

working for clean rivers



**E11004 Carolina Trunk WZ 01/03 Rehabilitation Project
Fair Contracting Forum**

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Project Manager**



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**ENVIRONMENTAL SERVICES
CITY OF PORTLAND**

Mingus Mapps, Commissioner
Michael Jordan, Director

PROJECT OVERVIEW

PROJECT LOCATION

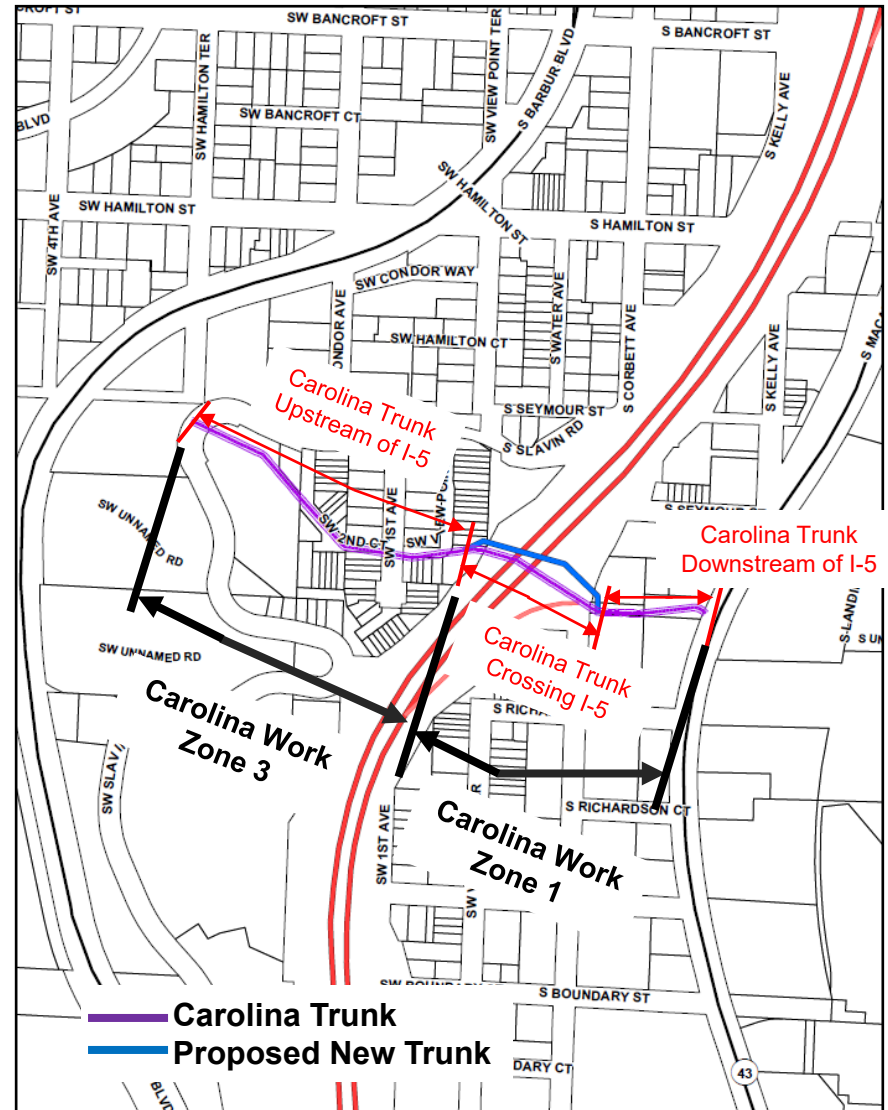
- SW Portland
- Crossing beneath highway I-5

CAROLINA TRUNK WZ 01/03

- Built in 1930s
- 42-in Horseshoe-shaped Concrete Pipe
- Approx. 1,600 ft long

PROJECT SCOPE

- Rehabilitate the existing trunk crossing I-5
- Install a new trunk crossing I-5 parallel to existing trunk
- Replace the existing downstream trunk
- Rehabilitate the existing upstream trunk
- Separate sanitary sewer and stormwater



PROJECT CHALLENGES

SOPHISTICATED FIELD AND SUBSURFACE CONDITIONS

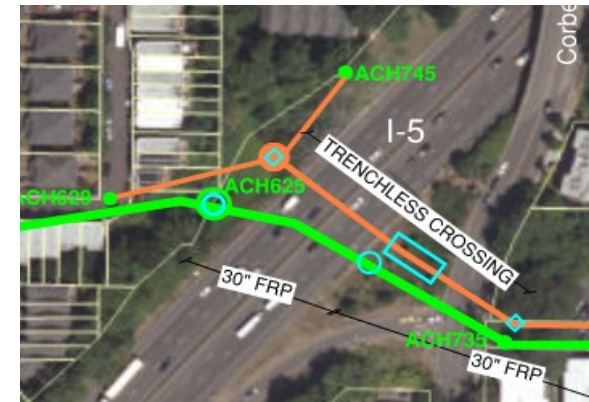
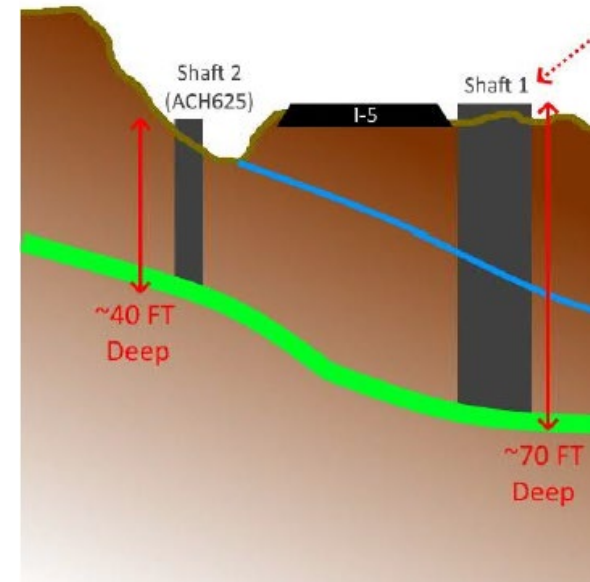
- Deep shaft excavation with high groundwater
- Trenchless large utility construction crossing a major highway
- Work in environmental zone, on private properties and in proximity to a major highway,

CONSTRUCTION CONSTRAINTS

- Limited construction access
- Tight construction space
- Complex sewer flow bypass coordination
- Complex traffic control on busy streets and highway

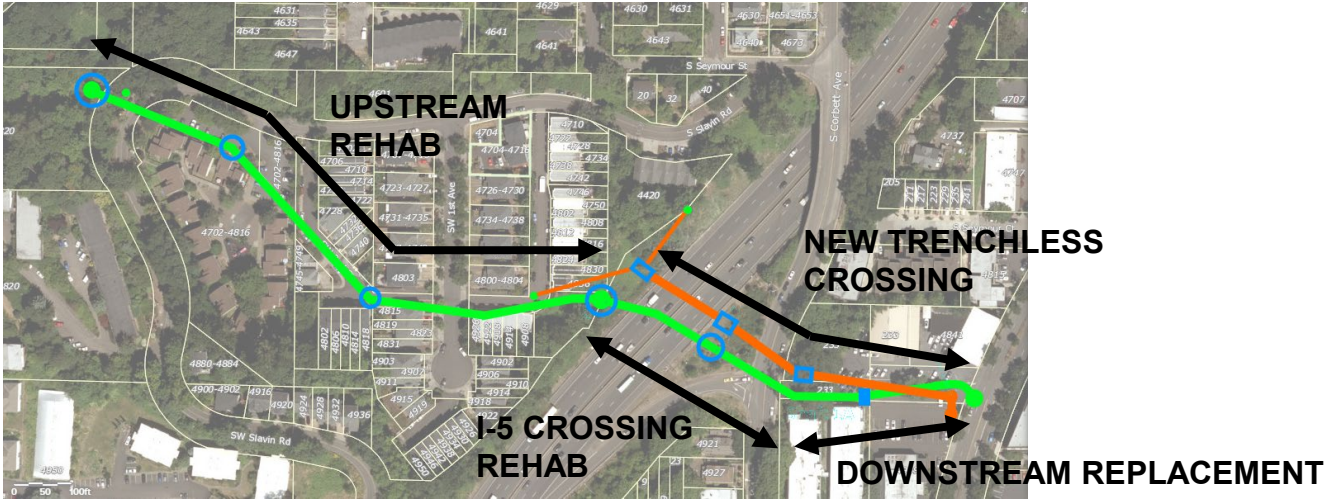
STAKEHOLDERS AND PUBLIC INVOLVEMENT

- ODOT and PBOT ROW
- Other public agencies
- Construction easements on private properties
- Night work and traffic control impact



ALTERNATIVE DELIVERY SEQUENCING

Approach	Phase 1	Phase 2
CM/GC (Single Procurement)	<ul style="list-style-type: none"> • New Trenchless Crossing • I-5 Crossing Rehab • Downstream replacement 	<ul style="list-style-type: none"> • All other elements



PROJECT COSTS & SCHEDULE

Approach	Construction	Total Project
<i>CM/GC Delivery</i>	<i>Approx. \$20 M *</i>	<i>Approx. \$30 M</i>

** Class 5 ranges (-20% lower to +50% higher) not shown*

	Start Design	Procurement (GMP) *	Final Design	Start Construction	End Construction
<i>CM/GC</i>	<i>DEC 2021</i>	<i>NOV 2023</i>	<i>JAN 2024</i>	<i>NOV 2023</i>	<i>DEC 2024</i>

** Guaranteed Maximum Price (GMP) will be prepared by GC based on 90% design*



Workforce Development Opportunities

Implement a ***Community Equity and Inclusion Plan***

- Utilization of Apprentices
 - 20% apprenticeship participation, by contractor, by trade for contracts \$300K and above
- Participation of Women and People of Color
 - Apprenticeship – 31% of total apprentice labor hours: 22% people of color, 9% women
 - Journey-level – 28% of total journey labor hours: 22% people of color, 6% women
- Subcontracting Goals
 - COBID Certified Firms – 22% overall: 12% people of color or disadvantaged, 5% women

Anticipated Trades Working on Project Include:

- Power Equipment Operators
- Plumbers
- Pipefitters
- Welders
- Service Techs
- Laborers



Construction Elements

- Pipe inspections – CCTV & LiDAR
- Flow diversion and bypass pumping
- Excavation
- Dewatering
- Shoring
- Pile drill & grout
- Wood cribbing/bracing
- Precast concrete manholes
- Shotcrete
- Restoration – grass
- New PVC pipe
- Slipline (FRP)
- Concrete behind liner
- Hauling (loading and disposal)
- Concrete and asphalt cutting
- Replacing brick inverts
- Open-cut pipe installation
- Trenchless pipe installation
- Lateral connections
- Geotechnical and concrete testing
- Asphalt pavement milling
- Asphalt pavement installation
- Stormwater landscape features
- Utility conflict resolution
- Security
- Site fencing
- Erosion control
- Pollution control
- Utility potholing
- Flaggers
- Class B backfill
- CLSM for abandoned pipes



Questions?



www.portland.gov/bes/CarolinaTrunk

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