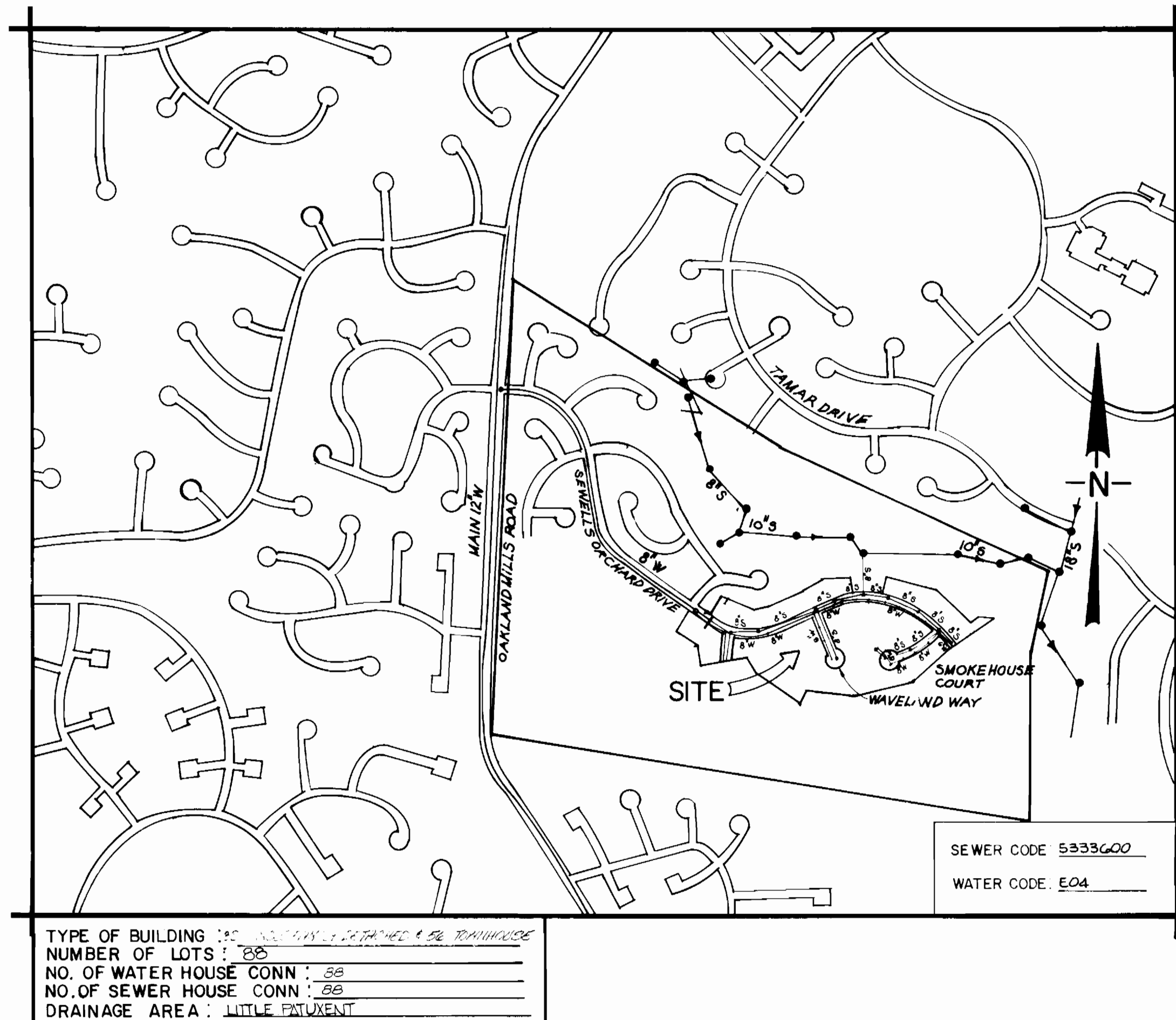


GENERAL NOTES

1. 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.
2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. ANY COST INCURRED TO THE CONTRACTOR FOR TUNNELING OR BRACING AT POLES SHALL BE INCLUDED IN UNIT PRICES BID FOR CONSTRUCTION OF THE MAIN.
6. FOR DETAILS NOT SHOWN ON THE DRAWINGS USE HOWARD COUNTY STANDARD DETAILS.
7. FOR MATERIAL AND CONSTRUCTION METHODS USE HOWARD COUNTY STANDARD SPECIFICATION.
8. CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN THE VICINITY OF PROPOSED UTILITIES AT HIS OWN EXPENSE.
9. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - BALTIMORE GAS & ELECTRIC COMPANY - UNDERGROUND GAS DISTRIBUTION CUSTOMER SERVICE: 685-0123
 - BALTIMORE GAS & ELECTRIC COMPANY - UNDERGROUND ELECTRIC DISTRIBUTION CUSTOMER SERVICE: 685-0123
 - ENGINEERING "DAMAGE CONTROL" 234-5621
 - "MISS UTILITY" 1-559-0100
 - CHESAPEAKE & POTOMAC TELEPHONE COMPANY: 725-9976
 - BUREAU OF UTILITIES - HOWARD COUNTY: 992-2366
10. TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
11. CONTRACTOR SHALL REMOVE TREES STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
12. PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
13. ALL SEWER MAINS SHALL BE ~~M.D.P.E.~~ C.S.P.X., ~~R.C.S.R.~~ P.V.C., V.C.P.X. OR A.C.P. CLASS 2400 UNLESS OTHERWISE NOTED.
14. CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALLS.
15. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER, UNLESS OTHERWISE NOTED.
16. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE BRICK MANHOLES ONLY.
17. ALL WATER MAINS TO BE C.I.P. OR D.I.P. UNLESS OTHERWISE NOTED.
18. TOP OF WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
19. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
20. BLOCK ALL FITTINGS WITH CONCRETE.
21. BURY LINE ELEVATIONS ON FIRE HYDRANTS SHALL BE SET TO THE 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 TO BE COMPACTED IN ACCORDANCE WITH SECTIONS 37.01 AND 37.05 THE STANDARD SPECIFICATIONS.
22. ALL WATER HOUSE CONNECTIONS SHALL BE FOR AN INSIDE METER SETTING.
23. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING SYSTEM.
24. 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 ABOVE IT.
25. MANHOLES LOCATED WITHIN PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAME AND COVER, STANDARD DETAIL G5.51.
26. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE.
27. FOR ALL COPPER WATER HOUSE CONNECTIONS UTILIZE FLARED TYPE FITTINGS ONLY.
28. STANDARD PAYMENT DEPTH FOR SANITARY MANHOLES = 8.0'

| QUANTITIES | | | |
|----------------|-----------|----------|-----------------|
| ITEM | EST'D | AS BUILT | SUPPLIER |
| 8" WATER | 2525 L.F. | 2180 | FLOW IND. |
| 6" WATER | 411 L.F. | 378 | FLOW IND. |
| FIRE HYD. | 5 | 5 | FLOW IND. |
| 1" WHC | 1688 L.F. | 674 | FLOW IND. |
| 3/4" WHC | 1483 L.F. | 1376 | FLOW IND. |
| 8" VALVES | 4 | 4 | FLOW IND. |
| 6" F.H. VALVES | 5 | 5 | FLOW IND. |
| 8" SEWER | 2101 L.F. | 2671 | LOGOUCRAY PROD. |
| 6" SEWER | 2047 L.F. | 1968 | LOGOUCRAY PROD. |
| MANHOLES | 15 | 15 | AIP WATER/SEWER |
| 6" VALVES | 1 | 1 | FLOW IND., INC. |



SEWELLS ORCHARD
SECTION 2 AREA 2
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
CONTRACT NO. 24 - 1152 - D

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH ARTICLE 15 OF THESE SPECIFICATIONS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F-83-30

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

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS
 APPROVED: *[Signature]* 11-23-83
 U. S. SOIL CONSERVATION SERVICE DATE

APPROVED: *[Signature]* 11-23-83
 HOWARD SOIL CONSERVATION DISTRICT DATE

CONTRACT NO. 24 - 1152 - D
 SECTION 2 AREA 2
 WATER AND SEWER EXTENSION
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 DIRECTOR OF PUBLIC WORKS: *[Signature]* 11-23-83
 CHIEF, BUREAU OF UTILITIES: *[Signature]* 11-23-83

EVANS, HAGAN & HOLDEFER, INC.
 ENGINEERS, PLANNERS & SURVEYORS.
 1052 WEST STEET / LAUREL, MD 20707
 (301) / 792-8086

| | | |
|-------|--------|--------------------------------|
| DES: | M.P. 2 | REVISE TO REMOVE PRIVATE DRIVE |
| DRN: | | |
| CHK: | | |
| DATE: | BY | NO. |
| | | REVISION |
| | | DATE |

COVER SHEET

WATER AND SEWER MAINS

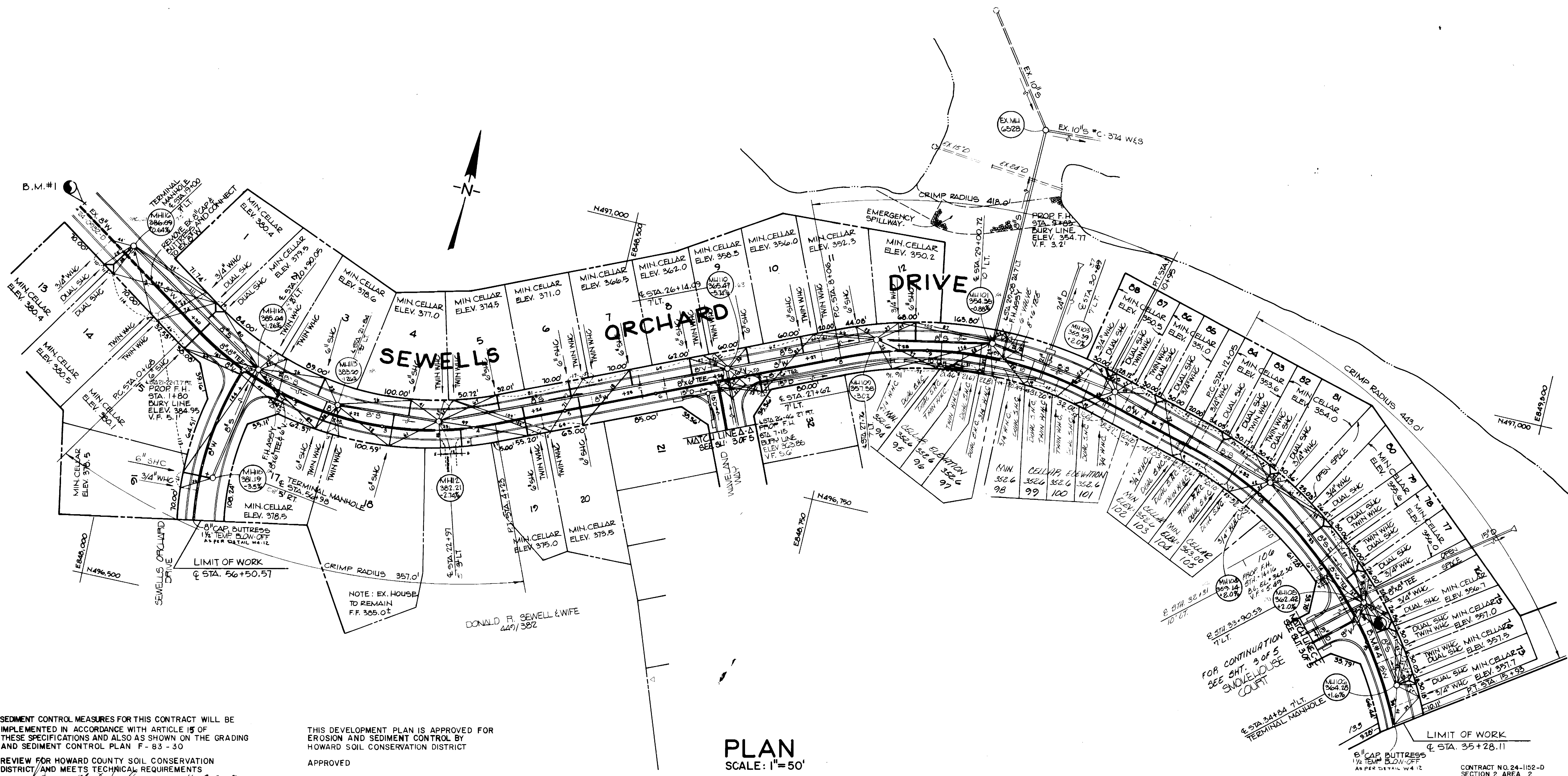
600' SCALE MAP NO. 36 BLOCK NO. 17

SEWELLS ORCHARD
SECTION 2 AREA 2
CONTRACT NO. 24 - 1152 - D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET 1 OF 5
 SCALE AS SHOWN

BENCH MARKS

- B.M. #1 395.44
P.I. SET AT INTERSECTION OF SEWELLS ORCHARD DRIVE & WHITE PEACH PLACE
- B.M. #2 364.57
HUB SET AT P.I. SMOKEHOUSE COURT
- B.M. #3 382.58
TRAVELER T-C P.A. SPIKE
- B.M. #4 359.45
HUB SET @ STA. 33+92.53 SEWELLS ORCHARD DRIVE + STA. 0+00 SMOKEHOUSE COURT



PLAN
SCALE: 1" = 50'

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH ARTICLE 15 OF THESE SPECIFICATIONS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F-83-30

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

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS
 U.S. SOIL CONSERVATION SERVICE DATE 11-23-93

APPROVED
 HOWARD SOIL CONSERVATION DISTRICT DATE

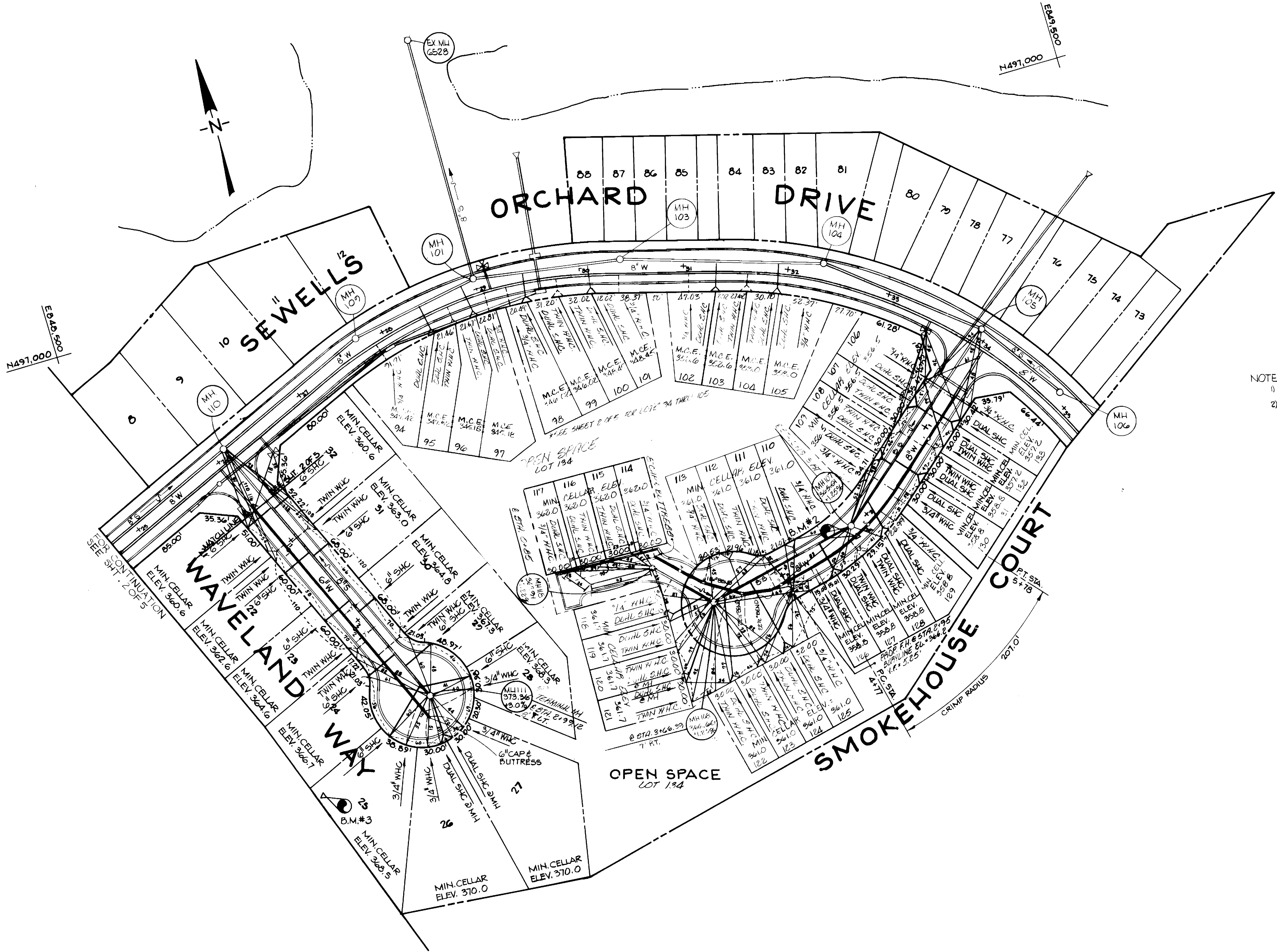
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works DATE 11-30-93
 Chief, Bureau of Utilities DATE

EVANS, HAGAN & HOLDEFER, INC.
 ENGINEERS, PLANNERS & SURVEYORS
 1052 WEST STREET / LAUREL, MD. 20707
 (301) / 792-8086

| | | | |
|-------|----------|---|------|
| DES: | M.J.P. 1 | REVISE EXISTING 15" D TO SHOW EX. 24" D | 8/84 |
| DRN: | M.J.P. 2 | REVISE TO SHOW NEW LOT LAYOUT | 4/84 |
| CHK: | | | |
| DATE: | BY NO. | REVISION | DATE |

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

CONTRACT NO. 24-1152-D
 SECTION 2 AREA 2
SEWELLS ORCHARD
 SECTION 2 AREA 2
 CONTRACT NO. 24-1152-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE AS SHOWN
 SHEET 2 OF 5



NOTES:
 1) FOR BENCH MARK INFORMATION SEE SLIT 2 OF 5.
 2) FOR UTILITY PLAN INFORMATION IN SEWELLS ORCHARD DRIVE SEE SLIT 2 OF 5.

PLAN
 SCALE: 1"=50'

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH ARTICLE 15 OF THESE SPECIFICATION AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F-83-30

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

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEET'S TECHNICAL REQUIREMENTS

APPROVED

U.S. SOIL CONSERVATION SERVICE DATE 11-23-83

HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works
 Chief, Bureau of Engineering
 Chief, Bureau of Utilities
 Chief, Land Development Division

EVANS, HAGAN & HOLDEFER, INC.
 ENGINEERS, PLANNERS & SURVEYORS
 1052 WEST STREET / LAUREL, MD. 20707
 (301) / 792-8086

| | | | |
|-------|----------|--|------|
| DES: | M.J.P. 2 | REVISED TO SHOW NEW LOT & UTILITY LAYOUT | 4/84 |
| DRN: | | | |
| CHK: | | | |
| DATE: | BY NO. | REVISION | DATE |

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

SEWELLS ORCHARD
 SECTION 2 AREA 2
 CONTRACT NO. 24-1152-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

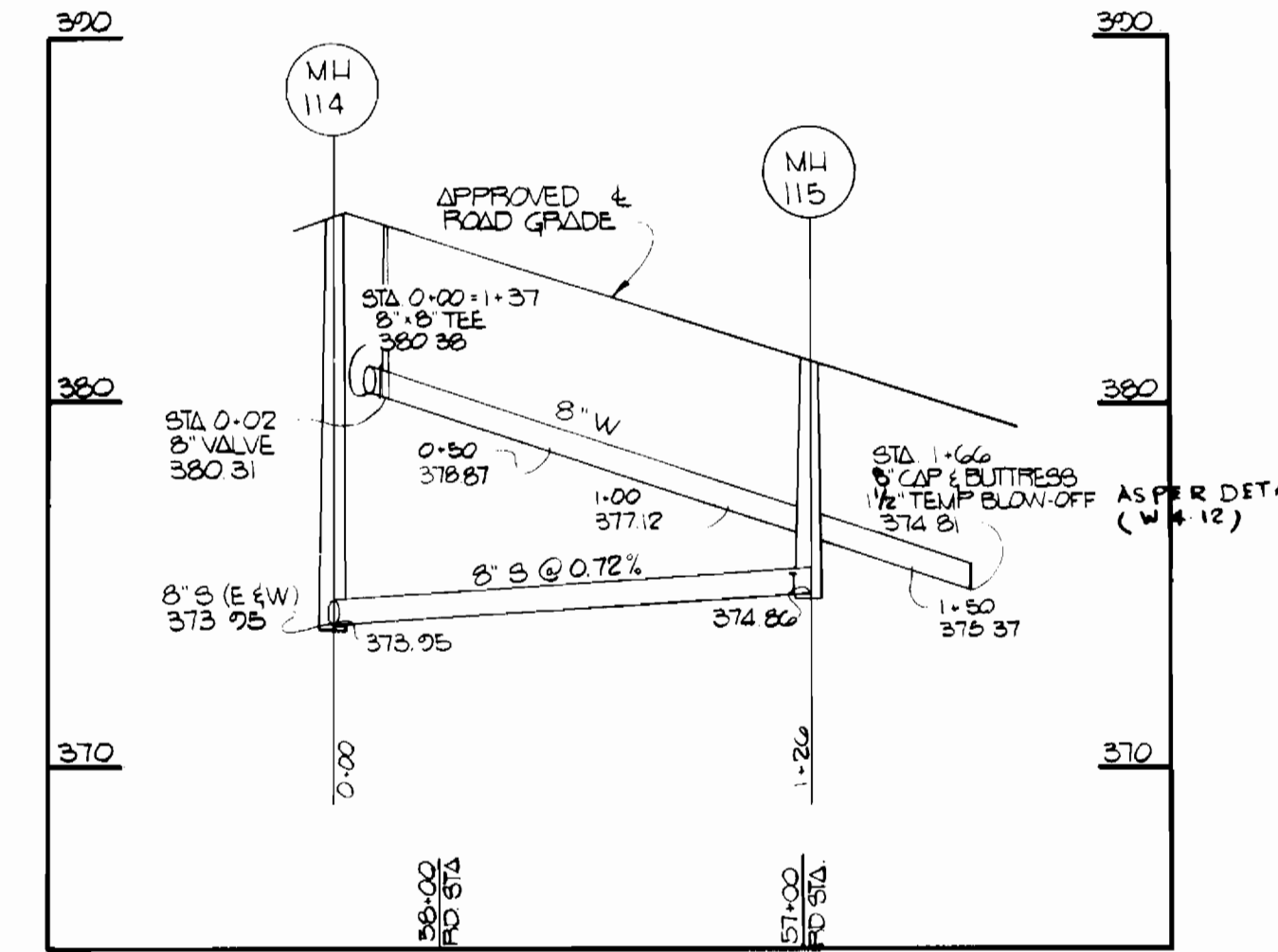
SCALE AS SHOWN
 SHEET 3 OF 5

SEWER HOUSE CONNECTIONS
INVERT ELEVATIONS AT PROPERTY LINES

| STATION | LOT | INVERT |
|----------------------------|-----------|--------|
| MANHOLE 114 TO MANHOLE 116 | | |
| 0+74 LT | 15 | 375.80 |
| 0+79 RT | 14 & 2 | 375.40 |
| MH 115 LT | 13 & 14 | 377.24 |
| MANHOLE 114 TO MANHOLE 115 | | |
| MH 115 RT | 16 | 375.40 |
| MANHOLE 113 TO MANHOLE 114 | | |
| 0+12 T | 7 | 374.18 |
| 0+24 RT | 3 | 374.02 |
| MANHOLE 112 TO MANHOLE 113 | | |
| 0+33 RT | 4 | 373.78 |
| 0+45 LT | 8 | 373.88 |
| MANHOLE 110 TO MANHOLE 112 | | |
| 0+35 RT | 5 | 372.53 |
| 1+04 RT | 7 | 371.08 |
| 1+44 LT | 21 | 364.70 |
| 1+72 RT | 23 | 364.94 |
| 2+25 LT | 25 | 368.6 |
| 2+50 RT | 25 | 369.86 |
| MANHOLE 110 TO MANHOLE 111 | | |
| 0+73 RT | 21 | 367.50 |
| 0+77 LT | 32 | 367.50 |
| 1+28 RT | 22 | 369.40 |
| 1+31 LT | 31 | 360.50 |
| 1+89 RT | 23 | 361.30 |
| 2+03 LT | 20 | 361.50 |
| 2+58 RT | 24 | 363.60 |
| 2+70 LT | 27 | 364.00 |
| 2+94 RT | 25 | 365.20 |
| 2+98 LT | 23 | 365.10 |
| MH 111 RT | 26 & 27 | 365.48 |
| MANHOLE 109 TO MANHOLE 110 | | |
| 0+19 | 11 | 349.30 |
| 0+80 | 10 | 351.70 |
| 1+40 | 9 | 364.07 |
| MANHOLE 101 TO MANHOLE 109 | | |
| 0+84 RT | 17 | 345.93 |
| 0+13 LT | 24 & 27 | 341.58 |
| 0+56 LT | 24 & 25 | 344.18 |
| MANHOLE 101 TO MANHOLE 103 | | |
| 0+48 RT | 26 & 29 | 342.52 |
| 1+10 RT | 100 & 101 | 345.35 |
| 1+26 LT | 88 & 87 | 345.93 |

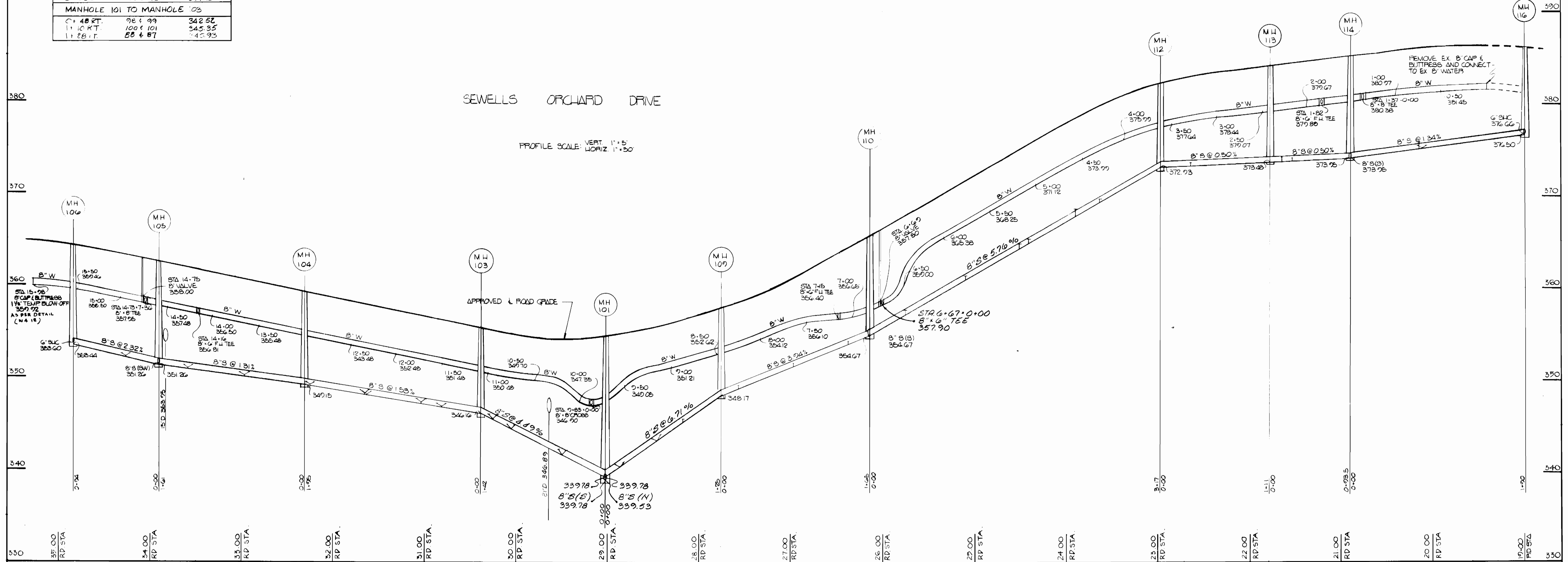
| STATION | LOT | INVERT |
|----------------------------|-----------|--------|
| MANHOLE 103 TO MANHOLE 104 | | |
| 0+46 LT | 85 & 86 | 347.85 |
| 0+92 RT | 102 & 103 | 348.17 |
| 1+29 LT | 83 & 84 | 348.55 |
| 1+51 RT | 104 & 105 | 349.08 |
| 1+90 LT | 81 & 82 | 349.59 |
| MANHOLE 104 TO MANHOLE 105 | | |
| 0+68 LT | 79 & 80 | 350.40 |
| 1+29 LT | 77 & 78 | 351.30 |
| MANHOLE 105 TO MANHOLE 107 | | |
| 0+90 LT | 138 & 133 | 358.35 |
| 0+95 RT | 106 & 107 | 358.10 |
| 1+50 LT | 130 & 131 | 352.67 |
| 1+55 RT | 108 & 109 | 352.38 |
| 1+97 LT | 128 & 129 | 352.95 |
| MANHOLE 107 TO MANHOLE 108 | | |
| 0+33 LT | 126 & 127 | 353.31 |
| 0+58 RT | 110 & 111 | 353.08 |
| 1+08 LT | 124 & 125 | 354.02 |
| 1+18 RT | 112 & 113 | 353.89 |
| 1+38 LT | 122 & 123 | 354.97 |
| MH 108 LT | 120 & 121 | 354.99 |
| MANHOLE 108 TO MANHOLE 118 | | |
| 0+10 LT | 118 & 119 | 354.30 |
| MH 118 RT | 114 & 115 | 354.60 |
| MH 118 LT | 116 & 117 | 355.80 |
| MANHOLE 105 TO MANHOLE 106 | | |
| 0+33 LT | 75 & 76 | 352.50 |
| MH 106 LT | 73 & 74 | 353.84 |

SEWELLS ORCHARD DRIVE



SEWELLS ORCHARD DRIVE

PROFILE SCALE: VERT. 1"=5'
HORIZ. 1"=30'



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 11-30-84
 Chief, Bureau of Engineering: *[Signature]* DATE: 11-30-84
 Chief, Land Development Division: *[Signature]* DATE: 11-30-84

EVANS, HAGAN & HOLDEFER, INC.
ENGINEERS, PLANNERS & SURVEYORS
1052 WEST STREET / LAUREL, MD. 20707
(301) / 792-8086

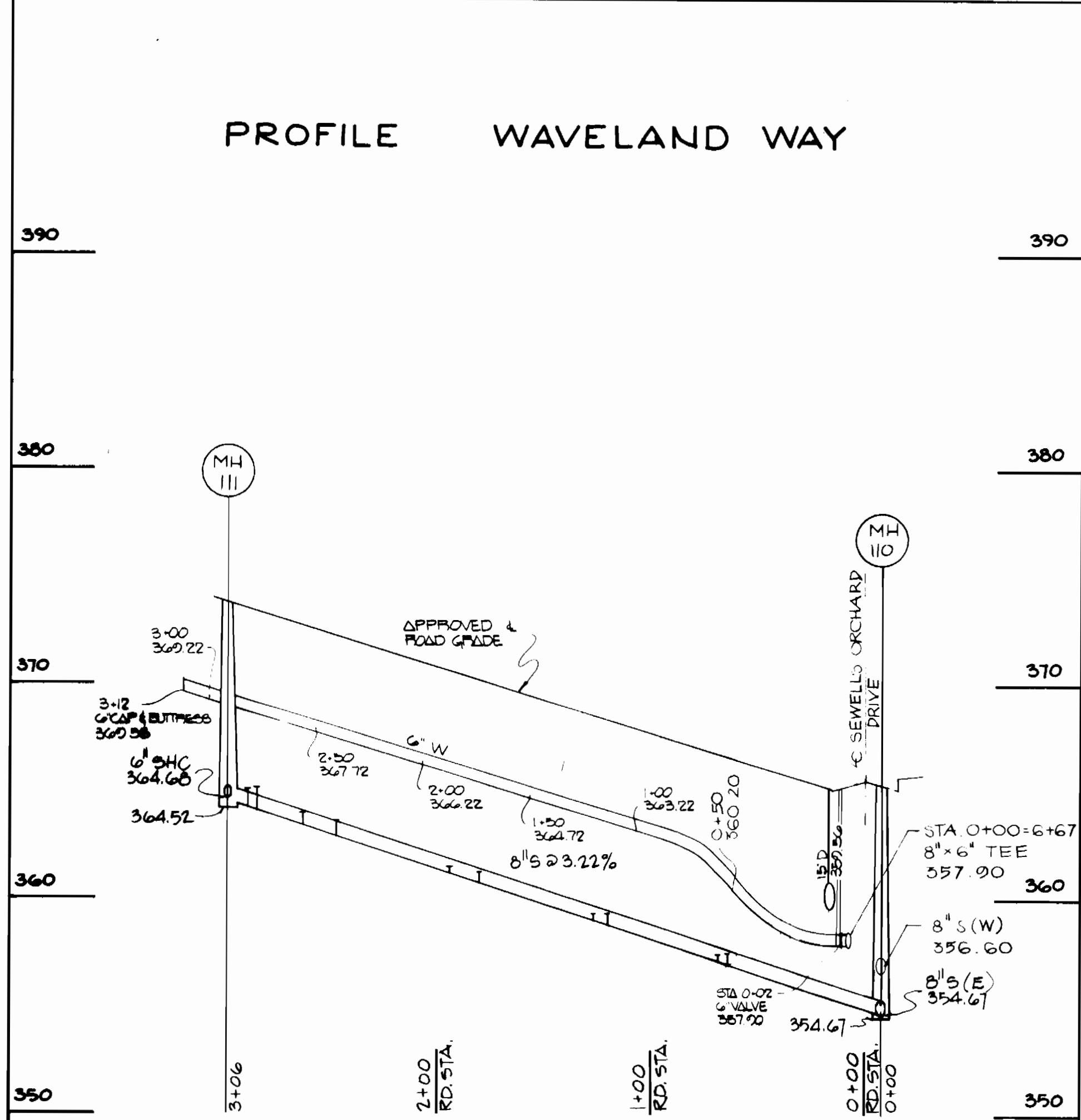
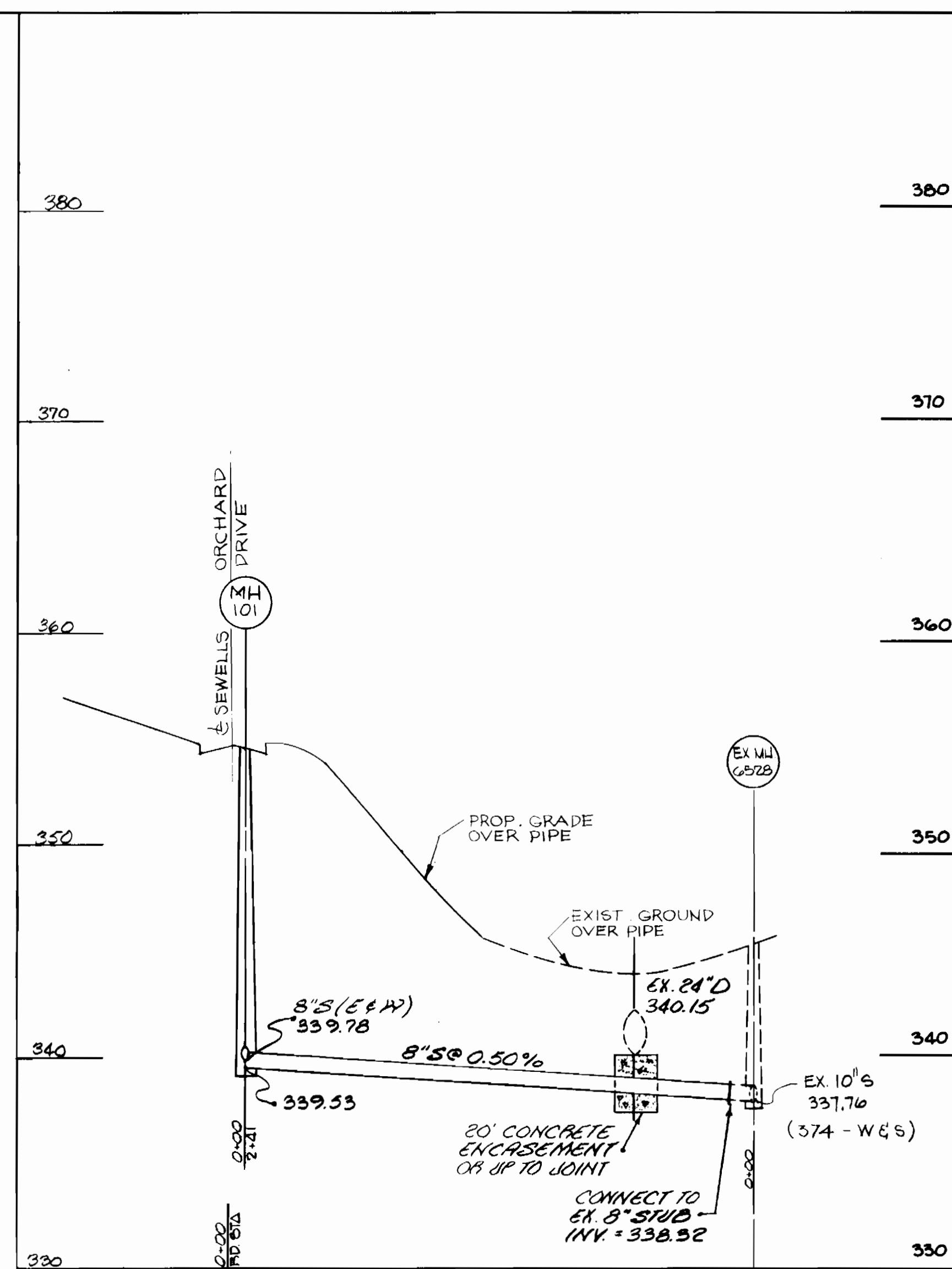
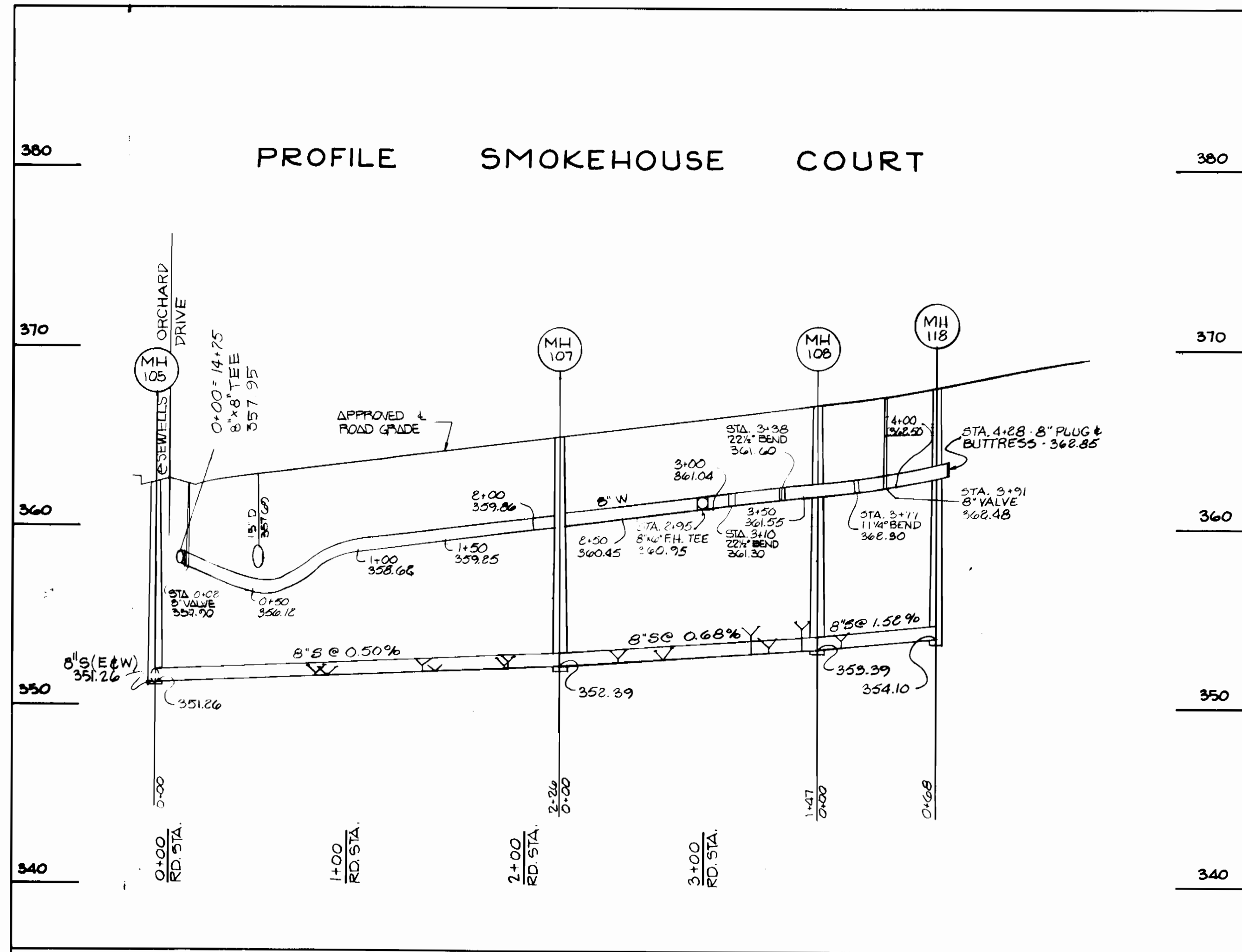
| | | | |
|-------|----------|--|----------|
| DES: | M.J.P. 1 | REVISE SEWER MH 103 TO MH 109 & MH 110 TO MH 116 | 2/84 |
| DRN: | M.J.P. 2 | REVISE SEWER HOUSE CONNECTION INVERTS | 4/84 |
| CHK: | | | |
| DATE: | BY | NO. | REVISION |

PROFILE
WATER AND SEWER MAINS

600' SCALE MAP NO. _____ BLOCK NO. _____

SEWELLS ORCHARD
SECTION 2 AREA 2
CONTRACT NO. 24-1152 D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 5



PROFILE SCALE: VERT. 1"=5'
HORIZ. 1"=50'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS
[Signature]
DATE: 11-30-83

CHIEF, BUREAU OF UTILITIES

CHIEF, BUREAU OF ENGINEERING
[Signature]
DATE: 11-30-83

CHIEF, LAND DEVELOPMENT DIVISION
[Signature]
DATE: 11-30-83

EVANS, HAGAN & HOLDEFER, INC.
ENGINEERS, PLANNERS & SURVEYORS
1052 WEST STREET / LAUREL, MD. 20707
(301) / 792-8086

| | | | |
|-------|----------|---|----------|
| DES: | M.J.P. 1 | REVISE SEWER EX. MH 6588 TO MH 102 | 6/84 |
| DRN: | M.J.P. 2 | REVISE SEWER & WATER PROFILES MH 105 TO MH 118 & REMOVED MH 102 TO MH 112 | 4/84 |
| CHK: | | | |
| DATE: | BY | NO. | REVISION |

PROFILE

WATER AND SEWER MAINS

600' SCALE MAP NO. _____ BLOCK NO. _____

SEWELLS ORCHARD
SECTION 2 AREA 2
CONTRACT NO. 24-1152 D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 5 OF 5

CONTRACT NO. 24-1152-D
SECTION 2 AREA 2
WATER AND SEWER EXTENSION
HOWARD COUNTY, MARYLAND