

A CENTURY OF INDUSTRIAL USE



**185 SHIPS DELIVERED TO
THE U.S. NAVY**

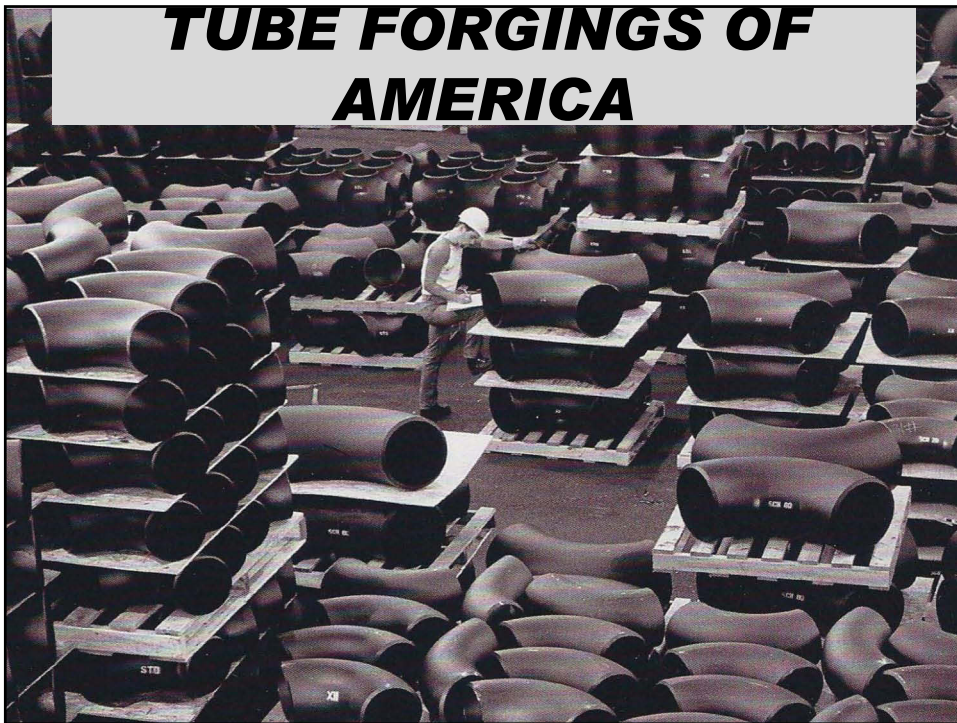




— Built By —
ZIDELL
PORTLAND

***THE ZIDELL COMPANIES: ZIDELL MARINE,
ZRZ REALTY, TUBE FORGINGS OF AMERICA***

***TUBE FORGINGS OF
AMERICA***





**ZIDELL MARINE BARGES ORIGINALLY
MADE WITH RECYCLED STEEL**



**300 BARGES
AMERICAN CRAFTSMANSHIP**



**A CENTURY OF INDUSTRIAL
REMNANTS**



**STEWARDS OF THE LAND CLEANING UP
AFTER MANY INDUSTRIAL USERS**



**A PROMISE TO MAKE THE PROPERTY
SAFE FOR PORTLANDERS**



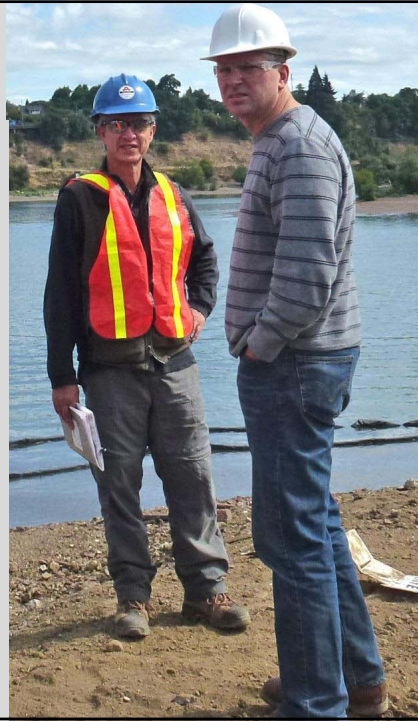
**THE LARGEST PRIVATELY-CONDUCTED AND
FUNDED CLEANUP ON THE WILLAMETTE IN
PORTLAND'S HISTORY**



OREGON DEQ

DIRECTOR:
Dick Pedersen

PROJECT MANAGERS:
Bruce Gilles
Keith Johnson
Scott Manzano



PROJECT MANAGER
PAUL FISHMAN
NORTHWEST ECOSYSTEM SERVICES, INC.







PROJECT GOALS

PROTECT HUMAN HEALTH

PROTECT AND IMPROVE HABITAT AND WATER QUALITY

ISOLATE, CAP AND CONTAIN CONTAMINANTS

REMOVE AREAS OF MOST CONTAMINATED SOILS AND SEDIMENTS

STABILIZE THE RIVERBANK

COORDINATE TO CONTAIN PUBLIC COSTS

INTEGRATE HABITAT NEEDS OF THREATENED SPECIES



PROTECT HUMAN HEALTH



PROTECT AND IMPROVE FISH AND WILDLIFE HABITAT

**ISOLATE, CAP AND CONTAIN
CONTAMINANTS**



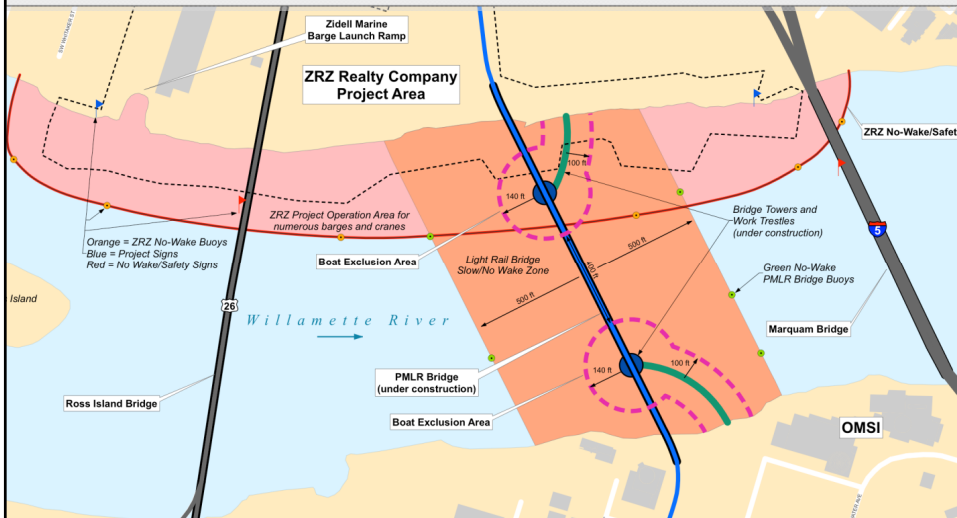
**REMOVE SPECIFIC AREAS
OF CONTAMINATION**



STABILIZE THE RIVERBANK



ZRZIPMLR COLLABORATION



PROTECTED SALMON AND STEELHEAD



PROJECT HIGHLIGHTS

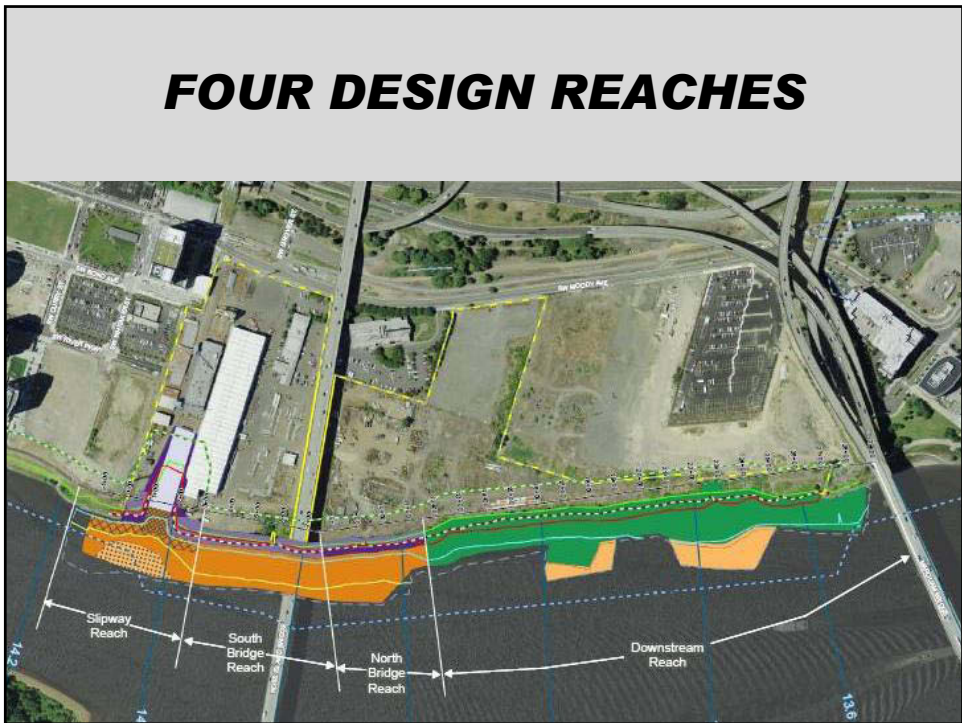
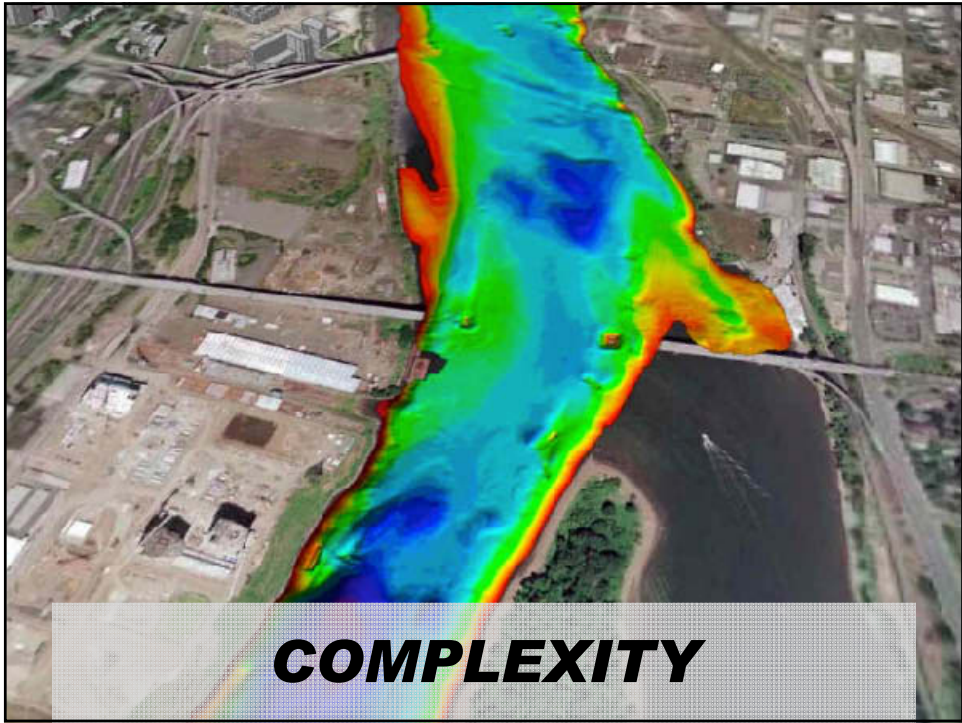


COMPLEXITY

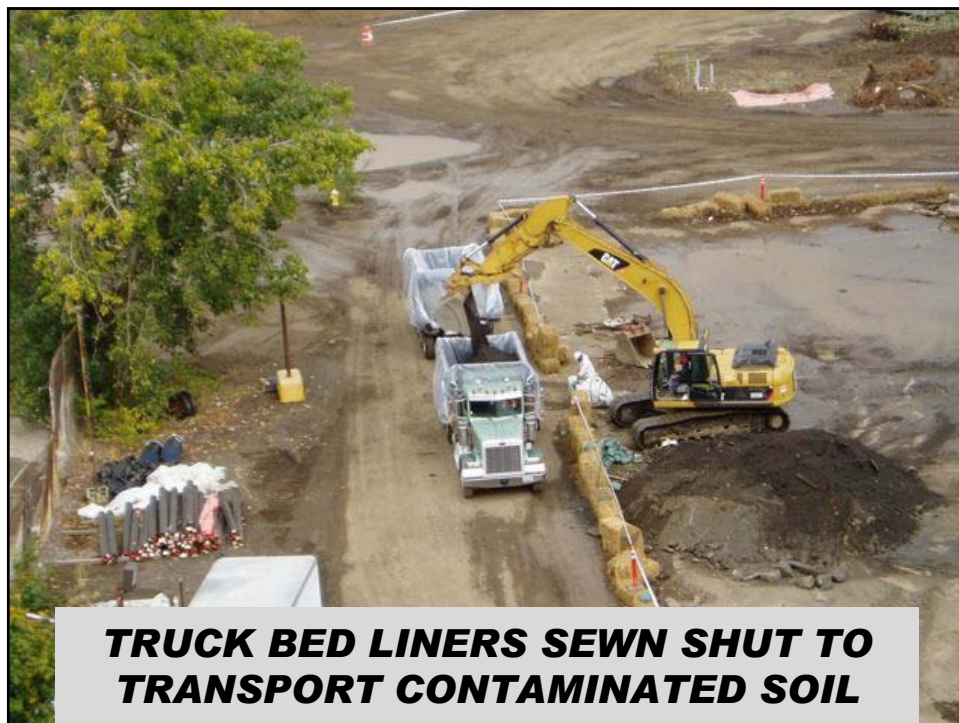
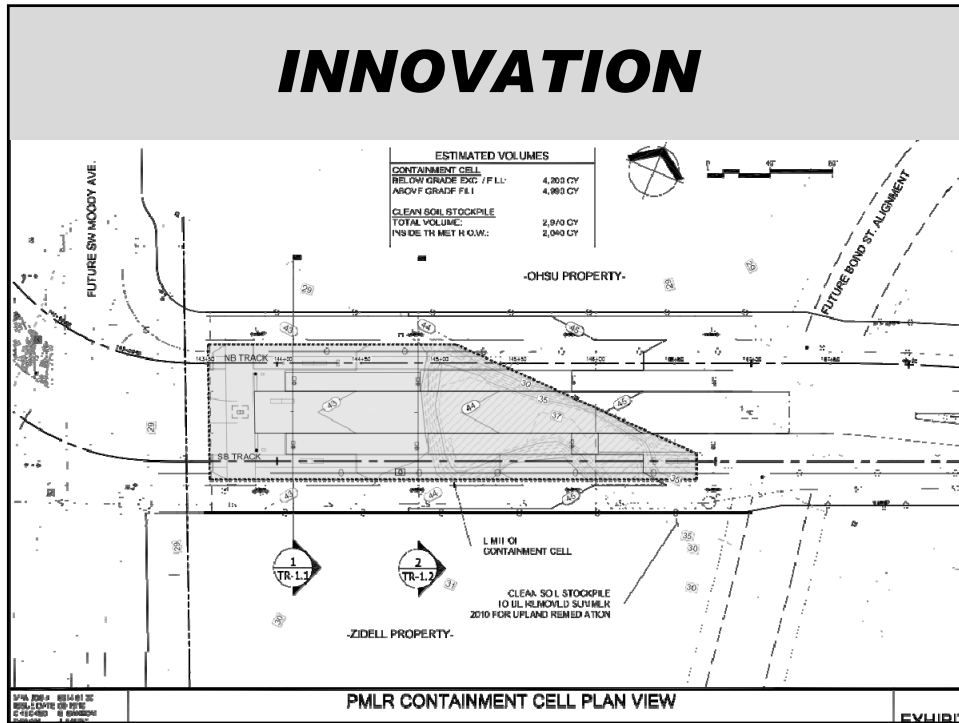
INNOVATION

SUSTAINABILITY

SCALE



INNOVATION





FABRIC LESS THAN ONE-HALF INCH THICK



REACTIVE CORE MAT ISOLATES CONTAMINANTS

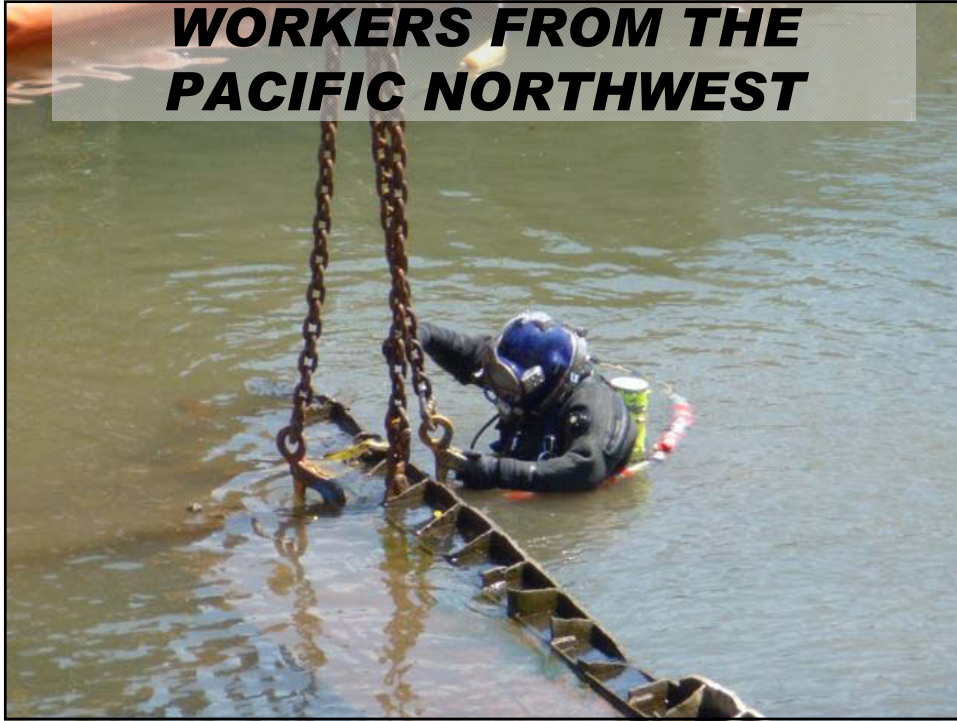
**CONTAIN AND REUSE AS FILL FOR
TRIMET BRIDGE**



SUSTAINABILITY

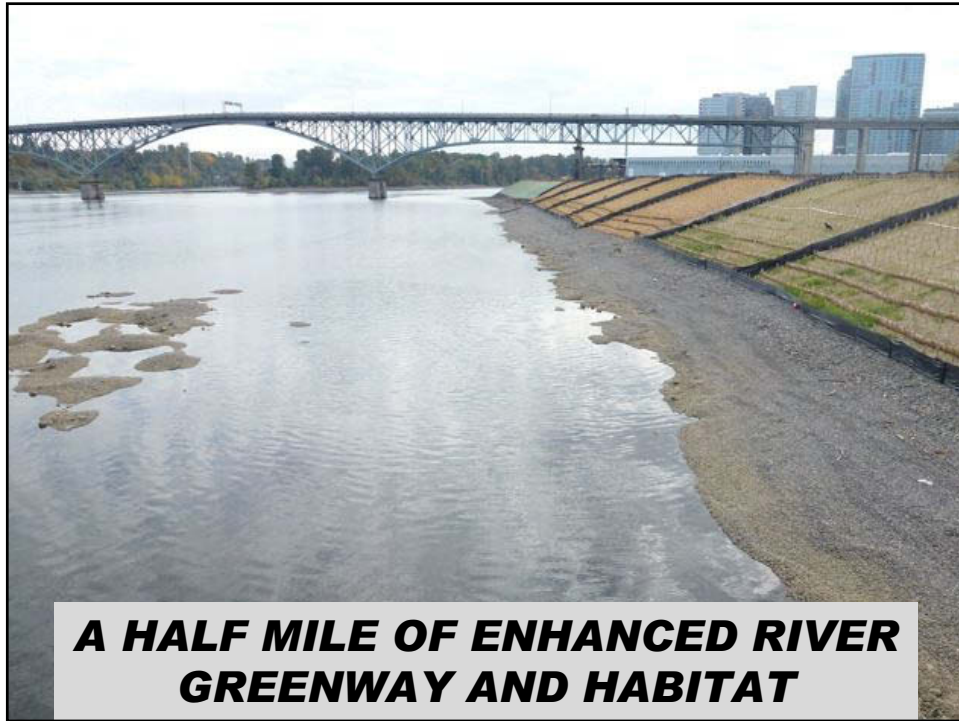


**WORKERS FROM THE
PACIFIC NORTHWEST**



**LOCALLY-SOURCED MATERIAL
WITH LESS IMPACT**



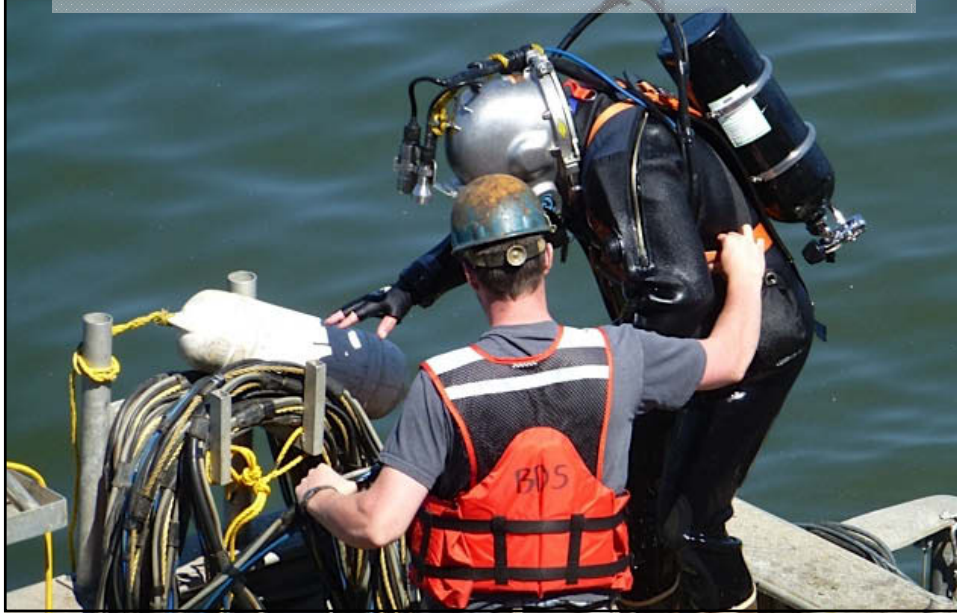


***A HALF MILE OF ENHANCED RIVER
GREENWAY AND HABITAT***



***REMOVED INVASIVE PLANTS AND
PLANTED 4+ ACRES OF NATIVE SPECIES***

**DIVERS CUT AND REMOVED 2,200
WOOD PILINGS**



PROJECT BENEFITS:

RESTORE FISH AND WILDLIFE HABITAT

ENCAPSULATE CONTAMINANTS

IMPROVE THE RIVERBANK

CLEAN UP A BROWNFIELD

**PREPARE FOR GREENWAY AND PUBLIC
ACCESS**



**COLLABORATION TO CONTAIN PUBLIC
COSTS AND LIMIT PUBLIC IMPACTS**



**PMLR LIGHT RAIL BRIDGE
2015**



**THE ONLY PRIVATE CONTRIBUTOR TO
THE PMLR BRIDGE**



PROJECT COLLABORATORS:
Oregon Department of Environmental Quality
Oregon Health & Science University
US Army Corps of Engineers
National Marine Fisheries Service
US Coast Guard
Oregon Department of State Lands
Oregon Department of Fish and Wildlife
Oregon Department of Transportation
Multnomah County
Portland Bureau of Environmental Services
Portland Bureau of Parks
Portland Bureau of Planning and Sustainability
Portland Bureau of Transportation
Portland Bureau of Development Services
Portland Development Commission
Portland City Attorney
Business Oregon
Tri Met







**CHANGES IN SOUTH
WATERFRONT**



**OREGON UNIVERSITY SYSTEM
COLLABORATIVE LIFE SCIENCES BUILDING**



**30 CLEAN ACRES IN THE HEART OF
PORTLAND**



MOVING FORWARD