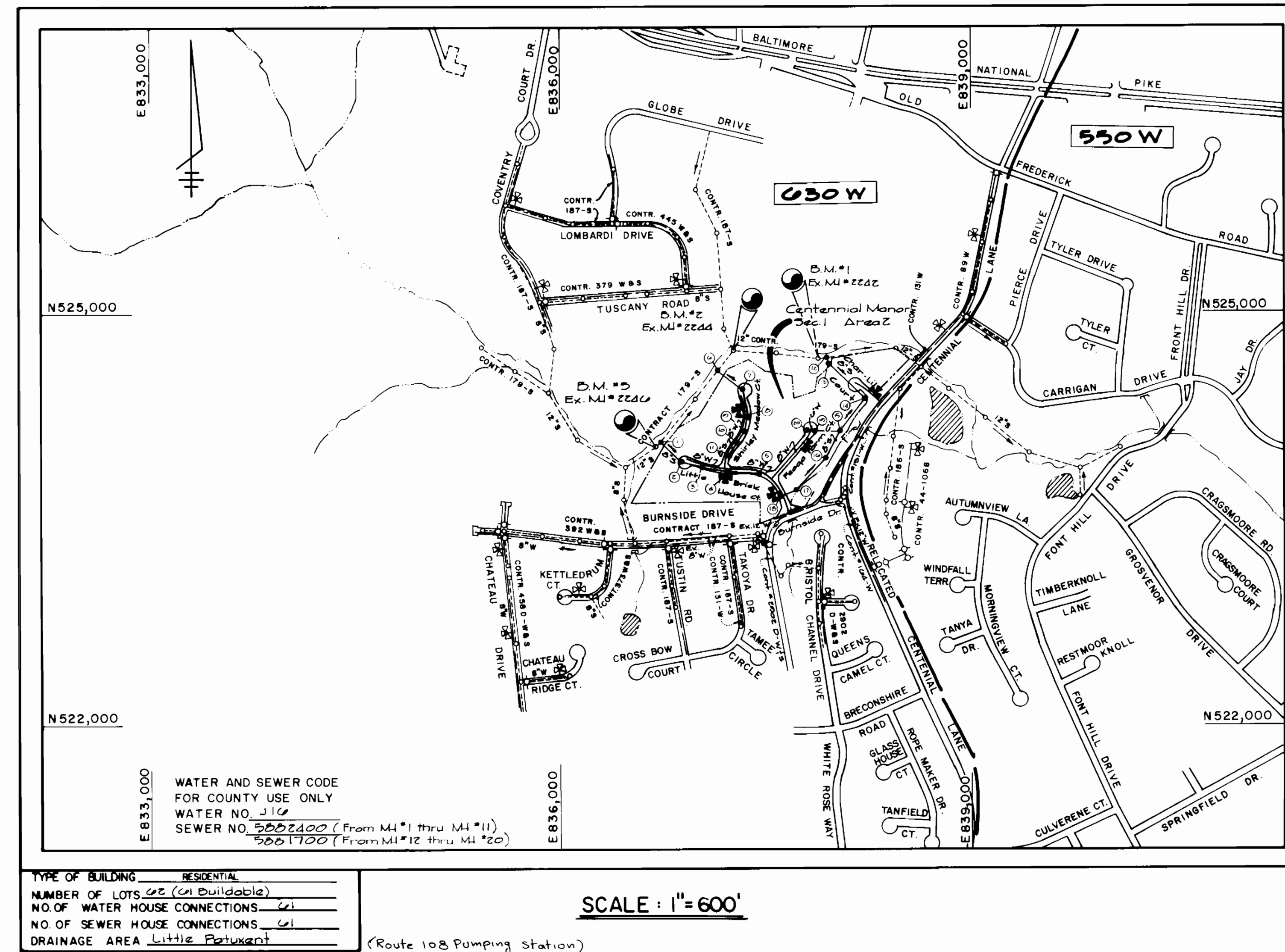


| Quantities | | | |
|------------------------------------|-----------|----------|----------|
| Item | Estimated | As-Built | Supplier |
| 8" Water | 1060 Lf | | |
| 6" Water | 255 Lf | | |
| 4" Water | 61 Lf | | |
| 1" Water House Connection | 502 Lf | | |
| 3/4" Water House Connection | 1001 Lf | | |
| 8" Valve | 2 Each | | |
| 6" Valve (excluding Fire Hydrants) | | | |
| 8" x 6" F.H. Tee + Valve | 4 Each | | |
| 6" x 4" F.H. Tee + Valve | 1 Each | | |
| Fire Hydrant | 3 Each | | |
| 1 1/2" Blow-off | 4 Each | | |
| 8" Sewer | 3252 Lf | | |
| 6" Sewer | 1880 Lf | | |
| Manholes | 20 Each | | |
| 18" x 6" Sewer Saddle | 2 Each | | |
| 18" x 6" Tapping Sleeve + Valve | 1 Each | | |
| 12" x 6" Tapping Sleeve + Valve | 1 Each | | |

| Manhole Tabulation | | | | |
|--------------------|-------------------------------------|----------------|--------|--------|
| Number | Road Station | Distance | Rim | Slope |
| 3 | 0+05 Little Brick House St. | 8' left | 410.21 | -5.00% |
| 4 | 0+21 Little Brick House St. | 7' left | 415.03 | -1.50% |
| 5 | 4+20 Little Brick House St. | 2' left | 415.22 | +0.80% |
| 7 | L.F. Sta. 2+20 Shirley Meadow Court | 3' behind curb | 383.20 | |
| 8 | 4+20 Shirley Meadow Court | 8' right | 402.57 | -6.00% |
| 9 | 3+00 Shirley Meadow Court | 10' right | 403.07 | -3.50% |
| 10 | 2+27 Shirley Meadow Court | 9' right | 406.24 | -1.20% |
| 11 | 1+40 Shirley Meadow Court | 7' right | 409.35 | -3.50% |
| 14 | 0+50 Char-lil Court | 10' left | 377.04 | |
| 18 | 1+00 Little Brick House St. | 10' left | 409.15 | |
| 20 | 4+20 Peaga Farm Court | 8' left | 420.00 | |
| 21 | Little Brick House St. | | 397.55 | |
| 22 | Peaga Farm Court | | 422.10 | |

| Sewer House Connection Invert @ Property Line | | | | | |
|---|----------------|--------|---------|----------------------------|--------|
| Station | Lot | Elev. | Station | Lot | Elev. |
| 0+05 | M1*1 left | 376.75 | 0+05 | M1*13 to M1*14 | 381.40 |
| 1+20 | M1*1 right | 377.20 | 0+75 | M1*15 to M1*19 | 381.60 |
| 1+41 | M1*1 left | 377.71 | 1+05 | M1*19 | 382.14 |
| | M1*2 to M1*5 | | 2+11 | M1*19 | 382.43 |
| 0+41 | M1*2 right | 382.11 | 2+32 | M1*19 | 382.72 |
| 0+42 | M1*2 right | 382.54 | 2+04 | M1*19 | 382.82 |
| 0+40 | M1*2 left | 382.91 | 2+47 | M1*19 | 382.90 |
| 0+50 | M1*2 right | 383.55 | | M1*14 to M1*15 | |
| 0+50 | M1*2 right | 383.51 | 1+07 | M1*19 | 375.53 |
| 1+30 | M1*2 left | 383.45 | 2+43 | M1*19 | 376.20 |
| 1+30 | M1*2 right | 383.80 | | M1*15 to M1*16 | |
| | M1*3 to M1*4 | | 1+74 | M1*19 | 383.76 |
| 0+24 | M1*3 right | 409.25 | | M1*15 to M1*19 | |
| | M1*4 to M1*5 | | 0+35 | M1*19 | 382.90 |
| 0+54 | M1*3 right | 405.44 | 0+23 | M1*19 | 382.75 |
| 1+06 | M1*3 right | 407.44 | | M1*15 to M1*20 | |
| 0+45 | M1*3 left | 408.05 | 0+40 | M1*19 | 400.75 |
| | M1*6 to M1*7 | | 0+45 | M1*20 | 401.07 |
| 1+26 | M1*3 left | 392.04 | 0+45 | M1*20 | 401.51 |
| 1+40 | M1*3 left | 392.22 | 0+45 | M1*20 | 401.15 |
| | M1*7 to M1*10 | | | M1*16 to M1*17 | |
| 0+13 | M1*3 left | 372.62 | 0+44 | M1*17 | 382.25 |
| 0+55 | M1*3 right | 374.44 | 1+23 | M1*17 | 382.52 |
| 0+26 | M1*3 left | 376.80 | 2+01 | M1*17 | 382.77 |
| 0+26 | M1*3 left | 380.23 | | M1*17 to M1*18 | |
| 1+17 | M1*3 right | 382.10 | 0+25 | M1*17 | 382.72 |
| 1+00 | M1*3 left | 387.39 | 0+25 | M1*17 | 382.50 |
| | M1*8 to M1*9 | | 0+41 | M1*17 | 382.70 |
| 0+55 | M1*3 left | 391.19 | 0+41 | M1*17 | 382.70 |
| 0+40 | M1*3 right | 391.65 | 0+41 | M1*17 | 382.70 |
| | M1*9 to M1*10 | | 0+57 | M1*17 | 372.70 |
| 0+70 | M1*3 left | 392.24 | | M1*22 to Ex. M1*22.2 | |
| 0+70 | M1*3 left | 392.22 | | Ex. M1*22.2 to Ex. M1*22.2 | |
| 0+81 | M1*3 right | 392.66 | 0+55 | M1*18 | 382.80 |
| | M1*10 to M1*11 | | | M1*18 | 382.80 |
| 0+05 | M1*3 left | 395.04 | | | |
| 0+41 | M1*3 right | 395.05 | | | |
| 0+41 | M1*3 left | 396.05 | | | |
| 0+41 | M1*3 right | 397.10 | | | |



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.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6".
- 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. 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 TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION : 531-5533
 - BALTIMORE GAS & ELECTRIC CO.-CONTRACTOR SERVICES: 561-2585
 - BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL: 234-5621
 - BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING: 298-9013
 - MISS UTILITY: 1-559-0100
 - COLONIAL PIPELINE COMPANY: 795-1390
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS: 992-2366
- 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.
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" 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 1003 AND 1008 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- FOR ALL COPPER WATER HOUSE CONNECTIONS, UTILIZE FLARED TYPED FITTINGS ONLY.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS. (STD. DETAIL W.3.21).
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED SO AS TO HAVE AT LEAST ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- 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 SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., A.C.P. CLASS 2400 OR P.V.C. UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES LOCATED WITHIN PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAME AND COVER, STANDARD DETAIL G5.51.

CONTRACT NO. 24-1464-D
CENTENNIAL MANOR
SECTION 1 AREA 2
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 15 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F 30-150)

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

Robert W. Ziehm 4/28/86
US SOIL CONSERVATION SERVICE DATE

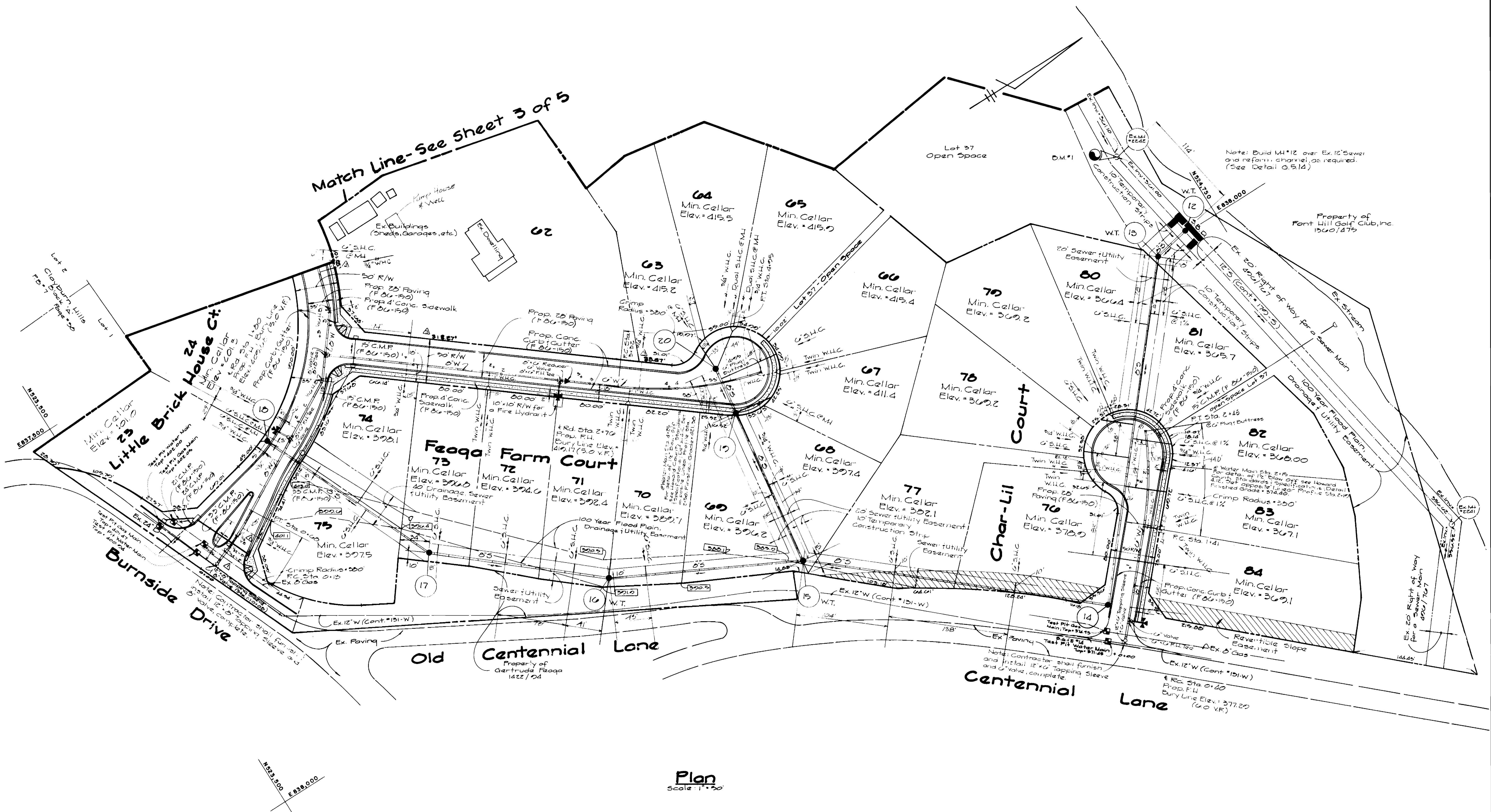
THIS DEVELOPMENT PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

APPROVED:
Stephen L. Fisher 4/28/86
HOWARD SOIL CONSERVATION DISTRICT DATE

| | | | | | |
|--|--|---|---|--|--------------------------------|
| DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Robert W. Ziehm</i> 5-1-86 DIRECTOR OF PUBLIC WORKS DATE <i>Robert W. Ziehm</i> 4-30-86 CHIEF, BUREAU OF UTILITIES DATE | FISHER, COLLINS, AND CARTER, INC. CONSULTING ENGINEERS AND LAND SURVEYORS 8388 COURT AVENUE ELLICOTT CITY, MARYLAND 21043 <i>Terrell A. Fisher</i> TERRELL A. FISHER DATE | DES. DEV DRW. DEV CHK. T.A.F. DATE: 3/3/86 | TITLE SHEET 600 SCALE MAP NO 24 BLOCK NO 7 | CONTRACT NO. 24-1464-D CENTENNIAL MANOR SECTION 1 AREA 2 WATER AND SEWER EXTENSION HOWARD COUNTY, MARYLAND | SCALE AS SHOWN SHEET 1 OF 5 |
|--|--|---|---|--|--------------------------------|

3/31/87

Benchmarks
 D.M.#1 Elev. = 369.21
 X-cut in rim of Ex. Sanitary M.I. #2242 Elev. = 374.64
 D.M.#2 Elev. = 374.64
 X-cut in rim of Ex. Sanitary M.I. #2244 Elev. = 374.64
 (See Vicinity Map on Sheet 1 of 5 for location)
 D.M.#3 Elev. = 381.94
 Rim elevation of Ex. Sanitary M.I. #2246



Plan
 Scale 1"=50'

CONTRACT NO. 24-1464-D
 CENTENNIAL MANOR
 SECTION 1 AREA 2
 WATER AND SEWER EXTENSION
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 DIRECTOR OF PUBLIC WORKS
 DATE: 4-30-86
 CHIEF, BUREAU OF UTILITIES

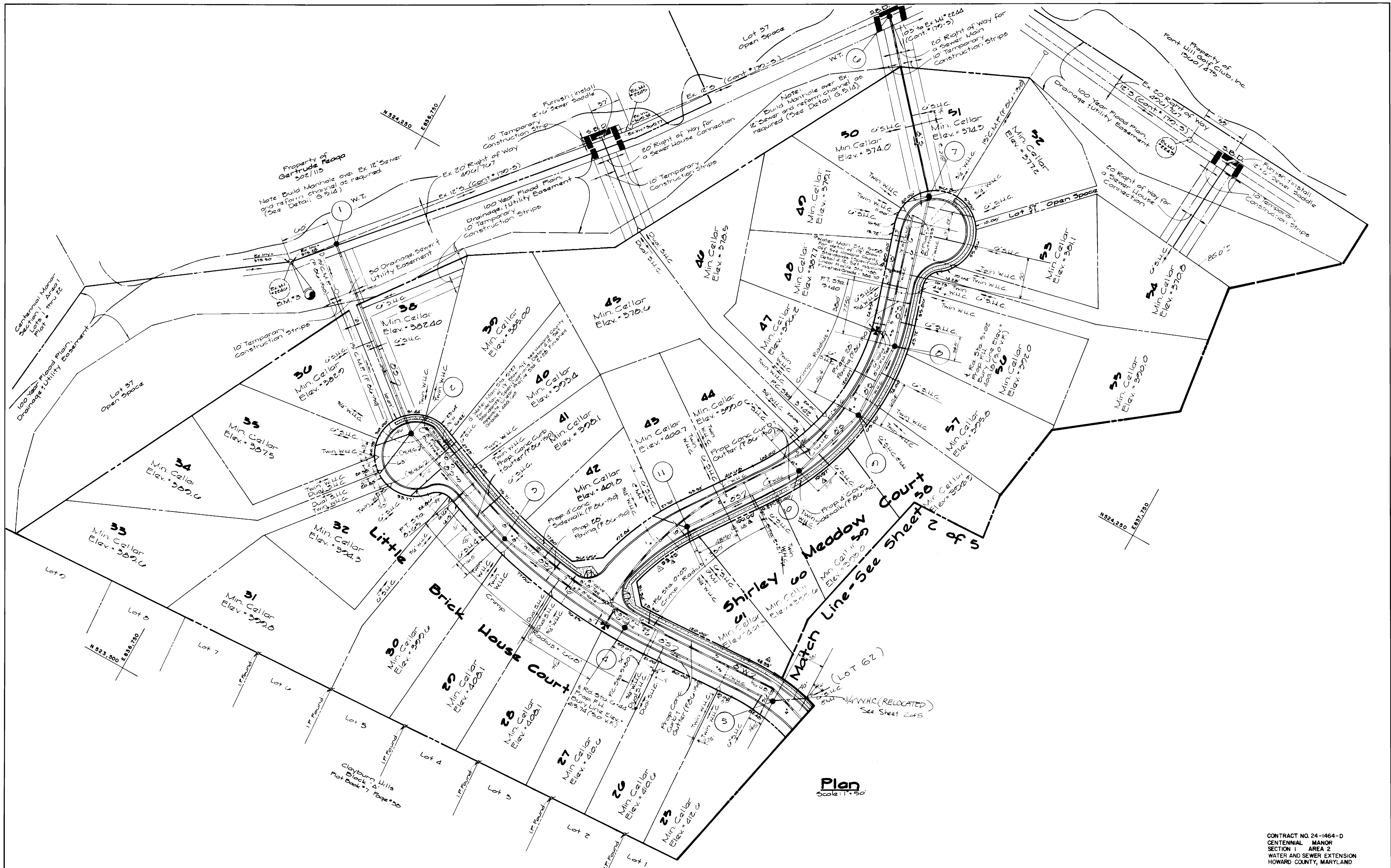
FISHER, COLLINS AND CARTER, INC.
 CONSULTING ENGINEERS AND LAND SURVEYORS
 8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043
 DATE: 3/3/86

| | | | | | |
|--------------|----|---|---|---------|--|
| DES: D.E.V. | | | | | |
| DRN: D.E.V. | | | | | |
| CHK: T.A.F. | ON | Δ | REVISE LOT LINES AND FRONT FOOTAGES ON LOTS 23 THROUGH 28 | 2/28/86 | |
| DATE: 3/3/86 | DE | Δ | DELICATE REWORK LITTLE BRICK HOUSE AT BURNSIDE DRIVE | 6/18/86 | |
| BY NO. | | | REVISION | DATE | |

PLAN
WATER AND SEWER MAINS
 600' SCALE MAP NO. 24 BLOCK NO. 7

CENTENNIAL MANOR
 SECTION 1 AREA 2
 CONTRACT NO. 24-1464-D
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE AS SHOWN
 SHEET 2 OF 5

3131187



Plan
Scale: 1" = 30'

CONTRACT NO. 24-1464-D
CENTENNIAL MANOR
SECTION 1 AREA 2
WATER AND SEWER EXTENSION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. Bauman
DIRECTOR OF PUBLIC WORKS
DATE: 4-30-86
CHIEF, BUREAU OF UTILITIES

Robert M. Bauman
CHIEF, BUREAU OF UTILITIES
DATE: 4-30-86

FISHER, COLLINS AND CARTER, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
8388 COURT AVENUE
ELLCOTT CITY, MARYLAND 21043

Terrell A. Fisher
TERRELL A. FISHER
DATE: 3/13/86

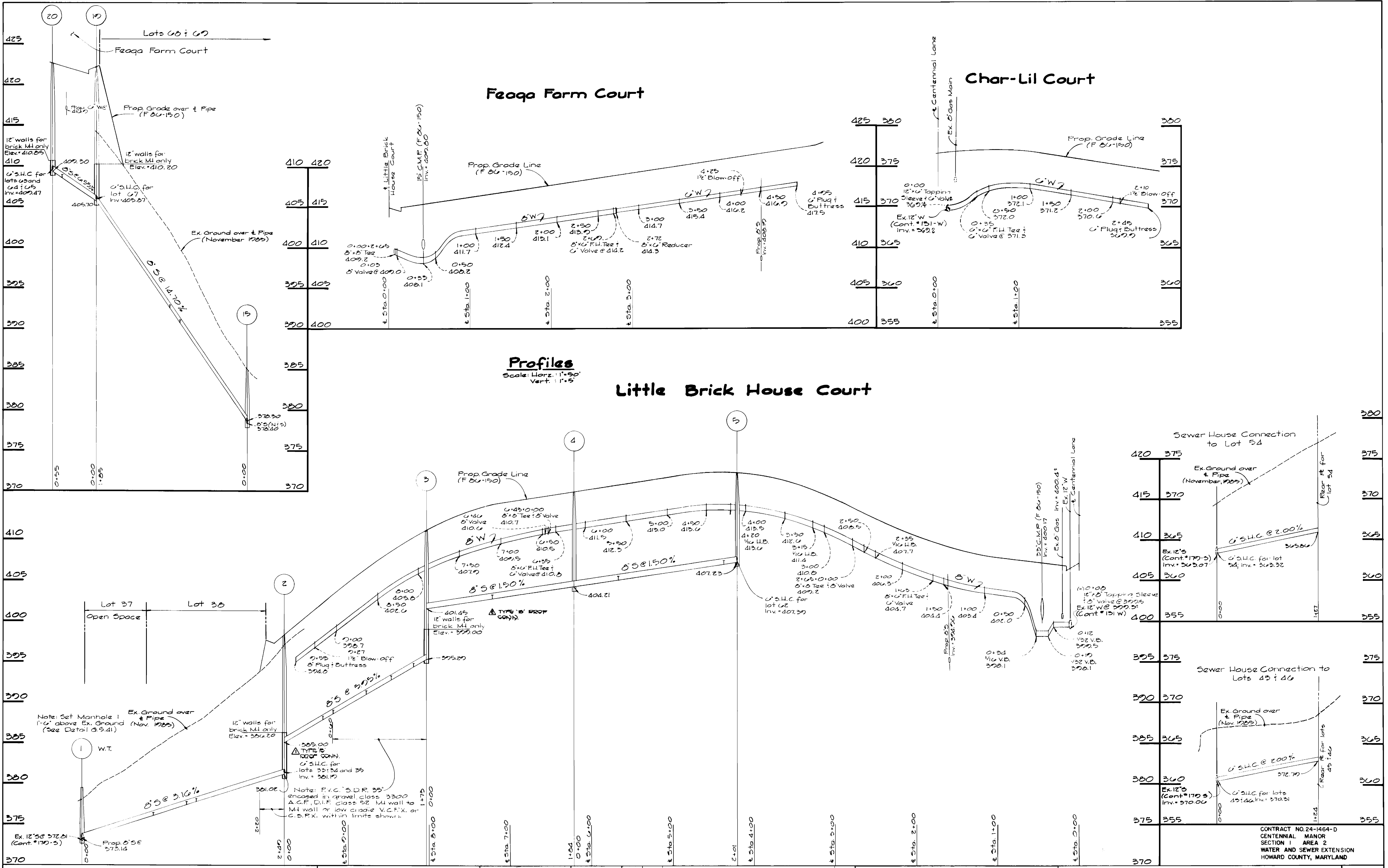
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| DRN: D.E.V. | | | | | |
| CHK: T.A.F. | | | | | |
| DATE: 3/13/86 | DN | BY | NO. | REVISION | DATE |
| | BY | NO. | REVISION | DATE | |

PLAN
WATER AND SEWER MAINS

60' SCALE MAP NO. 24 BLOCK NO. 7

CENTENNIAL MANOR
SECTION 1 AREA 2
CONTRACT NO. 24-1464-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 3



Profiles
Scale: Horiz. 1"=50'
Vert. 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Henry F. Nimmy
DIRECTOR OF PUBLIC WORKS
DATE: 5-1-85

Rodney B. Binger
CHIEF, BUREAU OF UTILITIES
DATE: 4-30-86

Wanda L. Fisher
CHIEF, LAND DEVELOPMENT DIVISION
DATE: 4-30-86

FISHER, COLLINS AND CARTER, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS

8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043

Terrill A. Fisher
DATE: 3/3/85

| | |
|--------------|----------------------------------|
| DES: D.E.V. | |
| DRN: D.E.V. | |
| CHK: T.A.F. | |
| DATE: 3/3/85 | |
| BY: NO. | REVISION |
| | ADD TYPE 'B' DROP CONN. AT M# 3. |
| | ADD TYPE 'B' DROP CONN. AT M# 6. |

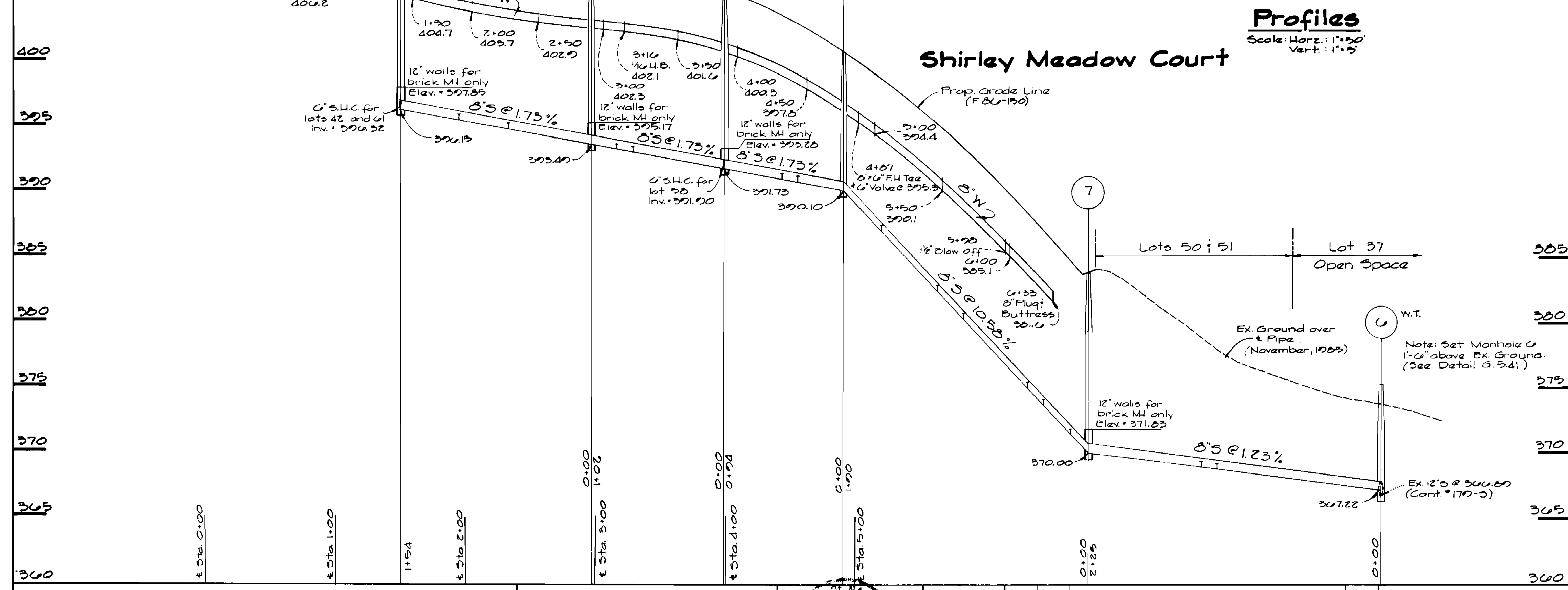
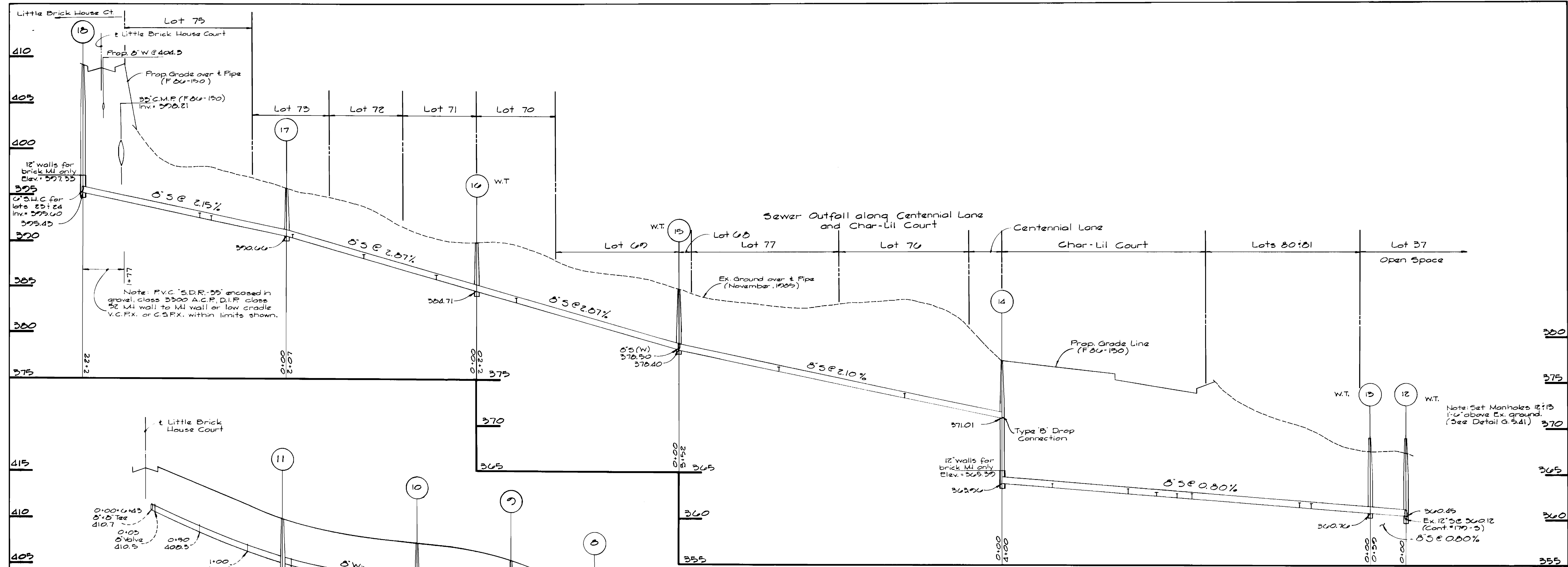
PROFILES
WATER AND SEWER MAINS

600' SCALE MAP NO. 24 BLOCK NO. 7

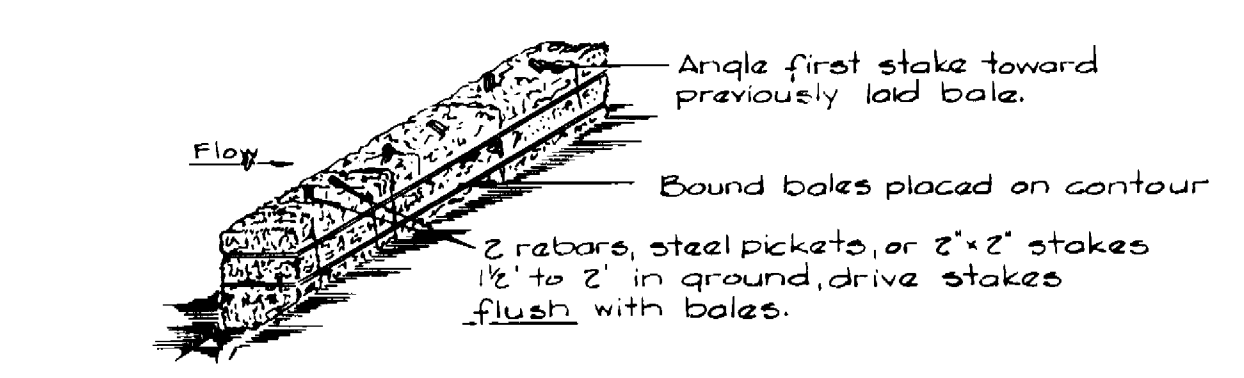
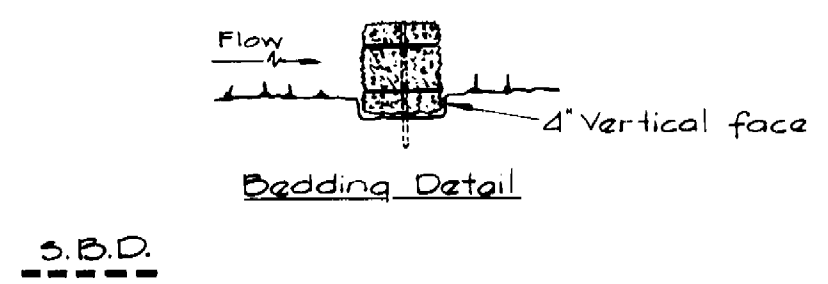
CENTENNIAL MANOR
SECTION 1 AREA 2
CONTRACT NO. 24-1464-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 5

AS-BUILT 313187



Profiles
Scale: Horiz.: 1"=50'
Vert.: 1"=5'



- Construction Specifications**
- Bales shall be placed at the toe of a slope and in a row with ends tightly abutting the adjacent bales.
 - Each bale shall be embedded in the soil a minimum of (4) inches, and placed so the bindings are horizontal.
 - Bales shall be securely anchored in place by either two stakes or re-bars driven through the bale. The first stake in each bale shall be driven toward the previously laid bale at an angle to force the bales together. Stakes shall be driven flush with the bales.
 - Inspection shall be frequent and repair replacement shall be made promptly as needed.
 - Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

Straw Bale Dike Detail
Not to Scale

CONTRACT NO. 24-1464-D
CENTENNIAL MANOR
SECTION 1 AREA 2
WATER AND SEWER EXTENSION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
5-1-86
4-30-86

FISHER, COLLINS AND CARTER, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
8388 COURT AVENUE
ELLCOTT CITY, MARYLAND 21043
TERRELL A. FISHER DATE

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|--------------|----|-----|----------|------|--|
| DES: D.E.V. | | | | | |
| DRN: D.E.V. | | | | | |
| CHK: T.A.F. | | | | | |
| DATE: 3/3/86 | BY | NO. | REVISION | DATE | |

PROFILES & DETAILS
WATER AND SEWER MAINS
600' SCALE MAP NO. 24 BLOCK NO. 7

CENTENNIAL MANOR
SECTION 1 AREA 2
CONTRACT NO. 24-1464-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 3 OF 5

AS-BUILT 3/31/87