

**EXHIBIT 2 — COMPARISON OF PIPELINE DESIGN FEATURES**

	<b>HISTORICAL</b>	<b>OPYMPIC PIPE LINE</b>	<b>PROPOSED Cross Cascade Pipeline</b>
Cathodic Protection	<ul style="list-style-type: none"> <li>• Older don't have adequate protection</li> <li>• Pre 68'DOT – no legal requirements or enforcement</li> <li>• Post '70' – required</li> <li>• Older line retrofitted.</li> </ul>	Installed at Construction	<ul style="list-style-type: none"> <li>• Pre Construction surveys to determine optimal design, confirmed with post construction survey.</li> <li>• Most effective design/technology for soil conditions along route.</li> </ul>
Coating	<ul style="list-style-type: none"> <li>• Field installation asphalt/coal tar Enamel</li> <li>• 50-60 's move towards factory coatings</li> <li>• 60-70's improved coating materials</li> </ul>	Mill applied – Coal tar enamel	<ul style="list-style-type: none"> <li>• Butyl-polyethylene coating (extruded plastic 40 mills+)</li> </ul>
Hydrostatic Testing	<ul style="list-style-type: none"> <li>• Prior to '68 no requirement or standard. Testing voluntary – usually at lower pressure – undocumented</li> <li>• Post '68 DOT – Documented test required 4 hours at 125% MAOP</li> </ul>	Documented 125% MAOP	<ul style="list-style-type: none"> <li>• Hydrostatically tested and documented. Will be at 125% MAOP for full 8 hour test</li> <li>• Pretest river crossing pipe prior to installation</li> </ul>
Static Test	<ul style="list-style-type: none"> <li>• Not documented: used to check performance – not routinely done</li> </ul>	Used for integrity testing when problem suspected – some undocumented routine testing	<ul style="list-style-type: none"> <li>• Quarterly / complete documented static test – all valves closed.</li> <li>• Monthly; routine performance test between stations</li> </ul>
Steel	<ul style="list-style-type: none"> <li>• Pre WWII –Quality control processes not consistent</li> <li>• Problems with ERW pipe</li> <li>• 60's – 70's – high strength/thin wall pipe.</li> <li>• 60's – 70's – improved seam technology</li> <li>• 70's – Foreign mill competition</li> </ul>	Manufactured in Mid-60s with fully annealed seams, to API-5LX standards	<p>Exceed API standards</p> <ul style="list-style-type: none"> <li>• Carbon equivalency</li> <li>• Toughness</li> <li>• Use thicker wall pipe under roads, streams/ivers and where additional mechanical protection is required.</li> </ul>

	<b>HISTORICAL</b>	<b>OPYMPIC PIPE LINE</b>	<b>PROPOSED Cross Cascade Pipeline</b>
	forced quality improvement		
Joints	<ul style="list-style-type: none"> <li>• Bell/spigot, threaded pipe, butt welds.</li> <li>• 60's – weld inspection required</li> <li>• Current Req = 10% inspection except at rivers, streams, road crossings</li> </ul>	<ul style="list-style-type: none"> <li>• Welded Butt joints</li> <li>• 10% weld inspection</li> </ul>	<ul style="list-style-type: none"> <li>• Welded Butt joints</li> <li>• 100% of all welds radiographed</li> </ul>
In-Line Inspection	<ul style="list-style-type: none"> <li>• Early 70's first inspection</li> <li>• Inspection device have improved</li> </ul>	<ul style="list-style-type: none"> <li>• 1981 first inspection</li> <li>• 5 year inspection interval</li> </ul>	<ul style="list-style-type: none"> <li>• Beginning of operations with magnetic flux, geometry devices</li> <li>• Inspections 5 year intervals (max.) with high resolution pig</li> </ul>
Leak Detection System	<ul style="list-style-type: none"> <li>• Volume Balances, visual inspection</li> <li>• SCADA late 60's</li> <li>• Computational models 80's</li> </ul>	<ul style="list-style-type: none"> <li>• One of first pipelines designed for remote operation</li> <li>• Computational pipeline model (API 1130)</li> <li>• Visual inspection</li> </ul>	<ul style="list-style-type: none"> <li>• State of art SCADA</li> <li>• State of art computational model – for leak detection</li> <li>• Supplemental visual and other systematic inspection</li> </ul>
Valves and Appurtenances	<ul style="list-style-type: none"> <li>• Buried</li> <li>• Flange joints</li> <li>• Manual valves</li> </ul>	<ul style="list-style-type: none"> <li>• Initially buried; retrofit to install vaults for valves</li> <li>• Some block valves remotely operated.</li> </ul>	<ul style="list-style-type: none"> <li>• Above ground with containment</li> <li>• All valves are welded in, no flanges</li> <li>• All block valves remotely operated</li> </ul>
Third Party Incidents	<ul style="list-style-type: none"> <li>• No one-call system</li> </ul>	<ul style="list-style-type: none"> <li>• One-call system installed after initial operation</li> </ul>	<ul style="list-style-type: none"> <li>• One-call system from first day of operation</li> </ul>