

**PURPOSE/APPLICATION**

To provide guidance on the process for setting in an above ground pipeline and installation of piping spools. The process for the welding of the pipeline is specifically covered in SJP-31 Pipeline Welding.

**PPE**

- Hearing Protection
- Strike Minimum PPE
- Welding Helmet
- Face Shield

**TRAINING**

- Minimum Strike and Site Requirements
- Equipment Operator Competency

**TOOLS/EQUIPMENT**

- Mechanical
- Welding Equipment
- Slings / Taglines
- Grinders
- Propane Tanks and Torches
- Straps/Vice Grips

**PRIOR ACTIVITIES**

1. Obtain any permits required for the scope of work (e.g. General Construction, Lift Plan, Hot Work permit, etc.) as verification of completed controls are in place.
2. Determine if a lift assessment/plan is needed in accordance with Provincial, Owner/Prime Contractor or Strike policy (see SWP 41 Critical Hoisting for more information). Where required, confirm that all related Certification on Equipment, Lift plan, etc. are in place.
3. Complete a pre-use inspection on all tools and equipment.
4. Complete the tailgate meeting and HIAC prior to starting work.

**Pipeline Set-in:**

#	Job Steps	Hazards	Control Measures
1	Buff pipe ends.	<ul style="list-style-type: none"><li>❖ Flying Debris/Sparks</li><li>❖ Pinch/Crush Points</li><li>❖ Rotational hazards</li><li>❖ Awkward body positioning</li></ul>	<ul style="list-style-type: none"><li>▪ Ensure double eye protection is being utilized while grinding, buffing, chipping, etc.</li><li>▪ Ensure all required PPE is being utilized.</li><li>▪ Stay out of the line of fire.</li><li>▪ Ensure combustible materials are managed on ROW and have adequately placed fire extinguisher present.</li></ul>
2	Pre-heat pipe with tiger torch to specified temperature.	<ul style="list-style-type: none"><li>❖ Fire and Explosion</li><li>❖ Burns/Hot surfaces</li><li>❖ Trip hazard from hose</li><li>❖ Compressed gas cylinder</li></ul>	<ul style="list-style-type: none"><li>▪ Fire extinguisher present.</li><li>▪ Ensure appropriate hand protection is being worn.</li><li>▪ Ensure hot work permit is in place, as required.</li><li>▪ Ensure heating torch gas tanks and hoses are out of the line of fire to not create a trip hazard.</li></ul>
3	Lift clamp into place, halfway over the end of the pipe to accept the next pipe and hand tighten (for larger clamps or at high elevation utilize side boom and sling).	<ul style="list-style-type: none"><li>❖ Pinch/Crush points</li><li>❖ Mechanical failure</li><li>❖ Rigging failure</li><li>❖ Dropped objects</li><li>❖ Falls from height</li></ul>	<ul style="list-style-type: none"><li>▪ Utilize pipe clamp handles to place clamps at the edge of the pipe and hand tighten to secure and eliminate from movement.</li><li>▪ Wear task appropriate gloves</li></ul>

Revised: March 27, 2025

## Above Ground Pipe Installation

#	Job Steps	Hazards	Control Measures
			<p>to prevent cuts, pinches, and abrasions while placing clamps.</p> <ul style="list-style-type: none"><li>▪ Complete a pre-use inspection on all rigging and lifting devices; remove all damaged equipment from service.</li><li>▪ Ensure all access equipment is inspected and level prior to accessing elevated work.</li><li>▪ Keep non-essential workers clear of immediate work area and ensure no workers are below when setting clamps.</li><li>▪ Never walk under a suspended load.</li></ul>
4	Fit sling onto pipe, lift pipe with Side Boom/Picker truck/Mobile crane and insert pipe end into clamps.	<ul style="list-style-type: none"><li>❖ Pinch/Crush points</li><li>❖ Mechanical failure</li><li>❖ Crush potential</li><li>❖ Suspended loads</li><li>❖ Rigging failure</li><li>❖ Struck by/Against an object</li></ul>	<ul style="list-style-type: none"><li>▪ Pre inspect all equipment and rigging prior to use and take any damaged equipment out of service.</li><li>▪ Never work under a suspended load.</li><li>▪ Never drag the sling down the pipe section with the side boom, always unhook the sling to move to the next lifting section.</li><li>▪ Ground worker to pass tagline to stabber when working at an elevated position in order to maintain control of pipe.</li><li>▪ Control pipe motion into the clamps by manipulating pipe on the down-work side (opposite of the clamp) by pushing/pulling on the body of the pipe (not the pipe ends).</li><li>▪ Spacer to signal when all worker's hands are clear of the working end of the pipe prior to signaling equipment to bring pipe end into clamps.</li><li>▪ Stabber to visually verify pipe is free of debris prior to inserting pipe into clamps.</li><li>▪ Never stand between pipe in motion and sleeper/pile or any other crush point.</li></ul>

**Revised: March 27, 2025**
**Above Ground Pipe Installation**

#	Job Steps	Hazards	Control Measures
5	Tack pipe together at joint ends.	<ul style="list-style-type: none"> <li>❖ Welding flash</li> <li>❖ Flying debris</li> <li>❖ Sparks</li> <li>❖ Stored energy</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure welding helmets are being utilized.</li> <li>▪ Use double eye protection.</li> <li>▪ Ensure sufficient tack welds are in place before releasing clamps (pipe cover at least 50% before removing clamps).</li> </ul>
6	Set pipe onto pipeline supports or skid column to protect weld tack integrity.	<ul style="list-style-type: none"> <li>❖ Uneven ground conditions</li> <li>❖ Pinch/Crush points</li> <li>❖ Damaged skids or cones</li> <li>❖ Miscommunication</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure pipe cones or skids are sitting on level ground.</li> <li>▪ Stay out of the line of fire.</li> <li>▪ Ensure cones or skids are in good condition and replace all damaged ones.</li> <li>▪ Ensure cones and/or skids are of adequate size and rated for the pipe weight.</li> <li>▪ Use a spotter when necessary to give signals to operator.</li> <li>▪ If on skids, make sure the pipe is chocked and cannot roll off.</li> <li>▪ If setting pipe on above ground racks, ensure pipe is placed in shoes or secured with wedges or straps to limit potential to shift/roll.</li> </ul>

**ADDITIONAL PRECAUTIONS:**

- When utilizing handles to positioning clamps be aware of latch pinch points.
- Lift in trams or use mechanical lifting devices to move clamps, as required.
- Utilize equipment when lowering clamps from elevated positions.

**Facility Piping Installation:**

#	Job Steps	Hazards	Control Measures
1	Prepare pipe spools for install: <ul style="list-style-type: none"> <li>- Ensure flange faces are clean and free of defects;</li> <li>- Ready bolt-up.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Pinch/Crush Points</li> <li>❖ Cuts/Scrapes</li> <li>❖ Muscle Strains</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure all required PPE is being utilized</li> <li>▪ Pre-inspect tools</li> <li>▪ Use the right tool for the job (e.g., scraper, rags, etc.)</li> <li>▪ Whenever possible, use mechanical means to raise spool for access to flange faces, if necessary.</li> <li>▪ If lifting by hand, refer to SWP 48 Pipe Handling</li> </ul>

Revised: March 27, 2025

## Above Ground Pipe Installation

#	Job Steps	Hazards	Control Measures
2	Rig spool.	<ul style="list-style-type: none"><li>❖ Pinch/Crush Points</li><li>❖ Equipment Failure</li><li>❖ Rigging Failure / Dropped Load</li></ul>	<ul style="list-style-type: none"><li>▪ Pre-inspect all lifting components (e.g., mechanical, rigging, etc.)</li><li>▪ Tag defective equipment "Out Of Service"</li><li>▪ When slings/cables are tensioning, ensure hands are clear of pinch points</li><li>▪ Ensure adequate rigging for the spool being lifted</li></ul>
3	Lift spool into place.	<ul style="list-style-type: none"><li>❖ Pinch/Crush Points</li><li>❖ Dropped Objects</li><li>❖ Contact with Equipment/Live Facilities</li></ul>	<ul style="list-style-type: none"><li>▪ Use taglines</li><li>▪ Do not stand under suspended loads and do not lift over personnel</li><li>▪ Ensure lift is planned. Lifting over live facilities is considered a Critical Lift requires CF-S-42 Lift Plan completed.</li><li>▪ Have a designated signal person in place</li><li>▪ Keep hands clear of flanges when coming together and when spool is being set on supports/shoes</li><li>▪ Do not let tension off spool until it is secured in place by another means (bolt-up/straps/U-bolts/etc..)</li></ul>
4	Complete bolt-up of spool.	<ul style="list-style-type: none"><li>❖ Cuts/lacerations</li><li>❖ Pinch Points</li><li>❖ Muscle Sprains/Strains</li><li>❖ Equipment/tool damage</li><li>❖ Wrench Slip/slide off bolts or piping</li><li>❖ Dropped Objects</li></ul>	<ul style="list-style-type: none"><li>▪ Use proper means of lining up flange faces (E.G.: line up pins are better than a pin bar)</li><li>▪ Mind line of fire when pushing/pulling on wrenches/ratchets/etc.</li><li>▪ Use the proper tool for the task</li><li>▪ Use box end of wrench and inspect condition of pipe wrench jaws.</li><li>▪ Refer to SWP 74 – Wrench Use</li><li>▪ Ensure pipe is placed in shoes or secured with wedges/straps/vice grips to limit potential to shift/roll.</li></ul>

**Revised: March 27, 2025**
**Above Ground Pipe Installation**

#	Job Steps	Hazards	Control Measures
5	Torque Bolt-up.	<ul style="list-style-type: none"> <li>❖ Leaks from under or over tensioning</li> <li>❖ Cuts/Lacerations</li> <li>❖ Muscle Sprains/Strains</li> <li>❖ Wrench Slip/slide off bolts or piping</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ensure torque wrench is up to date on calibration and is in good working condition</li> <li>▪ Ensure torque values are observed</li> <li>▪ Mind line of fire when pushing/pulling on wrenches/ratchets/etc.</li> <li>▪ Use the proper tool for the task</li> <li>▪ Refer to SWP 74 – Wrench Use</li> </ul>

**ADDITIONAL PRECAUTIONS:**

- Ensure that pipe spools are secured on both ends, or otherwise adequately secured from rolling/shifting, prior to leaving work area unattended.

**REFERENCE/REGULATIONS**
**Alberta OH&S Code**

- Part 10 Fire and Explosion Hazards
- Part 18 Personal Protective Equipment
- Part 14 Lifting and Handling Loads
- Part 18 Personal Protective Equipment
- Part 19 Powered mobile equipment
- Part 21 Rigging

**British Columbia OH&S Regulation**

- Part 4 General Conditions – Section 4.13
- Part 4 Emergency Preparedness and Response
- Part 8 Personal Protective Clothing and Equipment
- Part 14 Cranes and hoists
- Part 15 Rigging
- Part 16 Mobile Equipment

**Saskatchewan OH&S Regulations**

- Part 7 Personal Protective Equipment
- Part 13 Hoists, Cranes and Lifting Devices
- Part 22 Controlled Products
- Part 25 Fire and Explosion Hazards

**Manitoba OHS Regulations**

- Part 6 Personal Protective Equipment
- Part 22 Powered Mobile Equipment
- Part 23 Cranes and Hoists

Developed by:	1. <u>Kevin Wark</u>	2. <u>Thomas Mackay</u>	Date:	<u>Feb 19, 2022</u>
	3. <u>Kirk Long</u>	4. <u>Robbie Briand</u>		
	5. <u>Cord Roberts</u>	6. <u>Allen Monk</u>		
Reviewed	1. <u>Scott Capaniuk</u>	2. <u>Parke Savage</u>		<u>March 27, 2025</u>
	3. <u>NEJHSC</u>			
Approved by:	1. <u>HSE Committee</u>		Date:	<u>March 28, 2025</u>