

Terminal 18 Dock Rehabilitation Briefing

Item #: 7a_Supp

Date: March 11, 2014

Commission Memo



T-5

T-18

T-46

T-30

Spokane Street Viaduct

W. Marginal Way

E. Marginal Way

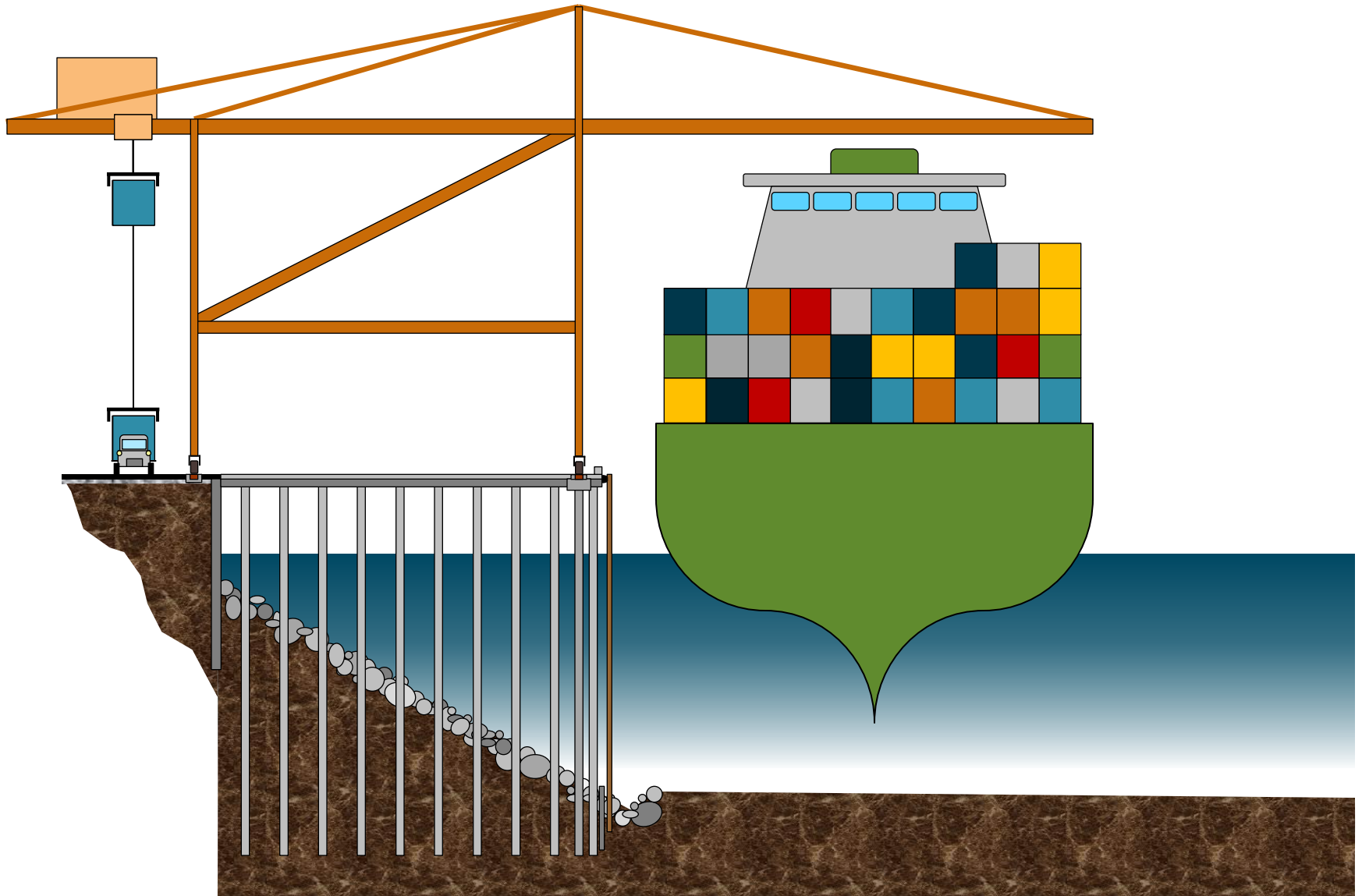
5

90

519

99

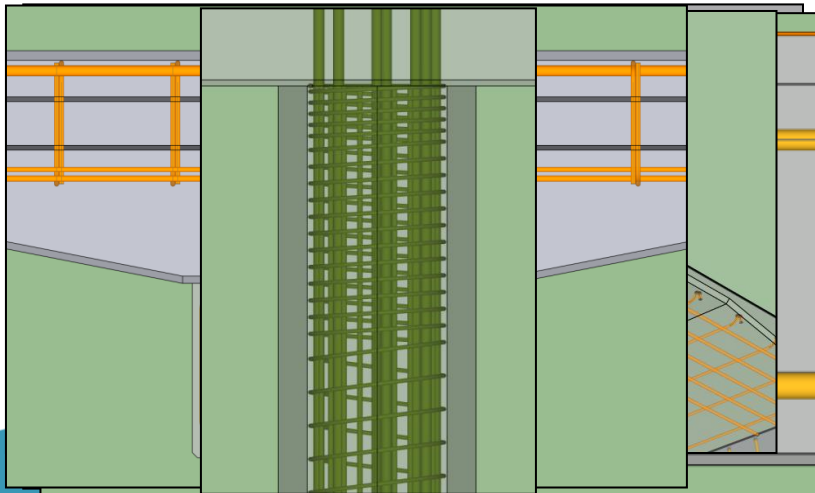
Anatomy of a Container Terminal



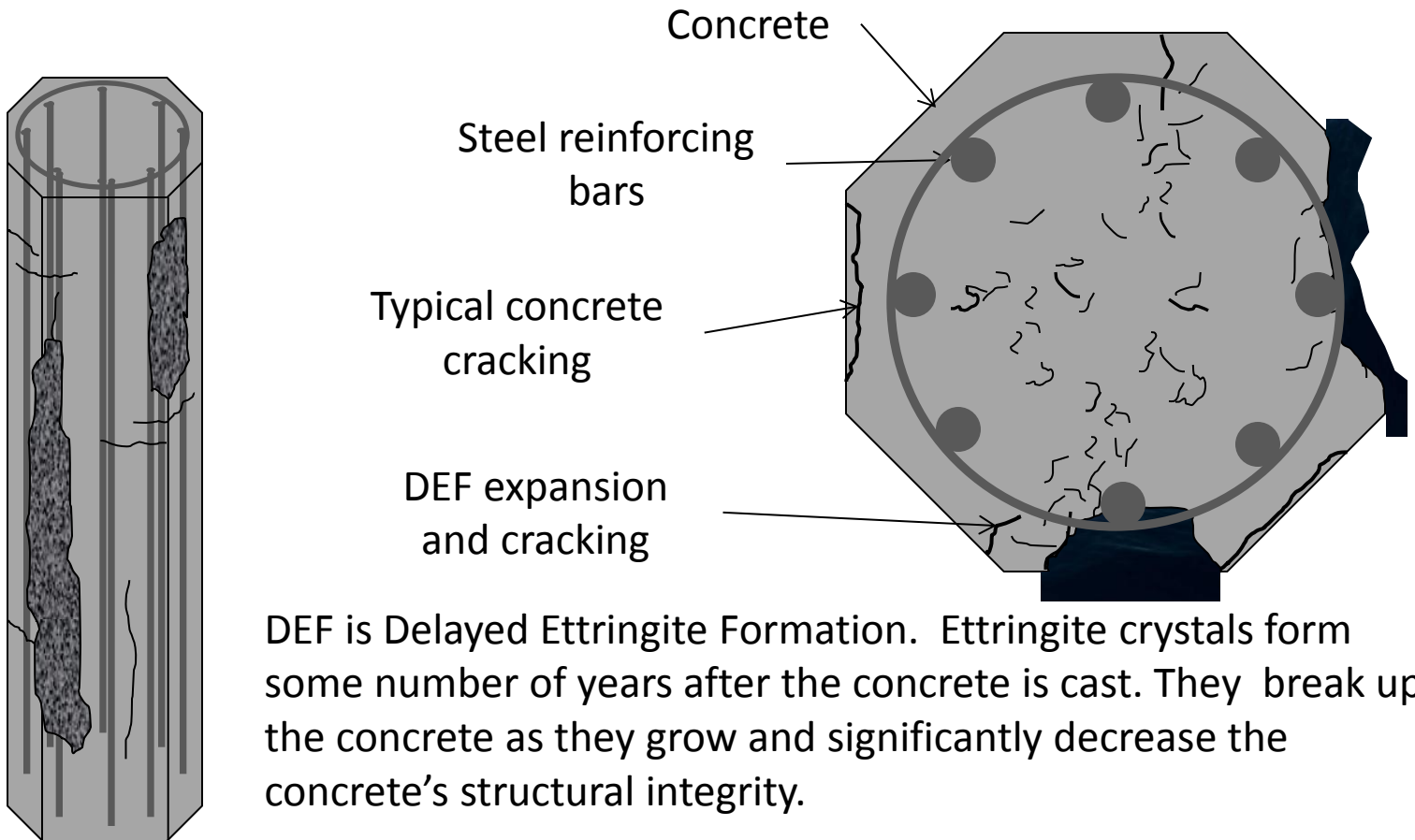
Inspections & Data

Field Observations

- Cracks
 - Longitudinal ←
 - Shear ←
 - Shrinkage ←
- Delamination ←
- Spalling ←
- DEF ←



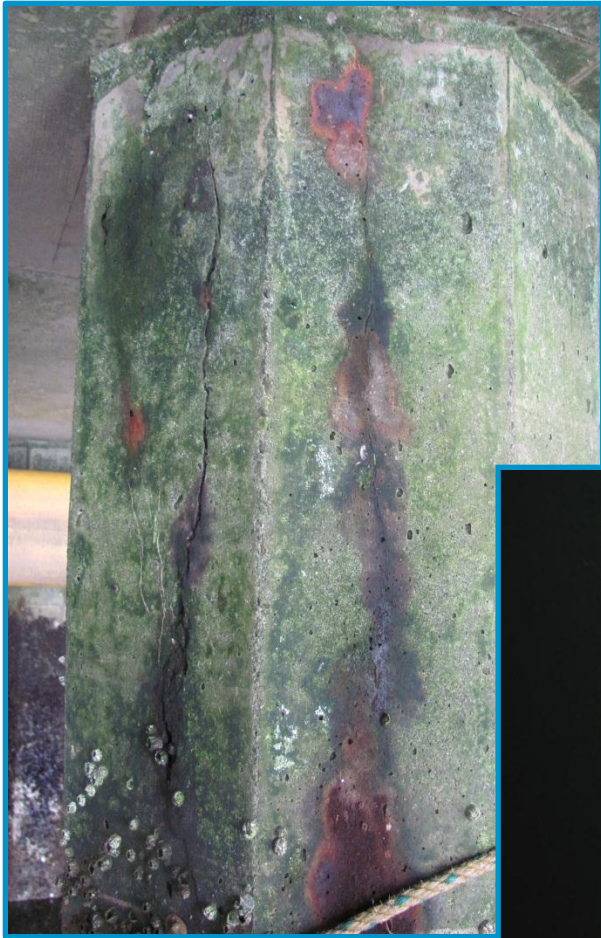
DEF in Concrete Piles



DEF is Delayed Ettringite Formation. Ettringite crystals form some number of years after the concrete is cast. They break up the concrete as they grow and significantly decrease the concrete's structural integrity.

Pile repair or replacement is necessary.

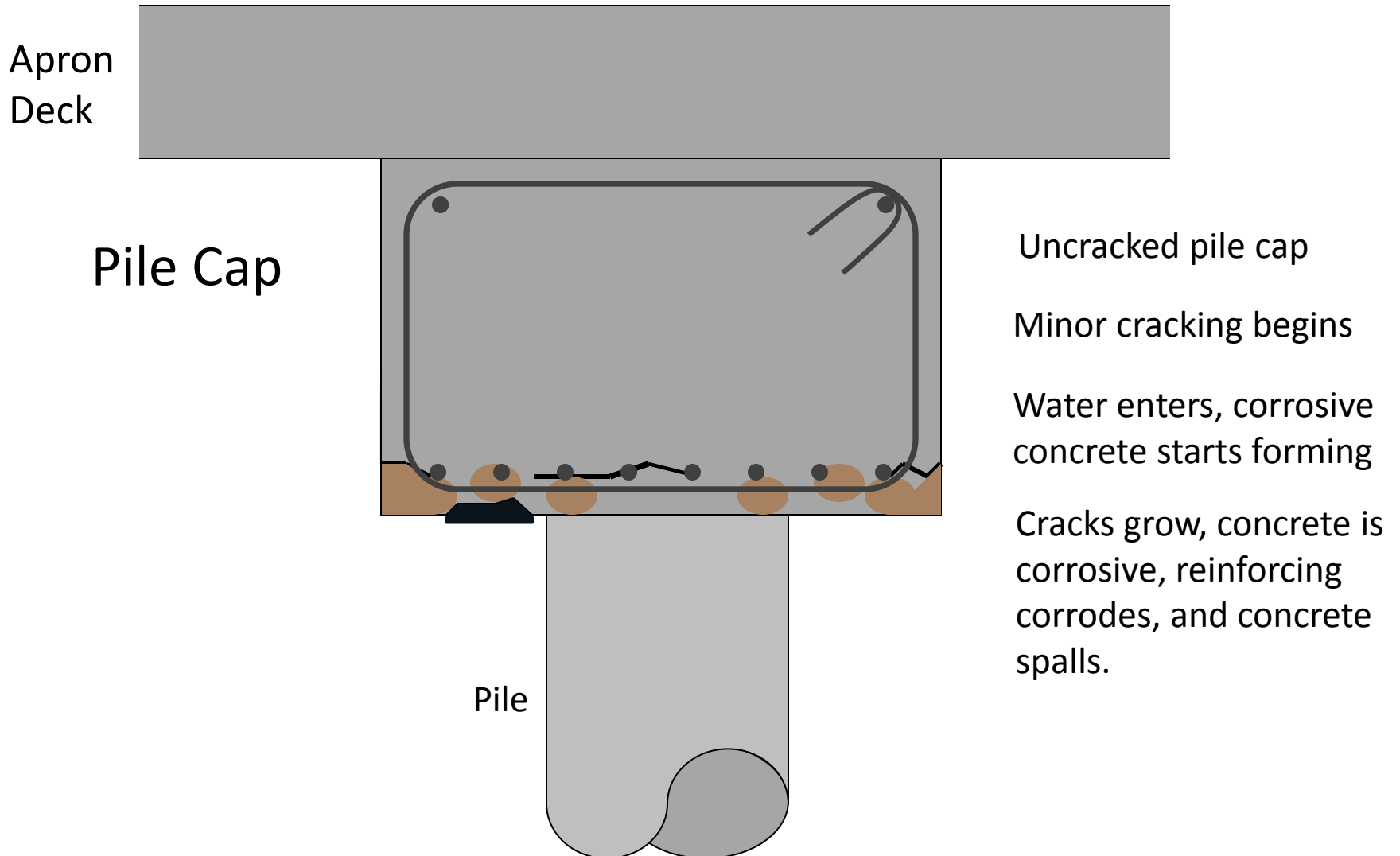
Damaged Pile examples



Deteriorated Pile Cap examples



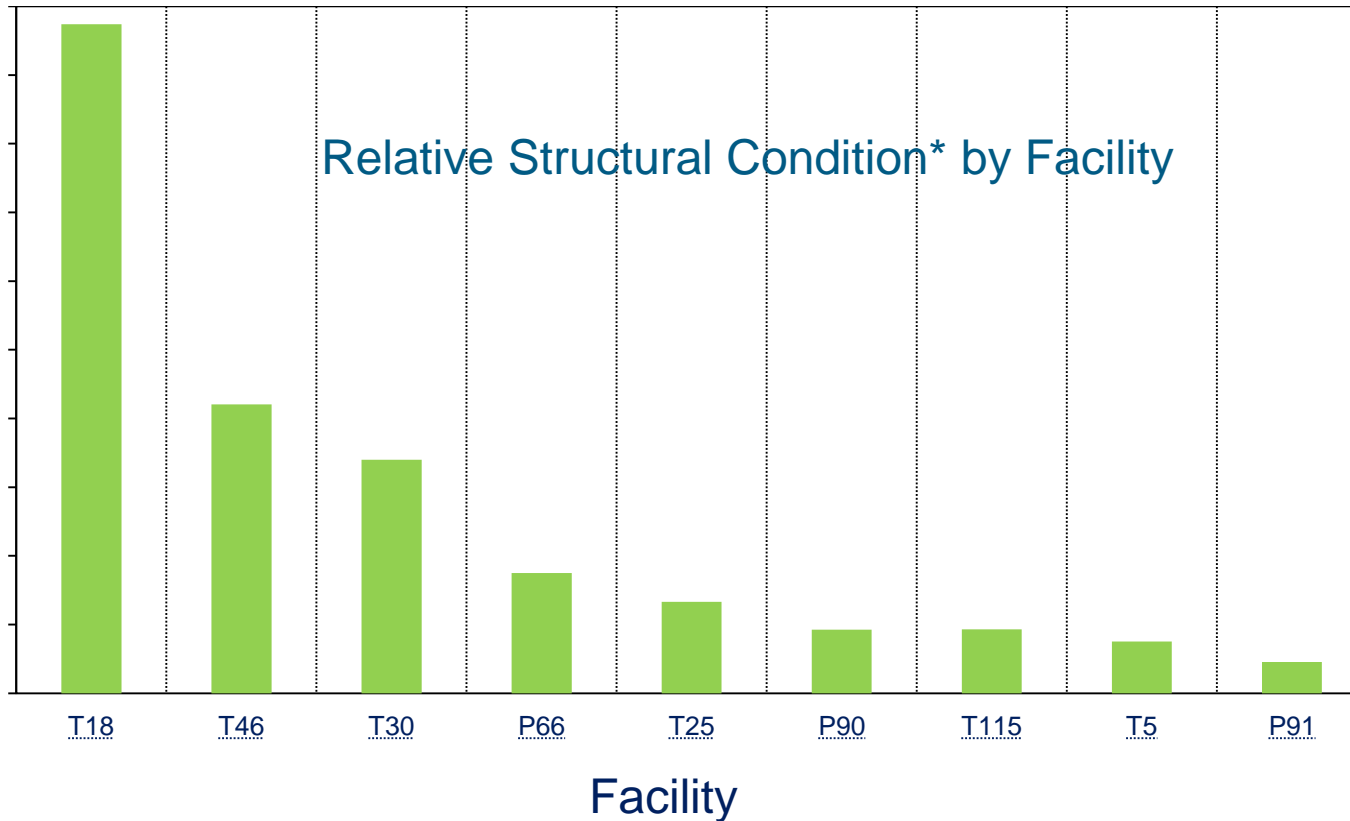
Pile Cap Aging



Pile Cap Repair Pictures



Seaport Facilities Comparison





*Condition metric combines percentage of distressed areas and severity of distress (does not include DEF results)




T-18 Dock Rehabilitation areas

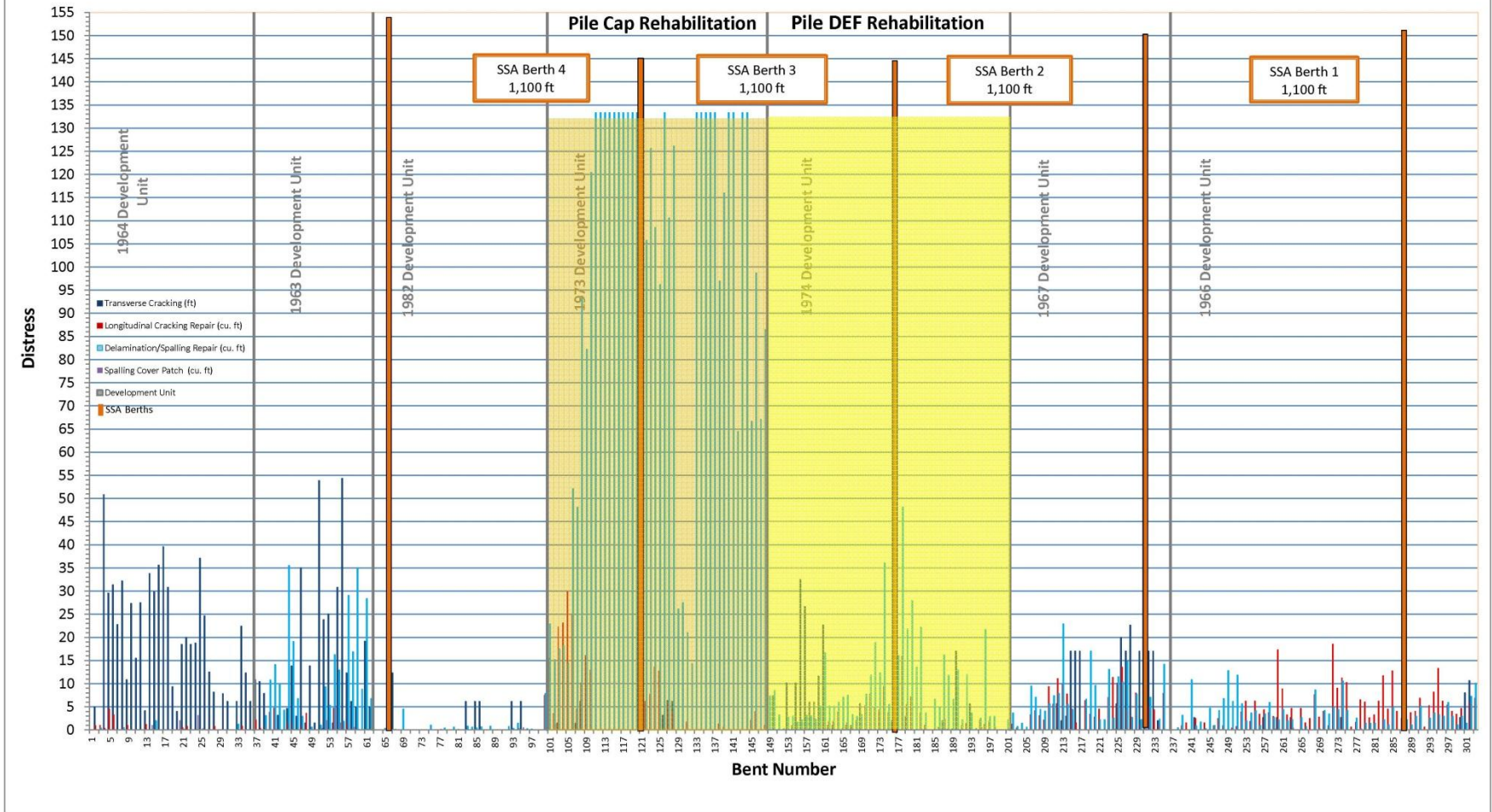


 Pile Cap Rehabilitation location

 Pile DEF Rehabilitation location

 Rehabilitation to be done later

Terminal 18 Work Areas for Pile Cap and Piling Rehabilitation



Future Dock Rehabilitation Funding Request

- Planned Rehabilitation Program

Terminal 18 -	\$ 18m	2014-2016
Terminal 46 -	\$ 22m	2015-2018
Terminal 5 -	\$ 8m	2016- 2018
Terminal 25/30 -	\$12m	2018- 2021

- Staff will request \$715,000 for T18 design funds next week



T-18 Dock Rehabilitation Briefing

Questions?

