

SHEET INDEX

| NO. | TITLE |
|-----|-------------|
| 1 | TITLE SHEET |
| 2 | PLAN VIEW |
| 3 | PROFILES |

WATER & SEWER EXTENSIONS

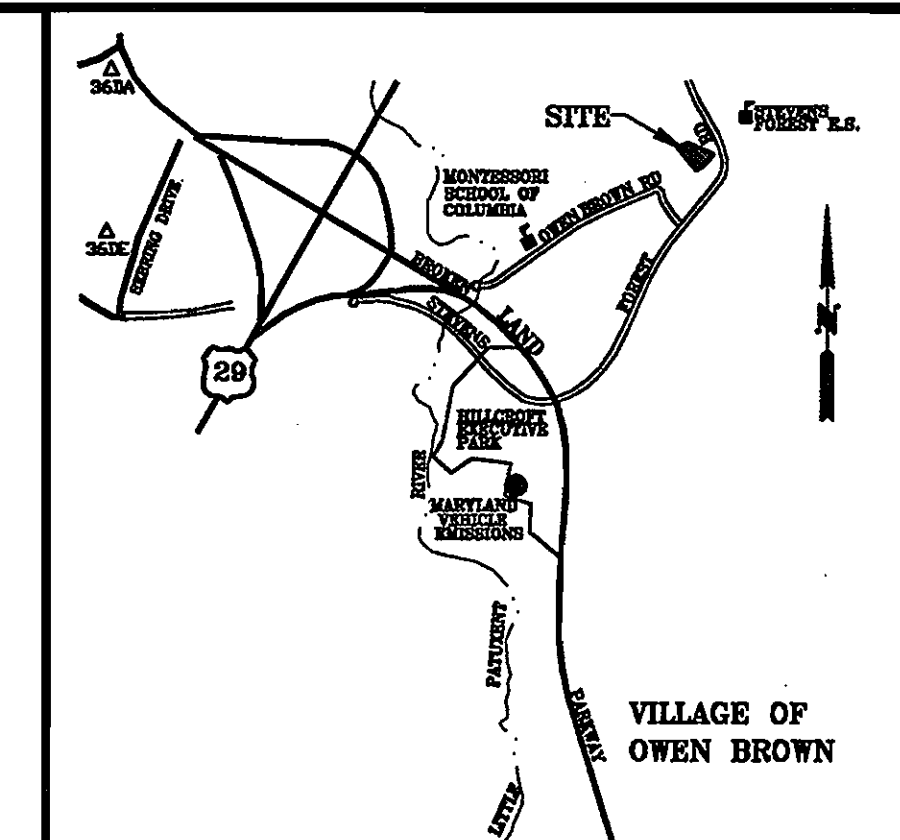
OWEN WOODS, LOTS 1-4

PARCEL 120

6th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

CONTRACT NO. 24-4379-D



VICINITY MAP
SCALE: 1"=2000'
BENCHMARK

HORIZONTAL: MARYLAND NAD83 (ADJ 1991)
VERTICAL: NAVD83
GEODETIC SURVEY CONTROL: 36DE
NORTHING: 559546.00
EASTING: 1350409.51
ELEVATION: 383.44
LOCATION: SEERING DRIVE 0.3MI
NORTH OF OWEN BROWN RD.

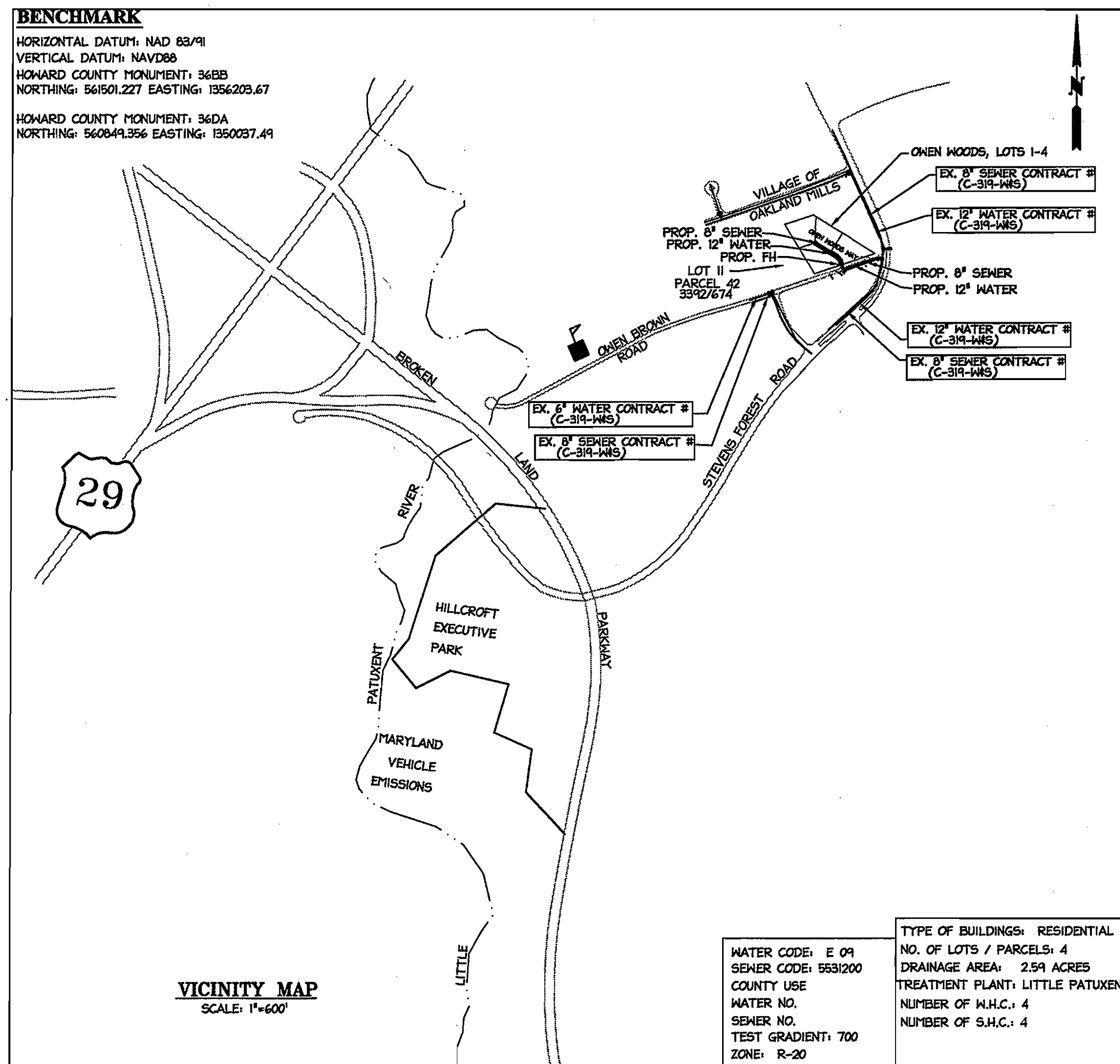
GEODETIC SURVEY CONTROL: 36DA
NORTHING: 560849.356
EASTING: 1350031.491
ELEVATION: 363.703
LOCATION: CORNER HICKORY RIDGE RD.
& BROKEN LAND PKWY.

DESCRIPTIONS:
STAMPED DISC SET ON 3' DEEP COLUMN
OF CONCRETE

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
UTILITY DESIGN DIVISION

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 MAY 2005 BY christopher consultants, llc.
 - 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. 36 DA AND NO. 36BB.
ALL VERTICAL CONTROLS ARE BASED ON NAVD '83. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE christopher consultants.
 - 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 CONTRACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR ADDITIONAL POLES. ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES 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.
 - 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 WORKING DAYS BEFORE STATING WORK SHOWN ON THESE PLANS:
AT&T1-800-292-1133
BGE (CONSTRUCTION SERVICES)410-850-4620
BGE (EMERGENCY)410-885-1400
BUREAU OF UTILITIES410-313-4800
COLONIAL PIPELINE CO.410-795-1380
MISS UTILITY1-800-257-7777
STATE HIGHWAY ADMINISTRATION410-531-5533
VERIZON1-800-743-0033/410-224-9210
 - 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.
 - TOPS OF ALL WATER MAINS SHALL HAVE 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 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.
- 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.S2. 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.



BENCHMARK
HORIZONTAL DATUM: NAD 83/'91
VERTICAL DATUM: NAVD83
HOWARD COUNTY MONUMENT: 36BB
NORTHING: 561501.227 EASTING: 1356209.67

HOWARD COUNTY MONUMENT: 36DA
NORTHING: 560849.356 EASTING: 1350037.49

VICINITY MAP
SCALE: 1"=600'

WATER CODE: E 09
SEWER CODE: 5531200
COUNTY USE
WATER NO.
SEWER NO.
TEST GRADIENT: 700
ZONE: R-20

TYPE OF BUILDINGS: RESIDENTIAL
NO. OF LOTS / PARCELS: 4
DRAINAGE AREA: 2.54 ACRES
TREATMENT PLANT: LITTLE PATUXENT
NUMBER OF W.H.C.: 4
NUMBER OF S.H.C.: 4

| QUANTITIES | | | |
|----------------------|----------------------|------------|----------------------------|
| ITEMS | QUANTITIES ESTIMATED | AS-BUILT | |
| | | QUANTITIES | MANUFACTURER/SUPPLIER |
| 6" WATER | 223 LF | 216 LF | GRIFFIN PIPE/H.D. SUPPLY |
| 8" VALVES | 1 | 1 | MUELLER CO. |
| 8"x8" TEES | 1 | 1 | MUELLER CO. |
| 8"x6" FHT | 1 | 1 | MUELLER CO. |
| 8" WATER | 305 LF | 305 LF | GRIFFIN PIPE/H.D. SUPPLY |
| 8"x6" REDUCER | 1 | 1 | TYLER/H.D. SUPPLY |
| 1" WATER METER BOXES | 4 | 4 | BINGHAM TAYLOR/H.D. SUPPLY |
| 12"x8" TSV | 1 | 1 | FORD/H.D. SUPPLY |
| FIRE HYDRANT - 5.0' | 1 | 1 | MUELLER CO./H.D. SUPPLY |
| SEWER MANHOLE | 6 | 6 | FREDERICK PRECAST CONCRETE |
| 1 1/2" MHC | 166 LF | 79 | GENRO/H.D. SUPPLY |
| 8" SEWER | 502 LF | 498 LF | NORTH AMERICAN/H.D. SUPPLY |
| 4" SHC | 168 LF | 67 LF | NORTH AMERICAN/H.D. SUPPLY |
| 8" SLEEVE | — | 1 | MUELLER CO. |

NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED
AS-BUILT DATE: JULY 2007
SURVEY AND DRAFTING DIVISION

SITE ANALYSIS

- TOTAL AREA OF SITE: 2.54 ACRES
- ZONING: R-20
- EXISTING USE: VACANT
- PROPOSED USE: RESIDENTIAL
- BUILDING DATA: MAXIMUM BUILDING HEIGHT 34' FOR PRIMARY STRUCTURE, 15' FOR ACCESSORY STRUCTURE REQUIRED.
- PARKING DATA: N/A
- IMPERVIOUS AREA: 0.55 ACRES
- DEED REFERENCE:
- RELATED FILES FOR THIS SITE: F-06-125, SDP-06-077
- ELECTION DISTRICT NO. 6TH, HOWARD COUNTY MARYLAND
- TAX MAP: 34, GRID: 004, PARCEL 120
- AREA OF DISTURBANCE: 2.27
- TOTAL AREA OF ROAD RIGHT OF WAY TO BE RECORDED: 0.00 ACRES

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON SDP-06-077

REVIEW FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

John M. Meyer *alilon*
NATURAL RESOURCES CONSERVATION SERVICE DATE

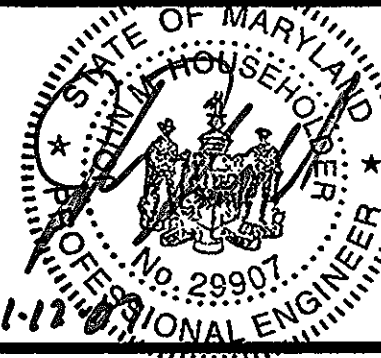
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John E. Roberts *alilon*
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
R. D. B. B. 1-25-07
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
W. J. B. 2/6/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

christopher consultants
engineering - surveying - land planning
christopher consultants, llc
7172 columbia gateway drive (suite 100) - columbia, md 21046-2900
410.272.2830 - fax: 410.272.2833



| | | | | |
|-----------------|----|-----|----------|------|
| DES: AH | | | | |
| DRN: ADL | | | | |
| CHK: JMH | | | | |
| DATE: DEC. 2005 | BY | NO. | REVISION | DATE |

TITLE SHEET
300 SCALE MAP NO. 36 BLOCK NO. 0009

WATER & SEWER EXTENSIONS
OWEN WOODS
PARCEL 120
CONTRACT NO. 24-4379-D
TAX MAP 34 PARCEL 120 ZONE: R-20
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 3

MDC-405 (MFS)

AS BUILT
DATE: JULY 2007

LEGEND

| | |
|---|-----------------------------|
| EXISTING BUILDINGS | |
| EXISTING SANITARY SEWER | EX. 8" SAN |
| EXISTING WATER | EX. 6" WATER |
| PROPERTY LINE | --- |
| PROPOSED SEWER | PROP. 8" S. |
| PROPOSED WATER | PROP. 6" W. |
| PROPOSED FIRE HYDRANT | ⊕ |
| PROPOSED UTILITY EASEMENT | --- |
| 24" PRIVATE USE-IN-COMMON ACCESS EASEMENT | --- |
| PROPOSED SETBACK LINES | --- |
| CNS | BASEMENT CAN NOT BE SEWERED |

WATER LINE DATA

| STATION | DESCRIPTION | NORTHING | EASTING |
|---------|--------------------------------|-----------|------------|
| 0+00 | 12" x 8" TSIV | 559667.91 | 1356607.31 |
| 0+32.50 | 1/16 HORIZ. BEND | 559670.00 | 1356014.84 |
| 1+70.00 | BEGIN 300' R VERTICAL CRIMP | 559625.03 | 1355984.98 |
| 1+87.00 | END 300' R VERTICAL CRIMP | 559619.37 | 1355968.81 |
| 2+10.00 | BEGIN 300' R VERTICAL CRIMP | 559612.01 | 1355846.73 |
| 2+27.00 | END 300' R VERTICAL CRIMP | 559606.63 | 1355831.05 |
| 2+62.00 | 8" x 8" T | 559595.95 | 1355799.51 |
| 2+62.00 | 8" CAP & BUTTRESS | 559594.97 | 1355796.67 |
| 2+66.00 | 8" VALVE | 559598.88 | 1355798.51 |
| 2+94.00 | FHT | 559636.80 | 1355785.56 |
| 3+05.00 | 8" x 6" REDUCER | 559638.06 | 1355785.14 |
| 3+12.10 | 1/16 HORIZ. BEND | 559646.12 | 1355782.38 |
| 3+21.63 | 1" WATER METER | 559666.58 | 1355793.69 |
| 3+21.63 | 1 1/2" MHC | 559653.19 | 1355777.71 |
| 3+33.00 | 1/32 HORIZ. BEND | 559661.14 | 1355764.18 |
| 3+73.68 | BEGIN 325' R. HORIZONTAL CRIMP | 559685.71 | 1355737.04 |
| 4+03.71 | END 325' R. HORIZONTAL CRIMP | 559702.82 | 1355712.38 |
| 4+64.00 | 1 1/2" MHC | 559725.86 | 1355655.49 |
| 4+64.00 | 1" WATER METER | 559734.93 | 1355661.21 |
| 4+76.00 | 1 1/2" MHC | 559741.12 | 1355651.24 |
| 4+76.00 | 1" WATER METER | 559757.48 | 1355661.54 |
| 5+14.06 | 1 1/2" MHC | 559761.48 | 1355618.91 |
| 5+14.06 | 1" WATER METER | 559762.04 | 1355618.17 |

NOTES:

ALL WATER METERS WILL BE 1" OUTSIDE METER SETTINGS
 ALL WATER LINES SHALL BE DUCTILE IRON PIPE (DIP.)
 THE BASEMENT OF THE HOUSES ON LOTS 1, 2, & 3 ARE NOT SEWERABLE
 ALL SEWER HOUSE CONNECTIONS SHALL BE HO. CO. DETAIL S2.12
 SEWER MANHOLES S-1 THROUGH S-5 SHALL BE HO. CO. DETAIL G5.11
 SEWER MANHOLE S-6 SHALL BE HO. CO. DETAIL S1.31
 ALL SEWER CLEANOUTS SHALL BE HO. CO. DETAIL S2.22

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON SDP-06-077

REVIEW FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

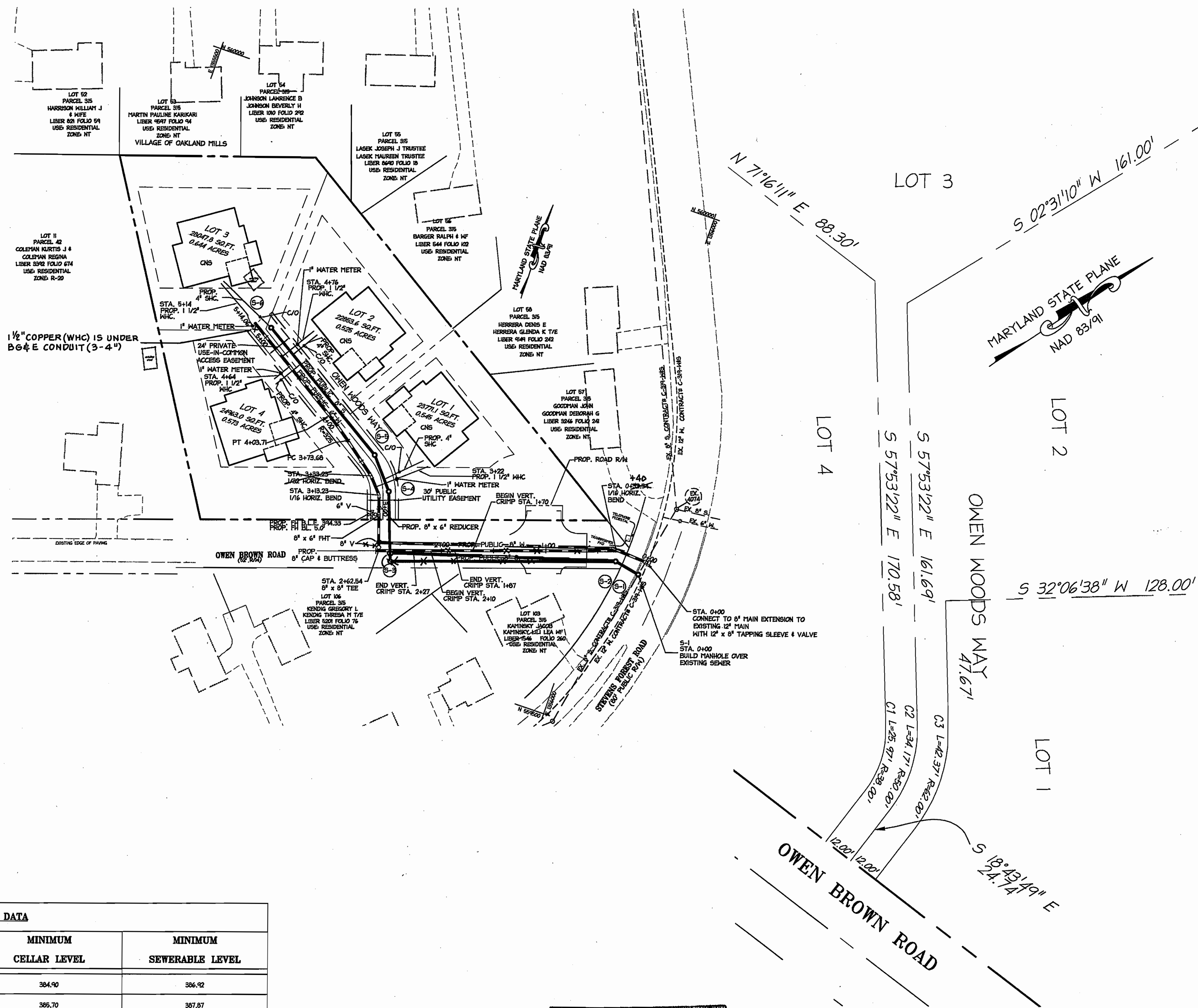
Jim Meyer 2/1/07
 NATURAL RESOURCE CONSERVATION SERVICE DATE

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

John M. Roberts 2/1/07
 HOWARD SOIL CONSERVATION DISTRICT DATE

| HOUSE LEVEL DATA | | | |
|------------------|----------------|----------------------|-------------------------|
| LOT NO. | FINISHED LEVEL | MINIMUM CELLAR LEVEL | MINIMUM SEWERABLE LEVEL |
| 1 | 393.90 | 384.90 | 386.92 |
| 2 | 394.70 | 385.70 | 387.87 |
| 3 | 394.20 | 385.20 | 389.33 |
| 4 | 396.90 | 387.90 | 387.90 |

1 1/2" COPPER (WHC) IS UNDER 66 & E CONDUIT (3-4")



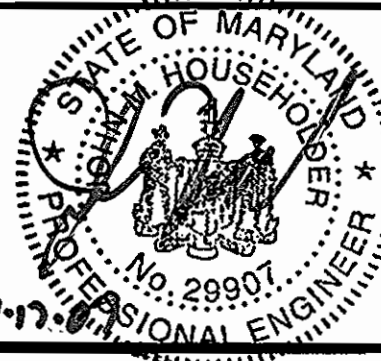
AS BUILT
 DATE: JULY 2007

LOT FRONTAGE DETAIL
 SCALE: 1" = 20'

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
Rita Beaman 1-25-07
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
William J. ... 2/1/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

christopher consultants
 engineering - surveying - land planning
 christopher consultants, inc.
 7172 columbus gateway drive #100 - coltsville, md 21046-2890
 410.292.8820 - fax 410.292.2833



| | | | |
|-----------------|--|----------|------|
| DES: AH | | | |
| DRN: ADL | | | |
| CHK: JMH | | | |
| DATE: DEC. 2005 | | | |
| BY NO. | | REVISION | DATE |

PLAN OF WATER & SEWER
 300 SCALE MAP NO. 38 BLOCK NO. 0009
 6th ELECTION DISTRICT

WATER & SEWER EXTENSIONS
OWEN WOODS
 CONTRACT NO. 24-4379-D
 TAX MAP 38 PARCEL 120 ZONE: R-20
 HOWARD COUNTY, MARYLAND

SCALE 1"=50'
 SHEET 2 OF 3

MDC-405(M&S)

