC | 35' |
| | LOT 8-WHC | WHC | 32.5' |



SEWER MANHOLE SCHEDULE

| NO. | TYPE | LOCATION | | TOP ELEV. | INV. IN | INV. OUT |
|-------|---|-------------|--------------|-----------|---------|----------|
| | | NORTHING | EASTING | | | |
| SMH 1 | STD. PRECAST MH HO. CO. STD. DET. G5.12 | N 547066.74 | E 1370441.56 | 272.83 | 262.84 | 262.44 |
| SMH 2 | STD. PRECAST MH HO. CO. STD. DET. G5.12 | N 547048.48 | E 1370414.65 | 274.18 | 265.86 | 265.76 |
| SMH 3 | STD. PRECAST MH HO. CO. STD. DET. G5.12 | N 547028.44 | E 1370356.22 | 277.86 | 266.27 | 266.17 |
| SMH 4 | STD. PRECAST MH HO. CO. STD. DET. G5.12 | N 546932.77 | E 1370182.04 | 280.69 | - | 267.79 |

UNITS WHC METER SETTINGS

| LOT # | METER SETTING |
|--------|-----------------------------------|
| LOT 1 | SINGLE 3/4" OUTSIDE METER SETTING |
| LOT 2 | SINGLE 3/4" OUTSIDE METER SETTING |
| LOT 3 | SINGLE 3/4" OUTSIDE METER SETTING |
| LOT 4 | SINGLE 3/4" OUTSIDE METER SETTING |
| LOT 5 | SINGLE 3/4" OUTSIDE METER SETTING |
| LOT 6 | SINGLE 3/4" OUTSIDE METER SETTING |
| LOT 7 | SINGLE 3/4" OUTSIDE METER SETTING |
| LOT 8 | SINGLE 3/4" OUTSIDE METER SETTING |
| LOT 9 | SINGLE 3/4" OUTSIDE METER SETTING |
| LOT 10 | SINGLE 3/4" OUTSIDE METER SETTING |

WATER MAIN LOCATION CHART

| WL STA. | APPURTENANCE |
|---------------------|------------------------------|
| ARCTIC CIRCLE DRIVE | |
| WL STA. 0+5.01 | 8"X6" TAPPING SLEEVE & VALVE |
| WL STA. 0+50.19 | 1/8" HB |
| WL STA. 2+21.88 | FIRE HYDRANT |

CRIMP TABLE

| CRIMP | LENGTH | RADIUS | PC STA. | PT STA. |
|-------|--------|---------|---------|---------|
| CR1 | 37.78' | 260.00' | 1+06.75 | 1+44.53 |

SEWER CONNECTION TABULATION

| LOT NO | TYPE | ELEV. @ MAIN | ELEV. @ R/W OR EXISTENT | ELEV. @ UNIT | M.C.E. |
|--------|------------|--------------|-------------------------|------------------|--------|
| LOT 1 | 4" SHC @2% | 266.19 | 266.59 (20') | 267.08 (44.36') | 269.58 |
| LOT 2 | 4" SHC @2% | 266.52 | 266.92 (20.1') | 269.60 (153.79') | 272.10 |
| LOT 3 | 4" SHC @2% | 266.86 | 267.26 (20') | 267.62 (37.90') | 270.12 |
| LOT 4 | 4" SHC @5% | 267.35 | 268.75 (20') | 271.02 (45.32') | 273.52 |
| LOT 5 | 4" SHC @5% | 268.12 | 269.52 (20') | 273.79 (85.41') | 276.29 |
| LOT 6 | 4" SHC @5% | 268.12 | 268.24 (2.46') | 271.70 (51.18') | 274.20 |
| LOT 7 | 4" SHC @2% | 267.90 | 268.10 (10') | 269.25 (67.35') | 271.75 |
| LOT 8 | 4" SHC @2% | 267.43 | 267.83 (10') | 267.89 (23.24') | 270.39 |
| LOT 9 | 4" SHC @2% | 266.92 | 267.12 (10') | 267.36 (21.83') | 269.86 |
| LOT 10 | 4" SHC @2% | 266.60 | 266.78 (9.24') | 267.09 (24.34') | 269.59 |

WHC & SHC - AS BUILTS

| LOT No. | FROM | TO | DISTANCE |
|-----------|------------|-----|----------|
| LOT 1-SHC | LOT 1-WHC | SHC | 18.5' |
| | SMH 1 | SHC | 45' |
| | SMH 2 | SHC | 24' |
| LOT 1-WHC | LOT 1-SHC | WHC | 18.5' |
| | SMH 2 | WHC | 37' |
| | SMH 3 | WHC | 58' |
| LOT 2-SHC | LOT 2-WHC | SHC | 14' |
| | SMH 3 | SHC | 25' |
| | LOT 10-WHC | SHC | 42' |
| LOT 2-WHC | LOT 2-SHC | WHC | 14' |
| | SMH 3 | WHC | 33' |
| | LOT 10-WHC | WHC | 34' |

WHC & SHC - AS BUILTS

| LOT No. | FROM | TO | DISTANCE |
|-----------|-----------|-----|----------|
| LOT 5-SHC | LOT 5-WHC | SHC | 20' |
| | SMH 4 | SHC | 23' |
| | LOT 7-WHC | SHC | 32.5' |
| LOT 5-WHC | LOT 5-SHC | WHC | 20' |
| | SMH 4 | WHC | 31' |
| | LOT 7-WHC | WHC | 33' |
| LOT 6-SHC | LOT 6-WHC | SHC | 12' |
| | LOT 7-SHC | SHC | 23' |
| | SMH 4 | SHC | 15' |
| LOT 6-WHC | LOT 6-SHC | WHC | 11.5' |
| | LOT 6-SHC | WHC | 12' |
| | SMH 4 | WHC | 19' |

WHC & SHC - AS BUILTS

| LOT No. | FROM | TO | DISTANCE |
|-----------|-------------|-----|----------|
| LOT 7-SHC | LOT 7-WHC | SHC | 5' |
| | SMH 4 | SHC | 9' |
| | LOT 6-SHC | SHC | 23' |
| LOT 7-WHC | LOT 7-SHC | WHC | 5' |
| | SMH 4 | WHC | 13' |
| | LOT 5-WHC | WHC | 32.5' |
| LOT 8-SHC | LOT 8-WHC | SHC | 10' |
| | FH 2+21 | SHC | 15' |
| | 6" FHV 2+21 | SHC | 23' |
| LOT 8-WHC | LOT 8-SHC | WHC | 10' |
| | LOT 4-WHC | WHC | 32.5' |
| | LOT 4-SHC | WHC | 37.5' |

WHC, SHC & WATER VALVES - AS BUILTS

| LOT No. | FROM | TO | DISTANCE | |
|-------------------|--------------|----------|----------|-----|
| LOT 9-SHC | LOT 9-WHC | SHC | 10' | |
| | LOT 10-WHC | SHC | 23' | |
| | LOT 3-SHC | SHC | 31' | |
| LOT 9-WHC | LOT 9-SHC | WHC | 10' | |
| | FH 2+21 | WHC | 4.4' | |
| | LOT 3-WHC | WHC | 32.5' | |
| LOT 10-SHC | LOT 10-WHC | SHC | 40.5' | |
| | SMH 2 | SHC | 00' | |
| | SMH 3 | SHC | 10' | |
| LOT 10-WHC | LOT 10-SHC | WHC | 40.5' | |
| | SMH 3 | WHC | 39.5' | |
| | LOT 3-SHC | WHC | 42' | |
| 8" VALVE 0+01 | Ex. SMH 8734 | 8" VALVE | 38' | |
| | T.S.&V. | SMH 1 | 8" VALVE | 14' |
| | Ex. SMH 8733 | 8" VALVE | 30' | |
| 6" VALVE FHV 2+21 | FH 2+21 | 6" VALVE | 20' | |
| | SHC LOT 4 | 6" VALVE | 14' | |
| | WHC LOT 3 | 6" VALVE | 51.5' | |

AS BUILT
DATE: OCTOBER 2008

| | | | | | | | |
|--|---|--|---|----------------------|---|---|--------------------------------|
| DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Chief, Bureau of Utilities 4/25/08 | DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND Chief, Development Engineering Division 5/4/08 | ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS • SURVEYORS • PLANNERS 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8966 ROBERT H. VOGEL, PE No. 16193 | DES: RJ DRN: RJ/JMR CHK: RHV DATE: FEBRUARY 2008 | BY: NO. REVISION: | FINAL WATER AND SEWER CONSTRUCTION PLAN 600' SCALE MAP NO. 43 BLOCK NO. 8 | LINCOLN GLEN LOTS 1-10 & OPEN SPACE LOT 11 CONTRACT NO. 24-4437-D TAX MAP 43, BLOCK 8 6TH ELECTION DISTRICT PARCEL 407 HOWARD COUNTY, MARYLAND | SCALE AS SHOWN SHEET 2 OF 2 |
|--|---|--|---|----------------------|---|---|--------------------------------|