

CITY OF WATSONVILLE
Public Works and Utilities Department

CONTRACT CHANGE ORDER No. 2

Contract No. 3508

Project Name: Union Beach Lincoln WMR

City Project No. WA-25-14834

Contractor: KJ Woods Construction, Inc.

Description of Work:

PCO 5 - Lee Road Waterline Railroad Crossing

Contract Price Increase/(Decrease): \$388,000.00

Contract Time Increase/(Decrease): ~~15 Days~~ 25 Days

As requested by the City, the attached change order request provides full compensation, at a lump sum price, to install approximately 75LF of 12" C900 PVC waterline under the SCCRTC spur line at Lee Road, approximately 500LF north of Beach St. The installation includes, but is not limited to, 20" steel casing installed via jack and bore; dewatering; waterline installation, testing, and disinfection; annular casing infill; and associated site restoration. Additional requirements, provided by the forthcoming permit from SCCRTC, will be considered as included in this change order (the attached SCCRTC Encorahcment Guidelines are provided as a sample framework of final permit conditions to be anticipated). This change order provides for 25 additional working days to be added to the contract.

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1 Pipe Fitting Substitution Credit and Beach St Realignment	\$388,000.00
Total Amount of Change Order:	\$388,000.00

By reason of this order the time of completion will be adjusted as follows: 25 Working Days

This change order constitutes full and complete compensation for all labor, equipment, materials, overhead, profit, any and all indirect costs and time adjustment required to perform the above described change. All work shall be completed in accordance with the applicable provisions of the Contract Documents.

Accepted By Contractor: Jack Raftery 4/1/2026
KJ Woods Construction, Inc. Date

Recommended by Construction Manager: Matt Scholfield 4/8/2026 | 8:23 AM PDT
60F2EA7C5A Matt Scholfield, PE Date

City Approval:

Project Manager	Date	Director Public Works & Utilities	Date
<i>If Cumulative Change Order Percentage is Greater Than 15% the Following Signatures are also required:</i>			
Director of Administrative Service	Date	City Manager	Date

Contract Summary:

The Original Contract Sum:	\$4,938,000.00
Net Change by Previously Authorized Change Orders	\$40,726.75
The Contract Sum Prior to this Change Order:	\$4,978,726.75
Amount of this Change Order:	\$388,000.00
The New Contract Sum Including this Change Order:	\$5,366,726.75
Cumulative Change Order Percentage Increase	7.86%



KJ WOODS CONSTRUCTION INC.
General Engineering Contractor
CSLB # 701797

P.O. Box 947
South San Francisco, CA 94083
PH (415) 759-0506
FAX (415) 468-1359
OFFICE@KJWOODS.COM

Rev 2 / March 24, 2026

Attn: Robert Schneider RE
City of Watsonville
250 Main St.
Watsonville, CA 95076

**Subject: Lee Rd. Water Line RR Crossing
Jack & Bore 12" PVC Water Main Installation w/20" Steel Casing**

KJ Woods Construction, Inc. (KJ Woods) appreciates the opportunity to provide our quotation for the above-mentioned work.

SCOPE OF WORK:

Installation of 12" Water Main Pipe in 20" Casing:

- Grade And Install 10' X 85' AC Paved Shoulder to Assist with Traffic Control Around the Boring Pit.
- Excavate and Shore Approx. 10' X 36' X 10'D Jack & Bore Launch Pit
- Excavate and Shore Approx. 10' X 10' X 10'D Jack & Bore Receiving Pit
- Provide Dewatering as Needed to Complete the Work.
- Installation Of Approx. 75LF 12" PVC Main Inside 20" Steel Casing.
- Install 75LF 20" Steel Casing W/Min .344" Wall Thickness by Jack & Bore
- Install 12" PVC C900 with Pipe Spacers to Centralize Pipe Location Within the Casing.
- Fill And Seal Pipe Casing Annular Space with Blown Sand
- Backfill And Compact Excavations.
- Asphalt Patch Launch and Receiving Pit Locations.
- All Work Will Be Completed in Accordance with The City of Watsonville Specifications.

Clarifications / Assumptions:

1. Dewatering will be discharged into the existing Sanitary Sewer Manhole on the West Side of Lee Road.
2. KJ Woods assumes 1 mobilization. Additional mobs will be billed \$10,000/EA.
3. KJ Woods will use area adjacent to the work site for equipment storage and staging.
4. KJ Woods includes traffic control for our work.
5. **The work needs start prior to us completing the Waterline Replacement project that KJ Woods is currently working on.**
6. **If our crew demobilizes from the current project, we will require a Change Order for Remobilizing.**

Exclusions:

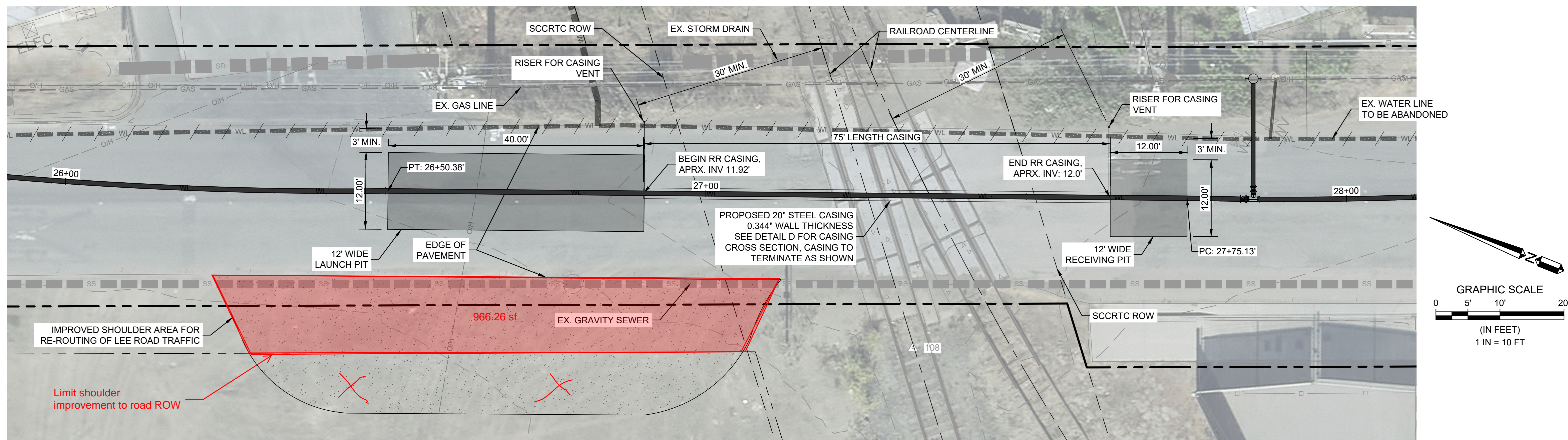
1. Payment of all fees, permits, survey, layout, engineering, and/or testing costs and inspections if required.
2. Dewatering Permit
3. Hazardous/Contaminated Materials Testing and/or Disposal.

LUMP SUM - \$388,000

Thank you for the opportunity to provide this pricing. If you have any questions or require any further information, please contact me.

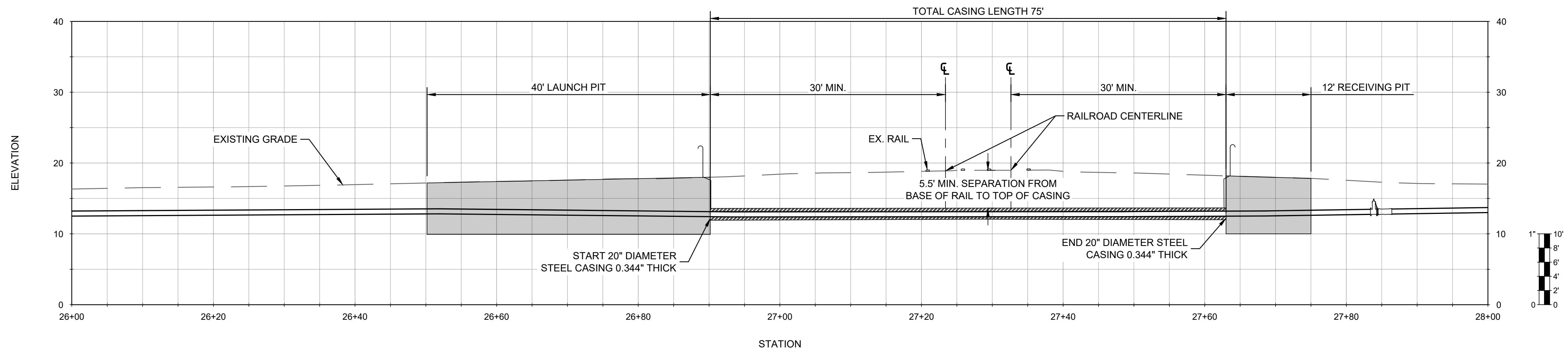
Thank you,

David Metzger Estimator



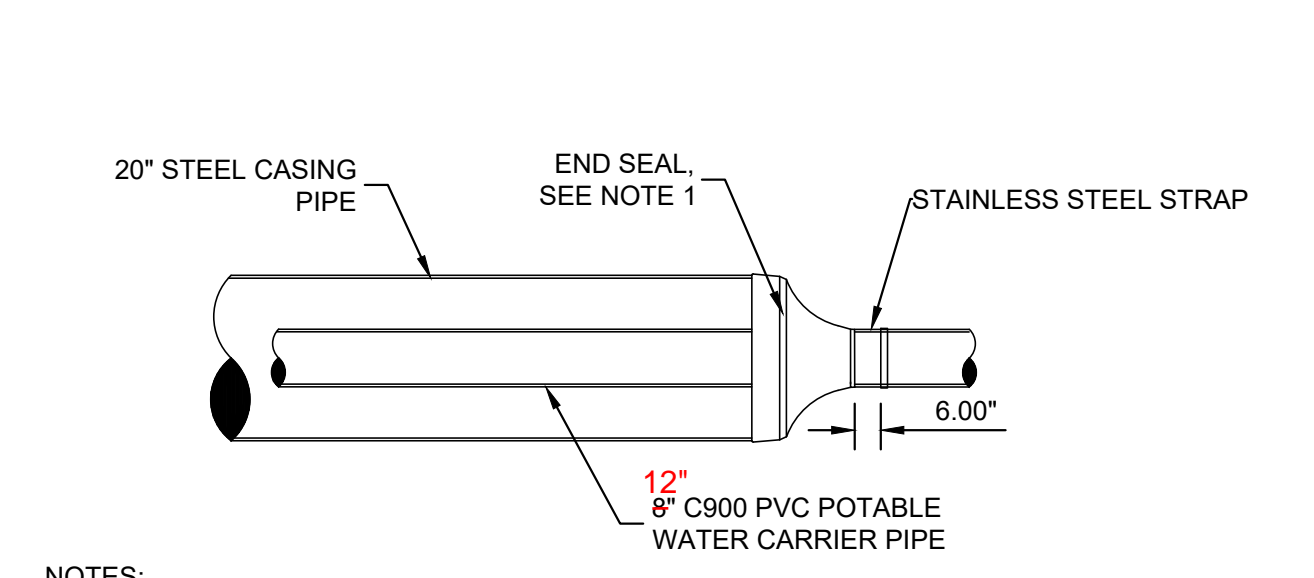
A RR CASING PLAN

SCALE: 1" = 10'



B RR CROSSING PROFILE

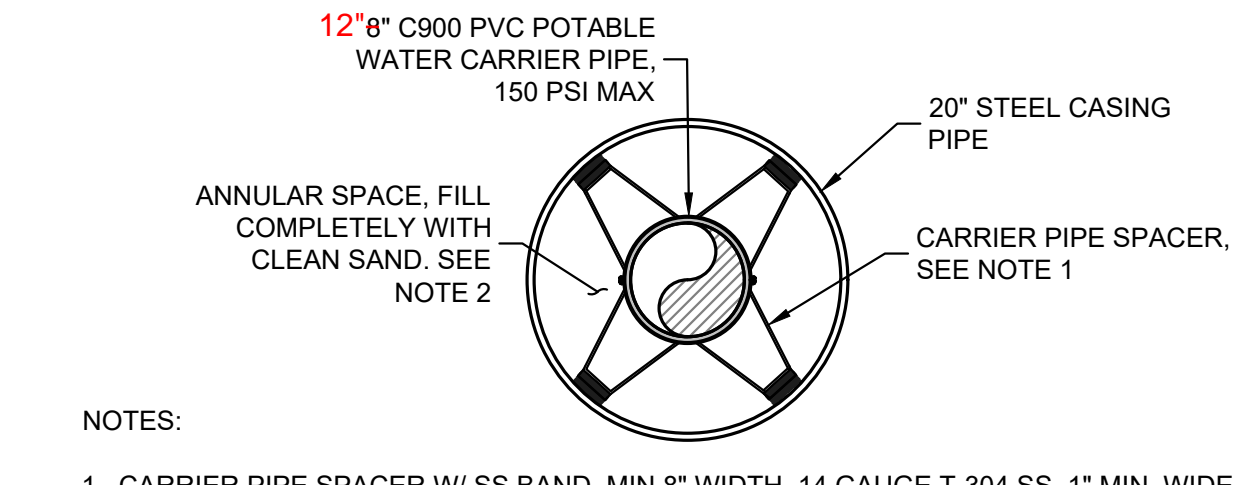
SCALE: 1" = 10'



- NOTES:
1. END SEAL, MOLDED AND CENTERED TYPE WITH SS HARDWARE, ADVANCED PRODUCTS & SYSTEMS, LLC OR APPROVED EQUAL.
 2. TYPICAL DETAIL FOR BOTH ENDS OF CASING PIPE.
 3. SEAL CASING PIPE ENDS AFTER FILLING ANNULUS WITH SAND. SEE DETAIL D.

C RR CASING END SEAL DETAIL

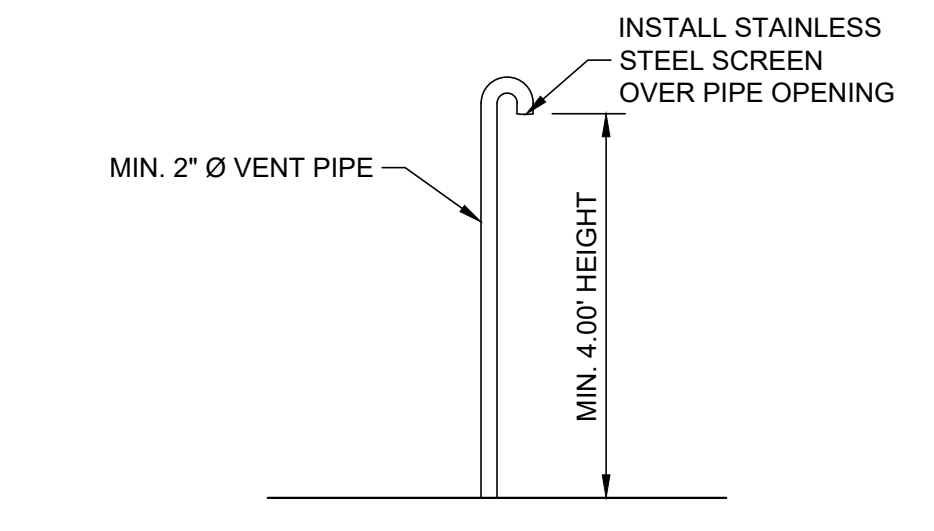
SCALE: NTS



- NOTES:
1. CARRIER PIPE SPACER W/ SS BAND, MIN 8" WIDTH, 14 GAUGE T-304 SS, 1" MIN. WIDE RUNNERS, ADVANCED PRODUCTS & SYSTEMS, LLC OR APPROVED EQUAL. MAX 6" SPACING ALONG PIPELINE OR AS SPECIFIED BY MFG, WHICHEVER IS MORE STRINGENT.
 2. SAND SHALL HAVE SAND EQUIVALENT OF 30 OR GREATER. FIELD VERIFY THAT CASING ANNULUS IS COMPLETELY FILLED WITH SAND, PROVIDE CALCULATION OF VOLUME TO BE FILLED, AND COMPARE TO QUANTITY OF SAND BLOWN INTO INTERIOR OF CASING. PROVIDE VENT AS REQUIRED TO ENSURE GOOD PLACEMENT OF SAND MATERIAL. AFTER SUCCESSFUL PLACEMENT OF SAND, AND CONCURRENCE FROM ENGINEER THAT ANNULUS IS SATISFACTORILY FILLED WITH SAND, REMOVE VENT AND RE-WELD VENT HOLE SHUT TO ENSURE CASING PIPE IS WATER-TIGHT.

D RR CASING CROSS SECTION

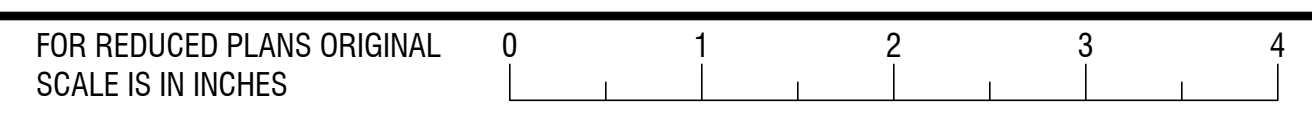
SCALE: NTS



- NOTES:
1. VENT PIPE SHALL BE 2" SCH. 40 STEEL WITH WELDED DOWN-TURNED ELBOW.

E CASING VENT DETAIL

SCALE: NTS



WATER LINE REPLACEMENT LEE ROAD

CITY OF WATSONVILLE, CALIFORNIA PUBLIC WORKS, ENGINEERING DEPARTMENT			
WATER LINE REPLACEMENT LEE RD WATER UTILITY AND RR CASING			
Approved by	ROBERT S. SCHNEIDER		Date: 03/13/2026
Designed by	ESR	Job No. XX-25-XXX	SHEET E-1
Drawn by	ONW	Scale	1 of 1
Checked by			



GENERAL PROCEDURES

10/01/2021



NOTICE

This guide is provided under the sponsorship of the Santa Cruz County Regional Transportation Commission (“SCCRTC”) for the purpose of information exchange. The SCCRTC assumes no liability for the accuracy of the contents of this guide or use thereof. Information provided herein may be superseded at the sole discretion of SCCRTC.

The contents of this guide do not necessarily reflect the official policy of SCCRTC.

This guide does not constitute a standard, specification, or regulation.

1.0 Introduction

This guide is intended to provide the basic requirements for a utility occupying the property of SCCRTC, commonly referred to as Right of Way (“ROW”) This guide is not meant to be comprehensive in nature. For a more thorough guide the reader should refer to Chapter 1, Part 5, of the AREMA Manual for Railway Engineering However, some SCCRTC-specific requirements differ from those of AREMA.

2.0 Utility

For the purposes of this guide, the definition of a utility is taken from Title 23, CFR, Part 645, Subpart A. Utility—a privately, publicly, or cooperatively owned line, facility or system for producing, transmitting, or distributing communications, cable television, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway drainage, or any other similar commodity, including any fire or police signal system or street lighting system, which directly or indirectly serves the public. The term utility shall also mean the utility company inclusive of any wholly owned or controlled subsidiary (“Utility”).

Such utilities occupying the SCCRTC ROW that may involve overhead, underground or surface individually or in combinations shall require a license agreement.

3.0 License Agreement

A license agreement is required for all utilities occupying SCCRTC ROW. Such an agreement between SCCRTC and the Utility will define the terms of the occupancy. Some of the terms may include items such as fees, geographic region, means of occupancy, time-period of licensure, maintenance responsibilities and termination clause.

4.0 Approval Process for Licensure

Approval process for licensure will require both legal and engineering review of the terms of occupancy.

Legal terms will be defined by SCCRTC’s standard agreements that are typically used for such occupancy.

Engineering review and acceptance of the means and method of occupancy will be subject to SCCRTC’s internal review.

Approval for licensure can be time consuming depending on the complexity of the project. Utilities should apply for licensure preferably during the planning phase of their project where there is still the opportunity to make adjustments in the nature and means of occupancy to satisfy both parties.

5.0 Engineering Documents Required for Licensure

Typical engineering documents required for licensure will generally include the following. Additional information may be requested at the discretion of SCCRTC.

1. Plan view layout of the occupancy shown in relation to the SCCRTC facility.
2. Profile view layout of the occupancy shown in relation to the SCCRTC facility.
3. Details and specifications of the pipeline or wireline involved.
4. Construction means and method description of the installation.
5. Impacts to SCCRTC operations due to the installation. Typically, no interruptions are expected.

6.0 Engineering Review Criteria

Engineering review of utility occupancy drawings, specifications and means & method of installation will primarily be done using the following documents as a guide.

1. Chapter 1, Part 5, of the AREMA Manual for Railway Engineering.
2. NFPA 70, National Electrical Safety Code.
3. National Electrical Safety Code by IEEE.
4. OSHA Standards – 29 CFR, Part 1926, Safety and Health Regulations for Construction.
5. SCCRTC specific requirements.

7.0 Typical Requirements for Utility Crossings

Typical crossings may include pipelines for transporting substances which may be flammable or non-flammable. Contents of pipelines may be under pressure or non-pressurized. Wireline crossings may include telecommunication or electric. For the purpose of this guide, the requirements are discussed by classifying the utility as discussed below.

a. Pipeline Requirement for Non-flammable Liquid crossing underground

Utilities carrying non-flammable liquids may include watermains, sanitary sewers, storm sewers or liquid chemical waste. The choice of pipeline material is typically the responsibility of the Utility. The pipe material provided may be steel, concrete or plastic. In all cases the stress on the pipe from internal pressure and external loads must not exceed the minimum allowable stress. Documentation showing that this criteria is met must be provided by the Utility. More information on acceptable material and thickness can be found in AREMA, MRE, Chapter 1, Part 5.

Typical requirements for non-flammable pipelines include:

1. Minimum depth below base of rail is 5½ft.
2. Minimum depth not under track loading zone is 4ft.
3. Minimum depth below bottom of ditch is 3ft.
4. Transverse crossing under pressure require encasement in a leakproof pipe within limits of ROW.
5. Pipelines under pressure require emergency shut-off valves in case of leaks.
6. Longitudinal placement within 25ft of centerline of track to be encased.
7. Angle of track crossing close to 90deg. as practicable but no less than 45deg.
8. Do not place within railroad culverts or attach to railroad bridges.

9. Longitudinal placement within ROW to be as far as practical from tracks and close to the ROW.
10. Manholes along pipeline should be outside the ROW and if not practical, make top of manhole flush with top of ground and or outside service roads.
11. Pipelines may require insulation from underground conduits carrying electric wires.
12. The requirements may be more stringent than above if required by others having jurisdiction.
13. Maintenance and repair procedures of pipeline should be non-interfering with railroad operations.

b. Pipeline Requirement for Flammable Liquid

Utilities carrying flammable liquids may include petroleum or other flammable products flowing under pressure. The pipeline material must be steel and must conform to the requirements of ASME B 31.4 Pipeline Transportation Systems for Liquids and Slurries. In all cases the stress on the pipe from internal pressure and external loads must not exceed the minimum allowable stress. Documentation showing that this criteria is met must be provided by the Utility. More information on acceptable material can be found in AREMA, MRE, Chapter 1, Part 5.

Typical requirements for flammable pipelines include.

1. Pipelines in general shall be encased in a steel casing pipe.
2. Minimum depth below base of rail for casing pipe is 5½ft.
3. Minimum depth not under track for casing pipe is 3ft.
4. Casing may be waived under secondary or industry track if depth is not less than 10ft from base of rail nor less than 6ft from ground surface or bottom of ditches.
5. Casing pipe extends from ROW to ROW.
6. Angle of track crossing close to 90deg. as practicable but no less than 45deg.
7. Cross tracks through railroad embankments.
8. Emergency shut off valves either side of SCCRTC ROW.
9. Seals and vents at end of casing pipe is required.
10. Longitudinal placement within ROW to be as far as practical from tracks but not less than 25ft from any track with minimum 6ft of ground cover.
11. Markers on each side of ROW for transverse crossing and every 500ft along pipeline for longitudinal crossing, indicating pipeline content and emergency contact information.
12. Emergency response procedures for potential leaks or leaks due to accidents.
13. Protection from corrosion and insulation from underground electric sources.
14. Inspection and maintenance program.

c. Pipeline Requirement for Flammable or Non-Flammable Gas

For Utilities carrying flammable and non-flammable gas flowing under pressure, the pipeline material must be steel and conform to the requirements of ASME B 31.8 and other

ASEM codes. In all cases the stress on the pipe from internal pressure and external loads must not exceed the minimum allowable stress. Documentation showing that this criteria is met must be provided by the Utility. More information on acceptable material can be found in AREMA, MRE, Chapter 1, Part 5.

Typical requirements for flammable pipelines include.

1. Pipelines in general can be encased in a steel casing pipe or uncased.
2. Minimum depth below base of rail for carrier pipe is 10ft.
3. Minimum depth not under track for carrier pipe is 6ft.
4. Where the above depths cannot be met, a casing may be used at minimum depths of 5½ft.
5. Casing pipe extends from ROW to ROW.
6. Angle of track crossing is close to 90deg. as practicable but no less than 45deg.
7. Cross tracks through railroad embankments.
8. Emergency shut off valves either side of SCCRTC ROW.
9. Seals and vents at end of casing pipe is required.
10. Longitudinal placement within ROW to be as far as practical from tracks but not less than 25ft from any track with minimum 6ft of ground cover.
11. Markers on each side of ROW for transverse crossing and every 500ft along pipeline for longitudinal crossing, indicating pipeline content and emergency contact information.
12. Emergency response procedures for potential leaks or leaks due to accidents.
13. Protection from corrosion and insulation from underground electric sources.
14. Inspection and maintenance program.

d. Overhead Pipeline Crossings

Overhead pipelines are generally not preferred. Where circumstances warrant it, they may be attached to overhead structures not owned or maintained by the Railroad provided the owner of the structure has issued a permit for the facility.

The following are some of the typical requirements.

1. For utility pipeline supported on existing facility, the dimensional clearances provided by the facility to the nearest track shall not be reduced.
2. Angle of track crossing is close to 90deg. as practicable but no less than 45deg.
3. The design should provide for protection such as a leak by means of a casing that directs the leak off the railroad property.
4. In case a new pipe bridge is used to support the crossing, the following are the clearance requirements:
 - a. Minimum vertical clearance for a bridge above top of rail is 25ft.
 - b. Minimum vertical clearance for cable supported span above top of rail is 50ft.
 - c. Minimum horizontal clearance from the centerline of nearest track is 25ft.
 - d. Bridge Pier protection will be required for horizontal clearance less than 25ft.

5. Emergency response procedures for potential leaks or leaks due to accidents.
6. Inspection and maintenance program.

e. Wireline Transverse Crossings and Parallel Occupancies

Wireline crossings will typically include electric power and tele-communication with all associated supports and equipment. Transverse crossings and parallel occupancies may be underground or overhead. The National Electrical Safety Code is referenced for controlling requirements. Underground crossings should be encased in a steel or HDPE conduit.

The following are some typical requirements.

1. Angle of track crossing is close to 90deg. as practicable but no less than 45deg.
2. Poles should be set outside the ROW or as close to the property line as possible.
3. Minimum vertical clearance for proposed aerial transverse crossing measured at 60 deg. Fahrenheit is as follows.

Guy wires, messenger cables, and telecommunication cables	Electric supply lines and neutral wires (voltage is measured phase-to-ground) *		
27-feet	Less than 750-V	750-V to 15-KV	15-KV to 50-KV
	30-feet	31-feet	33-feet

* For electric supply lines or neutral wires carrying greater than 50-KV, use a vertical clearance of 33-feet plus ½-inch per 1-KV above 50-KV.

4. Vertical clearance between proposed aerial wire crossings and aerial communications lines is as follows:

Guy wires, messenger cables, and telecommunication cables	Electric supply lines and neutral wires (voltage is measured phase-to-ground) *		
2-feet	Less than 750-V	750-V to 15-KV	15-KV to 50-KV
	2-feet	4-feet	6-feet

* For electric supply lines or neutral wires carrying greater than 50-KV, use a vertical clearance of 33-feet plus ½-inch per 1-KV above 50-KV.

5. For underground crossings minimum depth of installation is as follows:

Material	Bore & Jack	HDD-Wet	HDD-Dry
Steel	5.5-ft	10-ft	5.5-ft
Plastic	15-ft*		
Parallel Occupancy	4-ft		

* Within 25-feet of centerline of the closest track and a minimum depth of 10-feet anywhere else on ROW. HDD-Wet = installation using drilling fluids.

6. Minimum horizontal clearance from overhead wireline crossing to track supporting structure is 300ft.
7. Minimum horizontal clearance from overhead wireline crossing to any switch or other railroad infrastructure is 50ft.
8. Minimum horizontal clearance from wireline support structure to nearest track is 50ft.
9. Unguyed support structure should be located a minimum of distance equal to the height of the structure from railroad signal and communication lines.
10. Unguyed support structure should be located a minimum of distance equal to the height of the structure plus 10ft from centerline of track. Increase clearance by 6inch minimum or

1.5inch for every degree of curve.

11. Guy wires should be placed outside the ROW or when inside the ROW place parallel to ROW line.

8.0 Methods of Construction

Methods of construction will require review by SCCRTC to understand the impacts to operations. Typically, all installations shall be completed without interference to rail operations and without conflict to existing facilities and/or utilities.

Pipeline construction is done using various methods depending on suitability. Some of the more commonly used methods are:

1. Jack and Bore method.
2. Horizontal directional drilling wet method using a drilling fluid.
3. Horizontal directional drilling dry method.
4. Microtunneling using a tunnel boring machine.

In all cases, the contractor is required to submit a full description of the means and method of construction including any excavation and shoring that may be required. Once the contractor submittal is approved for construction, the work may proceed with adequate protection such as flaggers and construction monitors on site.

APPENDIX A
DRAWING CHECKLIST



Aerial Wireline Occupancy Checklist

Plan View of Crossing

- All railroad tracks shown
- Indicates distance (in feet) to SCCRTC milepost or grade crossing
- Angle of crossing relative to railroad track(s)
- Dimensioned property lines
- Location of poles and distance from edge of pole to nearest railroad track centerline
- Location of all existing railroad communications lines and all utility lines
- Indicate span length across tracks from pole to pole
- If within highway limits or in the vicinity of a grade crossing, location and type of grade crossing traffic control devices (flashers, gales, etc.) and clearance from existing devices to proposed wire line/poles

Profile View of Crossing

- All railroad tracks shown
- Dimensioned property lines
- Location of poles and distance from edge of pole to nearest railroad track centerline
- Vertical clearance from top of rail to bottom of sag for all tracks
- Location of all existing railroad communications lines and all utility lines
- Vertical clearance between existing railroad pole lines and proposed wire line
- Indicate span length across tracks from pole to pole
- If within highway limits or in the vicinity of a grade crossing, location and type of grade crossing traffic control devices (flashers, gales, etc.) and clearance from existing devices to proposed wire line/poles



Underground Wireline Occupancy Checklist

All underground conduit applications shall include a conduit data sheet, plan, and profile view of the proposed facility. See the SCC guidelines for the required format. Below is a suggested check-list for your plan development and the Conduit Data Sheet.

Plan View of Crossing

- All railroad tracks, including distance to any track switches or turnouts from proposed conduit
- Indicates distance (in feet) to SCCRTC Milepost or grade crossing
- Angle of crossing relative to railroad track(s)
- Dimensioned property lines
- Location of conduit marker signs (preferably located at edge of property or right of way lines)
- Location of all existing railroad communications lines and all utility lines
- Location of any fiber-optic cables parallel to tracks
- Conduit casing pipe length
- If within highway limits or in the vicinity of a grade crossing, location and type of grade crossing traffic control devices (flashers, gates, etc.) and clearance from existing devices to proposed wire line
- Location of launching and receiving pits

Profile View of Crossing

- All railroad tracks
- Profile of ground above crossing
- Dimensioned property lines
- Theoretical railroad embankment lines
- Proposed location and elevations of launching and receiving pits
- Casing pipe length
- Bottom of rail elevation
- Depth of cover between bottom of rail and top of conduit or casing pipe
- Location of and the minimum depth of cover from ground line to top of conduit or casing pipe on right of way (including ditches)



Conduit Data Sheet - For Telecom and Power Conduits only, 6" in diameter or less

	CONDUIT
NOMINAL SIZE OF PIPE	
MATERIAL*	
OUTSIDE DIAMETER	
INSIDE DIAMETER	
WALL THICKNESS - must be at least 0.188"	
TYPE OF COATING	

* STEEL conduits required at least 10' depth below base of rail HDPE conduits will be considered at least 15' depth below base of rail

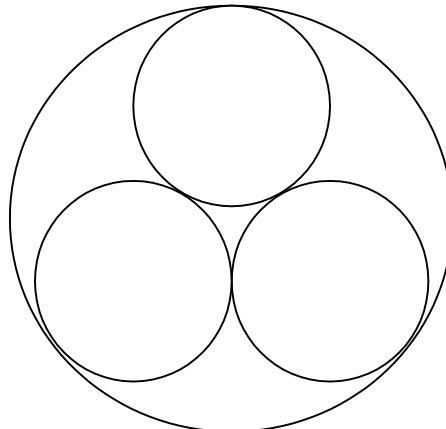
Proposed method of installation:

- Jack & Bore
- Directional Boring Method "A" – *must have at least 10' depth below base of rail*
- Directional Boring Method "B" – *only for casings 6 inches or less in diameter*
- Open Cut – *All installations directly under any track must be designed as a bored installation. Open cut installations will be considered on a case-by-case basis by SCCRTC.*
- Other – Please Specify: _____

MULTIPLE INNERDUCTS

NUMBER OF INNERDUCTS WITHIN CASING PIPE:

- Provide a detail or cross section of the casing pipe with innerducts (see below).
- Clearly mark the type of facility that will be installed within each innerduct. If innerduct will be left spare or empty, please identify as such.





Pipeline Occupancy Checklist

All pipeline applications shall include a pipe data sheet, plan, and profile view of the proposed facility. Below is a suggested check-list for your plan development and a Pipe Data Sheet.

Plan View of Crossing

- All railroad tracks, including distance to any track switches or turnouts from proposed pipeline
- Indicates distance (in feet) to SCCRTC Milepost or grade crossing
- Angle of crossing relative to railroad track(s)
- Dimensioned property lines
- Location of valves
- Location of vents
- Location of pipeline marker signs (preferably at edge of property or right of way lines)
- Location of all existing railroad communications lines and all utility lines
- Location of any fiber-optic cables parallel to tracks
- If within highway limits or in the vicinity of a grade crossing, location and type of grade crossing traffic control devices (flashers, gates, etc.) and clearance from existing devices to proposed pipe
- Casing pipe length
- Location of launching and receiving pits

Profile View of Crossing

- All railroad tracks
- Profile of ground above crossing
- Distance to valves
- Distance to vents and height above ground
- Distance to pipeline marker signs
- Dimensioned property lines
- Theoretical railroad embankment lines
- Proposed location and elevations of launching and receiving pits
- Casing pipe length
- Bottom of rail elevation
- Depth of Cover between bottom of rail and top of casing pipe (or carrier pipe if casing pipe not required)
- location of and the minimum depth of cover from ground line to top of casing pipe (or carrier pipe if casing not required) on right of way (including ditches)



General Notes (all plans shall include the following General Notes)

1. Contractor shall follow all requirements of SCCRTC Design and Construction Specifications
2. Pipeline and crossing to be installed and maintained in accordance with last approved American Railway Engineering and Maintenance of way Association Specifications for Pipelines Conveying Flammable and Non-flame Substances
3. Blasting not permitted

Pipe Data Sheet

	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED		
MAX. ALLOWABLE OPERATING PRESSURE		
NOMINAL SIZE OF PIPE		
OUTSIDE DIAMETER		
INSIDE DIAMETER		
WALL THICKNESS		
WEIGHT PER FOOT		
MATERIAL		
PROCESS OF MANUFACTURE		
SPECIFICATION		
GRADE OR CLASS (Specified Minimum Yield Strength)		
TEST PRESSURE		
TYPE OF JOINT		
TYPE OF COATING		
DETAILS OF CATHODIC PROTECTION		
DETAILS OF SEALS OR PROTECTION AT END OF CASING		
CHARACTER OF SUBSURFACE MATERIAL		
APPROXIMATE GROUND WATER LEVEL		
SOURCE OF INFORMATION ON SUBSURFACE CONDITIONS		



Proposed method of installation:

- Bore & Jack
- Jacking
- Tunneling (with Tunnel Liner Plate)
- Directional Bore/Horizontal Direction Drilling – Method A
- Directional Bore/Horizontal Direction Drilling – Method B
- Open Cut – *All installations directly under any track must be designed as a bored installation. Open cut installations will be considered on a case-by-case basis.*
- Other – Please Specify: _____