



PURPOSE/APPLICATION

Off-loading and stringing of pipe refers to the removal of pipe segments from a trailer and placing it along the right-of-way close to where it will be eventually placed onto above ground supports. This SJP covers both the use of hooks, calipers and lifting slings.

PPE

- Strike Minimum PPE

TRAINING

- Minimum Strike and Site Requirements
- Competent Equipment Operators
- Absolutely no green workers to off-load and string pipe on their own without a competent Mentor/Supervisor present

TOOLS/EQUIPMENT

- Pipe trucks
- Side boom/Picker truck/Mobile crane/Excavator
- Off-loading hooks
- Tag lines
- Load securing straps
- Tarps/nets
- Slings
- Sized hooks or calipers

#	Job Steps	Hazards	Control Measures
1.	String out pipeline skids and pipe chinks, prior to off-loading pipe to prevent pipe rolling or touching the ground	<ul style="list-style-type: none"> ❖ Back or muscle overexertion ❖ Slivers 	<ul style="list-style-type: none"> ▪ Warm up muscle, use proper lifting techniques and always wear gloves. ▪ Secure pipe chinks utilizing nails or screws.
2.	Identify all overhead power line crossings, set up warning signs	<ul style="list-style-type: none"> ❖ Electrocutation 	<ul style="list-style-type: none"> ▪ Maintain safe distance from power lines. ▪ Use spotter with high visibility vest, where required. ▪ Use goal posts/signage at all powerline crossings and have air horn available at crossings.
3.	Use of hooks, calipers, cables, slings, and tag lines for loading	<ul style="list-style-type: none"> ❖ Equipment failure ❖ Workers in the line of fire 	<ul style="list-style-type: none"> ▪ Equipment pre-use inspection and identify sizing. ▪ Report and remove any damaged equipment from service. ▪ Never use any equipment found to have defects or is suspect.
4.	Un-tarping trailer	<ul style="list-style-type: none"> ❖ Slippery or congested ground conditions ❖ Pinch/Crush points ❖ Overexertion ❖ Pipe roll out ❖ Miscommunication with driver 	<ul style="list-style-type: none"> ▪ Stage pipe truck onto most level ground available. ▪ Ensure all deck pins are in place and load straps are secure. ▪ Ensure workers don't step on tarp while folding to avoid slips. ▪ Confirm with driver where to place tarp straps to secure for

			<p>return empty trip.</p> <ul style="list-style-type: none"> ▪ Driver to remove final strap, from front or rear of load, prior to stringing pipe. ▪ Prior to moving truck onto right-of-way, verify driver understands the stringing process and can take signals and direction, as required.
5.	Bringing pipe truck onto right-of-way	❖ Pipes sliding or rolling off of trailer	<ul style="list-style-type: none"> ▪ Restrain pipe when on truck while moving; use nylon straps, deck pins.
6.	Pre-use inspection of lifting equipment to be utilized (side boom, picker truck, and/or mobile crane, excavator, etc.)	<ul style="list-style-type: none"> ❖ Equipment failure, pressure release, spills ❖ Workers in the line of fire ❖ Slippery or uneven ground conditions 	<ul style="list-style-type: none"> ▪ Pre use inspection of all equipment including access to spill kit on required equipment. ▪ Ensure certificates are up to date/current for all lifting equipment. ▪ Ongoing continuous maintenance of equipment noting any early wear signs (e.g. weeping fittings, even if tightened). ▪ Operator must warm up the brakes (i.e. Sideboom) before working the unit and any time the unit sits without working over an extended time. ▪ Inspection of proper cable wraps on drum and lines not cross spooled causing possible line slip when under load.
7.	<p>Hooking pipe with pipe hooks/caliper to remove from truck trailer and set on right-of-way</p> <p>OR</p> <p>Center choke pipe with rated sling (if proper sized hooks/caliper is not available) to remove from truck trailer and set on right-of-way</p>	<ul style="list-style-type: none"> ❖ Slippery or congested ground conditions ❖ Pinch/Crush points ❖ Overexertion ❖ Pipe roll out ❖ Working at height on trailer 	<ul style="list-style-type: none"> ▪ Position boom at centre of trailer's load of pipe. ▪ Front worker will use steps on truck to access the trailer and hook pipe. ▪ Worker to the rear of the trailer will use a step ladder to access the trailer to hook pipe from the rear (until pipe is accessible from ground elevation). ▪ If rear worker's cable on their hook is too tight, the boom operator will let out more cable, to assist rear worker with

			<p>putting rear hook into place.</p> <ul style="list-style-type: none"> ▪ If utilizing a center sling, the worker will access the pre-loaded sling from the side of the trailer and attach it to the equipment hook. If workers need to access the trailer, they are to use a step ladder to access pipe middle section (until pipe is accessible from ground elevation). ▪ Workers should avoid climbing onto or standing on pipe. ▪ Maintain footing and keep hands and body out of pinch points. Stay out of the line of fire and maintain eye contact with equipment operator. ▪ Warm up, stretch muscles and use proper body mechanics and technique. ▪ Always wear appropriate gloves. ▪ Remove any snow that may be on the trailer and or the pipe.
8.	Off-loading pipe with hooks	<ul style="list-style-type: none"> ❖ Pinch/ Crush points around and between pipes ❖ Workers struck by pipe ❖ Fall to lower elevation 	<ul style="list-style-type: none"> ▪ Rear worker will signal front worker as to when their hook or the sling is securely hooked to the pipe. ▪ The front worker will hand their tag line down to a worker on the ground. ▪ Once all workers are clear of the path of the pipe, the front worker will check that both hooks are on the same joint of pipe, then signal the operator to lift the pipe off of the trailer deck. ▪ Operator will ensure boom is centered prior to lifting pipe to ensure pipe does not swing. ▪ Once the pipe is raised off of the trailer deck, the truck driver will be signaled to move ahead, or the boom will move the pipe

			<p>to the resting location depending on the situation.</p> <ul style="list-style-type: none"> ▪ Off-load pipe one tier at a time, all workers are to stay out from under any suspended loads. ▪ Do not remove deck pins until the last tier and only where it's safe to do so. ▪ Use pipe chocks/straps to secure pipes from rolling prior to removing deck pins. ▪ Worker must access and egress the pipe trailer each time it moves, workers must not ride on the trailer to the next location. ▪ Do not jump off the trailer, use an appropriate ladder for access/egress.
<p>9.</p>	<p>Loading and unloading pipes with single center sling</p>	<ul style="list-style-type: none"> ❖ Pinch/Crush points around and between pipes ❖ Workers struck by pipe ❖ Fall to lower elevation/slipping while entering or exiting trailer 	<ul style="list-style-type: none"> ▪ Prior to handling pipe, clearly mark the centers of the pipes to be loaded. ▪ The yard worker will then choke the sling on the pipe and perform balance lift prior to loading the trailer. ▪ Load pipe onto truck and detach the sling; leave the sling in place for unloading. ▪ Centre the boom with the load of pipes. ▪ Ground worker will then hook the sling to the hook of the equipment from the side of trailer. ▪ The worker that hooked the sling to the equipment will then put a tag line on the front end of the pipe being hoisted, where required. ▪ Worker will then pass the tag line down to front spotter on the ground. ▪ Worker on the trailer must be out of the potential line of fire

			<p>before the pipe is lifted.</p> <ul style="list-style-type: none"> ▪ The front spotter will signal the boom operator to hoist the pipe. ▪ The boom operator should keep the pipe as low as possible (ideally no higher than two feet). ▪ The worker that hooked the sling to the equipment will check to ensure the pipe is balanced. ▪ If the pipe is unbalanced, the front spotter will signal the boom operator to lower the pipe so the sling can be manipulated for a balanced lift. ▪ Once the sling is repositioned and it is safe to do so, the front spotter will signal the boom operator to raise the pipe again. ▪ If the pipe is balanced, the front spotter can signal the pipe truck driver to move ahead or depending on circumstances signal the boom operator to move the pipe off trailer to the ROW. ▪ Repeat this procedure removing one tier at a time until all pipes are removed from trailer. ▪ Do not remove deck pins until the last tier and only if it's safe to do so. ▪ Use wood wedges to secure pipes from rolling prior to removing deck pins.
10.	Stringing/staging pipe on ROW	<ul style="list-style-type: none"> ❖ Crush points around and between pipes ❖ Workers struck by pipe ❖ Fall to lower elevation ❖ Slippery or uneven ground conditions 	<ul style="list-style-type: none"> ▪ After each joint is removed, the truck will proceed to the next location and the boom operator can set the pipe down. ▪ The back spotter will direct the boom operator where to set the pipe down. ▪ Keep fingers out from between

			<p>the joints when setting pipes down.</p> <ul style="list-style-type: none"> ▪ Other crew members will position skids under pipe to prevent it from touching the ground (keep feet and hands out from below the pipe). ▪ The pipe will be blocked/chocked to prevent it from rolling. ▪ Crew on ground to walk packed paths and look for hidden frost lumps, ruts, or holes on ROW. ▪ The crew will then walk to the truck to string the next pipe. ▪ Stay out of the line of fire. ▪ Stay out of pinch points. ▪ Keep hands out of the end of the pipe. ▪ Always maintain eye contact with the boom operator. ▪ Maintain safe clearance from the trailer wheels, tracks and other mechanical part.
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ADDITIONAL PRECAUTIONS:

- Check slings and hooks periodically to ensure no frost or mud build up occurs.
- Do not position yourself between the boom and pipe, or between the pipe and trailer.
- Do not stand by the load of pipe as some joints may shift or fall off.
- Never stand underneath a suspended load.
- Always walk in plain view of the side boom/equipment operator and anticipate their movement.
- Always keep your body parts out from between pipes to avoid being crushed.
- Take care not to damage the end of the pipe.
- Never stand in the path of a travelling side boom/equipment, or behind where there is no line of sight with the operator.
- In tight quarters, use a single tag line and tension to control pipe swing/twist.
- Ensure to make eye contact with the operator and gain acknowledgement before approaching equipment.
- For all lifts include weather and ground conditions as part of task HIAC assessment and review.



REFERENCE/REGULATIONS

Alberta OH&S Codes

- Part 2 Hazard Assessment, Elimination and Control
- Part 6 Cranes, Hoists and lifting devices
- 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 8 Personal Protective Clothing and Equipment
- Part 14 Cranes and hoists
- Part 15 Rigging
- Part 16 Mobile Equipment

Saskatchewan OH&S Regulation and Code

- Part 7 Personal Protective Equipment
- Part 11 Powered Mobile Equipment
- Part 13 Hoists, Cranes and Lifting Devices
- Part 14 Rigging

Manitoba OHS Regulations

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

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Revised by:

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