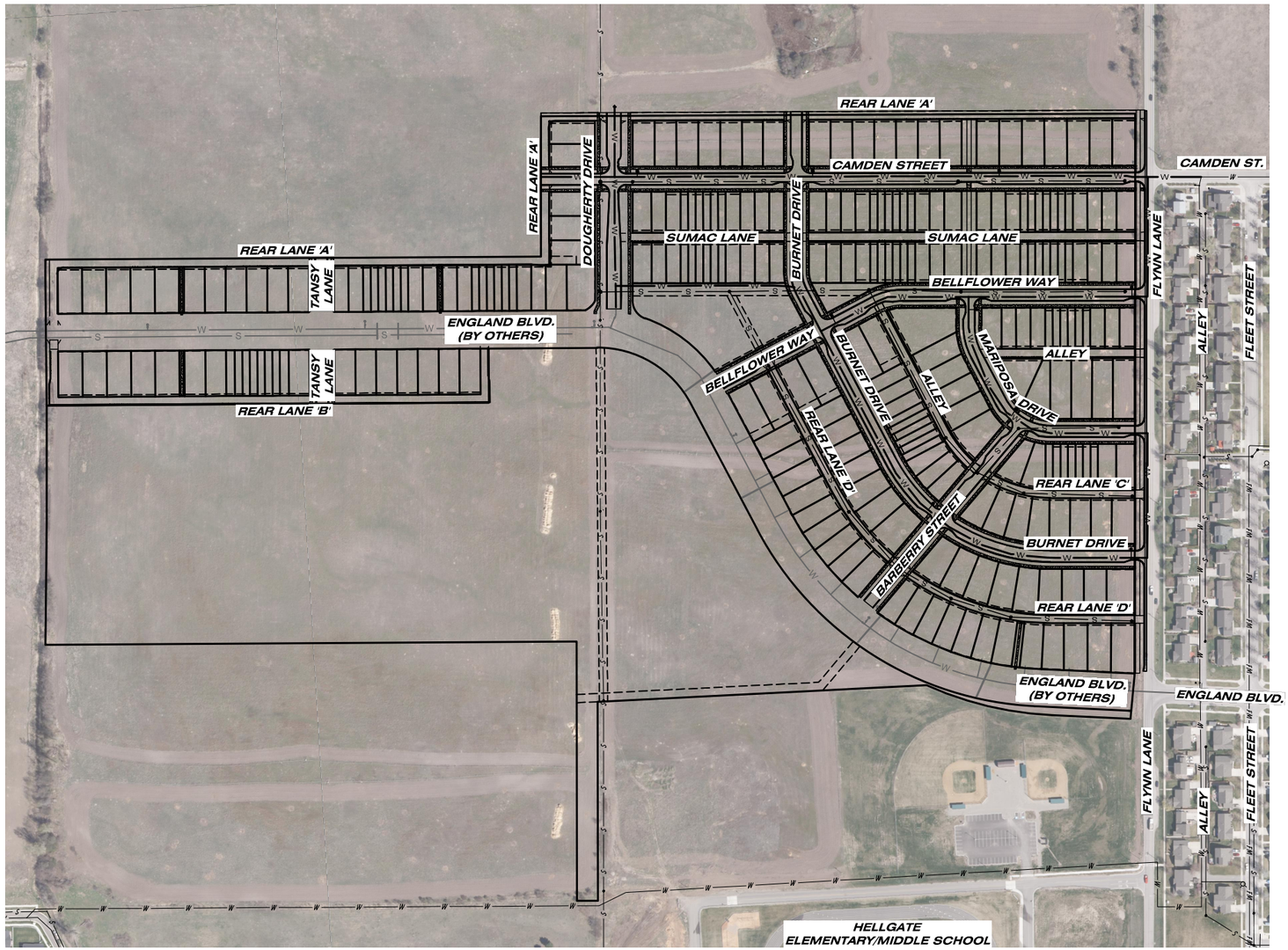
UTILITY CONSTRUCTION PLANS

LOCATED NEAR FLYNN LANE & ENGLAND BLVD.
LOCATED IN SEC. 7, T.13N., R.19W. & SEC. 12, T.13N., R.20W., P.M.M., MISSOULA COUNTY, MONTANA.



PRELIMINARY / STAGE 2 PLANS:

GENERAL NOTE: FINISHED GRADE AS SHOWN ON THESE PLANS IS PRELIMINARY (PRIMARILY SHOWN IN PROFILES). FINAL GRADING AND GRADING AT INTERSECTIONS HAS NOT OCCURRED YET AND IS SUBJECT TO CHANGE.

SEWER NOTE: MINIMUM BURY OF 4' WILL BE MAINTAINED. IF SEWER MAIN BURY IS LESS THAN 5' TO TOP OF PIPE, BLUEBOARD INSULATION WILL BE REQUIRED, BUT IS NOT CURRENTLY SHOWN AT THIS TIME AS GRADING (FINISHED GRADE) IS STILL CONSIDERED PRELIMINARY. THE APPROXIMATE 5' BURY ELEVATION FROM THE PRELIMINARY FINISHED GRADE IS SHOWN ON THE SEWER MAIN PROFILES TO HELP VISUALIZE AND IS BASED ON PRELIMINARY FINISHED GRADING ONLY.

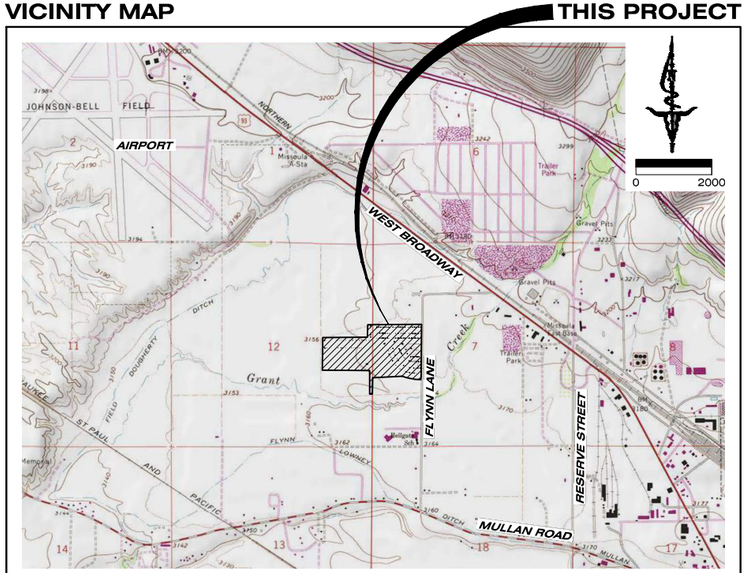
CALL UTILITY NOTIFICATION
CENTER OF MONTANA
1-800-424-5555
CALL FOR THE MARKING OF
UNDERGROUND UTILITIES
2 BUSINESS DAYS BEFORE
YOU DIG, GRADE, OR EXCAVATE

160 0 160 320
SCALE IN FEET

SHEET INDEX

DESCRIPTION	SHEET NO.
LEGENDS AND NOTES	SHEET 2 OF 25
INDEX SHEET - SEWER	SHEET 3 OF 25
INDEX SHEET - WATER	SHEET 4 OF 25
PLAN & PROFILE SHEETS - SEWER	SHEET 5-14 OF 25
PLAN & PROFILE SHEETS - WATER	SHEET 15-25 OF 25
DETAIL SHEETS	SHEET D1-D3 OF D3

VICINITY MAP — **THIS PROJECT**



MISSOULA, MISSOULA COUNTY

PROJECT STATUS		
THESE PLANS REQUIRE, AT A MINIMUM, APPROVAL FROM THE AGENCIES LISTED BELOW. THEREFORE , THE OWNER & CONTRACTOR ARE ADVISED THAT BIDS & CONTRACTS SHOULD NOT BE FINALIZED UNTIL INDICATED BELOW.		
AGENCIES REVIEW STATUS:	**REFERENCE #**	**APPROVAL DATE**
MONTANA DEPT. OF ENV. QUALITY	EQ#: XX-XXXX	
CITY OF MISSOULA DEV. SERVICES	XXXX-XXX	
PLAN SET IS READY FOR CONSTRUCTION	___YES _X_NO	
AS-BUILT DATE:_____ PROJECT HAS BEEN CONSTRUCTED IN GENERAL CONFORMANCE WITH THE ABOVE APPROVALS, STATED SPECIFICATIONS, AND SHOWN HERE IN, UNLESS OTHERWISE SPECIFIED.		
PROJECT NOTES:		

CITY OF MISSOULA CHECKLIST DATA	
LINEAR FOOTAGE OF SEWER GRAVITY MAINS ESTIMATED FOR CONSTRUCTION	
LINEAR FOOTAGE OF SEWER FORCE MAINS ESTIMATED FOR CONSTRUCTION	
NUMBER OF PROPOSED SEWER STUBS TO BE CONSTRUCTED	
LINEAR FOOTAGE OF WATER MAINS ESTIMATED FOR CONSTRUCTION	
NUMBER OF PROPOSED WATER STUBS TO BE CONSTRUCTED	

MISSOULA CITY PUBLIC WORKS STANDARDS & SPECIFICATIONS (MCPWSS) EDITION DEC. 2021

IMEG
1817 SOUTH AVE W, STE. A
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59801
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PLOT DATE: 7/14/2022 10:00 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

SHEET TITLE: UTILITY CONSTRUCTION PLANS COVER SHEET

PROJECT NO: 21000864

SHEET: 1 OF 25

STAGE 2

DWG LOCATION: P:\JOBS\PCTY\MISSOULA\21000864.00\DESIGN\CIVIL_DWG\PRINTING_DWG\WORKING\COVER.DWG

LEGEND

NOTE: ALL FEATURES SHOWN IN LEGEND MIGHT NOT BE PRESENT ON PLANS
ALL FEATURES SHOWN ON PLANS MIGHT NOT BE PRESENT IN LEGEND

EXISTING

- (E) PROPERTY BOUNDARY
- (E) ADJACENT PROPERTY BOUNDARY
- (E) LOT LINE
- (E) EASEMENT
- (E) WATER LINE
- (E) WATER SERVICE
- (E) SEWER LINE
- (E) SEWER SERVICE
- (E) SEWER FORCE MAIN
- (E) SEWER FORCE MAIN SERVICE
- (E) STORM DRAIN PIPE
- (E) OVERHEAD UTILITY
- (E) BURIED POWER
- (E) GAS LINE
- (E) TELEPHONE LINE
- (E) TELEVISION LINE
- (E) FIBER OPTIC LINE
- (E) ROAD CENTERLINE
- (E) FENCE LINE
- (E) DITCH
- (E) SWALE
- (E) IRRIGATION DITCH
- (E) IRRIGATION FORCE MAIN
- (E) STREAM
- (E) MAJOR CONTOUR
- (E) MINOR CONTOUR
- (E) ASPHALT
- (E) GRAVEL
- (E) CONCRETE
- (E) SEWER MANHOLE
- (E) SEWER CLEANOUT
- (E) SOIL PROFILE
- (E) PERCOLATION TEST
- (E) GROUNDWATER MONITORING
- (E) SEPTIC TANK
- (E) DRAINFIELD
- (E) WELL
- (E) FIRE HYDRANT
- (E) WATER METER
- (E) WATER VALVE
- (E) WATER BLOW-OFF
- (E) STORM DRAIN MANHOLE
- (E) CULVERT
- (E) CURB INLET
- (E) CATCH BASIN
- (E) SUMP
- (E) UTILITY MANHOLE
- (E) TELEPHONE JUNCTION BOX
- (E) POWER VAULT
- (E) TELEVISION JUNCTION BOX
- (E) ELECTRICAL TRANSFORMER
- (E) POWER METER
- (E) GAS METER
- (E) POWER POLE
- (E) GUY WIRE
- (E) LIGHT POLE
- (E) SIGN
- (E) MAILBOX
- (E) DECIDUOUS TREE
- (E) CONIFEROUS TREE
- (E) BUSH/ SHRUB

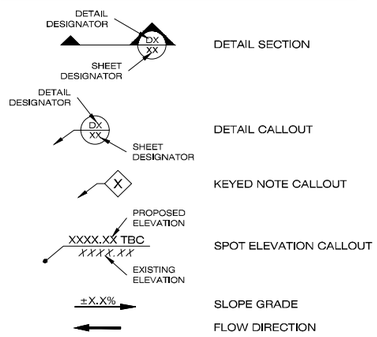
PROPOSED

- (P) PROPERTY BOUNDARY
- (P) EASEMENT
- (P) WATER LINE
- (P) WATER SERVICE
- (P) SEWER LINE
- (P) SEWER SERVICE
- (P) SEWER FORCE MAIN
- (P) SEWER FORCE MAIN SERVICE
- (P) STORM DRAIN PIPE
- (P) OVERHEAD UTILITY
- (P) BURIED POWER
- (P) GAS LINE
- (P) TELEPHONE LINE
- (P) TELEVISION LINE
- (P) FIBER OPTIC LINE
- (P) ROAD CENTERLINE
- (P) FENCE LINE
- (P) DITCH
- (P) SWALE
- (P) IRRIGATION FORCE MAIN
- (P) MAJOR CONTOUR
- (P) MINOR CONTOUR
- (P) ASPHALT
- (P) GRAVEL
- (P) CONCRETE
- (P) SEWER MANHOLE
- (P) SEWER CLEANOUT
- (P) SEPTIC TANK
- (P) DRAINFIELD
- (P) WELL
- (P) FIRE HYDRANT
- (P) WATER METER
- (P) WATER VALVE
- (P) REDUCER
- (P) THRUST BLOCK
- (P) WATER BLOW-OFF
- (P) STORM DRAIN MANHOLE
- (P) CULVERT
- (P) CURB INLET
- (P) CATCH BASIN
- (P) SUMP
- (P) UTILITY MANHOLE
- (P) LIGHT POLE
- (P) SIGN
- (P) MAILBOX
- (P) DECIDUOUS TREE
- (P) CONIFEROUS TREE
- (P) BUSH/ SHRUB

ABBREVIATIONS

(E)	EXISTING
ELEV	ELEVATION
EOA	EDGE OF ASPHALT
FG	FINISHED GRADE
FL	FLOWLINE
INV	INVERT
LF	LINEAR FOOT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
(P)	PROPOSED
PC	POINT OF CURVATURE
PT	POINT OF TANGENT
SIM	SIMILAR
STA	STATION
TBC	TOP BACK OF CURB
TOC	TOP OF CONCRETE
TYP	TYPICAL

SYMBOLS



GENERAL CONDITIONS OF CONSTRUCTION:

1. The Standard General Conditions of the Contract prepared by the Engineers Joint Contract Documents Committee (Copyright 2007), as included in Montana Public Works Standard Specifications, are herein referred to as the General Conditions within these Drawings. Copies of the General Conditions will be provided to Contractor upon written request to Engineer.
2. Wherever used in these Drawings, the terms, whether printed with initial capital letters or not, as listed in the Standard General Conditions of the Construction Contract (General Conditions), Article 1 - Definitions and Terminology, prepared by the Engineers Joint Contract Documents Committee (Copyright 2007) will have the meanings indicated, which are applicable to both the singular and plural thereof, except as follows:
   a. The Contract Documents shall mean the Drawings as shown in these plans and any applicable referenced standards, specifications, or laws.
   b. The Contract Price shall mean the moneys payable by Owner to Contractor for completion of the Work in accordance with the Agreement.
   c. The Contract Times shall mean the number of days or the dates stated in the Agreement to complete the Work so that it is ready for final payment. If no such dates are established, the Contract Time shall be 120 days to complete the Work.
   d. Effective Date of the Agreement shall have the meaning as listed in the General Conditions, Article 1. If no such Agreement exists, the Effective Date of the Agreement shall be the day the Contractor proceeds with the Work.
3. By proceeding with the Work as shown on these Drawings, the Contractor makes the following representations:
   a. Contractor has examined and carefully studied the Drawings and other related data.
   b. Contractor is familiar with and is satisfied as to all federal, state and local laws and Regulations that may affect cost, progress, performance and furnishing of the Work.
   c. Contractor has visited the site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, performance or furnishing of the Work.
   d. Contractor acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Drawings with respect to Underground Facilities at or contiguous to the site.
   e. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor including applying the specific means, methods, techniques, sequences and procedures of construction, if any, expressly required by the Drawings to be employed by the Contractor, and safety precautions and programs incident thereto.
   f. Contractor is aware of the general nature of work to be performed by Owner and others at the site that relates to the Work.
   g. Contractor has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Drawings and the written resolution thereof by Engineer is acceptable to Contractor.
   h. The Drawings are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
4. In resolving disputes resulting from conflicts, errors or discrepancies, the order of precedence shall be as follows, as applicable to this project: Written agreement between owner and contractor, specifications, Drawings. Within the Specifications, the order of precedence is as follows, as applicable to this project: Addenda/Change Orders, Contractor's Bid, Special Provisions, Instructions to Bidders, Supplemental General Conditions, Notice Inviting Bids, General Conditions, Technical Specifications, Referenced Standard Specifications. With reference to the Drawings, the order of precedence is as follows, as applicable to this project: Figures govern over scaled dimensions, Detail drawings govern over general drawings, Addenda/Change Order drawings govern over contract drawings, contract drawings govern over standard drawings, contract drawings govern over shop drawings.
5. If Contractor believes that any subsurface or physical condition at or contiguous to the Site that
   a. is uncovered or revealed either is of such a nature as to require a change in the Drawings; or
   b. differs materially from that shown or indicated in the Drawings; or
   c. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided in the drawings;

   then Contractor shall promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.
6. Section 2.06 of the General Conditions is hereby incorporated into these Drawings.
7. Section 3.03.A.2 of the General Conditions is hereby incorporated into these Drawings.
8. Section 3.05 of the General Conditions is hereby incorporated into these Drawings.
9. Section 3.06 of the General Conditions is hereby incorporated into these Drawings.
10. Section 4.05 of the General Conditions is hereby incorporated into these Drawings.
11. Section 6.01, 6.02.A, and 6.03 of the General Conditions are hereby incorporated into these Drawings.
12. Substitutes and "Or-Equals" items are subject to the provisions of the General Conditions, Section 6.05.
13. Section 6.13 of the General Conditions is hereby incorporated into these Drawings, except that Section 6.13.D shall be replaced with the following sentence.

    Contractor's duties and responsibility for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer and Owner, as applicable to the Work, have accepted that the work is complete.
14. Section 6.11, 6.14, 6.15, 6.16, 6.18, 6.19, 6.20, and 6.21 of the General Conditions are hereby incorporated into these Drawings.
15. Article 9 - Engineer's Status During Construction of the General Conditions is hereby incorporated into these Drawings, except as follows:
    a. Delete the last sentence of Section 9.05.A.
    b. Delete Section 9.06, 9.07, 9.08.B, 9.08.C, and 9.09.D.
16. Section 10.02 of the General Conditions is hereby incorporated into these Drawings.
17. Article 13 - Tests and Inspections, Correction, Removal or Acceptance of Defective Work of the General Conditions is hereby incorporated into these Drawings.

STANDARD SPECIAL PROVISIONS:

1. The Contractor shall be responsible for all permits, licenses and fees required for completion of this project unless specifically noted otherwise.
2. The Contractor shall provide the Owner with a 24 hour phone number of a party responsible and capable of immediate local response to emergency maintenance for the duration of the Work. Contractor shall provide the name of the responsible party and phone number in writing prior to proceeding with the Work.
3. Unless noted otherwise, the contractor shall be responsible for any necessary traffic control on and off-site including obtaining any applicable permits.
4. Material stockpiled along the project route shall be done so in a manner that does not affect public safety and is in a neat and orderly fashion.
5. The Contractor shall be responsible for disposing of all waste and excess materials such as, but not limited to: vegetation, trees, brush, asphalt, concrete, sub-grade soils, etc., offsite in accordance with local, state and federal laws. The Owner reserves the right to request certain waste materials to be stockpiled at a location on-site.
6. The contractor will be responsible to adhere to the MDEQ or EPA approved Storm Water Pollution Prevention Plan (SWPPP), if applicable to the project. The contractor is responsible for repairing any damage made to BMPs identified in the SWPPP. The approved Storm Water Pollution Prevention Plan will be provided by Owner to Contractor upon written request. If a SWPPP has not been prepared for the project, but is required by regulation, the Contractor is responsible for preparing and submitting a Notice of Intent and SWPPP.
7. The Contractor will be required to make every effort to immediately restore the construction area once the construction task is completed. All seeding shall be completed in accordance with MPWSS 02910. This includes such required activities as finish grading, spreading of topsoil, restoring irrigation, replacing traffic and street signs, etc. The contractor will have 48 hours to begin restoration once the construction task in the immediate area is complete. Once restoration is begun, it must be completed without interruption to the extent possible.
8. After all work on this project is completed and before final acceptance of the project, the entire project shall be neatly finished to the lines, grades, and cross sections shown on the plans and as hereinafter specified.
   a. Drainage facilities, such as inlets, catch basins, storm pipe, culverts, and curb and gutter shall be cleaned of all debris, gravel, silts or other foreign material.
   b. The Contractor shall remove and dispose of all construction stakes.
   c. All areas disturbed by the construction shall be shaped to present a uniform appearance blending into the contour of adjacent properties. All surface replacement and landscaping shall be completed.
   d. Except as otherwise permitted, all excess excavated materials shall be disposed of away from the site of the work.
   e. Broken concrete and other debris resulting from pavement or sidewalk removal, excavated rock in excess of the amount permitted, and other waste and debris encountered in excavated work, and other similar waste materials shall be disposed of away from the site.

   There will be no separate measurement or payment for cleanup, and all costs for such work shall be included in the Contract Price.
9. No on-site burning of waste materials will be allowed.
10. If a street has not been surfaced and cleaned, the Contractor shall be responsible for dust control and maintenance of the street. Also, if detours are made on a gravel road, the Contractor is responsible for dust control and maintenance on the detours. See "Air Quality" below also.
11. Daily street sweeping shall be completed on both ends of each street during construction. Unpaved detours or any other fugitive dust emission sources from construction and demolition should be watered and/or chemically stabilized so emissions are less than 20% opacity.

UTILITY NOTES:

1. The Contractor shall notify appropriate personnel for utility locations and notice of construction commencement at least two business days prior to proceeding with the Work. Before Contractor proceeds with the Work, a common locate service (One Call) is available at 1-800-424-5555. All Underground Facilities may not be located by the One Call service including but not limited to such Underground Facilities as irrigation systems, public and private water and sewer systems, etc.
2. The Contractor shall support and protect all exposed utilities in conformance with the utility owner's standards.
3. The information and data shown or indicated in the Drawings with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise noted:
   a. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or date; and
   b. The cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
      i. Reviewing and checking all such information and data,
      ii. Locating all Underground Facilities shown or indicated in the Drawings,
      iii. Coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and
      iv. The safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.
   c. At least 2 business days before beginning any excavation, the Contractor shall, according to MCA 69-4-501, notify all owners of underground facilities and coordinate the Work with the owners of such underground facilities. The information shown or indicated in the Drawings with respect to existing underground facilities is based on information and data obtained from the owners of the facilities without field exploration, and as such, Owner and Engineer are not responsible for the accuracy or completeness of such information or data.

SUBMITTALS, QUALITY CONTROL & ASSURANCE, INSPECTIONS, AND TESTING

1. Contractor is responsible to comply with the Contractor Quality Control and Owner Quality Assurance, Section 01400 MPWSS.
2. Contractor shall complete trench excavation and backfill in accordance with Section 02221 MPWSS.
3. The Contractor shall coordinate with Engineer to obtain samples of trench backfill material to be used on-site.
4. Contractor will be responsible for coordination with a material testing company of the Engineer's selection to complete compaction testing of trench backfill. Coordination includes updating appropriate personnel of the material testing company every day as to progress of work so adequate testing can be completed.
5. As-Builts: The Contractor will be required to prepare a set of detailed as-built drawings to be presented to the Engineer at the completion of the project. The as-built drawings shall be updated daily and reviewed weekly by the Project Engineer. As-built drawings shall include, but not limited to location/depths of wet utility (water, sewer, storm, etc.) mains and services, all other utilities, culverts, drainage structures, etc.
6. Service Ditch Cards: Contractor will be responsible for completing service ditch cards for all services (water, sewer, storm, etc.). Information on the ditch cards must be provided as directed by Engineer including lot number or building address served; as-built service connection location on the main relative to stationing on the Drawings; Contractor who made tap; date tap was made; distance from main to curb stop/fittings/appurtenances/etc.; size of tap on main; size and material of service; size and material of main that was connected to; depth of main at tap; location and type of bends along service line; location and depth of cleanouts; depth of service at curb stop. Engineer will provide Contractor with example ditch cards upon written request, but shall conform to public entity's template(s). One ditch card shall be completed for each service.
7. Sewer Main Testing: Sanitary sewer testing shall be completed in the presence of the Engineer. The contractor is responsible for coordinating with the Engineer to be present for sewer testing. Sanitary sewer testing shall include:
   a. leakage test using water or air test,
   b. deflection test,
   c. vacuum test of manholes,
   d. television inspection, and
   e. lamp test.
8. Sewer TV Testing: Television inspection shall be performed in accordance with MPWSS Section 02730. A device of known dimensions shall be drug along the bottom of the sewer pipe in front of the camera to provide a continuous visual reference of the depth of water ponds in the sewer pipe. The device shall be drug no more than four feet in front of the camera
9. Sewer Manholes Testing: Test manholes in accordance with ASTM C1244-93. Test method for concrete sewer manholes by the negative air pressure (vacuum) test. Vacuum test shall be completed by pulling a vacuum of 10" Hg (4.9 psi) and measuring the time it takes to drop to 9" Hg (4.4 psi). Test shall be completed on concrete surface and not on iron ring. The minimum acceptable time for an 8' or less deep manhole shall be 20 seconds. Five seconds shall be added to the minimum acceptable time for every two feet in depth beyond 8'.
10. Water Main Testing: Water testing shall be completed in the presence of the Engineer. The Contractor is responsible for coordinating with the Engineer to be present for water testing. Testing, cleaning, and disinfection of water mains, valves, and fittings shall be completed in accordance with MPWSS Section 02660, Part 3.4. Water testing procedure shall be as follows:
    f. Chlorination
    g. Flushing to reduce Chlorine residual to 0.5 ppm or less, or as otherwise approved by the engineer
    h. Bacteriological Test
    i. Hydrostatic and leakage testing
11. All infrastructure specifications and testing requirements shall be per Missoula City Public Works Standards & Specifications.

SEWER CONSTRUCTION NOTES:

1. All Work shall be in accordance with the Montana Public Works Standard Specifications (MPWSS) (Sixth Edition, dated April 2010) and Missoula City Public Works Standards & Specifications (MCPWSS) (edition labeled on cover sheet of plans). Sanitary Sewer Work shall conform to Section 02730 and any referenced specifications.
2. Invert elevations are provided from center of manhole, unless noted otherwise.
3. Manhole stations are provided from center of manhole, unless noted otherwise.
4. Sewer services shall be constructed and inspected per International Plumbing Code, City of Missoula, Missoula City-County Environmental Health Department, and Montana Department of Environmental Quality (MDEQ) regulations and standards.

WATER CONSTRUCTION NOTES

1. All Work shall be in accordance with the Montana Public Works Standard Specifications (MPWSS) (Sixth Edition, dated April 2010) and Missoula City Public Works Standards & Specifications (MCPWSS) (edition labeled on cover sheet of plans). Water Work shall conform to Section 02600 and any referenced specifications.
2. Stations are provided from center of bend, tee, or connection, unless noted otherwise.
3. Water services shall be constructed and inspected per Uniform Plumbing Code, City of Missoula Public Works, and Missoula Water.
4. Water services (new or swaps/replacements) shall only be completed after water main has been installed, completed, tested and certified by Missoula Water, City of Missoula, and the Engineer of Record.

CONSTRUCTION STAKING

1. The owner will provide construction staking one time. Additional staking will be the responsibility of the contractor for scheduling and payment.
2. Contractor is responsible to coordinate and request staking at least two days in advance, unless otherwise agreed upon in writing by Engineer.
3. Staking will be provided as follows:
   a. Bends, Tees/Connections, and Hydrants: Center of structure and two offset stakes.
   b. Water Main: Hub offset set at 25' stations. Offset distance and side of trench as requested by Contractor in writing to engineer.
4. Cut sheets will be provided to the contractor with elevation from hub to top of pipe elevation.
5. Engineer does not consider staking to be complete and ready for use until cut sheets have been delivered to Contractor.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

1. SWPPP Administrator shall turn in SWPPP reports generated from the beginning of construction to date that As-Builts are turned into Engineer. Engineer in turn submits SWPPP reports to City Engineering as part of As-Built documentation.
2. SWPPP Administrator is required to renew City SWPPP permit annually unless the site has been stabilized, SWPPP Administrator will submit any remaining SWPPP reports to City Engineering when filing for Notice of Termination.

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MISSOULA, MT
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FAX: 406.721.5224
www.imegcorp.com

PLOT DATE: 7/14/2022 10:00 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR. 2022

LOCATION: TRACT D & E OF COS 6850
S 7, T13N., R19W., & S 12, T13N., R20W.
SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

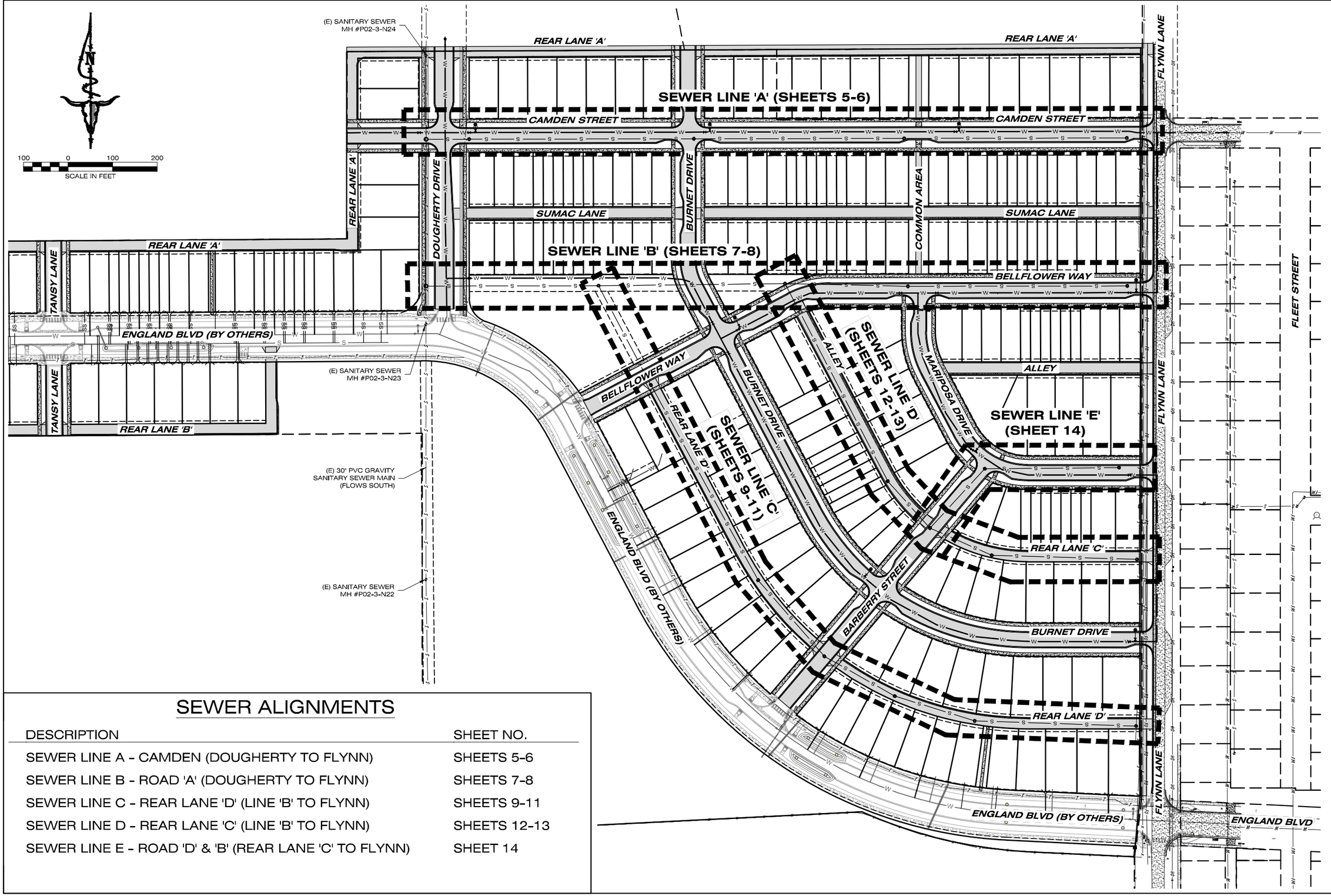
SHEET TITLE: UTILITY CONSTRUCTION PLANS
LEGEND AND NOTES SHEET

PROJECT NO. 21000864

SHEET: 2 OF 25

STAGE 2

DWG LOCATION: J:\PLS\ACTIVE\21000864\CIVIL\PLOT\210008640A1ARCH.D_DAVIS.DWG, 7/14/2022 10:00:39 AM, DAVIS,



SEWER ALIGNMENTS

DESCRIPTION	SHEET NO.
SEWER LINE A - CAMDEN (DOUGHERTY TO FLYNN)	SHEETS 5-6
SEWER LINE B - ROAD 'A' (DOUGHERTY TO FLYNN)	SHEETS 7-8
SEWER LINE C - REAR LANE 'D' (LINE 'B' TO FLYNN)	SHEETS 9-11
SEWER LINE D - REAR LANE 'C' (LINE 'B' TO FLYNN)	SHEETS 12-13
SEWER LINE E - ROAD 'D' & 'B' (REAR LANE 'C' TO FLYNN)	SHEET 14

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59801
PH: 406.721.0142
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PLOT DATE: 7/14/2022 10:55 AM

REVISIONS
STAGE 2 REVISIONS — DATE 07/01/2022
STREET NAMES — 07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
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LOCATION: TRACT D & E OF COS 6850
S 7, T13N., R19W., & S 12, T13N., R20W.
SIXVITPQYEN NEIGHBORHOOD
MISSOULA COUNTY, MONTANA

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

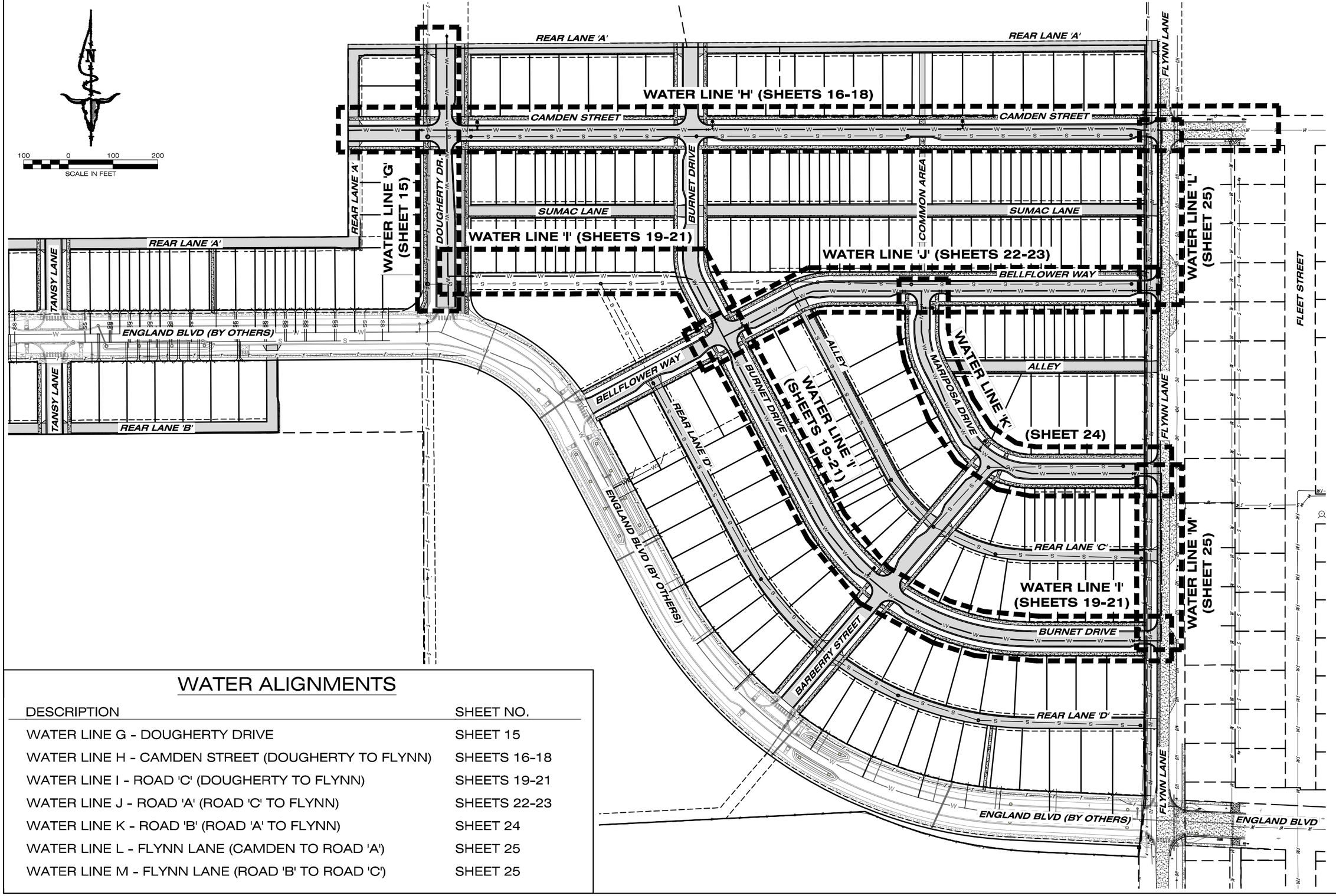
SHEET TITLE: UTILITY CONSTRUCTION PLANS
INDEX SHEET - SEWER

PROJECT NO: 21000864

SHEET: 3 OF 25

STAGE 2

DWG LOCATION: N:\MEA\CIVIL\PROJECTS\2021\21000864.000\DESIGN\CIVIL\3_SHAPING\N_SHAPING\MASTER\CAD\PLAN SETS\UTILITY SEWER\N-MAIN-NEW\PLSWR-21000864.DWG



WATER ALIGNMENTS

DESCRIPTION	SHEET NO.
WATER LINE G - DOUGHERTY DRIVE	SHEET 15
WATER LINE H - CAMDEN STREET (DOUGHERTY TO FLYNN)	SHEETS 16-18
WATER LINE I - ROAD 'C' (DOUGHERTY TO FLYNN)	SHEETS 19-21
WATER LINE J - ROAD 'A' (ROAD 'C' TO FLYNN)	SHEETS 22-23
WATER LINE K - ROAD 'B' (ROAD 'A' TO FLYNN)	SHEET 24
WATER LINE L - FLYNN LANE (CAMDEN TO ROAD 'A')	SHEET 25
WATER LINE M - FLYNN LANE (ROAD 'B' TO ROAD 'C')	SHEET 25

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MISSOULA, MT
59801
PH: 406.721.0142
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www.imegcorp.com

PLOT DATE: 7/14/2022 10:01 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SWTPOYEN NEIGHBORHOOD MISSOULA COUNTY, MONTANA

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

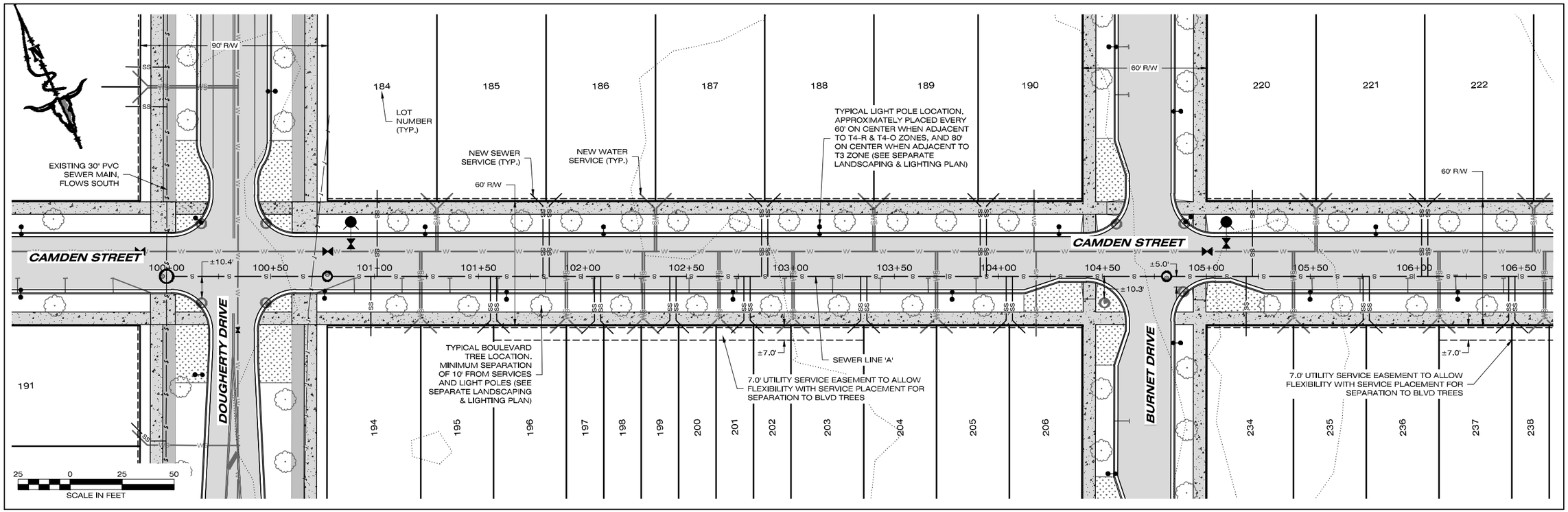
SHEET TITLE: UTILITY CONSTRUCTION PLANS INDEX SHEET - WATER

PROJECT NO. 21000864

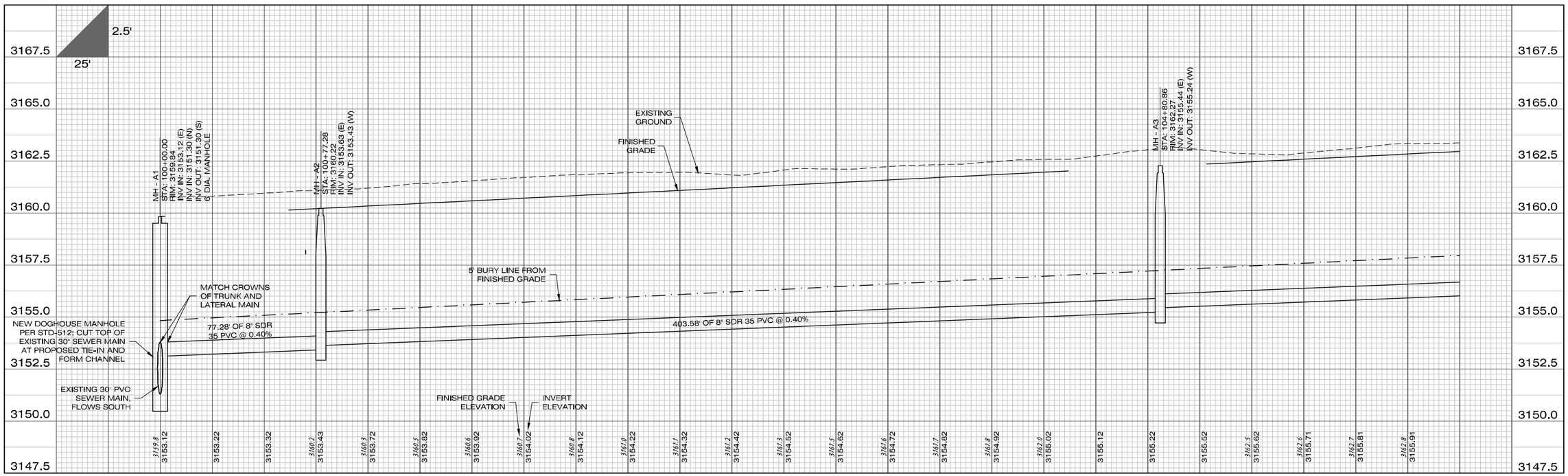
SHEET: 4 OF 25

STAGE 2

SAVED LOCATION: J:\PROJECTS\EPROJECTS\2021\21000864.SOLIDWORKS\CIVIL\3_DRAWINGS\AUTOCAD\PLAN SETS\UTILITY SS\SHEETS\21000864-UTILITY PLAN SHEETS.DWG



PLAN VIEW



PROFILE VIEW

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1817 SOUTH AVE W, STE. A
MISSOULA, MT
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PH: 406.721.0142
FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:01 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850
S 7, T13N., R19W., & S 12, T13N., R20W.
SWWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

WEST END HOMES

PROJECT NAME

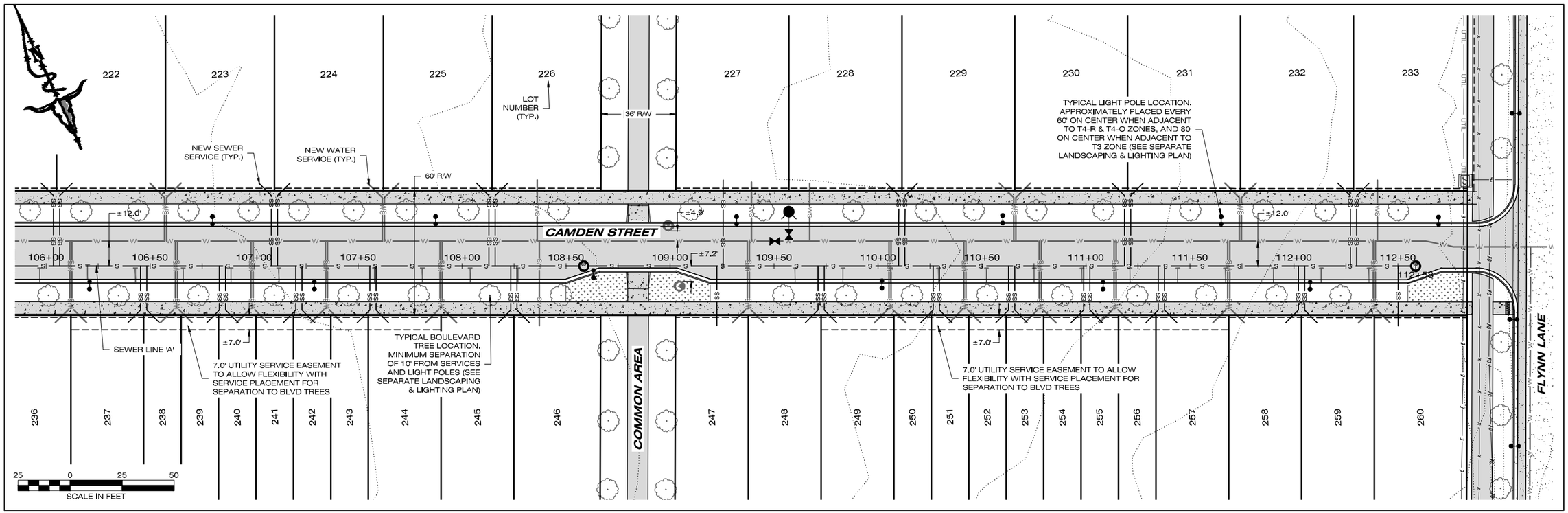
SHEET TITLE: UTILITY CONSTRUCTION PLANS
SEWER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

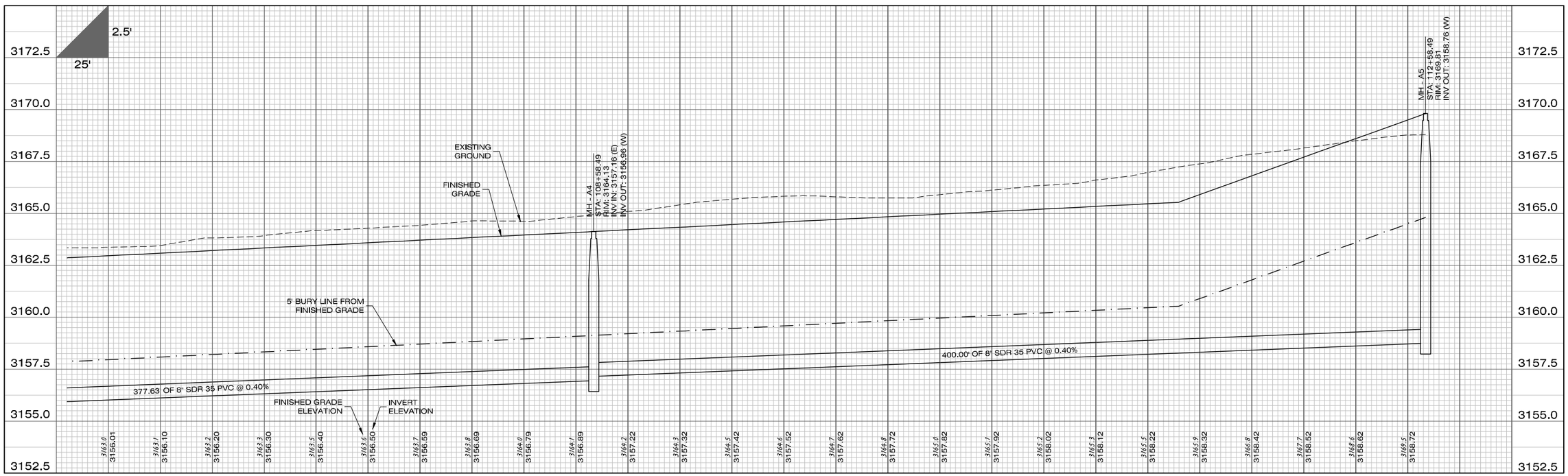
SHEET: 5 OF 25

STAGE 2

END LOCATION: P:\FILES\ACTIVE\PROJECTS\2021\21000864.02\DESIGN\CIVIL_DRAWINGS\AUTOCAD\PLAN SETS\UTILITY (SEWER+WATER)\PFX_SWW-21000864.DWG



PLAN VIEW



PROFILE VIEW

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MISSOULA, MT
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PH: 406.721.0142
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PLOT DATE: 7/14/2022 10:01 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SW/WPQ/EN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

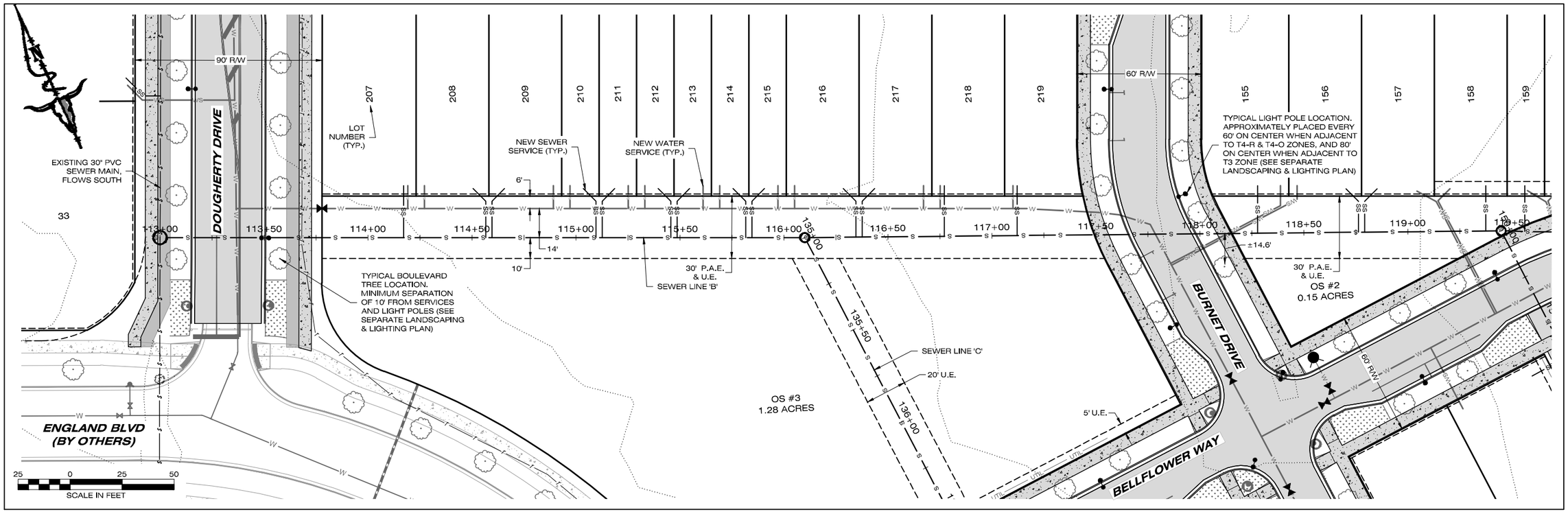
SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

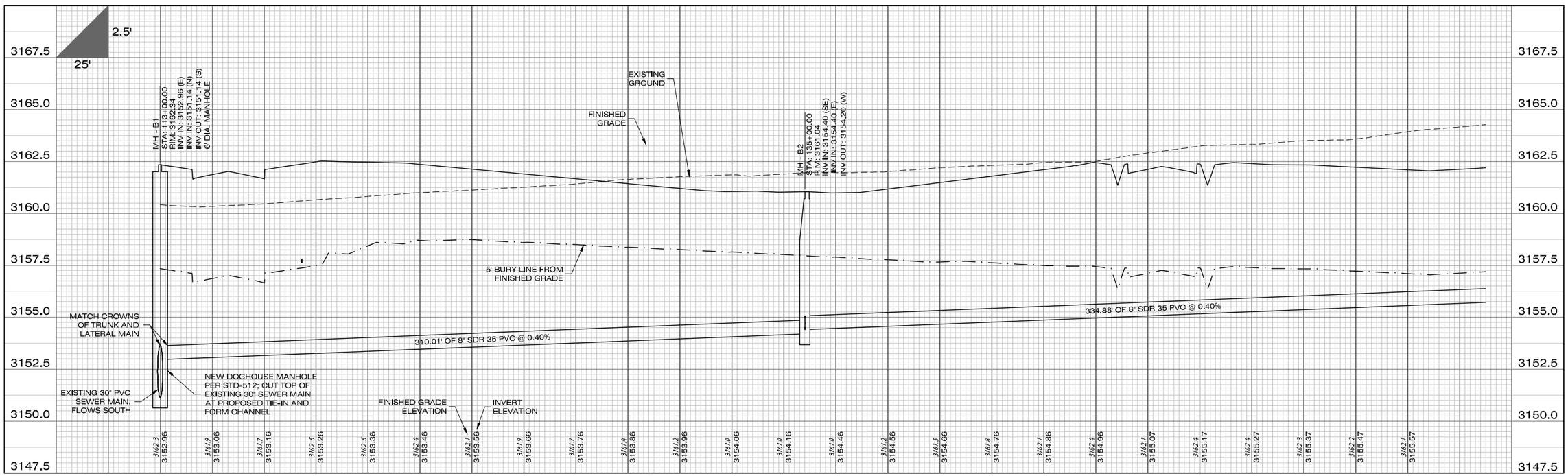
SHEET: 6 OF 25

STAGE 2

END LOCATION: P:\LES\ACTIVE\PROJECTS\2021\210008\4.0\CAD\SHEETS\210008-UTILS_LPAVING\PAVING_LPAVING\AUTOCAD\PLAN SETS\UTILITY (SEWER+WATER)\PVPL_SWW-210008A.DWG



PLAN VIEW



PROFILE VIEW

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FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:01 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SW/TPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

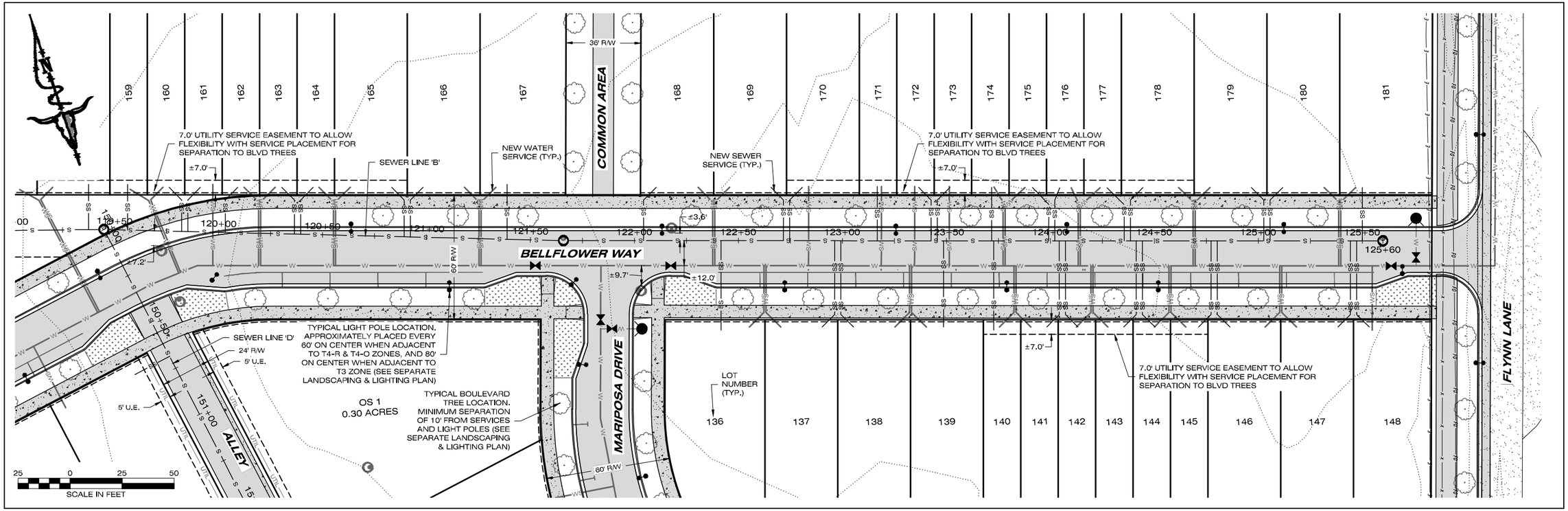
SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

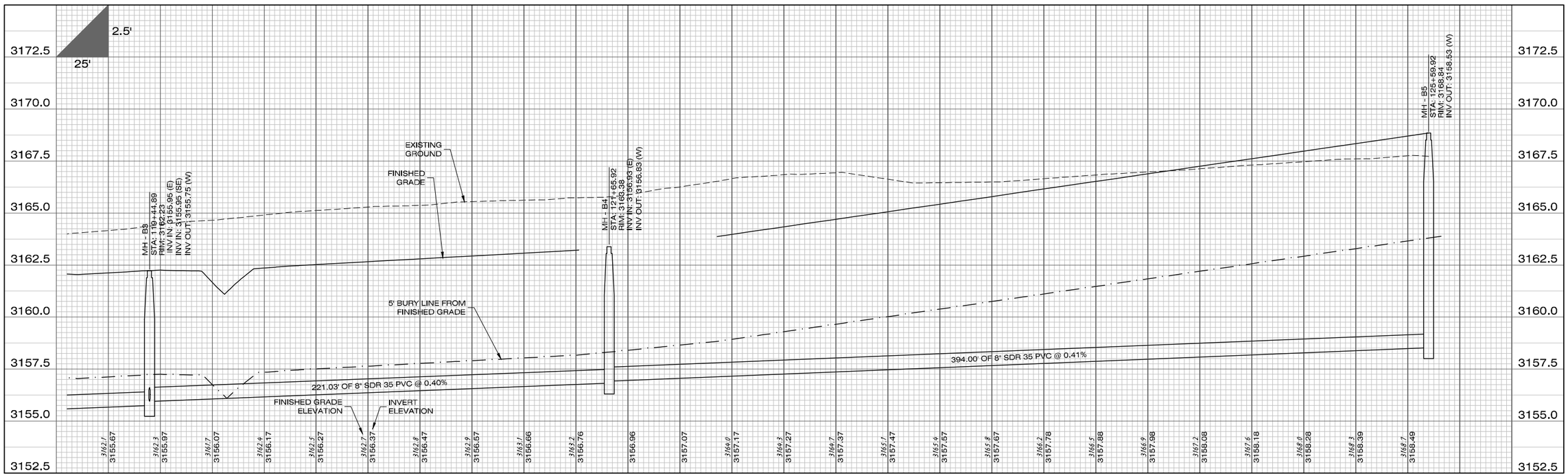
SHEET: 7 OF 25

STAGE 2

END LOCATION: P:\LES\ACTIVE\PROJECTS\2021\21000864.02\DESIGN\CIVIL_DWG\PW\PW01_DRAWING\AUTOCAD\PLAN SETS\UTILITY (SEWER+WATER)\PW01_SWW-07000864.DWG



PLAN VIEW



PROFILE VIEW

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PLOT DATE: 7/14/2022 10:52 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SW/TPQ/EN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

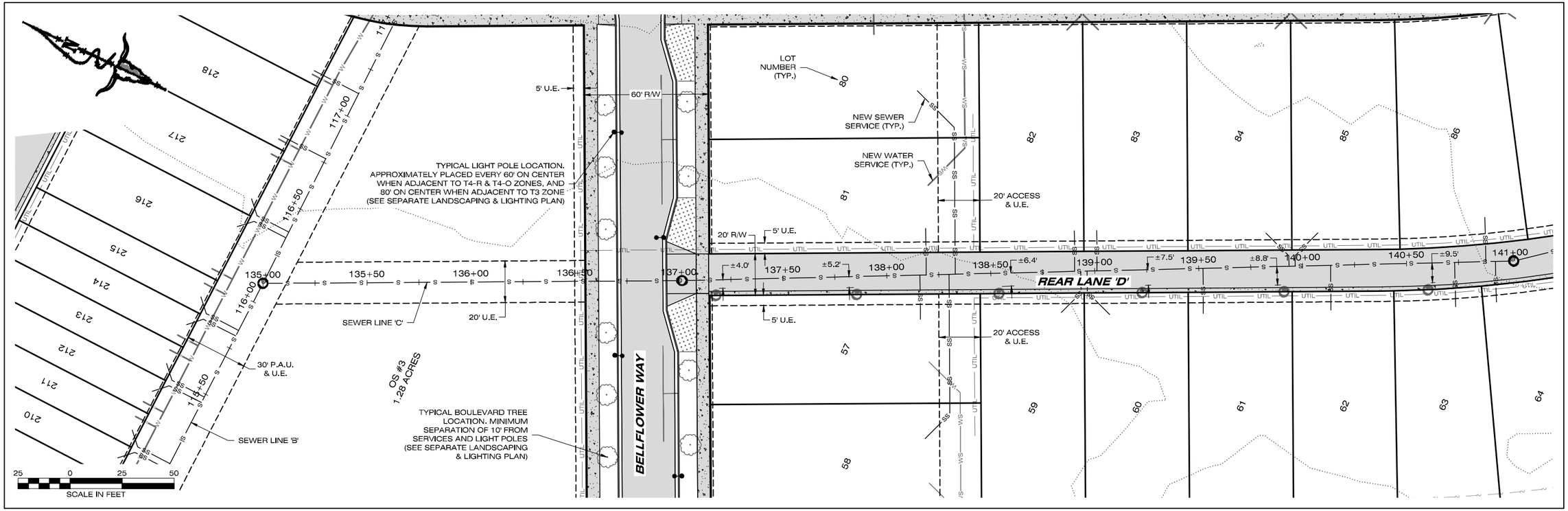
SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

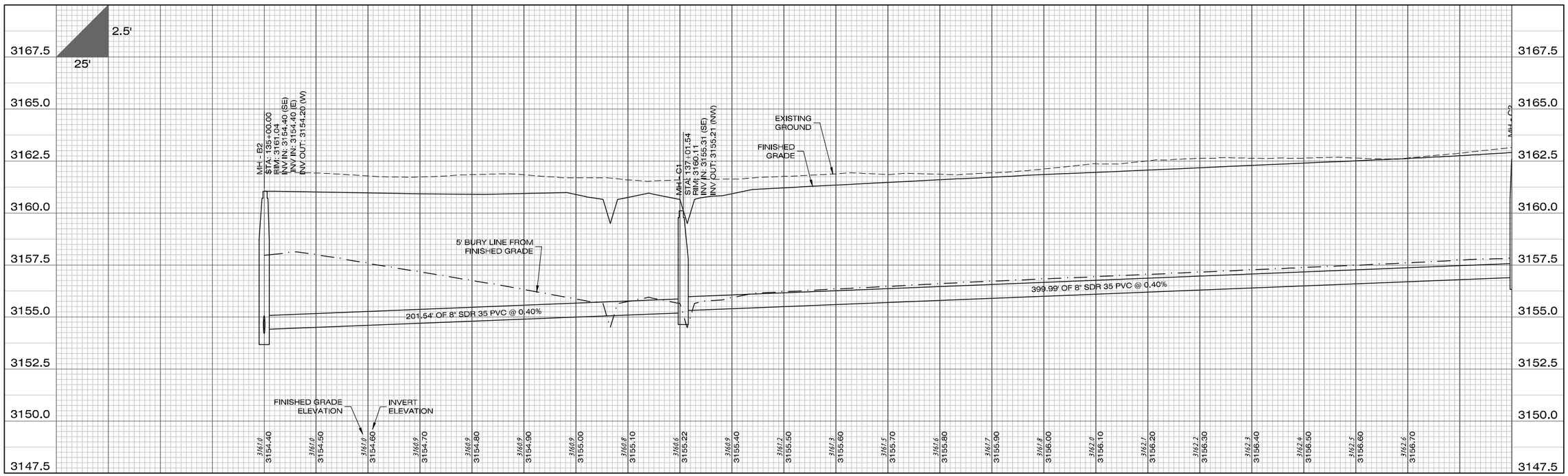
SHEET: 8 OF 25

STAGE 2

END LOCATION: I:\FILES\ACTIVE\P0000\P0021\21000864.02\DESIGN\CIVIL\3_DWG\PW\PW01_DRAWING\AUTOCAD\PLAN SET\UTILITY ISSUE\PW-PLAN EB\PW-PLAN_SWM-21000864.DWG



PLAN VIEW



PROFILE VIEW

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PLOT DATE: 7/14/2022 10:52 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SW/TPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

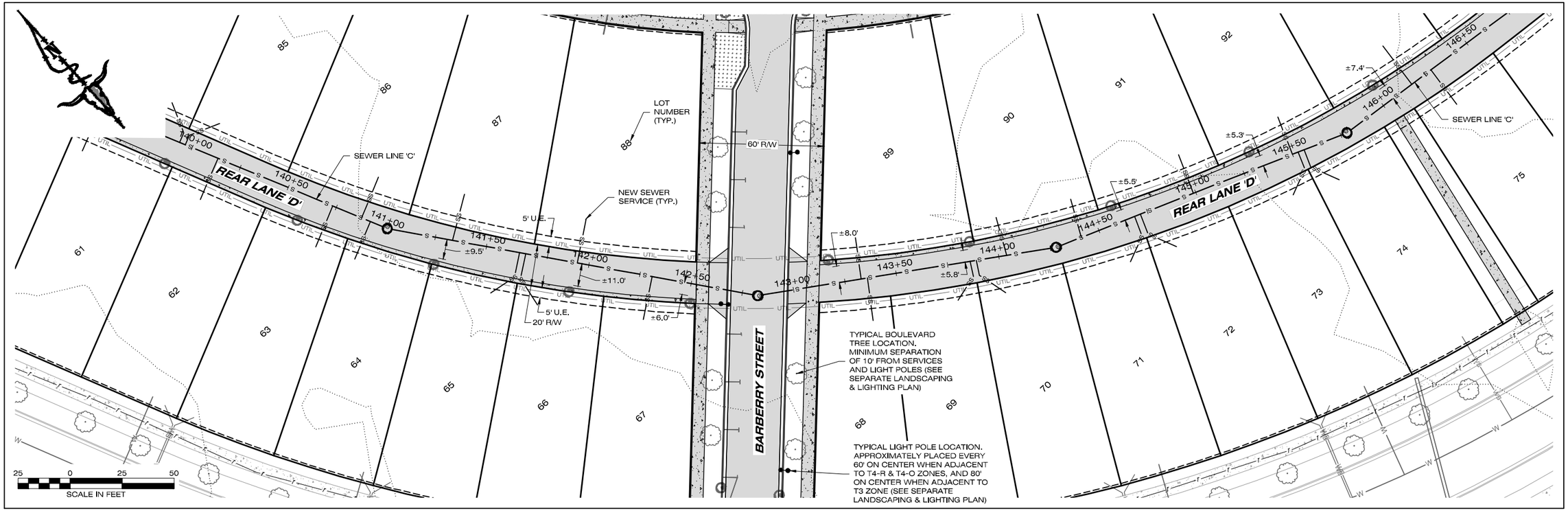
SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

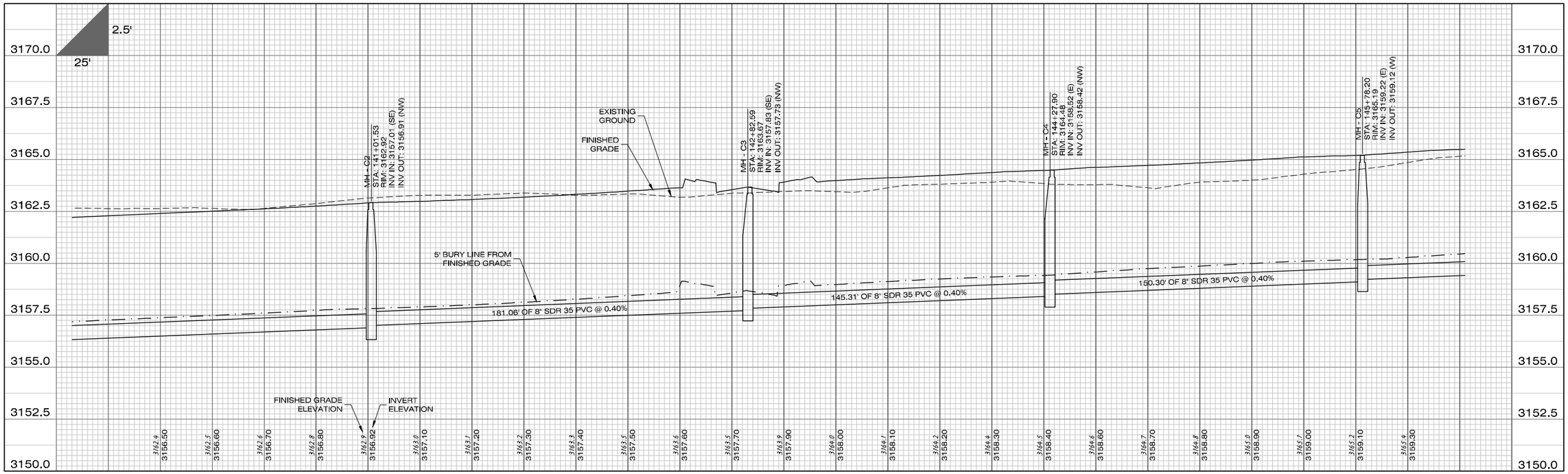
SHEET: 9 OF 25

STAGE 2

END LOCATION: P:\LES\ACTIVE\PROJECTS\2021\21000864.02\DESIGN\CIVIL_DRAWINGS\AUTOCAD\PLAN SETS\UTILITY (SEWER+WATER)\PFL_SWM-21000864.DWG



PLAN VIEW



PROFILE VIEW

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FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:52 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

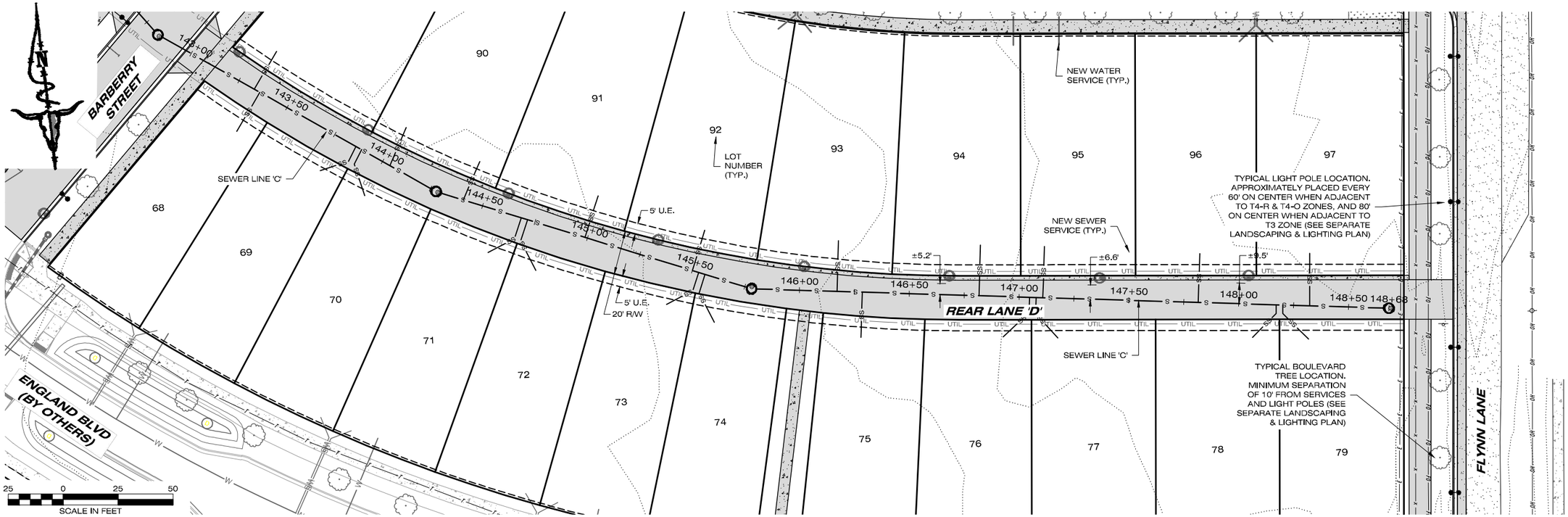
SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

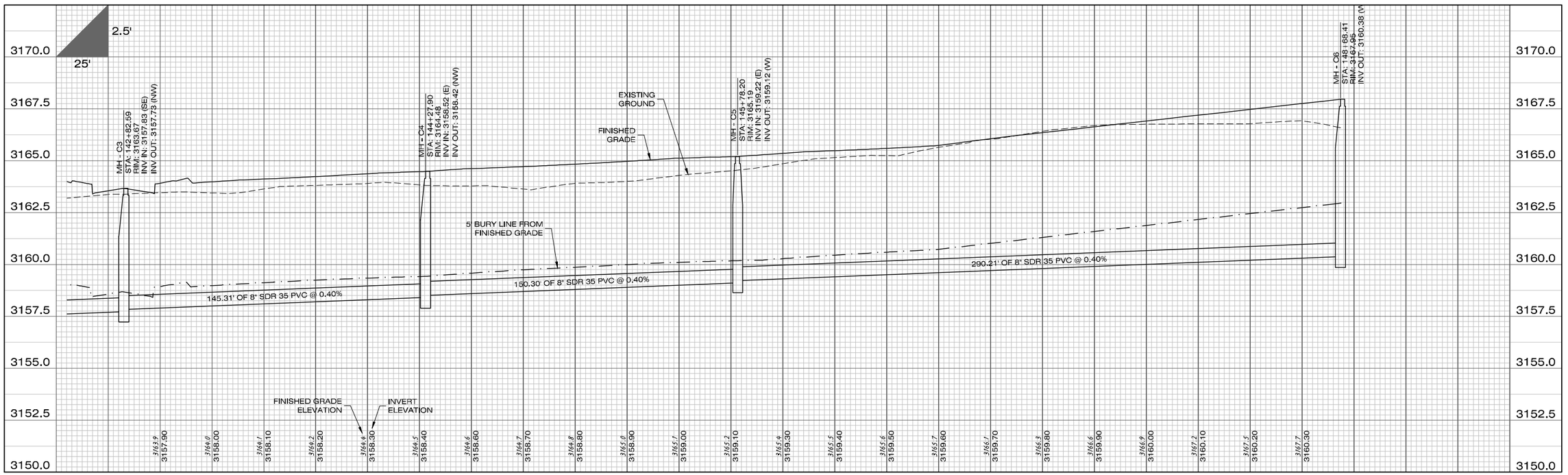
SHEET: 10 OF 25

STAGE 2

DWG LOCATION: P:\EBA\PROJECTS\PROJECTS\2021\21000864.000\DESIGN\CIVIL_DRAWINGS\ARTICLES\PLAN SETS\UTILITY SS\UP-A-PLAN&PROFILE.DWG



PLAN VIEW



PROFILE VIEW

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FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:03 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SW/WTPQ/YEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

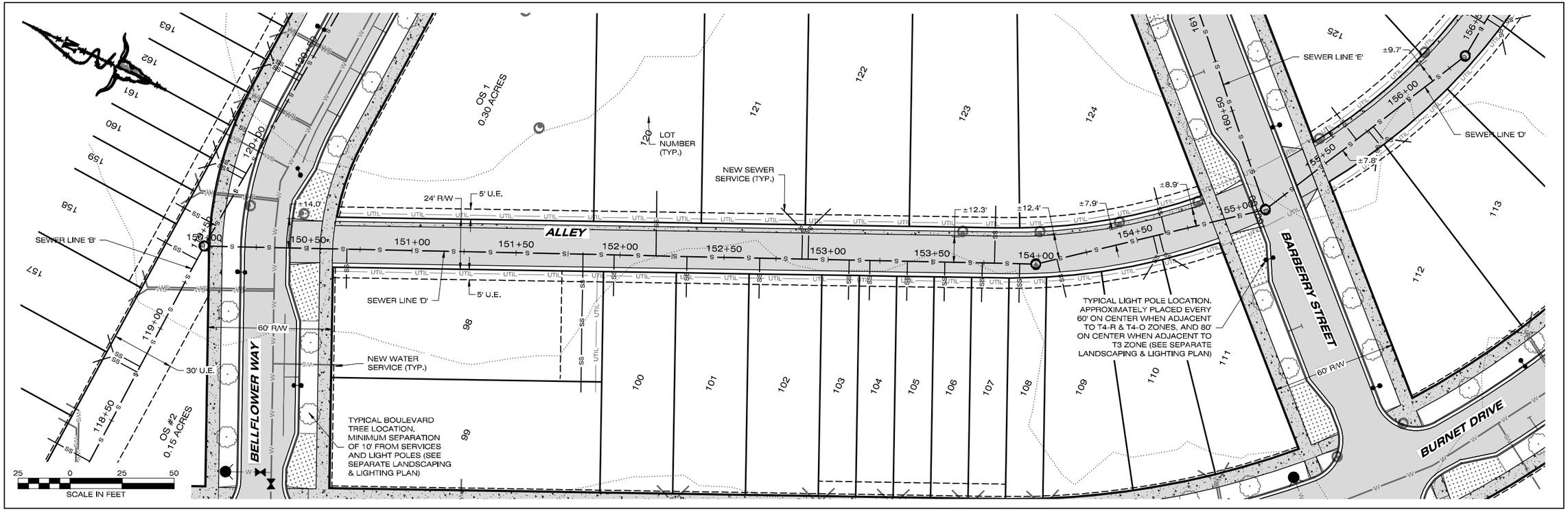
SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

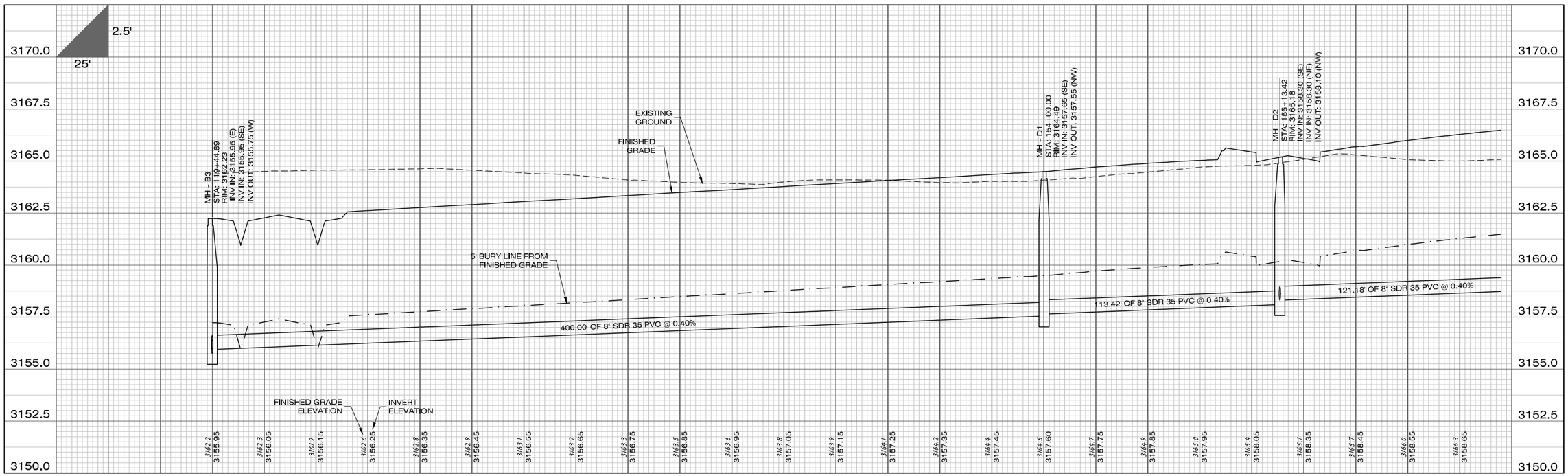
SHEET: 11 OF 25

STAGE 2

END LOCATION: I:\FILES\ACTIVE\P0000\21000864.00\DESIGN\CIVIL_DRAWINGS\AUTOCAD\PLAN SETS\UTILITY (SEWER+WATER)\WTPQ_SWK+21000864.DWG



PLAN VIEW



PROFILE VIEW

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1817 SOUTH AVE W, STE. A
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FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:03 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

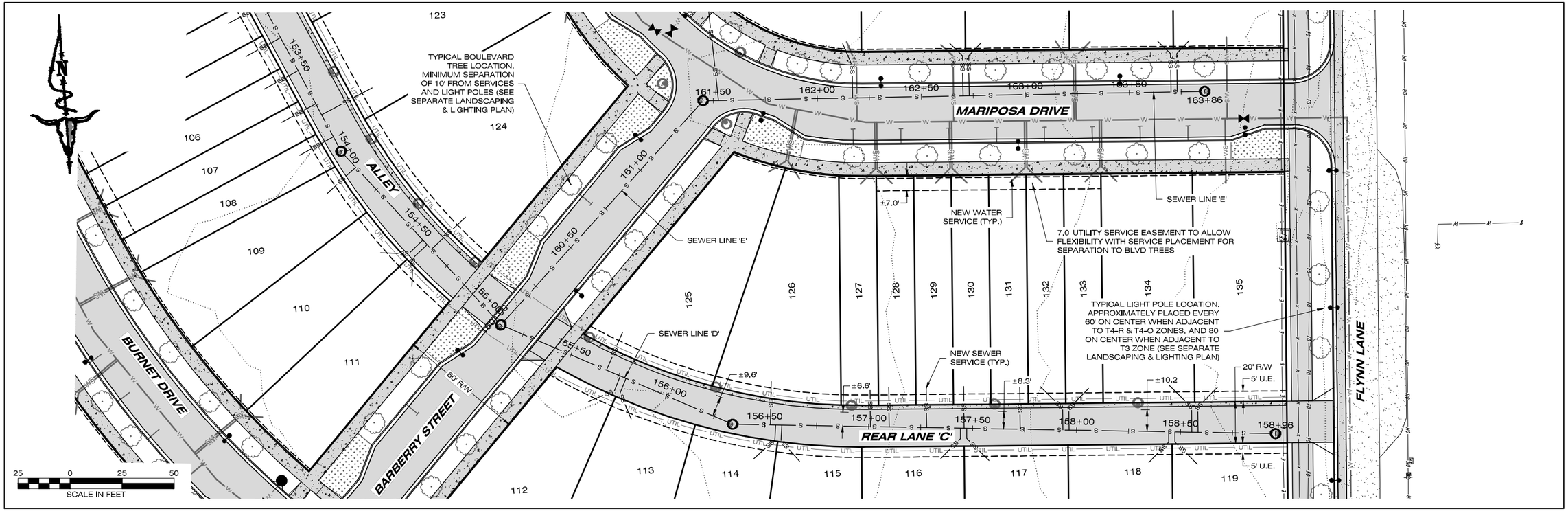
SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

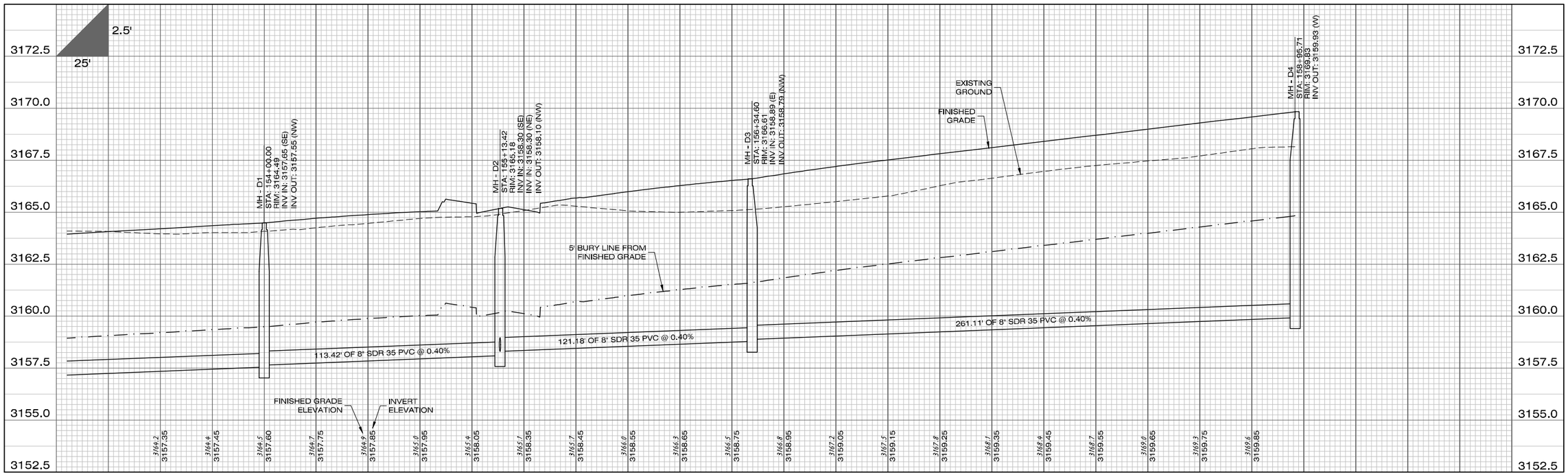
SHEET: 12 OF 25

STAGE 2

DWG LOCATION: P:\EBA\PROJECTS\PROJECTS\2021\21000864.000\DESIGN\CIVIL_DWG\PW\EBA\EBA01\CO\EBA01-PLAN SETS\UTILITY SS\EBA01-PLAN SHEETS_PW.DWG 21000864.DWG



PLAN VIEW



PROFILE VIEW

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MISSOULA, MT
59801
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FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:03 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

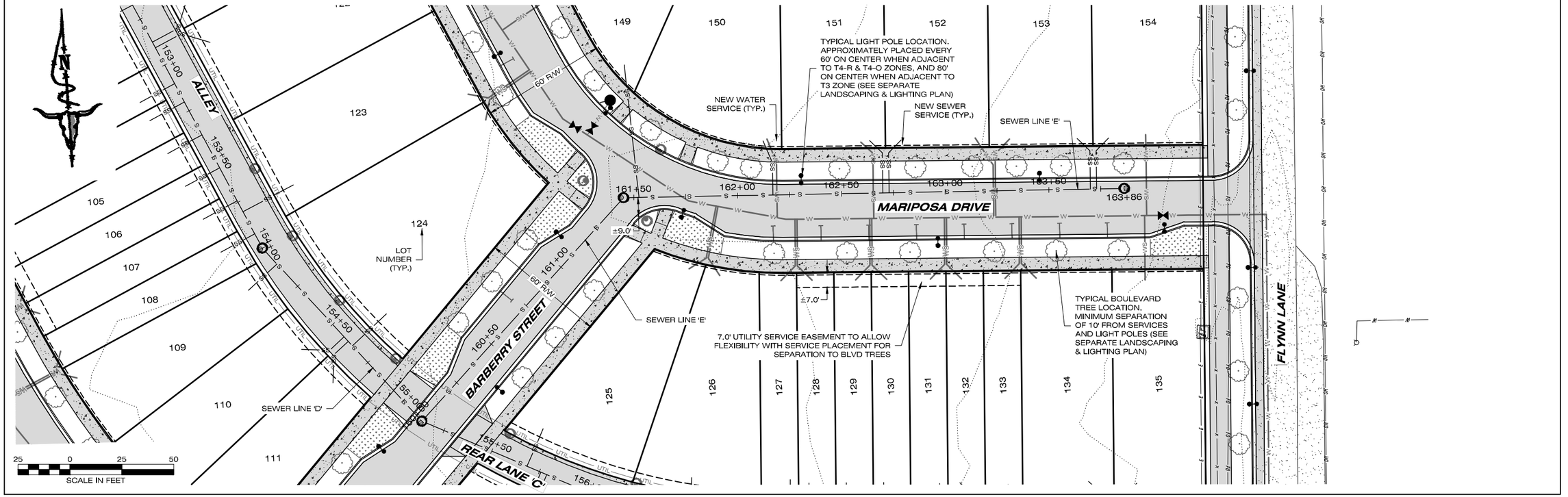
SHEET TITLE: UTILITY CONSTRUCTION PLANS SEWER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

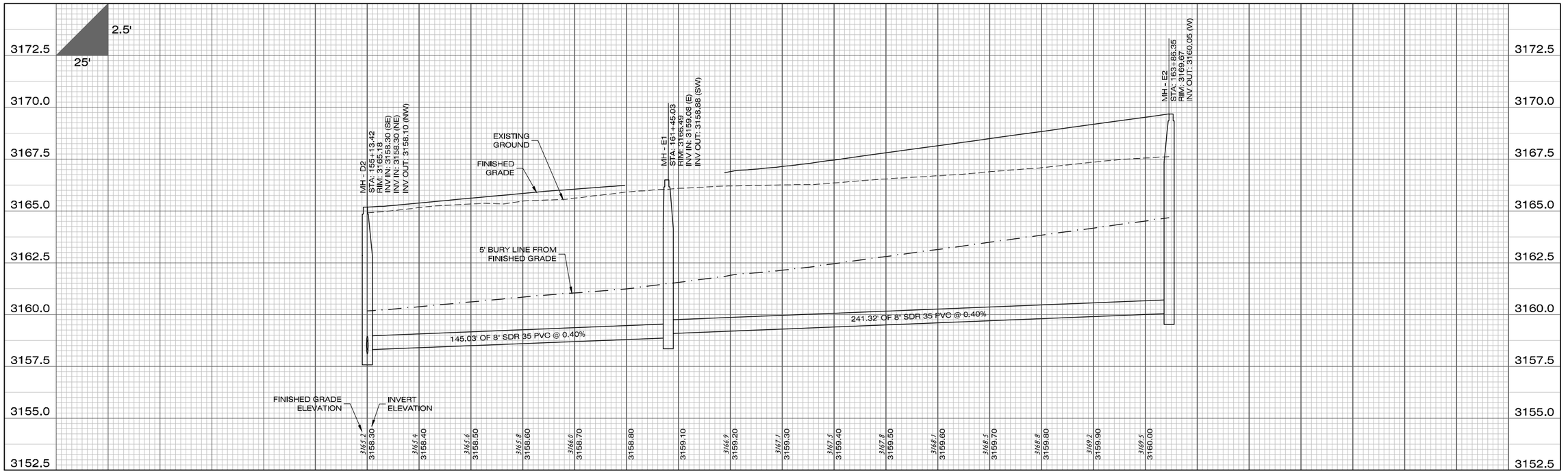
SHEET: 13 OF 25

STAGE 2

DWG LOCATION: P:\EBA\PROJECTS\PROJECTS\2021\21000864.000\DESIGN\CIVIL_DRAWINGS\AUTOCAD\PLAN SETS\UTILITY SIGNED+AMENDMENT#1_SWPPP\21000864.DWG



PLAN VIEW



PROFILE VIEW

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MISSOULA, MT
59801
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PLOT DATE: 7/14/2022 10:05 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850
S 7, T13N., R19W., & S 12, T13N., R20W.
SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

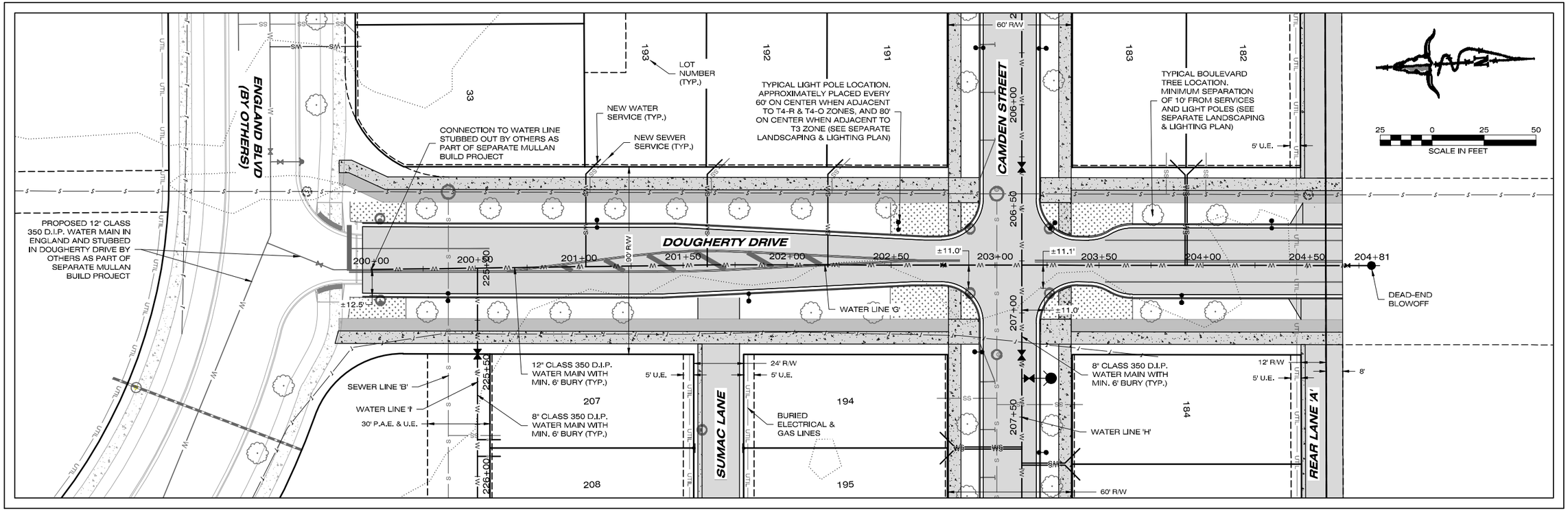
SHEET TITLE: UTILITY CONSTRUCTION PLANS
SEWER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

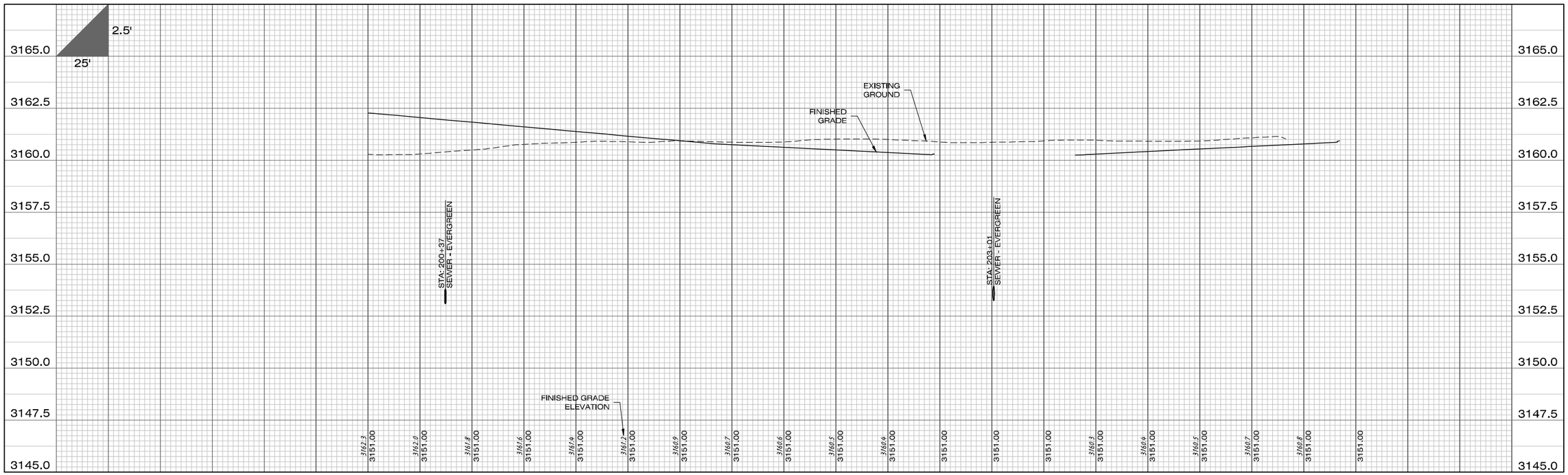
SHEET: 14 OF 25

STAGE 2

ENVS LOCATION: P:\EBA\PROJECTS\PROJECTS\2021\21000864.000\DESIGN\CIVIL\3_DPA\PWA\BASE\COGP\PLAN SETS\UTILITY SS\WEA-WATER\WVP3_PWA-21000864.DWG



PLAN VIEW



PROFILE VIEW

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MISSOULA, MT
59801
PH: 406.721.0142
FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:04 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

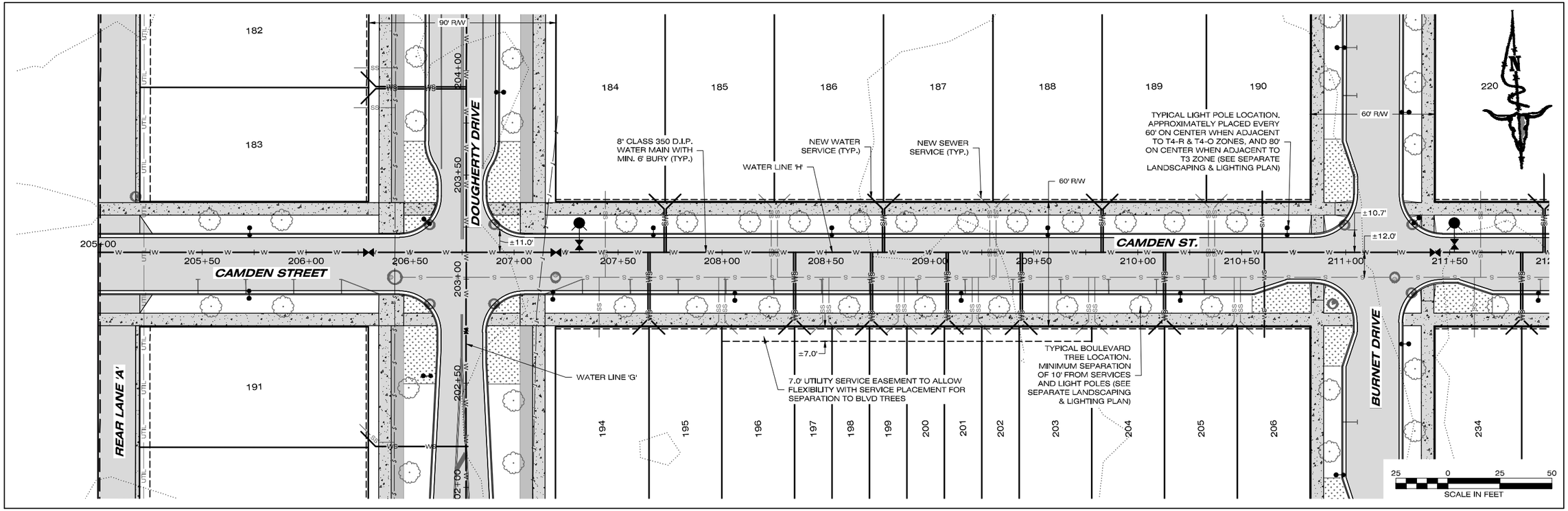
SHEET TITLE: UTILITY CONSTRUCTION PLANS WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

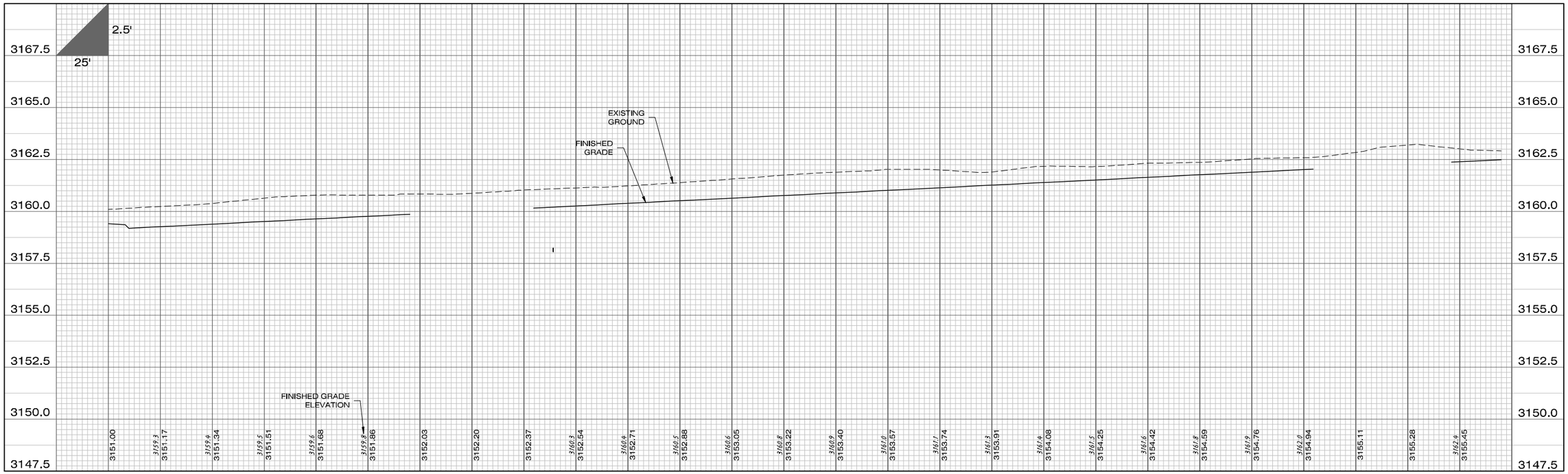
SHEET: 15 OF 25

STAGE 2

ENG LOCATION: P:\JEA\CTP\PROJECTS\2021\21000864.000\ENGR\CIVIL_DWG\PW\PW0[AUTO]C0[AUTO]A.DWG BETTS,TILLY 7/13/2022 4:14:18 PM BETTS,TILLY P:\JEA\CTP\PROJECTS\2021\21000864.000\ENGR\CIVIL_DWG\PW\PW0[AUTO]C0[AUTO]A.DWG



PLAN VIEW



PROFILE VIEW

IMEG
1817 SOUTH AVE W, STE. A
MISSOULA, MT
59801
PH: 406.721.0142
FAX: 406.721.5224
www.imegcorp.com

PLOT DATE: 7/14/2022 10:04 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

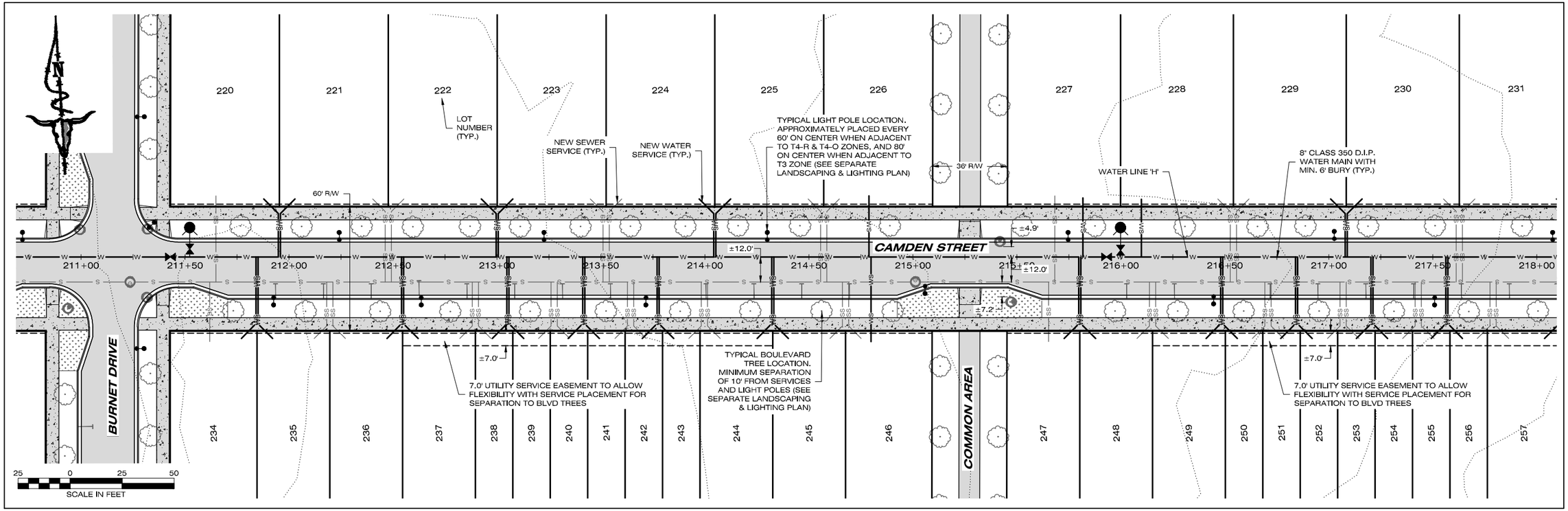
SHEET TITLE: UTILITY CONSTRUCTION PLANS WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

SHEET: 16 OF 25

STAGE 2

DWG LOCATION: P:\EBA\ACTIVE\PROJECTS\2021\21000864.00\DESIGN\CIVIL\3_DP\MYINGS\PLANS\WWP\DGN\01-UTILITY SIGNUP+WATER\WWP_SHPA21000864.DWG



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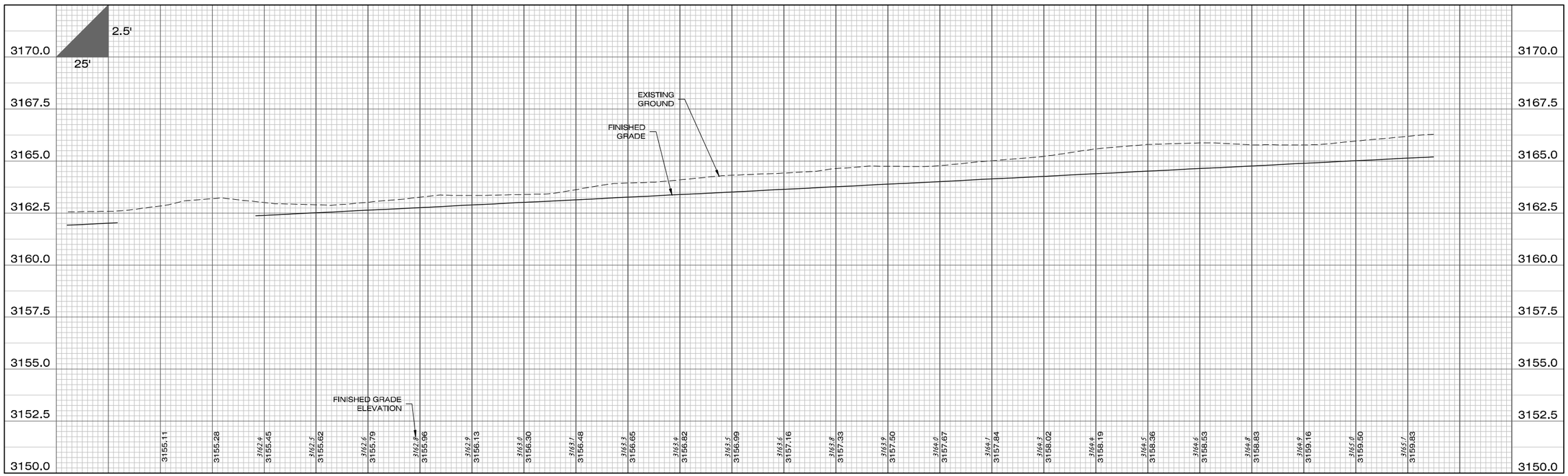

PROFILE VIEW

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PH: 406.721.0142
FAX: 406.721.5224
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PLOT DATE: T:\140028 10:04 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

SHEET TITLE: UTILITY CONSTRUCTION PLANS WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

SHEET: 17 OF 25

STAGE 2

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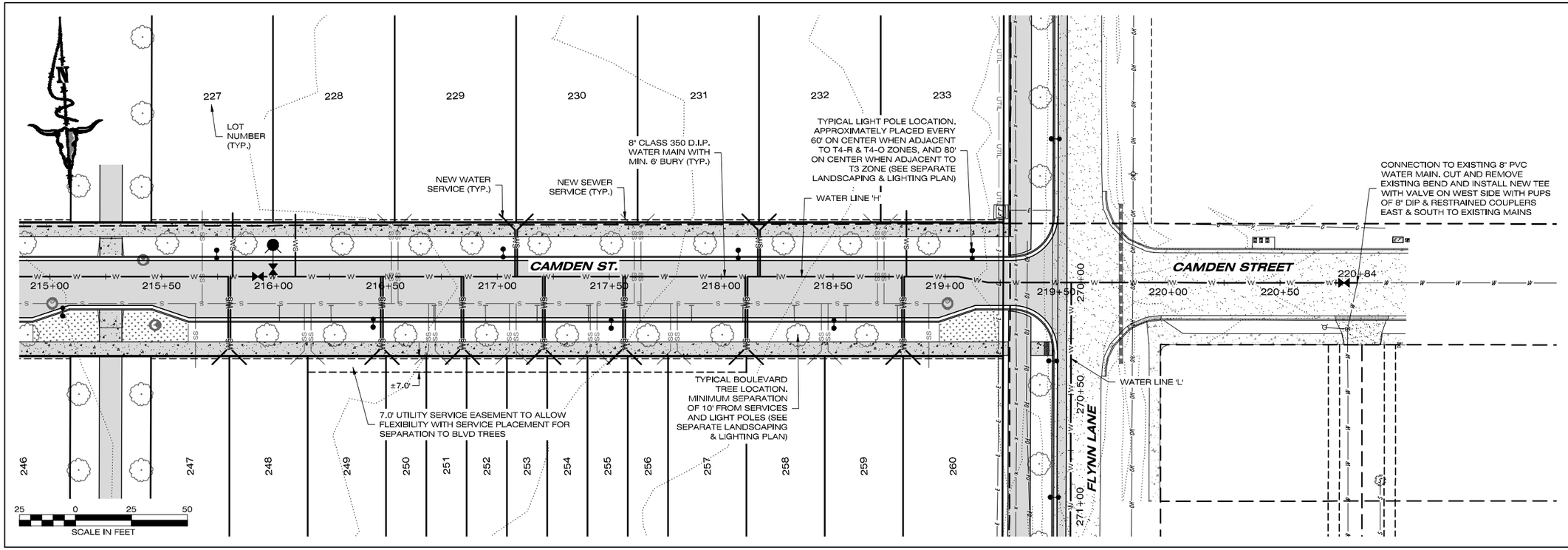

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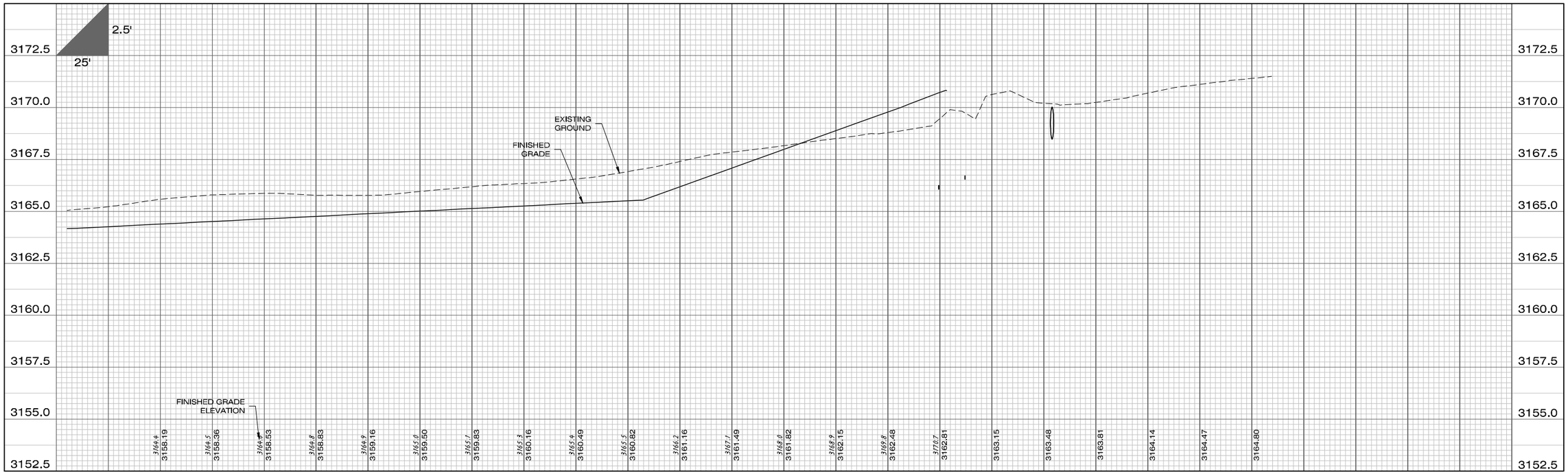

PROFILE VIEW

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PLOT DATE: 7/14/2022 10:04 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850
S 7, T13N., R19W., & S 12, T13N., R20W.
SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

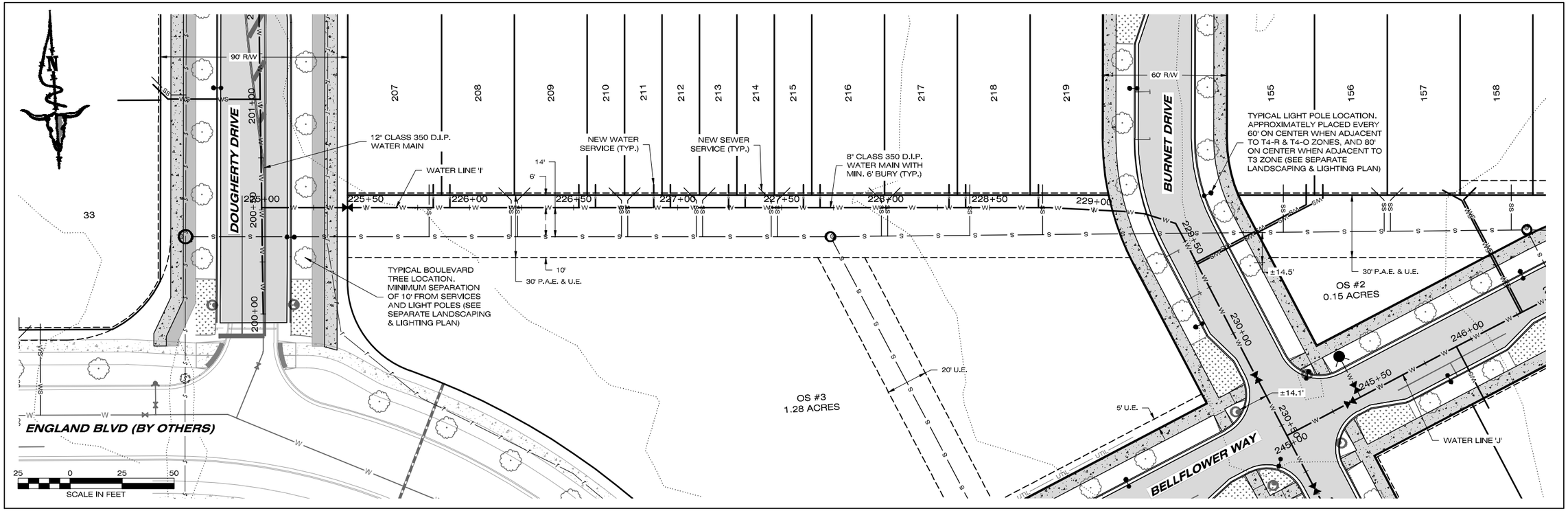
SHEET TITLE: UTILITY CONSTRUCTION PLANS
WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

SHEET: 18 OF 25

STAGE 2

DWG LOCATION: P:\EBA\PROJECTS\PROJECTS\2021\21000864.000\DESIGN\CIVIL_DRAWINGS\AUTOCAD\PLAN SETS\UTILITY SS\WP-A+WTENWYP4_DWG\21000864.DWG



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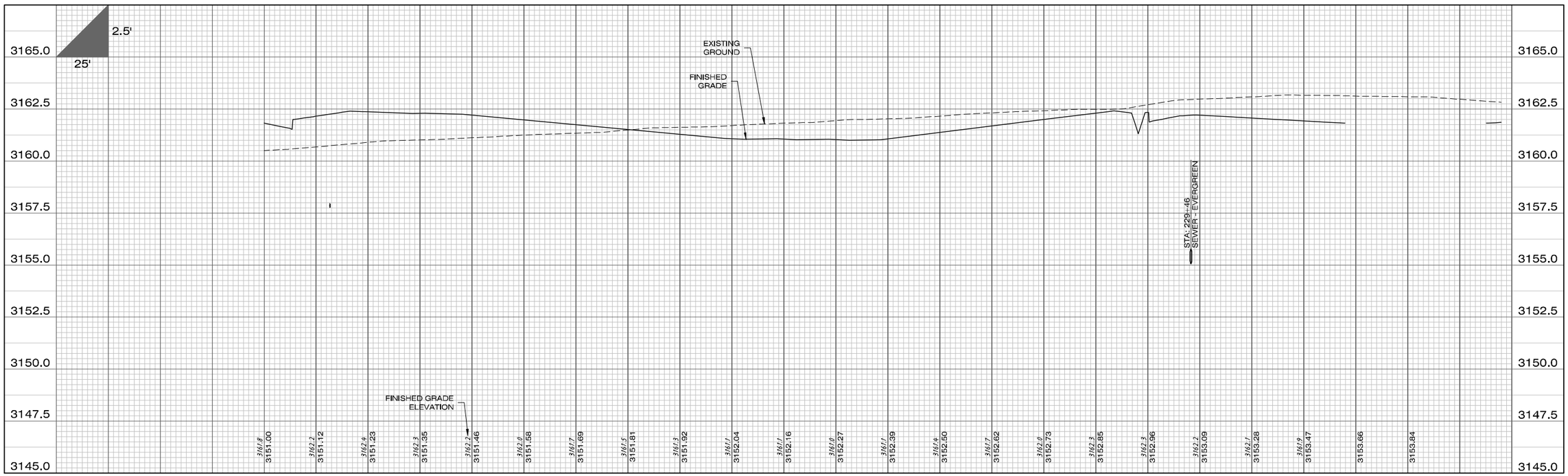

PROFILE VIEW

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1817 SOUTH AVE W, STE. A
MISSOULA, MT
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PH: 406.721.0142
FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:05 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

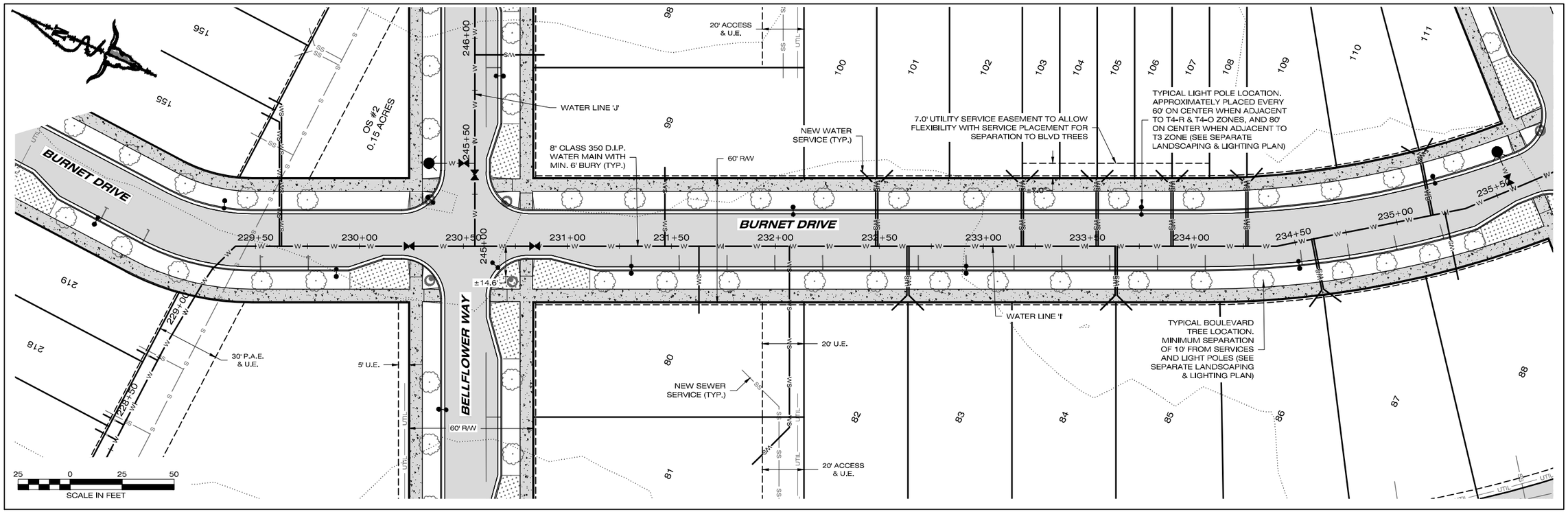
SHEET TITLE: UTILITY CONSTRUCTION PLANS WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

SHEET: 19 OF 25

STAGE 2

ENG LOCATION: P:\JOBS\21\21000864\PROJECT\PLOT\21000864_SOUDERSKONTAS_SUMMITKNOLL_DRAWINGS\AUTOCAD\PLAN SET\UTILITY SS\WP-WATER\WP18_PWP-21000864.DWG



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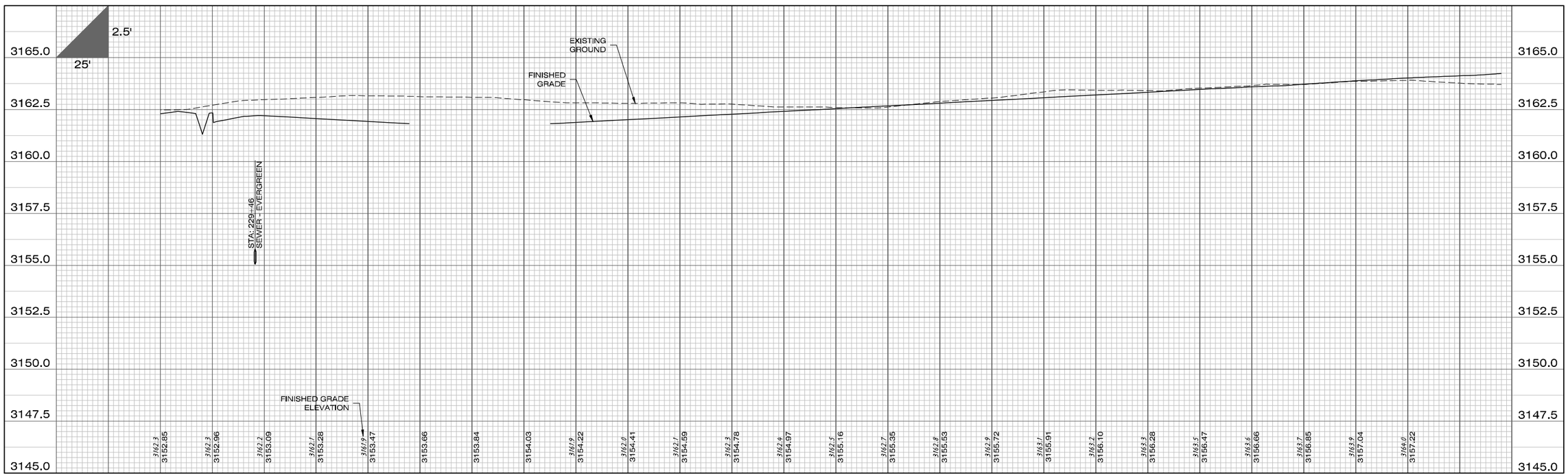

PROFILE VIEW

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FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:05 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850
S 7, T13N., R19W., & S 12, T13N., R20W.
SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

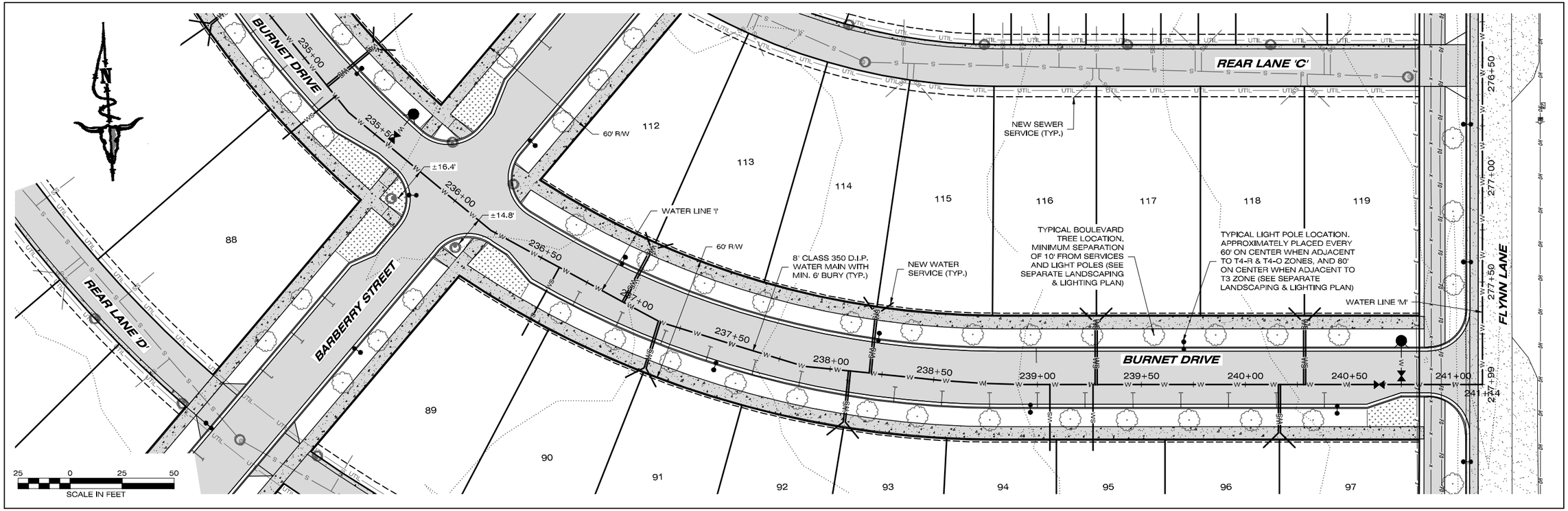
SHEET TITLE: UTILITY CONSTRUCTION PLANS
WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

SHEET: 20 OF 25

STAGE 2

END LOCATION: I:\FILES\ACTIVE\PROJECTS\2021\21000864.03\CIS\DRAWINGS\CS_DRAWINGS\AUTOCAD\PLAN SETS\UTILITY (SEWER+WATER)\WTR_SWR-210000864.DWG



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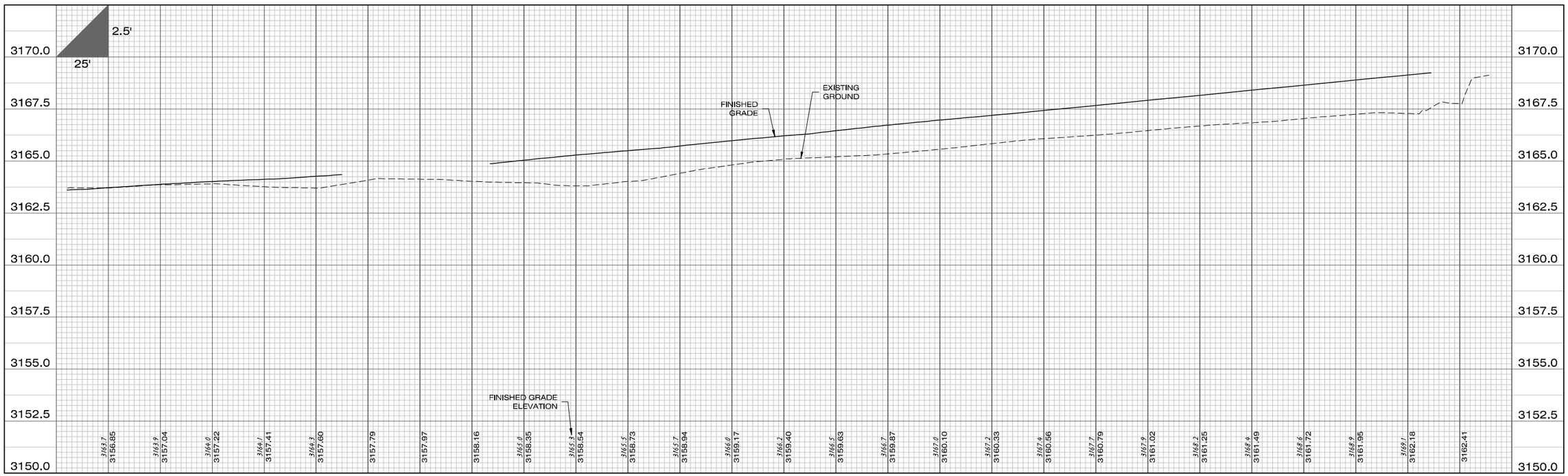

PROFILE VIEW

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FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:05 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SW/TPQ/EN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

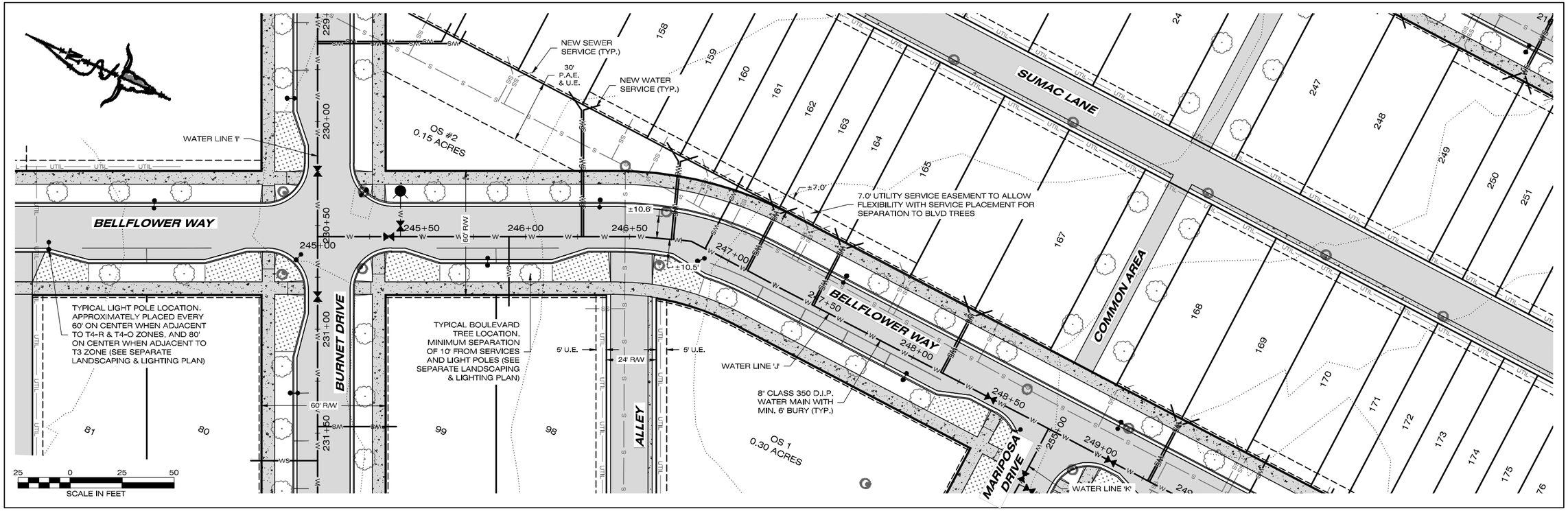
SHEET TITLE: UTILITY CONSTRUCTION PLANS WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

SHEET: 21 OF 25

STAGE 2

END LOCATION: I:\FILES\ACTIVE\P0025\07\S2021210008864.02\SUBMITTALS\CAD\PLAN SETS\UTILITY (SW/EN/HAY/ENW)\PLS_SWHY210008864.DWG



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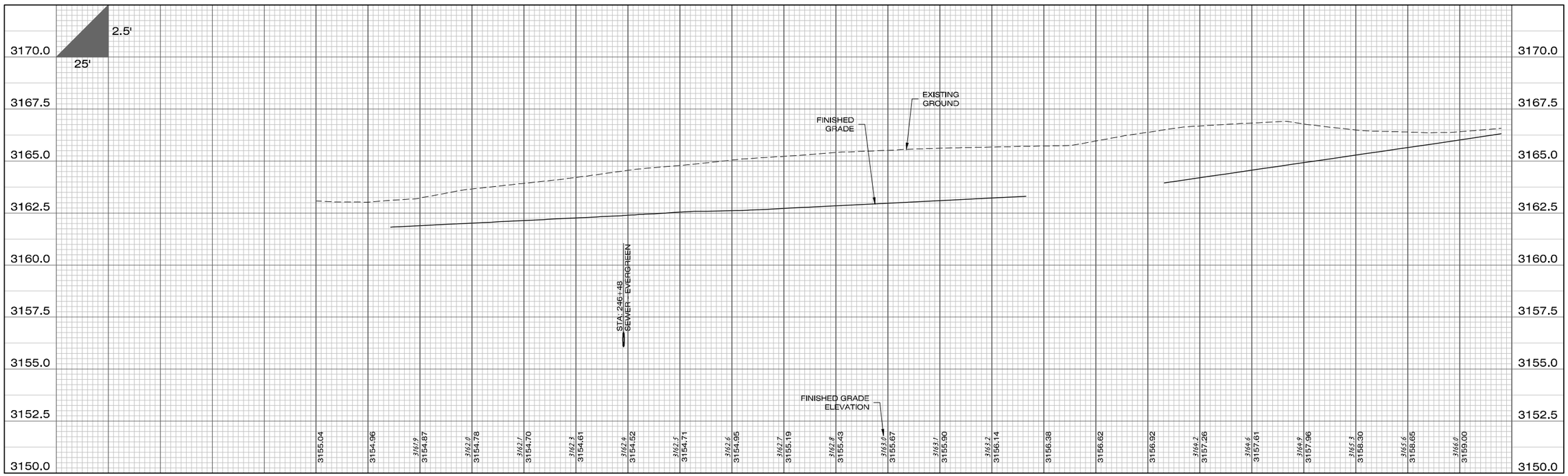

PROFILE VIEW

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PH: 406.721.0142
FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:05 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

SHEET TITLE: UTILITY CONSTRUCTION PLANS WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

SHEET: 22 OF 25

STAGE 2

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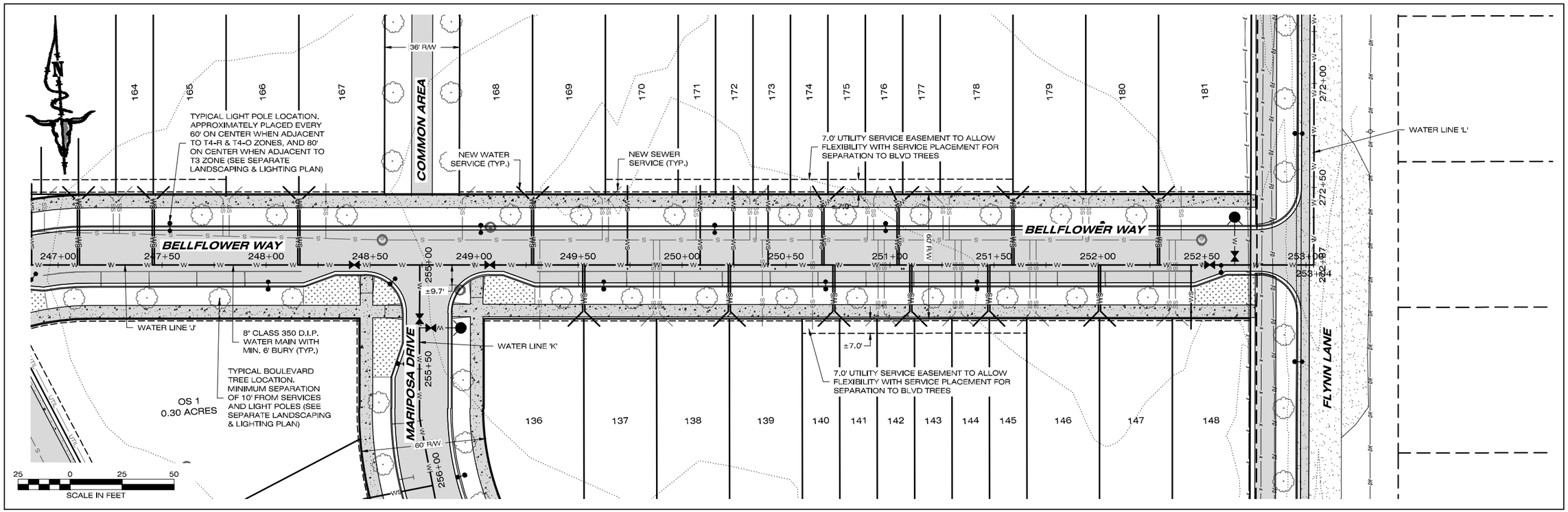

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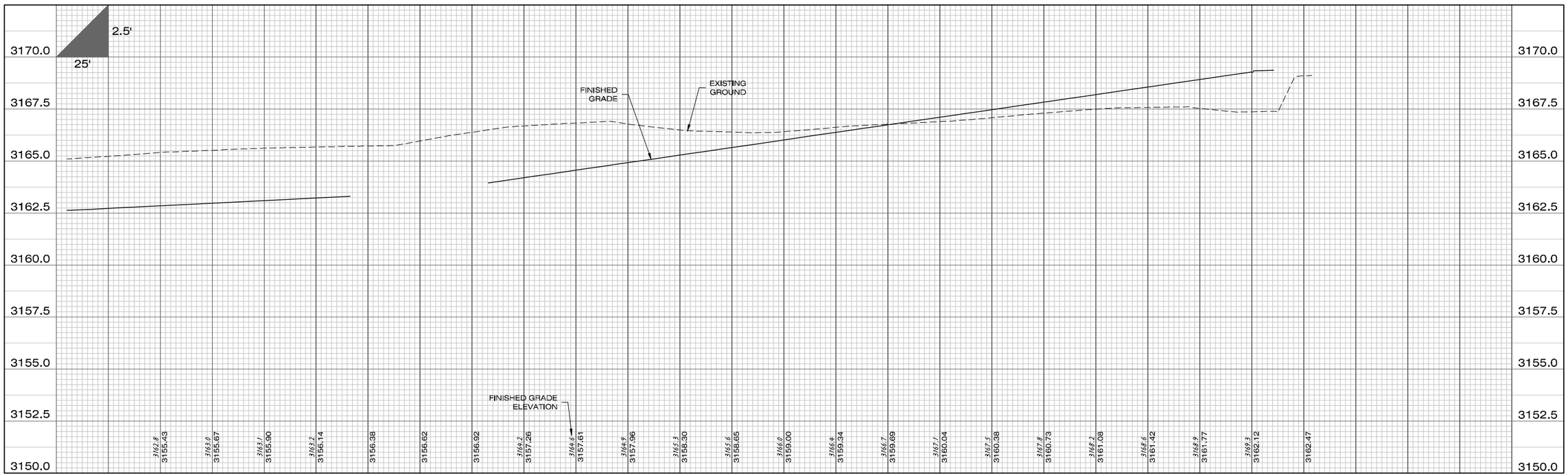

PROFILE VIEW

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1817 SOUTH AVE. W. STE. A
MISSOULA, MT
59801
PH: 406.721.0142
FAX: 406.721.5224
www.imegcorp.com

PLOT DATE: 7/14/2022 10:06 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

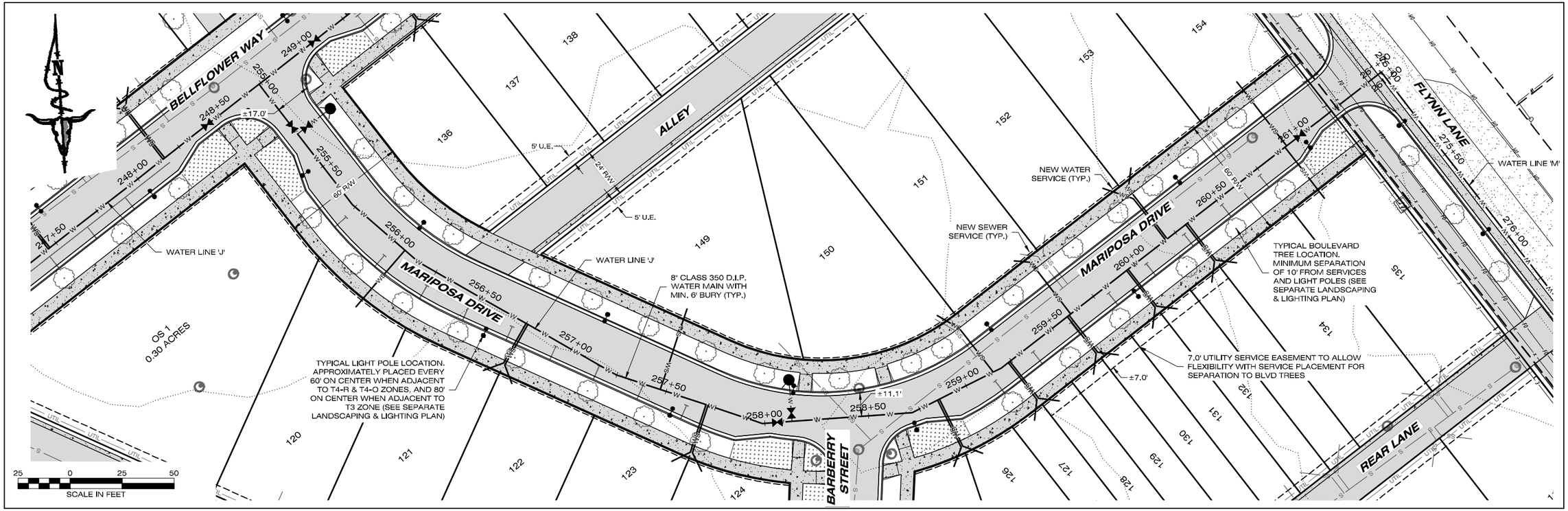
SHEET TITLE: UTILITY CONSTRUCTION PLANS WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

SHEET: 23 OF 25

STAGE 2

ENG LOCATION: P:\EBA\PCTM\PROJECTS\2021\21000864.000\DESIGN\CIVIL_DWG\WW\PLAN\SHEETS\UTILITY SS\WEP-WATER\WWP_PWP-21000864.DWG



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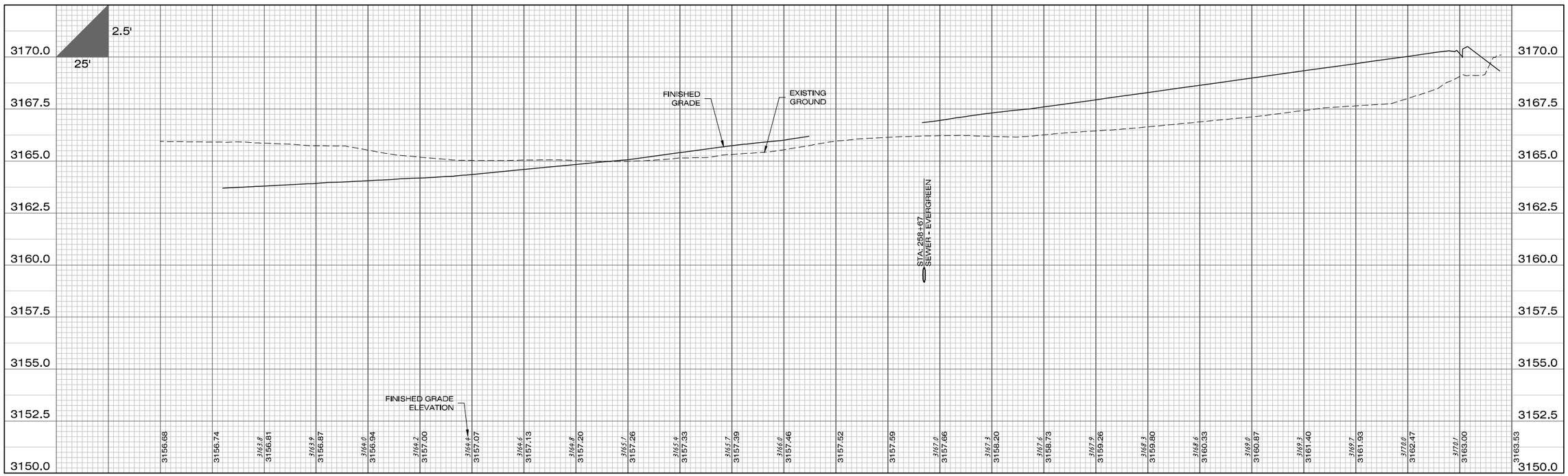

PROFILE VIEW

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1817 SOUTH AVE W, STE. A
MISSOULA, MT
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FAX: 406.721.5224
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PLOT DATE: 7/14/2022 10:06 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850
S 7, T13N., R19W., & S 12, T13N., R20W.
SWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

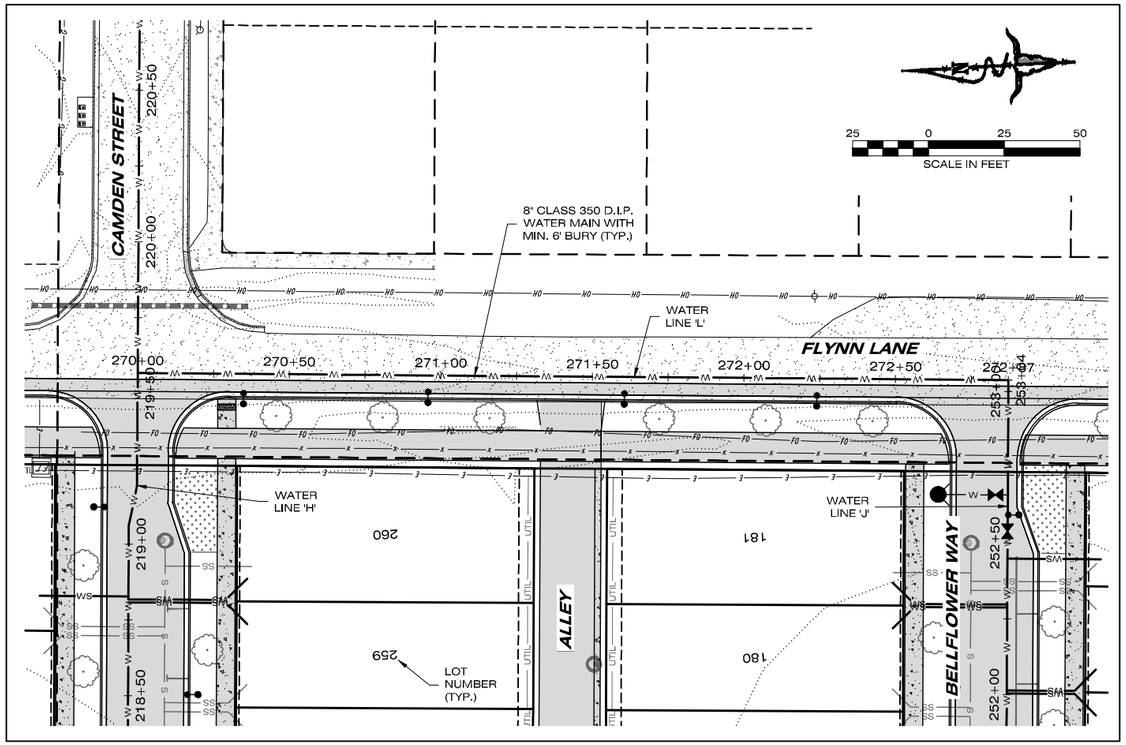
SHEET TITLE: UTILITY CONSTRUCTION PLANS
WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

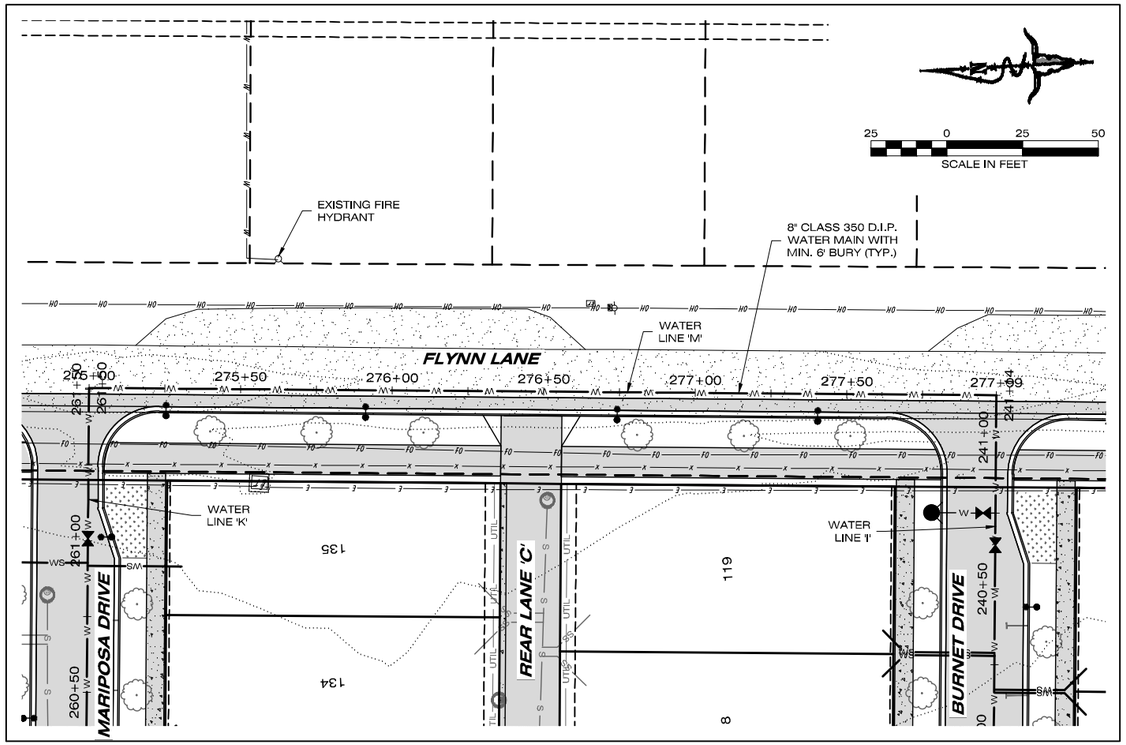
SHEET: 24 OF 25

STAGE 2

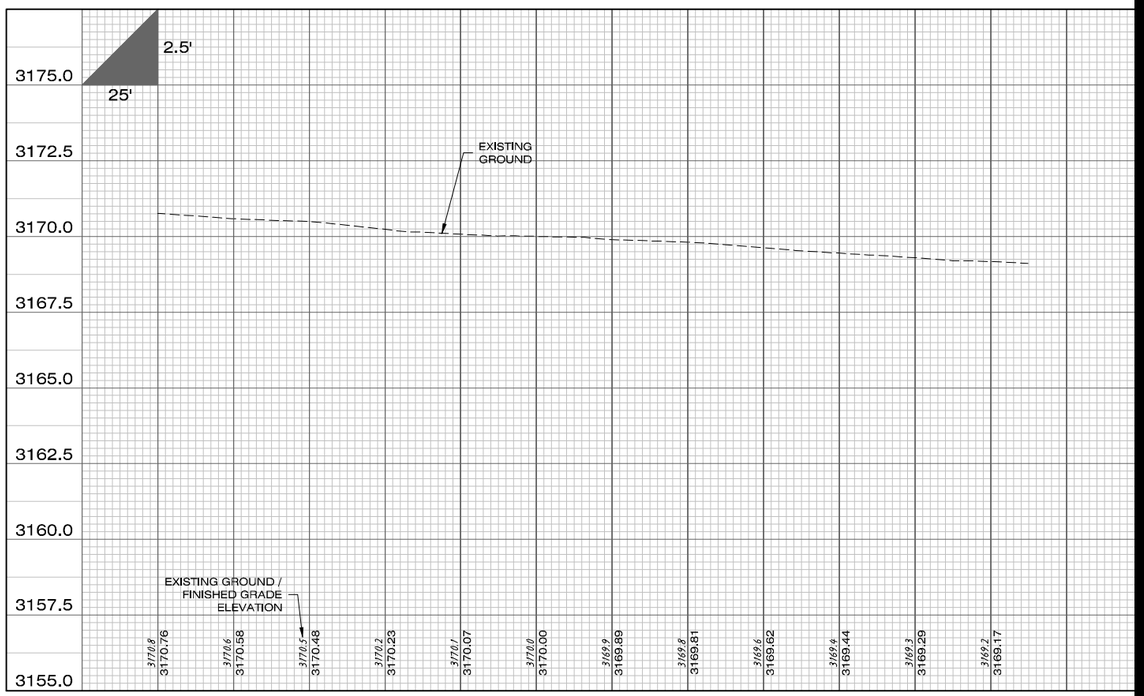
ENG LOCATION: P:\JOBS\21\21000864.000\DESIGN\CIVIL\2_DRAWINGS\AUTOCAD\PLAN SETS\UTILITY SS\WEP-WATER\WP18_PWP-21000864.DWG



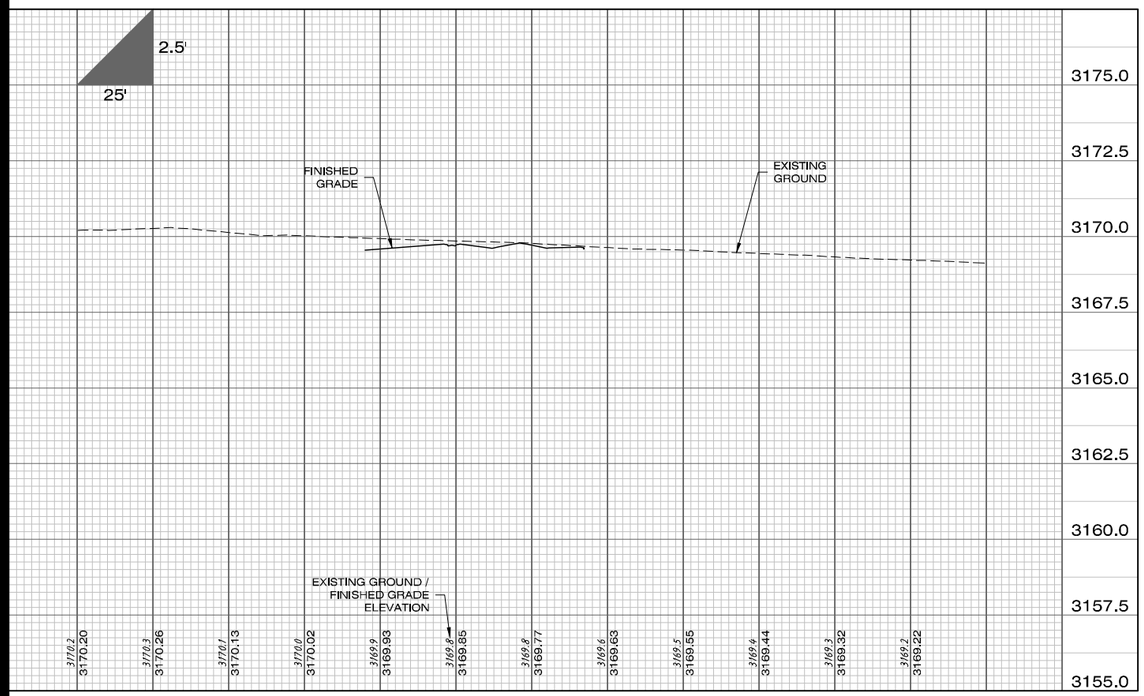
PLAN VIEW - WATER LINE 'L'



PLAN VIEW - WATER LINE 'M'



PROFILE VIEW - WATER LINE 'L'



PROFILE VIEW - WATER LINE 'M'

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MISSOULA, MT
59801
PH: 406.721.0142
FAX: 406.721.5224
www.imegcorp.com

PLOT DATE: 7/14/2022 10:06 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED:	AM
DRAFTED:	AM
CHECKED:	JR
DATE:	MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N., R19W., & S 12, T13N., R20W. SWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

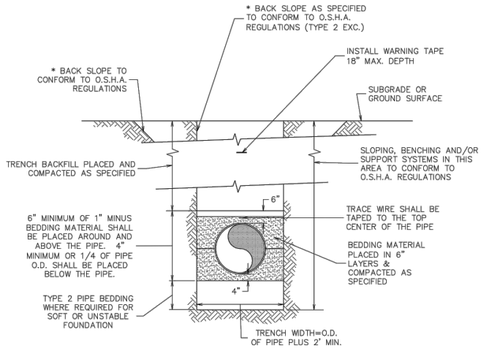
SHEET TITLE: UTILITY CONSTRUCTION PLANS WATER PLAN AND PROFILE SHEET

PROJECT NO: 21000864

SHEET: 25 OF 25

STAGE 2

ENG LOCATION: P:\BLD\ACTIVE\PROJECTS\2021\21000864.000\ENGR\CIVIL\3_DWG\PW\PW0[BASE]TOC[DATA_ENTRY]\PW-[DATA_ENTRY]-[SHEET_NAME]-[SCALE].DWG



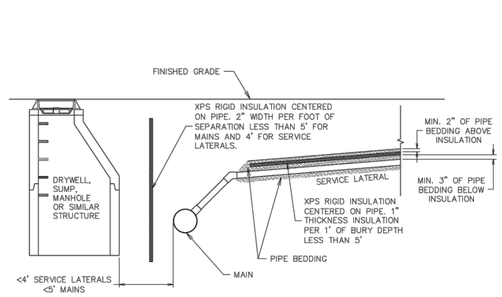
* SEE O.S.H.A. CONSTRUCTION STANDARDS FOR EXCAVATIONS, SECTION 1926, SUBPART P.

NOTE:

CASING PIPE (IF ANY) INSTALLED BY TRENCH CONSTRUCTION METHODS SHALL BE BEDDED AS SHOWN IN THIS DETAIL.

December 2021

Engineering Division | Typical Utility Trench Detail | Approved By Utilities Engineer Logan McInnis, PE | Revised: 09/28/2020 | STD - 401



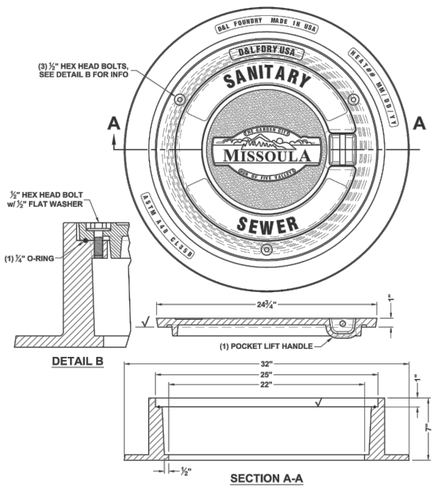
GENERAL NOTES:

1. INSULATION IS REQUIRED WHEN A SANITARY SEWER PIPE IS LESS THAN 4 FEET FOR A SERVICE LATERAL, AND LESS THAN 5 FEET FOR A SEWER MAIN, FROM FINISHED GRADE, A DRYWELL SUMP, IRRIGATION PIPE OR ANY STRUCTURE THAT HAS THE POTENTIAL TO TRANSFER COLD OR PROMOTE FREEZING.
2. PROVIDE ONE-INCH OF INSULATION THICKNESS, EQUIVALENT TO AN R-VALUE OF 5, PER FOOT OF MISSING COVER OR VOID SPACE LESS THAN FIVE FEET. PROVIDE TWO-INCHES OF INSULATION THICKNESS, EQUIVALENT TO AN R-VALUE OF 10, PER FOOT OF HORIZONTAL SEPARATION LESS THAN 5-FEET FOR MAINS AND 4-FEET FOR SERVICE LATERALS
3. USE A HIGH DENSITY, RIGID INSULATION WITH 35 PSI OR GREATER RATING.

December 2021

Engineering Division | Sanitary Sewer Service and Main Insulation Requirements | Approved By Utility Project Manager – Ross Mollenhauer, PE | Adopted:09/28/2020 Revised: 07/23/2021 | STD - 500

EJCO 3777Z1/AGS, D&L A-1171 LOCKABLE OR APPROVED EQUIVALENT

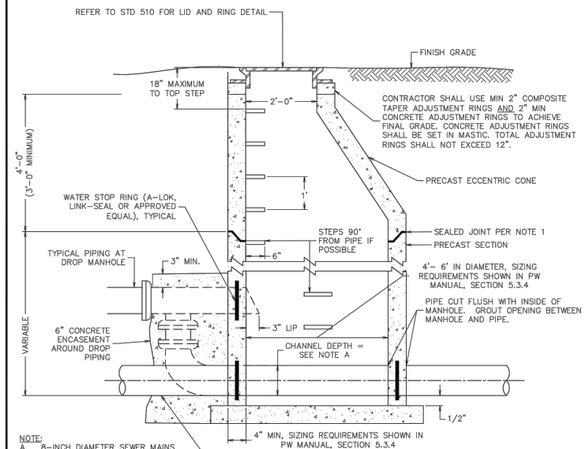


GENERAL NOTES:

1. D&L FOUNDRY A-1171 BOLT DOWN, WATER TIGHT LIDS ARE REQUIRED FOR ALL CITY-OWNED AND PRIVATELY-OWNED MANHOLES. PRIVATELY OWNED MANHOLES SHALL BE TEXTURED SLIP RESISTANT LID WITHOUT CITY LOGO AND LABELED WITH THE WORDS "SANITARY SEWER".
2. PROVIDE LIDS AND RINGS THAT MEET AASHTO 306 HS20 LOADING RATING OR HIGHER.
3. COMPOSITE TAPERED GRADE RINGS SHALL BE USED TO MATCH FRAME & GRATE TO THE CURB LINE CROSS SLOPE AND RUNNING SLOPE OR STREET CROSS SLOPE AND RUNNING SLOPE WHERE NOT IN CONCRETE.
4. A 4-INCH MANHOLE RING MAY BE USED IN LIEU OF A 7-INCH RING ONLY WITH PRIOR APPROVAL FROM CITY ENGINEERING.

December 2021

Engineering Division | Sanitary Sewer Lid | Approved By Utility Project Manager – Ross Mollenhauer, PE | Adopted:09/28/2020 Revised: 10/22/2021 | STD - 510

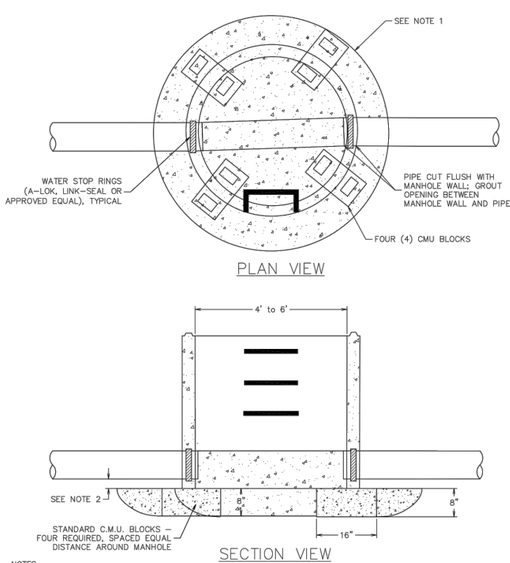


NOTE:
A. 8-INCH DIAMETER SEWER MAINS AND SMALLER SHALL HAVE A FLOW CHANNEL FORMED AT LEAST TO THE SPRING LINE OF THE PIPE. PIPES GREATER THAN 8" IN DIAMETER SHALL HAVE FLOW CHANNELS FORMED TO THE FULL HEIGHT OF THE CROWN OF THE OUTLET SEWER.

GENERAL NOTES:
1. ALL JOINTS BETWEEN MANHOLE SECTIONS, ADJUSTING RINGS, MANHOLE RING AND TOP SECTION, SHALL BE WATERTIGHT. JOINTING MATERIAL SHALL BE "CONSEAL" OR EQUAL.
2. CONCRETE FOR DROP STRUCTURES SHALL BE FORMED.
3. FLAT-TOP BARREL SHALL BE USED WHEN DISTANCE FROM TOP OF PIPE TO RIM IS LESS THAN 5-FEET.
4. BOLT-DOWN LIDS WILL BE REQUIRED AS PER STD 510. DUSTPANS ARE NOT REQUIRED WITH BOLT-DOWN LIDS.
5. ADDITIONAL FLEX-JOINTS MAY BE INSTALLED WITHIN 2-3 FEET OF MANHOLE WHERE NECESSARY.

December 2021

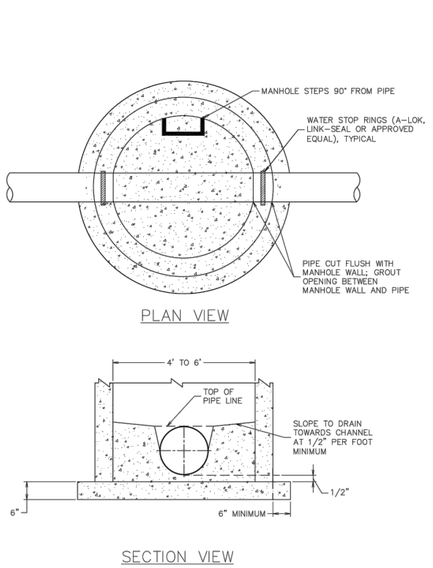
Engineering Division | Sanitary Sewer Manhole (Sheet 1 of 3) | Approved By City Engineer for Utilities Ross Mollenhauer, PE | Adopted:09/28/2020 Revised: 03/25/2021 | STD - 512-1



NOTES
1. BASE AND FILL CONCRETE MAY BE POURED MONOLITHICALLY.
2. ONE-HALF (1/2") INCH SPACING MAY BE OMITTED WHEN BASE AND FILL CONCRETE ARE POURED MONOLITHICALLY.

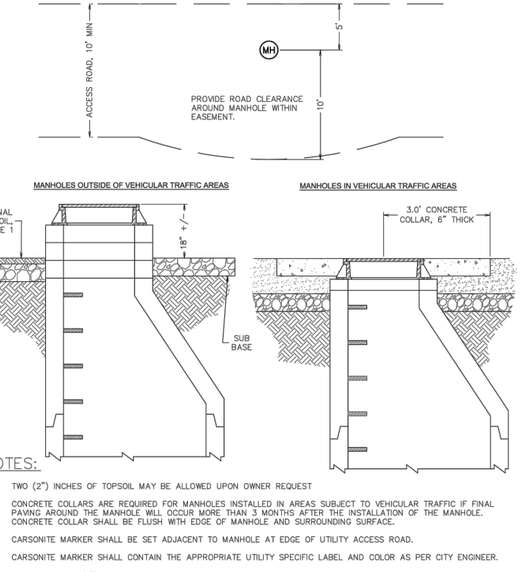
December 2021

Engineering Division | Sanitary Sewer Manhole - Dog House Base (Sheet 2 of 3) | Approved By City Engineer for Utilities Ross Mollenhauer, PE | Adopted:09/28/2020 Revised: 03/25/2021 | STD - 512-2



December 2021

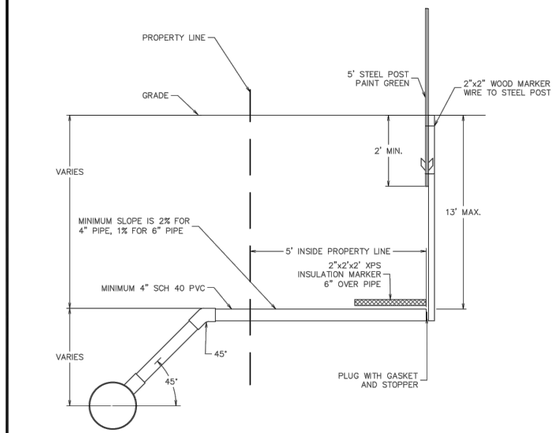
Engineering Division | Sanitary Sewer Manhole - Precast Base (Sheet 3 of 3) | Approved By City Engineer for Utilities Ross Mollenhauer, PE | Adopted:09/28/2020 Revised: 03/25/2021 | STD - 512-3



NOTES:
1. TWO (2") INCHES OF TOPSOIL MAY BE ALLOWED UPON OWNER REQUEST
2. CONCRETE COLLARS ARE REQUIRED FOR MANHOLES INSTALLED IN AREAS SUBJECT TO VEHICULAR TRAFFIC IF FINAL PAVING AROUND THE MANHOLE WILL OCCUR MORE THAN 3 MONTHS AFTER THE INSTALLATION OF THE MANHOLE. CONCRETE COLLAR SHALL BE FLUSH WITH EDGE OF MANHOLE AND SURROUNDING SURFACE.
3. CARSONITE MARKER SHALL BE SET ADJACENT TO MANHOLE AT EDGE OF UTILITY ACCESS ROAD.
4. CARSONITE MARKER SHALL CONTAIN THE APPROPRIATE UTILITY SPECIFIC LABEL AND COLOR AS PER CITY ENGINEER.
5. MINIMUM OF SIX (6") INCHES OF BASE COMPACTED TO 95% PROCTOR DENSITY FOR ASPHALT AND CONCRETE SURFACES.
   a) MINIMUM OF SIX (6") INCHES OF SUB BASE COMPACTED TO 95% PROCTOR DENSITY
6. MINIMUM OF SIX (6") INCHES OF SUB BASE COMPACTED TO 95% PROCTOR DENSITY FOR OTHER SURFACE TREATMENTS.
   a) EXTEND ROAD BASE OUT TO EDGES OF EASEMENT AROUND MANHOLES.

December 2021

Engineering Division | Utility Access Road | Approved By Utility Project Manager – Ross Mollenhauer, PE | Revised: 09/28/20 | STD - 514



GENERAL NOTES:

1. MAXIMUM LINE DEPTH IS 13'. DEVIATIONS MAY BE ALLOWED BY CITY ENGINEERING.
2. CONNECTIONS TO EXISTING SEWER MAINS SHALL BE TAPPED AT THE CONTRACTORS EXPENSE, AND PREDCO FAST FIT SADDLES OR APPROVED EQUAL SHALL BE USED. WHEN THE SEWER MAIN AND SEWER SERVICE LATERALS ARE INSTALLED UNDER ONE CONTRACT, IN-LINE TEES ONLY SHALL SHALL BE PROVIDED FOR THE SERVICE LATERALS. TEES SHALL BE ROLLED TO A 45 DEGREE ANGLE.
3. AN EXCAVATION PERMIT IS REQUIRED FOR EACH STUB.
4. SEWER SERVICE STUBS SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS OR AS SPECIFIED BY CITY ENGINEERING.
5. IN ORDER TO KEEP SERVICE LINES DEEP ENOUGH TO SERVE EACH HOME AND PASS UNDER WATER MAINS, A 22 DEGREE FITTING MAY BE ALLOWED BY THE CITY ENGINEER AT THE SEWER MAIN TAP.
6. ALL COMMERCIAL SERVICE STUBS SHALL BE 6" MINIMUM DIAMETER.
7. ALL SINGLE DWELLING UNIT SERVICE STUBS SHALL BE 4" MINIMUM DIAMETER.

December 2021

Engineering Division | Standard Sewer Service Stub | Approved By Utility Project Manager – Ross Mollenhauer, PE | Revised: 09/28/2020 | STD - 520

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REVISIONS	DATE
STAGE 2 REVISIONS	07/01/2022
STREET NAMES	07/14/2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T13N, R19W., & S 12, T13N., R20W. SWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

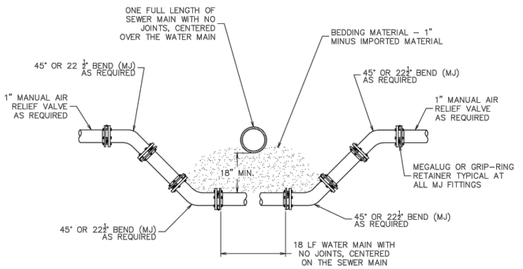
SHEET TITLE: UTILITY CONSTRUCTION PLANS DETAIL SHEET

PROJECT NO.: 21000864

SHEET: D1 OF D3

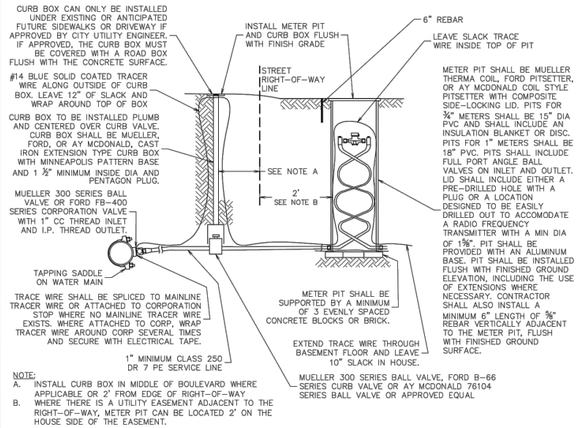
STAGE 2

DWG LOCATION: P:\JOBS\7\21000864\PROJECT\PLOT\21000864_SEWERDETAILS_D1.DWG PLOTTED BY: STEVEN.ANTENUCCI@IMEGCORP.COM



December 2021

Engineering Division	Typical Water Line Crossing @ Sewer Mains	Approved By Utilities Engineer Logan McInnis, PE	Adopted:09/28/2020 Revised: 02/04/2021	STD - 402



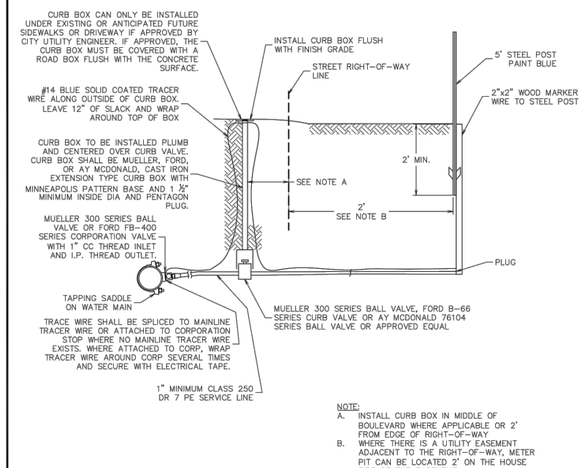
NOTE:
A. INSTALL CURB BOX IN MIDDLE OF BOULEVARD WHERE APPLICABLE OR 2' FROM EDGE OF RIGHT-OF-WAY
B. WHERE THERE IS A UTILITY EASEMENT ADJACENT TO THE RIGHT-OF-WAY, METER PIT CAN BE LOCATED 2' ON THE HOUSE SIDE OF THE EASEMENT.

GENERAL NOTES:

1. WATER SERVICES SHALL BE BURIED A MINIMUM OF 6' DEEP.
2. THIS DETAIL APPROPRIATE FOR 3/4" OR 1" METERS. CONTRACT CITY UTILITY ENGINEER FOR RESIDENTIAL METERS LARGER THAN 1". IRRIGATION METERS LARGER THAN 1" MUST BE INSTALLED IN A CONCRETE PIT PER STD-412 OR OTHER APPROVED DRAWING.
3. PLASTIC METER PITS ARE NOT TRAFFIC RATED. METER PITS ARE NOT ALLOWED IN SIDEWALKS OR IN A TRAFFIC AREA UNLESS APPROVED BY THE CITY UTILITY ENGINEER. IF APPROVED BY THE CITY UTILITY ENGINEER. INSTALLATION SHALL HAVE A FLUSH MOUNTED, TRAFFIC RATED CASTING INSTALLED OVER THE PIT. THE CASTING DIA SHALL BE AT LEAST 3" LARGER THAN THE METER PIT. THE METER TRANSMITTER SHALL BE INSTALLED ON THE BUILDING WALL WITH A 1/2" CONDUIT BETWEEN THE PIT AND THE WALL.
4. NO OBSTRUCTIONS SHALL BE PLACED WITHIN A MIN 4' RADIUS AROUND THE METER PIT TO ENSURE ACCESS TO THE PIT.
5. NO PRV'S, CHECK VALVES, OR BACKFLOW DEVICES ALLOWED IN METER PIT.
6. THIS DIAGRAM IS NOT PROJECT SPECIFIC AND IS NOT INTENDED TO BE A DESIGN DRAWING. THE OWNER IS RESPONSIBLE TO COMPLY WITH ALL APPLICABLE BUILDING CODES. THIS DETAIL MAY CHANGE AT ANY TIME AND IT IS THE OWNER'S RESPONSIBILITY TO OBTAIN THE MOST CURRENT VERSION OF THIS AND OTHER CITY REQUIREMENTS.
7. IF PROPERTY DOES NOT FRONT A STREET WITH A WATER MAIN, CONTACT CITY FOR SPECIFIC REQUIREMENTS RELATED TO EASEMENTS AND METER PIT LOCATIONS.
8. WHERE NEW WATER SERVICE LINE TRANSITIONS TO EXISTING GALVANIZED SERVICE LINE, THE NEW TRACER WIRE SHOULD BE ATTACHED TO THE GALVANIZED PIPE USING A CHRISTY'S OR APPROVED EQUAL UL APPROVED BRONZE GROUNDING CLAMP SUITABLE FOR DIRECT BURIAL.
9. IF METER PIT IS INSTALLED TOO LOW THE CONTRACTOR/DEVELOPER SHALL BE RESPONSIBLE FOR THE PURCHASE AND INSTALLATION OF A METER RESETTER TO BRING TO FINISHED GRADE.

December 2021

Engineering Division	Typical Residential Water Service Detail	Approved By Utilities Engineer Logan McInnis, PE	Adopted:09/28/2020 Revised: 03/25/2021	STD - 404A



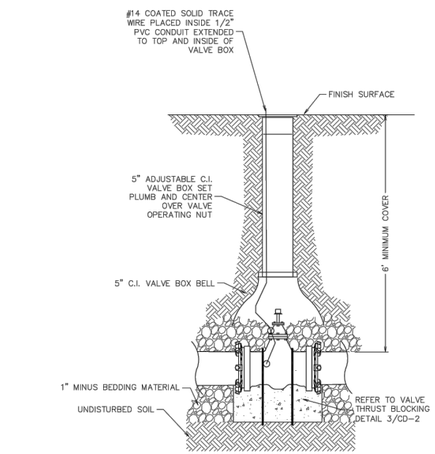
NOTE:
A. INSTALL CURB BOX IN MIDDLE OF BOULEVARD WHERE APPLICABLE OR 2' FROM EDGE OF RIGHT-OF-WAY
B. WHERE THERE IS A UTILITY EASEMENT ADJACENT TO THE RIGHT-OF-WAY, METER PIT CAN BE LOCATED 2' ON THE HOUSE SIDE OF THE EASEMENT.

GENERAL NOTES:

1. WATER SERVICES SHALL BE BURIED A MINIMUM OF 6' DEEP.
2. FOR WATER SERVICES STUBS LARGER THAN 2" SEE CITY STANDARD DETAIL STD-413.
3. IF PROPERTY DOES NOT FRONT A STREET WITH A WATER MAIN, CONTACT CITY FOR SPECIFIC REQUIREMENTS RELATED TO EASEMENTS.
4. SERVICE LINE SHALL END AT WOOD POST. NO ABOVE GROUND WHIPS ALLOWED. IT IS THE INSTALLER'S RESPONSIBILITY TO REMOVE AIR FROM THE SERVICE LINES AS NECESSARY.
5. WATER SERVICE STUBS SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS OR AS SPECIFIED BY CITY ENGINEERING.

December 2021

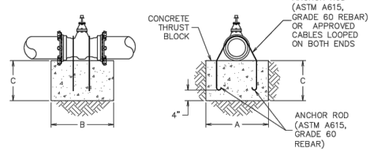
Engineering Division	Typical Residential Water Service Stub Detail	Approved By Utilities Engineer Logan McInnis, PE	Adopted:09/28/2020 Revised: 03/25/2021	STD - 404B



NOTE: RESTRAINED JOINTS WITHIN 36 FEET OF VALVE WITH MEGALUGS, FIELD LOK GASKETS, OR APPROVED EQUIVALENT.

December 2021

Engineering Division	Valve Detail	Approved By Utilities Engineer Logan McInnis, PE	Adopted:09/28/2020 Revised: 02/04/2021	STD - 405



NOTES:

1. DIAGRAM DEPICTS GATE VALVES ONLY. VALVES 12 INCH AND LARGER TO BE BUTTERFLY, AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS WITH BLOCKS CENTERED UNDER LOAD BEARING PORTION OF VALVE.
2. STEEL CABLE (3/4" MINIMUM DIA. OR AS APPROVED BY THE ENGINEER) W/ANCHOR BOLTS MAY BE SUBSTITUTED FOR ANCHOR ROD.

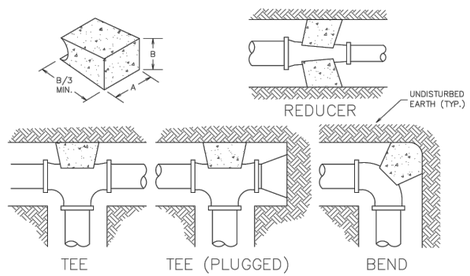
STANDARD THRUST BLOCK DIMENSIONS

ANCHOR ROD SIZE	VALVE SIZE	100 PSI			150 PSI			200 PSI			250 PSI			300 PSI	
		"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"	"C"	"A"	"B"
3/4"	6" & 8"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
3/4"	10"	2'-0"	2'-0"	2'-0"	2'-6"	2'-6"	2'-0"	2'-9"	2'-6"	2'-6"	3'-0"	3'-0"	3'-0"	3'-7"	3'-0"
3/4"	12"	2'-3"	2'-0"	2'-0"	3'-0"	3'-0"	2'-8"	3'-5"	3'-0"	3'-0"	4'-3"	3'-0"	3'-0"	5'-1"	3'-0"
1"	14"	2'-3"	2'-0"	2'-4"	3'-5"	3'-0"	3'-0"	4'-6"	3'-0"	3'-0"	4'-0"	4'-0"	4'-0"	4'-9"	4'-0"
1 1/8"	16"	3'-0"	3'-0"	2'-11"	4'-4"	3'-0"	3'-0"	4'-1"	4'-0"	4'-0"	5'-1"	4'-0"	4'-0"	6'-1"	4'-0"
1 1/4"	18"	3'-8"	3'-0"	3'-0"	5'-5"	3'-0"	3'-0"	5'-1"	4'-0"	4'-0"	6'-4"	4'-0"	4'-0"	5'-9"	5'-0"
1 3/8"	24"	4'-4"	4'-0"	4'-0"	6'-5"	4'-0"	4'-0"	6'-6"	5'-0"	5'-0"	6'-5"	6'-0"	6'-0"	7'-8"	6'-0"

NOTE: PRESSURES SHOWN ABOVE ARE MAXIMUM WORKING PRESSURE IN SYSTEM.

December 2021

Engineering Division	Valve Thrust Blocking Detail	Approved By Utilities Engineer Logan McInnis, PE	Adopted:09/28/2020 Revised: 02/04/2021	STD - 406



DIMENSIONS FOR THRUST BLOCKING

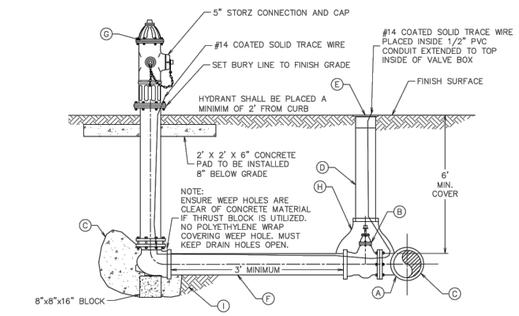
FITTING SIZES	TEES & PLUGS		90° BEND		45° BEND & WYES		REDUCERS & 22 1/2° BEND	
	A	B	A	B	A	B	A	B
4" & 6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"	1'-9"	0'-10"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"	1'-9"	1'-6"
10"	4'-0"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"	2'-2"	1'-11"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"	2'-7"	2'-3"
16"	4'-6"	4'-0"	5'-0"	4'-8"	4'-0"	3'-0"	3'-0"	2'-6"
20"	5'-0"	5'-0"	7'-0"	5'-0"	4'-6"	4'-0"	3'-0"	3'-0"
24"	6'-10"	5'-0"	10'-0"	5'-0"	5'-8"	4'-6"	3'-8"	3'-8"

NOTES:

1. THIS TABLE IS BASED ON 2000 PSF SOIL BEARING PRESSURE AND 150 PSI MAIN PRESSURE.
2. WRAP ALL FITTINGS WITH POLYETHLENE PRIOR TO PLACING CONCRETE.

December 2021

Engineering Division	Thrust Block Detail	Approved By Utilities Engineer Logan McInnis, PE	Revised: 09/28/2020	STD - 407



NOTES:

1. DUCTILE IRON PIPE, INCLUDING HYDRANT BARREL, SHALL BE WRAPPED WITH 8 MIL POLYETHYLENE.
2. IF MAIN IS BELOW OR ABOVE STANDARD DEPTH, USE BENDS AS REQUIRED TO INSURE THAT HYDRANT IS PLACED ABOVE GRADE AS SHOWN. PLACE BENDS BETWEEN HYDRANT VALVE & MAIN TO RAISE VALVE TO NORMAL DEPTH WHEN MAIN IS BELOW DEPTH SHOWN.
3. ALL JOINTS ON HYDRANT LEADS SHALL BE RESTRAINED.
4. HYDRANT EXTENSIONS WILL ONLY BE ALLOWED WITH WRITTEN PERMISSION FROM MISSOULA WATER.

(A)	APPROPRIATE SIZE X 6" SWIVEL OR MJ TEE AS REQUIRED.
(B)	6" MJ GATE VALVE--MUELLER OR APPROVED EQUAL
(C)	CONCRETE THRUST BLOCK IN ADDITION TO MEGALUG OR TIE-BOLT RESTRAINTS.
(D)	5" ADJUSTABLE C.I. VALVE BOX
(E)	5" VALVE BOX LID
(F)	6" DUCTILE IRON PIPE WITH #14 COATED SOLID TRACE WIRE
(G)	6" MUELLER CENTURION HYDRANT ASSEMBLY--MJ OR FLANGED (AS REQUIRED)
(H)	5" C.I. VALVE BOX BELL
(I)	PROVIDE IN ALL SOILS 1/2YD MIN. OF 3/4" CRUSHED ROCK. IN CLAY SOILS, PROVIDE 1 YD MIN.

December 2021

Engineering Division	Hydrant Detail	Approved By Utilities Engineer Logan McInnis, PE	Adopted:09/28/2020 Revised: 12/17/2020	STD - 408

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REVISIONS	DATE
STAGE 2 REVISIONS	07.01.2022
STREET NAMES	07.14.2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850 S 7, T 13N, R19W., & S 12, T 13N., R20W. SXWTPQYEN NEIGHBORHOOD

PREPARED FOR: EVERGREEN HOUSING SOLUTIONS

PROJECT NAME: WEST END HOMES

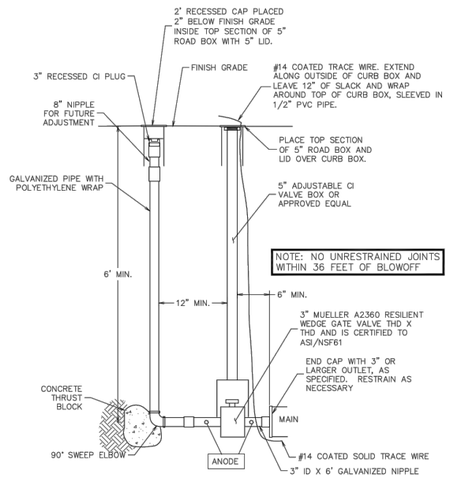
SHEET TITLE: UTILITY CONSTRUCTION PLANS DETAIL SHEET

PROJECT NO.: 21000864

SHEET: D2 OF D3

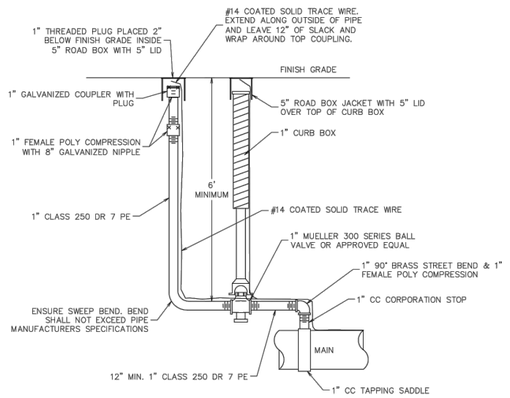
STAGE 2

DWG LOCATION: P:\EBS\PROJECTS\PROJECTS\2021\21000864.2050\DESIGN\CIVIL\3_DRAWINGS\AUTOCAD\PLAN SETS\UTILITY SS\EBS-PLAN SETS-UTILITY SS.DWG 7/14/2022 10:06:08 AM



December 2021

Engineering Division	Typical Blow-Off Assembly			
	Approved By Utilities Engineer Logan McInnis, PE	Adopted:09/28/2020 Revised: 02/04/2021	STD - 409	

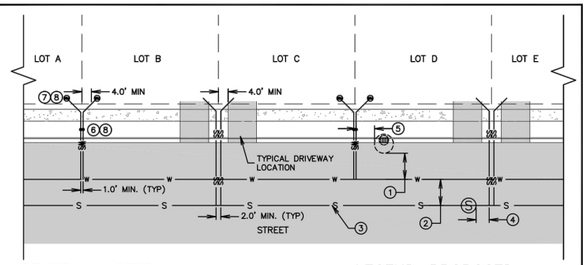


NOTES:

1. WHERE AIR RELIEF VALVES (ARVs) ARE IDENTIFIED ON THE PLANS AS TEMPORARY, TRACER WIRE IS NOT REQUIRED AND ALL MATERIALS CAN BE SALVAGED AFTER THE CORP IS CLOSED, THE LINE IS CAPPED WITH A BRASS CAP AND FITTINGS ARE WRAPPED IN 10-MIL TAPE..

December 2021

Engineering Division	Manual Air Relief Detail			
	Approved By Utilities Engineer Logan McInnis, PE	Revised: 09/28/2020	STD - 410	



GENERAL NOTES:

1. WET UTILITY MAIN ALIGNMENTS SHOULD PARALLEL THE STREET RIGHT-OF-WAY TO MAXIMIZE RIGHT-OF-WAY AVAILABLE FOR FUTURE UTILITIES. ADDITIONAL SANITARY SEWER AND STORM WATER MANHOLES WILL LIKELY BE REQUIRED ON CURVES.
2. WET UTILITY SERVICE LINES SHALL BE PERPENDICULAR TO THE MAIN.
3. WET UTILITY MAINS AND SERVICE LINES SHALL NOT BE LOCATED IN BIOSWALES
4. STREET TREES SHALL NOT BE INSTALLED WITHIN 10 FEET OF WET UTILITY MAINS, AS MEASURED FROM CENTER OF TREE TO CENTER OF PIPE.
5. AS AN ALTERNATIVE TO THE WATER AND SEWER SERVICE LAYOUT SHOWN, WATER AND SEWER SERVICE LINES CAN BE INSTALLED IN THE SAME TRENCH AS A WAY TO PRESERVE MORE ROOM FOR STREET TREES. WATER AND SEWER SERVICES SHALL BE SEPARATED BY 1.0' MINIMUM.

LEGEND-PROPOSED

- W — WATER MAIN
- WS — WATER SERVICE
- S — SANITARY SEWER MAIN
- SS — SANITARY SEWER SERVICE
- PROPERTY LINE
- CURB BOX
- METER PIT
- SANITARY SEWER MANHOLE
- DRY WELL

KEYED NOTES:

1. NO WATER MAIN SHALL BE WITHIN 5 FEET OF THE NEAREST POINT OF ANY SANITARY OR STORM MANHOLE OR DRY WELL. THE DISTANCE TO A DRY WELL SHALL BE MEASURED TO THE EDGE OF THE STRUCTURE. WATER MAINS CLOSER THAN 10 FEET FROM A DRY WELL WILL REQUIRE A DEVIATION FROM DEQ. NO SEWER MAIN SHALL BE WITHIN 5 FEET OF THE NEAREST POINT OF ANY STORM MANHOLE, CATCH BASIN OR DRY WELL. THE DISTANCE TO A DRY WELL SHALL BE MEASURED TO THE EDGE OF THE STRUCTURE.
2. WATER AND SEWER MAINS SHALL BE SEPARATED BY A MINIMUM OF 10 FEET AS MEASURED FROM EDGE OF PIPE TO EDGE OF PIPE.
3. MANHOLES SHOULD BE LOCATED IN THE CENTERLINE OF THE ROAD OR THE CENTER OF THE DRIVE LANE.
4. SEWER SERVICE LINES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM EDGE OF MANHOLE.
5. WATER SERVICE LINES SHALL BE LOCATED A MINIMUM OF 7 FEET FROM EDGE OF DRY WELL CONCRETE STRUCTURE.
6. CURB BOXES SHALL BE LOCATED IN THE CENTER OF THE BOULEVARD WHERE APPLICABLE OR 2 FEET FROM EDGE OF RIGHT-OF-WAY.
7. METER PITS SHALL BE LOCATED 2 TO 5 FEET ON THE PROPERTY SIDE OF THE RIGHT-OF-WAY LINE OR AS SHOWN IN DETAIL STD-404A.
8. CURB BOXES AND METER PITS SHALL NOT BE INSTALLED WITHIN SIDEWALKS OR TRAFFIC AREAS WITHOUT PRIOR APPROVAL BY CITY UTILITY ENGINEER.

December 2021

Engineering Division	Typical Service Line Location Detail			
	Approved By Utilities Engineer Logan McInnis, PE	Adopted: Revised: 03/09/2021	STD - 416	

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PLOT DATE: 7/14/2022 10:07 AM

REVISIONS	DATE
STAGE 2 REVISIONS	07.01.2022
STREET NAMES	07.14.2022

DESIGNED: AM
DRAFTED: AM
CHECKED: JR
DATE: MAR 2022

LOCATION: TRACT D & E OF COS 6850
S 7, T13N., R19W., & S 12, T13N., R20W.
SW/TPQYEN NEIGHBORHOOD

PREPARED FOR:
EVERGREEN HOUSING SOLUTIONS

PROJECT NO.: 21000864
PROJECT NAME: WEST END HOMES
SHEET: D3 OF D3
SHEET TITLE: UTILITY CONSTRUCTION PLANS DETAIL SHEET

STAGE 2

SAVE LOCATION: I:\FILES\ACTIVE\PROJECTS\2021\21000864.00\CIVIL\DWG\SHEETS\D3 21000864 D3 DETAILS.DWG
PLOT DATE: 7/14/2022 10:07 AM
PLOT BY: ELIZABETH HAYWARD
PLOT SCALE: 1:1
PLOT STYLE TABLE: IMEG.CTB