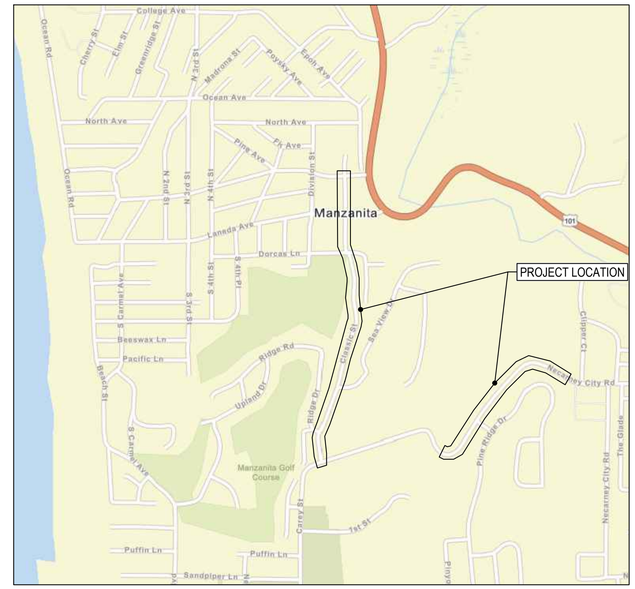
ENGINEERING PLANS - BID SET

FOR

MANZANITA CLASSIC STREET

PREPARED FOR:
CITY OF MANZANITA, OREGON
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130
CONTACT: LEILA AMAN
PHONE: (503) 368-5343
EMAIL: LAMAN@CI.MANZANITA.OR.US



VICINITY MAP
NOT TO SCALE

PROJECT INFO: 24231 - MANZANITA CLASSIC STREET

SHEET INDEX

CITY OF MANZANITA - APPROVAL

DATE: _____

PERMIT NUMBER: _____

APPLICATION NUMBER: _____

PRINTED NAME: _____

SIGNATURE: _____

CONSULTANT CITY ENGINEER

BY _____ DATE _____

FIRE DEPARTMENT CHIEF

BY _____ DATE _____

WATER AND SEWER SUPERINTENDENT

BY _____ DATE _____

APPROVED FOR CONSTRUCTION

BY _____ DATE _____

APPROVAL EXPIRES _____

REVISIONS:

PREPARED BY:

WINDSOR ENGINEERS
Ridgefield, WA
Duluth + Minneapolis, MN
www.windsorengineers.com

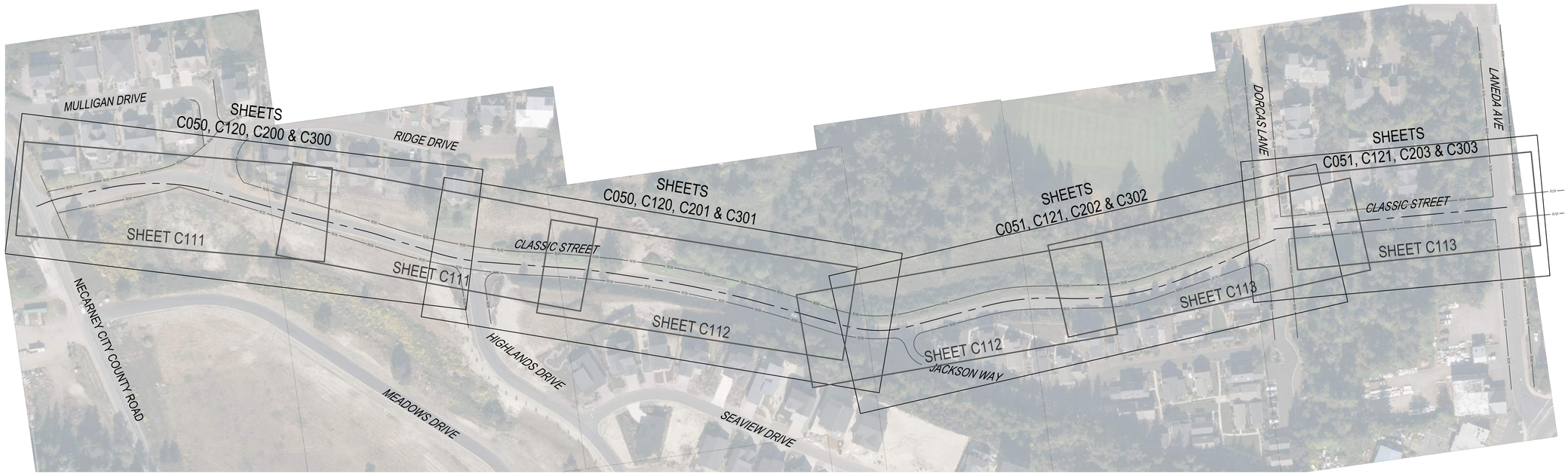
REGISTERED PROFESSIONAL ENGINEER
60259PE
OREGON
MARCH 9, 1999
TRAVIS W TORMANEN
Expires: 6/30/2026

Issue Date: 4/11/2025

PROJECT NUMBER: 24231

CONTACT: TRAVIS TORMANEN
PHONE: (360) 903-9281
EMAIL: TTORMANEN@WINDSORENGINEERS.COM

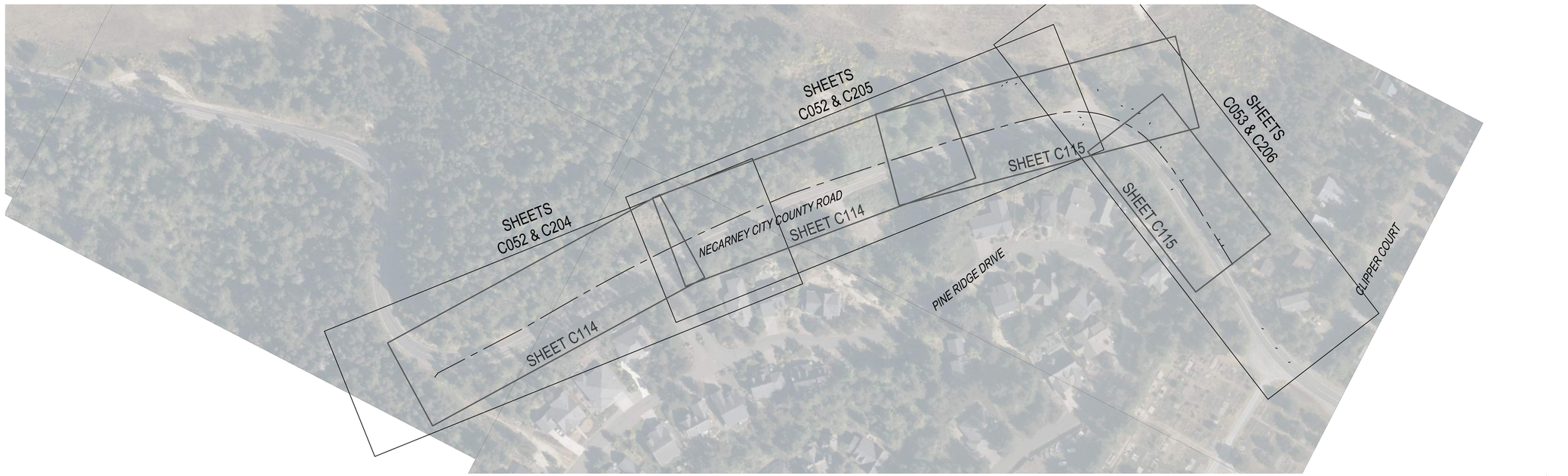
ISSUED FOR ENGINEERING PLANS - BID SET



WORK AREA PLAN - CLASSIC STREET

SCALE: 1" = 100'

0 100' 200' N



WORK AREA PLAN - NECARNEY WATERMAIN

SCALE: 1" = 100'

0 100' 200' N

811 Know what's **below.** **Call** before you dig.

CALL 2 BUSINESS DAYS BEFORE YOU DIG.
CAUTION UTILITY INFORMATION IS APPROXIMATE.
VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.

Revisions:

#		

LINE IS 1" ON FULL SCALE DRAWING

WINDSOR ENGINEERS

Ridgefield, WA
Duluth + Minneapolis, MN
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167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

WORK AREAS

G002

ISSUED FOR ENGINEERING PLANS - BID SET

PROJECT NOTES

PROJECT CONSISTS OF NEW WATER MAIN TO THE CITY'S INFRASTRUCTURE TO PROVIDE BETTER FIRE FLOWS AND FUTURE NEEDS IN THIS AREA. ROAD WIDENING SO CLASSIC STREET MEETS CITY'S CURRENT STANDARDS. NEW SIDEWALK/PATH AND TRAFFIC CALMING FEATURES TO MAKE THE ROADWAY SAFER FOR PEDESTRIAN AND BIKE TRAFFIC. STORMWATER IMPROVEMENTS TO MEET THE NEEDS OF ADDITIONAL IMPERVIOUS. LANDSCAPING TO AID IN SLOPE STABILIZATION AND AREA BEAUTIFICATION. RETAINING WALLS FOR SLOPE STABILIZATION DUE TO ROADWAY AND SIDEWALK WIDENING THE EXISTING ROADWAY.

PARCEL NO.(S): CLASSIC STREET PUBLIC ROADWAY FROM NECARNEY CITY ROAD TO LANEDA AVE.
1,600' ALONG NECARNEY CITY ROAD STARTING 400' WEST OF CLIPPER CT. CONTINUING SOUTHWEST.
(3N1029D000102 CLOSEST CITY PROPERTY TO THE PROJECT)

SITE ADDRESS: CLASSIC STREET PUBLIC ROADWAY FROM NECARNEY CITY ROAD TO LANEDA AVE.
1,600' ALONG NECARNEY CITY ROAD STARTING 400' WEST OF CLIPPER CT. CONTINUING SOUTHWEST.

QUARTER SECTION: SE 1/4 OF S29 T3N R10W
NW 1/4 OF SW 1/4 OF S28 T3N R10W

COUNTY: TILLAMOOK

CRITICAL AREAS:

THE PROJECT IS PARTIALLY LOCATED WITHIN THE GEOLOGIC HAZARD AREAS AS INDICATED BY GEOTECHNICAL REPORT. (TSUNAMI)

THE PROJECT IN NOT LOCATED WITHIN A FLOOD HAZARD SITE AS INDICATED BY TILLAMOOK COUNTY WEB MAPS.

CONTRACTOR MAY ENCOUNTER HIGH GROUND-WATER TABLE AT SITE LOCATION. HIGH GROUND-WATER IN COMBINATION WITH BEACH SAND SUBGRADE MAY CAUSE A "QUICK" EFFECT, WHICH MAY RESULT IN THE DESTABILIZATION OF ADJACENT SOILS, UTILITIES, AND STRUCTURES. CONTRACTOR SHALL PLAN FOR AND COORDINATE ANY AND ALL DEWATERING TECHNIQUES NECESSARY AND/OR REQUIRED TO COMPLETE PROJECT AS SPECIFIED IN THE TECHNICAL SPECIFICATIONS. NOTIFY THE CITY 48 HOUR PRIOR TO ANY DEWATERING ACTIVITIES FOR ABNORMAL GROUND WATER ENCOUNTERED OTHERWISE THE CONTRACTOR SHALL BEAR ALL DEWATERING COSTS.

CONTACT INFORMATION

APPLICANT / PROPERTY OWNER
CITY OF MANZANITA, OREGON
167 SOUTH 5TH STREET, MANZANITA, OREGON 97130
CONTACT: LEILA AMAN (503) 368-5343
LAMAN@CI.MANZANITA.OR.US

REPRESENTATIVE / CONTACT
WINDSOR ENGINEERS, LLC
27300 NE 10TH AVE., RIDGEFIELD, WA 68642
CONTACT: TRAVIS TORMANEN (360) 610-4931
TTORMANEN@WINDSORENGINEERS.COM

SURVEYOR
ONION PEAK DESIGN
44475 CAROL DRIVE, NEHALEM, OR 97131
CONTACT: ERICK WHITE, PLS (360) 553-5992
ERICK.OPD@GMAIL.COM

STORMWATER/EROSION CONTROL
NORTH COAST CIVIL DESIGN, LLC
CONTACT: KYLE AYERS
35270 TOHL AVE,
NEHALEM, OR 97131
PHONE: (503) 812-3732
OFFICE: (503) 368-3732

GEOTECHNICAL
PALI CONSULTING
4891 WILLAMETTE FALLS DRIVE, SUITE 1
WEST LINN, OR 97068
CONTACT: TIM BLACKWOOD (503) 502-0820
TIM@PALI-CONSULTING.COM

LANDSCAPE ARCHITECT
MACKAY SPOSITO
18405 SE MILL PLAIN BLVD., SUITE 100
VANCOUVER, WA 98683
CONTACT: JUANITA ROGERS (360) 823-1331
JROGERS@MACKAYSPOSITO.COM

COMMUNITY CONTACT INFORMATION

CITY OF MANZANITA:
(503) 812-2514

MANZANITA POLICE:
(503) 815-1911

NEHALEM BAY FIRE & RESCUE:
(503) 368-7590

WATER, STORM, ROAD (MANZANITA PUBLIC WORKS):
(503) 457-6319

SEWER (NEHALEM BAY WASTEWATER AGENCY):
(503) 368-5347

GARBAGE & RECYCLING (RECOLOGY):
(503) 368-7764

OREGON UTILITY NOTIFICATION CENTER:
(503) 232-1897 / 1-800-332-2344 / 811

ELECTRIC (TILLAMOOK PEOPLE'S UTILITY DISTRICT):
1-800-422-2535

GAS (NORTHWEST NATURAL GAS):
1-800-422-4012

CABLE TV (CHARTER COMMUNICATIONS):
(541) 921-1859

TELEPHONE (RTI NEHALEM TELECOM):
(503) 984-2506

GENERAL NOTES

GENERAL REQUIREMENTS

1. COMPLIANCE: FOLLOW ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES, AND RULES.
2. STANDARDS: CITY OF MANZANITA, OHA, ODOT, AWWA, AND UNIFORM PLUMBING CODE.
3. PERMITS: OBTAIN ALL NECESSARY PERMITS, INCLUDING PUBLIC RIGHT-OF-WAY WORK PERMITS FROM THE CITY, COUNTY, NPDES, OHS, AND ODOT.
4. PLANS: KEEP APPROVED PLANS ON-SITE DURING CONSTRUCTION.
5. CHANGES: OBTAIN OWNER/ENGINEER APPROVAL FOR ANY DESIGN OR CONSTRUCTION CHANGES.
6. INSPECTIONS: COORDINATE CONSTRUCTION SCHEDULE AND ACTIVES WITH THE CITY, CONTACT PUBLIC WORKS AT (503) 368-5347.
7. DOCUMENTATION: MAINTAIN DETAILED RECORDS OF ALL ACTIVITIES, INCLUDING AS-BUILT DRAWINGS.

SITE PREPARATION AND DEMOLITION

1. UTILITY LOCATES: CALL 811 TWO BUSINESS DAYS BEFORE CONSTRUCTION. VERIFY LOCATIONS AND DEPTHS.
2. EXISTING UTILITIES: PROTECT ALL EXISTING UTILITIES AND STRUCTURES. REPAIR ANY DAMAGE AT CONTRACTOR'S EXPENSE.
3. DEMOLITION:
    - 3.A. FLUSH AND PLUG SEWER MAINS AND WATER LINES WITH CONCRETE EXTENDING 3X PIPE DIAMETER INWARD.
    - 3.B. FILL SPACE BETWEEN PLUGS WITH SAND OR FLOWABLE CEMENT SLURRY.
    - 3.C. BACKFILL VOIDS WITH GRANULAR MATERIAL COMPACTED TO 95% MAX DRY DENSITY.
    - 3.D. DISPOSE OF ALL DEMOLITION MATERIALS PROPERLY.
4. THE CONTRACTOR SHALL NOTIFY THE COUNTY SURVEYOR PRIOR TO INTERFERING WITH OR PAVE OVER ANY ESTABLISHED PUBLIC LAND SURVEY CORNER OR ITS ACCESSORIES, WITHIN THE PROJECT LIMITS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL SURVEY MONUMENTS DISTURBED OR DESTROYED DURING CONSTRUCTION. REPLACING THE SURVEY MONUMENTS SHALL BE DONE BY A REGISTERED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.

EROSION CONTROL AND ENVIRONMENTAL PROTECTION

1. SEDIMENT CONTROL: INSTALL BARRIERS ALONG SITE PERIMETER AND AROUND STOCKPILES.
2. SLOPE TREATMENT: ROUGHEN SURFACES BEFORE PLANTING. USE ADDITIONAL MEASURES FOR STEEP SLOPES.
3. SEEDING: USE OREGON COAST RANGE ECO-REGION SEED MIX AT 11.4 LBS/ACRE UNLESS OTHERWISE APPROVED.
4. MULCHING: APPLY WEED-FREE MULCH. USE TACKIFIER OR MECHANICAL ANCHORING ON STEEP SLOPES.
5. DUST CONTROL: IMPLEMENT AS NECESSARY.
6. INLET PROTECTION: PROTECT ACTIVE STORMWATER INLETS WITH APPROVED MEASURES.
7. BUFFER: MAINTAIN 200 FT VEGETATED BUFFER.
8. DEWATERING: DEWATER TO AT LEAST 1 FOOT BELOW LOWEST EXCAVATION. SUBMIT PLAN 48 HOURS PRIOR TO ANY DEWATERING WORK.
9. RESTORATION
    - 9.A. SURFACE RESTORATION:
    - 9.B. RESTORE ALL SURFACES TO PRE-CONSTRUCTION CONDITION OR BETTER.
    - 9.C. RESURFACE ROAD/DRIVEWAY AT PROJECT END.
    - 9.D. SEED AND MULCH ANY DISTURBED TURF AREAS.
    - 9.E. LANDSCAPING: RESTORE ALL DISTURBED AREAS TO ORIGINAL CONDITION.

CULTURAL RESOURCES: NOTIFY OREGON HERITAGE STATE HISTORIC PRESERVATION OFFICE IF DISCOVERED.

TRAFFIC CONTROL AND SITE MANAGEMENT

1. TRAFFIC CONTROL: IMPLEMENT APPROVED PLAN, INCLUDING SIGNAGE, DETOURS, AND FLAGGING.
2. WORK AREA:
    - 2.A. KEEP EXCAVATION WITHIN ROAD/DRIVEWAY GRAVEL AREA.
    - 2.B. BACKFILL ALL EXCAVATED MATERIAL AT DAY'S END; REOPEN TRENCH AS NEEDED.
3. SITE CLEANLINESS: KEEP ROADS, SIDEWALKS, AND TRAILS CLEAR OF CONSTRUCTION MATERIALS/DEBRIS.

AMERICANS WITH DISABILITIES ACT (ADA) NOTES

1. CONTRACTORS SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA ACCESSIBLE COMPONENTS ON THE PROJECT, THE ADA COMPONENTS MUST COMPLY WITH ALL LOCAL, STATE, AND FEDERAL ACCESSIBILITY RULES, CODES, AND REGULATIONS.

2. FINISHED SURFACES ALONG THE ACCESSIBLE PATH OF TRAVEL FROM PARKING STALLS, PUBLIC TRANSPORTATION, AND PEDESTRIAN ACCESS WAYS TO THE POINT(S) OF ACCESSIBLE BUILDING INGRESS AND EGRESS SHALL COMPLY WITH ADA CODE REQUIREMENTS.

3. PARKING SPACE AND AISLE SLOPE SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

4. CURB RAMP SLOPE SHALL NOT EXCEED 1:12 (8.3%) AND RAMP LENGTH IS LIMITED TO 15 FEET.

5. LANDINGS SHALL BE PROVIDED AT EACH END OF RAMPS, SHALL HAVE POSITIVE DRAINAGE, AND SHALL NOT EXCEED 1:48 (1/4"PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.

6. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE SHALL PROVIDE A MINIMUM OF 36 INCH UNOBSTRUCTED WIDTH OF TRAVEL. SLOPE SHALL BE NO GREATER THAN 1:20 (5.0% OR 5/8" PER FOOT) IN THE DIRECTION OF TRAVEL, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) IN CROSS SLOPE. WHERE PATH OF TRAVEL BE GREATER THAN 1:20 (5.0%), AN ACCESSIBLE RAMP WITH A MAXIMUM SLOPE OF 1:12 (8.3%) FOR A MAXIMUM DISTANCE OF 30 FEET SHALL BE PROVIDED INCLUDING HANDRAILS. THE RAMP SHALL HAVE ACCESSIBLE HAND RAILS AND LANDINGS ON EACH END WITH A SLOPE IN ANY DIRECTION NOT EXCEEDING 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%).

7. DOORWAYS SHALL HAVE A LANDING AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA SHALL BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT HERE OTHERWISE PERMITTED BY ACCESSIBILITY STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS AND APPROVED BY THE OWNER'S REPRESENTATIVE.

8. WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN A STREET OR HIGHWAY RIGHT-OF-WAY, THE GRADE OF THE PEDESTRIAN ACCESS ROUTE IS PERMITTED TO EQUAL THE GENERAL GRADE ESTABLISHED FOR THE ADJACENT STREET OR HIGHWAY, EXCEPT THAT WHERE PEDESTRIAN ACCESS ROUTES ARE CONTAINED WITHIN PEDESTRIAN STREET CROSSINGS A MAXIMUM GRADE OF 5 PERCENT IS REQUIRED.

GENERAL PLAN NOTES

1. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND DEPTHS PRIOR TO CONSTRUCTION. A MINIMUM OF TWO FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CALL 811 (UTILITY NOTIFICATION CENTER) FOR LOCATION MARK-UP OF EXISTING UTILITIES
2. ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE LATEST STANDARDS AND PRACTICES OF TILLAMOOK COUNTY, THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR CONSTRUCTION" PREPARED BY ODOT, AND THESE DOCUMENTS.
3. IN CASE OF A CONFLICT BETWEEN THE REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.
4. ANY CHANGES TO THE DESIGN AND/OR CONSTRUCTION SHALL BE APPROVED BY THE OWNER OR ENGINEER.
5. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE AN APPROVAL OF ANY OTHER CONSTRUCTION NOT SPECIFICALLY SHOWN ON THE PLANS. PLANS FOR STRUCTURES SUCH AS BRIDGES, BUILDINGS, TANKS, VAULTS, ROCKERIES, AND RETAINING WALLS MAY REQUIRE A SEPARATE REVIEW AND APPROVAL BY THE BUILDING DEPARTMENT PRIOR TO CONSTRUCTION.
6. A COPY OF THESE APPROVED PLANS SHALL BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL CONSTRUCTION/TEMPORARY EASEMENTS AND PERMITS NECESSARY TO PERFORM THE WORK.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION STAKING.
9. PUBLIC AND PRIVATE DRAINAGE WAYS SHALL BE PROTECTED FROM POLLUTION. NO MATERIAL IS TO BE DISCHARGED TO OR DEPOSITED IN STORMWATER SYSTEMS THAT MAY RESULT IN VIOLATION OF STATE OR FEDERAL WATER QUALITY STANDARDS.
10. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL HAVE AN APPROVED PUBLIC RIGHT-OF-WAY WORK PERMIT/S PRIOR TO ANY CONSTRUCTION ACTIVITY WITHIN THE RIGHT-OF- WAY.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST ADOPTED EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES ON THE ADJACENT PUBLIC STREETS.
12. ANY PUBLIC OR PRIVATE CURB, GUTTER, SIDEWALK, OR ASPHALT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO CITY/COUNTY STANDARDS AND PRACTICES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ADJACENT UTILITIES WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, WATER, SANITARY SEWER, STORMWATER, POWER, TELEPHONE, CABLE TV, GAS, IRRIGATION, AND STREET LIGHTING. THE CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES 48 HOURS IN ADVANCE OF ANY WORK AFFECTING ACCESS OR SERVICE AND SHALL MINIMIZE INTERRUPTIONS TO DRIVEWAYS FOR RESIDENTS AND BUSINESSES ADJACENT TO THE PROJECT.
14. ALL LAWN AND VEGETATED AREAS DISTURBED WILL BE RESTORED TO ORIGINAL CONDITION. ANY DISTURBANCE OR DAMAGE TO OTHER PROPERTY ON ADJACENT PARCELS OR IN THE PUBLIC RIGHT OF WAY SHALL ALSO BE REPAIRED OR RESTORED TO ORIGINAL CONDITION.
15. ALL MATERIALS AND METHODS OF CONSTRUCTION AND INSTALLATION FOR WATER, SANITARY SEWER, AND STORM FACILITIES SHALL CONFORM TO THE CITY OF MANZANITA DESIGN GUIDELINES. CONSTRUCTION SHALL BE AS PER THE MOST CURRENT STANDARD DETAIL CONTAINED THEREIN.
16. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION OF AND PROVIDE PROTECTION FOR ALL UTILITIES AND STRUCTURES. OVERHEAD UTILITIES ARE NOT SHOWN.
17. EXISTING UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR OR BY THE UTILITY AT THE CONTRACTORS EXPENSE.
18. WHERE THE CONTRACTOR MUST RELOCATE WATER AND GAS UTILITIES, SHUTDOWN SHALL ONLY BE ACCOMPLISHED BY THE CITY OR UTILITY PURVEYOR.
19. ALL OPEN TRENCHES THAT IMPACT PUBLIC ACCESS OR OTHER PROJECT WORK ACCESS OUTSIDE OF THIS PROJECTS SITE, MUST BE STEEL PLATED OR BACKFILLED AND/OR PAVED WITH AT LEAST 2" OF COLD MIX TO ADJACENT EXISTING GRADE AT THE END OF EACH WORKDAY.
20. NOTIFY ADJACENT RESIDENCES AT LEAST 15 DAYS PRIOR TO COMMENCING WORK ADJACENT TO THEIR RESIDENCES.
21. SAWCUT ALL PAVEMENT JOINT LINES. WHERE THERE IS A PREVIOUS PAVING EDGE OR CRACK WITHIN 5' OF THE SAWCUT EDGE, REMOVE THE PAVEMENT TO THE PREVIOUS PAVING EDGE.
22. THE CONTRACTOR SHALL COMPLY WITH OREGON REQUIREMENTS FOR TRENCH SAFETY.
23. THE CONTRACTOR SHALL REPLACE ALL SURVEY MONUMENTS THAT ARE DESTROYED BY THE CONSTRUCTION.
24. ALL WATER PIPING SHALL BE CONSTRUCTED WITH 3' MINIMUM COVER, 1' VERTICAL SEPARATION BETWEEN UTILITIES, AND A MINIMUM OF 10' HORIZONTAL SEPARATION AND 18" ABOVE SEWER LINES, UNLESS OTHERWISE NOTED.
25. THE CONTRACTOR SHALL RESTORE PAVEMENT AND LANDSCAPING DISTURBED BY THE CONSTRUCTION TO THE PREVIOUSLY UNDISTURBED CONDITION.
26. CONTRACTOR TO DISPOSE OF TREES, SHRUBS, SOD AND OTHER DEBRIS IN A PROPER MANNER OF THE CONTRACTOR'S CHOOSING.
27. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ROADS, SIDEWALK, AND TRAILS CLEAN AND CLEAR FROM CONSTRUCTION MATERIAL AND DEBRIS.
28. ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE QUALITY LEVEL C AND MUST BE VERIFIED HORIZONTALLY AND VERTICALLY PRIOR TO ANY CONSTRUCTION. EXISTING FEATURES, INCLUDING BURIED UTILITIES, ARE DEPICTED BASED ON RECORD MAPS AND SURVEYS PROVIDED BY OTHERS, AND WINDSOR ASSUMES NO LIABILITY FOR THEIR ACCURACY. THE CONTRACTOR IS RESPONSIBLE FOR POTHOLE EXISTING UTILITIES AT CONNECTION AND CROSSING LOCATIONS PRIOR TO ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES' OWNER/AGENCY 24 HOURS BEFORE POTHOLING FOR MARKING TO VERIFY THE DEPTH, LOCATION, AND TYPE OF EXISTING UTILITIES. INFORM THE ENGINEER IMMEDIATELY IF EXISTING CONDITIONS DIFFER FROM THOSE SHOWN AND PROVIDED IN THE PLANS. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK IN THE AREA OF DISCREPANCIES UNTIL ALL SUCH DISCREPANCIES ARE RESOLVED. IF THE CONTRACTOR CHOOSES TO DO SO, IT IS UNDERSTOOD THAT THEY ARE PROCEEDING AT THEIR OWN RISK AND INCUR ALL COST, IF ANY, TO RESOLVE THE ISSUE TO THE SATISFACTION OF THE ENGINEER.

UTILITY INSTALLATION NOTES

(WATER, SEWER, STORM, GAS, AND FRANCHISE UTILITIES)

1. GENERAL REQUIREMENTS:
COMPLY WITH CITY OF MANZANITA, TILLAMOOK COUNTY, ODOT, AWWA, AND UNIFORM PLUMBING CODE STANDARDS.
FOLLOW OREGON ADMINISTRATIVE RULES FOR PUBLIC UTILITY SYSTEMS.
USE ONLY NEW MATERIALS; NO REBUILT OR USED MATERIALS ALLOWED.

2. UTILITY LOCATES AND PROTECTION:
CALL 811 TWO BUSINESS DAYS BEFORE CONSTRUCTION.
EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE.
VERIFY LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES BEFORE EXCAVATION.
NOTIFY THE ENGINEER IMMEDIATELY IF EXISTING CONDITIONS VARY FROM THAT SHOWN.
PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
REPAIR ANY DAMAGE TO EXISTING UTILITIES AT CONTRACTOR'S EXPENSE.

3. MATERIALS:
WATER MAINS: HDPE SDR 14.
WATER SERVICES: CROSS-LINKED POLYETHYLENE (PEXA) PIPE.
SEWER AND STORM: AS SPECIFIED BY CITY STANDARDS.
GAS: AS SPECIFIED BY GAS UTILITY PROVIDER.
DRY UTILITIES: AS SPECIFIED BY RESPECTIVE UTILITY PROVIDERS.

4. INSTALLATION:
MINIMUM COVER: 36" FROM FINISH GRADE TO TOP OF WATER PIPE (48" BELOW HIGHWAY, 42" BELOW SHOULDER IN ODOT RIGHT-OF-WAY).
BEDDING: 6" MINIMUM COMPACTED GRANULAR MATERIAL BENEATH PIPE.
INITIAL BACKFILL: GRANULAR MATERIAL 12" ABOVE PIPE CROWN.
FINAL BACKFILL: SUITABLE MATERIAL COMPACTED IN LAYERS.
MAINTAIN REQUIRED SEPARATIONS BETWEEN DIFFERENT UTILITY TYPES.

5. TRENCHING AND BACKFILLING:
KEEP EXCAVATION WITHIN ROAD/DRIVEWAY GRAVEL AREA WHEN POSSIBLE.
BACKFILL ALL EXCAVATED MATERIAL AT DAY'S END; REOPEN TRENCH AS NEEDED.
COMPACT BACKFILL TO 95% MAXIMUM DRY DENSITY IN TRAFFIC AREAS.

6. VALVES, HYDRANTS, AND APPURTENANCES:
INSTALL PER CITY STANDARDS AND ENSURE ACCESSIBILITY.
USE CITY-APPROVED BRANDS AND MODELS FOR WATER SYSTEM COMPONENTS.
MAINTAIN REQUIRED CLEARANCES AROUND HYDRANTS AND OTHER APPURTENANCES.
INSTALL APPROPRIATE VALVES AND ACCESS POINTS FOR ALL UTILITY TYPES.

7. CONNECTIONS AND TAPPING:
USE STAINLESS STEEL TAPPING SLEEVE FOR WATER MAIN TAPS 4" OR LARGER.
FOLLOW CITY STANDARDS FOR BACKFLOW PREVENTION ON WATER SYSTEMS.
COORDINATE SERVICE CONNECTIONS WITH RESPECTIVE UTILITY PROVIDERS.

8. TESTING AND DISINFECTION (WATER):
PRESSURE TEST WATER MAINS AT MINIMUM 125 PSI FOR 1 HOUR (0 PSI ALLOWABLE LEAKAGE).
DISINFECT WATER MAINS PER CITY AND OHA GUIDELINES.

9. TESTING (SEWER AND STORM):
CONDUCT APPROPRIATE LEAKAGE AND INFILTRATION TESTS AS SPECIFIED BY CITY STANDARDS.

10. TESTING (GAS AND DRY UTILITIES):
PERFORM TESTING AS REQUIRED BY RESPECTIVE UTILITY PROVIDERS AND REGULATIONS.

11. UTILITY CROSSINGS:
USE APPROPRIATE METHODS AND MATERIALS TO AVOID UTILITY DAMAGE DURING CROSSINGS.
PROVIDE TEMPORARY SUPPORT FOR EXPOSED UTILITIES DURING EXCAVATION/BACKFILLING.

12. DECOMMISSIONING EXISTING LINES:
FLUSH AND PLUG ABANDONED MAINS WITH CONCRETE EXTENDING 3X PIPE DIAMETER INWARD.
FILL SPACE BETWEEN PLUGS WITH SAND OR FLOWABLE CEMENT SLURRY.

13. DOCUMENTATION:
MAINTAIN DETAILED RECORDS OF ALL UTILITY INSTALLATION ACTIVITIES.
PREPARE AS-BUILT DRAWINGS SHOWING FINAL LOCATIONS AND DEPTHS OF ALL INSTALLED UTILITIES.

14. COORDINATION:
NOTIFY AND COORDINATE WITH ALL AFFECTED UTILITY COMPANIES BEFORE AND DURING WORK.
SCHEDULE UTILITY SHUTDOWNS AND SERVICE INTERRUPTIONS WITH MINIMUM 48-HOUR NOTICE TO AFFECTED CUSTOMERS.

15. SPECIAL CONSIDERATIONS:
FOLLOW SPECIFIC REQUIREMENTS FOR EACH UTILITY TYPE AS PROVIDED BY CITY OR UTILITY OWNER.
IMPLEMENT APPROPRIATE SAFETY MEASURES FOR WORKING WITH DIFFERENT UTILITY TYPES, ESPECIALLY GAS.

WATER LINES

1. OPERATION OF EXISTING VALVES SHALL BE PERFORMED ONLY BY PUBLIC WORKS WATER OPERATIONS STAFF AS AUTHORIZED BY CITY.
2. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH AWWA, CITY OF MANZANITA, AND THE UNIFORM PLUMBING CODE AS APPLICABLE. ALL MATERIAL SHALL BE OF NEW MANUFACTURE. NO REBUILT OR USED MATERIALS WILL BE ALLOWED.
3. ALL MAINLINE PIPES SHALL BE HIGH-DENSITY POLYETHYLENE (HDPE).
    - 3.1. ALL DUCTILE IRON PIPES SHALL BE PUSH-ON, CEMENT-LINED INTERIOR COATING WITH THE EXTERIOR COATED WITH ZINC. THE PIPE SHALL BE CLASS #52 WITH TYTON JOINTS. THE ZINC COATED PIPE REQUIRES V-BIO ENHANCED POLYETHYLENE ENCASEMENT OF NOT LESS THAN 8 MIL THICKNESS, PER THE CITY'S STANDARD PRACTICES. ALL FITTINGS SHALL BE MECHANICAL JOINTS CONFORMING TO ANSI A21.11. ALL JOINTS SHALL BE MECHANICALLY RESTRAINED EBAA IRON WORKS OR EQUAL WITH USA OR CANADIAN PARTS.
4. FIRE HYDRANT ASSEMBLIES SHALL CONFORM TO THE CITY OF MANZANITA'S ACCEPTED BRANDS AND MODELS.
5. ALL PIPES SHALL HAVE 36" MINIMUM COVER MEASURED FROM FINISH GRADE UNLESS SPECIFICALLY NOTED FOR LESS COVER WITH MITIGATING MEASURES. ALL NEW PIPING TO BE MECHANICALLY RESTRAINED.
6. ALL BACKFILL IN THE RIGHT OF WAY OR OTHER TRAFFIC AREAS SHALL BE ¾"-0" COMPACTED CRUSHED ROCK, COMPACTED TO 95 PERCENT OF MAXIMUM DENSITY AS OBTAINED BY AASTO T-99 COMPACTION TEST. PIPE BEDDING SHALL BE PLACED TO FORM A CONTINUOUS AND UNIFORM BEARING SUPPORT FOR THE PIPE AT EVERY POINT BETWEEN JOINTS; PIPE ZONE MATERIAL SHALL BE FIRST PLACED UP TO THE SPRING LINE OF THE PIPE AND MATERIAL UNIFORMLY COMPACTED BY HAND TO INSURE PROPER SUPPORT WITHIN THE PIPE HAUNCHES.
7. WATER LINE CONSTRUCTION SHALL COMPLY WITH THE CITY'S STANDARD PRACTICES AND OREGON DEPARTMENT OF HUMAN SERVICES (DHS, FORMERLY OREGON HEALTH DIVISION – RULES ACCESSED AT WWW.OHD.HR.STATE.OR.US/DWP/RULES.CFM) REGARDING THE LOCATION AND SEPARATION OF WATER LINES AND SANITARY SEWER LINES --
8. UPON COMPLETION OF INSTALLATION OF THE WATER SYSTEM, ALL LINES SHALL BE FLUSHED AND DISINFECTED IN CONFORMANCE WITH THE CITY'S STANDARD PRACTICES, DHS GUIDELINES AND THE REQUIREMENTS OF THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY. WATERLINES SHALL BE PRESSURE TESTED FOLLOWING COMPLETION. THE MINIMUM TEST PRESSURE SHALL BE 150 PSI. FOR LINES WORKING WITH OPERATION PRESSURES GREATER THAN 100 PSI, THE MINIMUM TEST PRESSURE SHALL BE ONE AND ONE HALF TIMES THE OPERATION PRESSURE. THE DURATION OF THE TEST SHALL BE 1 HOUR, UNLESS OTHERWISE DIRECTED BY THE CITY INSPECTOR. ALLOWABLE LEAKAGE IS IN ACCORDANCE TO CITY STANDARDS (0 PSI).
9. ALL WATER SERVICE LATERALS ARE TO BE INSTALLED BY THE DEVELOPER IN ACCORDANCE WITH THE CITY STANDARDS.
10. FIRE HYDRANTS SHALL BE LOCATED TO ALLOW A MINIMUM OF 36" CLEAR SPACE SURROUNDING ALL PORTIONS OF THE HYDRANT. THERE SHALL ALSO BE NO OBSTRUCTIONS DIRECTLY IN LINE WITH ANY OF THE PORTS OF THE HYDRANT FOR A DISTANCE OF 6 FEET.
11. ALL WATERLINE TAPS 4" OR GREATER SHALL USE AN ALL STAINLESS STEEL TAPPING SLEEVE (JCM 432 OR APPROVED EQUAL).
12. CROSS CONNECTION CONTROL AND BACKFLOW ASSEMBLIES SHALL BE AS PER CITY OF CANNON BEACH STANDARDS. WHEN REQUIRED, BACKFLOW PREVENTION ASSEMBLIES FOR THE PROTECTION OF THE PUBLIC WATER SYSTEM SHALL MEET THE REQUIREMENTS SET FORTH IN THE CURRENT OREGON ADMINISTRATIVE RULES CHAPTER 333-061-0070, UNIFORM PLUMBING CODE, AND CITY OF MANZANITA CODE. CONTACT THE CITY BACKFLOW SPECIALIST FOR MORE INFORMATION.

WATER:
ALL WATERMAIN INSTALLATION, DISINFECTION AND TESTING SHALL COMPLY WITH ODOT STANDARD SPECIFICATIONS, OREGON HEALTH AUTHORITY (OHA), UNIFORM PLUMBING CODE, AND CITY OF MANZANITA WATER DESIGN AND CONSTRUCTION STANDARDS.

STANDARD DETAIL STATEMENT
ALL MATERIALS AND METHODS OF CONSTRUCTION AND INSTALLATION FOR WATER, SEWER, STORM WATER FACILITIES, AND EROSION CONTROL MEASURES, SHALL CONFORM TO "OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THESE CONTRACT DOCUMENTS. CONSTRUCTION SHALL BE AS PER THE MOST CURRENT STANDARD DETAIL CONTAINED
THEREIN.

POTHOLING
PRIOR TO POT HOLING CONTACT THE CITY'S ENGINEER. VERIFY LOCATION AND DEPTHS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF THE ELEVATIONS OF THE UTILITIES INDICATE THAT A CONFLICT EXISTS SUBMIT THE RESULTS TO THE CITY'S ENGINEER.

811
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Revisions: #

LINE IS 1" ON FULL SCALE DRAWING

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Ridgefield, WA
Duluth + Minneapolis, MN
www.windsorengineers.com

REGISTERED PROFESSIONAL ENGINEER
60259PE
OREGON
MARCH 9, 1999
TRAVIS W TORMANEN
Travis Tormanen
Expires: 6/30/2026

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130
ENGINEERING PLANS - BID SET
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

CIVIL NOTES

G003

ISSUED FOR ENGINEERING PLANS - BID SET

EXISTING SURVEY

- INDICATES CONTROL POINT AS NOTED.
- INDICATES WATER METER.
- INDICATES TELEPHONE PEDESTAL.
- INDICATES POWER PEDESTAL.
- INDICATES POWER POLE.
- INDICATES STREET SIGN.
- INDICATES WATER VALVE.
- INDICATES IRRIGATION VALVE.
- INDICATES FIRE HYDRANT.
- W — INDICATES WATERLINE.
- SS — INDICATES SANITARY SEWER LINE.
- SD — INDICATES STORM DRAIN LINE.
- P — INDICATES UNDERGROUND POWER LINE.
- T — INDICATES UNDERGROUND TELECOMMUNICATION LINE.
- INDICATES EDGE OF ASPHALT.
- INDICATES EDGE OF GRAVEL.
- INDICATES CONCRETE.

DEMOLITION

- CONCRETE REMOVAL
- BITUMINOUS REMOVAL
- BITUMINOUS MILL AND OVERLAY
- CURB & GUTTER REMOVAL
- BUILDING REMOVAL
- SAWCUT
- EXISTING UTILITY REMOVAL

SITE PLAN

- EXISTING BOUNDARY LINE
- EXISTING CONTOUR- MINOR (423)
- EXISTING CONTOUR- MAJOR (420)
- CONSTRUCTION LIMITS
- PROPOSED CONTOUR- MINOR (423)
- PROPOSED CONTOUR- MAJOR (420)
- PROPOSED PROPERTY LINE
- PROPOSED PROJECT BOUNDARY
- R/W — PROPOSED RIGHT OF WAY
- ESMT — PROPOSED EASEMENT
- PROPOSED ROAD CENTERLINE
- PROPOSED CURB AND GUTTER
- CONSTRUCTION LIMITS
- PHASE LINE
- ACCESSIBLE ROUTE
- X — X — PROPOSED FENCE
- PROPOSED BUILDING
- PROPOSED DRIVE AISLE CENTERLINE
- CONCRETE PAVEMENT
- PROPOSED BITUMINOUS PAVEMENT
- EXISTING PAVEMENT TO REMAIN
- EXISTING STEEP SLOPES
- PARKING STALLS
- ADA PARKING WITH CURB STOP
- ADA CURB RAMP
- LANDSCAPE ISLAND
- LANDSCAPE STRIP
- TREE - DECIDUOUS
- TREE - CONIFEROUS
- TREE PROTECTION FENCE
- SPEED HUMP TABLES
- SIGN
- RIGHT / LEFT - TURN ARROW
- DIRECTIONAL - TURN ARROW
- STOP BAR
- WHITE BROKEN / SOLID
- YELLOW DOUBLE SOLID
- CROSS WALK
- TRASH ENCLOSURE
- GATE
- ET — ELECTRICAL BOX / TRANSFORMER
- GUY POLE
- DCVA
- STREET LIGHT
- ELECTRICAL TRANSFORMER

UTILITY LEGEND

- W — W — PROPOSED WATER MAIN
- WATER DEVICES
- HYDRANT COVERAGE
- > SAN > — PROPOSED SANITARY SEWER
- SANITARY SEWER STRUCTURES
- STM >>> — PROPOSED STORM WATER
- SD >>> — PROPOSED STORM SUBDRAIN
- STORM WATER STRUCTURES

STORM WATER

- PROPOSED CENTERLINE OF DITCH
- STM >>> — PROPOSED STORM WATER
- SD >>> — PROPOSED STORM SUBDRAIN
- CO — CLEAN OUT
- FLARED END SECTION (FES)
- FLARED END SECTION WITH RIPRAP
- INLET / BEEHIVE CB
- INLET / BEEHIVE CB
- STORM WATER CATCH BASIN
- STORM WATER CATCH BASIN MANHOLE
- STORM WATER MANHOLE
- STORM FACILITY
- BERM
- STORM DETENTION (CAVFS)
- CULVERT - DRIVEWAY
- DRAINTILE AND BUILDING DOWNSPOUT

SANITARY SEWER

- > SAN > — PROPOSED SANITARY SEWER
- < < — PROPOSED SANITARY SEWER SERVICE WITH CLEAN OUT
- FM — SANITARY SEWER FORCEMAIN
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEAN OUT
- LS — SANITARY SEWER LIFT STATION

WATERMAIN

- W — W — PROPOSED WATER MAIN
- FS — FS — FIRE SERVICE WITH FDC
- PROPOSED SERVICE WITH METER
- FIRE HYDRANT
- WATER METER
- THRUST BLOCK
- BLOW OFF VALVE ASSEMBLY
- METER PIT / VAULT

DRY UTILITIES

*POWER AND GAS BY PUBLIC UTILITY PROVIDER

- STREET LIGHTING
- GAS — GAS — GAS [G]
- OE — OVERHEAD ELECTRIC [P]
- UE — UNDERGROUND ELECTRIC [E]
- OT — OVERHEAD TELEPHONE [T]
- UT — UNDERGROUND TELEPHONE
- FO — FIBER OPTIC
- CATV — CABLETELEVISION [C]

GENERAL ABBREVIATIONS

C	CONCRETE
CB	CATCH BASIN
CL	CENTERLINE
CNS	COMPACTED NATIVE SOIL
CO	CLEAN OUT
CR	CURB RETURN
D	DIRT / DRAINAGE
ESXT	EXISTING
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
G	NATURAL GAS (LOW PRESSURE)
GB	GRADE BREAK
HP	HIGH POINT
LF	LINEAR FOOT
LP	LOW POINT
MG	NATURAL GAS (MEDIUM PRESSURE)
MG	MATCH EXISTING GRADE
MH	MANHOLE
NS	NATIVE SOIL
NTS	NOT TO SCALE
PC	POINT OF CURVATURE
POC	POINT OF CONNECTION
POS	POINT OF SERVICE
PP	POWER POLE
PT	POINT OF TANGENCY
PV	PAVEMENT
R	RADIUS
ROW	RIGHT OF WAY
S	SLOPE / SANITARY
SAN	SEWER SEWER
SDCO	STORM DRAIN CLEANOUT
SSMH	SANITARY MANHOLE
STA	STATION
STM	STORM DRAIN
STMH	STORM MANHOLE
TBD	TO BE DETERMINED
TBL	TO BE RELOCATED BY RESPECTIVE UTILITY
TBR	TO BE REMOVED BY CONTRACTOR
TC	TOP OF CURB
TOE	TOE OF BANK
TOP	TOP OF BANK
TP	TELEPHONE POLE
U	UNDERGROUND
VIP	VERIFY IN FIELD PRIOR TO CONSTRUCTION
W	WATER MAIN

SITE - ABBREVIATIONS

FFE - FIRST FLOOR FINISH ELEVATION
LLE - LOWER LEVEL FINISH ELEVATION
WO - WALKOUT
LO - LOOKOUT

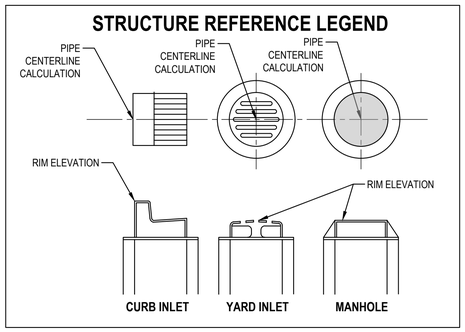
GRADING LEGEND / ABBREVIATIONS

TC: 391.49
FL: 390.99

TW: 391.49
BW: 380.99

GB: GRADE BREAK
LP: LOW POINT
HP: HIGH POINT
FC: FLUSH CURB
MG: MATCH GRADE
FL: FLOWLINE
SW: SIDEWALK
PV: PAVEMENT
TC: TOP OF CURB
FG: FINISH GRADE (DEFAULT- IF NOT LABELED)

STRUCTURE REFERENCE LEGEND



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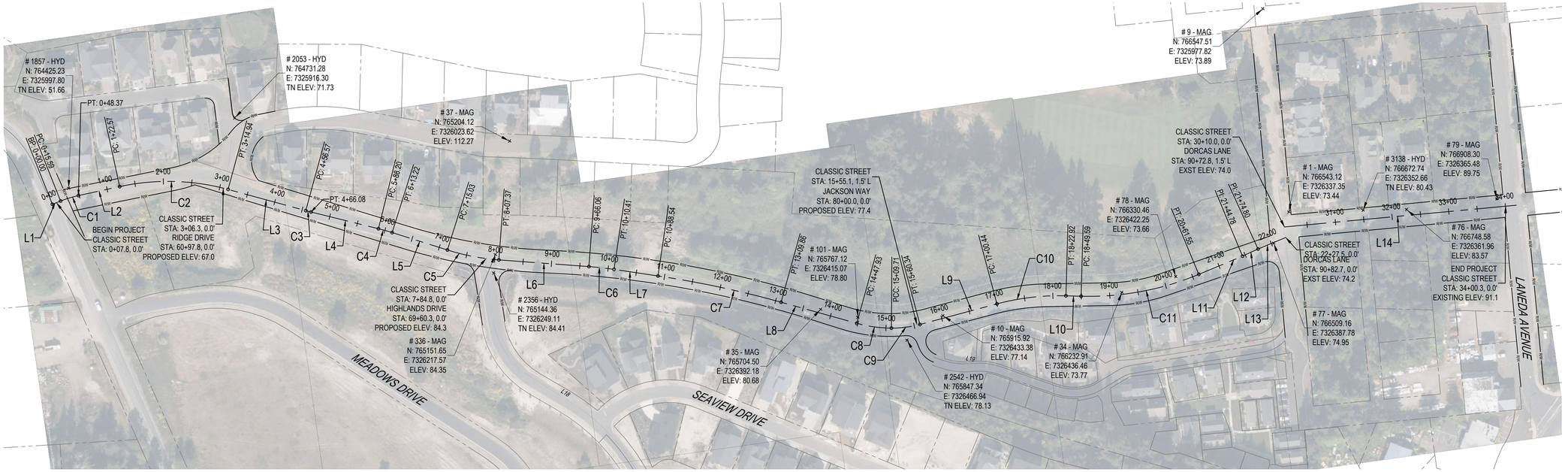
Project Manager MRL
Drawn by DTT
Checked by TWT

LEGENDS AND ABBREVIATIONS

G004

ISSUED FOR ENGINEERING PLANS - BID SET



PLAN - CLASSIC STREET ALIGNMENT

SCALE: 1" = 100'

0 100' 200'

BASIS OF BEARING:

THE BEARINGS ON THIS MAP ARE BASED ON NAD 83 OREGON STATE PLANE COORDINATES, OREGON NORTH ZONE.

ELEVATION DATUM:

ELEVATIONS ON THIS MAP ARE ON NAVD88

CONTROL POINT TABLE

POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
1	MAG	73.44	766543.1220	7326337.3500
9	MAG	73.89	766547.5130	7325977.8150
10	MAG	77.14	765915.9150	7326433.3780
34	MAG	73.77	766232.9110	7326436.4610
35	MAG	80.68	765704.4960	7326392.1760
37	MAG	112.27	765204.1180	7326023.6240
72	MAG	106.13	767302.0370	7326379.7030
73	MAG	103.06	767311.8930	7326197.1910
74	MAG	105.14	767428.2000	7326080.3200
75	MAG	96.98	767077.5920	7326397.1530
76	MAG	83.57	766748.5840	7326361.9600
77	MAG	74.95	766509.1580	7326387.7830

CONTROL POINT TABLE

POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
78	MAG	73.66	766330.4620	7326422.2460
79	MAG	89.75	766908.3010	7326365.4820
101	MAG	78.80	765767.1170	7326415.0740
336	MAG	84.35	765151.6530	7326217.5720
372	MAG	106.22	767302.0300	7326379.6820
1857	HYD	51.66	764425.2330	7325997.8050
2053	HYD	71.73	764731.2750	7325916.2970
2356	HYD	84.41	765144.3580	7326249.1130
2542	HYD	78.13	765847.3410	7326466.9360
3138	HYD	80.43	766672.7380	7326352.6560

LINE TABLE: ALIGNMENTS

LINE #	LENGTH	DIRECTION	START POINT	END POINT
L1	15.59	N13° 41' 07.64"W	(7326021.80,764392.97)	(7326018.11,764408.11)
L2	74.20	N04° 17' 38.64"W	(7326012.99,764440.46)	(7326007.44,764514.45)
L3	141.63	N23° 15' 41.08"E	(7326038.83,764702.37)	(7326094.76,764832.48)
L4	122.12	N21° 53' 59.88"E	(7326098.41,764841.26)	(7326143.96,764954.57)
L5	101.81	N25° 29' 01.34"E	(7326154.01,764977.48)	(7326197.82,765069.38)
L6	158.69	N12° 15' 26.69"E	(7326227.62,765156.56)	(7326261.31,765311.63)
L7	78.13	N16° 29' 34.01"E	(7326272.32,765354.59)	(7326294.50,765429.50)
L8	138.07	N23° 32' 50.90"E	(7326370.22,765637.32)	(7326425.38,765763.89)
L9	140.10	N06° 56' 40.03"W	(7326442.90,765873.60)	(7326425.96,766012.67)
L10	26.67	N09° 36' 22.39"E	(7326428.79,766134.69)	(7326433.24,766160.99)
L11	83.24	N14° 38' 00.81"W	(7326424.02,766371.16)	(7326402.99,766451.70)
L12	30.02	N16° 32' 33.76"W	(7326402.99,766451.70)	(7326394.44,766480.48)
L13	66.48	N14° 38' 00.81"W	(7326394.44,766480.48)	(7326377.65,766544.80)
L14	419.35	N02° 38' 42.50"E	(7326362.09,766521.87)	(7326381.45,766940.78)

CURVE TABLE: ALIGNMENTS

CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
C1	200.00	32.78	N08° 59' 23.14"W	(7326018.11,764408.11)	(7326012.99,764440.46)
C2	400.00	192.37	N09° 29' 01.22"E	(7326007.44,764514.45)	(7326038.83,764702.37)
C3	400.00	9.50	N22° 34' 50.48"E	(7326094.76,764832.48)	(7326098.41,764841.26)
C4	400.00	25.02	N23° 41' 30.61"E	(7326143.96,764954.57)	(7326154.01,764977.48)
C5	400.00	92.34	N18° 52' 14.02"E	(7326197.82,765069.38)	(7326227.62,765156.56)
C6	600.00	44.35	N14° 22' 30.35"E	(7326261.31,765311.63)	(7326272.32,765354.59)
C7	1797.50	221.32	N20° 01' 12.46"E	(7326294.50,765429.50)	(7326370.22,765637.32)
C8	232.50	61.78	N15° 56' 07.35"E	(7326425.38,765763.89)	(7326442.29,765823.12)
C9	190.00	50.63	N00° 41' 21.88"E	(7326442.29,765823.12)	(7326442.90,765873.60)
C10	424.00	122.48	N01° 19' 51.18"E	(7326425.96,766012.67)	(7326428.79,766134.69)
C11	501.00	211.96	N02° 30' 49.21"W	(7326433.24,766160.99)	(7326424.02,766371.16)

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ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

SURVEY AND HORIZONTAL CONTROL PLAN

G005

ISSUED FOR ENGINEERING PLANS - BID SET

BASIS OF BEARING:

THE BEARINGS ON THIS MAP ARE BASED ON NAD 83 OREGON STATE PLANE COORDINATES, OREGON NORTH ZONE.

ELEVATION DATUM:

ELEVATIONS ON THIS MAP ARE ON NAVD88.

PLAN - NECARNEY WATERMAIN ALIGNMENT

SCALE: 1" = 60'

0 60' 120'

N

LINE TABLE: ALIGNMENTS

LINE #	LENGTH	DIRECTION	START POINT	END POINT
L15	9.23	N10° 52' 18.52"E	(7327378.21,764386.73)	(7327379.95,764395.79)
L16	168.29	N35° 05' 06.64"E	(7327379.95,764395.79)	(7327476.68,764533.50)
L17	74.78	N32° 34' 34.48"E	(7327476.68,764533.50)	(7327516.95,764596.52)
L18	75.09	N44° 05' 36.95"E	(7327785.33,764958.18)	(7327837.58,765012.11)
L19	100.10	N46° 56' 25.17"E	(7327995.79,765172.33)	(7328068.92,765240.67)
L20	31.60	S66° 10' 55.83"E	(7328321.90,765317.89)	(7328350.81,765305.13)
L21	82.79	S61° 06' 41.65"E	(7328350.81,765305.13)	(7328423.30,765265.13)
L22	121.63	S58° 43' 26.09"E	(7328423.30,765265.13)	(7328527.25,765201.99)

CURVE TABLE: ALIGNMENTS

CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT
C12	3226.43	450.73	N36° 34' 41.85"E	(7327516.95,764596.52)	(7327785.33,764958.18)
C13	11838.82	225.17	N44° 38' 18.46"E	(7327837.58,765012.11)	(7327995.79,765172.33)
C14	968.63	84.51	N49° 26' 22.69"E	(7328068.92,765240.67)	(7328133.10,765295.60)
C15	182.81	199.92	N83° 16' 02.73"E	(7328133.10,765295.60)	(7328321.90,765317.89)

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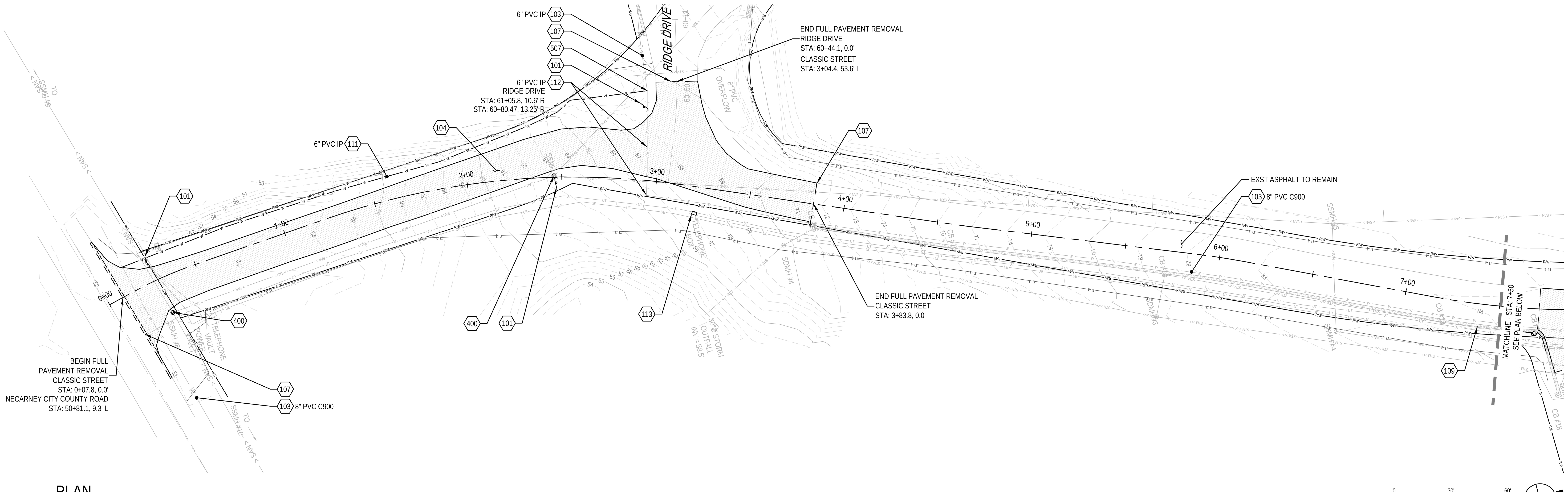
Project Manager MRL
Drawn by DTT
Checked by TWT

SURVEY AND HORIZONTAL CONTROL PLAN

G006

ISSUED FOR ENGINEERING PLANS - BID SET



PLAN

SCALE: 1" = 30'

KEYNOTES

101	REMOVE AND REINSTALL EXISTING SIGNS
102	PROTECT STEEP SLOPES FROM CONSTRUCTION ACTIVITIES
103	EXISTING WATER MAIN
104	REMOVAL OF PAVEMENT, AC/PCC
105	2" COLD PLAN PAVEMENT REMOVAL AND LEVEL 2-3/8 INCH ACP OVERLAY- PER DETAIL 6/C100
106	EXST WATER LINES, VALVES, AND METERS TO BE REMOVED
107	ASPHALT PAVEMENT SAW CUTTING (FULL DEPTH)
108	REMOVAL OF CURB
109	REMOVAL OF PIPE (STORM SEWER)
110	REMOVAL OF STRUCTURE (STORM SEWER)
111	REMOVE OR PLUG FILL AND ABANDON EXISTING WATER MAIN
112	VERIFY 3' MIN COVER OVER EXISTING WATER MAIN. IF COVER IS UNDER 3' REMOVE AND REPLACE IN KIND
113	COORDINATE WITH UTILITY COMPANY TO RELOCATE TELEPHONE PEDESTAL
114	CLEARING AND GRUBBING. MINIMIZE AREA TO WITHIN CONSTRUCTION LIMITS
115	GRADE TO ELIMINATE BASIN. GRADE TO FLOW TO EXST OUTLET PIPES
150	RETAINING WALL TO BE DESIGNED BY CONTRACTOR. SEE SHEET C600
151	GRADE ROAD AND PATH TO AVOID ANY UPSLOPE EXCAVATION
152	EXISTING RETAINING WALL. AVOID EXCAVATION ALONG WALL- FILL IS ACCEPTABLE
153	EMBEDMENT AND BOTTOM FACE OF WALL VARIES WITH WALL HEIGHT PER GEOTECH
154	TOP SURFACE OF PROPOSED ROAD AT DEVELOPMENT
155	INSTALL MIN 4' CHAIN LINK FENCE ALONG TOP OF RETAINING WALL
156	INSTALL W-BEAM GUARDRAIL TYPE 2A PER DETAILS 3 & 4/C501
160	KEEP ALL CONSTRUCTION ACTIVITIES WITHIN CITY ROW
200	INSTALL STOP AND STREET SIGNS PER DETAIL 5/C500 (BY CITY)
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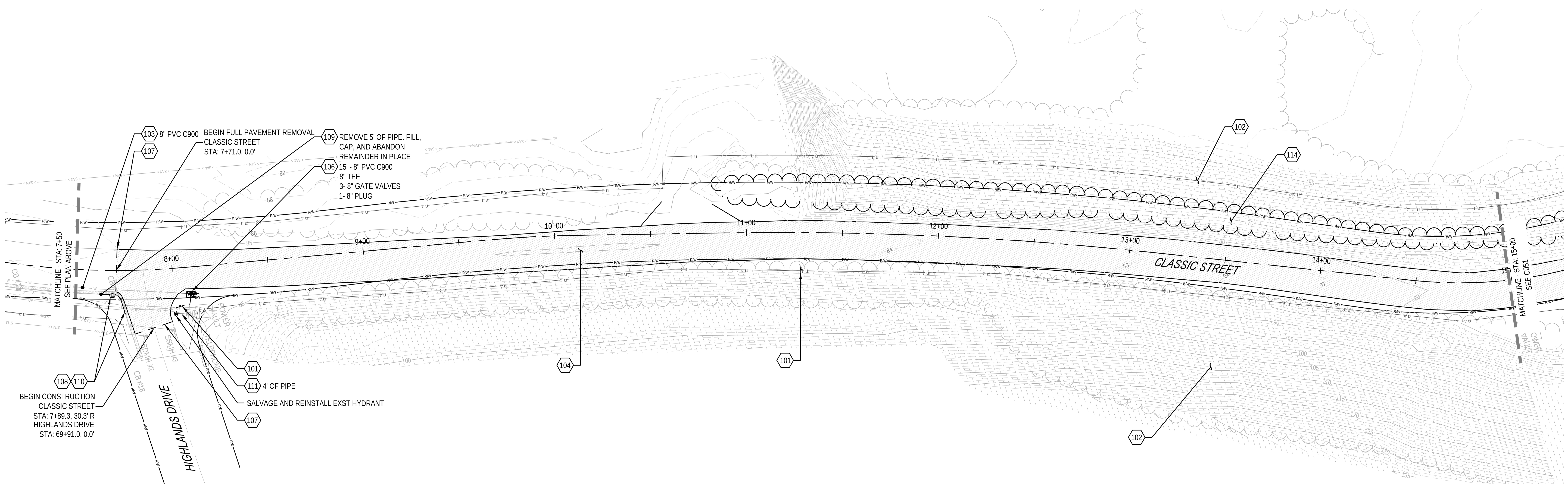
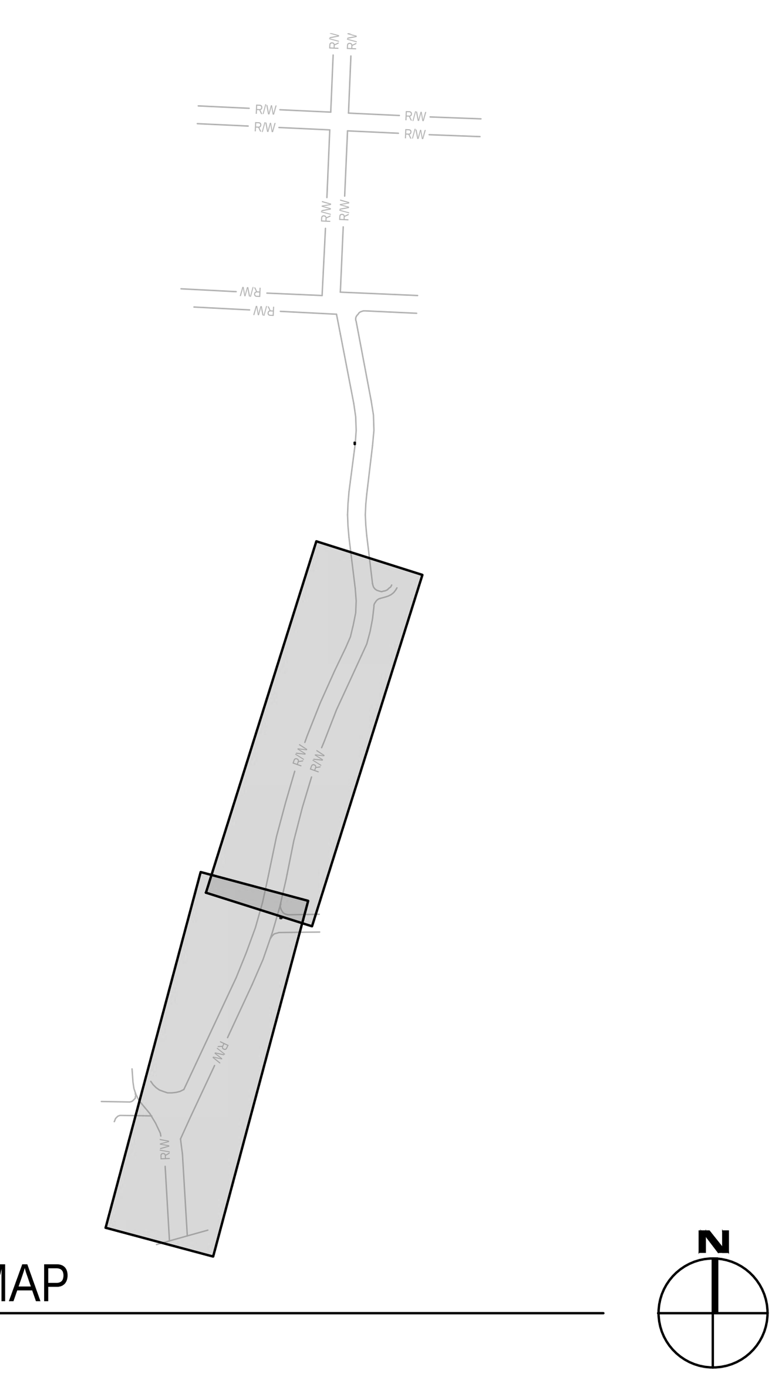


PLAN

SCALE: 1" = 30'



KEY MAP

SCALE: NTS

Know what's **below.** **Call** before you dig.

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Revisions: #

LINE IS 1" ON FULL SCALE DRAWING

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REGISTERED PROFESSIONAL ENGINEER 60259PE OREGON MARCH 9, 1999 TRAVIS W TORMANEN
Expires: 6/30/2026

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231

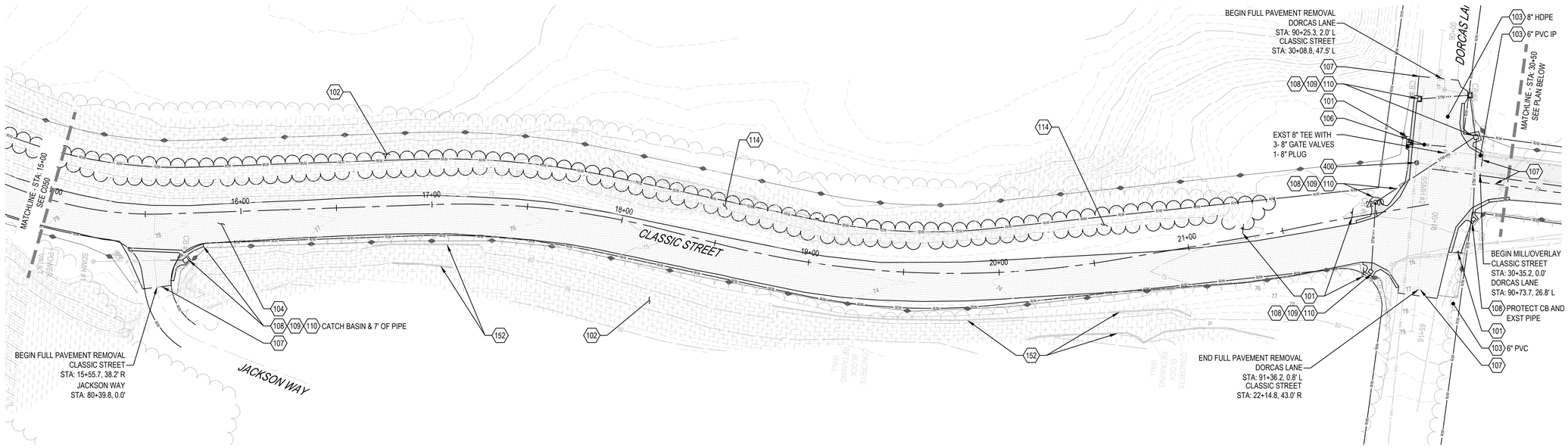
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

EXISTING CONDITIONS AND DEMOLITION PLAN

C050

ISSUED FOR ENGINEERING PLANS - BID SET



PLAN

SCALE: 1" = 30'

0 30' 60'

N

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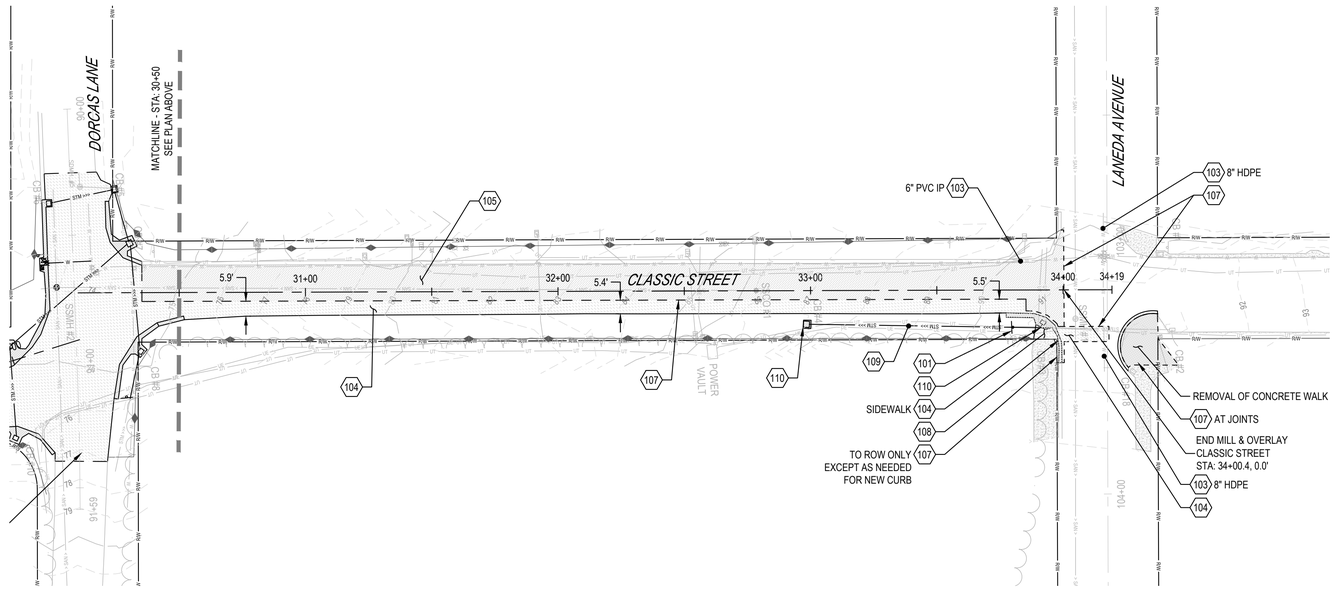

PLAN

SCALE: 1" = 30'

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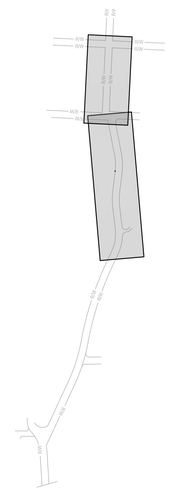
N



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SCALE: NTS

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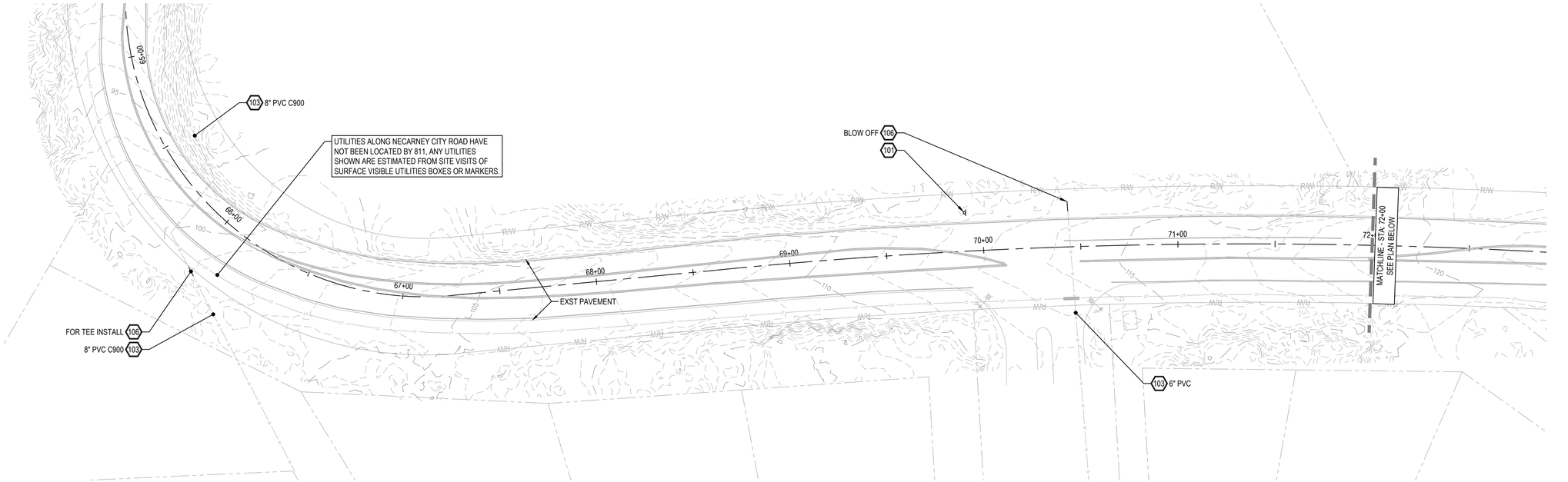
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

EXISTING CONDITIONS AND DEMOLITION PLAN

C051



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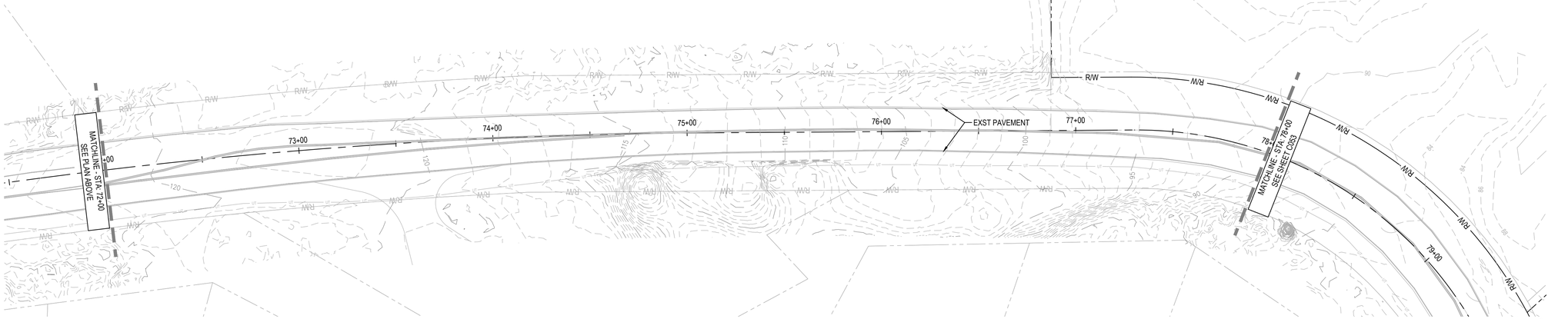
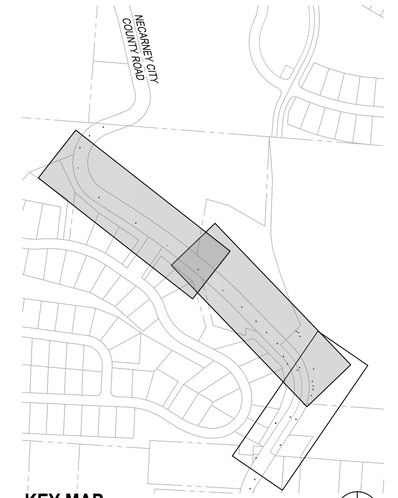


PLAN

SCALE: 1" = 30'

0 20' 40'

N



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N

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ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 4/11/2025

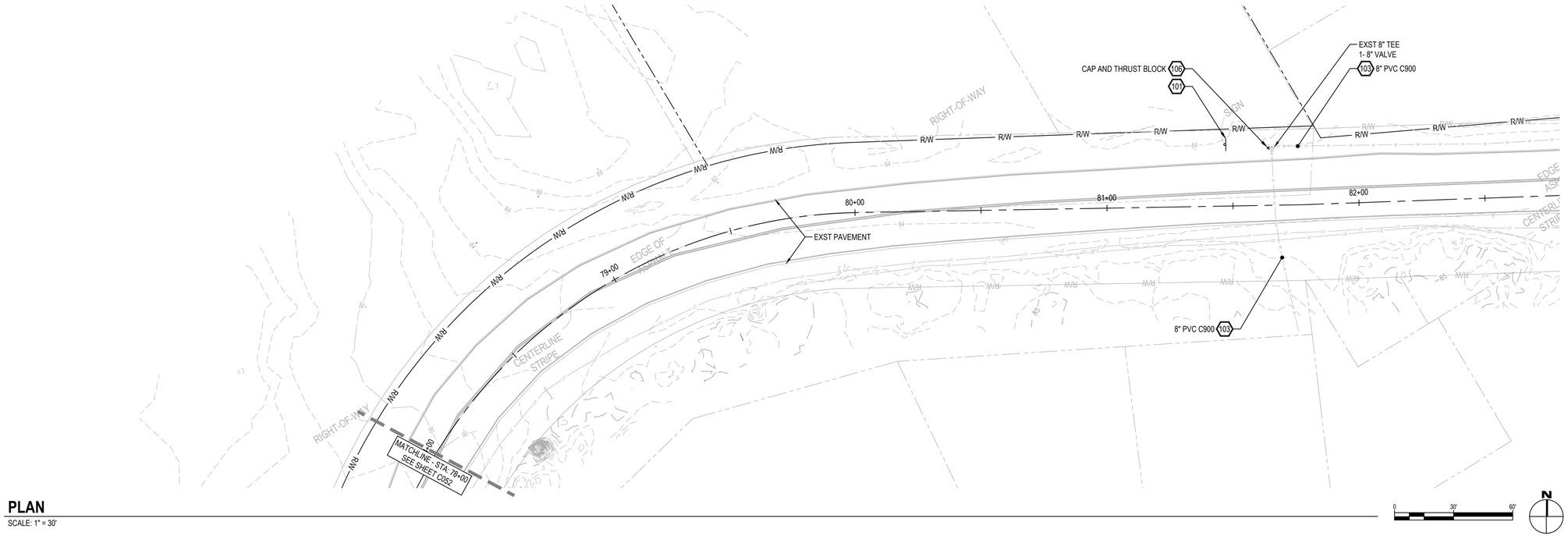
Project Manager MRL
Drawn by DTT
Checked by TWT

EXISTING CONDITIONS AND DEMOLITION PLAN

C052

ISSUED FOR ENGINEERING PLANS - BID SET

PLOT DATE: 4/15/2025 10:05 AM - FILE: C:\Users\Thad\Wren\DCAC\Docs\Windsor Engineers\24231 Manzanita Classic Street\Project Files\Infrastructure\Final Sheets\24231_EXST-WATR.dwg



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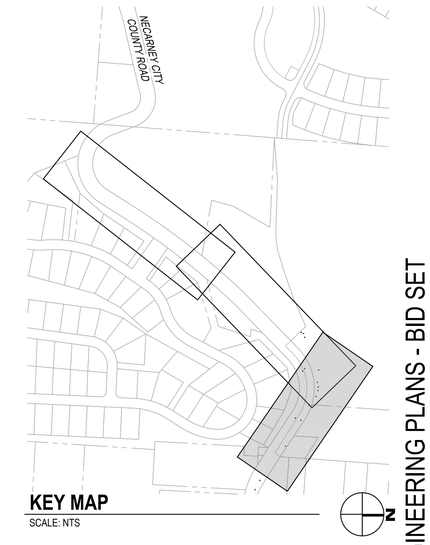

KEY MAP

SCALE: NTS

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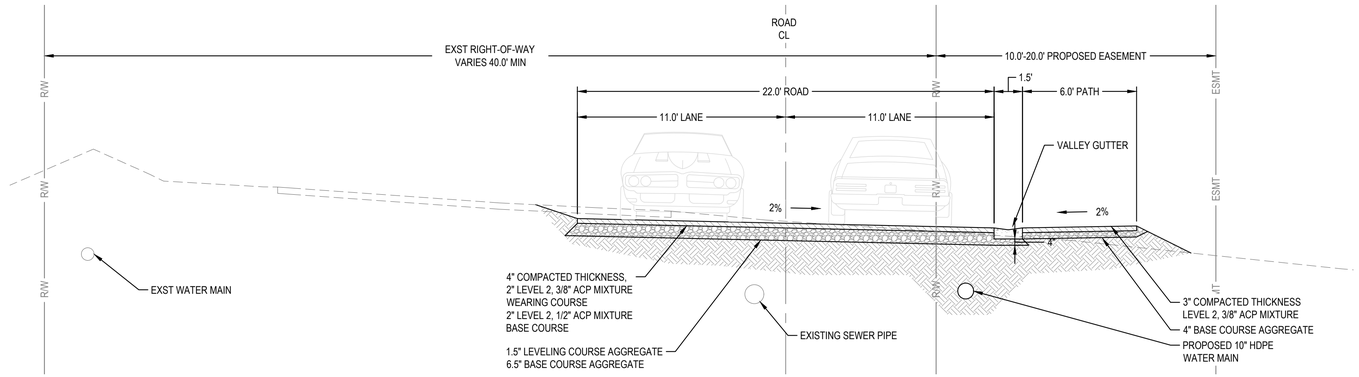
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

EXISTING CONDITIONS AND DEMOLITION PLAN

C053



1 TYPICAL SECTION - STA: 00+40 - 3+84

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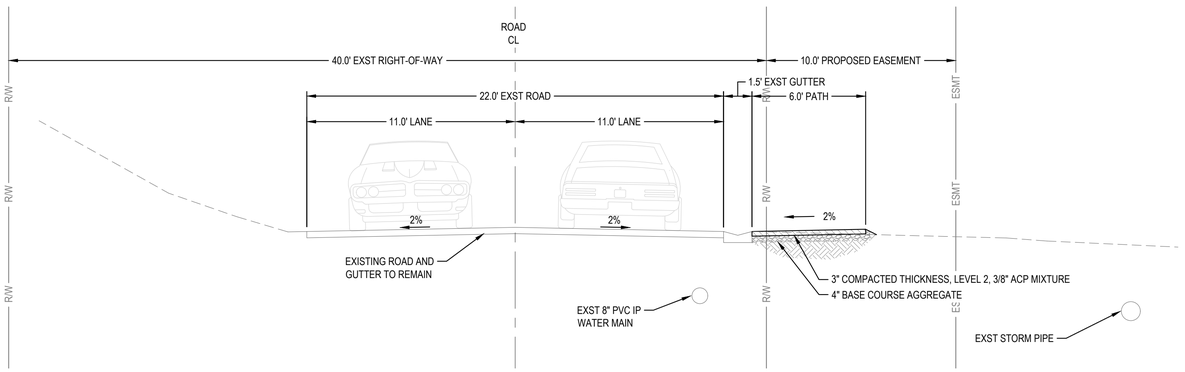

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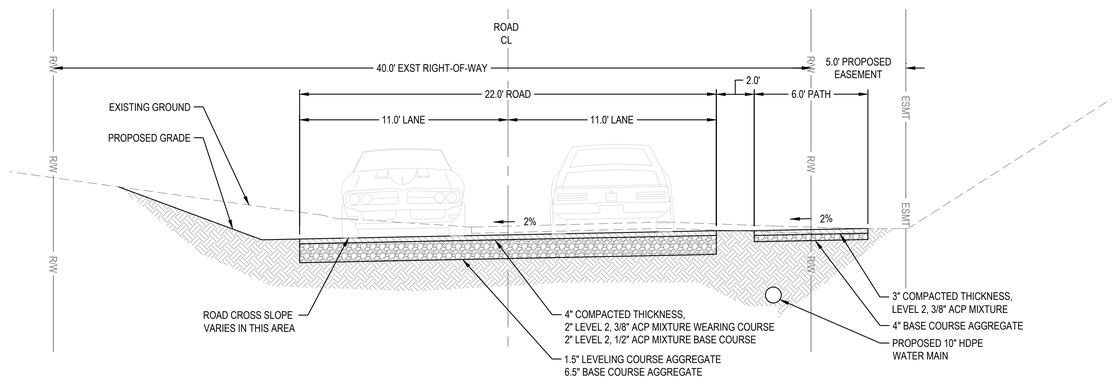
SCALE: 1" = 4'



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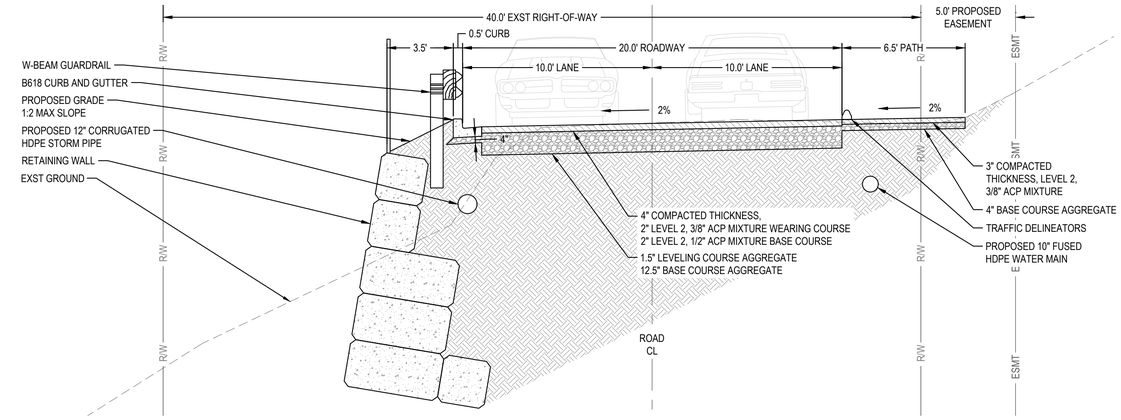

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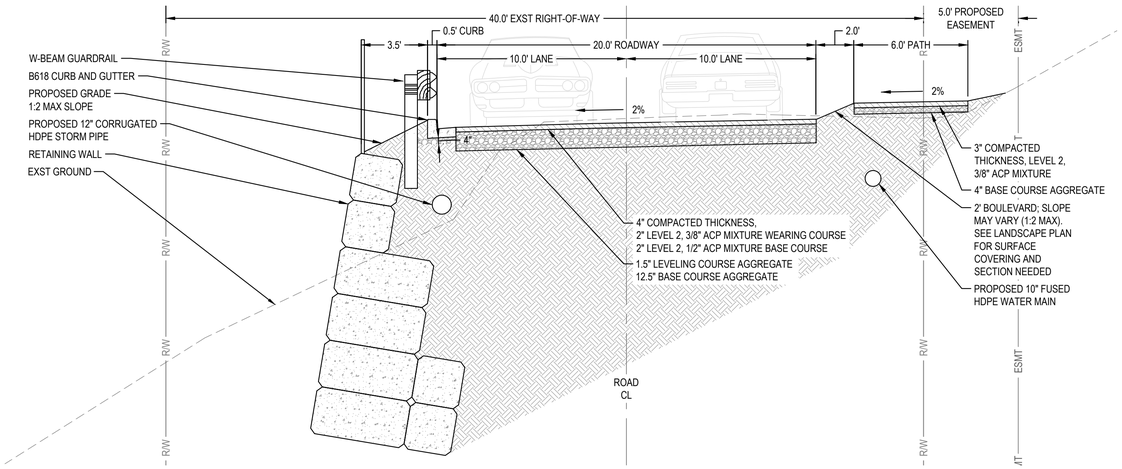
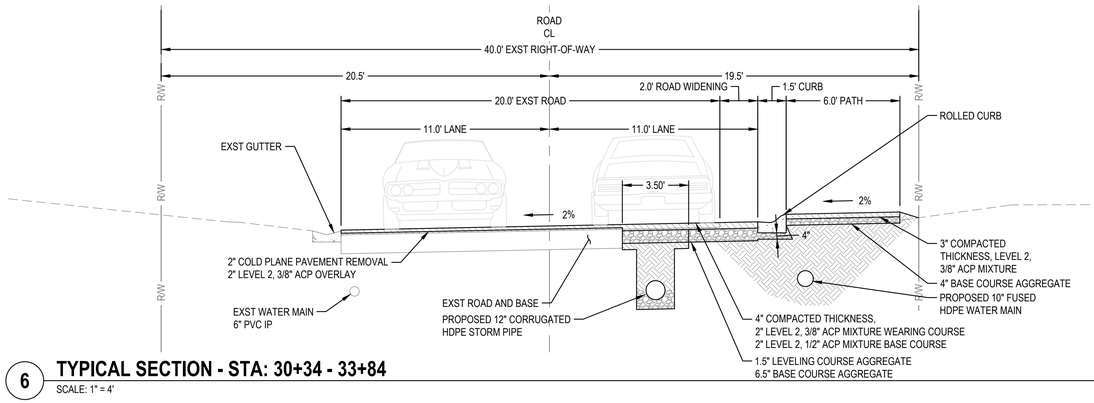


5 TYPICAL SECTION - STA: 15+55 - 21+34

SCALE: 1" = 4'



6 TYPICAL SECTION - STA: 30+34 - 33+84

SCALE: 1" = 4'

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Issue Date: 4/11/2025

TYPICAL SECTIONS

Project Manager MRL
Drawn by DTT
Checked by TWT

C100

EROSION AND SEDIMENT CONTROL PLAN
FOR
MANZANITA CLASSIC STREET

1. Once known, include a list of all contractors that will engage in construction activities on site, and the areas of the site where the contractor(s) will engage in construction activities. Revise the list as appropriate until permit coverage is terminated (Section 4.4.c.i). In addition, include a list of all personnel (by name and position) that are responsible for the design, installation and maintenance of stormwater control measures (e.g. ESCP developer, BMP installer (see Section 4.10), as well as their individual responsibilities. (Section4.4.c.ii)
2. Visual monitoring inspection reports must be made in accordance with DEQ 1200-C permit requirements. (Section 6.5)
3. Inspection logs must be kept in accordance with DEQ's 1200-C permit requirements. (Section 6.5.q)
4. Retain a copy of the ESCP and all revisions on site and make it available on request to DEQ, Agent, or the local municipality. (Section 4.7)
5. The permit registrant must implement the ESCP. Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit. (Sections 4 and 4.11)
6. The ESCP must be accurate and reflect site conditions. (Section 4.8)
7. Submission of all ESCP revisions is not required. Submittal of the ESCP revisions is only under specific conditions. Submit all necessary revision to DEQ or Agent within 10 days. (Section 4.9)
8. Sequence clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion. (Section 2.2.2)
9. Create smooth surfaces between soil surface and erosion and sediment controls to prevent stormwater from bypassing controls and ponding. (section 2.2.3)
10. Identify, mark, and protect (by construction fencing or other means) critical riparian areas and vegetation including important trees and associated rooting zones, and vegetation areas to be preserved. Identify vegetative buffer zones between the site and sensitive areas (e.g.,wetlands), and other areas to be preserved, especially in perimeter areas. (Section 2.2.1)
11. Preserve existing vegetation when practical and re-vegetate open areas. Re-vegetate open areas when practicable before and after grading or construction. Identify the type of vegetative seed mix used. (Section 2.2.5)
12. Maintain and delineate any existing natural buffer within the 50-feet of waters of the state. (Section 2.2.4)
13. Install perimeter sediment control, including storm drain inlet protection as well as all sediment basins, traps, and barriers prior to land disturbance. (Sections 2.1.3)
14. Control both peak flow rates and total stormwater volume, to minimize erosion at outlets and downstream channels and stream banks. (Sections 2.1.1. and 2.2.16)
15. Control sediment as needed along the site perimeter and at all operational internal storm drain inlets at all times during construction, both internally and at the site boundary. (Sections 2.2.6 and 2.2.13)
16. Establish concrete truck and other concrete equipment washout areas before beginning concrete work. (Section 2.2.14)
17. Apply temporary and/or permanent soil stabilization measures immediately on all disturbed areas as grading progresses. Temporary or permanent stabilizations measures are not required for areas that are intended to be left unvegetated, such as dirt access roads or utility pole pads.(Sections 2.2.20 and 2.2.21)
18. Establish material and waste storage areas, and other non-stormwater controls. (Section 2.3.7)
19. Keep waste container lids closed when not in use and close lids at the end of the business day for those containers that are actively used throughout the day. For waste containers that do not have lids, provide either (1) cover (e.g., a tarp, plastic sheeting, temporary roof)to prevent exposure of wastes to precipitation, or (2) a similarly effective means designed to prevent the discharge of pollutants (e.g., secondary containment). (Section 2.3.7)
20. Prevent tracking of sediment onto public or private roads using BMPs such as: construction entrance, graveled (or paved) exits and parking areas, gravel all unpaved roads located onsite, or use an exit tire wash. These BMPs must be in place prior to land- disturbing activities. (Section 2.2.7)
21. When trucking saturated soils from the site, either use water-tight trucks or drain loads on site. (Section 2.2.7.f)
22. Control prohibited discharges from leaving the construction site, i.e., concrete wash-out, wastewater from cleanout of stucco, paint and curing compounds. (Sections 1.5 and 2.3.9)
23. Ensure that steep slope areas where construction activities are not occurring are not disturbed. (Section 2.2.10)
24. Prevent soil compaction in areas where post-construction infiltration facilities are to be installed. (Section 2.2.12)
25. Use BMPs to prevent or minimize stormwater exposure to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, fertilizer, pesticides and herbicides, paints, solvents, curing compounds and adhesives from construction operations. (Sections 2.2.15 and 2.3.9)
26. Provide plans for sedimentation basins that have been designed per Section 2.2.17 and stamped by an Oregon Professional Engineer. (See Section 2.2.17.a)
27. If engineered soils are used on site, a sedimentation basin/impoundment must be installed. (See Sections 2.2.17 and 2.2.18)
28. Provide a dewatering plan for accumulated water from precipitation and uncontaminated groundwater seepage due to shallow excavation activities. (See Section 2.4)
29. Implement the following BMPs when applicable: written spill prevention and response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies. (Section 2.3)
30. Use water, soil-binding agent or other dust control technique as needed to avoid wind-blown soil. (Section 2.2.9)
31. The application rate of fertilizers used to reestablish vegetation must follow manufacturer's recommendations to minimize nutrient releases to surface waters. Exercise caution when using time-release fertilizers within any waterway riparian zone. (Section 2.3.5)
32. If an active treatment system (for example, electro-coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. Obtain Environmental Management Plan approval from DEQ before operating the treatment system. Operate and maintain the treatment system according to manufacturer's specifications. (Section 1.2.9)
33. Temporarily stabilize soils at the end of the shift before holidays and weekends, if needed. The registrant is responsible for ensuring that soils are stable during rain events at all times of the year. (Section 2.2)
34. 34.As needed based on weather conditions, at the end of each workday soil stockpiles must be stabilized or covered, or other BMPs must be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters. (Section 2.2.8)
35. Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height and before fence removal. (Section 2.1.5.b)
36. Other sediment barriers (such as biobags): remove sediment before it reaches two inches depth above ground height and before BMP removal. (Section 2.1.5.c)
37. Catch basins: clean before retention capacity has been reduced by fifty percent. Sediment basins and sediment traps: remove trapped sediments before design capacity has been reduced by fifty percent and at completion of project. (Section 2.1.5.d)
38. Within 24 hours, significant sediment that has left the construction site, must be remediated. Investigate the cause of the sediment release and implement steps to prevent a recurrence of the discharge within the same 24 hours. Any in-stream clean-up of sediment shall be performed according to the Oregon Department of State Lands required timeframe. (Section 2.2.19.a)
39. The intentional washing of sediment into storm sewers or drainage ways must not occur. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments. (Section 2.2.19)
40. Document any portion(s) of the site where land disturbing activities have permanently ceased or will be temporarily inactive for 14 or more calendar days. (Section 6.5.f.)
41. Provide temporary stabilization for that portion of the site where construction activities cease for 14 days or more with a covering of blown straw and a tackifier, loose straw, or an adequate covering of compost mulch until work resumes on that portion of the site. (Section 2.2.20)
42. Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established. Once construction is complete and the site is stabilized, all temporary erosion controls and retained moved and disposed of properly, unless needed for long term use following termination of permit coverage. (Section 2.2.21)

INSPECTION FREQUENCY

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	ON INITIAL DATE THAT LAND DISTURBANCE ACTIVITES COMMENCE. WITHIN 24 HOURS OF ANY STORM EVENT, INCLUDING RUNOFF FROM SNOW MELT, THAT RESULTS IN DISCHARGE FROM THE SITE. ATLEAST ONCE EVERY 14 DAYS, REGARDLESS OF WHETHER STORMWATER RUNOFF IS OCCURING.
2. INACTIVE PERIODS GREATER THAN FOURTEEN (14) CONSECUTIVE CALENDAR DAYS	THE INSPECTOR MAY REDUCE THE FREQUENCY OF INSPECTIONS IN ANY AREA OF THE SITE WHERE THE STABILIZATION STEPS IN SECTION 2.2.20 HAVE BEEN COMPLETED TO TWICE PER MONTH FOR THE FIRST MONTH, NO LESS THAN 14 CALENDAR DAYS APART, THEN ONCE PER MONTH
3. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCREMENT WEATHER.	IF SAFE, ACCESSIBLE AND PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT DISCHARGE POINT OR DOWNSTREAM LOCATION OF THE RECEIVING WATERBODY.
4. PERIODS DURING WHICH CONSTRUCTION ACTIVITIES ARE SUSPENDED AND RUNOFF IS UNLIKELY DUE TO FROZEN CONDITIONS	VISUAL MONITORING INSPECTIONS MAY BE TEMPORARILY SUSPENDED IMMEDIATELY RESUME MONITORING UPON THAWING, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.
5. PERIODS DURING WHICH CONSTRUCTION ACTIVITIES ARE CONDUCTED AND RUNOFF IS UNLIKELY DURING FROZEN CONDITIONS	VISUAL MONITORING INSPECTIONS MAY BE REDUCED TO ONCE A MONTH. IMMEDIATELY RESUME MONITORING UPON THAWING, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.

BMP MATRIX FOR CONSTRUCTION PHASE

Year			2025		
Phase/BMP	CLEARING	MASS GRADING	UTILITY CONSTRUCTION	VERTICAL CONSTRUCTION	FINAL STABILIZATION
EROSION PREVENTION					
Ground Cover					
Plastic Sheeting					
Dust Control					
Temporary Stabilization (Straw Mulch/Hydroseed)	X	X			
Permanent Stabilization					X
Buffer Zone (from Ravine)			X		
SEDIMENT CONTROL					
Sediment Fence (Perimeter)	X	X	X	X	X
Sediment Fence (Interior)					
Straw Wattles					
Inlet Protection	X	X	X	X	X
Dewatering	AS REQUIRED BY ENGINEER				

RUN OFF CONTROL					
Construction Entrance	X	X			
Existing Outlet Protection	X	X			
New Outlet Protection					
Existing Curb Inlet Check Dams	AS REQUIRED BY ENGINEER				
POLLUTION PREVENTION					
Harzard Waste Management					
Spill Kit Onsite	X	X	X	X	X
Concrete Washout Area	X	X	X	X	X

SITE INFORMATION:

1. TYPE OF DEVELOPMENT: PUBLIC COMMERCIAL
2. CONSTRUCTION ACTIVITY WILL CONSIST OF:
   A. CLEAR AND GRUB
   B. CONSTRUCTION ENTRANCE
   C. GRADING & UTILITY TRENCHING
   D. FORMWORK
   E. CONCRETE SURFACING
   F. ASPHALT SURFACING
   G. LANDSCAPING
3. PROJECT TIMELINE:
   BEGINNING DATE: EARLY 2025
   COMPLETE DATE: NOVEMBER, 2025
4. PROJECT SITE AREAS:
   -TOTAL AREA: 3.3 AC
   -DISTURBED AREA: 1.7 AC (EST)
   -PERCENT OF SITE DISTURBED: 50% (EST)
5. OFFSITE PUBLIC IMPROVEMENT AREA:
   -IMPROVEMENT LENGTH: NO PLANNED OFF-SITE IMPROVEMENTS
6. ONSITE SOIL TYPES:
   A. NETARTS FINE SANDY LOAM, NATIVE EOLIAN SANDS AND FINE SAND
7. CUT AND FILL DATA:
   CUT : 1286 CU. YD
   FILL: 1635 CU. YD

LEGEND:

- INDICATES CONTROL POINT AS NOTED.
- INDICATES WATER METER.
- INDICATES TELEPHONE PEDESTAL.
- INDICATES POWER PEDESTAL.
- INDICATES POWER POLE.
- INDICATES STREET SIGN.
- INDICATES WATER VALVE.
- INDICATES IRRIGATION VALVE.
- INDICATES FIRE HYDRANT.
- INDICATES WATERLINE.
- INDICATES SANITARY SEWER LINE.
- INDICATES STORM DRAIN LINE.
- INDICATES UNDERGROUND POWER LINE.
- INDICATES UNDERGROUND TELECOMMUNICATION LINE.
- INDICATES EDGE OF ASPHALT.
- INDICATES EDGE OF GRAVEL.
- INDICATES CONCRETE.
- INDICATES TREE LINE.
- INLET PROTECTION.
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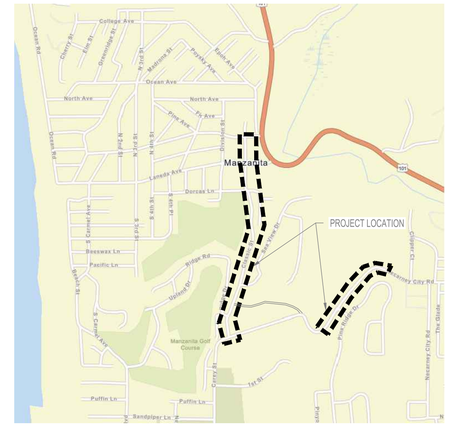
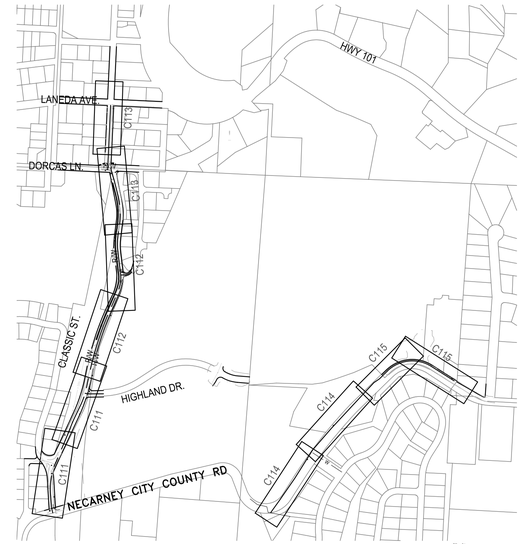
- EXISTING STORM MANHOLE



VICINITY MAP



SITE & KEY MAP

SCALE: NTS

SHEET INDEX

OWNER / DEVELOPER
DEVELOPMENT/COMPANY:
CITY OF MANZANITA
CONTACT: LEILA AMAN, CITY MANAGER
ADDRESS: PO BOX 129
MANZANITA, OR 97130

SURVEYOR
ONION PEAK DESIGN
CONTACT: ERICK WHITE, PLS
ADDRESS: 11460 EVERGREEN WAY
NEAHALEM, OR 97131
PHONE: 503-440-4403

BMP INSTALLER / MAINTAINER:
UNKNOW
CONTRACTOR (TO BE COMPETITIVELY BID)

RAIN GAUGE:
NORTH COAST CIVIL
35240 TOHL AVENUE
NEHALEM, OR 97131

DESIGN ENGINEER
WINDSOR ENGINEERS
CONTACT: TRAVIS TORMANEN, PE
OFFICE: 360-903-9281

GEOTECHNICAL ENGINEER
PALI CONSULTING
CONTACT:
ADDRESS: 4891 WILLAMETTE FALLS DRIVE, SUITE 1
WEST LINN, OR 97608
PHONE: 503-502-0820

SITE CONTRACTOR
UNKNOW
CONTRACTOR (TO BE COMPETITIVELY BID)

ESCP PREPARER:
NORTH COAST CIVIL DESIGN, LLC
CONTACT: KYLE AYERS, PE
35270 TOHL AVENUE
NEHALEM, OR 97131
PHONE: 503-812-3732
OFFICE: 503-368-3732

CESCL INSPECTOR:
NORTH COAST CIVIL DESIGN, LLC
CONTACT: DAN AYERS
35270 TOHL AVENUE
NEHALEM, OR 97131
PHONE: 503-440-1088
OFFICE: 503-368-3732

811 Know what's **below.** **Call** before you dig.
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Revisions: # — LINE IS 1" ON FULL SCALE DRAWING

#		

WINDSOR ENGINEERS
Ridgefield, WA
Duluth + Minneapolis, MN
www.windsorengineers.com

REGISTERED PROFESSIONAL ENGINEER 80405PE OREGON JANUARY 12, 2016 KYLE K. AYERS
RENEWAL DATE: DECEMBER 31, 2026

NORTH COAST CIVIL DESIGN
35240 TOHL AVE.
NEHALEM, OR 97131
Phone: 503.440.1088
Cell: 503.812.3732
Internet: www.nccivil.com

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130
ENGINEERING PLANS - BID SET
Project No: 24231
Issue Date: 3/28/2025

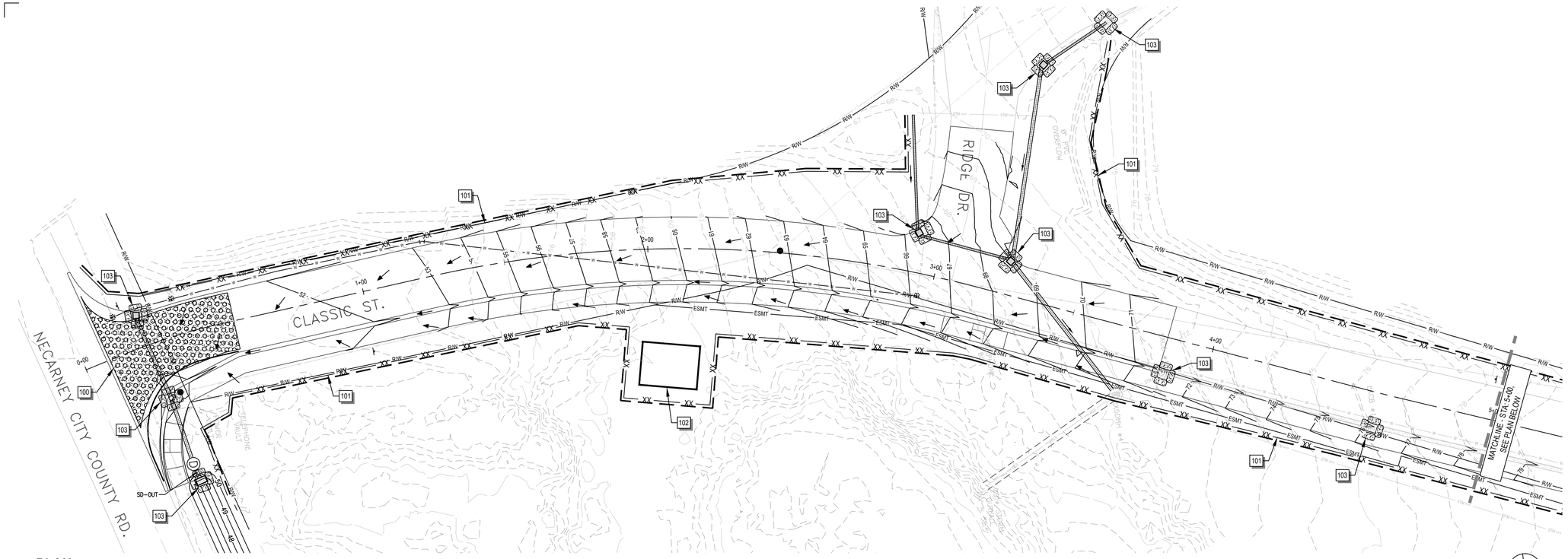
Project Manager KA
Drawn by LX
Checked by KA

SWPPP

C110

ISSUED FOR ENGINEERING PLANS - BID SET

PLOT DATE: 3/28/2025 1:02 PM - FILE: N:\Shared\Projects\24\01\Win - Windsor - Manzanita Classic Street\CAD\ESC\C110.dwg



PLAN

SCALE: 1" = 20'

0 20' 40'

CONSTRUCTION NOTES:

100 CONSTRUCT CRUSHED ROCK ACCESS PAD. PROVIDE 6" MINIMUM DEPTH 2"-3" CRUSHED ROCK COMPACTED TO 90% MAXIMUM DENSITY. PAD SHALL BE 20' MIN WIDTH BY 50' LONG. REFER TO SHEET C116 FOR DETAIL.

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LEGEND:

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LIMIT OF CONSTRUCTION.

XX SILT FENCE

R/W RIGHT OF WAY

ESMT EASEMENT

DRAINAGE FLOW

80 / 80 MAJOR CONTOURS

79 / 79 MINOR CONTOURS

CATCH BASIN - CONCRETE

CATCH BASIN - NYLOPLAST

STORM LINE

STORM MANHOLE

EXISTING STORM MANHOLE

EXISTING STORM LINE

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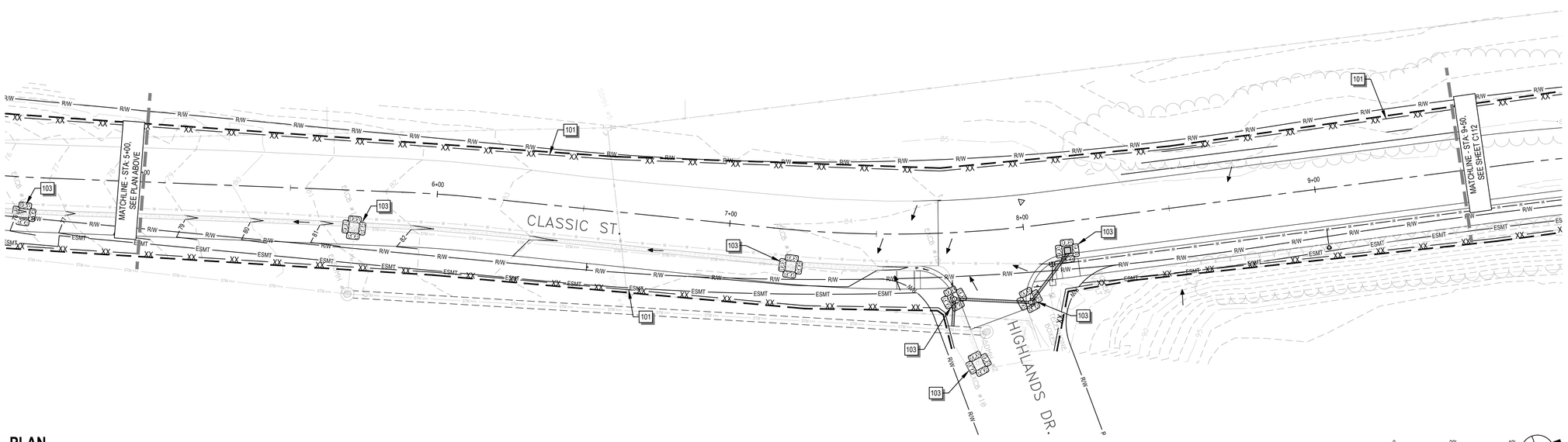

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Revisions:

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WINDSOR ENGINEERS

Ridgefield, WA
Duluth + Minneapolis, MN
www.windsorengineers.com

REGISTERED PROFESSIONAL ENGINEER 80405PE OREGON KYLE K. AYERS JANUARY 12, 2016

RENEWAL DATE: DECEMBER 31, 2026

NORTH COAST CIVIL DESIGN
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Cell: 503.812.3732
Internet: www.nccivil.com

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 3/28/2025

Project Manager KA
Drawn by LX
Checked by KA

ESCP - BMPS

C111

ISSUED FOR ENGINEERING PLANS - BID SET

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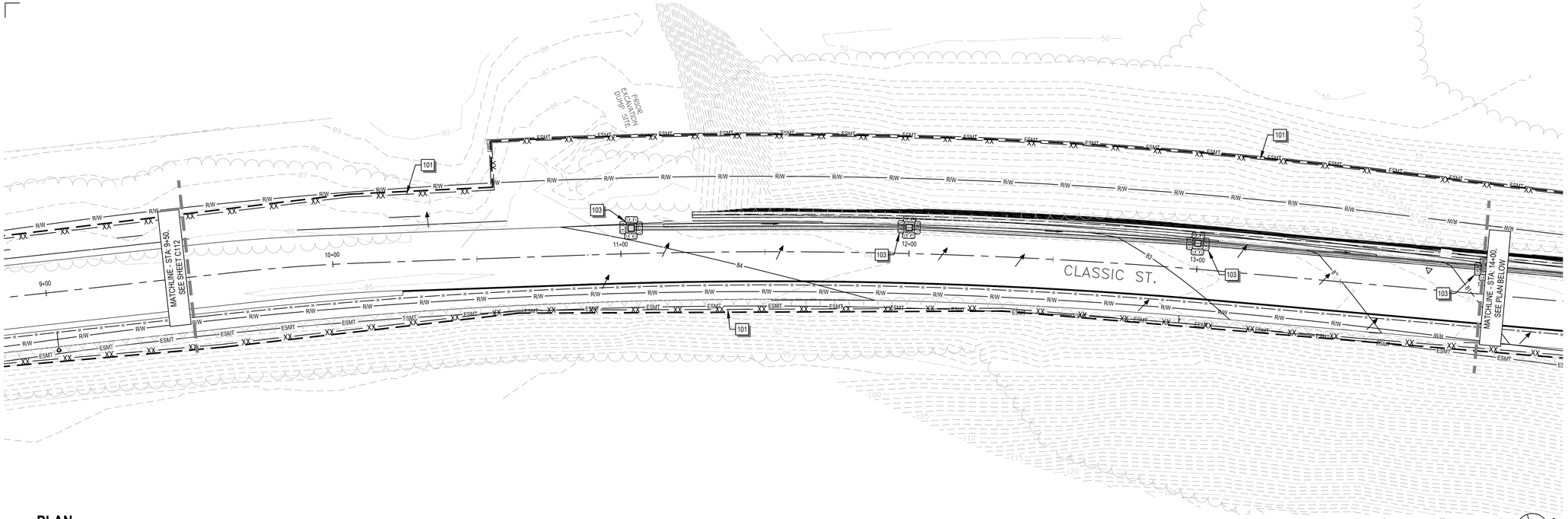

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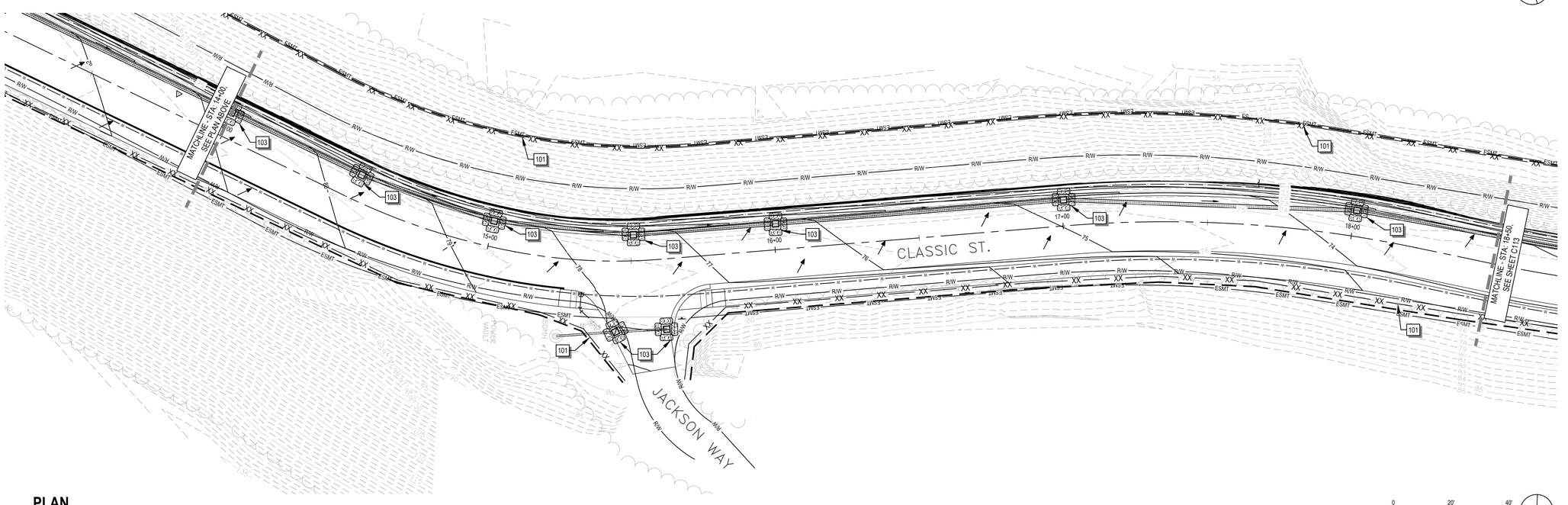

PLAN

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KYLE K. AYERS
RENEWAL DATE: DECEMBER 31, 2026

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ENGINEERING PLANS - BID SET

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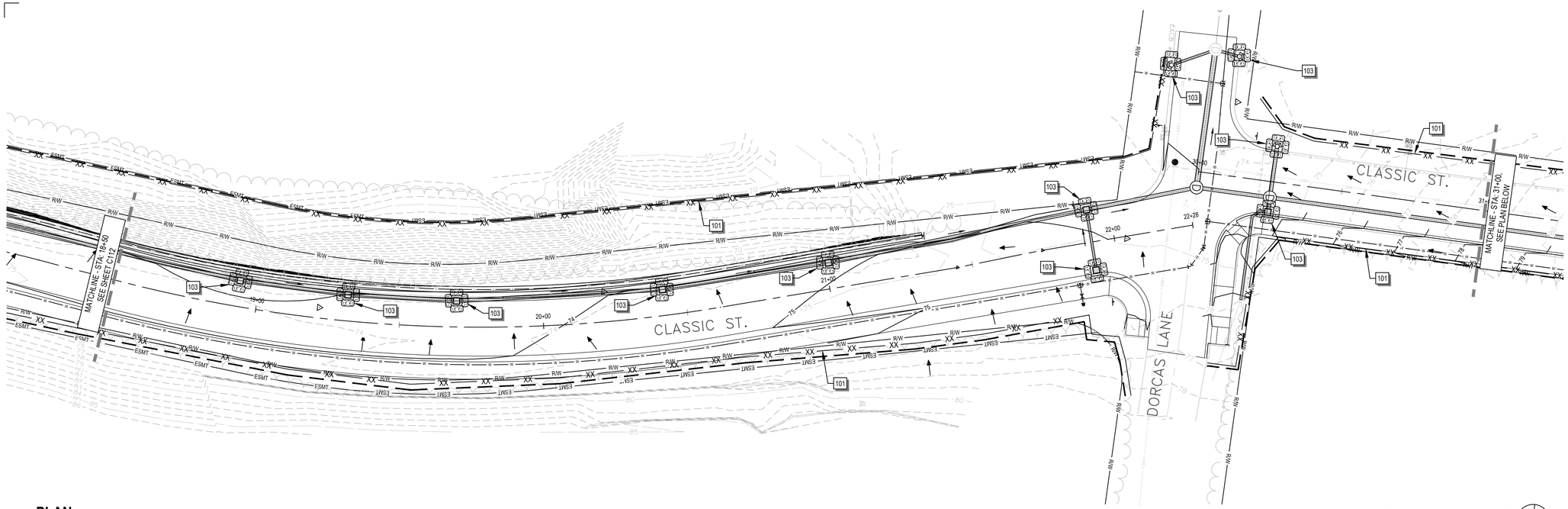
Project Manager KA
Drawn by LX
Checked by KA

ESCP - BMPS

C112

ISSUED FOR ENGINEERING PLANS - BID SET



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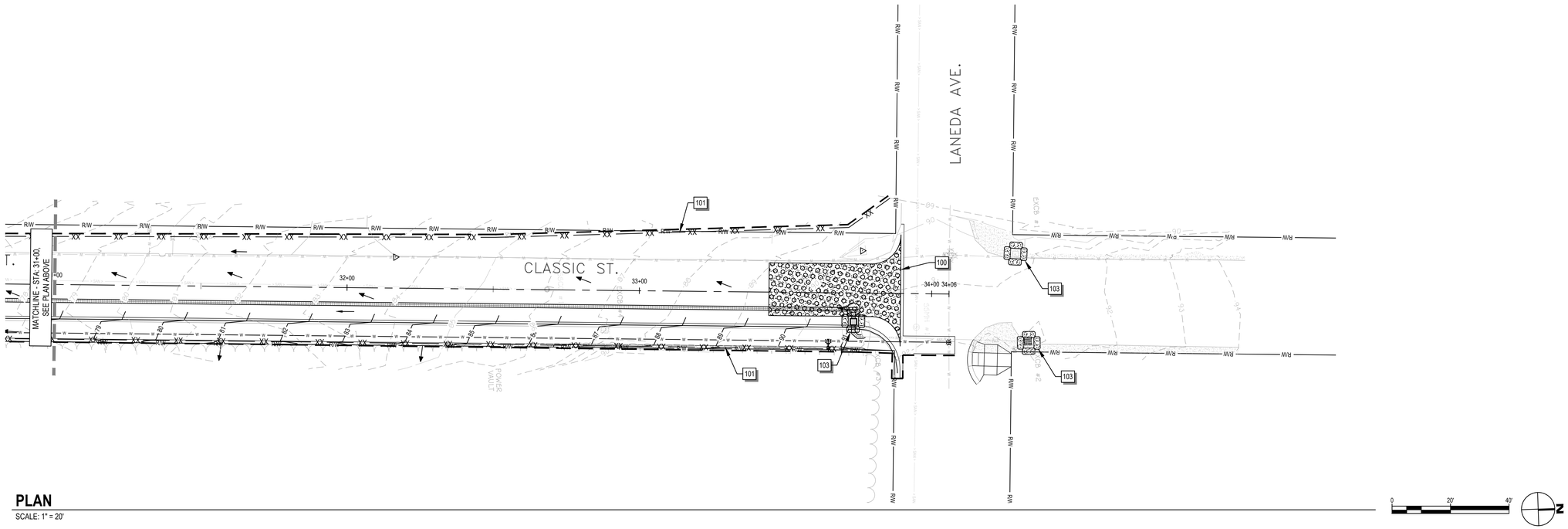

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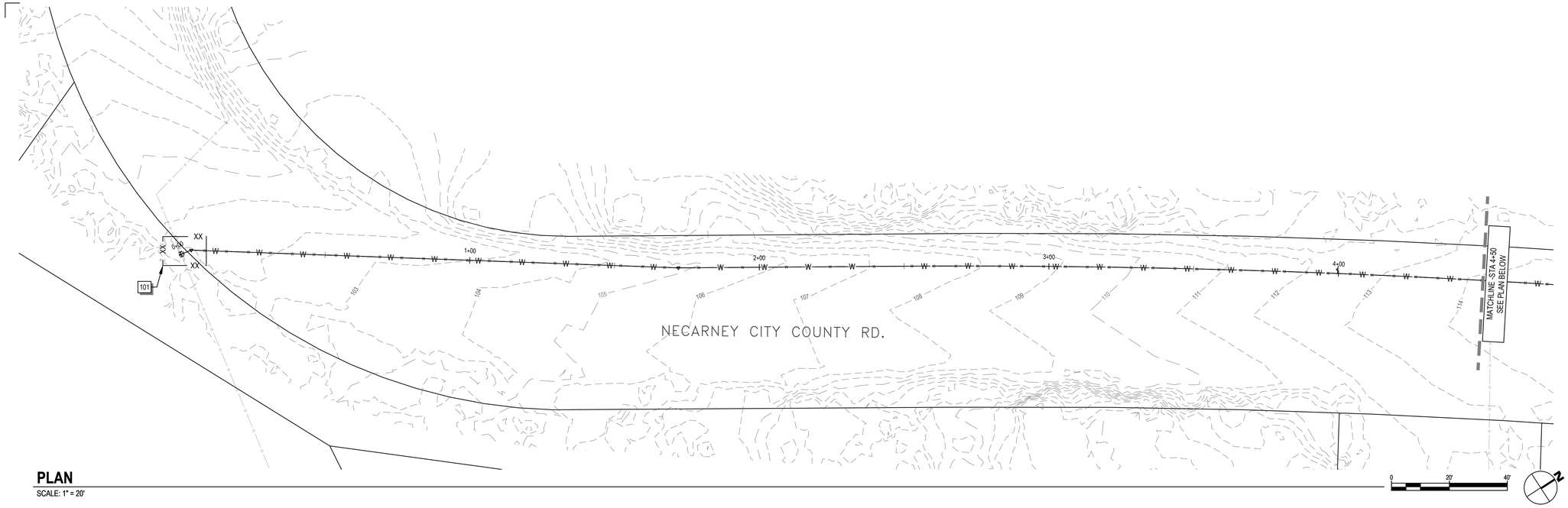
Drawn by LX
Checked by KA

ESCP - BMPS

C113



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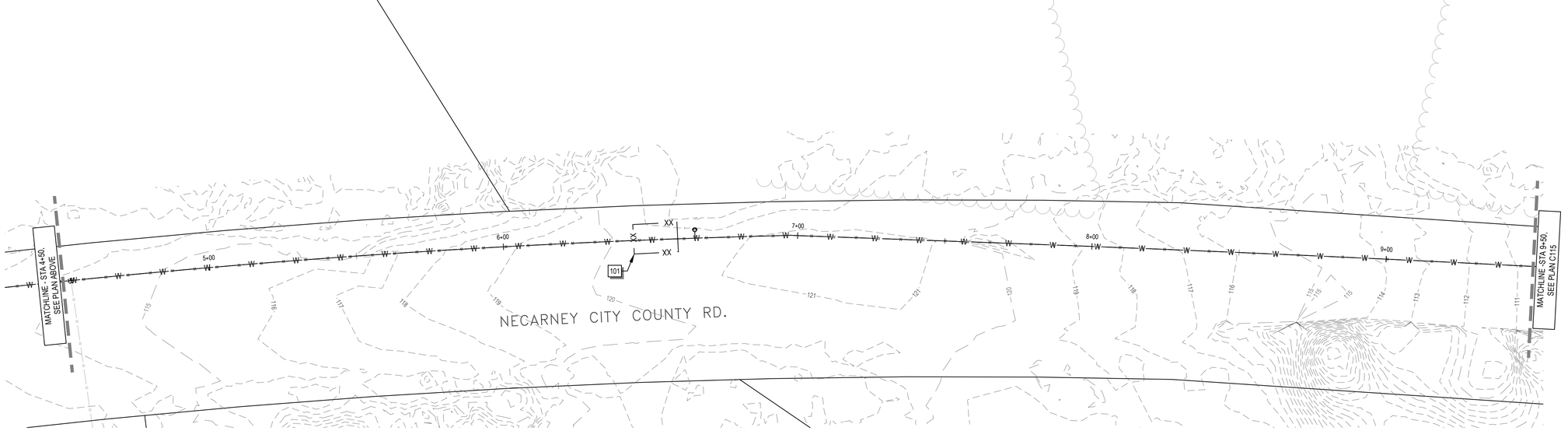

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- 79 / 79 — MINOR CONTOURS
- CATCH BASIN - CONCRETE
- CATCH BASIN - NYLOPLAST
- STORM LINE
- STORM MANHOLE
- EXISTING STORM MANHOLE
- STM >>> — EXISTING STORM LINE

GENERAL NOTE:

1. SEE LANDSCAPE PLAN FOR SEED MIX AND FERTILIZER.
2. WATER MAIN TO BE DIRECTIONALLY BORED ON THIS SHEET. NO SOIL SHALL BE DISTURBED EXCEPT AT BORE PIT LOCATIONS AS SHOWN.

GRADING PHASE INFORMATION:

1. ONSITE SOIL TYPES:
   A. NETARTS FINE SANDY LOAM, NATIVE EOLIAN SANDS AND FINE SAND
2. CUT AND FILL DATA:
   CUT : 1286 CU. YD
   FILL: 1635 CU. YD

ISSUED FOR ENGINEERING PLANS - BID SET

Revisions:

#		

LINE IS 1" ON FULL SCALE DRAWING

WINDSOR ENGINEERS
Ridgefield, WA
Duluth + Minneapolis, MN
www.windsorengineers.com

REGISTERED PROFESSIONAL ENGINEER
60405PE
OREGON
JANUARY 12, 2016
KYLE K. AYERS
RENEWAL DATE: DECEMBER 31, 2026

NORTH COAST CIVIL DESIGN
35240 TOHL AVE.
NEHALEM, OR 97131
Phone: 503.440.1088
Cell: 503.812.3732
Internet: www.nccivil.com

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

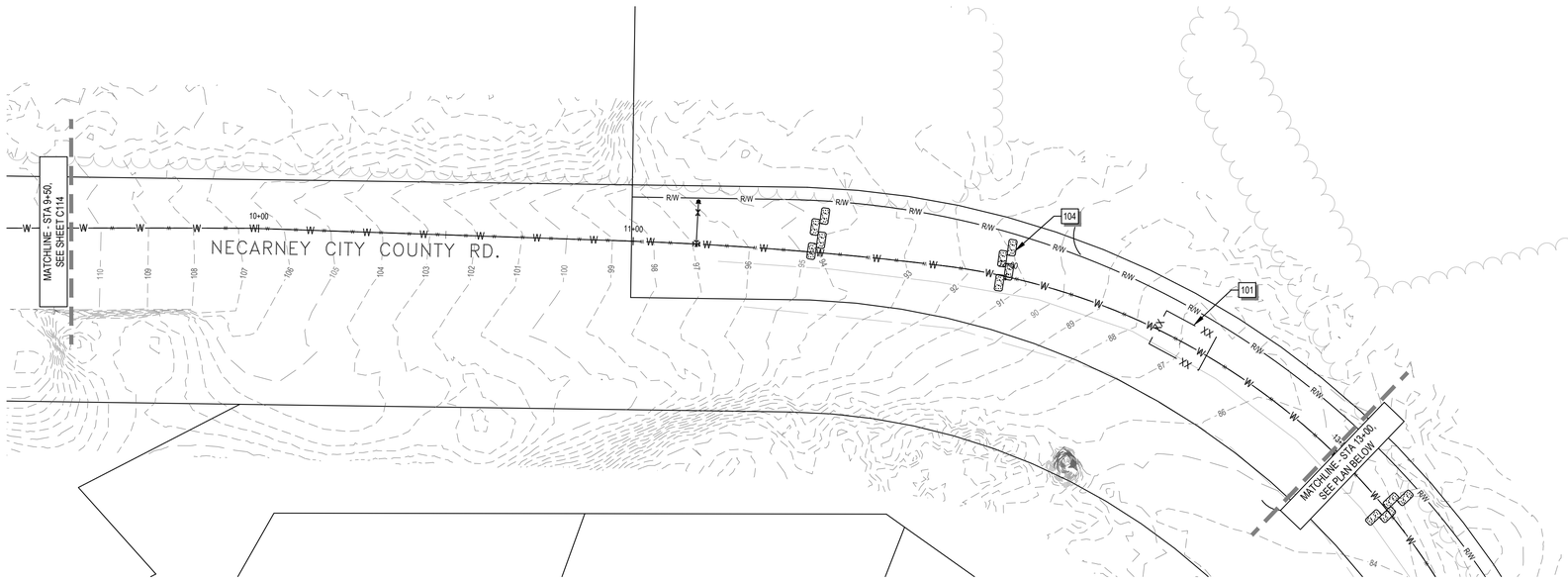
Project No: 24231
Issue Date: 3/28/2025

Project Manager KA
Drawn by LX
Checked by KA

ESCP - BMPS

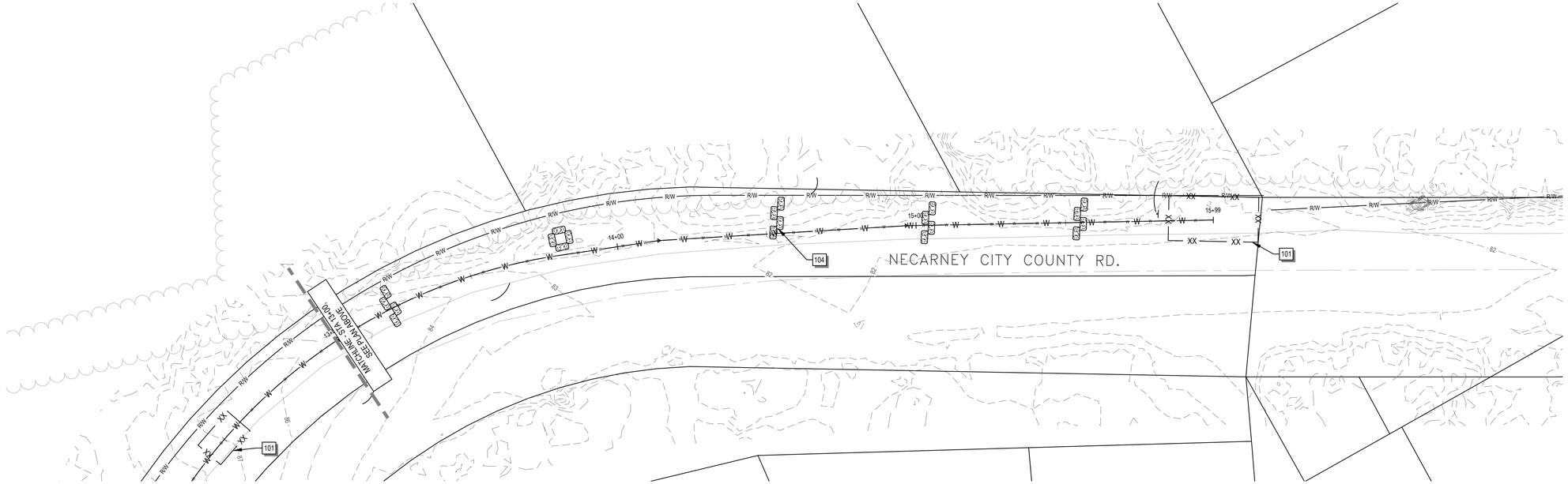
C114

PLOT DATE: 3/28/2025 1:04 PM - FILE: N:\Shared\Projects\24019\Wm - Windsor - Manzanita Classic Street\CAD\ESC\C116_120.dwg



PLAN

SCALE: 1" = 20'



PLAN

SCALE: 1" = 20'

CONSTRUCTION NOTES:

100 CONSTRUCT CRUSHED ROCK ACCESS PAD. PROVIDE 6" MINIMUM DEPTH 2"-3" CRUSHED ROCK COMPACTED TO 90% MAXIMUM DENSITY. PAD SHALL BE 20' MIN WIDTH BY 50' LONG. REFER TO SHEET C116 FOR DETAIL.

101 CONSTRUCT SEDIMENTATION CONTROL SILT FENCING PER DETAIL. REFER TO SHEET C116.

102 CONSTRUCT CONCRETE WASHOUT AREA AS PER DETAIL. REFER TO SHEET C121.

103 INSTALL CATCH BASIN FILTER INSERT PER DETAIL ON SHEET C116.

104 CONSTRUCT SEDIMENTATION CONTROL CHECK DAM PER DETAIL. REFER TO SHEET C116.

LEGEND:

- INLET PROTECTION.
- LIMIT OF CONSTRUCTION.
- XX — SILT FENCE
- R/W — RIGHT OF WAY
- ESMT — EASEMENT
- DRAINAGE FLOW
- 80 — MAJOR CONTOURS
- 79 — MINOR CONTOURS
- CATCH BASIN - CONCRETE
- CATCH BASIN - NYLOPLAST
- STORM LINE
- STORM MANHOLE
- EXISTING STORM MANHOLE
- STM ??? — EXISTING STORM LINE

GENERAL NOTE:

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   FILL: 1635 CU. YD

ISSUED FOR ENGINEERING PLANS - BID SET

811 Know what's **below.** **Call** before you dig.
CALL 2 BUSINESS DAYS BEFORE YOU DIG.
CAUTION UTILITY INFORMATION IS APPROXIMATE.
VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.

Revisions:

#		

LINE IS 1" ON FULL SCALE DRAWING

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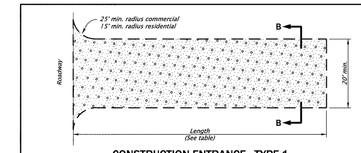
Project No: 24231
Issue Date: 3/28/2025

Project Manager KA
Drawn by LX
Checked by KA

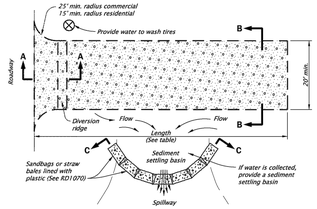
ESCP - BMPS

C115

rd1000.dgn 01-20-2021



CONSTRUCTION ENTRANCE - TYPE 1
NOT TO SCALE



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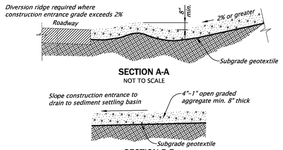
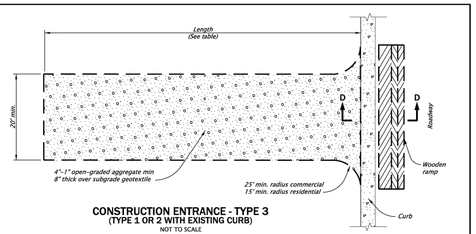
NOT TO SCALE

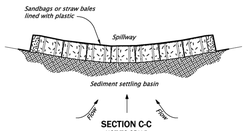


SECTION A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE



CONSTRUCTION ENTRANCE - TYPE 3
(TYPE 1 OR 2 WITH EXISTING CURB)
NOT TO SCALE



SECTION C-C
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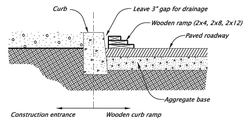

WOODEN CURB RAMP SECTION D-D
NOT TO SCALE

NOTES:
1. The Type 1 entrance is a simple entrance without a diversion ridge or settling basin.
2. The wooden ramp may be used on either Type 1 or Type 2 entrances in situations where there is curb and the curb is not removed for the construction entrance.

CONSTRUCTION ENTRANCE TABLE MINIMUM LENGTH	
Length (FT)	Area Of Exposed Soil (Acre)
20	0.25
50	0.25 < A < 1.0
100	A > 1.0

CALC. BOOK NO. N/A
SDR DATE January, 2021
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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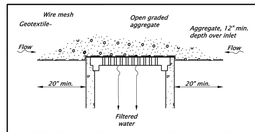
OREGON STANDARD DRAWINGS
CONSTRUCTION ENTRANCES
2021

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

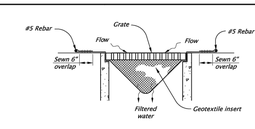
RD1000

Effective Date: June 1, 2021 - November 30, 2021

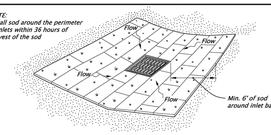
rd1010.dgn 01-20-2021



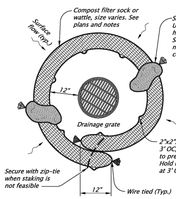
GEOTEXTILE/WIRE MESH/AGGREGATE - TYPE 2
NOT TO SCALE



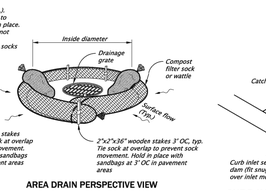
PREFABRICATED FILTER INSERT - TYPE 3
NOT TO SCALE



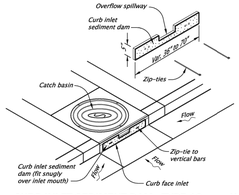
SOD PROTECTION - TYPE 6
NOT TO SCALE



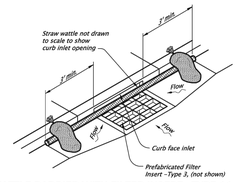
AREA DRAIN PLAN



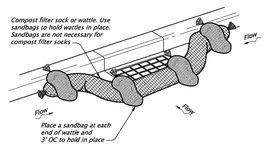
AREA DRAIN PERSPECTIVE VIEW



CURB INLET SEDIMENT DAM - TYPE 10
NOT TO SCALE



WATTLE BARRIER WITH FILTER INSERT - TYPE 11
NOT TO SCALE



CURB INLET PERSPECTIVE VIEW

COMPOST FILTER SOCK OR WATTLE - TYPE 7
NOT TO SCALE

NOTES:
Type 2 – Geotextile/wire mesh/aggregate
Place the wire mesh over the grate. Place sediment fence geotextile over the wire mesh and perimeter area around structure.
Install aggregate over the geotextile fabric.

Type 3 – Prefabricated filter inserts
Install prefabricated filter inserts according to the plans, special provisions, and manufacturer recommendations. Prefabricated inserts with provisions for overflow are allowed only when accompanied by additional BMP's to prevent the potential of sediments entering project storm systems. Field fabricated inserts are not allowed.

Type 7 – Compost filter sock
Drive 2"x2" wood stakes a minimum of 6" into ground and flush with the top of the sock.
Overlap ends of sock per manufacturers recommendations (12"min., 36" max.). Use 8" to 12" dia sock on curbside in traffic areas.

(Type 7 cont.)
Use 12" to 18" dia sock in non-traffic areas or areas where the larger socks can be used safely.
use synthetic mesh socks for temporary installations.

Type 10 – Curb inlet sediment dam
Fit curb inlet sediment dam snugly into inlet mouth. Curb inlet sediment dam is required for use with inlet filter insert where at-grade inlet grate and curb inlet are combined at a catch basin.

Type 11 – Wattle barrier with filter insert
Install prefabricated filter insert per Type 3 detail.
Install wattles over opening and 36" to each side of opening tight against curb. Adjust wattle to force storm water to flow through filter insert or wattle prior to leaving the site.
Adjust, replace or modify the inlet protection as needed to prevent sediment laden water from entering the catch basin.

CALC. BOOK NO. N/A
SDR DATE January, 2021
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

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OREGON STANDARD DRAWINGS
INLET PROTECTION
TYPE 2, 3, 6, 7, 10 AND 11
2021

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers
Jan 2021	Moved notes up from overlapping the sheet border

RD1010

Effective Date: December 1, 2021 - May 31, 2022

rd1015.dgn 01-20-2021

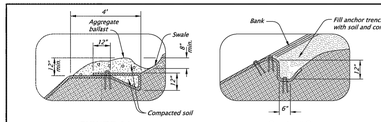


FIGURE A1:
TOP OF BANK ANCHOR TRENCH, H>3' AND TERMINAL SLOPE
NOT TO SCALE

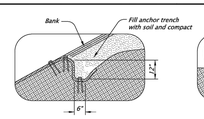


FIGURE A2:
TOP OF BANK ANCHOR TRENCH, H<3'
NOT TO SCALE

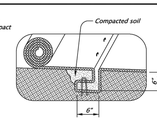


FIGURE A3:
CHANNEL CHECK SLOT
NOT TO SCALE

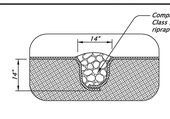


FIGURE A4:
CHANNEL CHECK SLOT WITH ROCK BACKFILL
NOT TO SCALE

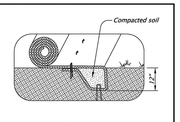
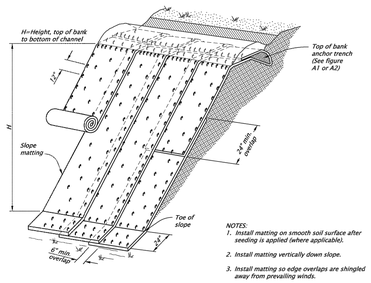
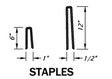


FIGURE A5:
INITIAL CHANNEL ANCHOR TRENCH
NOT TO SCALE

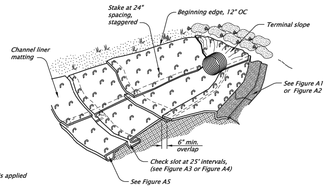


SLOPE MATTING ISOMETRIC VIEW
NOT TO SCALE

NOTES:
1. Install matting on smooth soil surface after seeding is applied (where applicable).
2. Install matting vertically down slope.
3. Install matting so edge overlaps are shingled away from prevailing winds.
4. Place fastener at 12" OC on matting edges
5. Overlap upper mat over lower mat, and fasten.
6. Stagger alternate rows of fasteners placed at 24" OC.
7. Extend mat 24" beyond toe of slope; fold mat back under 4" and fasten.
8. Matting Types A through E: Furnish fully biodegradable product. Matting with plastic or photodegradable components will not be accepted.



STAPLES
NOT TO SCALE



CHANNEL MATTING ISOMETRIC VIEW
NOT TO SCALE

NOTES:
1. Install matting on smooth soil surface after seeding is applied (where applicable).
2. Install channel liner matting, in the direction of water flow. Anchor upstream end of mat with check slot for culvert outfalls, place mat under pipe 12" minimum upstream from pipe outlet.
3. Construct check slots across channel bottom at 25' spacing and at the end of each mat (Fig. A3 or 44).
4. Overlap side channel liner matting edges 6" over the center channel liner matting and fasten edges 12" OC. Continue overlap and stapling pattern for each additional side channel liner mat.
5. Lap upstream matting end 12" over beginning edge of downstream matting. Fasten 12" OC
6. Anchor top edge of side channel matting in trench and fasten 12" OC (Fig. A2).
7. Fasten matting interior at 24" OC with staggered spacing.
8. Construct initial anchor trench at downstream end of matting and terminal slope anchor at upstream end.
9. Matting Types A through E: Furnish fully biodegradable product. Matting with plastic or photodegradable components will not be accepted.

CALC. BOOK NO. N/A
SDR DATE January, 2021
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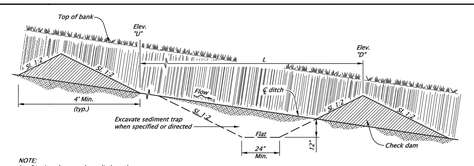
OREGON STANDARD DRAWINGS
SLOPE AND CHANNEL MATTING
2021

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

RD1055

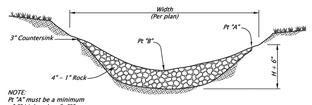
Effective Date: December 1, 2022 - May 31, 2023

rd1005.dgn 01-20-2021



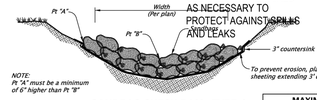
NOTE:
L – Spacing along swale or ditch so that Elevation "U" equals Elevation "D".

TYPICAL PROFILE SECTION CHECK DAMS
(SHOWN WITH AGGREGATE)
NOT TO SCALE



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

AGGREGATE CHECK DAM - TYPE 1
NOT TO SCALE



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

SANDBAG CHECK DAM - TYPE 4
NOT TO SCALE

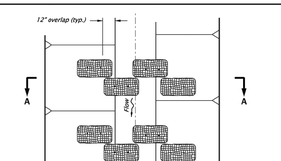
WASHOUT SHALL BE CLEANED AND REPAIRED AS NECESSARY TO PROTECT AGAINST SPILLS AND LEAKS

To prevent erosion, place 10 mil. polyethylene plastic sheeting extending 3' downslope for energy dissipation

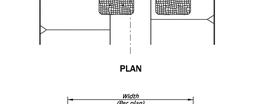
NOTES:
1. *Type 3 – stake biofilter bags with two 2"x2"x18" (minimum) wood stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags. Omit stakes if placed over paved surfaces. Overlap bags 12" minimum at each joint.*
2. *Type 4 – Tightly abut or overlap ends of sandbags at each joint.*
3. *Spacing between check dams for all check dam types shall comply with the typical profile section shown above.*

MAXIMUM CHECK DAM SPACING "L"				
Ditch Grade	H=8"	H=12"	H=18"	H=24"
10%	" "	" "	15'	20'
5%	" "	" "	18'	23'
8%	" "	" "	18'	25'
7%	" "	" "	21'	28'
6%	" "	16'	25'	33'
5%	" "	20'	33'	40'
4%	16'	25'	37'	50'
3%	22'	33'	50'	66'
2%	33'	50'	75'	100'

" " Not allowed — H = Min. dam height



PLAN



SECTION A-A

BIOFILTER BAG CHECK DAM - TYPE 3
NOT TO SCALE

CALC. BOOK NO. N/A
SDR DATE January, 2021
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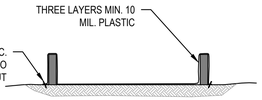
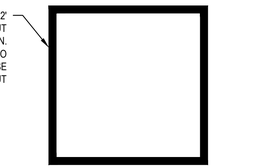
OREGON STANDARD DRAWINGS
CHECK DAMS
TYPE 1, 3 AND 4
2021

DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

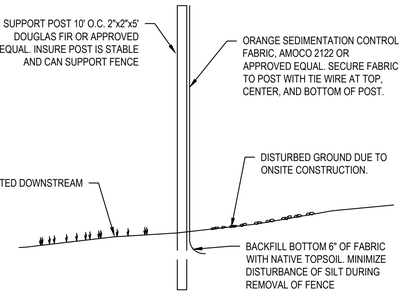
RD1005

Effective Date: December 1, 2021 - May 31, 2022





CONCRETE WASHOUT DETAIL
SCALE: NTS



SEDIMENTATION CONTROL FABRIC TYPE SILT FENCE
SCALE: NTS

PLOT DATE: 3/28/2025 1:04 PM - FILE: N:\Shared\Projects\24019\Win - Windsor - Manzanita Classic Street\CAD\ESC\C121.dwg

811 Know what's **below.** **Call** before you dig.
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Revisions: # — LINE IS 1" ON FULL SCALE DRAWING

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www.windsorengineers.com

REGISTERED PROFESSIONAL ENGINEER 80405PE OREGON JANUARY 12, 2016 KYLE K. AYERS
RENEWAL DATE: DECEMBER 31, 2026

NORTH COAST CIVIL DESIGN
35240 TOHL AVE.
NEHALEM, OR 97131
Phone: 503.440.1088
Cell: 503.812.3732
Internet: www.nccivil.com

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

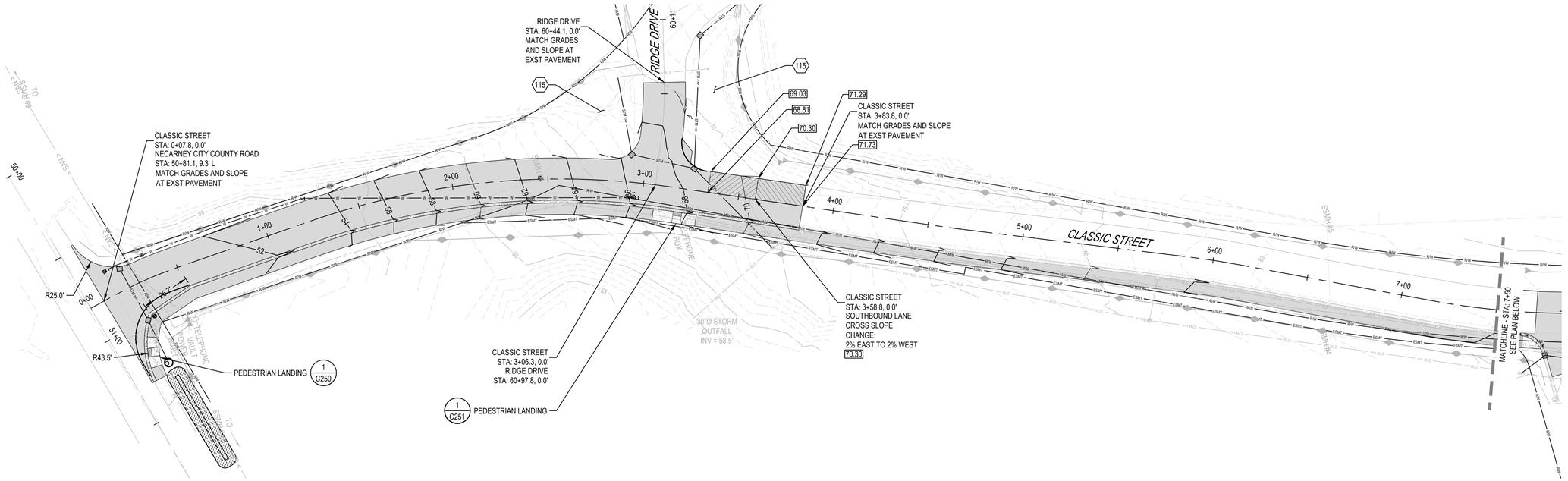
Project No: 24231
Issue Date: 3/28/2025

Project Manager KA
Drawn by LX
Checked by KA

ESCP - DETAILS

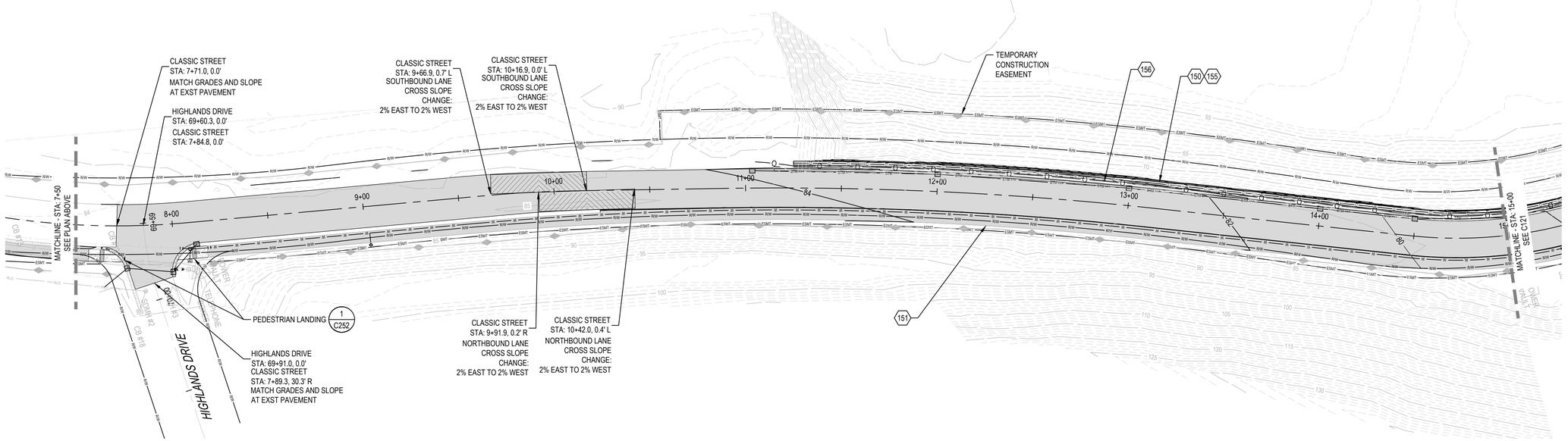
C116

ISSUED FOR ENGINEERING PLANS - BID SET



PLAN

SCALE: 1" = 30'



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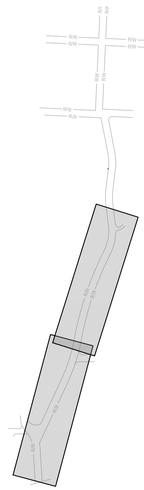

KEY MAP

SCALE: NTS

KEYNOTES

101	REMOVE AND REINSTALL EXISTING SIGNS
102	PROTECT STEEP SLOPES FROM CONSTRUCTION ACTIVITIES
103	EXISTING WATER MAIN
104	REMOVAL OF PAVEMENT, AC/PCC
105	2" COLD PLAN PAVEMENT REMOVAL AND LEVEL 2-3/8 INCH ACP OVERLAY- PER DETAIL 6/C100
106	EXST WATER LINES, VALVES, AND METERS TO BE REMOVED
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MARCH 9, 1999
TRAVIS W TORMANEN
Expires: 6/30/2026

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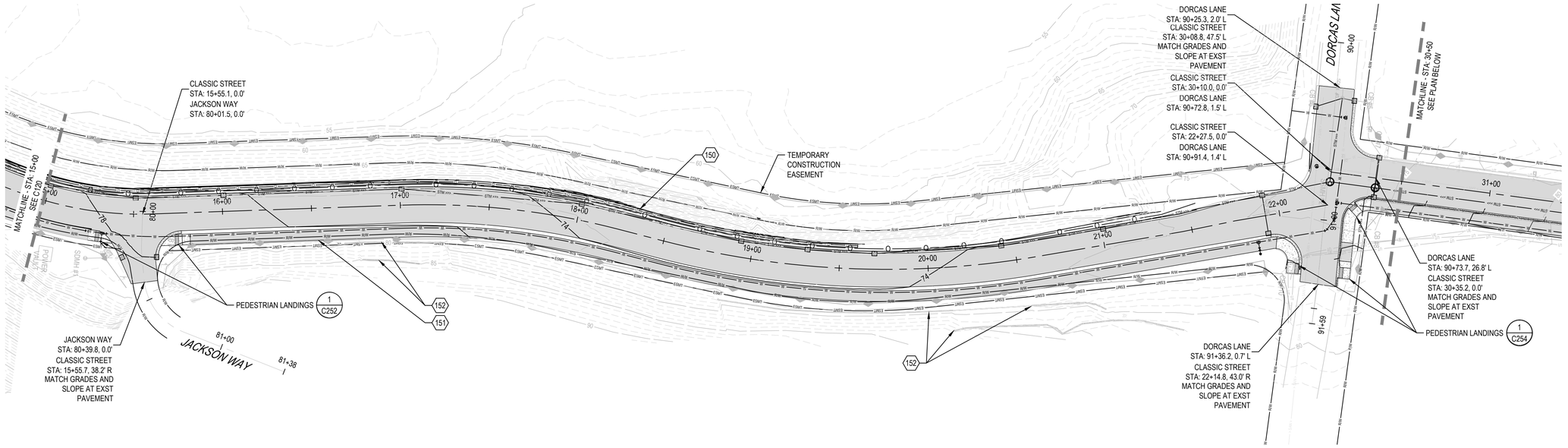
ENGINEERING PLANS - BID SET
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

GRADING PLAN

C120

ISSUED FOR ENGINEERING PLANS - BID SET



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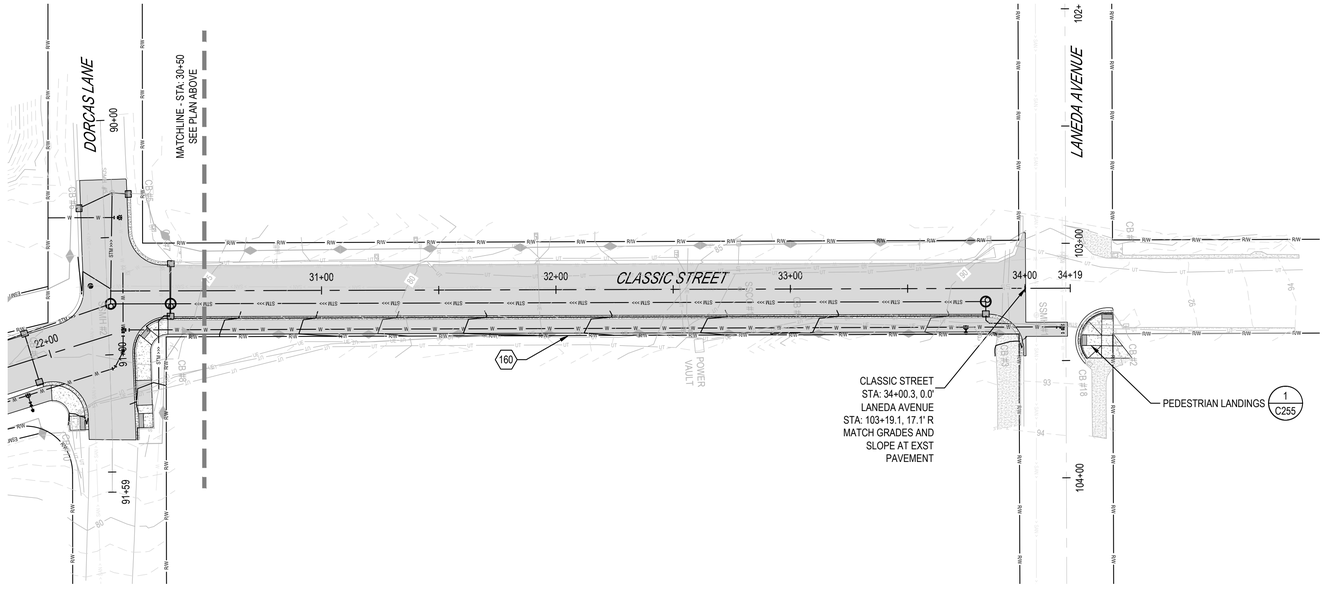

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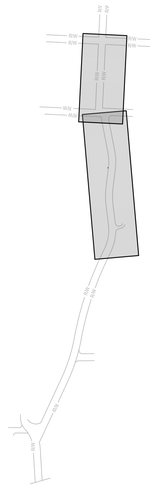
KEY MAP

SCALE: NTS



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ISSUED FOR ENGINEERING PLANS - BID SET

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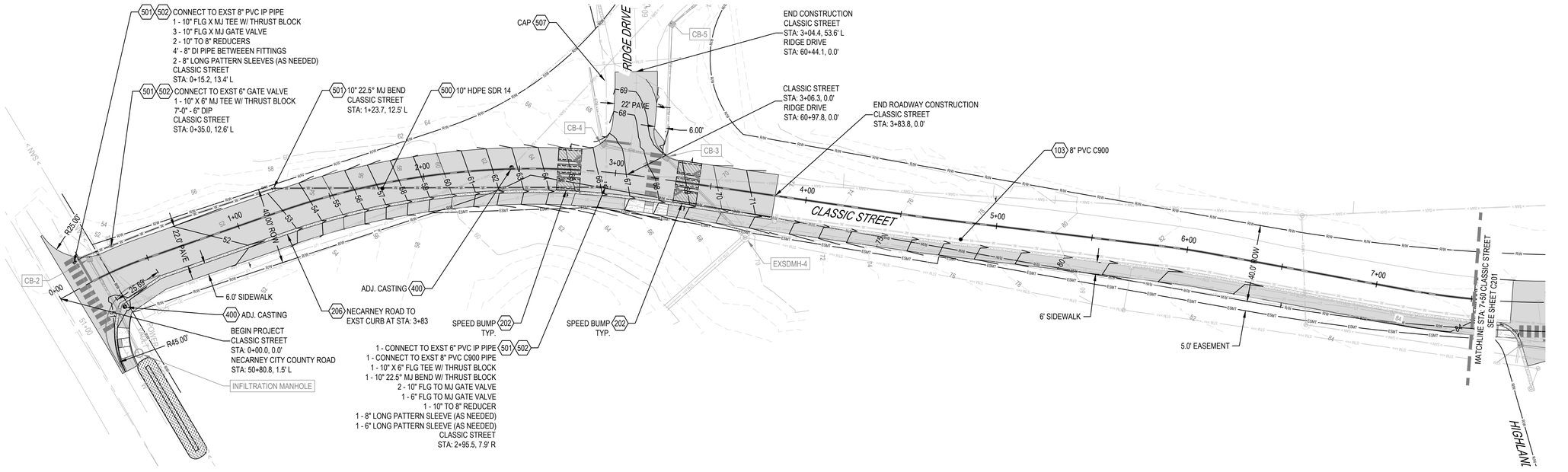
ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

GRADING PLAN

C121



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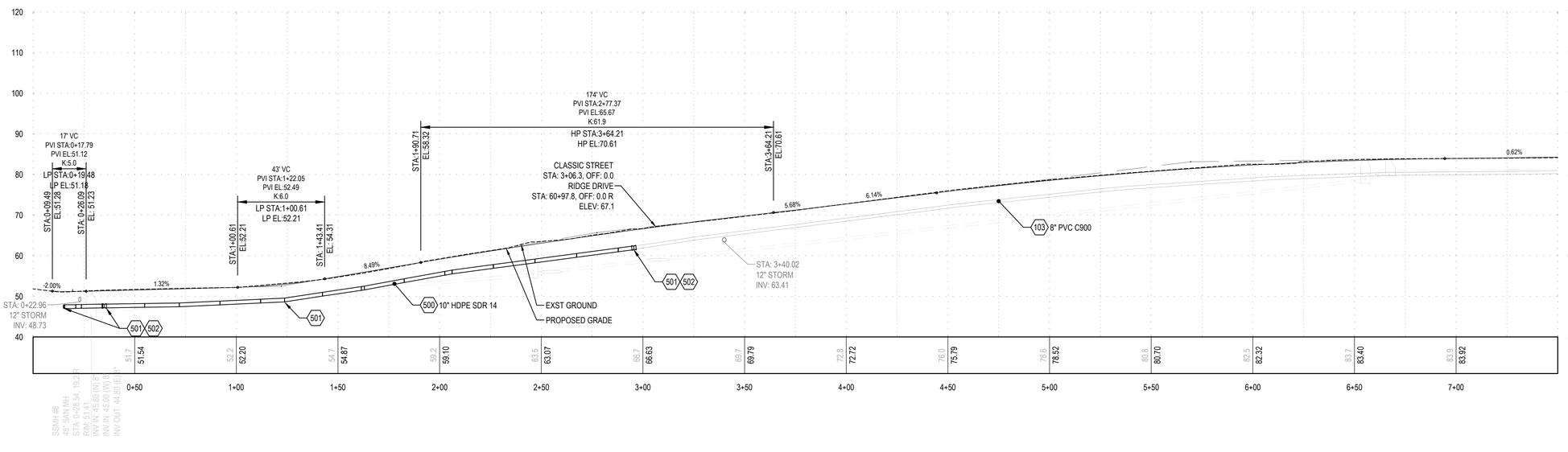

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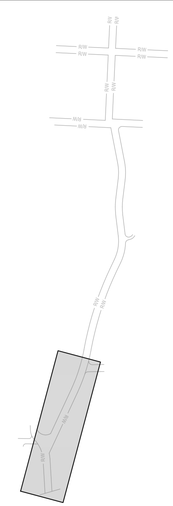

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ENGINEERING PLANS - BID SET
Project No: 24231
Issue Date: 4/11/2025

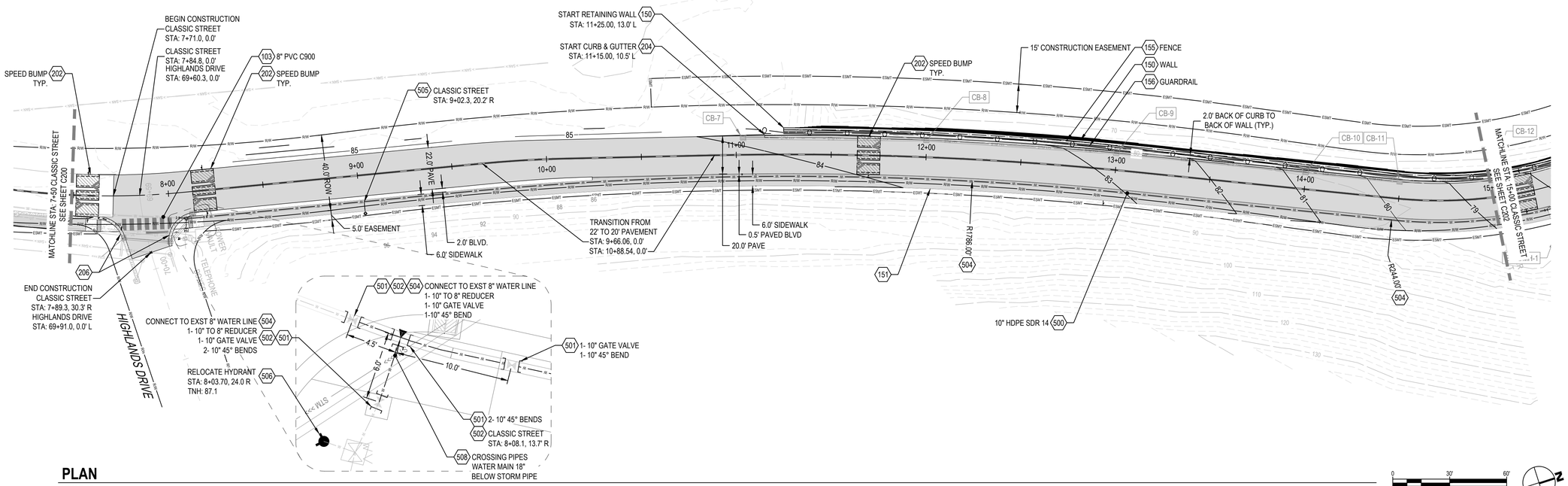
Project Manager MRL
Drawn by DTT
Checked by TWT

ROAD AND UTILITY PLAN AND PROFILE

C200

ISSUED FOR ENGINEERING PLANS - BID SET

PLOT DATE: 4/15/2025 10:08 AM - FILE: C:\Users\TheaWhen\DCIACCDocs\Windsor Engineers\24231 Manzanita Classic Street\Project Files\Infrastructure\Final Sheets\24231_ROAD_P&P.dwg



PLAN

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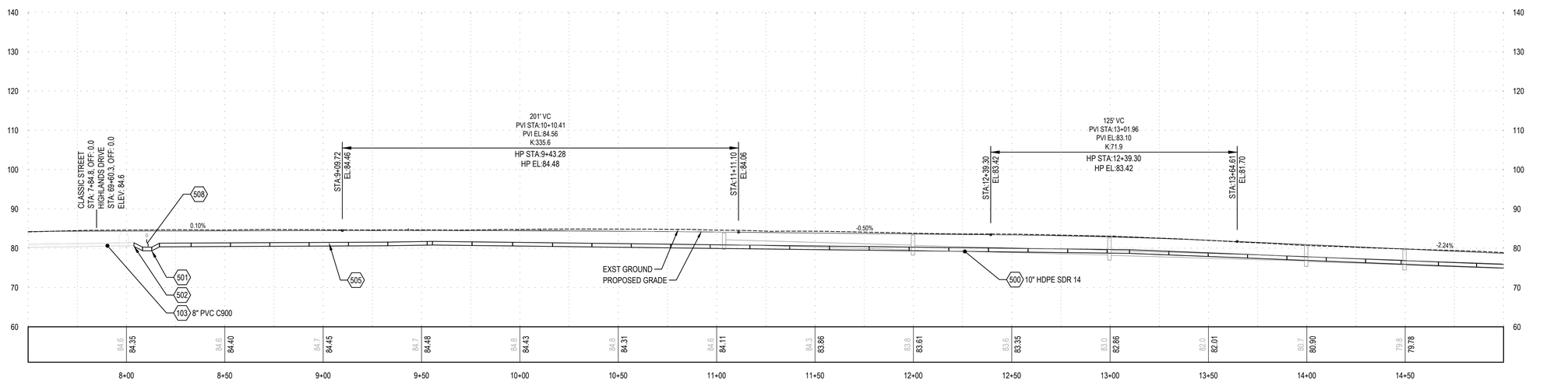

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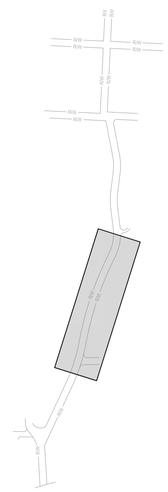

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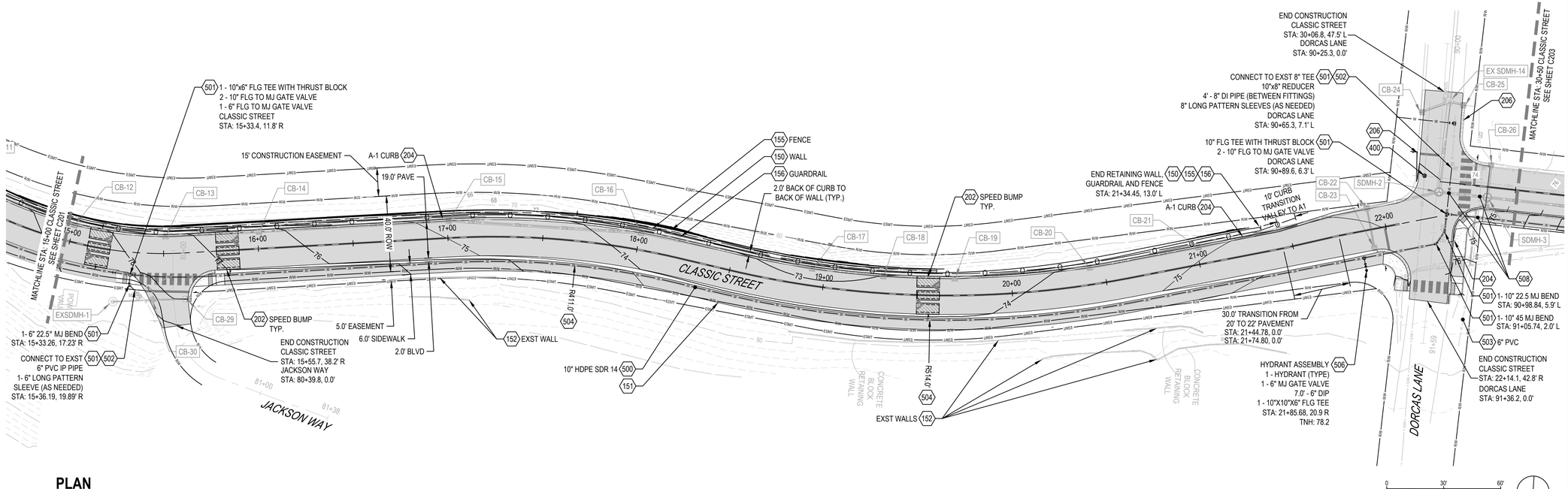

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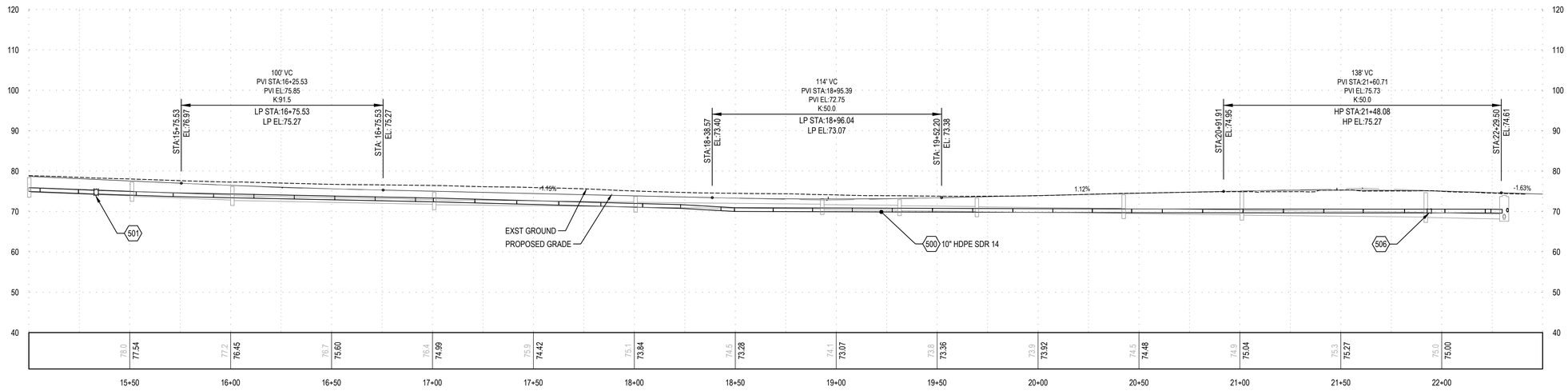

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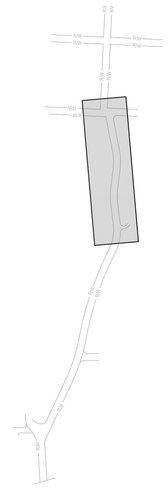

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60259PE
OREGON
MARCH 9, 1999
TRAVIS W TORMANEN
Expires: 6/30/2026

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

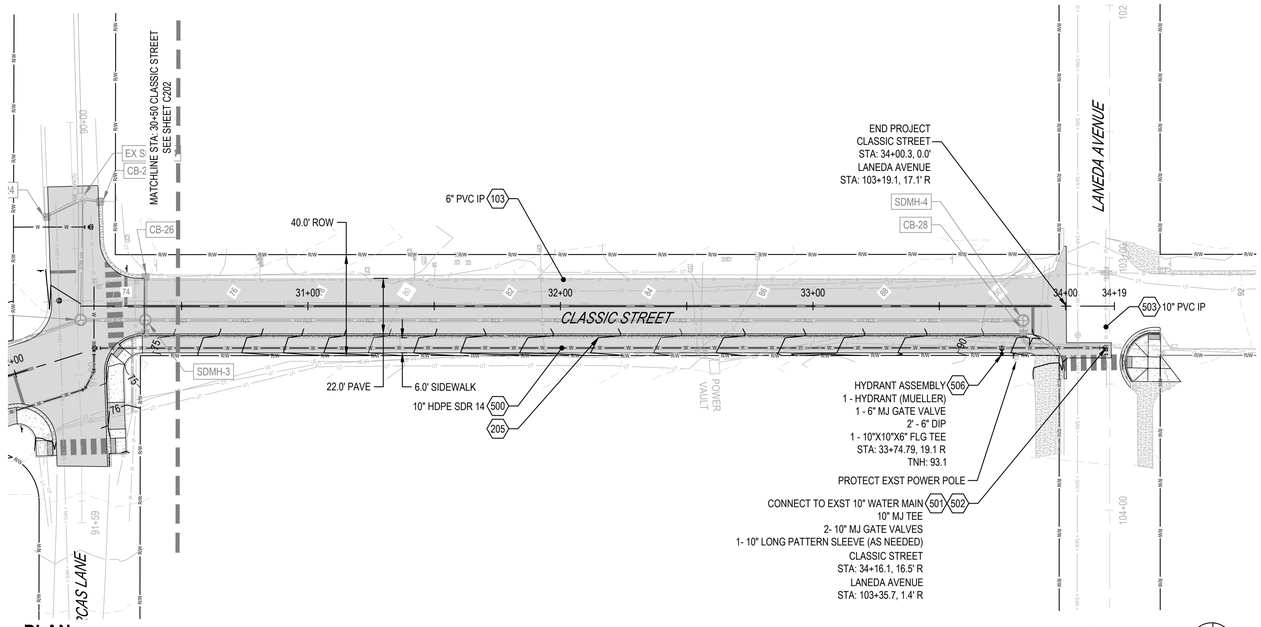
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

ROAD AND UTILITY PLAN AND PROFILE

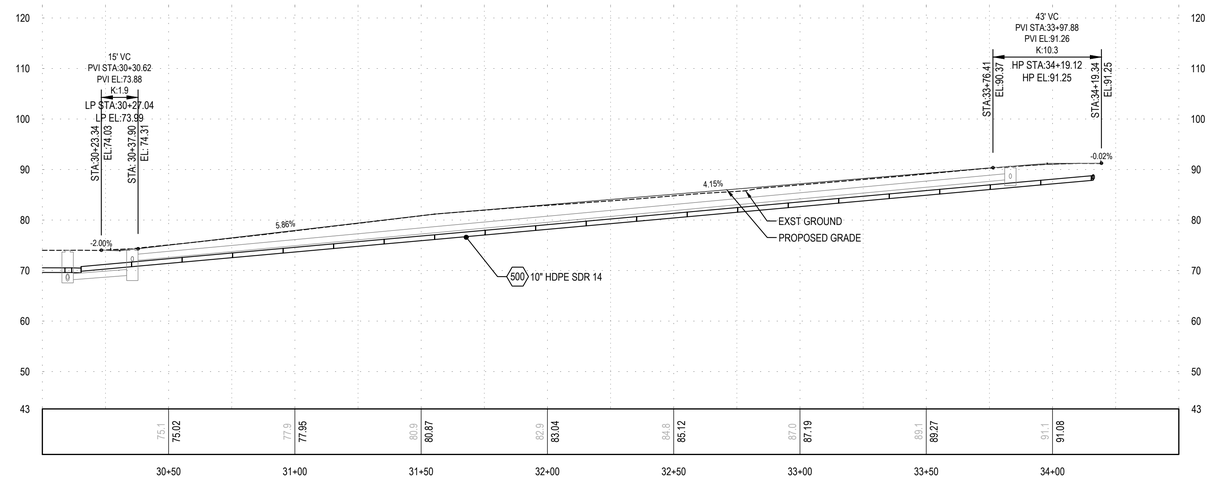
C202

ISSUED FOR ENGINEERING PLANS - BID SET



PLAN

SCALE: 1" = 30'



PROFILE

SCALE: 1" = 30' HORIZONTAL 1" = 15' VERTICAL

KEYNOTES

101	REMOVE AND REINSTALL EXISTING SIGNS
102	PROTECT STEEP SLOPES FROM CONSTRUCTION ACTIVITIES
103	EXISTING WATER MAIN
104	REMOVAL OF PAVEMENT, AC/PCC
105	2" COLD PLAN PAVEMENT REMOVAL AND LEVEL 2-3/8 INCH ACP OVERLAY- PER DETAIL 6/C100
106	EXST WATER LINES, VALVES, AND METERS TO BE REMOVED
107	ASPHALT PAVEMENT SAW CUTTING (FULL DEPTH)
108	REMOVAL OF CURB
109	REMOVAL OF PIPE (STORM SEWER)
110	REMOVAL OF STRUCTURE (STORM SEWER)
111	REMOVE OR PLUG FILL AND ABANDON EXISTING WATER MAIN
112	VERIFY 3' MIN COVER OVER EXISTING WATER MAIN. IF COVER IS UNDER 3' REMOVE AND REPLACE IN KIND
113	COORDINATE WITH UTILITY COMPANY TO RELOCATE TELEPHONE PEDESTAL
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150	RETAINING WALL TO BE DESIGNED BY CONTRACTOR. SEE SHEET C600
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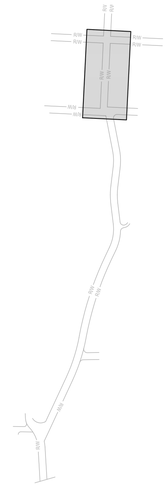

KEY MAP

SCALE: NTS

N

Know what's **below.**
Call before you dig.
CALL 2 BUSINESS DAYS BEFORE YOU DIG.
CAUTION UTILITY INFORMATION IS APPROXIMATE.
VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.

Revisions:

#	

LINE IS 1" ON FULL SCALE DRAWING

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ENGINEERING PLANS - BID SET

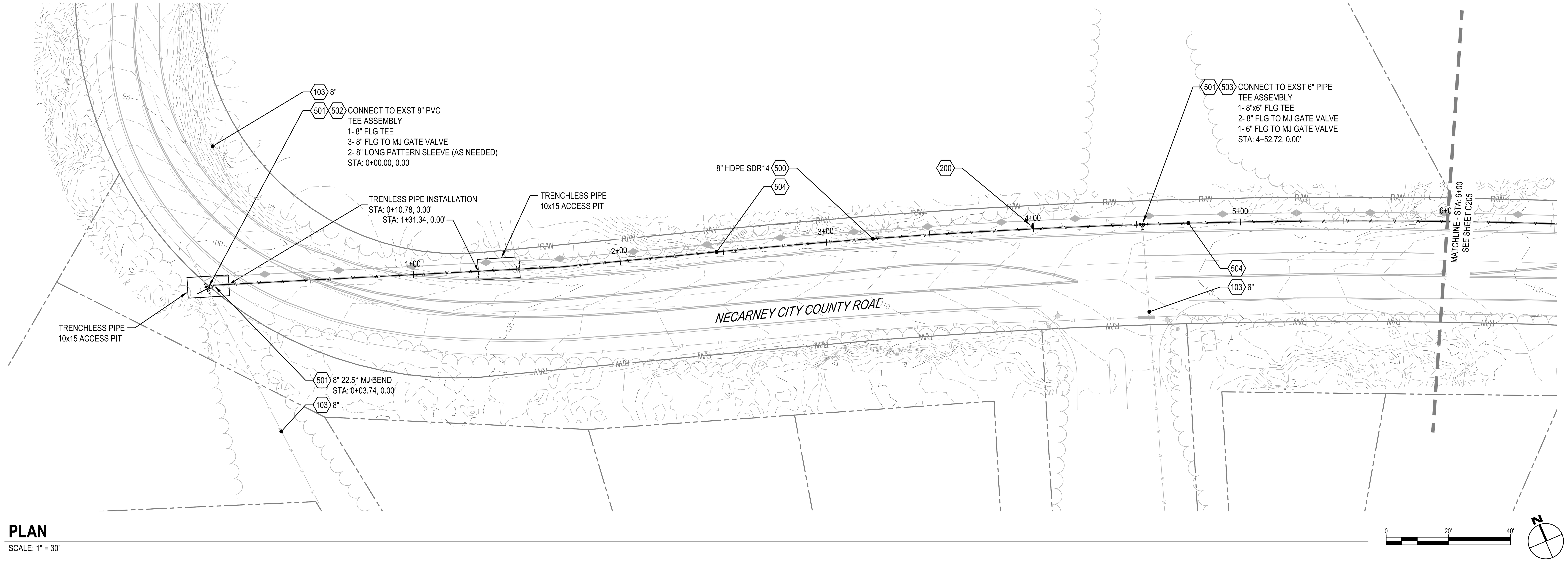
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

ROAD AND UTILITY PLAN AND PROFILE

C203

ISSUED FOR ENGINEERING PLANS - BID SET



PLAN

SCALE: 1" = 30'

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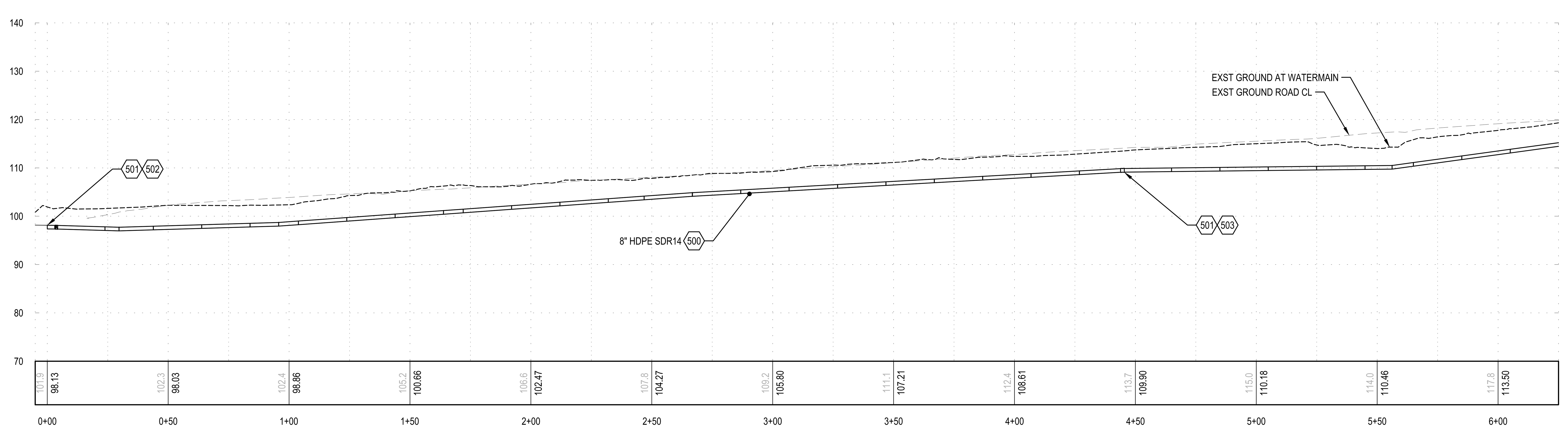

PROFILE

SCALE: 1" = 30' HORIZONTAL 1"= 15' VERTICAL

KEY MAP

SCALE: NTS

811 Know what's **below.** **Call** before you dig.
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Revisions: #

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ENGINEERING PLANS - BID SET

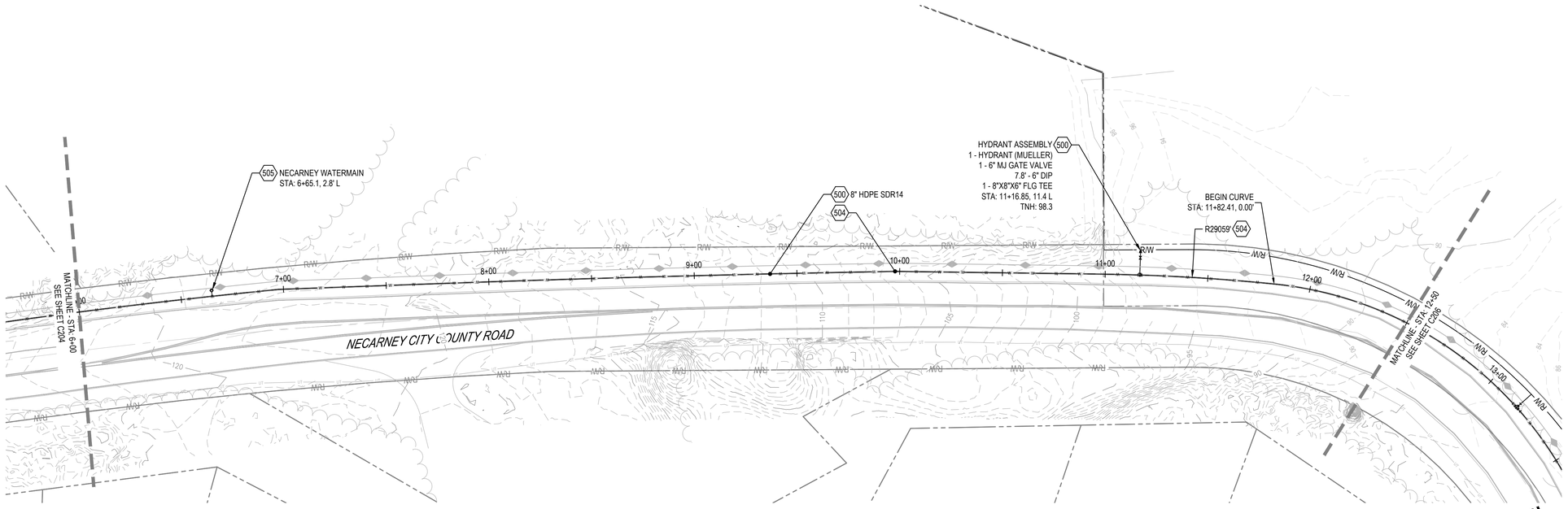
Project No: 24231
Issue Date: 4/11/2025

WATER LINE PLAN AND PROFILE

Project Manager MRL
Drawn by DTT
Checked by TWT

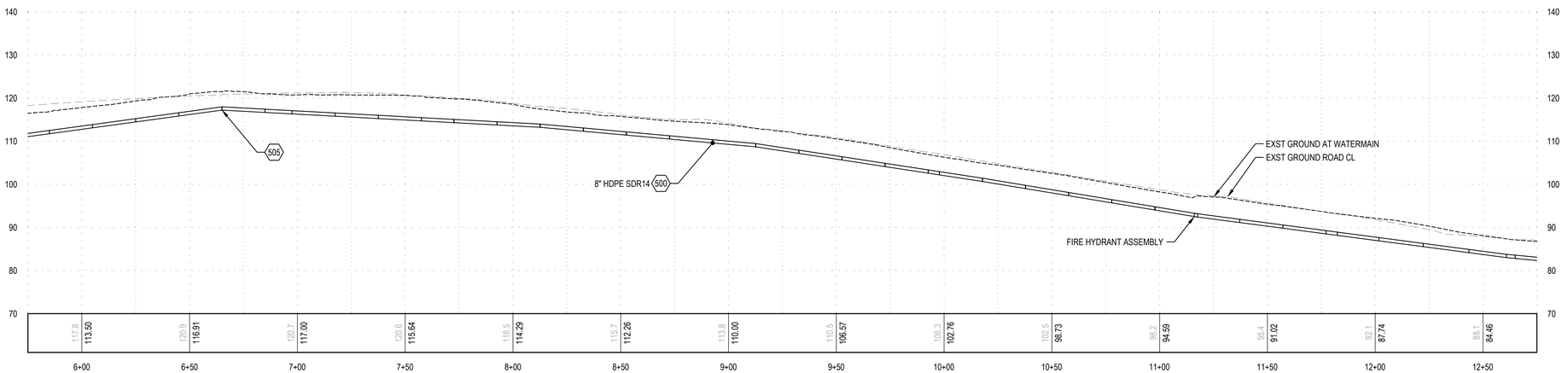
C204

ISSUED FOR ENGINEERING PLANS - BID SET



PLAN

SCALE: 1" = 30'



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ISSUED FOR ENGINEERING PLANS - BID SET

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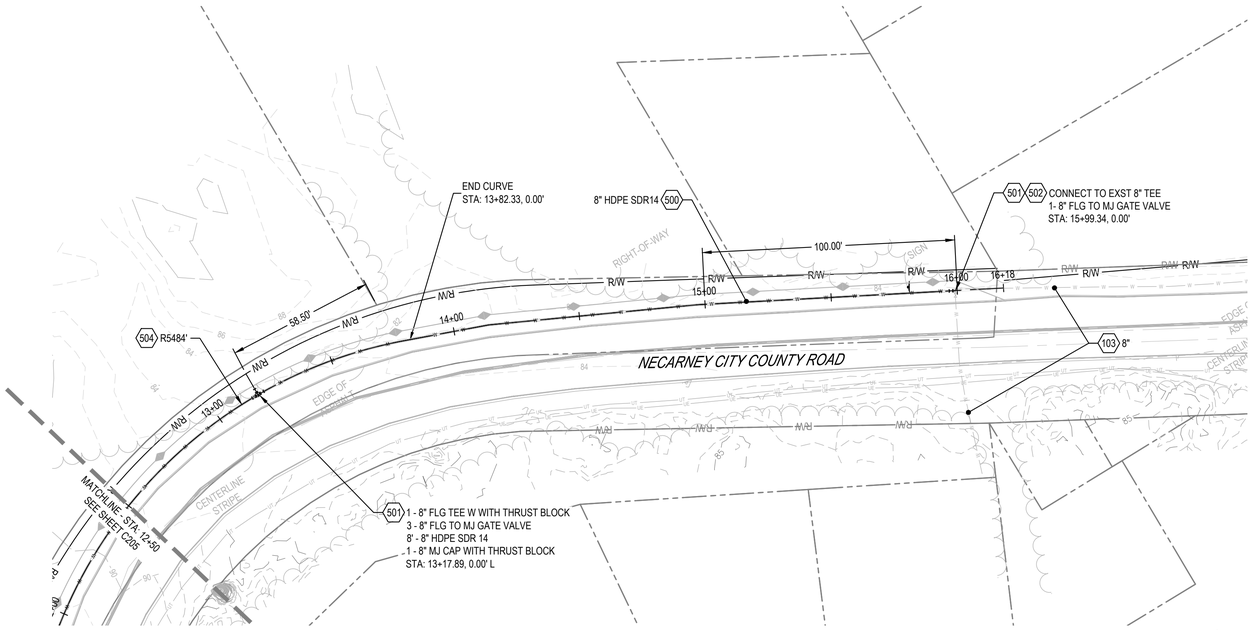
ENGINEERING PLANS - BID SET
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

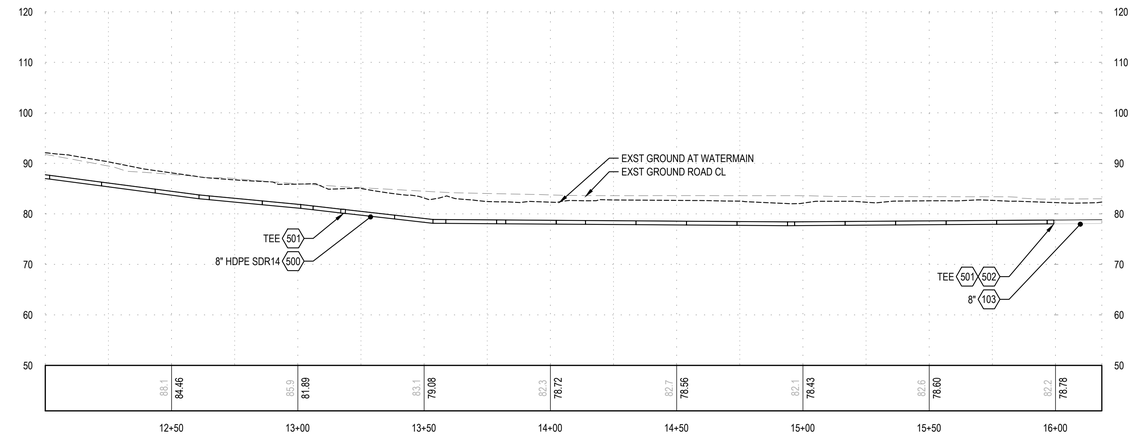
WATER LINE PLAN AND PROFILE

C205



PLAN

SCALE: 1" = 30'



PROFILE

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KEY MAP

SCALE: NTS

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ISSUED FOR ENGINEERING PLANS - BID SET

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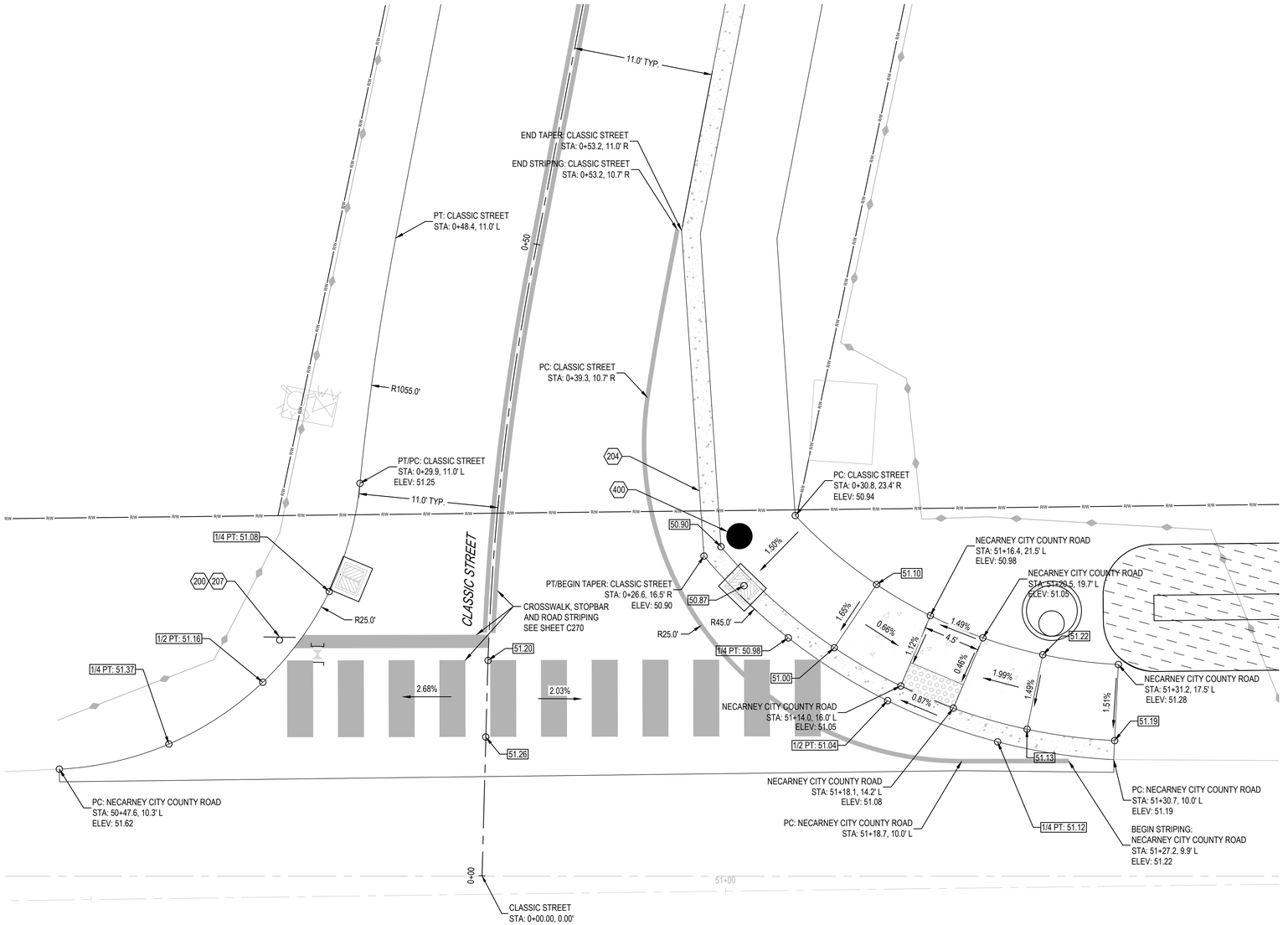
ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 4/11/2025

WATER LINE PLAN AND PLOT

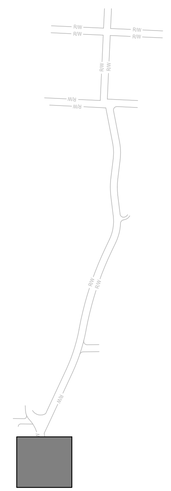
Project Manager MRL
Drawn by DTT
Checked by TWT

C206



1 **PLAN**
SCALE: 1" = 5'

0 5' 10'



KEY MAP
SCALE: NTS

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ENGINEERING PLANS - BID SET

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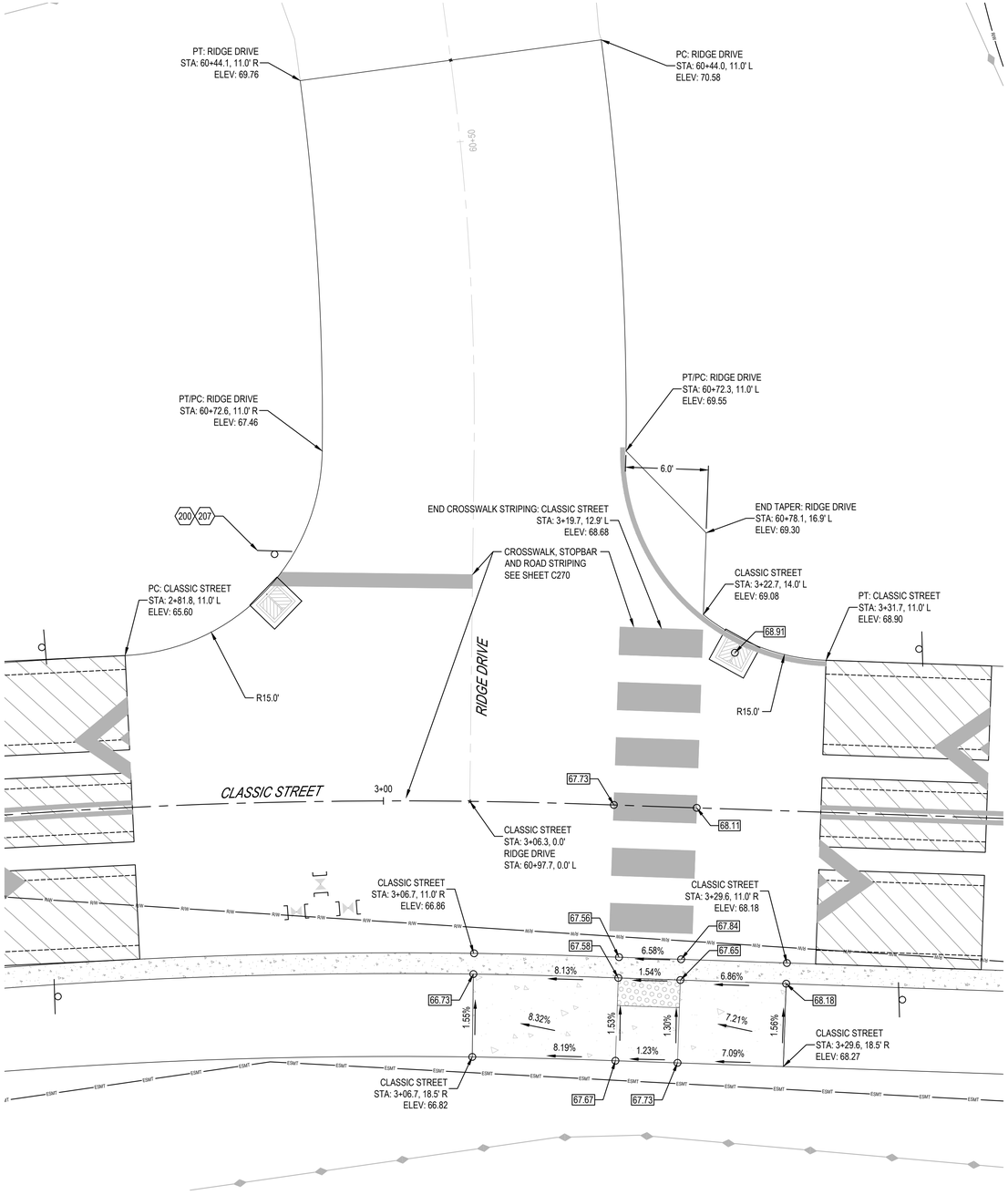
Checked by TWT

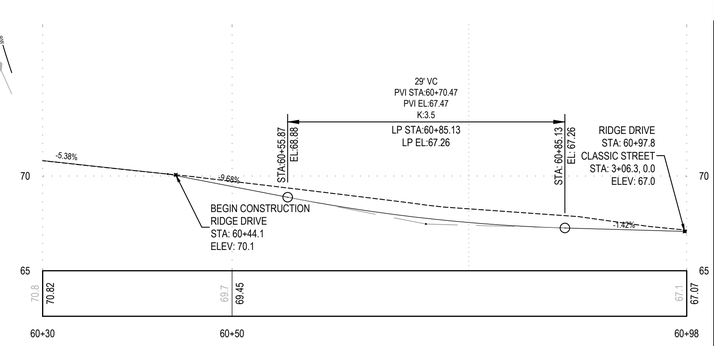
INTERSECTION PLANS - NECARNEY CITY ROAD AND CLASSIC STREET

C250

ISSUED FOR ENGINEERING PLANS - BID SET



1 **PLAN**
SCALE: 1" = 5'



2 **PROFILE - RIDGE DRIVE**
HORIZONTAL SCALE: 1" = 8' VERTICAL SCALE: 1" = 4'

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154	TOP SURFACE OF PROPOSED ROAD AT DEVELOPMENT
155	INSTALL MIN 4' CHAIN LINK FENCE ALONG TOP OF RETAINING WALL
156	INSTALL W-BEAM GUARDRAIL TYPE 2A PER DETAILS 3 & 4/C501
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203	INSTALL CROSSWALK STRIPING PER DETAIL 5/C502
204	INSTALL TYPE A-1 CURB AND GUTTER PER DETAIL 1/C500
205	INSTALL ROLLED CURB AND GUTTER PER DETAIL 1/C500
206	INSTALL 18" VALLEY GUTTER PER DETAIL 4/C500
400	MINOR ADJUSTMENT OF MANHOLES (SANITARY SEWER TO FINISH GRADE)
500	INSTALL WATER MAIN WITH 3' MINIMUM COVER
501	INSTALL WATER ASSEMBLY. THRUST BLOCKS REQUIRED AT BENDS, TEES, AND TRANSITIONS
502	CONNECT TO EXISTING WATER MAIN PIPE
503	CONNECT TO EXISTING WATER MAIN FITTING
504	INSTALL BENDS OR DEFLECT AS NEEDED PER MANUFACTURER'S RECOMMENDATIONS
505	INSTALL CARV PER DETAIL 5/C506
506	INSTALL HYDRANT ASSEMBLY PER DETAIL
507	CAP EXISTING PIPE TEE AND ADD THRUST BLOCK
508	PROVIDE 18" SEPARATION BETWEEN WATER AND STORM OR SANITARY PIPE. SEE DETAIL 2/C505

KEY MAP
SCALE: NTS

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Revisions: #

LINE IS 1" ON FULL SCALE DRAWING

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Duluth + Minneapolis, MN
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REGISTERED PROFESSIONAL ENGINEER
60259PE
OREGON
MARCH 9, 1999
TRAVIS W TORMANEN
Expires: 6/30/2026

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

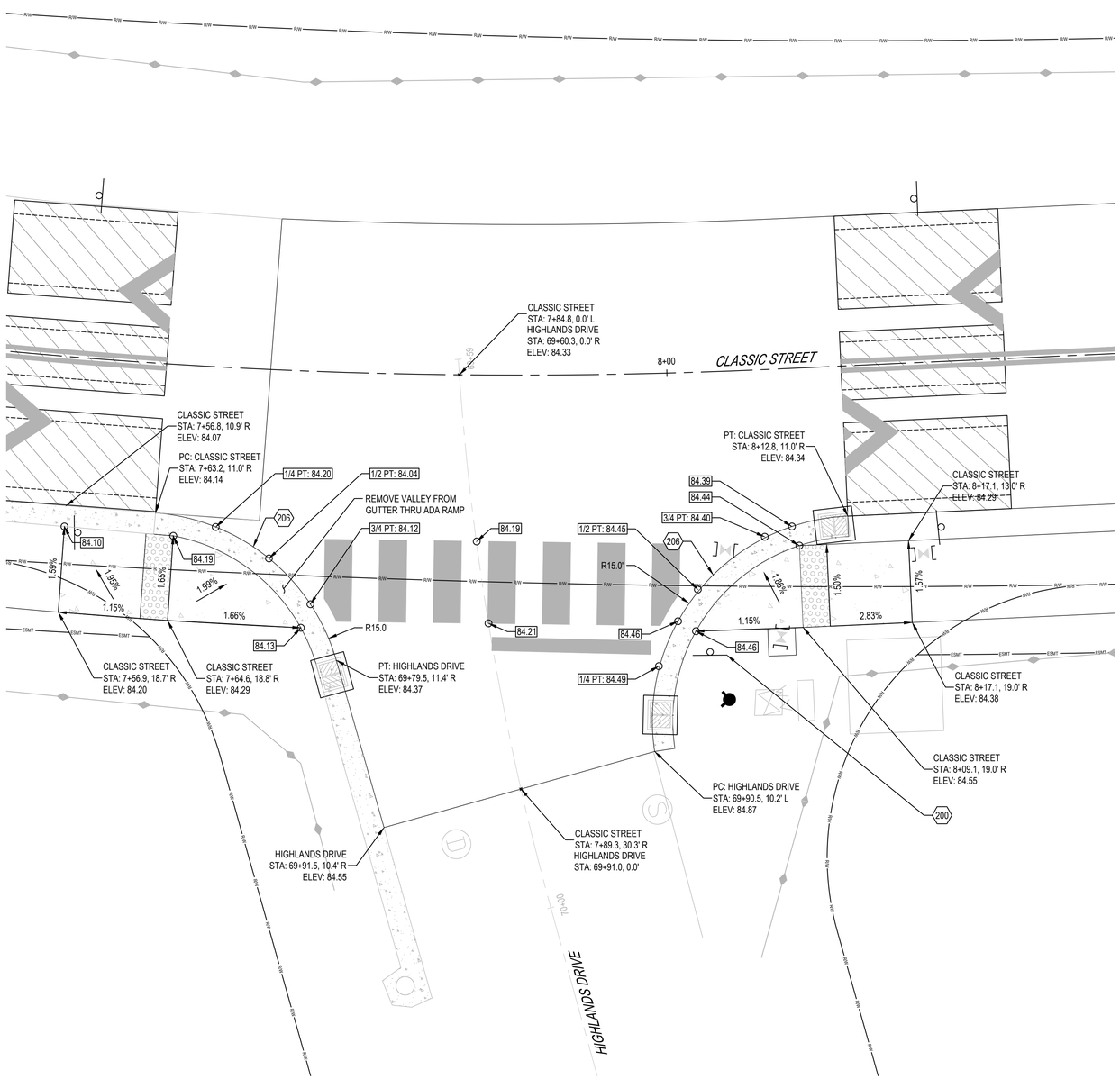
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

INTERSECTION PLANS - CLASSIC STREET AND RIDGE DRIVE

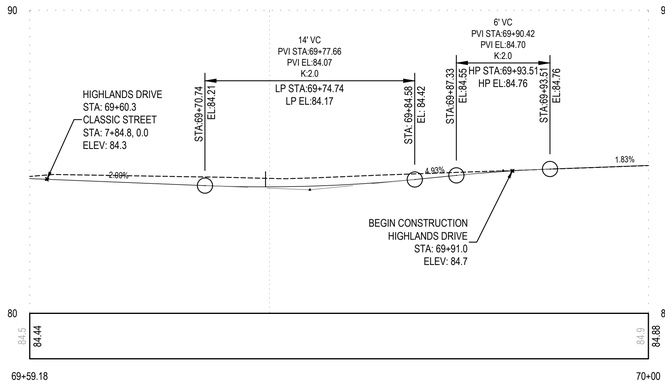
C251

ISSUED FOR ENGINEERING PLANS - BID SET



1 PLAN

SCALE: 1" = 5'



2 PROFILE - HIGHLANDS DRIVE

HORIZONTAL SCALE: 1" = 5' VERTICAL SCALE: 1' = 2.5'

KEYNOTES

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103	EXISTING WATER MAIN
104	REMOVAL OF PAVEMENT, AC/PCC
105	2" COLD PLAN PAVEMENT REMOVAL AND LEVEL 2-3/8 INCH ACP OVERLAY- PER DETAIL 6/C100
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151	GRADE ROAD AND PATH TO AVOID ANY UPSLOPE EXCAVATION
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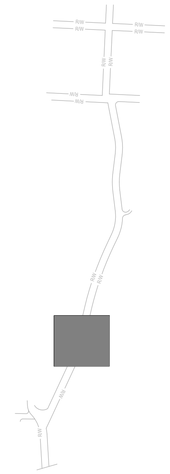

KEY MAP

SCALE: NTS

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Revisions: #

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167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

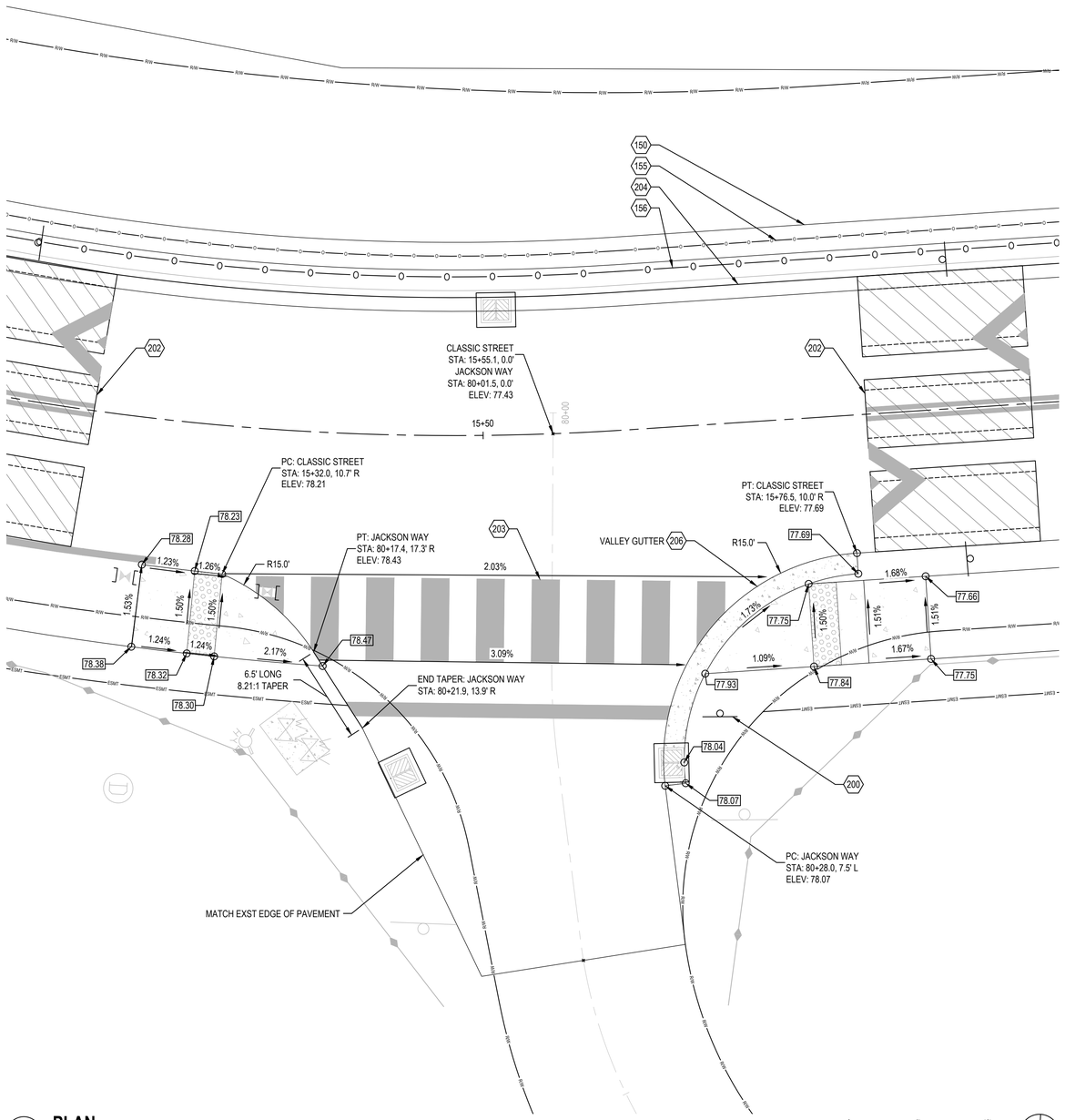
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

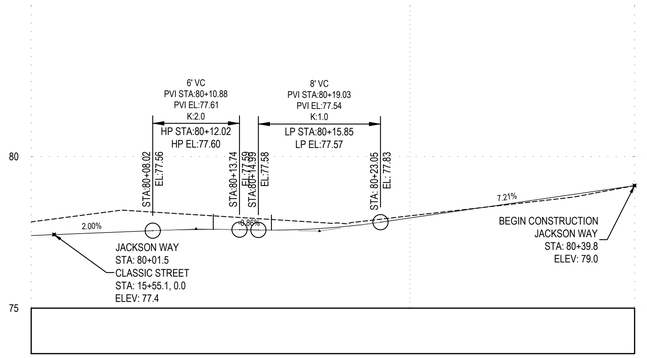
INTERSECTION PLANS - CLASSIC STREET AND HIGHLANDS DRIVE

C252

ISSUED FOR ENGINEERING PLANS - BID SET



1 **PLAN**
SCALE: 1" = 5'



2 **PROFILE - JACKSON WAY**
HORIZONTAL SCALE: 1" = 5' VERTICAL SCALE: 1' = 2.5'

KEYNOTES

101	REMOVE AND REINSTALL EXISTING SIGNS
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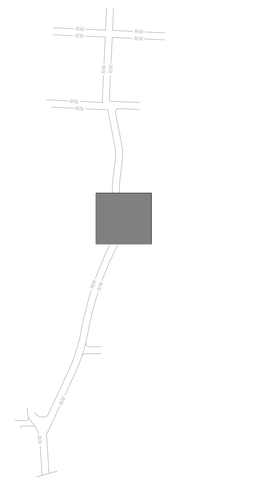

KEY MAP
SCALE: NTS

ISSUED FOR ENGINEERING PLANS - BID SET

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Revisions: △ #

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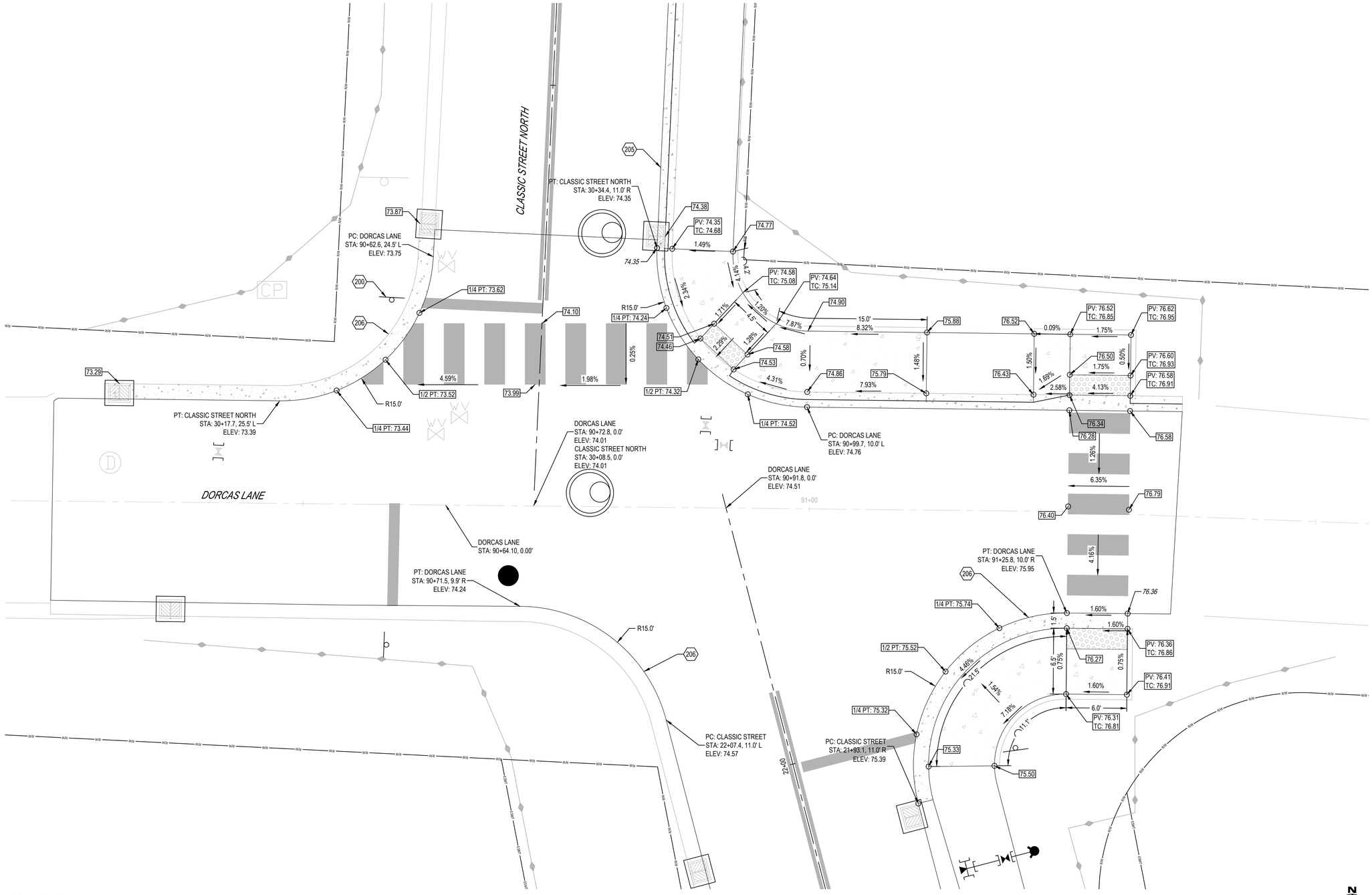
60259PE
OREGON
MARCH 9, 1999
TRAVIS W TORMANEN
Expires: 6/30/2026

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130
ENGINEERING PLANS - BID SET
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

INTERSECTION PLANS - CLASSIC STREET AND JACKSON WAY

C253



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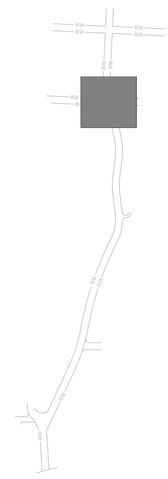

1 **PLAN**
SCALE: 1" = 5'

0 5' 10'

KEY MAP
SCALE: NTS

ISSUED FOR ENGINEERING PLANS - BID SET

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Expires: 6/30/2026

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167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

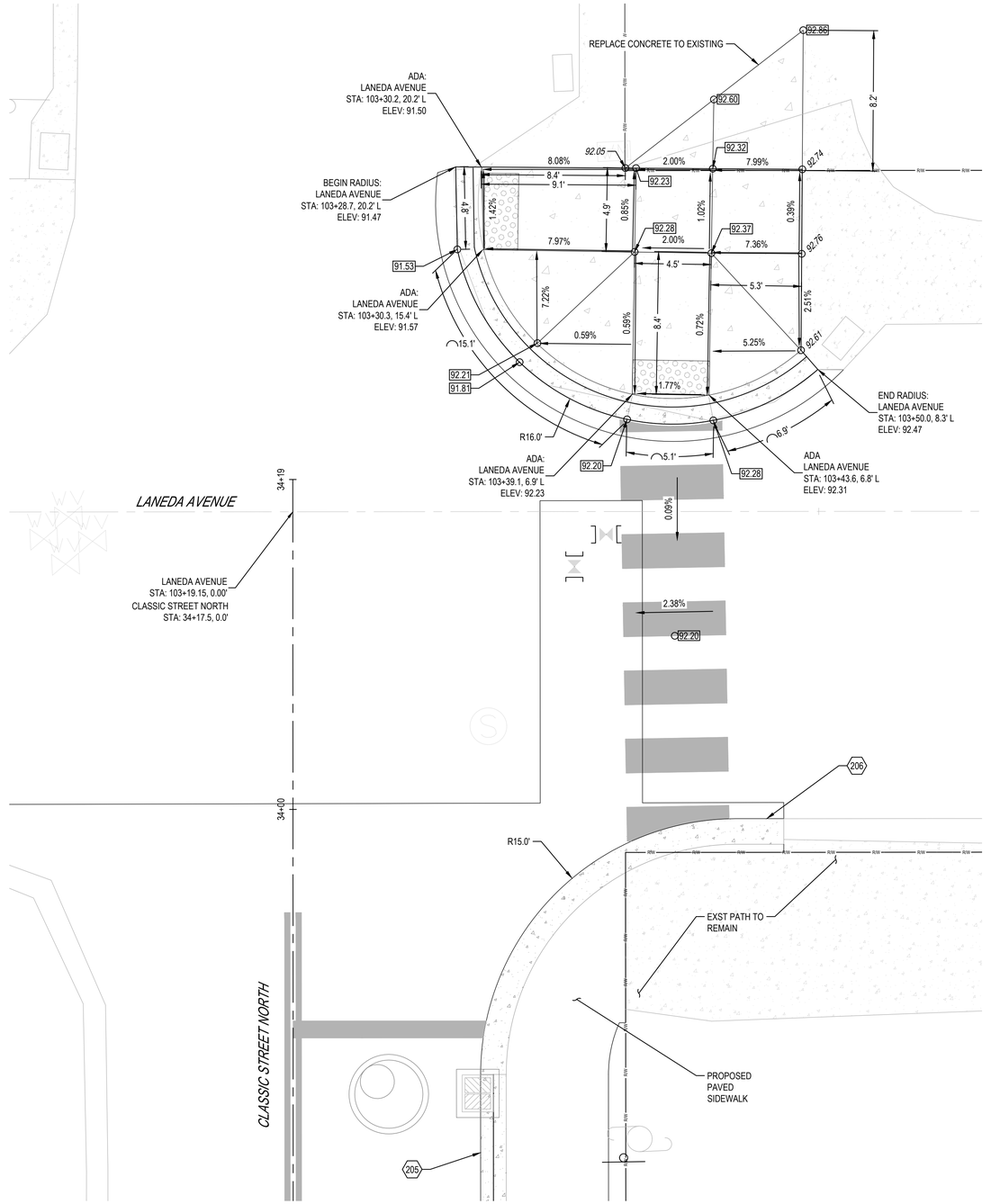
ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

INTERSECTION PLANS - CLASSIC STREET AND DORCAS LANE

C254



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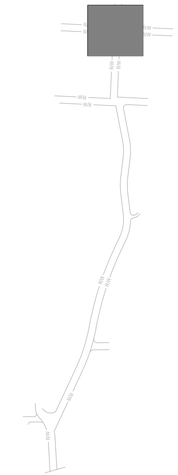

1 **PLAN**
SCALE: 1" = 4'

0 5' 10'

KEY MAP
SCALE: NTS

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ENGINEERING PLANS - BID SET

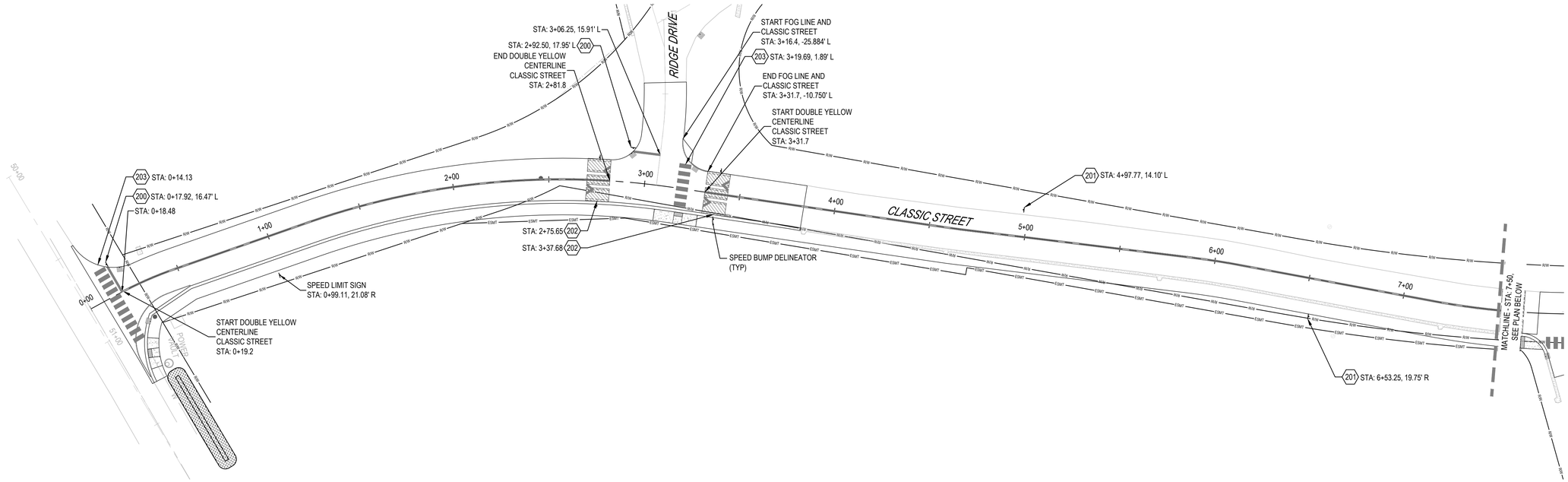
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

INTERSECTION PLANS - CLASSIC STREET AND LANEDA AVENUE

C255

ISSUED FOR ENGINEERING PLANS - BID SET



PLAN

SCALE: 1" = 30'

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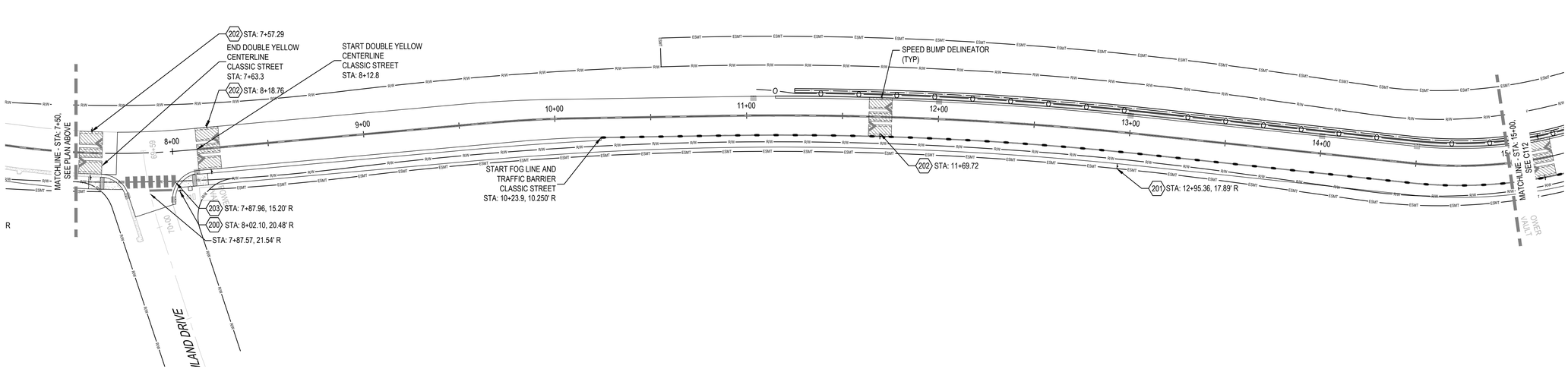
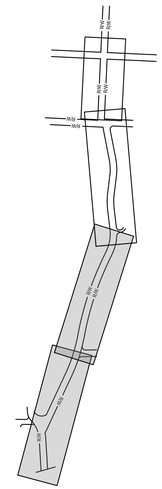


PLAN

SCALE: 1" = 30'



KEY MAP

SCALE: NTS

Know what's **below.** **Call** before you dig.

CALL 2 BUSINESS DAYS BEFORE YOU DIG.
CAUTION UTILITY INFORMATION IS APPROXIMATE.
VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.

Revisions:

#		

LINE IS 1" ON FULL SCALE DRAWING

WINDSOR ENGINEERS

Ridgefield, WA
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REGISTERED PROFESSIONAL ENGINEER
60259PE
OREGON
MARCH 9, 1999
TRAVIS W TORMANEN
Expires: 6/30/2026

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

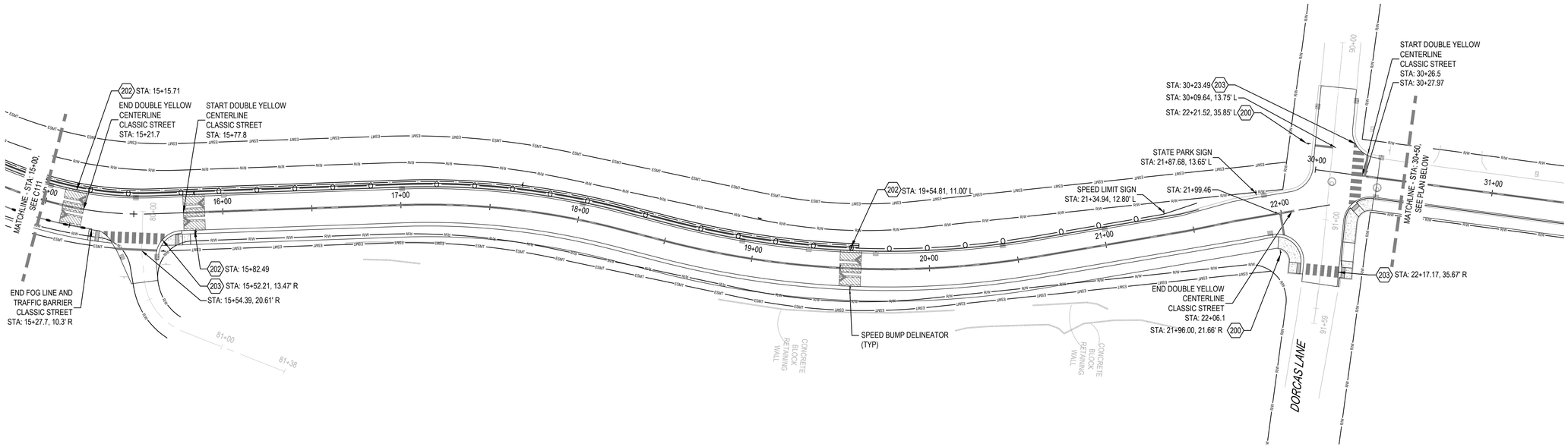
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

SIGNAGE AND STRIPING PLAN

C270

ISSUED FOR ENGINEERING PLANS - BID SET

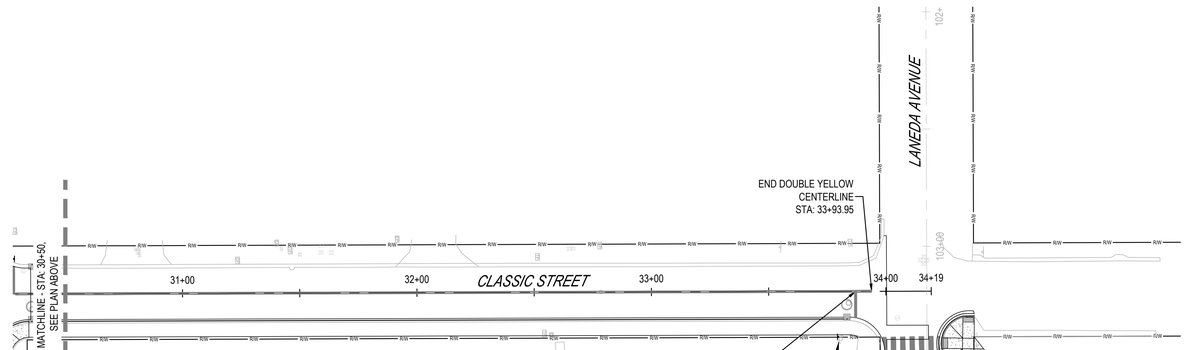


PLAN

SCALE: 1" = 30'

0 30' 60'

N

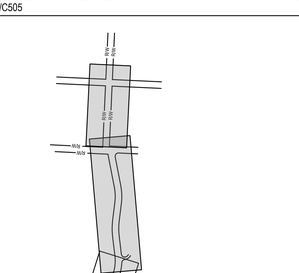


PLAN

SCALE: 1" = 30'

0 30' 60'

N



KEY MAP

SCALE: NTS

KEYNOTES

101	REMOVE AND REINSTALL EXISTING SIGNS
102	PROTECT STEEP SLOPES FROM CONSTRUCTION ACTIVITIES
103	EXISTING WATER MAIN
104	REMOVAL OF PAVEMENT, AC/PCC
105	2" COLD PLAN PAVEMENT REMOVAL AND LEVEL 2-3/8 INCH ACP OVERLAY- PER DETAIL 6/C100
106	EXST WATER LINES, VALVES, AND METERS TO BE REMOVED
107	ASPHALT PAVEMENT SAW CUTTING (FULL DEPTH)
108	REMOVAL OF CURB
109	REMOVAL OF PIPE (STORM SEWER)
110	REMOVAL OF STRUCTURE (STORM SEWER)
111	REMOVE OR PLUG FILL AND ABANDON EXISTING WATER MAIN
112	VERIFY 3' MIN COVER OVER EXISTING WATER MAIN. IF COVER IS UNDER 3' REMOVE AND REPLACE IN KIND
113	COORDINATE WITH UTILITY COMPANY TO RELOCATE TELEPHONE PEDESTAL
114	CLEARING AND GRUBBING. MINIMIZE AREA TO WITHIN CONSTRUCTION LIMITS
115	GRADE TO ELIMINATE BASIN. GRADE TO FLOW TO EXST OUTLET PIPES
150	RETAINING WALL TO BE DESIGNED BY CONTRACTOR. SEE SHEET C600
151	GRADE ROAD AND PATH TO AVOID ANY UPSLOPE EXCAVATION
152	EXISTING RETAINING WALL. AVOID EXCAVATION ALONG WALL- FILL IS ACCEPTABLE
153	EMBEDMENT AND BOTTOM FACE OF WALL VARIES WITH WALL HEIGHT PER GEOTECH
154	TOP SURFACE OF PROPOSED ROAD AT DEVELOPMENT
155	INSTALL MIN 4' CHAIN LINK FENCE ALONG TOP OF RETAINING WALL
156	INSTALL W-BEAM GUARDRAIL TYPE 2A PER DETAILS 3 & 4/C501
160	KEEP ALL CONSTRUCTION ACTIVITIES WITHIN CITY ROW
200	INSTALL STOP AND STREET SIGNS PER DETAIL 5/C500 (BY CITY)
201	INSTALL SPEED RADAR SIGN PER DETAIL 8/C500 (BY CITY)
202	INSTALL 3-CUSHION SPEED BUMP WITH STRIPING PER DETAIL 1,2/C501
203	INSTALL CROSSWALK STRIPING PER DETAIL 5/C502
204	INSTALL TYPE A-1 CURB AND GUTTER PER DETAIL 1/C500
205	INSTALL ROLLED CURB AND GUTTER PER DETAIL 1/C500
206	INSTALL 18" VALLEY GUTTER PER DETAIL 4/C500
400	MINOR ADJUSTMENT OF MANHOLES (SANITARY SEWER TO FINISH GRADE)
500	INSTALL WATER MAIN WITH 3' MINIMUM COVER
501	INSTALL WATER ASSEMBLY. THRUST BLOCKS REQUIRED AT BENDS, TEES, AND TRANSITIONS
502	CONNECT TO EXISTING WATER MAIN PIPE
503	CONNECT TO EXISTING WATER MAIN FITTING
504	INSTALL BENDS OR DEFLECT AS NEEDED PER MANUFACTURER'S RECOMMENDATIONS
505	INSTALL CARV PER DETAIL 5/C506
506	INSTALL HYDRANT ASSEMBLY PER DETAIL
507	CAP EXISTING PIPE TEE AND ADD THRUST BLOCK
508	PROVIDE 18" SEPARATION BETWEEN WATER AND STORM OR SANITARY PIPE. SEE DETAIL 2/C505

ISSUED FOR ENGINEERING PLANS - BID SET

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Revisions:

#		

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MANZANITA, OREGON 97130

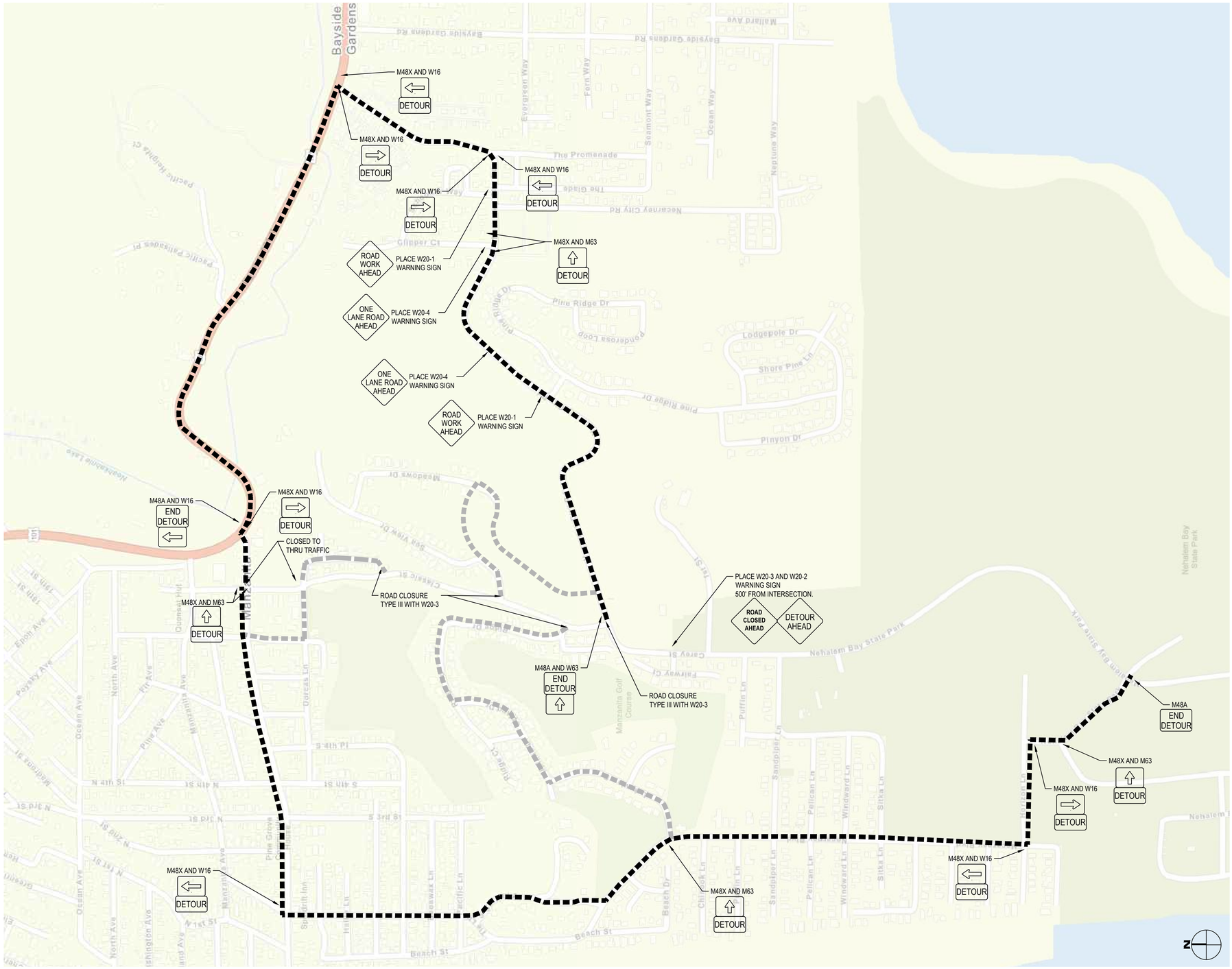
ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 4/11/2025

SIGNAGE AND STRIPING PLAN

Project Manager MRL
Drawn by DTT
Checked by TWT

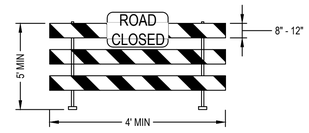
C271



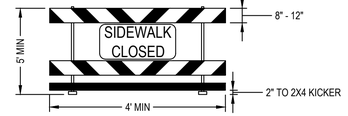
SHEET NOTES

1. CONTRACTOR TO PROVIDE TEMPORARY TRAFFIC PLAN IN COMPLIANCE WITH LOCAL JURISDICTION REQUIREMENTS.

2. SEE DETAILS ON C503 FOR TEMPORARY ROAD CLOSURES



1 ROAD CLOSED BARRICADE
SCALE: NTS



2 SIDEWALK CLOSED BARRICADE
SCALE: NTS

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Revisions: #

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REGISTERED PROFESSIONAL ENGINEER 60259PE OREGON MARCH 9, 1999 TRAVIS W TORMANEN
Expires: 6/30/2026

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ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

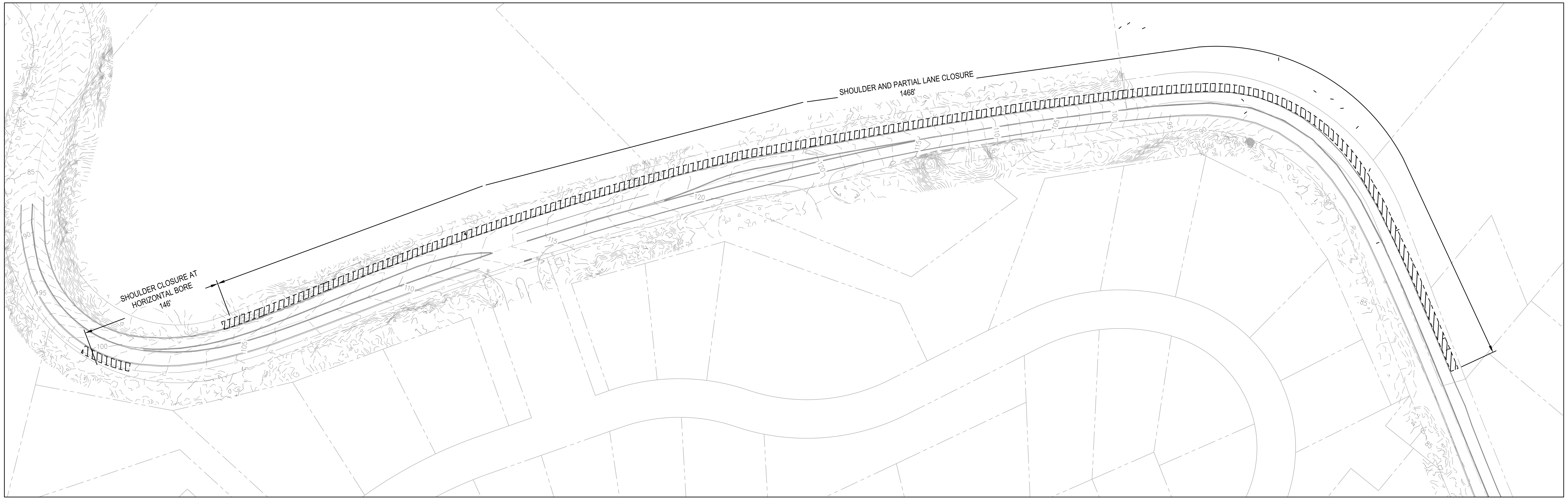
TRAFFIC DETOUR PLAN

C272

PLOT DATE: 4/15/2026 10:10 AM - FILE: C:\Users\Thad\Work\DOCACCDocs\Windsor Engineers\24231 Manzanita Classic Street\Project Files\Infrastructure\Final Sheets\24231_TRAF.dwg

SHEET NOTES

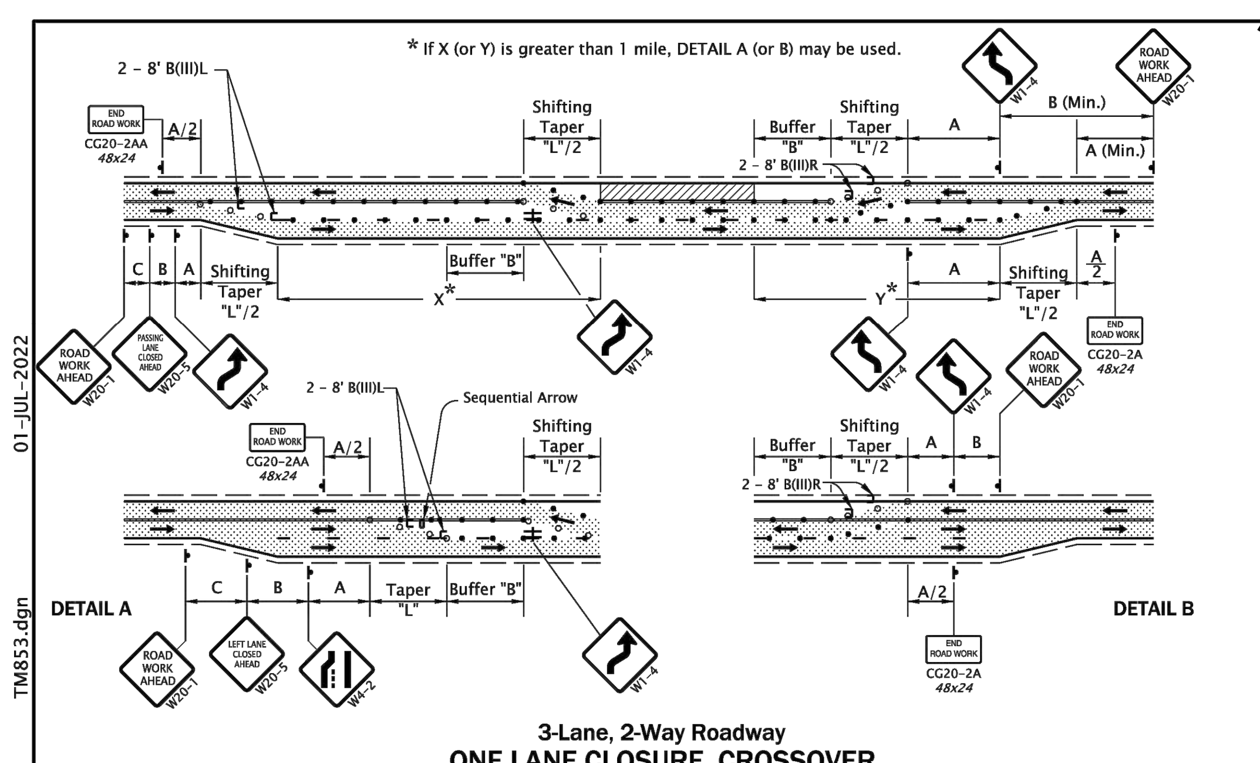
1. CONTRACTOR TO PROVIDE TEMPORARY TRAFFIC PLAN IN COMPLIANCE WITH LOCAL JURISDICTION REQUIREMENTS.

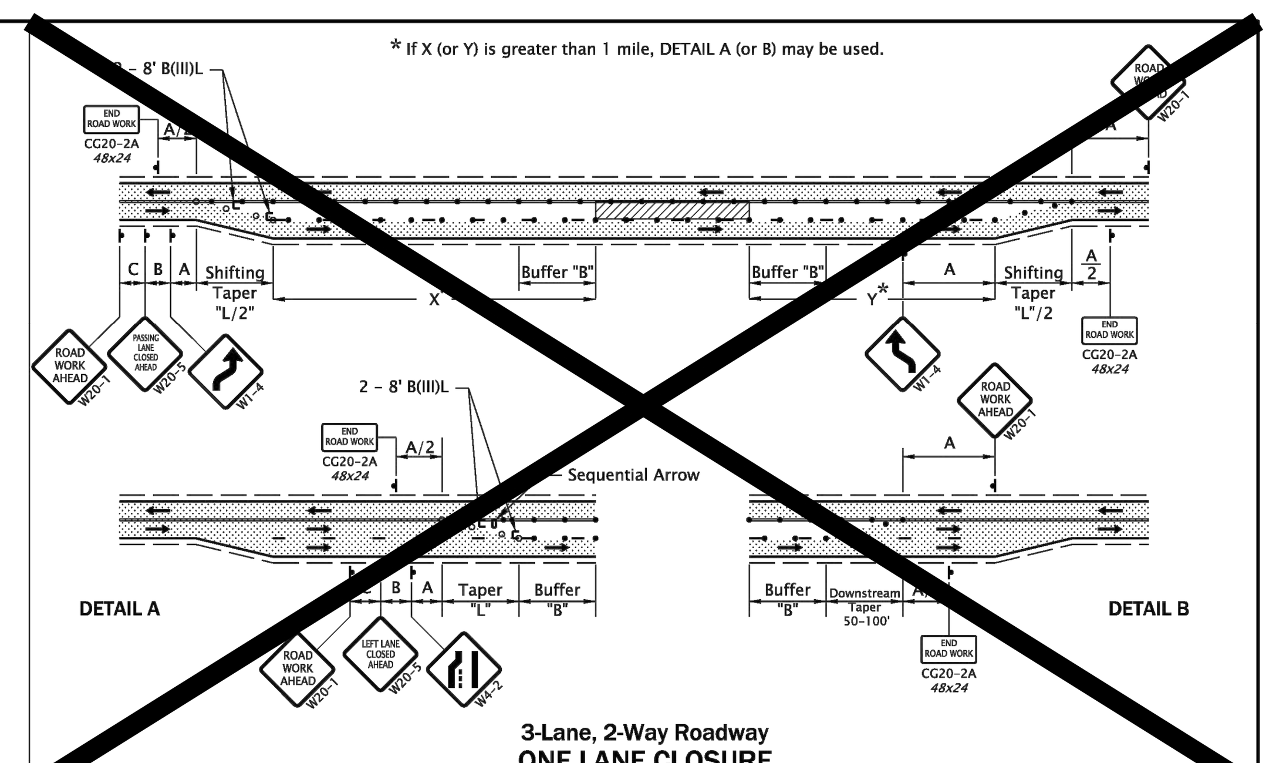


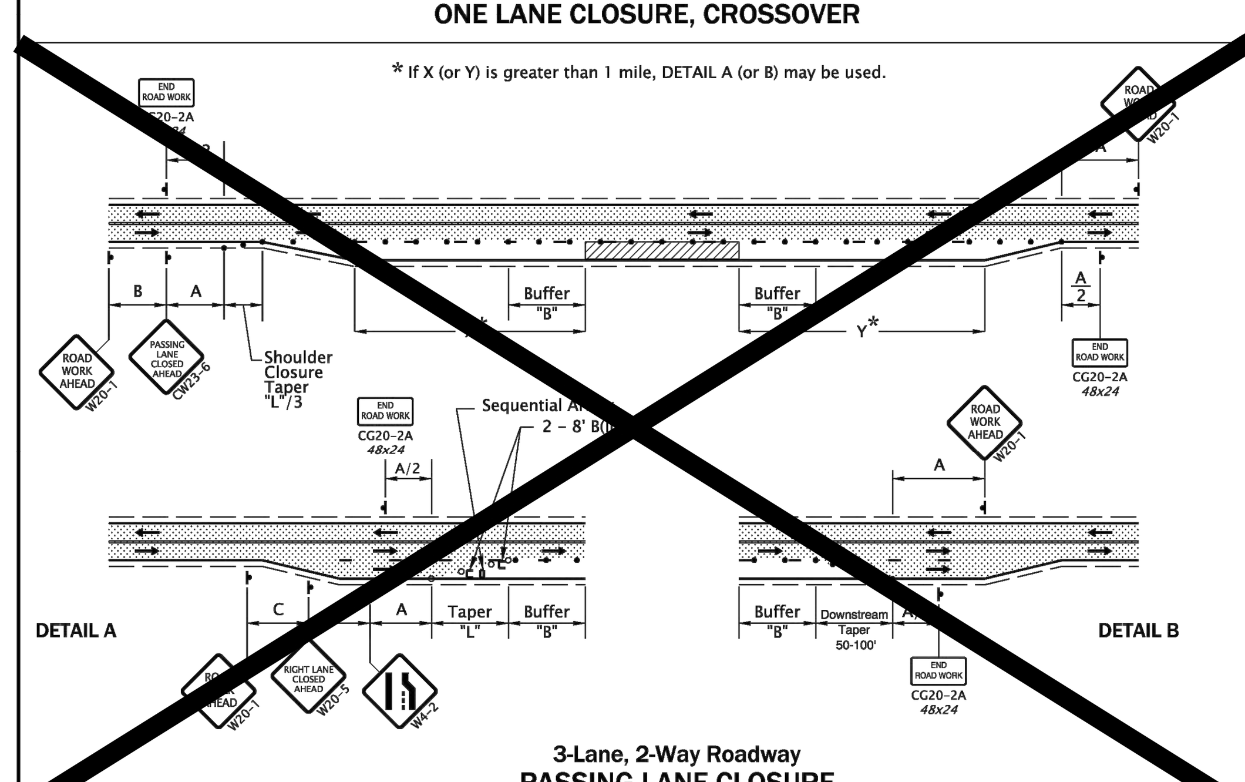
1 TEMPORARY TRAFFIC CONTROL PLAN

SCALE: 1" = 60'

* If X (or Y) is greater than 1 mile, DETAIL A (or B) may be used.







* If X (or Y) is greater than 1 mile, DETAIL A (or B) may be used.

GENERAL NOTES FOR ALL DETAILS:

- Install temporary striping as directed.
- Signing and other TCD shown to be installed in conjuction with the work areas, shall move with the work areas.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" on Dwg. No. TM800.
- Cover all applicable existing passing lane signing prior to installing TCD.
- Install Type III barricades in closed lanes at ¼ mile intervals.
- When passing is allowed in opposing lanes, restrict passing with double yellow centerline and appropriate signing as directed.
- Channelization devices may be placed on 10' around the Work Area for emphasis or if the area is to exposed to traffic on both sides simultaneously.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. No. TM800.
- When the length of the area under construction is less than 600 ft. use a DOUBLE REVERSE CURVE (W24-1) sign in place of the first REVERSE CURVE (W1-4) sign in each direction.

• • • 28" TUBULAR MARKERS See TCD Spacing Table on TM800 for max. spacing.

○ ○ ○ TEMP. PLASTIC DRUMS See TCD Spacing Table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

NON-FREEWAY MULTI-LANE SECTIONS

2021

DATE	REVISION DESCRIPTION
07-2022	Replaced temporary traffic control sign in detail.

CALC. BOOK NO. N/A | SDR DATE 01-JUL-2022 | TM853

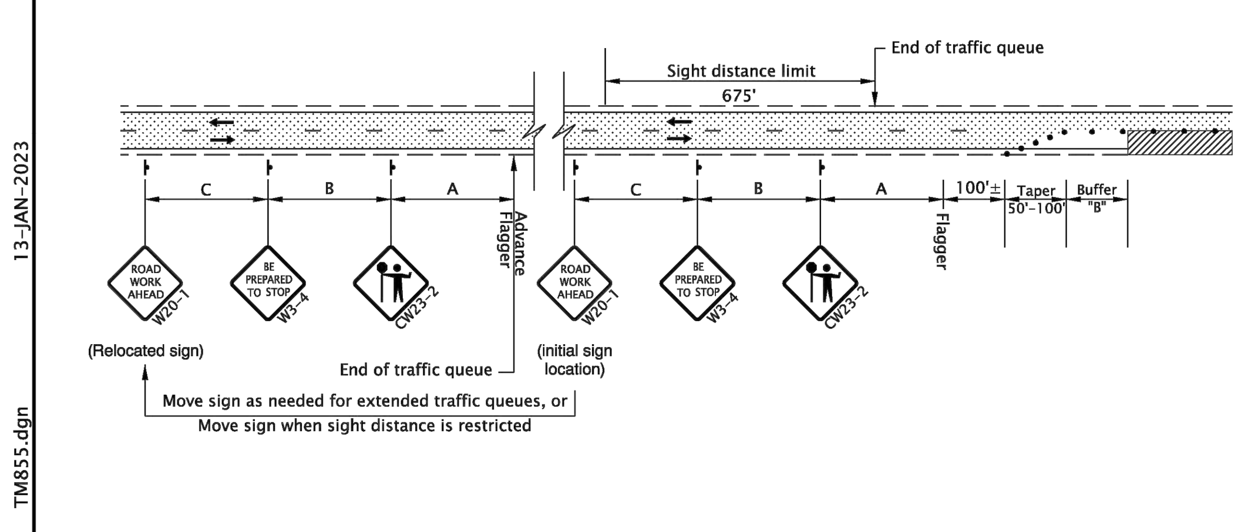
Effective Date: June 1, 2023 – November 30, 2023

2 SIDEWALK CLOSED BARRICADE

SCALE: NTS

NOTES:

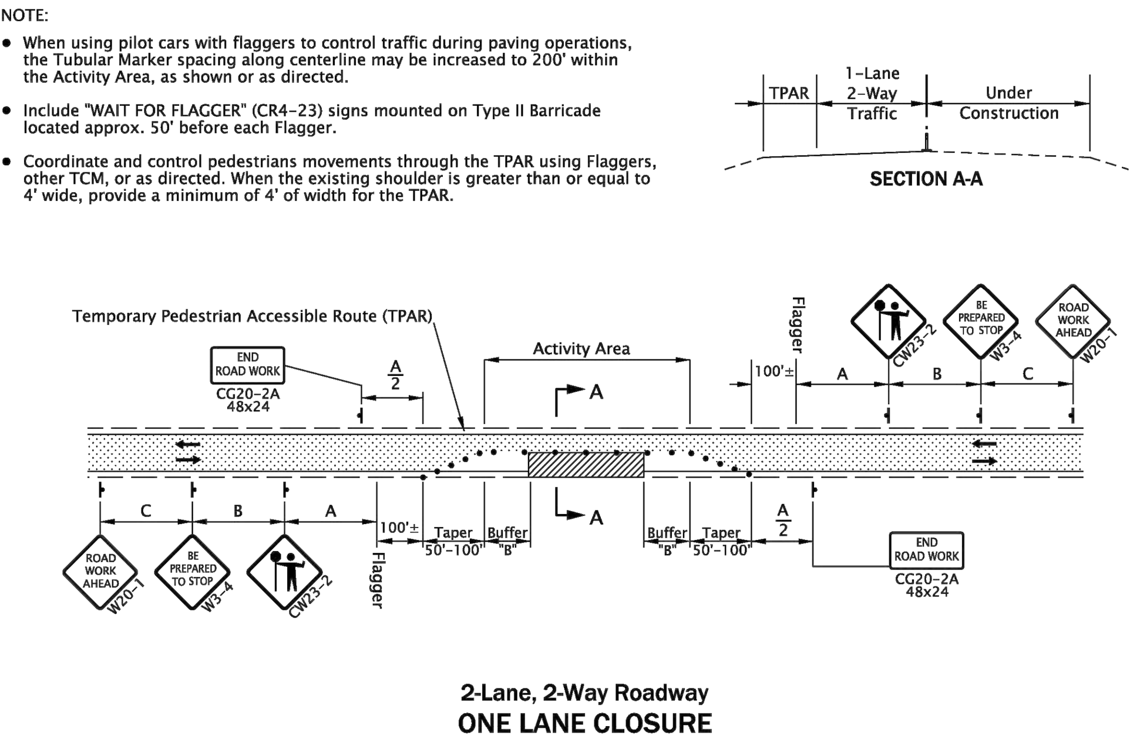
- Place Advance Flagger and additional signing when traffic queues extend beyond initial warning signing OR when sight distance is restricted.
- Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.
- Place additional Tubular Markers for Flagger and Advance Flagger Stations according to FLAGGER STATION DELINEATION detail.



ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES

NOTE:

- When using pilot cars with flaggers to control traffic during paving operations, the Tubular Marker spacing along centerline may be increased to 200' within the Activity Area, as shown or as directed.
- Include "WAIT FOR FLAGGER" (CR4-23) signs mounted on Type II Barricade located approx. 50' before each Flagger.
- Coordinate and control pedestrians movements through the TPAR using Flaggers, other TCM, or as directed. When the existing shoulder is greater than or equal to 4' wide, provide a minimum of 4' of width for the TPAR.



GENERAL NOTES FOR ALL DETAILS:

- This drawing is only intended to be used where an Automated Flagger Assistance Device (AFAD) cannot be utilized.
- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- Cover existing passing zone signing, as directed.
- Install temporary striping as required.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" shown on Dwg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. No. TM800.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- At night, flagger stations shall be illuminated according to the FLAGGER STATION LIGHTING DELINEATION detail on Dwg No. TM800.
- To be accompanied by Dwg. Nos. TM820 & TM821.

••••••••• 28" Tubular Markers on 10'max. spacing arround intersection radii.

• • • • • 28" Tubular Markers on 20' max. spacing for flagger tapers and stations

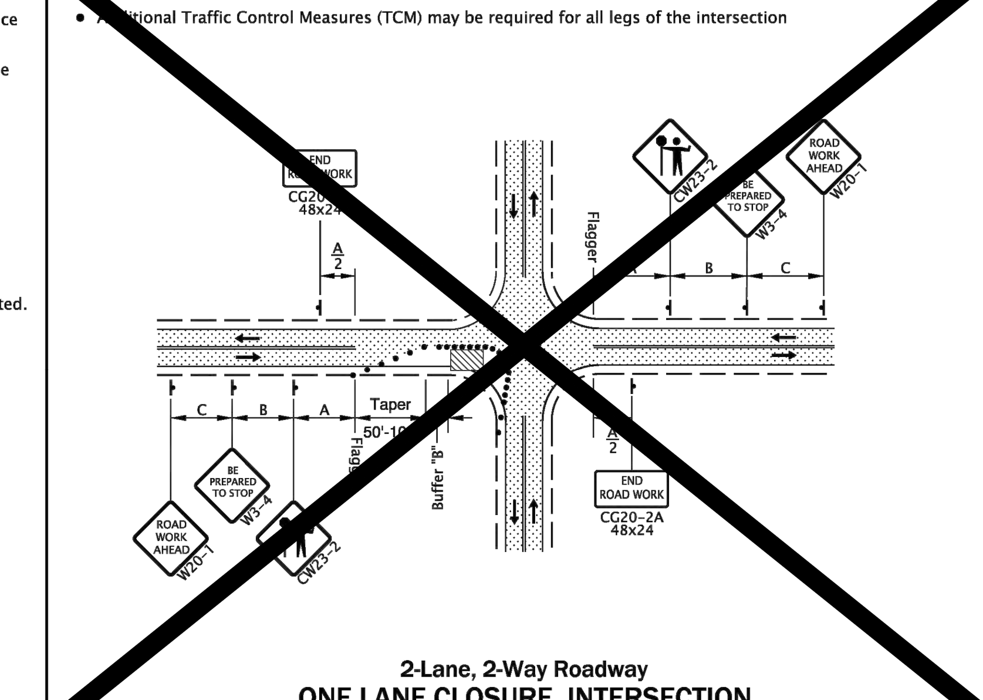
• • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION

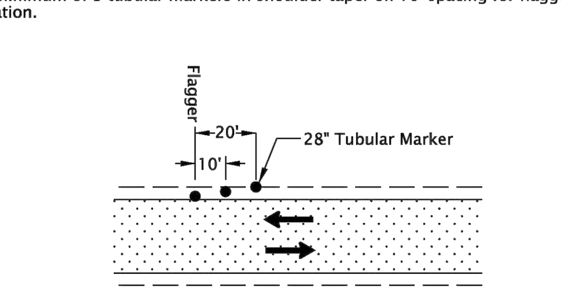
NOTE:

- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection



NOTE:

- Use a minimum of 3 tubular markers in shoulder taper on 10' spacing for flagger station delineation.



FLAGGER STATION DELINEATION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2021

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A | SDR DATE 13-JAN-2023 | TM855

Effective Date: June 1, 2023 – November 30, 2023

2 SIDEWALK CLOSED BARRICADE

SCALE: NTS

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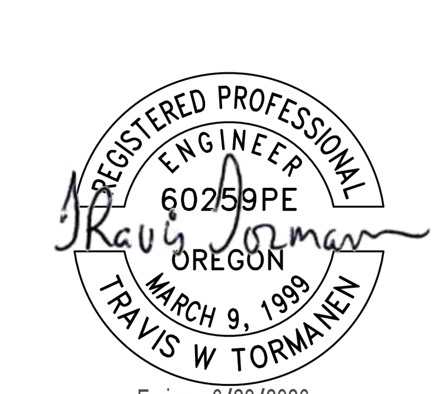


REGISTERED PROFESSIONAL ENGINEER 60259PE OREGON MARCH 9, 1999 TRAVIS W TORMANEN
Expires: 6/30/2026

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231

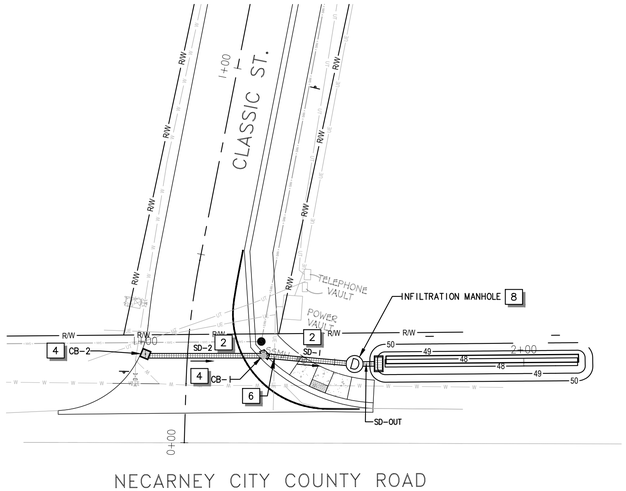
Issue Date: 4/11/2025

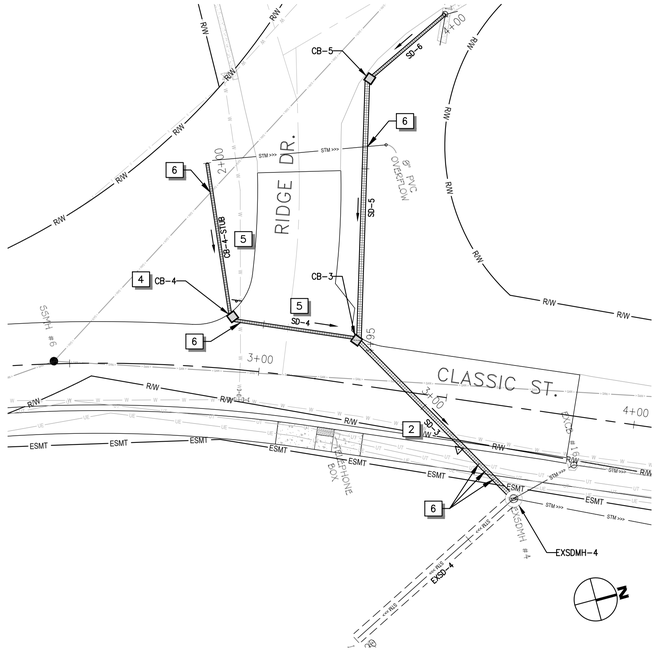
Project Manager MRL
Drawn by DTT
Checked by TWT

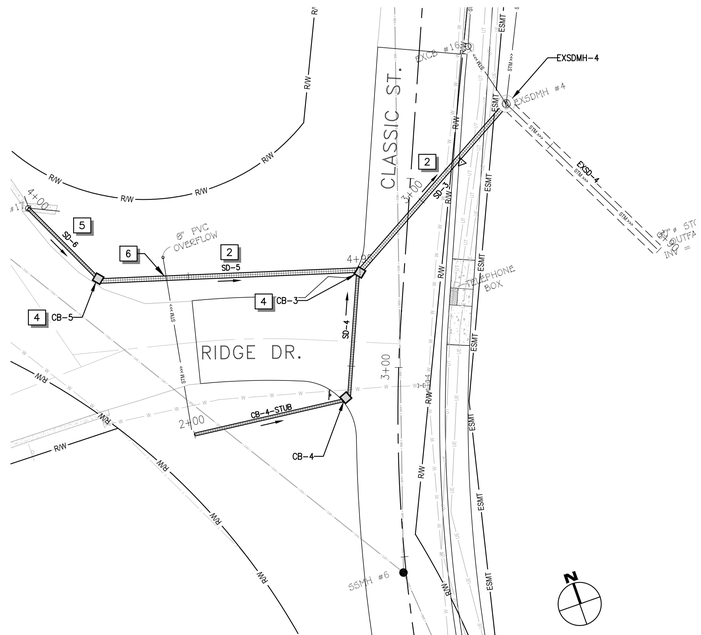
TRAFFIC CONTROL PLAN

C273

ISSUED FOR ENGINEERING PLANS - BID SET

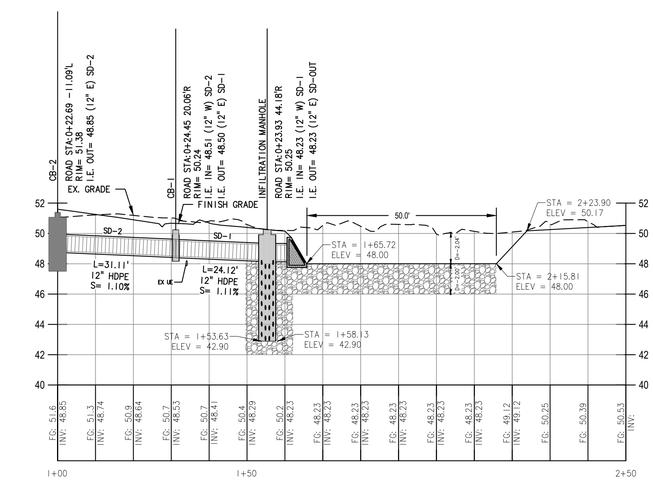


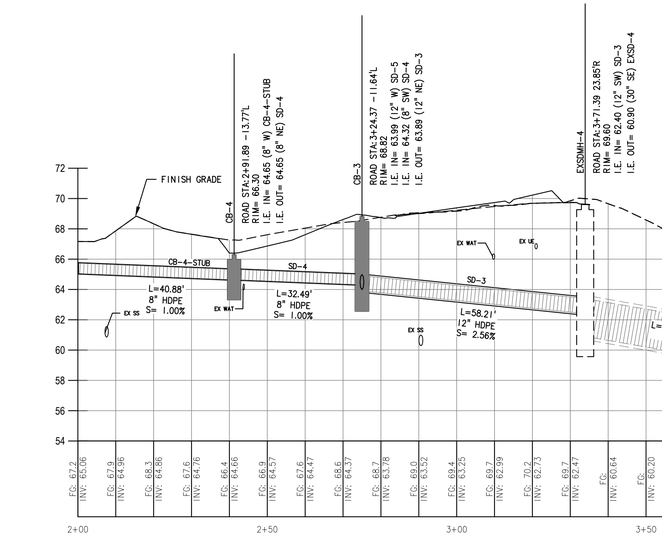


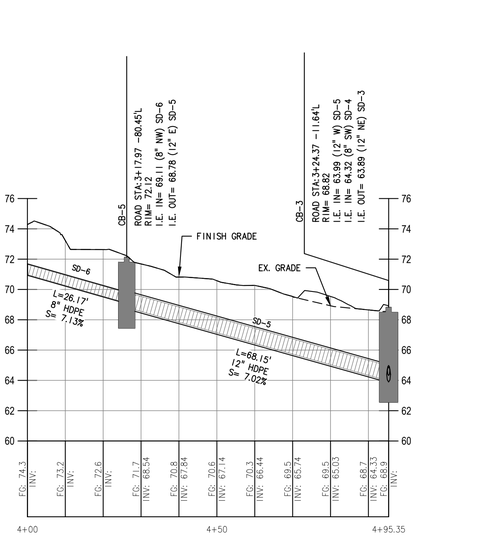


PLAN

SCALE: 1" = 20'







PROFILE

SCALE: 1" = 20' HORIZONTAL 1" = 5' VERTICAL

STORM

1. CONSTRUCT 48"Ø CONCRETE STORM DRAIN MANHOLE AS PER DETAIL 2, SHEET C306 AND STORM STRUCTURE TABLE ON THIS SHEET.
2. CONSTRUCT 12"Ø HDPE STORM PIPE AS PER TRENCH DETAIL 1 SHEET C306. SEE PIPE TABLE ON THIS SHEET.
3. CONSTRUCT NYLOPLAST CATCH BASIN WITH H20 GRATE AS PER DETAIL 4, SHEET C306. SEE STORM STRUCTURE AND STORM PIPE TABLE THIS SHEET, RECONNECT PIPES WHERE SHOWN.
4. CONSTRUCT PRECAST CONCRETE CATCH BASIN WITH H20 GRATE AS PER DETAIL 5, SHEET C306. SEE STORM STRUCTURE AND STORM PIPE TABLE THIS SHEET. RECONNECT PIPES WHERE SHOWN.
5. CONSTRUCT 8"Ø HDPE STORM PIPE AS PER TRENCH DETAIL 1 SHEET C306. SEE PIPE TABLE ON THIS SHEET.
6. UTILITY ELEVATION UNKNOWN. CONTRACTOR SHALL POTHOLE UTILITY TO DETERMINE IF CONFLICT EXISTS AND REPORT ALL FINDINGS TO ENGINEER. UTILITY SHALL BE RELOCATED BY THE CONTRACTOR DURING CONSTRUCTION WITH THE ASSISTANCE OF THE UTILITY AGENCY IF UTILITY CONFLICTS OCCUR. THE CONTRACTOR SHALL COORDINATE WITH UTILITY AGENCY AND SHALL ANTICIPATE ALL COSTS FOR UTILITY CROSSING DURING CONSTRUCTION.
8. CONSTRUCT 48"Ø CONCRETE STORM DRAIN MANHOLE WITH THE INFILTRATION AS PER DETAIL 2, SHEET C306 AND STORM STRUCTURE TABLE ON THIS SHEET.

LEGEND

- FLOW ARROW
- CATCH BASIN - CONCRETE
- CATCH BASIN - NYLOPLAST
- STORM LINE
- STORM MANHOLE
- EXISTING STORM MANHOLE
- STM >>> — EXISTING STORM LINE
- R/W — RIGHT-OF-AWAY
- ESMT — EASEMENT

STORM–CLASSIC STRUCTURE TABLE

Structure Name	Street Location	Structure Details	I.E. IN	I.E. OUT
CB–1	0+24.45 20.06' R	RIM: 50.24' SUMP: 48.50'	48.51' SD–2	48.50' SD–1
CB–2	0+22.69 11.09' L	RIM: 51.38' SUMP: 47.85'		48.85' SD–2
CB–3	3+24.37 11.64' L	RIM: 68.82' SUMP: 62.89'	63.99' SD–5 64.32' SD–4	63.89' SD–3
CB–4	2+91.89 13.77' L	RIM: 66.30' SUMP: 63.65'	64.65' CB–4–STUB	64.65' SD–4
CB–5	3+17.97 80.45' L	RIM: 72.12' SUMP: 67.78'	69.11' SD–6	68.78' SD–5
EXSDMH–4	3+71.39 23.85' R	RIM: 69.60' SUMP: 59.90'	62.40' SD–3	60.90' EXSD–4
INFILTRATION MANHOLE	0+23.93 44.18' R	RIM: 50.25' SUMP: 43.23'	48.23' SD–1	48.23' SD–OUT

STORM PIPE TABLE

Pipe Name	Size	Length	Slope
CB–4–STUB	8"	40.88'	1.00%
EXSD–4	30"	55.21'	4.35%
SD–1	12"	24.12'	1.11%
SD–2	12"	31.11'	1.10%
SD–3	12"	58.21'	2.56%
SD–4	8"	32.49'	1.00%
SD–5	12"	68.15'	7.02%
SD–6	8"	26.17'	7.13%

KEY MAP

SCALE: NTS

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Duluth + Minneapolis, MN
www.windsorengineers.com

REGISTERED PROFESSIONAL ENGINEER 80405PE OREGON JANUARY 12, 2016 KYLE K. AYERS
RENEWAL DATE: DECEMBER 31, 2026

NORTH COAST CIVIL DESIGN
35240 TOHL AVE.
NEHALEM, OR 97131
Phone: 503.440.1088
Cell: 503.812.3732
Internet: www.nccivil.com

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

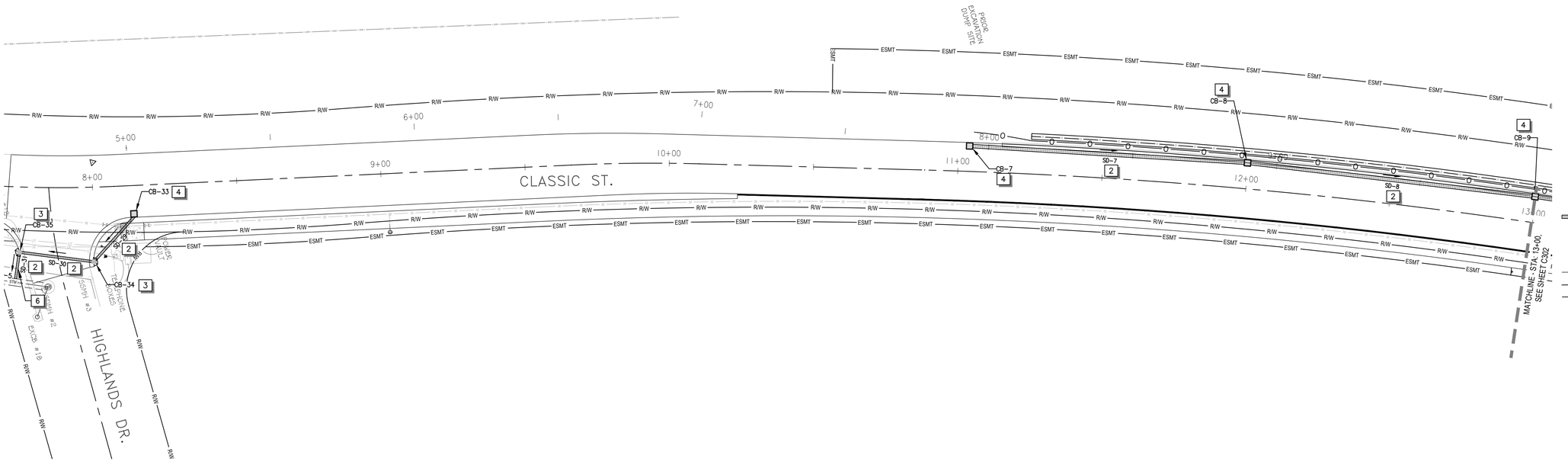
Project No: 24231
Issue Date: 3/28/2025

Project Manager KA
Drawn by LX
Checked by KA

STORMWATER PLAN & PROFILE

C300

ISSUED FOR ENGINEERING PLANS - BID SET



PLAN

SCALE: 1" = 20'

STORM

1. CONSTRUCT 48"Ø CONCRETE STORM DRAIN MANHOLE AS PER DETAIL 2, SHEET C306 AND STORM STRUCTURE TABLE ON THIS SHEET.
2. CONSTRUCT 12"Ø HDPE STORM PIPE AS PER TRENCH DETAIL 1 SHEET C306, SEE PIPE TABLE ON THIS SHEET.
3. CONSTRUCT NYLOPLAST CATCH BASIN WITH H20 GRATE AS PER DETAIL 4, SHEET C306. SEE STORM STRUCTURE AND STORM PIPE TABLE THIS SHEET, RECONNECT PIPES WHERE SHOWN.
4. CONSTRUCT PRECAST CONCRETE CATCH BASIN WITH H20 GRATE AS PER DETAIL 5, SHEET C306. SEE STORM STRUCTURE AND STORM PIPE TABLE THIS SHEET. RECONNECT PIPES WHERE SHOWN.
5. CONSTRUCT 8"Ø HDPE STORM PIPE AS PER TRENCH DETAIL 1 SHEET C306. SEE PIPE TABLE ON THIS SHEET.
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LEGEND

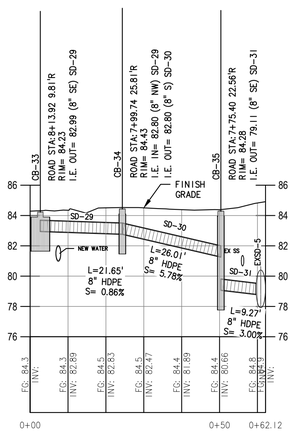
- FLOW ARROW
- CATCH BASIN - CONCRETE
- CATCH BASIN - NYLOPLAST
- STORM LINE
- STORM MANHOLE
- EXISTING STORM MANHOLE
- STM >>> — EXISTING STORM LINE
- R/W — RIGHT-OF-AWAY
- ESMT — EASEMENT

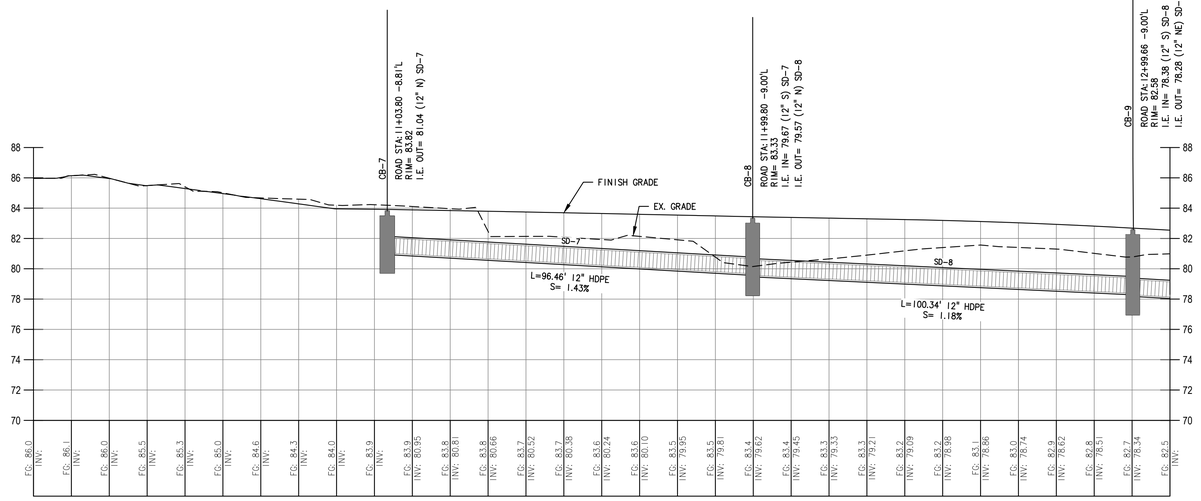
STORM-CLASSIC STRUCTURE TABLE

Structure Name	Street Location	Structure Details	I.E. IN	I.E. OUT
CB-7	11+03.80 8.81' L	RIM: 83.82' SUMP: 80.04'		81.04' SD-7
CB-8	11+99.80 9.00' L	RIM: 83.33' SUMP: 78.57'	79.67' SD-7	79.57' SD-8
CB-9	12+99.66 9.00' L	RIM: 82.58' SUMP: 77.28'	78.38' SD-8	78.28' SD-9
CB-33	8+13.92 9.81' R	RIM: 84.23' SUMP: 81.99'		82.99' SD-29
CB-34	7+99.74 25.81' R	RIM: 84.43' SUMP: 81.80'	82.80' SD-29	82.80' SD-30
CB-35	7+75.40 22.56' R	RIM: 84.28' SUMP: 78.11'		79.11' SD-31

STORM PIPE TABLE

Pipe Name	Size	Length	Slope
SD-7	12"	96.46'	1.43%
SD-8	12"	100.34'	1.18%
SD-29	8"	21.65'	0.86%
SD-30	8"	26.01'	5.78%
SD-31	8"	9.27'	3.00%





PROFILE

SCALE: 1" = 20' HORIZONTAL 1" = 5' VERTICAL

KEY MAP

SCALE: NTS

ISSUED FOR ENGINEERING PLANS - BID SET

Know what's **below.** **Call** before you dig.

CALL 2 BUSINESS DAYS BEFORE YOU DIG.
CAUTION UTILITY INFORMATION IS APPROXIMATE.
VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.

Revisions:

#		

LINE IS 1" ON FULL SCALE DRAWING

WINDSOR ENGINEERS

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www.windsorengineers.com

REGISTERED PROFESSIONAL ENGINEER
60405PE
OREGON
JANUARY 12, 2016
KYLE K. AYERS
RENEWAL DATE: DECEMBER 31, 2026

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MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

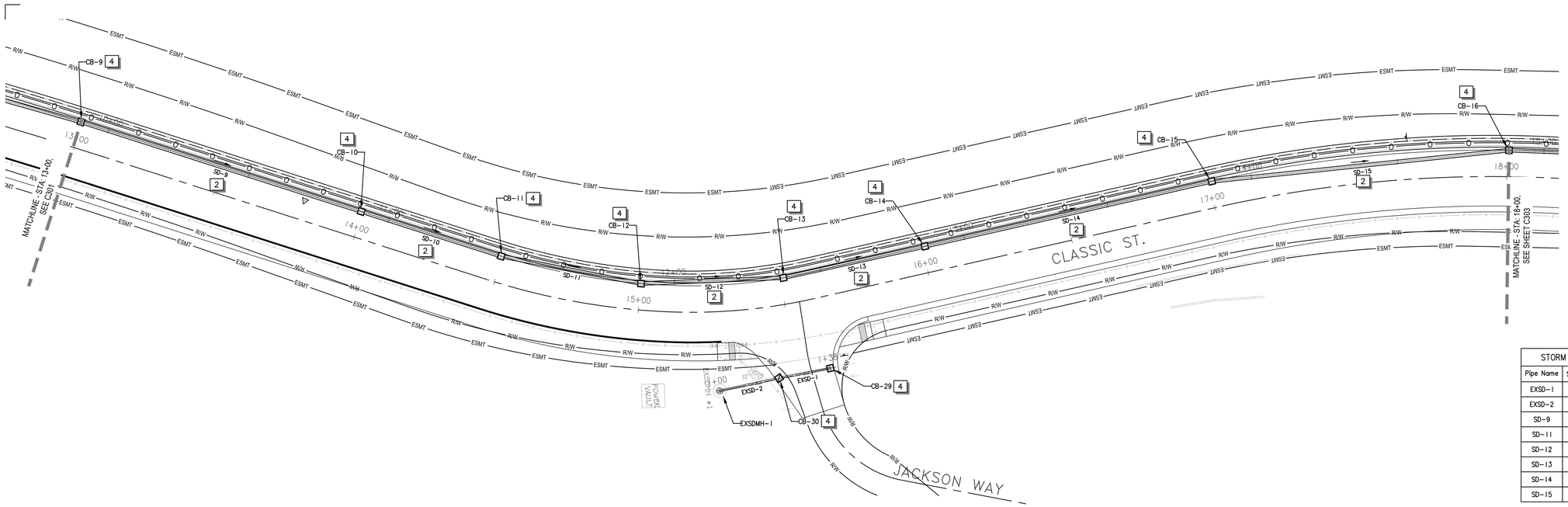
ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 3/28/2025

Project Manager KA
Drawn by LX
Checked by KA

STORMWATER PLAN & PROFILE

C301



PLAN

SCALE: 1" = 20'

STORM

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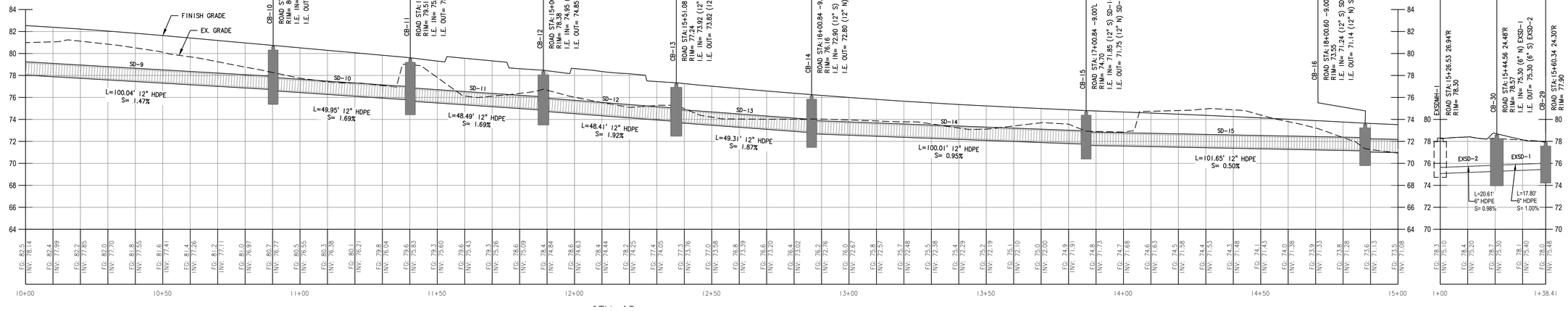
STORM PIPE TABLE			
Pipe Name	Size	Length	Slope
EXSD-1	6"	17.80'	1.00%
EXSD-2	6"	20.61'	0.98%
SD-9	12"	100.04'	1.47%
SD-11	12"	48.49'	1.69%
SD-12	12"	48.41'	1.92%
SD-13	12"	49.31'	1.87%
SD-14	12"	100.01'	0.95%
SD-15	12"	101.65'	0.50%

STORM-CLASSIC STRUCTURE TABLE				
Structure Name	Street Location	Structure Details	I.E. IN	I.E. OUT
CB-10	13+99.64 9.00' L	RIM: 80.63' SUMP: 75.72'	76.82' SD-9	76.72' SD-10
CB-11	14+49.66 9.00' L	RIM: 79.51' SUMP: 74.77'	75.87' SD-10	75.77' SD-11
CB-12	15+00.20 9.00' L	RIM: 78.38' SUMP: 73.85'	74.95' SD-11	74.85' SD-12
CB-13	15+51.08 9.00' L	RIM: 77.24' SUMP: 72.82'	73.92' SD-12	73.82' SD-13
CB-14	16+00.84 9.00' L	RIM: 76.16' SUMP: 71.80'	72.90' SD-13	72.80' SD-14
CB-15	17+00.84 9.00' L	RIM: 74.70' SUMP: 70.75'	71.85' SD-14	71.75' SD-15
CB-16	18+00.60 9.00' L	RIM: 73.55' SUMP: 70.14'	71.24' SD-15	71.14' SD-16
CB-29	15+60.34 24.30' R	RIM: 77.90' SUMP: 74.56'		
CB-30	15+44.56 24.48' R	RIM: 78.57' SUMP: 74.30'	75.30' EXSD-1	75.30' EXSD-2
EXSDMH-1	15+26.53 26.94' R	RIM: 78.30' SUMP: 75.06'		

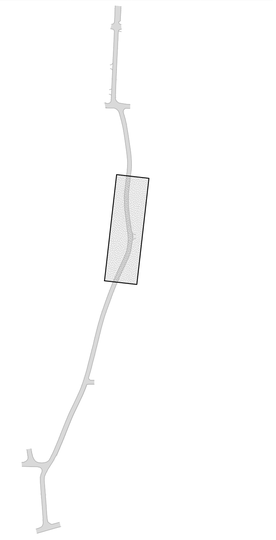


PROFILE

SCALE: 1" = 20' HORIZONTAL 1" = 5' VERTICAL

KEY MAP

SCALE: NTS



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Revisions: #

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REGISTERED PROFESSIONAL ENGINEER 60405PE OREGON Kyle Ayers JANUARY 12, 2016 KYLE K. AYERS
RENEWAL DATE: DECEMBER 31, 2026

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MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130
ENGINEERING PLANS - BID SET
Project No: 24231
Issue Date: 3/28/2025

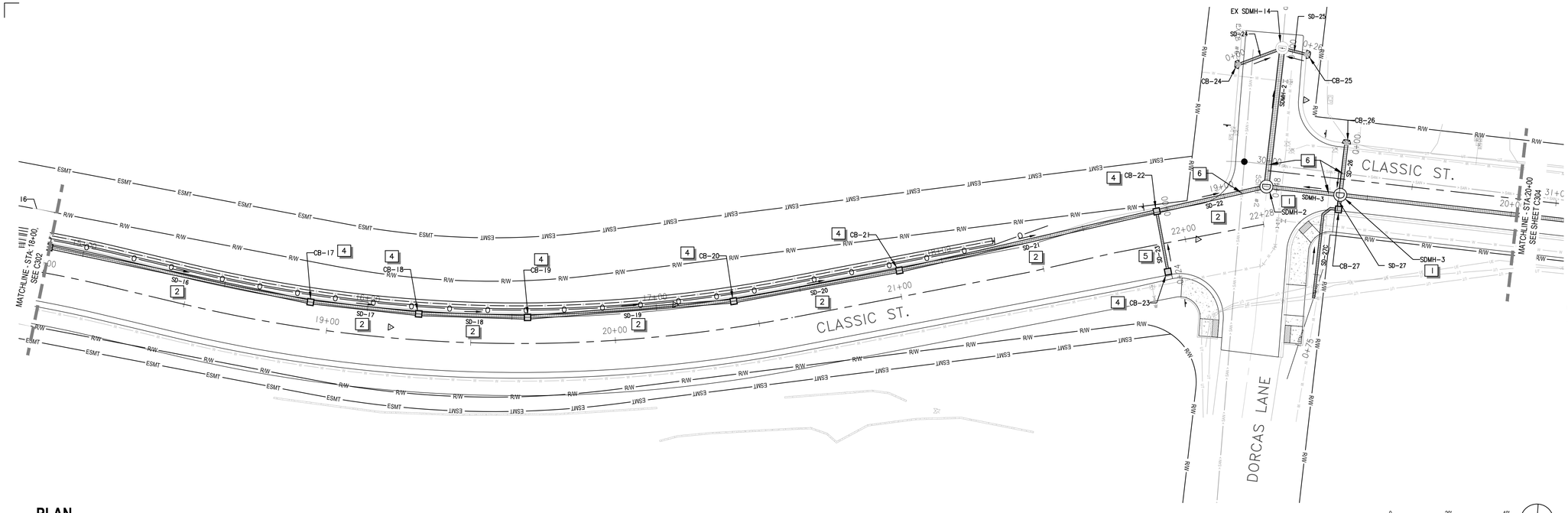
Project Manager KA
Drawn by LX
Checked by KA

STORMWATER PLAN & PROFILE

C302

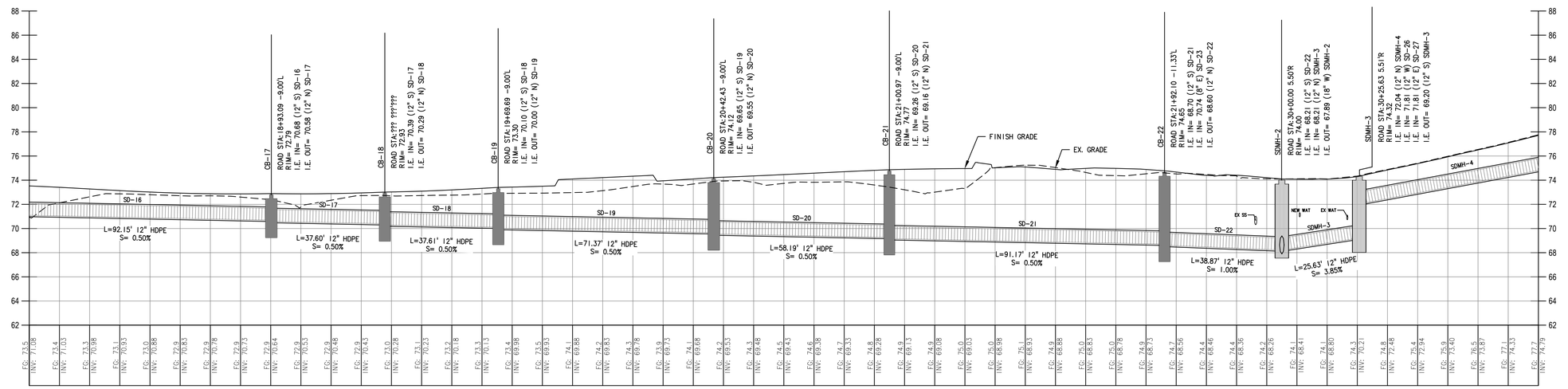
ISSUED FOR ENGINEERING PLANS - BID SET

PLOT DATE: 3/28/2025 5:24 PM - FILE: N:\Shared\Projects\24019\Win - Windsor - Manzanita Classic Street\CAD\C300.dwg



PLAN

SCALE: 1" = 20'



PROFILE

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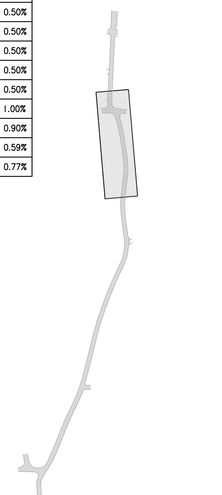
STORM-CLASSIC STRUCTURE TABLE

Structure Name	Street Location	Structure Details	I.E. IN	I.E. OUT
CB-17	18+93.09 9.00' L	RIM: 72.79' SUMP: 69.58'	70.68' SD-16	70.58' SD-17
CB-18	??? ???' ???	RIM: 72.93' SUMP: 69.29'	70.39' SD-17	70.29' SD-18
CB-19	19+69.69 9.00' L	RIM: 73.30' SUMP: 69.00'	70.10' SD-18	70.00' SD-19
CB-20	20+42.43 9.00' L	RIM: 74.12' SUMP: 68.55'	69.65' SD-19	69.55' SD-20
CB-21	21+00.97 9.00' L	RIM: 74.77' SUMP: 68.16'	69.26' SD-20	69.16' SD-21
CB-22	21+92.10 11.33' L	RIM: 74.65' SUMP: 67.60'	68.70' SD-21 70.74' SD-23	68.60' SD-22
CB-23	21+92.02 9.83' R	RIM: 75.17' SUMP: 69.93'		70.93' SD-23
SDMH-2	30+00.00 5.50' R	RIM: 74.00' SUMP: 67.89'	68.21' SD-22 68.21' SDMH-3	67.89' SDMH-2

STORM PIPE TABLE

Pipe Name	Size	Length	Slope
SD-17	12"	37.60'	0.50%
SD-18	12"	37.61'	0.50%
SD-19	12"	71.37'	0.50%
SD-20	12"	58.19'	0.50%
SD-21	12"	91.17'	0.50%
SD-22	12"	38.87'	1.00%
SD-23	8"	21.17'	0.90%
SD-26	12"	17.85'	0.59%
SD-27	12"	5.08'	0.77%



KEY MAP

SCALE: NTS

811 Know what's **below.** **Call** before you dig.
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Revisions: # | | |

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REGISTERED PROFESSIONAL ENGINEER 80405PE OREGON Kyle Ayers JANUARY 12, 2016 KYLE K. AYERS
RENEWAL DATE: DECEMBER 31, 2026

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MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 3/28/2025

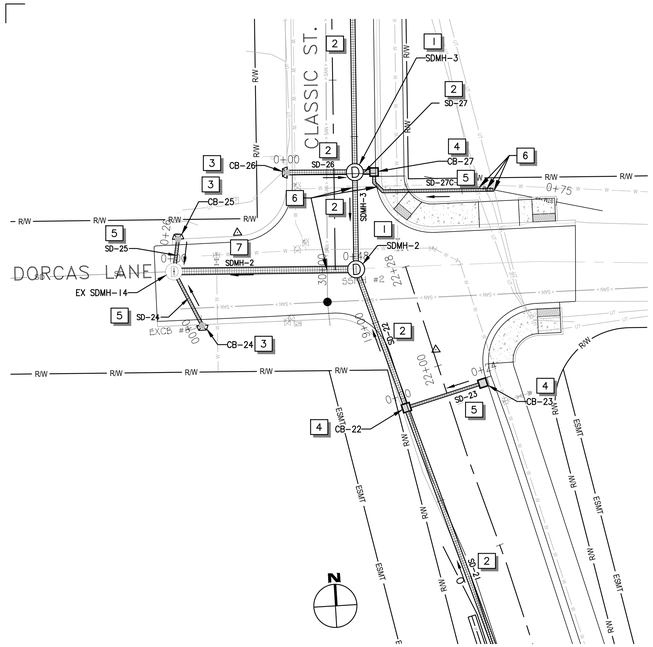
Project Manager KA
Drawn by LX
Checked by KA

STORMWATER PLAN & PROFILE

C303

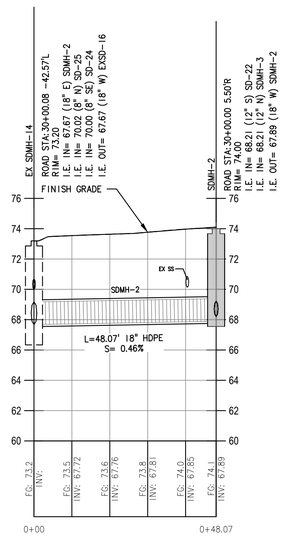
ISSUED FOR ENGINEERING PLANS - BID SET

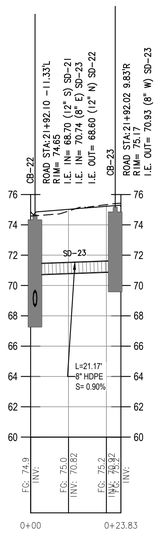
PLOT DATE: 3/28/2025 5:24 PM - FILE: N:\Shared\Projects\24011\Win - Windsor - Manzanita Classic Street\CAD\C300.dwg

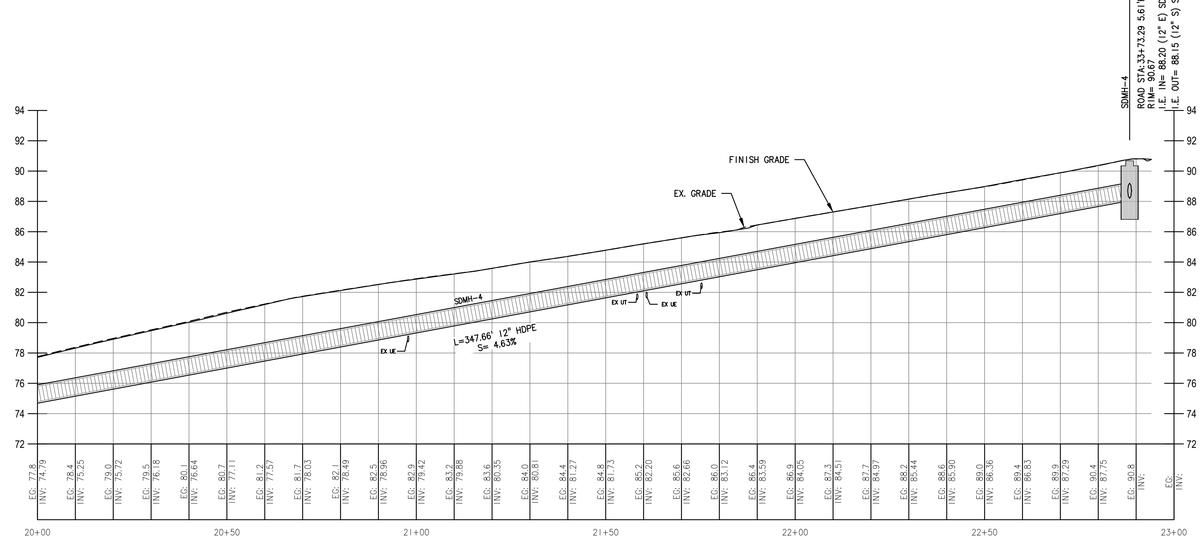


PLAN

SCALE: 1" = 20'







PROFILE

SCALE: 1" = 20' HORIZONTAL 1" = 5' VERTICAL

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STORM-CLASSIC STRUCTURE TABLE				
Structure Name	Street Location	Structure Details	I.E. IN	I.E. OUT
CB-22	21+92.10 11.33' L	RIM: 74.65' SUMP: 67.60'	68.70' SD-21 70.74' SD-23	68.60' SD-22
CB-23	21+92.02 9.83' R	RIM: 75.17' SUMP: 69.93'		70.93' SD-23
EX SDMH-14	30+00.08 42.57' L	RIM: 73.20' SUMP: 66.67'	67.67' SDMH-2 70.02' SD-25 70.00' SD-24	67.67' EXSD-16
SDMH-2	30+00.00 5.50' R	RIM: 74.00' SUMP: 67.89'	68.21' SD-22 68.21' SDMH-3	67.89' SDMH-2
SDMH-4	33+73.29 5.61' R	RIM: 90.67' SUMP: 87.15'	88.20' SD-28	88.15' SDMH-4

STORM PIPE TABLE			
Pipe Name	Size	Length	Slope
SD-23	8"	21.17'	0.90%
SDMH-2	18"	48.07'	0.46%
SDMH-4	12"	347.66'	4.63%

KEY MAP

SCALE: NTS

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ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 3/28/2025

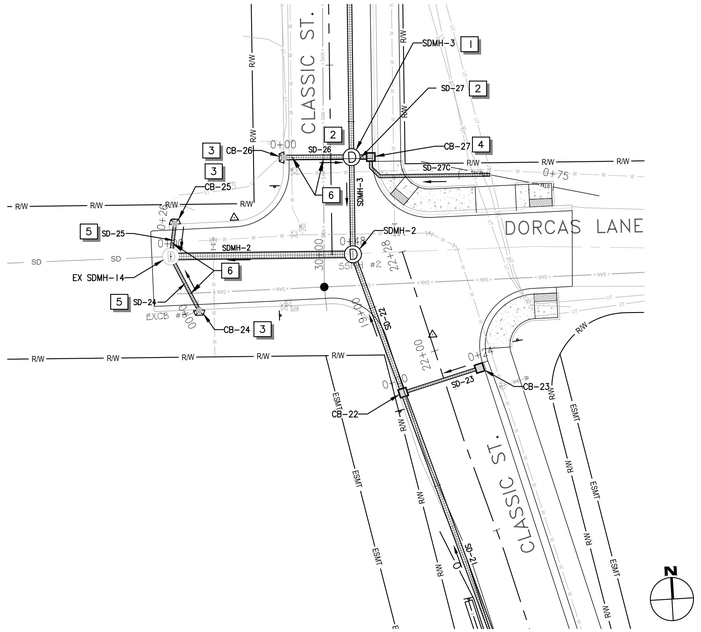
Project Manager KA
Drawn by LX
Checked by KA

STORMWATER PLAN & PROFILE

C304

ISSUED FOR ENGINEERING PLANS - BID SET

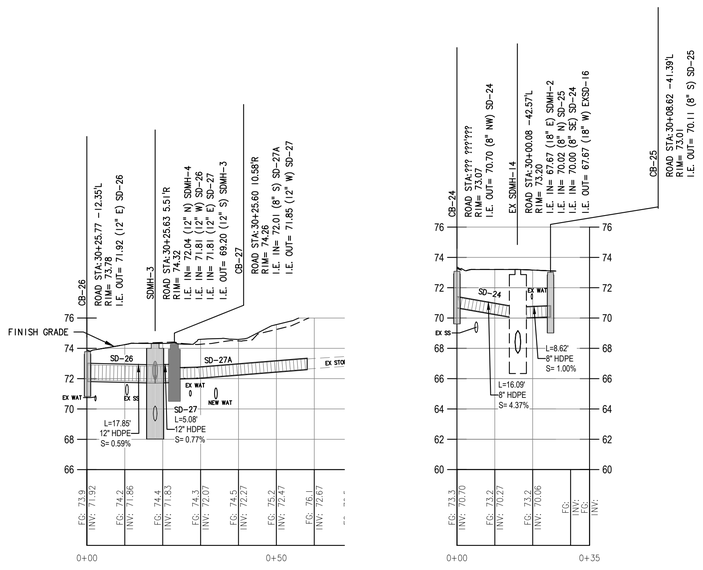
PLOT DATE: 3/28/2025 5:35 PM - FILE: N:\Shared\Projects\24019\Win - Windsor - Manzanita Classic Street\CAD\C300.dwg



PLAN

SCALE: 1" = 20'

0 20' 40'



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STORM-CLASSIC STRUCTURE TABLE

Structure Name	Street Location	Structure Details	I.E. IN	I.E. OUT
CB-26	30+25.77 12.35' L	RIM: 73.78' SUMP: 70.92'		71.92' SD-26
CB-27	30+25.60 10.58' R	RIM: 74.26' SUMP: 70.85'	72.01' SD-27A	71.85' SD-27
EX SDMH-14	30+00.08 42.57' L	RIM: 73.20' SUMP: 66.67'	67.67' SDMH-2 70.02' SD-25 70.00' SD-24	67.67' EXSD-16
SDMH-3	30+25.63 5.51' R	RIM: 74.32' SUMP: 68.36'	72.04' SDMH-4 71.81' SD-26 71.81' SD-27	69.20' SDMH-3

STORM PIPE TABLE

Pipe Name	Size	Length	Slope
SD-24	8"	16.09'	4.37%
SD-25	8"	8.62'	1.00%
SD-26	12"	17.85'	0.59%
SD-27	12"	5.08'	0.77%
SD-27A	8"	2.76'	0.59%
SD-27B	8"	3.29'	0.57%
SD-27C	8"	29.05'	2.02%

KEY MAP

SCALE: NTS

N

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VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.

Revisions: #

LINE IS 1" ON FULL SCALE DRAWING

WINDSOR ENGINEERS

Ridgefield, WA
Duluth + Minneapolis, MN
www.windsorengineers.com

REGISTERED PROFESSIONAL ENGINEER 80405PE OREGON JANUARY 12, 2016 KYLE K. AYERS

RENEWAL DATE: DECEMBER 31, 2026

NORTH COAST CIVIL DESIGN
35240 TOHL AVE.
NEHALEM, OR 97131
Phone: 503.440.1088
Cell: 503.812.3732
Internet: www.nccivil.com

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 3/28/2025

Project Manager KA
Drawn by LX
Checked by KA

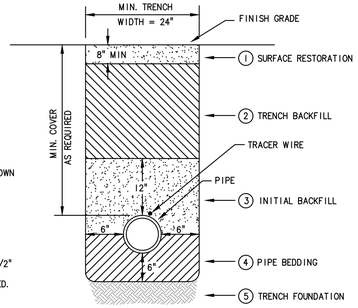
STORMWATER PLAN & PROFILE & INFILTRATION DETAILS

C305

ISSUED FOR ENGINEERING PLANS - BID SET

NOTES:
• ALL DIMENSIONS SHOWN ARE MINIMUM AND RELATIVE TO OUTSIDE OF PIPE BELL.

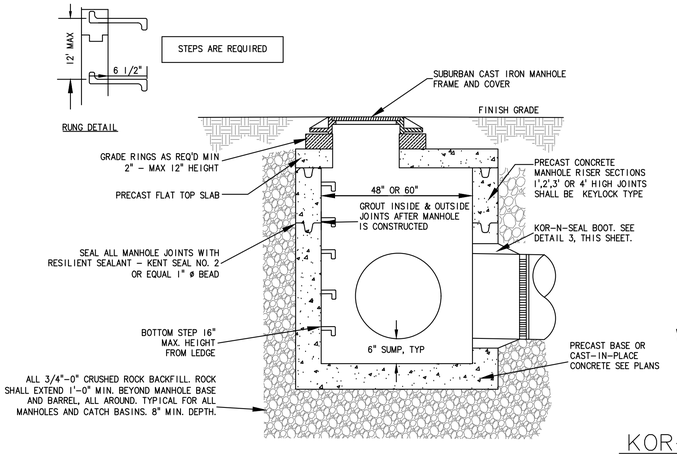
• MINIMUM COVER:
STORM MAIN = 12"



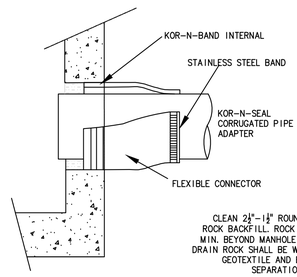
TRENCH MATERIAL:

1. MATCH FINISH GRADE MATERIALS AS SHOWN ON PLANS.
2. COMPACTED NATIVE SAND.
3. COMPACTED NATIVE SAND.
4. COMPACTED 3/4"-0" CRUSHED ROCK.
5. UNDISTURBED NATIVE MATERIAL OR 1-1/2" MINUS CRUSHED ROCK IF TRENCH FOUNDATION STABILIZATION IS REQUIRED.

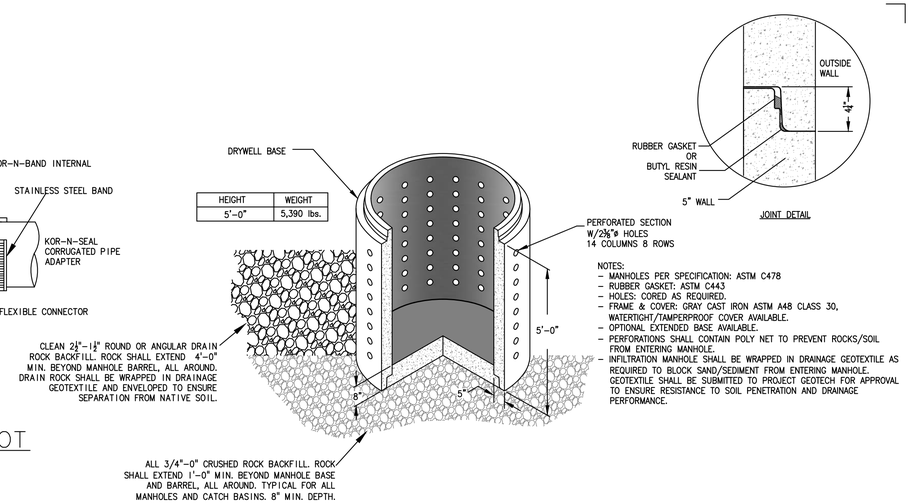
1 C305 TYP. STORM TRENCH DETAIL
NO SCALE



STANDARD MANHOLE SECTION

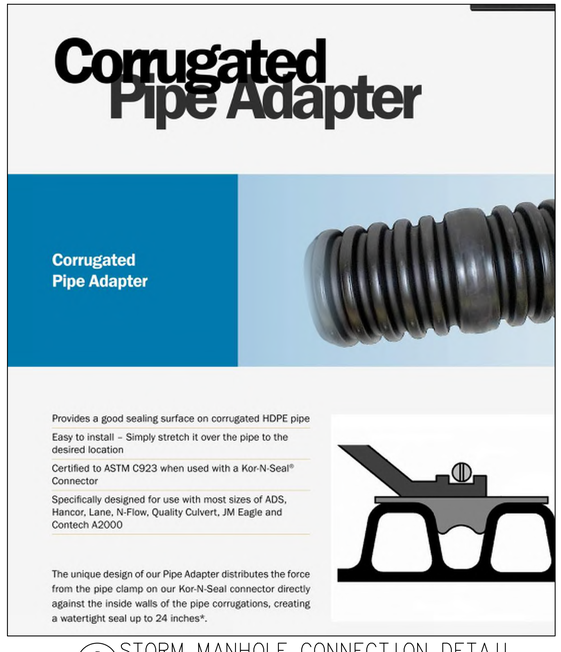


KOR-N-SEAL BOOT



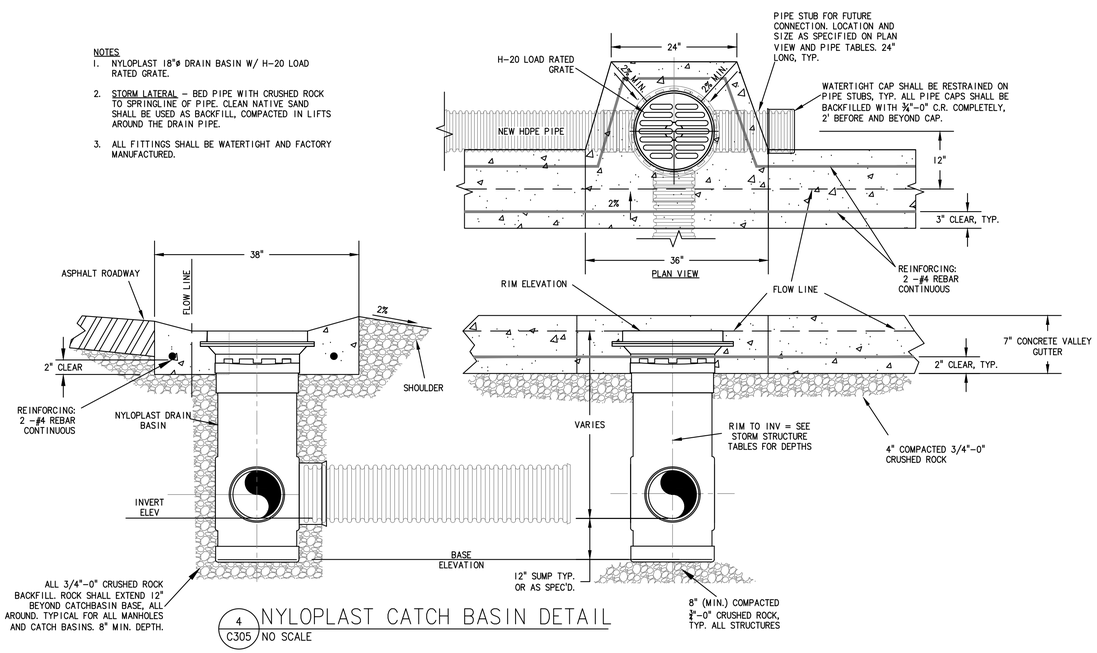
INFILTRATION MANHOLE SECTION

2 C305 STORM MANHOLE DETAIL
NO SCALE

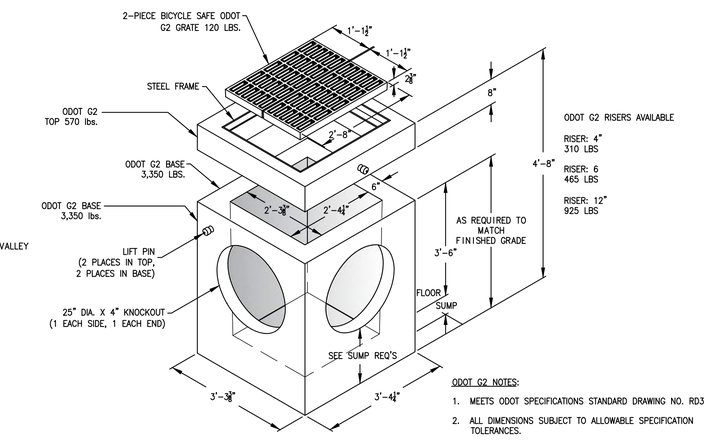


3 C305 STORM MANHOLE CONNECTION DETAIL
NO SCALE

NOTES
1. NYLOPLAST 18"ø DRAIN BASIN W/ H-20 LOAD RATED GRATE.
2. STORM LATERAL – BED PIPE WITH CRUSHED ROCK TO SPRINGLINE OF PIPE. CLEAN NATIVE SAND SHALL BE USED AS BACKFILL, COMPACTED IN LIFTS AROUND THE DRAIN PIPE.
3. ALL FITTINGS SHALL BE WATERTIGHT AND FACTORY MANUFACTURED.



4 C305 NYLOPLAST CATCH BASIN DETAIL
NO SCALE



ODOT G2 NOTES:
1. MEETS ODOT SPECIFICATIONS STANDARD DRAWING NO. RD364.
2. ALL DIMENSIONS SUBJECT TO ALLOWABLE SPECIFICATION TOLERANCES.
3. SUMP: 12" TYP UNLESS STATED OTHERWISE IN STRUCTURE TABLES.

5 C305 STANDARD CATCH BASIN
NO SCALE

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ENGINEERING PLANS - BID SET

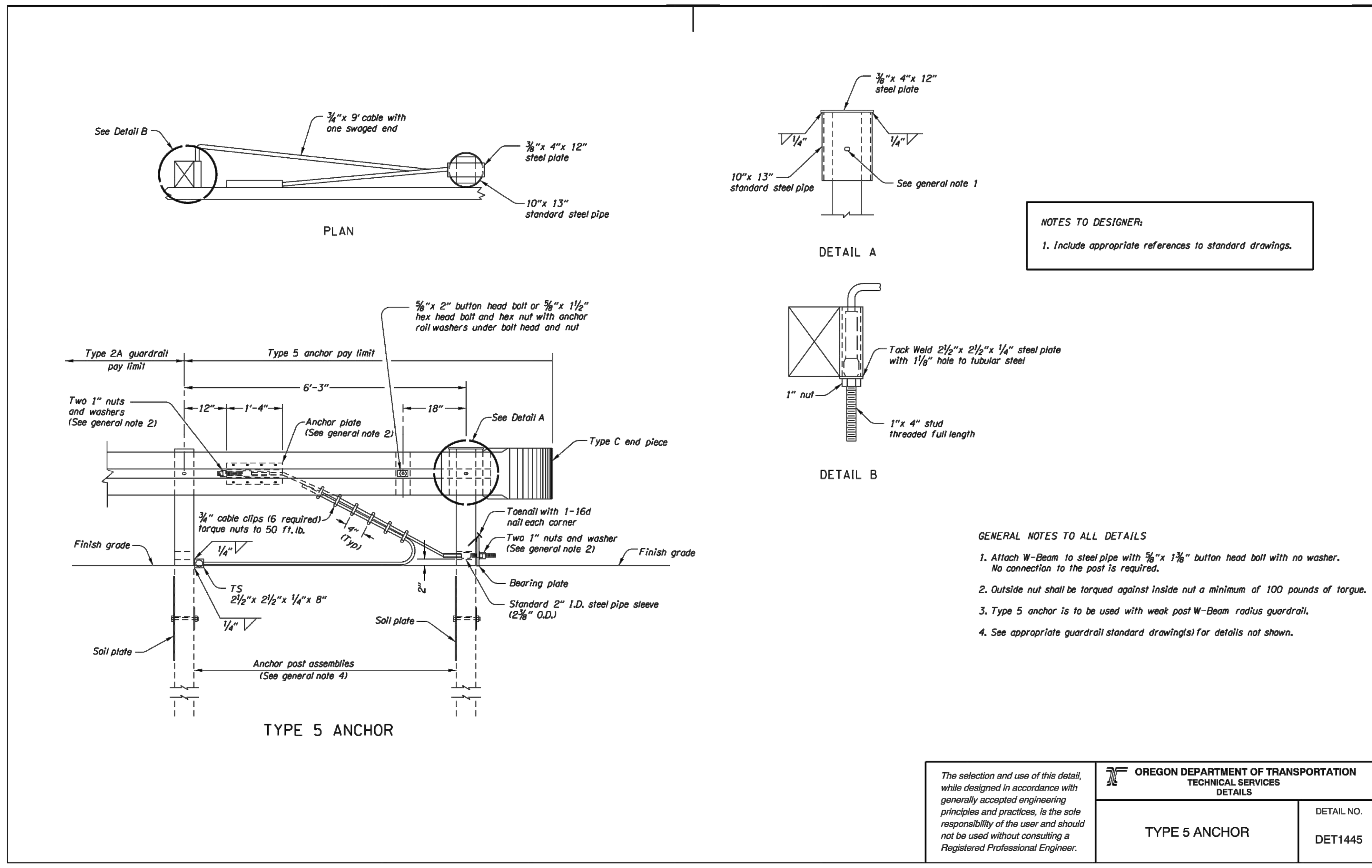
Project No: 24231
Issue Date: 3/28/2025

Project Manager KA
Drawn by LX
Checked by KA

STORM DETAILS

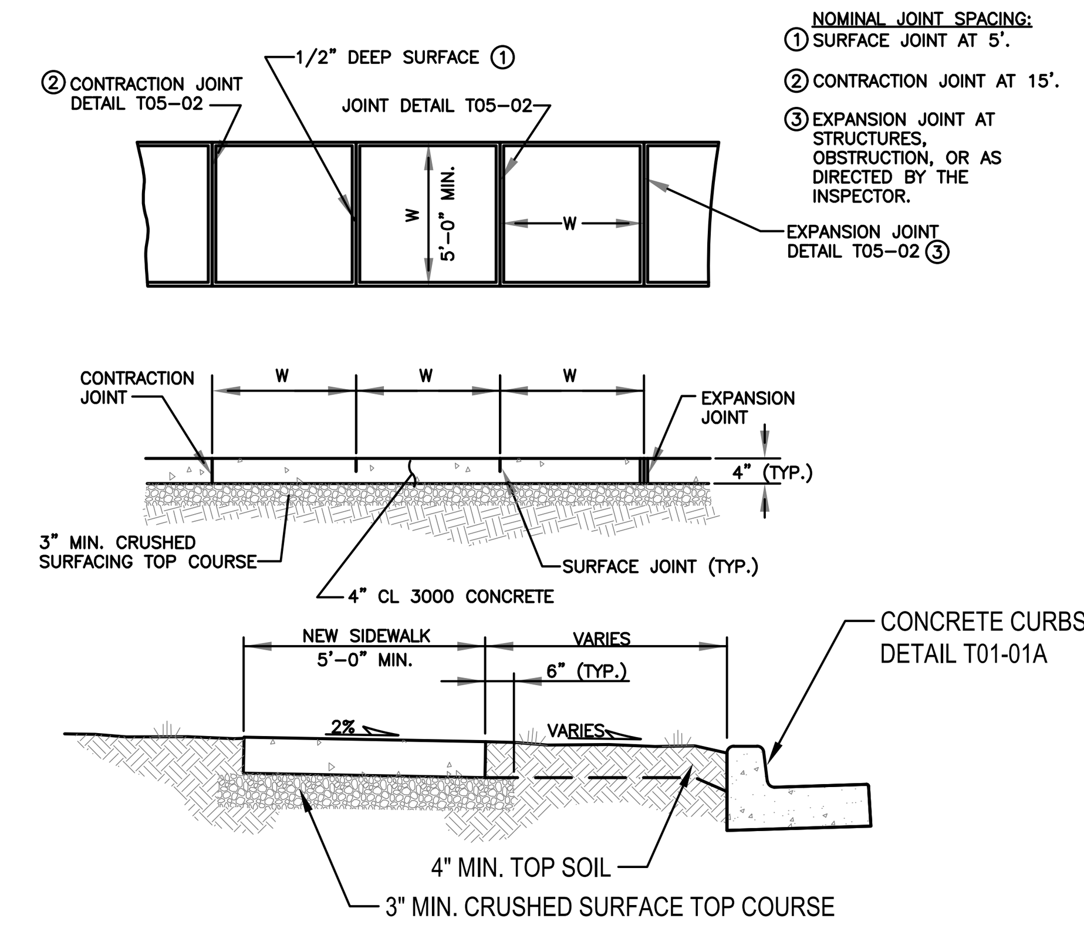
C306

ISSUED FOR ENGINEERING PLANS - BID SET



1 GAURDRAIL END TERMINAL DETAIL.

SCALE: NTS

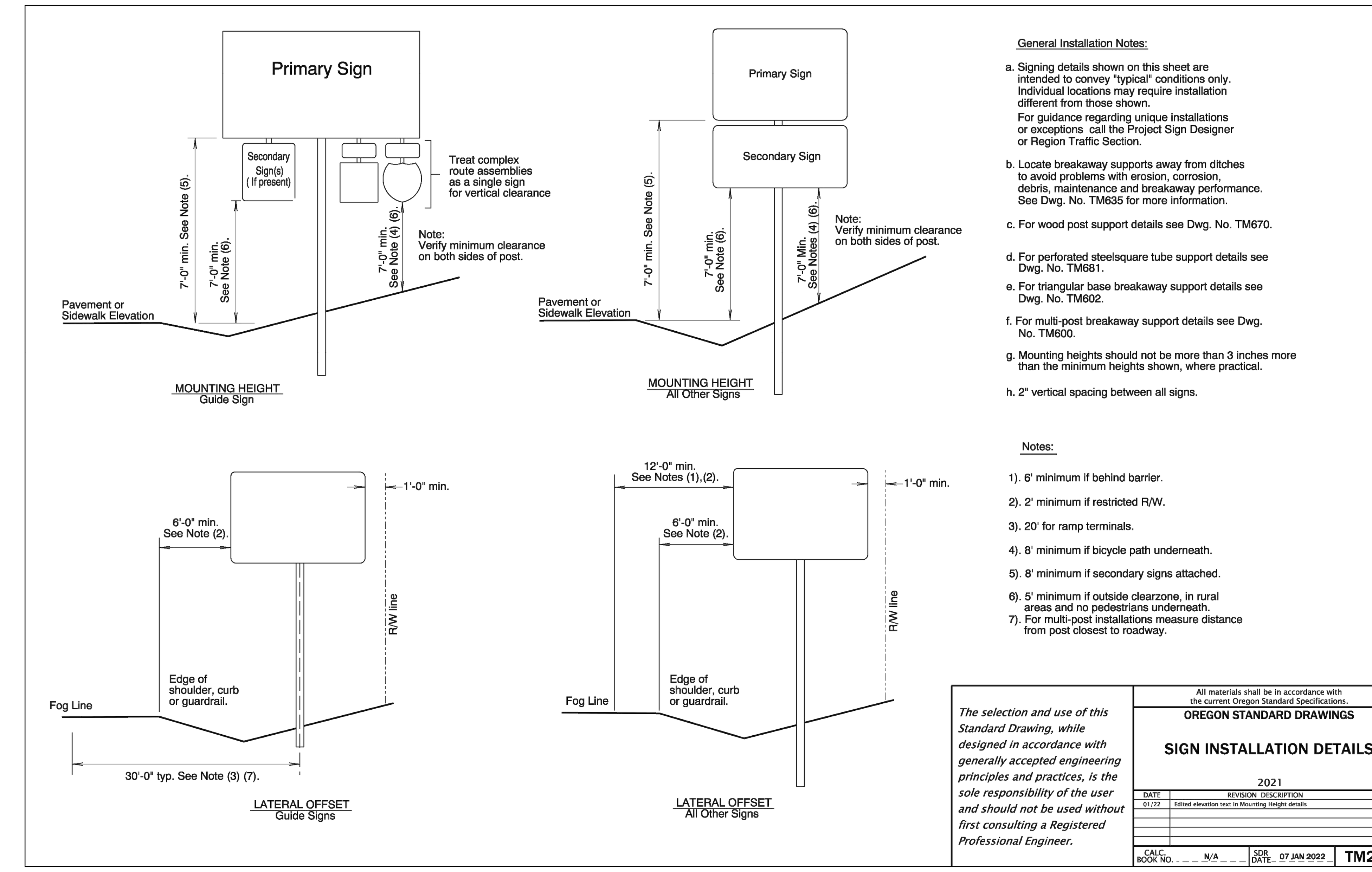


NOTES:

1. CONCRETE SHALL BE 3000 PSI MIN. (CL 3000), 3 1/2" SUMP (MAX.).
2. COMPACT SUBGRADE AND CRUSH SURFACING TOP COURSE TO 95% OF MAXIMUM DRY DENSITY (3" MIN. DEPTH).
3. FINISH SHALL BE MEDIUM BROOM PERPENDICULAR TO PEDESTRIAN TRAFFIC UNLESS OTHERWISE DIRECTED.
4. 2" SMOOTH FINISH BORDER AROUND EACH SIDEWALK PANEL OR MATCH EXISTING BORDER.
5. SEE CONCRETE JOINTS DETAIL T05-02 FOR SURFACE, CONTRACTION, AND EXPANSION JOINTS.
6. ALL EXISTING EDGES SHALL BE SAWCUT.
7. CROSS SLOPE OF PLANTER STRIP SHALL BE 2% (TYP.) AND 4:1 (MAX.).
8. ALL SIDEWALK REMOVAL AND REPLACEMENT SHALL BE JOINT TO JOINT.
9. SIDEWALK REPLACEMENT AREAS SHALL BE ROCKED LEVEL AND COMPACTED UNTIL CONCRETE IS PLACED.
10. FIRE HYDRANT OR WATER METER BOX SHALL NOT BE WITHIN THE SIDEWALK.

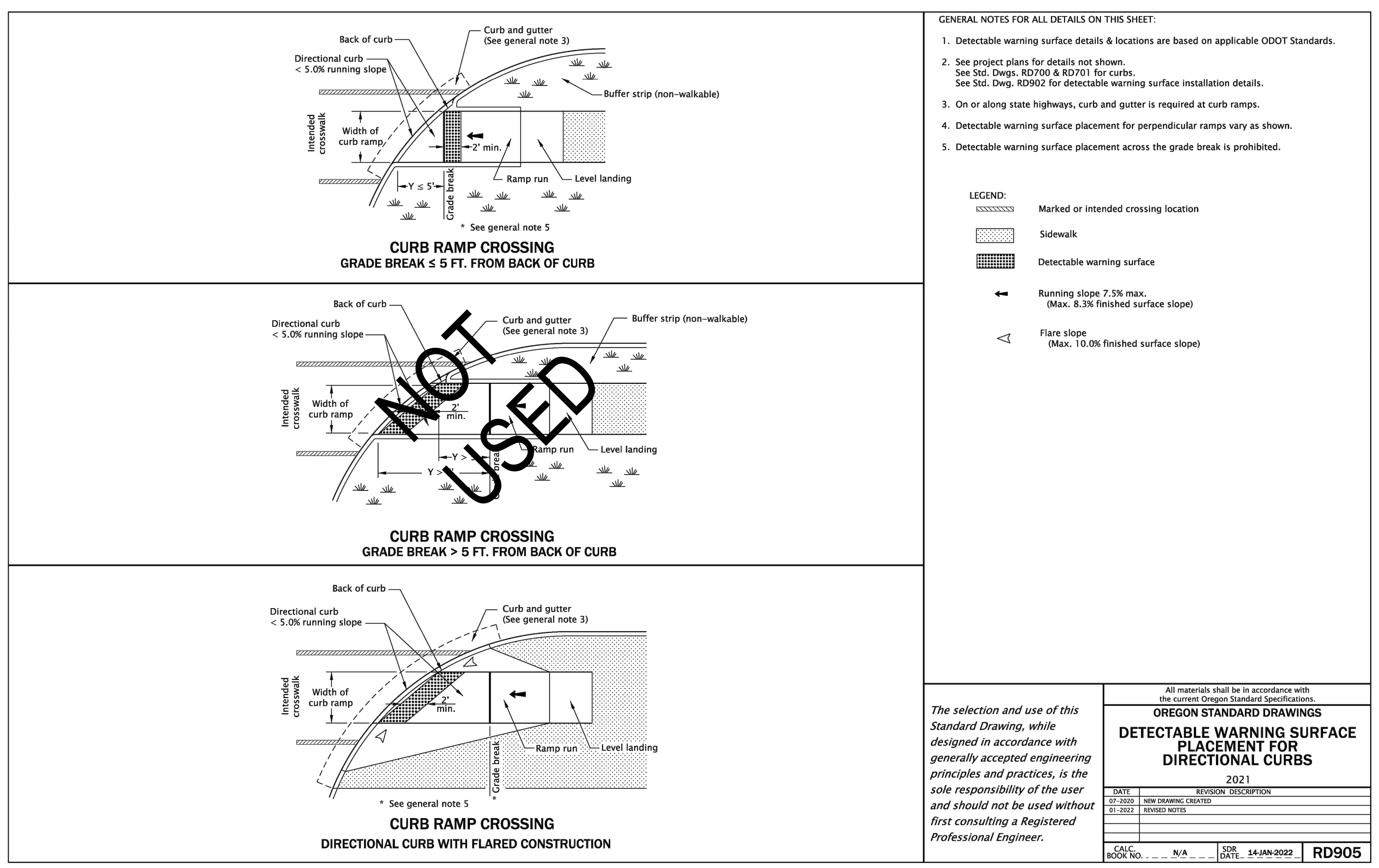
2 SIDEWALK DETAIL

SCALE: NTS



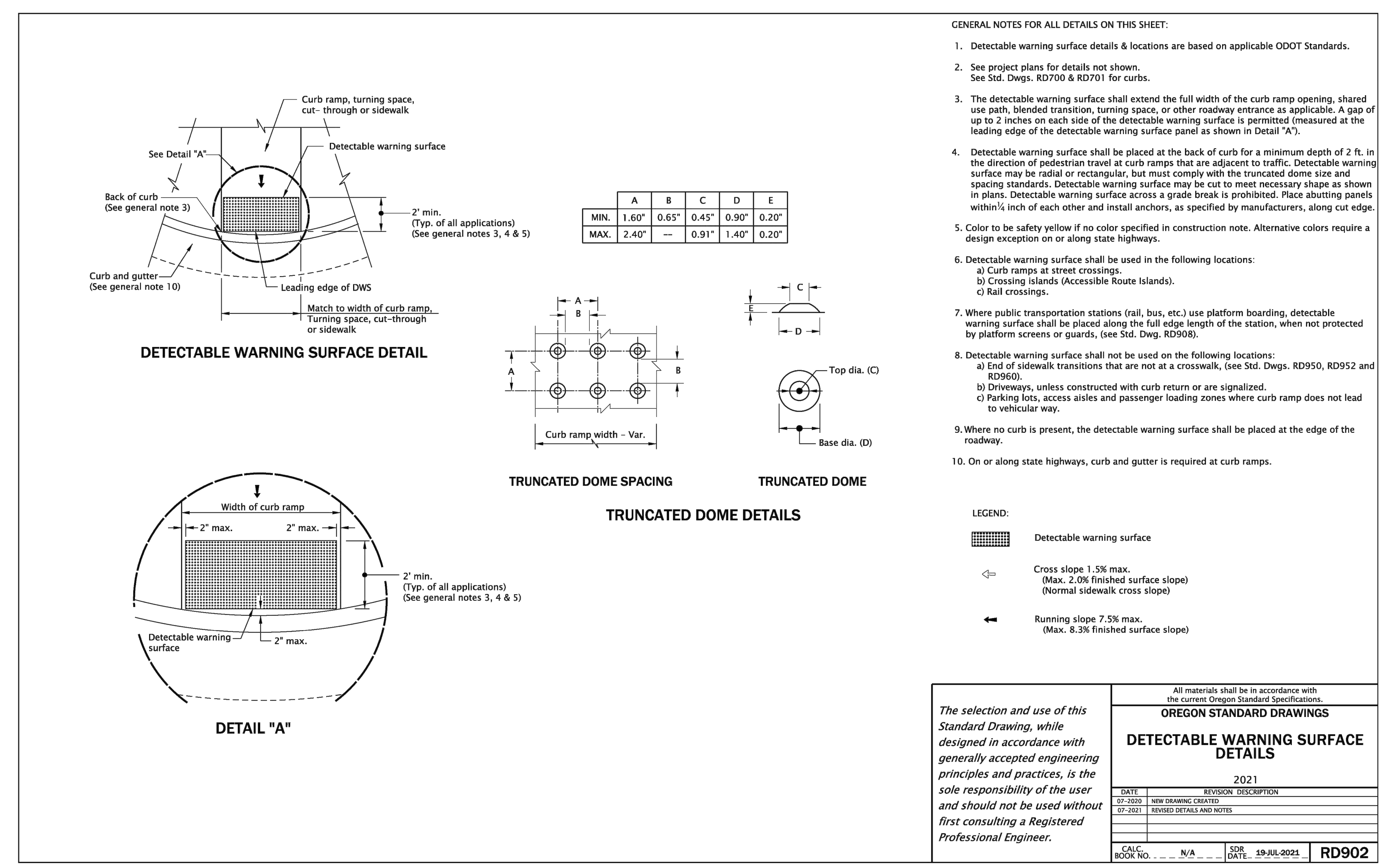
5 SIGN INSTALL DETAILS

SCALE: NTS



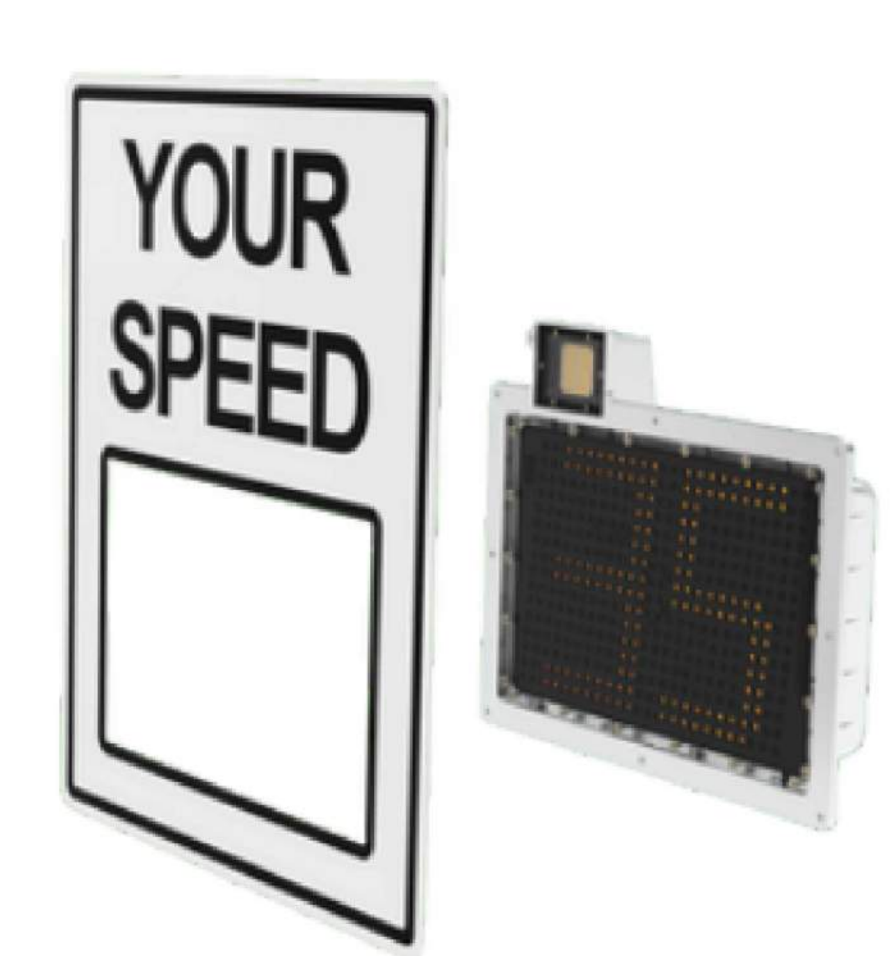
6 CURB RAMP DETAIL

SCALE: NTS



7 DETECTABLE WARNING SURFACE DETAIL

SCALE: NTS



1. FURNISHED AND INSTALLED BY THE CITY.

8 SPEED RADAR SIGNAGE

SCALE: NTS

ISSUED FOR ENGINEERING PLANS - BID SET

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REGISTERED PROFESSIONAL ENGINEER 60259PE OREGON MARCH 9, 1999 TRAVIS W TORMANEN
Expires: 6/30/2026

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

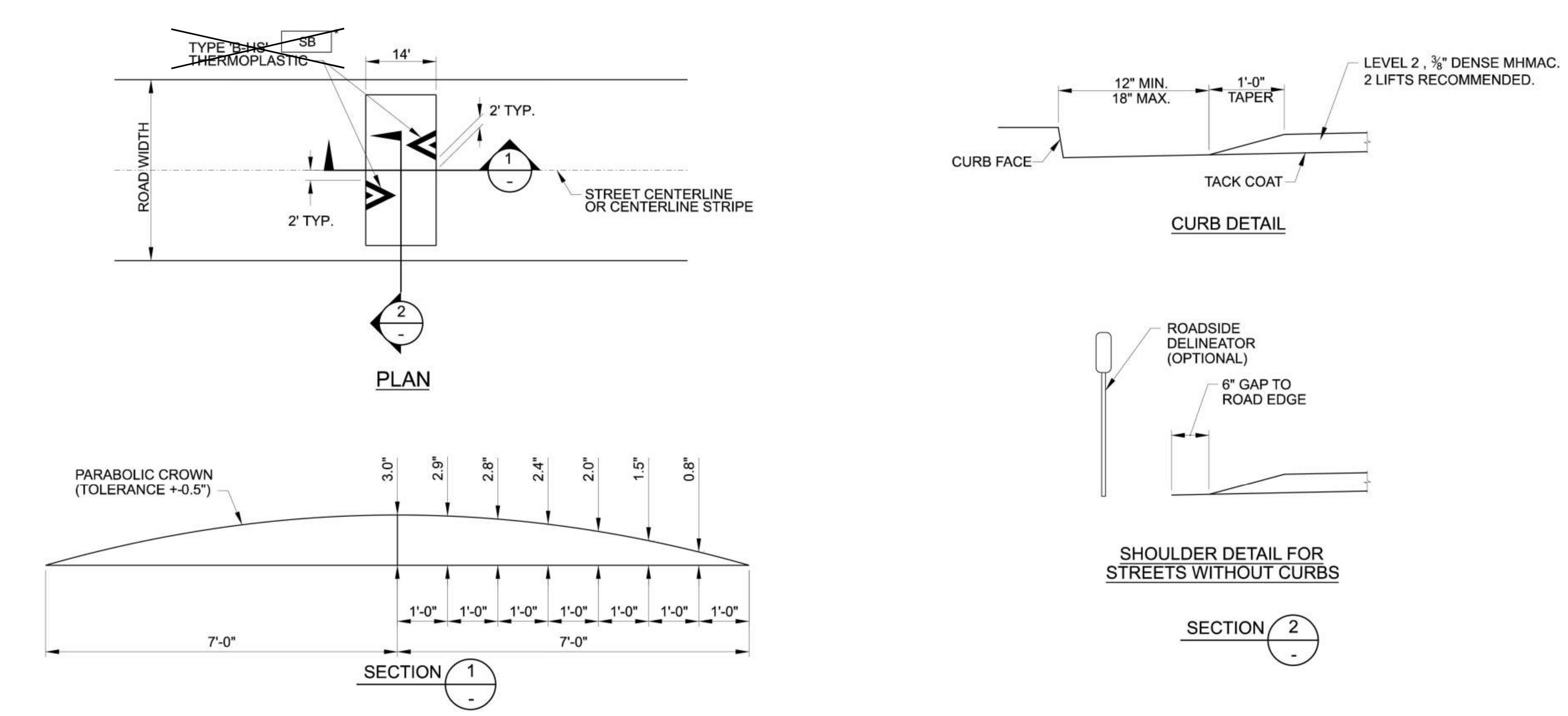
Project No: 24231

Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

DETAILS

C500



NOTES:

1. PAVEMENT MARKINGS ON SPEED BUMP SHALL BE INSTALLED CONCURRENTLY WITH THE ASPHALT STRUCTURES.
2. PAVEMENT MARKINGS AND SIGNS SHALL BE INSTALLED BEFORE OPENING ANY LANE TO TRAFFIC THAT IS OCCUPIED BY A NEW SPEED BUMP. IF PERMANENT MARKINGS CANNOT BE INSTALLED CONCURRENTLY WITH THE ASPHALT STRUCTRUES, INSTALL AND MAINTAIN TEMPORARY PAVEMENT MARKERS UNTIL PERMANENT MARKINGS ARE INSTALLED. IF PERMANENT MARKINGS ARE INSTALLED CONCURRENTLY WITH THE ASPHALT STRUCTURES, PERFORM A CHISEL TEST TO ENSURE PROPER BONDING BETWEEN MARKINGS AND ASPHALT AFTER COOLING.
3. PAVEMENT MARKING LAYOUT ASSUMES A TWO-LANE, TWO-WAY STREET WITH PARKING ON BOTH SIDES. FOR ALL OTHER CONFIGURATIONS SUBMIT REVISED LAYOUT TO ENGINEER FOR APPROVAL.

* SEE PBOT STANDARD DETAIL P-435

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.

PBOT PORTLAND BUREAU OF TRANSPORTATION

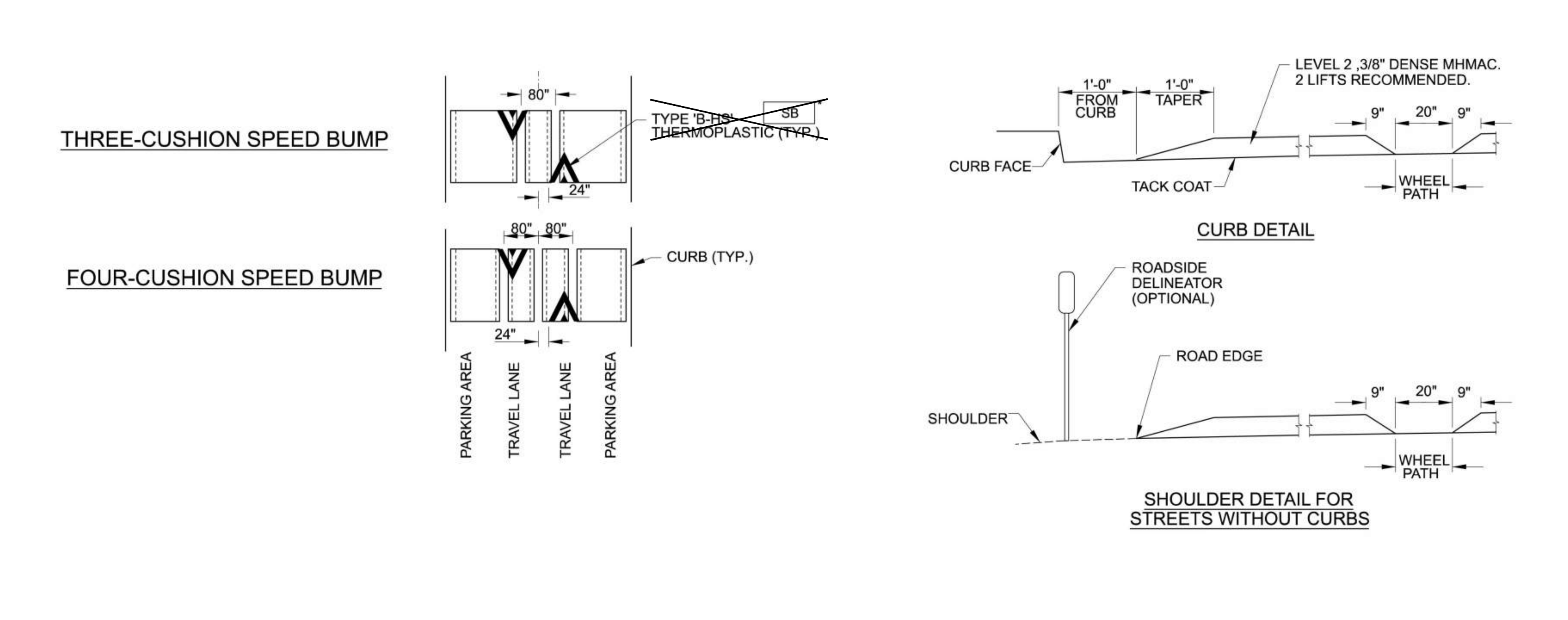
City Engineer

Standard Drawing Title: 14' ASPHALT LOCAL SPEED BUMP

Note: All material and workmanship shall be in accordance with the City of Portland Standard Construction Specifications.

Effective Date: 09-01-2022	Standard Drawing No.	
Calc. Book No.: 440	P-440	
Std. Drg. Report Date: 03-15-2018		

1 LOCAL SPEED BUMP
SCALE: NTS



NOTES:

1. 3- AND 4-CUSHION SPEED BUMPS ARE REQUIRED ON MAJOR AND SECONDARY EMERGENCY RESPONSE ROUTES IN ACCORDANCE WITH THE TSP.
2. PAVEMENT MARKINGS ON SPEED BUMP SHALL BE INSTALLED CONCURRENTLY WITH THE ASPHALT STRUCTURES. FOLLOW MANUFACTURER'S INLAY PROCEDURES FOR PAVEMENT MARKINGS ON SPEED BUMPS.
3. PAVEMENT MARKINGS AND SIGNS SHALL BE INSTALLED BEFORE OPENING ANY LANE TO TRAFFIC THAT IS OCCUPIED BY A NEW SPEED BUMP.
4. PAVEMENT MARKING LAYOUT ASSUMES A TWO-LANE, TWO-WAY STREET WITH PARKING ON BOTH SIDES. FOR ALL OTHER CONFIGURATIONS SUBMIT REVISED LAYOUT TO ENGINEER FOR APPROVAL.
5. INSIDE EDGE OF PAVEMENT MARKINGS SHALL BE 24" FROM CENTERLINE (SHOWN.)
6. SEE STD. DRG. P-440 FOR SPEED CUSHION LENGTH (14') AND PROFILE DETAIL.
7. THE 4-CUSHION LAYOUT IS USED FOR STREETS WITH HIGHER TRAFFIC VOLUMES (3000 VEHICLES PER DAY OR MORE) AND HORIZONTAL CURVES.

* SEE PBOT STANDARD DETAIL P-435

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.

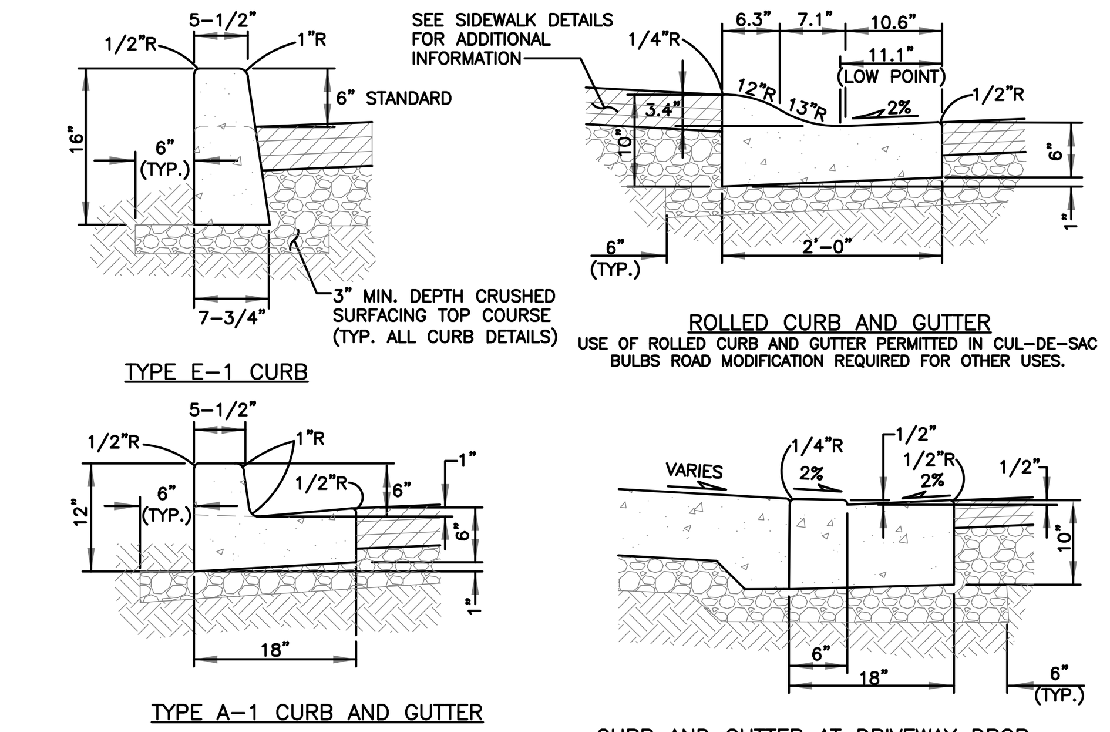
City Engineer

Standard Drawing Title: MULTI CUSHION SPEED BUMPS

Note: All material and workmanship shall be in accordance with the City of Portland Standard Construction Specifications.

Effective Date: 11-02-2021	Standard Drawing No.
Calc. Book No.: Calc_Book_No.	P-442
Std. Drg. Report Date: Date	

2 MULTI CUSHION SPEED BUMPS
SCALE: NTS



NOTES:

CONCRETE CURBS SHALL BE 3000 PSI MIN (CL 3000), 3-1/2" SLUMP (MAX), DRIVEWAY OPENINGS SHALL BE 4000 PSI MIN (CL 4000)

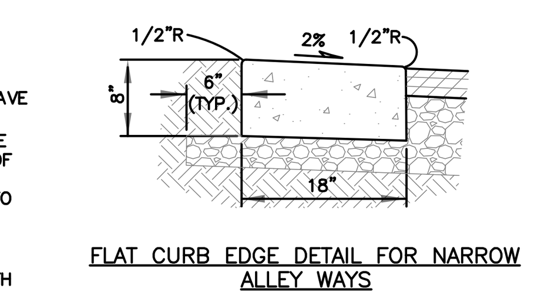
CURBS ADJACENT TO PAVEMENT OR SIDEWALK SHALL HAVE EXPANSION AND/OR CONSTRUCTION JOINTS TO MATCH EXISTING PATTERNS 3/8" EXPANSION JOINTS SHALL BE PLACED ON BOTH SIDES OF CATCH BASINS, AT TOPS OF DRIVEWAYS, ALL CHANGES IN DIRECTION, AND AS DIRECTED BY THE INSPECTOR CONTRACTION JOINTS TO BE PLACED AT 15' MAXIMUM SPACING

COMPACT SUBGRADE AND CRUSHED SURFACING TOP COURSE TO 95% MAXIMUM DRY DENSITY (3" MIN DEPTH

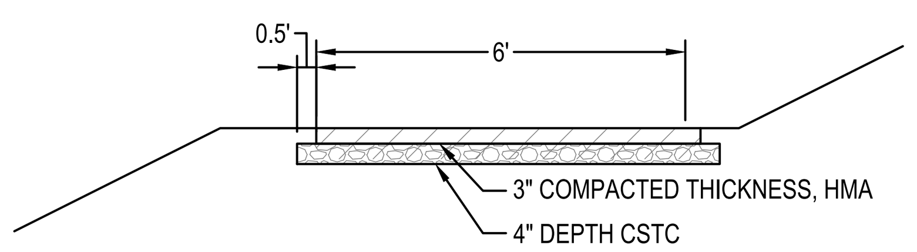
CURB TO BE MEDIUM BROOM FINISHED, PARALLEL TO GUTTER LINE

WHERE MATCHING EXISTING CURBS, ALL EXISTING EDGES SHALL BE SAWCUT

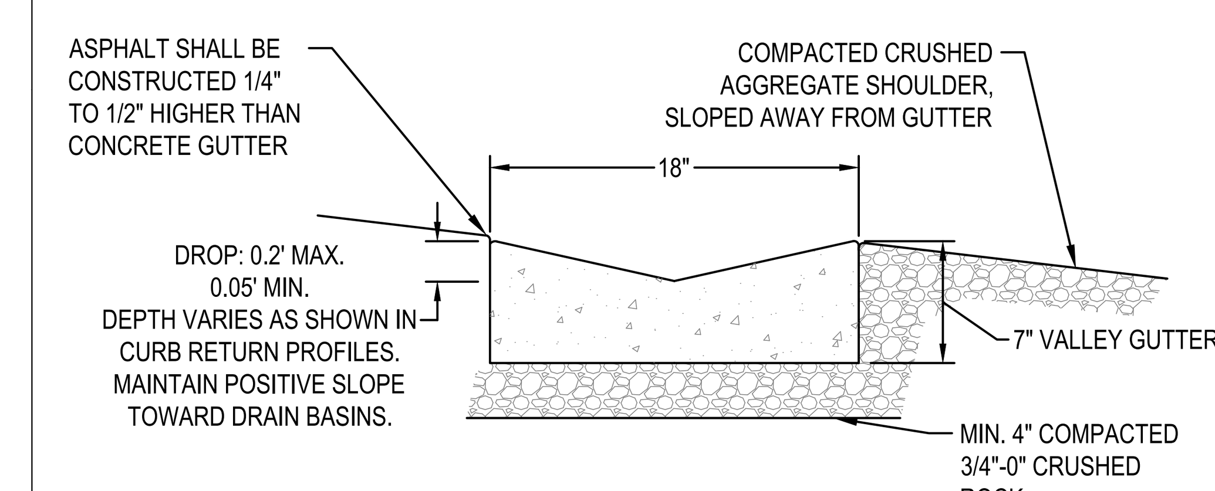
WHEN ATTACHED SIDEWALKS ARE USED WITH ROLLED CURB AND GUTTER, THICKENED SIDEWALKS (6" MIN) SHALL BE CONSTRUCTED UNDER THE SAME CONSTRUCTION CONTRACT



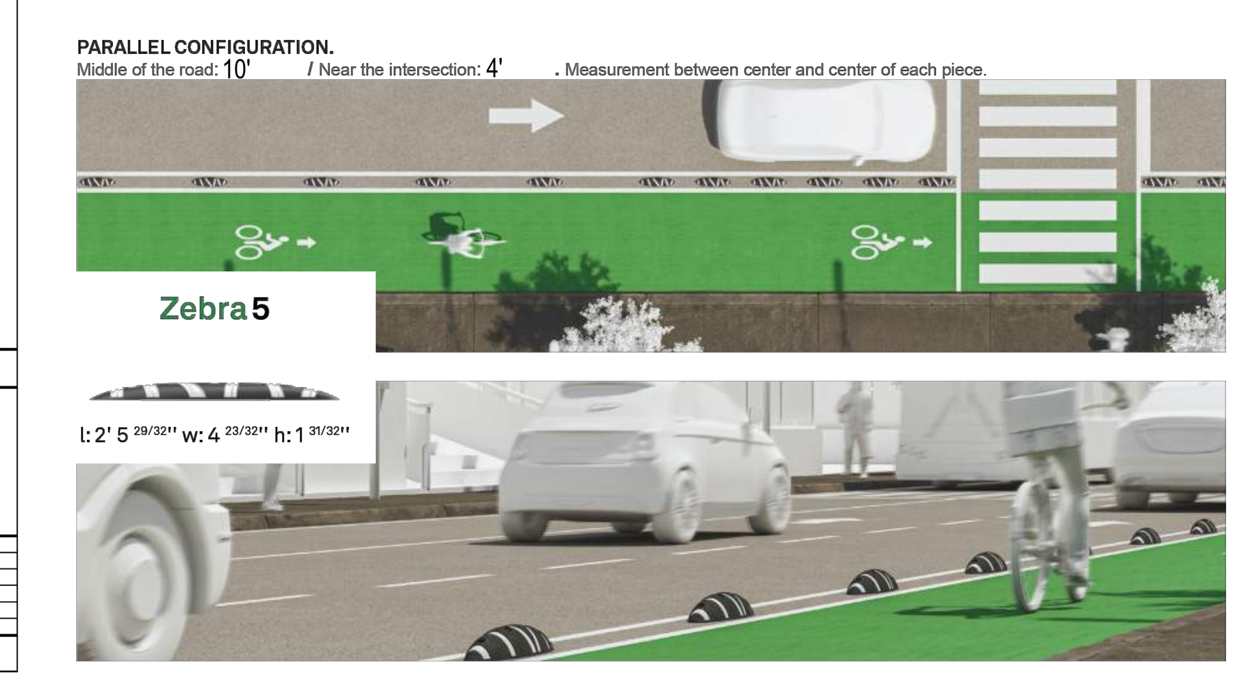
8 STANDARD CURB AND GUTTER DETAIL
SCALE: NTS



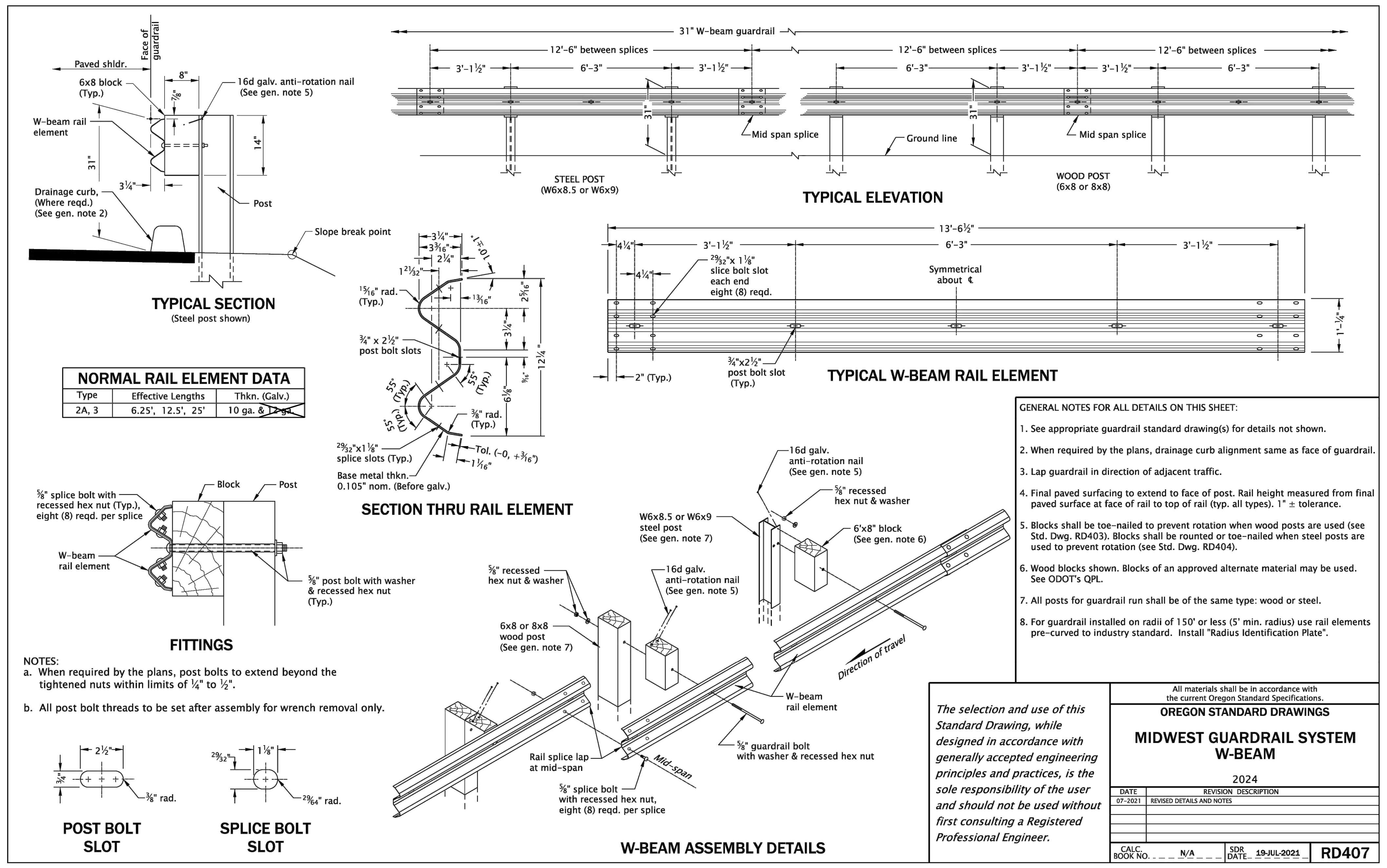
7 BITUMINOUS SIDEWALK DETAIL
SCALE: NTS



6 VALLEY GUTTER DETAIL
SCALE: NTS



5 TRAFFIC DELINEATORS
SCALE: NTS



NOTES:
a. When required by the plans, post bolts to extend beyond the tightened nuts within limits of ¼" to ½".
b. All post bolt threads to be set after assembly for wrench removal only.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See appropriate guardrail standard drawing(s) for details not shown.
2. When required by the plans, drainage curb alignment same as face of guardrail.
3. Lap guardrail in direction of adjacent traffic.
4. Final paved surfacing to extend to face of post. Rail height measured from final paved surface at face of rail to top of rail (typ. all types). 1" ± tolerance.
5. Blocks shall be toe-nailed to prevent rotation when wood posts are used (see Std. Dwg. RD403). Blocks shall be rounted or toe-nailed when steel posts are used to prevent rotation (see Std. Dwg. RD404).
6. Wood blocks shown. Blocks of an approved alternate material may be used. See ODOT's QPL.
7. All posts for guardrail run shall be of the same type: wood or steel.
8. For guardrail installed on radii of 150' or less (5' min. radius) use rail elements pre-curved to industry standard. Install "Radius Identification Plate".

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

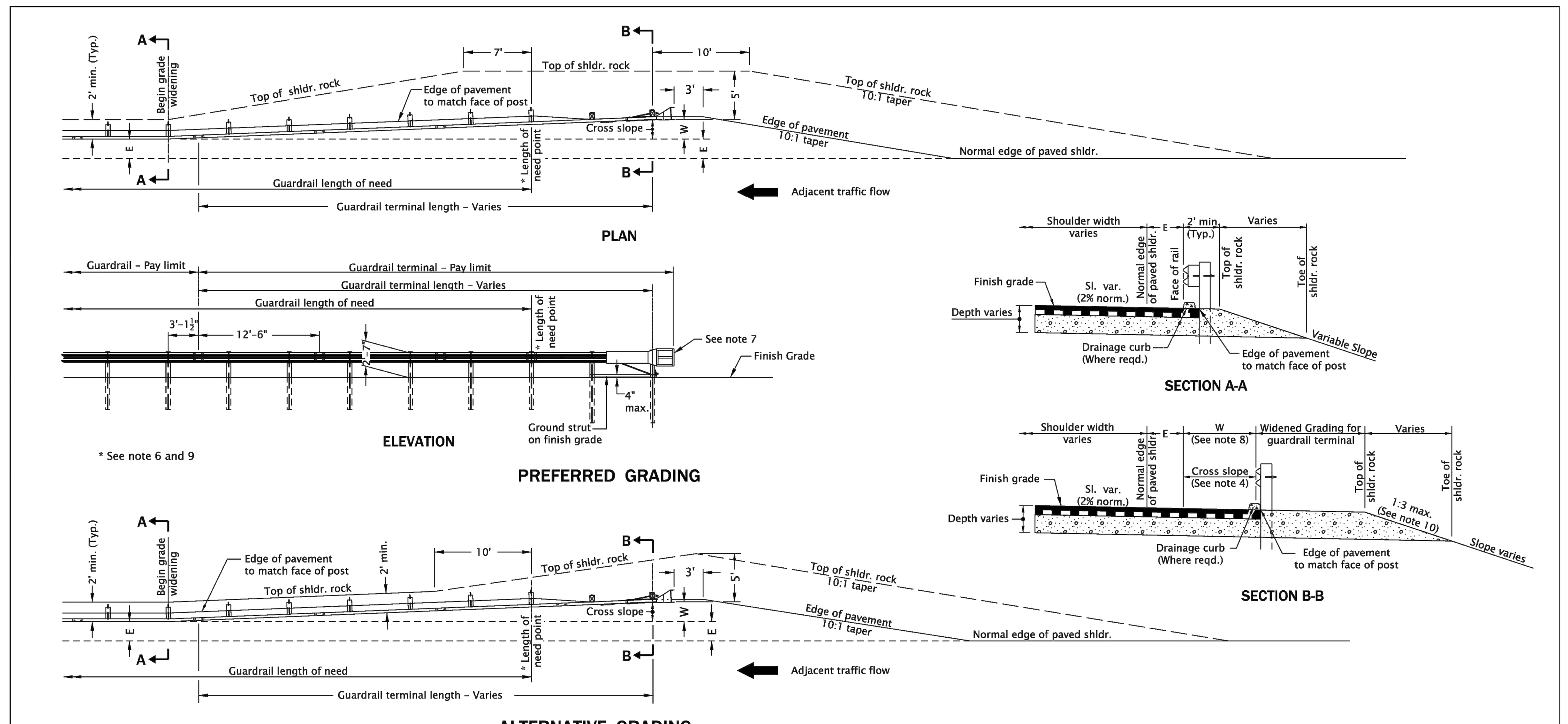
MIDWEST GUARDRAIL SYSTEM W-BEAM

2024

DATE	REVISION DESCRIPTION
07-2021	REVISED DETAILS AND NOTES

CALC. BOOK NO. N/A — SDR DATE 19-JUL-2021 — RD407

3 W-BEAM GUARD RAIL
SCALE: NTS



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Use details shown as a general guide since manufacturer's details may vary. Install a guardrail terminal system that meets MASH requirements per manufacturer's recommendations. Ensure that guardrail terminal meets appropriate test level for the project.
2. See appropriate guardrail standard drawing(s) for details not shown. See project plans for details not shown. See Std. Dwg. RD701 for drainage curbs, where required. E=2' or as shown on project plans.
3. Guardrail Non-flared terminal shall be installed with a minimum 1 foot offset ensuring that the end piece is entirely off normal shoulder.
4. Cross slope to match adjacent roadway cross slope (preferred). If required, maximum shoulder slope 10% for guardrail widening. If required, maximum grade break at normal edge of shoulder 8%.
5. On two way two lane highways, both ends of guardrail runs shall be provided with a terminal flared or non-flared. Paving of widened shoulder to the face of posts on both ends of guardrail runs is required.
6. Provide guardrail terminal from ODOT's QPL. Install according to manufacturer's recommendations (post count varies). Provide shop drawings to Engineer.
7. Install a reflectorized object marker on head of every guard rail terminal with "W" 4 feet or less according to manufacturer's recommendations.
8. "W" distance is measured to face of guardrail at end post, exclusive of end piece.
9. Length of need post location varies by manufacturer.
10. 1:4 slope or flatter preferable, 1:3 maximum.

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OREGON STANDARD DRAWINGS

MIDWEST GUARDRAIL SYSTEM GRADING FOR TERMINALS

2024

CALC. BOOK NO. N/A — SDR DATE 19-JUL-2021 — RD419

4 W-BEAM GUARD RAIL
SCALE: NTS

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REGISTERED PROFESSIONAL ENGINEER 60259PE OREGON MARCH 9, 1999 TRAVIS W TORMANEN
Expires: 6/30/2026

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

DETAILS

C501

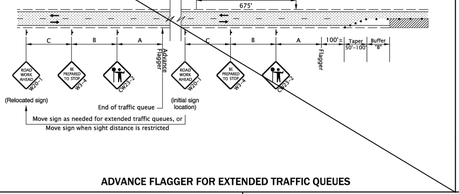
ISSUED FOR ENGINEERING PLANS - BID SET

13-JAN-2023

TM855.dgn

NOTES:

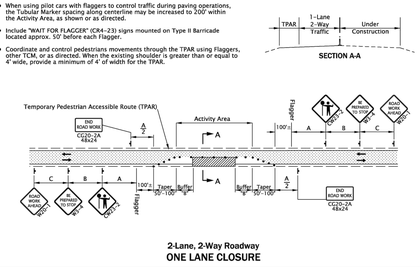
- Place Advance Flagger and additional signing when traffic queues extend beyond these warning signing OR when sight distance is restricted.
- Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.
- Place additional Tubular Markers for Flagger and Advance Flagger Stations according to FLAGGER STATION DELINEATION detail.



ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES

NOTE:

- When using pilot cars with flaggers to control traffic during paving operations, the Tubular Marker spacing along centerline may be increased to 200' within the Activity Area, as shown or as directed.
- Include "WAIT FOR FLAGGER" (CR4-23) signs mounted on Type II Barricade located approx. 50' before each Flagger.
- Coordinate and control pedestrians movements through the TPAR using Flaggers, other TCM, or as directed. When the existing shoulder is greater than or equal to 4' wide, provide a minimum of 4' of width for the TPAR.



2-Lane, 2-Way Roadway
ONE LANE CLOSURE

GENERAL NOTES FOR ALL DETAILS:

- This drawing is only intended to be used where an Automated Flagger Assistance Device (AFAD) cannot be utilized.
- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- Cover existing passing zone signing, as directed.
- Install temporary striping as required.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" shown on Dwg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. No. TM800.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- At night, flagger stations shall be illuminated according to the FLAGGER STATION LIGHTING DELINEATION detail on Dwg No. TM800.
- To be accompanied by Dwg. Nos. TM820 & TM821.

••••••••• 28" Tubular Markers on 10'max. spacing arround intersection radii.

• • • • • 28" Tubular Markers on 20' max. spacing for flagger tapers and stations

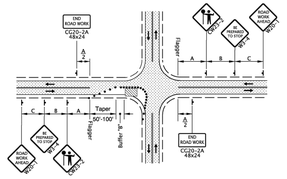
• • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION

NOTE:

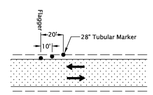
- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection



2-Lane, 2-Way Roadway
ONE LANE CLOSURE, INTERSECTION

NOTE:

- Use a minimum of 3 tubular markers in shoulder taper on 10' spacing for flagger station delineation.



FLAGGER STATION DELINEATION

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2021

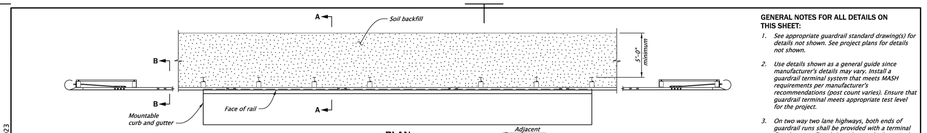
DATE	REVISION DESCRIPTION

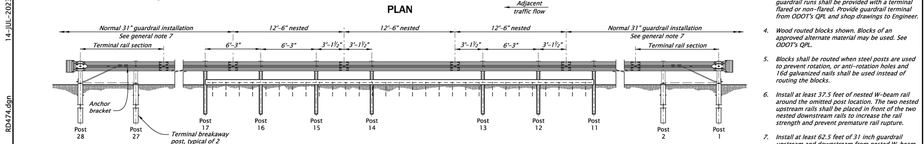
CALC BOOK NO. N/A — SDR DATE. 13-JAN-2023 — **TM855**

Effective Date: June 1, 2023 – November 30, 2023

14-JUL-2023

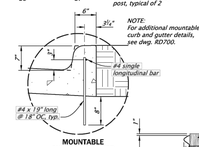
RD474.dgn

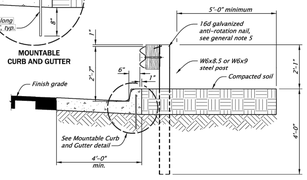


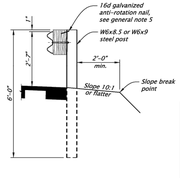


GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *See appropriate guardrail standard drawing(s) for details not shown. See project plans for details not shown.*
2. *Use details shown as a general guide since manufacturer's details may vary. Install a guardrail terminal system that meets MASH requirements per manufacturer's recommendations (post count varies). Ensure that guardrail terminal meets appropriate test level for the project.*
3. *On two way two lane highways, both ends of guardrail runs shall be provided with a terminal flared or non-flared. Provide guardrail terminal from ODOT's QPL and shop drawings to Engineer.*
4. *Wood routed blocks shown. Blocks of an approved alternate material may be used. See ODOT's QPL.*
5. *Blocks shall be routed when steel posts are used to prevent rotation, or anti-rotation holes and 16d galvanized nails shall be used instead of routing the blocks.*
6. *Install at least 37.5 feet of nested W-beam rail around the omitted post location. The two nested upstream rails shall be placed in front of the two nested downstream rails to increase the rail strength and prevent premature rail rupture.*
7. *Install at least 62.5 feet of 31 inch guardrail upstream and downstream from nested W-beam rail (terminals and anchors included in length).*







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OREGON STANDARD DRAWINGS

MIDWEST GUARDRAIL SYSTEM WITH CURB AND OMITTED POST (MASH, TL-3)

2024

DATE	REVISION DESCRIPTION
01-2023	NEW DRAWING CREATED

CALC BOOK NO. N/A — SDR DATE. 14-JUL-2023 — **RD474**

Effective Date: December 1, 2024 – May 31, 2025

1 2-LANE, 2-WAY ROADWAY TRAFFIC CONTROL DETAIL

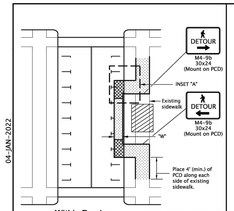
SCALE: NTS

2 MIDWEST GUARDRAIL SYSTEM DETAIL

SCALE: NTS

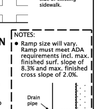
04-JAN-2022

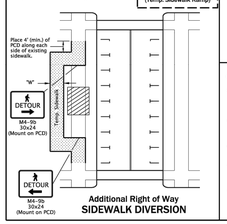
TM844.dgn

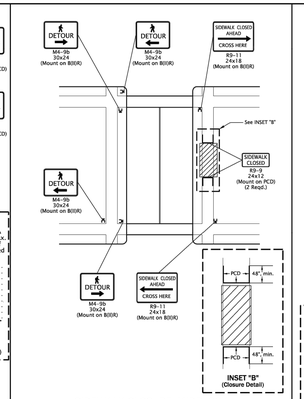


NOTES:

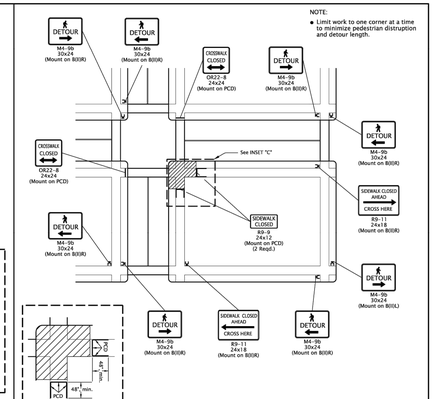
- Place or construct temp. sidewalk ramp, as needed.
- For roadways with a pre-construction posted speed of 40 mph or less.
- See inset "A" for Temp. Sidewalk Ramp details.
- "W" = 60", or, where 60" width cannot be maintained through the entire route, provide 48" min. width with 60" x 60" passing spaces every 200 ft.
- Use temporary ADA compliant surfaces to cross planter strips or other non-traversable surfaces.







SIDEWALK CLOSURE, MIDBLOCK



SIDEWALK CLOSURE, CORNER

GENERAL NOTES FOR ALL DETAILS:

- When closing or relocating crosswalks or other pedestrian facilities provide ADA compliant facilities. Include accessibility features consistent with existing pedestrian facilities by providing adequate slope transitions and surfacing.
- Provide non-slip, 60 inch minimum wide surface through entire pedestrian route. If not possible, provide 48" min. width with 60" x 60" passing spaces every 200 feet along the route.
- Only TCD for pedestrians are shown. Other devices may be necessary to control vehicular traffic.
- Stage work, as necessary, to provide a temporary pedestrian access route at all times. For roadways with no available detours, maintain one open sidewalk at all times.
- Minimize pedestrian out-of-direction travel.
- To be accompanied by Dwg. Nos. TM820 & TM821.

UNDER PEDESTRIAN TRAFFIC

UNDER CONSTRUCTION

PEDESTRIAN CHANNELIZING DEVICE (PCD)

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

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OREGON STANDARD DRAWINGS

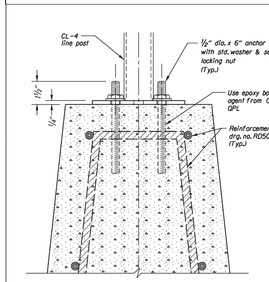
TEMPORARY PEDESTRIAN ACCESSIBLE ROUTES

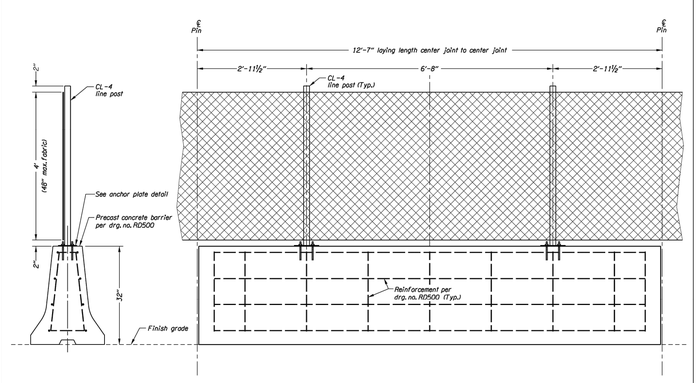
2021

DATE	REVISION DESCRIPTION
01-2023	Revised notes for temporary sidewalk ramp.

CALC BOOK NO. N/A — SDR DATE. 04-JAN-2023 — **TM844**

Effective Date: June 1, 2023 – November 30, 2023





GENERAL NOTES FOR ALL DETAILS:

1. *See drg.no. RD815 for chain link fence details not shown.*
2. *See drg.no. RD500 for precast concrete barrier details not shown.*
3. *Use CL-4 steel line posts per drg.no. RD815.*
4. *Top rail is prohibited.*
5. *Hot-dip galvanize all parts after fabrication.*
6. *Install chain link fabric on outside of curve, or as directed.*
7. *Install pickets, when required.*

FENCE INSTALLATION WILL DEPEND ON RETAINING WALL TYPE USED. FENCE AND RETAINING WALL WILL NEED TO BE DESIGNED BY CONTRACTOR. DETAIL IS AN EXAMPLE OF 4' TALL FENCE THAT COULD POSSIBLY BE USED IF GRAVITY WALL TYPE BLOCK RETAINING WALL IS USED.

The selection and use of this detail, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON DEPARTMENT OF TRANSPORTATION
TECHNICAL SERVICES
DETAILS

DETAILS FOR CHAIN LINK FENCE ON CONCRETE BARRIER — DETAIL NO. DET1830

3 TEMPORARY PEDESTRIAN ACCESSIBLE ROUTES DETAIL

SCALE: NTS

4 CHAIN LINK FENCE DETAIL

SCALE: NTS

811 Know what's **below.** **Call** before you dig.

CALL 2 BUSINESS DAYS BEFORE YOU DIG.
CAUTION UTILITY INFORMATION IS APPROXIMATE.
VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.

Revisions: #

LINE IS 1" ON FULL SCALE DRAWING

#		

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MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

DETAILS

C502

ISSUED FOR ENGINEERING PLANS - BID SET

PLOT DATE: 4/16/2025 10:10 AM - FILE: C:\Users\Thad\Work\DCA\CCDocs\Windsor Engineers\24231 Manzanita Classic Street\Project Files\Infrastructure\Xrefs\24231_TRAFFIC DTL.dwg

01-JUL-2022 TM800.dgn

TAPER TYPES & FORMULAS	
TAPER	FORMULA
Merging (Lane Closure)	"L"
Shifting	"L"/2 or ½"L"
Shoulder Closure	"L"/3 or ⅓"L"
Flagging (See Drg. TM850)	50' - 100'
Downstream (Termination)	Varies (See Drawings)

★ Use Pre-Construction Posted Speed to select the Speed from the Tables below:

TEMPORARY BARRIER FLARE RATE TABLE	
★SPEED (mph)	MINIMUM FLARE RATE
≤ 30	8:1
35	9:1
40	10:1
45	12:1
50	14:1
55	16:1
60	18:1
65	19:1
70	20:1

MINIMUM LENGTHS TABLE

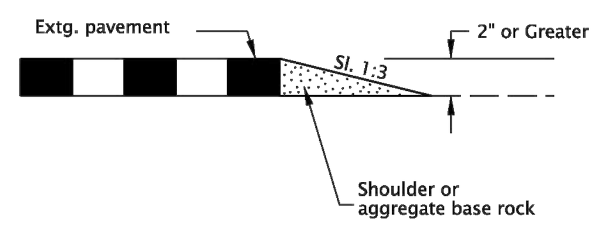
★ SPEED (mph)	"L" VALUE FOR TAPERS (ft) — W = Lane or Shoulder Width being closed or shifted				BUFFER "B" (ft)
	W ≤ 10	W = 12	W = 14	W = 16	
25	105	125	145	165	75
30	150	180	210	240	100
35	205	245	285	325	125
40	265	320	375	430	150
45	450	540	630	720	180
50	500	600	700	800	210
55	550	660	770	880	250
60	600	720	840	960	285
65	650	780	910	1000	325
70	700	840	980	1000	365
FREEWAYS					
55	1000	1000	1000	1000	250
60	1000	1000	1000	1000	285
65	1000	1000	1000	1000	325
70	1000	1000	1000	1000	365

NOTES:
- For Lane closures where W < 10', use "L" value for W = 10'.
- For Shoulder closures where W < 10', use "L" value for W = 10' or calculate "L" using formula, for Speeds ≥ 45: L = WS, Speeds < 45: $L = S^2W/60$, S = Speed, W=Width

TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE				
★ SPEED (mph)	Sign Spacing (ft)			Max. Channelizing Device Spacing (ft)
	A	B	C	
20 - 30	100	100	100	20
35 - 40	350	350	350	20
45 - 55	500	500	500	40
60 - 70	700	700	700	40
Freeway	1000	1500	2640	40

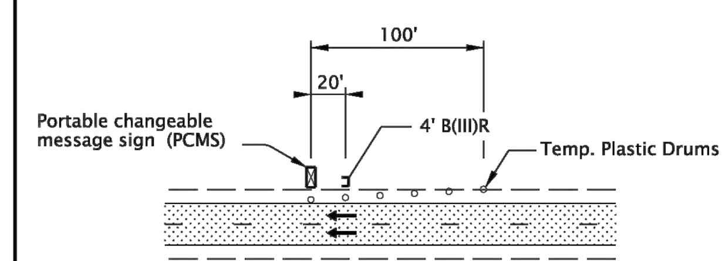
NOTES:
- Place traffic control devices on 10 ft. spacing for intersection and access radii.
- When necessary, sign spacing may be adjusted to fit site conditions. Limit spacing adjustments to 30% of the "A" dimension for all speeds.

NOTES:
- When paved shoulders adjacent to excavations are less than four feet wide protect longitudinal abrupt edge as shown.
- Use aggregate wedge when abrupt edge is 2 inches or greater.



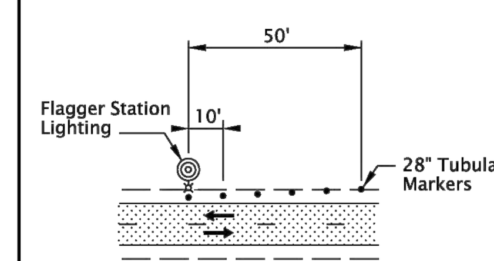
EXCAVATION ABRUPT EDGE

NOTES:
- Install PCMS beyond the outside shoulder, when possible.
- Use the appropriate type of barricade panels for PCMS location. Right shoulder, use Type B(III)R Left shoulder, use Type B(III)L
- Use six drums in shoulder taper on 20' spacing. The drums and barricade may be omitted when PCMS is placed behind a roadside barrier.
- Detail as shown is used for trailered and non-crashworthy components of:
  - Portable Traffic Signals
  - Smart Work Zone Systems



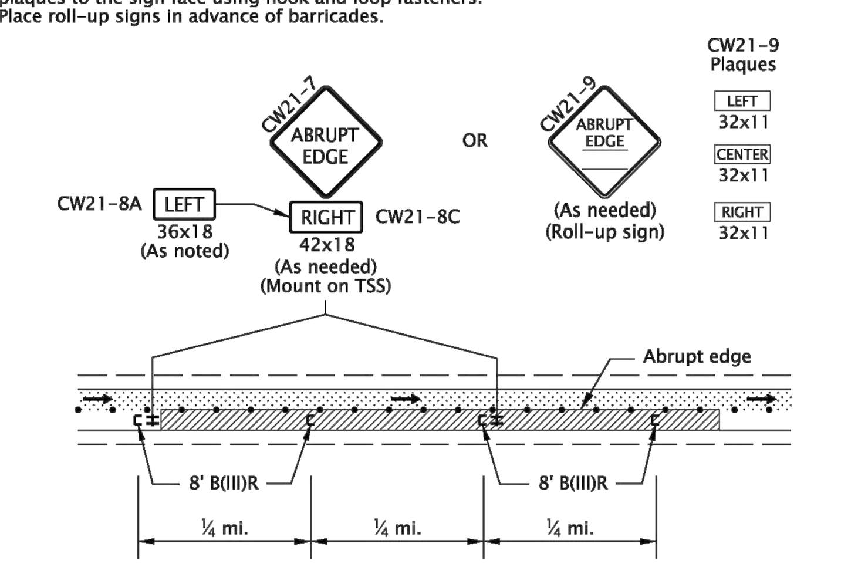
PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) INSTALLATION

NOTES:
- Install Flagger Station Lighting beyond the outside shoulder, where practical.
- Use six tubular markers in shoulder taper on 10' spacing.
- Place cart / generator / power supply off of the shoulder, as far as practical.



FLAGGER STATION LIGHTING DELINEATION

NOTES:
- Abrupt edges may be created by paving, operations, excavations or other roadway work. Use abrupt edge signing for longitudinal abrupt edges of 1 inch or greater.
- If the excavation is located on left side of traffic, replace the 8' B(III)R barricades with 8' B(III)L barricades and replace the "RIGHT" (CW21-8C) riders with "LEFT" (CW21-8A) riders.
- Continue signing and other traffic control devices throughout excavation area at spacings shown.
- If roll-up signs are used, attach the correct (CW21-9) plaques to the sign face using hook and loop fasteners. Place roll-up signs in advance of barricades.



TYPICAL ABRUPT EDGE DELINEATION

GENERAL NOTES FOR ALL TCP DRAWINGS:
- Signs and other Traffic Control Devices (TCD) shown are the minimum required.
- Place a barricade approx. 20' ahead of all sequential arrow boards.
- Arrows shown in roadway are directional arrows to indicate traffic movements.
- All signs are 48" x 48" unless otherwise shown. Use fluorescent orange sheeting for the background of all temporary warning signs.
- All diamond shaped warning signs mounted on barrier sign supports shall be 36" by 36". All other signs mounted on barrier sign supports shall not exceed 12 sq. ft. in total sign area.
- Low speed highways have a pre-construction posted speed of 40 mph or less. High speed highways have a pre-construction posted speed of 45 mph or higher.
- Do not locate sign supports in locations designated for bicycle or pedestrian traffic.
- Combine drawing details to complete temporary traffic control for each work activity.
- Coordinate and control pedestrian movements through a Temporary Accessible Route using Flaggers, Traffic Control Measures, or as directed.
- To be accompanied by Dwg. Nos. TM820 & TM821.

○ ○ ○ Temp. Plastic Drums See TCD Spacing Table for max. spacing.
• • • 28" Tubular Markers See TCD Spacing Table for max. spacing.
UNDER TRAFFIC
UNDER CONSTRUCTION

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OREGON STANDARD DRAWINGS

TABLES, ABRUPT EDGE AND PCMS DETAILS

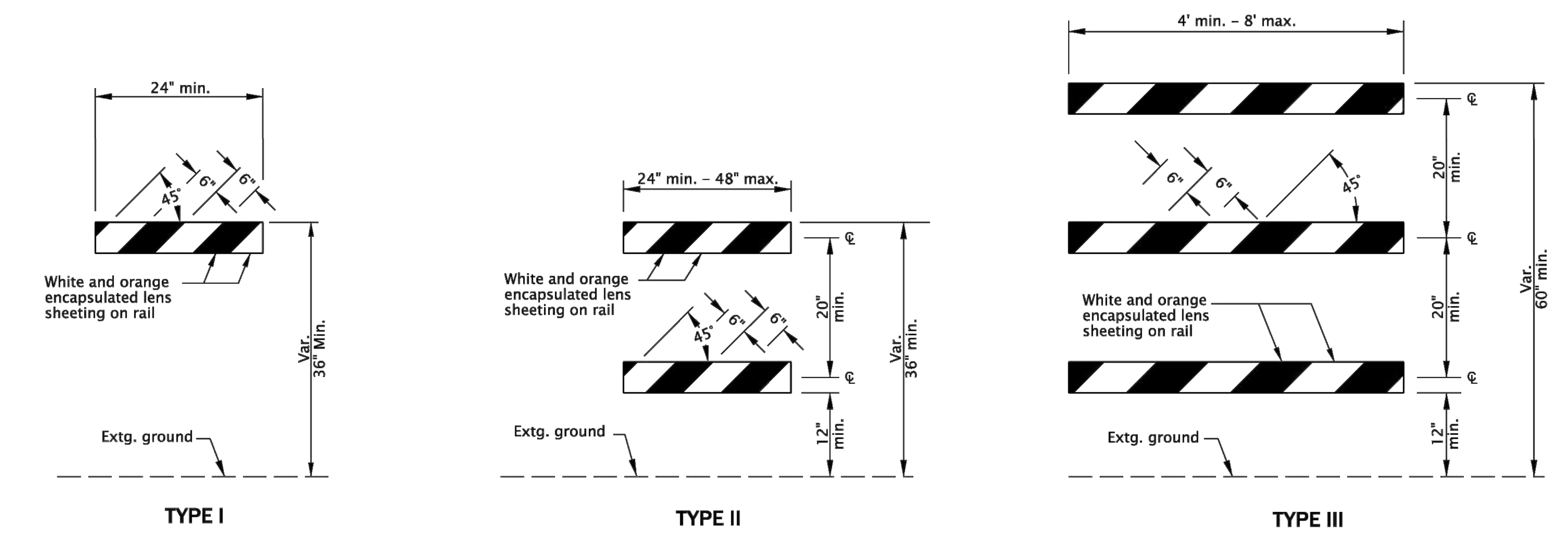
2021

DATE	REVISION DESCRIPTION
07-2022	Added a note for TPARs

CALC. BOOK NO. N/A SDR DATE. 01-JUL-2022 TM800

Effective Date: June 1, 2023 - November 30, 2023

01-JUL-2020 TM820.dgn



BARRICADE RAIL LAYOUT

GENERAL NOTES FOR ALL DETAILS:
- Sandbags (approximately 25 lb sack filled with sand) may be placed on lower frame to provide additional ballast.
- Ballast shall not extend above bottom rail or be suspended from barricade.
- For rails less than 36" long, 4" wide stripes shall be used.
- Rails must be 8" min. to 12" max. in height.
- Use barricades from ODOT Qualified Products List (QPL).
- Use 4' Type III barricades where horizontal space is limited.
- Do not block bike lanes or shoulders unless the facility is properly closed and signed.
- Do not place barricades in sidewalks unless sidewalk is closed and a temporary pedestrian accessible route (TPAR) is signed according to the TCP. See Dwg. No. TM844.

NOTES:
- Markings for barricade rails shall slope downward at an angle of 45° in the direction traffic is to pass.
- Where a barricade extends entirely across a roadway, it is desirable that the stripes slope downward in the direction toward which traffic must turn in detouring.
- Where both right and left turns are provided for, slope the chevron striping downward in both directions from the center of the barricade.
- For full roadway closures, the C or LR barricade may be used. Extend barricades completely across roadway unless access is required for local road users.

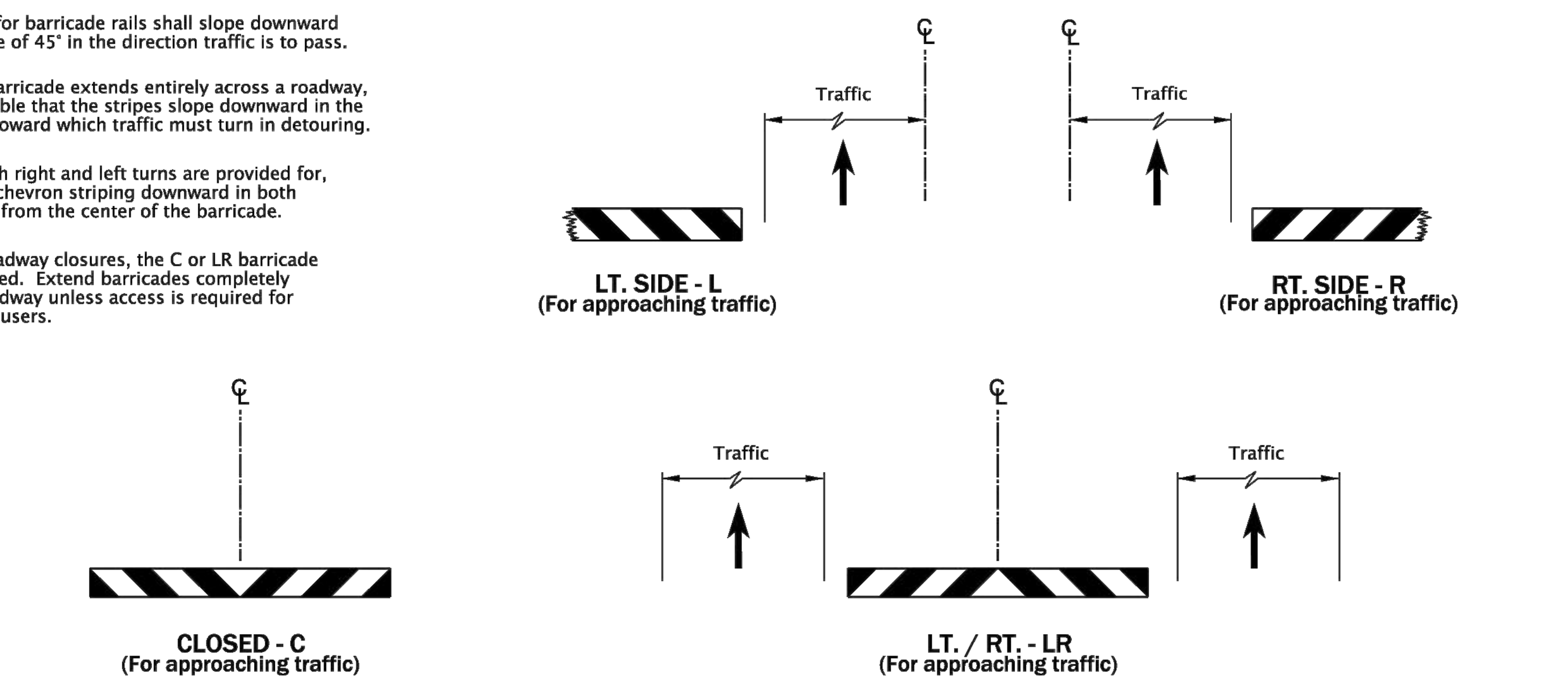
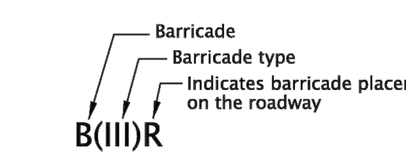


DIAGRAM FOR BARRICADE PLACEMENT AND SLOPE MARKING



BARRICADE NOTATION

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OREGON STANDARD DRAWINGS

TEMPORARY BARRICADES

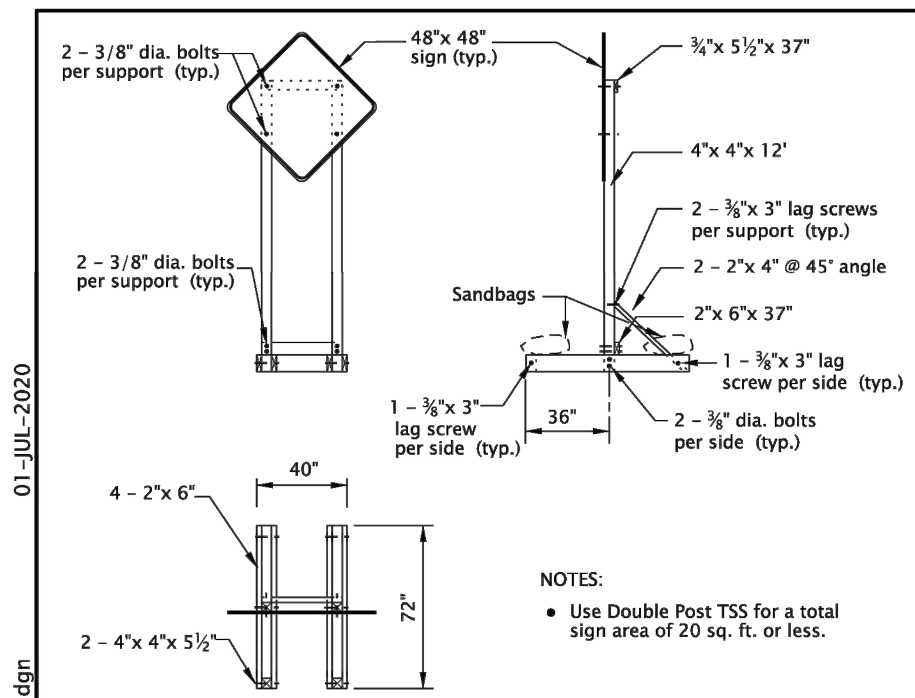
2021

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A SDR DATE. 01-JUL-2020 TM820

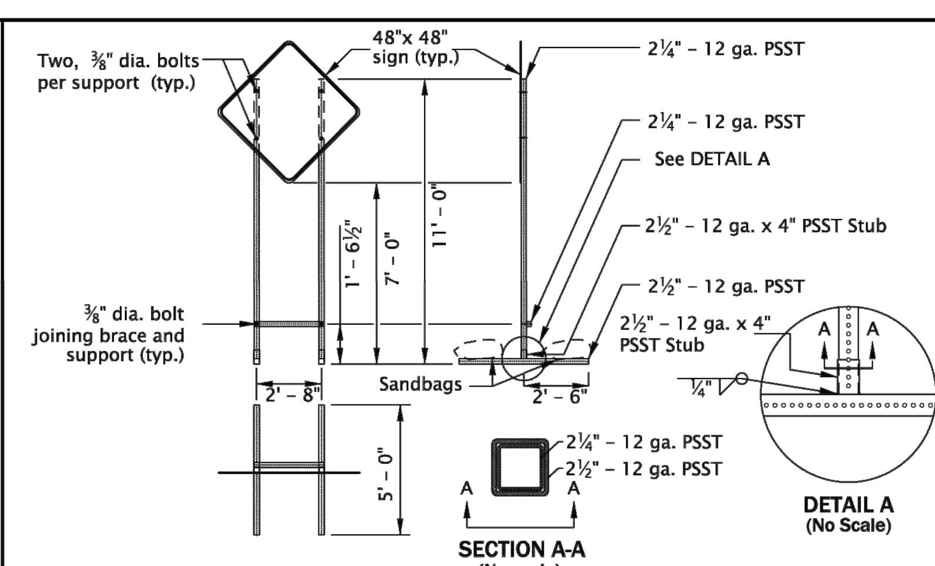
Effective Date: June 1, 2023 - November 30, 2023

01-JUL-2020 TM821.dgn



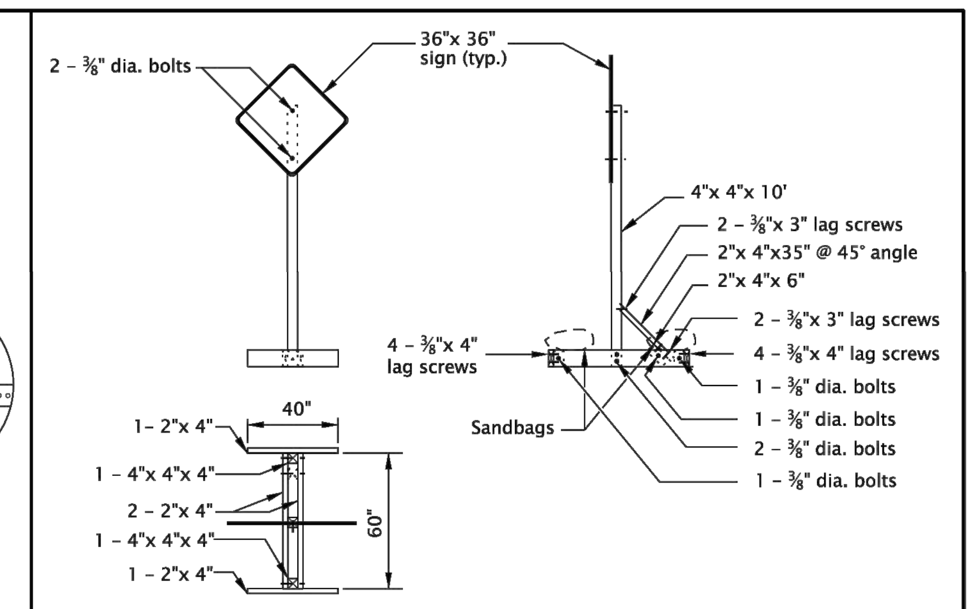
NOTES:
- Use Double Post TSS for a total sign area of 20 sq. ft. or less.

DOUBLE POST DETAIL



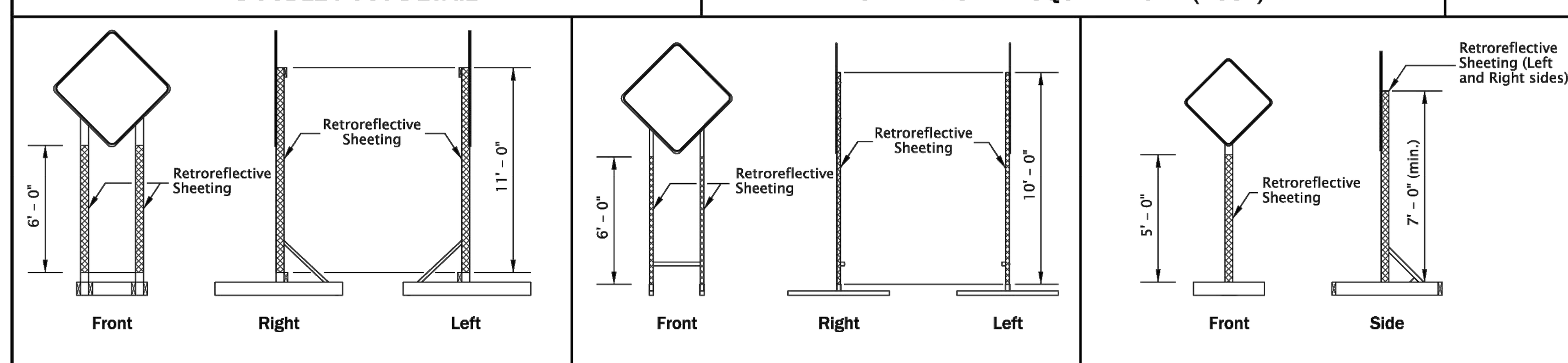
NOTES:
- Use PSST TSS's for a total sign area of 16 sq. ft. or less.
- All members shall have a minimum yield stress of 50 ksi.
- Galvanize steel according to ASTM A653 with coating designation G90. Remove Galvanizing from steel before welding. Repair Galvanizing according to ASTM A780.
- Use A325 Bolts or equivalent.
- *2¼" - 12 ga. PSST to extend entire length inside of the 2½" - 12 ga. x 4" PSST Stub.*
- *Do not use bolt to secure 2¼" PSST inside of the 2½" - 12 ga. x 4" PSST Stub.*
- *Weld steel according to American Welding Society (AWS) D.1.1.*

PERFORATED STEEL SQUARE TUBE (PSST) DETAIL



NOTES:
- Use Single Post TSS for a total sign area of 12 sq. ft. or less.
- Use Single Post TSS for mounting "Business Access" (CG20-11) signs. Do not mount signs on Type II or III Barricades.

SINGLE POST DETAIL



TEMPORARY SIGN SUPPORT GENERAL NOTES:
- Do not tip over TSS at any time.
- Do not locate TSS's in locations that block pedestrian or bicycle traffic.
- For wooden TSS's, use either Douglas Fir or Hem Fir, which is surfaced four sides (S4S) and free of heart center (FOHC).
- See "Temporary Sign Placement" detail on TM822 for sign installation heights.
- Do not place or stack ballast more than 24" above the ground.
- When sign is inconsistent with current work zone conditions, cover sign: or turn sign 90 degrees away from approaching traffic. Remove TSS from roadway when signing is not needed for more than 3 days.
- Place a minimum of 50 lbs of sandbags on each of the four TSS supports legs. (25 lb. max per bag) (min. 100 lbs per side of each TSS).
- See Dwg. No. TM204 for flag board mounting detail.

NOTES:
- Apply fluorescent orange, ANSI Type VIII or IX retroreflective sheeting to TSS posts, as shown, for all temporary signs, except "STOP" and "DO NOT ENTER". For "STOP" and "DO NOT ENTER" signs, used red ANSI Type III or IV retroreflective sheeting on the TSS posts.
- Apply sign post retroreflectivity to each TSS post facing front; and to the left and right sides of the TSS, as shown. Use 3" wide sheeting for wood post TSS's. Use 2" wide sheeting for PSST TSS's.
- Sheeting may be applied directly to post material; or applied to a rigid, lightweight substrate, then securely attached to the posts.

SIGN POST REFLECTIVE SHEETING PLACEMENT

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OREGON STANDARD DRAWINGS

TEMPORARY SIGN SUPPORTS

2021

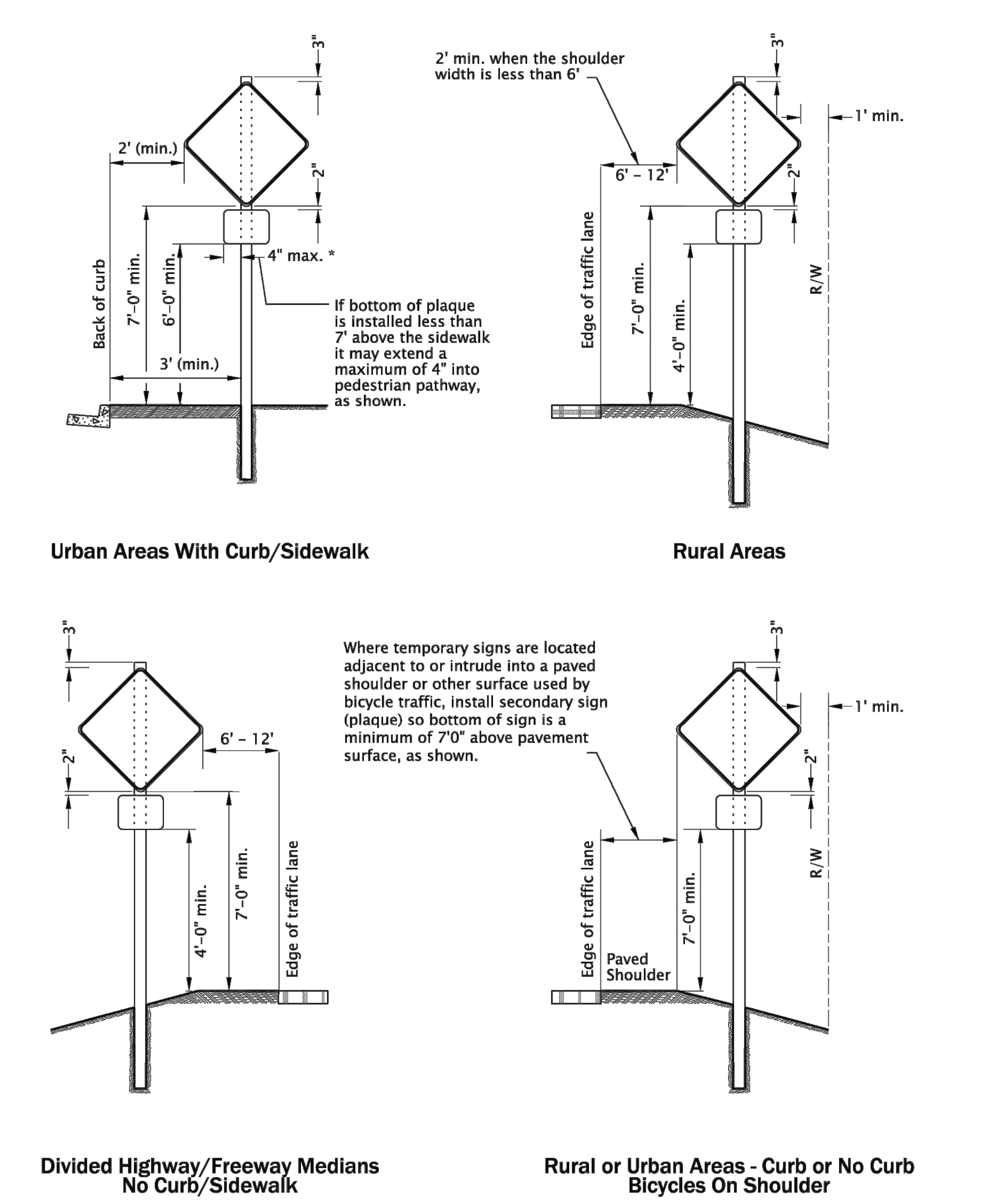
DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A SDR DATE. 01-JUL-2020 TM821

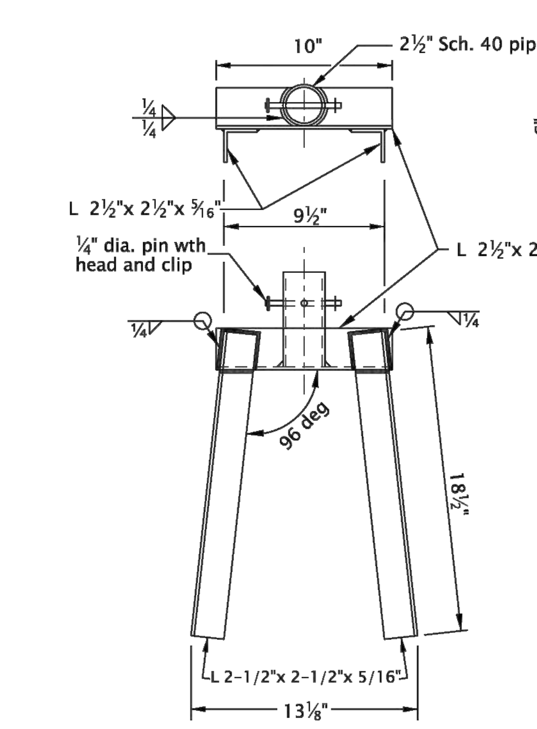
Effective Date: June 1, 2023 - November 30, 2023

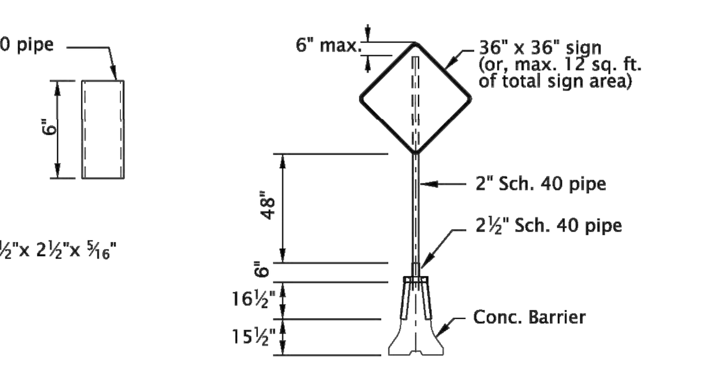
01-JUL-2020 TM822.dgn

NOTES:
- Do not block bicycle lanes, sidewalks, or TPAR's with sign supports. Maintain minimum widths for these facilities according TCP Design Manual, MUTCD, ADA, or as directed.
- To be accompanied by Dwg. Nos. TM670, TM671, TM687, TM688 & TM689.



TEMPORARY SIGN PLACEMENT





NOTES:
- Drill additional holes so sign can be rotated 90 degrees and pinned when not in use.
- All structural steel shall conform to ASTM A36.
- Support fits both 32" and 42" tall "F" barrier.
- Use for supporting a maximum 12 sq. ft. of total sign area.
- Place support at connection between two concrete barrier sections.
- Weld steel according to American Welding Society (AWS) D.1.1.
- Do not use clipped signs.
- Follow manufacturer recommendation when installing signs on barrier other than concrete.

CONCRETE BARRIER SIGN SUPPORT

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OREGON STANDARD DRAWINGS

TEMPORARY SIGN SUPPORTS

2021

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A SDR DATE. 01-JUL-2020 TM822

Effective Date: June 1, 2023 - November 30, 2023

811 Know what's **below.** **Call** before you dig.

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CAUTION UTILITY INFORMATION IS APPROXIMATE.
VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.

Revisions: #

LINE IS 1" ON FULL SCALE DRAWING

WINDSOR ENGINEERS

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MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231

Issue Date: 4/11/2025

DETAILS

Project Manager MRL
Drawn by DTT
Checked by TWT

C503

ISSUED FOR ENGINEERING PLANS - BID SET

20-JUL-2020

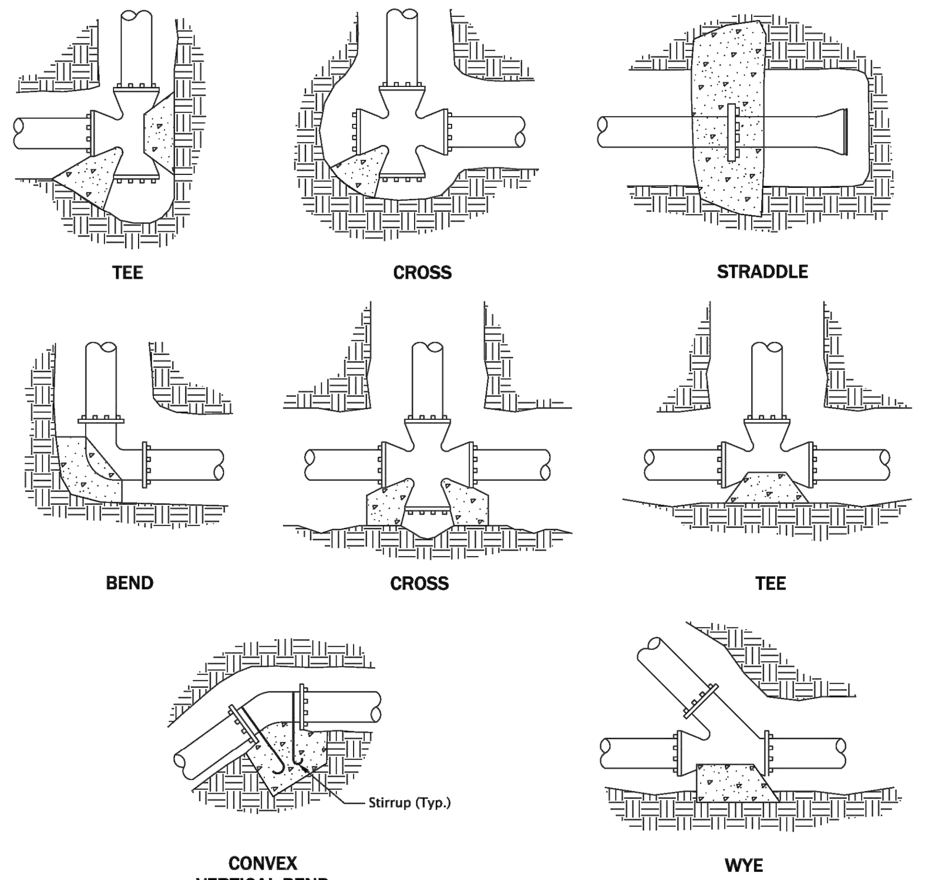
RD250.dgn

THRUST BLOCKING

TABLE A						
CONCRETE THRUST BLOCKING (HORIZONTAL)						
		Thrust (T) at fittings in Pounds				
		A	B	C	D	E
PIPE DIA.	Table Pressure PSI	Tee & Dead Ends	90 deg Bend	45 deg Bend	22.5 deg Bend	11.25 deg Bend
4"	250	3035	4320	2315	1215	610
6"	250	6860	9735	5215	2720	1375
8"	250	12185	17310	9265	4835	2430
10"	250	19045	27045	14480	7560	3800
12"	250	27405	38940	20840	10880	5465
14"	250	37320	53010	28370	14815	7445
16"	250	48740	69245	37050	19360	9735

TABLE B	
Soil Type	Soil Bearing Capacity (B) in PSF
Muck, peat, etc.	0
Soft Clay	1000
Sand	2000
Sand and gravel	3000
Sand and gravel cemented with clay	4000
Hard shale	10,000

TABLE C							
CONCRETE BLOCKING FOR CONVEX VERTICAL BENDS							
DIMENSION TABLE							
PIPE DIA. in.	Table Pressure PSI	Bend Angle (deg)	Concrete Volume (cy)	Cube Size (ft)	Stirrup Dia. (in)	Stirrup Embmt. (in)	Stirrup Bar #
4"	250	11.25	0.21	1.8	⅝	17	5
		22.5	0.43	2.3			
		45	0.77	2.8			
6"	250	11.25	0.48	2.4	⅝	17	5
		22.5	0.95	3.0			
		45	1.79	3.6			
8"	250	11.25	0.86	2.9	⅝	17	5
		22.5	1.65	3.5			
		45	3.22	4.4			
10"	250	11.25	1.39	3.3	⅝	17	5
		22.5	2.62	4.1			
		45	4.97	4.1			
12"	250	11.25	1.94	3.7	⅝	17	5
		22.5	3.91	4.7			
		45	6.89	5.7	⅞	24	7
14"	250	11.25	2.62	4.1	⅝	17	5
		22.5	5.26	5.2	¾	20	6
		45	9.70	6.4	1	27	8
16"	250	11.25	3.44	4.5	⅝	17	5
		22.5	6.89	5.7	⅞	24	7
		45	12.63	7.0	1⅛	30	9



THRUST BLOCK BEARING AREA EQUATION

NOTE: WHEN THRUST BLOCK BEARING AREA IS NOT SPECIFIED ON THE PLANS OR DETERMINED BY THE ENGINEER, USE THE FOLLOWING PROCEDURE TO DETERMINE REQUIRED BEARING AREA.

1. Determine thrust (T) for type of fitting or joint and size of pipe from Table A.
2. Determine Design (Test) Pressure from Standard Specifications or Special Provisions.
3. Determine Table Pressure from Table A.
4. Determine Soil Bearing Capacity (B) of soil from Table B.
5. Determine required bearing area (A) in sq. ft. as follows:

$$\text{Thrust Block Bearing Area} = A = \left(\frac{T}{B}\right)\left(\frac{\text{Design (Test) Pressure}}{\text{Table Pressure}}\right)$$

Example: Design (Test) Pressure = 150 PSI; Pipe = 14"; Fitting = Tee; Soil = Sand

From Table A, T = 37320; From Table B, B = 2000

$$A = \left(\frac{37320}{2000}\right)\left(\frac{150}{250}\right) = 11.2 \text{ sq.ft.}$$

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Contractor to provide blocking adequate to withstand full test pressure.
2. Pour concrete blocking against undisturbed earth.
3. All concrete shall be commercial grade concrete.
4. Wrap pipe and/or fittings with 2 layers of polyethylene film where in contact with concrete
5. Keep concrete clear of all joints and accessories.
6. Stirrups shall be deformed galvanized cold rolled steel AASHTO M31 (ASTM A615), Grade 60. Coat with coal tar epoxy after installation.
7. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

THRUST BLOCKING

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A — SDR DATE 25-JUL-2017 — RD250

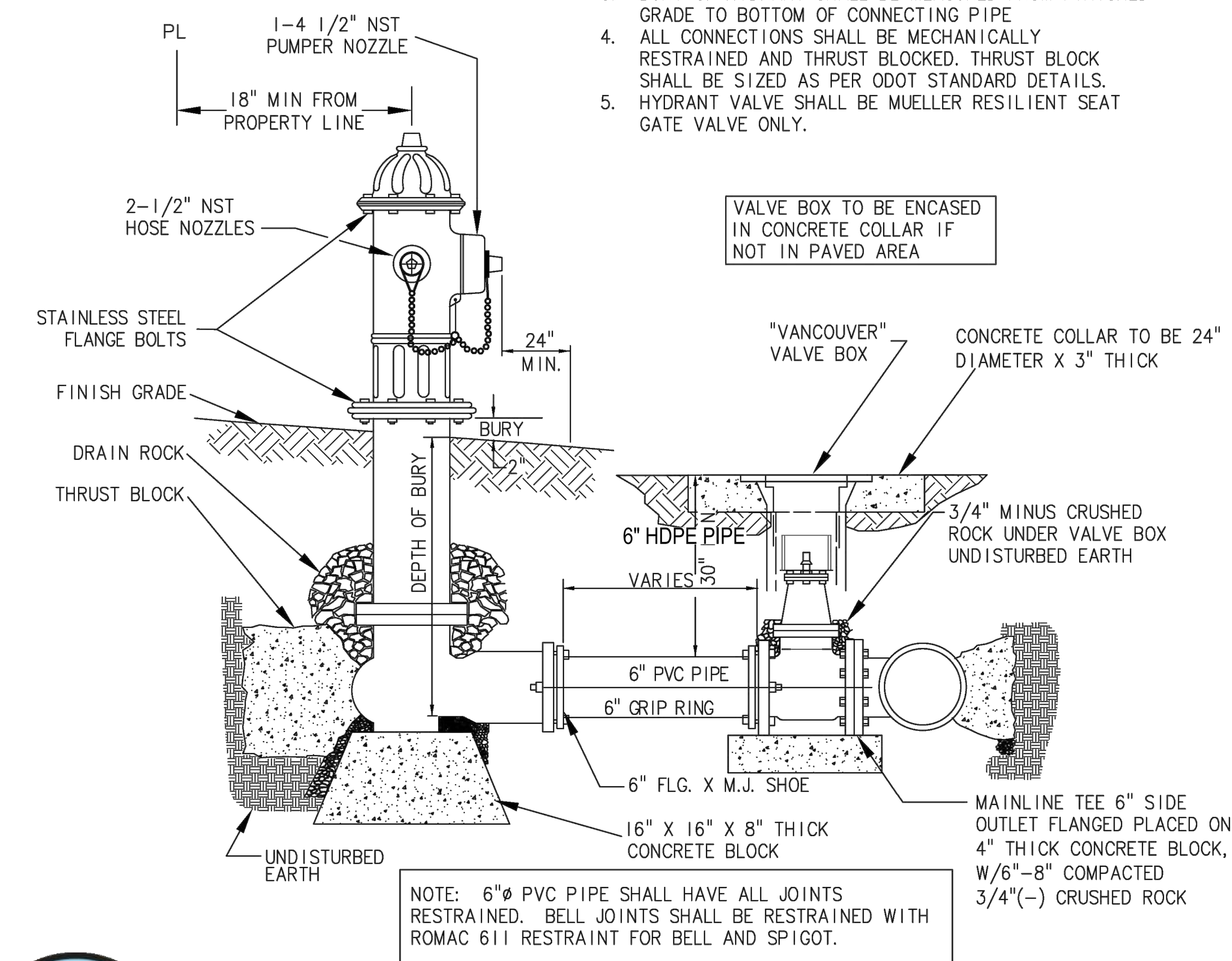
Effective Date: December 1, 2024 - May 31, 2025

1 THRUST BLOCKING
SCALE: NTS

A. HYDRANTS TO BE MUELLER 5 1/4" MVO SUPER CENTURION (YELLOW) 250

B. JOINTS TO BE RESTRAINED BY GRIPS RING GASKETS OR BY USING FLANGE HYDRANT SHOE, GATE VALVE AND SPOOL.

1. ALL FITTINGS IN CONTACT W/CONCRETE SHALL BE WRAPPED IN PLASTIC. HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
2. 1 1/2" - 3/4" CLEAN DRAIN ROCK SHALL BE PLACED A MIN. OF 6" ABOVE DRAIN OUTLET.
3. BURY OF HYDRANT SHALL BE MEASURED FROM FINISHED GRADE TO BOTTOM OF CONNECTING PIPE
4. ALL CONNECTIONS SHALL BE MECHANICALLY RESTRAINED AND THRUST BLOCKED. THRUST BLOCK SHALL BE SIZED AS PER ODOT STANDARD DETAILS.
5. HYDRANT VALVE SHALL BE MUELLER RESILIENT SEAT GATE VALVE ONLY.



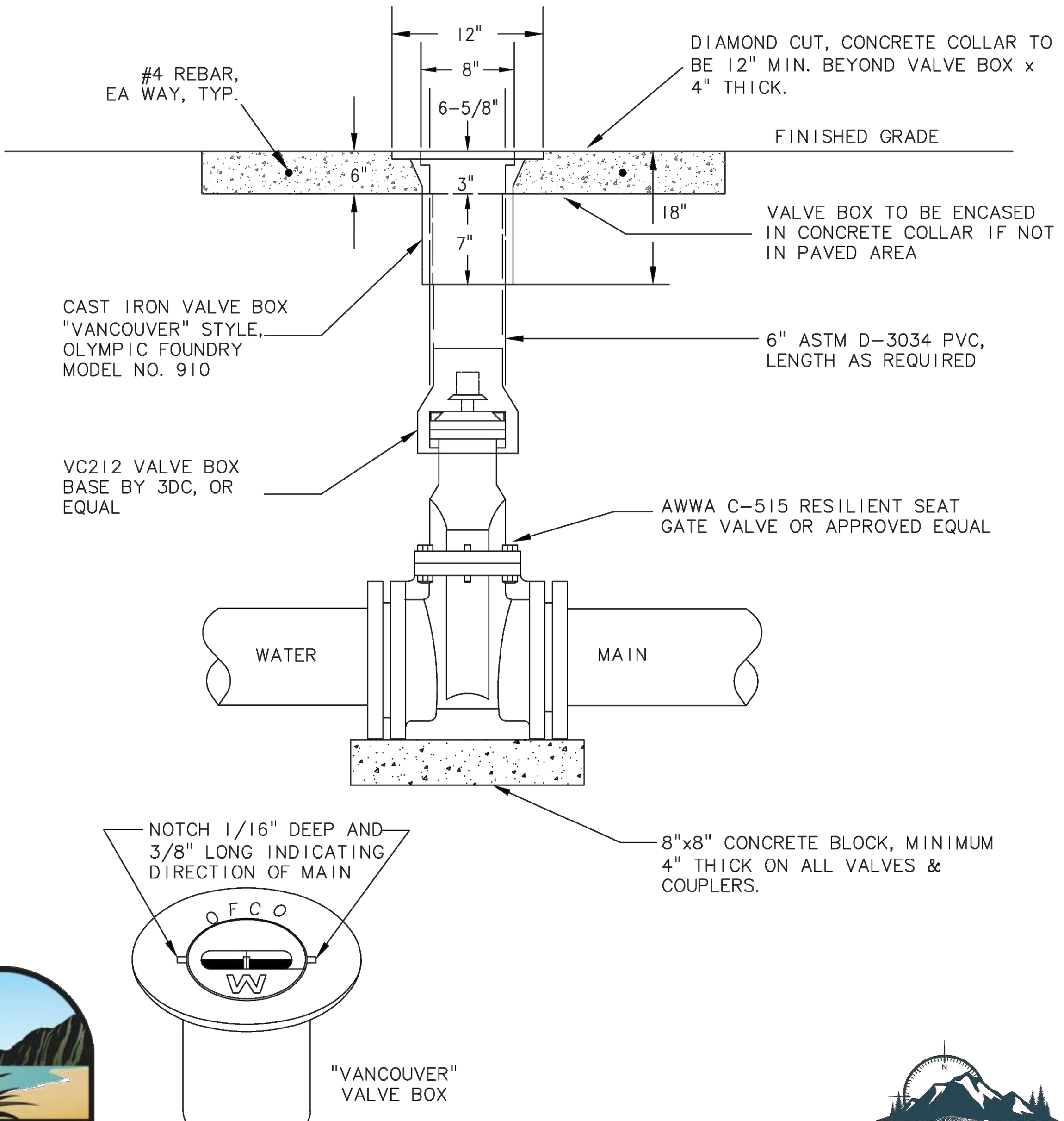
NOTE: 6"ø PVC PIPE SHALL HAVE ALL JOINTS RESTRAINED. BELL JOINTS SHALL BE RESTRAINED WITH ROMAC 611 RESTRAINT FOR BELL AND SPIGOT.

CITY OF MANZANITA, OREGON — NORTH COAST CIVIL DESIGN

DRAWN	KKA	CITY OF MANZANITA STANDARD CONSTRUCTION DRAWINGS	SCALE	N.T.S.
ENGR.	NC CIVIL		DATE	MARCH 2024
REV. DATE APPR.		FIRE HYDRANT DETAIL	APPR.	D.WEITZEL - PWD
			DWG.	FIRE HYDRANT DETAIL

2 FIRE HYDRANT
SCALE: NTS

1. CRUSHED ROCK BASE AND BACKFILL SHALL BE COMPACTED WITH VIBRATORY PLATE AND INSPECTED BY THE ENGINEER PRIOR TO FINAL PAVING. VALVE BOXES PLACED BELOW ADJACENT FINISH GRADE WILL NOT BE ACCEPTED.
2. VALVE BOXES SHALL BE PLUMB & CENTERED DIRECTLY OVER THE VALVE NUT IN A VERTICAL POSITION.



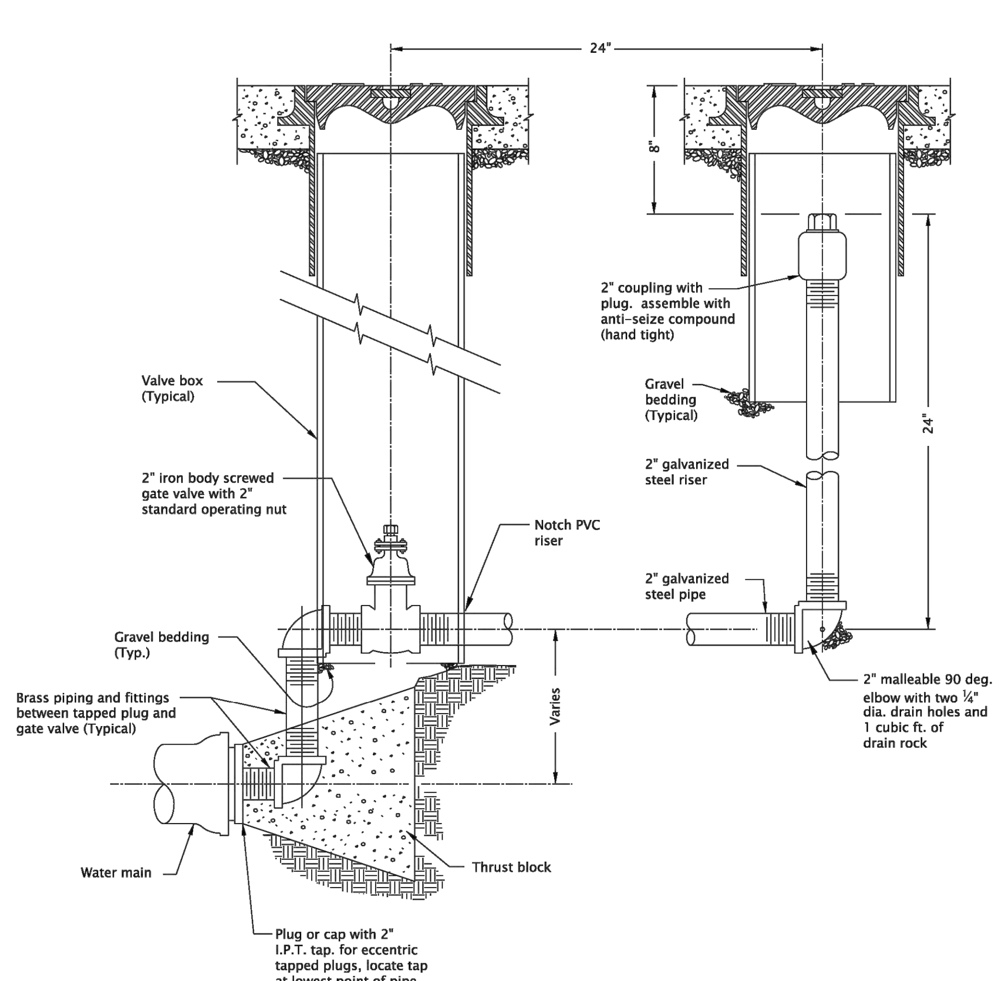
CITY OF MANZANITA, OREGON — NORTH COAST CIVIL DESIGN

DRAWN	KA	CITY OF MANZANITA STANDARD CONSTRUCTION DRAWINGS	SCALE	N.T.S.
ENGR.	NC CIVIL		DATE	MARCH 2024
REV. DATE APPR.		WATER VALVE DETAIL	APPR.	D.WEITZEL - PWD
			DWG.	WATER VALVE DETAIL

3 VALVE BOX AND OPERATOR
SCALE: NTS

20-JUL-2020

RD262.dgn



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Wrap main and fittings in thrust block zone with two layers of polyethylene film to facilitate future removal.
2. In lieu of concrete thrust block, restrain pipe or pour concrete straddle block.
3. See project plans for details not shown.

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OREGON STANDARD DRAWINGS

TYPICAL MAIN DEAD-END BLOWOFF ASSEMBLY

2024

DATE	REVISION DESCRIPTION

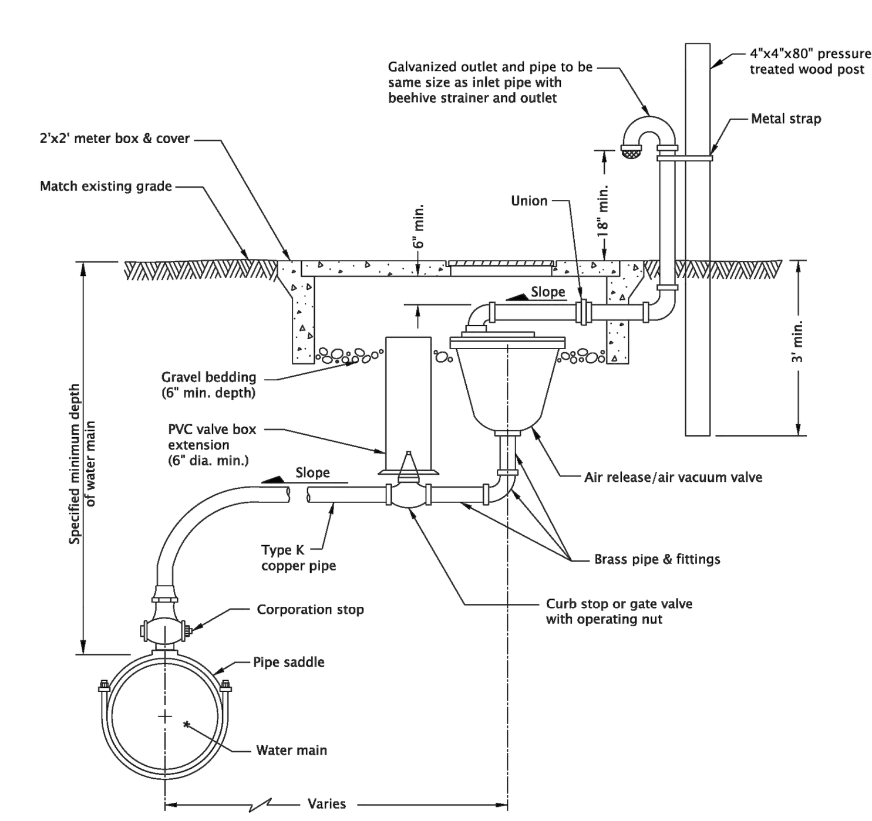
CALC. BOOK NO. N/A — SDR DATE 25-JUL-2017 — RD262

Effective Date: December 1, 2024 - May 31, 2025

4 BLOW OFF ASSEMBLY
SCALE: NTS

20-JUL-2020

RD270.dgn



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Air release/air vacuum valve shall be size specified in Contract. Piping and valves to be same size as combination air release/air vacuum valve.
2. Locate at high point of main.
3. Tap top of main.
4. Provide insulation and additional depth when specified for freeze protection.
5. See project plans for details not shown.

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OREGON STANDARD DRAWINGS

COMBINATION AIR RELEASE AIR VACUUM VALVE ASSEMBLY (2" AND SMALLER)

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. N/A — SDR DATE 25-JUL-2017 — RD270

Effective Date: December 1, 2024 - May 31, 2025

5 COMB AIR RELEASE/VACUUM
SCALE: NTS

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Revisions: #

LINE IS 1" ON FULL SCALE DRAWING

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MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231

Issue Date: 4/11/2025

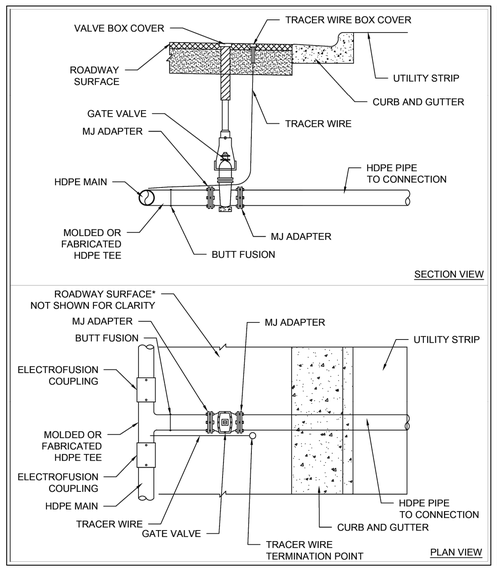
Project Manager MRL
Drawn by DTT
Checked by TWT

WATER STANDARD DETAILS (ODOT)

C504

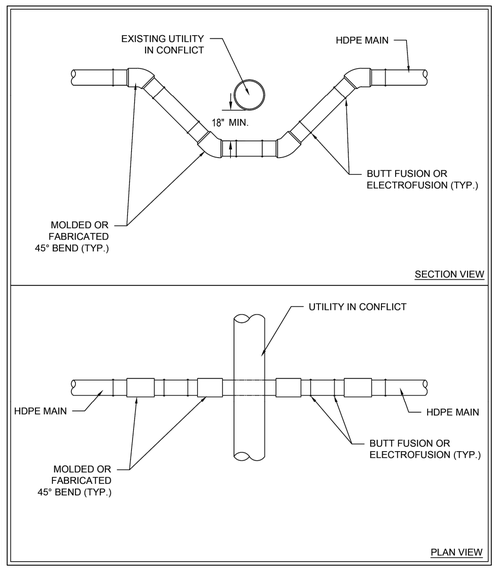
ISSUED FOR ENGINEERING PLANS - BID SET

PLOT DATE: 4/15/2025 10:10 AM - FILE: C:\Users\TrextWren\DC\ACCDocs\Windsor Engineers\24231 Manzanita Classic Street\Project Files\Infrastructure\Xrefs\24231_DET_WATR.dwg



1 MECHANICAL CONNECTION TO GATE VALVE

SCALE: NTS



2 UTILITY CONFLICT FUSION TO HDPE FITTINGS

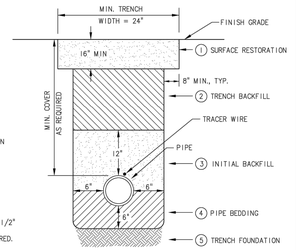
SCALE: NTS

NOTES:
* ALL DIMENSIONS SHOWN ARE MINIMUM AND RELATIVE TO OUTSIDE OF PIPE BELL.

* MINIMUM COVER:
WATER MAIN = 30"
WATER SERVICE = 24"

TRENCH MATERIAL:

1. 4" MIN. ASPHALT SURFACE RESTORATION OVER 12" MIN. THICKNESS $\frac{3}{4}$"-0" COMPACTED CRUSHED ROCK.
2. COMPACTED NATIVE SAND.
3. COMPACTED NATIVE SAND.
4. $\frac{3}{4}$"-0" COMPACTED CRUSHED ROCK.*
5. UNDISTURBED NATIVE MATERIAL OR 1-1/2" MINUS CRUSHED ROCK IF TRENCH FOUNDATION STABILIZATION IS REQUIRED.



* FOR PIPES 4"ø AND SMALLER, CLEAN NATIVE SAND MAY BE USED FOR PIPE BEDDING AT THE DISCRETION OF THE CITY OF MANZANITA PUBLIC WORKS DEPARTMENT.

CITY OF MANZANITA, OREGON

CITY OF MANZANITA
STANDARD CONSTRUCTION DRAWINGS

PIPE TRENCHING DETAIL

DRAWN	KKA	SCALE	N.T.S.
ENGR.	NC CIVIL	DATE	MARCH 2024
REV.	DATE	APPR.	APPR. D.WEITZEL - PWD
			DWG. PIPE TRENCH DETAIL

NORTH COAST CIVIL DESIGN

3 PIPE TRENCHING DETAIL

SCALE: NTS

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Revisions:

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REGISTERED PROFESSIONAL ENGINEER
60259PE
OREGON
MARCH 9, 1999
TRAVIS W TORMANEN
Expires: 6/30/2026

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

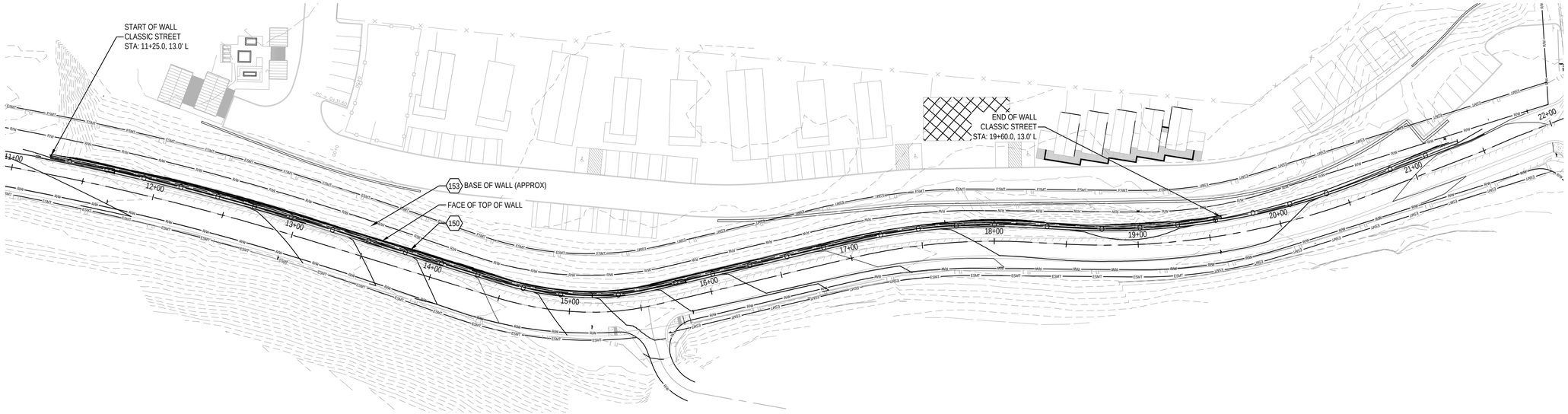
Project No: 24231
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

HDPE DETAILS

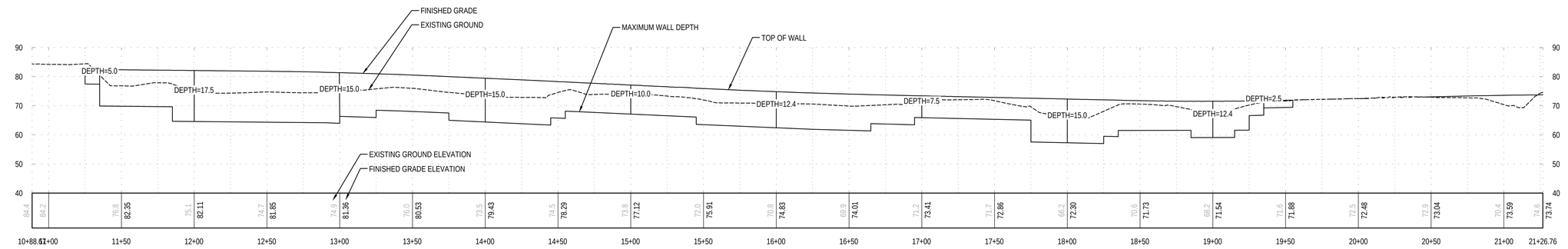
C505

ISSUED FOR ENGINEERING PLANS - BID SET



1 PLAN

SCALE: 1" = 40'

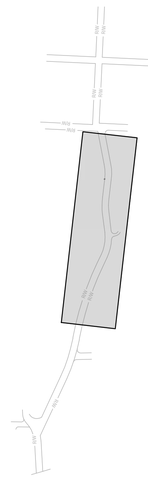


2 PROFILE

SCALE: HORIZONTAL: 1" = 40' VERTICAL: 1" = 20'

KEYNOTES

101	REMOVE AND REINSTALL EXISTING SIGNS
102	PROTECT STEEP SLOPES FROM CONSTRUCTION ACTIVITIES
103	EXISTING WATER MAIN
104	REMOVAL OF PAVEMENT, AC/PCC
105	2" COLD PLAN PAVEMENT REMOVAL AND LEVEL 2-3/8 INCH ACP OVERLAY- PER DETAIL 6/C100
106	EXST WATER LINES, VALVES, AND METERS TO BE REMOVED
107	ASPHALT PAVEMENT SAW CUTTING (FULL DEPTH)
108	REMOVAL OF CURB
109	REMOVAL OF PIPE (STORM SEWER)
110	REMOVAL OF STRUCTURE (STORM SEWER)
111	REMOVE OR PLUG FILL AND ABANDON EXISTING WATER MAIN
112	VERIFY 3' MIN COVER OVER EXISTING WATER MAIN. IF COVER IS UNDER 3' REMOVE AND REPLACE IN KIND
113	COORDINATE WITH UTILITY COMPANY TO RELOCATE TELEPHONE PEDESTAL
114	CLEARING AND GRUBBING. MINIMIZE AREA TO WITHIN CONSTRUCTION LIMITS
115	GRADE TO ELIMINATE BASIN. GRADE TO FLOW TO EXST OUTLET PIPES
150	RETAINING WALL TO BE DESIGNED BY CONTRACTOR. SEE SHEET C600
151	GRADE ROAD AND PATH TO AVOID ANY UPSLOPE EXCAVATION
152	EXISTING RETAINING WALL. AVOID EXCAVATION ALONG WALL- FILL IS ACCEPTABLE
153	EMBEDMENT AND BOTTOM FACE OF WALL VARIES WITH WALL HEIGHT PER GEOTECH
154	TOP SURFACE OF PROPOSED ROAD AT DEVELOPMENT
155	INSTALL MIN 4' CHAIN LINK FENCE ALONG TOP OF RETAINING WALL
156	INSTALL W-BEAM GUARDRAIL TYPE 2A PER DETAILS 3 & 4/C501
160	KEEP ALL CONSTRUCTION ACTIVITIES WITHIN CITY ROW
200	INSTALL STOP AND STREET SIGNS PER DETAIL 5/C500 (BY CITY)
201	INSTALL SPEED RADAR SIGN PER DETAIL 8/C500 (BY CITY)
202	INSTALL 3-CUSHION SPEED BUMP WITH STRIPING PER DETAIL 1,2/C501
203	INSTALL CROSSWALK STRIPING PER DETAIL 5/C502
204	INSTALL TYPE A-1 CURB AND GUTTER PER DETAIL 1/C500
205	INSTALL ROLLED CURB AND GUTTER PER DETAIL 1/C500
206	INSTALL 18" VALLEY GUTTER PER DETAIL 4/C500
400	MINOR ADJUSTMENT OF MANHOLES (SANITARY SEWER TO FINISH GRADE)
500	INSTALL WATER MAIN WITH 3' MINIMUM COVER
501	INSTALL WATER ASSEMBLY. THRUST BLOCKS REQUIRED AT BENDS, TEES, AND TRANSITIONS
502	CONNECT TO EXISTING WATER MAIN PIPE
503	CONNECT TO EXISTING WATER MAIN FITTING
504	INSTALL BENDS OR DEFLECT AS NEEDED PER MANUFACTURER'S RECOMMENDATIONS
505	INSTALL CARV PER DETAIL 5/C506
506	INSTALL HYDRANT ASSEMBLY PER DETAIL
507	CAP EXISTING PIPE TEE AND ADD THRUST BLOCK
508	PROVIDE 18" SEPARATION BETWEEN WATER AND STORM OR SANITARY PIPE. SEE DETAIL 2/C505



KEY MAP

SCALE: NTS

N

ISSUED FOR ENGINEERING PLANS - BID SET

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Revisions:

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Expires: 6/30/2026

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167 SOUTH 5TH STREET
MANZANITA, OREGON 97130

ENGINEERING PLANS - BID SET

Project No: 24231

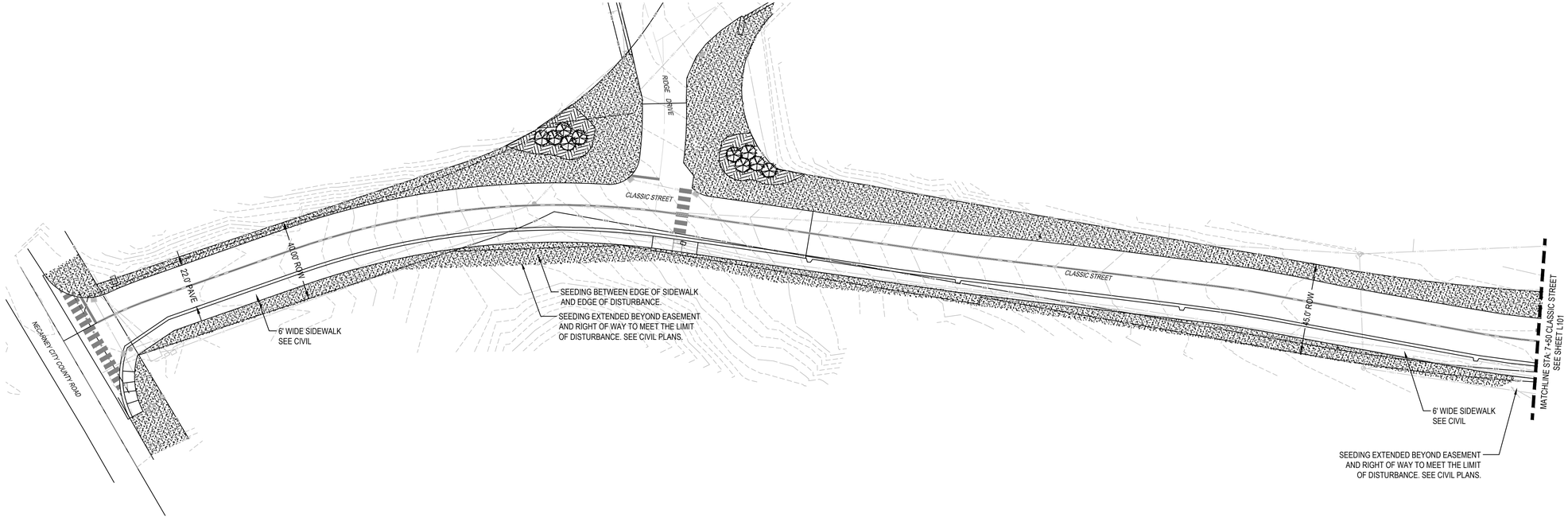
Issue Date: 4/11/2025

Project Manager MRL
Drawn by DTT
Checked by TWT

RETAINING WALL PLAN

C600

PLOT DATE: 4/15/2025 11:27 AM - FILE: C:\Users\Thad\Work\DCIA\CDocs\Windsor Engineers\24231 Manzanita Classic Street\Project Files\Infrastructure\Final Sheets\24231_WALL_P&P.dwg



PLAN

SCALE: 1" = 30'

0 30' 60'

N

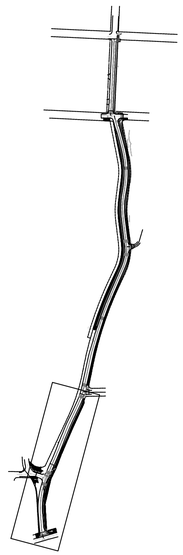
PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
TREES					
	PIN CO5	PINUS CONTORTA CONTORTA / SHORE PINE	6` HT.		17
SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
GROUND COVERS					
	ARC VAN	ARCTOSTAPHYLOS UVA-URSI 'VANCOUVER JADE' / VANCOUVER JADE KINNIKINNICK	1 GAL.	24" o.c.	291
	FIN 22E	COAST RANGE ECO-REGEN / GRASS SEED MIXTURE FOR MAINTENANCE USE*	SEED		33,193 SF
	GAU SHA	GAULTHERIA SHALLON / SALAL	1 GAL.	36" o.c.	449
	PAN SHD	PANICUM VIRGATUM `SHENANDOAH` / SHENANDOAH SWITCH GRASS	1 GAL.	24" o.c.	1,067
	SCH PRA	SCHIZACHYRIUM SCOPARIUM `PRAIRIE BLUES` / PRAIRIE BLUES LITTLE BLUESTEM	1 GAL.	18" o.c.	357

*GRASS SEED MIXTURE FOR MAINTENANCE USE
OREGON COAST RANGE (CR) ECO-REGON
ELEVATION RANGE: 450-750 METERS (1200 M PEAKS): MOISTURE RANGE: 65-100+CM./YEAR

SPECIES (SCI NAME)	SPECIES (COMMON NAME)	NATIVE HABIT (Y/N)	NOXIOUS (Y/N)	WILDLIFE VALUE (COVER FORAGE)	MATURE HEIGHT (CM)	LIFE CYCLE	PURE LIVE SEEDS/m2	SEEDING RATE GRAMS PLS/HA	SEEDING RATE LBS. PLS/ACRE
FESTUCA RUBRA	RED FESCUE	Y	N	C/F	30-60	P	125	1298	1.15(45.8 OZ)
ELYMUS GLAUCUS	WILD RYE	Y	N	C/F	60+	P	125	4730	4.22(16.7 OZ)
BROMUS CARINATUS	CALIFORNIA BROME	Y	N	C	30-60	P	75	5325	4.75(188OZ)
AGROSTIS EXARATA	SPIKE GRASS	Y	N	C	30-50	P	100	113	0.10(4.0OZ)
GLYCERIA OCCIDENTALIS	MANNAGRASS	Y	N	C/F	30-60	P	75	1332	1.2(47.0OZ)
							500 SEEDS/m2 COVERAGE	12,800 GRAMS PLS/ha	11.4 LBS PLS/AC

NOMENCLATURE USE FOR SPECIES IS CONSISTENT WITH HITCHCOCK AND CRANQUIST 1973 AND/OR NAME USED IN SEED CATELOGUES
RECOMMENDED SEEDING RATE: 12.8KG/KA (11.4 LBS/ACRE)



KEY MAP

SCALE: NTS

N

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Revisions:

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REGISTERED 1067 Juanita Rogers OREGON 03/31/25 LANDSCAPE ARCHITECT

MacKay Sposito
ENERGY PUBLIC WORKS LAND DEVELOPMENT
www.mackaysposito.com

MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANAZANITA, OREGON 97130

LANDSCAPE PLANS - 100%
Project No: 24231
Issue Date: 3/13/2025

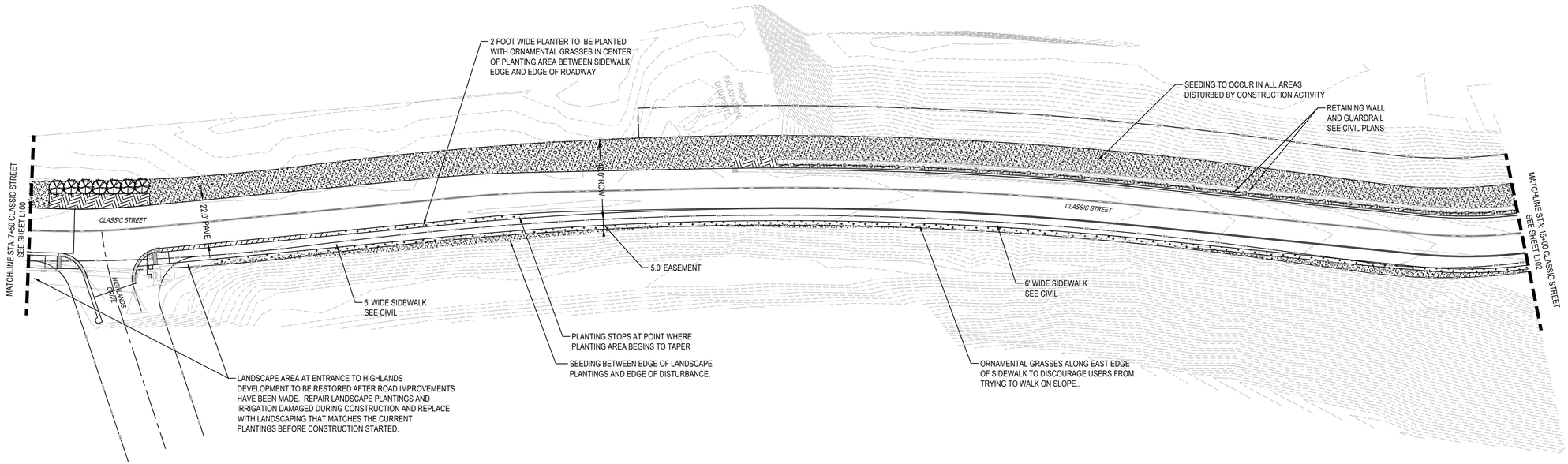
Project Manager JR
Drawn by EJC
Checked by EM

LANDSCAPE PLANTING PLAN

L100

ISSUED FOR LANDSCAPING PLANS - 100%

PLOT DATE: 3/14/2025 9:57 AM - FILE: W16730 Manzanita Classic Street ROW Improvements\500 Design\502 Drawings\Sheets\16730-Landscape Sheets.dwg



PLAN

SCALE: 1" = 30'

0 30' 60'

N

PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
TREES					
	PIN CO5	PINUS CONTORTA CONTORTA / SHORE PINE	6` HT.		17
SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
GROUND COVERS					
	ARC VAN	ARCTOSTAPHYLOS UVA-URSI 'VANCOUVER JADE' / VANCOUVER JADE KINNIKINNICK	1 GAL.	24" o.c.	291
	FIN 22E	COAST RANGE ECO-REGEN / GRASS SEED MIXTURE FOR MAINTENANCE USE*	SEED		33,193 SF
	GAU SHA	GAULTHERIA SHALLON / SALAL	1 GAL.	36" o.c.	449
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*GRASS SEED MIXTURE FOR MAINTENANCE USE
OREGON COAST RANGE (CR) ECO-REGON
ELEVATION RANGE: 450-750 METERS (1200 M PEAKS): MOISTURE RANGE: 65-100+CM./YEAR

SPECIES (SCI NAME)	SPECIES (COMMON NAME)	NATIVE HABIT (Y/N)	NOXIOUS (Y/N)	WILDLIFE VALUE (COVER FORAGE)	MATURE HEIGHT (CM)	LIFE CYCLE	PURE LIVE SEEDS/m2	SEEDING RATE GRAMS PLS/HA	SEEDING RATE LBS. PLS/ACRE
FESTUCA RUBRA	RED FESCUE	Y	N	C/F	30-60	P	125	1298	1.15(45.8 OZ)
ELYMUS GLAUCUS	WILD RYE	Y	N	C/F	60+	P	125	4730	4.22(16.7 OZ)
BROMUS CARINATUS	CALIFORNIA BROME	Y	N	C	30-60	P	75	5325	4.75(188OZ)
AGROSTIS EXARATA	SPIKE GRASS	Y	N	C	30-50	P	100	113	0.10(4.0OZ)
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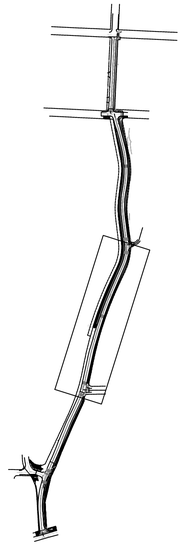

KEY MAP

SCALE: NTS

N

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Revisions:

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MANZANITA CLASSIC STREET
167 SOUTH 5TH STREET
MANAZANITA, OREGON 97130

LANDSCAPE PLANS - 100%
Project No: 24231
Issue Date: 3/13/2025

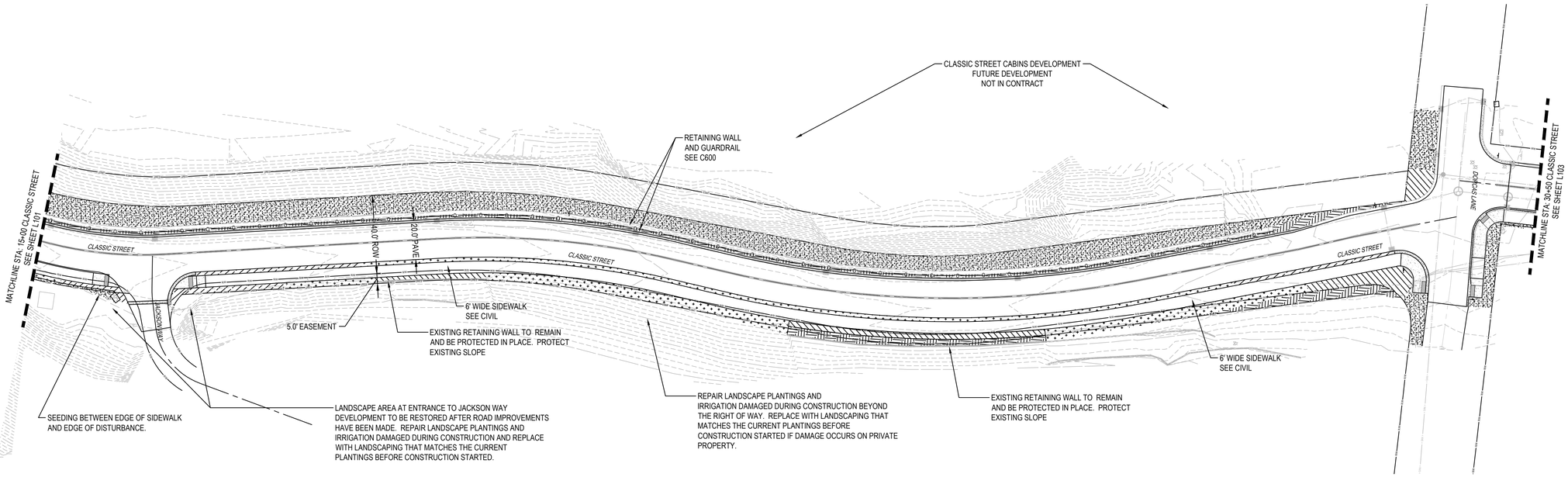
Project Manager JR
Drawn by EJC
Checked by EM

LANDSCAPE PLANTING PLAN

L101

ISSUED FOR LANDSCAPING PLANS - 100%

PLOT DATE: 3/14/2025 9:57 AM - FILE: W16730 Manzanita Classic Street ROW Improvements\500 Design\502 Drawings\Sheets\16730-Landscape Sheets.dwg



PLAN

SCALE: 1" = 30'

0 30' 60'

N

PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME	SIZE	SPACING	QTY
TREES					
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BROMUS CARINATUS	CALIFORNIA BROME	Y	N	C	30-60	P	75	5325	4.75(188OZ)
AGROSTIS EXARATA	SPIKE GRASS	Y	N	C	30-50	P	100	113	0.10(4.0OZ)
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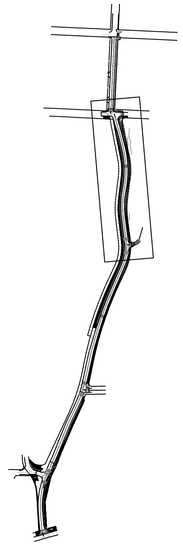

KEY MAP

SCALE: NTS

N

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Revisions:

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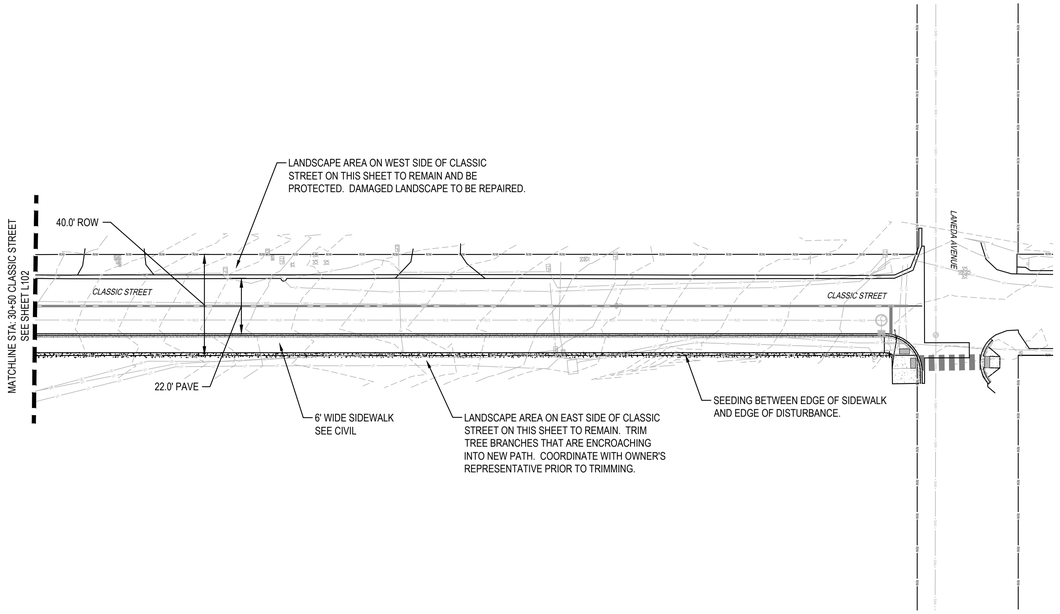
LANDSCAPE PLANS - 100%
Project No: 24231
Issue Date: 3/13/2025

Project Manager JR
Drawn by EJC
Checked by EM

LANDSCAPE PLANTING PLAN

L102

ISSUED FOR LANDSCAPING PLANS - 100%



PLAN
SCALE: 1" = 30'

0 60' 120'

N

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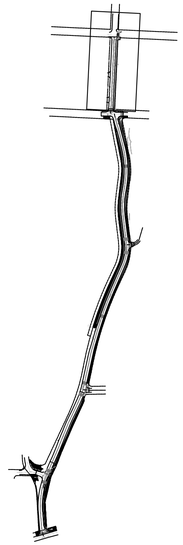

KEY MAP
SCALE: NTS

N

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LANDSCAPE PLANS - 100%
Project No: 24231
Issue Date: 3/13/2025

Project Manager JR
Drawn by EJC
Checked by EM

LANDSCAPE PLANTING PLAN

L103

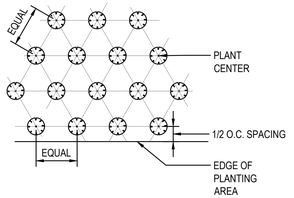
PLOT DATE: 3/14/2025 9:57 AM - FILE: W16730 Manzanita Classic Street ROW Improvements\500 Design\502 Drawings\Sheets\16730-Landscape Sheets.dwg

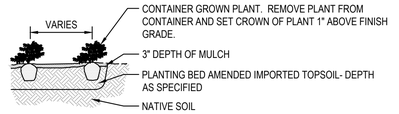
PLANTING NOTES

GENERAL:

1. THE LANDSCAPE CONTRACTOR SHALL THOROUGHLY REVIEW THE SITE. IF THERE ARE ANY DISCREPANCIES BETWEEN THE PLAN AND THE EXISTING CONDITIONS THE CITY OF MANZANITA IS TO BE NOTIFIED IMMEDIATELY.
2. IF THE LANDSCAPE CONTRACTOR STARTS WORK BEFORE SITE CONDITIONS ARE READY OR CONTINUES WORK IN ADVERSE CONDITIONS WITHOUT PRIOR APPROVAL THEY WILL BE RESPONSIBLE FOR ANY ADDITIONAL COSTS RELATING TO THE CONDITION.
3. LANDSCAPE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CITY CONCERNING ANY CONDITION AT ANY TIME DURING CONSTRUCTION THAT IS DETRIMENTAL TO THE HEALTH AND VIGOROUS GROWTH OF THE SPECIFIED PLANT MATERIAL.
4. PROVIDE QUANTITY OF PLANT MATERIAL INDICATED IN PLANT LIST OR THE QUANTITY REQUIRED TO COVER AREAS INDICATED AT SPECIFIED SPACING, WHICHEVER IS GREATER.
5. THE PLANT MATERIAL SHALL BE OF HIGH GRADE, AND SHALL MEET THE QUALITY AND SIZE STANDARDS OF THE AMERICAN NURSERY STANDARDS FOR NURSERY STOCK (ANSI Z60, 1)
6. TREES SHALL NOT BE PLANTED CLOSER THAN 5' FROM THE FACE OF THE CURB AND 2' FROM ANY PERMANENT HARD SURFACE PAVING OR WALKWAY. SPECIFIC LOCATION OF TREES PLANTED IN CLOSE PROXIMITY TO PROPOSED RETAINING WALLS TO BE APPROVED BY CITY PRIOR TO INSTALLATION.
7. THE LANDSCAPE CONTRACTOR SHALL STAKE TREE LOCATIONS AND OBTAIN APPROVAL BY THE CITY PRIOR TO INSTALLATION.
8. TREES, SHRUBS, PERENNIALS, GRASSES, AND GROUNDCOVER SHALL BE LOCATED AND SPACED AS SHOWN ON PLANS AND PER DETAILS.
9. A 3" LAYER OF BARK MULCH OVER A 3" LAYER OF COMPOST SHALL BE APPLIED TO ALL EXPOSED SOIL SURFACES WITHIN THE SHRUB PLANTING AREAS. COMPOST SHALL BE BLENDED WITH TOPSOIL. MULCH SHALL BE KEPT 3" CLEAR OF THE TRUNK AND/OR BARK OF ALL WOODY PLANTS.
10. PROVIDE STANDARD, COMMERCIALLY PRODUCED, MEDIUM–COARSE, DARK BROWN BARK MULCH. MULCH TO BE GROUND FIR OR HEMLOCK BARK OF UNIFORM COLOR, FREE FROM WEEDS, SEED, SAWDUST, AND SPLINTERS AND SHALL NOT CONTAIN RESIN, TANNIN, OR OTHER COMPOUNDS DETRIMENTAL TO PLANT LIFE. ALL MATERIAL SHALL PASS A 2–INCH MESH SCREEN.
11. SOIL IN ALL PLANTING AREAS TO BE AMENDED WITH AN ORGANIC OR SLOW–RELEASE FERTILIZER.
12. LEAVE PLANT NAME IDENTIFICATION TAGS ON TEN PERCENT OF ALL TREES AND SHRUBS INSTALLED TO AID INSPECTORS IN VERIFYING THAT SPECIFIED PLANTS HAVE BEEN INSTALLED.
13. WHERE PLANT BED SLOPE IS LESS THAN 3%, MOUND PLANTING BED AREA 3% MINIMUM FOR POSITIVE DRAINAGE.
14. SEE SPECIFICATIONS FOR FINAL INSPECTION, MAINTENANCE, AND WARRANTY REQUIREMENTS UNIQUE TO THIS PROJECT AND ADDITIONAL LANDSCAPE CONSTRUCTION REQUIREMENTS.
15. EXISTING TREES ON SITE TO BE PROTECTED AND PRESERVED. NOTIFY CITY OF DAMAGE OR POTENTIAL DAMAGE TO EXISTING TREES OR THE ROOT ZONE OF EXISTING TREES PRIOR TO CONSTRUCTION.

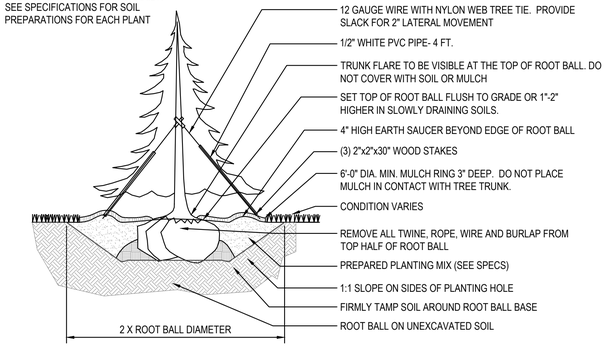
NOTE:
1. LOCATE GROUNDCOVER ONE HALF OF SPECIFIED SPACING DISTANCE FROM ANY CURB, SIDEWALK, OR OTHER HARD SURFACE, UNLESS OTHERWISE SPECIFIED
2. ALL GROUNDCOVER SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING PER ON CENTER SPACING AS SPECIFIED ON PLANTING PLAN
3. SEE SPECIFICATIONS FOR SOIL PREPARATIONS FOR EACH PLANT.



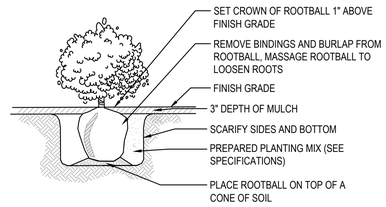


1 GROUNDCOVER PLANTING
SCALE: NTS

NOTE:
1. TREES TO BE WATERED USING WATERING BAGS ON EACH TREE TEMPORARILY.
2. SEE SPECIFICATIONS FOR SOIL PREPARATIONS FOR EACH PLANT



2 EVERGREEN TREE PLANTING
SCALE: NTS



3 SHRUB PLANTING DETAIL
SCALE: NTS

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LANDSCAPE PLANTING NOTES AND DETAILS

L104

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