



San Patricio Water Transmission Pipeline

Jeff LeBlanc, P.E.





UNDERGROUND CONSTRUCTION TECHNOLOGY

The Underground Utilities Event | July 13-15, 2021 | Music City Center | Nashville, TN



James Schwarz, P.E.
J. Schwarz & Associates



Luke Fontenot
BRH – Garver
Construction



Jeff LeBlanc, P.E.
Thompson Pipe Group

Presenters



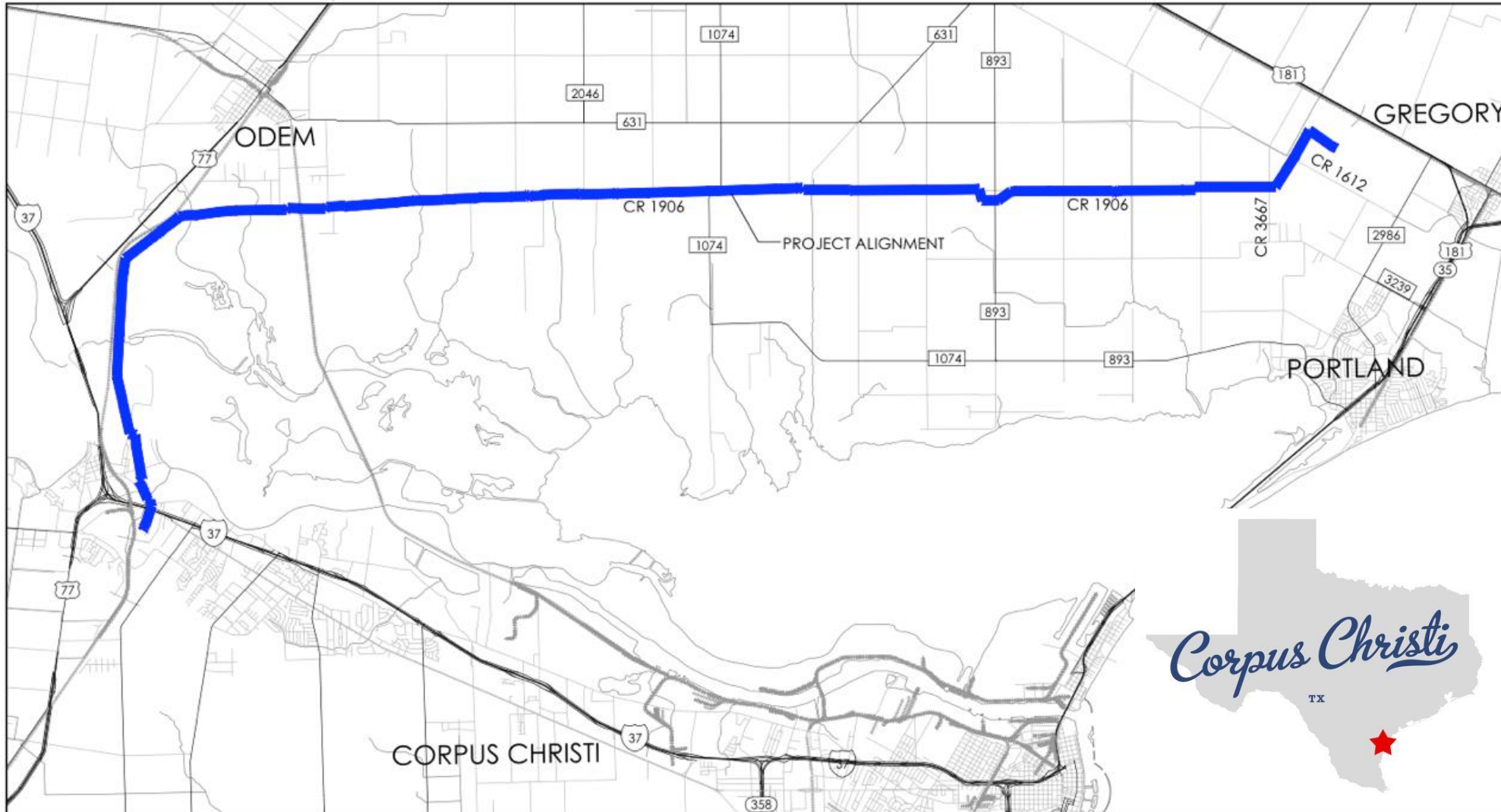
Agenda

- Background of Project
- Preliminary Design
- Pipe Options
- Project Design
- Bid Process
- Construction Phase





Project Background



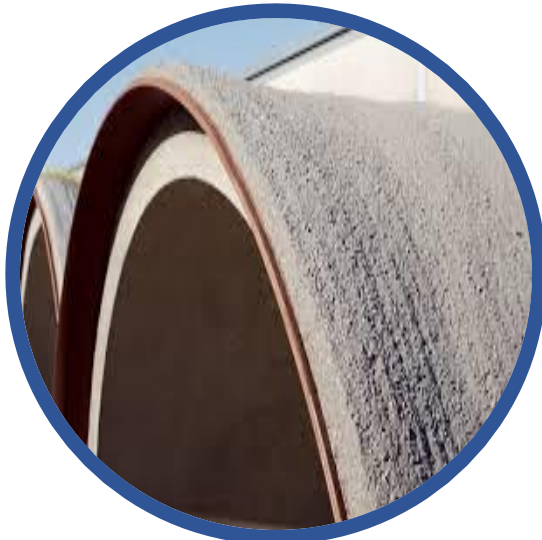


Project Schedule

	2017	2018	2019	2020
Design	→			
Environmental Permitting	→			
Phase 1 (Easement Acquisition)	→			
Phase 1 (Bid/Construction)		→		
Phase 2 (Easement Acquisition)	→			
Phase 2 (Bid/Construction)		→		
Phase 3 (Easement Acquisition)		→		
Phase 3 (Bid/Construction)			→	



Preliminary Design



Bar-Wrapped
C303

Ductile Iron
C151



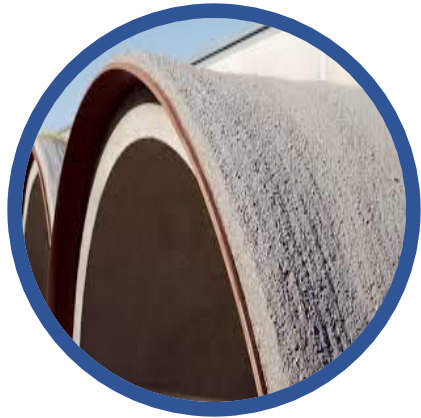
Steel
C200

PVC
C905

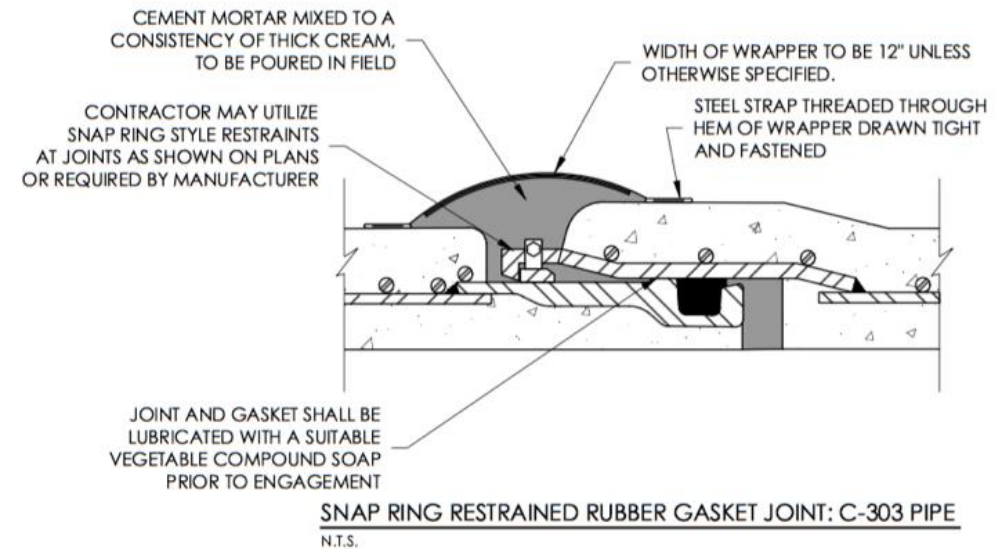
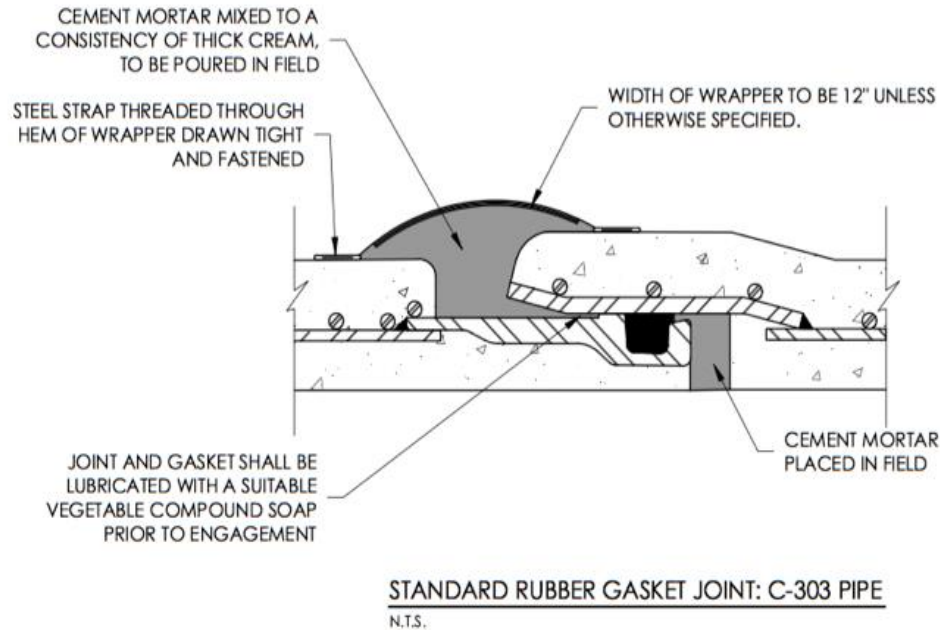




Bar-Wrapped Concrete Steel Cylinder (AWWA C303) Joints



Bar-Wrapped
C303

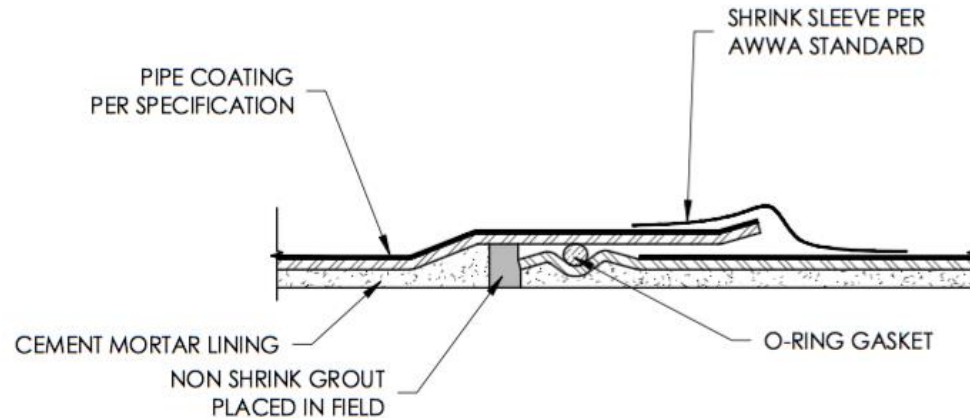




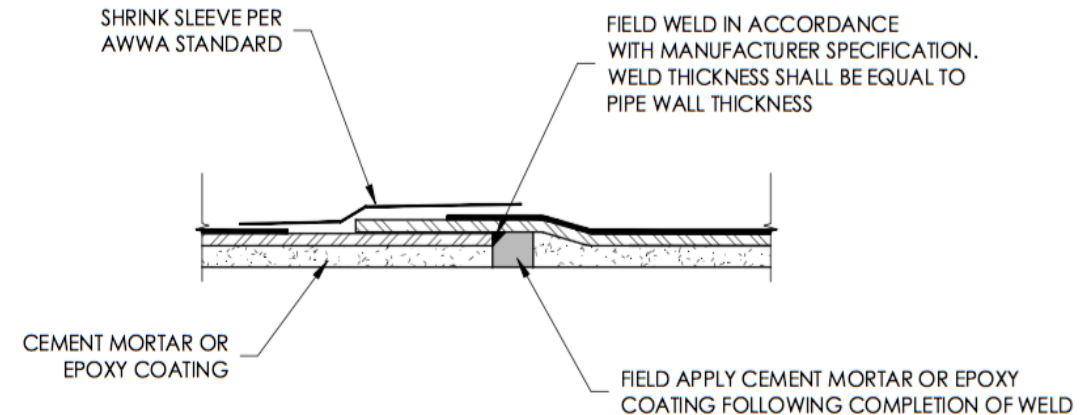
Spirally Welded Steel Pipe (AWWA C200) Joints



Steel
C200



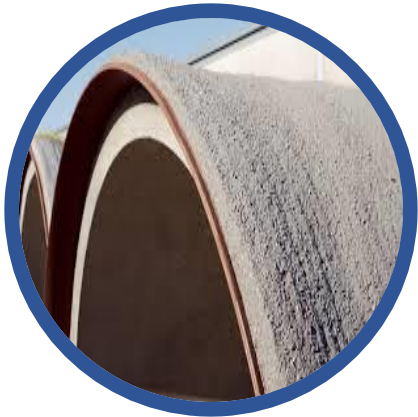
O-RING STEEL PIPE JOINT: C-200 PIPE
N.T.S.



LAP WELD FIELD JOINT: C-200 STEEL PIPE
N.T.S.



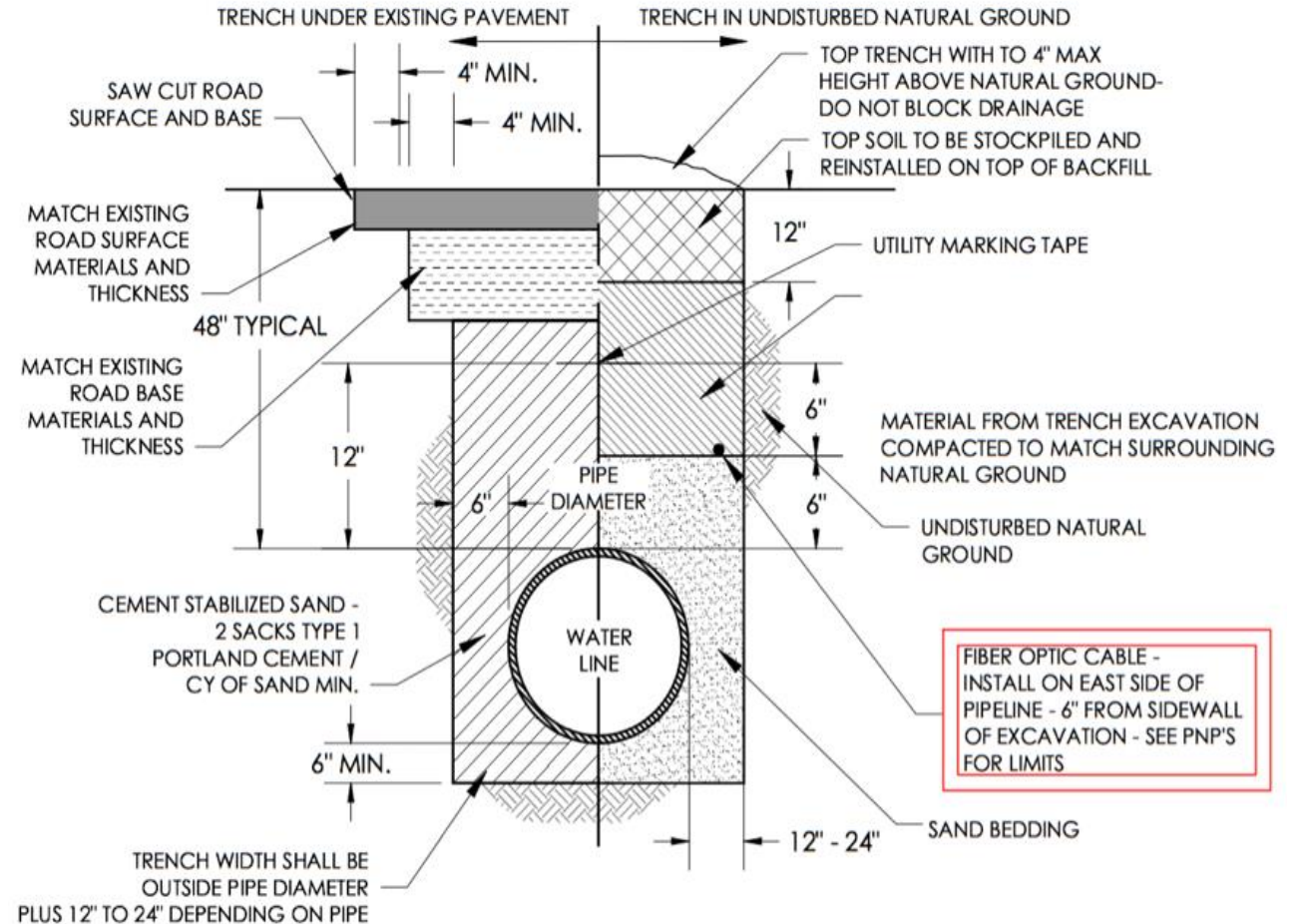
Project Trench Detail



Bar-Wrapped
C303

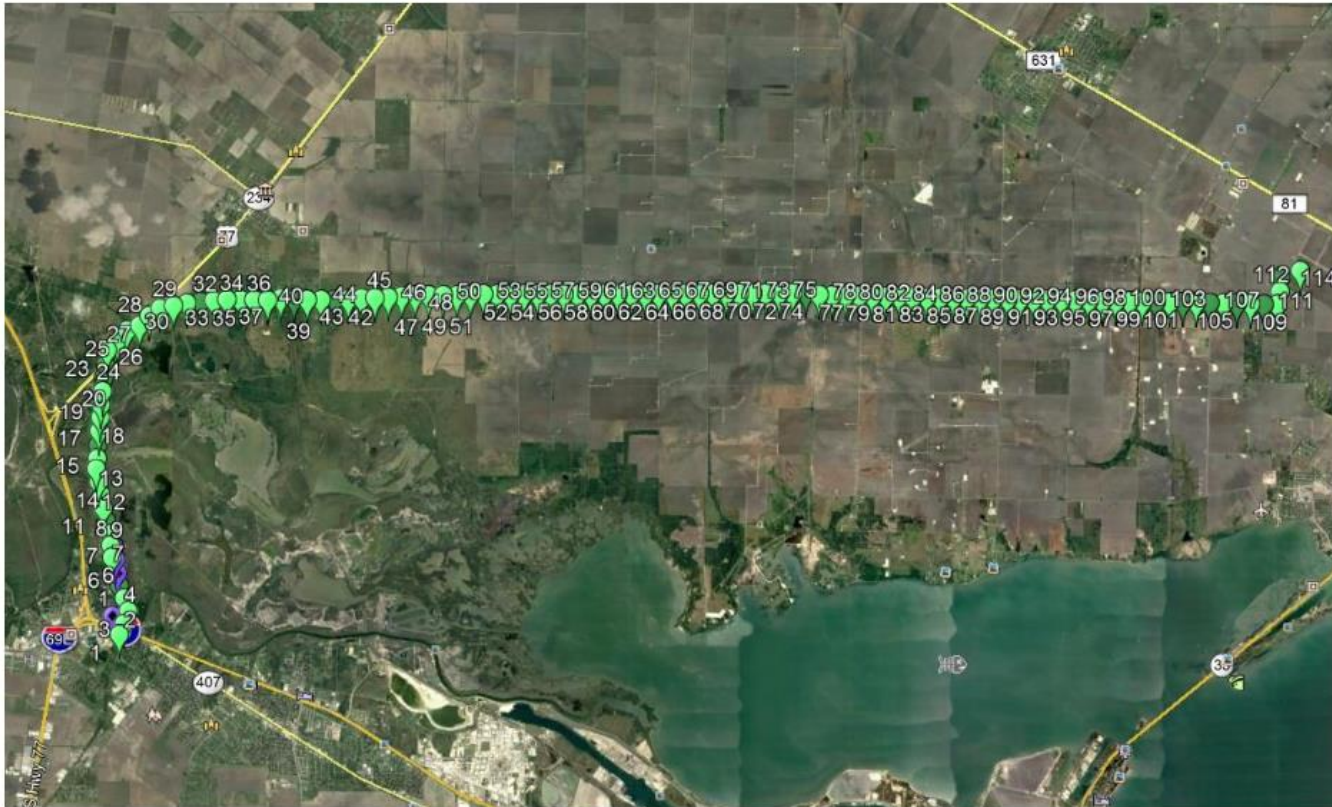


Steel
C200

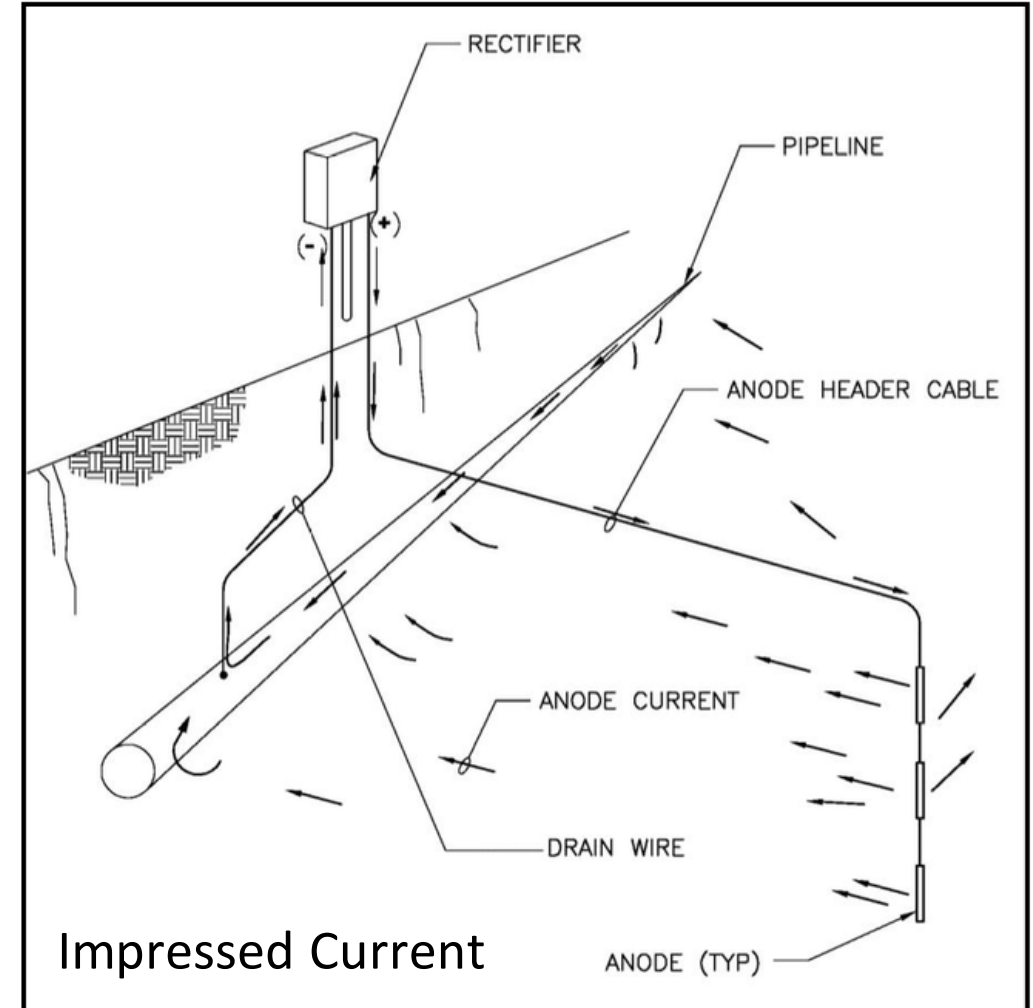




Corrosion Protection



Soil Testing at 1,000-foot intervals at 114 locations along alignment to a depth of 10 feet.





Corrosion Protection

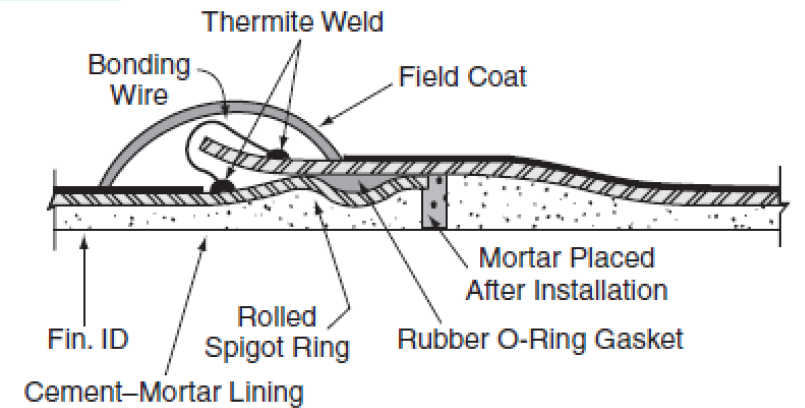
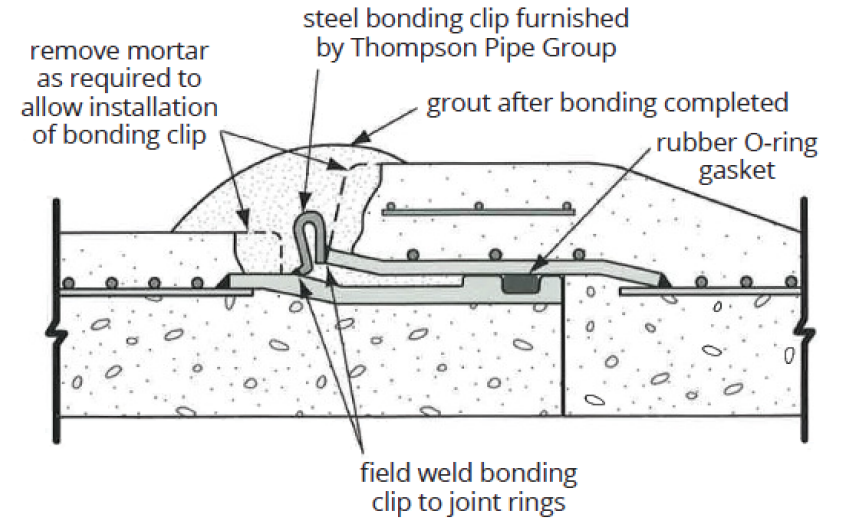
Test Stations



Rectifiers



Bonded Joints



B. Rolled Spigot Joint



Bid Evaluation

- Project Cost – 40 points
- Past Experience with Owner – 10 points
- Qualifications of key personnel – 10 points
- Comparable Project Experience – 10 points
- Capability to complete work within project schedule/budget – 10 points
- Financial Stability – Pass / Fail

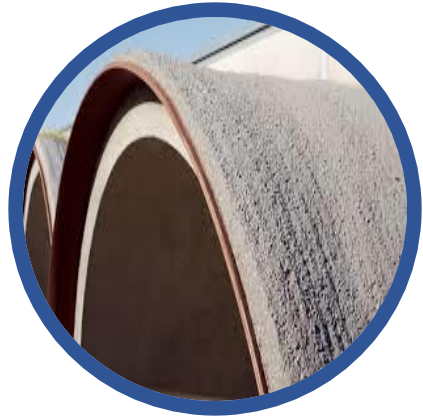


Bid Evaluation

Contract No.	Pipe Quantity (Linear Feet)	Pipe Material	Bid Amount
Contract #1	28,517	Steel Pipe	\$20.4M
Contract #2	52,000	Bar-Wrapped Pipe	\$17.0M
Contract #3	36,000	Bar-Wrapped Pipe	\$12.0M



Construction Phase

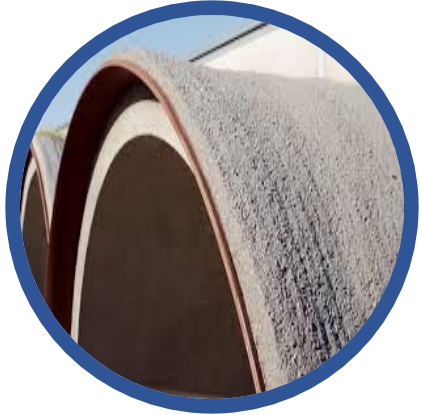


Bar-Wrapped
C303





Construction Phase



Bar-Wrapped
C303



Steel
C200

Contract No.	Pipe Quantity (Linear Feet)	Pipe Material	Installed/ Month (LF)	Max Installed /Month (Linear Feet)
Contract #1	28,517	Steel Pipe	3,410	4,049
Contract #2	52,000	Bar-Wrapped Pipe	7,369	9,772
Contract #3	36,000	Bar-Wrapped Pipe	5,270	8,200



Lessons Learned

- Absence of extra bends
- Joints
- Isolation joint availability
- Manways
- Joints

