

GENERAL NOTES

- PART 1 - GENERAL**
- 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.
 - TOPOGRAPHIC SURVEYS WERE PERFORMED ON OR ABOUT OCTOBER, 2003 AND DECEMBER, 2004 BY BENCHMARK ENGINEERING, INC., AND ARE SHOWN AT 2' INTERVALS.
 - ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83/91. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON 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 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 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 NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 - 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
 B&E (CONSTRUCTION SERVICES).....410-850-4820
 B&E (EMERGENCY).....410-850-1400
 HO. CO. DPW - BUREAU OF UTILITIES.....410-313-1390
 COLORADO 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 JOINT 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 2 - 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.
 - ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.

- PART 3 - 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 18" WALLS ARE FOR BRICK MANHOLES ONLY.
 - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER. STANDARD DETAIL G-5.52. 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.

- SEQUENCE OF CONSTRUCTION**
- NOTIFY HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS, 48 HOURS PRIOR TO BEGINNING CONSTRUCTION. COORDINATE CLOSURE OF VALVES WITH CONSTRUCTION.
 - NEW WATER MAIN AND HYDRANT IS TO BE INSTALLED FROM 1 1/2" DRAIN AT STATION 4+95.62 UNDER CONTRACT NO. 24-3496-D TO STATION 9+13.72=11+34.35 UNDER CONTRACT 142-W, FROM 8" x 6" TEE AT STATION 2+18.75 TO STATION 1+87.28 AND FROM 8" x 6" TEE AT STATION 6+17.39 TO 3+77.79.
 - NEW WATER MAIN IS TO BE PRESSURE TESTED AND CHLORINATED.
 - INSPECT THE CONNECTIONS BETWEEN THE NEW MAIN AND CONTRACT NO. 24-3496-D AND T.S. & V. CONNECTING TO CONTRACT NO. 142-W ON WHISKEY BOTTOM ROAD.
 - FROM THE FIRE HYDRANT AT STATION 6+22.82 UNDER THIS CONTRACT TO DRAIN THE WATER UNTIL ADEQUATE WATER QUALITY IS ACHIEVED.

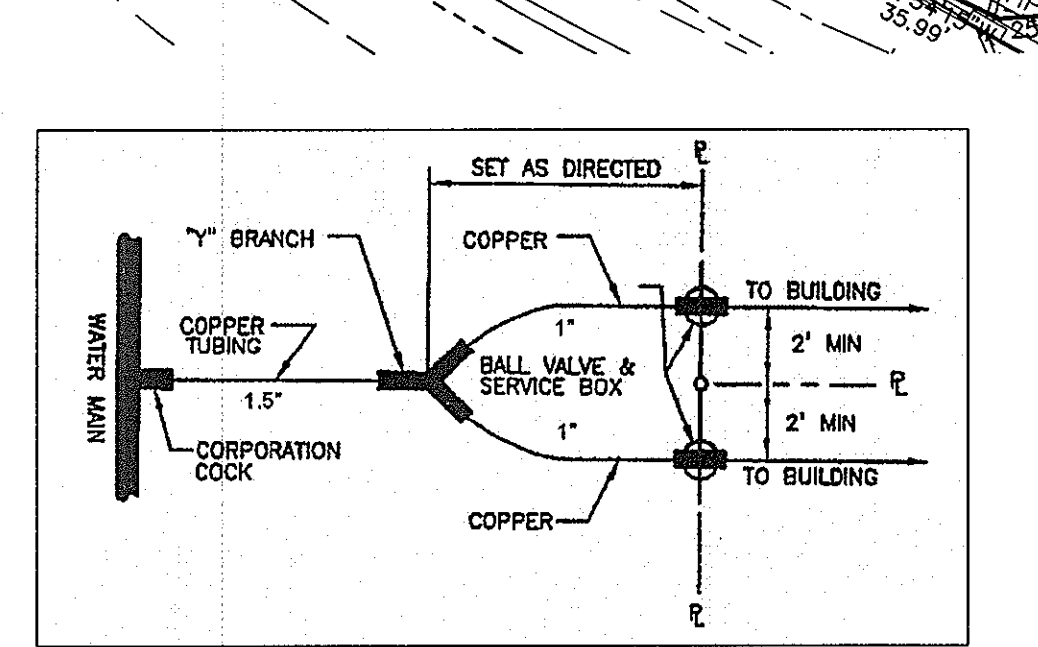
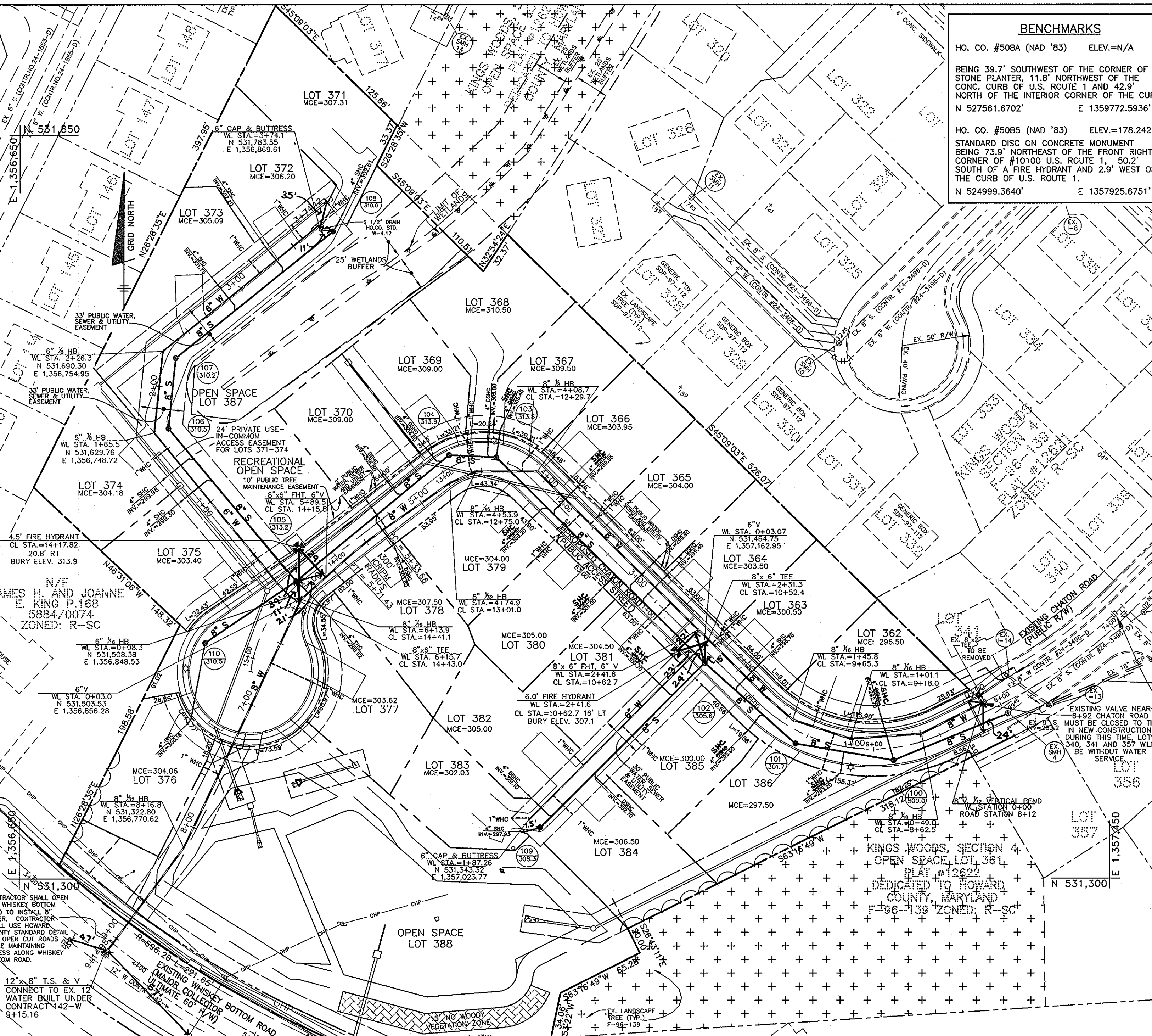
SEWER MANHOLE LOCATION DATA

| SMH NO. | CL. STA. | CL. STA. 8+86.44 CHATON ROAD, OFFSET 9.0' LEFT |
|---------|-------------------|--|
| SMH 100 | CL. STA. 8+86.44 | CHATON ROAD, OFFSET 9.0' LEFT |
| SMH 101 | CL. STA. 9+55.40 | CHATON ROAD, OFFSET 9.0' LEFT |
| SMH 102 | CL. STA. 10+42.35 | CHATON ROAD, OFFSET 7.0' LEFT |
| SMH 103 | CL. STA. 12+59.07 | CHATON ROAD, OFFSET 2.0' RIGHT |
| SMH 104 | CL. STA. 12+90.48 | CHATON ROAD, OFFSET 8.4' RIGHT |
| SMH 105 | CL. STA. 14+34.38 | CHATON ROAD, OFFSET 2.3' RIGHT |
| SMH 106 | N 531.632.92 | E 1,356,759.10 |
| SMH 107 | N 531.685.16 | E 1,356,764.47 |
| SMH 108 | N 531.779.06 | E 1,356,879.83 |
| SMH 109 | N 531.337.69 | E 1,357,032.27 |
| SMH 110 | CL. STA. 14+97.70 | CHATON ROAD, OFFSET 37.2' RIGHT |

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

John R. Hunter 5/24/08
 HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER SEDIMENT CONTROL PLAN F-08-065



OWNER/DEVELOPER
 SECURITY DEVELOPMENT, LLC
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 410-465-4244

BENCHMARK ENGINEERING, INC.
 8460 BALTIMORE NATIONAL PIKE A SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644

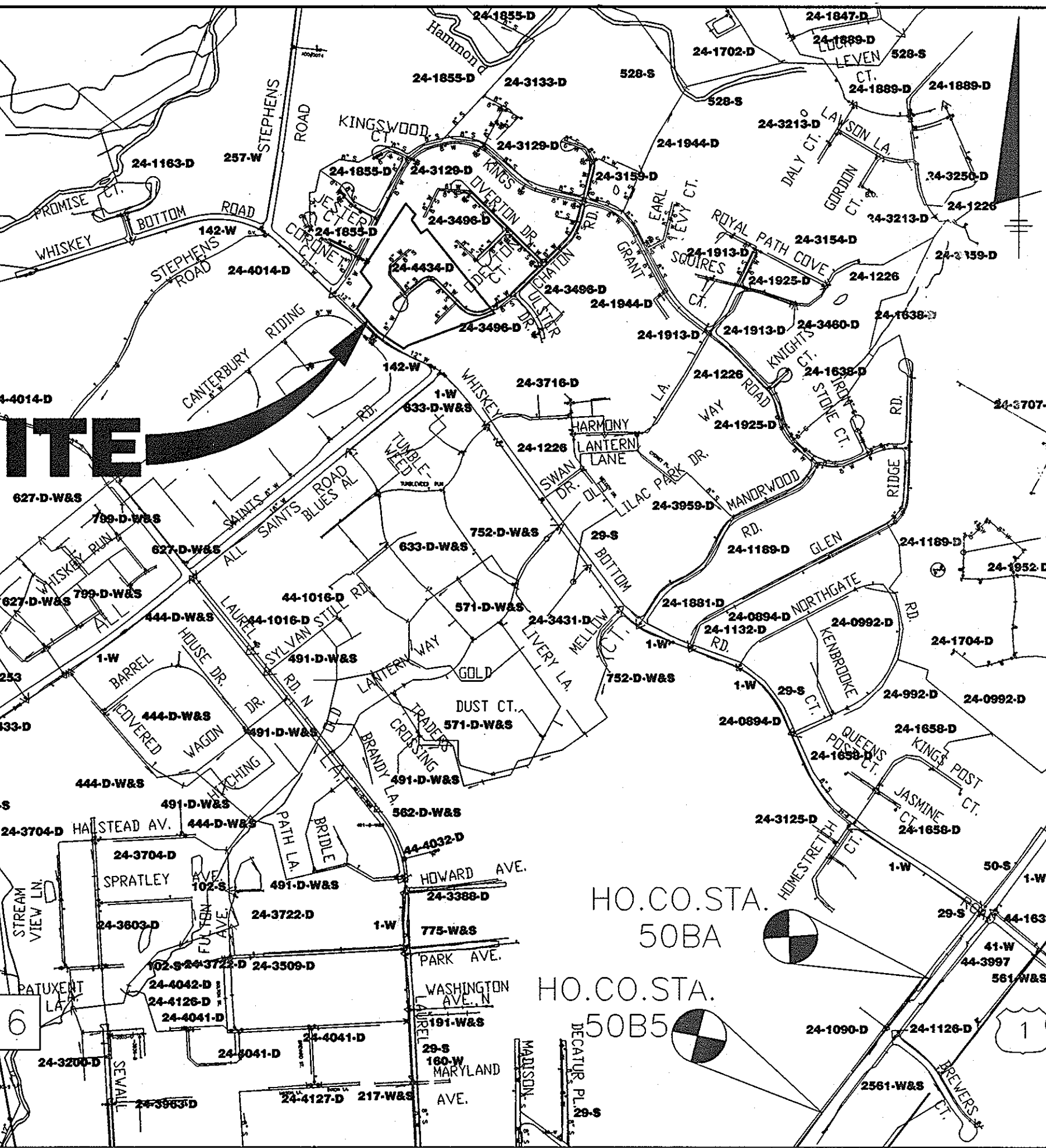
SEWER HOUSE CONNECTION CHART
 SCALE: 1" = 50'

| LOT | INV. @ MAIN | INV. @ ROW/ESMT | MCE | NOTES |
|-----|-------------|-----------------|--------|-------|
| 362 | 288.10 | 292.70 | 296.50 | DSHC |
| 363 | 294.36 | 296.70 | 300.50 | |
| 364 | 296.12 | 299.40 | 303.50 | DSHC |
| 365 | 296.19 | 299.90 | 304.00 | DSHC |
| 366 | 296.59 | 299.95 | 303.95 | DSHC |
| 367 | 297.04 | 305.40 | 309.50 | DSHC |
| 368 | 297.08 | 305.80 | 310.50 | DSHC |
| 369 | 297.45 | 304.80 | 309.00 | DSHC |
| 370 | 297.64 | 305.20 | 309.00 | DSHC |
| 371 | 302.40 | 302.61 | 307.31 | |
| 372 | 301.72 | 302.20 | 306.20 | |
| 373 | 301.27 | 301.75 | 305.09 | |
| 374 | 299.49 | 299.98 | 304.18 | |
| 375 | 299.29 | 299.30 | 303.40 | |
| 376 | 299.00 | 300.16 | 304.06 | |
| 377 | 298.40 | 298.92 | 303.62 | |
| 378 | 297.76 | 303.60 | 307.50 | DSHC |
| 379 | 296.63 | 300.20 | 304.00 | DSHC |
| 380 | 296.26 | 301.00 | 305.00 | DSHC |
| 381 | 296.13 | 300.70 | 304.50 | DSHC |
| 382 | 297.37 | 301.10 | 305.00 | DSHC |
| 383 | 297.70 | 297.93 | 302.83 | |
| 384 | 296.83 | 302.70 | 306.50 | DSHC |
| 385 | 293.28 | 295.90 | 300.00 | DSHC |
| 386 | 289.97 | 293.20 | 297.50 | DSHC |

AS-BUILTS 5/09

| ITEMS | QUANTITIES ESTIMATED | AS-BUILT QUANTITIES | | MANUF./SUPPLIER |
|---------------|----------------------|---------------------|---------------|---------------------------|
| | | QUANTITIES | TYPE | |
| 6" WATER | 605 L.F. | 605 | CL-54 D.I.P. | ATLANTIC STATES |
| 8" WATER | 915 L.F. | 915 | CL-54 D.I.P. | ATLANTIC STATES |
| 8" VALVES | 1 EA | 1 | GATEVALVE | MUELLER CO. |
| 6" VALVES | 4 EA | 4 | GATEVALVE | MUELLER CO. |
| 12" X 8" TS&V | 1 EA | 1 | C153 LANG SLW | TYLER/UNION |
| 1" WHC | 422 L.F. | 422 | K-COPPER | MUELLER IND. |
| 1 1/2" WHC | 61 L.F. | 61 | K-COPPER | MUELLER IND. |
| 6" 1/8 BEND | 2 EA | 2 | MJ C 153 | TYLER/UNION |
| 6" 1/16 BEND | 1 EA | 1 | MJ C 153 | TYLER/UNION |
| 8" 1/8 BEND | 1 EA | 1 | MJ C 153 | TYLER/UNION |
| 8" 1/16 BEND | 5 EA | 5 | MJ C 153 | TYLER/UNION |
| 8" 1/32 BEND | 3 EA | 3 | MJ C 153 | TYLER/UNION |
| 8" x 6" TEE | 2 EA | 2 | MJ C 153 | TYLER/UNION |
| 8" x 6" FHT | 2 EA | 2 | MJ 153 SWVL | TYLER/UNION |
| FIRE HYDRANTS | 2 EA | 2 | A473 MJ | MUELLER CO. |
| MANHOLES | 11 EA | 11 | 4" PRECAST | CONTRACTORS PRECAST CORP. |
| 8" SEWER | 1207 L.F. | 1207 | SD R-35 | NORTH AMERICAN |
| 4" SHC | 566 L.F. | 566 | SD R-35 | NORTH AMERICAN |

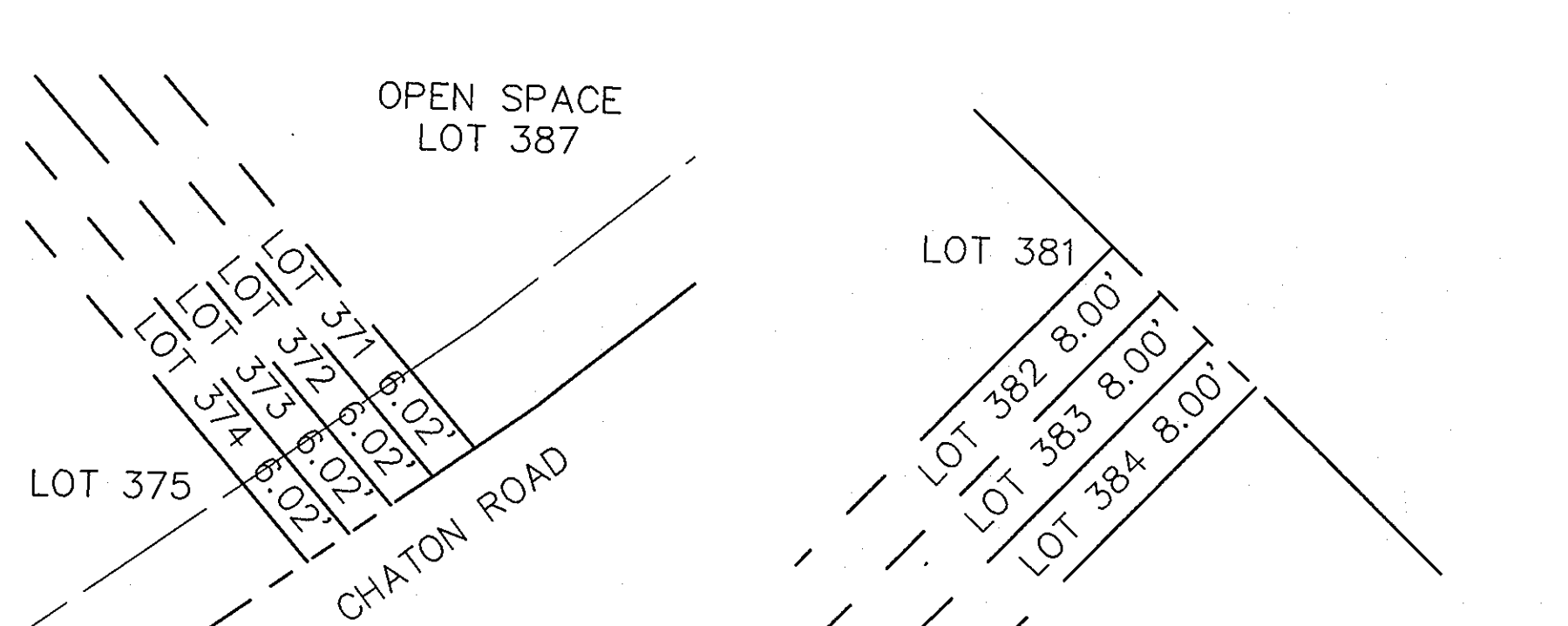
NAME OF UTILITY CONTRACTOR: C. J. MILLER, LLC.
 SURVEY AND DRAFTING DIVISION AS-BUILT DATE:



WATER AND SEWER COUNTY CODE

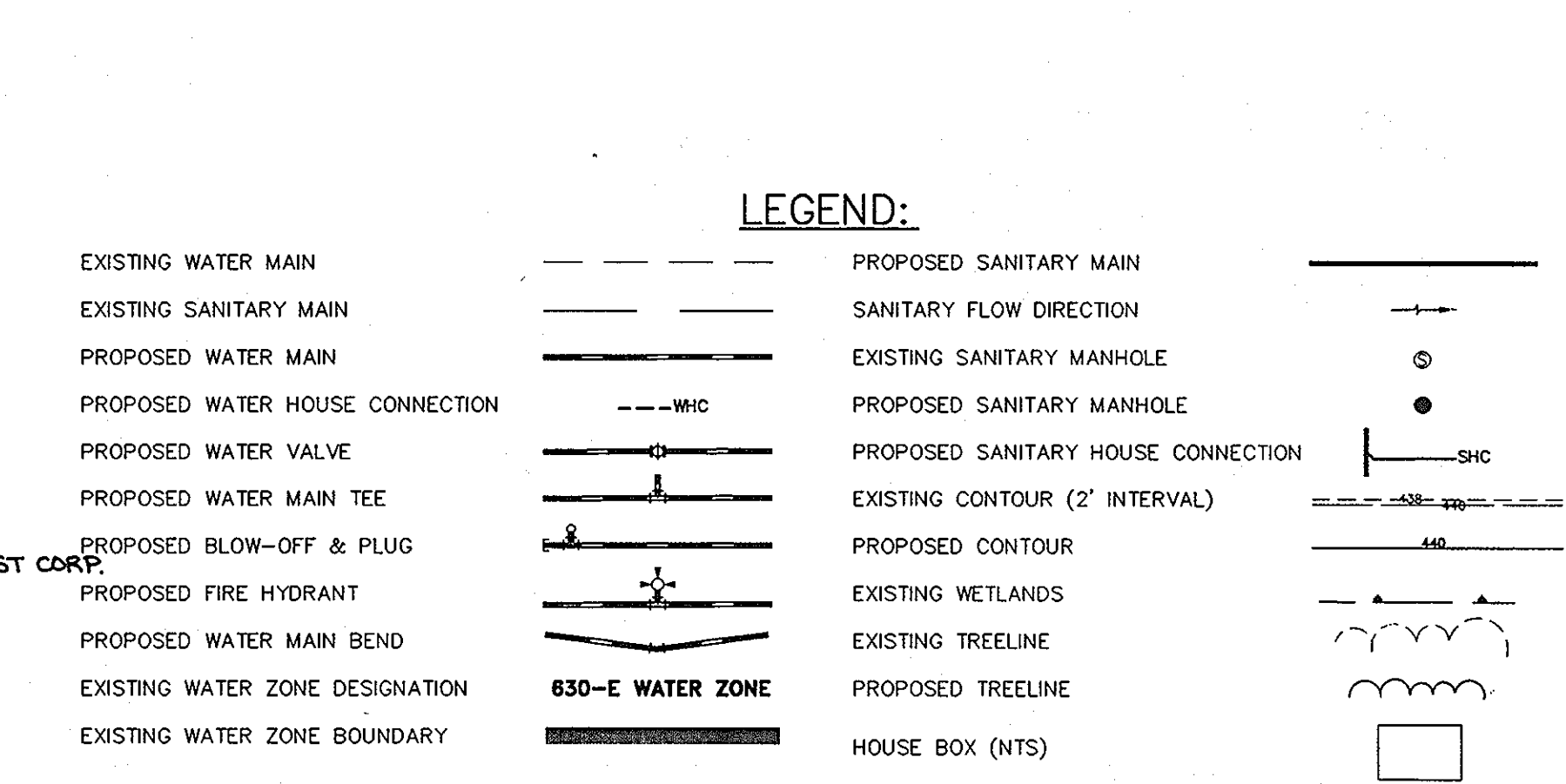
| | |
|----------------|---------|
| WATER CODE: | C-03 |
| SEWER CODE: | 7320000 |
| TEST GRADIENT: | 550 |

TYPE OF BUILDING: SINGLE FAMILY DETACHED
NUMBER OF LOTS: 25 BUILDABLE
NUMBER OF SHCS: 25
NUMBER OF WHOS: 25
SEWER SHED: LITTLE PATUXENT
TREATMENT PLANT: LITTLE PATUXENT
WATER QUALITY MANAGEMENT CENTER:



LOT FRONTAGE EXHIBIT
 LOTS 371 TO 374 SCALE: 1" = 20'

LOT FRONTAGE EXHIBIT
 LOTS 382 TO 384 SCALE: 1" = 20'



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

John R. Hunter 5/24/08
 CHIEF, BUREAU OF UTILITIES DATE

John R. Hunter 5/24/08
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

BENCHMARK ENGINEERING, INC.
 8460 BALTIMORE NATIONAL PIKE A SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644

DESIGN REVISIONS

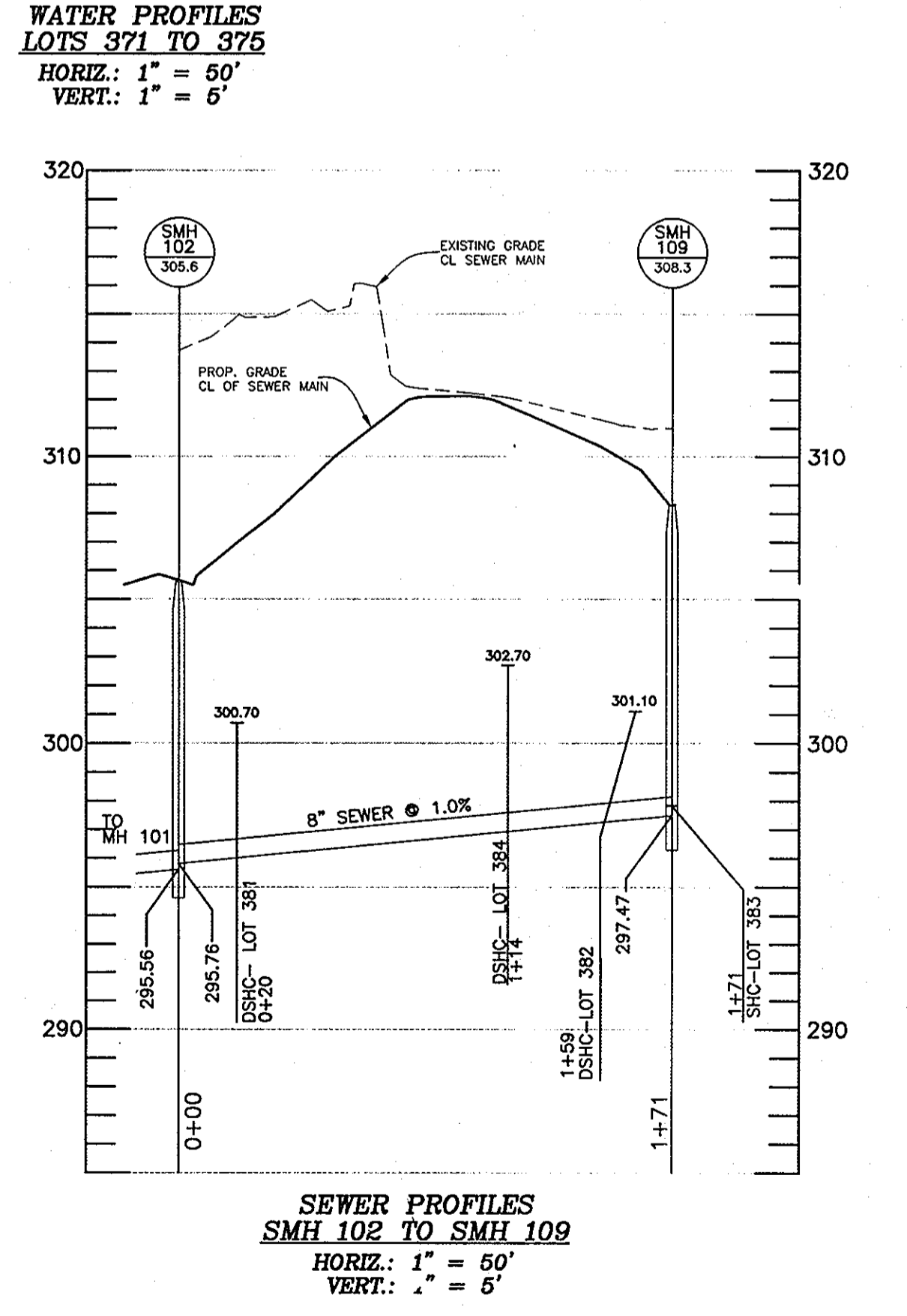
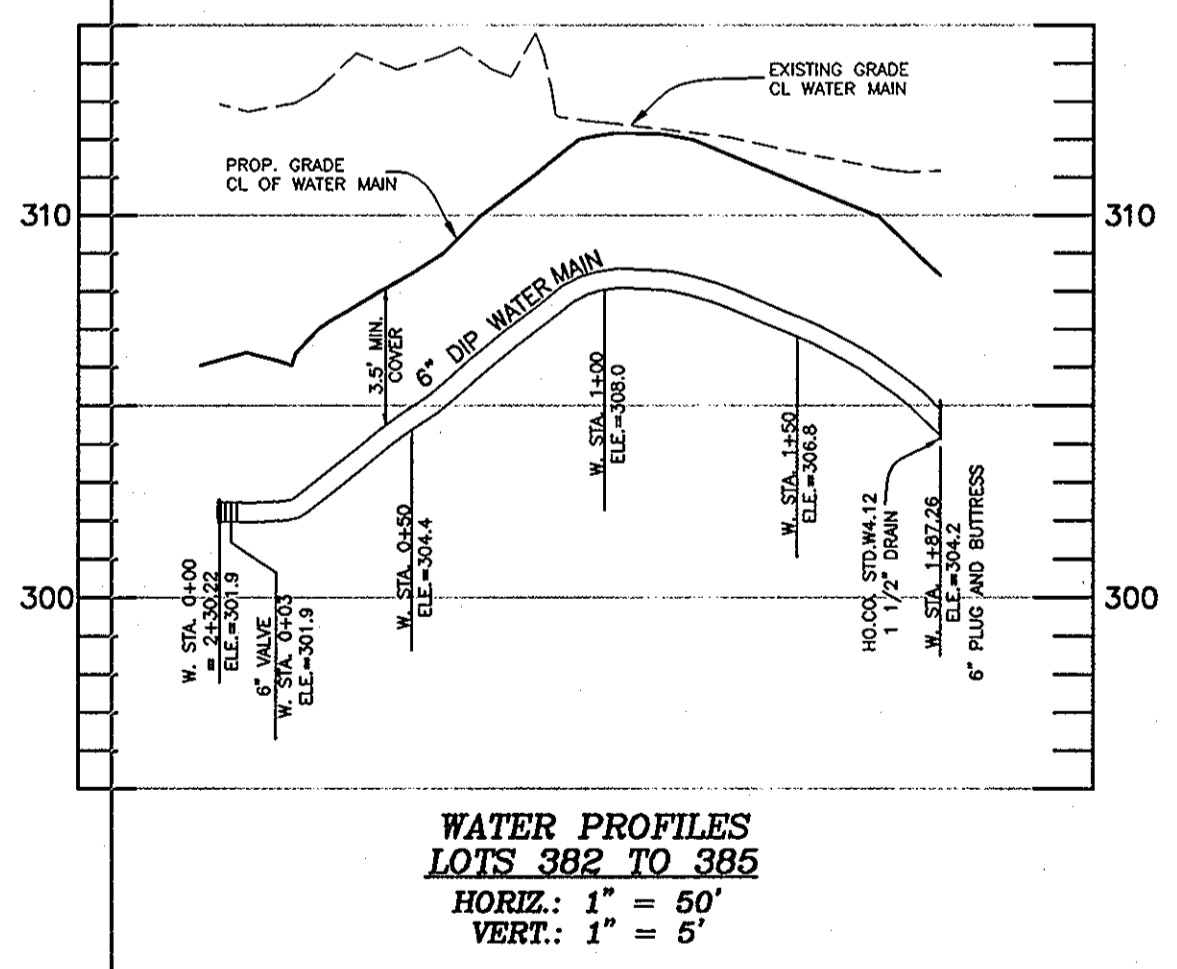
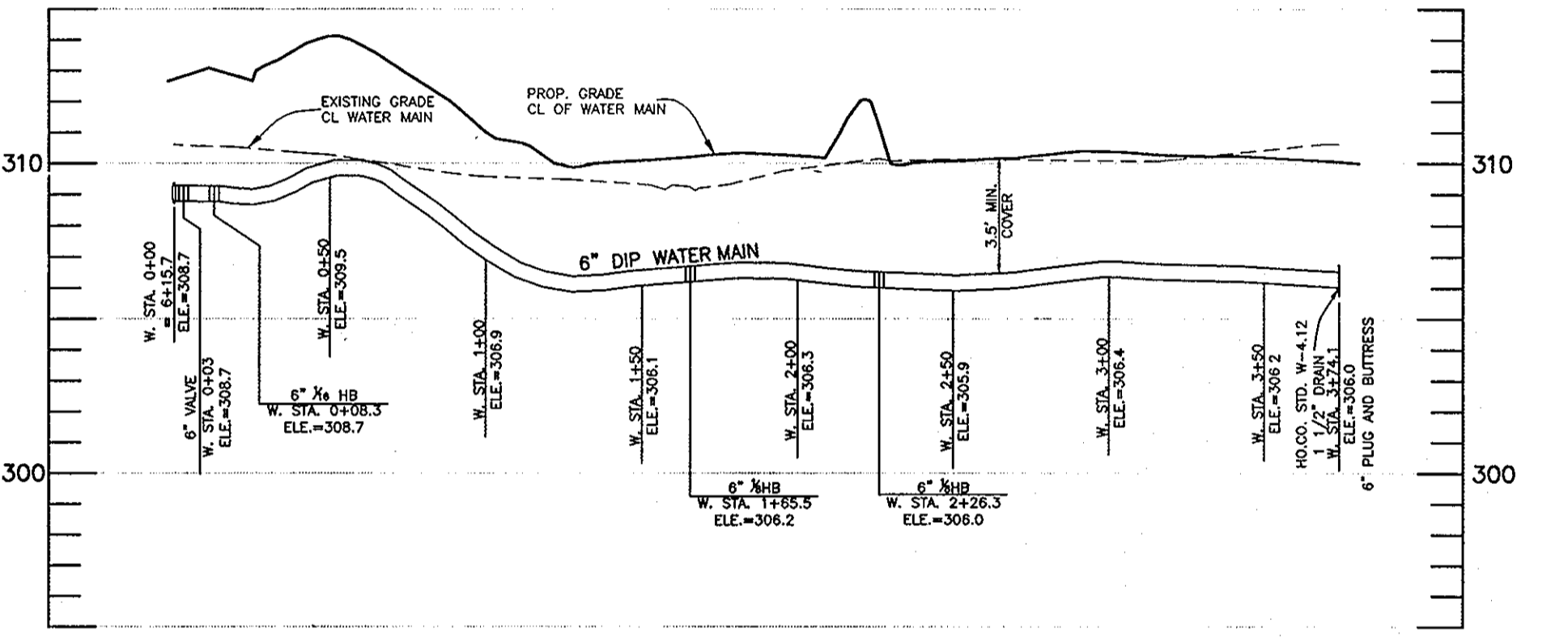
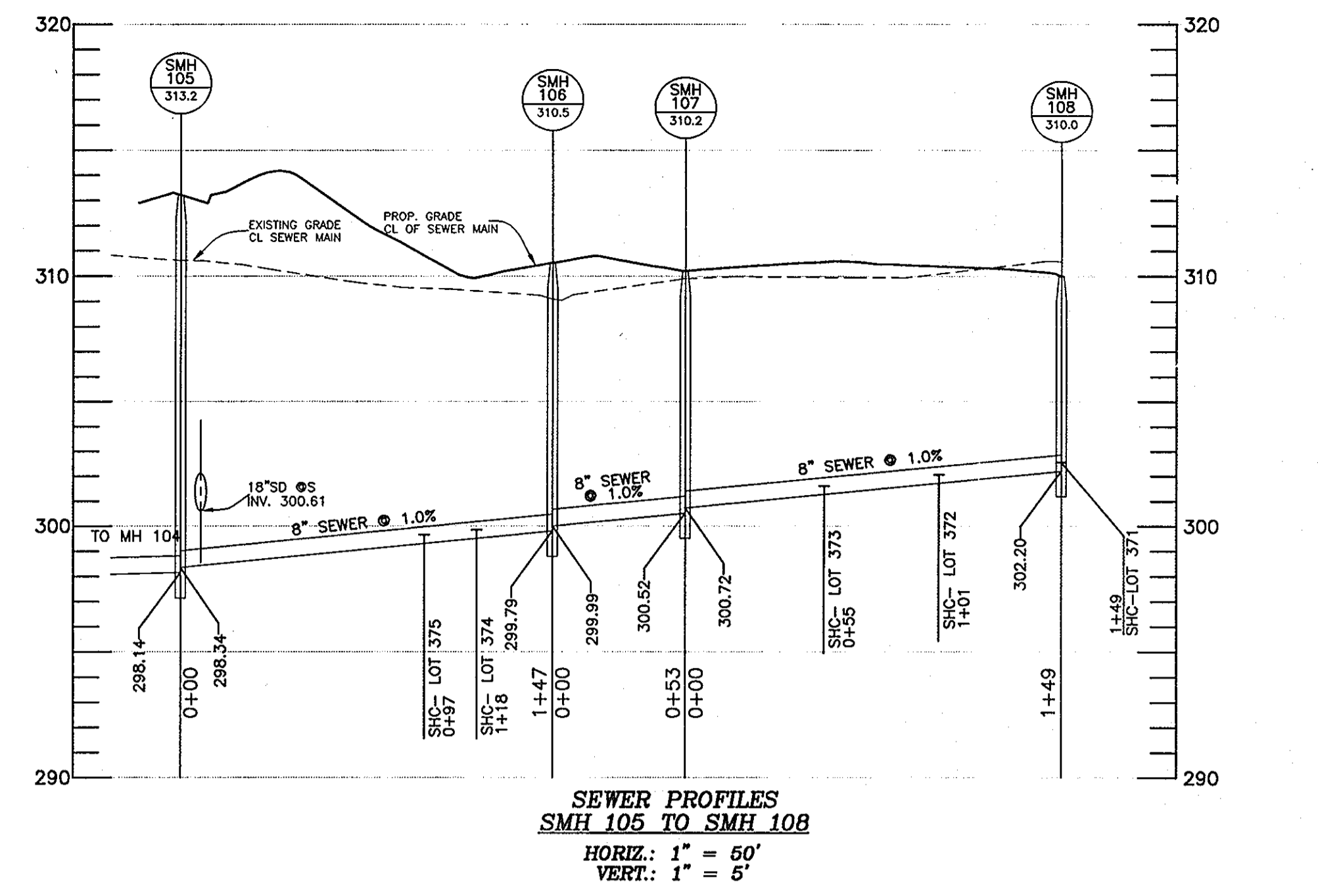
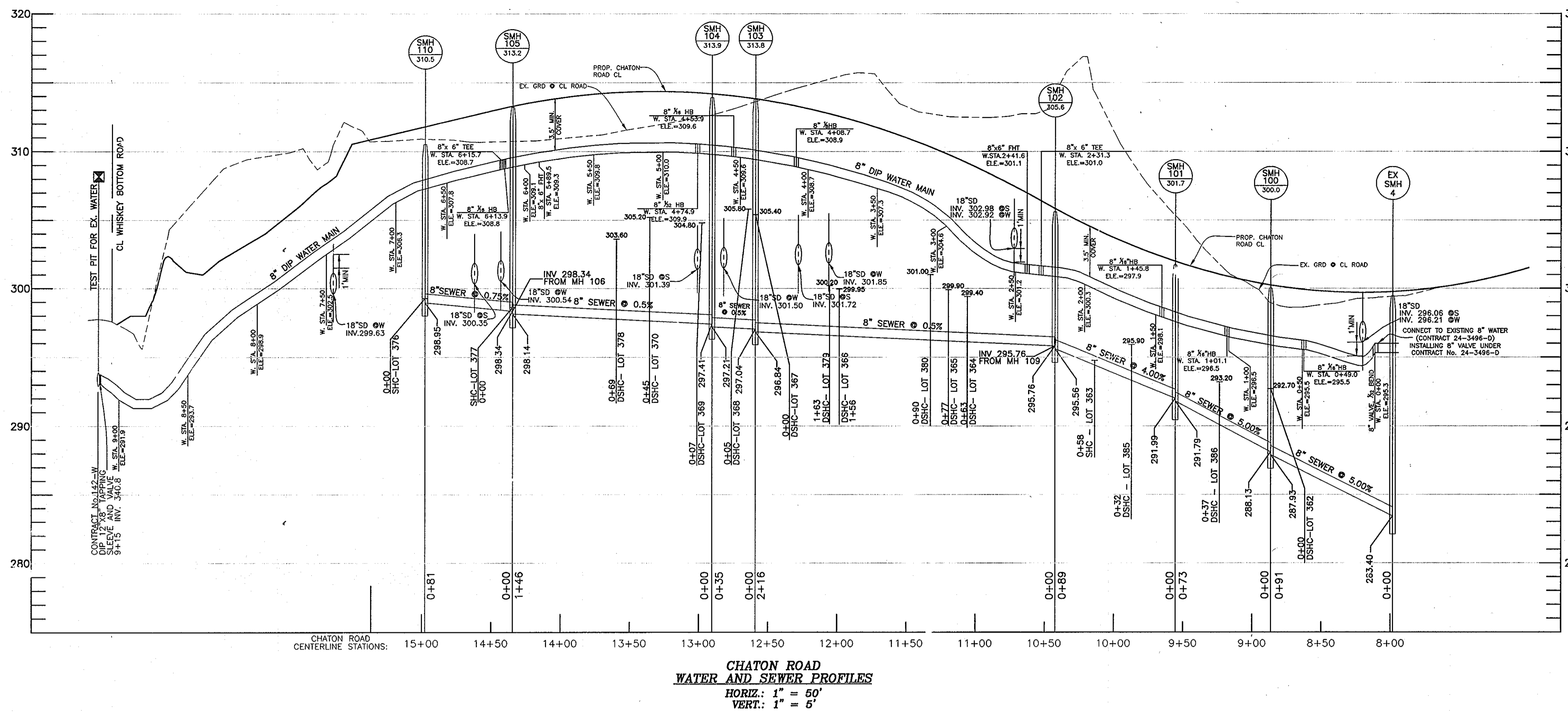
| NO. | DATE | BY | NO. | REVISIONS |
|-------|------|----|-----|-----------|
| DES: | AM | | | |
| DRN: | AM | | | |
| CHK: | JC | | | |
| DATE: | 5/08 | | | |

WATER AND SEWER CONTRACT DRAWINGS

600 SCALE MAPS: 47 BLOCK: 21

KINGS WOODS
 SECTION 5 - LOTS 362 - 386
 AND OPEN SPACE LOTS 387 AND 388
 ELECTION DISTRICT NO. 6
 CONTRACT NO. 24-4434-D

SCALE: AS SHOWN
 SHEET NO. 1 OF 2



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

HOWARD SOIL CONSERVATION DISTRICT _____ DATE _____

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER SEDIMENT CONTROL PLAN F-08-065

OWNER/DEVELOPER
 SECURITY DEVELOPMENT, LLC
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 410-465-4244

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Stacy C. Combs
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

Chris Demmons
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

BENCHMARK ENGINEERING, INC.
 ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-8644

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. 21443, Expiration Date: 03/31/2008.

David M. Moore
 PROFESSIONAL ENGINEER
 5-6-08

| | | | | | |
|-------|------|-----------|------|--|--|
| DES: | AM | | | | |
| DRN: | AM | | | | |
| CHK: | JC | | | | |
| CATE: | 5/08 | | | | |
| BY | NO. | REVISIONS | DATE | | |

WATER AND SEWER CONTRACT DRAWINGS

600 SCALE MAPS: 47 BLOCK: 21

KINGS WOODS
 SECTION 5 - LOTS 362 - 386
 AND OPEN SPACE LOTS 387 AND 388
 ELECTION DISTRICT NO. 6
 CONTRACT NO. 24-4434-D

SCALE: AS SHOWN
 SHEET NO. 2 OF 2